112th Congress, 2d Session – – – – – – – – – – – – House Document 112–130

FEASIBILITY REPORT AND ENVIRONMENTAL IMPACT STATEMENT: FARGO-MOORHEAD METROPOLITAN AREA FLOOD RISK MANAGEMENT, JULY 2011

COMMUNICATION

FROM

THE ASSISTANT SECRETARY OF THE ARMY, CIVIL WORKS, THE DEPARTMENT OF DEFENSE

TRANSMITTING

THE CORPS FINAL FEASIBILITY REPORT AND ENVIRONMENTAL IMPACT STATEMENT

PART 6 OF 7

AUGUST 2, 2012.—Referred to the Committee on Transportation and Infrastructure and ordered to be printed

U.S. GOVERNMENT PRINTING OFFICE

82–391 WASHINGTON : 2013

AUTHENTICATED
U.S. GOVERNMENT
INFORMATION
GPO

Final Feasibility Report and Environmental Impact Statement

Fargo-Moorhead Metropolitan Area Flood Risk Management

Volume 6
Appendices Q-S

July 2011

US Army Corps of Engineers ®

Prepared by:
U.S. Army Corps of Engineers
St. Paul District
180 Fifth Street East, Suite 700
St. Paul, Minnesota 55101-1678

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Presentations 1 and 2: 518

November 17, 2008
Location: City Council Chambers Moorhead, MN, 7:00 p.m.

November 18, 2008
Location: Prairie Rose Inn, Fargo, ND, 7:00 p.m.

Documents Included:
- Public Meeting Press Release
- Public Meeting PowerPoint Presentation
- Public Meeting Q & A
- Public Meeting Handout

Presentations 3 and 4: 538

May 19, 2009
Location: The Centennial Hall, Fargo, ND, 5:30 p.m.

May 20, 2009
Location: Hanson Theatre, University of Minnesota Moorhead Campus, MN, 5:30 p.m

Documents Included:
Public Meeting Press Releases (2)
Public Meeting PowerPoint Presentation
Public Meeting Q & A
Public Meeting Handout

Presentation 5: 569

May 20, 2009
Location: The Centennial Hall, Fargo, ND, 10:00 a.m.

Documents Included:
Agency Meeting PowerPoint Presentation
Meeting Q & A

Presentation 6: 585

October 19, 2009
Location: Marriott Hotel, Moorhead, MN, 8:00 a.m.

Documents Included:
MFMC Meeting PowerPoint Presentation
MFMC Meeting Handout
Alignment Map

Presentations 7 and 8: 599

October 20, 2009
Location: Howard Johnson Inn, Fargo, ND, 6:00 p.m.

October 21, 2009
Location: Hagan Hall, University of Minnesota Moorhead Campus, MN, 6:00 p.m.

Documents Included:
- Public Meeting Press Release
- Public Meeting PowerPoint Presentation
- Public Meeting Handout
- Poster Boards (4)

Presentation 9: 623

November 24, 2009
Location: Ramada Plaza Suites, Fargo, ND, 7:30 p.m.

Documents Included:
- MFMC Meeting PowerPoint Presentation
- MFMC Downstream Hydrographs
- MFMC Downstream Impact Tables
- Poster Boards (11)

Presentation 10: 646

February 1, 2010
Location: The Centennial Hall, Fargo, ND, 11:00 a.m.

Documents Included:
- MFMC Meeting Press Release
- MFMC Board PowerPoint Presentation

Presentations 11 and 12: 665

February 2, 2010
Location: The Centennial Hall, Fargo, ND, 6:00 p.m.

February 3, 2010
Location: Hanson Theatre, University of Minnesota Moorhead Campus, MN, 6:00 p.m.

Documents Included:
Public Meeting Press Releases (2)
Public Meeting PowerPoint Presentation
Public Meeting Handout
Poster Boards (5)

Presentation 13: 694

February 4, 2010
Location: City Council Chambers, Fargo, ND, 3:00 p.m.

Documents Included:
Work Group PowerPoint Presentation
Work Group Meeting Q & A

Presentation 14: 708

May 13, 2010
Location: City Council Chambers, Fargo, ND, 2:00 p.m.

Documents Included:
Work Group Preliminary Update
Work Group Diversion Effectiveness

Presentations 15 and 16: 711

June 9, 2010
Location: Moorhead Student Ballroom, Minnesota State University Campus, MN, 6:00 p.m.

June 10, 2010
Location: Centennial Hall, Fargo, ND, 6:00 p.m.

Documents Included:
Public Meeting Press Releases (2)
Public Meeting PowerPoint Presentation
Public Meeting Handout
Poster Boards (6)

Presentations 17 and 18: 736

June 14, 2010
Location: Centennial Hall, Fargo, ND, 6:00 p.m.

June 15, 2010
Location: Hjemkomst Center, Moorhead, MN, 6:00 p.m.

Documents Included:
Public Meeting Press Releases (2)
Public Meeting PowerPoint Presentations (2)
Public Meeting Handout
Poster Boards (22)

Presentation 19: 788

June 16, 2010
Location: Norman County West Elementary School, Hendrum, MN, 6:00 p.m.

Documents Included:
Public Meeting Press Releases (2)
Public Meeting PowerPoint Presentations (4)
Public Meeting Handout
Poster Boards (10)

Presentation 20: 826

August 5, 2010
Location: City Council Chambers, Fargo, ND, 3:30 p.m.

Documents Included:
Press Release
Work Group PowerPoint Presentation
Preliminary Downstream Impacts Analysis

Presentation 21: 846

November 18, 2010
Location: City Council Chambers, Fargo, ND, 3:30 p.m.

Documents Included:
Work Group PowerPoint Presentation

Presentations 22 and 23: 852

December 9, 2010
Location: City Council Chambers, Fargo, ND 3:30 p.m.

December 9, 2010
Location: Bennett Elementary School, Fargo, ND, 7:00 p.m.

Documents Included:
Work Group PowerPoint Presentation

Presentation 24: 859

January 13, 2011
Location: City Council Chambers, Fargo, ND, 3:30 p.m.

Documents Included:
Work Group PowerPoint Presentation
Proposed ND Diversion Alignments Map

Presentation 25: 868

February 24, 2011
Location: City Council Chambers, Fargo, ND, 3:30 p.m.

Documents Included:
Proposed ND Diversion Alignments Maps (2)

Presentation 26: 871

March 30, 2011
Location: City Council Chambers, Fargo, ND 3:30 p.m.

Documents Included:
Work Group PowerPoint Presentation
Maps (16)
Structure Features (2)

Presentations 27 and 28: 907

March 30, 2011
Location: Kindred High School, Kindred, ND, 6:00 p.m.

March 31, 2011
Location: West Fargo High School. West Fargo, ND, 6:00 p.m.

Documents Included:
Public Meeting Press Release
Public Meeting PowerPoint Presentation
Public Meeting Handout
Maps (16)
Structure Features (2)

Presentation 29: 950

April 1, 2011
Location: City Council Chambers, Fargo, ND, 10:00 a.m.

Documents Included:
Work Group Handout

Presentations 30-33: 953

May 23, 2011
Location: Centennial Hall, Fargo, ND, 6:00 p.m.

May 24, 2011
Location: Kindred High School Gymnasium, Kindred, ND, 6:00 p.m.

May 25, 2011
Location: Marriott and Moorhead Area Conference Center Salon A, Moorhead, MN, 6:00 p.m.

May 26, 2011
Location: Norman County West Elementary School Gymnasium, Hendrum, MN, 6:00 p.m.

Documents Included:
- Public Meeting Press Release
- Public Meeting PowerPoint Presentation
- Public Meeting Handout
- Public Meeting Frequently Asked Questions
- Poster Boards (5)

Presentations 34: 987

June 1, 2011
Location: Centennial Hall, Fargo, ND, 6:00 p.m.

Documents Included:
- Public Notice
- Public Hearing Transcript

Introduction

The public meetings were held to keep the public informed on the project and the path forward. These meetings were used to present the public with information and to gather feedback. The non-federal sponsors developed the Metro Flood Management Committee (MFMC) which consisted of all members from the Fargo City Council, Moorhead City Council, Clay County Board, and the Cass County Board. As a subset to the MFMC a working group was developed consisting of members from the MFMC. The working group had a number of meetings and the Corps provided information and public presentations at many of these meetings. The working group meetings were held on: August 26, 2009; November 5, 2009; November 12, 2009; December 17, 2009; January 15, 2010; February 4, 2010; February 11, 2010; February 18, 2010; February 25, 2010; March 4, 2010; March 11, 2010; March 18, 2010; April 22, 2010; April 25, 2010; May 13, 2010; May 26, 1010; June 10, 2010; July 7, 2010; July 15, 2010; August 5, 2010; September 9, 2010; October 7, 2010; November 18, 2010; December 9, 2010; January 13, 2011; February 24, 2011; April 1, 2011; May 12, 2011 and May 26, 2011.

All information can be found at the following project website:
http://www.internationalwaterinstitute.org/feasibility/index.htm

Agency Correspondence Letters

DEPARTMENT OF THE ARMY
ST. PAUL DISTRICT, CORPS OF ENGINEERS
SIBLEY SQUARE AT MEARS PARK
190 FIFTH STREET EAST, SUITE 401
ST. PAUL MN 55101-1638

Planning, Programs and Project Management Division
Project Management Branch

The St. Paul District, Corps of Engineers, in partnership with the cities of Fargo, North Dakota, and Moorhead, Minnesota, is conducting a flood risk management feasibility study for the Fargo-Moorhead Metropolitan Area. We are seeking points-of-contact from various State, Federal and local agencies to participate on an interagency team to help us identify and document significant resources, constraints, and possible alternatives for the study area.

The interagency team members should be familiar with the Fargo-Moorhead Metropolitan Area and knowledgeable about the historic, environmental, and social resources in the area. The team members should be able to provide suggestions on the range of alternatives being considered and potential impacts of those alternatives.

The interagency team will also be asked to provide input and to review the feasibility study products, such as the draft feasibility report, National Environmental Policy Act documentation, and other documents that will be developed during the planning process.

We respectfully request a response to this letter by May 1, 2009, that identifies team participants from your agency and provides contact information. A separate letter will be sent to the interagency team participants providing the times and locations for the first interagency team meeting and the public meetings that are tentatively scheduled for May 19 and 20, 2009.

Enclosed is a map defining the study area.

If you need additional information, please contact Craig Evans at (651) 290-5594 or via email at craig.o.evans@usace.army.mil.

Thank you in advance for your assistance.

Sincerely,

Craig

Craig Evans
Project Manager

Aaron Snyder

Aaron Snyder
Project Manager

Enclosure

Identical letters to:

Minnesota Pollution Control Agency
520 Lafayette Road
St. Paul, MN 55155-4194

Minnesota Department of Natural Resources
500 Lafayette Road
St. Paul, MN 55155-4040

Minnesota Board of Water and Soil Resources
520 Lafayette Road North
St. Paul, MN 55155

North Dakota State Water Commission
900 East Boulevard Avenue
Bismarck, ND 58505-0850

North Dakota Department of Health
2301 8th Avenue North
Fargo, ND 58102

North Dakota Game and Fish Department
100 North Bismarck Expressway
Bismarck, ND 58501-5095

U.S. Department of Agriculture
Natural Resources Conservation Service
375 Jackson Street
Suite 600
St. Paul, MN 55101

U. S. Fish and Wildlife Service
4101 American Boulevard East
Bloomington, MN 55425

USFWS-North Dakota Field Office
3425 Miriam Avenue
Bismarck, ND 58501

CF:
Mr. Mark Bittner
City of Fargo
200 3rd Street North
Fargo, North Dakota 58102

Mr. Bob Zimmerman
500 Center Avenue
Box 779
Moorhead, Minnesota 56561

DEPARTMENT OF THE ARMY
ST. PAUL DISTRICT, CORPS OF ENGINEERS
SIBLEY SQUARE AT MEARS PARK
190 FIFTH STREET EAST, SUITE 401
ST. PAUL MN 55101-1638

APR 24 2009

Planning, Programs and Project Management Division
Project Management and Development Branch

Federal Emergency Management Agency
Denver Federal Center
Building 710, Box 25267
Denver, CO 80225-0267

The St. Paul District Corps of Engineers, in partnership with the City of Fargo and City of Moorhead, is conducting a flood risk management feasibility study for the Fargo-Moorhead Metropolitan Area. We are seeking a primary point-of-contact from your agency to participate in the study and to coordinate issues regarding significant resources, constraints, and possible alternatives for the study. The study area includes portions of North Dakota and Minnesota which falls into two of your regional offices and for consistency would like to have one point-of-contact for your agency.

This person will be provided the feasibility study products for review and coordination, such as the draft feasibility report and National Environmental Policy Act documentation which will be developed during the planning process.

We respectfully request a response to this letter by 8 May 2009 which identifies the primary point-of-contact from your agency. A separate letter will be sent informing this person of the times and locations for the first interagency and the public meetings which are tentatively scheduled for May 19-20, 2009.

If you need additional information, please contact Craig Evans at (651) 290-5594 or via email at craig.o.evans@usace.army.mil.

Thank you in advance for your assistance.

Craig Evans
Project Manager

DEPARTMENT OF THE ARMY
ST. PAUL DISTRICT, CORPS OF ENGINEERS
SIBLEY SQUARE AT MEARS PARK
190 FIFTH STREET EAST, SUITE 401
ST. PAUL MN 55101-1638

APR 24 2009

Planning, Programs and Project Management Division
Project Management and Development Branch

Federal Emergency Management Agency
536 South Clark St., 6th Floor
Chicago, IL 60605

The St. Paul District Corps of Engineers, in partnership with the City of Fargo and City of Moorhead, is conducting a flood risk management feasibility study for the Fargo-Moorhead Metropolitan Area. We are seeking a primary point-of-contact from your agency to participate in the study and to coordinate issues regarding significant resources, constraints, and possible alternatives for the study. The study area includes portions of North Dakota and Minnesota which falls into two of your regional offices and for consistency would like to have one point-of-contact for your agency.

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Thank you in advance for your assistance.

Craig O. Evans

Craig Evans
Project Manager

DEPARTMENT OF THE ARMY
ST. PAUL DISTRICT, CORPS OF ENGINEERS
SIBLEY SQUARE AT MEARS PARK
190 FIFTH STREET EAST, SUITE 401
ST. PAUL MN 55101-1638

APR 24 2009

Planning, Programs and Project Management Division
Project Management and Development Branch

US EPA Region 5
77 W. Jackson Blvd.
Chicago, IL 60604

The St. Paul District Corps of Engineers, in partnership with the City of Fargo and City of Moorhead, is conducting a flood risk management feasibility study for the Fargo-Moorhead Metropolitan Area. We are seeking a primary point-of-contact from your agency to participate in the study and to coordinate issues regarding significant resources, constraints, and possible alternatives for the study. The study area includes portions of North Dakota and Minnesota which falls into two of your regional offices and for consistency would like to have one point-of-contact for your agency.

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DEPARTMENT OF THE ARMY
ST. PAUL DISTRICT, CORPS OF ENGINEERS
SIBLEY SQUARE AT MEARS PARK
190 FIFTH STREET EAST, SUITE 401
ST. PAUL MN 55101-1638

APR 24 2009

Planning, Programs and Project Management Division
Project Management and Development Branch

US EPA Region 8
8OC-EISC
1595 Wynkoop St
Denver, CO 80202-1129

The St. Paul District Corps of Engineers, in partnership with the City of Fargo and City of Moorhead, is conducting a flood risk management feasibility study for the Fargo-Moorhead Metropolitan Area. We are seeking a primary point-of-contact from your agency to participate in the study and to coordinate issues regarding significant resources, constraints, and possible alternatives for the study. The study area includes portions of North Dakota and Minnesota which falls into two of your regional offices and for consistency would like to have one point-of-contact for your agency.

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Thank you in advance for your assistance.

Craig O. Evans

Craig Evans
Project Manager

Identical letters to:

Federal Emergency Management Agency
536 South Clark St., 6th Floor
Chicago, IL 60605

Federal Emergency Management Agency
Denver Federal Center
Building 710, Box 25267
Denver, CO 80225-0267

US EPA Region 5
77 W. Jackson Blvd.
Chicago, IL 60604

US EPA Region 8
8OC-EISC
1595 Wynkoop St
Denver, CO 80202-1129

DEPARTMENT OF THE ARMY
ST. PAUL DISTRICT, CORPS OF ENGINEERS
SIBLEY SQUARE AT MEARS PARK
190 FIFTH STREET EAST, SUITE 401
ST. PAUL MN 55101-1638

Planning, Programs and Project Management Division
Project Management and Development Branch

SUBJECT: Fargo-Moorhead Metro Environmental Impact Statement Cooperating Agency Agreement

Ms. Carol Rushin
Acting Regional Administrator
Environmental Protection Agency, Region 8
1595 Wynkoop Street
Denver, Colorado 80202-1129

Dear Ms. Rushin:

In September 2008, the U.S. Army Corps of Engineers initiated a feasibility study to evaluate approaches for flood risk management in the Fargo, North Dakota, and Moorhead, Minnesota, metropolitan area. In May 2009, we published a Notice of Intent to prepare an Environmental Impact Statement (EIS). Initial public scoping meetings were held in the Fargo-Moorhead area on May 19-20, 2009. A member of your staff participated in the initial agency scoping meeting that was held on May 20, 2009. Possible alternatives being considered at this time include no action, nonstructural measures, flood barriers, diversions, increased channel conveyance and flood storage. In accordance with 40 CFR 1001.6, I am requesting that your agency consider being a Cooperating Agency in the preparation of the EIS.

The feasibility study schedule has been developed to allow for project authorization in a Water Resources Development Act (WRDA) of 2010. The preliminary draft EIS is scheduled for completion in February 2010, with the draft EIS being distributed for public review in May 2010, the final EIS being distributed for public review in September 2010 and the Record of Decision being signed and submitted to the Assistant Secretary of the Army in December 2010.

The schedule is very aggressive, and it assumes that the work progresses efficiently and without interruption. To meet this schedule we would like to formalize the commitment among the Federal agencies to work in a partnering process to coordinate the review of projects under the National Environmental Policy Act (NEPA) and other environmental laws, regulations, and Executive Orders that apply jointly to the agencies to develop an environmentally responsible project while preventing project delays. The Corps of Engineers will act as the lead agency and will coordinate all project review.

If your agency is interested in being a Cooperating Agency, please provide a point of contact by August 14, 2009. We will then initiate the development of a Cooperating Agency Agreement for your review and comment.

We look forward to your continued cooperation as we proceed with the study. If you have any questions concerning the project, please contact the project managers, Mr. Aaron Snyder at (651) 290-5489 or Mr. Craig Evans at (651) 290-5594 or email them at Aaron.M.Snyder@usace.army.mil or Craig.O.Evans@usace.army.mil.

Sincerely,

for Judith L. A. DesHarnais, P.E.
Deputy for Programs and Project Management

Copy furnished:
Ms. Robin Coursen
EPA Region 8 (8EPR-N)
1595 Wynkoop Street
Denver, CO 80202-1129

DEPARTMENT OF THE ARMY
ST. PAUL DISTRICT, CORPS OF ENGINEERS
SIBLEY SQUARE AT MEARS PARK
190 FIFTH STREET EAST, SUITE 401
ST. PAUL MN 55101-1638

Planning, Programs and Project Management Division
Project Management and Development Branch

SUBJECT: Fargo-Moorhead Metro Environmental Impact Statement Cooperating Agency Agreement

Mr. Steven Hardegen
Federal Emergency Management Agency Region VIII
Denver Federal Center
Building 710, Box 25267
Denver, CO 80225-0267

Dear Mr. Hardegen:

In September 2008, the U.S. Army Corps of Engineers initiated a feasibility study to evaluate approaches for flood risk management in the Fargo, North Dakota, and Moorhead, Minnesota, metropolitan area. In May 2009, we published a Notice of Intent to prepare an Environmental Impact Statement (EIS). Initial public scoping meetings were held in the Fargo-Moorhead area on May 19-20, 2009. A member of your staff participated in the initial agency scoping meeting that was held on May 20, 2009. Possible alternatives being considered at this time include no action, nonstructural measures, flood barriers, diversions, increased channel conveyance and flood storage. In accordance with 40 CFR 1001.6, I am requesting that your agency consider being a Cooperating Agency in the preparation of the EIS.

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We look forward to your continued cooperation as we proceed with the study. If you have any questions concerning the project, please contact the project managers, Mr. Aaron Snyder at (651) 290-5489 or Mr. Craig Evans at (651) 290-5594 or email them at Aaron.M.Snyder@usace.army.mil or Craig.O.Evans@usace.army.mil.

Sincerely,

for Judith L. A. DesHarnais, P.E.
Deputy for Programs and Project Management

Copy furnished:
Mr. Mike Hillenburg
Federal Emergency Management Agency Region VIII
Denver Federal Center
Building 710, Box 25267
Denver, CO 80225-0267

DEPARTMENT OF THE ARMY
ST. PAUL DISTRICT, CORPS OF ENGINEERS
SIBLEY SQUARE AT MEARS PARK
190 FIFTH STREET EAST, SUITE 401
ST. PAUL MN 55101-1638

Planning, Programs and Project Management Division
Project Management and Development Branch

SUBJECT: Fargo-Moorhead Metro Environmental Impact Statement Cooperating Agency Agreement

Mr. Tom Melius
Regional Director
Midwest Region
U.S. Fish and Wildlife Service
One Federal Drive
Fort Snelling, Minnesota 55111-4056

Dear Mr. Melius:

In September 2008, the U.S. Army Corps of Engineers initiated a feasibility study to evaluate approaches for flood risk management in the Fargo, North Dakota, and Moorhead, Minnesota, metropolitan area. In May 2009, we published a Notice of Intent to prepare an Environmental Impact Statement (EIS). Initial public scoping meetings were held in the Fargo-Moorhead area on May 19-20, 2009. A member of your staff participated in the initial agency scoping meeting that was held on May 20, 2009. Possible alternatives being considered at this time include no action, nonstructural measures, flood barriers, diversions, increased channel conveyance and flood storage. In accordance with 40 CFR 1001.6, I am requesting that your agency consider being a Cooperating Agency in the preparation of the EIS.

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If your agency is interested in being a Cooperating Agency, please provide a point of contact by August 14, 2009. We will then initiate the development of a Cooperating Agency Agreement for your review and comment.

We look forward to your continued cooperation as we proceed with the study. If you have any questions concerning the project, please contact the project managers, Mr. Aaron Snyder at (651) 290-5489 or Mr. Craig Evans at (651) 290-5594 or email them at Aaron.M.Snyder@usace.army.mil or Craig.O.Evans@usace.army.mil.

Sincerely,

for Judith L. A. DesHarnais, P.E.
Deputy for Programs and Project Management

Copy furnished:

Mr. Tony Sullins
Twin Cities Field Office
U.S. Fish and Wildlife Service
4101 American Boulevard East
Bloomington, MN 55425

Mr. Steve Guertin
Regional Director
Mountain-Prairie Region Office
U.S. Fish and Wildlife Service
134 Union Boulevard
Lakewood, Colorado 80228

DEPARTMENT OF THE ARMY
ST. PAUL DISTRICT, CORPS OF ENGINEERS
SIBLEY SQUARE AT MEARS PARK
190 FIFTH STREET EAST, SUITE 401
ST. PAUL MN 55101-1638

Planning, Programs and Project Management Division
Project Management and Development Branch

SUBJECT: Fargo-Moorhead Metro Environmental Impact Statement Cooperating Agency Agreement

Mr. Dale Frink
State Engineer
North Dakota State Water Commission
900 East Boulevard Avenue
Bismarck, North Dakota 58505-0850

Dear Mr. Frink:

In September 2008, the Corps of Engineers initiated a feasibility study to evaluate approaches for flood risk management in the Fargo, North Dakota, and Moorhead, Minnesota, metropolitan area. In May 2009, we published a Notice of Intent to prepare an Environmental Impact Statement (EIS). Initial public scoping meetings were held in the Fargo-Moorhead area on May 19-20, 2009. A member of your staff participated in the initial agency scoping meeting that was held on May 20, 2009. Possible alternatives being considered at this time include no action, nonstructural measures, flood barriers, diversions, increased channel conveyance and flood storage. In accordance with 40 CFR 1001.6, I am requesting that your agency consider being a Cooperating Agency in the preparation of the EIS.

A cooperating agency is any agency that has jurisdiction by law or special expertise with respect to any environmental issue. The role of the cooperating agency is described in 40 CFR, Section 1501.6. To summarize, a cooperating agency shall:

1. Participate in the NEPA process.

2. Participate in the scoping process (40 CFR, Section 1501.7).

3. At the request of the lead agency, be responsible for developing information and preparing environmental analyses for which the cooperating agency has special expertise.

4. Make available staff support at the lead agency's request.

5. Normally use its own funds to accomplish these tasks.

The feasibility study schedule has been developed to allow for project authorization in a Water Resources Development Act (WRDA) of 2010. The preliminary draft EIS is scheduled for completion in February 2010, with the draft EIS being distributed for public review in May 2010, the final EIS being distributed for public review in September 2010 and the Record of Decision being signed and submitted to the Assistant Secretary of the Army in December 2010.

The schedule is very aggressive, and it assumes that the work progresses efficiently and without interruption. To meet this schedule we would like to formalize the commitment among State agencies to work in a partnering process to coordinate the review of projects under the National Environmental Policy Act (NEPA) and other environmental laws, regulations, and Executive Orders that apply jointly to the agencies to develop an environmentally responsible project while preventing project delays. The Corps of Engineers will act as the lead agency and will coordinate all project review.

If your agency is interested in being a Cooperating Agency, please provide a point of contact by August 14, 2009. We will then initiate the development of a Cooperating Agency Agreement for your review and comment.

We look forward to your continued cooperation as we proceed with the study. If you have any questions concerning the project, please contact the project managers, Mr. Aaron Snyder at (651) 290-5489 or Mr. Craig Evans at (651) 290-5594, or email them at Aaron.M.Snyder@usace.army.mil or Craig.O.Evans@usace.army.mil.

Sincerely,

for Judith L. A. DesHarnais, P.E.
Deputy for Programs and Project Management

Copy furnished:
Patrick Fridgen
North Dakota State Water Commission
900 East Boulevard Avenue
Bismarck, North Dakota 58505-0850

DEPARTMENT OF THE ARMY
ST. PAUL DISTRICT, CORPS OF ENGINEERS
SIBLEY SQUARE AT MEARS PARK
190 FIFTH STREET EAST, SUITE 401
ST. PAUL MN 55101-1638

Planning, Programs and Project Management Division
Project Management and Development Branch

SUBJECT: Fargo-Moorhead Metro Environmental Impact Statement Cooperating Agency Agreement

Mr. Terry Steinwand
Director
North Dakota Game and Fish Department
100 North Bismarck Expressway
Bismarck, North Dakota 58501-5095

Dear Mr. Steinwand:

In September 2008, the Corps of Engineers initiated a feasibility study to evaluate approaches for flood risk management in the Fargo, North Dakota, and Moorhead, Minnesota, metropolitan area. In May 2009, we published a Notice of Intent to prepare an Environmental Impact Statement (EIS). Initial public scoping meetings were held in the Fargo-Moorhead area on May 19-20, 2009. A member of your staff participated in the initial agency scoping meeting that was held on May 20, 2009. Possible alternatives being considered at this time include no action, nonstructural measures, flood barriers, diversions, increased channel conveyance and flood storage. In accordance with 40 CFR 1001.6, I am requesting that your agency consider being a Cooperating Agency in the preparation of the EIS.

A cooperating agency is any agency that has jurisdiction by law or special expertise with respect to any environmental issue. The role of the cooperating agency is described in 40 CFR, Section 1501.6. To summarize, a cooperating agency shall:

1. Participate in the NEPA process.

2. Participate in the scoping process (40 CFR, Section 1501.7).

3. At the request of the lead agency, be responsible for developing information and preparing environmental analyses for which the cooperating agency has special expertise.

4. Make available staff support at the lead agency's request.

5. Normally use its own funds to accomplish these tasks.

The feasibility study schedule has been developed to allow for project authorization in a Water Resources Development Act (WRDA) of 2010. The preliminary draft EIS is scheduled for completion in February 2010, with the draft EIS being distributed for public review in May 2010, the final EIS being distributed for public review in September 2010 and the Record of Decision being signed and submitted to the Assistant Secretary of the Army in December 2010.

The schedule is very aggressive, and it assumes that the work progresses efficiently and without interruption. To meet this schedule we would like to formalize the commitment among State agencies to work in a partnering process to coordinate the review of projects under the National Environmental Policy Act (NEPA) and other environmental laws, regulations, and Executive Orders that apply jointly to the agencies to develop an environmentally responsible project while preventing project delays. The Corps of Engineers will act as the lead agency and will coordinate all project review.

If your agency is interested in being a Cooperating Agency, please provide a point of contact by August 14, 2009. We will then initiate the development of a Cooperating Agency Agreement for your review and comment.

We look forward to your continued cooperation as we proceed with the study. If you have any questions concerning the project, please contact the project managers, Mr. Aaron Snyder at (651) 290-5489 or Mr. Craig Evans at (651) 290-5594, or email them at Aaron.M.Snyder@usace.army.mil or Craig.O.Evans@usace.army.mil.

Sincerely,

Judith L. A. DesHarnais, P.E.
Deputy for Programs and Project Management

Copy furnished:
Mr. Bruce Kreft
North Dakota Game and Fish Department
100 North Bismarck Expressway
Bismarck, North Dakota 58501

DEPARTMENT OF THE ARMY
ST. PAUL DISTRICT, CORPS OF ENGINEERS
SIBLEY SQUARE AT MEARS PARK
190 FIFTH STREET EAST, SUITE 401
ST. PAUL MN 55101-1638

Planning, Programs and Project Management Division
Project Management and Development Branch

SUBJECT: Fargo-Moorhead Metro Environmental Impact Statement Cooperating Agency Agreement

Mr. Dennis Fewless
Director, Division of Water Quality
North Dakota Department of Health
918 East Divide Avenue, 4th Floor
Bismarck, North Dakota 58501-1947

Dear Mr. Fewless:

In September 2008, the Corps of Engineers initiated a feasibility study to evaluate approaches for flood risk management in the Fargo, North Dakota, and Moorhead, Minnesota, metropolitan area. In May 2009, we published a Notice of Intent to prepare an Environmental Impact Statement (EIS). Initial public scoping meetings were held in the Fargo-Moorhead area on May 19-20, 2009. A member of your staff participated in the initial agency scoping meeting that was held on May 20, 2009. Possible alternatives being considered at this time include no action, nonstructural measures, flood barriers, diversions, increased channel conveyance and flood storage. In accordance with 40 CFR 1001.6, I am requesting that your agency consider being a Cooperating Agency in the preparation of the EIS.

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Sincerely,

Judith L. A. DesHarnais, P.E.
Deputy for Programs and Project Management

Copy furnished:
Mr. Mike Sauer
North Dakota Department of Health
918 East Divide Avenue, 4th Floor
Bismarck, North Dakota 58501-1947

DEPARTMENT OF THE ARMY
ST. PAUL DISTRICT, CORPS OF ENGINEERS
SIBLEY SQUARE AT MEARS PARK
190 FIFTH STREET EAST, SUITE 401
ST. PAUL MN 55101-1638

Planning, Programs and Project Management Division
Project Management and Development Branch

SUBJECT: Fargo-Moorhead Metro Environmental Impact Statement Cooperating Agency Agreement

Mr. Paaverud, Jr.
State Historic Preservation Officer
State Historical Society of North Dakota
612 East Boulevard Avenue
Bismarck, North Dakota 58505-0830

Dear Mr. Paaverud, Jr. :

In September 2008, the Corps of Engineers initiated a feasibility study to evaluate approaches for flood risk management in the Fargo, North Dakota, and Moorhead, Minnesota, metropolitan area. In May 2009, we published a Notice of Intent to prepare an Environmental Impact Statement (EIS). Initial public scoping meetings were held in the Fargo-Moorhead area on May 19-20, 2009. A member of your staff participated in the initial agency scoping meeting that was held on May 20, 2009. Possible alternatives being considered at this time include no action, nonstructural measures, flood barriers, diversions, increased channel conveyance and flood storage. In accordance with 40 CFR 1001.6, I am requesting that your agency consider being a Cooperating Agency in the preparation of the EIS.

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Sincerely,

Judith L. A. DesHarnais, P.E.
Deputy for Programs and Project Management

Copy furnished:
Ms. Susan Quinnell
State Historical Society of North Dakota
612 East Boulevard Avenue
Bismarck, North Dakota 58505-0830

DEPARTMENT OF THE ARMY
ST. PAUL DISTRICT, CORPS OF ENGINEERS
SIBLEY SQUARE AT MEARS PARK
190 FIFTH STREET EAST, SUITE 401
ST. PAUL MN 55101-1638

Planning, Programs and Project Management Division
Project Management and Development Branch

SUBJECT: Fargo-Moorhead Metro Environmental Impact Statement Cooperating Agency Agreement

Mr. Mark Holsten
Commissioner
Minnesota Department of Natural Resources
500 Lafayette Road
St. Paul, MN. 55155-4040

Dear Mr. Holsten:

In September 2008, the Corps of Engineers initiated a feasibility study to evaluate approaches for flood risk management in the Fargo, North Dakota, and Moorhead, Minnesota, metropolitan area. In May 2009, we published a Notice of Intent to prepare an Environmental Impact Statement (EIS). Initial public scoping meetings were held in the Fargo-Moorhead area on May 19-20, 2009. A member of your staff participated in the initial agency scoping meeting that was held on May 20, 2009. Possible alternatives being considered at this time include no action, nonstructural measures, flood barriers, diversions, increased channel conveyance and flood storage. In accordance with 40 CFR 1001.6, I am requesting that your agency consider being a Cooperating Agency in the preparation of the EIS.

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Sincerely,

Judith L. A. DesHarnais, P.E.
Deputy for Programs and Project Management

Copy furnished:
Mr. Bob Bezek
Natural Resouces Department
DNR NW Region Headquarters
2115 Birchmont Beach Road NE
Bemidji, MN. 55601

DEPARTMENT OF THE ARMY
ST. PAUL DISTRICT, CORPS OF ENGINEERS
SIBLEY SQUARE AT MEARS PARK
190 FIFTH STREET EAST, SUITE 401
ST. PAUL MN 55101-1638

Planning, Programs and Project Management Division
Project Management and Development Branch

SUBJECT: Fargo-Moorhead Metro Environmental Impact Statement Cooperating Agency Agreement

Mr. Paul Eger
Commissioner
Minnesota Pollution Control Agency
520 Lafayette Road
St. Paul, Minnesota 55155

Dear Mr. Eger:

In September 2008, the Corps of Engineers initiated a feasibility study to evaluate approaches for flood risk management in the Fargo, North Dakota, and Moorhead, Minnesota, metropolitan area. In May 2009, we published a Notice of Intent to prepare an Environmental Impact Statement (EIS). Initial public scoping meetings were held in the Fargo-Moorhead area on May 19-20, 2009. A member of your staff participated in the initial agency scoping meeting that was held on May 20, 2009. Possible alternatives being considered at this time include no action, nonstructural measures, flood barriers, diversions, increased channel conveyance and flood storage. In accordance with 40 CFR 1001.6, I am requesting that your agency consider being a Cooperating Agency in the preparation of the EIS.

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Sincerely,

Judith L. A. DesHarnais, P.E.
Deputy for Programs and Project Management

Copy furnished:

Mr. Jack Frederick
Minnesota Pollution Control Agency
Lake Avenue Plaza
714 Lake Avenue #220
Detroit Lakes, Minnesota 56501

DEPARTMENT OF THE ARMY
ST. PAUL DISTRICT, CORPS OF ENGINEERS
SIBLEY SQUARE AT MEARS PARK
190 FIFTH STREET EAST, SUITE 401
ST. PAUL MN 55101-1638

Planning, Programs and Project Management Division
Project Management and Development Branch

SUBJECT: Fargo-Moorhead Metro Environmental Impact Statement Cooperating Agency Agreement

Mr. Britta Bloomberg
Deputy State Historic Preservation Officer
State Historic Preservation Office
Minnesota Historical Society
345 Kellogg Boulevard West
St. Paul, MN. 55102

Dear Ms. Bloomberg:

In September 2008, the Corps of Engineers initiated a feasibility study to evaluate approaches for flood risk management in the Fargo, North Dakota, and Moorhead, Minnesota, metropolitan area. In May 2009, we published a Notice of Intent to prepare an Environmental Impact Statement (EIS). Initial public scoping meetings were held in the Fargo-Moorhead area on May 19-20, 2009. A member of your staff participated in the initial agency scoping meeting that was held on May 20, 2009. Possible alternatives being considered at this time include no action, nonstructural measures, flood barriers, diversions, increased channel conveyance and flood storage. In accordance with 40 CFR 1001.6, I am requesting that your agency consider being a Cooperating Agency in the preparation of the EIS.

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Sincerely,

Judith L. A. DesHarnais, P.E.
Deputy for Programs and Project Management

Copy furnished:
Mr. Dennis Gimmestad
Minnesota Historical Society
345 Kellogg Boulevard West
St. Paul, Minnesota 55102

DEPARTMENT OF THE ARMY
ST. PAUL DISTRICT, CORPS OF ENGINEERS
190 FIFTH STREET EAST, SUITE 401
ST. PAUL, MN 55101-1638

REPLY TO
ATTENTION OF

May 29, 2009

Planning, Programs and Project Management Division
Environmental and Economic Analysis Branch

SUBJECT: Programmatic Agreement for the Fargo-Moorhead Metro Flood Risk Management Project, Cass County, North Dakota, and Clay County, Minnesota

Dr. Tom McCulloch
Office of Federal Agency Programs
Advisory Council on Historic Preservation
Old Post Office Building, Suite 803
1100 Pennsylvania Avenue, NW
Washington, D.C. 20004

Dear Dr. McCulloch:

The St. Paul District, U.S. Army Corps of Engineers (Corps), is conducting a feasibility study to provide permanent flood protection to the cities of Fargo and Moorhead and nearby communities in Cass County, North Dakota and Clay County, Minnesota (Figure 1). The Corps will be preparing an Environmental Impact Statement (EIS) for the Fargo-Moorhead Metro Flood Risk Management Project (Project). The proposed flood risk management alternatives being considered include a system of levees and floodwalls along the Red River of the North for each city; a Red River diversion channel alignment in Cass County, North Dakota; and two possible Red River diversion channel alignments in Clay County, Minnesota (Figure 2).

The City of Fargo and the City of Moorhead are the non-Federal sponsors for this feasibility study. Under Section 106 of the National Historic Preservation Act of 1966, as amended, the Corps is required to take into account the effects of this undertaking on properties determined eligible for or listed on the National Register of Historic Places, including properties of traditional religious or cultural significance to Indian tribes, and, prior to approval of the proposed undertaking, to afford the Advisory Council on Historic Preservation a reasonable opportunity to comment on the undertaking.

In order to facilitate completion of the National Environmental Policy Act (NEPA) requirements for this project and because the Project may have effects on cultural resources, the Corps is developing a Programmatic Agreement (PA) with the North Dakota State Historic Preservation Officer (SHPO) and the Minnesota SHPO as signatory parties, and the City of Fargo and the City of Moorhead as concurring parties. Other possible concurring parties include the Fargo Historic Preservation Commission; Cass County, North Dakota; Clay County, Minnesota; the White Earth Band of Minnesota Chippewa; the Sisseton-Wahpeton Oyate of the Lake Traverse Reservation in South Dakota; the Leech Lake Band of Ojibwe in Minnesota; the

Turtle Mountain Band of Chippewa in North Dakota, the Upper Sioux Community of Minnesota; the Lower Sioux Indian Community in Minnesota, the Spirit Lake (Sioux) Tribe in North Dakota, and the Red Lake Band of Chippewa Indians in Minnesota. The Corps is inquiring if the Advisory Council wishes to participate in the PA process because of the complexity of the Fargo-Moorhead Metro Flood Risk Management Project.

Area of Potential Effect

The Area of Potential Effect for this project is the area within one-half mile of any selected diversion centerline and the area within one-eighth mile (660 feet/200 meters) of the centerline of any selected levee and floodwall alignments, plus any borrow, disposal, staging, and interior drainage ponding areas. Buildings and structures located riverward of the proposed permanent levees in the cities of Fargo and Moorhead would be allowed to remain in place, so would not be protected by the proposed flood risk management features during periods of high water.

Historic Properties

The Corps cultural resources staff conducted a files search at the Minnesota State Historic Preservation Office and the North Dakota State Historic Preservation Office to compile a list of previously recorded sites and structures in the Area of Potential Effect. As of May 1, 2009, there are eight archeological sites and 13 standing structures (three National Register listed and three eligible) recorded along the proposed Moorhead levee alignment; seven archeological sites and three standing structures recorded within the Minnesota-side diversion alignments; five archeological sites, two standing structures (one listed), and one historic district (listed) recorded along the North Dakota levee alignment; and four archeological sites and one standing structure recorded within the North Dakota-side diversion alignment.

Less than five percent of the levee and diversion alignments have been previously surveyed for cultural resources, and those surveys were mainly of spot locations. The levee and floodwall alignments selected at Fargo and Moorhead and any associated borrow and work areas will receive a Phase I cultural resources survey prior to construction. If a diversion alignment is selected as a project feature, it too will have a Phase I survey. Shovel testing will be conducted along the selected feature alignments in archeologically sensitive areas on the glacial Lake Agassiz lakeplain, while deep site testing will be conducted where the feature alignments cross river floodplains and terraces where there is potential for deeper buried cultural resources. The building and structure inventories along the levee alignments in both cities will need to be updated. Any archeological sites or 50+ year old buildings and structures located in the selected project area will need a Phase II evaluation of their eligibility to the National Register if they cannot be avoided. A Programmatic Agreement is being prepared for this Project because not all Project areas (ex: borrow areas, interior drainage ponding areas) can be surveyed or all sites and structures evaluated prior to starting preparation of plans and specifications. Potential project impacts to eligible or listed properties would be mitigated prior to construction, if such impacts cannot be avoided. Any human burials encountered would be handled under either the Native American Graves Protection and Repatriation Act if on federal land or the respective state's burial laws.

Letters to initiate consultation with the Sisseton-Wahpeton Oyate, the White Earth Band of Minnesota Chippewa, the Leech Lake Band of Ojibwe, the Turtle Mountain Band of Chippewa, the Upper Sioux Community of Minnesota, the Lower Sioux Indian Community, the Spirit Lake Tribe, and the Red Lake Band of Chippewa Indians, regarding effects of the Project on properties of traditional cultural or religious importance to them were mailed out April 8, 2009. The Leech Lake Band of Ojibwe responded on May 1st that there are no properties of concern to them in the Project area.

Affected Properties

At present, there are no known National Register of Historic Places eligible or listed properties in the proposed diversion alignments on either side of the river. Both Minnesota diversion centerlines cross three archeological sites (Lafayette townsite; Red River oxcart trail; Ruthruff ghost town) of undetermined eligibility, while the North Dakota diversion centerline crosses one archeological site (prehistoric cultural material scatter) of undetermined eligibility.

The proposed levee alignment at Moorhead may directly impact three National Register listed properties (Randolph M. Probstfield House, John Bergquist House, Fairmont Creamery Company) and three eligible properties (Red River Bridge on Main Avenue; Douglas House, Kassemborg Block). The proposed levee alignment at Fargo may directly impact the listed North Side Fargo Builder's Residential Historic District and the listed Dibley House.

In addition to the above historic properties, there may be additional eligible archeological and/or architectural properties along the largely unsurveyed levee and diversion alignments. Many buildings and structures along the Fargo and Moorhead in-town levee alignments have not had their National Register eligibility determined.

Project Effects on Properties

Based on existing data, there is potential for adverse effects on known and unknown historic properties along the levee alignments in both Fargo and Moorhead, as well as at unknown historic properties along the proposed diversion alignments. The extent of such adverse effects will be unknown until the selected alignments and related work areas receive intensive surveys for cultural resources and the encountered sites and structures are evaluated.

Historic properties located along the selected alignments will be directly affected by project construction, though impacts to any such properties will be avoided to the extent practicable. Properties located on the river/wet side of the levee alignments will not be required to be removed, so the threat of flood damage by future high water events remains as at present.

Views of Other Parties

Public comment on cultural resources in the study/project area is being sought as part of the NEPA scoping process and at public meetings held in connection with alternative analysis

and selection. The NEPA scoping meeting for public comment was held May 19, 2009, with a meeting for agencies on May 20th.

Please review the above and provide your comments on the Fargo-Moorhead Metro Flood Risk Management Project as soon as practicable. If you have any questions, please contact Corps archeologist Virginia Gnabasik at (651) 290-5262 or by email at virginia.r.gnabasik@usace.army.mil.

Sincerely,

Terry J. Birkenstock
Chief, Environmental and Economic
Analysis Branch

2 Enclosures

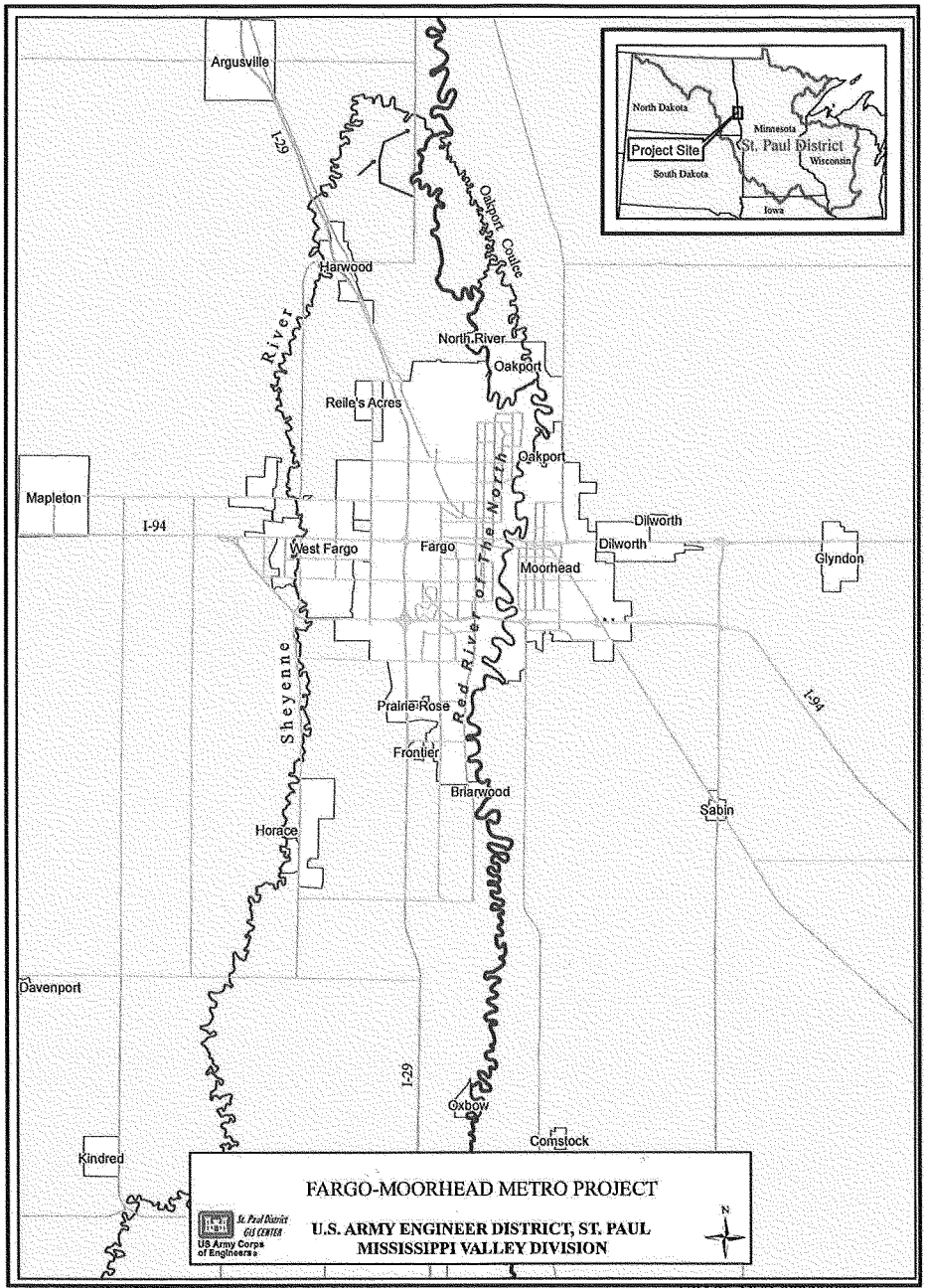

Figure 1. General location map of Fargo-Moorhead Metro Flood Risk Management Project

Fargo Moorhead Metro Project Boundary
St. Paul District
ENVIRONMENTAL
US Army Corps
of Engineers
0
1.5
3
6 Miles
Legend
Project Area
Proposed diversions
Levees proposed by others
N
W
E
S

Leech Lake Band of Ojibwe

Arthur "Archie" Larose, Chairman
Mike Bongo, Secretary/Treasurer

District I Representative
Robbie Howe

District II Representative
Lyman L. Losh

District III Representative
Eugene "Ribs" Whitebird

May 1, 2009

Department of the Army
St. Paul District, Corps of Engineer
Attn: Virginia Gnabasik, Corps Archaeologist
190 Fifth Street East, Suite 401
St. Paul, MN 55101-1638

RE: **Proposed Flood Risk Management Project**
Fargo, Cass County, North Dakota and Moorhead, Clay County, Minnesota
LL-THPO Number: 09-074-NCRI

Dear Ms. Gnabasik:

Thank you for the opportunity to comment on the above-referenced project. It has been reviewed pursuant to the responsibilities given the Tribal Historic Preservation Officer (THPO) by the National Historic Preservation Act of 1966, as amended in 1992 and the Procedures of the Advisory Council on Historic Preservation (38CFR800).

I have reviewed the documentation; after careful consideration of our records, I have determined that the Leech Lake Band of Ojibwe does not have any concerns regarding sites of religious or cultural importance in this area.

Should any human remains or suspected human remains be encountered, all work shall cease and the following personnel should be notified immediately in this order: County Sheriff's Office and Office of the State Archaeologist. If any human remains or culturally affiliated objects are inadvertently discovered this will prompt the process to which the Band will become informed.

Please note: The above determination does not "exempt" future projects from Section 106 review. In the event of any other tribe notifying us of concerns for a specific project, we may re-enter into the consultation process.

You may contact me at (218) 335-2940 if you have questions regarding our review of this project. Please refer to the LL-THPO Number as stated above in all correspondence with this project.

Respectfully submitted,

Gina M. Lemon
Tribal Historic Preservation Officer

Leech Lake Tribal Historic Preservation Office * *Established in 1996*
An office within the Division of Resource Management
115 Sixth Street NW, Suite E * Cass Lake, Minnesota 56633
(218) 335-2940 * FAX (218) 335-2974
glemon@live.com or www.nathpo.org (Members since 1998)

Preserving America's Heritage

June 17, 2009

Mr. Terry J. Birkenstock
Chief, Environmental and Economic Analysis Branch
Planning, Programs and Project Management Division
St. Paul District, Corps of Engineers
190 Fifth Street East, Suite 401
St. Paul, MN 55101-1638

Ref: Proposed Fargo-Moorhead Metro Flood Risk Management Project
Cass County, North Dakota and Clay County, Minnesota

Dear Mr. Birkenstock:

On June 8, 2009, the Advisory Council on Historic Preservation (ACHP) received your notification and supporting documentation regarding the adverse effects of the referenced project on properties listed on and eligible for listing in the National Register of Historic Places. Based upon the information you provided, we have concluded that Appendix A, *Criteria for Council Involvement in Reviewing Individual Section 106 Cases*, of our regulations, "Protection of Historic Properties" (36 CFR Part 800), does not apply to this undertaking. Accordingly, we do not believe that our participation in the consultation to resolve adverse effects is needed. However, if we receive a request for participation from the State Historic Preservation Officer (SHPO), Tribal Historic Preservation Officer, affected Indian tribe, a consulting party, or other party, we may reconsider this decision. Additionally, should circumstances change, and you determine that our participation is needed to conclude the consultation process, please notify us.

Pursuant to 36 CFR §800.6(b)(1)(iv), you will need to file the final Programmatic Agreement (PA), developed in consultation with the Louisiana SHPO and any other consulting parties, and related documentation with the ACHP at the conclusion of the consultation process. The filing of the PA and supporting documentation with the ACHP is required in order to complete the requirements of Section 106 of the National Historic Preservation Act.

Thank you for providing us with the opportunity to review this undertaking. If you have any questions or need the further assistance of the ACHP, please contact Tom McCulloch at 202-606-8554, or via email at tmcculloch@achp.gov.

Sincerely,

Raymond V. Wallace

Raymond V. Wallace
Historic Preservation Technician
Federal Property Management Section
Office of Federal Agency Programs

ADVISORY COUNCIL ON HISTORIC PRESERVATION
1100 Pennsylvania Avenue NW, Suite 803 Washington, DC 20004
Phone: 202-606-8503 ▯ Fax: 202-606-8647 ▯ achp@achp.gov ▯ www.achp.gov

Stanley Township Board of Supervisors
C/O Renee Clasen, Clerk
406 118th Avenue South
Horace, ND 58047
July 15, 2009

Aaron Snyder
Army Corps of Engineers
US Army Corps PM-A
190 5th street East
Suite 401
St. Paul MN, 55101

Cass County Commission Office
211 9th Street South
Fargo, ND 58102

Fargo City Commission
200 3rd Street North
Fargo, ND 58102

Ken Yantes
NDTOA
P.O. Box 104
Brocket, ND 58321

Pleasant Township
Steve Brakke, Chairman
5060 173 Ave SE
Horace, ND 58047

Warren Township
Randy Hajek, Chairman
4308 165 Ave SE
Davenport, ND 58021

Barnes Township
Kevin Heiden, Chairman
2715 Sheyenne Street
West Fargo, ND 58078

Harwood Township
Wayne Freedland, Chairman
2935 170 Ave SE
Harwood, ND 58042

Mapleton Township
John Rutten, Chairman
16522 41st Street SE
Mapleton, ND 58059

Jeff Klein
ND State Water Commission
900 East Boulevard Ave
Bismarck, ND 58505

Southeast Cass Water District
1201 Main Avenue West
West Fargo, ND 58078

City of Fargo
c/o Mayor Dennis Walaker
200 Third Street North
Fargo, ND 58102

Kent Rademacher
Mayor, City of Oxbow
821 Riverbend Drive
Oxbow, ND 58047

John Adams
Mayor, City of Briarwood
8 Briarwood Place
Briarwood, ND 58104

John Goerger
Mayor City of Horace
313 E Park Drive
Horace, ND 58047

Cc: Ed Schafer www.fmfloodcontrol.com

On July 15, 2009, the Stanley Township Board of Supervisors voted unanimously to form a resolution to support the Flood Protection Coalition for the F-M Community. This project is completely in-line with the idea of what we've been in support of since the flood of 1997.

We are looking to help promote support for the Split Flow Diversion project on the North Dakota Side. The Coalition needs your support.

Please go to www.fmfloodcontrol.com. This website was setup to make it easy for FM and surrounding counties residents to learn all about this project and to voice their opinion to the Army Corps of Engineers and other government entities about permanent flood control in the FM and surrounding counties.

We are asking everyone to read all about this project and take action by sending an email to the Army Corps of Engineers and local and state leaders showing your support for the plan. To send an email, simply click on: to send a letter, on this website.

If you have any questions concerning this matter, please feel free to contact us at any time. We stand ready to meet in public session with any other governmental entity at any reasonable time. We invite any of your representatives to attend our regular meetings to discuss these matters.

Sincerely,

STANLEY TOWNSHIP BOARD OF SUPERVISORS

Dave Mathson, Chairman Todd Ellig, Supervisor Al Frisinger, Supervisor

Rodney Young, Supervisor Ski Kostman, Supervisor

North Dakota State Water Commission
900 EAST BOULEVARD AVENUE, DEPT 770 • BISMARCK, NORTH DAKOTA 58505-0850
701-328-2750 • TDD 701-328-2750 • FAX 701-328-3696 • INTERNET: http://swc.nd.gov

July 7, 2009

US Army Corps of Engineers
ATTN: Craig Evans
190 East 5th St, Suite 401
St. Paul, MN 55101

Dear Mr. Evans:

The purpose of this letter is to provide some initial comments on the Fargo-Moorhead Metropolitan Area Feasibility Study. Your efforts to study permanent flood control options in the Fargo-Moorhead, and surrounding areas are an important first step in providing much-needed flood protection for that area.

As you know, the State of North Dakota, through the Water Commission, has pledged $75 million toward the Fargo Southside Flood Control (FSFC) Project. With that in mind, I would respectfully request an expedited analysis of the FSFC Project, and its role in various alternatives. This might allow local sponsors to proceed with construction on this component as soon as possible, with the understanding that the costs would be part of the non-federal share of the overall Fargo-Moorhead Metro Area project costs.

In addition, considering the magnitude of 2009 spring flood events, and those of years past, I would also respectfully request that any flood protection alternatives developed be designed for larger events than those with a one percent chance of occurrence. As an example, the Grand Forks-East Grand Forks project was constructed to provide protection for up to a 250-year event.

Furthermore, I would encourage the Corps to develop a range of alternatives that will provide a host of options for the project area. These should include not only levee alternatives, but diversion options as well.

Once again, Fargo and Moorhead were fortunate enough to escape a record flood event this past spring. But who knows how many more times those communities can pull off the seemingly impossible. For that reason, I support your commitment to this process, and I applaud your expedited approach, as time is of the essence.

Our agency looks forward to working with the Corps in the coming months and years, with the ultimate goal of providing permanent flood control for the Fargo-Moorhead metro area. If you have any questions, please feel free to contact Randy Gjestvang in our Red River office at 701-282-2318, or email rgjestvang@nd.gov.

Sincerely,

Dale L. Frink
State Engineer

DLF:pmf:ds/1955

DPM
PM-A

North Dakota State Water Commission

900 EAST BOULEVARD AVENUE, DEPT 770 • BISMARCK, NORTH DAKOTA 58505-0850
701-328-2750 • TDD 701-328-2750 • FAX 701-328-3696 • INTERNET: http://swc.nd.gov

July 28, 2009

Ms. Judith DesHarnais, P.E.
St. Paul District, Corps of Engineers
Sibley Square at Mears Park
190 5th Street East, Suite 401
St. Paul, MN 55101-1638

Dear Ms. DesHarnais:

The purpose of this letter is to accept your invitation to have the North Dakota State Water Commission serve as a cooperating agency in the preparation of an EIS for a comprehensive Fargo-Moorhead metro area flood control project and study.

Our point of contact for the Water Commission will be Randy Gjestvang, out of our Red River office in West Fargo. His contact information is:

ND State Water Commission
Red River Office
ATTN: Randy Gjestvang
623 E Main St. 103
West Fargo,ND 58078
701-282-2318
rgjestvang@nd.gov

We look forward to working with the U.S. Army Corps of Engineers and other cooperating interests on this important process.

Sincerely,

Dale L. Frink
ND State Engineer

cc: Randy Gjestvang

DLF:pmf:ds/1955

JOHN HOEVEN, GOVERNOR
CHAIRMAN

DALE L. FRINK
SECRETARY AND STATE ENGINEER

City of Briarwood
7 Briarwood
Fargo, ND 58104

August 3, 2009

Flood Protection Coalition for the F-M Community:

The City Council of Briarwood would like it known that they are in full support of the Coalition's efforts to promote a split-flow flood diversion through North Dakota. Residents of Briarwood have been in favor of a project such as this one for quite some time. The Commissioners agree that a diversion would be the only flood-protection option guaranteed to work for many years to come. Additionally, the cost of such a project would be far less than the damages this area would see if the City of Fargo's promoted dykes and levies system failed in a major flood.

The Briarwood Council has informed their residents of the website set up to promote the diversion and has requested them to become active in showing their support of the project as well. Please let us know if we can be of any assistance in your efforts. Thank you.

Sincerely,

Briarwood City Council

Mayor John Adams

Bob Hegg, Commissioner

Tracey Wallach, Commissioner

Dan Butler, Commissioner

Paul Giaque, Commissioner

Minnesota Department of Natural Resources
500 Lafayette Road • St. Paul, MN • 55155-40

Minnesota
DEPARTMENT OF NATURAL RESOURCES

August 11, 2009

Judith L. A. DesHarnais, P.E.
Deputy for Programs and Project Management
Department of the Army
St. Paul District, Corps of Engineers
190 Fifth Street East, Suite 401
St. Paul, MN 55101-1638

RE: Fargo-Moorhead Metro Environmental Impact Statement Cooperating Agency Agreement

Mrs. DesHarnais:

Thank for your July 22, 2009 letter requesting that Minnesota Department of Natural Resources (MDNR) consider participation in the above-described project as a cooperating agency. The MDNR is willing to participate as a cooperating agency. The following MDNR staff have been identified as points of contact for development of the Cooperating Agency Agreement and for the project as a whole:

Bob Bezek (218) 308-2621 Bob.Bezek@dnr.state.mn.us
Regional Manager
2115 Birchmont Beach Rd NE
Bemidji, MN 56601

Nathan Kestner (218) 308-2672 Nathan.Kestner@dnr.state.mn.us
Regional Environmental Assessment Ecologist
2115 Birchmont Beach Rd NE
Bemidji, MN 56601

Please include both Bob and Nathan in any further communication in relation to the project. Do not hesitate to contact me at (651) 259-5156 if you have any questions or need further assistance.

Sincerely,

Randall Doneen
Environmental Review Planning Director

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August 18, 2009

Ms. Judith L.A. DesHarnais, P.E.
Deputy for Programs and Project Management
Department of the Army
St. Paul District, U.S. Army Corps of Engineers
Sibley Square at Mears Park
190 Fifth Street East, Suite 401
St. Paul, MN 55101-1638

RE: Fargo-Moorhead Metro Environmental Impact Statement

Dear Ms. DesHarnais:

I am writing in response to the Minnesota Pollution Control Agency's (MPCA) participation as a cooperating agency in the development of an Environmental Impact Statement (EIS) for the Fargo-Moorhead Flood Risk Management project (Project). The Project, proposed by the U.S. Army Corps of Engineers, involves the identification of long-term solutions to the Red River flooding issues in the Fargo-Moorhead area. The EIS will include consideration of alternatives such as no action, nonstructural measures, flood barriers, diversions, increased channel conveyance, and flood storage.

As you are aware, Jack Frederick of the MPCA's Regional Division, Northwest Region Watershed Unit, who has previous involvement with the flood damage reduction work group, participated in the initial scoping meeting held on May 20, 2009, and has been working with Craig Evans of the U.S. Army Corps of Engineers. The main purpose of this letter is to clarify roles and responsibilities of various MPCA program staff as we continue our participation in the development of the EIS.

- Environmental Review: Karen Kromar (651-757-2508) of the MPCA's Environmental Review program will act as the main contact with respect to the MPCA's participation as a cooperating agency in the EIS development. Ms. Kromar will coordinate MPCA's review of, and response to, documents related to the EIS, such as scoping documents and draft versions of the EIS. Coordination from the Environmental Review program will facilitate participation and comment from all MPCA programs that may have regulatory or other interest in the Project.

- Water Quality Issues: Denise Oakes (218-846-8119) will be the MPCA contact for water quality issues relating to the National Pollutant Discharge Elimination System and/or State Disposal System (NPDES/SDS) Permit authorizing municipal wastewater discharges. NPDES discharges associated with stormwater and with construction activities would be referred to Joyce Cieluch (218-846-8126). Associated water quality issues including impaired waters and Total Maximum Daily Load (TMDL) issues should be referred to Jack Frederick (218-846-8110).

Ms. Judith L.A. DesHarnais, P.E.
Page 2
August 18, 2009

- Dredging: Emily Schnick (651-757-2699) will be the MPCA contact to determine what type(s) of regulatory oversight and/or permitting is required at the Project and other sites involving the on-land management (storage, treatment, disposal and/or reuse) of dredged materials.

- Stormwater: Mike Trojan (651-757-2790) will be the MPCA contact for technical issues related to the discharge of stormwater associated with construction activities, including the review of the Stormwater Pollution Prevention Plan.

- Clean Water Act 401 Water Quality Certification: Kevin Molloy (651-757-2577) will be the MPCA contact for issues relating to the Project's ability to comply with state water quality standards outside of those governed by the NPDES/SDS Permit mentioned above, including MPCA standards for wetlands.

Additional MPCA staff may become involved as other environmental issues associated with the Project are identified. We look forward to continuing to work with you.

Sincerely,

Paul Eger
Commissioner

PE:mbo

cc: Denise Oakes, MPCA, Detroit Lakes
Joyce Cieluch, MPCA, Detroit Lakes
Jack Frederick, MPCA, Detroit Lakes
Jim Ziegler, MPCA, Detroit Lakes
Emily Schnick, MPCA, St. Paul
Mike Trojan, MPCA, St. Paul
Kevin Molloy, MPCA, St. Paul
Karen Kromar, MPCA, St. Paul
Craig Affeldt, MPCA, St. Paul

STATE HISTORICAL SOCIETY OF NORTH DAKOTA

R: 20 Aug
PM-A

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Director

Accredited by the American Association of Museums

August 18, 2009

Judith L. A. DesHarnais, PE
Deputy for Programs and Project Management
Department of the Army
St. Paul District Corps of Engineers
Army Corps of Engineers Center
190 5th Street East Suite 401
St. Paul, MN 55101-1638

NDSHPO REF. : 09-1166 COE Fargo-Moorhead Metro Environmental Impact Statement Cooperating Agency Agreement

Dear Judith:

We have reviewed project correspondence for: 09-1166 COE Fargo-Moorhead Metro Environmental Impact Statement Cooperating Agency Agreement.

The State Historical Society of North Dakota and State Historic Preservation Office (North Dakota) will be a cooperating agency for this project. Paul R. Picha is the contact. As consultation progresses, we wish to be kept abreast of discussions that relate to this issue. The level and scope of identification efforts for cultural resources will be pursued through consultation.

Thank you for the opportunity to participate in and to review the project, and we look forward to further consultation regarding it. If you have questions please contact Paul Picha at ppicha@nd.gov or (701) 328-3574.

Sincerely,

Merlan E. Paaverud, Jr.
State Historic Preservation Officer (North Dakota)
and
Director, State Historical Society of North Dakota

North Dakota Heritage Center • 612 East Boulevard Avenue, Bismarck, ND 58505-0830 • Phone 701-328-2666 • Fax: 701-328-3710
Email: histsoc@nd.gov • Web site: http://history.nd.gov • TTY: 1-800-366-6888

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September 30, 2009

Jonathan Sobiech
St. Paul District, Corps of Engineers
190 Fifth Street East, Suite 401
St. Paul, Minnesota 55101-1638

Dear Mr. Sobiech:

Re: Fargo/Moorhead Metro Projects Diversion Channel Alternatives

The North Dakota Game and Fish Department has received notification of the Corps of Engineer's (COE) Diversion Alternatives alignments for the Fargo/Moorhead Metro Project. There are 4 alignments with three varying degrees of storm events sizes at 100 year, 200 year and 500 year storm event. Two of the alternatives are located in North Dakota and two alternatives are located in Minnesota.

The Department realizes the importance of protecting Fargo's infrastructure and the citizen's livelihood, but it would be irresponsible of us not to identify the potential impacts to fish and wildlife resources associated with this project. Although a comprehensive flood control plan could incorporate many features, we believe a diversion channel could be one of the least damaging alternatives.

With any of the alternatives, the Department's primary concern is maintaining a relatively natural hydrograph in the Red River and the tributaries while still providing flood protection to the citizens. The Department encourages the COE to evaluate riparian maintenance flows in which the project is designed to allow the natural hydrological pulse to escape the river bank allowing water to inundate the flood plain. Some of the richest ecosystems based on quantity and diversity of species are riparian zones; therefore, it is imperative we try to sustain these areas when designing flood control features.

From the diagrams provided showing the alternative diversion channel alignments, a couple of significant river systems will be intersected by the channel in North Dakota. If an alternative is selected in which these rivers are impacted, it will be important to design the project to maintain the hydrology of the intersected river while providing unrestricted fish movement into the upper reaches of the river systems. The West Fargo diversion currently appears to be a migration barrier and will need to be significantly modified.

Although upstream drainage has been discussed at various meetings during this process, we believe it is an important component for consideration during the evaluation of environmental impacts. By designing and building a diversion channel, it will provide the conduit necessary for additional drainage in the watershed. A concerted effort needs to be put forth to limit additional drainage and to restore some storage features in the watershed and should be conditional for a diversion channel.

If a diversion channel is selected as a feasible alternative for flood control in the Fargo/Moorhead area, the Department still encourages the COE and the City of Fargo to pursue voluntary buyouts of properties close to the river in order to adopt and develop a "Green Way" through the cities. Grand Forks has been successful with the development of their "Green Space" helping alleviate flooding yet maintaining connectivity to portions of the river's flood plain. Additionally, city zoning of residential and commercial interests must be addressed to assure future development is not allowed in the flood plain.

The Department would also like the COE to consider incorporating public access for shore fishing into the plans of the project. A few select areas near the main tributaries would provide good fishing opportunities at various time of the year.

Sincerely,

Michael G. McKenna
Chief
Conservation & Communication Division

blk

Fargo/Moorhead Feasibility Study Scoping Comments
Bob Bezek [Bob.Bezek@dnr.state.mn.us]

Jon,

In response to the initial meeting you had in Fargo and your request for some input based on that meeting, comments were solicited from Department staff. While I did get some input back it was very general in nature. I think it would have been helpful to have a formal request to respond to. That being said, following is a summation of the comments we received.

1. Continue to consult Natural Heritage data.

2. It is anticipated that a channel diversion through agriculture land will not have significant impacts to wildlife resources for production or movement. Depending on the type of vegetation and management practices employed some benefits may be realized in a diversion channel.

3. Levees and floodwalls along the river may effect the movement of some species of wildlife such as geese, but would not be significant in either a negative or positive way.

4. The employment of water retention should be included in the mix of alternatives. Opportunities exist to increase and improve ecosystem and wetland restoration, wildlife habitat and provide recreational opportunities through the use of multipurpose water retention areas.

5. Attached for consideration is Technical Paper 12 (Wetland Hydrology & Biodiversity in the Red River Basin, Minnesota) developed by the Red River Flood Damage Reduction Work Group.

6. The potential for impacts to the Buffalo Aquifer need to be addressed in the consideration of alternatives.

7. Many regional flood mitigation efforts are either under way or planned by groups such as the Red River Water Management Board and the Red River Basin Commission. Every effort should be made to identify all possible partners to leverage money and benefits where ever possible.

8. It is recommended that structural flood control measures not be utilized to promote development in currently undeveloped areas prone to flooding.

Again, these are just some initial comments. Once you compile the comments you have received from others it might help to route those to our staff as well. Thanks for the opportunity to provide input Jon.

Best Regards, Bob Bezek

Robert J. Bezek
NW Regional Hydrologist
MN DNR Waters - Bemidji
(o) 218-308-2621
(c) 218-760-7096

November 4, 2009
John Rutten Mapleton Township Chairman
16522 41st St SE Mapleton, ND 58059
701-361-7966

United States Army Corp of Engineers C/O Aaron Synder,

Regarding the North Dakota Cass County Diversion Projects, the Mapleton Township Board and its citizens have serious concerns about what the impact will be on the west side of any such proposal. The citizens and property owners will not tolerate becoming a new holding pond for the benefit of the Fargo- Moorhead area.

1. Overland flooding from breakout water coming from the Sheyenne River south of Horace to Highway 46 that flows north and ends up on the west side of any diversion project, must be addressed and incorporated into the project.
2. Adequate drainage for acreage on the west side of the diversion channel must be provided during periods of high water flow so as not to allow water to back up and flood area residents and farm land. Not having an effective outlet is unacceptable.

   (High water flows can run for weeks possibly months. What about large rain events during high water flows?) Size and placement of culverts or pump lift stations to minimize this problem must be addressed. Some real form of drainage must be maintained on the west side. (Anything like the present West Fargo Sheyenne Diversion and how it functions on the west side is totally unacceptable.)

3. What will the effect of the tributaries to the north be? Will there be adequate flow so it will not pond behind the diversion and back into our township during high water periods?
4. The township wants and expects input of roadways, bridges and traffic flow. This would be a major disruption during construction and forever after.
5. There must be a plan for mediation of damages from unnecessary losses that occur because a diversion is in place and would not happen without its presence. (Personal Property, Crop Loss, Public Roads washed out)
6. A plan to address negative effects to land owners on the west side of a project must be addressed in writing. We have real problems with the Sheyenne West Fargo Diversion and do not plan to repeat the same mistakes.

The Mapleton Township board and its citizens will not support a project that does not address these concerns. We look forward to hearing from you and would welcome a meeting to discuss these matters further. Thank You,

Mapleton Township Board, Cass County ND

Chairman: John Rutten, John W Rutten
Supervisor: William Lisburg, William Lisburg

Supervisor: Dean Kraft, Dean Kraft
Clerk/Treasurer: Bruce Bollinger, Bruce Bollinger

Norman County Board of Commissioners

~~PHONE 784-2101~~
ADA, MINNESOTA 56510
218-784-5473
www.co.norman.mn.us

November 3, 2009

Aaron Snyder
US Army Corps of Engineers
190 5th St E, Suite 401
St. Paul MN 55101-1638

Dear Aaron,

The Norman County Board of Commissioners passed the following resolution on this day. A copy is enclosed for your review.

Norman County has great concern on possible downstream impacts from the proposed flood water diversions around Fargo Moorhead. We ask your assistance to determine what those impacts will be.

Sincerely,

Steven Bommersbach, Chairman
Norman County Board of Commissioners

cc: US Congressman Collin Peterson
US Senator Amy Klobuchar
US Senator Al Franken
MN State Senator Rod Skoe
MN Congressman Kent Eken
Minnesota DNR
Red River Water Management Board
Red River Basin Commission
Wild Rice Watershed District
MPCA

NORMAN COUNTY BOARD OF COMMISSIONERS

RESOLUTION NO. CR 11-03-04-1

Commissioner Jacobson introduced the following resolution and moved it's adoption:

WHEREAS, The United States Army Corps of Engineers, (USACE) has proposed constructing flood water diversion channels around the cities of Fargo,ND,and Moorhead MN.

WHEREAS, The proposed diversion channel redeposits the floodwater back into the Red River in northern Clay County of MN or Northern Cass County of ND.

WHEREAS, Norman County is situated directly north and downstream from the the point at which the proposed diversion channels reenter the Red River.

WHEREAS, Diversion channels will change the flow regime of the Red River during flood events

WHEREAS, A change in flow regime, that results in adverse impacts to the residents of Norman County or others situated downstream from the proposed diversion projects, is not acceptable.

NOW THEREFORE, The Norman County Board of Commissioners do hereby request that the US Army Corps of Engineers conduct a study, as soon as possible, to determine the downstream impacts of the proposed diversions, it's effect on cities, farms, roads, bridges, utilities, and population of Norman County, and make the results of such study known to all.

The motion for adoption of the forgoing resolution was duly seconded by commissioner Olson and upon vote being taken thereon, All voted in favor thereof: and — voted against the same: whereupon said resolution was declared duly passed and adopted

Adopted this 3rd day of Nov, 2009

By _____
Steven Bommersbach, Chair

Attest _____
Richard Munter, Auditor Treasurer

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November 4, 2009

Colonel John Christensen, Commander
St. Paul District
US Army Corps of Engineers
Sibley Square at Mears Park
190 5th Street East, Suite 401
St. Paul, MN 55101-1638

Dear Colonel Christensen:

On behalf of the National Wildlife Federation (NWF), we offer the following comments and concerns regarding the draft scoping document prepared by the Army Corps of Engineers for the Fargo-Moorhead Metropolitan Area Flood Risk Management Environmental Impact Statement.

NWF submitted a letter during the comment period requesting that the Army Corps consider a basin-wide, non-structural approach to flood mitigation which would restore wetlands and watersheds in the Red River basin. *See* Appendix B of scoping document.

Upon reviewing the scoping document, NWF has concerns regarding the analysis area of the project, which is way too limited of an area to adequately consider a basin-wide alternative. See page 9 of scoping document. Given this very limited geographic study area, it will be impossible to consider the full range of alternatives proposed in the scoping document and undermines the ability for the Corps to fully analyze the non-structural wetland alternative.

The Army Corps is mandated under NEPA to consider the full range of alternatives to an EIS, see 42 USC 4332 and Fund for Animals v. Norton, 294 F. Supp. 2d 92. Though the Corps is not required to exhaust every conceivable alternative, it must nonetheless, fully consider those alternatives reasonably related to the purposes of the project. See, Laguna Greenbelt, 42 F.3d 517.

A basin-wide approach to flood mitigation, utilizing wetland restoration is directly related to the purpose of this project. As the NWF comment establishes, a basin-wide approach is a cost-effective, long-term solution to flood mitigation. Further it is within the duties of the Army Corps to consider wetland health when undertaking a project.

Colonel John Christensen
12/11/2009
Page 2

See 33 CFR 325 regarding wetland mitigation, 72 FR 11092 requiring evaluation of cumulative impacts on watersheds. Additionally, Executive Order 11988 on floodplain management requires that an agency "restore and preserve the natural and beneficial values served by floodplains in carrying out its responsibilities" and Executive Order 11990 requires that agencies take action to minimize the "destruction, loss or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands in carrying out the agency's responsibilities."

We appreciate the attention the Corps has given to this important aspect of floodplain management. See page 16-17 of scoping document. However, the Corps' cursory dismissal of upstream flood storage is insufficient to fulfill the obligations of the Corps under NEPA and executive mandates. Additionally, the Fargo-Moorhead and Upstream Feasibility Study referenced on page 3 of the scoping document discusses only upstream reservoir storage. As the NWF letter submitted during the comment period details, wetland restoration is an ecologically beneficial and financially viable alternative to structural flood control mechanisms. The Prairie Pothole Region provides a great opportunity for wetland restoration to benefit wildlife and the Fargo Moorhead metropolitan area. Finally, a waffle approach to flood control is a viable alternative which has been given little attention throughout this scoping process.

Given the strong mandates to preserve and enhance wetlands and floodplains as well as their viability in flood mitigation, the project area must be expanded in order to allow the Corps to fully analyze the basin-wide wetland/watershed restoration alternative to flood management. We believe that an EIS on flood control for the Red River that does not have an alternative or alternatives that fully evaluate wetland restoration, waffling and other non-structural options cannot fulfill NEPA's mandate that all reasonable alternatives be considered.

Very truly yours,

Thomas M France, Esq
Regional Executive Director

Amanda Hill, Esq.

RIVER KEEPERS

Craig Evans
Army Corps of Engineers
190 East 5th St., Ste 401
St. Paul, MN 55101-1638

November 13, 2009

Dear Mr. Evans:

We commend the efforts of local, regional, national, and international organizations and their leaders to develop solutions to flooding in the Red River Valley. We especially note the current progress being made with the US Army Corps of Engineers study. After the 2009 spring flood, there truly seems to be a will to address the need for long term flood mitigation.

However, we feel that as important as the current study is, we need to do more.

The River Keepers' Board of Directors and its members have approved the attached *Flood Preparedness in the Red River Basin* statement. We encourage you to read it and help implement the actions we have requested.

Thank you.

Tom Moberg
President, Board of Directors

Robert Backman
Executive Director

"Promoting a renewed vision for the Red River of the North."

325 7th St. S., Ste. 2A • Fargo, ND 58103-1846 • 701-235-2895 • Fax: 701-235-7394 • info@riverkeepers.org • www.riverkeepers.org

Flood Preparedness in the Red River Basin
2009
A Call to Action – Again

In the aftermath of the 2009 flood fight, the challenge we now face is how best to reduce damage from the inevitable next flood. Enormous amounts of time and money have been and will be invested in studies and efforts to construct dikes, levees, dams, and diversions in an effort to protect major cities, farmsteads and farmlands. State and local governments will repeat and hopefully expand efforts to reduce flood damages by purchasing flood-prone property, hardening infrastructure (e.g. sewers and lift stations), and elevating bridges and roadways. All these efforts have helped reduce damages during floods; however, it is not possible to build total protection from flooding, because there is always the chance of a greater flood occurring in the future.

Following the 1997 flood, the U.S. and Canadian governments asked the International Joint Commission to examine and report on the causes and effects of damaging floods in the Red River Basin. In addition, the International Flood Mitigation Initiative was convened for two years after 1997 and made recommendations aimed at mitigating damages from future floods. The conclusions from these efforts are still timely and valid today.

We request the local, state, and federal officials in the Red River Basin immediately take action necessary to:

1. Implement more widespread, integrated and decisive measures (based substantially on the International Joint Commission and International Flood Mitigation Initiative recommendations) to enhance flood resiliency and mitigate frequency of flood emergencies and associated costs;
2. Prohibit construction of structures in urban areas that were inundated or threatened by the 2009 flood (i.e. protected by temporary dikes) - even if they are surrounded by ring dikes or elevated above the flood plain using earthen pads - until measures providing reasonable assurances that these areas will not be inundated during future events of similar magnitude are implemented;
3. Prohibit construction of structures in geologically unstable riverbank areas to protect private investments and public funds;
4. Establish river corridors that allow rivers and streams to meander and move and flow more naturally within their floodplains over time (i.e. with less constriction) during high water;
5. Critically review existing resource management organizations formed to address basin-wide resource management issues and consider the establishment of a "Red River Authority" consisting of non-political appointees having substantial pertinent knowledge and demonstrated decision making capability, to address cross boundary water management issues (this authority must be senior to state and local governmental units).

Future flooding events in the Red River Basin are inevitable. The frequency, duration, and extent of flooding are the result of natural phenomena beyond our control and there is no single solution to reduce flood damages in the Red River Basin. However, many of the aforementioned recommendations can be fully implemented to effectively mitigate future damages to infrastructure and property. Sadly, flood experiences and memories fade quickly and local land use authorities will again be faced with continuous pressures to compromise our flood resiliency and allow development in flood prone and unstable river bank areas. Reducing future flood damages for us and our children requires leadership and decisive actions that are science-based and forward thinking. We must be willing to use every tool available to improve our resiliency and mitigate future damages to infrastructure, communities, farms, and the environment.

River Keepers
6/25/09

City of Hendrum

A Small City with Big Dreams

PO Box 100
308 Main Street East
Hendrum, MN 56550-0100

Telephone: 218-861-6210
Fax: 218-861-6210
e-mail: hendrum@loretel.net

November 17, 2009

FM Flood Management Work Group
Kevin Campbell, Co-Chairman
1301 62nd Avenue North
Moorhead, MN 56560

RE: Resolution Requesting Downstream Impact Study of the Red River

Dear Mr. Campbell,

The City of Hendrum is very concerned regarding the diversion projects being discussed for the Fargo-Moorhead and the impact it would have on our city, as well as the other cities downstream on the Red River.

Enclosed please find a Certified Copy of **Resolution #2009-19**, ***Resolution Requesting the US Army Corps of Engineers to Conduct a Downstream Impact Study of the Red River of the North***, which the City of Hendrum adopted at their regular Council meeting on November 9, 2009.

Sincerely,

Karen E. Sip

Karen E. Sip, M.C.M.C.
Hendrum City Clerk

Enc.: 1

CITY OF HENDRUM

A Small City with Big Dreams

RESOLUTION #2009-19

RESOLUTION REQUESTING THE US ARMY CORPS OF ENGINEERS TO CONDUCT A DOWNSTREAM IMPACT STUDY OF THE RED RIVER OF THE NORTH

WHEREAS, the City of Hendrum requests that the United States Army Corps of Engineers (USACE) conduct a downstream impact study of the Red River of the North; and

WHEREAS, the United States Army Corps of Engineers has proposed constructing flood water diversion channels around the cities of Fargo, North Dakota, and Moorhead, Minnesota; and

WHEREAS, the proposed diversion channel re-deposits the floodwater back into the Red River of the North in northern Clay County, Minnesota, and northern Cass County, North Dakota; and

WHEREAS, Norman County is situated directly north and downstream from the point at which the proposed diversion channels reenter the Red River; and

WHEREAS, diversion channels will change the flow regime of the Red River during flood events; and

WHEREAS, a change in flow regime, that results in adverse impacts to the residents of Norman County, or others situated downstream from the proposed diversion projects, is not acceptable; and

NOW THEREFORE BE IT RESOLVED, the City of Hendrum does hereby request that the US Army Corps of Engineers conduct a study as soon as possible to determine the downstream impacts of the proposed diversions, its effect on cities, farms, road, bridges, utilities and population of Norman County, and make the results of such study known to all.

On a motion by K. Kjersten, seconded by M. Smart, the above Resolution was adopted by the Hendrum City Council at a regular meeting on November 9, 2009.

Voting Aye: Alm, Johannsen, Kjersten, Person and Smart.
Voting Nay: None
Absent: None

Curt Johannsen, Mayor

Seal

ATTEST: Karen E. Sip, City Clerk

CERTIFICATION

I hereby certify that this is a true and correct copy of the original Resolution Number 2009-019 entitled *Resolution Authorizing Requesting the US Army Corps of Engineers to Conduct a Downstream Impact Study of the Red River of the North,* on file and of record in the Office of the Hendrum City Clerk, Hendrum, MN.

Date: 11-17-09

Karen E. Sip

Karen E. Sip, Hendrum City Clerk

RESOLUTION #_____

RESOLUTION REQUESTING THE US ARMY CORPS OF ENGINEERS TO CONDUCT A DOWNSTREAM IMPACT STUDY OF THE RED RIVER OF THE NORTH

WHEREAS, the Hendrum Township requests that the United States Army Corps of Engineers (USACE) conduct a downstream impact study of the Red River of the North; and

WHEREAS, the United States Army Corps of Engineers has proposed constructing flood water diversion channels around the cities of Fargo, North Dakota, and Moorhead, Minnesota; and

WHEREAS, the proposed diversion channel re-deposits the floodwater back into the Red River of the North in northern Clay County, Minnesota, and northern Cass County, North Dakota; and

WHEREAS, Norman County is situated directly north and downstream from the point at which the proposed diversion channels reenter the Red River; and

WHEREAS, diversion channels will change the flow regime of the Red River during flood events; and

WHEREAS, a change in flow regime, that results in adverse impacts to the residents of Norman County, or others situated downstream from the proposed diversion projects, is not acceptable; and

NOW THEREFORE BE IT RESOLVED, the Hendrum Township does hereby request that the US Army Corps of Engineers conduct a study as soon as possible to determine the downstream impacts of the proposed diversions, its effect on cities, farms, road, bridges, utilities and population of Norman County, and make the results of such study known to all.

On a motion by Curt Scherf, *seconded by* Ann Tommerdahl *the above Resolution was adopted by the* Hendrum Township *on the* 24th *day of* November, *2009.*

Voting Aye: unanimous vote
Voting Nay:
Absent: Glenn Little

Diane Brommenschenkel
clerk

Seal

DANIELLE BROMMENSCHENKEL
NOTARY PUBLIC - MINNESOTA
NORMAN COUNTY
MY COMMISSION EXPIRES: 1-31-10

ATTEST:

RESOLUTION #_____

RESOLUTION REQUESTING THE US ARMY CORPS OF ENGINEERS TO CONDUCT A DOWNSTREAM IMPACT STUDY OF THE RED RIVER OF THE NORTH

WHEREAS, the Norman Co West School District requests that the United States Army Corps of Engineers (USACE) conduct a downstream impact study of the Red River of the North; and

WHEREAS, the United States Army Corps of Engineers has proposed constructing flood water diversion channels around the cities of Fargo, North Dakota, and Moorhead, Minnesota; and

WHEREAS, the proposed diversion channel re-deposits the floodwater back into the Red River of the North in northern Clay County, Minnesota, and northern Cass County, North Dakota; and

WHEREAS, Norman County is situated directly north and downstream from the point at which the proposed diversion channels reenter the Red River; and

WHEREAS, diversion channels will change the flow regime of the Red River during flood events; and

WHEREAS, a change in flow regime, that results in adverse impacts to the residents of Norman County, or others situated downstream from the proposed diversion projects, is not acceptable; and

NOW THEREFORE BE IT RESOLVED, the Norman Co West School District does hereby request that the US Army Corps of Engineers conduct a study as soon as possible to determine the downstream impacts of the proposed diversions, its effect on cities, farms, road, bridges, utilities and population of Norman County, and make the results of such study known to all.

On a motion by Ann Tommerdahl *seconded by* Chris Strand, *the above Resolution was adopted by the* Norman Co West School District *on the* 10th *day of* November, *2009.*

Voting Aye: unanimous vote
Voting Nay:
Absent: None

Diane Brommenschenkel
Clerk

Seal

DANIELLE BROMMENSCHENKEL
NOTARY PUBLIC - MINNESOTA
NORMAN COUNTY
MY COMMISSION EXPIRES: 1-31-10

ATTEST:

U.S. Department of Homeland Security
Region VIII
Denver Federal Center, Building 710
P.O. Box 25267
Denver, CO 80225-0267

FEMA

R8-MT

January 13, 2010

Judith L.A. DesHarnais, P.E.
Deputy for Programs and Project Management
St. Paul District, Corps of Engineers
190 Fifth Street East, Suite 401
St. Paul, MN 55101-1638

Re: Fargo-Moorhead Metro Environmental Impact Statement

Dear Ms. DesHarnais:

This letter is in response to your request for the Federal Emergency Management Agency (FEMA) Region VIII to participate in a Cooperative Agency Agreement for the Fargo-Moorhead Metro Environmental Impact Statement. FEMA commends the dedication and hard work of the Corps of Engineering Feasibility Study Team. The process of project development for this project is an enormous task and FEMA will continue to assist in providing pertinent information when applicable.

However, FEMA is unable to enter into a formal Cooperating Agency Agreement as outlined in 43 FR 55992, Sec. 1501.6(b) *Cooperating Agencies*. FEMA does not have non-disaster environmental support staff to assume on request of the lead agency responsibility for developing information and preparing environmental analyses including portions of the environmental impact statement. In addition, FEMA Region VIII maintains a staff of one permanent full-time environmental compliance position and is unable to provide staff support at the lead agency's request to enhance the agency's interdisciplinary capability.

FEMA will continue to provide information for this project and make a concerted effort to support the development of the EIS. If you have any questions or concerns please contact me by telephone at 303-235-4714 or by email at steven.hardegen@dhs.gov.

Sincerely,

Steven E. Hardegen
Regional Environmental Officer

cc: Council on Environmental Quality, 722 Jackson Place NW, Washington, DC 20503
Jonathan Sociech, US Army Corps of Engineers, 190 East 5th St., Suite 401, St. Paul, MN 55101
Jomar Maldonado, FEMA HQ, OEPHP

Minnesota Department of Natural Resources

REGIONAL OPERATIONS
2115 Birchmont Beach Road NE
Bemidji MN 56601
218.308.2629

January 14, 2010

Col. Jon Christenson
US Army Corps of Engineers
Sibley Square at Mears Park
190 5th Street East, Suite 401
St. Paul, MN 55101-1638

RE: Fargo Moorhead Flood Reduction – MNDNR Comments

Dear Col. Christenson,

For approximately the last eight months the MN Department of Natural Resources has participated in the Corps' efforts to develop a Scoping Document and Feasibility Study for a flood mitigation project encompassing the Fargo-Moorhead metropolitan areas. In that time our agency has provided significant resource management expertise in an effort to develop options that maintain as much natural form and function of the impacted resources as is possible given the Corps' funding and project development constraints. As a result, our agency feels it is necessary to ensure that we place in context that our involvement to date has been to provide design assistance and not an endorsement of any one alternative or that all anticipated impacts have been mitigated through this process. In fact, it is anticipated that any preferred alternative will undergo significant additional review, design improvement and still require mitigation.

It is important to note that the State of MN is committed to flood protection in the Red River Valley. Significant financial resources have been expended to protect and mitigate flood damages to almost every Minnesota community along the river from Browns Valley in the south to St. Vincent in the north. Mitigation efforts also extend to agricultural areas through collaboration with local sponsors that include the Red River Watershed Management Board and the numerous watershed districts in the Valley. Water storage and natural resource enhancement is a significant component of this collaborative effort. Any project for the Fargo- Moorhead metropolitan area should remain consistent with these existing local efforts. It would be unacceptable to promote a project that negates efforts to store water or a project that increases flood levels and risk to a downstream community.

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Following are concerns that the Department view as the primary issues that will need to be better addressed through improved design or mitigation.

DNR Comments:

Many agree that changes or regulation of flow in a river system have great potential to initiate a succession of changes and impacts. Some of these impacts are direct and measurable, while many occur over time and too slowly to be observed directly. Due to the ecological connectivity in rivers, impacts can be far reaching, result in loss of functions and values, and require mitigation. The environmental review document(s) and subsequent project design must give full consideration and analysis of the potential impacts associated with the following topics of concern:

Lost habitat:
The proposal to build the structure off channel and reroute the river through it while filling the existing channel will eliminate existing aquatic habitat. Changes in slope and geomorphologic issues may result. Maintaining the same channel length in a new armored channel will not directly replace this habitat. Also, re-routing of tributaries (Rush and Lower Rush) will involve abandonment of existing stream habitat requiring mitigation.

Accumulation of sediment in a riverbed can have a substantial impact on fish. Fish are highly susceptible to the changes in their aquatic environment and are uniquely connected to their environment. In response to accumulation of sediment, fish may begin to change their migratory patterns to avoid areas once used for habitat such as wintering grounds, nursery areas, or spawning areas.

Effective mitigation depends on replacement of lost functions of the impacted habitat. The integrity of mitigation projects is required to ensure effectiveness. In addition, it is imperative that mitigation project costs are included in the cost/benefit analysis and environmental review.

Downstream hydraulic effects: Any increase in downstream stage or discharge is unacceptable without efforts to mitigate these increases. This will be a significant issue as it relates to permits from our agency and will influence our agency's input concerning flood map revisions by FEMA. This concern is greatest where the impacts extend to downstream communities with detailed flood studies. These increases are primarily due to the loss of floodplain storage as a result of the operation of the diversion channel. This loss of floodplain storage needs to be effectively replaced through upstream storage options.

Debris and ice: Having larger and fewer openings in a diversion structure will decrease the potential for trees, ice, and other debris to create restrictions in flow, however; even full span bridges on the Red River have major debris and ice problems. Restrictions can create a host of problems with fish passage, safety, and other issues that would not be

restricted to just operational flow. It is preferable to pass rather than remove natural debris, as it serves an important role in the ecology of a river system. A thorough analysis of future operation and maintenance activities and associated potential impacts is needed.

Recreational analysis: A thorough analysis of the recreational uses of the Red River and its tributaries and how the various project proposal will impact those uses is needed. Project induced recreational opportunities should also be explored and pursued whenever possible.

Channel stability effects: The current Red River diversion structure will send surface waters into the diversion while water from the bottom of the water column will be sent down the natural channel. Although suspended load dominates the Red Rivers sediment load, the distribution of suspended materials is typically highest near the bed. As a result, a disproportionate sediment supply would potentially be routed down the natural channel with reduced stream power to carry it through resulting in sediment aggregation.

Minnesota currently has massive erosion and sedimentation problems resulting from flood control projects where sediment transport and channel stability were either ignored or misunderstood. The sediment load is variable across the tributaries of which a ND diversion alternative would cross. It is imperative that the potential for channel stability impacts associated with each alternative and associated project components (e.g. diversion structure, bypass structures and tributary crossings and bypasses) be fully analyzed.

Safety Issues: During operation, diversion structures provide a barrier to flow. Flood barriers have a risk of sudden and catastrophic failure presenting safety concerns for downstream habitants and recreational enthusiasts. Minnesota Rules, chapter 4410.4400, subpart 18 requires preparation of a State Environmental Impact Statement (EIS) for construction of a Class I dam. Whether or not a diversion structure alternative qualifies as a Class I dam is determined by a breech analysis. The DNR understands that the COE is conducting this analysis and will provide the results upon completion for our review. Shortly after review, we will provide a need determination regarding whether or not preparation of a EIS under Minnesota Rules, chapter 4410 is required. If required, the DNR (as the Responsible Government Unit) will consult with the COE to reduce duplication between Minnesota Statutes and the National Environmental Policy Act.

Floodplain Impacts: The flora and fauna within a floodplain depend on periodic inundation to maintain its existing ecology. The potential for impacts to floodplain wetlands and species using those habitats increases as flows are diverted more frequently. Over time, ecological changes may ensue. Having baseline data and then monitoring and measuring changes over time will provide a means to measure potential impacts and subsequent mitigation requirements. Our concern for potential impacts

greatly increases when passing flows less than a 5-year event, such as those associated with some of the ND tributary crossings. A thorough analysis of existing floodplain resources and estimates of potential impacts is needed.

Fish passage: Since the current Red River has unimpeded passage from Hickson to Drayton, and since the river currently has total passage at flows above the 2 year event, any lost reduction in passage is an environmental loss. Dealing with twelve feet of head loss at this site is no small task. It is our understanding that the current diversion structure design will allow for fish passage for up to a 5-year event, at which time fish ladders will become operational and potentially provide passage (for an unknown percentage the fish population) for up to 50 year events. Ideally, fish passage would be provided for all flood events, however; a loss in resilience would still be likely, as fish passage would be restricted.

An analysis of how accommodating fish passage at various flood events will potentially affect fish passage, resilience, project design, and the cost-to-benefit ratio is needed. The chosen alternative can then be based on the design which both minimizes the potential impacts and is still practicable. Diversion channels have the potential to cause fish stranding and increased predation. It is not likely that quality fish habitat can be provided in a diversion channel and fish usage of any diversion channel should be excluded when possible by design.

Land use and changes have and occurred progressively over time resulting in more rapid conveyance of water. Climate changes are occurring and basins response in not fully understood. Flood frequency estimation records encompass much of this period of change. Likewise, the records upon which flood frequency estimations are based upon may underestimate future flood potential.

Future flood frequency estimates based on a greater "look back" period may produce flood frequency estimates that are misleading. Using a shorter look back period, and actually accounting for anticipated future changes in land use and climate will result in the estimation of events that are not as rare as they would appear to be using the entire historic record. Fish passage design accommodations based on these adjusted estimates would further minimize potential impacts.

Conclusion

The DNR believes that the project alternatives under consideration have the potential to impact up to 58 miles of the Red River system. It is imperative that the Corps of Engineers continue to meet with DNR staff regularly to develop project designs that avoid and minimize identified potential impacts to the extent possible, however; even after these efforts, a loss in ecological function is still likely. These unavoidable losses will require mitigation. Mitigation projects must replace all project induced lost functions and values.

Finding balance between important economic, environmental and social consideration has and continues to be challenging in developing flood reduction projects. The DNR is committed to continued collaboration with the Corps of Engineers and other stakeholders in developing meaningful well-balanced flood reduction projects. The DNR would like to meet with the Corps of Engineers in the near future to discuss specific mitigation projects that when completed, provide the greatest value. Please contact Regional Environmental Review Ecologist Nathan Kestner at 218-308-2672 to set up a meeting with DNR staff to discuss these projects.

Thank you for considering our input.

Sincerely,

Michael R. Carroll
Regional Director
mike.carroll@state.mn.us

cc: Aaron Snyder, COE
Red River Water Management Board
Red River Basin Commission
Kent Lokkesmoe, Director Division of Waters
City of Moorhead
FEMA Region VIII
Denver Federal Center
Building 710, Box 25267
Denver, CO 80225-0267

cf: PM
PD ✓

Red River Watershed Management Board

January 19, 2010

Colonel Jon L. Christensen
U.S. Army Corps of Engineers
190 Fifth Street East
St. Paul, MN 55101

Mayor Dennis Walaker
City of Fargo
200 3rd St. N.
Fargo, ND 58102

Mayor Mark Voxland
City of Moorhead
500 Center Ave
Moorhead, MN 56560

Dear Gentlemen:

RE: Proposed Fargo-Moorhead Red River Diversion

Since its creation in 1976 by the Minnesota legislature, the Red River Watershed Management Board (RRWMB) has worked with you and other stakeholders toward our shared interest of flood damage reduction within the Red River Basin. We value this opportunity and appreciate the effort and input your communities have committed toward that end.

The RRWMB was charged by the legislature with promoting a basin-wide perspective of water management. This was done, in part, to address past issues of projects that provided only localized benefits or provided local benefits that were to the determent of other interests in the basin. It is from this basin-wide perspective that our board wishes to express its concerns with the proposed Fargo-Moorhead Red River Diversion Project, especially those related to the loss of upstream flood storage and the increase in downstream flood stage and discharge.

Since 1998, flood damage reduction efforts of Minnesota watershed districts within the basin have been guided by a mediated agreement signed by local, state, and federal government agencies, private stakeholders and representatives of conservation and environmental organizations. Incorporated within this agreement are important flood damage reduction principles intended to guide project proponents toward a more comprehensive approach in the planning, design, and permitting of their projects. Adherence to these principles has promoted basin-wide benefits and assured that the interests of all parties have been considered and protected whenever possible. Several of the principles listed in the mediation agreement have relevance to the proposed diversion project and each reflects a basin-wide perspective. These include:

Principle 1: Reduction of overland flooding is needed; any solution will probably require on-site and upstream solutions. This principle acknowledges that a combination of on-site solutions and upstream storage projects works best to fully address flooding issues within the basin. While on-site diversion efforts can provide core flood protection to Fargo-Moorhead, complementary upstream storage projects will only enhance that protection while also reducing downstream impacts.

Principle 2: Water resource problems should not be passed along to others. A solution for a watershed should not create a problem upstream or downstream. This basic tenet reflects the responsibility and culpability we all share within the basin. Most of the upstream storage projects developed by project teams established through the mediation agreement help to mitigate the

January 19, 2010
Proposed Fargo-Moorhead Red River Diversion
Page 2

consequences of violations of this very principle. While storage loss and downstream stage and discharge increases for the various flood frequencies have yet to be adequately assessed by diversion project proponents, any impacts should not be imposed on our neighbors. Protecting one at the expense of another by passing flooding problems downstream must end.

Principle 3: Water should be stored/managed as close to where it falls as is feasible and practical. The RRWMB and its member districts have been aggressively planning and building upstream storage projects for the benefit of reducing mainstem flood peaks basin-wide. Most of the basin's watershed districts continue to participate in efforts to reduce both localized flooding and mainstem flood risk and we recognize and appreciate programs implemented by the communities of Fargo-Moorhead in managing their stormwater runoff. However, unless plans for the proposed diversion project incorporate sufficient upstream measures to mitigate for any associated storage loss and downstream stage and discharge increases, the burden of those impacts will, by default, be imposed on others. The result will be a significant step back from the progress achieved in downstream flood reduction and will continue the approaches to water management that have proven to be ineffective from a basin-wide perspective.

It is our hope that the project sponsors will recognize their share of responsibility to the basin by adequately assessing the project's storage, stage and discharge impacts and incorporating within the project sufficient upstream storage to mitigate their effects. We look forward to reviewing the assessment when completed.

Please know the RRWMB stands beside you as a willing and able partner to help achieve the needed upstream storage and help the project succeed from a basin-wide perspective.

Sincerely yours,

John Finney
President

c: Minnesota Department of Natural Resources
Red River Basin Flood Damage Reduction Work Group
Red River Basin Commission
Minnesota Downstream Municipalities
Minnesota Red River Basin State and Federal Delegations
Minnesota Association of Watershed Districts
Metro Flood Study Work Group
Kevin Campbell, Chair - Clay County Commission
Ron Harnack, RRWMB Project Coordinator

P.O. Box 763 • Detroit Lakes, MN 56502-0763
www.rrwmb.org • PH: (218) 844-6166 • FAX: (218) 844-6167

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Twin Cities Field Office
4101 American Blvd E.
Bloomington, Minnesota 55425-1665

February 1, 2010

Terry Birkenstock, Chief
Environmental and Economic Analysis Branch
St. Paul District Corps of Engineers
190 5th Street East, Suite 401
St. Paul, Minnesota 55101-1638

Re: Fargo-Moorhead Metropolitan Area Flood Risk Management
FWS TAILS #32410-2009-FA-0143

Dear Mr. Birkenstock:

As part of the Fish and Wildlife Coordination Act (FWCA) Agreement between the Service and the U.S. Army Corps of Engineers (Corps) for the Fargo-Moorhead Metro Flood Control Feasibility Study, the Service agreed to provide continuous review of project details and documents, and to provide input to the Corps regarding potential biological and ecological impacts. To date the Service has provided the Corps staff with potential impact items via e-mail and verbally by phone and at agency meetings. This letter is intended to provide a singular document identifying the Service's input to date.

The following comments are being provided pursuant to the Endangered Species Act (ESA), Migratory Bird Treaty Act (MBTA), Bald and Golden Eagle Protection Act, and the Fish and Wildlife Coordination Act. This information is being provided to assist the Corps in making an informed decision regarding wildlife issues, site selection, project design, and compliance with applicable laws.

Federally-listed Threatened, Endangered, and Candidate Species

Currently Dakota skipper (Candidate) and Western prairie fringed orchid (Threatened) are present within Clay County, Minnesota. Our records do not indicate any individuals within the proposed project area should the Minnesota diversion channel and levee system be the selected alternative.

Currently whooping crane (Endangered) and gray wolf (Endangered) are present in Cass County, North Dakota. Our records do not indicate any individuals of either of these species within the proposed project area should the North Dakota diversion channel and levee system be the selected alternative.

If at any point during project planning, construction, or operation additional information on listed

or proposed species become available, or new species are listed that may be affected by the project, consultation should be reinitiated with the Twin Cities Field Office.

Migratory Birds

The Migratory Bird Treaty Act (16 U.S.C. 703-712; MBTA) implements four treaties that provide for international protection of migratory birds. The MBTA prohibits taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests, except when specifically authorized by the Department of the Interior. Bald and golden eagles are afforded additional legal protection under the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668d). Unlike the Endangered Species Act, neither the MBTA nor its implementing regulations at 50 CFR Part 21, provide for permitting of "incidental take" of migratory birds.

Our records indicate the presence of two bald eagle nests that could be affected by the project if the North Dakota diversion channel is selected. One of the nest sites is located on the west edge of the City of Fargo, North Dakota along the Sheyenne River. The second nest site is located to the north of Fargo in close proximity to the confluence of the Sheyenne River and the Red River. Rich Davis, of our office, will verify these nest location in the field the first week of February 2010 as long as field and weather conditions allow.

Due to the varied habitat and cover types throughout the project site, in both Minnesota and North Dakota, there is the potential to impact wetlands, grasslands, and woodlands during the construction or excavation phases necessary to complete this type of project. The aforementioned habitat types can provide preferred nesting habitat for a variety of migratory bird species.

Upon final selection of a path for the diversion channel and levee alignments, mapping of significant migratory bird nesting areas could be coordinated with the Service. Development of a construction timeline to minimize impacts to these areas during prime nesting times should be considered. The Service recommends that proposed construction and excavation within potential bird nesting habitat be completed outside of the primary nesting period (April 1st to August 31st) when possible and feasible. Attempts to minimize impacts to potential migratory bird nesting habitats should be made at all times during construction and excavation.

Conservation Lands

The Service recommends that the Corps assess and take into consideration impacts to Conservation Reserve Program (CRP), Wetland Reserve Program (WRP), or other similar federally- or state-funded restoration projects that would result from the North Dakota and the Minnesota Diversion Channel Alternatives. The local United States Department of Agriculture (USDA) offices for Clay County, Minnesota and Cass County, North Dakota may be able to assist in getting the Corps information on lands enrolled in federal conservation programs.

Service Owned Lands

There are no Service owned lands or private lands under Service conservation easements within the project area in Minnesota or North Dakota.

Wetland Impacts

In previous conversation with Corps staff, Rich Davis has discussed potential impacts to riparian wetlands adjacent to the Red, Wild Rice, Sheyenne, Maple, Lower Rush, and Rush Rivers downstream of proposed control structures and diversion channel crossings. These wetlands rely on floodwaters for a portion of their hydrology, and diversion of the higher flow events may negatively affect these wetlands.

During discussions of abandonment of the Rush and Lower Rush Rivers downstream of the proposed North Dakota diversion channel, the Service expressed concerns regarding the loss of wetland values/quality and quantity at the confluence of these rivers with the Sheyenne River. The Service recommended that these confluence areas specifically be assessed. The redirection of the Rush and Lower Rush River flows will impact the surface hydrology of these confluence areas.

It is the Service's understanding that a complete wetland investigation/delineation will be completed once a final decision has been made as to which diversion channel route and levee alignments will be constructed. At a minimum the wetland investigation should identify and delineate wetlands that may be affected directly by construction of the diversion channel, control structures, tributary crossing structures, and/or levees. In addition the wetland investigation should take into consideration possible indirect impacts that may become more evident over time following construction such as, areas affected by diversion of surface waters or floodwaters and wetlands that may be separated from their watersheds by the diversion channel and/or levees. The Service anticipates that the Corps will avoid and minimize impacts to wetlands when prudent and feasible, and wetland impacts that cannot be avoided will be mitigated for in accordance with the Clean Water Act Compensatory Mitigation Standards and any State wetland conservation laws that may apply.

Fish Passage Impacts

According to information provided by the Corps staff and the Corps consultants, fish passage will be maintained through and/or around the control structure on the Red River of the North up to a 50 year event. The tributaries (Wild Rice, Sheyenne, and Maple) to the Red River will have fish passage through the diversion channel gate and/or crossing structures up to a 20 year event. The Service's main concern at this point with fish passage is in relation to the lake sturgeon populations within the Red River system. The species sustainability could see a larger negative impact then other game fish species should a large flood event year coincide with a significant spawning year. If an individual's migration upstream is restricted due to a control structure and floodwaters this could have significant impacts on the population growth and sustainability. Tributary/diversion channel crossing structures could also reduce the possible expansion of the

lake sturgeon populations from the Red River into the tributaries by restricting individual movement upstream through the crossing structures.

During fish passage meetings and discussions an emphasis has been put on naturalizing the bottom of the rivers at the control structure and the tributary/diversion channel crossings. Although we feel this is an important aspect of the plan, and may benefit some species of fish in moving through the structures, naturalizing the river bottom at these structures may cause increased turbulence in some cases.

Service Funded Fish Passage Projects

Per the Corps request I have outlined Service funded projects within the Red River Basin.

- Christine and Hickson Dams, Red River Main Stem
- Heiberg Dam, Wild Rice River, Twin Valley, MN
- Crookston Dam, Red Lake River, Crookston, MN
- Many Point Lake Fish Passage, White Earth Reservation, Ottertail Watershed, MN
- Dunton Locks, Pelican River, Detroit Lakes, MN
- Little Bemidji and Sergeant Lakes Dam Modifications, White Earth Reservation, MN
- Proposed Project on the Red River Main Stem, Drayton, ND
- Proposed Project on the Sheyenne River upstream of Baldhill Dam
- Midtown Dam, Red River Main Stem
- Low head dam modification, Red River Main Stem, Grand Forks, ND

The Fish and Wildlife Service supports the development of flood protection measures and methods to protect the Minnesota and North Dakota communities within the Red River Valley. We are also committed to the conservation of the natural resources within this area. The Service strives to assist the Corps in developing a project that can strike a balance providing the best flood reduction measures feasible, and reducing ecological impacts to the greatest extent possible.

Thank you for the opportunity to provide comments on this proposed project. Please contact me at (612) 725-3548, ext. 2201, or Rich Davis, Fish and Wildlife Biologist, at (612) 725-3548, ext. 2214, if we can be of further assistance.

Sincerely,

Tony Sullins

Tony Sullins
Field Supervisor

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March 10, 2010

Metro Flood Study Work Group
Chairs Kevin Campbell and Tim Mahoney, and Members

Re: Fargo – Moorhead Diversion Project - March 11, 2010

Dear Chairpersons Kevin Campbell and Tim Mahoney, and Members:

This firm has been retained by the City of Dilworth to assist it in analyzing and presenting the factual and legal reasons why the Flood Diversion Project should be located in the State of North Dakota and not in the State of Minnesota. We are also advising the City as to the legal steps that must be successfully completed by the proponents of a Minnesota Diversion before such a project can be legally chosen, funded and constructed.

EXECUTIVE SUMMARY

Based upon our research to date, we believe that the Metro Flood Study Work Group should not consider further the possible selection of the Minnesota Diversion until at least the following steps have been completed:

1. The completion of the Environmental Impact Statement so that all potential environmental issues from either Diversion are fully analyzed. The Minnesota Environmental Impact Statement process pursuant to Minnesota Rules Part 4410.3100, subpart 2, requires that proposers may not take any action to prejudice the ultimate decision prior to a completed environmental review. Moreover, a project may not receive a final governmental decision until the environmental impact process is completed. Id. The timeliness of environmental review is also emphasized in the Environmental Quality Board's publication "Guide to Minnesota Environmental Review Rules" which states: public project proposers should not take any action

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to prejudice the ultimate decision prior to a completed environmental review. Id. at 6. In the current process before us, everyone is being asked to put the cart before the horse.

2. A detailed analysis of the risks to the Buffalo Aquifer and the Moorhead/Dilworth Aquifer if the Minnesota Diversion is constructed.

3. Identification of and agreement to pay all of the extraordinary future costs that the City of Dilworth will incur and financial losses that the City will suffer if the Minnesota Diversion is constructed.

4. An opinion from relevant legal counsel concerning the legal right of the entity which is to implement the Minnesota Diversion to condemn the Burlington Northern ("BN") property located within the Minnesota Diversion. Assuming that the entity clearly has such a right of condemnation, there should be detailed analysis (with appraisals) of the cost of such property and the severance damages to the remaining BN property. The U.S. Army Corps of Engineers ("Corps") has apparently stated the total cost would be $75 million, although it was reported that BN estimates the costs to be in excess of $200 million.

5. An update by the U.S. Army Corps of Engineers ("Corps") of the cost estimates of each Diversion to reflect the above additional costs.

DISCUSSION OF ISSUES

As we all know, there is a need to construct the appropriate flood control project in order to eliminate the substantial adverse impacts of the flooding in the Cities of Moorhead and Fargo.

In order to construct such a project, there must be sufficient federal, state, regional and local funds available to pay for the project. Unless all of those entities that must contribute the money to make the project a reality agree to do so, there will be no project. Therefore, we must choose a project that can obtain the votes needed from the governing bodies that will finance the project.

Of course, the selection of any such project must be one that adequately addresses the adverse impacts of such a project, whether it be on the North Dakota side or the Minnesota side.

A. Assumed Project Alternatives

As we know, various project alternatives were discussed at the outset of the project and at various times thereafter. Quite frankly, the decision by the Cities of Moorhead and Fargo that they did not want to utilize dikes within their cities greatly limited the flood control projects that

could be used. Because those Cities did not want the adverse impact of having a dike project in their Cities, by necessity the other projects would unfortunately result in impacts on citizens of other areas who in many cases do not benefit from the project as do all of the citizens in the Cities of Moorhead and Fargo. That is especially relevant as it relates to the impact of the remaining project alternatives on sister cities in the area and the property owners that would be directly impacted.

At this point, we think it is safe to conclude that the only two projects that are being seriously considered by the Metro Flood Study Group are the East 35K Diversion in North Dakota or the 35K Diversion in Minnesota. Therefore, we will focus our preliminary comments on the pros and cons of those two projects.

B. The Process To Date Has Been Severely Flawed As It Relates To The Impacts On The Affected Cities And Property Owners

It appears to us that from the beginning the Corps focused its attention on building the diversion project in Minnesota versus upgrading the dikes in the Cities of Fargo and Moorhead or building a diversion project in the State of North Dakota. They may have done so because they assumed at the outset that the diversion project in the State of Minnesota was the lowest cost alternative under the Corps' guidelines. They probably also assumed that the Minnesota Diversion Project was the likely best candidate because the Corps does not take into account the economic and other adverse impacts on the sister cities and units of government (and their citizens), such as the City of Dilworth, and the property owners themselves. This apparently is not one of their legal and policy charges. However, as we all know, those impacts and costs are substantial and need to be addressed adequately and the decision as to which project with which to proceed needs to be based on these other factors, even though the Corps may not be required by law to do so.

This process has also been flawed in that it has been rushed through the Corps' review and now the decision-making process at the local level. It is unfortunate that after the 1997 flood that the analysis and review that we have been compressing into the last six months was not undertaken then over a several year period, which is what should have been done in order to adequately address the impacts and fully understand the economic and societal costs of each potential diversion.

It is unfortunate that when the Corps started reviewing these project alternatives in more detail in the fall of 2009 that they did not fully study the North Dakota Diversion and instead focused their efforts on the Minnesota Diversion. That resulted in an artificially and mistaken estimated low cost of a Minnesota Diversion and an artificially and mistaken estimated high cost of the North Dakota Diversion. As you may recall, the Corps believed and stated that the North

Dakota Diversion would never reach the appropriate cost benefit ratio of 1.0. Therefore, the local decision-makers all assumed that they had to vote for a Minnesota Diversion or there would be no federally funded project and, therefore, there would be no project. We now know, based upon further analysis by the Corps, that the North Dakota Diversion in fact qualifies under the applicable and narrow federal tests for funding, but we fear that people keep forgetting that is a major change in the analysis of what is the best project and why.

Another unfortunate part of this process has been that the Environmental Impact Statement has not been completed by the Corps and yet the local decision-makers are being asked to choose between these two diversion alternatives. While we believe that legally the Environmental Impact Statement process to date is flawed because of the limitations thereof, clearly no decision should be made until the environmental review process is completed.

It is instructive that under the Minnesota Environmental Impact Statement process set forth in Minnesota Rules Part 4410.3100, a project may not receive a final governmental decision until the environmental impact process is completed. The timeliness of environmental review is also emphasized in the Environmental Quality Board's publication "Guide to Minnesota Environmental Review Rules. In this case, everyone is being asked to put the cart before the horse. People are being asked to make these very important decisions that will impact the environment and society in this area for generations to come when the one of the most important processes is yet to be completed, that is the Environmental Impact Statement process.

It is also unfortunate that there has been no legally established mechanism for the approval of the project at the local level, the ownership and maintenance of it thereafter, and the taxing of the benefited properties from such a project in order to pay the local costs thereof and the costs of the subsequent maintenance and reconstruction if needed, and to pay the damages sustained by private property owners and by units of government, such as the City of Dilworth, in the event that the Minnesota Diversion is chosen.

C. <u>There Will Be Substantial Adverse Environmental Impacts To The City Of Dilworth And Its Citizens If The Minnesota Diversion Is Chosen</u>

1. The Minnesota Diversion will place at risk the Buffalo Aquifer. Included with this letter is a report from S. Bruce Langness, PE, MBA, CFM and Senior Water Resource Engineer, on potential impacts on the aquifers if a Minnesota diversion is the chosen option. It is very questionable if a Minnesota Diversion is even possible given the threats to these critical, limited aquifer resources.

2. The Minnesota Diversion will place at risk the Moorhead/Dilworth Aquifer. The City has two wells that are directly in line with the location of the proposed

Minnesota diversion. These wells would be difficult to replace and the diversion would have great impact on the aquifer in which they are located, again, given the limited groundwater resources. A report from S. Bruce Langness, PE, MBA, CFM and Senior Water Resource Engineer is included that addresses these concerns. Again, it is very questionable if a Minnesota Diversion is even possible given the threats to these critical, limited aquifer resources.

D. There Will Be Substantial Adverse Land Use Impacts Of The Minnesota Diversion

The Minnesota Diversion would prevent the City of Dilworth from growing to the east along the Trunk Highway 10 corridor. The 2,200 foot wide corridor would render unfeasible the extension of streets, trunk sewer and water to the east of it. The cost to extend streets, sewer and water through the corridor would not be assessable to any "benefited" properties along the corridor.

The City of Dilworth has for years planned and programmed land use, utilities, critical infrastructure, roads and schools in the path of the Minnesota Diversion. These assumptions were reinforced in the recently adopted Dilworth Growth Area Plan (GAP) 2009 which anticipates future land use assumptions proposing extending the existing service area (ESA) to the east along Trunk Highway 10. The Minnesota Diversion cuts through Phase I of the ESA extension. Dilworth's future commercial-industrial tax base can only logically extend to the east along Trunk Highway 10 corridor due to BNSF barrier to south and agreements with the City of Moorhead to limit growth to the west and north. The logical progression of Dilworth's commercial base from west to east along Trunk Highway 10 provides the greatest opportunities for broadening the fiscal base for the City of Dilworth. A Minnesota Diversion would unfairly and adversely "wall-in" Dilworth at 14th Street NE in perpetuity.

Moreover, the Dilworth Glyndon Felton ISD (DGF) has proposed a future school campus in Dilworth east of 14th Street - in the middle of the proposed Minnesota Diversion Channel. A Minnesota Diversion would preclude the orderly expansion of DGF facilities.

The adverse impacts will also include:

- Permanent loss of commercial-industrial property tax revenue to the City, the County and the School District, estimated to be in the range of $2 to $4 million per year.

- Added cost (without recovery) of the extension of sewer, water and streets through the trench at a minimum cost of $1.2 million per crossing.

- The necessity of extraordinary expense of bridge construction conservatively estimated at $4 million per crossing.

- The loss of the use of two municipal wells and critical groundwater supplies. The additional expense that would be incurred in developing identified future water sources due to being located on the opposite side of the Diversion.

- The cost of having additional lift stations/booster stations forever.

- The loss of existing investments in oversizing of utilities for Eastern growth.

- Impact on jobs and tax base due to relocation of the Burlington Northern Santa Fe railroad.

- The need to construct 14th Street to open one of the few remaining areas for development with an unassessable cost estimated at $6.4 million.

- Preclusion of school district expansion plans to the east of 14th Street.

E. Environmental And Other Concerns For Properties Located Outside Of The City Of Dilworth

We have focused our analysis mostly on the City of Dilworth because we know that area best. However, it is clear that the Minnesota Diversion project would have a substantial adverse impact on many of the City's neighbors. Over 8,000 acres of prime agricultural land will be lost to a Minnesota Diversion. Not only does that have a major impact on the farming industry in Clay County, but lost tax base to a Minnesota Diversion will be substantial.

F. Estimated Costs To Date Of The North Dakota Diversion Project And The Minnesota Diversion Project

A 34% construction contingency ($251 million) has been built into a Minnesota Diversion with an estimated total project cost of $1.143 billion. A 36% contingency ($284 million) has been built into the North Dakota Diversion with a total project cost of $1.295 billion. These substantial amounts along with the high percentage of contingency variation in amounts, definitely makes it impossible to predict that one project will be more expensive than another.

The 35K North Dakota East Diversion option identifies a local share of $729 million. The 35K Minnesota Diversion shows a local share of $577 million. Information provided to the

Metro Flood Study Work Group on March 4, 2010, identified a N.W. North Dakota area that would still need protection with a Minnesota Diversion. Based on that information, an additional mini diversion would need to be constructed at a local cost (no Federal money) of $245 million. This would make the total local share for a 35K Minnesota Diversion more expensive than a 35K North Dakota Diversion by $93 million. (Local share – Minnesota Diversion - $577 million plus N.W. North Dakota protection - $245 million = $822 million. Subtract the local share for a 35K North Dakota Diversion option which is $729 million from $822 million = $93 million.) Additionally, there will still be areas in North Dakota (S.W. area) that will not be protected with a 35K Minnesota Diversion but would be with a 35K North Dakota Diversion. Even if the Corps were able to accept the 35K Minnesota Diversion as the NED plan, which is questionable, reducing the local share to $400 million, the 35K North Dakota Diversion still would appear to be the desired option from a cost perspective alone. The local costs would be as follows: $400 million local share on a 35K Minnesota Diversion plus $245 million for the N.W. North Dakota protection = $645 million. The difference of $84 million ($729 million for a 35K North Dakota Diversion less the $645 million) would easily be exceeded when providing the North Dakota S.W.area with much needed flood protection.

As identified in the February 4, 2010 Feasibility Study provided by the Corps, the annual residual damages would be substantially reduced from $13.3 million for a 35K Minnesota Diversion to $9.7 million for a 35K North Dakota Diversion for an annual savings of $3.6 million.

The Corps provided information on March 4, 2010, that identified that the regional economic benefits are much greater with a 35K North Dakota Diversion than the 35K Minnesota Diversion.

CONCLUSION

As we all know, there is a need to construct the appropriate flood control project in order to eliminate the substantial adverse impacts of the flooding in the Cities of Moorhead and Fargo.

In order to construct such a project, there must be sufficient federal, state, regional and local funds available to pay for the project. Unless all of those entities that must contribute the money to make the project a reality agree to do so, there will be no project. Therefore, we must choose a project that can obtain the votes needed from the governing bodies that must finance the project.

Of course, any such project also must be one that adequately addresses the adverse impacts of such a project, whether it be on the North Dakota side or the Minnesota side. There

are numerous other legal and factual reasons why the possibility of a Minnesota Diversion should be rejected now which we will present at future times in the appropriate forums.

Thank you for this opportunity to offer these concerns into the record in this proceeding.

Very truly yours,

Bruce D. Malkerson

Bruce D. Malkerson

Timothy J. Keane

BDM/TJK/ts

c: Minnesota Governor Tim Pawlenty
North Dakota Governor John Hoeven
Mayor and City Council, City of Dilworth
Ken Parke, Administrator, City of Dilworth
U.S. Senator Amy Klobuchar
U.S. Senator Al Franken
Congressman Collin Peterson
State Senator Keith Langseth
State Representative Paul Marquart
Craig Evans & Aaron Snyder – U.S. Army Corps of Engineers

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Fargo-Moorhead Metro
Regional Economic Development Study

	Without Project Conditions	North Dakota East 35k cfs	Minnesota Short 35k cfs	Minnesota Short 20k cfs
Changes in Economic Output*		$332,455	$329,715	$323,755
Annual Net Change in Employment	(1,665)	895	815	677
Changes in Tax Revenues*	$(5,900) - (18,600)	$12,109	$11,968	$10,922
Average Annual Benefits*		$67,355	$63,795	$54,390
Annual Regional Flood Damages*	$61,676	$8,007	$11,042	$18,666
Changes in Annual Tax Revenue *	$(7,781)	$4,327	$3,917	$3,140
Annual Loss of Business Income*	$65,000			
Gross Regional Product Annual Growth Rate^	1.29 - 2.18	3.09 - 4.11	3.09 - 4.11	3.09 - 4.11

* $1,000 ^ %

- Many of the changes in employment would be short-term employment opportunities within the local region during construction of project. Employment figures cited are in annual equivalent terms.
- The lack of growth is due to the loss of confidence of business owners of the region. Businesses may leave the region, be reluctant to expand, or refuse to locate in areas due to concerns over potential flood damages.
- The Gross Regional Product in 2004 was 6.7 billion and increased to 8.1 billion in 2008.

US Army Corps of Engineers ®

Prepared by:
U.S. Army Corps of Engineers
St. Paul District
190 Fifth Street East, Suite 401
St. Paul, Minnesota 55101-1638

Minnesota Department of Natural Resources

REGIONAL OPERATIONS
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Bemidji MN 56601
218.308.2629

March 16, 2010

Col. Jon Christenson
US Army Corps of Engineers
Sibley Square at Mears Park
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St. Paul, MN 55101-1638

RE: Fargo-Moorhead Flood Reduction – MN DNR Project Mitigation Comments

Dear Col. Christenson,

The Minnesota Department of Natural Resources (DNR) remains committed to flood protection efforts in the Red River Valley. Through multiple design concept changes, efforts have been made to reduce potential fish passage impacts associated with a Fargo Diversion; however, we do not share the conclusion that remaining impacts will be insignificant or that project design elements alone can bring impacts to a level not warranting mitigation. Any such conclusion prior to a thorough impact analysis is premature. Furthermore, efforts to mitigate direct and indirect impacts to habitat must replace lost functions. Focusing mitigation efforts on areas identified as impaired and in need of restoration will likely provide the most value. Following are some considerations regarding connectivity and habitat impacts:

Fish Passage Considerations in the Red River of the North System

For a Minnesota Diversion, the current proposed measures to help alleviate fish passage problems above the 5-year discharge include both a fish passageway around the restriction structure and fish passage provided over the spillway for the Diversion channel. It is not known; however:

- What extent the current proposed passage facilitation measures will alleviate fish passage impacts. It is widely know that fish bypass channels are not 100% effective.
- What species will utilize the proposed design-based minimization efforts (documentation on lake sturgeon using fish bypasses is limited).
- What extent multiple restriction structures and tributary crossings will compound passage impacts (e.g. a ND diversion alternative).

The following is information about connectivity impacts, values of the River system as a fishery, and a description of past efforts and ongoing initiatives to increase connectivity and enhance those values:

- Impacts remaining after minimization efforts cannot be mitigated onsite; therefore, off-site mitigation is necessary.

- Currently, Christine and Hickson dams are fish passage barriers up to approximately the 2-year recurrence discharge. The Fargo structure on mainstem Red River would be a fish passage barrier to some extent at the 5-year recurrence discharge and greater. Therefore, the unimpeded fish passage upstream from Fargo-Moorhead that currently exists for all flows above the 2-year discharge would become impaired to some degree above the 5-year discharge. For a Minnesota Diversion, the two proposed measures to permit fish passage above the 5 year discharge include both a by-pass fishway around the structure on the Red River and a rock arch rapids to provide a passable slope over the flood diversion channel weir. These fishways are considered essential with the existing project design. However, it is accepted among resource managers that fish by-pass channels are not 100% effective and it is not known to what extent the fish by-pass channel on the Red River structure will alleviate fish passage impacts.

- Corps of Engineers data indicates that Drayton Dam washes out and becomes passable to most fish species, including lake sturgeon, at approximately the 80% event. However, during critical times when many fishes are migrating to spawning habitats, passage has historically been limited to approximately 13% of the time in March, 50% in April, 35% in May, and 20% in June. Removal or modification of existing barriers increases overall net passage and connectivity and removal of downstream barriers will increase passage potential at existing and future upstream barriers.

- Connectivity of rivers and their associated tributaries is necessary to maintain ecological diversity and function.

- During floods, fishes use the inundated floodplain for a variety of reasons including, refuge from higher velocities, making use of additional food sources, and migrating upstream and downstream in the slower waters found in the floodplain. Diverting floodwaters to the diversion channel decreases existing higher quality floodplain habitat, diverts migrating fish into lower quality diversion channel habitat, and poses an impediment to the movement of fishes.

- Most of the 57 species known to inhabit the mainstem of Red River migrate throughout the system to one extent or another. Channel catfish and lake sturgeon are two species of particular concern. With channel catfish being present in high numbers, the presence of fish exceeding 40 inches, fishing effort exceeding 110,000 hours/year and harvest exceeding 43,000 lbs/ year, the Red River of the North arguably supports the best recreational channel catfish fishery in North America. The ability of channel catfish to migrate throughout the Red River basin is critical. Channel catfish have been shown to move long distances, both upstream and downstream, within and between the Red River and its tributaries as catfish seasonally migrate between summer, overwintering and spawning habitats (Hegrenes, 1992; Wendel, 1999; McDonald 1990).

The lake sturgeon is a member of the sturgeon family of fishes that are imperiled throughout the world. Overharvest and construction of dams are frequently cited as the causative factors of population declines. Construction of dams is widely believed to be one of the major factors that have led to the near extirpation of the lake sturgeon from the Red River Basin.

Efforts by state, federal and tribal agencies to re-establish lake sturgeon (a State designated species of special concern) in the Red River basin have been ongoing since the mid-1990's. As part of this effort, juvenile lake sturgeon were tagged in 1997 and 1998 and released in Detroit Lake, Otter Tail Lake, and the Otter Tail River to begin the restoration and to gather information on lake sturgeon movement through the basin. Subsequent recapture information showed that juvenile lake sturgeon migrated long distances within a year, including some that migrated hundreds of miles down and miles up tributary streams, even though the stocked sturgeon were not sexually mature. Male lake sturgeon reach sexual maturity in approximately 10-15 years, and females reach maturity in 20-25 years. The first large-scale reintroduction of lake sturgeon fry and fingerlings (first year fish) occurred in 1999, which means there are likely mature male sturgeon in Red River that are beginning to make upstream migrations associated with spawning behavior. Female lake sturgeon spawn once every six to ten years. The fact that lake sturgeon exhibit long-distance seasonal migrations, take a relatively long time to reach sexual maturity and spawn infrequently, emphasizes the need to provide uninhibited connectivity throughout the Red River and its tributaries in order to re-establish and sustain lake sturgeon in the Red River Basin. The long-range goal for lake sturgeon restoration in the Red River basin is to establish a self-sustaining population over the next 20 to 30 years (MN DNR, 2002).

In addition to catfish and sturgeon, Red River species such as walleye, sauger, goldeye, an others, also exhibit long-distance, season migration patterns. Spawning migrations by many species are initiated by an increase in discharge, most often associated with annual spring high discharges. This is the same relative time period when the Fargo structure would have the highest probability of being operated.

- Significant energy has been put into restoring connectivity along the Red River and its tributaries with past project such as Riverside, Fargo North, Midtown, Fargo South, and Kidder on the Red River; and Point, Crookston, Heiberg, and at least 25 other fish passage projects on Red River Tributaries.

Given the facts described above, the DNR believes that any additional impedance to seasonal fish migration patterns may result in significant impacts to catfish, lake sturgeon and other species populations over time. It is imperative that any unavoidable impacts be mitigated. It may be possible to offset some project-induced impacts by improving fish and system connectivity.

Efforts are currently underway to alleviate or provide passage through these dams:

- Drayton Dam (Section 18, T 159 N, R 50 W)
- Christine (Section 18, T 136 N, R 48 W) and Hickson Dams (Section 19, T 137 N, R 48 W)

Ensuring that these projects are completed will go a long way to connecting the system and providing mitigation for passage impacts associated with a Fargo Diversion.

Direct and Indirect Habitat Mitigation Considerations
The DNR agrees that money targeted at pre-existing comprehensive ecosystem restoration initiatives will help ensure the most value for mitigation efforts. One such initiative that the DNR feel would go a long way in mitigating impacts associated with a Fargo diversion project is completion of an ecosystem restoration and flood damage reduction project on the lower Wild Rice River. Implementation of this project would restore wetland and aquatic habitat, restore form and function to the floodplain, and restore connectivity to segmented floodplain forest.

The MNDNR will continue to provide resource management expertise in an effort to develop options that maintain as much natural form and function of the impacted resources as is possible.

Thank you for considering our input.

Sincerely,

Michael R. Carroll
Regional Director
mike.carroll@state.mn.us

Cc: Aaron Snyder, COE
Elliot Stefanik, COE
Craig Evans, COE
Kent Lokkesmoe, Director Division of Waters

Sources:

Hegrenes, S.G. 1992. Age, growth and reproduction of channel catfish in the Red River of the North. Master's thesis. University of North Dakota, Grand Forks, ND.

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MN DNR. 2002. Restoration of extirpated lake sturgeon (Acipenser fulvescens) in the Red River of the North watershed. Minnesota Department of Natural Resources, Division of Fisheries, Bemidji, MN.

Wendel, J.L. 1999. Habitat use and movements of channel catfish in the Red River of the North. Master's thesis. University of North Dakota, Grand Forks, ND.

Minnesota Department of Natural Resources
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July 19, 2010

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Bob Zimmerman
City of Moorhead
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Mark Bittner
City of Fargo
209 3rd Street N.
Fargo, ND 58102

RE: Minnesota State Environmental Review Need Determination for Fargo-Moorhead Metropolitan Area Flood Risk Management Project

Dear Sirs:

The purpose of this letter is to document the need for State Environmental Review and describe the process that will be used to ensure compliance with the Minnesota Environmental Policy Act for the Fargo-Moorhead Metropolitan Area Flood Risk Management Project.

Proposed Project

The Fargo-Moorhead Metropolitan Area Flood Risk Management Project is a cooperative effort between the U.S. Army Corps of Engineers, City of Fargo ND, and City of Moorhead MN to develop a regional system to reduce flood risk. The project partners prepared a Draft Feasibility Report and Environmental Impact Statement (EIS) that identified a National Economic Development plan (NED), a tentatively selected Locally Preferred Plan (LPP), and a Federally Comparable Plan (FCP). Each of these plans are different alignments of a flood diversion channel, all of which include a control structure on the Red River to divert water into the diversion channel during periods of high water flow. This proposed control structure meets the definition of a dam in Minnesota Rules, part 6115.0320. The U.S. Army Corps of Engineers has determined that the dam (control structure) is a high hazard dam and the Minnesota Department of Natural Resources (MDNR) dam safety program has concurred with the high hazard assessment. The Draft EIS that was prepared as part of the Feasibility Report is a federal EIS and has not met the procedural requirements for Minnesota State EIS preparation contained in Minnesota Rules chapter 4410 Environmental Quality Board Environmental Review Program (EQB Rules).

Need for State Environmental Review

The proposed construction of the control structure on the Red River is a governmental action that would cause physical manipulation the environment, and thus meets the definition of a project (Minnesota Rules, part 4410.0200, subpart 65). A governmental action is defined by Minnesota Rules, part 4410.0200,

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subpart 33 as activities wholly or partially conducted, permitted, assisted, financed, regulated or approved by governmental units. As a project that requires governmental action, the proposed control structure is subject to the Minnesota Environmental Policy Act (MEPA) and Minnesota EQB Rules (Minnesota Rules 4410.0300, subpart 2).

The EQB Rules identify categories of projects that require EIS preparation and designate the Responsible Governmental Unit (RGU) to prepare the EIS. Minnesota Rules, part 4410.4400, subpart 18 requires EIS preparation for construction of a Class 1 (high hazard) dam and designates the MDNR as RGU. The proposed Red River control structure as part of the Fargo-Moorhead Metropolitan Area Flood Risk Management Project is a Class 1 dam, as per Minnesota Rules, part 6115.0340, and thus EIS preparation is mandatory with MDNR as RGU.

The relationship between federal and Minnesota State environmental review is addressed under Minnesota Rules 4410.3900, that requires, if a federal Draft or Final EIS has been prepared for a project, the RGU must use the federal EIS as the Minnesota State Draft EIS provided it addresses the scoped issues and the State EIS content standards. Reviewing the Statement Of Need And Reasonableness (SONAR) for the EQB Rules and consultation with EQB staff have identified the need to conduct a Minnesota State scoping process to determine if the federal EIS meets the requirement of addressing the scoped issues that would allow MDNR to use the federal EIS as the State Draft EIS.

Minnesota State Process

Minnesota Rules part 4410.6000 requires an RGU to assess project proposers for its reasonable costs of preparing and distributing an EIS. As such, the MDNR will need to enter into an income agreement with the U.S. Army Corps of Engineers, City of Fargo ND, and City of Moorhead MN to pay for MDNR costs to prepare and distribute the EIS. Income agreements for EISs are typically completed in two stages, one income agreement for EIS scoping and a second income agreement for EIS preparation once the final EIS scope has been determined.

MDNR is currently reviewing the Draft Feasibility Report and EIS to determine the scope of issues addressed and what information will be needed to complete the State EIS scoping process. Typically the State EIS scoping process includes preparation of a Scoping Environmental Assessment Worksheet and a Draft Scoping Decision Document that is subjected to public review prior to finalization of the EIS scope. Depending on the MDNR review of the Draft Feasibility Report and EIS, it may be possible to compile the necessary information to inform potential reviewers such that preparation of a Scoping Environmental Assessment Worksheet would not be needed. A Draft Scoping Decision Document will need to be prepared in either case. After public review of the draft scope a Final Scoping Decision Document will be prepared and then compared to the federal EIS that is available at that time (Draft or Final). The MDNR will then determine if the federal EIS addresses the scoped issues and meets the Minnesota State EIS content standards. It is difficult to determine the rest of the process at this time, but there are three possible outcomes: 1) The federal EIS addresses the scoped issues and content requirements and is used as the Minnesota State Draft EIS, 2) The federal EIS does not address all the scoped issues but substantially meets the content requirements and supplemental information could be developed to include with the federal EIS as the Minnesota State Draft EIS, and 3) The federal EIS does not address the scoped issues nor does it substantially meet the content requirements and the MDNR will need to prepare a separate Draft EIS. After determining the final scope of the State EIS and the level of effort for preparation, a second income agreement will be developed covering the cost of EIS preparation. Once payment for State EIS preparation has been received the MDNR will issue an EIS preparation notice that marks the beginning of the 280 day time limit for EIS preparation.

I will be contacting individuals from the U.S. Army Corps of Engineers, City of Fargo ND, and City of Moorhead MN to schedule a meeting to further discuss the Minnesota State Environmental Review and begin discussions on the income agreement to begin scoping. Please contact me at (651) 259-5156 if you have any questions.

Sincerely,

Randall Doneen
Environmental Planning Director

C: Craig Evans, USACE
Aaron Snyder, USACE
Brett Coleman, USACE
Randy Devendorf, USACE
April E. Walker, City of Fargo
Mike Carroll, MDNR
Larry Kramka, MDNR

Minnesota Department of Natural Resources
500 Lafayette Road • St. Paul, MN • 55155-40

October 19, 2010

Bob Zimmerman
City of Moorhead
Moorhead City Hall
P.O. Box 779
Moorhead, MN 56561-0779

RE: Fargo-Moorhead Flood Risk Management Project

Mr. Zimmerman:

As you know, the locally preferred alternative for flood management in the Fargo-Moorhead metropolitan area identified in the U.S. Army Corps of Engineers' federal Draft Environmental Impact Statement (EIS) includes a water control structure on the Red River that requires the preparation of a State EIS by the Minnesota Department of Natural Resources (MDNR). The recent determination that a supplement to the federal Draft EIS is needed creates an opportunity for the project proposers and the MDNR to consider how to maximize coordination between the U.S. Army Corps of Engineer's federal EIS process and MDNR's state EIS process. A more coordinated state and federal process is likely to save time and money for completion of state environmental review and could also lead to a better project that meets the needs of federal, state, and local interests. The MDNR is very interested in meeting with the project partners to consider how this determination may allow for a more coordinated and efficient environmental review process for the Fargo-Moorhead Flood Risk Management Project.

The proposed scope of the federal Draft EIS Supplement is a critical factor in determining the best course of action to achieve a coordinated process that meets the needs of the Red River Basin and satisfies the requirements of the Minnesota Environmental Policy Act (MEPA). The MDNR comment letter on the Draft EIS identifies specific issues that will need to be addressed as part of state environmental review. In addition to being important environmental issues, some of the issues raised in that letter are important for eventual state permitting of any future project. A thorough discussion of how these comments, and other comments received, will be addressed as part the federal Draft EIS Supplement will help inform the best course of action to coordinate state and federal environmental review. It is important to understand that regardless of how we propose to coordinate our efforts, the MDNR will need to complete a state EIS public scoping process for a final determination on what needs to be evaluated as part of the state EIS.

We understand that the Cities of Fargo, Moorhead, and U.S. Army Corps of Engineers are considering project modifications to address comments received on the federal Draft EIS. It would likely be most helpful to meet and discuss coordination of review after you have a solid understanding on the scope and context of the public comments received, but early enough to allow adjustments that will promote efficiency between the state and federal processes. I will be in contact with you shortly to set up a meeting time and agenda to discuss the scope of the federal Draft EIS Supplement and how best to coordinate state environmental review. Please contact me at (651) 259-5156 if you have any questions.

Sincerely

Randall Doneen
Environmental Review Planning Director

Cc: Terry Birkenstock, USACE
Craig Evans, USACE
Mark Bittner, City of Fargo
April Walker, City of Fargo
Mike Carroll, MDNR

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Minnesota Department of Natural Resources
500 Lafayette Road • St. Paul, MN • 55155-40

January 14, 2011

Bob Zimmerman
City of Moorhead
Moorhead City Hall
P.O. Box 779
Moorhead, MN 56561-0779

Terry Williams
U.S. Army Corps of Engineers
190 Fifth Street East, Suite 401
St. Paul, MN 55101

RE: Fargo Moorhead Flood Protection Project Minnesota State EIS

Mr. Zimmerman and Ms. Williams:

At our meeting on Wednesday December 15, 2010 there was considerable discussion about when to begin the Minnesota State Environmental Impact Statement (EIS) process that is required for the proposed flood protection project. Many of the meeting participants seemed to agree that the current project description under consideration was dependent on technical analyses that are not yet complete. To assist the project proposers in determining the most appropriate time to begin the State EIS, the MDNR is recommending a detailed project description be submitted for our review as soon as it is available. We can then use this information to better inform and discuss when to begin the state EIS process. This review is not meant as a formal review, but rather as an opportunity for the MDNR to assist the project proposers in the state process. It is up to the project proposers to determine when to submit a detailed project description, but there is no harm in sharing a project description early in development. Waiting to provide the information and have discussions on the project description could impair our ability to coordinate the state and federal EIS processes. Project description information that will assist in these discussions include the following:

PROJECT COMPONENTS AND STRUCTURES
The main components of the project, including any permanent and temporary structures, associated infrastructure, associated construction and type of equipment to be used
Size of the main components of the project

PROJECT ACTIVITIES
The construction, operation, and the timing and scheduling of each phase
Schedule (e.g., time of year, frequency and duration)
Site plans or sketches with project location, features, project activities described on a map
Engineering design details (if available)

Identification of requirements for off-site land use including areas that will be directly affected by hydrological changes
Project Purpose and Need

Providing the project description as part of an early scoping interaction will allow us to assess if the proposed project is developed in enough detail and is stable enough to warrant beginning the State EIS process. In addition to providing guidance on when to begin the State EIS process, this project description review and early scoping will also allow an assessment of the project's viability for permitting under Minnesota Rules and Statutes. This is particularly important given MDNR's earlier correspondence on December 2, 2010 that indicated the difficulty of permitting projects that are not consistent with goals of the 1998 Red River Basin Flood Damage Reduction Work Group mediation agreement.

Please contact me at (651) 259-5156 if you have any questions about when to submit a project description or if you need any further assistance.

Sincerely,

Randall Doneen

C: Mark Bittner, City of Fargo
April Walker, City of Fargo
Mike Carroll, MDNR
John Sobiech, USACE
Terry Birkenstock, USACE

DEPARTMENT OF THE ARMY
ST. PAUL DISTRICT, CORPS OF ENGINEERS
180 FIFTH STREET EAST, SUITE 700
ST. PAUL MN 55101-1678

JUN 1 7 2010

REPLY TO
ATTENTION OF

Regional Planning and Environment Division North
Environmental and GIS Branch

Mailed to Tom on 17 Jun

routed to Snyder + wilfing 17 June 10

Mr. Tom France
Regional Executive Director
National Wildlife Federation
240 North Higgins, Suite 2
Missoula, Montana 59802

Dear Mr. France:

I am responding to your June 7, 2010, letter requesting a 90-day extension of the comment period for the Draft Feasibility Report and Environmental Impact Statement (DEIS) for the Fargo-Moorhead Metropolitan Area Flood Risk Management report. The DEIS was made available to the public and was provided to your organization specifically on June 1, 2010, 11 days prior to the publication of the notice of availability in the Federal Register on June 11, 2010. This, in addition to the 45-day comment period, ending on July 26, 2010, will make the DEIS available for your review for a period 56 days.

In addition to the formal comment period, information developed during the study was presented to the public continuously throughout the feasibility study/environmental review process. Between November 2008 and June 16, 2010, the U.S. Army Corps of Engineers has hosted 17 formal public and interagency meetings. In addition, 17 meetings open to the public were held between the Corps and the Metro Flood Management Committee work group. The information presented at the meetings was made available on our project website at www.internationalwaterinstitute.org/feasibility. Many of the meetings were recorded and made available on public television stations in the area and on the public websites for the cities of Fargo and Moorhead. Further, two separate documents have been made available to the public and agencies for review during the study: the Scoping Document dated September 2009 and the Alternatives Screening Document dated December 2009.

Given the extensive public communication and opportunity for input throughout this study we do not believe an extension of 90 days is warranted. However, we will grant an extension for this review of 14 days, which will result in a public review and comment period of 70 days. This results in the comment period ending on August 9, 2010.

The Feasibility Study/Environmental Impact Statement is scheduled for completion in December 2010 with the signing of the Report of the Chief of Engineers. To provide sufficient time for the public review of the Final Feasibility Report and Environmental Impact Statement, only minor adjustments to the schedule can be made. It is important to complete the Chief's

report in December 2010 to allow time for Congress to consider this project for authorization this year. While we cannot forecast whether Congress will ultimately authorized the project, we believe it is imperative that it have the opportunity to consider it this year because, without a project, the communities of Fargo and Moorhead continue to be exposed to more than $195 million in average annual damages for each year the project is delayed.

If you have any questions regarding this project, please contact me at (651) 290-5264 or contact me via email at terry.birkenstock@usace.army.mil.

Sincerely,

Terry J. Birkenstock
Chief, Environmental and GIS Branch

DEPARTMENT OF THE ARMY
ST. PAUL DISTRICT, CORPS OF ENGINEERS
180 FIFTH STREET EAST, SUITE 700
ST. PAUL MN 55101-1678

DEC 13 2010

REPLY TO
ATTENTION OF
Programs and Project Management Division
Project Management and Development Branch

Honorable Dennis Walaker
Mayor of Fargo
209 Third Street North
Fargo, North Dakota 58102

Dear Mayor Walaker:

The Metro Flood Study Work Group has requested that the U.S. Army Corps of Engineers shift the alignment of the North Dakota diversion approximately 1.5 miles farther to the west. Cass County and the city of West Fargo strongly support this request. In meetings prior to the public review period of the Draft Environmental Impact Statement (DEIS), the Corps indicated that future consideration could be given to shifting the diversion. Following the receipt of comments on the DEIS and the development of additional technical information, the Corps is unable to support such a shift in the alignment.

Shifting the alignment to the west would have additional environmental impacts, including removal of a large area from the floodplain, which would then be open for development. Executive Order 11988 requires Federal agencies to avoid direct and indirect support of floodplain development wherever a practicable alternative is available. Therefore, unless the sponsors can demonstrate to the St. Paul District that the alignment shift is technically necessary and superior to other options by January 31, 2011, this proposed shift will no longer be considered. Consideration past that date would have impacts on the overall project schedule and, ultimately, the completion of the project.

If you have any questions on this decision, please call Aaron Snyder, Chief, Project Management and Development Branch, at 651-290-5489 or email him at Aaron.M.Snyder@usace.army.mil.

Sincerely,

Michael J. Price
Colonel, Corps of Engineers
District Engineer

Identical letter to:

Honorable Mark Voxland
Mayor of Moorhead
Moorhead City Hall
500 Center Avenue
PO Box 779
Moorhead, Minnesota 56561-0779

Copy furnished:

Honorable Kent Conrad
United States Senate
530 Hart Senate Office Building
Washington, D.C. 20510-3403

Honorable Kent Conrad
United States Senate
220 East Rosser Avenue, Room 228
Bismarck, North Dakota 58501

Honorable Byron Dorgan
United States Senate
322 Hart Senate Office Building
Washington, D.C. 20510-3405

Honorable Byron Dorgan
United States Senate
312 Federal Building, Box 2579
Bismarck, North Dakota 58501

Honorable Amy Klobuchar
United States Senate
302 Hart Senate Office Building
Washington, D.C. 20510-2305

Honorable Amy Klobuchar
United States Senate
1200 Washington Avenue South, Suite 250
Minneapolis, Minnesota 55415

Honorable Al Franken
United States Senate
320 Hart Senate Office Building
Washington, D.C. 20510

Honorable Al Franken
United States Senate
60 East Plato Boulevard
St. Paul, Minnesota 55107

Honorable Earl Pomeroy
House of Representatives
1505 Longworth House Office Building
Washington, D.C. 20515-3401

Honorable Earl Pomeroy
Representative in Congress
220 East Rosser Avenue, Room 328
Bismarck, North Dakota 58501

Honorable Collin Peterson
House of Representatives
2211 Rayburn House Office Building
Washington, D.C. 20515-2307

Honorable Collin Peterson
Representative in Congress
714 Lake Avenue, Suite 107
Detroit Lakes, Minnesota 56501

Mr. Kevin Campbell
Class County Commissioner
807 11th Street North
Moorhead, MN 56560

Mr. Tim Mahoney
City Commissioner
200 North Third Street
Fargo, ND 58102

Honorable Rich Mattern
Mayor of West Fargo
800 4th Avenue East
West Fargo, ND 58078

Cass County Commissioners
Cass County Courthouse
P. O. Box 2806
Fargo, ND 58108-2806

DEPARTMENT OF THE ARMY
ST. PAUL DISTRICT, CORPS OF ENGINEERS
180 FIFTH STREET EAST, SUITE 700
ST. PAUL MN 55101-1678

DEC 13 2010

REPLY TO
ATTENTION OF
Programs and Project Management Division
Project Management and Development Branch

Honorable Mark Voxland
Mayor of Moorhead
Moorhead City Hall
P.O. Box 779
Moorhead, Minnesota 56561-0779

Dear Mayor Voxland:

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If you have any questions on this decision, please call Aaron Snyder, Chief, Project Management and Development Branch, at 651-290-5489 or email him at Aaron.M.Snyder@usace.army.mil.

Sincerely,

Michael N. Price
Colonel, Corps of Engineers
District Engineer

Identical letter to:

Honorable Dennis Walaker
Mayor of Fargo
209 Third Street North
Fargo, North Dakota 58102

Copy furnished:

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United States Senate
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Bismarck, North Dakota 58501

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Honorable Amy Klobuchar
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1200 Washington Avenue South, Suite 250
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City Commissioner
200 North Third Street
Fargo, ND 58102

Honorable Rich Mattern
Mayor of West Fargo
800 4th Avenue East
West Fargo, ND 58078

Cass County Commissioners
Cass County Courthouse
P. O. Box 2806
Fargo, ND 58108-2806

Tribal Coordination Correspondence

Similar letters with enclosures furnished to each of the below-listed individuals

TRIBAL CHAIRPERSON	Copy furnished to THPO or Cultural POC
Honorable Michael Selvage, Sr. Chairman Sisseton Wahpeton Oyate P.O. Box 509 Agency Village, SD 57262	Ms. Dianne Desrosiers Tribal Historic Preservation Officer Sisseton Wahpeton Oyate P.O. Box 907 Sisseton, SD 57262 Mr. Jim Whitted 106 Coordinator Tribal Historic Preservation Office Sisseton Wahpeton Oyate P.O. Box 907 Sisseton, SD 57262
Honorable Erma Vizenor Chairwoman White Earth Reservation Business Committee P.O. Box 418 White Earth, MN 56591	Mr. Tom McCauley Tribal Historic Preservation Officer White Earth Band of Minnesota Chippewa Roads Department P.O. Box 418 White Earth, MN 56591
Honorable Arthur "Archie" La Rose Chairman Leech Lake Reservation Business Committee 115 6th Street NW, Suite E Cass Lake, MN 56633	Ms. Gina M. Lemon Tribal Historic Preservation Officer Leech Lake Band of Ojibwe 115 6th Street NW, Suite E Cass Lake, MN 56633 Mr. Thor Olmanson Division of Resource Management Leech Lake Heritage Sites Program 115 Sixth Street NW, Suite E Cass Lake, MN 56633
Honorable Kevin Leecy Chairman Bois Forte Reservation Business Committee P.O. Box 16 Nett Lake, MN 55772	Ms. Rosemary Berens Tribal Historic Preservation Officer Bois Forte Band of Chippewa Indians P.O. Box 16 Nett Lake, MN 55772
Honorable Bobby Cournoyer Chairman, Yankton Sioux Tribe P.O. Box 248 Marty, SD 57361	Ms. Lana Gravette Tribal Historic Preservation Officer P.O. Box 248 Marty, SD 57361

Similar letters with enclosures furnished to each of the below-listed individuals

Ms. April Walker
Fargo Engineering Department
200 North Third Street
Fargo, North Dakota 58102

DEPARTMENT OF THE ARMY
ST. PAUL DISTRICT, CORPS OF ENGINEERS
180 FIFTH STREET EAST, SUITE 700
ST. PAUL MN 55101-1678

OCT 7 2010

REPLY TO
ATTENTION OF

Programs and Project Management Division
Project Management Branch

Honorable Bobby Cournoyer
Chairman, Yankton Sioux Tribe
P.O. Box 248
Marty, SD 57361

Dear Chairman Cournoyer:

I would like to thank you for having members of your staff participate in the August 31, 2010, meeting with the St. Paul District of the Corps of Engineers to discuss the Fargo-Moorhead Metropolitan Area Flood Risk Management Project. The meeting was held at the Sisseton-Wahpeton Oyate Tribal Historic Preservation Office with representatives from the White Earth Band of Minnesota Chippewa, Bois Forte Band of Chippewa Indians, Leech Lake Band of Ojibwe, Yankton Sioux Tribe, and the city of Fargo, North Dakota, joining the discussion by phone.

The purpose of the meeting was to familiarize everyone with the project and initiate discussions about future tribal involvement. The St. Paul District is leading the planning process for this project, which, when complete, will provide flood risk reduction for the Fargo-Moorhead area. The district is committed to coordination and consultation with tribal governments during the planning and implementation of this important project.

During the meeting, the tribes indicated that they desired more involvement in the project, particularly by having input to the cultural resources programmatic agreement and by participating in the cultural resources surveys. Several ways to increase tribal involvement were discussed, including follow-up meetings and providing additional project information. The logistics of future meetings were discussed, including the possibility that the district provide travel per diem for future face-to-face meetings. The district is committed to working with federally recognized tribes; however, the district cannot pay travel per diem or expenses for tribal nations to attend consultation meetings with the district.

To facilitate discussion between the district and tribes regarding the project, the district is offering the following options:

- The district will be able to attend a meeting at the Dakota Magic Casino near Hankinson, North Dakota, in the near future.

- The district will schedule face-to-face meetings with each tribal nation that expresses an interest in the project and wants to discuss the project in detail. Meetings could be held at each tribe's office or a location of its choosing.

- The district will set up and conduct a teleconference with tribes that would like to discuss the details of the project.

- If staff members from the tribes are attending another conference/meeting, the district is willing to travel to that location to discuss the project.

To keep you and your staff fully informed of the project, I have enclosed the most recent (July 2010) draft cultural resources programmatic agreement for the Fargo-Moorhead Metropolitan Area Flood Risk Management Project. As stated during the August 31 meeting and teleconference, a copy of the project's draft Feasibility Study and draft EIS is available at http://www.internationalwaterinstitute.org/feasiblity/index.htm.

Topographic maps and air photographs showing the Minnesota Short 35K (35,000-cubic-foot-per-second) diversion channel alignment (Federally Comparable Plan) and the North Dakota East 35K (35,000-cubic-foot-per-second) diversion channel alignment (Locally Preferred Plan) are also enclosed. The proposed diversion channel corridors are up to 2,200 feet wide, including the diversion channel, disposal areas and necessary levees. The North Dakota diversion channel would be approximately 36 miles long and the Minnesota diversion channel would be approximately 25 miles long. Both would be approximately 30 feet deep.

Again, the district recognizes the sovereign status of tribal governments and is committed to working with you on a government-to-government basis. If you have additional questions, need additional information or have additional suggestions on how the district and tribes can work together on the project, please call me at (651) 290-5300 or the project manager, Brett Coleman, at (651) 290-5452. Thank you again for your time and effort.

Sincerely,

Michael J. Price
Colonel, Corps of Engineers
District Engineer

3 Enclosures
1. Draft programmatic agreement
2. MN diversion alignment
3. ND diversion alignment

Copy furnished to:

Ms. Lana Gravette
Tribal Historic Preservation Officer
P.O. Box 248
Marty, SD 57361

DEPARTMENT OF THE ARMY
ST. PAUL DISTRICT, CORPS OF ENGINEERS
180 FIFTH STREET EAST, SUITE 700
ST. PAUL MN 55101-1678

OCT 7 2010

REPLY TO
ATTENTION OF

Programs and Project Management Division
Project Management Branch

Honorable Arthur "Archie" La Rose
Chairman
Leech Lake Reservation Business Committee
115 6th Street NW, Suite E
Cass Lake, MN 56633

Dear Chairman La Rose:

I would like to thank you for having members of your staff participate in the August 31, 2010, meeting with the St. Paul District of the Corps of Engineers to discuss the Fargo-Moorhead Metropolitan Area Flood Risk Management Project. The meeting was held at the Sisseton-Wahpeton Oyate Tribal Historic Preservation Office with representatives from the White Earth Band of Minnesota Chippewa, Bois Forte Band of Chippewa Indians, Leech Lake Band of Ojibwe, Yankton Sioux Tribe, and the city of Fargo, North Dakota, joining the discussion by phone.

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Michael J. Price
Colonel, Corps of Engineers
District Engineer

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2. MN diversion alignment
3. ND diversion alignment

Copy furnished to:

Ms. Gina M. Lemon
Tribal Historic Preservation Officer
Leech Lake Band of Ojibwe
115 6th Street NW, Suite E
Cass Lake, MN 56633

Mr. Thor Olmanson
Division of Resource Management
Leech Lake Heritage Sites Program
115 Sixth Street NW, Suite E
Cass Lake, MN 56633

DEPARTMENT OF THE ARMY
ST. PAUL DISTRICT, CORPS OF ENGINEERS
180 FIFTH STREET EAST, SUITE 700
ST. PAUL MN 55101-1678

OCT 7 2010

REPLY TO
ATTENTION OF

Programs and Project Management Division
Project Management Branch

Honorable Kevin Leecy
Chairman
Bois Forte Reservation Business Committee
P.O. Box 16
Nett Lake, MN 55772

Dear Chairman Leecy:

I would like to thank you for having members of your staff participate in the August 31, 2010, meeting with the St. Paul District of the Corps of Engineers to discuss the Fargo-Moorhead Metropolitan Area Flood Risk Management Project. The meeting was held at the Sisseton-Wahpeton Oyate Tribal Historic Preservation Office with representatives from the White Earth Band of Minnesota Chippewa, Bois Forte Band of Chippewa Indians, Leech Lake Band of Ojibwe, Yankton Sioux Tribe, and the city of Fargo, North Dakota, joining the discussion by phone.

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Again, the district recognizes the sovereign status of tribal governments and is committed to working with you on a government-to-government basis. If you have additional questions, need additional information or have additional suggestions on how the district and tribes can work together on the project, please call me at (651) 290-5300 or the project manager, Brett Coleman, at (651) 290-5452. Thank you again for your time and effort.

Sincerely,

Michael J. Price
Colonel, Corps of Engineers
District Engineer

3 Enclosures
1. Draft programmatic agreement
2. MN diversion alignment
3. ND diversion alignment

Copy furnished to:

Ms. Rosemary Berens
Tribal Historic Preservation Officer
Bois Forte Band of Chippewa Indians
P.O. Box 16
Nett Lake, MN 55772

DEPARTMENT OF THE ARMY
ST. PAUL DISTRICT, CORPS OF ENGINEERS
180 FIFTH STREET EAST, SUITE 700
ST. PAUL MN 55101-1678

OCT 7 2010

REPLY TO
ATTENTION OF

Programs and Project Management Division
Project Management Branch

Honorable Erma Vizenor
Chairwoman
White Earth Reservation Business Committee
P.O. Box 418
White Earth, MN 56591

Dear Chairwoman Vizenor:

I would like to thank you for having members of your staff participate in the August 31, 2010, meeting with the St. Paul District of the Corps of Engineers to discuss the Fargo-Moorhead Metropolitan Area Flood Risk Management Project. The meeting was held at the Sisseton-Wahpeton Oyate Tribal Historic Preservation Office with representatives from the White Earth Band of Minnesota Chippewa, Bois Forte Band of Chippewa Indians, Leech Lake Band of Ojibwe, Yankton Sioux Tribe, and the city of Fargo, North Dakota, joining the discussion by phone.

The purpose of the meeting was to familiarize everyone with the project and initiate discussions about future tribal involvement. The St. Paul District is leading the planning process for this project, which, when complete, will provide flood risk reduction for the Fargo-Moorhead area. The district is committed to coordination and consultation with tribal governments during the planning and implementation of this important project.

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Sincerely,

Michael J. Price
Colonel, Corps of Engineers
District Engineer

3 Enclosures
1. Draft programmatic agreement
2. MN diversion alignment
3. ND diversion alignment

Copy furnished to:

Mr. Tom McCauley
Tribal Historic Preservation Officer
White Earth Band of Minnesota Chippewa
Roads Department
P.O. Box 418
White Earth, MN 56591

DEPARTMENT OF THE ARMY
ST. PAUL DISTRICT, CORPS OF ENGINEERS
180 FIFTH STREET EAST, SUITE 700
ST. PAUL MN 55101-1678

OCT 7 2010

REPLY TO ATTENTION OF

Programs and Project Management Division
Project Management Branch

Honorable Michael Selvage, Sr.
Chairman
Sisseton Wahpeton Oyate
P.O. Box 509
Agency Village, SD 57262

Dear Chairman Selvage:

I would like to thank you for having members of your staff participate in the August 31, 2010, meeting with the St. Paul District of the Corps of Engineers to discuss the Fargo-Moorhead Metropolitan Area Flood Risk Management Project. The meeting was held at the Sisseton-Wahpeton Oyate Tribal Historic Preservation Office with representatives from the White Earth Band of Minnesota Chippewa, Bois Forte Band of Chippewa Indians, Leech Lake Band of Ojibwe, Yankton Sioux Tribe, and the city of Fargo, North Dakota, joining the discussion by phone.

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Sincerely,

Michael J. Price
Colonel, Corps of Engineers
District Engineer

3 Enclosures
1. Draft programmatic agreement
2. MN diversion alignment
3. ND diversion alignment

Copy furnished to:

Ms. Dianne Desrosiers
Tribal Historic Preservation Officer
Sisseton Wahpeton Oyate
P.O. Box 907
Sisseton, SD 57262

Mr. Jim Whitted
106 Coordinator
Tribal Historic Preservation Office
Sisseton Wahpeton Oyate
P.O. Box 907
Sisseton, SD 57262

Similar letters with enclosures furnished to each of the below-listed individuals

Ms. April Walker
Fargo Engineering Department
200 North Third Street
Fargo, North Dakota 58102

TRIBAL CHAIRPERSON	Copy furnished to THPO or Cultural POC
Honorable Richard Marcellais Chairman Turtle Mountain Band of Chippewa P.O. Box 900 Belcourt, ND 58316	Mr. Brady Grant Tribal Historic Preservation Officer Turtle Mountain Band of Chippewa P.O. Box 900 Belcourt, ND 58316
Honorable Kevin Jensvold Chairman Upper Sioux Community of Minnesota P.O. Box 147 Granite Falls, MN 56241-0147	Mr. Scott Larson Member-At-Large Upper Sioux Community of Minnesota P.O. Box 147 Granite Falls, MN 56241-0147
Honorable Gabe Prescott President Lower Sioux Indian Community P.O. Box 308 Morton, MN 56270	Ms. Pamela Halverson Tribal Historic Preservation Officer Lower Sioux Indian Community P.O. Box 308 Morton, MN 56270
Honorable Myra Pearson Chairwoman Spirit Lake Tribal Council P.O. Box 359 Fort Totten, ND 58335	Mr. Darrell E. Smith Cultural Resource Officer Spirit Lake Tribe P.O. Box 359 Fort Totten, ND 58335
Honorable Floyd Jourdain Chairman Red Lake Band of Chippewa Indians P.O. Box 550 Red Lake, MN 56671	Mr. Les Peterson Archeologist/Environmental Specialist Red Lake Band of Chippewa Indians Tribal Engineering P.O. Box 274 Red Lake, MN 56671
Honorable Marcus D. Levings, Jr. Chairman Three Affiliated Tribal Business Council Mandan, Hidatsa and Arikara Nation 404 Frontage Road New Town, ND 58763	Mr. Perry Brady Tribal Historic Preservation Officer Three Affiliated Tribes Mandan, Hidatsa and Arikara Nation 404 Frontage Road New Town, ND 5863

Similar letters with enclosures furnished to each of the below-listed individuals

TRIBAL CHAIRPERSON	Cf. to THPO or Cultural POC
Honorable Leroy Spang President Northern Cheyenne Tribal Council P.O. Box 128 Lame Deer, MT 59043	Mr. Linwood Tallbull Tribal Historic Preservation Officer Northern Cheyenne Tribe P.O. Box 128 Lame Deer, MT 59043
Honorable Charles W. Murphy Chairman Standing Rock Sioux Tribal Council P.O. Box D Fort Yates, ND 58538	Mr. Tim Mentz Tribal Historic Preservation Officer Standing Rock Sioux Tribe P.O. Box D Fort Yates, ND 58538
Honorable A.T. "Rusty" Stafne Chairman Fort Peck Tribal Executive Board P.O. Box 1027 Poplar, MT 59255	Mr. Curley Youpee Director, Cultural Resources Department Assiniboine and Sioux Tribes of the Fort Peck Indian Reservation P.O. Box 1027 Poplar, MT 59255

DEPARTMENT OF THE ARMY
ST. PAUL DISTRICT, CORPS OF ENGINEERS
180 FIFTH STREET EAST, SUITE 700
ST. PAUL MN 55101-1678

OCT 7 2010

REPLY TO
ATTENTION OF

Programs and Project Management Division
Project Management Branch

Honorable Richard Marcellais
Chairman
Turtle Mountain Band of Chippewa
P.O. Box 900
Belcourt, ND 58316

Dear Chairman Marcellais:

On August 31, 2010, a meeting was held with representatives from the Sisseton-Wahpeton Oyate Tribe, the White Earth Band of Minnesota Chippewa, Bois Forte Band of Chippewa Indians, Leech Lake Band of Ojibwe, Yankton Sioux Tribe, the city of Fargo, North Dakota, and the St. Paul District of the U.S. Army Corps of Engineers regarding the Fargo-Moorhead Metropolitan Area Flood Risk Management Project. The intent of this letter is to provide you with a brief summary of that meeting and information on future consultation options. If you would like to be involved with future meetings regarding the Fargo-Moorhead Metropolitan Area Flood Risk Management Project, please let me know.

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Sincerely,

Michael L. Price
Colonel, Corps of Engineers
District Engineer

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2. MN diversion alignment
3. ND diversion alignment

Copy furnished to:

Mr. Brady Grant
Tribal Historic Preservation Officer
Turtle Mountain Band of Chippewa
P.O. Box 900
Belcourt, ND 58316

DEPARTMENT OF THE ARMY
ST. PAUL DISTRICT, CORPS OF ENGINEERS
180 FIFTH STREET EAST, SUITE 700
ST. PAUL MN 55101-1678

OCT 7 2010

REPLY TO
ATTENTION OF

Programs and Project Management Division
Project Management Branch

Honorable Kevin Jensvold
Chairman
Upper Sioux Community of Minnesota
P.O. Box 147
Granite Falls, MN 56241-0147

Dear Chairman Jensvold:

On August 31, 2010, a meeting was held with representatives from the Sisseton-Wahpeton Oyate Tribe, the White Earth Band of Minnesota Chippewa, Bois Forte Band of Chippewa Indians, Leech Lake Band of Ojibwe, Yankton Sioux Tribe, the city of Fargo, North Dakota, and the St. Paul District of the U.S. Army Corps of Engineers regarding the Fargo-Moorhead Metropolitan Area Flood Risk Management Project. The intent of this letter is to provide you with a brief summary of that meeting and information on future consultation options. If you would like to be involved with future meetings regarding the Fargo-Moorhead Metropolitan Area Flood Risk Management Project, please let me know.

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Michael J. Price
Colonel, Corps of Engineers
District Engineer

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1. Draft programmatic agreement
2. MN diversion alignment
3. ND diversion alignment

Copy furnished to:

Mr. Scott Larson
Member-At-Large
Upper Sioux Community of Minnesota
P.O. Box 147
Granite Falls, MN 56241-0147

DEPARTMENT OF THE ARMY
ST. PAUL DISTRICT, CORPS OF ENGINEERS
180 FIFTH STREET EAST, SUITE 700
ST. PAUL MN 55101-1678

OCT 7 2010

REPLY TO
ATTENTION OF

Programs and Project Management Division
Project Management Branch

Honorable Gabe Prescott
President
Lower Sioux Indian Community
P.O. Box 308
Morton, MN 56270

Dear President Prescott:

On August 31, 2010, a meeting was held with representatives from the Sisseton-Wahpeton Oyate Tribe, the White Earth Band of Minnesota Chippewa, Bois Forte Band of Chippewa Indians, Leech Lake Band of Ojibwe, Yankton Sioux Tribe, the city of Fargo, North Dakota, and the St. Paul District of the U.S. Army Corps of Engineers regarding the Fargo-Moorhead Metropolitan Area Flood Risk Management Project. The intent of this letter is to provide you with a brief summary of that meeting and information on future consultation options. If you would like to be involved with future meetings regarding the Fargo-Moorhead Metropolitan Area Flood Risk Management Project, please let me know.

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Sincerely,

Michael J. Price
Colonel, Corps of Engineers
District Engineer

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1. Draft programmatic agreement
2. MN diversion alignment
3. ND diversion alignment

Copy furnished to:

Ms. Pamela Halverson
Tribal Historic Preservation Officer
Lower Sioux Indian Community
P.O. Box 308
Morton, MN 56270

DEPARTMENT OF THE ARMY
ST. PAUL DISTRICT, CORPS OF ENGINEERS
180 FIFTH STREET EAST, SUITE 700
ST. PAUL MN 55101-1678

OCT 7 2010

REPLY TO
ATTENTION OF

Programs and Project Management Division
Project Management Branch

Honorable Myra Pearson
Chairwoman
Spirit Lake Tribal Council
P.O. Box 359
Fort Totten, ND 58335

Dear Chairwoman Pearson:

On August 31, 2010, a meeting was held with representatives from the Sisseton-Wahpeton Oyate Tribe, the White Earth Band of Minnesota Chippewa, Bois Forte Band of Chippewa Indians, Leech Lake Band of Ojibwe, Yankton Sioux Tribe, the city of Fargo, North Dakota, and the St. Paul District of the U.S. Army Corps of Engineers regarding the Fargo-Moorhead Metropolitan Area Flood Risk Management Project. The intent of this letter is to provide you with a brief summary of that meeting and information on future consultation options. If you would like to be involved with future meetings regarding the Fargo-Moorhead Metropolitan Area Flood Risk Management Project, please let me know.

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Sincerely,

Michael L. Price
Colonel, Corps of Engineers
District Engineer

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1. Draft programmatic agreement
2. MN diversion alignment
3. ND diversion alignment

Copy furnished to:

Mr. Darrell E. Smith
Cultural Resource Officer
Spirit Lake Tribe
P.O. Box 359
Fort Totten, ND 58335

DEPARTMENT OF THE ARMY
ST. PAUL DISTRICT, CORPS OF ENGINEERS
180 FIFTH STREET EAST, SUITE 700
ST. PAUL MN 55101-1678

OCT 7 2010

REPLY TO ATTENTION OF

Programs and Project Management Division
Project Management Branch

Honorable Floyd Jourdain
Chairman
Red Lake Band of Chippewa Indians
P.O. Box 550
Red Lake, MN 56671

Dear Chairman Jourdain:

On August 31, 2010, a meeting was held with representatives from the Sisseton-Wahpeton Oyate Tribe, the White Earth Band of Minnesota Chippewa, Bois Forte Band of Chippewa Indians, Leech Lake Band of Ojibwe, Yankton Sioux Tribe, the city of Fargo, North Dakota, and the St. Paul District of the U.S. Army Corps of Engineers regarding the Fargo-Moorhead Metropolitan Area Flood Risk Management Project. The intent of this letter is to provide you with a brief summary of that meeting and information on future consultation options. If you would like to be involved with future meetings regarding the Fargo-Moorhead Metropolitan Area Flood Risk Management Project, please let me know.

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To keep you and your staff fully informed of the project, I have enclosed the most recent (July 2010) draft cultural resources programmatic agreement for the Fargo-Moorhead Metropolitan Area Flood Risk Management Project. As stated during the August 31 meeting and teleconference, a copy of the project's draft Feasibility Study and draft EIS is available at http://www.internationalwaterinstitute.org/feasiblity/index.htm.

Topographic maps and air photographs showing the Minnesota Short 35K (35,000-cubic-foot-per-second) diversion channel alignment (Federally Comparable Plan) and the North Dakota East 35K (35,000-cubic-foot-per-second) diversion channel alignment (Locally Preferred Plan) are also enclosed. The proposed diversion channel corridors are up to 2,200 feet wide, including the diversion channel, disposal areas and necessary levees. The North Dakota diversion channel would be approximately 36 miles long and the Minnesota diversion channel would be approximately 25 miles long. Both would be approximately 30 feet deep.

Again, the district recognizes the sovereign status of tribal governments and is committed to working with you on a government-to-government basis. If you have additional questions, need additional information or have additional suggestions on how the district and tribes can work together on the project, please call me at (651) 290-5300 or the project manager, Brett Coleman, at (651) 290-5452. Thank you again for your time and effort.

Sincerely,

Michael J. Price
Colonel, Corps of Engineers
District Engineer

3 Enclosures
1. Draft programmatic agreement
2. MN diversion alignment
3. ND diversion alignment

Copy furnished to:

Mr. Les Peterson
Archeologist/Environmental Specialist
Red Lake Band of Chippewa Indians
Tribal Engineering
P.O. Box 274
Red Lake, MN 56671

DEPARTMENT OF THE ARMY
ST. PAUL DISTRICT, CORPS OF ENGINEERS
180 FIFTH STREET EAST, SUITE 700
ST. PAUL MN 55101-1678

OCT 7 2010

REPLY TO ATTENTION OF

Programs and Project Management Division
Project Management Branch

Honorable Marcus D. Levings, Jr.
Chairman
Three Affiliated Tribal Business Council
Mandan, Hidatsa and Arikara Nation
404 Frontage Road
New Town, ND 58763

Dear Chairman Levings:

On August 31, 2010, a meeting was held with representatives from the Sisseton-Wahpeton Oyate Tribe, the White Earth Band of Minnesota Chippewa, Bois Forte Band of Chippewa Indians, Leech Lake Band of Ojibwe, Yankton Sioux Tribe, the city of Fargo, North Dakota, and the St. Paul District of the U.S. Army Corps of Engineers regarding the Fargo-Moorhead Metropolitan Area Flood Risk Management Project. The intent of this letter is to provide you with a brief summary of that meeting and information on future consultation options. If you would like to be involved with future meetings regarding the Fargo-Moorhead Metropolitan Area Flood Risk Management Project, please let me know.

The purpose of the meeting was to familiarize everyone with the project and initiate discussions about future tribal involvement. The St. Paul District is leading the planning process for this project, which, when complete, will provide flood risk reduction for the Fargo-Moorhead area. The district is committed to coordination and consultation with tribal governments during the planning and implementation of this important project.

During the meeting, the tribes attending indicated that they desired more involvement in the project, particularly by having input to the cultural resources programmatic agreement and by participating in the cultural resources surveys. Several ways to increase tribal involvement were discussed, including follow-up meetings and providing additional project information. The logistics of future meetings were discussed, including the possibility that the district provide travel per diem for future face-to-face meetings. The district is committed to working with federally recognized tribes; however, the district cannot pay travel per diem or expenses for tribal nations to attend consultation meetings with the district.

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Again, the district recognizes the sovereign status of tribal governments and is committed to working with you on a government-to-government basis. If you have additional questions, need additional information or have additional suggestions on how the district and tribes can work together on the project, please call me at (651) 290-5300 or the project manager, Brett Coleman, at (651) 290-5452. Thank you again for your time and effort.

Sincerely,

Michael J. Price
Colonel, Corps of Engineers
District Engineer

3 Enclosures
1. Draft programmatic agreement
2. MN diversion alignment
3. ND diversion alignment

Copy furnished to:

Mr. Perry Brady
Tribal Historic Preservation Officer
Three Affiliated Tribes
Mandan, Hidatsa and Arikara Nation
404 Frontage Road
New Town, ND 5863

DEPARTMENT OF THE ARMY
ST. PAUL DISTRICT, CORPS OF ENGINEERS
180 FIFTH STREET EAST, SUITE 700
ST. PAUL MN 55101-1678

OCT 7 2010

REPLY TO
ATTENTION OF

Programs and Project Management Division
Project Management Branch

Honorable Leroy Spang
President
Northern Cheyenne Tribal Council
P.O. Box 128
Lame Deer, MT 59043

Dear President Spang:

On August 31, 2010, a meeting was held with representatives from the Sisseton-Wahpeton Oyate Tribe, the White Earth Band of Minnesota Chippewa, Bois Forte Band of Chippewa Indians, Leech Lake Band of Ojibwe, Yankton Sioux Tribe, the city of Fargo, North Dakota, and the St. Paul District of the U.S. Army Corps of Engineers regarding the Fargo-Moorhead Metropolitan Area Flood Risk Management Project. The intent of this letter is to provide you with a brief summary of that meeting and information on future consultation options. If you would like to be involved with future meetings regarding the Fargo-Moorhead Metropolitan Area Flood Risk Management Project, please let me know.

The purpose of the meeting was to familiarize everyone with the project and initiate discussions about future tribal involvement. The St. Paul District is leading the planning process for this project, which, when complete, will provide flood risk reduction for the Fargo-Moorhead area. The district is committed to coordination and consultation with tribal governments during the planning and implementation of this important project.

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Sincerely,

Michael J. Price
Colonel, Corps of Engineers
District Engineer

3 Enclosures
1. Draft programmatic agreement
2. MN diversion alignment
3. ND diversion alignment

Copy furnished to:

Mr. Linwood Tallbull
Tribal Historic Preservation Officer
Northern Cheyenne Tribe
P.O. Box 128
Lame Deer, MT 59043

DEPARTMENT OF THE ARMY
ST. PAUL DISTRICT, CORPS OF ENGINEERS
180 FIFTH STREET EAST, SUITE 700
ST. PAUL MN 55101-1678

OCT 7 2010

REPLY TO
ATTENTION OF

Programs and Project Management Division
Project Management Branch

Honorable Charles W. Murphy
Chairman
Standing Rock Sioux Tribal Council
P.O. Box D
Fort Yates, ND 58538

Dear Chairman Murphy:

On August 31, 2010, a meeting was held with representatives from the Sisseton-Wahpeton Oyate Tribe, the White Earth Band of Minnesota Chippewa, Bois Forte Band of Chippewa Indians, Leech Lake Band of Ojibwe, Yankton Sioux Tribe, the city of Fargo, North Dakota, and the St. Paul District of the U.S. Army Corps of Engineers regarding the Fargo-Moorhead Metropolitan Area Flood Risk Management Project. The intent of this letter is to provide you with a brief summary of that meeting and information on future consultation options. If you would like to be involved with future meetings regarding the Fargo-Moorhead Metropolitan Area Flood Risk Management Project, please let me know.

The purpose of the meeting was to familiarize everyone with the project and initiate discussions about future tribal involvement. The St. Paul District is leading the planning process for this project, which, when complete, will provide flood risk reduction for the Fargo-Moorhead area. The district is committed to coordination and consultation with tribal governments during the planning and implementation of this important project.

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Again, the district recognizes the sovereign status of tribal governments and is committed to working with you on a government-to-government basis. If you have additional questions, need additional information or have additional suggestions on how the district and tribes can work together on the project, please call me at (651) 290-5300 or the project manager, Brett Coleman, at (651) 290-5452. Thank you again for your time and effort.

Sincerely,

Michael J. Price
Colonel, Corps of Engineers
District Engineer

3 Enclosures
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2. MN diversion alignment
3. ND diversion alignment

Copy furnished to:

Mr. Tim Mentz
Tribal Historic Preservation Officer
Standing Rock Sioux Tribe
P.O. Box D
Fort Yates, ND 58538

DEPARTMENT OF THE ARMY
ST. PAUL DISTRICT, CORPS OF ENGINEERS
180 FIFTH STREET EAST, SUITE 700
ST. PAUL MN 55101-1678

OCT 7 2010

REPLY TO
ATTENTION OF

Programs and Project Management Division
Project Management Branch

Honorable A.T. "Rusty" Stafne
Chairman
Fort Peck Tribal Executive Board
P.O. Box 1027
Poplar, MT 59255

Dear Chairman Stafne:

On August 31, 2010, a meeting was held with representatives from the Sisseton-Wahpeton Oyate Tribe, the White Earth Band of Minnesota Chippewa, Bois Forte Band of Chippewa Indians, Leech Lake Band of Ojibwe, Yankton Sioux Tribe, the city of Fargo, North Dakota, and the St. Paul District of the U.S. Army Corps of Engineers regarding the Fargo-Moorhead Metropolitan Area Flood Risk Management Project. The intent of this letter is to provide you with a brief summary of that meeting and information on future consultation options. If you would like to be involved with future meetings regarding the Fargo-Moorhead Metropolitan Area Flood Risk Management Project, please let me know.

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Sincerely,

Michael J. Price
Colonel, Corps of Engineers
District Engineer

3 Enclosures
1. Draft programmatic agreement
2. MN diversion alignment
3. ND diversion alignment

Copy furnished to:

Mr. Curley Youpee
Director, Cultural Resources Department
Assiniboine and Sioux Tribes of the
Fort Peck Indian Reservation
P.O. Box 1027
Poplar, MT 59255

**PROGRAMMATIC AGREEMENT
AMONG THE U.S. ARMY CORPS OF ENGINEERS, ST. PAUL DISTRICT,
THE NORTH DAKOTA STATE HISTORIC PRESERVATION OFFICER, AND
THE MINNESOTA STATE HISTORIC PRESERVATION OFFICER
REGARDING
THE FARGO-MOORHEAD METRO FLOOD RISK MANAGEMENT PROJECT,
CASS COUNTY, NORTH DAKOTA AND CLAY COUNTY, MINNESOTA**

Draft – July 2010

WHEREAS, the St. Paul District, U.S. Army Corps of Engineers (Corps) is conducting a feasibility study of flood risk management measures for the cities of Fargo, Cass County, North Dakota and Moorhead, Clay County, Minnesota; and

WHEREAS, the Corps is considering the following flood risk management measures for the Fargo Moorhead metropolitan area and adjacent county areas (Figures 1 and 2): (1) Diversion channel on the east (Minnesota) side of the Red River of the North capable of passing 20,000 cfs [tentative National Economic Development (NED) Plan alternative] and (2) Diversion channel on the west (North Dakota) side of the Red River of the North capable of passing 35,000 cfs [Locally Preferred Plan alternative].

WHEREAS, the necessary cultural resources investigations, evaluations, and coordination for compliance with Section 106 of the National Historic Preservation Act of 1966, as amended, cannot be completed by the Corps or its agent prior to starting the design stage of the Fargo-Moorhead Metropolitan Flood Risk Management Project (Project); and

WHEREAS, the Corps has established the Project's Area of Potential Effects (APE), as required by 36 CFR § 800.4(a)(1) and defined in section 800.16(d), as consisting of the footprint of the selected diversion plan including the diversion channel alignment, its associated tieback levee, and associated Red River and Wild Rice River breakout channels (Minnesota diversion alternative only), plus associated construction work areas, staging areas, borrow areas, and disposal areas, and the viewshed to one-half mile from the diversion channel's, breakout channels', and tieback levee's centerlines; and

WHEREAS, the Corps has determined that the Project may have effects on historic properties within the APE and has consulted with the Advisory Council on Historic Preservation (Advisory Council) pursuant to section 800.2(b) of the regulations (36 CFR Part 800) implementing Section 106 of the National Historic Preservation Act (16 U.S.C. § 470f), and the Advisory Council has declined to participate in the Programmatic Agreement for this Project; and

WHEREAS, the City of Fargo, North Dakota, and the City of Moorhead, Minnesota (Cities), as the non-Federal sponsors for the Project, have participated in consultation on the Project's flood risk management measures and have been invited to concur in this Programmatic Agreement as consulting parties; and

WHEREAS, Cass County in North Dakota and Clay County in Minnesota are also interested parties and have been invited to participate in consultation on the Project's flood risk management measures and to concur in this Programmatic Agreement as consulting parties; and

WHEREAS, the Corps' St. Paul District Engineer initially contacted the chairman or chairwoman of the Sisseton-Wahpeton Oyate, the White Earth Band of Minnesota Chippewa, the Leech Lake Band of Ojibwe, the Turtle Mountain Band of Chippewa, the Upper Sioux Community of Minnesota, the Lower Sioux Indian Community, the Spirit Lake Tribe, and the Red Lake Band of Chippewa Indians, by letter dated April 8, 2009, to determine these tribes' interest in the Project, particularly regarding potential Project effects on properties important to their history, culture, or religion, including traditional cultural properties, and the Corps will continue consultation with any of these tribes interested in this Project; and

WHEREAS, the Leech Lake Band of Ojibwe's Tribal Historic Preservation Officer responded on May 1, 2009, that there were no sites of concern to the Leech Lake Band in the Project area, and no other tribes have responded to date; and

WHEREAS, the general public's opinions and comments on the Project and its alternative alignments have been and will be solicited through public meetings, including those held to comply with the National Environmental Policy Act (NEPA);

NOW THEREFORE, the Corps, the North Dakota State Historic Preservation Officer (SHPO), and the Minnesota State Historic Preservation Officer agree that upon filing this Programmatic Agreement (PA) with the Advisory Council on Historic Preservation, the Corps will implement the following stipulations in order to comply with Section 106 of the National Historic Preservation Act, as amended, with respect to the Project.

STIPULATIONS

The Corps will ensure that the following measures are carried out prior to the start of construction on Project flood risk management features at the cities of Fargo, North Dakota, and Moorhead, Minnesota:

A. The Corps will ensure that archeologists, historians, and architectural historians meeting the Secretary of the Interior's professional qualification standards (given in Appendix A of 36 CFR Part 61) will conduct or directly supervise all cultural resources identification, evaluation, and mitigation related to this Project, to include archeological surveys and testing, historic structure inventories and evaluation, and data recovery and documentation mitigation, and be permitted in North Dakota pursuant to NDCC 55-03-01 and in Minnesota pursuant to Minnesota Statutes 138.31 to 138.42.

B. Literature and Records Search – Prior to conducting any fieldwork, the Corps or its contractors or the Cities' contractors shall at a minimum consult the site files, previous survey reports, and other documents at the Historic Preservation Division of the State Historical Society of North Dakota at Bismarck and at the State Historic Preservation Office at the Minnesota

Historical Society in St. Paul, for information on previously recorded cultural resources sites, site leads, and previously surveyed areas in the Project's APE.

C. Phase I Cultural Resources Investigation – The Corps or its contractors or the Cities' contractors will conduct a Phase I survey of all previously uninventoried project areas in order to locate any cultural resources (prehistoric, historic, and architectural) within the Project's APE. The cultural resources investigation will be an intensive, on-the-ground study of the area sufficient to determine the number and extent of the resources present and their relationships to Project features. The archeological investigations will take into account the unique geomorphology of the Red River Valley, and the potential for deeply buried soils.

D. Phase II Testing and Evaluation – The Corps or its contractors or the Cities' contractors will evaluate the National Register of Historic Places eligibility of all cultural resources sites or structures over 50 years old located within the APE. Evaluation shall include intensive testing to determine the information potential of prehistoric and historic archeological sites and archival research for historic archeological and architectural sites. The Corps will request the concurrence of the North Dakota SHPO or Minnesota SHPO, whichever is applicable, in determining each such site or structure's eligibility or non-eligibility to the National Register.

E. Phase III Mitigation – The Corps will avoid or minimize Project-related adverse effects to historic properties (National Register of Historic Places-listed or eligible sites, structures, buildings, districts, or objects) to the extent practicable. Where adverse effects due to the Project are not avoidable, the Corps will coordinate a data recovery or mitigation plan with the North Dakota and/or Minnesota SHPO and the other consulting parties, any affected Indian tribes, and other interested parties, as applicable, to mitigate the adverse effects. The Corps or its contractor or the Cities' contractor will then implement the data recovery or mitigation plan, which will be completed prior to the start of Project construction in that area. Mitigation will specifically address Project-related adverse effects on the integrity and characteristics of a historic property which make it eligible to the National Register.

F. Burials – If any human burials are encountered during the cultural resources field work or Project construction, the Corps and its contractors and the Cities' contractors will comply with the Native American Graves Protection and Repatriation Act (NAGPRA) for federal or tribal lands, or with North Dakota Century Code Section 23-06-27, "Protection of Human Burial Sites, Human Remains, and Burial Goods," and North Dakota Administrative Code Chapter 40-02-03, "Protection of Prehistoric and Historic Human Burial Sites, Human Remains, and Burial Goods," for all other lands in North Dakota, or with Minnesota Statutes Section 307.08, Minnesota Private Cemeteries Act, for all other lands in Minnesota, whichever is applicable.

G. Traditional Cultural Properties – The Corps will consult and coordinate with the Sisseton-Wahpeton Oyate, the White Earth Band of Minnesota Chippewa, the Turtle Mountain Band of Chippewa, the Upper Sioux Community of Minnesota, the Lower Sioux Indian Community, the Spirit Lake Tribe, and the Red Lake Band of Chippewa Indians to identify sites of traditional religious or cultural importance to the tribe or their members within the Project area. Such sites shall be avoided or adverse effects to them minimized to the extent practicable and the remaining

effects mitigated per a plan developed between the Corps, the applicable SHPO, and the affected tribe(s).

H. Curation – The Corps or its contractors or the Cities' contractors shall ensure that all materials and records resulting from the survey, evaluation, and data recovery or mitigation conducted for the Project will be curated in accordance with 36 CFR Part 79, "Curation of Federally-Owned and Administered Archeological Collections" at a facility within the state of North Dakota or the state of Minnesota, depending upon the location of the cultural resources fieldwork or site(s) being investigated, unless the private landowner wishes to retain ownership of artifacts recovered from his/her land.

ADMINISTRATIVE PROCEDURES

I. Dispute Resolution – Should the North Dakota SHPO, the Minnesota SHPO, an Indian tribe, or other consulting party object to any plans, documents, or reports prepared under the terms of this PA within 30 days after receipt, the Corps shall consult with the party to resolve the objection. If the Corps determines that the objection cannot be resolved, the Corps shall forward all documentation relevant to the dispute to the Advisory Council. Any recommendation or comment provided by the Advisory Council will be understood to pertain only to the subject of the dispute. The Corps' responsibility to carry out all actions under this PA that are not the subject of the dispute will remain unchanged.

J. Amendments – Any party to this PA may request that it be amended, whereupon the parties will consult to consider such amendment. The PA may only be amended with the written concurrence of all parties who have signed the PA.

K. Termination – Any signatory party to this PA may terminate it by providing thirty (30) days notice to the other parties, provided that the parties will consult during the period prior to termination to seek agreement on amendments or other actions that would avoid termination. In the event of termination, the Corps will coordinate with the Advisory Council in order to fulfill its compliance obligation under the National Historic Preservation Act.

L. Anti-Deficiency Provision – All obligations on the part of the Corps under this PA shall be subject to and dependent upon the appropriation and allocation of funds to the St. Paul District for such purposes.

M. Sunset Clause – This PA will continue in full force and effect for ten (10) years and all terms of the PA are met, unless the Project is terminated or authorization is rescinded.

Execution and implementation of this Programmatic Agreement evidences that the Corps has satisfied its Section 106 responsibilities for all aspects of this undertaking.

ST. PAUL DISTRICT, U.S. ARMY CORPS OF ENGINEERS

BY: _____ Date: _____
COL. Michael J. Price, District Engineer

NORTH DAKOTA STATE HISTORIC PRESERVATION OFFICER

BY: _____ Date: _____
Merlan E. Paaverud, Jr., State Historic Preservation Officer

MINNESOTA STATE HISTORIC PRESERVATION OFFICER

BY: _____ Date: _____
Britta Bloomberg, Deputy State Historic Preservation Officer

Concur:

CITY OF FARGO

BY: _____ Date: _____
Dennis Walaker, Mayor

CITY OF MOORHEAD

BY: _____ Date: _____
Mark Voxland, Mayor

CASS COUNTY BOARD OF COMMISSIONERS

BY: _____ Date: _____
Darrell Vanyo, Chairman

Programmatic Agreement
Fargo-Moorhead Metro Flood Risk Management Project
Page 6

CLAY COUNTY BOARD OF COMMISSIONERS

BY: _____ Date: _____
Kevin Campbell, Chairman

Programmatic Agreement
Fargo-Moorhead Metro Flood Risk Management Project
Page 7

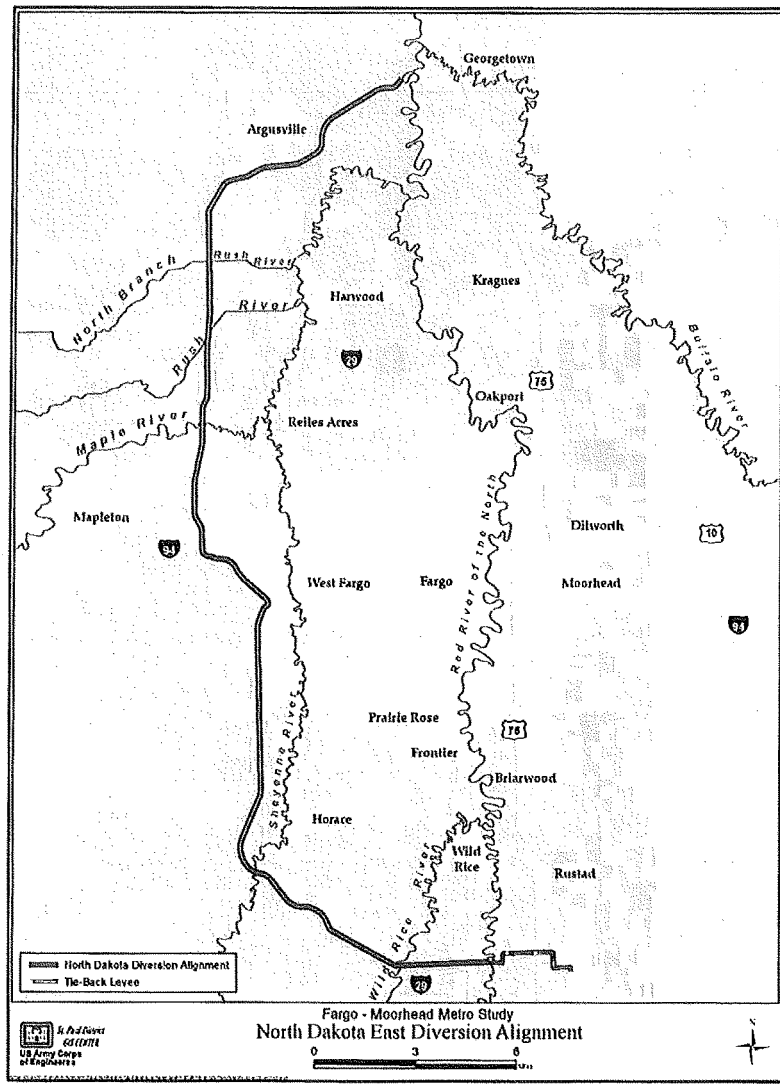


Figure 1. North Dakota diversion alignment.

Programmatic Agreement
Fargo-Moorhead Metro Flood Risk Management Project
Page 8

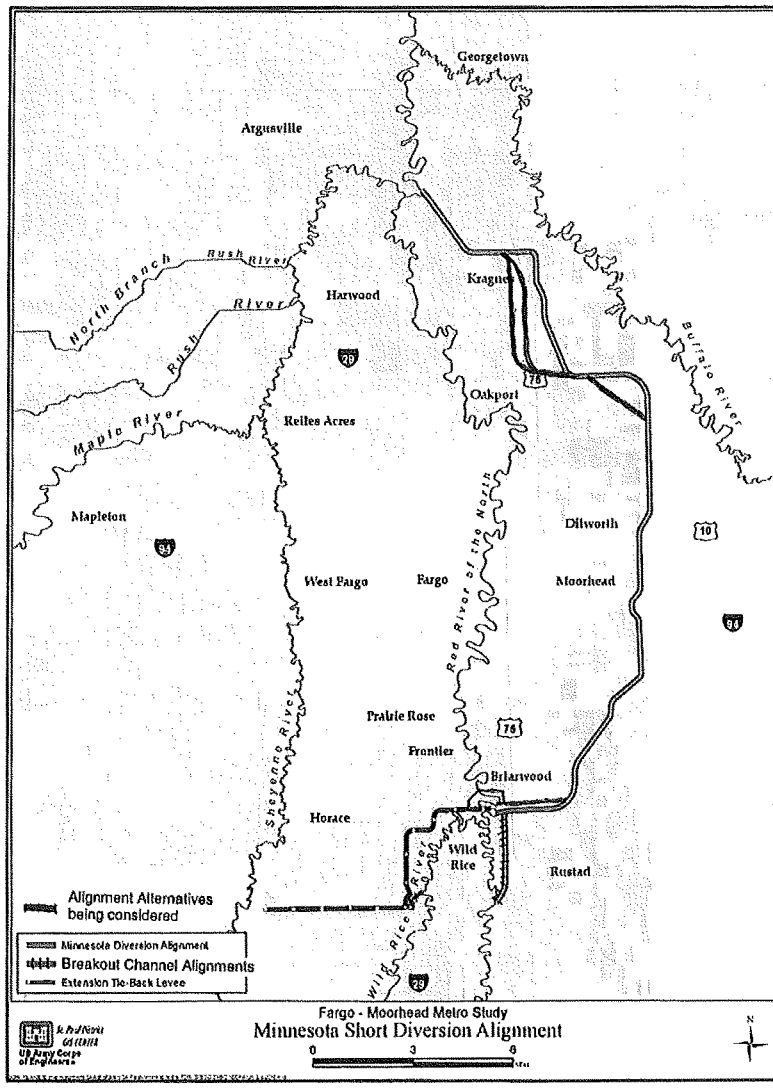


Figure 2. Minnesota diversion alignment.

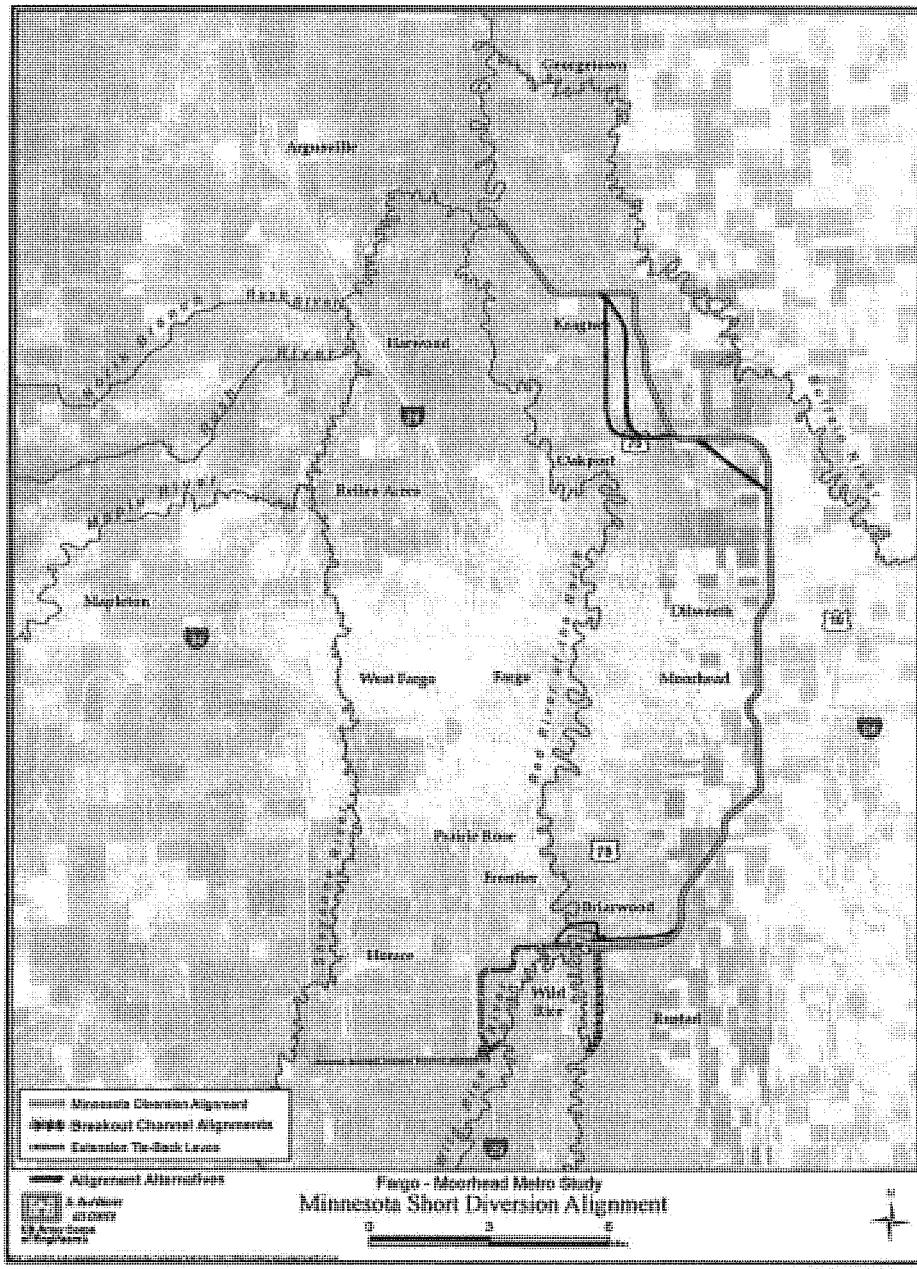


Figure 1. Minnesota Diversion Alignment and associated features.

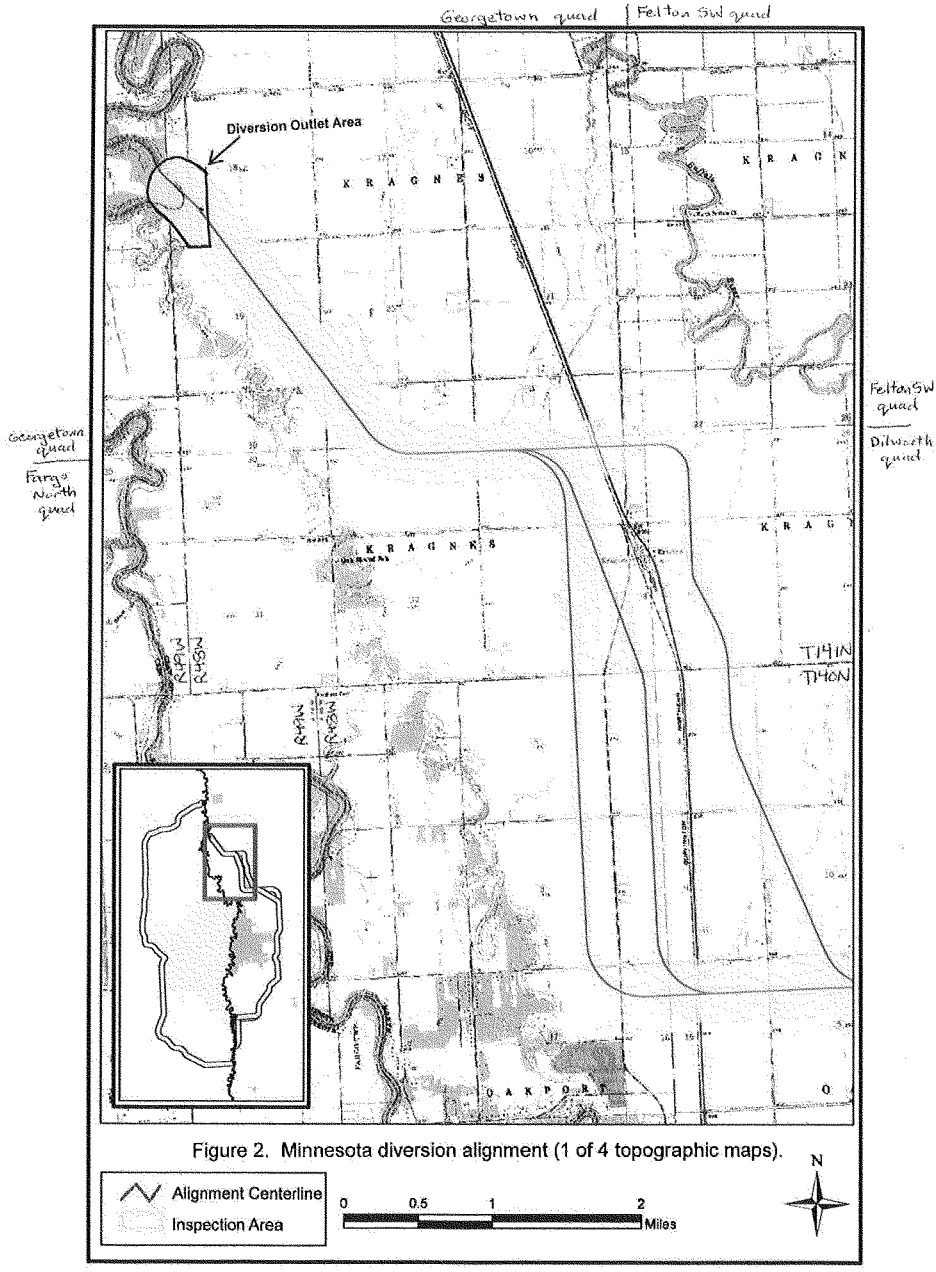


Figure 2. Minnesota diversion alignment (1 of 4 topographic maps).

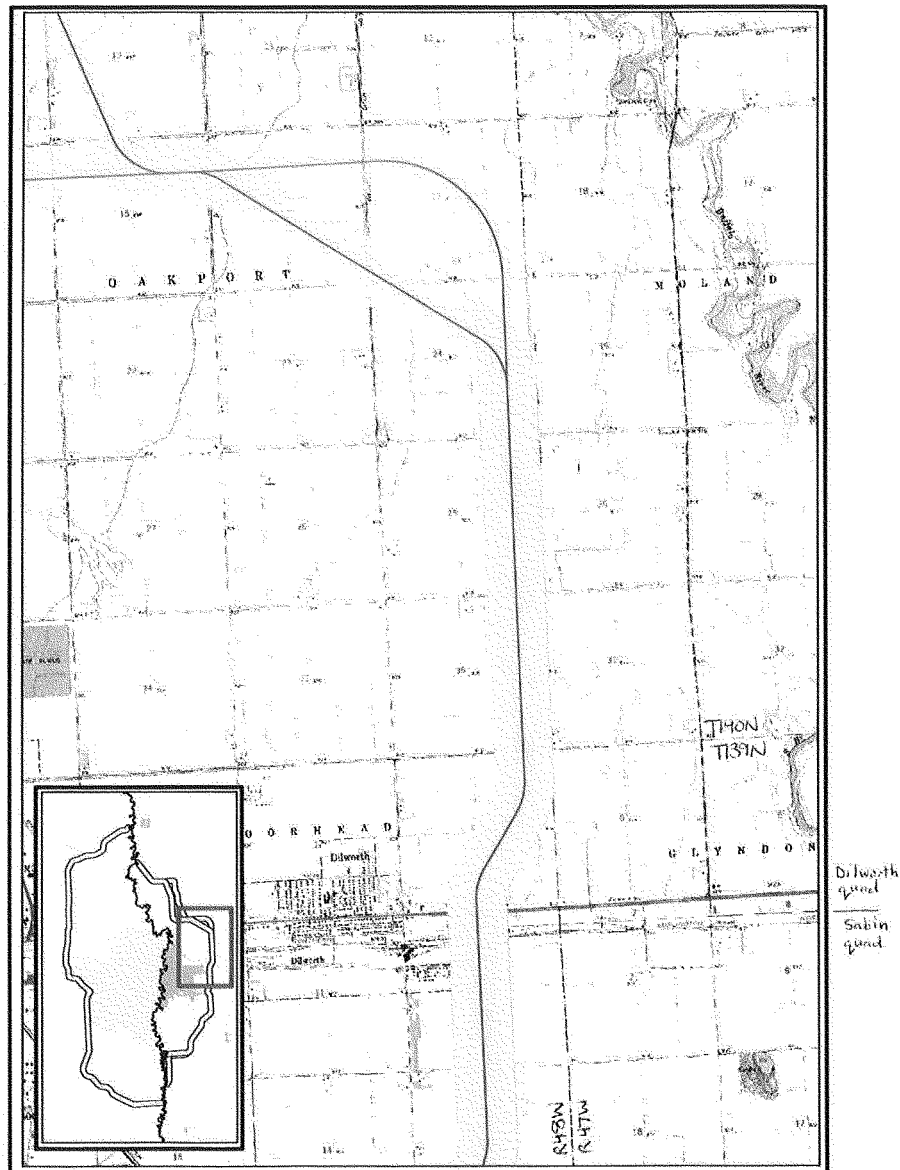


Figure 3. Minnesota diversion alignment (2 of 4 topographic maps).

Alignment Centerline
Inspection Area

0 0.5 1 2 Miles

N

Fargo South quad | Sabin quad

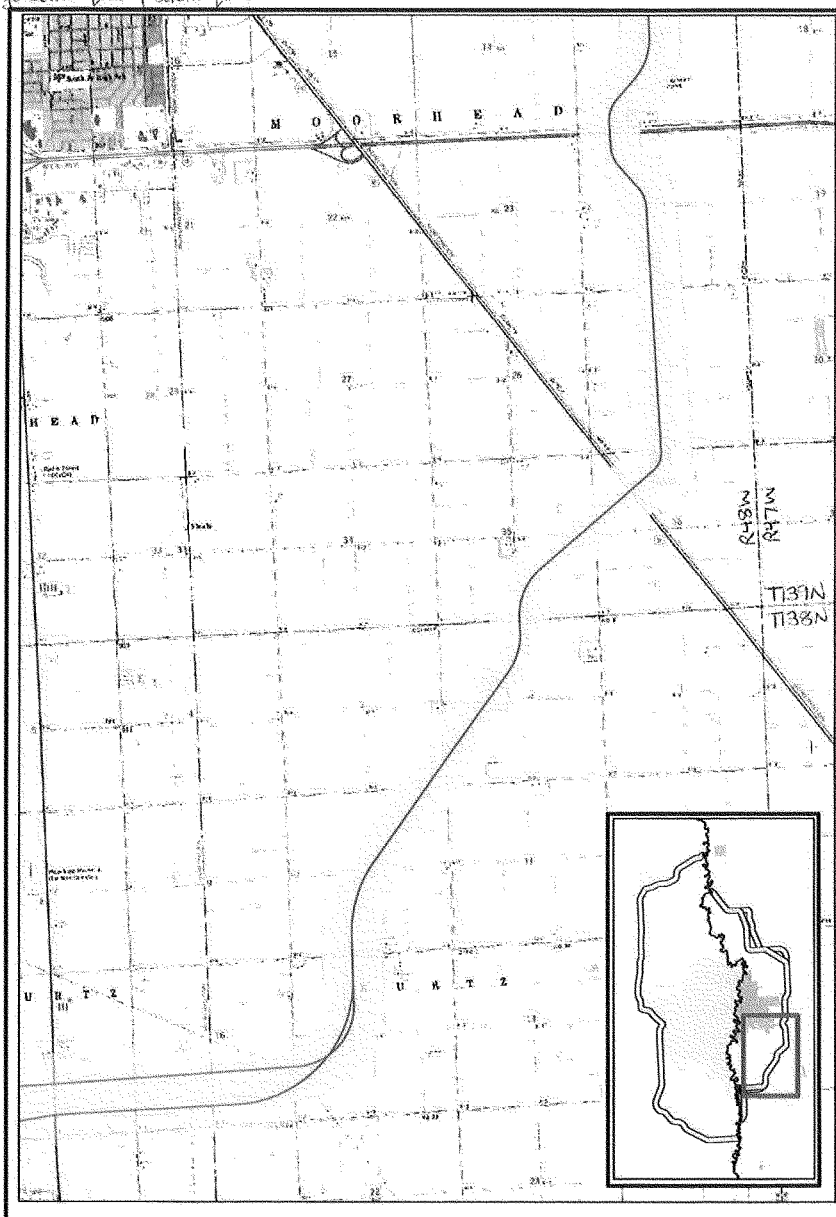


Figure 4. Minnesota diversion alignment (3 of 4 topographic maps).

Alignment Centerline
Inspection Area

0 0.5 1 2 Miles

N

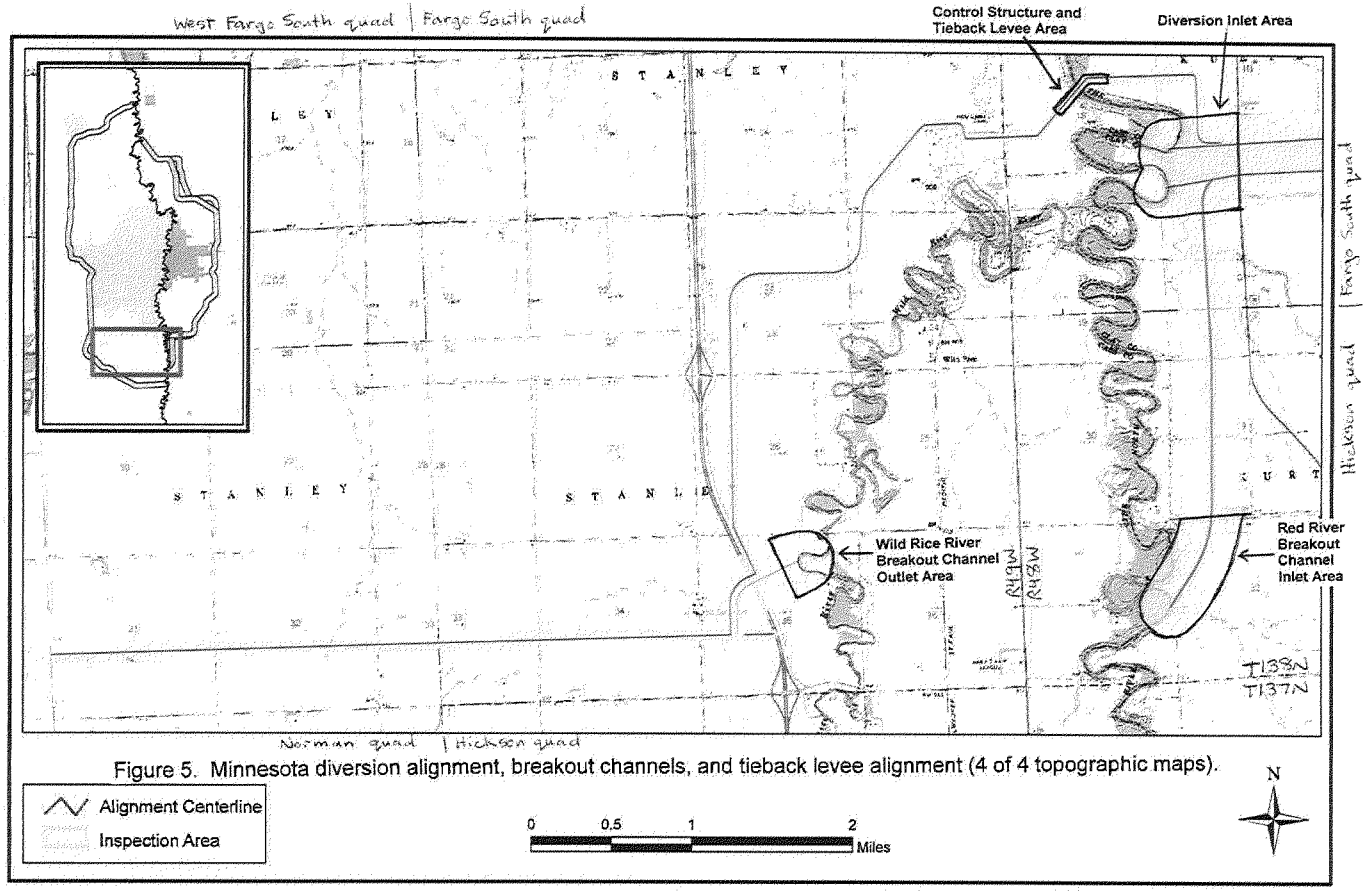


Figure 5. Minnesota diversion alignment, breakout channels, and tieback levee alignment (4 of 4 topographic maps).

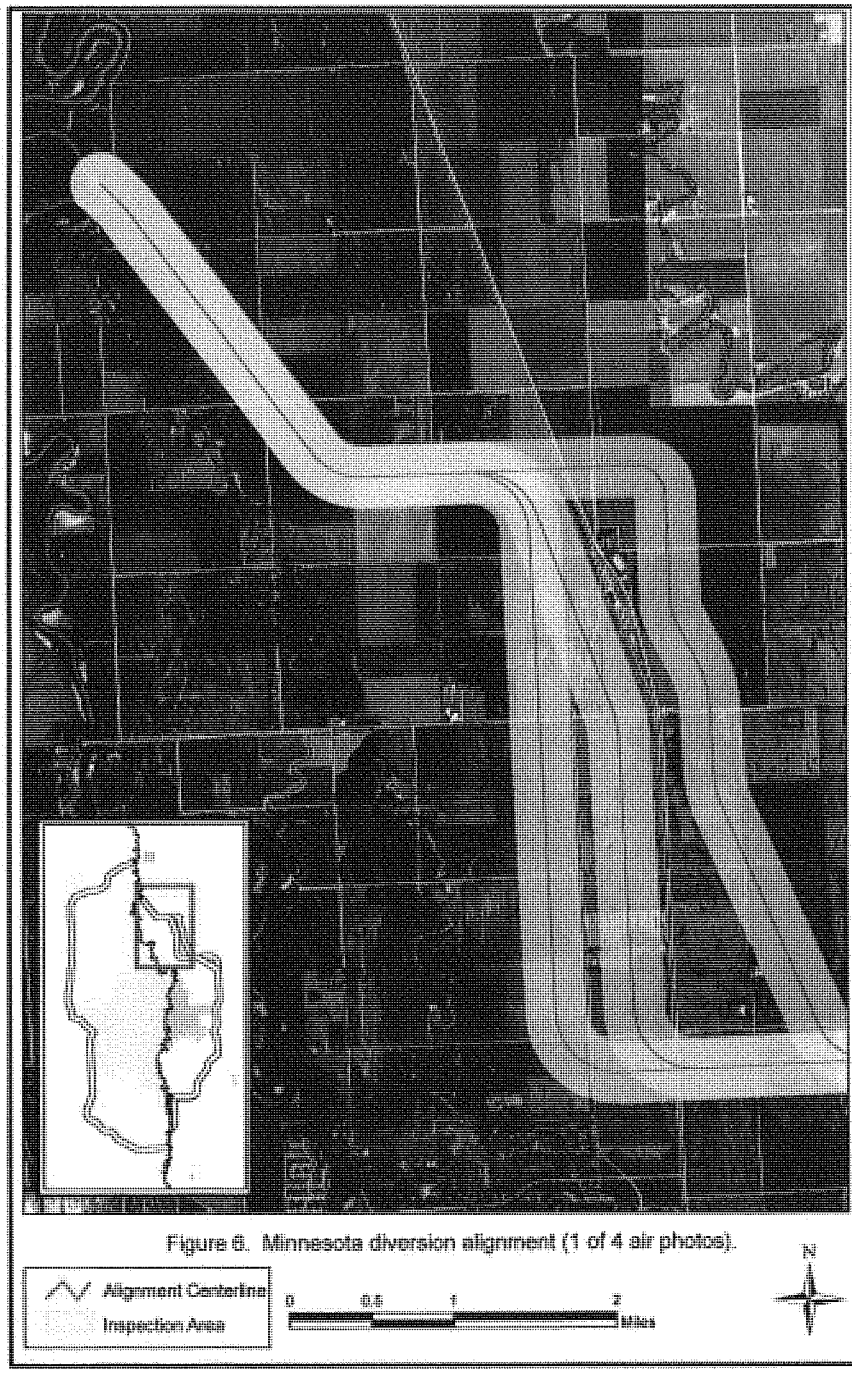


Figure 6. Minnesota diversion alignment (1 of 4 air photos).

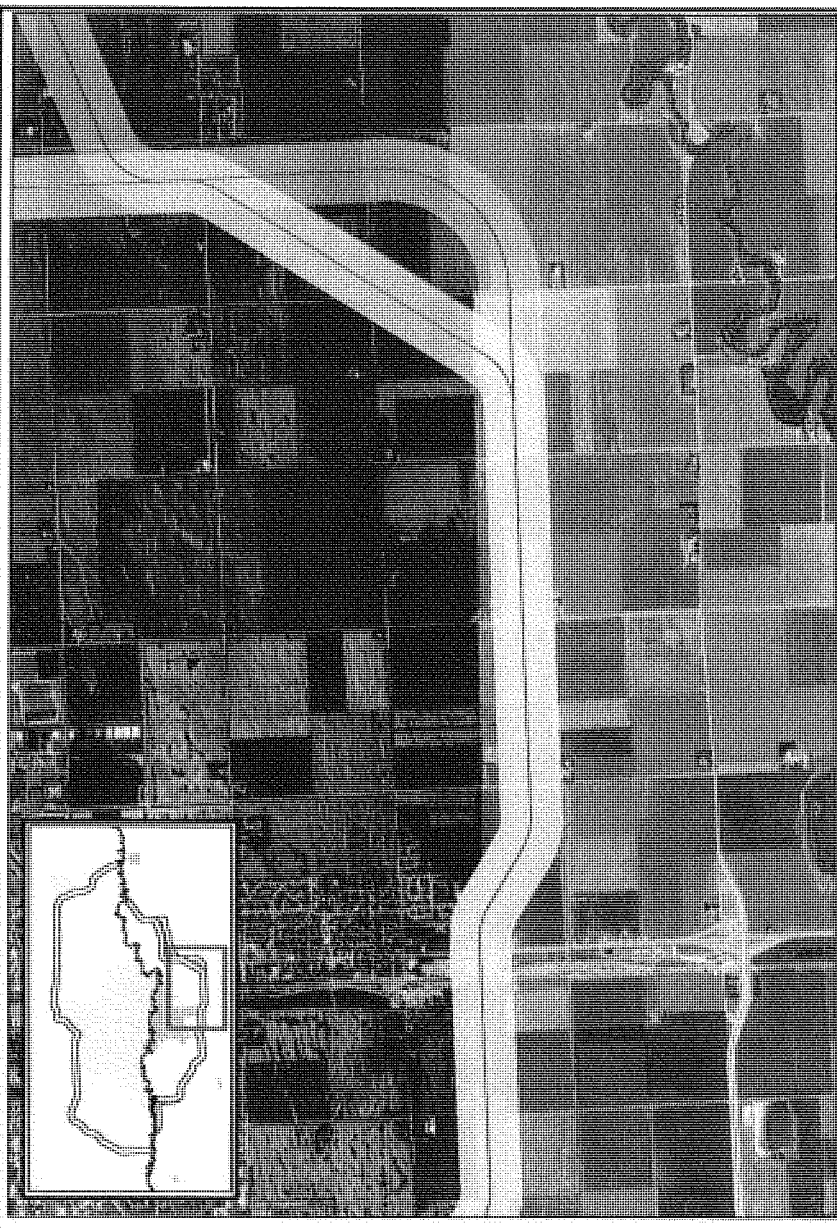


Figure 7. Minnesota diversion alignment (2 of 4 air photos).

Alignment Centerline
Inspection Area
0 0.5 1 2 Miles
N

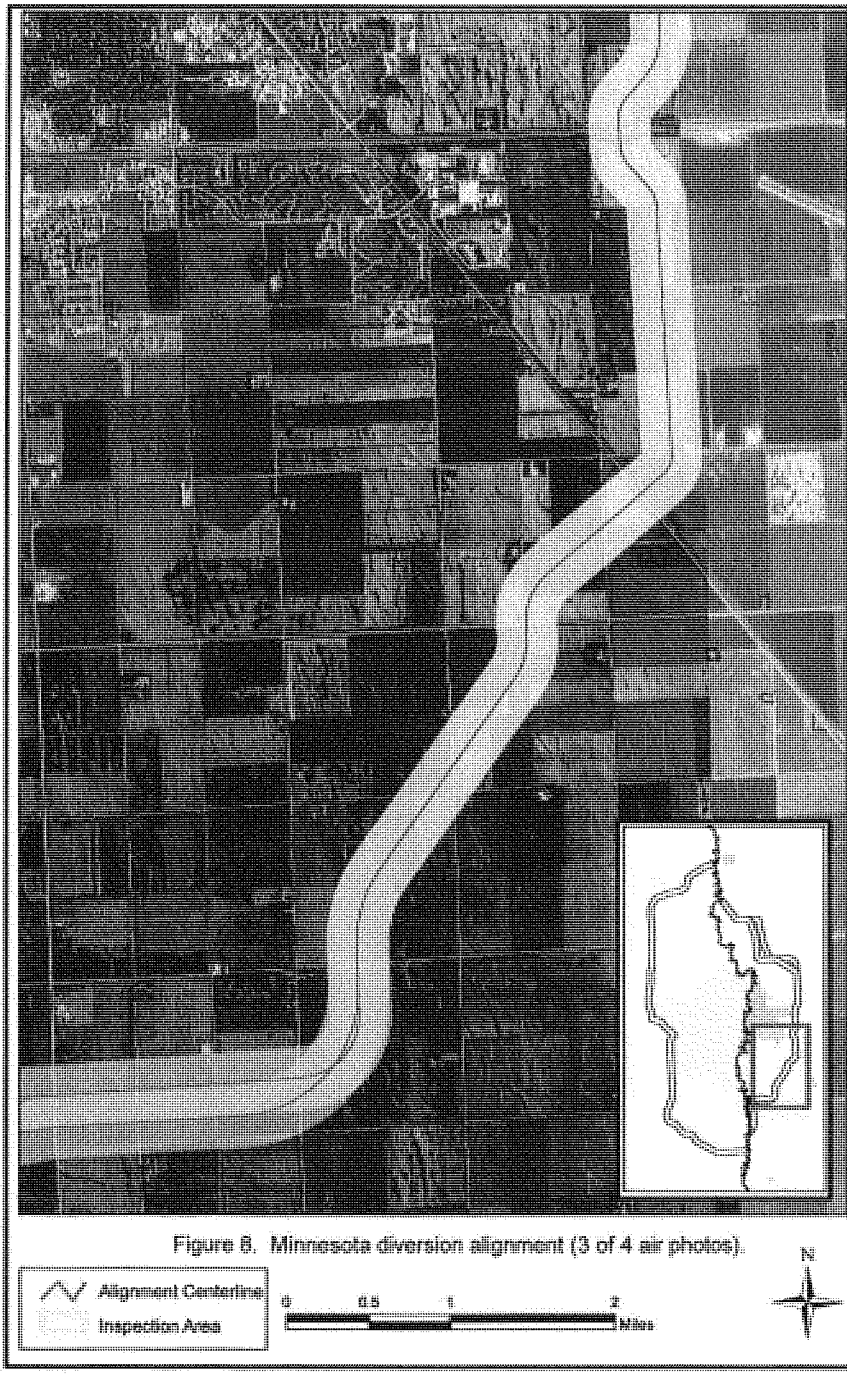


Figure 8. Minnesota diversion alignment (3 of 4 air photos).

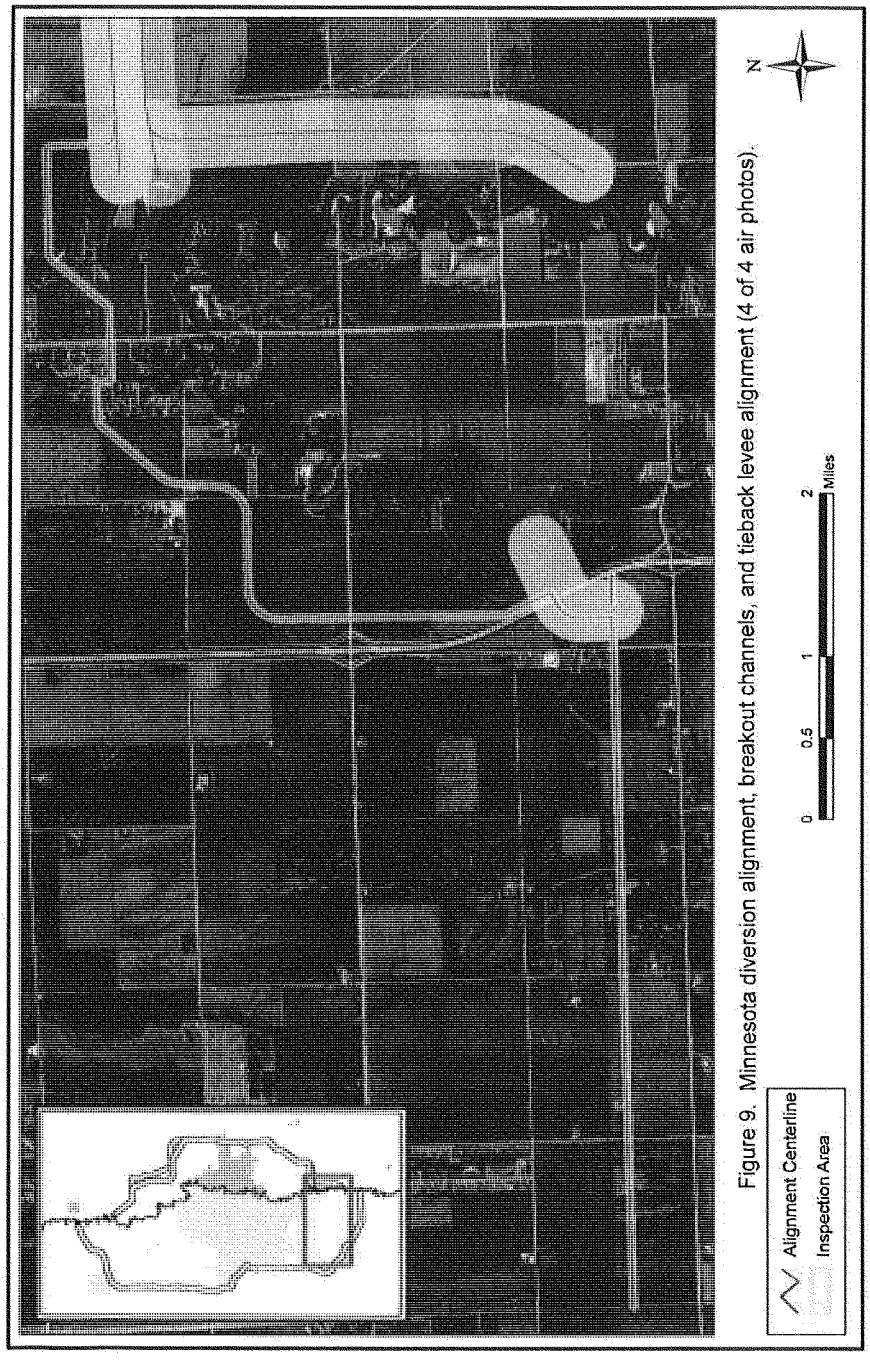


Figure 9. Minnesota diversion alignment, breakout channels, and tieback levee alignment (4 of 4 air photos).

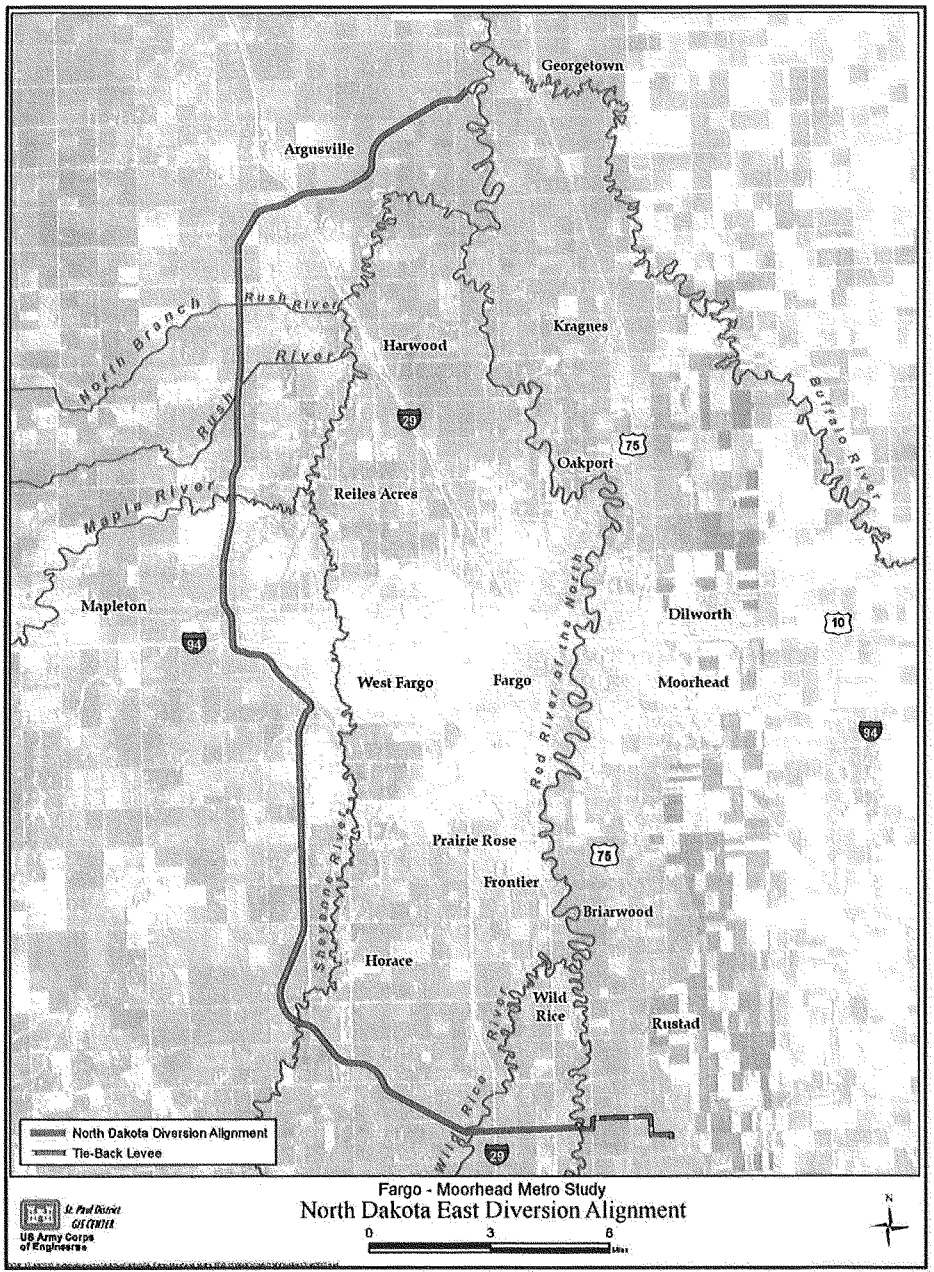


Figure 1. North Dakota Diversion Alignment and associated tieback levee.

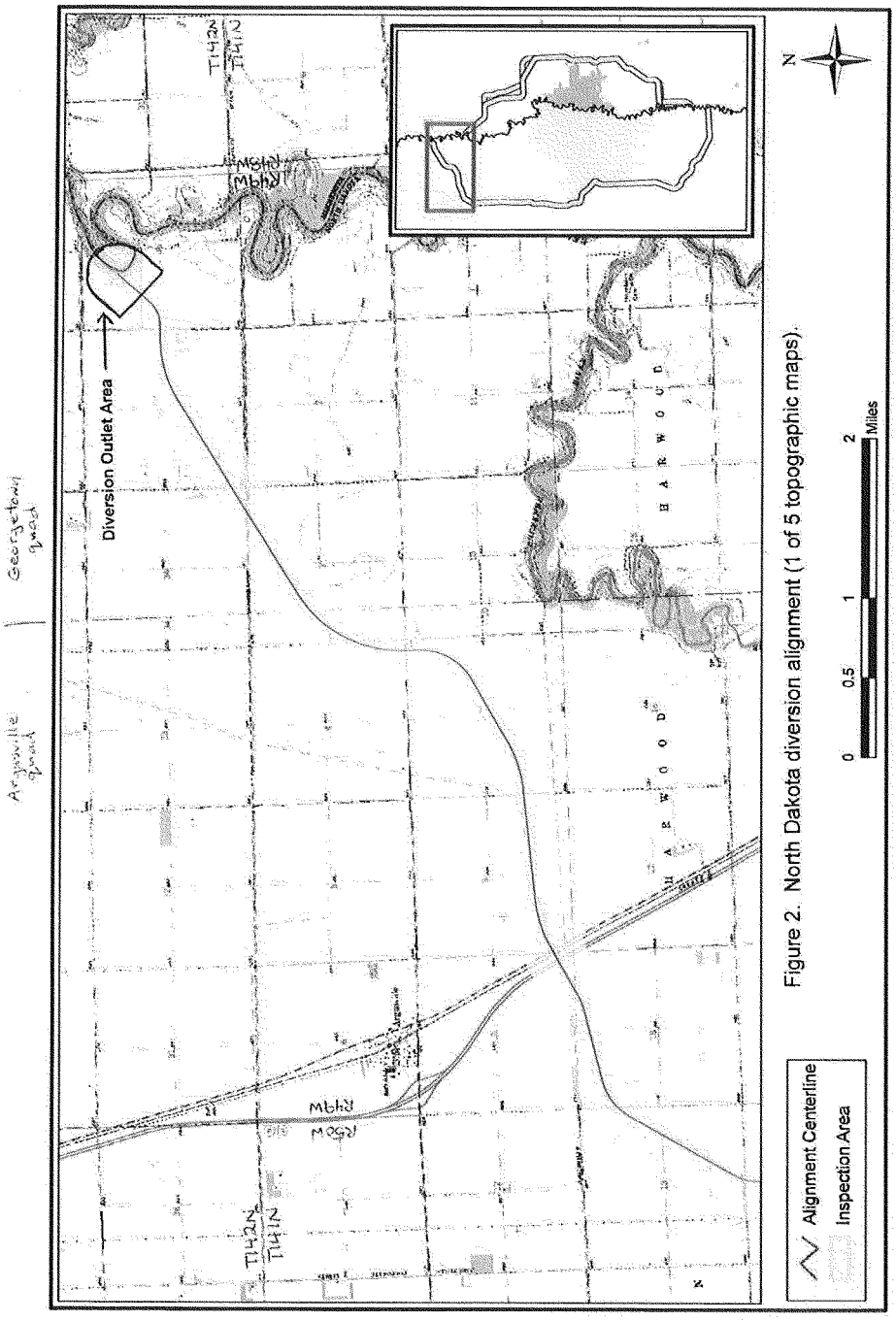


Figure 2. North Dakota diversion alignment (1 of 5 topographic maps).

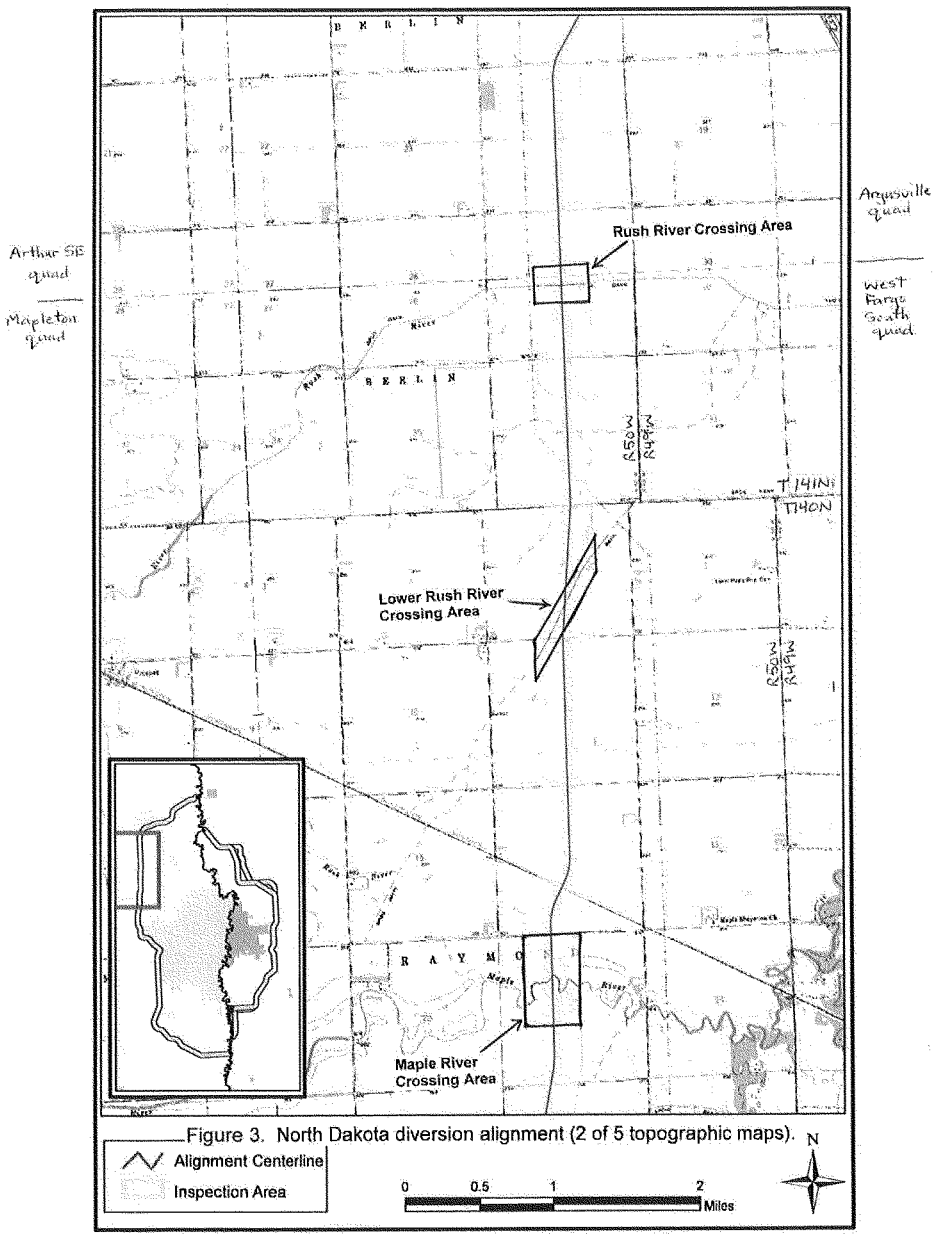


Figure 3. North Dakota diversion alignment (2 of 5 topographic maps).

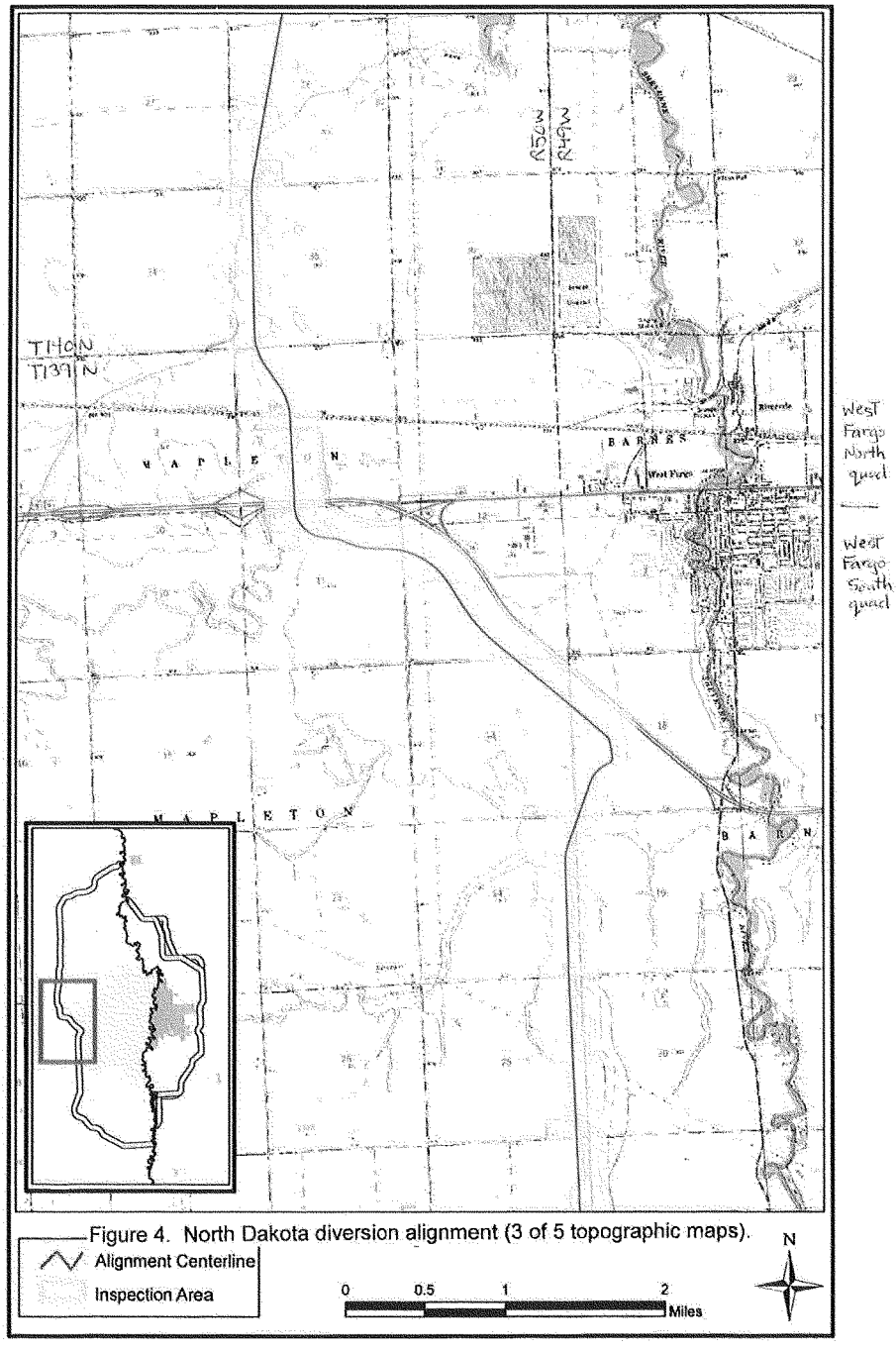


Figure 4. North Dakota diversion alignment (3 of 5 topographic maps).

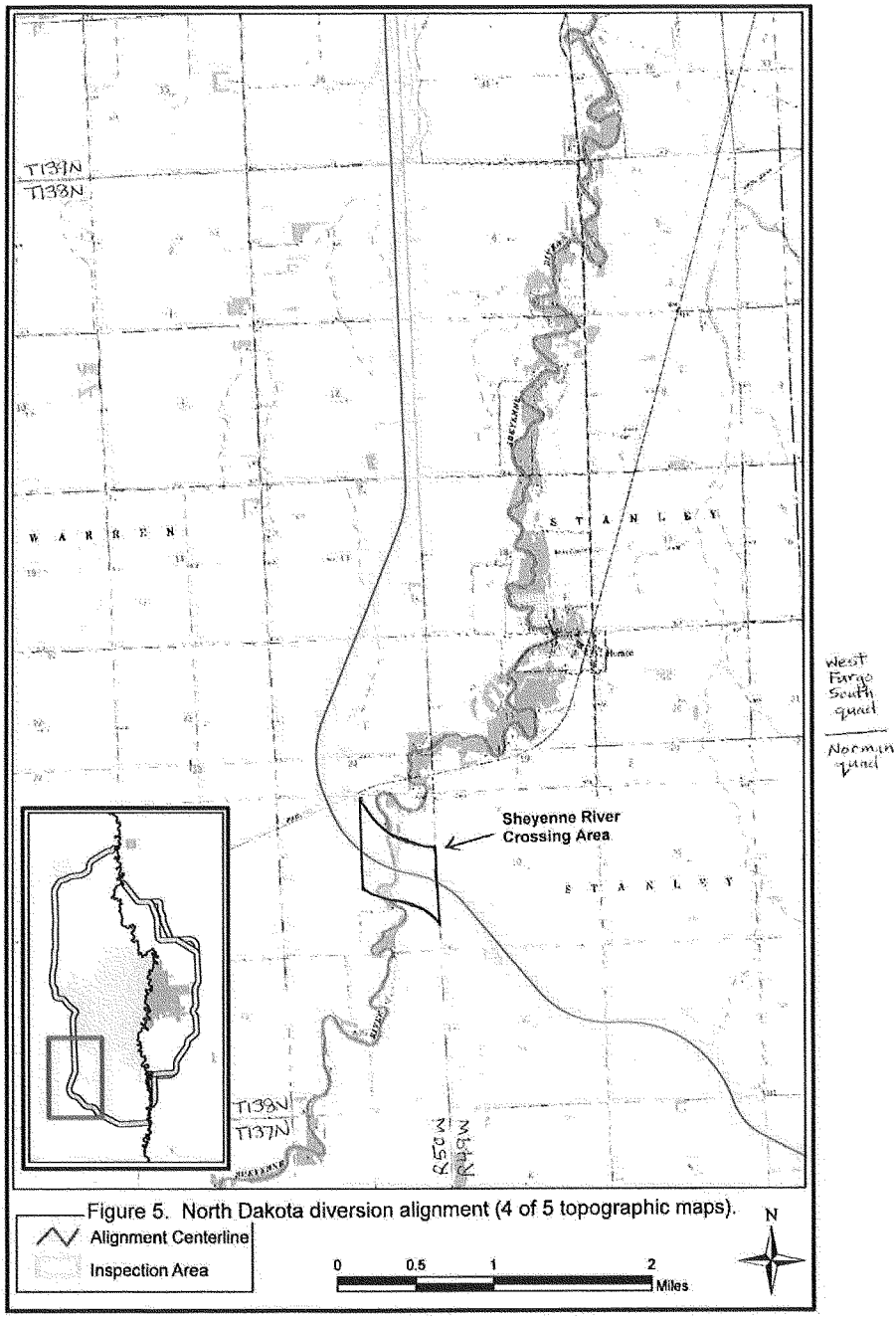


Figure 5. North Dakota diversion alignment (4 of 5 topographic maps).

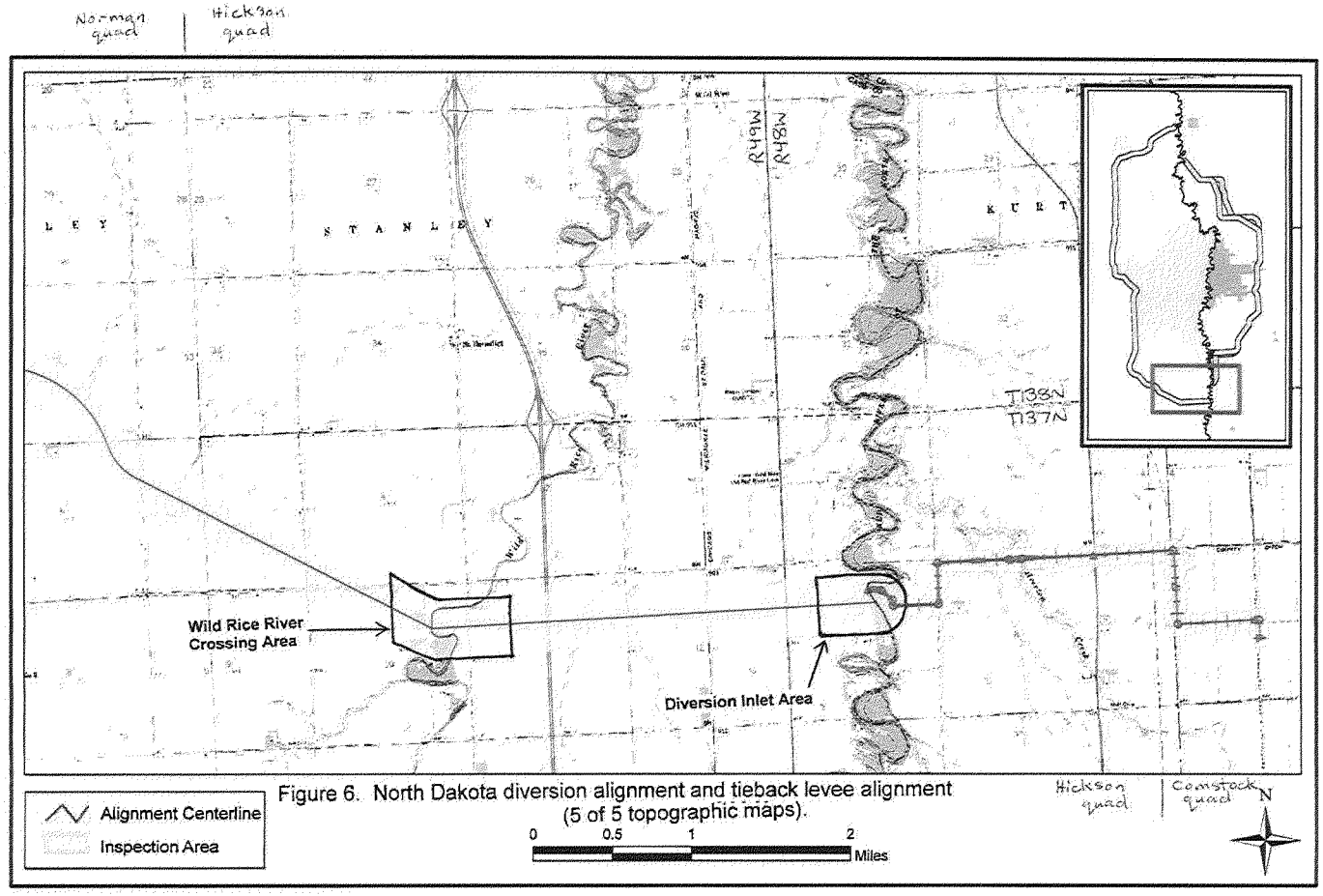


Figure 6. North Dakota diversion alignment and tieback levee alignment (5 of 5 topographic maps).

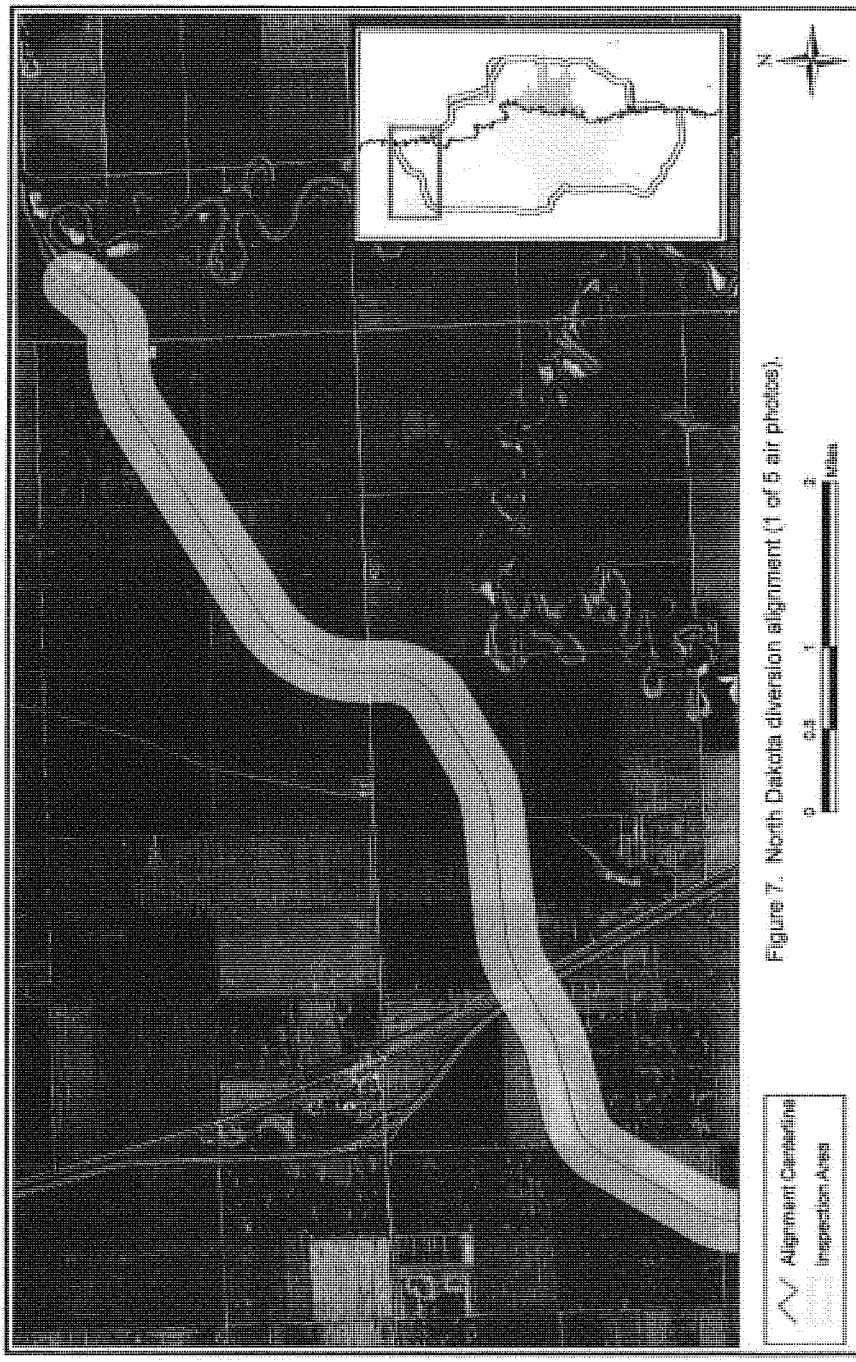


Figure 7. North Dakota diversion alignment (1 of 5 air photos).

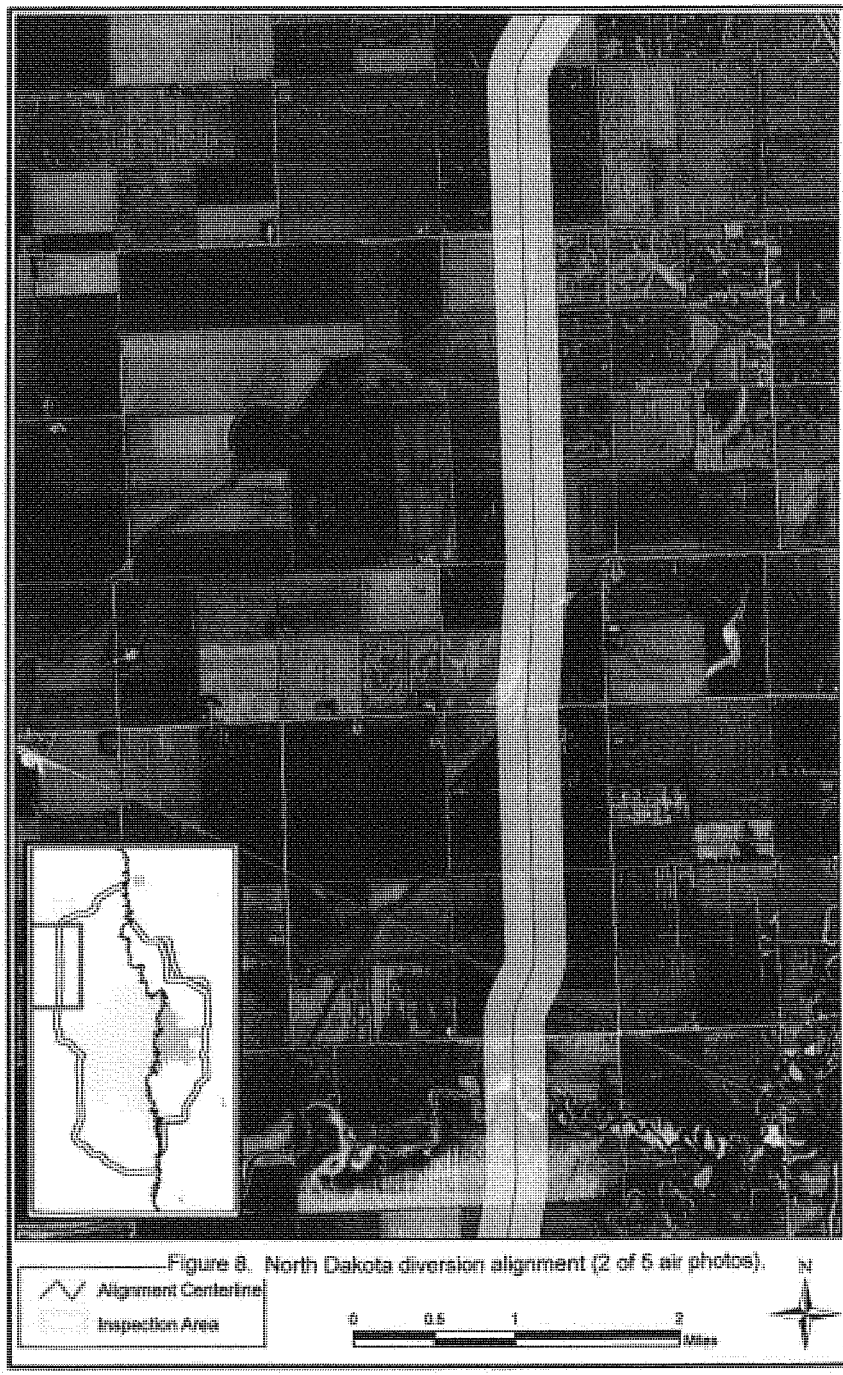


Figure 8. North Dakota diversion alignment (2 of 5 air photos).

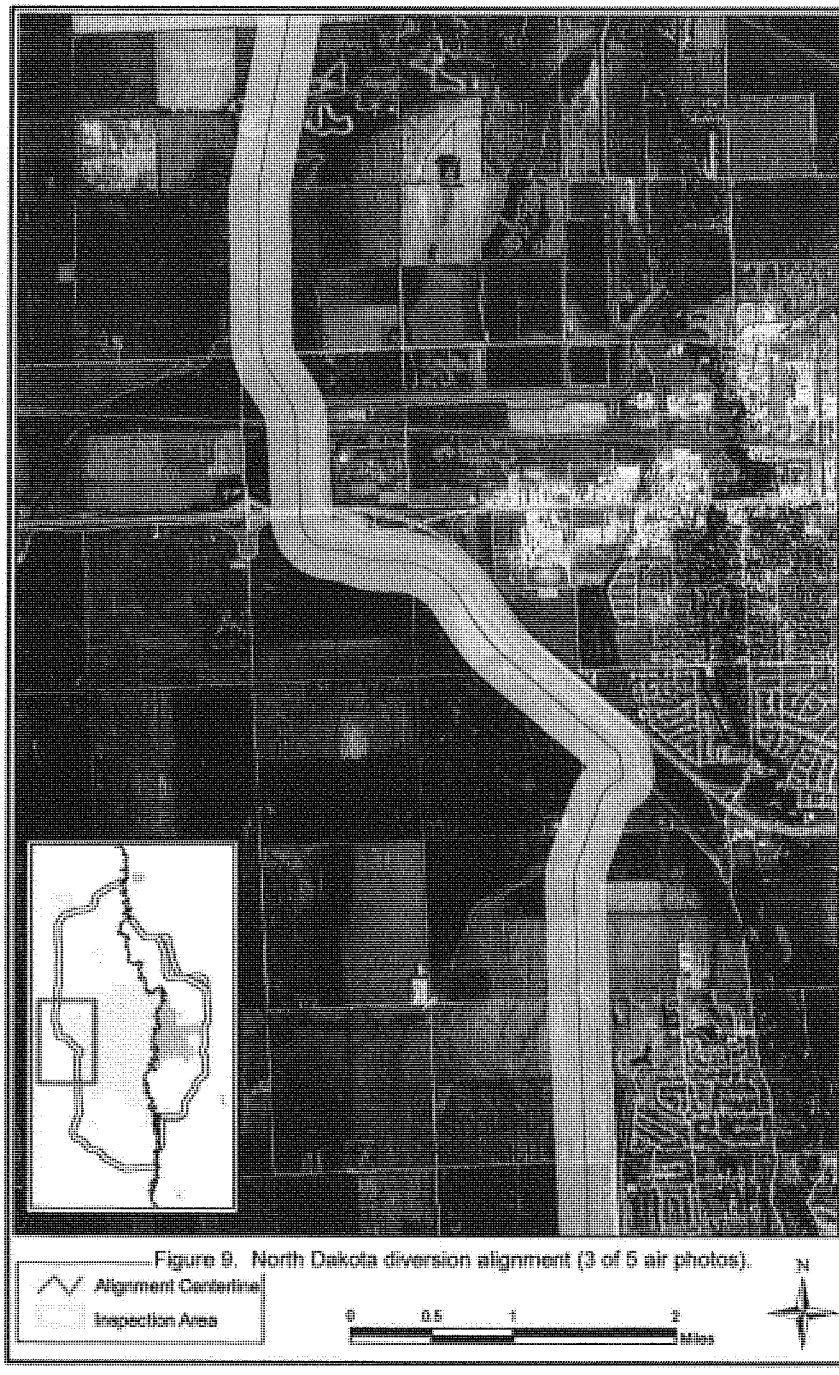


Figure 9. North Dakota diversion alignment (3 of 5 air photos).

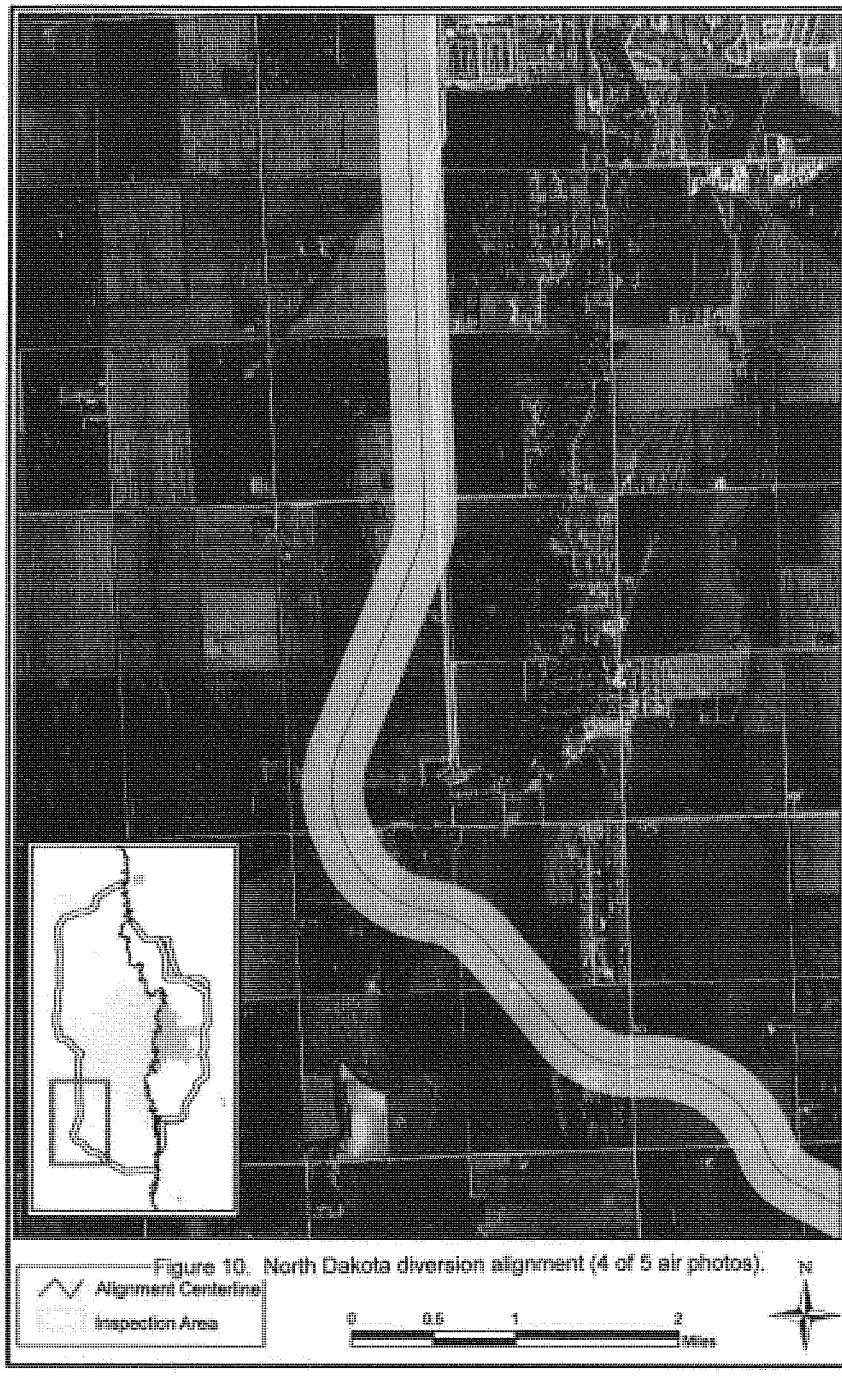


Figure 10. North Dakota diversion alignment (4 of 5 air photos).

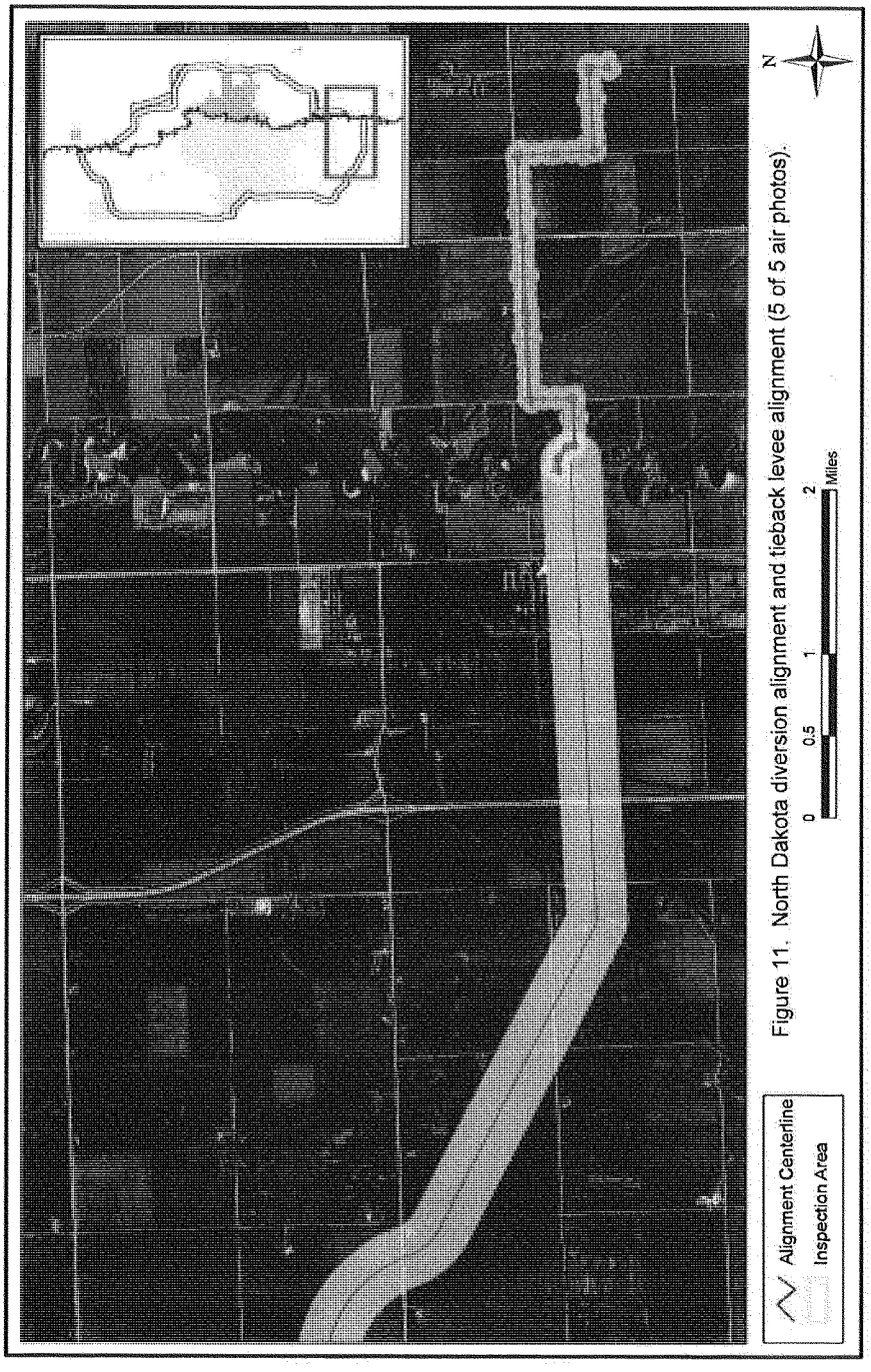


Figure 11. North Dakota diversion alignment and tieback levee alignment (5 of 5 air photos).

DEPARTMENT OF THE ARMY
ST. PAUL DISTRICT, CORPS OF ENGINEERS
180 FIFTH STREET EAST, SUITE 700
ST. PAUL MN 55101-1678

REPLY TO ATTENTION OF

JAN 0 7 2011

Programs and Project Management Division
Project Management and Development Branch

Honorable A.T. "Rusty" Stafne
Chairman
Fort Peck Tribal Executive Board
P.O. Box 1027
Poplar, Montana 59255

Dear Chairman Stafne:

On October 7, 2010, the St. Paul District, U.S. Army Corps of Engineers, wrote to you and leaders of other Native American tribes suggesting a number of options to facilitate consultation with tribes as the Corps conducts its feasibility study process for the Fargo Moorhead Metropolitan Area Flood Risk Management Project (Project). Included among those options was the possibility of a face-to-face meeting.

In discussions with Mr. Curley Youpee, Director, Cultural Resources Department, Assiniboine and Sioux Tribes of the Fort Peck Indian Reservation, Mr. Youpee indicated that a face-to-face meeting would be of interest to the tribes of the Fort Peck Indian Reservation. The Corps welcomes the prospect of such a meeting as an opportunity to provide specific information about the project. If you desire a meeting, the Corps will be prepared to brief you and/or other tribal representatives about project alternatives that are being considered and our efforts to identify historic properties, potential adverse effects to those properties, and possible alternatives to mitigate those effects. If you have specific matters you would like to focus on in the meeting, we welcome your suggestions. It is our desire to make this meeting as useful to you and the tribes as possible to facilitate your efforts to assess whether the tribes may have any concerns related to historic properties to which they attach cultural or religious importance in the project's area of potential effects.

A face-to-face meeting has been scheduled for January 11, 2011, in Fargo, North Dakota, to discuss this project with other tribes, and you have been invited to attend. If this date or location does not accommodate your needs, please advise us at your earliest convenience whether you would like to schedule another meeting. If so, we will coordinate scheduling and the agenda with Mr. Youpee. Finally, if the expense of travel creates a difficulty for the tribe, the Corps is willing to meet at the tribal offices if that is convenient for participating tribal representatives.

I look forward to hearing from you in the near future. If you have any questions related to the project or to the proposed meeting, Mr. Brett Coleman is the Co-Project Manager for the project. He can be reached at (651) 290-5452 or brett.r.coleman@usace.army.mil.

Sincerely,

Michael J. Price
Colonel, Corps of Engineers
District Engineer

DEPARTMENT OF THE ARMY
ST. PAUL DISTRICT, CORPS OF ENGINEERS
180 FIFTH STREET EAST, SUITE 700
ST. PAUL MN 55101-1678

January 21, 2011

REPLY TO
ATTENTION OF

Regional Planning and Environment Division North
Environmental & GIS Branch

Mr. Curley Youpee
Director, Cultural Resources Department
Assiniboine and Sioux Tribes of the Fort Peck Indian Reservation
P.O. Box 1027
Poplar, Montana 59255

Dear Mr. Youpee:

As you requested at our meeting in Fargo, North Dakota, on January 11, 2011, I am enclosing a copy of the draft feasibility report and environmental impact statement, hydrology appendix, hydraulic appendix, and cultural resource appendix for the Fargo-Moorhead Metro Flood Risk Reduction Project.

An electronic copy of the entire report can be found at:

www.internationalwaterinstitute.org/feasibility/index.htm

Thank you again for attending the meeting. We look forward to continuing to work with you in the future.

Sincerely,

Brett Coleman
Project Manager

Enclosure

Copy furnished (w/o enclosure):
Ms. April Walker
Engineering Department
City of Fargo
200 3rd Street North
Fargo, ND 58102-4809

Mr. Tom McCauley
Tribal Historic Preservation Officer
White Earth Band of Minnesota Chippewa
41044 South Ice Cracking Road
Ponsford, MN 56575

Honorable A.T. "Rusty" Stafne
Chairman
Fort Peck Tribal Executive Board
P.O. Box 1027
Poplar, MT 59255

DEPARTMENT OF THE ARMY
ST. PAUL DISTRICT, CORPS OF ENGINEERS
180 FIFTH STREET EAST, SUITE 700
ST. PAUL MN 55101-1678

January 21, 2011

REPLY TO ATTENTION OF

Regional Planning and Environment Division North
Environmental & GIS Branch

Ms. Dianne Desrosiers
Tribal Historic Preservation Officer
Sisseton Wahpeton Oyate
P.O. Box 907
Sisseton, South Dakota 57262

Dear Ms. Desrosiers:

As a follow-up to a meeting held in Fargo, North Dakota, on January 11, 2011, I am sending you a copy of the draft feasibility report and environmental impact statement, hydrology appendix, hydraulic appendix, and cultural resource appendix for the Fargo-Moorhead Metro Flood Risk Reduction Project.

An electronic copy of the entire report can be found at:

www.internationalwaterinstitute.org/feasibility/index.htm

Please let me know if we can provide you with other information.

Sincerely,

Brett Coleman
Project Manager

Enclosure

Copy furnished (w/o encl):
Mr. Jim Whitted
Tribal Historic Preservation Officer
Sisseton Wahpeton Oyate
P.O. Box 907
Sisseton, South Dakota 57262

Honorable Michael Selvage, Sr.
Chairman
Sisseton Wahpeton Oyate
P.O. box 509
Agency Village, SD 57262

DEPARTMENT OF THE ARMY
ST. PAUL DISTRICT, CORPS OF ENGINEERS
180 FIFTH STREET EAST, SUITE 700
ST. PAUL MN 55101-1678

January 21, 2011

REPLY TO
ATTENTION OF

Regional Planning and Environment Division North
Environmental & GIS Branch

Ms. Waste'Win Young
Tribal Historic Preservation Officer
Standing Rock Sioux Tribe
P.O. Box D
Fort Yates, North Dakota 58538

Dear Ms. Young:

As was requested at our meeting in Fargo, North Dakota, on January 11, 2011, I am enclosing a copy of the draft feasibility report and environmental impact statement, hydrology appendix, hydraulic appendix, and cultural resource appendix for the Fargo-Moorhead Metro Flood Risk Reduction Project.

An electronic copy of the entire report can be found at:

www.internationalwaterinstitute.org/feasibility/index.htm

Thank you again for attending the meeting. We look forward to continuing to work with you in the future.

Sincerely,

Brett Coleman
Project Manager

Enclosure

Copy furnished (w/o enclosure):
Ms. April Walker
Engineering Department
City of Fargo
200 3rd Street North
Fargo, ND 58102-4809

Harry "Jack" Dubray
Standing Rock Sioux Tribe
P.O. Box D
Fort Yates, ND 58538

Honorble Charles W. Murphy
Chairman
Standing Rock Sioux Tribal Council
P.O. Box D
Fort Yates, ND 58538

DEPARTMENT OF THE ARMY
ST. PAUL DISTRICT, CORPS OF ENGINEERS
180 FIFTH STREET EAST, SUITE 700
ST. PAUL MN 55101-1678

FEB 15 2011

REPLY TO
ATTENTION OF

Programs and Project Management Division
Project Management and Development Branch

Honorable Robert Shepherd
Chairman
Sisseton Wahpeton Oyate
P.O. Box 509
Agency Village, South Dakota 57262

Dear Chairman Shepherd:

On October 7, 2010, the St. Paul District, U.S. Army Corps of Engineers wrote to the previous Chairman Michael Selvage and leaders of other Native American tribes suggesting a number of options to facilitate consultation with tribes as the Corps undertakes the feasibility study process for the Fargo-Moorhead Metropolitan Area Flood Risk Management Project. A copy of that letter is attached. I want to reiterate the availability of those options, and I would appreciate your response advising of your interest in any of the alternatives presented for consulting.

In the time since our initial contact letter on the project was sent to tribal leaders in early April 2009, we have encouraged interested tribes to identify concerns they may have about historic properties that may be affected by the project and have offered the tribes opportunities for consultation. However, I feel it is important to address what I believe may be a misunderstanding between the Corps and some tribal representatives. Specifically, it has been suggested that, because the Corps has not agreed to fund tribal consultation expenses, consultation is not occurring. The Corps does not believe that view accurately represents the Corps' responsibilities for conducting consultation. Under the National Historic Preservation Act and its implementing regulations, the Corps is required to provide interested governmental entities, including tribes, with opportunities for consultation to obtain their views on project impacts and resolution of those impacts. It is up to those governmental entities to determine the extent of their interest in the project and to determine the appropriate investment of resources that should be made in light of the significance of their interest. Regardless of an individual tribe's decision regarding its investment of resources, we will continue to provide consultation opportunities to the tribes to articulate their views on the project's effects and we value the tribes' participation in resolution of those effects.

If you have questions related to the project, please feel free to contact me at (651) 290-5300. For information or questions on technical issues your staff may contact the project manager Mr. Brett Coleman. He can be reached at (651) 290-5452 or brett.r.coleman@usace.army.mil. If your questions are related to the assessment of potential project impacts on cultural resources, Ms. Virginia Gnabasik, Archeologist, is the best source for information. She may be reached at (651) 290-5262 or virginia.r.gnabasik@usace.army.mil.

Sincerely,

Michael J. Price
Colonel, Corps of Engineers
District Engineer

Copy furnished to:

Ms. Dianne Desrosiers
Tribal Historic Preservation Officer
Sisseton Wahpeton Oyate
P.O. Box 907
Sisseton, SD 57262

Mr. Jim Whitted
106 Coordinator
Tribal Historic Preservation Office
Sisseton Wahpeton Oyate
P.O. Box 907
Sisseton, SD 57262

DEPARTMENT OF THE ARMY
ST. PAUL DISTRICT, CORPS OF ENGINEERS
180 FIFTH STREET EAST, SUITE 700
ST. PAUL MN 55101-1678

OCT 7 2010

REPLY TO
ATTENTION OF

Programs and Project Management Division
Project Management Branch

Honorable Michael Selvage, Sr.
Chairman
Sisseton Wahpeton Oyate
P.O. Box 509
Agency Village, SD 57262

Dear Chairman Selvage:

I would like to thank you for having members of your staff participate in the August 31, 2010, meeting with the St. Paul District of the Corps of Engineers to discuss the Fargo-Moorhead Metropolitan Area Flood Risk Management Project. The meeting was held at the Sisseton-Wahpeton Oyate Tribal Historic Preservation Office with representatives from the White Earth Band of Minnesota Chippewa, Bois Forte Band of Chippewa Indians, Leech Lake Band of Ojibwe, Yankton Sioux Tribe, and the city of Fargo, North Dakota, joining the discussion by phone.

The purpose of the meeting was to familiarize everyone with the project and initiate discussions about future tribal involvement. The St. Paul District is leading the planning process for this project, which, when complete, will provide flood risk reduction for the Fargo-Moorhead area. The district is committed to coordination and consultation with tribal governments during the planning and implementation of this important project.

During the meeting, the tribes indicated that they desired more involvement in the project, particularly by having input to the cultural resources programmatic agreement and by participating in the cultural resources surveys. Several ways to increase tribal involvement were discussed, including follow-up meetings and providing additional project information. The logistics of future meetings were discussed, including the possibility that the district provide travel per diem for future face-to-face meetings. The district is committed to working with federally recognized tribes; however, the district cannot pay travel per diem or expenses for tribal nations to attend consultation meetings with the district.

To facilitate discussion between the district and tribes regarding the project, the district is offering the following options:

- The district will be able to attend a meeting at the Dakota Magic Casino near Hankinson, North Dakota, in the near future.

- The district will schedule face-to-face meetings with each tribal nation that expresses an interest in the project and wants to discuss the project in detail. Meetings could be held at each tribe's office or a location of its choosing.

- The district will set up and conduct a teleconference with tribes that would like to discuss the details of the project.

- If staff members from the tribes are attending another conference/meeting, the district is willing to travel to that location to discuss the project.

To keep you and your staff fully informed of the project, I have enclosed the most recent (July 2010) draft cultural resources programmatic agreement for the Fargo-Moorhead Metropolitan Area Flood Risk Management Project. As stated during the August 31 meeting and teleconference, a copy of the project's draft Feasibility Study and draft EIS is available at http://www.internationalwaterinstitute.org/feasiblity/index.htm.

Topographic maps and air photographs showing the Minnesota Short 35K (35,000-cubic-foot-per-second) diversion channel alignment (Federally Comparable Plan) and the North Dakota East 35K (35,000-cubic-foot-per-second) diversion channel alignment (Locally Preferred Plan) are also enclosed. The proposed diversion channel corridors are up to 2,200 feet wide, including the diversion channel, disposal areas and necessary levees. The North Dakota diversion channel would be approximately 36 miles long and the Minnesota diversion channel would be approximately 25 miles long. Both would be approximately 30 feet deep.

Again, the district recognizes the sovereign status of tribal governments and is committed to working with you on a government-to-government basis. If you have additional questions, need additional information or have additional suggestions on how the district and tribes can work together on the project, please call me at (651) 290-5300 or the project manager, Brett Coleman, at (651) 290-5452. Thank you again for your time and effort.

Sincerely,

Michael J. Price
Colonel, Corps of Engineers
District Engineer

3 Enclosures
1. Draft programmatic agreement
2. MN diversion alignment
3. ND diversion alignment

Copy furnished to:

Ms. Dianne Desrosiers
Tribal Historic Preservation Officer
Sisseton Wahpeton Oyate
P.O. Box 907
Sisseton, SD 57262

Mr. Jim Whitted
106 Coordinator
Tribal Historic Preservation Office
Sisseton Wahpeton Oyate
P.O. Box 907
Sisseton, SD 57262

Notice of Intent to prepare a Draft Environmental Impact Statement and Feasibility Study

and Technology, Gaithershurg, Maryland 20899, telephone number (301) 975–2361.

Dated: April 29, 2009.

Patrick Gallagher,

Deputy Director.

[FR Doc. E9–10342 Filed 5–4–09; 8:45 am]

BILLING CODE 3510–13–P

DEPARTMENT OF DEFENSE

Department of the Army, Corps of Engineers

Intent To Prepare a Draft Environmental Impact Statement for a Proposed Flood Risk Management Project on the Red River of the North in Fargo, ND & Moorhead, MN

AGENCY: Department of the Army, U.S. Army Corps of Engineers, DoD.

ACTION: Notice of intent.

SUMMARY: The St. Paul District Corps of Engineers, in partnership with the City of Fargo, North Dakota and City of Moorhead, Minnesota is conducting a flood risk management feasibility study for the Fargo-Moorhead metropolitan area. The feasibility study will focus on reducing flood risk in the entire Fargo-Moorhead Metropolitan area and surrounding areas. The study will evaluate several alternative measures, including but not limited to; levees and floodwalls, diversion channels, non-structural flood-proofing, relocation of flood-prone structures, and flood storage.

FOR FURTHER INFORMATION CONTACT: Questions about the proposed action and Draft Environmental Impact Statement (DEIS) can be directed to: Mr. Terry J. Birkenstock, Chief, Environmental and Economic Analysis Branch, 190 Fifth Street East, St. Paul, MN 55101–1638, *telephone:* (651) 290–5264.

SUPPLEMENTARY INFORMATION: Fargo, North Dakota, and Moorhead, Minnesota, are on the west and east banks, respectively, of the Red River of the North approximately 150 miles south of the Canada/United States border. In addition to the Red River, the Wild Rice, Sheyenne, Maple and Rush Rivers in North Dakota and the Buffalo River in Minnesota also cross the study area.

The purpose of this study is to collect and evaluate pertinent engineering, economic, social, and environmental information in order to assess the potential for a federal flood risk management project in the Fargo-Moorhead Metropolitan Area. The study objective is to define a feasible and implementable project to reduce flood risk in the study area. The Fargo-Moorhead metropolitan area has a relatively high risk of flooding. The highest river stages usually occur as a result of spring snowmelt, but summer rainfall events have also caused significant flood damages. The Red River of the North has exceeded the National Weather Service flood stage of 17 feet in 51 of the past 107 years, and every year from 1993 through 2009. The study area is between the Wild Rice River, the Sheyenne River, and the Red River of the North; interbasin flows complicate the hydrology of the region and contribute to extensive flooding. Average annual flood damages in the Fargo-Moorhead metropolitan area are currently estimated at over $43 million.

Fargo and Moorhead have become accustomed to dealing with flooding. Sufficient time is usually available to prepare for flood fighting because winter snowfall can be monitored to predict unusual spring runoff. Both communities have well documented standard operating procedures for flood fights. Both communities avoided major flood damages in the historic flood of 1997 by either raising existing levees or building temporary barriers. Since the 1997 flood, both communities have implemented mitigation measures, including acquisition of almost 100 floodplain homes, raising and stabilizing existing levees, installing permanent pump stations, and improving storm sewer lift stations and the sanitary sewer system. Although emergency measures have been very successful, they may also contribute to an unwarranted sense of security that does not reflect the true flood risk in the area.

The Fargo-Moorhead Metro Feasibility Study and its associated NEPA documentation will be prepared by the Corps and the cities of Fargo, North Dakota and Moorhead, Minnesota. The Corps will act as the lead agency and the cities will act as cooperating partners.

The study will evaluate several alternative measures, including but not limited to: levees and floodwalls along the river through the towns, diversion channels either west or east of the Fargo-Moorhead Metro area, non-structural flood-proofing, relocation of flood-prone structures, and flood storage.

Significant resources and issues to be addressed in the DEIS will be determined through coordination with Federal agencies, State agencies, local governments, the general public, interested private organizations, and industry. Anyone who has an interest in participating in the development of the DEIS is invited to contact the St. Paul District, Corps of Engineers.

To date, the following areas of discussion have been identified for inclusion in the DEIS:

1. Flood damage reduction.
2. Fish and wildlife.
3. Land-use Effects (effects on agricultural land).
4. Archeological, cultural, and historic resources.
5. Social Effects.
6. Groundwater (Buffalo Aquifer).

Additional areas of interest may be identified through the scoping process, which will include public and agency meetings. A notice of those meetings will be provided to interested parties and to local news media.

The first scoping meeting will be held May 19 at Centennial Hall in Fargo, North Dakota and May 20th at the Hanson Theater on the Minnesota State University, Moorhead campus in Moorhead, Minnesota. Both meetings will begin at 5:30 for open house followed by presentation and questions and answers at 7.

An environmental review will be conducted under the NEPA of 1969 and other applicable laws and regulations. It is anticipated that the DEIS will be available for public review in the winter of 2009–2010.

Dated: April 22, 2009.

Terry J. Birkenstock,

Chief, Environmental and Economic Analysis Branch.

[FR Doc. E9–10309 Filed 5–4–09; 8:45 am]

BILLING CODE 3720–58–P

DEPARTMENT OF DEFENSE

Department of the Army, Corps of Engineers

Withdrawal of Notice of Intent To Prepare Environmental Impact Statement for St. Charles International Airport

AGENCY: Department of the Army, U.S. Army Corps of Engineers, DoD.

ACTION: Withdrawal of Notice.

SUMMARY: The Department of the Army, Army Corps of Engineers today withdraws its Notice of Intent (67 FR 65342, October 24, 2002) to prepare a Draft Environmental Impact Statement (DEIS) for the St. Charles International Airport Project.

The Department has relied upon the National Environmental Policy Act (NEPA) CEQ guidelines, to complete the actions taken in connection with this project.

DEPARTMENT OF THE ARMY
ST. PAUL DISTRICT, CORPS OF ENGINEERS
SIBLEY SQUARE AT MEARS PARK
190 FIFTH STREET EAST
ST. PAUL, MINNESOTA 55101-1638

REPLY TO
ATTENTION OF

June 01, 2010

US Environmental Protection Agency
Office of Federal Activities
EIS Filing Section
Mail Code 2252-A, Room 7241
Ariel Rios Building (South Oval Lobby)
1200 Pennsylvania Avenue, NW
Washington, DC 20004

Dear Office of Federal Activities,

Per discussions with your office, enclosed are 2 full paper copies with appendices and 3 paper copies of the Draft Feasibility Report and Environmental Impact Statement with electronic copies of the appendices provided on a DVD.

The St. Paul District, Corps of Engineers, has prepared this environmental impact statement to assess the effects that may result from the proposed construction of flood protection measures for the Fargo-Moorhead Metropolitan area. This assessment of the Corps of Engineers proposal is required by the National Environmental Policy Act of 1969 (NEPA), the Council on Environmental Quality Regulations (40 CFR 1500-1508), and the Corps of Engineers regulation ER 200-2-2. This EIS was prepared in accordance with Section 1502 of the Regulations and is being filed with the EPA as specified in 1506.9.

The proposed project would have a diversion channel around the Fargo-Moorhead metropolitan area. The study has identified two plans of significance to decision makers (a Minnesota diversion channel and a North Dakota diversion channel). Each plan has been carefully studied and would remove much of the Fargo-Moorhead area from the regulatory flood plain. Any diversion would also significantly reduce flood damage and flood risk, but not completely eliminate the flood risk.

The distribution of the Feasibility Report and Draft Environmental Impact Statement is being completed simultaneously with the filing at the EPA, and the document has already been made available to the public. Any questions regarding the transmittal or the contents of the report can be sent to Aaron Snyder at 651-290-5489 or via email at: Aaron.M.Snyder@usace.army.mil.

Sincerely,

Aaron M. Snyder
Project Manager
St. Paul, Corps of Engineers

Notice of Draft Environmental Impact Statement and Feasibility Study Extension

DEPARTMENT OF THE ARMY
ST. PAUL DISTRICT, CORPS OF ENGINEERS
180 FIFTH STREET EAST, SUITE 700
ST. PAUL, MINNESOTA 55101-1678

REPLY TO
ATTENTION OF

June 25, 2010

USEPA, Office of Federal Activities
EIS Filing Section
Room 7220
South Ariel Rios Building
1200 Pennsylvania Ave. NW
Washington, DC 20460

Dear USEPA Filing Section,

The U.S. Army Corps of Engineers requests that a 14-day extension of the public comment period for the Draft Feasibility Report and Environmental Impact Statement (DEIS) for the Fargo-Moorhead Metropolitan Flood Risk Management project be posted in the Federal Register. The initial notice was posted in the Federal Register on June 11, 2010. The extension was requested from an interested party and will allow adequate time for all agencies and interested parties to fully review and comment on the DEIS. The extension results in the comment period ending on August 9, 2010.

If you have any questions regarding the extension, please contact me at (651) 290-5489 or at Aaron.M.Snyder@usace.army.mil.

Sincerely,

Aaron M. Snyder
Project Manager
St. Paul, Corps of Engineers

Notice of Intent to prepare a Supplement to the Draft Environmental Impact Statement and Feasibility Study

DEPARTMENT OF THE ARMY
ST. PAUL DISTRICT, CORPS OF ENGINEERS
180 FIFTH STREET EAST, SUITE 700
ST. PAUL, MINNESOTA 55101-1678

REPLY TO
ATTENTION OF

December 1, 2010

Programs and Project Management Division
Project Management and Development Branch

USEPA, Office of Federal Activities
EIS Filing Section
Room 7220
South Ariel Rios Building
1200 Pennsylvania Avenue NW
Washington, D.C. 20460

The U.S. Army Corps of Engineers intends to submit a Supplemental Draft Environmental Impact Statement (EIS) and Feasibility Report for the Fargo-Moorhead Metropolitan Flood Risk Management Project. The initial notice for the Draft EIS was posted in the Federal Register on June 11, 2010, and the Supplemental Draft EIS should be available for notice in the Federal Register in the spring of 2011.

Enclosed is a Notice of Intent to prepare the Supplemental Draft EIS. Please publish this notice in the next issue of the Federal Register.

If you have any questions regarding the Supplemental Draft EIS, please call me at (651) 290-5452 or email me at brett.r.coleman@usace.army.mil.

Sincerely,

Brett Coleman
Project Manager

Enclosure
Notice of Intent

BILLING CODE: 3720-58

DEPARTMENT OF DEFENSE

Department of the Army, Corps of Engineers

Intent to Prepare a Supplemental Draft Environmental Impact Statement for a Proposed Flood Risk Management Project on the Red River of the North in Fargo, ND, and Moorhead, MN.

AGENCY: Department of the Army, U.S. Army Corps of Engineers, DoD.

ACTION: Notice of intent.

SUMMARY: The St. Paul District of the U.S. Army Corps of Engineers (St. Paul District) will prepare a Supplement to the Draft Environmental Impact Statement and Feasibility Study (EIS/FS) for a Proposed Fargo-Moorhead Flood Risk Management Project on the Red River of the North in Fargo, ND, and Moorhead, MN (Proposed Fargo-Moorhead Project). On May 5, 2009, the St. Paul District published a notice of intent to prepare a Draft EIS/FS for a Proposed Fargo-Moorhead Project. On June 11, 2010, the St. Paul District published a notice of availability of the Draft EIS/FS. The U.S. Army Corps of Engineers has now decided to prepare a Supplemental Draft EIS/FS to further evaluate impacts of a Proposed Fargo-Moorhead Project and potential measures to mitigate for those impacts. The Supplemental Draft EIS/FS should be available for public review and comment in the spring of 2011.

FOR FURTHER INFORMATION CONTACT: Questions about the proposed action and Supplemental Draft EIS/FS may be directed to: Mr. Terry J. Birkenstock, Chief,

Environmental and GIS Branch, 180 Fifth Street East, Suite 700, St. Paul, MN 55101-1678, telephone: (651) 290-5264.

DATES: As described below, additional scoping will not be conducted; however, the St. Paul District will consider comments related to the scope of the Supplemental Draft EIS/FS that are received before January 26, 2011.

SUPPLEMENTAL INFORMATION: Fargo, North Dakota, and Moorhead, Minnesota, are on the west and east banks, respectively, of the Red River of the North approximately 150 miles south of the Canada/United States border. In addition to the Red River, the Wild Rice, Sheyenne, Maple, Rush and Lower Rush Rivers in North Dakota and the Buffalo River in Minnesota also cross the study area.

Subsequent to the publication of the notice of availability of the Draft EIS/FS in June 2010, hydraulic modeling indicated downstream impacts from the Proposed Fargo-Moorhead Project that were greater than those anticipated and presented in the Draft EIS/FS. In addition, public and agency comments on the Draft EIS/FS raised additional issues. The purpose of the Supplemental Draft EIS/FS is to develop and evaluate additional information related to downstream impacts and other issues raised and to evaluate potential alternatives for the Project.

The U.S. Army Corps of Engineers will continue to act as the lead agency for the Supplemental Draft EIS/FS and the cities of Fargo and Moorhead will act as cooperating partners.

Additional scoping meetings will not be held for the Supplemental Draft EIS/FS. A significant volume of comments were received during the public comment period on the Draft EIS/FS regarding potential downstream impacts and proposed alternatives that

might serve to mitigate these impacts. These comments, as well as the extensive scoping and partnering accomplished in the course of preparation of the Draft EIS/FS, provide information to determine the appropriate scope for the Supplemental Draft EIS/FS. Further, the St. Paul District will consider comments related to the scope of the Supplemental Draft EIS/FS that are received before January 26, 2011.

Terry J. Birkenstock
Chief, Environmental and GIS Branch

2 Dec 2010
Date

Dated: December 20, 2010.

Morgan F. Park,

Alternate OSD Federal Register Liaison Officer, Department of Defense.

[FR Doc. 2010–32391 Filed 12–23–10; 8:45 am]

BILLING CODE 5001–06–P

DEPARTMENT OF DEFENSE

Department of the Army, Corps of Engineers

Intent To Prepare a Supplemental Draft Environmental Impact Statement for a Proposed Flood Risk Management Project on the Red River of the North in Fargo, ND, and Moorhead, MN

AGENCY: Department of the Army, U.S. Army Corps of Engineers, DoD.

ACTION: Notice of intent.

SUMMARY: The St. Paul District of the U.S. Army Corps of Engineers (St. Paul District) will prepare a Supplement to the Draft Environmental Impact Statement and Feasibility Study (EIS/FS) for a Proposed Fargo-Moorhead Flood Risk Management Project on the Red River of the North in Fargo, ND, and Moorhead, MN (Proposed Fargo-Moorhead Project). On May 5, 2009, the St. Paul District published a notice of intent to prepare a Draft EIS/FS for a Proposed Fargo-Moorhead Project. On June 11, 2010, the St. Paul District published a notice of availability of the Draft EIS/FS. The U.S. Army Corps of Engineers has now decided to prepare a Supplemental Draft EIS/FS to further evaluate impacts of a Proposed Fargo-Moorhead Project and potential measures to mitigate for those impacts. The Supplemental Draft EIS/FS should be available for public review and comment in the spring of 2011.

FOR FURTHER INFORMATION CONTACT: Questions about the proposed action and Supplemental Draft EIS/FS may be directed to: Mr. Terry J. Birkenstock, Chief, Environmental and GIS Branch, 180 Fifth Street East, Suite 700, St. Paul, MN 55101–1678, *telephone:* (651) 290–5264.

DATES: As described below, additional scoping will not be conducted; however, the St. Paul District will consider comments related to the scope of the Supplemental Draft EIS/FS that are received before January 26, 2011.

SUPPLEMENTARY INFORMATION: Fargo, North Dakota, and Moorhead, Minnesota, are on the west and east banks, respectively, of the Red River of the North approximately 150 miles south of the Canada/United States border. In addition to the Red River, the Wild Rice, Sheyenne, Maple, Rush and Lower Rush Rivers in North Dakota and the Buffalo River in Minnesota also cross the study area.

Subsequent to the publication of the notice of availability of the Draft EIS/FS in June 2010, hydraulic modeling indicated downstream impacts from the Proposed Fargo-Moorhead Project that were greater than those anticipated and presented in the Draft EIS/FS. In addition, public and agency comments on the Draft EIS/FS raised additional issues. The purpose of the Supplemental Draft EIS/FS is to develop and evaluate additional information related to downstream impacts and other issues raised and to evaluate potential alternatives for the Project.

The U.S. Army Corps of Engineers will continue to act as the lead agency for the Supplemental Draft EIS/FS and the cities of Fargo and Moorhead will act as cooperating partners.

Additional scoping meetings will not be held for the Supplemental Draft EIS/FS. A significant volume of comments were received during the public comment period on the Draft EIS/FS regarding potential downstream impacts and proposed alternatives that might serve to mitigate these impacts. These comments, as well as the extensive scoping and partnering accomplished in the course of preparation of the Draft EIS/FS, provide information to determine the appropriate scope for the Supplemental Draft EIS/FS. Further, the St. Paul District will consider comments related to the scope of the Supplemental Draft EIS/FS that are received before January 26, 2011.

Dated: December 15, 2010.

Terry J. Birkenstock,

Chief, Environmental and GIS Branch.

[FR Doc. 2010–32499 Filed 12–23–10; 8:45 am]

BILLING CODE 3720–58–P

DEPARTMENT OF DEFENSE

Department of the Navy

[Docket ID USN–2010–0046]

Privacy Act of 1974; System of Records

AGENCY: U.S. Marine Corps, DoD.

ACTION: Notice to Add a System of Records.

SUMMARY: The U.S. Marine Corps proposes to add a system of records to its inventory of record systems to the Privacy Act of 1974, (5 U.S.C. 552a), as amended.

DATES: This proposed action will be effective without further notice on January 24, 2011 unless comments are received which result in a contrary determination.

ADDRESSES: You may submit comments, identified by docket number and/Regulatory Information Number (RIN) and title, by any of the following methods:

- *Federal Rulemaking Portal: http://www.regulations.gov* Follow the instructions for submitting comments.
- *Mail:* Federal Docket Management System Office, Room 3C843, 1160 Defense Pentagon, Washington, DC 20301–1160.

Instructions: All submissions received must include the agency name and docket number or Regulatory Information Number (RIN) for this **Federal Register** document. The general policy for comments and other submissions from members of the pnblic is to make these submissions available for public viewing on the Internet at *http://www.regulations.gov* as they are received without change, including any personal identifiers or contact information.

FOR FURTHER INFORMATION CONTACT: Headquarters, U.S. Marine Corps, FOIA/PA Section (ARSF), 2 Navy Annex, Room 3134, Washington, DC 20380–1775, or Ms. Tracy Ross at (703) 614–4008.

SUPPLEMENTARY INFORMATION: The U.S. Marine Corps system of records notices subject to the Privacy Act of 1974, (5 U.S.C. 552a), as amended, have been published in the **Federal Register** and are available from the **FOR FURTHER INFORMATION CONTACT** address above.

The proposed system report, as required by 5 U.S.C. 552a (r), of the Privacy Act of 1974, as amended, was submitted on September 13, 2010, to the House Committee on Oversight and Government Reform, the Senate Committee on Homeland Security and Governmental Affairs, and the Office of Management and Budget (OMB) pursuant to paragraph 4c of Appendix I to OMB Circular No. A–130, "Federal Agency Responsibilities for Maintaining Records About Individuals," dated February 8, 1996 (February 20, 1996, 61 FR 6427).

Dated: December 16, 2010.

Morgan F. Park,

Alternate OSD Federal Register Liaison Officer, Department of Defense.

M11320–1

SYSTEM NAME:

Emergency Incident Reporting System.

Press Release on Notice of Intent to prepare a Supplement to the Draft Environmental Impact Statement and Feasibility Study

NEWS RELEASE

U.S. ARMY CORPS OF ENGINEERS **BUILDING STRONG®**

ST. PAUL DISTRICT
January 07, 2011
MVP-PA-2011-001
Mark Davidson: 651-290-5201, 651-261-6769, mark.d.davidson@usace.army.mil
Patrick Moes: 651-290-5202, 651-290-5752, patrick.n.moes@usace.army.mil

Corps prepares a supplemental draft Environmental Impact Statement for a proposed Flood Risk Management Project in Fargo, N.D., Moorhead, Minn.

ST. PAUL, Minn. – The U.S. Army Corps of Engineers, St. Paul District, will prepare a supplement draft Environmental Impact Statement and Feasibility Study, or EIS/FS, for the proposed Fargo-Moorhead Flood Risk Management Project in Fargo, N.D., and Moorhead, Minn.

The Corps recently published a Notice of Intent to prepare the supplemental report to further evaluate impacts of the project and the potential measures to mitigate those impacts. The revised report should be available for public review and comment this spring. The district released the original draft report in June, 2010.

The public and agency comments and extensive scoping and partnering accomplished under the draft EIS/FS provide information to determine the appropriate scope for the supplemental draft EIS/FS. In addition, the Corps will consider comments related to the scope of the supplemental draft EIS/FS that are received before January 26, 2011.

Comments can be submitted at the project website:
http://www.mvp.usace.army.mil/fl_damage_reduct/default.asp?pageid=1455&subpageid=539

Additional information regarding the project can be found at:
http://www.internationalwaterinstitute.org/feasibility/.

The U.S. Army Corps of Engineers, St. Paul District, serves the American public in the areas of environmental enhancement, navigation, flood damage reduction, water and wetlands regulation, recreation sites and disaster response. It contributes around $175 million to the five-state district economy. The more than 700 employees work at more than 40 sites in five upper-Midwest states. For more information, see www.mvp.usace.army.mil.

-30-

Web site: http://www.mvp.usace.army.mil/
Facebook: http://www.facebook.com/pages/Saint-Paul-MN/US-Army-Corps-of-Engineers-St-Paul-District/215829254962?ref=ts
Flickr: http://www.flickr.com/photos/usace-stpaul/
YouTube: http://www.youtube.com/usacemvppao

Comments received on Notice of Intent to prepare a Supplement to the Draft Environmental Impact Statement and Feasibility Study

-----Original Message-----
From: demuth@umn.edu [mailto:demuth@umn.edu]
Sent: Tuesday, January 25, 2011 9:03 AM
To: Evans, Craig O MVP; Snyder, Aaron M MVP; Beauchamp, Francis MVP; grit.may@ndsu.edu; demuth@umn.edu; dmdemuth@gmail.com
Cc: kurt_wadzinski@blm.gov
Subject: [NEPA] New Comment Received

A new email address and/or comment was posted.

The following information was received:
Name: Kurt Wadzinski, BLM Planning and Environmental Coordinator Email: kurt_wadzinski@blm.gov
Comment: The Bureau of Land Management Eastern States has no additional comments related to the scope of the Supplemental Draft EIS/FS for the Proposed Flood Risk Management Project on the Red River of the North in Moorhead, MN (ER 11/37).

Classification: UNCLASSIFIED
Caveats: NONE

Minnesota Department of Natural Resources

REGIONAL OPERATIONS
2115 Birchmont Beach Road NE
Bemidji MN 56601
218.308.2629

January 24, 2011

Aaron Snyder
USACE Project Manager
190 East 5th Street
Suite 401
St. Paul, MN 55101

RE: Fargo Moorhead Flood Reduction – MNDNR federal Supplemental Draft EIS Scoping Comments

Dear Mr. Snyder,

The State of Minnesota remains committed to flood protection in the Red River valley and supports projects that are the product of the 1998 Red River Basin Flood Damage Reduction Work Group mediation agreement process. In August of 2010, the Minnesota Department of Natural Resources (MNDNR) submitted comments on the federal Draft Environmental Impact Statement (DEIS) which identified specific issues that should be included in the scope of a Final EIS. Those comments remain relevant to the now planned Supplemental Draft EIS (SDEIS). The purpose of this letter is to provide both a summary of previous recommendations and provide recommendations for additional analysis which pertain specifically to the most recent plans for on-channel storage.

Summary of Past Recommendations

Scope of Alternatives – The DEIS and Feasibility Study looked at individual alternatives to assess the economic feasibility of flood protection. The SDEIS should include an alternative that is composed of a comprehensive array of multi-faceted alternatives, such as upstream off-channel storage, watershed/wetland restoration, flood barrier, floodway, by out/relocation, and diversion combination alternatives. A combination of non-structural and structural approaches should be evaluated to minimize upstream and downstream hydrological effects that would occur from a single large structural alternative such as a diversion channel.

Hydrology - The SDEIS must justify the decision to split a long-term gage record into a wet and dry period. This should include an analysis of available climate records to show that such a climate cycle has occurred during the last 100 years. The use of the non-traditional hydrology has significant affect on the economic analysis among other potentially significant effects. A comparison of the benefits for the old and new hydrology at the 10, 50, 100, 500-year events should be provided in the SDEIS. The non-

traditional hydrology must be used consistently for the entire analysis in estimating potential impacts (e.g. fisheries), mitigation, and be applied for regulatory purposes (FEMA flood map revision).

Downstream Hydraulic Effects - The SDEIS should include a description of the takings analysis and be explicit as to what constitutes a taking. Inclusion of the taking analysis as an appendix would be useful. The SDEIS should include mitigation measures and estimated cost for addressing upstream and downstream stage and flow increases regardless of Corps' authority to fund such mitigation actions.

The SDEIS should identify how the Corps' has complied with Executive Order 11988 on floodplains. In addition, the SDEIS should discuss compliance with FEMA standards relating to the stage increases.

The DEIS only provided preliminary hydraulic effects data. The full extent of upstream and/or downstream stage increases should be included in the SDEIS.

Geomorphic Processes and Aquatic Habitat - The DEIS did not provide substantiation for assumptions of uniform distribution of sediment particle sizes throughout the water column. It's our understanding that additional work related to sediment distribution is underway. The SDEIS should include a particle size analysis of total sediment load of the Red River and its tributaries.

Fish Passage and Biological Connectivity - The analysis provided by the SDEIS must rely on hydrologic data (updated data), empirical evidence, and peer-reviewed literature to draw conclusion pertaining to potential fish passage impacts. For all alternatives, the SDEIS should address: to what extent the proposed passage facilitation measures will alleviate fish passage impacts; what species will utilize the proposed design based minimization efforts, and; what extent multiple restriction structures will compound passage impacts. The EIS must also place fish passage percentages in context of migration periods of various species in the Red River system rather than the entire record. Impacts to fish passage at Wolverton creek was not analyzed in the DEIS and must be included in the SDEIS.

Wetland Impacts - The SDEIS must specifically discuss how the proposed wetland mitigation will replace the functions and values lost at direct and indirect impact sites. The SDEIS should also discuss the potential for created channel-bottom wetlands to be influenced by aggressive non-native invasive plant species over time and subsequent impacts on function and value. This potential outcome must be discussed in context or in determining the appropriate replacement ratio.

Debris and Ice - The SDEIS should acknowledge that woody debris is an important component of many river systems providing fish habitat and channel stability. For each alternative, the SDEIS should provide a thorough analysis of debris and ice as it relates to operation, maintenance, geomorphic processes and habitat.

Safety – The SDEIS should include a description of safety and operational measures proposed to ensure the safety of recreational users on the Red River and its tributaries. The SDEIS should also include an analysis of catastrophic failure risk and provide loss of life estimates in the event of catastrophic failure.

The SDEIS provide the safety information mentioned above as well as adequate information to inform the state permitting process. At a minimum, this information must include that described as required in a "Preliminary Report" under Division of Waters Rules 6115.0410 Sub. 3.

Mitigation and Adaptive Management - The SDEIS must demonstrate that proposed mitigation measures ensure no loss of habitat function or values. Likewise, the SDEIS must discuss methods proposed for quantifying mitigation, future monitoring, and verification of mitigation effectiveness.

The SDEIS should include indicators and criteria that reflect the desired conditions (e.g. what level of deviation from the existing condition is acceptable?); monitoring of the indicators and criteria for deviation; and implementation of management actions when the desired conditions are violated (or when conditions are deteriorating and preventive measures are available). The SDEIS must discuss the likelihood of securing future funding and the probability of mitigation measures being implemented in the future. A commitment on behalf of the sponsors in the form of financial assurance and agreement to undertake future mitigation is necessary.

Invasive Species - The SDEIS should discuss the potential for invasive species transport during construction or how the operation of the project may potentially be affected. A zebra mussel veliger was recently discovered in the Red River. It is unknown whether zebra mussels will become established in the Red River. Regardless, maintenance associated with removal from infrastructure (to ensure smooth operation) can be costly and should be included in the analysis provided by the SDEIS.

Recommendations for Additional Analysis

Subsequent to the issuance of the DEIS an on-channel impoundment alternative has been added the range of alternatives which includes significant design changes. These changes will require re-evaluation of all aforementioned topics as well as the following additional topics:

Compatibility with Existing Plans – The DNR supports projects that are the product of the 1998 Red River Basin Flood Damage Reduction Work Group mediation agreement process. Projects that meet the mediation agreement goals for flood damage reduction and natural resource benefits typically have a level of consensus that helps balance economic, environmental and social concerns while providing a more streamlined and less controversial permit review and approval process. The SDEIS should describe the compatibility of the various project alternatives with the decision making process outlined in the Flood Damage Reduction Mediation Agreement and the associated TSAC technical papers.

Effects on Vegetation – Inundation and sedimentation associated with on-channel storage may negatively affect plants and plant communities. The SDEIS should analyze the direct effects that inundation and sedimentation will have on both wetland and upland vegetation.

Stream Stability – Within impoundments accumulation of sediment within the channel and on the floodplain, and losses of native riparian vegetation can reduce stream stability. Inundation in itself may also reduce bank stability. An analysis of these potential affects should be included in the SDEIS.

The DNR remains committed to flood protection efforts in the Red River Valley; however, the DNR is concerned that, if a plan that impounds water on the main channel of the Red River is selected, there will be significant impacts and mitigation would be challenging. This is very important as it relates to DNR permits, as the DNR cannot issue a permit for an on-channel structure if a feasible alternative with less potential for environmental impact is available that can provide similar flood control benefits.
The project component of a high hazard dam on the Red River triggers mandatory EIS preparation under the Minnesota Environmental Policy Act (MEPA). The Minnesota State EIS process has not begun and the ability of the federal EIS to satisfy the state requirements has not been determined. Regardless of what is included in the federal EIS, a state EIS scoping process must occur to determine the scope of the state EIS.

Thank you for considering our input. We look forward to continuing to work with you and your staff.

Sincerely,

Michael R. Carroll
NW Regional Director
mike.carroll@state.mn.us

Mr. Aaron Synder
USACE Planner and Project Manager
180 East Fifth Street, Suite 700
St. Paul, MN 55101

RE: Location of North Dakota Diversion Project

Dear Mr. Snyder:

I am the President of the Board of City Commissioners for the City of West Fargo, and the Commission has unanimously voted in favor of the western alignment for the North Dakota diversion project. I am writing this letter to you to help you get a better understanding of the position of West Fargo since we have had no direct contact with you on this issue.

It is our understanding that the Corps took into consideration the comprehensive plans of the cities of Fargo and Moorhead while developing this project. In that the routing of the diversion alignment will have a direct impact on the City of West Fargo, does the Corps intend to review the comprehensive plan for the City of West Fargo and utilize it in the same fashion they used the Fargo and Moorhead plans? Obviously, we are not one of the two co-sponsors of the diversion project, and that probably was the reason you did not consider our comprehensive plan. Although that is understandable as a matter of procedure, it is a substantial mistake to exclude that information from your analysis.

I will attach our comprehensive plan with this letter for your consideration. I will also attach the extraterritorial zoning map of the City of West Fargo, which shows that much of our extraterritorial area lies between the alignment of the Sheyenne diversion project and the western proposed route for the Fargo/Moorhead diversion project. In fact, there is one platted area in West Fargo already located west of the Sheyenne diversion project -- Hayden Heights Addition. City services, such as roads, water and sewer, are already in place and would be destroyed by the east alignment. It is also important to understand that the City of West Fargo currently provides certain critical services to these extraterritorial areas.

We have been told the reason the Corps is rejecting the western boundary alignment is Executive Order 11988 and the regulations promulgated there under. In a nutshell, that order was trying to prevent the encouragement of future development in a floodplain as a result of the construction of a federal project. To be frank, we do not understand why flood-prone property should not be protected with the construction of a flood control project. In addition, both alignments of the Fargo/Moorhead diversion project on the west end of the project are in the flood plain. Thus, it is not a choice of one route out of the flood plain and another in the flood plain. The question is, just where in the flood plain should it be sited.

Further, we do not believe EO 11988 should outweigh public safety, protecting existing people, or protecting existing critical infrastructure. A critical piece of infrastructure to the City of West Fargo and surrounding area is the Raymond Interchange. In our opinion, this interchange must

be located inside the protected area. The loss of use of that interchange during a flood event causes serious transportation issues for West Fargo and the surrounding area. The Raymond interchange is currently a major point of connectivity within our transportation network for the area north and west of the existing West Fargo Diversion. Twelfth Avenue North connects with the Raymond interchange and provides a critical link for emergency and public works vehicles for properties that are already developed in that area, such as Hayden Heights and Willow Creek subdivisions, as well as numerous other single family and farmstead properties the City of West Fargo is responsible for within our extraterritorial zoning area. To lose this vital transportation infrastructure during a large flood could result in the loss of life.

There is also an electrical WAPA power substation located west of West Fargo which would be protected by the western alignment, but not by the eastern alignment. Not protecting this critical facility could result in a catastrophic loss of power during a flood when power is essential to keeping pumps, lift stations, sump pumps and other equipment that are essential to control flooding and damages to property. Not only must the power station be protected, but also access to the power station must be ensured so that necessary repairs can be made during a major flood.

It is also our understanding that one of the factors the Corps must consider is the loss of wetlands. It is our understanding the east alignment has a greater number of wetland acres to be disturbed than the western alignment.

Finally, and of significant concern to West Fargo, is the need to protect the integrity of the Sheyenne River diversion projects, which provide essential flood protection to the already existing 26,000 residents of West Fargo. These existing projects have served our City and the surrounding area very well. Our specific concern is the proposed eastern alignment of the FM Metro diversion channel is immediately adjacent to and even integrally connected to the Sheyenne River flood control facilities. Our fear is the proposed larger FM Metro diversion channel will present a significant threat to the integrity of our Sheyenne River flood protection system. A couple of threats we have identified include the difficulties of operating both adjoining systems effectively during large flood events and the soil stability challenges, both during the construction and while operating the larger and deeper FM diversion channel near the shallower and smaller Sheyenne River system. It does not seem reasonable to introduce these threats to our existing system.

In addition to these threats, when the Sheyenne River flood control system was constructed, the local jurisdictions went through great efforts and expense to construct a bridge on all existing roads over the diversion channels. Most of these expensive non-federal road costs will be wasted with the proposed easterly alignment, obliterating many of these bridges with no replacement structures proposed. This will again further reduce West Fargo's ability to serve persons and property within our extraterritorial jurisdiction.

Page 3

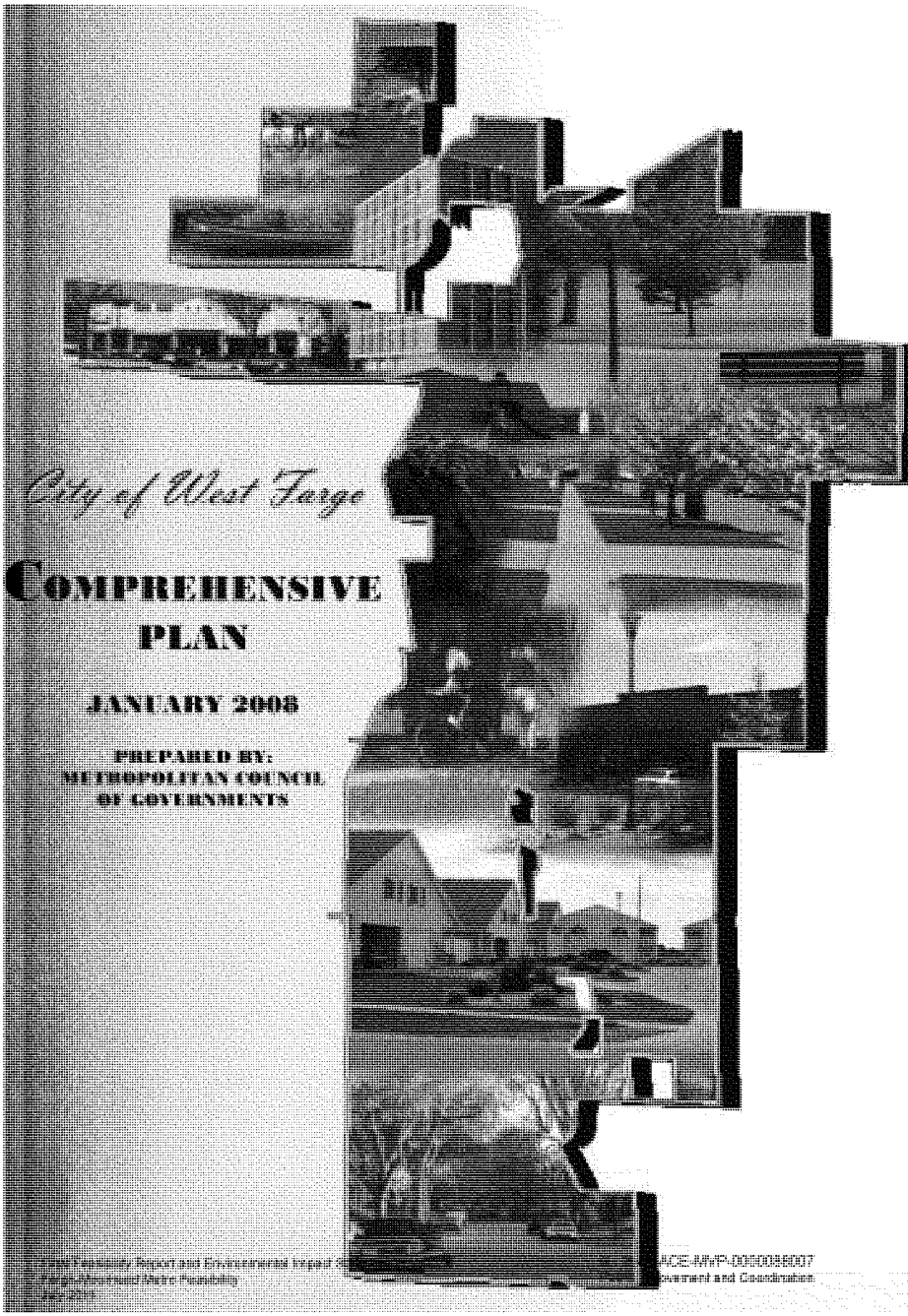
Thank you for your consideration of this matter, and I would be more than welcome to meet with you to discuss this matter more fully.

Sincerely,

CITY OF WEST FARGO

Rich Mattern
President of the Board of City
Commissioners of the City of

West Fargo


City of West Fargo
COMPREHENSIVE
PLAN
JANUARY 2008
PREPARED BY:
METROPOLITAN COUNCIL
OF GOVERNMENTS

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JANUARY 2008

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CHAPTER 1 - COMMUNITY PROFILE

INTRODUCTION

Since 2000 West Fargo has changed substantially in both size and population. However West Fargo still retains many of its qualitative attributes. Among the most valued of West Fargo's community attributes is its small town flavor and well established neighborhoods. As well, the City of West Fargo is built around a well balanced school system.

West Fargo is the fastest growing community in the Fargo-Moorhead Metropolitan Statistical Area. Figure 1 shows West Fargo's situation with in the larger metropolitan area. West Fargo was once a community geographically separated from its neighbors. Currently, West Fargo and Fargo are merged from Main Avenue to I-94. The southern growth areas of West Fargo and the western areas of Fargo will soon be a geographically un-delineated urban mass.

While West Fargo will always remain its own unique community, recognizing its position within the larger region will be critical to ensuring West Fargo is able to grow in harmony with its neighbors. The growth West Fargo has experienced in recent years would not be possible without the Sheyenne Diversion. If West Fargo wishes to grow beyond its current municipal boundaries it must again devise flood protection strategies that will facilitate this growth. Most of what is shown as West Fargo's Extraterritorial Area (ET) is flood prone and suspect to a high water table during wet periods.

What follows is a set of community characteristics for the City of West Fargo. As is demonstrated in the pages to come, West Fargo is a community which has traditionally grown rapidly. With its growth West Fargo has learned to become a community which can anticipate change and evolve to ensure the preservation of its core attributes. Over the past several decades West Fargo has built out into a community of single family neighborhoods. As it currently sits, West Fargo has the ability to geographically guide its growth for another 15,000 to 20,000 residents. From that point forward, West Fargo must develop a new strategy.

COMMUNITY EXPANSION

Table 1 illustrates the annexation history of the City of West Fargo since 1961. Annexations occurred at a fairly constant rate in the 1970s and 1980s. The tapering which occurred in the 1990s has long been made up for with steady annexations since 2000. Annexations over the past several years now leave the City of West Fargo with large quantities of undeveloped land. Newly annexed undeveloped lands present opportunities and challenges for the City as it looks ahead. As pressure builds to develop outside of its current municipal boundary, new flood protection schemes must be developed. Premature development outside of its current municipal boundaries, coupled with shortsighted infrastructure extensions could lead to longer term growth pains for the City.

Figure 1: West Fargo Location Map

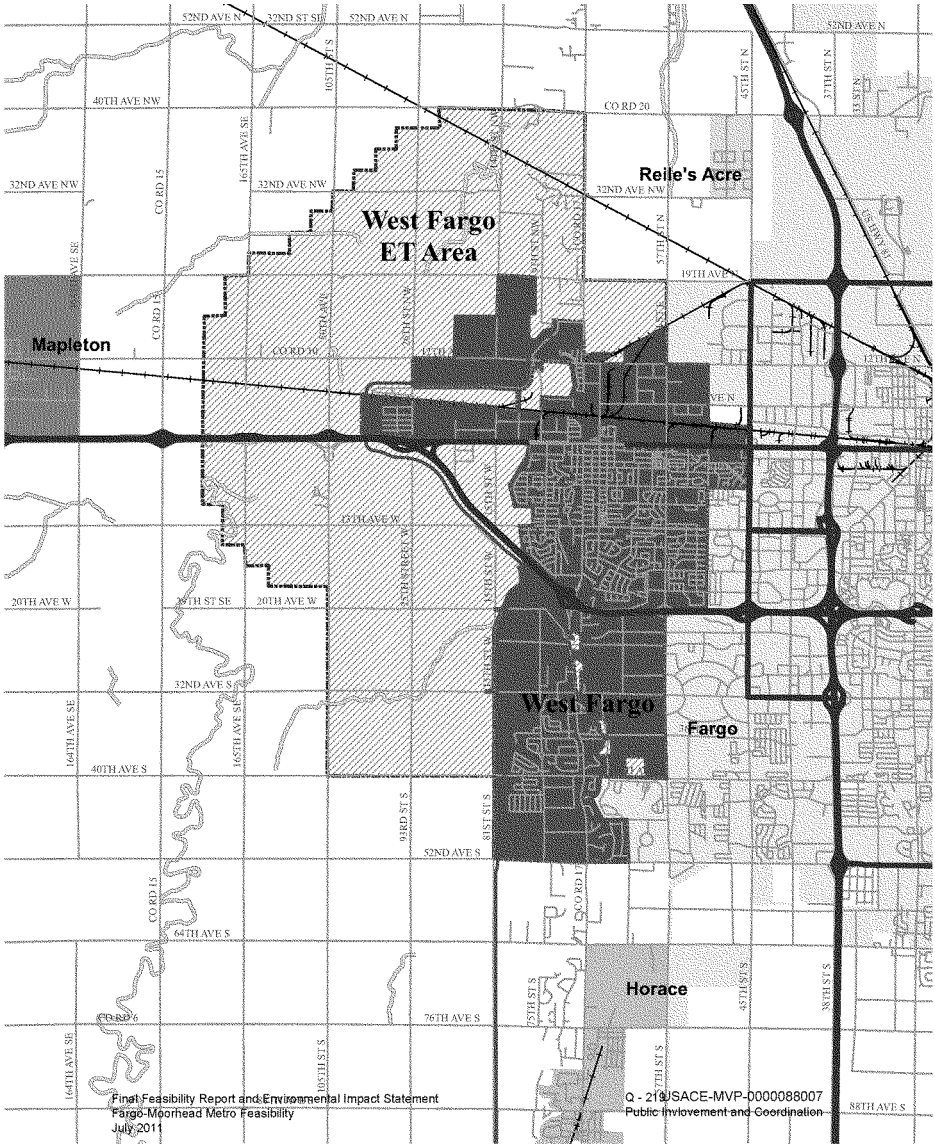


Table 1

West Fargo Annexation, 1950-2006										
	1961-70	1971-80	1981-1990*	1991-00	2001	2002	2003	2004	2005	2006
Annexed Acres	358	2060	1552	256	13.8	912	685	0	3026	62

*Includes consolidation with the City of Riverside in 1989 (510 acres)

LAND USE

Table 2 illustrates the land use make up of the City of West Fargo at various periods of time since 1972. The 2006 land use numbers are considered to be up-to-date as of December 31, 2006. There were subtle changes made to land use categories and classifications which cause a discrepancy in acreages of various land uses between 1999 and 2006.

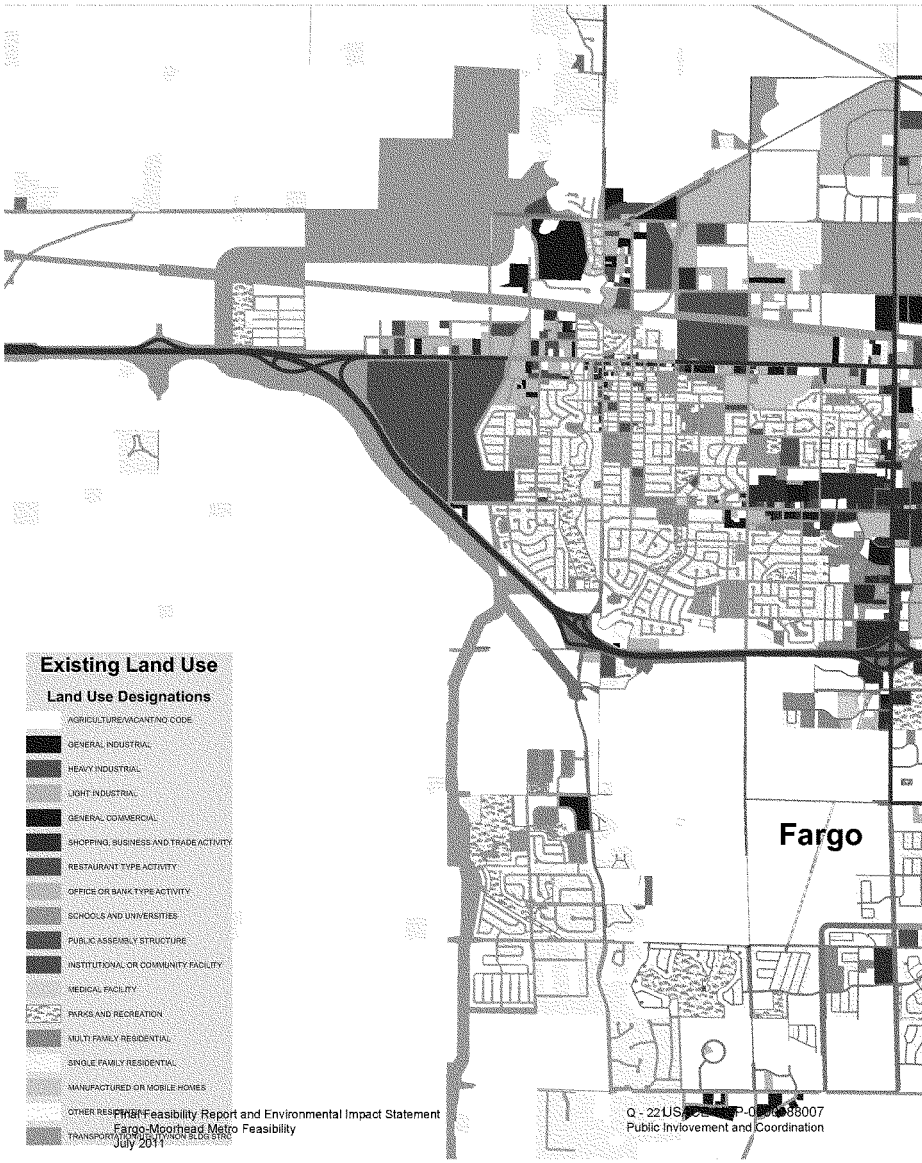
When looking at major land use categories West Fargo has seen an impressive increase in residential land uses, especially single-family residential. The percentage of single family land uses (as a percentage of total residential land uses) is 85%. Table 5 will later demonstrate the actual split between owner occupied and renter occupied households.

West Fargo Land Use

Land Use	1972	1985	1999	2006
Residential	286	621	985	2084
Single Family	210 (73%)	439 (71%)	742 (75%)	*1770 (85%)*
Multi-Family	32 (11%)	100 (16%)	171 (17%)	*213(10%)*
Mobile/Manufactured Home	45 (16%)	82 (13%)	72 (7%)	*86 (4%)*
Rural Residential/Other	*	*	*	*16 (>1%)*
Commercial	72	143	152	180
Office	*	*	22	27
Industrial	27	91	504	753
Parks and Open Space	9	80	127	336
Schools & Universities	*	*	*	109
Public/Semi-Public	41	590	725	121
Transportation/Utilities	188	564	625	2434
Total Developed Area	623	2090	3140	6043
Undeveloped	273	1877	1368	3182
Total Land Area	896	3967	4508**	9225

*Not Given
**Assumed Total

Figure 2: West Fargo Existing Land Use



As residential development has occurred in West Fargo so has the growth in parks and open space. Park and open space acreage doubled between 1999 and 2006. The new parks and open space acreage represents new parks and green areas which accompany new residential areas. Industrial uses grew by 40% between 1999 and 2006. Much of this new industrial growth has occurred north of Main Avenue.

Table 3 demonstrates the amount of land (in acres) which has been platted by West Fargo since 1996. Since 1996 roughly 40% of the land platted by the City has been in Single Family/Twin Homes. In that same time frame another 40% of land has been platted as Heavy Commercial/Industrial. Since 1996 the ratio between plated single-family to multiple-family acres is about 4 to 1. Since 1996, 7% of the land platted by the City has been for commercial or retail use.

Table 3 **West Fargo Platted Land use by Type (acres)**

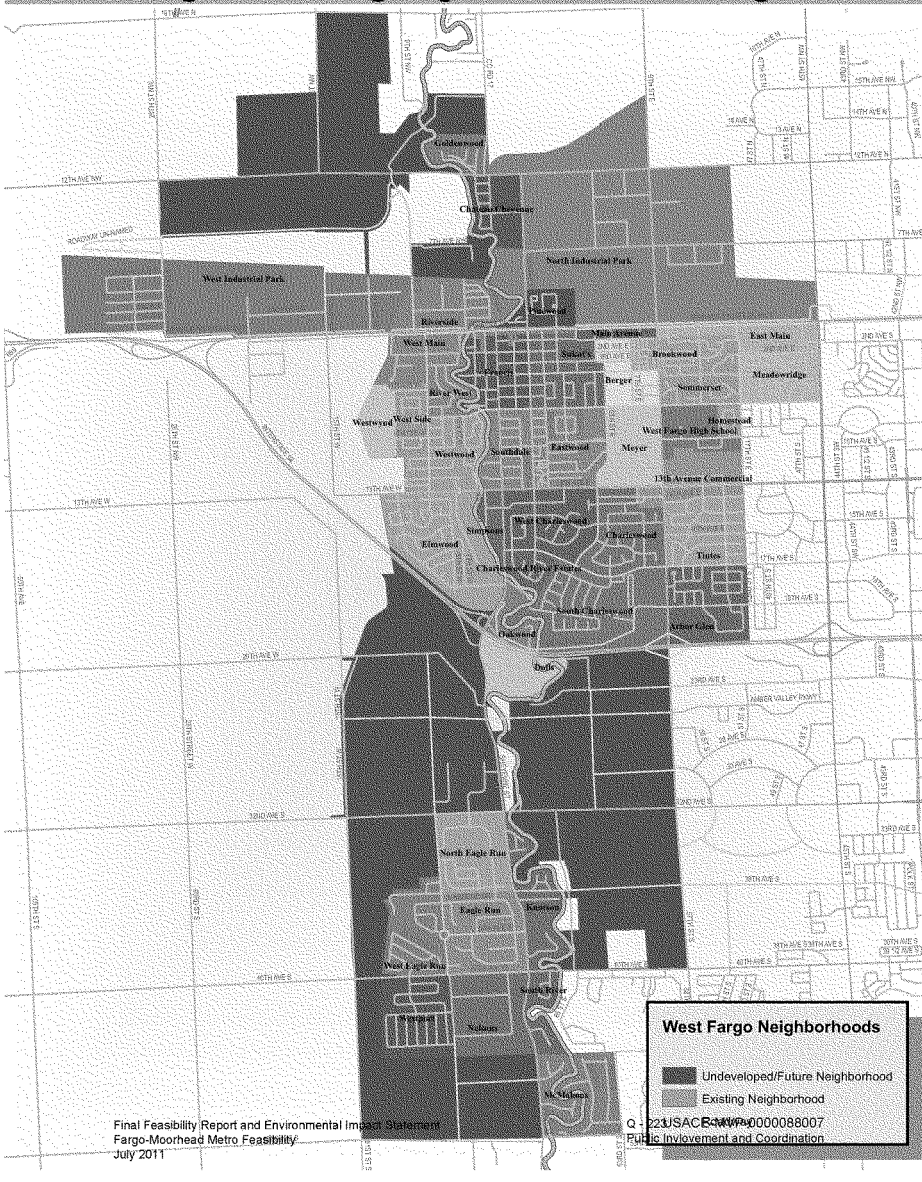
Platted Land Use	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Single Family and Twin homes	26.5	19.8	68.3	15.8	233.7	167	268	136.8	150.4	70.1	51.6
Multiple Family	0	0	0	14	41.1	0	63.1	49.8	131.9	0	0
Commercial/Retail	0	54.3	0	17.5	6.4	0	0	0	33	25.4	36.5
Heavy Commercial/Industrial	27.8	62.7	10.4	36.9	40	6.8	66.4	5	111.1	225	516.5
Total	**54**	**137**	**79**	**84**	**321**	**174**	**398**	**192**	**426**	**321**	**605**

Table 3 points out that West Fargo has developed into a community of single family neighborhoods and at same time continues to generate industrial uses that help to support the local tax base. While not popular in some cases, West Fargo has added significant acreages of higher density residential development, much occurring in just the last couple of years. Balancing new single family residential needs with the undeniable demand for higher density residential land uses will be an opportunity for the community as its population continues to grow.

NEIGHBORHOODS

West Fargo residents have grown to appreciate the unique neighborhoods of the community. Residents view the neighborhoods of West Fargo as a key community attribute. Figure 3 highlights the existing neighborhoods of West Fargo. West Fargo currently has over 30 recognized neighborhoods. About 1/3 of these neighborhoods have developed in the last decade. The parts of the city which have not yet developed are shown in blue on Figure 3. These are the areas where the West Fargo has the opportunity to continue to plant the seeds for good neighborhoods. As the current municipal boundary of West Fargo builds out in the coming years it is possible the city may see the addition of another 10 to 15 neighborhood units.

Figure 3: Existing Neighborhoods of West Fargo



POPULATION

Table 4 demonstrates population growth in the City of West Fargo since 1940. As a percentage increase, growth rates over the last decade are actually similar to those experienced in the 1950s, 1960s, and 1970s. *West Fargo has traditionally grown rapidly* (relative to its size) with the exception being the 1980s. The 2005 and 2006 population numbers are estimates based on building permit data, but do assume a vacancy factor. The 2005 and 2006 numbers are likely high given that not all permitted units are actually built and occupied.

Table 2

City of West Fargo Historical Population Figures		
Year	**Population**	**Percent Increase**
1940	707	N/A
1950	1,032	45%
1960	3,328	222%
1970	5,161	55%
1980	10,099	96%
1990	12,287	22%
2000	14,940	22%
2005	23,327	56%
2006	24,184	4%

Note: 2005 and 2006 are estimates based on building permit data

RESIDENTIAL BUILDING PERMIT ACTIVITY & HOUSING GROWTH

Table 5 highlights building permit activity in the City of West Fargo for the decade of 1970, 1980, and 1990. Table 4 shows a permit total for each decade 1970-90. Annual permits by type are illustrated for the years 2000-2006. The decade to date number is shown in the far right column of Table 5 for the 2000s (i.e. 2000-06). Building permit activity for the current decade through 2006 has already surpassed permit levels of any prior decade. The years 2004 and 2005 were nearly equal to or in some cases surpassed an entire decade worth of permit activity in the past. As was discussed with Table 3, West Fargo's 2006 population is based on the full build out of the permits issued through 2006, less known residential vacancy.

Table 5

West Fargo Building Permit Activity											
	1970s	**1980s**	**1990s**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2000's**
Single Family	813	342	1136	152	240	326	486	613	420	238	*2475*
Multi-Family	1105	376	336	50	84	39	151	396	653	67	*1440*
Total	1918	718	1472	202	324	365	637	1009	1073	305	*3915*

Note: Multi-family number represents total number of units permitted

Table 6 illustrates the total number of housing units in the City of West Fargo. A housing unit constitutes an occupied dwelling unit. Currently the total number of permitted dwelling units in West Fargo is closer to 10,000. A household is an occupied housing unit. The number of households in West Fargo doubled between 1990 and 2006. Table 6 highlights the percentage split between owner and renter occupied households. For the past two and a half decades the split has remained roughly two-third to one-third, owner occupied to renter occupied. Table 6 indicates median home values in West Fargo have steadily increased since 1980; though the jump from 1990 to 2000 was more dramatic than from 1980 to 1990.

Table 6 West Fargo Housing Units: Growth and Change

	1980	1990	2000	2006
Total Housing Units	3,780	4,574	5,771	9,266
%Owner Occupied	64%	62%	68%	67%
%Renter Occupied	36%	38%	32%	33%
Median Value	$51,200	$63,800	$97,500	$140,300

US Census Bureau; City of West Fargo; Metro COG
**2006 % represents split between multiple-family to single-family*

Table 6a

West Fargo Median Household Income		
1990	2000	2005
$26,661	$44,542	$54,198

US Census Bureau (1990/2000); Danter Company (2005)

Figure 4 demonstrates total households in West Fargo by traffic analysis zone (TAZ) as of June 2007. Some of these households may not actually be built, however they are permitted. Figure 5 demonstrates total new households added by TAZ between 2000 and 2007. The majority of household growth in West Fargo over the past seven years has occurred between 13th Avenue and I-94; and between 32nd Avenue and 52nd Avenue. For the most part, the areas north of I-94 are nearly built out. Later sections of the plan demonstrate the remaining build out capacity of the existing municipal boundary of West Fargo.

Figure 4: West Fargo Households - June 2007

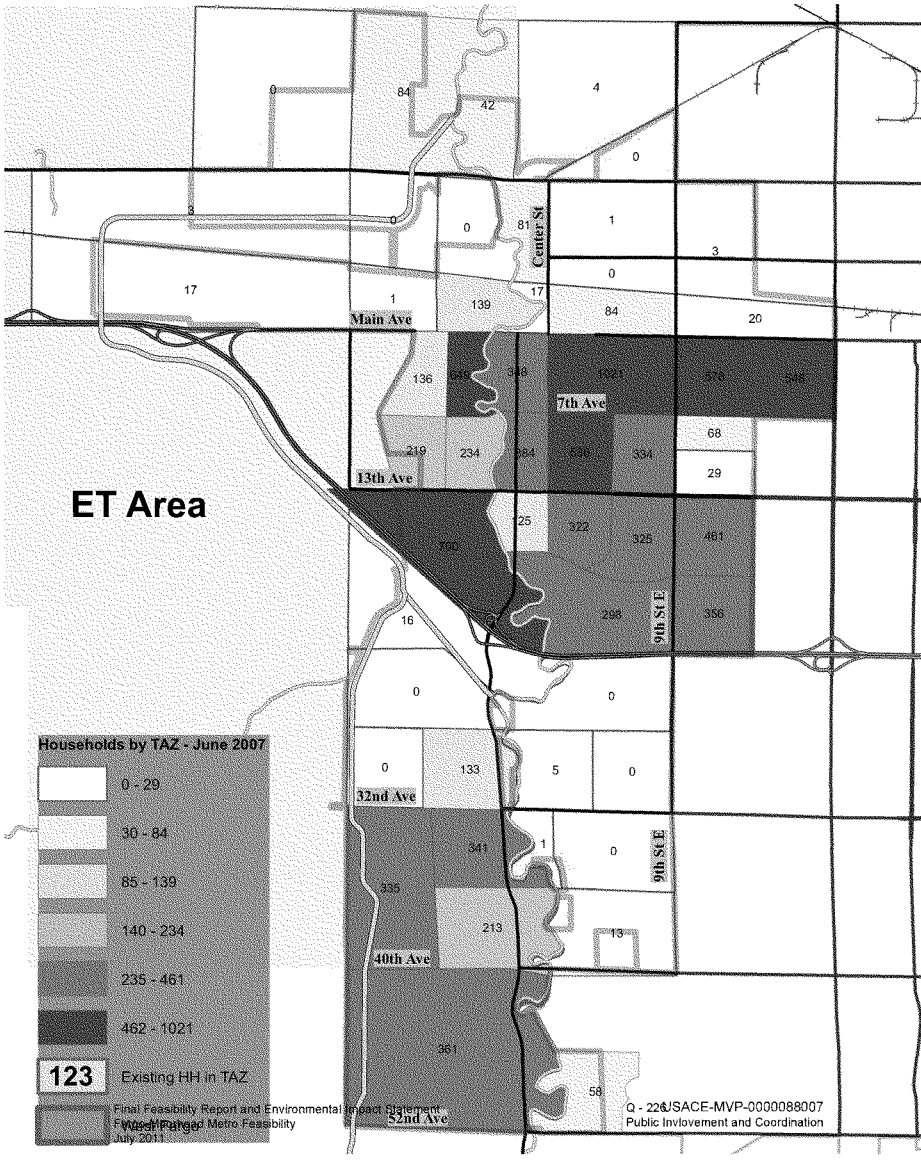
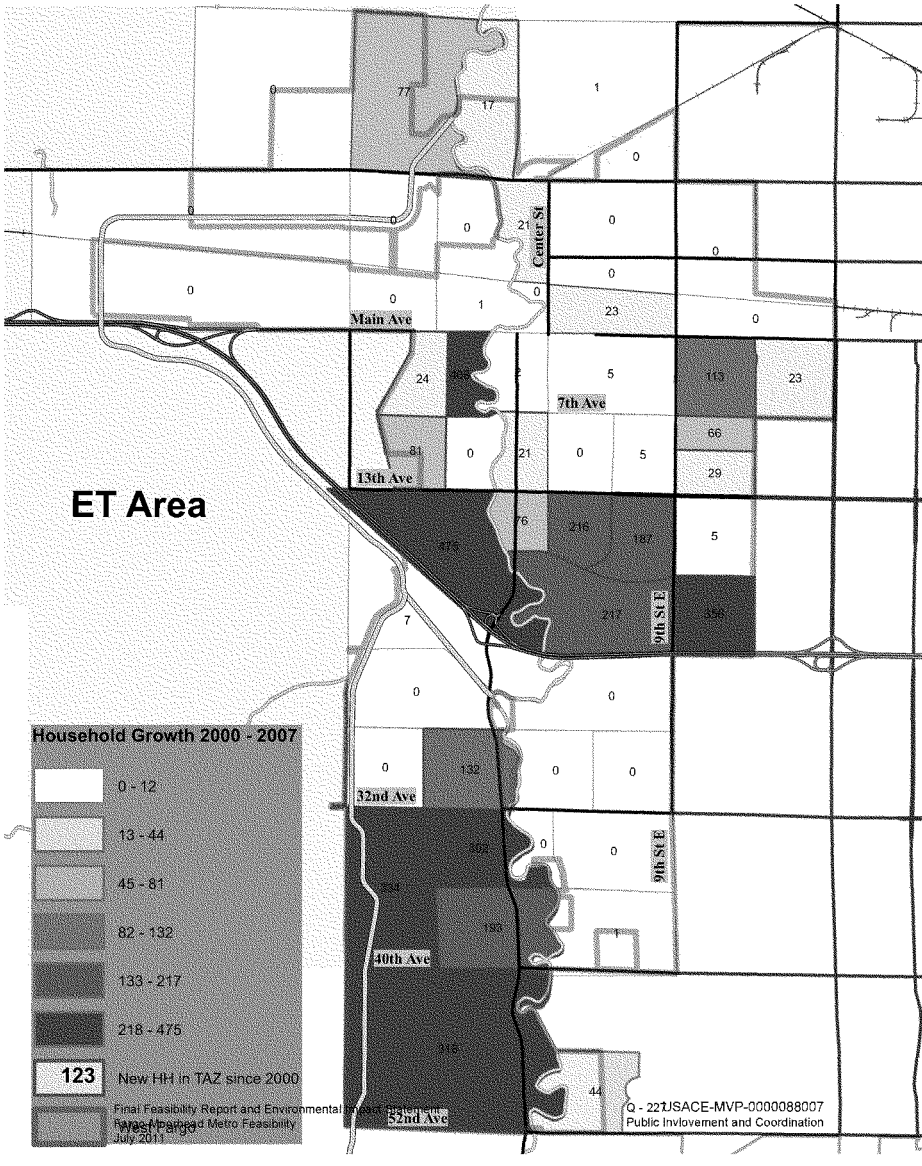


Figure 5: West Fargo Household Growth (2000-2007)



POPULATION & EMPLOYMENT CHARACTERISTICS

Table 7 shows age distribution of the City of West Fargo for each census from 1970 through 2000. Over the past two decades West Fargo has experienced a growth in the 35 to 44 and 45 to 54 age cohort. This would correspond with the growth in new residential development. The 55 and over cohort has also increased slightly over the past decade or two. Overall, the population distribution within West Fargo has remained fairly balanced, or at least constant.

Table 7 **Age Distribution of West Fargo Population**

	0-4	5 to 14	15-24	25-34	35-44	45-54	55-64	65+
1970	11.6%	24.9%	17.8%	15.7%	11.6%	7.2%	5.2%	5.9%
1980	10.8%	18.8%	19.6%	23.6%	11.3%	6.8%	4.7%	4.4%
1985	10.2%	19.2%	16.1%	22.9%	14.7%	7.6%	4.6%	4.8%
1990	8.4%	19.1%	14.7%	19.0%	18.0%	9.3%	5.3%	5.8%
2000	7.4%	16.7%	14.0%	16.4%	17.6%	14.3%	6.9%	6.7%
2005	6.5%	14.5%	16.9%	15.4%	16.3%	14.8%	8.1%	6.5%

US Census Bureau; Danter Company (2005)

Table 8 illustrates occupation by major category for employed residents of West Fargo for each census between 1980 and 2000. Over the past two decades the occupation to grow most noticeably has been managerial and professional. Technical, sales, and administrative support occupations also grew over the past two decades. Given the recent growth in the population of West Fargo its employed population has likely increased by 40 - 50% since the 2000 census. However, there is no way to gauge the occupational category of these new residents until after the 2010 census.

Table 8

West Fargo Occupation by Major Category

Occupation	**1980**		**1990**		**2000**	
Managerial and Professional	1,028	20.1%	1,264	18.7%	2,487	29.4%
Technical, Sales and Administrative Support	1,773	35.0%	2,370	35.1%	2,740	32.4%
Service Occupations	743	15.0%	1,149	17.0%	1,136	13.4%
Farm, Forestry, Fishing	73	1.4%	34	0.5%	20	0.2%
All Others	1,442	28.5%	1,927	28.6%	2,008	24.6%
Total	5,059	100.0%	6,744	100.0%	8,391	100.0%

Table 9 compares West Fargo occupational data to the entire Metropolitan Statistical Area (MSA). The employment distribution of West Fargo residents is similar to that of the rest of the MSA.

Table 9

Occupation by Major Category (2000)				
Occupation	**West Fargo**		**F-M MSA***	
Managerial and Professional	2,487	29.4%	31,761	33.0%
Technical, Sales and Administrative Support	2,740	32.4%	28,883	30.0%
Service Occupations	1,136	13.4%	14,807	15.4%
Farm, Forestry, Fishing	20	0.2%	598	0.6%
All Others	2,008	24.6%	20,279	21.0%
Total	8,391	100.0%	96,328	100.0%

*Metropolitan Statistical Area

SCHOOLS

One of the factors which have lead to the growth West Fargo has seen in recent years is the popularity and success of the West Fargo School District. The community and the School District have grown lock step for the past several decades. Enrollment numbers in the West Fargo School District have been increasing for the past ten years. Figure 6 shows the boundary map for the West Fargo School District. As is demonstrated on Figure 6, the West Fargo School District includes areas within the Cities of Fargo, Horace and Harwood.

Table 10 demonstrates enrollment by facility for the West Fargo School District for the last decade. While enrollment at various facilities has fluctuated over the past several years, overall district enrollment has grown by 22% between the academic years of 1996 and 2006.

Figure 6: West Fargo School District

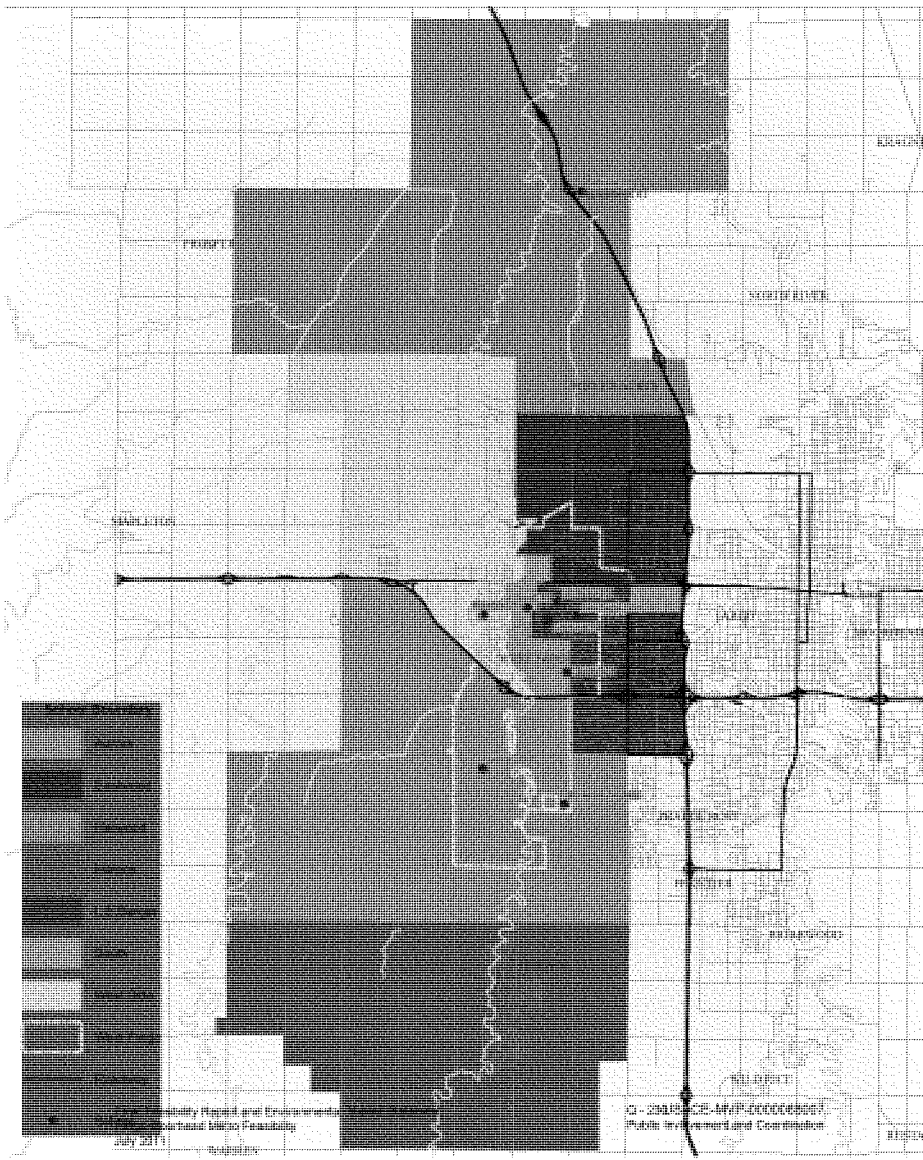


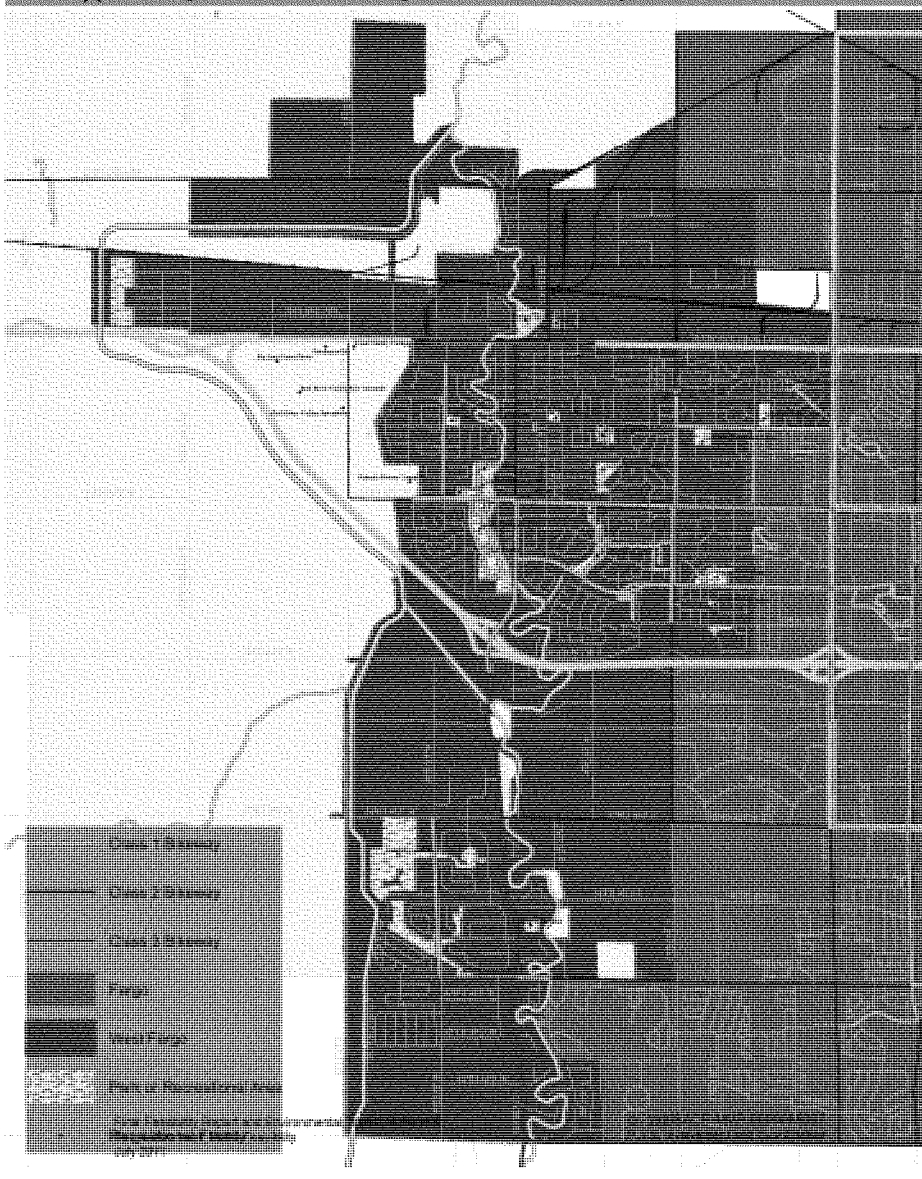
Table 10

Table 10	West Fargo School District Enrollment										
School (grades)	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
E.C.C.	377	356	403	395	372	384	411	428	383	443	470
Berger (1-6)	436	463	454	463	488	538	524	521	403	425	435
Eastwood (1-6)	558	557	536	557	553	565	570	596	477	475	478
Harwood (1-6)	160	118	129	144	137	139	141	147	162	151	145
Horace (1-6)	197	187	195	182	193	196	206	203	223	190	238
South (1-6)	475	480	491	521	541	547	572	619	528	517	504
Westside (1-6)	458	452	441	464	455	445	460	484	522	597	670
Middle School (7-8)	787	734	794	762	765	815	825	817	1,317	1,336	1,377
High School (9-12)	1369	1419	1414	1436	1526	1490	1514	1530	1508	1567	1590
Community HS (9-12)	45	46	44	45	46	45	45	45	45	56	59
Tuition Out-of-District	16	15	15	15	16	16	16	16	16	16	16
DISTRICT TOTAL	**4878**	**4827**	**4916**	**4984**	**5092**	**5180**	**5284**	**5406**	**5584**	**5773**	**5982**

In the Fall of 2007 the West Fargo School Distriet opened Aurora Elementary School in Eagle Run. The addition of Aurora reduced the enrollment boundaries of Westside Elementary, which originally served Eagle Run. Aurora is the 5th elementary school in the City of West Fargo. The West Fargo School District also has elementary schools in Harwood and Horace.

In 2007 the West Fargo School District opened the 9th Grade Center. The 9th Grade Academy will remove 9th graders from the West Fargo High School. The Academy will be located at the intersection of 9th Street and 40th Avenue. As West Fargo grows it is very possible that at least one additional elementary facility will be needed south of I-94. It is possible the school district will need to contemplate a 2nd high school early in the next decade.

Figure 7: West Fargo Parks and Bicycle Facilities



PARKS & RECREATION

As West Fargo has grown in recent years so have the facilities of the West Fargo Park District. Table 11 illustrates existing park district facilities in the City of West Fargo. Currently West Fargo has 19 various park facilities throughout the city. These facilities include soccer complexes, neighborhood parks, and multipurpose facilities such as Veterans Memorial Arena.

Table 11

West Fargo Park District: Facility Index

	Picnic Shelters	Hiking/Biking Trails	Outdoor Pool	Tennis	Sledding	Cross-Country Skiing	BMX Track	Ice Hockey/Skating Rinks	Baseball/Softball Fields	Soccer Fields	Basketball Courts	Volleyball Courts	Playground	Skate Park	Horseshoes	9- Hole Disc Golf
North Elmwood Park	x	x			x	x		x	x		x	x	x	x	x	
South Elmwood Park		x				x	x		x				x			
Westside Park	x								x		x		x			
Citizens Park																
13th Ave Playground Park																
Herb Tintes Park			x	x				x					x			
Service Club Park	x	x								x	x		x			
Tower Soccer Complex										x						
Veterans Memorial Area				x				x		x		x				
Meadowridge Park		x							x	x	x		x			
Meadowridge Tot Lot														x		
Maplewood Park	x	x			x			x			x		x			
Armour Park (Oak Leaf Park)	x	x				x						x	x		x	x
Pinewood Park													x			
Riverside Park													x			
Charleswood Park Areas		x								x			x			
Arbor Woods																
40th Avenue W Park	x	x											x			
Rendezvous Park	x	x				x					x	x	x			
Scheels Soccer Complex										x						

Figure 7 shows the geographic location of West Fargo's park facilities. Figure 7 also demonstrate bike facilities within the City of West Fargo. Currently West Fargo has a mix of recreation facilities throughout the community, both large and small. As the community grows, demand for enhanced facilities and services will increase.

TRANSPORATION

Roadway System

The City of West Fargo is located in relation to several major roadways, including US Highway 10, Interstate 94, and Interstate 29. West Fargo has direct access to Interstate 94 at its junction with US Highway 10. Figure 8 demonstrates major transportation facilities within the City of West Fargo. As of 2007 West Fargo had approximately 141 miles of functionally classed roadways.

Currently West Fargo's main north-south corridors include Sheyenne Street and 9th Street. Major east-west corridors in West Fargo include Main Avenue, 13th Avenue, 7th Avenue and 17th Avenue.

Transit

West Fargo currently receives transit service from Metro Area Transit through an operating contract with the City of Fargo. The City of West Fargo currently pays the City of Fargo an hourly rate for provision of the West Fargo Route. West Fargo is provided a dedicated MAT fixed route which operates 12 hours a day, six days per week on a 60 minute headway. Figure 8 illustrates the current West Fargo MAT Route. The West Fargo MAT Route transfers with the four other MAT Routes at West Acres once each hour.

Table 12

MAT Fixed Route Usage in West Fargo							
Year	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**
Ridership	5,640	8,060	11,458	13,776	16,380	20,632	25,127
Pct. Increase	x	42.91%	42.16%	20.23%	18.90%	25.96%	21.79%

Table 12 highlights fixed route ridership on the West Fargo MAT Route since 2000. As is clear ridership has grown steadily though out the last several years in West Fargo. As shown on Figure 8 transit service in West Fargo focuses on the 13th Avenue corridor and the older parts of the community. There is currently no service to the newer areas south of 13th Avenue.

West Fargo also receives MAT Paratransit service from MAT which is available to eligible residents who qualify for the service. Currently the MAT Paratransit service boundary covers all of West Fargo. Table 13 demonstrates usage of MAT Paratransit by West Fargo since 2000. Ridership has tripled in West Fargo since 2000. The cost to provide paratransit service is currently an issue of discussion for Metro Area Transit. Currently West Fargo pays the City of Fargo $12.70 for each one-way ride it provides on MAT Paratransit.

Figure 8: West Fargo Transportation Infrastructure

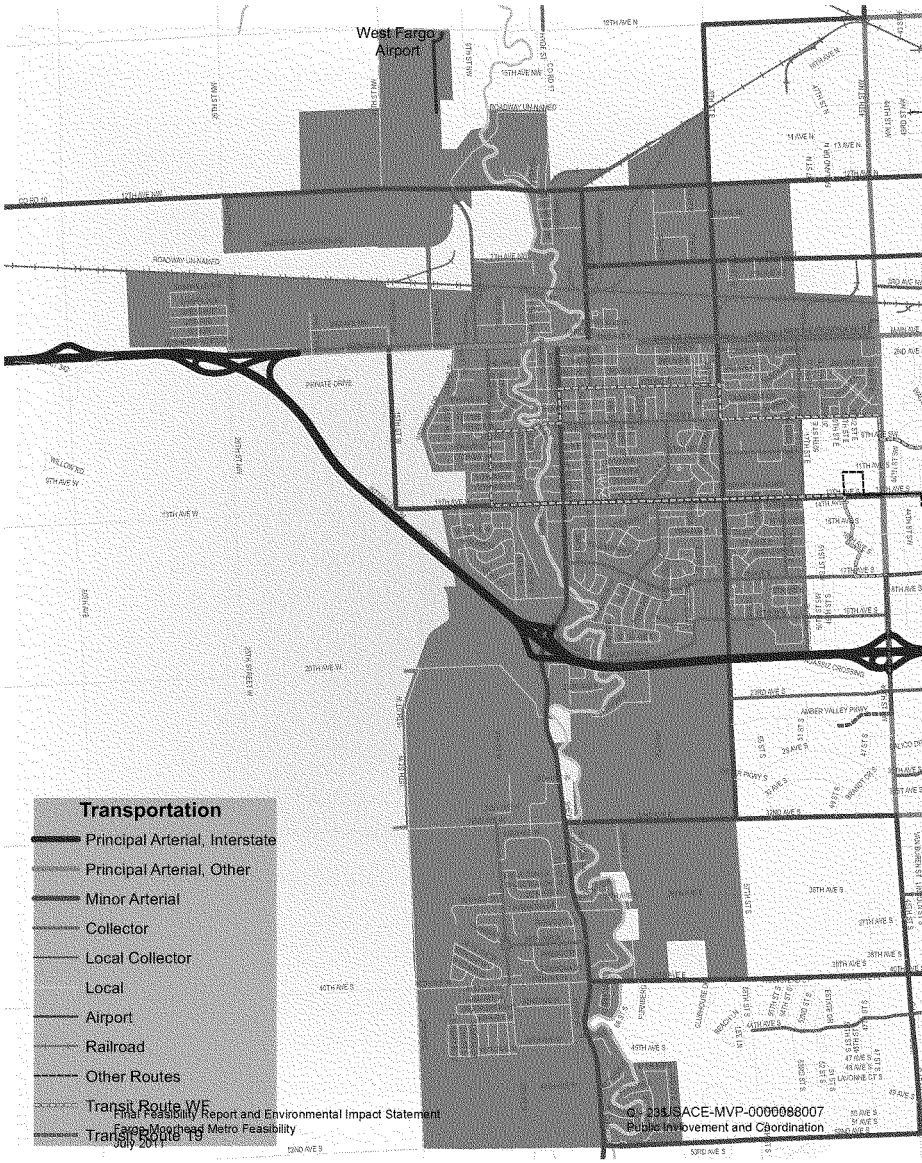


Table 13

MAT Paratransit Ridership in West Fargo			
Year	West Fargo	Total System*	West Fargo Share
2000	2,214	28,512	7.77%
2001	2,377	27,829	8.54%
2002	2,635	27,978	9.42%
2003	2,573	35,163	7.32%
2004	3,802	40,151	9.47%
2005	4,464	41,619	10.73%
2006	6,424	48,989	13.11%
2007 (ytd)**	6,906	46,109	14.98%

**Includes ridership in all four metro cities*

*** Through October 2007*

Bikeways

As was demonstrated in Figure 7 West Fargo has a fairly extensive bike path system.

Aviation

West Fargo currently has a municipal airport which is governed by an independent airport authority board. The airport is located just east of the city lagoons, south of 19th Avenue North. The airport operates within the airspace of Hector International Airport in Fargo. For airports in its category, the West Fargo airport is the busiest in the state. The West Fargo airport currently has one runway and several hangars, one of which is owned by the City.

Rail

A set of two railroad tracks passes to the north of West Fargo, roughly parallel to Main Avenue. These tracks are owned by Burlington Northern Santa Fe (BNSF). As shown in Figure 8, a handful of spurs run off the BNSF line which passes north of West Fargo. Many of these spurs have been in place for some time to service existing industrial and agricultural uses in the area. Given the location of the BNSF mainline in relation to West Fargo, the tracks do not create the degree of auto conflict experienced in other parts of the metropolitan area.

CHAPTER 2 - PUBLIC INPUT SUMMARY

The West Fargo Comprehensive Plan is built on a public engagement process that maximized resident input early in the plan development process. The process was crafted with input from community leaders, stakeholders, and citizens. The public input process was multifaceted and included passive and active elements. The following narrative offers a snap shot of the public input process. Appendix 2 provides a detailed overview of the public input process which formed the basis of the West Fargo Comprehensive Plan.

STEERING COMMITTEE

The steering committee guided all elements of the study process. The committee represented a broad range of community interests. The committee assisted in setting the tone of the study process and provided critical input into all elements of plan development. The steering committee met 7 times throughout the plan development process. The steering committee was identified in the introduction section of this document.

WEB PAGE

The web page www.westfargoplan.org was developed to allow community members and interested persons access to the planning process. The page was used to post key documents, plan elements, and meeting notices. The web page was visited a total of 589 times, primarily by community residents and other interested persons.

COMMUNITY EVENTS

Metro COG staff attended the West Fargo Spring Business Expo and one Business after Hours event. Both were sponsored by the West Fargo Chamber of Commerce. At both events Metro COG gathered passive input from a cumulative total of over 110 community residents. Both events were used to gather input into the planning process and also educate community residents about the planning process in general. The comments received at both events were generally in line with those comments portrayed in other elements of the public input summary. In an effort to further alter the community to the Comprehensive Plan update, Metro COG included an 8.5 x 11 poster in the April West Fargo Chamber of Commerce Newsletter. The newsletter had an estimated distribution of 500 businesses and households.

COMMUNITY INPUT MEETING

A community input meeting was held on May 10, 2007 at the West Fargo Chamber of Commerce. Nearly 50 residents attended the community input meeting. The intent of the meeting was to gather early input from West Fargo residents. The information gathered at the meeting was used to assist in the update of the West Fargo Comprehensive Plan (Plan). Residents were provided with 8 interactive poster boards to help solicit input on a range of community issues. Comment cards/sheets were also provided for residents to share general comments and observations.

ONLINE COMMUNITY SURVEY

An online survey was developed as part of the update of the West Fargo Comprehensive Plan (Plan). The survey was designed in consultation with West Fargo Planning staff and the steering committee. The survey was designed to gather input on a battery of issues within the City of West Fargo. The survey contained questions covering a range of topics including: Demographics, Community Image & Identity, Community Growth, Community Vision, Land use & Development, Transportation and Community Facilities. What follows is a narrative summary of the sentiment gleaned from the community survey.

FOCUS GROUPS

A total of seven focus groups were held to help gather input and assist in the formulation of key elements of the plan development.

- Township/County/Abutting Jurisdictions – This group consisted of entities which abut West Fargo and representatives from land areas which are in West Fargo's ET.
- New/Growth Area Business – This group consisted of smaller businesses which are in the growth areas of the City.
- Redevelopment/Downtown Business – This group consisted of businesses which are in older/established parts of the city which may be undergoing redevelopment or renaissance efforts.
- Housing – This group consisted of individuals in the housing industry, including builders and developers, but also included realtors.
- Public Official – The group consisted of administration and elected officials from the Park District, School District, and City of West Fargo.
- Special Issues/Services – This group consisted of representation from the elderly, disabled, and New American communities, among others.
- Infrastructure – This group consisted of key municipal staff and administration and would focus on short and long range infrastructure needs and issues.

COMMUNITY OPEN HOUSE

On October 16th, 2007, Metro COG and the City of West Fargo hosted an Open House at the Loeden Center to share the elements of the Draft Comprehensive Plan. Nearly 40 community members participated in the Open House and shared their ideas on the draft elements of the Comprehensive Plan. Comments received as part of the Open House were integrated into the planning process.

CHAPTER 3 - STRATEGIC ISSUES

As West Fargo moves forward it needs to recognize the importance of a handful of strategic issues. The strategic issues identified below form the foundation of West Fargo's community strategy and the framework for its Comprehensive Plan. The strategic issues are a direct outgrowth of the public input process of the Comprehensive Plan itself. The strategic issues are the culmination of and combination of a broad range of ideas, issues, and opportunities which surfaced during the public input process of the Comprehensive Plan. The strategic initiatives will be sewn through out the Comprehensive Plan and will tie together the plans many parts into a cohesive document.

COMMUNITY REINVESTMENT & REBIRTH

West Fargo has reached the point as a community where it must focus on its older residential and commercial areas. Maximizing existing flood protected areas and existing and future infrastructure investment is dependent on West Fargo's ability to guide development back into older neighborhoods. Neighborhood preservation and revitalization polices will prove critical in keeping West Fargo's core neighborhoods vibrant and economically competitive.

The Community Reinvestment and Rebirth strategy includes downtown West Fargo and many of the communities' older commercial and industrial areas, many of which are strung along the Sheyenne Street and Main Avenue corridor. A reinvestment and rebirth strategy covering Main Avenue and the northern portions of Sheyenne Street will be paramount to achieving an economic and social identity for West Fargo's traditional centers of commerce and living.

REGIONAL & INSTITUTIONAL COOPERATION

As West Fargo moves forward with the development and implementation of community facilities and infrastructure it will be critical that it reach out to its neighboring communities to discuss options for cooperation and collaboration. The City of West Fargo needs to reach out to and cooperate with the West Fargo School District and the West Fargo Park District. West Fargo is one part of a larger region, and recognizing its place with in the region will assist West Fargo in making the strategic partnerships that not only support the larger regional good, but also help grow West Fargo itself. As the fastest growing community in the region West Fargo may wish to reassess its role in brokering regional dialogue on a number of regionally significant issues.

COMMUNITY GROWTH

West Fargo is making long range infrastructure plans based on a build out population of roughly 45,000. There is a desire among residents for West Fargo to keeps its population around 40,000 people. There is also a sentiment among some in the community that West Fargo should not limit its population. If West Fargo wishes to grow beyond a population of 45,000 it must begin to plan for that growth now. Growth beyond 45,000 will require the City to increase land use densities and development patterns and refocus growth at

existing neighborhoods and commercial areas. As well, substantial growth beyond 45,000 will require the City to prepare for flood protection west of the Sheyenne Diversion.

INFRASTRUCTURE BALANCE AND PRIORITIZATION

The largest issue facing West Fargo is the need to provide a broad range of infrastructure and facilities to support its current footprint and the development which is expected in its southern growth area. The City of West Fargo must look at its future growth and determine how it wishes to prioritize new infrastructure development. In many cases the provision of new infrastructure will require a balance between West Fargo's growth areas and the core of the City.

A CITY OF NEIGHBORHOODS

West Fargo residents value the sense of place and sense of community that comes with being a resident of the community. Residents owe this sense of place to the existence of unique and well maintained neighborhoods. As West Fargo continues to grow it must work to ensure that new residential developments contain the building blocks of strong neighborhoods. At the same time West Fargo must maintain its core neighborhoods which make up the heart of the community. The balance between the new and old neighborhood fabric in West Fargo will be critical. Sewing the varied and diverse neighborhoods and districts of the community together will help preserve the small town mood and spirit which embodies West Fargo.

PRESERVATION OF SMALL TOWN ATMOSPHERE

West Fargo residents of all vintage point to West Fargo's small town atmosphere as a key community characteristic. Residents feel strongly the small town atmosphere should be preserved as the city continues to grow. West Fargo has nearly 25,000 residents and is part of metro area with a population of nearly 180,000. The small town atmosphere is really more figurative than literal. The atmosphere which residents perceive is actually more of mood and spirit which the community currently embodies.

As West Fargo grows it must continually evolve and implement tools and techniques to preserve the mood and spirit of a small town, even though it is no longer a small town. Preserving the small town sense of place has much to do with other strategic initiatives already identified, primarily building and maintaining neighborhoods and providing good neighborhood based schools.

SCHOOL DISTRICT

One of the most significant factors behind the growth of West Fargo has been the growth and leadership of the West Fargo School District. Residents perceive the West Fargo School District as visionary. In many cases the school district is perceived as having a better long range plan than municipal government itself. In fast growing communities the facility planning of the school district will direct and influence the physical form of the municipality. There is the need for perpetual coordination and cooperation between the School District and the City of West Fargo to ensure symmetry in the direction of both entities.

CHAPTER 4 - ISSUES ANALYSIS

The Strategic Issues identified in Chapter 3 are the building blocks of the West Fargo Comprehensive Plan. The following is an analysis of the Strategies Issues and an expanded understanding of how each relates to specific on the ground activities in West Fargo. The Issues Analysis provides a framework of initiatives and next steps for the City of West Fargo in the coming years. The issues analysis ties the Strategic Initiatives into measurable implementation actions for the City of West Fargo. The Issues Analysis will translate into the Goals and Polices which will be discussed in Chapter 7.

COMMUNITY GROWTH

There is a mix of ideas on exactly how big West Fargo should be as a community. West Fargo will develop into a community of roughly 42,000 once it has filled in the flood protected areas south of I-94.

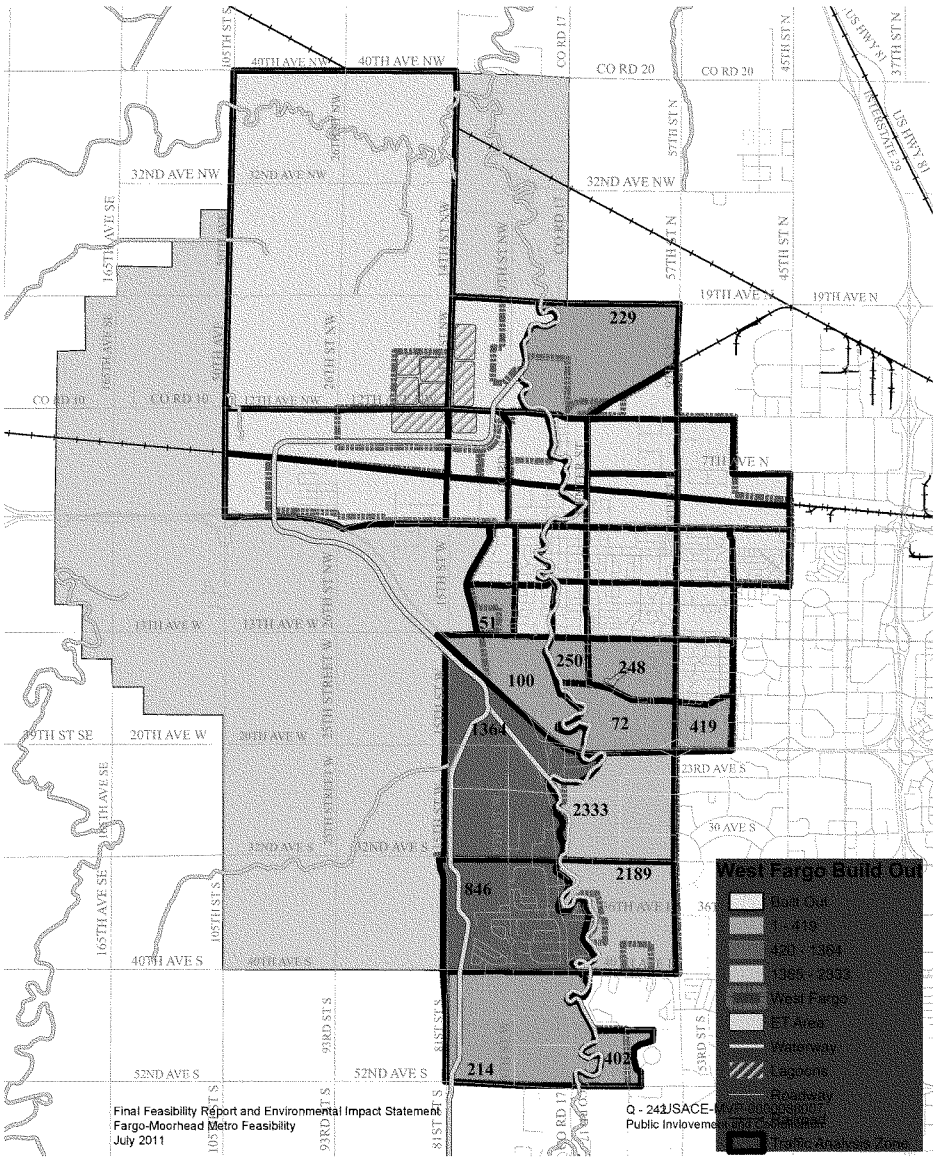
As of the preparation of this plan the area south of I-94 is 15 to 20% developed. Based on current estimates there is the potential for another 9,000 housing units south of I-94. The bulk of the remaining build out in the southern growth areas will be north and west of the intersection of 32nd Avenue and Sheyenne Street; and north of 40th Avenue east of the Sheyenne River. The land between 46th and 52nd Avenue west of Sheyenne Street is also relatively undeveloped. Figure 9 demonstrates where the remainder of household growth is projected within the City of West Fargo. This build out projection assumes the community will build out under current land development policies. With the exception of the area northwest of West Fargo, these projections only include the existing corporate limits of West Fargo.

West Fargo can establish a vision for itself as a community of whatever size it thinks it wants to be. However the market is likely to dictate just exactly how large West Fargo eventually becomes as a city. What West Fargo can control is how it develops and grows as a community. As West Fargo grows it must protect two somewhat interrelated concepts. One is its small town atmosphere and the second is its neighborhood orientated development pattern. Development patterns determine the type of feel and sense of place a community exudes.

Land Use Patterns

West Fargo residents are supportive of development patterns which have typified the community's growth over the past two decades. At the same time if West Fargo wishes to maximize existing flood protected areas it may be worth exploring alternative land development scenarios in strategic locations throughout the community. Though residents tend to disapprove of large scale higher density development, they are more supportive of moderate or mixed density settings which offer a range of housing types within a geographic area.

Figure 9: Household Buildout Projections 2008 & Beyond



West Fargo should consider flexibility from standard development practice to allow for neo-traditional development patterns. Neo-traditional principles would include the development of smaller frontage lots. Smaller frontage lots will reduce the amount of assessable front footage (i.e. lower special assessments) and also allow for slightly higher land densities. Neo-traditional development would allow for the inclusion of alleys in developments. Alleys defray on street parking needs and also allow for garages to be faced away from the street. While the creation of alleys is likely close to cost neutral from an infrastructure standpoint, they do offer an atypical setting.

Another neo-traditional development concept which may be accepted by West Fargo residents is mixed commercial uses in neighborhood settings. Better know as neighborhood commercial. Neighborhood commercial development allows for the placement of to-scale commercial development within residential areas. The type of commercial use typically permitted in residential areas is those which generate traffic from the abutting neighborhood. Typically this would be a convenience store or other store front retail.

Infill Development

A strategy that relates backs to neighborhood revitalization is infill development. Infill development is the development of empty lots and parcels within previously developed areas. In many cases these infill lots occur in older commercial, industrial, or residential areas. Sometimes the land has never been developed or in other cases the structures on the land are no longer habitable and can be redeveloped. In either case infill development is a strategy which can be used to maximize existing infrastructure investments and also used to revitalize older parts of the community. Infill development also adds to the local tax base by bringing new or improved property to the tax rolls. There is potential for infill development in the older parts of downtown West Fargo through programs such as the Downtown Improvement District (DID) and the Neighborhood Reinvestment Program (NRP), as discussed later.

Beyond the Diversion

As West Fargo continues to build out its current municipal footprint in its southern growth areas, pressure will intensify to develop outside of the Sheyenne Diversion. Pressure to develop west of the Sheyenne Diversion will also magnify as land values increase within the diversion.

Two issues present themselves as problems as the City considers development outside of the Sheyenne Diversion. One is flood protection and the second is infrastructure costs. West Fargo has not analyzed either issue in the short-term. West Fargo is most focused on ensuring the prudent development of lands within the Sheyenne Diversion. Development outside of the Sheyenne Diversion will need to be done under a clearly understand development framework. This framework will take time to develop and will

need to be preceded by the decision that the City is prepared to extend itself beyond the Diversion.

It is recognized the areas south of 32nd Avenue are generally less flood prone than those to the north of 32nd Avenue. This roughly equates to about one total section (640 acres) of marginally developable land. However, it would not be wise to allow development outside of the Sheyenne Diversion under a piece meal flood protection scheme. Prior to allowing the deployment of smaller flood protection efforts outside of the Sheyenne Diversion, West Fargo should engage its regional partners in an effort to understand a method to more comprehensively address flood control outside of the Sheyenne Diversion. Beyond flood control issues, development outside of the Sheyenne Diversion will also have infrastructure ramifications for the City of West Fargo.

Premature development outside of the Sheyenne Diversion will put a burden on existing infrastructure resources. The City of West Fargo is already struggling to direct new resources into its growth areas south of I-94. Allowing large scale municipally serviced development outside of the Sheyenne Diversion will further exacerbate the situation. As part of further analyzing development outside of the Sheyenne Diversion, West Fargo should clearly document the fiscal impact on currently programmed infrastructure needs of service extension west of the Sheyenne Diversion.

West Fargo should not grow out of the Sheyenne Diversion until such time as a long range development framework plan is in place for these areas. As well, growth outside of the Sheyenne Diversion should not occur until West Fargo has programmed the necessary infrastructure needs for such into its short and long range capital improvement programs.

Workforce Housing

As West Fargo grows it needs to ensure it is providing an adequate mix of housing types. Of importance is a recognition of affordable or workforce housing needs. Workforce housing is housing which is affordable to those households which are at approximately 80 to 130% of median income for the region. Workforce households make up roughly 30% of the metro households and are very susceptible to market and policy changes which impact housing prices. West Fargo needs to work internally to ensure workforce housing needs are being met, as well West Fargo needs to continue the regional dialogue started with approval of the Regional Workforce Housing Profile in 2006.

A City of Neighborhoods

Residential Stability

Residential stability ties back into the notion of a neighborhood reinvestment program for older neighborhoods of West Fargo. Keeping neighborhoods fluid and vibrant requires the injection of new families (or homeowners) and the steady flow of new dollars into the housing stock. In addition to financing programs which work to distribute dollars into older neighborhoods, other soft tools are needed to promote neighborhoods stability. One

of the most successful tools to promote neighborhood stability is neighborhood associations.

Neighborhood associations come in many different varieties. However, the basics of a neighborhood association are simply a group of residents who meet on a somewhat regular basis and discuss issues relevant to the neighborhood. In some cases the associations will have official membership and board members, and conduct official business, etc. In other cases the association will be an informal gathering of neighborhood residents.

Neighborhood associations are a reliable way to increase communication among neighbors. Increased communication among neighbors facilitates the ability of neighborhoods to be proactive in fighting against blight, crime, and municipal issues of importance within the neighborhood; among others. A strong group of neighbors, or neighborhood associations, can go a long way to ensuring specific neighborhood interests are taken care of.

Often neighborhood level issues are tackled by a handful of residents and to often the efforts fail due to a lack of influence. The intent of a neighborhood association is to empower the entire neighborhood in order to bring adequate influence on relevant issues or topics which have an impact on the neighborhood. The ideas of neighborhood empowerment discussed here are borrowed from, and more fully thought out, in *The Death and Life of Great American Cities*, by Jane Jacobs.

The City of West Fargo should promote the creation of neighborhood associations throughout the City. Additionally, the City should seriously explore the creation of a downtown business association. The downtown business association would be a formal association of member businesses dedicated to improving the downtown business environment, both physically and perceptually.

Neighborhood Schools

West Fargo residents value their quality schools and their neighborhoods. Taken together West Fargo residents value neighborhood schools. The notion of neighborhood schools has become somewhat skewed in the era of the automobile and urban sprawl. In older neighborhoods elementary schools play a critical role in ensuring the stability of the residential housing stock around them.

It is expected that in West Fargo's newer areas the development of a school for every neighborhood is unlikely. At the same time, these neighborhoods will not depend as heavily on the school itself to protect residential stability and property values.

In West Fargo's core neighborhoods, the preservation of existing elementary schools should be considered a priority for the City of West Fargo and the West Fargo School District. Of particular importance are L.E. Berger, Eastwood, and Southside. All three of these elementary schools have an anchoring effect on the adjacent residential property.

The eventual closure of any of theses facilities in the future could likely be quantifiably justified to allow for the development of additional sites south of I-94. The impact on the local neighborhoods of such a decision would have a direct impact on those adjacent residential properties. The closure or realignment of existing neighborhood schools to justify the creation of new satellite sites should be discouraged by the City of West Fargo.

PRESERVATION OF SMALL TOWN ATMOSPHERE

Residents of West Fargo identify first and foremost with the small town atmosphere which pervades the community as a quality they value about the city. West Fargo long ago dropped its classification as a small town. What West Fargo currently has, and what is must endeavor to keep alive, is the internal mood and spirit of a small town. The spirit and mood can be maintained and fostered through a host of ways, some of which have already been discussed in this section.

Neighborhood identification and connectivity are important to reassuring West Fargo residents that they are part of a community of neighbors and neighborhoods. Keeping unique neighborhood development patterns in place and allowing for neighbors and neighborhoods to flow into and out of one another will assist in fostering a sense of community within the West Fargo population.

Community events and gatherings, whether community wide or neighborhood specific, help foster a sense of pride and belonging among community residents. Events such as West Fest and other smaller events are critical to keeping alive the community spirit of West Fargo. As West Fargo continues to grow it must become creative in developing new events and activities which capture all the residents of the community, new and old. Events and activities should be structured geographically to ensure residents of West Fargo are exposed to the entire community, from downtown Sheyenne Street to Rendezvous Park.

West Fargo has become a community of contrast. Capitalizing on this contrast will help demonstrate the many sides of the community. By capturing these community contrasts now, residents will have a chance to prepare for even more change and contrast as the community grows in coming years.

The value and uniqueness of downtown Sheyenne Street will only intensify as the areas south of I-94 develop in the coming decades. Drawing a connection between West Fargo's historic core and its suburban fringe is critical to protecting West Fargo mood and spirit as a community.

The public school system in West Fargo has had a unifying force on the community. This trend is not likely to change in the future. The school system must continue to play its part at reaffirming West Fargo's small town ambience.

SCHOOL DISTRICT

Much of the growth which has occurred in West Fargo can be attributed to the foresight of the West Fargo School District. Among residents of the community the school district is seen as having a long range vision. It will be critical that the long range planning of the school district be coordinated with the long range planning of the City of West Fargo. Many times the acquisition of lands for future school sites is done well in advance of the actual development. The school district should consult with the existing land use and infrastructure plan for the City prior to acquiring property for new school sites.

Realignment strategies which may be considered by the School District should be done only after consultation with municipal planning staff. Changes in facility use can have a dramatic impact on adjacent traffic patterns and also on the land use dynamic of the immediate areas.

As was already discussed, the older neighborhood schools in West Fargo are critical elements of the community fabric. The School District should avoid closure or realignment of these facilities at all costs.

COMMUNITY REINVESTMENT & REBIRTH

West Fargo has an opportunity to reinvest within the core of its city, both its residential and commercial core. Reinvestment with in West Fargo's core gives the community an opportunity to allow for a rebirth of many of West Fargo's traditional residential areas and commercial areas. There are three primary target areas where the city needs to pursue a program of reinvestment and rebirth. All three are interrelated, and all three occur in and around the downtown. The three target areas are the Renaissance Zone, Main Avenue Investment District (DID), and the Neighborhood Reinvestment Program (NRP). All three areas are demonstrated in Figure 10.

Renaissance Zone

West Fargo created a Renaissance Zone in 2000. The zone covers the area depicted in Figure 10. The intent of the zone is to provide tax incentives for property owners to improve structures and properties. Since inception the program has been successful in inciting a number of positive changes with in West Fargo's downtown business district. Since inception the program has impacted over 30 properties and invested over $3,000,000 into downtown West Fargo.

West Fargo must continue to fully utilize the program to continue the reinvestment in downtown. With the start of the reconstruction of Main Avenue in 2009 the City has an opportunity to catalyze measurable business reinvestment along the portion of Main Avenue which passes through downtown.

Downtown Improvement District

The West Fargo Comprehensive Plan identifies a Downtown Improvement District (DID). The DID is the core of West Fargo's Downtown. Figure 10 demonstrates the DID. The DID has been identified by the City of West Fargo as an area that should undergo intense scrutiny in the coming years. This area is the northern tier of West Fargo's downtown, essentially running from 5th Street East to the Sheyenne River.

The DID is a smattering of commercial, industrial and residential uses. West Fargo's future land use plan calls for primarily commercial uses in this area. In an effort to work the area into a more uniform district the City of West Fargo will pursue a reinvestment strategy for this area. The DID is anchored on each side by two key community landmarks, the Loeden Center and the Leidal Center. The strategy for the DID is to work with property owners to convert the area to a mixed use district of compatible businesses and appropriate housing types.

To assist with the transition of the DID to a mixed commercial and residential district the City of West Fargo may consider the creation of a reinvestment fund. The reinvestment fund would be used to acquire available properties and to also assist with the strategic infrastructure improvements in the DID. It is not recommended the City purse an aggressive acquisition strategy; rather the City would work with willing property owners on buy out agreements, as appropriate and as the market dictates. As properties come available the City would look to use the reinvestment fund to purchase the properties. The overall strategy in the DID would be to bundle acquired property into larger developable blocks of land. While this plan recommends the transition of the DID to a mixed use district, the City of West Fargo should consider a more detailed planning study of specific opportunities for transition of the DID.

Of particular interest within the DID is the existence of an alley system. The alley system presents some opportunities for increasing pedestrian activity in the area. As well the alley system along Main Avenue and Sheyenne Street offer some rear-entrance gathering spaces. While the overall DID area contains a smattering of poor condition residential structures, the overall area does appear to be in good shape. Of note, too, are a handful of home-based businesses. The existing industrial and commercial structures with in the DID appear to be near full occupancy.

There is the desire on the part of West Fargo to convert the DID to a more mixed commercial and residential district. The physical and structural fabric of this area does not lend itself to an easy conversion to such a district. Many of the structures within the DID are larger industrial type structures. However opportunities exist for a limited transition to more of a mixed use town center.

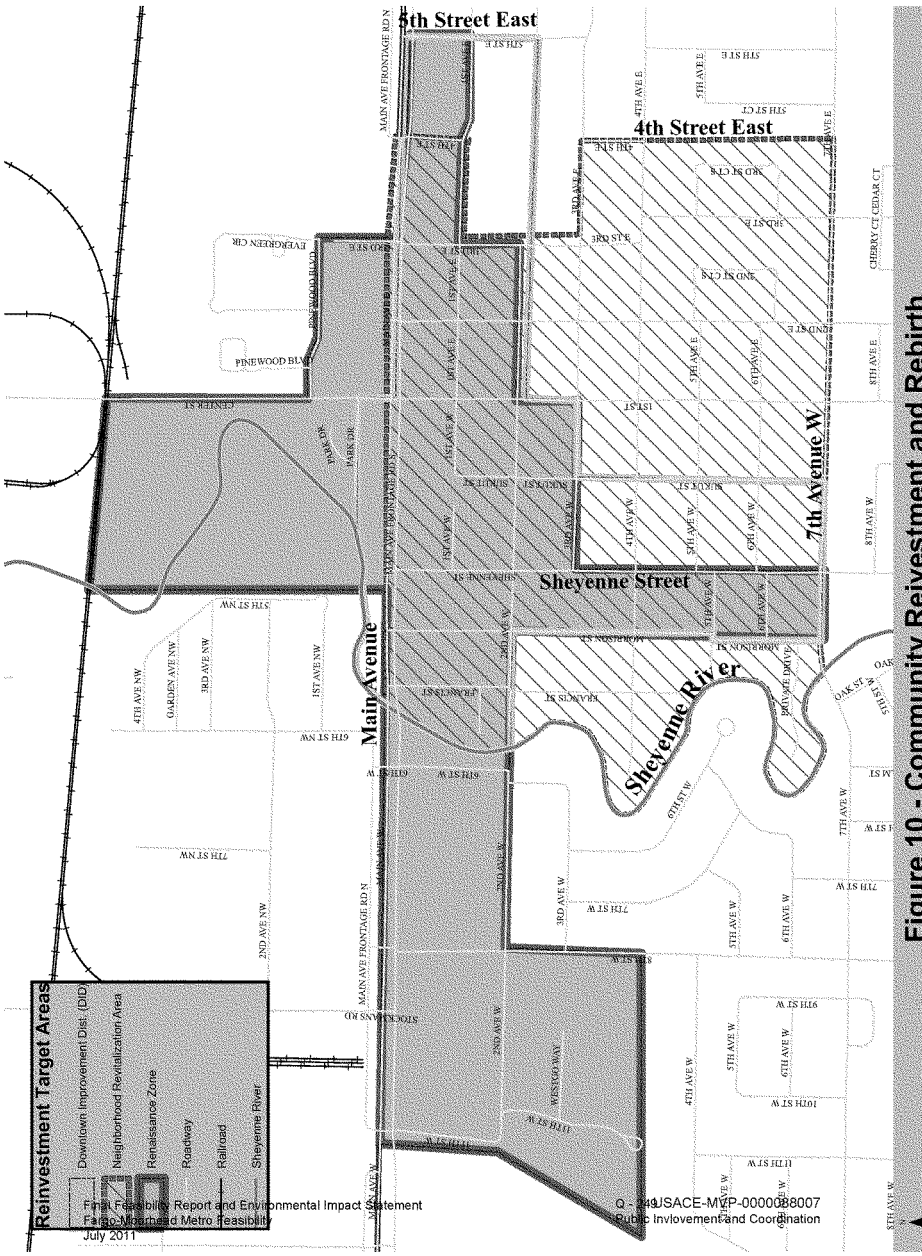


Figure 10 - Community Reivestment and Rebirth

Figure 11: Downtown Crossroads

Connection to Green Space

Amour Park is located just north of Main Avenue, and in close proximity to downtown. However there is no easy connection between downtown and Armour Park. The City and the Park District may wish to explore the creation of a pedestrian bridge between Armour Park and the downtown. A pedestrian river crossing could be provided in the area near the Sheyenne Street and Main Avenue Intersection. The creation of a new pedestrian crossing of the Sheyenne River near Armour Park would add a direct link to green space from the downtown, and vice versa. A pedestrian linkage in this area would make Armour Park more assessable to residential areas south of downtown.

A river crossing near the intersection of Main Avenue and Sheyenne Street could serve as the anchor for the development of a community gateway or focal point at the crossroads of downtown West Fargo. A river crossing at Main Avenue and Sheyenne would also relate well with the development of a passive green space to the east of Dan's Oil, as mentioned earlier. Figure 11 illustrates the potential in this area.

Main Avenue Reconstruction

The reconstruction of Main Avenue will start in 2009 and will last until at least 2013. The project will provide West Fargo an opportunity to create a new sense of place along the entire corridor. West Fargo should use the creation of the DID as described earlier, as an opportunity to oversee a reasonable transition of the Main Avenue corridor as it passes through West Fargo's downtown.

The Main Avenue reconstruction has the ability to negatively impact adjacent businesses along the corridor, especially those which depend on drive by traffic. West Fargo needs to prepare for the potential that some businesses along the corridor could be seriously impacted during the construction season. West Fargo should work with existing businesses to prepare a signage and detour plan that allows motorists easy access to adjacent businesses.

West Fargo should work closely with the ND DOT to ensure that construction staging and planning is communicated with the public and adjacent business owners. West Fargo and ND DOT should work to create an ongoing communication plan that serves to update local and regional commuters as to anticipated changes in traffic patterns and times when measurable congestion will be anticipated.

Neighborhood Revitalization

The City of West Fargo should build upon the model of the renaissance zone and develop a similar program which is aimed at its older residential areas. A neighborhood reinvestment program (NRP) is seen as critical to the overall health of West Fargo. The intent of the NRP would be to direct low interest loans at targeted neighborhoods within the city. The loans would be used to fund improvements to structures and property within the program area. Unlike federally funded housing programs, the NRP is envisioned as a

more income flexible program which uses the value of the target property as a criterion more so than the income of the household. In many cases NRP programs are locally funded through a host funding mechanisms and usually require the cooperation of a local financial institution. After working with city staff a potential NRP target area has been identified for the City of West Fargo. Figure 10 demonstrates the neighborhood revitalization program area.

The NRP keeps older neighborhoods attractive to younger and first time home buyers. Providing low interest fix up money to homeowners within the program area helps keep dollars flowing into older neighborhoods in the community. Programs like the NRP preserve home values by deterring blight.

In many communities neighborhood reinvestment programs are used to attract younger families to older neighborhoods, which also help support the enrollment in neighborhood elementary schools. With out adequate incentive for investment in older neighborhoods, many homebuyers look past older traditional neighborhoods for the recently developed or developing areas. The provision of an NRP can promote affordable housing within the community. Many older homes are affordable to a range of home seekers. Without adequate incentives for upgrade many potentially affordable housing units don't turn over into the hands of younger homebuyers.

REGIONAL & INSTITUTIONAL COOPERATION

Exurban Land Use Coordination

West Fargo has the opportunity to influence rural development occurring adjacent to the urbanized area. Off-the-grid development patterns on the fringes of West Fargo are seen as incompatible with the long range growth pattern of West Fargo. Development patterns occurring in areas near West Fargo are not in sync with existing infrastructure blueprints. To the degree possible West Fargo needs to use its influence with Cass County, Townships, and smaller rural communities to promote a development pattern that not only works with the long range plans of West Fargo, but of the larger metro region.

Large scale rural development is costly from an infrastructure standpoint once the developments are annexed into a municipality. Even prior to being annexed into a city, many rural developments can place an undue burden on either County or Township financed roads and bridges. West Fargo has land use control in its Extraterritorial (ET) Area, as well as the ability to review and approve subdivisions of land in its ET. West Fargo is encouraged to scrutinize rural developments in its ET Area and to work with the County and Townships to review land division which come before the City.

West Fargo is encouraged to work with Cass County, the City of Fargo, and adjacent urbanizing communities to begin a dialogue on the long range sustainability of development patterns occurring on the fringes of the metro area. The inability of urbanizing communities to provide adequate infrastructure for themselves will place a mid-to-long burden on the larger communities of the metro area, including West Fargo.

After the fact agreements to provide infrastructure in lieu of in place development patterns are not in the best interest of West Fargo.

Flood Control

One of the issues which West Fargo will grapple with in the coming years is ensuring flood protection west of the Sheyenne Diversion. It is not a question of *if* development pressure will occur outside of the Sheyenne Diversion; it is a question of *when*. The Sheyenne Diversion was a project almost a half century in the making. A project of its scale would take at least as along to develop if initiated today. Flood control is not an issue unique to West Fargo. There is generally a consensus among West Fargo's neighbors that a larger flood control plan is needed for areas outside of the Sheyenne Diversion.

West Fargo may be wise to engage its neighbors in a discussion to understand the commonalities of flood control planning which exist among a host of regional entities. The process of regional flood control is an issue which West Fargo has the most to gain from.

Schools + Parks + City = West Fargo

There is clear consensus among the Park District, School District, and the municipal government of West Fargo that benefits can be achieved through collaborative efforts among the three entities. In an era of increasing demand for public goods and services and increasing skepticism of property tax increase, a strategy to provide coordinated services and facilities is viewed positively by the public.

West Fargo residents clearly understand they are dependent on the larger region for the provision of some of the services and amenities they enjoy on a daily basis. There is also a growing community desire to provide more of these services and amenities internally. Funding realities and simple economies of scale limit the production of each of the three entities by themselves. Whether it is new recreational facilities, a branch library, or a community center, all are likely to be most cost effective if brought to fruition through a collaborative effort of the City, School District, and Park District. While this Plan does not suggest any particular collaborative efforts initially, it does suggest increased communication among the entities. Key administrative staff from the City, School District, and Park District should meet several times annually to discuss topics of interest among all three entities. As well, the elected boards of each entity should have one annual meeting per year in which a consolidated agenda is prepared in advance.

INFRASTRUCTURE BALANCE AND PRIORITIZATION

Looking ahead West Fargo faces a host of infrastructure challenges. To assist in meeting these challenges the City has prepared a 5 year list of projects it feels are of utmost importance to the growth of the community. Figure 12 demonstrates the *major elements* of West Fargo five year (2008-2012) capital improvement program.

Long-range Capital Improvement Strategy

In the long range West Fargo needs to prepare a capital improvement strategy which addresses its growth over the 10 year window from 2012 to 2022. Among long-term capital needs are a host of critical improvements which will ensure the longer term growth of the City. Some long range capital projects are subject to development trends, however many have been identified at this point.

Figure 12: Capital Improvement Program 2008-2012*					
Project	**2008**	**2009**	**2010**	**2011**	**2012**
Water & Sewer					
Water Treatment Plant				■	■
9th Street Waterline (23rd to 32nd)	■				
12th Ave NW (Center to CR 17)	■				
Sheyenne Street (13th Ave to I-94)			■		
Sanitary Forcemain-Cargill lift to Yards		■			
Wastewater Lagoon Rehab		■			
32nd Avenue Waterline (w/land)	■				
Faith Lutheran Life Retrofit-Lift		■			
9th Grade Academy Water Tower					■
Water Treatment Plant Land Acquisition	■				
Water Treatment Plant Construction (regional)				■	■
Northside Well and Tower					■
Water System Improvements		■	■	■	■
7th Ave E Storm Lift				■	
12th Ave N Forcemain Replacement		■			
Street Construction & Reconstruction					
9th St Construction (23rd to 32nd Ave)	■				
6th St Reconstruct (12th Ave to 10th Ave)	■				
7th Ave E Reconstruction					■
9th Street Overpass	■				
9th Street Interchange					■
Main Avenue Project (To be completed in 3 Phases)		■		■	2013
9th St E (13th Ave to 15th Ave) Lane Median Mod.	■				
32nd Ave E Box Culvert		■			
9th St E/13th Ave Signal-SE Quad	■				
9th St E 40th Ave Signals	■				
9th St E 12th Ave N Signals		■			
9th St E (15th Ave to 19th Ave) Widening	■				
12th Ave N Reconstruct-Center to Co #17	■				
Sheyenne St Widening-13th to Interstate			■		
Pavement Management & Rehabilitation					
7th Ave Overlay-9th St to 45th St	■				
4th Ave Overlay-9th St To Sheyenne				■	
7th Ave Overlay-9th St to Sheyenne				■	
12th Ave North Rehabilitation			■		
17th St E Overlay-10th Ave to 13th Ave w/turn lane		■			
9th St Rehabilitation-Main Ave to 13th Ave	■				

*This list represents only major elements of West Fargo's CIP and should also be considered illustrative.

CHAPTER 5 - TRANSPORTATION PLAN

As a rapidly growing community West Fargo will need to maintain its existing transportation network while at the same time expand its future roadway network to keep pace with development. As West Fargo continues to develop to the south of I-94 it will need to prioritize a number of short and long range improvements to the transportation network of the community. Figure 13 shows year 2030 traffic volumes and the future functional class for West Fargo's transportation system.

Critical transportation improvements planned for West Fargo over the coming five year window were identified in Chapter 4 (Page 41) as part of the capital improvement program. The list is to be instructive as the city moves forward with budgeting local dollars and seeking state and Federal dollars.

CRITICAL CORRIDOR ANALYSIS

In an effort to assist in the programming of both short and long range transportation improvements in the City of West Fargo an examination was conducted of several key corridors throughout the community. The process included the analysis for future operational needs based on projected traffic volumes. The analysis was done by updating the 2030 traffic demand model for the metro area.

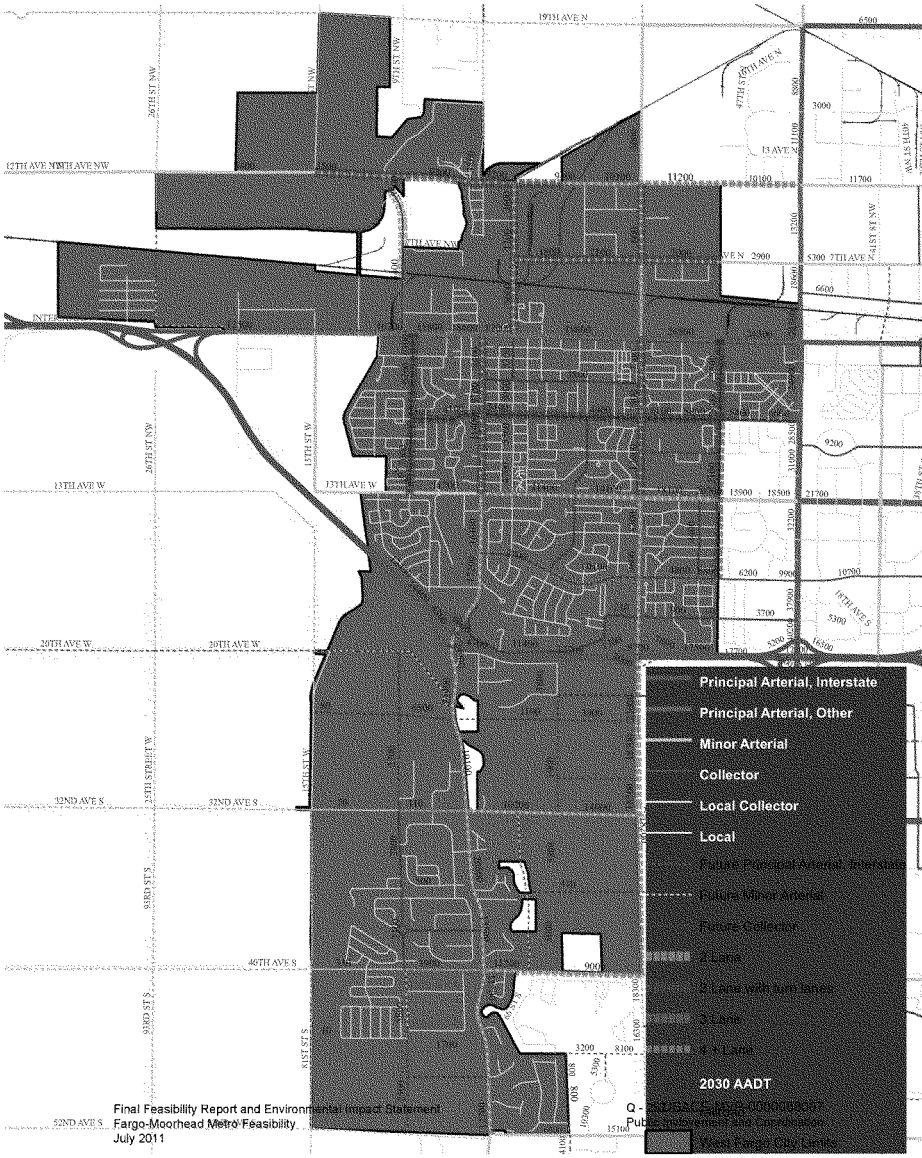
The volumes used for the analysis were those depicted in Figure 13. The intent of the corridor analysis is to provide West Fargo with an understanding as to the operational needs on several of its major corridors. The analysis done as part of the comprehensive plan can be used to develop more detailed corridor level analysis in coming years.

13th Avenue

13th Avenue in West Fargo is the western leg of one of the busiest commercial corridors in the metro area. Projected 2030 traffic volumes on 13th Avenue range from 20,000 ADT near 17th Street to 15,000 at Sheyenne Street.

Based on projected traffic volumes for 13th Avenue it is recommended the City of West Fargo continue to maintain the current 5-lane section (as either a four-lane section with medians and left turn bays, or a four-lane section with a two-way left turn lane) from 17th Street to Sheyenne Street for the foreseeable future. It appears that there is sufficient excess capacity on the existing roadway to handle any additional traffic generated by the development of the few remaining vacant parcels adjacent to the roadway. Existing right-turn bays should be preserved where they exist today, and additional right-turn bays may be necessary as the corridor nears full build-out. The emphasis on growth south of I-94 is likely to alter travel patterns somewhat in the near future. The development of commercial property south of I-94 is likely to attract trips from residential parcels south of I-94, limiting the growth potential for traffic on the 13th Avenue corridor.

Figure 13 - Future Transportation System



8th Street West

8th Street West is a north-south collector on the west side of West Fargo. Based on projected 2030 traffic volumes it is recommended that West Fargo rebuild the existing two lane profile of 8th Street. There is enough existing roadway to allow for the addition of a stripped center lane if deemed necessary in future years. Turn lanes should be provided along 8th Street at major intersections to avoid delays and to improve safety along the corridor.

Sheyenne Street

Sheyenne Street is a north-south arterial and its importance will continue to grow in the coming years as development continues south of I-94. West Fargo will need to be proactive along the southern stretches of Sheyenne Street to ensure improvements to the corridor are made in a timely fashion. While a number of needed capacity changes are not currently programmed for Sheyenne Street, a number of short range actions steps are identifiable.

Sheyenne Street between Main Avenue and 13th Avenue is projected to carry between 8,500 and 12,000 vehicles daily in 2030. Projected 2030 traffic volumes on Sheyenne Street south of 13th Avenue to the I-94 Interchange will range between 16,000 and 20,000 vehicles per day. Projected 2030 traffic volumes on Sheyenne Street south of I-94 will range from 20,000 to 30,000 throughout the corridor as far south at 52nd Avenue.

Recommended profile on Sheyenne Street from Main Avenue to 13th Avenue is a three lane section. The City should be flexible in the areas north of 7th Avenue to allow for measures which allow for a more appealing pedestrian environment.

From 13th Avenue to I-94 Sheyenne Street will likely function more as a through-arterial than a neighborhood street, despite the largely residential character of the surrounding area. It is recommended Sheyenne Street be re-built as a five-lane arterial, or as a four-lane arterial with left-turn bays. This will put the roadway function at odds with some of the land-use decisions that are already in place. For example, access from properties on the west side of the roadway comes in the form of individual driveways for each home, which is not desirable access control for an arterial of this nature. However, it is not insurmountable.

The City should approach homeowners along Sheyenne Street to discuss consolidation of driveways along Sheyenne Street to allow for few access points. Many of the homes west of Sheyenne Street are set back a considerable distance from the roadway, which both helps to mitigate issues such as noise and vibration of heavy traffic, and also provides potential opportunities such as driveway consolidation. For the developments on the east side of Sheyenne, good access control has been maintained. There appears to be sufficient right-of-way available between the existing west-side sidewalk and east-side multi-use path adjacent to Sheyenne Street that a five-lane section would fit without the need to disturb either. However, almost all of the existing boulevard trees would be destroyed in the process.

South of I-94 Sheyenne Street will require a four lane section with turn bays provided for at key intersections. Transition to a five-lane section south of I-94 will require the oversight and implementation of a number of short, mid, and long range actions steps. Of importance to improvements along the southern portions of the Sheyenne Street Corridor is a determination of the carrying capacity which can occur on Sheyenne Street at the interchange with I-94. There is currently some question as to the number of lanes which can be accommodated under the I-94 overpass.

In the immediate to mid-term West Fargo needs to conduct an analysis of the lane capacity at the Sheyenne Street/I-94 Interchange. West Fargo needs to scrutinize future access along the corridor; new access spacing should be limited to at least 660'. West Fargo also needs to be attentive of Cass County as they seek realignment of the 52nd Avenue intersection.

West Fargo should look to update the Sheyenne Street/CR 17 Corridor Study which was last completed in 2002. When timely, West Fargo needs to work with ND DOT to initiate a project concept report (PCR) on the Sheyenne Street corridor from I-94 to 52nd Avenue South. West Fargo would also be wise to regularly communicate with Fargo, Cass County and Horace on development proposals occurring along the corridor south of 52nd Avenue.

4th Avenue

Fourth Avenue runs between 9th Street East and Sheyenne Street. Fourth Avenue is a collector that serves primarily residential neighborhoods. Currently 4th Avenue operates efficiently as a two lane facility. Fourth Avenue is projected to carry 4000 vehicles per day in 2030. It is recommended that 4th Avenue be reconstructed as a two lane facility; however accommodations for left or right turn lane may be needed at various points along the corridor. Given the residential nature of the corridor accommodations need to be given for pedestrians, especially school aged children.

7th Avenue

Seventh Avenue is an important east –west corridor in the City of West Fargo. Seventh Avenue is projected to carry between 6,600 and 4,000 cars a day in 2030. The higher volumes will occur on the eastern portion of the corridor with the volumes dampening in the west. Volumes on 7th Avenue have already reached projected 2030 volumes. A two-lane section should be operationally sufficient for future traffic volumes, though the addition of turn bays may be necessary at 17th Street.

7th Avenue North

Seventh Avenue is a minor arterial in the industrial area north of Main Avenue. Seventh Avenue is projected to carry between 6,000 and 2,000 vehicles per day in 2030. The higher volumes occur east of 9th Street heading towards I-29. The profile of 7th Avenue between 9th Street and Center Street is adequate to meet current and future demand. West Fargo should work with the City of Fargo to rebuild 7th Avenue from 9th Street to I-29 as a three lane urban section.

Fargo should work with the City of Fargo to rebuild 7th Avenue from 9th to I-29 as a three lane urban section.

County Road 19 (9th Street NW)
County Road 19 is collector roadway which runs between Main Avenue and 12th Avenue NW. County Road 19 junctions with 12th Avenue NW to the west for a ½ mile and then continues to the north. County Road 19 currently operates efficiently as a two lane facility. Volumes on County Road 19 are projected to be 5600 in 2030. County Road 19 can function as a two lane facility given future traffic volumes. However, pending redevelopment of the Stockyards and the old Federal Beef site may impact volumes and movements along the corridor. Another consideration along the corridor is the grade separate with the BNSF line.

32nd Avenue
Thirty-second Avenue will carry between 20,000 and 25,000 vehicles by 2030, with the highest volumes near 9th Street East. West Fargo will need to widen 32nd Avenue to four lanes with left-turn bays from 9th Street East to 9th West to meet future traffic demand on the corridor. West Fargo should preserve 150' to 200' of right-of-way along the corridor and pursue property acquisition as opportunity presents itself through the platting process and implement development and access controls compatible with a median-divided 4-lane urban roadway cross-section (with left-turn bays at key intersections) between 9th Street West and 9th Street East. Through the platting process West Fargo should ensure full access along the corridor is allowed no less than every quarter mile (1320').

40th Avenue
Fortieth Avenue will carry between 12,000 and 16,000 vehicles a day by 2030. West Fargo will need to Implement development and access controls compatible with a median-divided 4-lane urban roadway cross-section (with left-turn bays at key intersections) between 9th Street West and 9th Street East.
West Fargo should preserve 150' of right-of-way for the corridor (120' at Sheyenne River crossing where the future center-line should shift south to avoid bank stability issues and proceed with property acquisition as opportunities arise. Monitor traffic volumes to identify when a four-lane cross section may be required and review warrants for potential traffic signals at 9th Street East. Through the platting process West Fargo should ensure full access along the corridor is allowed no less than every quarter mile (1320').

Center Street
Center Street provides access into and out of the industrial area north of Main Avenue in West Fargo. Center Street ends at 12th Avenue N, and has an intersection with 7th Avenue NE. Center Street is of one of only two roadways in West Fargo with a grade separation (underpass) of the BNSF mainline. Current traffic volumes on Center Street range from 6,000 near Main Avenue and taper towards 3,000 at the intersection with 12th Avenue N. Future traffic volumes on Center Street are projected to be similar in 2030. It is recommended West Fargo reconstruct Center Street as a two lane roadway with appropriate turn lanes at 7th and 12th Avenue. A long range priority for West Fargo will

be the reconstruction of the Center Street grade separation. There are currently deficiencies associated with this structure regarding vehicle clearance and lane width.

9th Street East

Once 9th Street is built over the I-94 it will become a major north-south corridor in the City of West Fargo. The overpass is expected to be complete in 2009 and the overpass will build into an interchange by 2012. Year 2030 traffic volumes on 9th Street from Main Avenue to 13th Avenue will be 7,500 in the north to 13,000 at the intersection with 13th Avenue. This section of 9th Street will need to be a 3 lane urban section. Traffic volumes on 9th Street from 13th Avenue to I-94 are projected to be 15,000 and 22,000 by the year 2030. This section of 9th Street will require a five lane section by 2030.

Traffic volumes on 9th Street from I-94 to 52nd Avenue will range between 40,000 and 18,000 by the year 2030. Volumes will be highest near I-94 and tapers towards 52nd Avenue. West Fargo will need to work with Fargo to construct a five lane facility on this segment of 9th Street. Through the platting process West Fargo should ensure full access along the corridor is allowed no less than every quarter mile (1320'), with limited access every 660'.

WEST FARGO LONG RANGE TRANSPORTATION PROJECT LIST

What follows are a list of long range transportation projects for the City of West Fargo. The list is considered to be up to date as of the adoption of the West Fargo Comprehensive Plan. The list is not put in a prioritized order, however simply lists projects of significance in the long range for West Fargo.

West Fargo Long-Range Transportation Project List (beyond 2012)
Reconstruct Sheyenne Street from I-94 to 52nd Avenue
Reconstruct 8th Street W from Main Ave to 13th Ave
Reconstruct 6th Street E from 13th Avenue to 10th Avenue
Replace bridge on County Road 19 (Stockman's Road) at Drain 21
Reconstruct 40th Avenue from 9th Street E to 9th Street W
Reconstruct 12th Avenue N from County Road 17 Street to Eastern City Limit
Reconstruct Center St from Main Avenue to 12th Ave N (including RR underpass)
Reconstruct 9th Street E from Main Avenue to 12th Avenue N
Widen 7th Avenue W from Sheyenne Street to 8th Street W
Reconstruct I-94 Interchange at Sheyenne Street (If lane capacity is needed)
Reconstruct 7th Avenue E from 9th Street to 45th Street

TRANSIT

Through the public input process it was discovered that additional transit may be warranted in the City of West Fargo. Figure 14 demonstrates existing transit service area in West Fargo. An area is considered to be served by public transit if it is within a ¼ mile of a transit route. All of the known transit generators with in the core of West Fargo are essentially served by MAT. However the Main Avenue portion of downtown West Fargo is quite remote from existing MAT Service. Included within this area are both the Leoden Center and the Leidal Education Center.

MAT service ends in West Fargo at 7:30 pm. This stop time was recently increased by an hour; however does present obstacles for commuters in West Fargo who use MAT. An early evening stop time is a barrier to residents wishing to access recreational and entertainment destinations. The lack of evening transportation in West Fargo has been a documented barrier for West Fargo residents who need to access evening education classes at the Loeden Center.

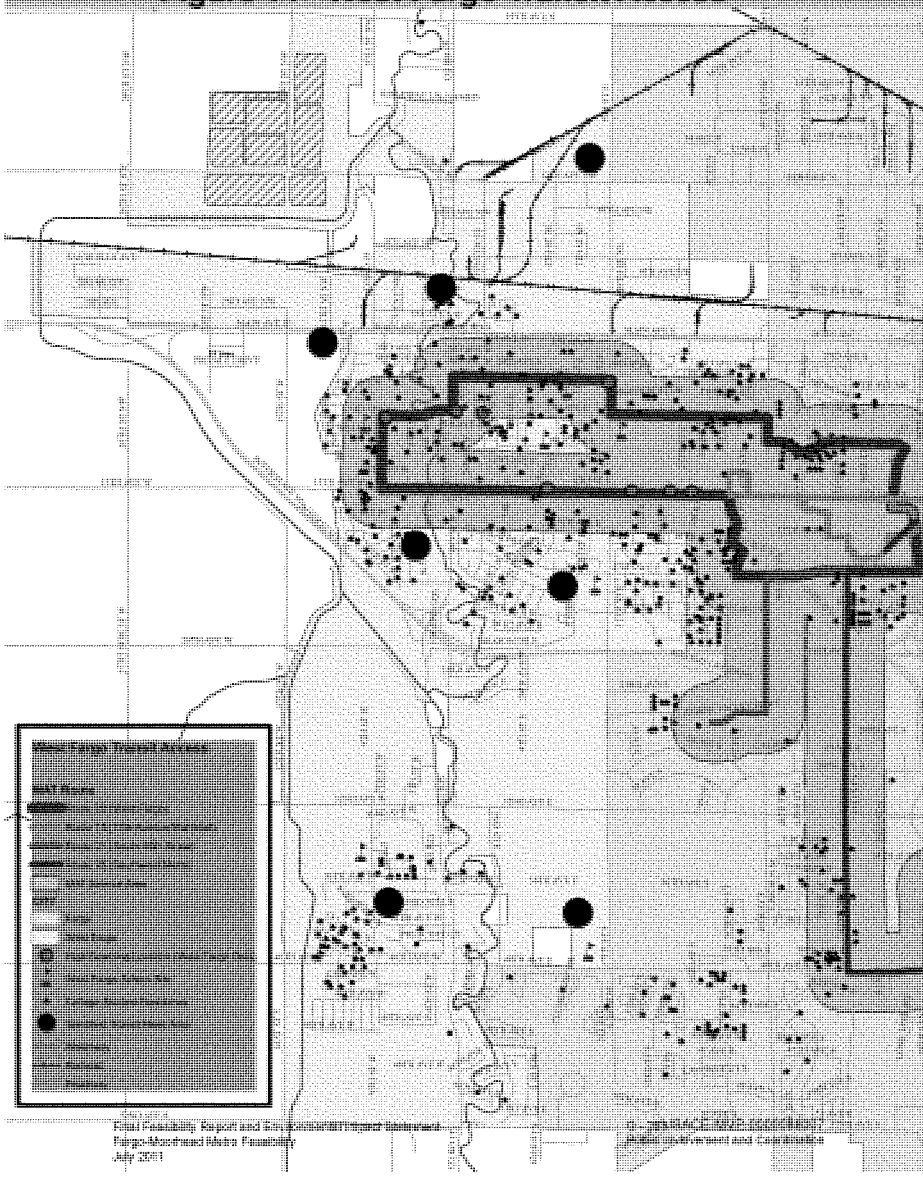
Transit use in West Fargo is growing as fast as any other geographic segment of the metro area. The fastest growing ridership demographic on MAT is college students. Figure 14 demonstrates existing metro area college students who reside in West Fargo. Through the U Pass program all college students in the metro area ride MAT free of charge. There is potential demand for increased college student use of MAT in West Fargo if expanded service were offered.

It is generally recognized an increased level of transit service is needed in West Fargo; there are differing ideas on how that new service is provided. Based on public input and stakeholder consultation West Fargo has two needs related to the public transit. First it likely needs a higher frequency of service. Secondly there is a need to receive a greater geographic coverage of West Fargo. All of West Fargo south of 15th Avenue and south and west of Sheyenne Street is essentially unserved by public transit.

There is emerging transit demand in the residential areas of Eagle Run west of Sheyenne Street. As the 9th Street corridor develops south of I-94 there are likely to be the creation of transit generators. The 9th Grade Center located at the intersection of 40th Avenue and 9th Street is likely to be a transit generator in the very near future. Many of the students at the Academy are not likely to have a driver's license. MAT has become an after-school transportation option in other parts of the metro. Cheney Middle School is also not served by MAT. Middle school use of transit in other parts of the metro area is well documented.

In 2008 MAT will also do a sub-area examination of the route structure in the entire southwest metro. This would include the Route 22 (West Fargo) as well other routes in the southwest such as 25 and 21. As part of the southwest transit study West Fargo should work closely with MAT to study short-to-mid range route alternatives which address transit demand both north and south of I-94 in West Fargo.

Figure 14 - West Fargo Transit Access



In 2009 MAT will study the creation of demand response general public transit service in recently developed and developing areas of the metro. As part of this study it is possible that some of the emerging transit demand areas in West Fargo may be addressed, especially those south of I-94. It is likely that Eagle Run would be a candidate for demand response service in the coming years. Eagle Run could only be served by a demand response style service until there has been a substantial build out of the areas to its east along 32nd and 40th Avenue.

BIKEWAYS

Figure 15 shows the areas identified by West Fargo residents as needing bike and/or pedestrian improvements and areas currently which are popular bike and pedestrian corridors. The 2006 Fargo-Moorhead Metropolitan Bikeway Plan identified gaps in the bikeway system in West Fargo. Figure 15a demonstrates the short and long range bikeway improvements identified for West Fargo. The proposed short and long range bikeway projects were identified in the 2004 Metropolitan Transportation Plan (MTP). This list is to be updated again in 2009 with the update of the MTP. Figure 15a also includes a listing of illustrative projects. The projects are identified as illustrative due to the lack of revenue to program them into either the short or long range element of the MTP. With the update of the MTP in 2009 some of these projects maybe moved into the short or long range program for the City of West Fargo.

A key element of an effective bikeway network is the provision of choice. The days of one size fits all are gone in respect to the design and provision of bicycle facilities. There are those bicyclists that need a roadway setting to ride a road bicycle at 15 to 20 miles per hour while there are those bicyclists that prefer to ride at a more leisurely pace of ten or less miles per hour. There are also those bicyclists who may commute to work during the spring, summer and fall due to need or desire. From public input it is clear that West Fargo residents are interested in developing a network of shared use paths that allow them to access the public park system within West Fargo. Analysis of West Fargo's bikeway system shows that connectivity is strong in the northern part of the City. Bikeway connections to retail centers, residential areas, recreational facilities and school sites should be of paramount concern as West Fargo plans for the future.

Connections to Schools

Recognition of increases in childhood obesity and increased diagnoses of childhood diabetes makes the idea of increasing active living options for school children a wise investment. A connected bicycle and pedestrian network can get kids moving together to schools instead of being driven to school on a daily basis. Most of West Fargo's schools are within residential areas making bicycling and walking convenient. As West Fargo grows, the concept of connectivity relative to bicycling and walking should be kept in the forefront of its planning efforts.

County Road 17

Public input spoke directly to a desire to see the County Road 17 Corridor opened up to bicycling and walking opportunities. A shared use path could provide connectivity to the Eagle Run area and connections could be made to the Sheyenne Diversion. Connecting the Eagle Run area to the remainder of West Fargo makes sense from an active living standpoint. The provision of city-wide bicycling and walking opportunities for the residents of West Fargo has the potential for long-term gains in health.

Figure 15: West Fargo Future Bikeway Needs

Figure 15a: West Fargo Bicycle and Pedestrian Facility Improvements*

West Fargo Bicycle and Pedestrian Facility Improvements Short Range

Project #	Project location	Technical Soundness	
		Priority	Facility type
134	9th Street East from 19th Avenue East to 32nd Avenue West	Priority 1	Shared Use Path
142	32nd Avenue South from 9th Street East to CR 17	Priority 1	Shared Use Path
135	13th Avenue West from 15th Street West to 10th Street West	Priority 1	Shared Use Path
137	9th Street East from 4th Avenue East to Main Avenue	Priority 1	Shared Use Path
139	7th Avenue E from Sukut St to Sheyenne River	Priority 1	Shared Use Path
138	Sheyenne River Bridge at Sheyenne Street	Priority 1	Shared Use Path
164	40th Avenue South from CR 17 to 63rd Street South	Priority 1	Shared Use Path
148	Sukut St from 1st Avenue W to 4th Avenue E	Priority 1	Shared Use Path

West Fargo Bicycle and Pedestrian Facility Improvements Long Range

Project #	Project location	Technical Soundness	
		Priority	Facility type
164	40th Avenue South from 63rd Street South to 9th Street East	Priority 1	Shared Use Path
140	Center Street from Main Avenue to to 12th Avenue North	Priority 1	Shared Use Path
141	12th Avenue North from County Road 19 to East City Limits	Priority 1	Shared Use Path
145	7th Avenue W from 8th St W to Bikeway near Morrison St	Priority 1	Shared Use Path
146	2nd Avenue W from Morrison St to Sukut St	Priority 1	Shared Use Path
147	1st Avenue W from Sukut St to Center St	Priority 1	Shared Use Path
149	Center Street from 1st Avenue W to Main Avenue	Priority 1	Shared Use Path
150	2nd Avenue W from Morrison St to Sheyenne River	Priority 1	Shared Use Path
151	7th Avenue E from 6th St E to 9th St E	Priority 1	Shared Use Path
152	9th Street East from Main Avenue to 12th Avenue Northeast	Priority 1	Shared Use Path
153	Sheyenne River Bridge at 32nd Avenue South	Priority 1	Shared Use Path
154	7th Avenue North from Fargo City limits to Center St	Priority 1	Shared Use Path
211	Sheyenne Diversion	Priority 1	Shared Use Path
213	Sheyenne Diversion Bridge	Priority 1	Shared Use Path
143	Main Avenue from I-94 to 45th Street	Priority 4	Shared Use Path
144	Along Shyenne River from South Elmwood Park to Sheyenne Street	Priority 4	Shared Use Path
155	Along Sheyenne River from Sheyenne Street to I-94	Priority 4	Shared Use Path
157	19th Avenue East from 8th Street East to 9th Street East	Priority 4	Shared Use Path
159	15th Street W from Main Avenue to 13th Avenue W	Priority 4	Shared Use Path
160	Sheyenne River Bridge at 2nd Avenue North	Priority 4	Shared Use Path
161	4th Avenue East from 9th Street East to L.E. Berger Elementary School	Priority 4	Shared Use Path
162	County Road 19 from Main Avenue to 12th Avenue North West	Priority 4	Shared Use Path
163	8th Street West from Main Avenue to 2nd Avenue West	Priority 4	Shared Use Path

West Fargo Bicycle and Pedestrian Facility Improvements - Illustrative

Project #	Project location	Technical Soundness	
		Priority	Facility type
	Connecting 17th Avenue to Sheyenne River Path	Priority 1	Shared Use Path
600	Connecting Future Bridge into Carmell Place and Sheyenne Street	Priority 1	Shared Use Path
601	32nd Avenue S from CR 17 to 9th Street West	Priority 1	Shared Use Path
602	40th Avenue S from CR 17 to 9th Street West	Priority 1	Shared Use Path
166	8th Street East from I-94 to 19th Avenue East	Priority 4	Shared Use Path
156	Parallel to I-94 from Sheyenne Street to 8th Street East	Priority 4	Shared Use Path

Priority 1 Part of the Principal bikeway system
Priority 2 Alternate principal bikeway system
Priority 3 extraterritorial principal bikeway extensions
Priority 4 Others
* As determined by the 2006 Metroplitan Bike and Pedestrian Plan

CHAPTER 6 - LAND USE PLAN

Adherence to a well developed and comprehensive land use plan is critical to the long term growth of West Fargo. West Fargo's future land use plan is reflected in Figure 16. The future land use plan was amended in 2005 to considered growth pressure south of I-94. No major changes are recommended with the adoption of the 2007 Comprehensive Plan, however a number of emerging development or redevelopment trends require West Fargo be cognizant of land use considerations in strategic locations throughout the community.

The 2005 land use plan amendment covered the areas south of I-94 and was aimed at ensuring a uniform land use pattern throughout the City of West Fargo and took into account recent changes to land use plans in the City of Fargo. The objective of the amendment was several fold and should be considered relevant to land use throughout West Fargo:

- To provide for the flexibility in the development of land uses while maintaining compatibility of uses and sound, orderly development patters;
- To provide for a diversity of residential neighborhoods with a balance of housing alternatives;
- To provide a variety of single family homes from entry level to higher end;
- To provide a diversity of multiple-family residential units including townhouses, condominiums, and lower and higher density rental properties which would be evaluated by each section of land to ensure an equitable distribution throughout the growth area;
- To provide a housing development pattern with the ratio of single-family dwelling units to multiple-family dwelling units between 60 to 70% single-family to 30 to 40% multiple family;
- To provide a diversity of multiple-family units with a minimum of 20% of the units meeting the medium density standard of less than or equal to 16 units per acre, constructed in structures of eight units or less, and consisting of multiple family apartments, condominiums, and or townhouses;
- To provide for adequate park and open space areas for the community.

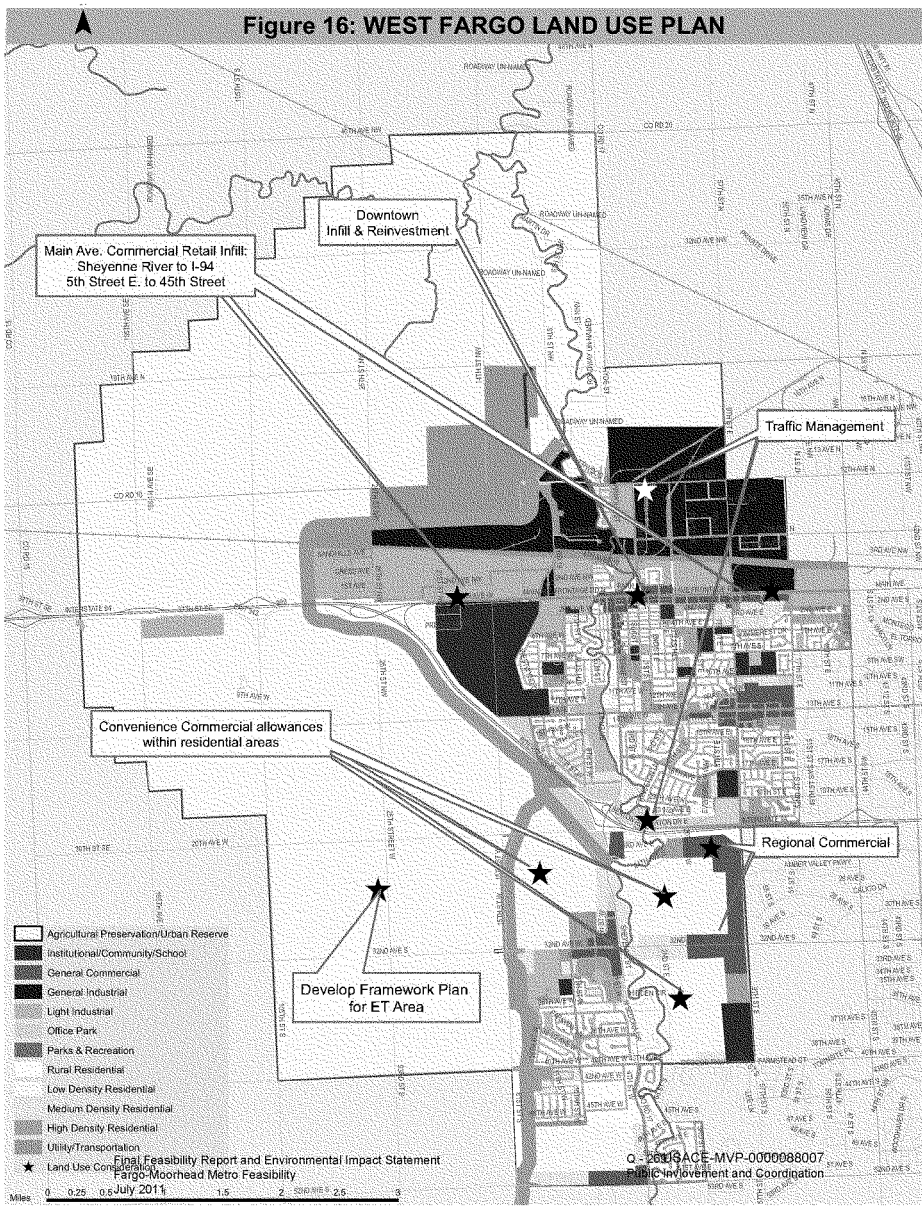


Figure 16: WEST FARGO LAND USE PLAN
Downtown
Infill & Reinvestment
Main Ave. Commercial Retail Infill:
Sheyenne River to I-94
5th Street E. to 45th Street
Traffic Management
Convenience Commercial allowances
within residential areas
Regional Commercial
Develop Framework Plan
for ET Area
Agricultural Preservation/Urban Reserve
Institutional/Community/School
General Commercial
General Industrial
Light Industrial
Office Park
Parks & Recreation
Rural Residential
Low Density Residential
Medium Density Residential
High Density Residential
Utility/Transportation
Land Use Concepts
Miles
0 0.25 0.5 1.5 2 2.5 3
Final Feasibility Report and Environmental Impact Statement
Fargo-Moorhead Metro Feasibility
July 2011
Q - 261USACE-MVP-0000088007
Public Involvement and Coordination

The future land use plan for West Fargo adheres to the Strategic Issues of Community Growth, and Regional and Institutional Cooperation, Community Reinvestment and Rebirth. In the coming years West Fargo needs to review existing zoning and subdivision regulations to ensure they allow for the concepts put forth with in the Issues Analysis. Most importantly the concepts of neighborhood revitalization, infill development, and exurban land use control and coordination. Implementation of the future land use plan should also pay close attention to the short and long range capital improvement plans adopted by the City, too.

Figure 16 demonstrates a number of areas throughout West Fargo were unique variables are at play and require additional consideration as these areas develop, or in some cases redevelop. While none of the areas require a change in the future land use, they do require some advance outreach and communication with land owners and developers to ensure appropriate site specific development occurs in these locations. A discussion of these areas follows.

Of importance is a strong awareness of the looming need to preempt development pressure beyond the Sheyenne Diversion with proactive sub-area planning for these growth areas. As was discussed earlier, West Fargo needs to put in place a development framework that outlines the growth patterns in its ET area.

West Fargo should undergo a more detailed analysis of land use and reinvestment potential with in its core, especially the Main Avenue and Sheyenne Street area as identified in Chapter 4. There is both a residential and commercial component to the reinvestment.

As Main Avenue is reconstructed through West Fargo the potential for infill and redevelopment will occur through out the corridor. For the sections of Main Avenue west of the Sheyenne River to I-94 and west of 5th Street to the city limits thought should be given to allowing for development of commercial and or retail type uses in addition to the predominantly industrial use which currently exist along the corridor. As the reconstruction of Main Avenue occurs there is significant potential for the redevelopment or infill of retail and/or strip commercial type uses. There is the opportunity along Main Avenue to allow for relocation of uses which may not be appropriate for the downtown portion of Sheyenne Street and Main Avenue.

North of Main Avenue West Fargo should continue to promote industrial land uses. Industrial uses north of Main Avenue are in keeping with the traditional growth pattern of the area and mesh with the existing transportation infrastructure in the area. The BNSF rail line acts as the primary separation of general industrial uses from light industrial uses. The areas north of Main Avenue are fairly built out.

There are several larger areas of undeveloped lands south of the BNSF line, especially on the western end of Main Avenue. The entirety of the industrial areas north of Main Avenue is currently flood protected by the Sheyenne Diversion. Industrial truck traffic

can cause conflict with the adjacent roadways. As development continues north of Main Avenue, consideration needs to be given to allowing for adequate transportation facilities to help support resulting industrial related traffic pressures.

For the areas immediately north of I-94 the land use plan supports the development of office development. One of the reasons for the office development adjacent to I-94 is to provide a buffer for residential developments to the north. While the placement of office development north of I-94 is realistic from a land use perspective, the transportation demands need to be monitored as office developments occurs. Given the geographic location of the area, new development north of I-94 will have access back into the larger network at Sheyenne Street via Beaton Drive. Eventually, Beaton Drive will be extended back to 19th Avenue and then on to 9th Street. The Sheyenne Street & Beaton Drive areas are already congested during peak travel hours. As the 9th Street corridor develops, and the interchange and overpass are implemented consideration of future transportation impacts of office development north of I-94 need to be considered.

South of I-94 West Fargo's land use plan calls for single-family development for the majority of the area. Along the 9th Street corridor there is provision made for general commercial development. General commercial development is also proposed for the areas west of the intersection of 32nd Avenue and 9th Street. West Fargo needs to be particular in the type of commercial uses which occur along 9th Street, especially at I-94 and 32nd Avenue. Serious consideration should be given to allowing for regional scale businesses. The placement of a few regional commercial uses along the 9th Street corridor will help support adjacent smaller commercial uses. The 9th Street and 32nd Avenue corridors will also need smaller commercial uses which depend on the immediate area. One use which should not be overlooked in this part of West Fargo is a grocery store. The nearest grocery store is at the intersection of 40th Avenue and 45th Street and as the area builds out another grocery store will be justified.

West Fargo should consider a limited amount of convenience commercial uses with in the larger residential areas south of I-94. Convenience commercial uses should be sited along collector streets and have strict design considerations to integrate well with in the residential areas. Currently, the only commercial uses identified south of I-94 are along major arterials. Allowances for convenience commercial uses with in areas bounded by major future arterials such as 32nd Avenue, 40th Avenue, 9th Street, Sheyenne Street, etc, will free up commercial areas along these corridors for larger scale retail and commercial uses.

Land Use Classifications

Low Density Residential

The low-density residential designation provides areas for single family detached homes and two-family homes (duplexes), and directly related complementary uses such as educational, religious and recreational facilities. Manufactured home subdivisions are also included in this designation. The City may consider four-unit structures along arterial and collector street corridors, provided they are complementary to development in

the area. Density is up to 10 units per acre of lot area for single family detached units or 14 units of lot area for single family attached units.

Medium Density Residential

The medium density residential designation provides areas for single family attached homes (townhouses, condominiums and apartments) with up to eight units per structure, and directly related complementary uses such as educational, religious and recreational facilities. Manufactured home parks are also included in this designation. The City may consider 12-unit structures where creative and exemplary design considerations are given. Density is up to 16 units per acre of lot area.

Multifamily (High Density) Residential

The high density residential designation provides areas for multiple family buildings and directly related complementary uses such as education, religious and recreational facilities. Density is up to 24 units per acre of lot area for one bedroom units or 20 units per acre of lot area for three bedroom units.

Rural Residential

The rural residential designation provides areas for single-family homes on large lots. This designation is only applied to areas outside of the West Fargo corporate limits which are currently developed and to areas within the city limits which have been recently annexed. No new rural residential designations are provided for.

Convenience Commercial

The convenience commercial designation provides areas for limited retail sale of convenience-type products and services for the immediate neighborhood area. This designation is applied to locations that are conveniently located in proximity to residential areas on collector or arterial streets. These uses should be limited in land area to no more than one acre and reviewed under the Planned Unit Development District standards.

General Commercial

The general commercial designation provides areas for commercial uses that provide a wide range of goods and services to the community. This designation is applied to locations along arterial roadways that are easily accessible.

Office Park

The office park designation provides areas for professional offices, research facilities, wholesale showrooms, service facilities and other business uses that require limited contact with the public. This designation may also provide for other commercial uses that are complementary and compatible with office uses. This designation is applied to locations with high visibility and appropriate levels of access.

Light Industrial

The light industrial designation provides areas for commercial and industrial establishments that are incompatible with retail commercial areas and more appropriately located near general industrial uses. This designation accommodates uses such as wholesale, warehousing, trucking businesses, and businesses with outside display of merchandise or materials.

General Industrial

The general industrial designation provides areas for diverse industrial uses, which, due to their size and/or nature of operation, require isolation from many other kinds of land uses. This designation is applied to appropriate locations with convenient access to regional highway and railway routes.

Public and Quasi-Public

The public/quasi-public designation is used to identify areas that are owned by public or quasi-public entities and are expected to remain under such ownership in the foreseeable future. This designation applies to government facilities, schools and other quasi-public facilities such as Bonanzaville and the Red River Valley Fairgrounds.

Utility/Transportation

The utility/transportation designation is used to identify utilities that are owned by public or quasi-public entities and are expected to remain under such ownership in the near future. This designation applies to the drains, storm water retention ponds, wells, water towers, transformer stations and the lagoons.

Park & Recreation

The park and recreation system designation is used to identify areas that are owned by the West Fargo Park District and are expected to remain under such ownership in the foreseeable future. This designation applies to developed park land, undeveloped park land used as open space and linear trails.

Agriculture Preservation/Urban Reserve

The agricultural preservation/urban reserve designation is intended to establish and preserve areas for agricultural uses and eventual future urban growth. This designation also accommodates recreational and public uses that do not significantly change the agricultural character of the land; or for residential uses allowed by conditional use. This designation is only applied to areas outside of the West Fargo corporate limits and within the extraterritorial area that are not protected by the Sheyenne diversion. Urban scale development is not recommended in these areas until adequate infrastructure arrangements have been made.

Future Land Use Acreages

West Fargo Future Land use Acreage				
Land Use Designation	**City Acres**	**Extra-territorial Acres**	**Total Acres**	**Percent of Total**
Low Density Residential	3033	520	3,553	15%
Medium Density Residential	481	42	523	2%
High Density Residential	297	--	297	1%
Rural Residential	131	618	749	3%
Commercial	503	13	516	2%
Office Park	184	26	211	1%
Light Industrial	833	82	915	4%
General Industrial	791	479	1,270	5%
Public/Quasi-Public/School	224	425	649	3%
Parks and Recreation	301	--	301	1%
Transportation and Utilities	2372	872	3,244	13%
Agricultural Preservation/vacant	49	11,936	11,985	49%
Mixed Use	--	28	28	0%
TOTAL	**9,200**	**15,041**	**24,241**	**100%**

CHAPTER 7 - POLICY PLAN - GOALS AND POLICIES

West Fargo's Policy Plan includes goals and policies to guide future actions on the part of the City of West Fargo. The Issues Analysis, Transportation and Land Use elements of the Comprehensive Plan are the basis for the development of the goals and policies. A goal is a general statement of overall community aspirations, which highlights a community value, establishes a vision, and indicates a broad physical or social state that the community desires to achieve. An objective is a statement that refines the goals by outlining a specific course of action. The goals and objectives are further refined into the Action & Implementation Plan element outlined in Chapter 8.

Land Use and Community Growth

Goal 1. To support and promote exurban land use coordination and to encourage regional land use planning

Objective a. To promote a development pattern that is harmonious with the long range plans of West Fargo and the plans of its neighboring communities.

Objective b. To scrutinize rural developments in the ET area and to work with the County and townships to review land divisions and land use changes to ensure efficient availability of city services

Objective c. To work in coordination with Cass County, City of Fargo and adjacent urbanizing communities to begin a dialogue on the long range sustainability of development patterns occurring on the fringes of the metro area

Goal 2. To prepare for growth beyond the Sheyenne Diversion

Objective a. To develop long range infrastructure plans for development outside the Sheyenne Diversion, as well as an overall development framework plan for the area

Objective b. To develop a regional approach to address flood control issues outside of the Sheyenne Diversion

Objective c. To discourage short term ad-hoc flood protection schemes and piece meal development outside the Sheyenne diversion

Objective d. To discourage development outside the Sheyenne diversion until a long range development framework plan is developed

Objective e. To protect the rural character of the extraterritorial area until such time as urban scale development is supported by municipal facilities.

Objective f. To require ghost platting of rural residential subdivisions allowed outside of the Sheyenne Diversion.

Objective g. To require new rural residential subdivisions outside of the Sheyenne Diversion to conform to urban development standards.

Goal 3. To develop and maintain a cohesive and balanced land use pattern that provides areas for a variety of residential, commercial, and industrial uses within the community.

Objective a. To encourage the appropriate integration of multiple family housing throughout the community, as opposed to segregated concentrations

Objective b. To establish a balance of commercial and industrial uses that are compatible with adjacent land uses and responsive to the needs of the community and surrounding market

Objective c. To encourage the development of offices, office showroom, and other complementary uses, such as hotels and full service restaurants, along the I-94 corridor

Objective d. To encourage the development of diverse and interrelated retail and commercial use south of I-94.

Objective e. To encourage the development of additional retail commercial uses in the established retail commercial areas along 13th Avenue, Sheyenne Street and Main Avenue

Objective f. To encourage the development regional scale commercial uses in the areas south of I-94, especially along the 9th Street corridor

Objective g. To allow the development of convenience and neighborhood commercial uses in identified areas throughout the community, including the newer areas south of I-94

Objective h. To direct the location and development of businesses generating significant large truck traffic to industrial area north of Main Avenue

Objective i. To discourage industrial development with excessive nuisance characteristics

Goal 4. To provide orderly transitions between incompatible land uses

Objective a. To encourage the provision of buffers or gradual land use transitions, such as vegetative screening, open space and berming, between different types and intensities of existing land uses

Objective b. To require private developers to mitigate the impacts of noise for new residential development adjacent to I-94

Objective c. To require deeper setbacks for new residential developments along arterial and collector streets and berming and/or vegetation along those roadways with higher traffic volumes in order to minimize noise and visual impacts

Objective d. To require a minimum structure setback of 100 feet from the riverbank for all development along the Sheyenne River.

Community Development, Design, and Housing

Goal 1. To support and preserve a neighborhood oriented development pattern

Objective a. To encourage land use patterns that allow for neo-traditional development patterns, where appropriate

Objective b. To promote neighborhood stability by encouraging neighborhood associations

Objective c. To promote existing neighborhood schools and discourage closure or realignment of existing facilities

Objective d. To work with Homebuilders Association of F-M and other regional partners to recognize the relationship between infrastructure design and the cost of special assessments

Goal 2. To provide a diversity of residential neighborhoods, both single family and multiple family, and a balance of housing alternatives to meet the changing life-cycle needs of residents.

Objective a. To encourage the development of a mix of housing types that blend with the existing housing stock

Objective b. To provide opportunities for high-quality multiple family developments, including townhomes, condominiums, and higher density rental properties

Objective c. To support reinvestment in existing housing stock, both single family and multiple family, through upgrading and maintenance

Objective d. To encourage the development of independent and assisted living housing for senior citizens that wish to remain in the community

Objective e. To foster partnerships with the private sector to help diversify housing choices in the community

Objective f. To preserve the integrity of established residential neighborhoods by prohibiting the intrusion of incompatible uses

Objective g. To promote a diversity of multiple-family residential units including townhouses, condominiums, and low and higher density rental properties to be evaluated by each section of land to ensure an equitable distribution throughout the growth area. A minimum of 20% of housing will meet the medium density standard of 16 units per acre or less and consist of 4 to 8 unit apartment buildings, townhouses, and condominiums.

Objective h. To provide a housing development pattern with the ratio of single-family dwelling units to multiple-family dwelling units between 60 to 70% single-family to 30 to 40% multiple family;

Objective i. To continue to work with regional partners on the issue of Workforce Housing

Goal 3. To encourage high quality construction in the community

Objective a. To establish site design standards and require site-specific planning and landscaping to ensure completion of adequate site beautification for development and expansion of commercial and industrial uses.

Objective b. To implement existing corridor overlay districts along strategic corridors such as, Main Avenue, 9th Street, and Sheyenne Street to ensure development occurs in an orderly and spatially desirable form

Objective c. To maintain public facilities in an aesthetically pleasing manner

Objective d. To require loading and unloading zones to be located to the side or rear of buildings

Community Identity

Goal 1. To preserve and maintain the small town ambience in West Fargo

Objective a. To develop unique neighborhood patterns that allow neighbors and neighborhoods to connect easily

Objective b. To encourage creative neighborhood and community wide events and activities to catalyze interaction among the residents of West Fargo

Objective c. To capitalize on the contrasts of West Fargo by showcasing both the old and the new of the community.

Objective d. To ensure that new developments south of I-94 are well connected to the historic core and are designed to maintain the small town flavor

Goal 2. To continue to recognize the role of West Fargo School District in defining the City's identity

Objective a. To continue to foster the role of the West Fargo School District as a unifying force in the community.

Objective b. To encourage constructive and ongoing dialogue between the school district and the City planning and administration particularly when addressing land use and infrastructure issues

Objective c. To work proactively with the School District on issues of facility siting, realignment, or closure

Goal 3. To support efforts to strengthen and enhance community identity, contribute to a high quality of life, and enhance the image of West Fargo as a desirable place to live and work.

Objective a. To identify opportunities to enhance major entrances into the community with signage or other features that identifies the entry to West Fargo

Objective b. To enhance the image of the Sheyenne Street commercial area as the downtown of the community

Objective c. To use streetscape elements to unify and connect existing commercial areas to enhance the sense of place and community

Objective d. To develop marketing strategies to promote and strengthen West Fargo's image and identity

Objective e. To implement a way-finding system for community points of interest such as downtown, key community facilities, and other regional attractions.

Goal 4. To ensure that all areas of the city are visually appealing and well maintained.

Objective a. To support quality design and aesthetic appeal of all future development

Objective b. To establish regulations to ensure maintenance of all types of commercial and industrial properties and structures

Objective c. To strengthen the City's housing maintenance programs to ensure the upkeep of existing residential structures

Objective d. To establish a program for acquisition and redevelopment of deteriorated properties

Objective e. To encourage the underground placement of utilities where possible and the visual enhancement of utilities which must be located above ground to minimize adverse visual impacts

Objective f. To enhance signage within the community to allow for high quality and visually appealing commercial districts which appeal to potential customers from through out the metro area

Objective g. To support streetscape efforts along 13th Avenue, Sheyenne Street, 9th Street, and Main Avenue to create a unified image of the community's commercial areas

Objective h. To increase the amount of greenery and street trees within boulevards and on roadway medians throughout the community

Objective i. To encourage the use of vegetation and berms to provide visual and noise screening along I-94 to eliminate the need for noise walls in the future

Community Reinvestment

Goal 1. To look for opportunities to reinvest in West Fargo existing commercial and residential districts so as to support the overall growth of the community

Objective a. To continue to utilize the renaissance zone to revitalize West Fargo's downtown and older commercial districts

Objective b. To develop a neighborhood reinvestment program to infuse resources into the older residential areas of West Fargo, specifically those areas between the Sheyenne River and 5th Avenue East, north of 7th Avenue West

Objective c. To encourage infill development in the older parts of the community through the creation of commercial reinvestment district, especially in Downtown West Fargo along Main Avenue and Sheyenne Street

Goal 2. To create a West Fargo Town Center, to serve as the cultural and civic heart of the community

Objective a. To create a community focal point on Sheyenne Street

Objective b. To work to promote neighborhood retail in the areas adjacent to Sheyenne Street and Main Avenue.

Objective c. To work to infill higher density residential uses to support existing and future retail/commercial uses

Objective d. To allow for appropriate traffic calming measures along the Sheyenne Street Corridor, north of 13th Avenue East

Objective e. To create a community gateway/landmark along the Main Avenue Corridor which serves as an identity point for the community

Transportation

Goal 1. To establish and maintain an effective, efficient and safe transportation system

Objective a. To provide a functional and well-maintained roadway system that is consistent with adjacent land uses and provides an appropriate level of service

Objective b. To incorporate ways to minimize non-local traffic on residential streets

Objective c. To monitor existing designated truck routes within the community and prohibit non-local truck traffic on non-designated roadways

Objective d. To require streets to be developed according to their function (pavement width, load capacity, continuity of streets and access provisions)

Objective e. To coordinate all transportation planning with Metro, County, State and Federal plans

Objective f. To support the installation of screening of residential development south of I-94 along 32nd Avenue, 40th Avenue and 9th Street as development occurs

Goal 2. To support the transportation policies of the Fargo-Moorhead Metropolitan Council of Governments (Metro COG) and Cass County for the extraterritorial area

Objective a. To preserve mile line roadways in the extraterritorial area as future arterial roadways, including dedication of up to 150-foot rights-of-way and appropriate access management

Objective b. Coordinate the location of collector street intersections along common boundary streets with the City of Fargo

Objective c. To require the dedication of up to 150 foot rights-of-way for all arterial roadways south of I-94

Objective d. To require the dedication of rights-of-way during the platting process whenever possible

Objective e. To establish and implement access management controls along arterial roadways and collector streets to ensure that the function of the roadway is protected and maintained

Goal 3. To provide for alternative modes of transportation

Objective a. To provide bikeways/trails and pedestrian pathways and trails to connect residential areas with each other, with park facilities, school facilities and with major activity centers

Objective b. To provide connections to other bikeways/trails and pedestrian pathways within the metropolitan area

Objective c. To support enhancement of transit and paratransit service within the community

Objective d. To support efforts to provide more adequate transit service to the recently developed areas of the community

Objective e. To require maintenance/access rights-of-way or easements along the Sheyenne River wherever possible

Objective f. To look at the feasibility of a bike and pedestrian bridge from Armour Park across the Sheyenne River into downtown West Fargo

Parks, Open Space, Bikeways and Trails

Goal 1. To provide a high quality park and open space system that includes both active and passive recreational opportunities to meet the needs of residents.

Objective a. To maintain a park and open space system that continues to provide the current level of service to the residents of West Fargo

Objective b. To provide neighborhood parks within close proximity to all residential neighborhoods

Objective c. To evaluate the City's park land dedication policy to ensure adequate land is being reserved for parks and open space

Objective d. To support recreational programs and facilities in cooperation with the Park District and School District

Objective e. To evaluate the feasibility of constructing and/or maintaining a municipal golf course within the community

Goal 2. To develop and maintain a comprehensive bikeway/trail system throughout the community for pedestrians and bicycles

Objective a. To evaluate the feasibility of developing a recreational trail with in the right-of-way of the Sheyenne Diversion

Objective b. To support the development of the bikeway/trail system, including the construction of bikeways/trails to fill gaps in the system

Objective c. To evaluate the need for a trail dedication or development policy to be implemented during the platting process

Objective d. To encourage the development of contact points with the Sheyenne River and other natural areas

Goal 3. To protect the community's natural resources

Objective a. To require erosion control measures to be taken during all construction activities

Objective b. To provide adequate facilities to manage storm water run-off

Objective c. Identify and protect sensitive or unique natural ecosystems within the community

Objective d. To support efforts to enhance the appearance of the Sheyenne River corridor and recognize it as a community asset

Public Facilities and Services

Goal 1. To prepare in advance for infrastructure challenges that might arise due to the fast paced growth witnessed by the City

Objective a. To implement the short range priority projects developed by the City

Objective b. To prepare a capital improvement strategy which will address the infrastructure needs of the City for the next 10 to 20 years, update annually

Goal 2. To provide public utilities in a responsive and cost-effective manner

Objective a. To extend municipal utilities in a fiscally responsible manner

Objective b. To provide a level of service that anticipates the most intensive level of potential development

Objective c. To maintain a high quality and reliable system of water distribution; monitor the existing system to ensure it can meet future needs

Objective d. To maintain a high quality and reliable sanitary sewer system

Objective e. To make public expenditures according to a systematic capital improvements program

Objective f. To cooperate with other governmental agencies in providing joint services or facilities, where economically feasible, to avoid unnecessary duplication

Goal 3. Provide an appropriate level of community services to the residents of the community.

Objective a. To work cooperatively with the School District in the siting of new elementary school(s) within the community

Objective b. To explore the feasibility of constructing branch location(s) of the public library, especially south of I-94

Objective c. To work with the School District, Park District, and other relevant entities to explore the feasibility of a community recreational facility/center

Economic Development

Goal 1. To enhance the economic viability of the community.

Objective a. To support redevelopment and reinvestment efforts along Sheyenne Street and Main Avenue through the use of the Renaissance tax credits and through the implementation of other commercial and reinvestment strategies

Objective b. To support efforts to sustain and enhance the Sheyenne Street and Main Avenue commercial area as the downtown of the community

Goal 2. To consider economic development strategies to finance future infrastructure improvements

Objective a. To work with Greater Fargo-Moorhead EDC to develop strategies to attract high tech firms

Objective b. To encourage the construction of additional commercial and industrial development within the community to diversify the tax base and provide a variety of higher wage employment opportunities

Objective c. To foster partnerships with the private sector to market industrial development opportunities within the community

Objective d. To create a new base for economic development south of I-94

Objective e. To identify reinvestment strategies within the core of the city for economic and residential reinvestment which will increase the local tax base

CHAPTER 8 - IMPLEMENTATION PLAN

Having developed a thorough and comprehensive Issues Analysis, Transportation and Land use Plan, and a detailed Policy Plan, West Fargo can now layout its Implementation Plan. The Implementation Plan is an aggressive, yet measured, tool to assist the City in accomplishing many of the Goals and Objectives of the Policy Plan. The Implementation Plan allows the City a mechanism to address the Strategic Issues by conducting additional sub-area studies or through the initiation of more detailed staff level work programs and activities. What follows is a list of implementation actions for the City of West Fargo. Each item is followed by the departments which are responsible for the action item. This list should be used as various municipal departments establish annual work plans and program priorities.

- Establish a long range (10 to 20 year) Capital Improvement Plan (Engineering, Public Works, Planning, City Administration)
- Conduct a sub-area planning study outlining a reinvestment strategy (downtown master plan) for the areas adjacent to Main Avenue and Sheyenne Street (Planning, Engineering, Public Works, and Business Development)
- Conduct a Downtown Design Charrette (Planning, Engineering, Public Works, and Business Development)
- Establish a formal outreach/informational program aimed at business and property owners regarding the Main Avenue Reconstruction (Public Works, Engineering, Business Development)
- Implement Neighborhood Reinvestment Program (Planning)
- Conduct a Development/Infrastructure Framework Plan for ET Area (Planning, Engineering, City Administration, and Public Works)
- Facilitate the creation of Neighborhood Associations (Police and Planning)
- Explore the reestablishment of downtown business association (Business Development)
- Conduct twice annual meetings of key Administration from the City, School District, and Park District (Administration); conduct annual joint-meeting of the three respective elected boards
- Conduct a review of zoning and subdivision regulations to ensure flexibility for infill/reinvestment developments and neo-traditional development patterns (Planning)
- Continue annual outreach program to neighborhoods concerning public works/services (Public Works and Planning)
- Update Sheyenne Street Corridor Study (Planning, Public Works, Engineering)

12TH AVENUE NORTH – TECHNICAL MEMO

INTRODUCTION

As part of the West Fargo Comprehensive Plan update Metro COG looked at a number of different regionally significant transportation corridors. Among them was 12th Avenue North from 45th Street to County Road 19. The City of West Fargo felt 12th Avenue North required additional analysis, beyond that typically conducted as part of the comprehensive planning process. Therefore Metro COG programmed the 12th Avenue Technical Memo within its 2007 UPWP.

The 12th Avenue North Technical Memo was prepared as Appendix 1 to the West Fargo Comprehensive Plan. The public input process which guided the technical memo partially related to the comprehensive plan update. Metro COG also utilized a project advisory committee as well as its Transportation Technical Committee (TTC), as needed, to gather insight and guidance on the development of the technical memo.

As part of the technical memo developed for 12th Avenue North Metro COG prepared the following data and conducted the following analysis regarding the existing conditions along the 12th Avenue corridor:

- Current ADT
- Traffic Operations Analysis at Major Intersections
- Access Management
- ROW Analysis
- Aesthetic Opportunities
- Multi-Modal Opportunities

When developing corridor recommendations Metro COG relied upon a full build development traffic analysis. The full build analysis was generated by utilizing the existing Metro COG travel demand model. The full build model allowed Metro COG to generate the following data and analysis.

- Forecasted ADT
- Forecasted LOS
- Forecasted ROW Needs
- Access Management
- Signal Warrant Analysis at Major Intersections
- Railroad Grade Separation Analysis
- Multi-Modal Opportunities
- Aesthetic Opportunities

EXISTING CONDITION

Twelfth Avenue is a 2-lane rural section from 45th Street to Country Road 19. Twelfth Avenue consists of two 10' travel lanes with no shoulder from 45th Street to County Road 17. West of County Road 17, 12th Avenue transitions to two 11' travel lanes with shoulders that vary between 4' and 6' wide. Travels speeds are posted at 40 MPH for the entire length of the study area.

The project area is almost exclusively industrial, with the exception of areas north and south of the 12th Avenue and County Road 17 intersection. The project area is a mix of light, general, and heavy industrial uses. There are a variety of business types in the project area ranging from smaller auto related maintenance shops, storage yards and facilities, as well several larger construction and agricultural related businesses.

Traffic Analysis

Traffic volumes along 12th Avenue range between 4,000 and 5,000 between 45th Street and Center Street. A 72 hour traffic count conducted from Monday July 9th to Thursday July 12th showed an average daily traffic count on 12th Avenue just west of the 9th Street intersection of 5,600 vpd. Volumes west of Center Street start at 4,200 and decrease to 2,600 just prior to the intersection with County Road 19.

Level of service (LOS) during the peak hour along 12th Avenue is A. The peak hour as defined by current traffic patterns in the project area are 6:30 to 7:30 a.m. and from 4:30 to 5:30 p.m. Over 15% of the traffic in the project area is truck traffic. Of that 15% about 2/3 is single unit (SU) trucks and the remaining 1/3 is combined unit (CU) trucks.

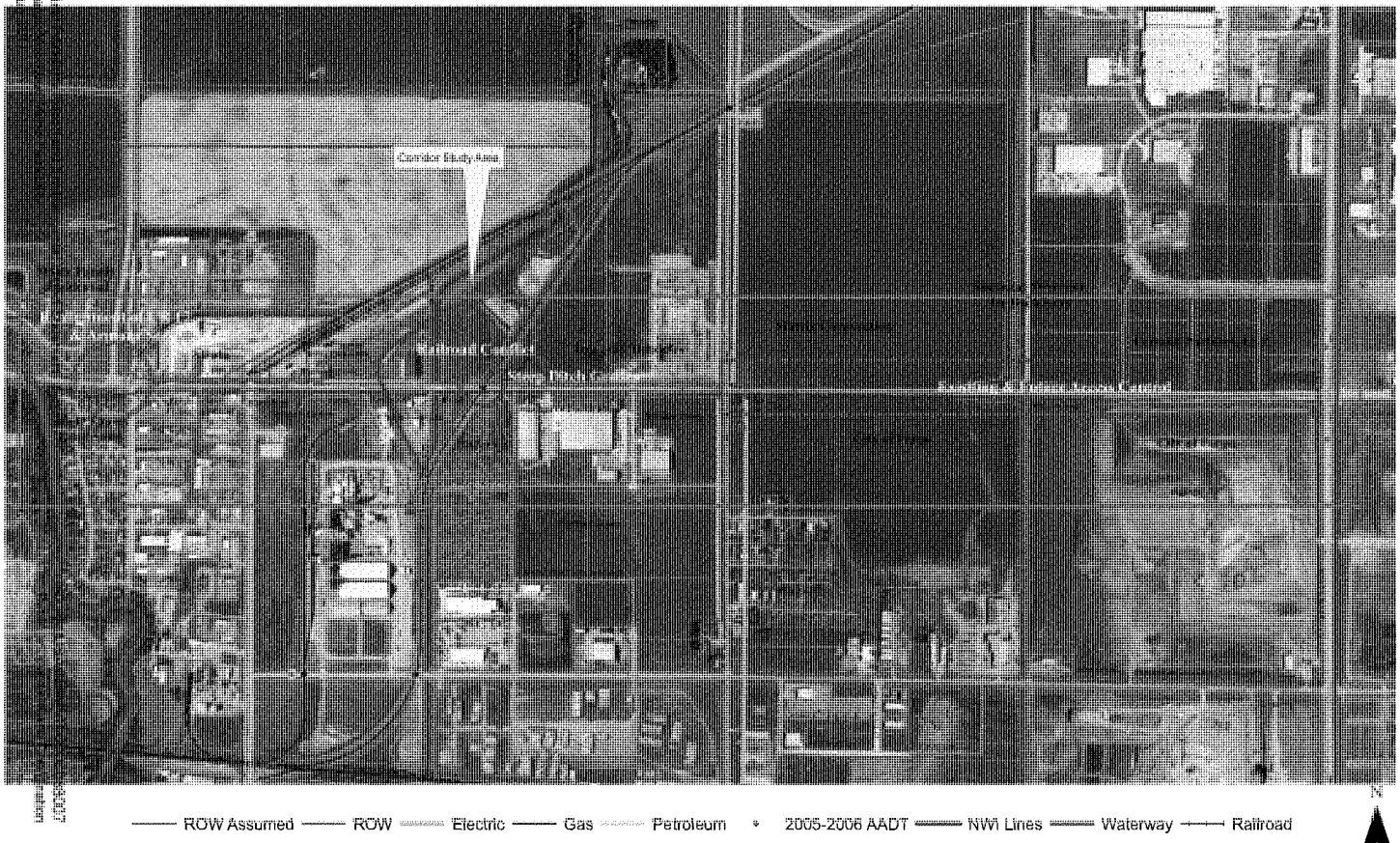
As discussed below, there are seven roadway intersections along the 12th Avenue corridor project area. With the exception of the 12th Avenue/45th Street intersection, intersection access in the project area is STOP controlled. Based on current traffic volumes, none of the STOP controlled intersections meet current signal warrants.

Access Management

There are a number of roadway intersections along 12th Avenue between 45th Street and County Road 19.

- County 19– Access on to 12th Avenue is STOP controlled
- 4th Street West – Access on to 12th Avenue is STOP controlled
- Armour Street – Access on to 12th Avenue is STOP controlled
- County 17 (northbound) Access on to 12th Avenue is STOP controlled
- Center Street – T-intersection, 3-way STOP controlled.
- 9th Street East – Access on to 12th Avenue is STOP controlled
- 45th Street – Signal controlled

Figure 1: 12th Avenue: Existing Condition & Issue Identification



Access along the corridor is provided to a number of adjacent business and larger industrial users. There are a total of 10 private access points along the 12th Avenue corridor.

Access management is currently an issue on the western half of the corridor. Measures will be considered to better control access in these areas. Based on existing conditions analysis, there appears the potential to consolidate existing access points. Opportunity exists to provide in advance for appropriate access control on the eastern half of the corridor.

Utilities and Other Infrastructure

Another consideration along the 12th Avenue corridor is the BNSF rail line which intersects the corridor at the midpoint of the project area. The line is estimated to carry 12 trains per day. Given current traffic volumes on 12th Avenue this equates to 54,000 train-vehicle exposures daily. Two additional rail spurs exist within the project area, one to the north and one to south of 12th Avenue. Neither spur appears to have an impact on current traffic operations.

There is an overhead power line which runs north to south through the project area approximately ¼ mile west of the intersection of 45th Street. There are overhead utility lines which parallel the north side of 12th Avenue from west of the BNSF line to just east of 4th Street. Overhead power lines cross the 12th Avenue corridor on both sides of 9th Street. There are also overhead power lines on the east side of both Amour Street and Center Street.

County Drain 46 bisects the 12th Avenue project area just west of the BNSF rail line. Country Drain 46 runs north south through the project area. Drain 46 appears to have established in place a natural drainage which is identified on the NWI layer.

There are several underground gas lines within the project area. One terminates just south of 12th Avenue east of 9th Street. A line runs north and then west on the north side of 12th Avenue onto the Strata property. Two additional gas lines exist within the Goldenwood subdivision, one of which runs from the west of County Road 17 and continues easterly to the north and parallel to12th Avenue. The other line in Goldenwood spurs off the previously mentioned line and then heads east by north east under County Road 17 and on to the east.

Right of Way

Current right of way along the 12th Avenue corridor varies from 100' to 125' between 45th Street and County 17. Right of way west of Country Road 17 is 160'. Figure 1 demonstrates existing ROW along the corridor from 45th Street to County Road 19.

Other Modal Considerations

There are currently no bike or pedestrian facilities along the 12th Avenue corridor. There are currently no public transit routes which operate on 12th Avenue or within the project area.

Steep Ditch Grades

The 12th Avenue corridor is currently a rural section, with open drainage ditches running adjacent to and parallel to the roadway surface. If a vehicle were to leave the roadway surface, the ditch grades are steep enough to not allow easy recovery to the roadway surface. Given the fairly high posted speed and the significant amount of large and heavy truck traffic on the corridor, these steep ditch grades create a potential safety issue.

EMERGING ISSUES

A number of existing issues present themselves with in the project area; those issues were identified in Figure 1. The primary issues in the study area will be access management. As is discussed in part below, the western portion of the 12th Avenue corridor has several existing access points. Some of which have been recently consolidated (e.g. Strata), however others exist which are likely to see increased volumes in the future.

Existing and Future Industrial Development

The eastern section one mile of 12th Avenue from 9th Street to 45th Street is fairly undeveloped and access is not yet an issue. The western one mile section of the 12th Avenue corridor will undergo a significant amount of land. The Fayland Industrial First Addition is located northwest of the intersection of 12th Avenue and 45th Street. The northern part of the addition is developed. There are several lots which abut 12th Avenue which are plated but not developed. The current plat for this area will create three new accesses onto 12th Avenue in the ½ mile section west of 45th Street. Full build out of the Fayland Addition is estimated at 3 to 5 years. It is projected that development will be large industrial users with 5 acre minimums with 100,000 to 200,000 square foot facilities.

The ¼ section of land to the west of the Fayland Addition is currently undeveloped. The land is owed by Matrix Properties and the future use will be industrial. The Matrix Property is listed for sale and has not yet been subdivided. Matrix Properties has indicated that the land is likely to be subdivided into lots of between 3.5 and 10 acres each, similar to the Fayland Addition to the east. It is reasonable to assume that there will be at least 2, possibly 3 future access points onto 12th Avenue North in the ½ mile east of 9th Street.

Immediately south of the Matrix property, between 9th Street and the existing Fargo Land Fill, is land owned by the City Fargo. The initial intent for this land was to use it for solid waste activities; however further analysis has deemed the land is not suitable for solid waste functions. Fargo currently has not identified a future use for this land.

Development north on County Road 17

The Goldenwood subdivision located northwest of the intersection of County Road 17 and 12th Avenue has been developing for two years. As currently platted the first, second and third additions of Goldenwood contain 93 lots. At full build the subdivision will have 240 lots. The current access into and out of Goldenwood is provided via 4th Street West on to 12th Avenue North. The 4th Street access is just west of the County Road 17 intersection with 12th Avenue. The next platted access into and out of Goldenwood will be at 13th Ave NW. Thirteenth Avenue will access on to County Road 17 approximately 1,200' north of 12th Avenue. At full build out a third access out of Goldenwood will be provided at 14th Avenue N which will be approximately 1,650' north of 12th Avenue North.

Thirteenth Avenue NW will also serve as access into and out of a recent industrial plat directly to the east of Goldenwood (just to the north of Strata). This Industrial Builders plat is 112 acres and will contain upwards of 8 to 10 acre industrial lots. As development continues within Goldenwood access conflict issues are likely to develop in the areas adjacent to the confluence of 4th Street, County Route 17, and 12th Avenue. As is discussed below, the Strata property generates a significant amount of heavy truck traffic at the intersection of 12th Avenue and Center Street.

Strata Site Access

The Strata property is located on the north side of 12th Avenue, roughly between Center Street and Country Road 17. Strata generates a measurable amount of large truck traffic which originate and terminates at the Center Street and 12th Avenue intersection. The intersection is currently a three-way STOP controlled and functions efficiently.

BUILD OUT LAND USE POTENTIAL

Metro COG updated the travel demand model used as part of the 2004 Metropolitan Transportation Plan (MTP) to more accurately reflect recent development patterns in the study area. The 2004 model used year 2000 land use development and traffic counts as base assumptions, and was calibrated to that data. For this study, the base year data was updated to reflect conditions on the ground in 2007 for the "Base" modeling scenario.

The Metro COG travel demand model was then adjusted to assume full build out within the project area for the "Build-Out" scenario. A full build projection is in keeping with recent Metro COG modeling efforts on other regionally significant corridors. While no specific planning horizon is identified as part of the "Build-Out" scenario, it does assist planners in recognizing issues and opportunities that may ultimately exist within the corridor, such as right-of-way needs, future intersection control, and ultimate capacity needed within the corridor.

Figure 2
Buildout
VC_PEAK
0.00000 - 0.50000
0.50001 - 0.70000
0.70001 - 0.90000
0.90001 - 1.00000
1.00001 - 1.28396

The "Build-Out" model scenario data reflected the following assumptions:

- The GoldMark property in the Northwest quadrant of 45th Street and 12th Avenue was assumed to be fully developed with industrial lots
- The Matrix property was assumed to be fully developed with industrial lots
- The Goldenwood subdivision was assumed to be fully developed with single-family residential homes
- The Industrial Builders property located north of the existing Strata property was assumed to be fully developed with industrial lots
- The property in and around the former meat packing plant (located between the Sheyenne River and CR 19 on the south side of 12th Avenue North) was assumed to be fully redeveloped with industrial lots
- An additional 60 acres of land was assumed to be fully developed in the area between 12th Avenue and 7th Avenue North, west of 9th Street.

BUILD OUT TRAFFIC CONDITION

The "Build-Out" scenario model results indicate that 12th Avenue North will continue to serve as an important and heavily traveled arterial for the foreseeable future, with projected traffic volumes of between 10,000 and 11,000 over the entire length of corridor within the study area. These volumes are similar to traffic volumes that currently exist in the built areas of Fargo's industrial park east of 45th Street.

Additionally, traffic volumes on some intersecting roadways also showed increases in the build-out scenario results, indicating a potential need for additional or up-graded intersection controls. **Figure 2** demonstrates build out volumes in the project area.

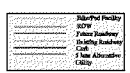
12TH AVENUE RECOMMENDATIONS

As part of the Metropolitan Transportation Plan in 2004 Metro COG prepared an Alternatives Analysis for 12th Avenue between 45th Street and County Road 17. Based on 2030 traffic volumes for the 12th Avenue Corridor, the 2004 MTP recommended that 12th Avenue be reconstructed as a three lane urban section; with preservation for a five lane urban section. Based on the updated travel demand model work done as part of this Technical Memo, the initial recommendations made as part of the 2004 MTP are still valid.

At build out it is recommended 12th Avenue be reconstructed as a five-lane urban section from 45th Street North to 9th Street East. From 9th Street to CR 17 Twelfth Avenue should be reconstructed as a three-lane urban section. Right-of-way for a five-lane section should be preserved west of 9th Street. Future analysis will be needed to determine at exactly what point 12th Avenue transitions from a five-lane to a three-lane facility, however it is recommended at this time that the transition occur between 9th Street and the BNSF tracks. Figure 3 demonstrates the recommended three and five layout for 12th Avenue.

Figure 3: Five Lane/Three Lane Urban Section Alternative for 12th Avenue NW

(14 ft middle lane, 12 ft drive lanes, 10 ft shared use path on the north side and 5 ft sidewalk on the south)



Based on the type of development which is anticipated along the 12th Avenue corridor, reconstruction as a five-lane section is recommended for the segment between 45th Street and 9th Street. The level of development, at build out, between 45th Street and 9th Street will warrant a five-lane section. However in the interim the eastern stretch of 12th Avenue should be reconstructed as a three-lane urban section. A 10' shared use path should be constructed on the north side of 12th avenue and a 5' sidewalk on the south side.

It is recommended that new access along 12th Avenue between the SE Cass tieback levy and 9th Street be allowed no less than every 660'. At such time as a concept plan for the land it owns on 12th Avenue, new access should be aligned with access to the north.

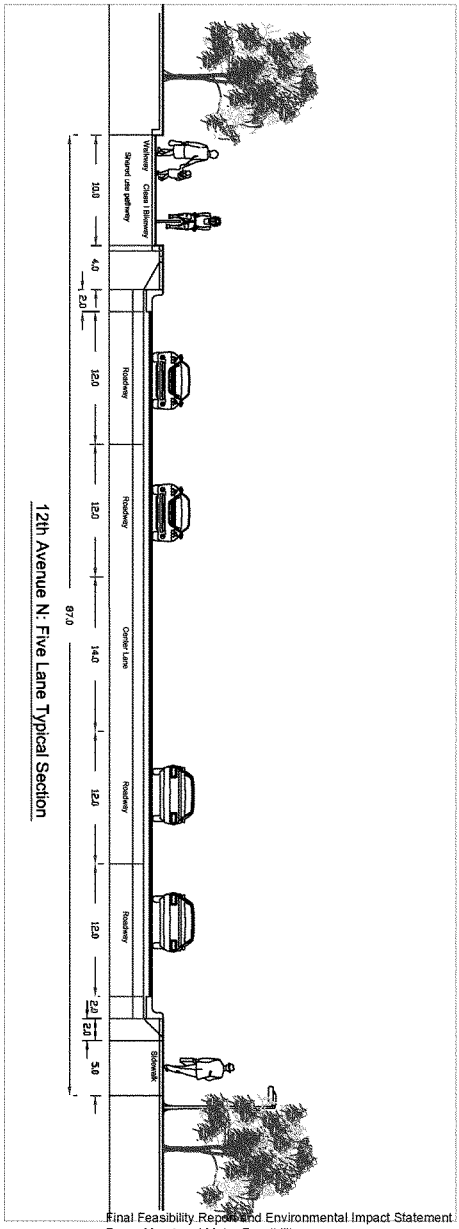
To the west of 9th Street the 12th Avenue corridor changes slightly. The section of 12th Avenue west of 9th Street is more fully developed, and no new access anticipated. The only exception is the continuing build up of manufacturing capacity at the Integrity Windows Plant, which will likely impact operations at 12th Avenue and 9th Street. Short term recommendations are suggested for the 9th Street and 12th Avenue Intersection (discussed below).

West of 9th Street 12th Avenue should transition back to a 3 lane urban section between 9th Street and the BNSF tracks. The transition should occur at our just beyond the existing Integrity Windows access/7th Street East on 12th Avenue. A transition from five to three lanes between 9th and the BNSF tracks prevents significant modifications to the BNSF at-grade crossing. However, even under a three lane alternative, modifications are likely necessary. If a grade separation is implemented along 12th Avenue, the addition of lane capacity should be analyzed at that time.

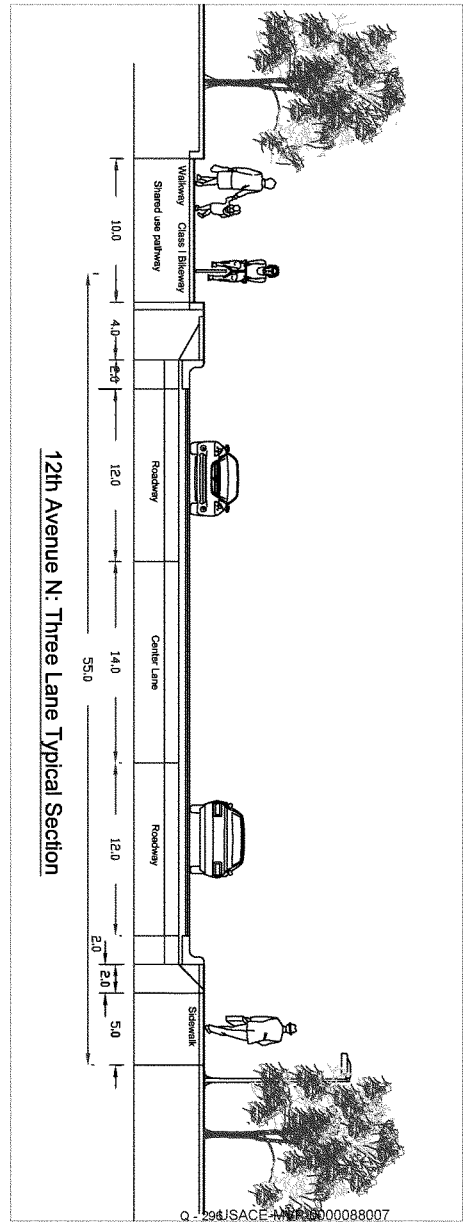
A westbound right turn lane/bay should be considered on 12th Avenue at CR 17. Consideration should be given to allowing for a right turn lane/bay into the Goldenwood subdivision at 4th Street NW. An eastbound left turn lane on 12th Avenue at CR 17 will emerge as part of the three lane reconstruction, however should be considered in advance of a major reconstruction of the corridor.

To the west of Country Road 17 12th Avenue should transition back to its current profile as a rural two lane section (4-12-12-4) prior at or near the West Fargo Public Works Facility. A transition at or near the West Fargo Public Works Facility will allow for modifications to accommodate turning movements into and out of the facility.

The West Fargo Public Works Facility will generate measurable traffic movements, including larger vehicles and heavy machinery which have the tendency to impede traffic flow along the corridor. Consideration should be given to adding a westbound right turn lane on 12th Avenue prior to the West Fargo Public Works Facility. As well, an eastbound left turn lane or a right hand bypass lane should be added to 12th Avenue in advance of the West Fargo Public Works Facility.



12th Avenue N: Five Lane Typical Section



12th Avenue N: Three Lane Typical Section

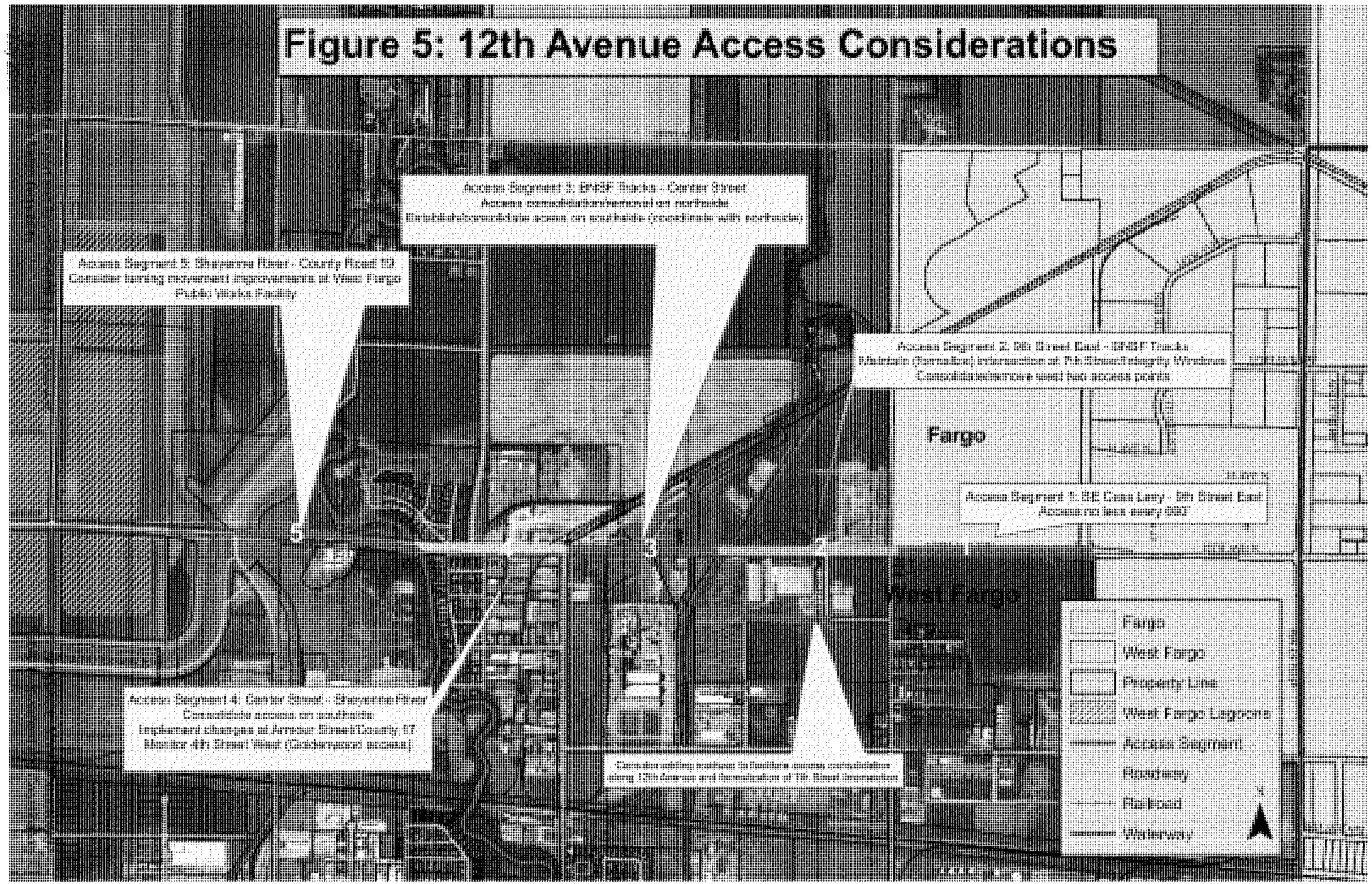


Figure 5: 12th Avenue Access Considerations
Access Segment 3: BNSF Tracks - Center Street
Access consolidation/removal on northside
Establish/consolidate access on southside (coordinate with northside)
Access Segment 5: Sheyenne River - County Road 10
Consider turning movement improvements at West Fargo Public Works Facility
Access Segment 2: 9th Street East - BNSF Tracks
Maintain (formalize) intersection at 7th Street/Integrity Windows
Consolidate/remove west two access points
Fargo
Access Segment 1: SE Cass Lavy - 9th Street East
Access no less every 660'
West Fargo
Access Segment 4: Center Street - Sheyenne River
Consolidate access on southside
Implement changes at Armour Street/County 17
Monitor 4th Street West (Goldenwood access)
Consider setting parking to facilitate access consolidation along 12th Avenue and formalization of 7th Street intersection
Fargo
West Fargo
Property Line
West Fargo Lagoons
Access Segment
Roadway
Railroad
Waterway
N

Access Considerations

There is the opportunity to consolidate or realign several existing access points from 9th Street to CR 19. There are several access points/intersections along the 12th Avenue corridor which are in need of elimination, consolidation, and continue observation and/or future analysis.

The 12th Avenue corridor was broken into five segments, each containing a lose set of observations and recommendation. **Figure 5** demonstrates the segments and recommendations.

Segment 1: Southeast Cass Levy to 9th Street East – New access no less than every 660'.

Segment 2: 9th Street East to BNSF tracks – Maintain (formalize) intersection at 7th Street East/Integrity Window access; consolidate or remove two western most access points.

The unimproved right-of-way south of 12th Avenue (10th Avenue NE) should be constructed to facilitate consolidation of access along 12th Avenue and to assist in formalization of intersection at 7th Avenue NE.

Segment 3: BNSF Track to Center Street – Consolidate/remove access on north side of 12th Avenue; consolidate/establish access on south side (coordinate with new access on north side).

Segment 4: Center Street to Sheyenne River – Consolidate access on south side; implement changes at Armour Street and Country Road 17 (discussed below); monitor 4th Street East (Goldenwood access).

Segment 5: Sheyenne River to County Road 19 – Consider improvements to facilitate safe turning movements at the West Fargo Public Works facility.

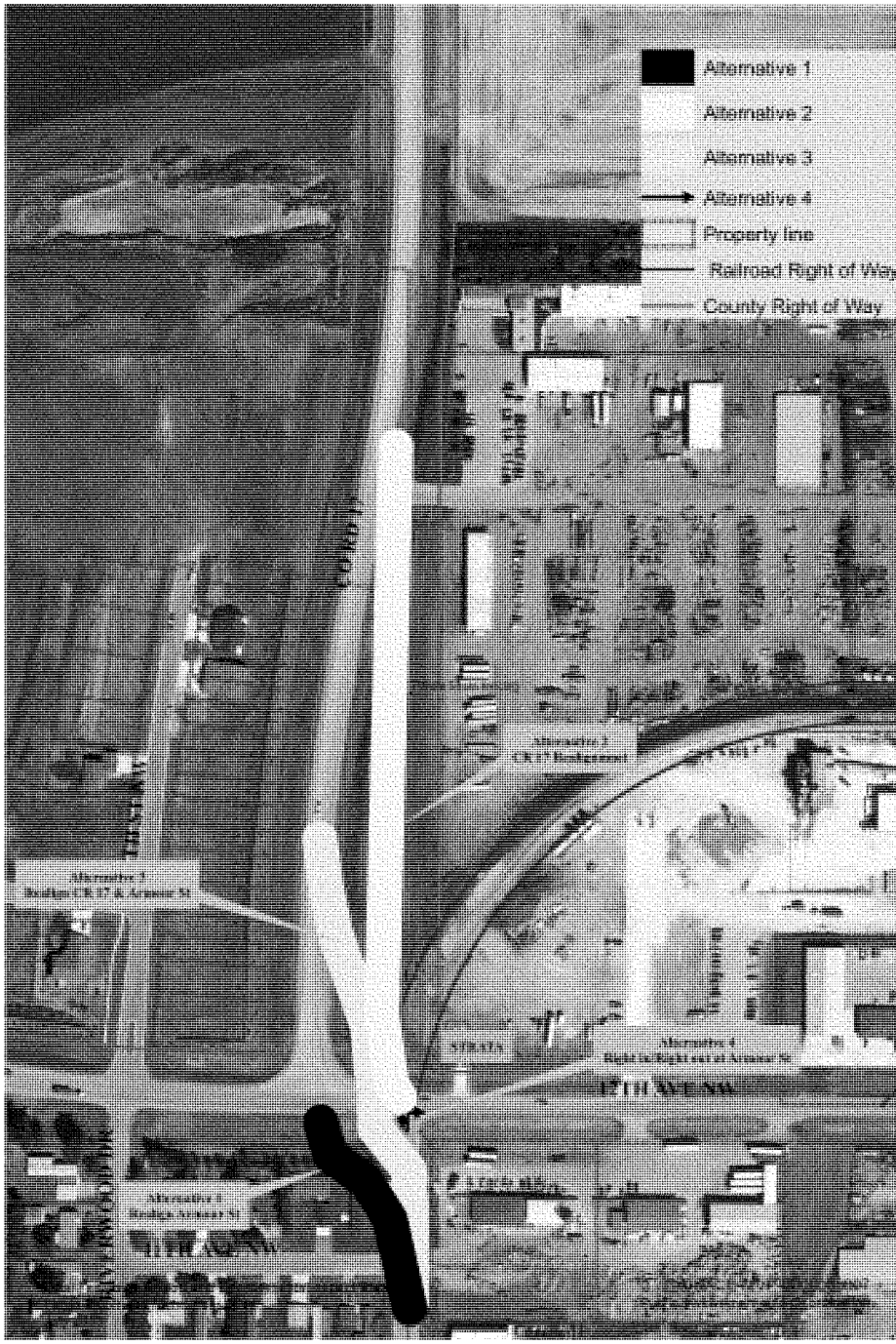
COUNTY 17/ARMOUR STREET REALIGNMENT

As part of the 12th Avenue Technical Memo Metro COG developed alternatives by which to alleviate the misalignment of Armour Street and CR 17. The existing condition provides for a number of unsafe turning movements. Figure 5 highlights the alternatives identified at Armour Street and County Road 17.

Alternative 1 – Realign Armour Street to Intersect with CR 17

Alternative 1 would shift the alignment of Armour Street to the west so as to intersect with the current alignment of CR 17. Alternative 1 will require the acquisition of as many as three residential properties. Alternative 1 would keep CR 17 on its current alignment. Alternative 1 is likely to face substantial neighborhood opposition.

Figure 6 - County Road 17/Armour Street Realignment



Alternative 2 – Realign CR 17 to intersect with Armour Street

Alternative 2 would shift CR 17 to the east so as to allow an intersection with Armour Street. Alternative 2 will require minimal property acquisition; however will require the relocation of existing fencing on the Strata property. Alternative 2 will require the reconstruction of 900' of CR 17. There are variations to Alternative 2 that would allow the shift of CR 17 to occur at any number of points north of 12th Avenue.

Alternative 3 – Realign Armour and CR 17

Alternative 3 would shift the alignment of CR 17 to the east starting approximately 400' north of 12th Avenue. Alternative 3 would shift Armour Street to the west starting approximately 105' south of 12th Avenue. Alternative 3 would avoid the degree of acquisition as identified in Alternative 1, however would require some level of acquisition. Alternative 3 would require the reconstruction of 400' of CR 17.

Alternative 4 – Right in/Right out control on Armour Street

Alternative 4 would provide for right in right out only traffic movements at Armour Street. Eliminating left in and left out movements at Armour Street will remove the most dangerous turn movements in this area. Alternative 4 would require no takings, and has the potential to influence traffic patterns in the area. Eliminated left in and left out access into the area south of the Armour Street and 12th Avenue intersection can be accommodated via Center Street and 8th Avenue.

SHORT TERM CONSIDERATIONS

Pending the timing of the actual recommended improvements along the corridor short term improvements may be needed along the corridor. Local staff needs to stay cognizant of changing traffic patterns along the corridor, especially the 12th Avenue and 9th Street intersection. As the Integrity Windows plant continues to expand, operations at the intersection of 9th Street and 12th Avenue need to be monitored. While the placement of traffic control devises may not meet warrants at this intersection, the placement of control measures may alleviate pending safety issues (especially given the prevalence of large truck traffic). The 12th Avenue and 9th Street intersection may require short term modifications to allow for additional capacity.

PUBLIC INPUT SUMMARY

Metro COG prepared the 12th Avenue Technical Memo in consultation with a project advisory committee consisting of representatives from the City of Fargo, City of West Fargo, and Cass County. In August of 2007, Metro COG mailed out a letter of intent to adjacent property owners along the 12th Avenue corridor informing them of the technical memo. The letter encouraged property owners to submit written comments on the technical memo to Metro COG. The letter also informed property owners that a public meeting was to held on the findings and recommendations of the technical memo as part of the overall adoption of the West Fargo Comprehensive Plan. Public input on the findings and recommendations of the technical memo were presented as part of the public input meeting on the West Fargo Comprehensive Plan, held on October 16, 2007.

Appendix 2

Public Input Summary

PUBLIC INPUT SUMMARY

The West Fargo Comprehensive Plan was built on a public engagement process that aimed to maximize resident input early in the plan development process. The process was crafted to gather input from community leaders, stakeholders, and citizens. The public input process was multifaceted and included passive and active elements. The following narrative offers a snap shot of the public input process and a summary of the commentary received.

STEERING COMMITTEE

The steering committee guided all elements of the study process. The committee represented a broad range of community interests. The committee assisted in setting the tone of the study process and provided critical input into all elements of plan development. The steering committee meet X times throughout the plan development process.

WEB PAGE

The web page www.westfargoplan.org was developed to allow community members and interested persons access to the planning process. The page was used to post key documents, plan elements, and meeting notices. The web page was visited a total of 1024 times, primarily by community residents and other interested persons.

COMMUNITY EVENTS

Metro COG staff attended the West Fargo Spring Business Expo and one Business After Hours event. Both were sponsored by the West Fargo Chamber of Commerce. At both events Metro COG gathered passive input from a cumulative total over 110 community residents. Both events were used to gather input into the planning process and also educate community residents about the planning process in general. The comments received at both events were generally in line those comments portrayed in other elements of the public input summary. In an effort to further alter the community to the Comprehensive Plan update, Metro COG included an 8.5 x 11 poster in the April West Fargo Chamber of Commerce Newsletter. The newsletter had an estimated distribution of 500 businesses and households.

COMMUNITY INPUT MEETING

A community input meeting was held on May 10, 2007 at the West Fargo Chamber of Commerce. Nearly 50 residents attended the community input meeting. The intent of the meeting was to gather early input from West Fargo residents. The information gathered at the meeting was used to assist in update of the West Fargo Comprehensive Plan (Plan).

Residents were provided with 8 interactive poster boards to help solicit input on a range of community issues and ideas. Comment cards/sheets were also provided for residents to share general comments and observations. What follows is a summary of the comments received from residents on the various issue areas presented at the community input meeting.

Community Vision

Residents were asked to identify their preferences on a range of statements and concepts related to the community vision for West Fargo. With the exception of tourist destination, residents were generally supportive of the concepts presented for inclusion as part of an updated community vision.

Community Vision		
	Yes	No
Regional Leader	8	3
City of Neighborhoods	12	1
Family Orientated	17	0
Small town flavor	16	0
Diverse community	12	0
Tourist Destination	3	10
Unique Business	11	1
Reinvestment & Rebirth	16	0

Residents feel strongly that the community vision for West Fargo needs to embrace the communities' family orientation and its small town flavor. Residents are equally interested in seeing the concept of reinvestment and rebirth become a part of West Fargo's community vision. Residents also favor a community vision which emphasizes a diverse community and a community of neighborhoods.

This or That

Residents were provided with 9 different sets of paired images which compared different types of development patterns. Residents were asked to choose which they preferred.

This or That?	
Grid Street Pattern	18.5
Suburban Street Pattern	7.5
Wide Local Streets	18
Narrow Local Streets	13
Traditional Traffic Control	13
Roundabouts	14
Open Roadway	10
Parkway	17
Neighborhood Commercial	15
Single Use Neighborhood	8
Wide Frontage	15
Narrow Frontage	10

Less Density	16
More Density	10
Garage in Front	5.5
Garage in Back	22
Separated Bike Facility	23
Bike Lane	4

Of interest was the support shown for concepts such as putting garages in back of the house, mixed residential/commercial developments, and a grid street pattern. Typically, none of these features exist in the areas of which West Fargo which have developed in the past 10 to 15 years.

Visual Preferences

In addition to the *This or That?* poster board residents were allowed to choose preferences among a range of images depicting different types of community settings and development patterns. Some of the images were specific to West Fargo, others were general in nature.

Visual Preferences		
	Like	Dislike
Dense Single Family Development	2	8
High Density (complex) Multi-family	2	17
Low density larger lot Single Family	12	1
Manufactured Housing	1	13
Twin home development (treeless)	2	9
Downtown Streetscape	14	2
Big Box Commercial	6	7
Strip Commercial	1	8
1950s era single family	21	0
Infill SF attached/town home	7	5
Neighborhood Commercial	16	1
Neo-traditional commercial facade	10	1
Pocket park	17	0
Landscaped gateway	16	0
Elevated gateway signage	2	15
Existing gateway signage	22	1
Light pole gateway signage	17	3
Separated bike/ped facility	10	1
MF - SF integration (older)	1	13
Condominium (medium density)	4	16
Mixed use density - Downtown setting	0	12

West Fargo residents appear in favor of traditional development patterns as have been the standard since the 1970s. West Fargo residents appear open to deviate from current development patterns to allow for nontraditional traffic control, housing/site design, and integration of neo-traditional development facades and patterns. Residents also appear in favor of mixed residential commercial facilities. Residents do not support the complex style high density pattern of development which has become the norm over the past 20 years in the metro area.

Population & Growth

Residents were provided an opportunity to comment on the ideal size of the City of West Fargo. As well residents were asked to choose among three growth/development strategies if West Fargo intends on expanding beyond a population of 42,000.

Population & Growth	
Population	
Less than 30,000	0
30,000	1
35,000	3
40,000	7
50,000	4
60,000 +	2
Growth Strategies	
Continue current development patterns and make provisions for development outside of Sheyenne Diversion.	6
Revise land use policies to maximize available land with in flood protected areas by increasing commercial and residential development densities.	7
Develop policies that encourage reinvestment and redevelopment in the core of West Fargo.	13

Residents appear to lean towards a smaller West Fargo, perhaps a community around 40,000. Residents also appear to support policies that will help support the reinvestment in the existing community and maximize existing flood protected areas.

Parks & Recreation

Residents were asked to comment on existing park and recreation facilities in the community. What follows is a summary of the comments received.

Park & Recreation	
1	Bridge from Armour Park to Riverside park
2	Bike improvements at Center Street RR Underpass

3	Armour Park needs to be better utilized; add ball diamonds & walking paths
4	Multiuse path along CR 17
5	Multiuse path along 40th Ave
6	Multiuse path along entire River (greenway) to connect parks
7	same as 5
8	Rename Amour Park to Oak Leaf; add skating rink east of shelter
9	create an arena/rec center at Elmwood
10	No comment provided: Diversion area north of 32nd Ave
11	No comment provided: I 94/Sheyenne interchange
12	Add equipment to Charleswood park/greenspace areas

Future Land Use & Community Growth

Residents were offered a future land use map of the City of West Fargo and asked to provide alternative land uses. As well, residents were asked to identify areas which should be considered for reinvestment or redevelopment.

Commercial Reinvestment & Redevelopment	
Location	Responses
West Main/Meadow Brook Park	5
Fairgrounds	1
Sheyenne Street	2
Main Avenue	3
Residential Reinvestment & Redevelopment	
Main Ave to 4th Ave on 9th Street	4

Land Use Changes & Comments		
	Location	**Comments**
1	Main/Sheyenne	Change to Park, north of Main, south of river
2	SW of 22nd Ave W/Sheyenne	Residential with buffer
3	32nd Ave/2nd St E	Retail/commercial with mixed use buffer
4	CR 17/25th Ave W	Retail/commercial with mixed use buffer
5	Main/8th St W	Change to Commercial Retail
6	SW quad of 9th St/19th Ave	Restaurant/food service related
7	North of Main, West of 14th St NW	Change to Commercial Retail
8	14th Ave E/Prairie Parkway	Change to Commercial
9	same as 8	same as 8
10	South of Main, West of 14th St NW	same as 8
11	6th NW/4th Ave NW	Buffer residential and commercial
12	West Main Frontage between 22nd/26th St NW	Change to commercial (hotel, conf. center)
13	Armour Park area	Create Community gathering area, make center of city (restore original name, Oak Leaf Park)
14	River from 7th Ave to 13th Ave	Riverwalk/greenway
15	Center Street/Pinewood	add trails &path/put in a bride to Armour Park
16	Armour Park area	Skating Rink at Oak Leaf (Armour) Park
17	Bonanzaville Area	Residential/Commercial Mix

18	Lagoons	Control Lagoon odor
19	Main to 4th Ave on 9th Street	Aesthetic Improvements
20	Main Ave just W of 45th (north side)	Change to Commercial/retail
21		same 20
22	32nd Ave just W of River	Retail/commercial
23	9th St (between 32nd & 40th Ave)	Commercial
24	40th Ave W of 9th Grade Acad.	Commercial
25	Sheyenne River near Beaton Rd.	convert to park space (part of subd.)

Residents point to the Main Avenue Corridor and areas south of I-94 as the parts of West Fargo which need to undergo additional land use scrutiny. With the pending reconstruction of Main Avenue many opportunities will exist for improved access and the potential for redevelopment and financial reinvestment. The areas south of I-94 have the potential to be planned on a sub-area basis to allow for the development of unique and recognizable neighborhoods and commercial areas.

Transportation

Residents were provided a poster board that focused on transportation issues with in the City of West Fargo. Residents were asked to identify transportation corridors which they feel require capacity increases (existing congestion points) and corridors which required aesthetic improvements. Residents were also asked to identify areas of the community where bus service is needed.

Congestion Points
Sheyenne/I -94
Main/6th St W
13th Ave/9th St
CR 17/32nd Ave
CR 17/40th Ave
CR 17/52nd Avenue
13th/Sheyenne (left turn needed)
13th Ave/16th St
Bus Service
West Main/16th St
Areas north of Main near 4th Ave NW
Integrity (12th Ave Industrial area)
Areas south of 13th/west of Sheyenne
Eagle Run
Aesthetic Improvements
13th Ave (whole corridor)
Main Ave (whole corridor)
Sheyenne (Main to 10th)

9th St north of 13th
40th Ave/9th St W

Not surprisingly residents are most concerned about Sheyenne Street (County Road 17). The Sheyenne Street corridor was overwhelmingly identified as the communities' most deficient corridor on a number of fronts. There does appear to be some support for bus services in various parts of West Fargo. Many of them, such as the 12th Avenue industrial areas and Eagle Run are fairly distant from existing Metro Area Transit routes.

Bike and Pedestrian Issues

Residents were given an opportunity to comment on areas in the community where they currently enjoy riding bike and/or walking. Residents were also asked to identify locations in the community were they feel improvements are needed for both pedestrians and bicyclists.

Places currently used for biking & walking
Elmwood Park
15th Street W
Rendezvous Park
8th St W
13th Ave/9th Street
Sheyenne S of Charleswood
Bikeway improvements
15th St W
13th Avenue near 15th St W
CR 17 (I-94 to 52nd Avenue)
2nd Street W 4th Ave W
Main Ave/6th St W
West Main 14th St to 21St
Center Street/Armour Park Area
Pedestrian Improvements
12th Ave/Center Street
Main/Center
Main near Bonanzaville
West Main 14th St to 21St
CR 17 (I-94 to 52nd Avenue)
Sheyenne Diversion N of 32nd Ave
40th Ave/2nd St E

A major issue identified was the connectivity of the newer parts of West Fargo with the core of the City. Along those lines the issue of connectivity between the newer parts of West Fargo and Southwest Fargo was also identified as an issue. The biggest bike and pedestrian issue in West Fargo is the lack of a safe option on Sheyenne Street, south of I-

94. The majority of comments both positive and negative concerning the bicycling and walking were centered in the western part of West Fargo.

Business District & Downtown

Residents were asked to identify the area of the community which they identify as West Fargo's business district. Residents were then asked to identify which part of the community they identify to be West Fargo's downtown.

Commercial/Business District	
13th Avenue	13
9th Street/I-94	4
CR17/32 Ave	1
Sheyenne/Main	2
West Main	2
Downtown	
Sheyenne/Main	14
13th Avenue	1

Residents overwhelmingly identify segments of Main Avenue and Sheyenne Street as the downtown of West Fargo. Residents point towards the 13th Avenue area as West Fargo's business district. Though not asked overtly, a number of participants pointed to the I-94/9th Street Interchange and the 9th Street corridor south of I-94 as the future commercial and business center for West Fargo.

ONLINE COMMUNITY SURVEY

An online survey was developed as part of the update of the West Fargo Comprehensive Plan (Plan). The survey was designed in consultation with West Fargo Planning staff and the steering committee. The survey was designed to gather input on a battery of issues with in the City of West Fargo. The survey contained questions covering a range of topics including: Demographics, Community Image & Identity, Community Growth, Community Vision, Land use & Development, Transportation and Community Facilities. What follows is a narrative summary of the sentiment gleaned from the community survey.

When choosing a community in general, West Fargo residents value schools, neighborhoods, city services and amenities, and affordable living. On a list of factors which specifically influenced their decision to choose West Fargo the residents placed a high value on good schools, small town atmosphere, and the cities neighborhoods. Other factors which ranked high as influencing resident's choice to live in Wet Fargo were the community's affordability, work, and its location. Taxes, flood protection and city services appear least influential on current residents of West Fargo.

When asked to think about what the vision for the City of West Fargo should be, residents overwhelming point back to a community of neighborhoods, small town flavor, and family orientation. Interestingly, residents also feel strongly that as West Fargo

grows its vision needs to also focus on reinvestment and rebirth. The notion of reinvestment and rebirth is also expressed through the desire of residents to see more emphasis put on redevelopment strategies in the downtown and in other older commercial and industrial areas.

Of note is the value residents place on neighborhoods, schools, and small town atmosphere, especially when viewing resident's desire for community growth. Seventy percent of residents surveyed felt the ideal size for West Fargo is a population of less than 40,000.

As the community grows there appears a growing recognition that existing services must be supported to ensure a uniform level of service across the whole community. There tends to be at least some consensus that existing services are not keeping pace with community growth. Residents also sense an imbalance in services between the newer and older parts of the community. There was much concern over the growing pains that will follow the continued rapid expansion of the community.

When looking at a future of continued southward expansion of the community, residents don't tend to favor infrastructure sacrifices in the older parts of the community. Residents appear to support a balanced approach to infrastructure and service investments.

It could be this developing sense of service imbalance, looming growth pressure, and future growth demands that lead residents to vision a West Fargo as a community of 30,000 to 40,000 people.

As residents of West Fargo look forward to the continuing growth of the community, residents clearly put their priorities for new transportation infrastructure in the south and west. Residents feel the highest transportation priorities are Sheyenne Street from 13th Avenue to 52nd Avenue, 9th Street from 13th Avenue to 40th Avenue, and 13th Avenue from the City limits to Sheyenne Street. Overall, the highest transportation priority among residents is the interchange at 9th Street East and I-94.

Residents are less supportive of improvements to northern corridors such as 7th Avenue North and 12th Avenue North and are mixed on corridors such as 8th Street West and 7th Avenue East and West. There did appear to be a concern with the traffic speeds on I-94 between 45th Street and US 10 and the resulting noise pollution created for the neighborhoods to the north of I-94. The issue of sound walls was mentioned on a few occasions.

Though few existing residents indicated that city services were a factor which influenced them to move to West Fargo, almost half indicated city services are an important community characteristic in general.

Residents appear supportive of an infrastructure sales tax. West Fargo currently has a 1% sales tax dedicated to infrastructure which has been in place since 1994. As the city

continues to grow and as infrastructure needs mount, additional sales tax revenues may be supported by the residents.
When looking at infrastructure cost allocation, residents generally appear in favor, though not strongly, to allocating costs directly to those who benefit the most (abutting properties). However, larger facility needs and infrastructure investments may require the support of the entire West Fargo tax base.

Taxes ranked in the middle of a list of community characteristics which influenced residents to move to West Fargo; and ranks equally neutral among a range of general community characteristics. However, West Fargo residents are generally mixed on the current property tax burden in the city. In fact, several open ended comments on the survey pointed towards a growing frustration with existing property taxes and special assessments.

A strategy which can sometimes help reduce new facility and infrastructure costs is regional or institutional cooperation. West Fargo residents feel strongly the city should work with both it's abutting communities and with the West Fargo Park District and West Fargo School District to assist in meeting future facility and infrastructure needs.

In general residents feel West Fargo's image is improving, with in West Fargo and with in the region as a whole. Of note, too, is the recognition that West Fargo's identity is more realistically tied to that of the metro area. In keeping with this later comment, residents also recognize the quality of life in West Fargo is tied to the production of goods, services, and facilities of the large regional/metro area.

One of the areas residents were surveyed on related to parks and recreational facilities. Residents place the highest priority on new neighborhood parks and bike trails among all other recreational improvements. Residents also responded favorably to a community recreation center. There were several open ended comments which called for the development of a community based recreational/fitness center in West Fargo. The emphasis on the recreation center was placed on affordable to all and homegrown in nature (i.e. created by West Fargo for West Fargo).

Residents responded favorably to both an indoor and outdoor swimming pool. Several open ended comments were received which pointed towards the need for expanded indoor swimming facilities for the local swim programs. Residents were fairly split on the idea of a public golf course, soccer fields, and indoor running facilities. Residents place a low priority on a public skateboard park and skating/hockey facilities.

FOCUS GROUPS

A total of seven focus groups were held to help gather input and assist in formulation of key elements of the plan development.

- Township/County/Abutting Jurisdictions – This group consisted of entities which abut West Fargo and representatives from land areas which are in West Fargo's ET.

- New/Growth Area Business – This group consisted of smaller businesses which are in new growth areas of the City.

- Redevelopment/Downtown Business – This group consisted of businesses which are in older/established parts of the city which may be undergoing redevelopment or renaissance efforts.

- Housing – This group consisted of individuals in the housing industry, including builders and developers, but also included realtors.

- Public Official – The group consisted of administration and elected officials from the Park District, School District, and City of West Fargo.

- Special Issues/Services – This group consisted of representation from the elderly, disabled, and New American communities, among others.

- Infrastructure – This group consisted of key municipal staff and administration and would focus on short and long range infrastructure needs and issues.

Public Facilities

- Recreational Center
- Increase utilization of Veterans Arena
- Study Golf Course Options in relation to other recreational needs
- Swimming pool
- Bike Trails and recreational paths with regional connectivity
- New fire facility needed in south
- Soccer fields
- Community growth has outpaced the provision of new community facilities
- Residents depend on the services/amenities of the larger region
- Coordination is needed between Park Districts from Fargo/West Fargo
- Recreational development along Sheyenne River
- Library needs through out community (study feasibility of branch option)

Economic Development

- Regional strategy of Greater FM Economic Development Corporation (GFMEDC) may not be in keeping with the needs of West Fargo
- West Fargo should consider high tech/office development (attract white collar jobs)
- Establish retail/commercial tax base
- Southern growth areas is a potential to create new base of economic development
- Economic Development can help finance future infrastructure improvements

City Growth

- New growth needs to be unique and creative
- City needs to work with private sector to establish a consensus on the type and pattern of growth in the southern growth area; private sector can help set vision
- 35,000 to 42,000 is full build out of City limits
- Balance uncontrolled growth with measured growth
- Identify reinvestment areas within the core of the city

Exurban Development

- West Fargo needs to be a leader in promoting sensible growth in its ET area
- Scrutinize extension of utilities into rural areas (rural communities)
- Establish a utility service boundary
- Establish coordinated land use plans for urban/rural transition areas
- Scrutinize sporadic development in rural areas
- Development around CR 17 and 76th Ave S needs to be controlled

Schools

- Schools are the backbone of the community
- Need for a 2nd high school (2nd) by the early part of the next decade
    - 9th Grade Academy can convert to high school
    - Concern about what changes to the image of the city with the 2nd high school
- New school likely in Osgood in the near future
- Increase coordination between the Fargo and West Fargo School District

Infrastructure

- West Fargo needs a 20 to 30 year capital improvement plan
- City needs a plan for scenario at which population goes beyond flood protected areas
- West Fargo has lost pace with the current development trends

- Water/waste water issues need to be dealt with to ensure long term growth.
- County Road 17 is a long term issue, no quick fix
- Transit service is lacking even with in the core parts of the City; demands in growth area likely to develop in the coming 3 to 5 years.
- Congestion in southern areas will be a constant
- Existing priorities
    - 9th Street overpass/interchange
    - Water Plant
    - Southern roadway/utility infrastructure
    - Maintenance of core city
    - Expansion of economic development to help fund infrastructure (e.g. sales tax)
    - Sheyenne Street
    -

Regional Infrastructure

- City/County should explore a 20 year levy plan
- NDDOT resources are spread thin; Federal funds are not always going to meet the total regional demand
- Metro/Regional transportation planning needs to become more proactive and long range
- Regional visioning and planning is needed for urban/rural coordination on issues of water, waste water, solid waste, etc.
- Political attitudes need to become less parochial
- Cooperation between the School District, City, and Park District
    - Help keep property taxes low by providing coordinated services/programs/facilities
    - Traditionally, coordination and cooperation among entities has been positive but not resulted in major initiatives or outcomes
- Large infrastructure projects require cooperation from more than just the specific jurisdiction

City Image

- Look to the future
    - Newer residents are not familiar with the West Fargo of the past; many in the region have a new perception of West Fargo
- Expand the positive (marketing of the city within the City is needed)
- Quality of life (for all ages)
- Balance the contrast between small town of the past and city of the present
- Balance new city and old city
- Aesthetic Revitalization needed along Main Avenue and Sheyenne Street
- More common green space along river

Community Vision

- West Fargo as a Regional Leader
  - Working with rural communities and townships
  - Initiating regional partnerships on infrastructure
    - Flood protection
    - Growth management/coordination in rural areas
- Small town atmosphere
- Family orientated (broad sense of family)
- Neighborhood centered
- A community for all ages and lifestyles

Housing

- City needs to maintain market share of regional housing production
- Commercial/retail services will help in continuing housing growth
- Community facilities will also aid in attracting new housing.
- City needs to input local dollars to help with first time homebuyers.
- Work to provide low cost public facilities through good sensible engineering standards and practice
- City needs a housing strategy
- Seek clustered/mixed density as opposed to consolidated blocks of large high density complexes.

Flood Protection

- The diversion will meet West Fargo needs for another 20 to 30 years.
- Pressure west of the diversion (per higher land values in the city, etc.) is causing poor development patterns.
- Regional flood protection plan is needed; larger vision is needed.
- Major new flood control will require a long range vision and will likely come with out significant federal inputs.

OPEN HOUSE

On October 16th, 2007, Metro COG and the City of West Fargo hosted an Open House at the Loeden Center to share the elements of the Draft Comprehensive Plan. Nearly 40 community members participated in the Open House and shared their ideas on the draft elements of the Comprehensive Plan. Comments received as part of the Open House were integrated into the planning process.

DeMars & Turman, Ltd.

Attorneys at Law

505 N. Broadway Suite 207
P.O. Box 110
Fargo, ND 58107-0110
P 701.293.5592
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W turmanlaw.com

TELECOPIER MESSAGE

DATE: January 26, 2011 **Telecopy No.** 651-290-5258

TO: Terry J. Birkenstock

FROM: Joseph A. Turman, Oxbow City Attorney

RE: City of Oxbow
Our File No. 7065

Document Transmitted: Letter from James Nyhof, Mayor, City of Oxbow

Number of Pages to Follow: 12

Transmitted By: Janelle

Special Instructions:

Original will follow by Overnight UPS

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The information contained in this facsimile message is attorney privileged and confidential information intended only for the use of the individual or entity named above. If the reader of this message is not the intended recipient, or the employee or agent responsible to deliver to the intended recipient, you are hereby notified that any dissemination, distribution, or copying of this communication is strictly prohibited. If you have received this communication in error, please immediately notify us by telephone, and return the original message to us at the above address via the United States Postal Service.
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IF PROBLEMS OCCUR OR YOU DO NOT RECEIVE ALL PAGES ABOVE PLEASE CALL (701) 293-5592

David T. DeMars

Joseph A. Turman

Katrina A. Turman Lang

City of Oxbow

Jim Nyhof, Mayor
Greg Anderson, City Council
Ardin Breimeier, City Council
Bill Kuzas, City Council
Frank Pearson, City Council
Pam Twedt, Auditor

January 26, 2011

Mr. Terry J. Birkenstock
Chief, Environmental and GIS Branch
U.S. Army Corps of Engineers – St. Paul District
180 Fifth Street East, Suite 700
St. Paul, MN 55101-1678

VIA FED EX

Re: Comments on Notice of Intent to Prepare a Supplemental Draft EIS for the Proposed Fargo-Moorhead Flood Risk Management Project

Dear Mr. Birkenstock:

The City of Oxbow ("City") respectfully submits the following comments on the Notice of Intent to Prepare a Supplemental Draft Environmental Impact Statement for a Proposed Flood Risk Management Project on the Red River of the North in Fargo, ND and Moorhead, MN 75 Fed. Reg. 81249 (Dec. 27, 2010) ("Notice of Intent").

The City appreciates this opportunity to comment on the proposed scope of the planned Supplemental Draft Environmental Impact Statement for a Proposed Flood Risk Management Project on the Red River of the North in Fargo, ND and Moorhead, MN 75 Fed. Reg. 81249 (Dec. 27, 2010) ("Notice of Intent"). The City appreciates this opportunity to comment on the proposed scope of the planned Supplemental Draft Environmental Impact Statement ("SDEIS"); including the U.S. Army Corps of Engineers' plan to limit the scope of the SDEIS to analyzing downstream impacts of the Proposed Fargo-Moorhead Flood Risk Management Project ("Proposed FM Project" or "the Project"), possible measures to mitigate those impacts, and potential alternatives for the Project.

As a preliminary matter, the City states that it fully supports a proposed FM project.

The initial plan as prepared by the Corps was a preferred project. At the time the initial plan was prepared and supported by the City and other governmental agencies, there were no upstream impacts. The plan, as presently proposed, drastically impacts the City.

The City is a residential community south of Fargo. It is very similar to many of the residential areas within the Cities of Fargo and Moorhead. The biggest differences are in its openness and its proximity to one of North Dakota's finest recreational assets, Oxbow Golf & Country Club.

Just as in Fargo-Moorhead, the most flood-prone homes in the City either have been or are in the process of being removed. Additionally, the City has substantially completed flood protection to near the 500-year flood stage without substantial government participation. The City also supported a countywide sales tax, which was passed to assist in paying for flood improvements. The City continues to support that tax but at the same time questions why they are paying for a project which may ultimately inundate the City in event of a major flood.

Mr. Birkenstock
Page 2
January 26, 2011

The project, as presently proposed, now plans to stage water on the south side of the diversion. That staging project (or dam) will create a massive holding pond that will extend well to the south and west of the City. The precise numbers will not be known until mid-March 2011; however, the City has been advised that they can easily anticipate an increased impact of 3 to 7 feet. This is additional water on top of the pre-diversion press level. No location in the Red River Valley can handle that additional water without extended protection.

The result may mean the removal of another 30+ homes from the City and the destruction of the golf course. The City was a community of approximately 120 homes prior to the recent flood years. That number has now been reduced to approximately 110 homes. With this project the potential additional erosion of residents from the City will result in a substantial loss to the City's tax base. In all likelihood, the City will experience sufficient erosion of its economic base to threaten its ability to maintain its roads and/or operate its sewer and water systems. Additionally, the value of property and/or residences in the Kindred Public School District will be substantially harmed by the plan as presently proposed.

At a recent meeting, the City Council unanimously passed a resolution opposing the presently proposed project. Additionally, many of the property owners in the City have signed a petition joining in the resolution opposing the project as presently proposed. A copy of this resolution is enclosed for your review and consideration.

If the inlet structure is moved south about two miles, it will provide needed flood protection for an additional 300 structures (approximate), with a tax valuation of $53 million or greater and a market value approaching or exceeding $300 million.

The City respectfully requests that the Corp consider these matters when making its conclusions on the SDEIS. Thank you for your consideration of this matter.

Respectfully Submitted,

James E. Nyhof, Mayor

cc: Cass County Commissioners
Cass County Joint Water Resource District Members
Governor Jack Dalryrnple
Senator Kent Conrad
Senator John Hoeven
Representative Rick Berg
Fargo Mayor Dennis Walaker
West Fargo Mayor Rich Mattern
Attorney Sean Fredricks

enc

City of Oxbow

Resolution #2011-01

RESOLUTION OPPOSING THE FARGO/MOORHEAD (FM) DIVERSION

Council member Breimeier introduced the following resolution and moved for its adoption:

WHEREAS, the United States Army Corps of Engineers (USACE) has proposed constructing a flood water diversion channel around the cities of Fargo, ND and Moorhead, MN

WHEREAS, the proposed diversion channel restricts the flow of the Red River in southern Cass County, causing water to stage on the south side of the diversion channel

WHEREAS, the City of Oxbow is situated directly south and upstream from the point where the diversion channel intersects the Red River

WHEREAS, the proposed flood diversion channel will change the flow regime of the Red River during flood events and is estimated to cause adverse impacts measured in feet of additional crest elevations at the City of Oxbow, necessitating drastic and severe mitigation measures

WHEREAS, actions by the USACE or other outside interests to impose mitigation measures in order to offset the adverse impacts of the diversion channel will irreversibly change the character of the City of Oxbow and impact the quality of life of its residents

WHEREAS, operation of the flood diversion channel will increase not only the severity but frequency and duration of flood events at the City of Oxbow

WHEREAS, increased flood crests of the magnitude envisioned by the USACE will also adversely impact roads, utilities, public safety, personal property, commerce, and personal well being to those upstream of the proposed diversion

WHEREAS, said change in flow regime results in multiple adverse impacts to the City of Oxbow, its residents and others situated upstream from the proposed FM diversion project as it is now proposed

NOW THEREFORE, to preserve the interests of the City of Oxbow and its people, the City of Oxbow Council does hereby go on record as opposing the FM diversion project as it is now proposed. The City of Oxbow Council does also hereby resolve that any offer to purchase property for purposes of mitigation related to the FM diversion project must extend to all property owners within the City of Oxbow.

The motion for adoption of the foregoing resolution was duly seconded by council member Zink and upon vote being taken thereon, Greg Anderson, Frank Pearson, Dan Zink and Arden Breimeier voted in favor thereof and NONE voted against the same, whereupon the resolution was declared duly passed and adopted.

Adopted this 19TH day of January, 2011

James E. Nyhof, Mayor

Pam Twedt, Auditor

The following signatories, all residents of the City of Oxbow, affix their name in support of Oxbow Resolution #2011-01:

Name: Chad Nila Address: [redacted]

Name: [redacted] Address: [redacted]

Name: [redacted] Address: [redacted]

Name: _____ Address: _____

Name: _____ Address: _____

Name: _____ Address: _____

Name: _____ Address: _____

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The following signatories, all residents of the City of Oxbow, affix their name in support of Oxbow Resolution #2011-01:

Name: [illegible] Address: [redacted]
Name: [illegible] Address: [redacted]
Name: [illegible] Address: [redacted]
Name: [illegible] Address: [redacted]
Name: [illegible] Address: [redacted]
Name: [illegible] Address: [redacted]
Name: [illegible] Address: [redacted]
Name: [illegible] Address: [redacted]
Name: [illegible] Address: [redacted]
Name: [illegible] Address: [redacted]
Name: [illegible] Address: [redacted]
Name: Linda Davis Address: [redacted]
Name: [illegible] Address: [redacted]
Name: [illegible] Address: [redacted]
Name: [illegible] Address: [redacted]
Name: [illegible] Address: [redacted]
Name: [illegible] Address: [redacted]
Name: [illegible] Address: [redacted]
Name: [illegible] Address: [redacted]
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Name: ________ Address: ________

The following signatories, all residents of the City of Oxbow, affix their name in support of Oxbow Resolution #2011-01:

Name: _____ Address: [redacted]

Name: _____ Address: [redacted]

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The following signatories, all residents of the City of Oxbow, affix their name in support of Oxbow Resolution #2011-01:

Name: William Podolak Address: [redacted]

Name: Bonita Podolak Address: [redacted]

Name: _____ Address: _____

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Name: _____ Address: _____

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The following signatories, all residents of the City of Oxbow, affix their name in support of Oxbow Resolution #2011-01:

Name: Sally McCravey Address: [redacted]

Name: Philip M Henry Address: [redacted]

Name: [illegible] Address: [redacted]

Name: [illegible] Address: [redacted]

Name: [illegible] Address: [redacted]

Name: [illegible] Address: [redacted]

Name: [illegible] Address: [redacted]

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The following signatories, all residents of the City of Oxbow, affix their name in support of Oxbow Resolution #2011-01:

Name: Kristina Mattson Address: [redacted]

Name: [redacted] Address:

Name: [redacted] Address:

Name: John Bjornson Address:

Name: [illegible] Address:

Name: [illegible] Address:

Name: Jane Pearson Address:

Name: Mark Pearson Address:

Name: [illegible] Address:

Name: Mike Warner Address:

Name: Joanne Warner Address:

Name: Chris Holland Address:

Name: _____ Address: _____

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The following signatories, all residents of the City of Oxbow, affix their name in support of Oxbow Resolution #2011-01:

Name: George R Scilley Address: [redacted]

Name: Dorothy M. Scilley Address:

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The following signatories, all residents of the City of Oxbow, affix their name in support of Oxbow Resolution #2011-01:

Name: Jolene Samuelson Address: [redacted]

Name: Jon Vikander Address: [redacted]

Name: Dave/Kristy Giverin Address: [redacted]

Name: [illegible] Address: [redacted]

Name: [illegible] Address: [redacted]

Name: [illegible] Address: [redacted]

Name: [illegible] Address: [redacted]

Name: Brenda Carlson Address: [redacted]

Name: Deb/Randy Schmidt Address: [redacted]

Name: [illegible] Address: [redacted]

Name: [illegible] Address: [redacted]

Name: [illegible] Address: [redacted]

Name: [illegible] Address: [redacted]

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The following signatories, all residents of the City of Oxbow, affix their name in support of Oxbow Resolution #2011-01:

Name: Wayne H. Zimmerman Address [redacted]

Name: [illegible] Address [redacted]

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CASS COUNTY
GOVERNMENT

January 24, 2011

Board of County Commissioners

Scott Wagner
Fargo, North Dakota

Vern Bennett
Fargo, North Dakota

Ken Pawluk
Fargo, North Dakota

Darrell W. Vanyo
West Fargo, North Dakota

Robyn Sorum
Horace, North Dakota

Heather Worden
Commission Assistant

Box 2806
211 Ninth Street South
Fargo, North Dakota 58108

701-241-5609
Fax 701-241-5728
www.casscountynd.gov

VIA FEDEX

Mr. Terry J. Birkenstock
Chief, Environmental and GIS Branch
U.S. Army Corps of Engineers - St. Paul District
180 Fifth Street East, Suite 700
St. Paul, MN 55101-1678

Re: Comments on Notice of Intent to Prepare a Supplemental Draft EIS for the Proposed Fargo-Moorhead Flood Risk Management Project

Dear Mr. Birkenstock:

The Cass County Board of Commissioners and the Cass County Joint Water Resources District (collectively "the County") respectfully submit the following comments on the Notice of Intent to Prepare a Supplemental Draft Environmental Impact Statement for a Proposed Flood Risk Management Project on the Red River of the North in Fargo, ND, and Moorhead, MN, 75 Fed. Reg. 81249 (Dec. 27, 2010) ("Notice of Intent"). The County appreciates this opportunity to comment on the proposed scope of the planned Supplemental Draft Environmental Impact Statement ("SDEIS"), including the U.S. Army Corps of Engineers' plan to limit the scope of the SDEIS to analyzing downstream impacts of the Proposed Fargo-Moorhead Flood Risk Management Project ("Proposed FM Project" or "the Project"), possible measures to mitigate those impacts, and potential alternatives for the Project.

As a preliminary matter, the County reiterates that it fully supports the Proposed FM Project. In particular, the County supports the Corps' identification of the North Dakota 35,000 cfs ("ND35k") diversion as the tentatively selected plan in the Fargo-Moorhead Metropolitan Area Flood Risk Management Draft Feasibility Report and Environmental Impact Statement ("Draft FR/EIS"). As the Corps knows, the ND35k diversion was the Locally Preferred Plan. When compared to the other alternatives analyzed in the Draft FR/EIS – including flood barriers, flood storage, and the other diversion channel locations – the County continues to believe the ND35k diversion best meets the stated purpose and need for the Proposed FM Project. Nevertheless, as explained in greater detail below, the County remains concerned that the Corps will summarily adopt the ND35k diversion precisely as aligned for the general alternatives analysis in the Draft FR/EIS without considering other alignments for the ND35k diversion that better suit the Project's purpose and need.

****

Mr. Terry J. Birkenstock
January 24, 2011
Page 2

The County understands that the Corps has preliminarily identified as its preferred alternative an eastern alignment to the ND35k diversion that directly abuts the town of West Fargo.[1] As the Corps is aware, the County and other project sponsors and local governments support an alignment 1.5 miles farther west (the so-called "western alignment") than the eastern alignment. In light of this support for the western alignment, in a letter dated December 13, 2010, the Corps indicated that if the "sponsors can demonstrate to the St. Paul District that the alignment shift is technically necessary and superior to other options by January 31, 2011," the Corps would further consider it.

The non-federal sponsors and other interested parties made such a showing to the Corps with a series of meetings and correspondence, culminating with a January 13, 2011 meeting with the Metro Flood Study Group. At that meeting, the Corps' project manager for the Proposed FM Project acknowledged that sufficient information had been presented to warrant further consideration of the western alignment. *See* Statements of Aaron Snyder, Metro Flood Study Group Meeting, January 13, 2011, included at Attachment A. Yet the Corps rejected requests by the County to consider the western alignment in the SDEIS for which the Notice of Intent was issued and repeated that it would consider only downstream impacts from the eastern alignment in the SDEIS so that it could remain on schedule. *Id.* However, the Corps committed to considering the western alignment during the project design phase and agreed to memorialize this commitment in the SDEIS. *Id.*

While the County appreciates these commitments, it still believes that the scope of the SDEIS should be revised to include consideration of the western alignment for the ND35k in the anticipated SDEIS now, rather than postponing consideration of this reasonable alternative until the project design phase. Given the Corps' statements during the January 13th Metro Flood Study Group meeting that the SDEIS will provide the basis for Congressional authorization of the Proposed FM Project, the County believes that evaluating the western alignment in the forthcoming SDEIS is necessary. By analyzing the western alignment in the SDEIS, the Corps can avoid a predetermined outcome in which the eastern alignment is selected, without full consideration of a reasonable alternative, simply to adhere to an artificial schedule. As a result, and consistent with the Notice of Intent's stated purpose for the SDEIS, the County again requests that the Corps consider the downstream impacts and other issues related to both the eastern and the western alignments in the SDEIS.

The western alignment provides a number of significant benefits that the eastern alignment does not. Accordingly, the Corps should take those benefits into account now, at the earliest possible stage in the decision-making process.

[1] The County is aware of no other entity other than the Corps that prefers this eastern alignment.

Mr. Terry J. Birkenstock
January 24, 2011
Page 3

As discussed in greater detail in previous correspondence and meetings with the Corps concerning the Project, the western alignment offers at least the following additional benefits, which should be evaluated in the SDEIS:

- The western alignment would better protect the Western Area Power Administration ("WAPA") substation from flooding, while the eastern alignment would place the substation outside the protected area. As the Moorhead Public Service Commission, Cass County Electric Cooperative, and Minnkota Power Cooperative (collectively "the utilities") have explained, the WAPA substation is a component of critical infrastructure on which the region's bulk electric suppliers rely for powering a significant part of the metropolitan area. Moreover, a significant flood event could inundate or otherwise compromise the facility, resulting in operational failure – a major negative impact to response efforts during a flood.

- If selected, the eastern alignment's inability to protect the WAPA substation from inundation would induce development in the floodplain in the form of infrastructure for protecting and accessing the substation during a flood. The Corps has suggested that construction of a ring dike and elevated roadways – infrastructure that the utilities maintain would provide insufficient protections and subject employees to danger during a response – may be necessary to protect the substation during a flood and provide access to the facility. The Corps should consider this future development in the floodplain in its evaluation of alternatives under Executive Order 11988.

- The Natural Resources Assessment Report for the FM Metro Flood Control Project – LPP West Alignment Study prepared by Houston Engineering, attached here as Attachment B, indicates that the eastern alignment would impact 28.3 more acres of wetlands than the western alignment. Due to the natural flood prevention and reduction abilities of wetlands, from a pragmatic perspective, the Corps should consider these impacts in its alternatives analysis. From a legal perspective, the Corps must consider these impacts to comply with Executive Order 11990, to identify the least environmentally damaging practicable alternative to support the issuance of a Clean Water Act § 404 permit for the Project, and to complete the public interest review that the Corps' regulations demand.

- The western alignment would provide flood control protection for 24 homes in the Willow Creek Subdivision that would not be protected by the eastern alignment.

- Interchange 342 on I-94 (referred to as the Raymond Interchange) can be inside the western alignment but is outside the eastern alignment. This interchange provides critical emergency service access to those areas to the north and south of I-94.

- It appears the many meanders and directional changes in alignment to the diversion channel necessary to accommodate the eastern alignment will significantly increase the probability of channel erosion during flood operations. The western alignment appears to be the hydraulically superior alignment and would substantially reduce these risks. Our local experience tells us the meandering channel characterizing the Sheyenne River flood control system has presented additional operational and maintenance challenges that could have been avoided with a more direct or linear alignment.

- The eastern alignment would parallel the existing West Fargo-Horace Sheyenne flood diversion channel, resulting in a level of redundancy that could be avoided with the western alignment. The western alignment would help maintain the value of the West Fargo-Horace Sheyenne flood diversion channel, funded by local citizens, as a second line of defense.

- We understand the Corps has not yet considered modeling data that may reveal additional beneficial impacts of the western alignment and negative impacts of the eastern alignment, such as providing greater protection for flooding in areas of West Fargo.

Mr. Terry J. Birkenstock
January 24, 2011
Page 5

The County understands the Corps is concerned that it must comply with Executive Order 11988. However, the County is concerned that the Corps' preference for the eastern alternative is premature and elevates avoidance of possible floodplains development over protection of human safety, existing residential and commercial property within the project area, and critical infrastructure. Such a result is not dictated by Executive Order 11988. At a minimum, the County believes that the SDEIS should include an evaluation of both the eastern and western alignment, including the potential for each alignment to induce floodplain development in accordance with Executive Order 11988. Moreover, the Corps should consider the potential impacts of both the western and eastern alignment on wetlands, as required by Executive Order 11990.

Lastly, the Cass County Board of Commissioners and the Cass County Joint Water Resource District strongly encourage the Corps to further analyze mitigation of upstream impacts including the alignment options on the south near the City of Oxbow and Bakke Subdivision.

As the project is currently addressed, 144 residential structures would be affected by a 100-year event with no project and another 90 would be added by a five-foot staging, for a total of 234 affected Cass County residences with a tax value of $53 million. With the additional local costs of flowage easements to mitigate upstream effects, it may prove to be in the national interest to move the inlet structure slightly southward to provide much needed flood protection in these areas.

Once again, the County appreciates the opportunity to comment on the Notice of Intent and looks forward to continuing the productive relationship we have had with respect to this important project.

Respectfully submitted,

Darrell Vanyo
Chairman, Cass County Board of Commissioners

Enclosures

cc:	Cass County Commissioners	Governor Jack Dalrymple
	Cass County Joint Water Resource District	Senator Kent Conrad
	Senator John Hoeven	Congressman Rick Berg
	Fargo Mayor Dennis Walaker	Oxbow Mayor Jim Nyhof
	West Fargo Mayor Rich Mattern	Attorney Sean Fredricks

Attachment A

Metro Flood Study Group Meeting
January 13, 2011

Darrell Vanyo: Are we incorporating any further consideration for the east/west alignment as part of this supplemental draft environment impact statement or not?

Aaron Snyder: I think at this point we wouldn't include any additional information that from what's here today, but in the design phase we would actually go through a bunch of alternatives. We'd document that and then we'd put that out in a supplemental environmental document.

Tim Mahoney: The question is that is if you went into the design phase, could you if you were originally going with the western alignment could you flip to the eastern alignment.

Aaron Snyder: If you originally go with the east could you flip to the west? Yes, you could do that.

Colonel Michael Price: Or a combination of both. And that's...I think what we're concerned with is looking at the right alternative combining both. Not just simply moving it a mile and a half, but incorporating the right level of protection everyone's identified to incorporate this document and that has not been...that modeling and that analysis has not been completed.

Darrell Vanyo: Okay. So continuing on here with what your task at hand is for the supplemental DEIS..you wouldn't...would there be any consideration for the impacts of both alignments or it would strictly be the impacts of the eastern alignment? Right?

Aaron Snyder: We'd keep the impacts in there that we have currently identified for that area.

Darrell Vanyo: So you are talking later on...

Aaron Snyder: And the main reason we are proposing to do it later on is that we think there is other alternatives that we really would need to look at and we don't have the capability at this time to look at them within the schedule we're on. So if we start saying maybe we need to look at moving the WAPA substation, maybe we need to look at building a road, maybe we need to look a different diversion alignment going through there that could provide that protection, maybe we need to look at identifying if mitigation areas could be used in there...so there is a lot of things that will have to be considered and a lot of things that have to be looked at. If we were to try to do that today, it definitely would cause a delay in the project.

Darrell Vanyo: I know you are giving us assurances that things could be taken care of later and it's kind of that we don't want to be caught with, "Well, we told you we were going to keep this eastern alignment and we told you we would address these things later and then not." I guess I want to make sure the processes are understood by those people who submitting technical information and otherwise, that where do we plug in and are assured that, you know, we have that opportunity.

Aaron Snyder: And what we're committing to is definitely we want to go through the steps in the process to make sure we look at all the right alternatives that we would need to look at to make sure that could happen. Like I said, four to seven years is the soonest this area could be constructed. That's the earliest. So we have ample time in there to work on this diversion more, get more details and then to come out and go through all the steps. But we're definitely committed to going through those steps in the process. We can't say for sure that we're going to move it or change anything, until we go through the process, until we can document it and need the documents, until we make sure the proposal could comply with 11988. So we will go through the process with you and will look at everything together.

Darrell Vanyo: Just one more comment along those lines and I will let some other people speak here. You know, you kind of addressed a number of issues during your presentation that have been brought up either by ... the electrical substation or different things that Mayor Mattern has brought up...and it's not my point here to banter back and forth, you know, about those things. Just assuring that down the road that these can be addressed. For example, when you put the slide up about the percent chance of an event, the level of that event versus the substation and so forth...that's all well and good and we know the 100 year event is a 1% event and 500 a .2%. My question would be is what is the percent chance of a power outage resulting in necessity of major work to be done by that substation. That's far different than the flood levels. We know the electrical companies are very, very good at redundancy and all of that type of thing. But these percentages pointed here and the levels and of course, accessibility, and so forth, to doing the work, there's always a solution. There's always a solution. And if the solution is roads and building roads up high, and so forth, then it brings into another...is that inducement to development and things like that. So, if one just takes something and digs heels in, you can always find alternatives to anything presented, but you have to really...and I hope that the opportunity exists in the future for considering all of these different things and then making a determination as to whether or not there's tweaking that can be done.

Scott Wagner: I think the issue, too, that has been stated is our concern of raising the issues and that they get their due diligence on the supplemental draft and there's a comment period on that. So I guess the concern I would have and you can tell me in that process...if you do not comment on these related issues of alignment in this supplemental, do you lose the opportunity to raise the issue or as you go through that review process, you haven't inserted, you know, formally, in a document, your concerns related to these issues...so you get farther down the line and say, "Well, where was it? We don't see it. You maybe had a public conversation, but they didn't seem compelled to put it in a comment period." So, I guess, from what you're hearing, how do we resolve that in knowing the fact that these issues are raised and that at some point in time they're going to have to be dealt with, so...we talk about the issue of time...well, there will be time that will obviously have to be used to address these at some point. But, I guess, just to that first question.

Aaron Snyder: I think we probably can just put something in the document saying that we'll consider this in the future, but Joe, do you know if they don't comment at this point, this is not their last chance is it?

Joe (Corp's Lawyer): It's not the last chance to comment, but quite frankly, you should comment in the context of the draft EIS. That's part of the reason for the scoping process. We didn't hold additional scoping meetings or what not...but we did ask for interested parties to comment on what they felt the appropriate scope of this document ought to be. So, I think those comments should be submitted and we will consider them in the context of preparing the final document.

Tim Mahoney: Joe, just for clarification, are you an attorney as well?

Joe (Corp's Lawyer): Yes, I am.

Darrell Vanyo: Again, maybe I am beating this to death...Colonel Price, in your letter you gave us until January 31st, you know, for bringing information forward. Has that date changed or is the new date the 27th or the 26th or what happens with that date for trying to bring, you know, our information forward?

Scott Wagner: That's why I raised the issue of the...under the supplemental draft, I guess that you published on December 27th has a January 26th deadline for commenting, which I think Commissioner Vanyo is alluding to the fact that we want some discussion on the alignment issue by a deadline of January 31st and now, I think I would look even to our engineers and the technicals to reasonably, if we are looking at our next Metro meeting, where you have a timeline I guess of late March...can we extend it, whether it's...whatever that may be...

Tim Mahoney: Will the technical committee have the opportunity to put the technical stuff in by the 26th or 31st?

April Walker: No, in fact, I think the technical committee agrees with the Corps that's it going to take longer than that timeframe to develop the information necessary to fully evaluate these options.

Kevin Campbell: Colonel Price or Aaron...If during this course, once the comment period is over for this supplemental, as you move forward, Aaron did I hear you correctly stating that there could be a future supplemental?

Aaron Snyder: This is actually a comment period based on the scope of the document. We're going to have another comment period based on the document when we actually release it. Then you'll have another public review period, where additional comments could be provided and should be provided.

Kevin Campbell: So, as our technical people who are working on this, and we're hearing today for the first time some issues and some clarification on the presence of the Executive Order 11988...you know, there are some other things that we might see that need to be reviewed part of that, that can be in our favor as well. When I say in our favor would assume that we would want to have the western alignment as opposed to the eastern. So there would be opportunities down the road to add that information.

Aaron Snyder: Yes, and that's what we're basically saying is that in the future we can address this issue. If we try to address this issue right now and incorporate it in the documents, we are going to be putting out here in May and our final one at this point, it will delay it and we will not be done by 1 December of this year. So if we look at this now, and honestly, our technical teams have other issues that are

pressing that they need to focus their attention on, so if we start taking resources off that could be an issue as well. So this is definitely something...we've got the information we've needed for the January 31st deadline. You've provided us with information about the substation and all the things we've talked about. I don't think we need more information to say, "Yes, this warrants further study" or to say, "We'll do this further study in the future; we don't think this it's worth doing right now." Because like we said, this area is not slated for construction for four to seven years, best case scenario.

Kevin Campbell: (to Scott Wagner) Does that satisfy what you were looking for?

Scott Wagner: Yes.

Attachment B

NATURAL RESOURCES ASSESSMENT REPORT

HEI Project No. R10-6546-009

FM Metro Flood Control Project – LPP West Alignment Study

Prepared for

Moore Engineering

Prepared by Houston Engineering, Inc.

Defining the Project Corridors

The LPP east construction corridor was defined by the proposed construction limits established as part of the Phase 3 project design. The LPP west construction corridor was defined using a conceptual alignment provided by Moore Engineering. A construction corridor approximately 2,000 feet wide was centered on the LPP west alignment and used for comparison purposes with the east alignment. A map showing the project corridors is located in Appendix A.

Aquatic Habitat Inventory and Delineation Methods

The wetland inventory and delineation process was completed in accordance with the Great Plains Regional Supplement to the 1987 USCOE Federal Manual for Delineating Wetlands. The Regional Supplement contains guidance for identifying wetland hydrology on agricultural lands. Further guidance from the USCOE for conducting wetland delineations on annually tilled lands is contained in the "Interagency Mapping Convention". Since two of the three wetland parameters, hydrology and vegetation are generally disturbed on agricultural lands the interagency wetland mapping convention was developed to assist in identifying and delineating wetlands within these areas. The foundation of this methodology is described in guidance documents from the US Army Corps of Engineers, (Sprecher 2000), (Woodward 1997). Generally these methodologies call for a review of topography maps, soils information, the national wetlands inventory and a review of available aerial photography combined with precipitation records.

The wetland inventory methodology for this project was conducted using NRCS soils maps, Lidar topographic information, the National Wetlands Inventory (NWI) and a review of available aerial photography. Potential wetland basins were evaluated using photographic records for 2002, 2004, 2005, 2006, 2008, 2009 and 2010.

Habitats such as natural and channelized streams (nonwetland) were identified using the aerial photography and topographic information. Constructed drainage ditches such as the existing

West Fargo Diversion Channel were not inventoried. These features are assumed to be drainage features constructed across upland areas and would not be regulated by permitting agencies. These features do provide some aquatic habitat, however the proposed project would establish many additional acres of this habitat and consequently no net loss is anticipated. Roadway ditches were generally not mapped as wetlands, however they were included if identified on the NWI. This occurred in a few areas along Interstate 94.

Woodland and Grassland Habitat Inventory Methods

Grassland and woodland habitats were identified and delineated by reviewing the 2009 and 2010 aerial photography. Riparian woods, field windbreaks, farmstead windbreaks and woodland floodplain areas were all identified as woodland habitat and mapped using ArcMap. Areas determined to have permanent grass cover, excluding ditch banks and farmyards, were also mapped using GIS. The woodland and grassland habitat polygons were then clipped using the project corridors and there corresponding areas were totaled for each project corridor.

Results

The total number of acres for aquatic habitat, grassland habitat and woodland habitat is shown below in Table 1. The LPP western alignment has lower impacts for aquatic habitat and grassland habitat and similar impacts for woodland habitat. Maps showing the habitat polygons are located in Appendix B. Corresponding data tables for the habitat polygons are located in Appendix C.

Table 1. Total Impact Numbers by Habitat Type

	Grassland Habitat (acres)	Woodland Habitat (acres)	Aquatic Habitat (acres)
LPP East Alignment	15.8	43.3	76.7
LPP West Alignment	6.0	47.2	48.4
difference	9.8	-3.9	28.3

When woodland impact numbers are split into farmstead and riparian woodland categories, the difference becomes more substantial. Using only the riparian woodland impacts, the LPP east alignment has a higher impact number, a difference of 15.6 acres. Using only the farm and field windbreak impacts, the LPP west alignment has a higher impact number, a difference of 19.4 acres, see Table 2.

The differences in the aquatic habitat impacts are driven primarily by a larger number of wetlands within the LPP eastern project corridor. Most of these wetland areas appear to be the stream oxbows located north of Interstate 94, (see Appendix B). The aquatic habitat impacts located south of the interstate are similar for both alternatives.

Table 2. Detailed Impact Numbers for Woodland and Aquatic Habitat

	LPP East Alignment	LPP West Alignment	difference
Woodland Habitat (total)	43.3	47.2	-3.9
Woodland Habitat (riparian and floodplain forest)	31	15.4	15.6
Woodland Habitat (farm windbreaks)	12.4	31.8	-19.4
Aquatic Habitat (total)	76.7	48.4	28.3
Aquatic Habitat (natural and channelized streams)	11.2	13.3	-2.1
Aquatic Habitat (wetlands)	53.8	35.8	18
Other (constructed ponds)	11	0	11

Grassland habitat is generally rare in the red river valley. Most are public lands, lands enrolled in conservation programs such as the Conservation Reserve Program or small parcels of land that may be difficult to cultivate. A number of grassland habitat areas were identified that appear to be permanent grass cover. The quality and status of these areas is difficult to verify without a field visit. The impact numbers are generally small compared to the other habitat types and the impact numbers could change substantially after field verification of the sites.

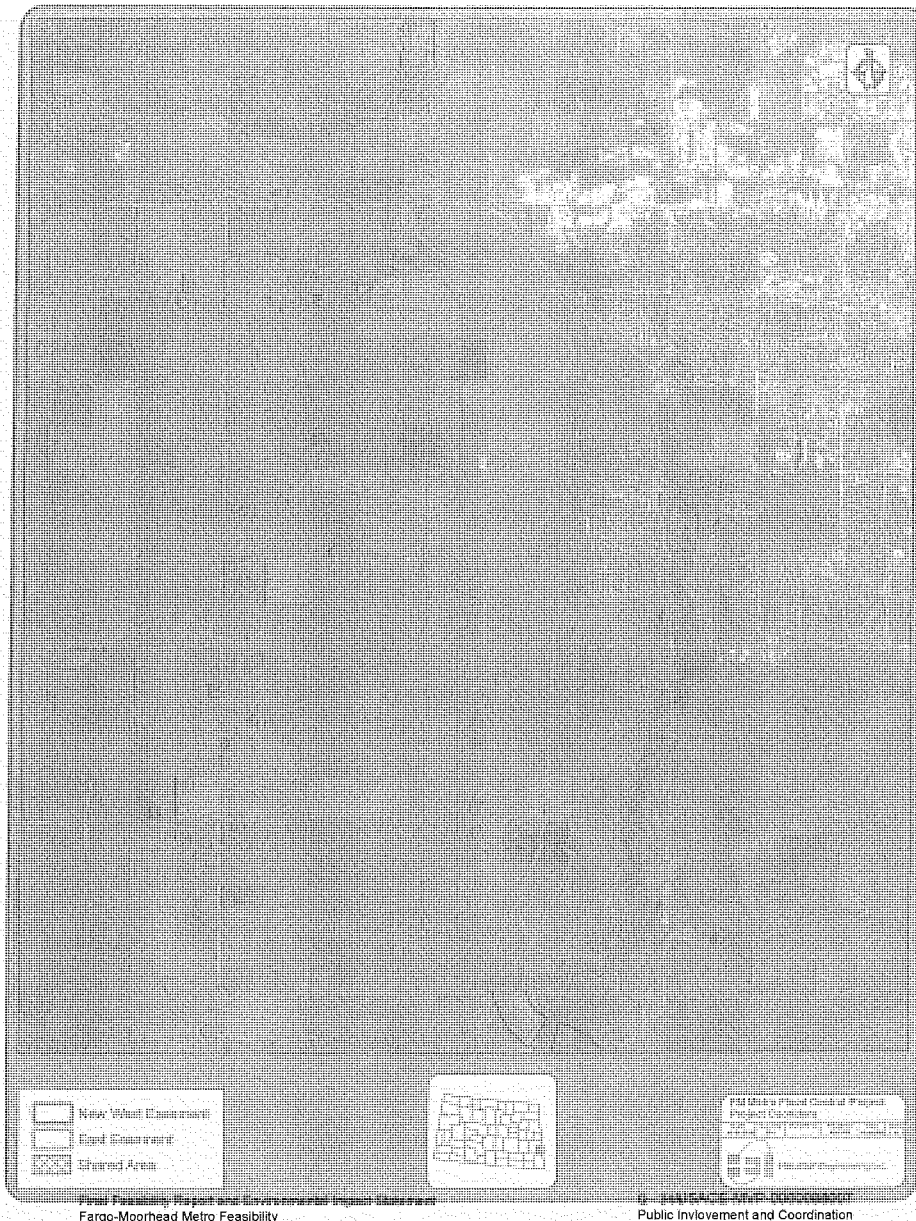
References

Sprecher, S.W., and Warne, A.G. (2000) "Accessing and using meteorological data to evaluate wetland hydrology." ERDC/EL TR-WRAP-00-1, US Army Engineering Research and Development Center, Vicksburg, MS.

Woodward, D.E., ed. (1997). "Hydrology tools for wetland determination." Chapter 19, *Engineering Field Handbook.* U.S. Department of Agriculture, Natural Resources Conservation Service, Fort Worth, TX.

Appendix A

Project Corridor Map

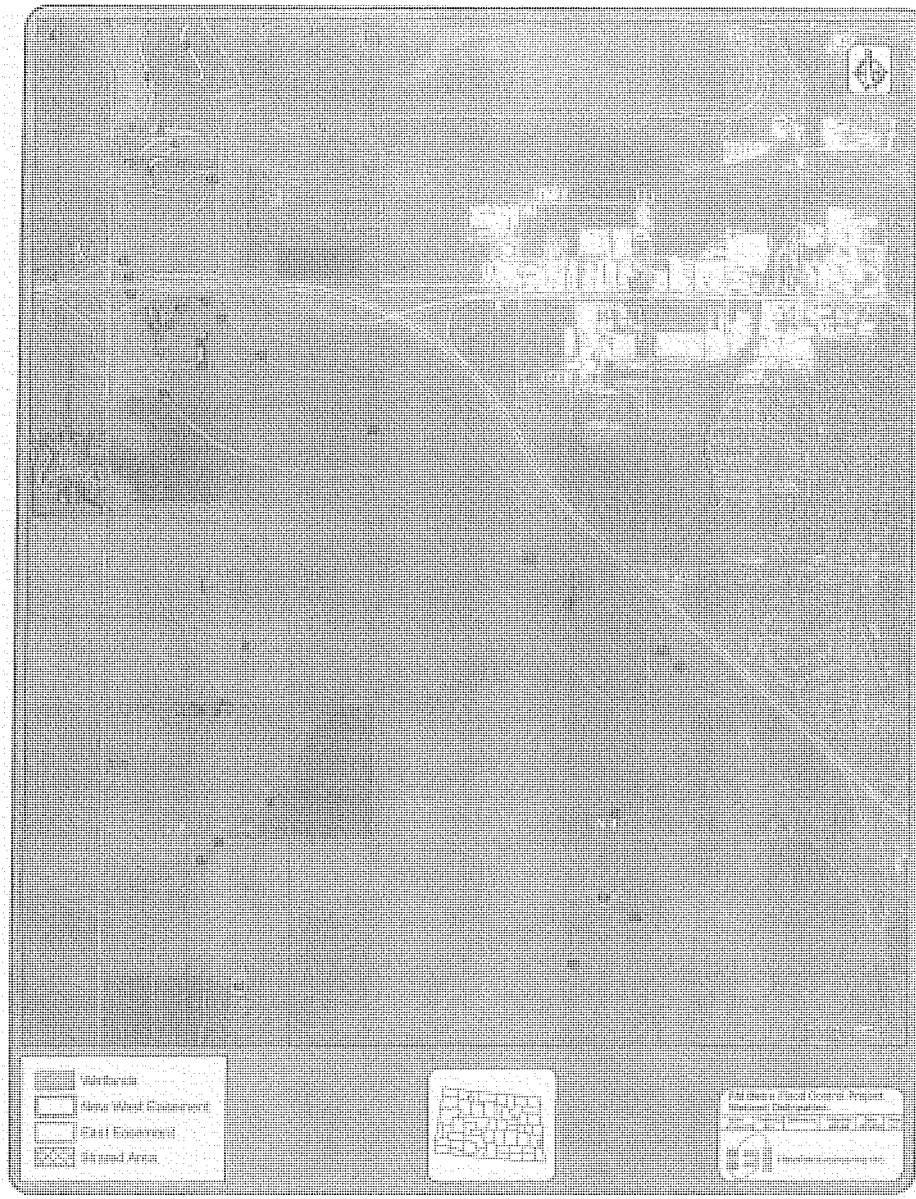

New West Easement
East Easement
Shared Area

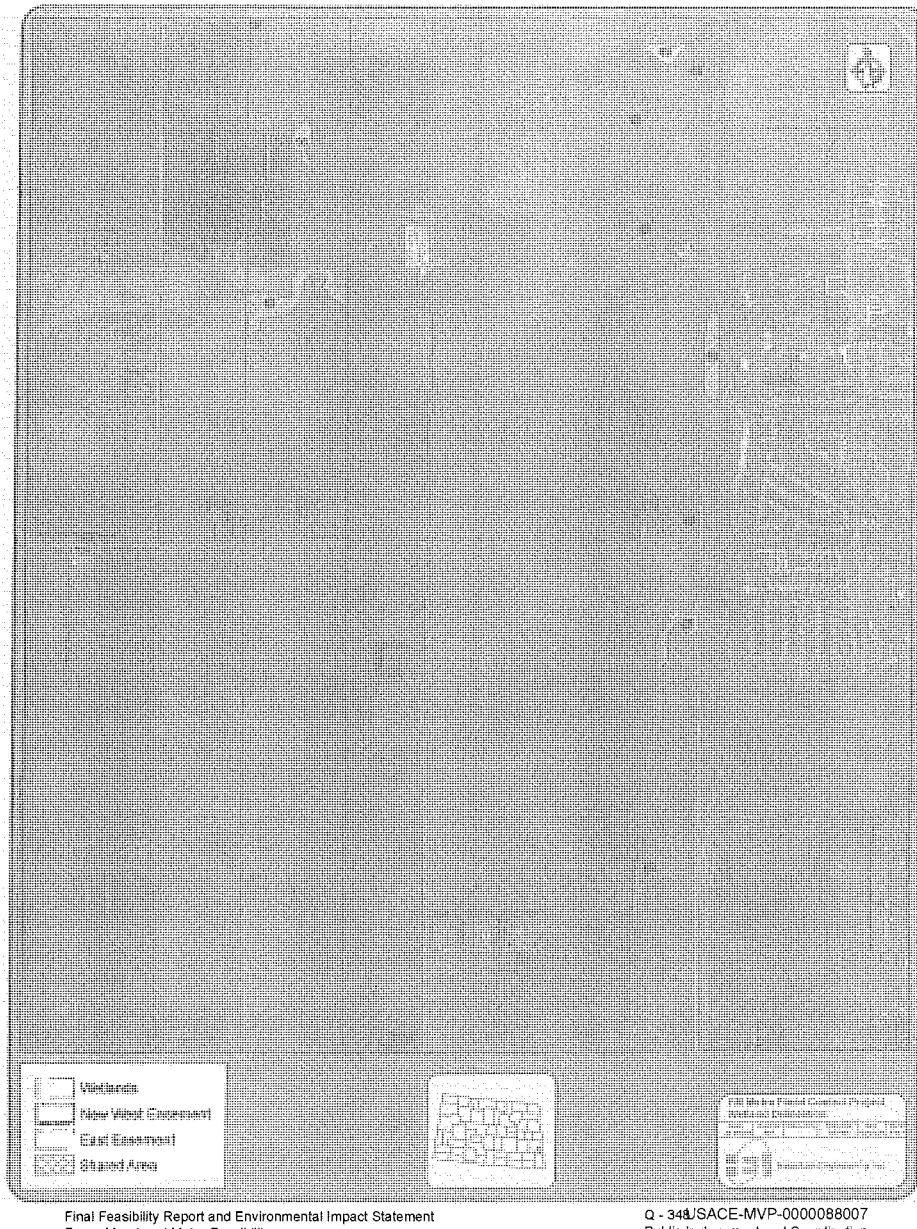
Appendix B

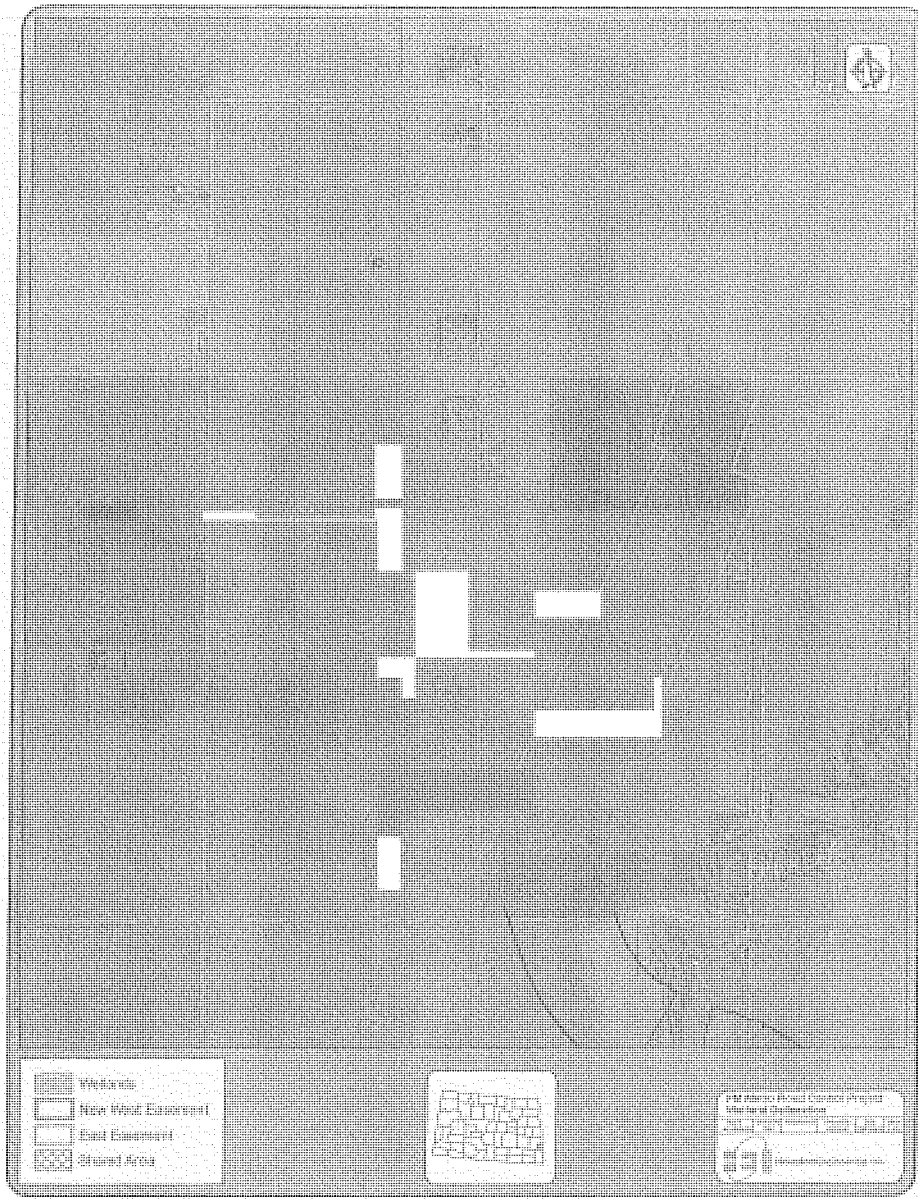
Project Habitat Maps

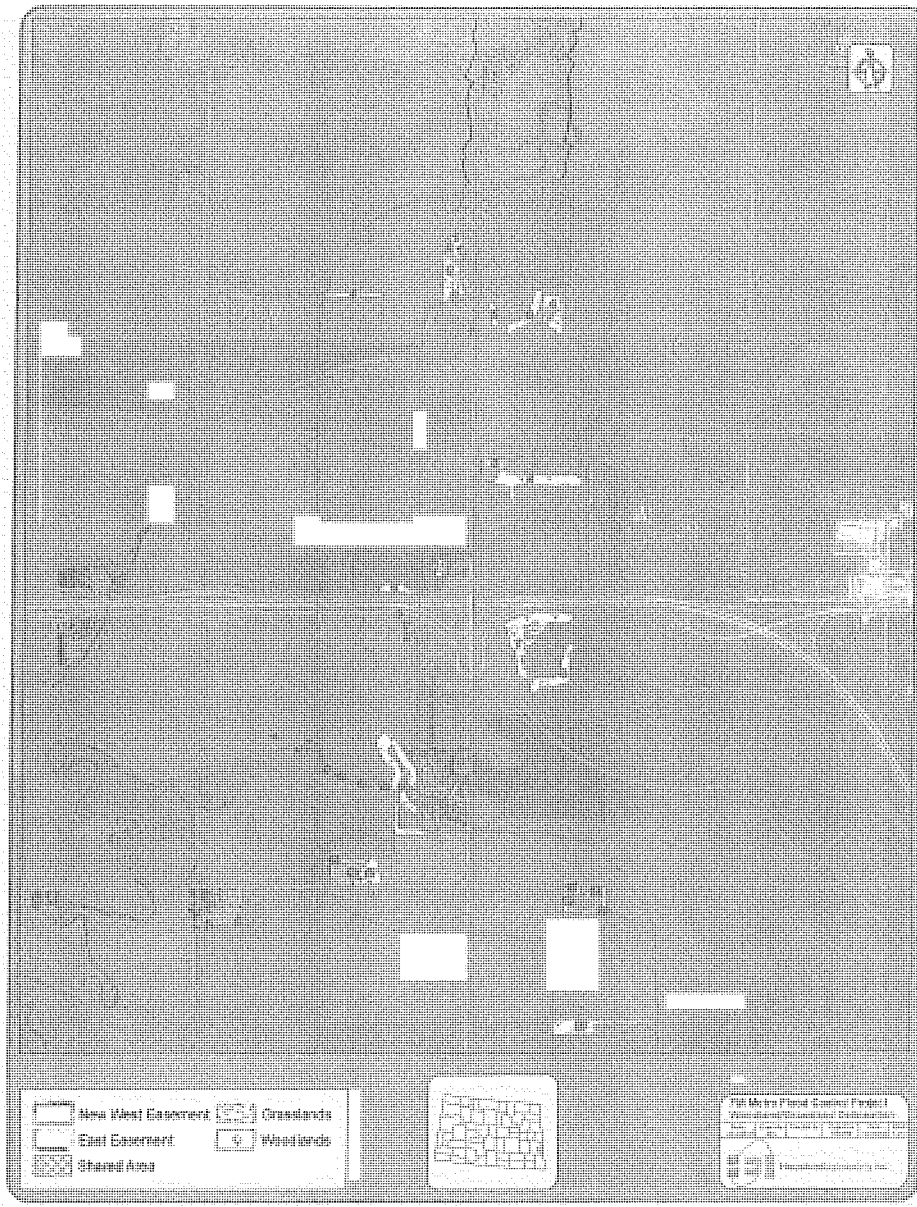
Final Feasibility Report and Environmental Impact Statement
Fargo-Moorhead Metro Feasibility
July 2011

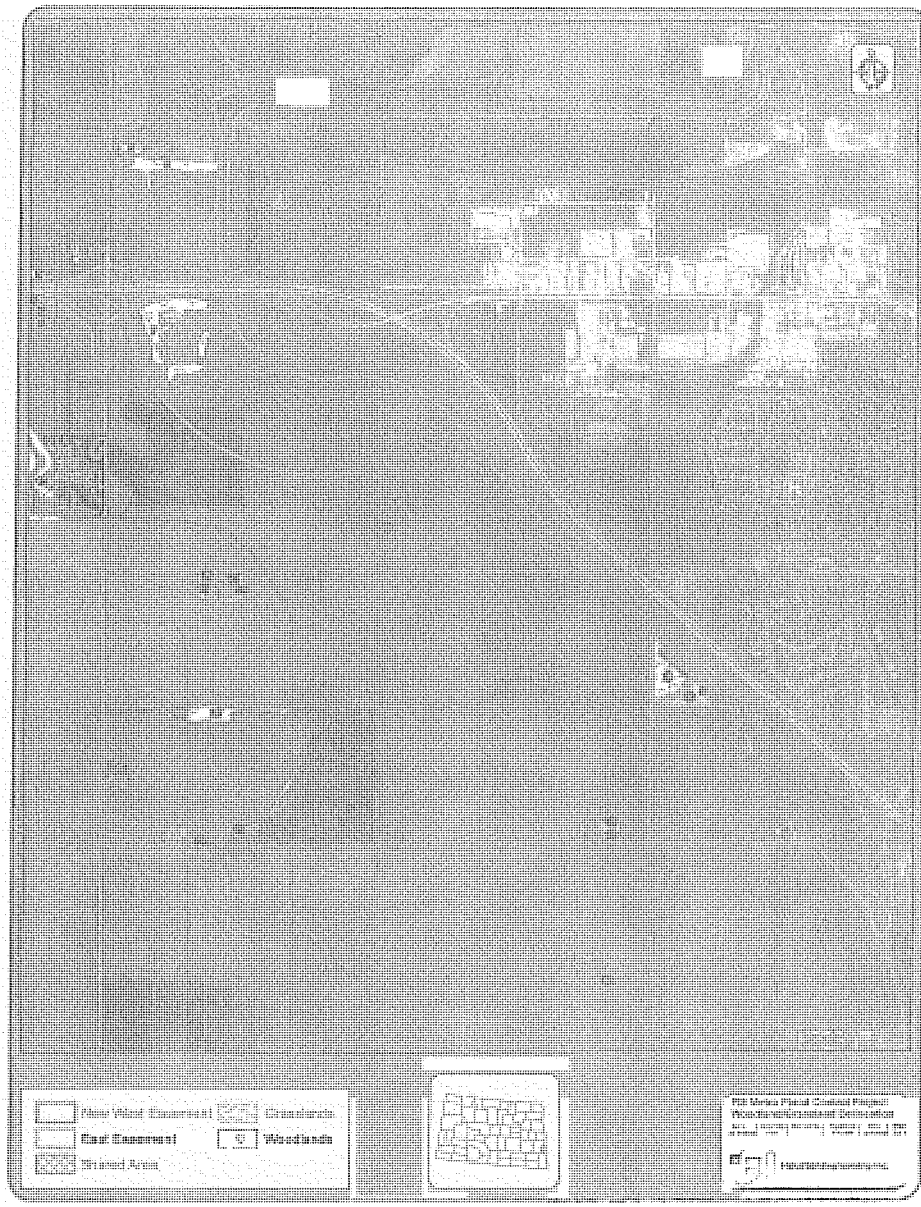
Q - 346USACE-MVP-0000088007
Public Invlovement and Coordination

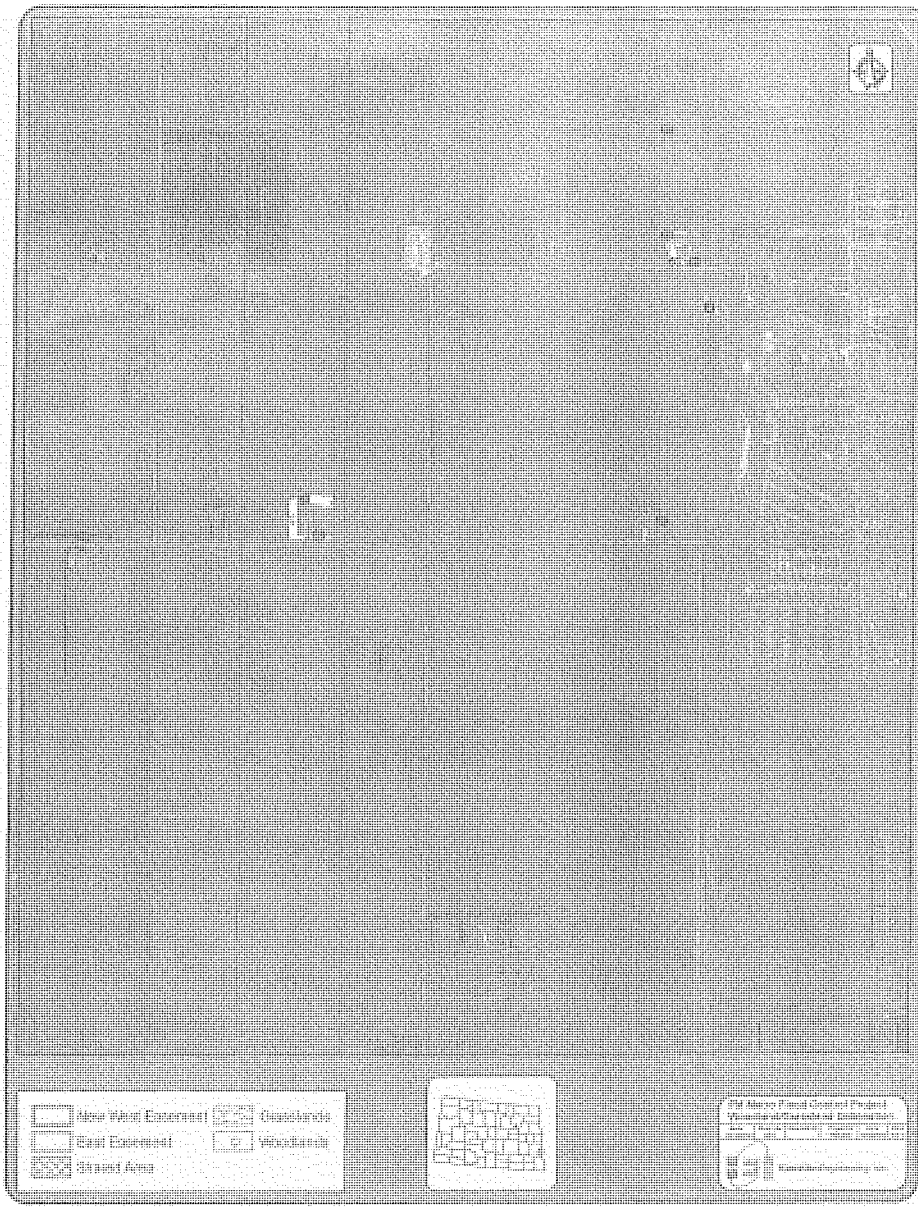

Wetlands
Metro West Easement
East Easement
Staged Area
Fargo-Moorhead Diversion Project
Diversion Channel
Diversion Channel Extension
Diversion Channel Extension Alternative
Diversion Channel Extension Alternative
Diversion Channel Extension Alternative

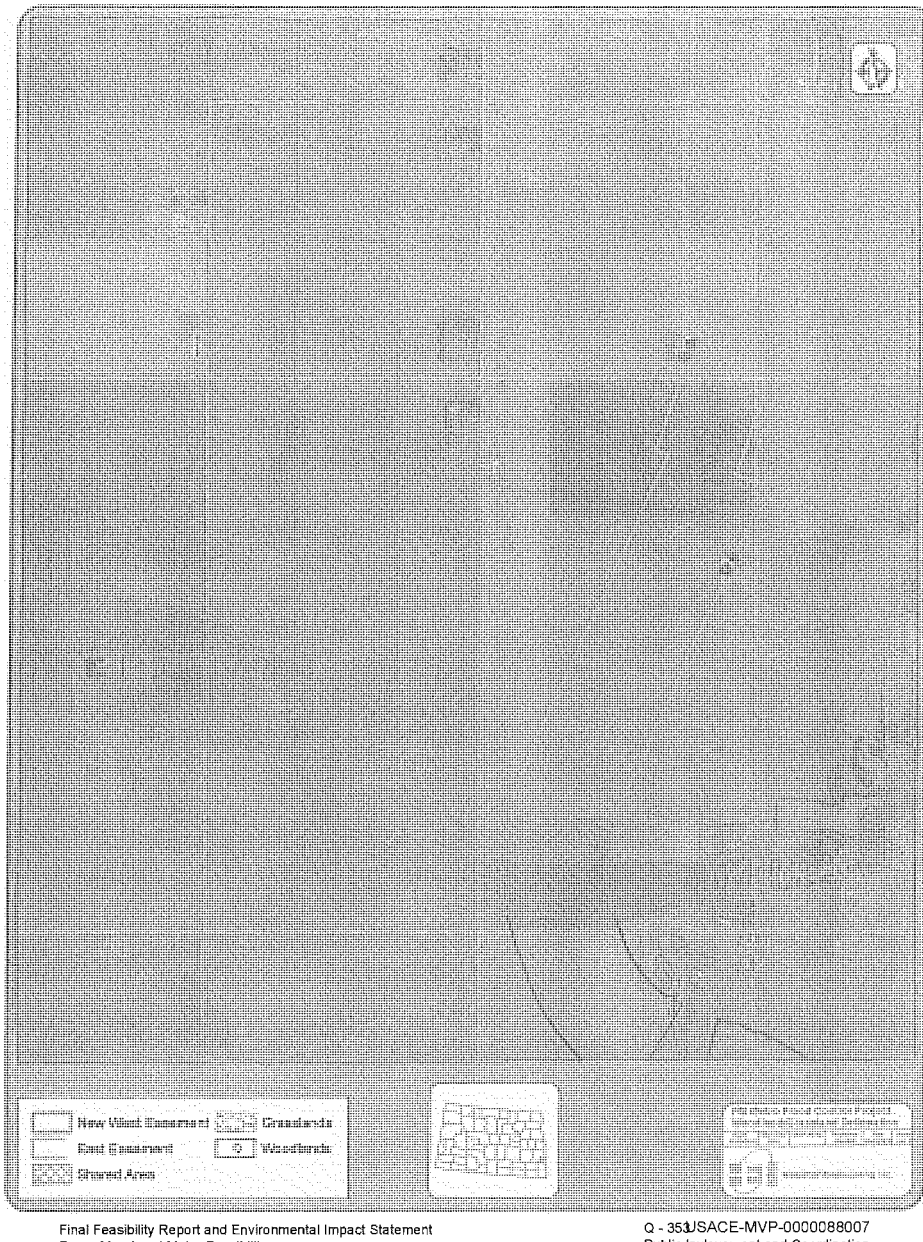

Wetlands
New West Easement
East Easement
Shared Area


Wetlands
New West Easement
East Easement
Shared Area


New West Easement
East Easement
Shared Area
Grasslands
Wetlands




New West Easement
East Easement
Shared Area
Grasslands
Woodlands


New West Easement
Grasslands
East Easement
Woodlands
Shared Area

Appendix C

Project Habitat Tables

Data Tables

Id – the identification number as shown on the project maps in Appendix B

Wooded Habitat Type – 1 – Farmstead and field windbreaks, trees that appear to be planted for purposes of wind protection or soil erosion control purposes

Wooded Habitat Type – 2 – Riparian forest and/or floodplain forest, trees that appear to be native in origin and represent a natural habitat

Aquatic Habitat Type – 1 – Natural or channelized streams, appear to be active flowages, not oxbows or dead rivers

Aquatic Habitat Type – 2 – Wetlands, farmed or natural wetlands, includes oxbows or dead rivers

Aquatic Habitat Type – 3 – Constructed open water ponds, includes sediment ponds or borrow pits.

LPP East Corridor - Grassland Habitat	
Id	Acres
1	7.8
2	4.8
3	1.8
4	1.4
total	15.8
LPP West Corridor - Grassland Habitat	
Id	Acres
1	1.5
2	4.6
total	6.0

LPP East Corridor - Wooded Habitat		
Id	Type	Acres
1	2	0.3
2	2	1.1
3	2	3.4
4	1	4.2
5	1	1.3
6	2	8.6
7	2	12.1
8	2	5.2
9	2	0.3
10	1	0.1
11	1	0.1
12	1	0.5
13	1	1.5
14	1	3.0
15	1	0.1
16	1	0.5
17	1	0.6
18	1	0.0
19	1	0.4
	total	43.3

LPP East Corridor - Aquatic Habitat		
Id	Type	Acres
1	2	0.3
2	2	1.9
3	2	2.1
4	2	3.6
5	2	4.6
6	2	3.7
7	2	0.2
8	2	2.8
9	2	3.4
10	2	0.6
11	2	1.5
12	2	6.3
13	2	4.7
14	2	0.8
15	2	1.4
16	2	0.8
17	2	0.3
18	2	0.5
19	2	0.5
20	1	1.0
21	1	3.2
22	1	0.2
23	1	0.2
24	2	1.2
25	2	0.1
26	2	0.6
27	2	1.0
28	3	0.7
29	3	1.1
30	2	0.0
31	1	4.7
32	2	0.7
33	2	0.5
34	2	1.0
35	3	9.9
36	2	0.7
37	2	7.9
38	1	2.0
	total	76.7

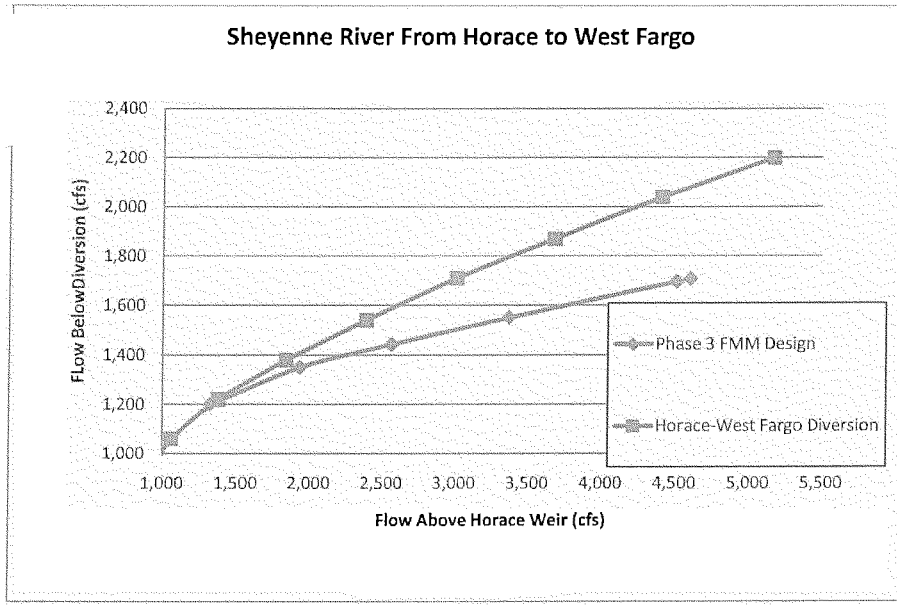
LPP West Corridor - Wooded Habitat		
Id	Type	Acres
1	2	0.5
2	2	0.7
3	1	1.1
4	1	1.9
5	1	2.3
6	1	0.1
7	1	0.2
8	1	0.1
9	2	0.3
10	2	0.1
11	2	0.2
12	2	0.2
13	2	13.6
14	1	0.8
15	1	1.3
16	1	0.3
17	1	3.7
18	1	0.9
19	1	0.1
20	1	0.1
21	1	1.9
22	1	6.6
23	1	0.4
24	1	1.7
25	1	6.8
26	1	1.5
	total	47.2

LPP West Corridor - Aquatic Habitat		
Id	Type	Acres
1	2	2.2
2	2	3.1
3	1	9.7
4	2	0.2
5	1	0.4
6	2	0.5
7	2	0.3
8	2	0.5
9	2	4.6
10	2	19.0
11	1	1.2
12	1	1.5
13	1	0.5
14	2	0.0
15	2	2.0
16	2	2.6
	total	48.4

LPP Diversion Alignment Between Sheyenne and Maple Rivers
01/05/2011

1. Elevation of the WAPA substation as it relates to 100 and 500-year floodplains.
   - Elevation of substation approximately 907' to 909'
   - 1% (100-year) peak tributary (Sheyenne River) water surface elevation: 904.8'
     0.2% (500-year) peak tributary (Sheyenne River) water surface elevation: 905.5'
   - Site isolated during both 1% and 0.2% events

2. Loss of redundancy during extreme events associated with leaving the existing Horace-West Fargo channel in place.
   - The Phase 3 design for the Sheyenne River control structure resulted in no increase in flow in the Sheyenne River within the Horace-West Fargo diversion during any events up to a 500-year event. Additional features may be necessary to prevent flooding during "extreme" Red/Wild Rice River events.



3. Wetland, grassland, woodland impacts associated with both alignments.
   Houston Engineering conducted review of potential impacted area along both alignments. Results outlined in report titled "Natural Resources Assessment Report, FM Metro Flood Control Project – LPP West Alignment Study".

Table 1. Total Impact Numbers by Habitat Type

	Grassland Habitat (acres)	Woodland Habitat (acres)	Aquatic Habitat (acres)
LPP East Alignment	15.8	43.3	76.7
LPP West Alignment	6.0	47.2	48.4
difference	9.8	-3.9	28.3

Source: Houston Engineering

4. Property impacts (structures and developed lots)
   East Alignment: 2-3 Buyouts
   4-5 Immediately adjacent (within typical spoil width)
   29 Platted lots lost including city utilities and streets(Hayden Heights, West Fargo)

   West Alignment: 2 Buyouts
   1 Immediately adjacent (within typical spoil width)
   0 Platted lots lost including city utilities and streets

5. Extent of floodplain in project area (from updated unsteady model).
   - 1% and 0.2% inundation maps attached

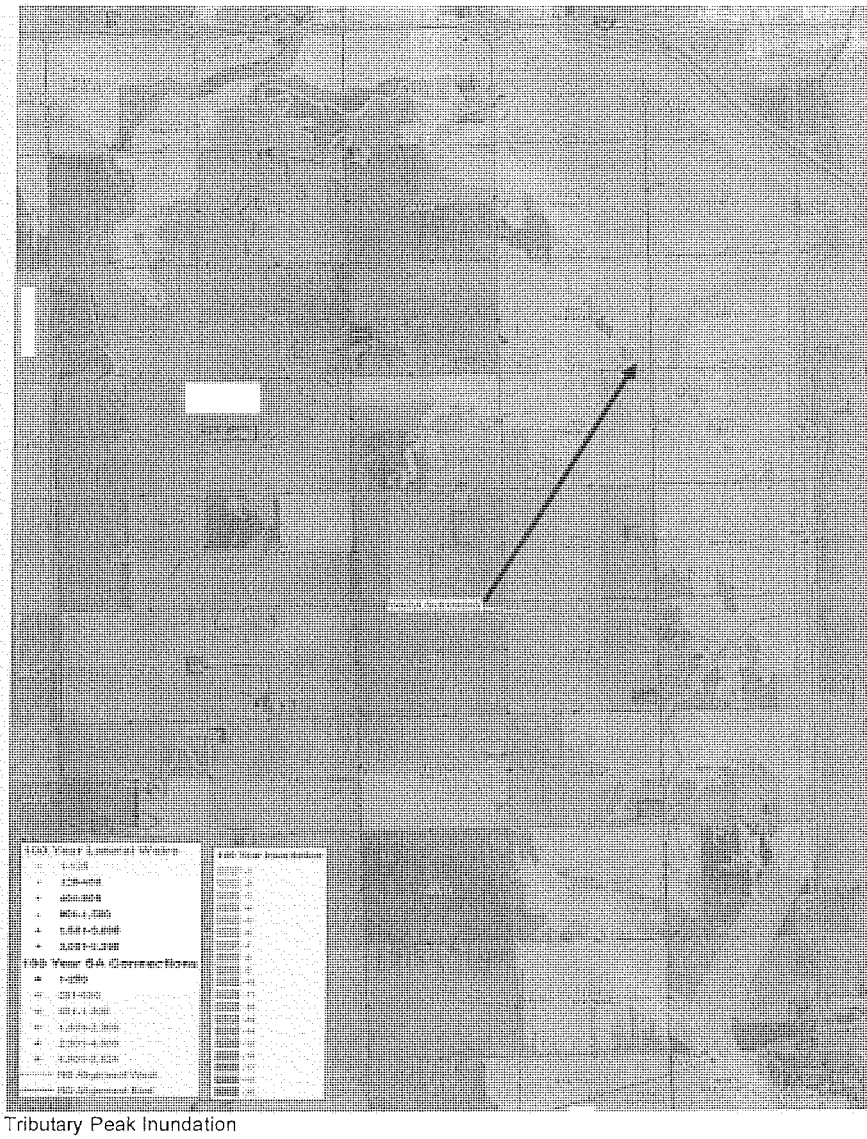
6. Impacts to existing utilities along both alignments.
   Reviewed utility information collected during initial phase of feasibility study for east and west alignments. Very little difference in number and type of utility crossings with the exception of utilities in Hayden Heights subdivision (West Fargo) which would be impacted by the east alignment. These lots are fully developed and normal utilities are in place.

7. West Fargo and Horace Comprehensive Plans
   - West Fargo Comprehensive Plan
     - MetroCOG completed a Comprehensive Plan for West Fargo in January 2008. The plan included discussion of the ultimate development of the City's ET area, including setting as a goal "To prepare for growth beyond the Sheyenne Diversion".

   City of Horace 2028 Comprehensive Plan
     - Report created in 2007 included discussion of land use restrictions west of the diversion and future annexation of the area west of the diversion to accommodate future growth.
     - Portions of Section 12, Warren Township west of the existing diversion are within Horace City Limits

8. Necessary separation between West Fargo Diversion and proposed FM Diversion
   Preliminary geotechnical analysis of the existing diversion parallel to the proposed channel by the Corps indicates that the two channels may need to be separated by approximately 100 feet.

9. Transportation Impacts of proposed diversion alignments
    - The proposed east alignment estimate includes two bridges across the existing Horace-West Fargo Diversion alignment. There are currently crossings at each section line for a total of seven crossings. Considerable cost for additional bridges would be necessary with an east alignment as the area develops.



1% Tributary Peak Inundation

0.2% Tributary Peak Inundation

January 25, 2011

Board of County Commissioners

Scott Wagner
Fargo, North Dakota

Vern Bennett
Fargo, North Dakota

Ken Pawluk
Fargo, North Dakota

Darrell W. Vanyo
West Fargo, North Dakota

Robyn Sorum
Horace, North Dakota

VIA PRIORITY MAIL

Mr. Terry J. Birkenstock
Chief, Environmental and GIS Branch
U.S. Army Corps of Engineers - St. Paul District
180 Fifth Street East, Suite 700
St. Paul, MN 55101-1678

Re: **Supplemental Comments** on Notice of Intent to Prepare a Supplemental Draft EIS for the Proposed Fargo-Moorhead Flood Risk Management Project

Dear Mr. Birkenstock:

Yesterday, the Cass County Board of Commissioners and the Cass County Joint Water Resource District (collectively "the County") respectfully submitted the comments on the Notice of Intent to Prepare a Supplemental Draft Environmental Impact Statement for a Proposed Flood Risk Management Project on the Red River of the North in Fargo, ND, and Moorhead, MN, 75 Fed. Reg. 81249 (Dec. 27, 2010) ("Notice of Intent"). The County appreciated the opportunity to comment on the proposed scope of the planned Supplemental Draft Environmental Impact Statement ("SDEIS"), including the U.S. Army Corps of Engineers' plan to limit the scope of the SDEIS to analyzing downstream impacts of the Proposed Fargo-Moorhead Flood Risk Management Project ("Proposed FM Project" or "the Project"), possible measures to mitigate those impacts, and potential alternatives for the Project.

However, the County inadvertently neglected to include several important bullet points regarding the western alignment. We would ask that you attach our supplemental comments to our original comments dated January 24, 2011, as follows:

- In addition, the western alignment would provide protection for a number of other rural homes and farmsteads that would *not* receive protection from the eastern alignment and would clearly benefit the Cities of West Fargo and Horace. Further, the western alignment would disrupt fewer homes along the course of the Project. Clearly, the western alignment would afford greater protection for more *existing* homes and farmsteads, and would reduce the number of Cass County residents whose homes would be directly impacted along the course of the Project.

Heather Worden
Commission Assistant

Box 2806
211 Ninth Street South
Fargo, North Dakota 58108

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Fax 701-241-5728
www.casscountynd.gov

Mr. Terry J. Birkenstock
January 25, 2011
Page 2

- The western alignment would provide robust permanent flood protection to areas previously identified as future growth areas for several communities in the metropolitan area, well before the Corps commenced its study of the Proposed FM Project. For example, the Cities of Fargo, West Fargo, and Horace, in the course of developing their respective future growth plans and various sewer feasibility studies, each identified areas west of the existing Horace to West Fargo Sheyenne Diversion as potential growth areas. In fact, a portion of the area west of the Horace to West Fargo Sheyenne Diversion was the subject of a legal dispute between a number of communities in the area, all of which sought jurisdiction over that property as a means of protecting future growth areas. Approximately 480 acres lying west of the Horace to West Fargo Sheyenne Diversion are currently within the City of Horace's city limits, an indicator that the City of Horace views the area to the west of the existing Diversion as critical to the City's *current* and future vitality. Clearly, the Corps' study of the Proposed FM Project did not prompt the local communities to include these unprotected areas west of the Diversion in their respective growth plans; the local communities each identified areas west of the Horace to West Fargo Sheyenne Diversion as critical to future growth *long before the Corps commenced its study.* If the Corps proceeds with the eastern alignment and these areas are not included within the protected area, when the Cities develop these unprotected areas in the future (in accordance with their growth plans), residents will unfortunately cope with reduced levels of protection, to their detriment and to the detriment of the communities.

Thank you for allowing these supplemental comments to be a part of our total comments from correspondence dated January 24, 2011.

Respectfully submitted,

Darrell Vanyo

Darrell Vanyo
Chairman, Cass County Board of Commissioners

hmw

cc: Cass County Commissioners
Cass County Joint Water Resource District
Senator John Hoeven
Fargo Mayor Dennis Walaker
West Fargo Mayor Rich Mattern
Governor Jack Dalrymple
Senator Kent Conrad
Congressman Rick Berg
Oxbow Mayor Jim Nyhof
Attorney Sean Fredricks

January 18, 2011

Evald John Carlson, Jr.
[redacted]

Mr. Charles Fritz
International Water Institute
NDSU Dept 9030
P.O. Box 6050
Fargo, ND 58108-6050

Dear Mr. Fritz;

My name is Evald John Carlson, Jr. and I am writing to you regarding my concerns with regard to the Fargo-Moorhead Flood Diversion project ("the Diversion")

The recent decision to use upstream retention to mitigate the impacts of the Diversion downstream is a stunning and overwhelming turn of events. It has left those of us in the communities, schools and townships affected by this decision (including, but not limited to, Oxbow, Hickson, Bakke Addition, the surrounding farmsteads and developments, Pleasant Township and Kindred School District) scrambling for answers.

I am asking for your involvement in ensuring that the rush to maintain a timeline/deadline of December 1, 2011, does not overshadow the imperative of due diligence. At this time, it is not clear:

- what the environmental impacts of this new decision (south side staging) will be. The studies have not been completed.
- what the impacts on the Kindred School District will be – with 23% of the tax base and 125 of the students potentially affected. It is clear at this point that the Corps has not taken this issue into consideration.
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- how the individuals affected by this new decision will be protected or compensated.
- how this new decision will affect the overall project costs. what happens to all this work when Devils Lake starts draining into the Sheyenne.
- what the value of a diversion channel is if the primary resource for flood mitigation and "no downstream impacts" is a floodwall south of Fargo. Why do we need the diversion at all then, if they're just going to build a dam?
- how the new alignment is justifiable, in the context of Executive Order 11988. The coincidence of the diversion wholly encompassing the Fargo School District by a matter of yards begs the question – how did the lines get drawn when "future growth" cannot be a reason the Corps can cite for choosing a path. Is "future growth" only off the table for communities outside of Fargo?

We must be allowed to be heard, to get answers and to be assured that due diligence has been done to determine the "right" solution for the Red River Basin community. At this point, the only thing that is clear is that both the Corp and the Metro Flood Study Work Group are allowing timelines and deadlines to overly influence and override sound judgment and decision making.

I would appreciate hearing from you on this matter.

Sincerely,

Evald John Carlson, Jr.

Patrick Reinke
[redacted]

January 18, 2011

Charles Fritz
International Water Institute
NDSU Dept 9030
PO Box 6050
Fargo, ND 58108-6050

Dear Mr. Fritz:

My name is Patrick Reinke and I am writing to you regarding my concerns for the Fargo-Moorhead Flood Diversion project ("the Diversion")

The most recent decision to use upstream retention to mitigate the impacts of the Diversion downstream is a stunning and overwhelming turn of events that has left those of us in the communities, schools and townships affected by this decision (including, but not limited to Oxbow, Hickson, Bakke Addition, the surrounding farmsteads and developments, Pleasant Township and Kindred School District) scrambling for answers.

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We must be allowed to be heard, to get answers and be ensured that the due diligence on the "right" solution for the Red River Basin community is found. At this point – the only thing that is clear is that both the Corp and the Metro Flood Study Work Group are letting timelines and deadlines overly influence their path and override sound judgment and decision making.

I would appreciate hearing from you on this matter.

Sincerely,

Patrick A Reinke

[redacted]

1-20-2011

International Water Institute
Charles Fritz
NDSU Dept 9030
PO Box 6050
Fargo ND 58108-6050

Dear Mr Fritz:

My name is Darcy Kruger and I am writing to you regarding my concerns with regard to the Fargo-Moorhead Flood Diversion project ("the Diversion").

The recent decision to use upstream retention to mitigate the impacts of the Diversion downstream is a stunning and overwhelming turn of events. It has left those of us in the communities, schools and townships affected by this decision (including, but not limited to, Oxbow, Hickson, Bakke Addition, the surrounding farmsteads and developments, Pleasant Township and the Kindred School District) scrambling for answers.

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I would appreciate hearing from you on this matter.

Sincerely,

Darcy Kruger

Darcy Kruger
[redacted]

Jeffrey J. Anderson
[redacted]

1/20/11

Charles Fritz
International Water Institute
NDSU Dept 9030
PO Box 6050
Fargo, ND 58108-6050

Dear Mr. Fritz,

My name is Jeffrey Anderson and I am writing to you regarding my concerns with regard to the Fargo-Moorhead Flood Diversion project ("the Diversion").

The recent decision to use upstream retention to mitigate the impacts of the Diversion downstream is a stunning and overwhelming turn of events. It has left those of us in the communities, schools and townships affected by this decision (including, but not limited to, Oxbow, Hickson, Bakke Addition, the surrounding farmsteads and developments, Pleasant Township and the Kindred School District) scrambling for answers.

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I would appreciate hearing from you on this matter.

Sincerely,

Jeffrey J. Anderson

[redacted]

Mike Rufer
[redacted]

January 20, 2011

Charles Fritz
International Water Institute
NDSU Dept 9030
PO Box 6050
Fargo, ND 58108-6050

Dear Mr. Fritz,

My name is Mike Rufer, and I am writing to you regarding my concerns for the Fargo-Moorhead Flood Diversion project ("the Diversion")

The most recent decision to use upstream retention to mitigate the impacts of the Diversion downstream is a stunning and overwhelming turn of events that has left those of us in the communities, schools and townships affected by this decision (including, but not limited to Oxbow, Hickson, Bakke Addition, the surrounding farmsteads and developments, Pleasant Township and Kindred School District) scrambling for answers.

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We must be allowed to be heard, to get answers and be ensured that the due diligence on the "right" solution for the Red River Basin community is found. At this point – the only thing that is clear is that both the Corp and the Metro Flood Study Work Group are letting timelines and deadlines overly influence their path and override sound judgment and decision making.

I would appreciate hearing from you on this matter.

Sincerely,

Mike Rufer
[redacted]

Richard A. Menze
[redacted]

January 20, 2011

Charles Fritz
International Water Institute
NDSU Dept 9030
PO Box 6050
Fargo, ND 58108-6050

Dear Mr. Fritz:

My name is Rich Menze, and I am writing to you regarding my concerns with regard to the Fargo-Moorhead Flood Diversion project ("the Diversion").

The recent decision to use upstream retention to mitigate the impacts of the Diversion downstream is a stunning and overwhelming turn of events. It has left those of us in the communities, schools and townships affected by this decision (including, but not limited to, Oxbow, Hickson, Bakke Addition, the surrounding farmsteads and developments, Pleasant Township and the Kindred School District) scrambling for answers. All the rhetoric is holding us hostage.

I am asking for your involvement in ensuring that the rush to maintain a timeline/deadline of December 1, 2011, does not overshadow the responsibility of due diligence. At this time, it is not clear:

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I would appreciate hearing from you on this matter.

Sincerely,

Richard A. Menze

[redacted]

Ronda Menze
[redacted]

January 20, 2011

Charles Fritz
International Water Institute
NDSU Dept 9030
PO Box 6050
Fargo, ND 58108-6050

Dear Mr. Fritz:

My name is Ronda Menze, and I am writing to you regarding my concerns with regard to the Fargo-Moorhead Flood Diversion project ("the Diversion").

The recent decision to use upstream retention to mitigate the impacts of the Diversion downstream is a stunning and overwhelming turn of events. It has left those of us in the communities, schools and townships affected by this decision (including, but not limited to, Oxbow, Hickson, Bakke Addition, the surrounding farmsteads and developments, Pleasant Township and the Kindred School District) scrambling for answers. All the rhetoric is holding us hostage.

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I would appreciate hearing from you on this matter.

Sincerely,

Ronda Menze

Ronda Menze

[redacted]

Sarah Mattson
[redacted]

January 20, 2011

Charles Fritz
International Water Institute
NDSU Dept 9030
PO Box 6050
Fargo, ND 58108-6050

Dear Mr. Fritz:

My name is Sarah Mattson and I am writing to you regarding my concerns with regard to the Fargo-Moorhead Flood Diversion project ("the Diversion").

The recent decision to use upstream retention to mitigate the impacts of the Diversion downstream is a stunning and overwhelming turn of events. It has left those of us in the communities, schools and townships affected by this decision (including, but not limited to, Oxbow, Hickson, Bakke Addition, the surrounding farmsteads and developments, Pleasant Township and the Kindred School District) scrambling for answers.

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I would appreciate hearing from you on this matter.

Sincerely,

Sarah Mattson

Sarah Mattson
[redacted]

Kathleen Lingen
[redacted]

January 22, 2011

Charles Fritz
International Water Institute
NDSU Dept 9030
PO Box 6050
Fargo, ND 58108-6050

Dear Mr. Fritz:

My name is Kathleen Lingen, and I am writing to you regarding my concerns for the Fargo-Moorhead Flood Diversion project ("the Diversion").

The most recent decision to use upstream retention to mitigate the impacts of the Diversion downstream is a stunning and overwhelming turn of events that has left those of us in the communities, schools and townships affected by this scrambling for answers. In addition to living in this area, I have worked in the Kindred Public School District for 23 years, and I can't imagine the devastating affect this could have on our school system. We've worked hard to build a solid school district.

I am asking for your involvement in ensuring the rush to maintain a timeline/deadline of December 31, 2011, does NOT overshadow the imperative of due diligence. At this time, it is not clear:

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I would appreciate hearing from you on this matter.
Sincerely,

Kathleen Lingen

Kathleen Lingen
[redacted]

Curt Lingen
[redacted]

January 23, 2011

Charles Fritz
International Water Institute
NDSU Dept 9030
PO Box 6050
Fargo, ND 58108-6050

Dear Mr. Fritz:

My name is Curt Lingen, and I am writing to you regarding my concerns for the Fargo-Moorhead Flood Diversion project ("the Diversion").

The most recent decision to use upstream retention to mitigate the impacts of the Diversion downstream is a stunning and overwhelming turn of events that has left those of us in the communities, schools and townships affected by this decision (including, but not limited to Oxbow, Hickson, Bakke Addition, the surrounding farmsteads and developments, Pleasant Township and Kindred School District) scrambling for answers.

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I would appreciate hearing from you on this matter.
Sincerely,
Curt Lingen
Curt Lingen
[redacted]

Ryan Henke
[redacted]

January 24, 2011

Dear Charles Fritz

My name is Ryan Henke and I am writing to you regarding my concerns with regard to the Fargo-Moorhead Flood Diversion project ("the Diversion").

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I would appreciate hearing from you on this matter.

Sincerely,

Ryan Henke

[redacted]

Tami Henke
[redacted]

January 24, 2011

Dear Charles Fritz

My name is Tami Henke and I am writing to you regarding my concerns with regard to the Fargo-Moorhead Flood Diversion project ("the Diversion").

The recent decision to use upstream retention to mitigate the impacts of the Diversion downstream is a stunning and overwhelming turn of events. It has left those of us in the communities, schools and townships affected by this decision (including, but not limited to, Oxbow, Hickson, Bakke Addition, the surrounding farmsteads and developments, Pleasant Township and the Kindred School District) scrambling for answers.

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I would appreciate hearing from you on this matter.

Sincerely,

Tami Henke

[redacted]

Joe Lingen
[redacted]

January 24, 2011

Charles Fritz
International Water Institute
NDSU Dept 9030
PO Box 6050
Fargo, ND 58108-6050

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My name is Joe Lingen, and I am writing to you regarding my concerns for the Fargo-Moorhead Flood Diversion project ("the Diversion").

The most recent decision to use upstream retention to mitigate the impacts of the Diversion downstream is a stunning and overwhelming turn of events that has left those of us in the communities, schools and townships affected by this decision (including, but not limited to Oxbow, Hickson, Bakke Addition, the surrounding farmsteads and developments, Pleasant Township and Kindred School District) scrambling for answers.

I am asking for your involvement in ensuring the rush to maintain a timeline/deadline of December 31, 2011, does NOT overshadow the imperative of due diligence. At this time, it is not clear:

- what the environmental impacts of this new decision (south side retention) will be. The studies have not been done.
- what the impacts on the Kindred School District will be – with 23% of the tax base and 125 of the students potentially affected. It is clear at this point that the Corps has not taken this issue into consideration.
- what the true economic impact of this new decision is for the county, the township, the schools – the tax base potentially eliminated, the communities destroyed.
- how the individuals affected by this new decision will be protected or taken care of.
- how this new decision will affect the overall project costs. Is the cost/benefit ratio there with this new direction?
- what happens to all this work when Devils Lake starts draining into the Sheyenne.
- what the value of a diversion channel is if the primary resource for flood mitigation and "no downstream impacts" is a floodwall south of Fargo. Why do we need the diversion at all then, if they're just going to build a dam?
- how the new alignment is justifiable, in the context of Executive Order 11988. The coincidence of the diversion wholly encompassing the Fargo School District by a matter of yards begs the question – how did the lines get drawn when "future growth" cannot be a reason the Corps can cite for choosing a path. Is "future growth" only off the table for all communities outside of Fargo?

We must be allowed to be heard, to get answers and be ensured that the due diligence on the "right" solution for the Red River Basin community is found. At this point – the only thing that is clear is that both the Corp and the Metro Flood Study Work Group are letting timelines and deadlines overly influence their path and override sound judgment and decision making.

I would appreciate hearing from you on this matter.
Sincerely,

Joe Lingen
[redacted]

January 25, 2011

Charles Fritz
International Water Institute
NDSU Dept 9030
PO Box 6050
Fargo, ND 58108-6050

Dear Mr. Fritz:

My name is Erick Kuntz, and I am writing to you regarding my concerns with regard to the Fargo-Moorhead Flood Diversion project ("the Diversion").

The recent decision to use upstream retention to mitigate the impacts of the Diversion downstream is a stunning and overwhelming turn of events. It has left those of us in the communities, schools and townships affected by this decision (including, but not limited to, Oxbow, Hickson, Bakke Addition, the surrounding farmsteads and developments, Pleasant Township and the Kindred School District) scrambling for answers.

I am asking for your involvement in ensuring that the rush to maintain a timeline/deadline of December 1, 2011, does not overshadow the responsibility of due diligence. At this time, it is not clear:

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- What the true economic impact of this new decision is for the county, the township, the schools – the tax base potentially eliminated, the communities destroyed.
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We would appreciate the opportunity to voice our concerns, to get answers and to be assured that due diligence has been done to determine the "right" solution for the Red River basin community. At this point, the only thing that is clear is that both the Corps and the Metro Flood Study Work Group are allowing timelines and deadlines to overly influence and override sound judgment and decision making.

I would appreciate hearing from you on this matter.

Sincerely,

Erick Kuntz
[redacted]

[redacted]

January 25, 2011

Charles Fritz

International Water Institute

NDSU Dept 9030

PO Box 6050

Fargo, ND 58108-6050

Dear Mr. Fritz:

I am Jim (James) Hohertz, and I am writing you regarding my concerns for the Fargo-Moorhead Flood diversion project (the diversion).

The most recent decision to use upstream retention to mitigate the impacts of the Diversion downstream is a stunning and overwhelming turn of events that has left those of us in the communities, schools, and townships affected by this decision (including, but not limited to Oxbow, Hickson, Bakke addition, Christine, surrounding farmsteads and developments, Eagle township and Kindred School District) scrambling for answers.

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7. What the value of a diversion channel is if the primary resource for flood mitigation and no downstream impacts is a floodwall south of Fargo. Why do we need the diversion at all then, if they're just going to build a dam?
8. How the new alignment is justifiable in the context of Executive order 11988. The coincidence of the diversion wholly encompassing the Fargo School District by a matter of yards begs the question, how did the lines get drawn when future growth cannot be a reason the Corps can cite for choosing a path. Is future growth only off the table for all communities outside of Fargo?

WE MUST BE ALLOWED TO BE HEARD, TO GET ANSWERS AND BE ENSURED THAT THE DUE DILIGENCE ON THE "CORRECT SOLUTION" FOR THE RED RIVER BASIN COMMUNITY IS FOUND. At this point the only thing that is clear is that both the Corp and the Metro Flood Study Work Group are letting timelines and deadlines overly influence their path and override sound judgment and decision making.

I would appreciate your attention to this matter and look forward to hearing from you.

Sincerely,

James Hohertz

[redacted]

January 25, 2011

Charles Fritz

International Water Institute

NDSU Dept 9030

PO Box 6050

Fargo, ND 58108-6050

Dear Mr. Fritz:

I am Linda Hohertz, and I am writing you regarding my concerns for the Fargo-Moorhead Flood diversion project (the diversion).

The most recent decision to use upstream retention to mitigate the impacts of the Diversion downstream is a stunning and overwhelming turn of events that has left those of us in the communities, schools, and townships affected by this decision (including, but not limited to Oxbow, Hickson, Bakke addition, Christine, surrounding farmsteads and developments, Eagle township and Kindred School District) scrambling for answers.

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I would appreciate your attention to this matter and look forward to hearing from you.

Sincerely,

Linda Hohertz

Mark and Twyla Anderson
[redacted]

January 21, 2011

To: The International Water Institute
Charles Fritz
International Water Institute
NDSU Dept 9030
PO Box 6050
Fargo, ND 58108-6050

Dear Mr. Fritz:

Our names are Mark and Twyla Anderson and we am writing to you regarding our concerns with regard to the Fargo-Moorhead Flood Diversion project ("the Diversion").

The recent decision to use upstream retention to mitigate the impacts of the Diversion downstream is a stunning and overwhelming turn of events. It has left those of us in the communities, schools and townships affected by this decision (including, but not limited to, Oxbow, Hickson, Bakke Addition, the surrounding farmsteads and developments, Pleasant Township and the Kindred School District) scrambling for answers.

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We would appreciate the opportunity to voice our concerns, to get answers and to be assured that due diligence has been done to determine the "right" solution for the Red River basin community. At this point, the only thing that is clear is that both the Corps and the Metro Flood Study Work Group are allowing timelines and deadlines to overly influence and override sound judgment and decision making.

We would appreciate hearing from you on this matter.

Sincerely,

Mark & Twyla Anderson

Mark and Twyla Anderson
[redacted]

KINDRED PUBLIC SCHOOL DISTRICT
55 1st Ave S
Kindred, ND 58051
(701) 428-3177
(701) 428-3149 Fax

Steve Hall, Superintendent
Kent Packer, Secondary Principal
Ron Zehren, Elementary Principal
Melanie Moffet, Business Manager
Perry Piatz, Athletic Director

School Board Members
Curt Bjertness, President
Mike Saewert, V. President
Mark Rieger, Director
Rick Klose, Director
Roy Plankers, Director
Sean Roesler, Director
Michael McCollum, Director

To: Metro Flood Study Work Group Committee
From: Steve Hall, Superintendent Kindred Public School District
Date: December 10, 2010

RE: F-M Metro Flood Study Proposal

Flood protection and flood planning is very important for the people in the metro area of the Red River Valley. I appreciate your time and effort to propose a workable plan that could provide assistance to our region during flooding times.

I would like to make comment concerning the impact of the proposed diversion plan on the Kindred School District. The district has a total taxable valuation of $15, 400, 000. The City of Oxbow has taxable valuation of $1,458, 977, and the Hickson/Bakke Addition and Pleasant Township's valuation is $2,079,450. The taxable valuation of this area is 23% of our district. We currently have 125 students in this area, which is 19% of our student population. The state student aid is $3,779 per student this year, which equates to $472,375 per year. I present this data to make you aware of the proposed plan's affect on the district.

I would also like to make you aware of our school district building project and the concern I have with this proposed diversion/retention plan.

This past spring the Kindred School District patrons voted to approve a construction project for a new school in the district. The financing and bond sales for this project were based on the total valuation of all properties in the district. This year the district sold bonds and started collecting taxes from patrons to pay back the debt for this building project in the amount of $14.7 million over the next 16 years.

Our district's building project is funded by taxes and we would lose valuation if houses are bought out. This loss of value would need to be covered by the other residents of our district. The burden would fall on others to cover the costs to pay for our school project. This is not right.

"Home of the Vikings"

KINDRED PUBLIC SCHOOL DISTRICT
55 1st Ave S
Kindred, ND 58051
(701) 428-3177
(701) 428-3149 Fax

Steve Hall, Superintendent
Kent Packer, Secondary Principal
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Curt Bjertness, Presider
Mike Saewert, V. Presider
Mark Rieger, Directo
Rick Klose, Directo
Roy Plankers, Directo
Sean Roesler, Directo
Michael McCollum, Directo

It is my belief that this burden and loss should not be picked up by the taxpayers of our district. I feel this cost should be accounted for and be a part of calculating the financial impact on the region by the diversion project. The amount lost by our district due to decreased valuation should be included in the costs of this project and the district compensated. Conversely, if there is no loss to the district in valuation by this project then we should not see any compensation to the district.

My question to you is, will the district receive this compensation and whom would it come from?

Thank you for your time. I look forward to hearing your response.

"Home of the Vikings"

December 14, 2010

Mr. Aaron Snyder, Project Manager
U.S. Army Corps of Engineers
190 Fifth Street East, Suite 401
St. Paul, MN 55101-1638

RE: Western Alignment of Flood Diversion Channel for Critical Western Area Power Administration (WAPA) Substation

Dear Mr. Snyder:

This letter is in support of the U.S. Army Corps of Engineers' (Corps') western alignment of the proposed flood diversion channel near West Fargo, North Dakota. The Moorhead Public Service Commission (Commission) is the governing body of Moorhead Public Service (MPS), the electric and water utility for the city of Moorhead, Minnesota. Moorhead is supplied with electrical energy primarily from the WAPA Substation located west of West Fargo. This substation is the primary bulk power delivery substation for MPS. This substation is critical to the reliable power delivery to all the citizens of Moorhead, Minnesota. The Commission advocates retaining the original western alignment of the proposed flood diversion channel in order to protect this critical electric utility infrastructure.

The proposed eastern alignment of the flood diversion channel would place the WAPA Substation outside of the area protected by the diversion channel. In the event of a significant flood event, this substation would likely be inundated with water and could cause significant operational challenges and reliability issues for the City of Moorhead and others who are served by that substation. In Moorhead, we have survived a number of significant flood events and, in every occurrence, critical infrastructure, including electricity and water, are always given primary attention as ensuring continuation of those critical public infrastructures. We would like to impress upon you that this WAPA Substation is one of those critical and significant public infrastructures. This substation is of prime importance, not only to Moorhead for bulk electric power delivery, but to the region, and, more specifically, to the areas of south and west Fargo.

In conclusion and as we have stated earlier, the WAPA Substation is Moorhead's primary point of transmission delivery of bulk electric power and a critical piece of electric infrastructure to both the region and to Moorhead. The current proposal would endanger those portions of the regional

MOORHEAD℠
PUBLIC SERVICE
connecting our community

500 Center Avenue
P.O. Box 779
Moorhead, MN 56561-0779

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fax: 218.299.5193

www.mpsutility.com
www.gomoorhead.com

Aaron Snyder
December 14, 2010
Page 2

electrical grid serving many communities, including Moorhead. We request that you re-examine those aspects of the plan to ensure stability of electrical service during a flood event. The Commission strongly urges the Corps to retain the original western alignment of the proposed flood diversion channel.

Thank you.

Sincerely,

MOORHEAD PUBLIC SERVICE COMMISSION

Kenneth J. Norman
President

Les Bakke
Secretary

Kelli Poehls
Commissioner

Corinne Stefanson
Commissioner

Bob Swenson
Commissioner

William E. Schwandt
General Manager

BS/cag

DEPARTMENT OF THE ARMY
ST. PAUL DISTRICT, CORPS OF ENGINEERS
180 FIFTH STREET EAST, SUITE 700
ST. PAUL MN 55101-1678

December 22, 2010

REPLY TO
ATTENTION OF

Programs and Project Management Division
Project Management and Development Branch

SUBJECT: Fargo-Moorhead Western Diversion Alignment

Moorhead Public Service Commission
500 Center Avenue
P.O. Box 779
Moorhead, Minnesota 56561-0779

Thank you for your December 14, 2010, letter stating your concern about the proposed diversion for the Fargo-Moorhead Metropolitan Area flood risk management project. The U.S. Army Corps of Engineers is committed to providing the Fargo-Moorhead Metropolitan Area with a plan that would reduce flood risk.

The eastern alignment is very similar to the alignment that was proposed in the Draft Feasibility Report and Environmental Impact Statement released in June 2010. While we agree the current alignment (eastern alignment) would leave the Western Area Power Administration (WAPA) substation located west of West Fargo outside the area protected by the diversion, all other options and cost implications for those options need to be considered before a decision to move the diversion alignment west could be made.

We did receive a letter from Cass County Electric Cooperative regarding this same issue. Attached is a copy of their letter and our response.

Thank you again for your comments and concern.

Sincerely,

Brett Coleman, P.E.
Project Manager

Enclosure

Cass County Electric Cooperative

Your Touchstone Energy® Partner

December 1, 2010

Aaron M. Snyder
Planner and Project Manager
United States Army Corps of Engineers
Suite 401
190 5TH St. E
St. Paul, MN 55101-1638

Re: support for western alignment for flood diversion channel

Dear Mr. Snyder,

I am writing on behalf of Cass County Electric Cooperative Inc. (CCEC) to urge the Army Corps of Engineers to retain the original western alignment for the proposed flood diversion channel near West Fargo, North Dakota. The eastern alignment announced in mid-November 2010 would seriously jeopardize a critical electric power delivery facility upon which CCEC relies, the Western Area Power Administration (WAPA) substation located west of West Fargo.

The importance of the WAPA substation cannot be overstated for electric power delivery and electric grid stability to the region in general, and specifically to West Fargo, south Fargo, Moorhead, and surrounding areas. It is a component of critical infrastructure on which Minnkota Power Cooperative and other bulk electric suppliers rely upon heavily. Minnkota Power is the wholesale power supplier for all of CCEC's system.

The eastern alignment would place the WAPA substation outside of the area protected by the diversion channel. A significant flood event would likely inundate the substation site which would likely result in operational failure of the facility. Protection of the facility with a ring dike would provide questionable protection of the facility itself at best, and would not assure any access whatsoever to the facility during a flood event. Access for both personnel and heavy equipment is critical to the continued operation of the substation. Even if elevated road beds were constructed, they too would likely be far too unstable for access with the type of equipment required to operate and maintain the facility.

Cass Electric strongly urges the Corp to readopt the western diversion alignment and provide protection for the WAPA substation.

Sincerely,

Brad Schmidt

Bradley J. Schmidt, PE
Sr. VP Transmission & Distribution Services

4100 32nd Ave SW • Fargo, ND 58104 • 701/356-4400 or 1-800-248-3292 • Fax: 701/356-4501 • www.kwh.com

DEPARTMENT OF THE ARMY
ST. PAUL DISTRICT, CORPS OF ENGINEERS
180 FIFTH STREET EAST, SUITE 700
ST. PAUL MN 55101-1678

December 21, 2010

REPLY TO
ATTENTION OF
Programs and Project Management Division
Project Management and Development Branch

SUBJECT: Fargo-Moorhead Western Diversion Alignment

Mr. Bradley J. Schmidt
Senior Vice President
Transmission & Distribution Services
Cass County Electric Cooperative
4100 32nd Avenue SW
Fargo, North Dakota 58104

Dear Mr. Schmidt:

Thank you for your letter stating your concern about the proposed diversion for the Fargo-Moorhead Metropolitan Area flood risk management project. The U.S. Army Corps of Engineers is committed to providing the Fargo-Moorhead Metropolitan Area with a plan that would reduce flood risk.

To clarify, the eastern alignment is very similar to the alignment that was proposed in the Draft Feasibility Report and Environmental Impact Statement released in June 2010. The western alignment was never the "original alignment" as stated in your letter.

While we agree the current alignment (eastern alignment) would leave the Western Area Power Administration (WAPA) substation outside the area protected by the diversion, all other options and cost implications for those options need to be considered before a decision to move the diversion alignment west can be made. For instance, what current practices does the electric cooperative implement to protect the WAPA substation now and are they effective? In your letter you mention that a ring dike would provide questionable protection and that, if elevated road beds were constructed, the road beds would be too unstable. What information do you have available to support those conclusions? Could the ring dike and roads be reconstructed to provide reliable protection?

Once the project is authorized it will take at least 8 years before the project is fully functional. During this period, how does the electric cooperative plan to handle any flooding that may occur before the diversion project is functional?

The Corps would be willing to meet with you to discuss options for protecting the WAPA substation in more detail. If you would like to meet with us, please contact me at (651) 290-5452 or brett.r.coleman@usace.army.mil. Thank you again for your comments and concern.

Sincerely,

Brett Coleman, P.E.
Project Manager

DEPARTMENT OF THE ARMY
ST. PAUL DISTRICT, CORPS OF ENGINEERS
180 FIFTH STREET EAST, SUITE 700
ST. PAUL MN 55101-1678

February 1, 2011

REPLY TO
ATTENTION OF
Programs and Project Management Division
Project Management and Development Branch

SUBJECT: Fargo-Moorhead Metro Flood Study Proposal

Mr. Steve Hall
Superintendent
Kindred Public School District
55 First Avenue South
Kindred, North Dakota 58051

Dear Mr. Hall:

Thank you for your recent letter regarding the possible impacts of the proposed Fargo-Moorhead Metro diversion plan on the Kindred School District. The U.S. Army Corps of Engineers is committed to providing the Fargo-Moorhead Metropolitan Area with a plan that effectively reduces flood risk and includes appropriate mitigation for potential adverse impacts from the project.

We are currently working to determine how various plans would affect flood levels both upstream and downstream of the proposed diversion project. Once we understand how water levels will be affected, we can begin looking at how those levels may affect properties and what actions may be appropriate to address those impacts. We will consider the changes in frequency, duration and depth of flooding when we assess the impacts to properties. Unfortunately, we are still a number of weeks away from having final information on the water levels.

Several approaches are being discussed for dealing with impacts to structures, many of which will depend on the type of the structure and the expected water level changes that may impact the structure. While some of these approaches may have impacts to the tax valuation of properties in the school district, the potential loss of tax revenue is not compensable as a part of the cost-shared Federal project. We encourage you to continue working with the Metro Flood Study Work Group to ensure that any items that cannot be addressed by the Federal project be discussed at the local level.

Additional information regarding the project can be found on the International Water Institute's website: http://www.internationalwaterinstitute.org/feasibility/index.htm. If you would like to receive email updates regarding the progress of the project, you may sign up on the E-mail Mailing Lists on the U.S. Army Corps of Engineers, St. Paul District website: http://www.mvp.usace.army.mil/list_server/.

If you have any additional questions or comments, please contact me at (651) 290-5489 or aaron.m.snyder@usace.army.mil. Thank you again for your comments and concern.

Sincerely,

Aaron M. Snyder
Chief, Project Management and
Development Branch

Copy furnished:

Mr. Kevin Campbell
Clay County Commissioner
807 11th Street North
Moorhead, MN 56560

Mr. Tim Mahoney
City Commissioner
200 North Third Street
Fargo, ND 58102

Honorable Dennis Walaker
Mayor of Fargo
209 Third Street North
Fargo, North Dakota 58102

Honorable Mark Voxland
Mayor of Moorhead
Moorhead City Hall
500 Center Avenue
PO Box 779
Moorhead, Minnesota 56561-0779

Department of Energy
Western Area Power Administration
Upper Great Plains Customer Service Region
P.O. Box 35800
Billings, MT 59107-5800

B4400.BL

FEB 4 2011

Mr. Aaron Snyder, Project Manager
U.S. Army Corps of Engineers
190 5th Street East, Suite 401
St. Paul, MN 55101-1638

Dear Mr. Snyder:

The Western Area Power Administration (Western) is a power marketing administration within the U.S. Department of Energy. Our mission is to distribute hydroelectric energy from the federal hydro facilities in the western United States to preference customers. Western electric transmission and substation facilities provide energy to a large portion of the Red River Valley, and many of our customers are stakeholders in the Red River Diversion Channel discussions presently underway in Fargo–Moorhead.

Western is a partner in the delivery of electric service to the area and shares this responsibility with several entities including Minnkota Power Cooperative, Cass County Electric Cooperative, Red River Valley Cooperative, Xcel Energy, and several municipal electric systems including Halstad, Hawley, Ada, and Moorhead. It is the integration of our combined facilities that enables us to respond to outages and meet required reliability standards within our systems.

Western has been requested to provide feedback on the impact of not having part, or all, of the Fargo Substation available during a flood event. It is impossible to provide an answer to this question without knowing the status of the transmission lines (four 230 kV, two 115 kV, and one 69 kV) that emanate from this substation and the multitude of 69 kV lines that emanate from Minnkota Power's adjoining substation.

Western examined a very limited set of power system simulations for impact to the area for loss of the Fargo substation. Under some of the modeled conditions, load shedding (rotating outages) would be necessary to keep voltage adequate to the rest of the load served. The modeling used did not consider outages in addition to the loss of the Fargo substation. It would seem reasonable to expect other transmission facilities would be out of service under this type of flooding condition resulting in additional impacts to the area.

The only answer that can be given with any degree of confidence is that the power grid response will be based on the transmission lines and substation equipment available at that instant. The utility preferred option would be to have the transmission grid respond with no customer outages. Transmission system operating and planning criteria established by the North American Electric Reliability Corporation requires transmission operators to plan and operate for a single

contingency with no cascading events on the bulk electric system. With just a couple of lines or pieces of equipment out of service, the end result could be a complete black-out, isolated black-outs, or rolling black-outs through much of the area.

Western would prefer the Fargo Substation were located on the east side of any proposed diversion channel, but it is prepared to maintain the substation during times of flood if the substation is located west of any proposed diversion channel. Western's Fargo Substation is located in the southeast corner of Section 23, T139N R50W (Mapleton Twp). The substation encompasses approximately 12.5 acres with a reference (building floors) elevation of 908.75'. The crown of the substation is approximately 1/3 of the way west of the east fence and the yard is generally sloped to the west, with the lowest point being at the west fence at an elevation of approximately 906.0'.

Moore Engineering "Peaking on Sheyenne River" maps depict the area around the substation under 100 year and 500 year flood conditions and shows the high water elevation at 904.8' for a 100 year flood event and at 905.5' for a 500 year flood event. These numbers indicate that the substation yard and building in their current state should not be impacted by flood waters under anticipated flooding conditions; however, Western and our customers would not have suitable access to the substation.

There appear to be a few options for maintaining access to the substation. The first is improving approximately 1 mile of 32nd Avenue West from the Sheyenne River diversion channel to the substation. The second option would be to improve approximately 4 miles of road from I-94, exit 342, then south 3 miles on 38th Street West, and then east 1 mile on 32nd Avenue West. Appropriate culverts, bridges, or viaducts would provide this access but still allow flood waters to move out of the area.

Western has been requested to provide a cost estimate for moving the substation. Since the cost to move associated transmission lines is a considerable factor, we cannot tie down a reasonable estimate without a location for the new substation. A ball park planning estimate at this time would be $30,000,000.

Regardless of the diversion channel location, existing electric transmission and distribution lines may likely require additional protection from the flood water. These protections could be as simple as adding riprap or steel but also could involve raising individual structures. Assuming the less intrusive riprap option is used, additional costs for protection of structures in a flood plain are approximately $10,000 per wood and $15,000 per steel structure. An assumption could be made that up to five structures per line, for each of four lines (three steel), would need additional protection to accommodate both the existing substation location and new substation relocation ($275,000). Other utilities would require additional protection of adjacent facilities.

The last issue Western would like to address is mitigation acres. If the diversion channel is constructed on the western alignment, then the transmission line easement area in Section 25 (southeast of the substation) may be suitable for mitigation and be contained within the project area. Western would need to maintain access to the transmission line structures, but the areas between structures may provide several acres for mitigation.

Sincerely,

Robert J. Harris

Robert J. Harris
Regional Manager

Cass County Electric Cooperative

Your Touchstone Energy® Partner

March 1, 2011

Aaron M. Snyder
Planner and Project Manager
United States Army Corps of Engineers
Suite 401
190 5th St. E.
St. Paul, MN 55101-1638

Re: Support for western alignment for Fargo flood diversion channel

Dear Mr. Snyder,

I am writing on behalf of Cass County Electric Cooperative Inc. (CCEC) in support of the western alignment of the proposed diversion channel for the Red River in Cass County, North Dakota. Following a meeting with area utilities and the US Army Corps of Engineers on January 6, 2011 regarding the alignment of the proposed diversion relative to the bulk transmission substation owned and operated by the Western Area Power Administration (WAPA), the Corps requested some additional information from those utilities.

The primary concern raised in that meeting continues to be the location of the substation with regard to the alignment of the proposed diversion channel. WAPA will be presenting cost estimates on relocating the substation. From a purely practical perspective, it's very doubtful that it would be cost-effective to relocate a major bulk power transmission substation, but surely most anything can be done for a price.

Rather the Corps seems intent on moving forward with an eastern alignment of the diversion and attempting to protect the WAPA station with ring dikes. We view this solution as a poor choice from a number of perspectives.

Leaving the WAPA substation at its present location with an eastern alignment exposes the substation to significant flood-related risks, even if the substation property itself is of sufficient elevation (which remains somewhat questionable) to withstand flood waters. Access to the station will become a problem; that point is without question. Thus the Corps has stated it will raise the roadways into the station over a ring dike system to assure access, commenting that 'building roads is what the Corps does best'. While we do not question the Corps' road-building skills, such a decision is completely without logic.

A roadway system to retain access to the station during a flood will result in additional expense to the Corps for the project. This is an expense that would not be incurred by the Corps with a western alignment. A western alignment would actually result in less cost to the Corps because

3312 42nd St. S. Suite 200 • Fargo, ND 58104 • 701/356-4400 or 1-800-248-3292 • Fax: 701/356-4501 • www.kwh.com

Aaron M. Snyder
March 1, 2011
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the project cost is a fixed, capped value for the federal share; the local cost share, which is the responsibility of the local governing entities, covers any additional cost of the western alignment vs. the eastern alignment. Even though the Corps might be able to build good quality roads, it's a totally unnecessary expense to the federal government and ultimately the taxpayers.

Second, the proposed elevated roadway system to retain access to the station during flood events will remain an additional on-going expense of higher costs to the local taxpayers due to the elevated nature of the roadway. Again, this is a completely unnecessary expense borne by the taxpayers.

Third, the proposed elevated roadway will be an impediment to north-flowing floodwaters unless the entire roadway is constructed on piers which would make it completely ridiculous. Thus, there will have to be bridges over roadway cuts to allow the floodwaters to advance with minimal backup due to the roadway. The point being, the proposed elevated roadway will not be a typical rural road section. Rather it will have to be a well-designed roadway of sufficient strength to withstand turbulent floodwaters while also being properly designed to allow those same floodwaters to pass though it.

For all of the reasons stated above, in addition to the discussion held on January 6, 2011, it's clear that if a diversion channel is constructed to provide flood protection for Fargo and the surrounding areas, the most logical route, if done on the North Dakota side would include a western alignment as detailed in the Corps own study materials. It is the most cost-effective solution for the federal government and its citizens, and the most logical route from every engineering, let alone common sense, perspective.

Cass County Electric strongly encourages the US Army Corps of Engineers to reconsider its position with regard to the alignment of the proposed Fargo diversion channel, and in doing so, to move forward with the western alignment.

Sincerely,

Scott W. Handy, Pres./CEO

Cc: Bonnie Johnson, Cass County
Keith Berndt, Cass County
Mark Bittner, City of Fargo
Robert Harris, WAPA
Wally Lang, Minnkota Power
William Schwandt, PE, Moorhead Public Service

DEPARTMENT OF THE ARMY
ST. PAUL DISTRICT, CORPS OF ENGINEERS
180 FIFTH STREET EAST, SUITE 700
ST. PAUL MN 55101-1678

December 21, 2010

REPLY TO
ATTENTION OF
Programs and Project Management Division
Project Management and Development Branch

SUBJECT: Fargo-Moorhead Western Diversion Alignment

Mr. Bradley J. Schmidt
Senior Vice President
Transmission & Distribution Services
Cass County Electric Cooperative
4100 32nd Avenue SW
Fargo, North Dakota 58104

Dear Mr. Schmidt:

Thank you for your letter stating your concern about the proposed diversion for the Fargo-Moorhead Metropolitan Area flood risk management project. The U.S. Army Corps of Engineers is committed to providing the Fargo-Moorhead Metropolitan Area with a plan that would reduce flood risk.

To clarify, the eastern alignment is very similar to the alignment that was proposed in the Draft Feasibility Report and Environmental Impact Statement released in June 2010. The western alignment was never the "original alignment" as stated in your letter.

While we agree the current alignment (eastern alignment) would leave the Western Area Power Administration (WAPA) substation outside the area protected by the diversion, all other options and cost implications for those options need to be considered before a decision to move the diversion alignment west can be made. For instance, what current practices does the electric cooperative implement to protect the WAPA substation now and are they effective? In your letter you mention that a ring dike would provide questionable protection and that, if elevated road beds were constructed, the road beds would be too unstable. What information do you have available to support those conclusions? Could the ring dike and roads be reconstructed to provide reliable protection?

Once the project is authorized it will take at least 8 years before the project is fully functional. During this period, how does the electric cooperative plan to handle any flooding that may occur before the diversion project is functional?

The Corps would be willing to meet with you to discuss options for protecting the WAPA substation in more detail. If you would like to meet with us, please contact me at (651) 290-5452 or brett.r.coleman@usace.army.mil. Thank you again for your comments and concern.

Sincerely,

Brett Coleman, P.E.
Project Manager

DEPARTMENT OF THE ARMY
ST. PAUL DISTRICT, CORPS OF ENGINEERS
180 FIFTH STREET EAST, SUITE 700
ST. PAUL MN 55101-1678

January 28, 2011

REPLY TO
ATTENTION OF

Regional Planning and Environment Division North
Environmental and GIS Branch

SUBJECT: Comments on the Notice of Intent to Prepare a Supplemental Draft EIS for the Proposed Fargo-Moorhead Flood Risk Management Project

Mr. Darrell Vanyo
Chairman, Cass County Board of Commissioners
Box 2806
211 Ninth Street South
Fargo, North Dakota 58108

Dear Chairman Vanyo:

Thank you for your comments on the Notice of Intent to Prepare a Supplemental Draft EIS (SDEIS) for the Proposed Fargo-Moorhead Flood Risk Management Project. We very much appreciate Cass County's support for the proposed project and value the county's active participation in our partnership to develop a solution to the potential for catastrophic flooding in the Fargo-Moorhead area. The National Weather Services' recently released spring flood outlook, indicating a significant potential for record flood crests, underscores the importance of our cooperative effort to bring permanent flood protection to the Fargo-Moorhead area on a timeline that recognizes the recurrent nature of the risk.

The commission's comments will be considered as we develop the scope of the SDEIS and determine how secondary alignment alternatives should be considered. Additionally, as we discussed at the January 13, 2011, meeting of the Metro Flood Study Group, we also envision consideration of appropriate alignment adjustments during the design phase of the project, within the limits of a congressionally-authorized project and subject to completion of any necessary environmental documentation.

Again, thank you for your continuing support of efforts to develop a permanent solution to the ongoing flood risk in the Fargo-Moorhead metro area and for your comments on the appropriate scope of the SDEIS.

Sincerely,

Terry J. Birkenstock
Chief, Environmental and GIS Branch

Comments on the Notice of Intent to Prepare a Supplemental Draft EIS for the Proposed Fargo Moorhead Flood Risk Management Project

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Cc:

Kevin Campbell
Cass County Commissioner
807 11th Street North
Moorhead, MN 56560

Tim Mahoney
City Commissioner
200 North Third Street
Fargo, ND 58102

Honorable Dennis Walaker
Mayor of Fargo
209 Third Street North
Fargo, North Dakota 58102

Honorable Mark Voxland
Mayor of Moorhead
Moorhead City Hall
500 Center Avenue
PO Box 779
Moorhead, Minnesota 56561-0779

Honorable Rich Mattern
Mayor of West Fargo
800 Fourth Avenue East
West Fargo, North Dakota 58078

DEPARTMENT OF THE ARMY
ST. PAUL DISTRICT, CORPS OF ENGINEERS
180 FIFTH STREET EAST, SUITE 700
ST. PAUL MN 55101-1678

January 28, 2011

REPLY TO
ATTENTION OF

Regional Planning and Environment Division North
Environmental and GIS Branch

SUBJECT: Comments on the Notice of Intent to Prepare a Supplemental Draft EIS for the Proposed Fargo-Moorhead Flood Risk Management Project

Honorable Rich Mattern
Mayor of West Fargo
800 Fourth Avenue East
West Fargo, North Dakota 58078

Dear Mayor Mattern:

Thank you for your comments on the Notice of Intent to Prepare a Supplemental Draft EIS (SDEIS) for the Proposed Fargo-Moorhead Flood Risk Management Project and for meeting the January 31, 2011, deadline we had set to receive information on the alignment.

The comments provided by the city of West Fargo will be considered as we develop the scope of the SDEIS and determine how secondary alignment alternatives should be considered. Additionally, as we discussed at the January 13, 2011, meeting of the Metro Flood Study Group, we also envision consideration of appropriate alignment adjustments during the design phase of the project, within the limits of a congressionally-authorized project and subject to completion of any necessary environmental documentation.

Again, thank you for providing your input on the proposal to develop a permanent solution to the ongoing flood risk in the Fargo-Moorhead metro area and for your comments on the appropriate scope of the SDEIS.

Sincerely,

Terry J. Birkenstock
Chief, Environmental and GIS Branch

Comments on the Notice of Intent to Prepare a Supplemental Draft EIS for the Proposed Fargo-Moorhead Flood Risk Management Project

Page 2

Cc:

Kevin Campbell
Cass County Commissioner
807 11th Street North
Moorhead, MN 56560

Tim Mahoney
City Commissioner
200 North Third Street
Fargo, ND 58102

Honorable Dennis Walaker
Mayor of Fargo
209 Third Street North
Fargo, North Dakota 58102

Honorable Mark Voxland
Mayor of Moorhead
Moorhead City Hall
500 Center Avenue
PO Box 779
Moorhead, Minnesota 56561-0779

Mr. Darrell Vanyo
Chairman, Cass County Board of Commissioners
Box 2806
211 Ninth Street South
Fargo, North Dakota 58108

Metro Flood Study Work Group Meeting Minutes

METROPOLITAN FLOOD MANAGEMENT WORK GROUP MEETING
Wednesday, August 26, 2009
1:30 p.m.
Fargo City Commission Room

A meeting of the Metropolitan Flood Management Work Group was held on at 1:30 p.m. on Wednesday, August 26, 2009 in the Fargo City Commission Room.

Work Group Members present: Fargo City Commissioner Tim Mahoney, Fargo City Commissioner Brad Wimmer, Moorhead Council Member Lauri Winterfeldt, Moorhead Council Member John Rowell, Moorhead Council Member Nancy Otto, Cass County Commissioner Scott Wagner, Clay County Commissioner Grant Weyland, Clay County Commissioner Kevin Campbell, Southeast Cass Water Resource District Manager Tom Fischer, Buffalo-Red River Watershed District Manager Gerald VanAmburg.

Work Group Members absent: Cass County Commissioner Darrell Vanyo.

Staff Members present: Fargo City Administrator Pat Zavoral, Fargo City Engineer Mark Bittner and Fargo Senior Engineer April Walker, Moorhead City Manager Mike Redlinger, Moorhead City Engineer Bob Zimmerman, Moorhead Senior Engineer Jody Bertrand, Cass County Administrator Bonnie Johnson, Cass County Engineer Keith Berndt, Clay County Administrator Vijay Sethi

Others present: St. Paul of the US Army Corps of Engineers Senior Planner & Project Manager Craig Evans, St. Paul Office of the US Army Corps of Engineers Deputy for Planning, Programs and Project Management Judy DesHarnais

Congressional Delegation Staffers present: Joan Carlson from Congressman Pomeroy's Office, Pam Gulleson from Senator Dorgan's Office, and Scott Stofferahn from Senator Conrad's Office

Brad Wimmer opened the meeting and called for introductions

A discussion on the merits of chair/vice chair verses a co-chair model for leading the meetings was held. It was a consensus that a co-chair model with one chair from Minnesota and one from North Dakota would be acceptable.

Nominations for the co-chair were accepted: Clay County Commissioner Kevin Campbell and Fargo City Commissioner Tim Mahoney were unanimously selected to these positions.

Chairman Mahoney called the meeting to order and asked Craig Evans of the Corps of Engineers (COE) to present the proposed timetable for development of the F-M Metro Flood Plan. Mr. Evans indicated the immediate issues at hand are to complete the economic data gathering relating to protection of infrastructure and personal property assets. Cass County Commissioner Scott Wagner implored the Corps to include the local economic development entities in their data collection effort. He introduced Brian Walters, Executive Director of the Greater Fargo Moorhead Economic Development Corporation.

Mr. Evans explained the intent of the National Economic Development plan process the COE must follow in their economic development analysis. He indicated this analysis must consider federal and national effects of a flood event in the F-M area and explained that regional economic influences the F-M metro area might experience will be considered but will not be a top priority for this federal study. Only national effects of the flood will be considered in developing the economic analysis that is needed to determine federal participation in a flood protection project, he continued.

Mr. Evans indicated the first step in the planning and scoping process currently being undertaken by the Corps is to narrow the list of flood protection ideas into a manageable group of options and his staff will present a short list of options to the communities in mid-October, 2009. He said the Corps has tentatively set two public meetings for October 20 and 21, 2009 to present the options and the feasibility of federal participation in these options.

Committee members suggested a meeting of the Corps with the Work Group prior to those public hearings. The co-chairs will determine the best time for the meeting.

Mr. Evans indicated the COE will develop a single recommended option after the October meetings and will have a draft of the final option in November. Committee members suggested, if a locally preferred option appears to be in conflict with the COE recommendation, that a November meeting with the Work Group be scheduled to address those options. If the locally preferred option is not in conflict but recommends additional protection measures to a higher elevation (as an example) this issue would also be discussed. Cost of any option was also a point of interest in the discussion.

Mr. Evans explained the National Economic Development Plan (NED) is the basis for federal involvement in any flood protection project. He said if a project does not meet the economic or environmental criteria established in the NED, it will not meet the cost benefit criteria and thus will not receive federal participation. If a project meets the NED standards the federal participation rate is 65% of the construction costs, he said, however, if the local entities indicate a need to enhance a project the local cost share will increase. Mr. Evans indicated there are some activities within a project that will be funded completely by the federal government and some activities that will be ineligible for any federal funding. He said the Grand Forks flood project when completed was a 50/50 cost share between the COE and the local entities (including the State of North Dakota).

Upstream storage of water was raised as a question of Mr. Evans and he indicated the Metro planning effort at this time is not taking into consideration any upstream storage as part of the flood protection plan. He pointed out that another COE study that began in 2003 did consider upstream storage and the study revealed that it is possible to retain or detain water upstream of the F-M area to a maximum range of 200,000 to 400,000 acre feet (1 foot of water over an acre of land = 1 acre foot) at non-specific sites but there is no federal interest to undertake a project. He said the study estimated that this range of storage would have reduced the 2009 flood event in Fargo-Moorhead by 1.6 feet. While significant, Mr. Evans suggested that would not be the ultimate solution for flood protection in the metro area.

A final discussion point for Mr. Evans was the overall timetable for this project. He said a final decision on the preferred option which all should agree to is January 2010. After the preferred option is in place, he explained, an Environmental Impact Statement will be undertaken with a goal of having that process completed by July 2010 and a Record of Decision (ROD) in October 2010. He said the ultimate goal is to have an approved project in place so it can be included in the next federal Water Resource Act legislation anticipated to be adopted in the fall of 2010. If that goal is not reached, he said, the project could be delayed to the next Water Resource Act legislation.

Chairman Mahoney asked the committee what level of protection the metro plan should seek? Committee members suggested that more than 100 year protection is needed and that even a 250 year protection level might not be adequate but still should be the goal. They also suggested that cost of a project will dictate the level of protection.

Staff from Moorhead, Fargo, Cass, Clay and the watershed districts gave reports on current flood protection efforts being undertaken in their jurisdictions. They also discussed the on-going costs of the local funding effort to match the COE funding of the Metro study.

The committee discussed the timetable for the next set of meetings and agreed to meet 3 to 4 more times before January, 2010. Meeting adjourned at 2:45 pm.

mfmwg09aug26

METRO FLOOD STUDY WORK GROUP MEETING
Thursday, November 5, 2009
3:30 p.m.
Fargo City Commission Room

A meeting of the Metro Flood Study Work Group was held at 3:30 p.m. on Thursday, November 5, 2009 in the Fargo City Commission Room.

Work Group Members present: Fargo City Commissioner Tim Mahoney, Fargo City Commissioner Brad Wimmer, Moorhead Council Member Nancy Otto, Moorhead Council Member John Rowell, Moorhead Council Member Lauri Winterfeldt, Cass County Commissioner Darrel Vanyo, Cass County Commissioner Scott Wagner, Clay County Commissioner Grant Weyland, Clay County Commissioner Kevin Campbell, Cass County Water Resource District Manager Tom Fischer, Buffalo-Red River Watershed District Manager Gerald VanAmburg.

Work Group Members absent: None

Staff Members present: Fargo City Administrator Pat Zavoral, Fargo City Engineer Mark Bittner, Moorhead City Manager Mike Redlinger, Moorhead City Engineer Bob Zimmerman, Moorhead Senior Engineer Jody Bertrand, Cass County Administrator Bonnie Johnson, Cass County Engineer Keith Berndt, Clay County Administrator Vijay Sethi, West Fargo City Administrator Jim Brownlee, Dilworth Mayor Elect Chad Olson.

Others present: US Army Corps of Engineers Senior Planner & Project Manager Craig Evans, US Army Corps of Engineers Project Manager Aaron Snyder, US Army Corps of Engineers Zoltan Montvai, US Army Corps of Engineers St. Paul District Support Team Lead Bob Peterson and US Army Corps of Engineers Col. Jon Christensen, Commander of St. Paul District.

Tim Mahoney opened the meeting and called for introductions.

Colonel Christianson introduced the Corps team from Vicksburg, Mississippi and Washington, D.C. Mr. Montvai, Vicksburg, gave an overview of the Corps process arriving at a solution for the flood risk mitigation.

Aaron Snyder and Craig Evans gave an overview of the USACE's FM Metropolitan Feasibility Study. Mr. Snyder updated the group on the alternatives ranked by net benefits and the effects of the various diversions using 50, 100 and 500 year flood levels. He said no matter which plan is implemented, both Fargo and Moorhead will have to implement other efforts. Mr. Evans said there are greater challenges with the North Dakota side alternatives because of the environmental impacts with crossing several tributaries. He said they are working with resource agencies to help solve those issues. He said the west diversion would take more land out of the flood plain. He said there is also a need to focus on the up and down stream impacts. He said upcoming tasks include developing additional benefit information and costs for negative impacts

and refining the alignments in order to minimize costs and working with the local agencies on the changes they request. With the interest in a ND side diversion, he said, the Corps will need to optimize the plan to get above a 1.0 cost/benefit ratio. Questions for local authorities, he said, include determining what level of risk is tolerable and choosing a locally preferred option by December 1. At the next meeting, he said, the group can discuss the arrangement for funding and cost-sharing arrangements. Implementation cannot take effect without local consensus, he said.

There was discussion regarding the levee options versus diversion plans. Mr. Snyder said it would take 60 miles of levees to protect to the 100 year flood stage. Mr. Evans said real estate costs would be more than 50% of the cost of the levee plan. Nancy Otto said it was not logical to pursue the levee plan.

Brad Wimmer moved the levee plan be removed from the list of alternatives. Nancy Otto seconded.

Vijay Sethi said a levee plan may still be part of the flood protection even if not part of the preferred option. Mr. Snyder agreed that any diversion would have tie-backs of some kind connecting the diversions.

All members of the Metro Flood Study Work Group voted aye and the motion was declared carried.

Kevin Campbell said any decisions by the Metro Flood Study Work Group will be brought to the larger group as a recommendation.

There was discussion regarding the diversion plan, what level of risk is tolerable and the timeline needed by the Corps. Mr. Snyder said the Corps will continue to work on cost benefit numbers but would like direction in order to spend time on specific options that may be considered. Gerry VanAmburg questioned if the group should focus more on flood stage than volume. Co-Chair Mahoney indicated he sensed the work group wanted a 500 year level of protection.

Darrel Vanyo moved the 25K diversions be removed. Nancy Otto seconded the motion.

John Rowell suggested that a North Dakota 30K option might offer the best chance at getting the required benefit/cost ratio required for federal funding.

Nancy Otto removed her second from the motion.

Darrel Vanyo then moved to remove the Minnesota 25K diversion from the list of alternatives. Scott Wagner seconded.

Mr. Montvai said the 100 year plan is not adequate and the 500 year plan is more appropriate if the Corps can come up with viable solutions and numbers to back them up.

All members of the Metro Flood Study Work Group voted aye and the motion was declared carried.

There was discussion regarding the addition of a 30K diversion.

Brad Wimmer moved the addition of a 30K diversion to the North Dakota side be added to the list of alternatives. Grant Weyland seconded.
All members of the Metro Flood Study Work Group voted aye and the motion was declared carried.

Lance Yohe, Red River Basin Board, reported his Board is working with MN and ND water boards regarding upstream storage issues.

Ken Parke, Dilworth City Administrator, said a Minnesota diversion would have a major negative impact on the City of Dilworth. He said Dilworth is in favor of a ND plan and hopes the Corps will focus on that. Mr. Snyder said the Corps will work with the concerns of Dilworth but needs to consider the Clay county aquifer.

Kevin Campbell announced the next meeting will be held November 12, 2009 at 3:30 p.m., in the Fargo City Commission Room. The two items not covered today - the ownership/maintenance of the selected project and the funding contributions for a local match will be added to the next agenda. He said the motions made today will be forwarded to the Metro Flood Management Committee.

The meeting was adjourned at 5:20 p.m.

mfswg09nov5

METRO FLOOD STUDY WORK GROUP MEETING
Thursday, November 12, 2009
3:30 p.m.
Fargo City Commission Room

A meeting of the Metro Flood Study Work Group was held at 3:30 p.m. on Thursday, November 12, 2009 in the Fargo City Commission Room.

Work Group Members present: Fargo City Commissioner Tim Mahoney, Fargo City Commissioner Brad Wimmer, Moorhead Council Member Nancy Otto, Moorhead Council Member Lauri Winterfeldt, Cass County Commissioner Darrel Vanyo, Cass County Commissioner Scott Wagner, Clay County Commissioner Grant Weyland, Clay County Commissioner Kevin Campbell, Cass County Water Resource District Manager Tom Fischer, Buffalo-Red River Watershed District Manager Gerald VanAmburg.

Work Group Members absent: Moorhead Council Member John Rowell.

Staff Members present: Fargo City Administrator Pat Zavoral, Fargo City Engineer Mark Bittner, Moorhead City Manager Mike Redlinger, Moorhead City Engineer Bob Zimmerman, Moorhead Senior Engineer Jody Bertrand, Cass County Administrator Bonnie Johnson, Cass County Engineer Keith Berndt, Clay County Administrator Vijay Sethi.

Others present: U.S. Army Corps of Engineers Senior Planner & Project Manager Craig Evans, West Fargo Commissioner Bryan Schulz, Fargo City Attorney Erik Johnson, Moorhead City Attorney Brian Neugebauer, Cass County State's Attorney Birch Burdick, Clay County Attorney Michelle Winkis, Southeast Cass Water Resource District Attorney Sean Fredricks, U.S. Congressman Earl Pomeroy.

Co-Chair Mahoney introduced U.S. Congressman Earl Pomeroy.

Congressman Pomeroy stated the Federal funding from the Water Resources Development Act does not become available every year. He said the bigger the price tag on the option selected by this group, the tougher the task will be to get the funding. He wished the group luck on the task at hand.

Co-Chair Mahoney said John Rowell submitted a correction for the draft of the November 5, 2009 meeting minutes reflecting his statement clarifying a North Dakota 30K option might offer the best chance at getting the required benefit/cost ratio required for federal funding.

Grant Weyland moved the minutes from the November 5, 2009 Metro Flood Study Work Group meeting be approved with the correction submitted by Mr. Rowell. Nancy Otto seconded the motion.

All members of the Metro Flood Study Work Group present voted aye, and the motion was declared carried.

Mr. Zavoral said the focus seems to be on the options on the North Dakota side. There is a dilemma, he said, with the January 1 timetable and the need to reach a conclusion by then.

Mark Bittner said the Corps needs to include the numbers for a 30K ND diversion, requested by the group at the last meeting, so the group can meet the December deadline for the selection of a preferred option.

Craig Evans said the Corps is looking at ways to cut costs on the North Dakota options. The fact that the North Dakota diversions cross several tributaries, he said, complicates matters.

There was discussion regarding the possibility of adding more resources to help with meeting the deadline for the choice of a preferred option. Tim Mahoney and Grant Weyland agreed it was important to add additional resources in order to meet the deadline and to make sure the ND diversions were included.

In response to a question from Nancy Otto regarding additional costs for the additional manpower, Craig Evans said the Corps budget should be able to handle the additional resources. He said the sooner the group limits the possible preferred options, the sooner the Corps will define the benefit/cost ratio. Mr. Evans said the Corps is looking for direction but not necessarily the final option at this point. He said the engineers can then focus on the benefit/cost ratio figures and the group can select an option by the end of December. He said the Corps and the other engineers are running the models for the plans but until that is done, they cannot write the report that explains the data. He said there will be no action by the Corps if the plan selected is under the 1.0 benefit/cost ratio, so the group needs to be careful on the selection and be sure time is not wasted choosing a plan that does meet the required ratio.

In response to a question from Gerry VanAmburg regarding the possibility of all the effort being put into the ND plans and MN having better ratios, Mr. Evans said the MN plans will be considered along with the ND options in order to arrive at the National optimal plan.

Kevin Campbell said it is the consensus of this group to move forward with permanent flood protection with the goal of a plan meeting a higher level and larger area of protection. The group, he said, needs to narrow the options for the Corps so the Corps can focus on the benefit/cost ratio.

Jeffrey Volk, Moore Engineering, said the group is seeking a decision too fast. He said by narrowing the options, the engineers will be on track to have the data by the end of December so the group can select a preferred option by January.

Lauri Winterfeldt moved the list of alternatives be narrowed to a MN 35K option and ND 30K and 35K options. Grant Weyland seconded the motion.

All members of the Metro Flood Study Work Group present voted aye and the motion was declared carried.

There was discussion regarding the potential for sponsorship and ownership for a Certified Corps of Engineers Project.

Craig Evans said there needs to be a local non-federal sponsor that would be responsible for owning the real estate, operation, maintenance, rehabilitation and future replacement of the project before construction begins.

Erik Johnson said there was cooperation between Breckenridge and Wahpeton on the diversion that was built on the Minnesota side. Breckenridge was the owner, he said, and Wahpeton contributed funds.

Brian Neugebauer said water resource boards could provide possible sponsorship with Joint Powers Agreements also being necessary with the project involving two states. There are lots of options, he said, with the toughest thing being maintenance. He said the details can be worked out after the option is picked.

In response to a comment from Kevin Campbell regarding cost sharing between the two states, Sean Fredricks said both states lend themselves to assessment districts. He said both sides would also have input through a Joint Powers Agreement.

Kevin Campbell said there will be long term impacts on both sides of the river and there will be hard decisions to be made because of funding from both sides. He said the committee will need a broader group for input for all the decisions to be made after the final option is approved.

Mr. Zavoral said maintenance of the project is part of the sponsorship piece which will be discussed at a later time.

There was discussion regarding cost sharing.

Mr. Campbell said cost sharing should be based on benefits. He said a starting point is needed for further discussion to take place. The Corps, he said, has broken down the options by benefits in the preliminary figures.

Scott Wagner said the costs and cost sharing will be dictated by which side of the river the diversion is built on. He said North Dakota is committed to raising the money for a ND option but public consent will be needed for special assessments.

Tom Fischer said the Corps' evaluation of the benefits may be different than the local authorities'. The committee, he said, should come up with the larger figures and then the individual jurisdictions will decide how to fund the preferred option.

Gerry VanAmburg said local funding could be a contentious issue and receiving help from economists would be beneficial for both sides of the river. He said the Corps is looking at national numbers so local input would be beneficial.

Mr. Zavoral said the local watershed boards as well as both Fargo and Moorhead special assessment departments have the experience to come up with a range of possibilities for funding.

Co-Chair Campbell announced the next meeting of the Metro Flood Management Committee would be November 24, 2009 at 7:30 a.m. at a place to be determined by the Mayors of Fargo and Moorhead. He said the next meeting date for the Working Group would be decided at the November 24th meeting.

The meeting was adjourned at 4:55 p.m.

mfswg09nov12minutes

METRO FLOOD STUDY WORK GROUP MEETING
Friday, January 15, 2010
1:30 p.m.
Fargo City Commission Room

A meeting of the Metro Flood Study Work Group was held at 1:30 p.m. on Friday, January 15, 2010 in the Fargo City Commission Room.

Work Group Members present: Fargo City Commissioner Tim Mahoney, Fargo City Commissioner Brad Wimmer, Moorhead Council Member Nancy Otto, Moorhead Council Member Diane Wray-Williams, Cass County Commissioner Darrel Vanyo, Clay County Commissioner Kevin Campbell, Cass County Water Resource District Manager Tom Fischer, Buffalo-Red River Watershed District Manager Gerald VanAmburg.

Work Group Members absent: Cass County Commissioner Scott Wagner, Moorhead Council Member Dan Hunt, Clay County Commissioner Grant Weyland.

Staff Members present: Fargo City Administrator Pat Zavoral, Fargo City Engineer Mark Bittner, Moorhead City Manager Mike Redlinger, Moorhead City Engineer Bob Zimmerman, Cass County Administrator Bonnie Johnson, Cass County Engineer Keith Berndt, Clay County Administrator Vijay Sethi.

Others present: U.S. Army Corps of Engineers Project Manager Aaron Snyder, Fargo City Attorney Erik Johnson, Moorhead City Attorney Brian Neugebauer, Clay County Attorney Michelle Winkis, Southeast Cass Water Resource District Attorney Sean Fredricks, Buffalo-Red River Watershed Attorney Tami Norgard, West Fargo City Administrator Jim Brownlee; Fargo Finance Director Kent Costin; Red River Basin Commission Executive Director Lance Yohe.

Commissioner Campbell introduced the Work Group and other staff seated at the table.

Commissioner Campbell said the minutes from the November 12, 2009 Work Group meeting were approved at the November 24, 2009 Metro Flood Management Committee.

U.S. Army Corps of Engineers Project Manager Aaron Snyder distributed a Fargo-Moorhead Metro Feasibility Project Schedule and Status Report and stated the study is on schedule. He said there are three meetings scheduled for February - the Metropolitan Flood Management Committee will be held February 1st in Fargo Centennial Hall and two public meetings are scheduled for February 2nd in Fargo and February 3rd in Moorhead. He highlighted some of the dates on the schedule as follows:

> April 15, 2010 - Letter of support for the locally preferred plan from City of Fargo and City of Moorhead. He said delay of the letter of support could jeopardize the project.

July 15, 2010 - Letters of support and financial self certification for construction and maintenance are due.

September 9, 2010 - Project sponsors will attend the CWRB briefing in Washington, DC. A positive review from upper level staff will help ensure the deadline can be met.

Mr. Snyder said the timing is critical in regard to discussion of non-federal funding for the project. He outlined the Corps' expectations of the sponsors and current study cost estimates. In regard to the status of the current efforts, Mr. Snyder said the Corps is incorporating a cost and risk assessment, which could change the cost benefit numbers. He said the numbers can change as more information is verified. Any diversion that falls under the benefit/cost ratio of one, he said, cannot be recommended. Mr. Snyder said an analysis of the potential for loss of life due to flooding is being completed which may help the numbers for the recommendation for a larger plan. Other areas of study, he said, include environmental and downstream impacts. He said the Corps will be working hard to get the necessary information for the meetings at the beginning of February.

Commissioner Campbell suggested the Work Group meet on February 4th at 3:30 p.m. in the Fargo City Commission Room.

Mr. Snyder commented on the status of the sponsorship options for the project. He said he anticipates no more than two construction sponsors - possibly one from North Dakota and one from Minnesota.

There was discussion regarding unanimous support from all of the local entities. Commissioner Campbell said there may have to be consensus from the two cities and two counties but the Metro Flood Management Committee needs to agree once a preferred plan is decided upon.

Fargo City Attorney Erik Johnson said the Attorneys have met to discuss sponsorship and ownership issues. He said sponsorship may be either through an individual entity or through a Joint Powers Agreement with a lot to accomplish between April and July.

Commissioner Campbell suggested a representative from each jurisdiction be included when the Attorneys meet.

Mr. Zavoral said initially the local share of funds should be discussed and then the maintenance piece. He said it is important for the watershed boards to be included in the governing board since they have experience in maintaining projects. Mr. Zavoral said the Work Group will discuss the ownership/maintenance options in more detail at the February 4th meeting.

There was discussion regarding the local share of funding. Commissioner Mahoney said there should be more discussion so constituents can be informed and planning can take place.

Mr. Zavoral said the Fargo sales tax amount of $200 million was based on the Southside Flood Control Project. He said the local share for a local diversion could be $600 million and he is hopeful Fargo, Cass County and North Dakota will split/share the costs.

Senator Tom Fischer said Governor Hoeven is supportive of a diversion project but financial support cannot be finalized until the next legislative session.

Commissioner Vanyo said the City and County should work together on funding so there is a financial plan in place for future generations.

Mayor Walaker said preliminary discussion is important in anticipation of the final figures on a preferred plan. He said Fargo and Moorhead are moving forward with property purchases along the Red River as well as planning for funding. Senator Dorgan, he said, has made Federal support for the project a top priority in his last year in office.

Mr. Redlinger said Minnesota Governor Tim Pawlenty recently announced $50 million from the budget for statewide water projects. He said Moorhead is seeking funds to finish infrastructure work and is in the process of acquiring homes along the Red River.

Commissioner Campbell said there has been positive feedback in regard to the funding potential from the State of Minnesota. He said operating and maintaining the project once completed is ongoing so it is important to keep in mind the financial burden on property owners.

Mr. Costin said the City has done preliminary work on funding for a diversion project. He said special assessments would be a part of the financing and would cost less than flood insurance.

Ms. Johnson said the County has been focused on the river corridor in order to be prepared for river levels up to 36 feet. She said the County will be able to purchase 88 homes with funding sources from FEMA and two grants. The County, she said, has done the analysis on special assessments and has come up with figures of $150 million over 20 years. She said this is a realistic, multi-generational approach to funding.

There was discussion regarding ongoing costs for a diversion. Commissioner Campbell said a Minnesota diversion could have anywhere from 14 to 22 bridges, requiring substantial ongoing maintenance in addition to the construction costs.

Mr. Yohe said the Commission has been having public meetings and receiving input for comprehensive planning. He said the problem is basin-wide and it is important both sides work together. Both state governments are involved, he said, and the Commission continues to include plans for upstream storage to reduce downstream impact.

In response to a question from Commissioner Vanyo regarding updates on the cost/benefit ratios, Aaron Snyder said the information would be made available and reported upon at the February meetings.

The meeting was adjourned at 2:40 p.m.

mfswg10jan15minutes

METRO FLOOD STUDY WORK GROUP MEETING
Thursday, February 4, 2010
3:30 p.m.
Fargo City Commission Room

A meeting of the Metro Flood Study Work Group was held at 3:30 p.m. on Thursday, February 4, 2010 in the Fargo City Commission Room.

Work Group Members present: Fargo City Commissioners Tim Mahoney and Brad Wimmer, Moorhead Council Members Nancy Otto, Diane Wray-Williams and Dan Hunt, Cass County Commissioners Darrel Vanyo and Scott Wagner, Clay County Commissioners Kevin Campbell and Grant Weyland, Cass County Water Resource District Manager Tom Fischer, Buffalo-Red River Watershed District Manager Gerald VanAmburg.

Staff Members present: Fargo City Administrator Pat Zavoral, Fargo City Engineer Mark Bittner, Moorhead City Manager Mike Redlinger, Moorhead City Engineer Bob Zimmerman, Cass County Administrator Bonnie Johnson, Cass County Engineer Keith Berndt, Clay County Administrator Vijay Sethi.

Others present: U.S. Army Corps of Engineers Senior Planner & Project Manager Craig Evans, U.S. Army Corps of Engineers Project Manager Aaron Snyder, Fargo City Attorney Erik Johnson, Moorhead City Attorney Brian Neugebauer, Clay County Attorney Michelle Lawson, Southeast Cass Water Resource District Attorney Sean Fredricks, Buffalo-Red River Watershed Attorney Tami Norgard, Fargo Finance Director Kent Costin; Red River Basin Commission Executive Director Lance Yohe.

Commissioner Mahoney opened the meeting.

Brad Wimmer moved the minutes from the January 15, 2010 Metro Flood Study Work Group meeting be approved. Tom Fischer seconded the motion. All members of the Metro Flood Study Work Group voted aye, and the motion was declared carried.

U.S. Army Corps of Engineers Project Manager Aaron Snyder distributed an updated Fargo-Moorhead Metro Feasibility Study. He said the Corps continues to need verification from the local groups on important local decisions that need to be made so that a Locally Preferred Plan (LPP) can be selected and authorized by the end of 2010. He said the NED is the best investment for the nation with the best net benefits. The NED, he said, will cap the investment on the LPP and if the MN 35K can be optimized, the LPP cannot be changed to North Dakota and still stay within the Corps' policy.

Craig Evans, USACE, said had the Work Group not suggested the North Dakota plans, the Corps would not have kept them in the study because of the costs.

Mr. Snyder said there are common risks to both the ND and MN alignments but the North Dakota plans are more complex. He said the Corps is meeting with the railroad

representatives February 19th to discuss the concerns with the Dilworth rail yard. He said the preliminary results of the cost and schedule risk assessment have been modified to reflect the changes to the MN 35K pending the Corps' recommendation. The downstream effects are being studied, he said, and will continue to be discussed with technical assistance being given for the affected Minnesota communities. In order to remain policy compliant, he said, the Corps can only move forward with one recommended plan and then even that is not guaranteed because of the necessary approvals from Corps Headquarters and the Assistant Secretary of the Army (Civil Works).

In response to a question from Kevin Campbell regarding options if the cost share does not go through on the MN 35K, Mr. Evans said the cost share could fall back to the NED 20K cfs plan. He said the Corps would not make a recommendation for a larger plan if the Corps did not think there was enough rationale for the MN 35K.

Scott Wagner said one of the concerns regarding the larger project is the funding options. He said there is an issue of asking voters for additional funding and the fact that the legislature only meets every two years.

Mr. Snyder said the upcoming tasks for the Corps are to continue working with the natural resource agencies, meeting with the local communities and landowners and continuing to analyze the downstream impacts.

There was discussion regarding the risks of either state plan. Mr. Snyder said there are more environmental impacts on the North Dakota side as opposed to the Minnesota plan. From the Corps' experience, he said, the best path forward is the Minnesota side.

In response to a question from Darrel Vanyo regarding the ability to review the information before a decision is made for an LPP, Mr. Snyder recommended a report detailing the methodology be given in two weeks and a summary be given at the Work Group meeting on February 18, 2010.

Kevin Campbell said before funding is discussed, the legal teams from the local entities should meet regarding possible ownership structures. He said Erik Johnson would coordinate a meeting before next Thursday.

There was discussion regarding the areas not protected by the diversion and the possibility of reducing the downstream impacts as well as retention possibilities.

Scott Wagner moved authorization be given to hire an engineering group to do analysis for unprotected areas within the metro study area, downstream protection and upstream retention. Dan Hunt seconded the motion. All members of the Metro Flood Study Work Group voted aye, and the motion was declared carried.

Kent Costin submitted a cost analysis comparison sheet for local costs for the North Dakota and Minnesota 35K diversions. He said the sheet lays out the cash requirement needed to fund the project.

Lance Yohe distributed reports from the Red River Basin Commission regarding updates from recent public meetings and efforts to decrease downstream impact and flow reduction.

In response to a question from Tim Mahoney regarding funding for downstream impacts, Tom Fischer said money is available for evaluation for projects basin-wide.

Kevin Campbell said the Work Group will meet every Thursday at 3:30 p.m. in the Fargo City Commission Room until the LPP is selected.

The meeting was adjourned at 5:10 p.m.

mfswg10feb4minutes

METRO FLOOD STUDY WORK GROUP MEETING
Thursday, February 11, 2010
3:30 p.m.
Fargo City Commission Room

A meeting of the Metro Flood Study Work Group was held at 3:30 p.m. on Thursday, February 11, 2010 in the Fargo City Commission Room.

Work Group Members present: Fargo City Commissioners Tim Mahoney and Brad Wimmer, Moorhead Council Members Nancy Otto, Diane Wray-Williams and Dan Hunt, Cass County Commissioners Darrel Vanyo and Scott Wagner, Clay County Commissioners Kevin Campbell and Grant Weyland, Cass County Water Resource District Manager Tom Fischer, Buffalo-Red River Watershed District Manager Gerald VanAmburg.

Staff Members present: Fargo City Administrator Pat Zavoral, Fargo City Engineer Mark Bittner, Moorhead City Manager Mike Redlinger, Moorhead Senior Engineer Jody Bertrand, Cass County Administrator Bonnie Johnson, Cass County Engineer Keith Berndt, Clay County Administrator Vijay Sethi.

Others present: U.S. Army Corps of Engineers Project Manager Aaron Snyder (via conference call), U.S. Congressman Earl Pomeroy, Fargo City Attorney Erik Johnson, Moorhead City Attorney Brian Neugebauer, Clay County Attorney Michelle Lawson, Southeast Cass Water Resource District Attorney Sean Fredricks, Cass County Attorney Birch Burdick, Buffalo-Red River Watershed Attorney Tami Norgard.

Commissioner Mahoney opened the meeting.

Dan Hunt moved the minutes from the February 4, 2010 Metro Flood Study Work Group meeting be approved. Brad Wimmer seconded the motion. All members voted aye, and the motion was declared carried.

Congressman Pomeroy said he will continue to work on Federal funding for a local project but this is a bottom-up process that first needs local consensus from all entities involved. The challenge is considerable, he said, but the project is important for the future of the Red River Valley.

Fargo City Attorney Erik Johnson stated the legal counsel and elected official liaisons for the local entities met and discussed what the organization for the project will possibly look like and the importance of the timeline for decision making. He said both sides of the Red River have the power to do a Joint Powers Agreement (JPA). A local example of this, he said, is the Red River Regional Dispatch Center which uses a JPA for cost sharing and cost savings measures. The parties to an agreement are yet to be worked out, he said, but a Metro JPA would have the authority to own the project, acquire the land, collect funds through assessments and sales tax, and borrow money through bonds. He said after the Locally Preferred Plan (LPP) is selected by April 15, 2010, the next important date is July 15 for the project sponsors to identify and sign the financial self-certification which says they are capable of getting funding. He said sponsorship

for the project can be transferred later to the owner, with the JPA not being required until mid-2011.

Mark Bittner said due to the time constraint on this project, he is suggesting that Moore Engineering be retained to study the impacts on the Red River. Southeast Cass, he said, is already funding the upstream storage analysis.

Jeff Volk, Moore Engineering, gave an overview of the scope of services which includes upstream retention, fringe metro area protection and downstream protection analysis. He said the study will not identify specific sites but would identify options to offset amounts by modeling. He said they hope to have a combination of options for consideration by mid-March.

Scott Wagner moved Moore Engineering be retained for analysis of three projects to mitigate damages from potential Minnesota or North Dakota diversion projects. Brad Wimmer seconded the motion. All the members voted aye, and the motion was declared carried.

Darrel Vanyo stated he has several areas of concern that need more discussion before a diversion project can be selected:

1. Moore Engineering analysis
2. Complexity of multiple river crossings in North Dakota
3. Details of February 18th report from the Corps on methodology
4. Feedback on Buffalo Aquifer and the Dilworth rail yard

In response to a question from Darrel Vanyo regarding cleanup costs from the Dilworth rail yard crossing and effects on the Buffalo Aquifer, Mr. Snyder said the Railroad would be responsible for cleanup costs but the local sponsors may be involved. He said the aquifer has been considered in regards to the railroad crossing. The Corps is meeting with the Railroad February 19th, he said.

Tami Norgard, Buffalo-Red River Watershed Attorney, said Minnesota has a Superfund so there may be local help for cleanup costs.

There was discussion in regard to whether the NED is firmly decided. Mr. Snyder said the NED should be verified by next week after the Corps' economic analysis is completed.

In response to a question from Nancy Otto regarding a MN 20K not being sufficient flood protection and the chance of a MN 35K being supported by the Corps, Mr. Snyder said the Corps can recommend a larger plan but there is still the uncertainty for final approval. He said General Walsh will be speaking on February 25th regarding how project support goes to a higher level. The recommended plan, he said, would be the plan submitted to Congress.

In response to a question from Commissioner Mahoney regarding Federal funding and the importance of following the timeline, Congressman Pomeroy said the quicker the project is selected, the quicker funding can be worked on. He said there could be long term consequences if the project does not make it into this year's program.

In response to a question from Commissioner Mahoney regarding the percentage of funding Moorhead is considering, Diane Wray-Williams said 90/10 is the working number for Moorhead.

Commissioner Campbell distributed a FM Flood Task Force - Funding Comparison report submitted by Mike Astrup, on behalf of Clay County landowners, from the last Clay County Commission meeting. He said the Work Group can review the document and contact Mr. Astrup with any questions. The Work Group, he said, will discuss the report at a future meeting.

Lance Yohe, Red River Basin Commission, submitted a report for today's meeting but was unable to attend. Tom Fischer gave an update on the Commission's recent work including modeling to bring downstream impact to zero and an offer from Manitoba to share what was encountered from the construction of the Winnipeg diversion. Mr. Fischer said there are state and federal programs to assist with construction of ring dikes.

Commissioner Campbell said some future agenda items are as follows but not limited to:

February 18th -

- Summary from the Corps economist presentation on cost/benefit analysis from Feb. 18, 1:00 p.m. meeting at the Fargo Library
- North Dakota Diversion mitigation options
- Invitation to Dilworth/West Fargo representatives

February 25th

- General Walsh visit
- Discuss locally preferred option features

March 4th

- Downstream/upstream options presented

The meeting was adjourned at 4:45 p.m.

mfswg10feb11minutes

METRO FLOOD STUDY WORK GROUP MEETING
Thursday, February 18, 2010
3:30 p.m.
Fargo City Commission Room

A meeting of the Metro Flood Study Work Group was held at 3:30 p.m. on Thursday, February 18, 2010 in the Fargo City Commission Room.

Work Group Members present: Fargo City Commissioner Tim Mahoney, Moorhead Council Members Nancy Otto, Diane Wray-Williams and Dan Hunt, Cass County Commissioners Darrel Vanyo and Scott Wagner, Clay County Commissioners Kevin Campbell and Grant Weyland, Cass County Water Resource District Manager Tom Fischer, Buffalo-Red River Watershed District Manager Gerald VanAmburg.

Work Group Members absent: Fargo City Commissioner Brad Wimmer.

Staff Members present: Fargo City Administrator Pat Zavoral, Fargo City Engineer Mark Bittner, Moorhead City Manager Mike Redlinger, Moorhead Senior Engineer Jody Bertrand, Cass County Administrator Bonnie Johnson, Cass County Engineer Keith Berndt, Clay County Administrator Vijay Sethi.

Others present: U.S. Army Corps of Engineers Senior Planner & Project Manager Craig Evans, U.S. Army Corps of Engineers Project Manager Aaron Snyder, Fargo Assistant City Attorney Butch McConn, Moorhead Assistant City Attorney John Shockley, Clay County Attorney Michelle Lawson, Southeast Cass Water Resource District Attorney Sean Fredricks, Cass County Attorney Birch Burdick, Buffalo-Red River Watershed Attorney Tami Norgard.

Commissioner Campbell opened the meeting.

Tom Fischer moved the minutes from the February 11, 2010 Metro Flood Study Work Group meeting be approved. Grant Weyland seconded the motion. All members voted aye, and the motion was declared carried.

Aaron Snyder gave a summary of how the numbers are attained for the average annual costs and benefits for the Fargo Moorhead Metropolitan Feasibility Study Diversion Channel Alternatives. He said the same method is used for all projects throughout the country.

Dilworth Mayor Chad Olson stated he has several concerns regarding the impact a Minnesota diversion would have on Dilworth. He said the Work Group is rushing the project which is misinterpreting the information being used for making a final decision on a diversion. He said there is a risk regarding the Dilworth rail yard and the unknown negative environmental effects from years of rail use in the area and on the Buffalo Aquifer. A Minnesota diversion, he said, would also locally impact jobs and property values and cripple residential and commercial development. He said a North Dakota diversion would provide the greatest good to the greatest number of people and it would be the best investment for growth and protection for the Red River Valley.

In response to a question from Nancy Otto regarding the possibility of more bridges over the Minnesota diversion to allow for development to the east of Dilworth, Aaron Snyder said bridges are part of the diversion plan to allow for growth and utility structures.

Tom Fischer said the Maple River and Baldhill Dams have helped with downstream impacts from past floods. He said the Maple River Dam was part of the Sheyenne flood plan and was funded by the state and Cass County. The Baldhill Dam, he said, was sponsored by eleven counties and assessments made all the way up to Cass County. Currently, he said, soil borings are being done to retain another 50 acre feet upstream of Fargo. He said the problem is not being able to find land close enough to Fargo to affect downstream impacts.

In response to a question from a member of the audience regarding the results of a more thorough study of downstream impacts before a diversion is selected, Mark Bittner said Moore Engineering has been asked to look at several things that would be of help to the downstream areas.

There was discussion regarding invitations to downstream communities to appear at the March 4th Work Group meeting in order to share their current flood protection plans and projects, funding assistance measures and whether any local cost share shortfalls exist. Kevin Campbell said the intent of the March 4th invitation would be to bring the communities' issues forward with the intent of helping to resolve the impacts. He said the Watershed groups may also be of assistance to help with the best methods for success.

Kevin Campbell said the next Work Group meeting will be held Thursday, February 25 in the Fargo City Commission Room.

The meeting was adjourned at 4:40 p.m.

mfswg10feb18minutes

METRO FLOOD STUDY WORK GROUP MEETING
Thursday, February 25, 2010
3:30 p.m.
Fargo City Commission Room

A meeting of the Metro Flood Study Work Group was held at 3:30 p.m. on Thursday, February 25, 2010 in the Fargo City Commission Room.

Work Group Members present: Fargo City Commissioners Tim Mahoney and Brad Wimmer, Moorhead Council Members Nancy Otto and Dan Hunt, Cass County Commissioner Scott Wagner, Clay County Commissioners Kevin Campbell and Grant Weyland, Cass County Water Resource District Manager Tom Fischer, Buffalo-Red River Watershed District Manager Gerald VanAmburg.

Work Group Members absent: Moorhead Council Member Diane Wray-Williams and Cass County Commissioner Darrel Vanyo.

Staff Members present: Fargo City Administrator Pat Zavoral, Fargo City Engineer Mark Bittner, Moorhead City Manager Mike Redlinger, Moorhead Engineer Bob Zimmerman, Cass County Administrator Bonnie Johnson, Cass County Engineer Keith Berndt, Clay County Administrator Vijay Sethi.

Others present: U.S. Army Corps of Engineers Brig. Gen. Michael Walsh, U.S. Army Corps of Engineers Col. Jon Christensen, U.S. Army Corps of Engineers Mark Mazzanti, U.S. Army Corps of Engineers Senior Planner & Project Manager Craig Evans, U.S. Army Corps of Engineers Project Manager Aaron Snyder, Moorhead City Attorney Brian Neugebauer, Clay County Attorney Michelle Lawson, Southeast Cass Water Resource District Attorney Sean Fredricks, Cass County Assistant Attorney Traci Peters, Buffalo-Red River Watershed Attorney Tami Norgard, Cass County Commissioner Ken Pawluk.

Commissioner Campbell opened the meeting with introductions from the Work Group and others in attendance from the U.S. Army Corps of Engineers.

Grant Weyland moved the minutes from the February 18, 2010 Metro Flood Study Work Group meeting be approved. Tom Fischer seconded the motion. All members voted aye, and the motion was declared carried.

General Walsh complimented the local task force on the large amount of work that has been done and the differences that have been set aside in order to get a project accomplished. He said the Corps is committed to help the FM Metro Flood group meet the December 2010 deadline. He said there are issues with both MN and ND diversions - including the Buffalo Aquifer, the BNSF rail yard and the tributary crossings. Corps' engineers, he said, are working on the potential problems but it will still be up to the local group to make a decision.

In response to a question from Commissioner Mahoney regarding the federal funding availability for the Locally Preferred Plan, Mark Mazzanti, USACE, said the Water Resources Development Act (WRDA) is the vehicle by which Congress issues funding for water projects. However, he said, there are other avenues by which the Congressional delegation can get a project authorized outside of the WRDA. He said it is imperative the December deadline be met in order to be in line for federal funding.

In response to a question from Nancy Otto regarding the possibility of getting approval for a plan larger than the NED, Gen. Walsh said a waiver could be requested for any plan selected other than the NED but could not be guaranteed.

In response to a question from Nancy Otto regarding the challenges of a North Dakota plan, Craig Evans said the challenge is to maintain the environmental integrity of the rivers being crossed.

Ken Pawluk, Cass County Commissioner, said a MN 20K plan does not provide protection to areas outside of the metro area. He said the Metro Flood Study group wants 500 year protection.

Gen. Walsh said the Corps' goal is to provide 100 year protection to communities and the MN 20K plan meets that goal.

In response to a question from Nancy Otto regarding a summary of the Corps' meeting with BNSF, Aaron Sndyer said the Corps met with the railroad and discussed relocating the rail yard to the south of the existing yard with a bridge over the diversion. He said the environmental concern of waste cleanup in the surrounding soil is not of much concern because the Dilworth yard is an intermodal facility and the railroad does not do cleaning or maintenance at that location. The Corps is working with the Railroad and the contractor, he said, and the final costs of the rail yard changes will be revised and presented in 4 to 6 weeks.

Kevin Campbell said the Work Group will need more time at the March 4th meeting for input from downstream communities and he suggested starting at 3:00 p.m.. He said the Work Group will receive any information submitted from the communities in advance and testimony will be limited to 10 minutes per speaker.

Tim Mahoney said the Work Group will meet next Thursday, March 4 at 3:00 p.m.

The meeting was adjourned at 4:45 p.m.

mfswg10feb25minutes

METRO FLOOD STUDY WORK GROUP MEETING
Thursday, March 4, 2010
3:00 p.m.
Fargo City Commission Room

A meeting of the Metro Flood Study Work Group was held at 3:00 p.m. on Thursday, March 4, 2010 in the Fargo City Commission Room.

Work Group Members present: Fargo City Commissioners Tim Mahoney and Brad Wimmer, Moorhead Council Members Nancy Otto and Dan Hunt, Cass County Commissioners Scott Wagner and Darrel Vanyo, Clay County Commissioners Kevin Campbell and Grant Weyland, Cass County Water Resource District Manager Tom Fischer, Buffalo-Red River Watershed District Manager Gerald VanAmburg.

Work Group Members absent: Moorhead Council Member Diane Wray-Williams.

Staff Members present: Fargo City Administrator Pat Zavoral, Fargo City Engineer Mark Bittner, Moorhead City Manager Mike Redlinger, Moorhead City Engineer Bob Zimmerman, Cass County Administrator Bonnie Johnson, Cass County Engineer Keith Berndt, Clay County Administrator Vijay Sethi.

Others present: U.S. Army Corps of Engineers Project Manager Aaron Snyder, Moorhead City Attorney Brian Neugebauer, Clay County Attorney Michelle Lawson, Southeast Cass Water Resource District Attorney Sean Fredricks, Cass County Assistant Attorney Traci Peters, Buffalo-Red River Watershed Attorney Tami Norgard.

Commissioner Campbell opened the meeting.

Grant Weyland moved the minutes from the February 25, 2010 Metro Flood Study Work Group meeting be approved. Brad Wimmer seconded the motion. All members present voted aye and the motion was declared carried.

Aaron Snyder gave a brief update on the results from the technical review and the regional economic development study. He said there are no major issues that cannot be overcome from the technical review. He distributed the results from the Regional Economic Development Study prepared by the Corps and he said the chart reflects how money from a diversion project would impact the local economy.

Mr. Snyder said there have been some questions regarding comments made by General Walsh and he would like to provide clarification. He said the Corps can only carry one Locally Preferred Plan (LPP) forward. In response to a question from Commissioner Mahoney regarding a waiver for a plan other than the NED, Mr. Snyder said a waiver would not be requested until a decision is made on a LPP. He said if a North Dakota plan is selected and approved, the cost share would be 65/35 of the NED and any amount above that would be a local responsibility.

In response to a question from Commissioner Campbell regarding the Corps doing more study on a North Dakota plan, Mr. Snyder said if a North Dakota plan is selected the schedule may not be met and funding could be in jeopardy. He said there would also be additional costs from $600,000 to $1 million associated with the study for a North Dakota plan.

Jerry Bents, Houston Engineering said he is representing Perley, Hendrum, Halstad and Shelly and the firm has been working with the four communities and has developed levee protection with a phased approach to help improve additional protection. During the 2009 flood, he said, temporary protection was added to the communities' existing levees. He said the Wild Rice Watershed District got involved after the 2009 flood event but plans for improved protection and internal storage are on hold pending the possible diversion project. He said the communities have received state funding for the projects and any local costs are kept within an affordable range.

Mr. Bents said Houston Engineering has also been working with the communities of Georgetown, Nielsville and Climax. He said, pending geotechnical concerns, the plan is to have 100 year flood protection. In response to a question from Nancy Otto regarding the effect of a Metro Flood Plan on those communities, Mr. Bents said flooding may peak sooner but only last a couple of days longer.

Georgetown Mayor Traci Goble said sixteen properties would be lost if the current levee is built up 2 feet higher for additional protection and the loss of revenue to the City would be substantial.

Dick Sunberg, Harwood, said Harwood is sensitive to increased flood levels. He said Harwood had protection from a project along the Sheyenne River but there was foundation failure so they are back to where they started.

Dilworth Mayor Chad Olson said Dilworth did not have any flood water from the Red River in either 1997 or 2009.

Jeff Volk, Moore Engineering, gave a report on retention and metro flood protection alternatives. He said they looked at the watersheds to help find answers for retention and to mitigate the downstream impacts. Supplemental projects would include a Northwest tributary option that would provide protection for the Harwood area and would cost from $165 to $250 million depending on levels of protection.

Gregg Thielman, Houston Engineering, said modeling was used to figure upstream storage in order to reduce downstream impacts to zero. He said implementation of effective storage would take 40 years and would cost over $80 million. The average cost for additional protection using dikes and buyouts, he said, would be $25 to $35 million and bringing up levees downstream would cost $7 to $10 million.

Ed Schaefer gave a presentation in support of a North Dakota diversion.

There was discussion regarding an opportunity for public input and it was scheduled for the March 11th Metro Flood Study Group meeting.

Kevin Campbell said financing options need to start coming together. He suggested various groups begin gathering details and bring a preliminary report in two weeks.

The meeting was adjourned at 5:00 p.m.

mfswg10mar4minutes

Metro Flood Study Work Group Meeting
Thursday, March 11, 2010
3:00 p.m.
Fargo Centennial Hall
Fargo, North Dakota

A meeting of the Metro Flood Study Work Group was held at 3:00 p.m. on Thursday, March 11, 2010 in Fargo Centennial Hall.

Work Group Members present: Moorhead Council Members Dan Hunt, Nancy Otto and Diane Wray-Williams, Cass County Commissioners Scott Wagner and Darrell Vanyo, Clay County Commissioner Kevin Campbell, Buffalo-Red River Watershed District Manager Gerald VanAmburg.

Work Group Members absent: Fargo City Commissioners Tim Mahoney and Brad Wimmer, Clay County Commissioner Grant Weyland, Cass County Water Resource District Manager Tom Fischer.

Staff Members present:, Fargo City Administrator Pat Zavoral, Fargo City Engineer Mark Bittner, Moorhead City Manager Mike Redlinger, Moorhead City Engineer Bob Zimmerman, Cass County Administrator Bonnie Johnson, Cass County Engineer Keith Berndt, Clay County Administrator Vijay Sethi.

Others present: U.S. Army Corps of Engineers Project Manager Aaron Snyder, U.S. Army Corps of Engineers Senior Planner & Project Manager Craig Evans, U.S. Army Corps of Engineers Planner Elizabeth Killian, Fargo Mayor Dennis Walaker, Cass County Water Resource District Rodger Olson.

Commissioner Campbell opened the meeting with introductions.

Approval of March 4, 2010 Minutes
Nancy Otto moved the minutes from the March 4, 2010 Metro Flood Study Work Group meeting be approved. Scott Wagner seconded the motion. All members present voted aye and the motion was declared carried.

Remarks by Aaron Snyder, US Army Corps of Engineers
Aaron Sndyer, USACE, said there have been some questions about past acceptance of waivers on plans other than the NED. He said only one time has an exception to the NED been made and then the Office of Management and Budget did not concur in approving a larger plan. He said the Corps continues to do analysis on the MN 35K and the gap is narrowing between the MN 20K and the MN 35K. He said it is possible a MN 25K or 30K could become the NED.

Public Hearing
Kevin Campbell requested the public keep their comments to three minutes. There was discussion regarding large groups being allowed to use a representative to speak for 15 or 20 minutes in order to expedite the process. Mr. Campbell said after the individuals are done speaking, the larger groups can have an opportunity.

Kevin Heiden, West Fargo, said retention needs to be addressed before a diversion is built.

Mark Brodshaug, Cass County Joint Water Resource Board Member, said a ND diversion provides larger regional flood protection. He said it would be more equitable to have ND residents support a ND diversion. He said areas that would grow from the results of a ND diversion would generate money for a good return on investment.

In response to a question from Jim Nyhof, Mayor of Oxbow, regarding Oxbow being two miles south of the projected ND diversion, Mr. Snyder said the ND alignments were developed early on but are not necessarily set in stone.

John Stern, Fargo, said no matter which side of the Red River a diversion is located, a 500 year level of protection would be better than a 100 year level of protection, especially with the recent floods.

Lowell Siebels, Harwood, said rural roads would need to be built-up 3 to 4 feet to handle the damage waffle plans would cause. He said a ND diversion would be a better option because the North Dakota river crossings would be a more controlled situation.

In response to a question from Joe Loney, West Fargo, regarding the effect a ND diversion would have on the West Fargo diversion, Craig Evans said a North Dakota alignment would expand a portion of the Sheyenne Diversion from Horace to West Fargo but from West Fargo northward it would run a bit to the west.

David Gust, Raymond Township Supervisor, said the Corps is estimating a 6 to 12 inch increase for downstream communities and he said that may be a low estimate. He said the Red River Basin Commission is correct in saying retention is an important element and also that downstream communities should not be inundated with extra water from flood protection projects.

Bucky Maughan, Fargo, said he supports a North Dakota diversion.

John Dullea, Halstad, said retention should be used along with a North Dakota diversion to store water for dry periods.

Gerry Gwost, Harwood, said it makes sense to do a North Dakota diversion because it would increase the viability and growth of the Fargo Moorhead area.

Mike Williams, Fargo, said a diversion, on either side of the Red River, is needed and he is encouraged by the work done by the Metro Flood Study Work Group and the Corps. He said retention projects and a diversion can be done concurrently with everyone coming out a winner.

Kevin Campbell said the Work Group is paying attention to the downstream impacts and basin-wide retention. He said Minnesota Governor Pawlenty said he is willing to work with North Dakota and that a MN/ND Joint Powers Authority is being discussed.

Patty Kratky, League of Women Voters, said the League would like to thank the Work Group for allowing public input. She said she is concerned with project funding, the social cost to taxpayers and environmental issues.

Dilworth Mayor Chad Olson said Dilworth supports a North Dakota diversion. He submitted letters from the City of Dilworth, Bruce Langness and Timothy Keane. Mr. Olson submitted a handout with estimated costs for a Minnesota diversion. He said the numbers for the relocation of the rail yard differ between the Corps and BNSF and depending on the actual cost, the benefit/cost ratios would change.

Ken Parke, Dilworth City Administrator, said there is another aquifer closer to Dilworth that is of concern. He said Dilworth relies on the commercial and residential tax base and a MN diversion would prohibit new growth. He said the possible relocation of the railroad out of Dilworth would also have a large economic impact.

Tim Keane, Malkerson, Gunn, Martin, LLP and representing Dilworth, said the Work Group should not take any action until an environmental review is completed.

Bruce Langness, Senior Water Resource Engineer and former Dilworth City Engineer, submitted a Report on the Potential Impacts of the Minnesota Floodwater Diversion Option to the City of Dilworth's Groundwater Aquifers. He said there are technical issues with a diversion in regards to the local water sources that need to be taken into consideration.

West Fargo Mayor Rich Mattern said West Fargo understands the value of a diversion and they support a North Dakota diversion. He said they also realize West Fargo would benefit from a North Dakota diversion.

Mike Warner, Oxbow, said he has never experienced a delay in planting because of retained water in the spring. He said retention needs to be part of a long term plan and is not to be feared.

Tami Norgard, Buffalo-Red River Watershed Attorney, said there is a misperception that once a plan is selected the Work Group must forever hold their peace. She said a selected plan then becomes a part of an environmental review process and the Corps will look at reasonable alternatives.

In response to a question from Darrel Vanyo regarding further study being done on a ND diversion, Craig Evans said unless a ND diversion is selected as the Locally Preferred Plan, the Corps would not study a ND plan any further.

Todd Fuchs, West Fargo, said he would like to see a larger project than a 20K diversion so there would be more protection for a larger area. He said when millions of dollars are being spent for flood protection, a project should protect more area with downstream impacts and retention needing to be considered as well.

Jim Erickson, Minneapolis, MN and spokesperson for Citizens for a North Dakota Diversion, said he will speak on the political situation of choosing a diversion. He said the Corps of Engineers is protecting national interests, not local interests and the benefits are far higher for a North Dakota plan. Mr. Erickson said the only chance for federal funding is with a ND plan even though the Corps said the MN plan has a better chance of being funded. The City of Moorhead is meeting Friday, he said, and he hopes they will support a ND diversion so that a diversion is done right. He submitted a letter of support for a ND plan from Carol Arzt of Harwood.

Blane Benedict, President of Benedict Farms, Inc., said the North Dakota plan is the best protection for the most people.

Richard Thomas, Fargo, encouraged the Work Group to pick an option that provides adequate protection for the valley and the taxpayers.

Scott Wagner, Cass County Commissioner, read a proclamation on behalf of the Greater Fargo Moorhead Economic Development Corporation stating the Executive Committee for the GFMEDC fully supports the recommendations of the Metro Flood Study Work Group and urges a decision to be made so there is a federal authorization with the 2010 schedule that provides 500 year flood protection.

Ed Schaefer, FM Flood Coalition, said a MN 20K diversion would not provide protection from flood levels equal to the 2009 flood. He said a North Dakota diversion would provide an increased economic benefit to the area as well as more protection to a greater area. He said there are rumors he would like to clear up:

1. Both MN and ND Governors are committed to putting out money to make a diversion work.
2. The Corps is not opposed to a ND diversion because of environmental issues. He said Minnesota and North Dakota plans both have environmental problems.
3. The Legislature thoughtfully analyzes projects and if North Dakota funds $250 million for a diversion, that will not prohibit more money later for other projects.

In response to a question from Mr. Schaefer regarding a ND diversion getting the Corps' support, Craig Evans said after the local group picks a LPP, the Corps can only make a recommendation. He said the LPP would go to the Assistant Secretary of the Army for Civil Works and it would not be a Corps decision. He said the NED is the one plan the Corps is required to recommend.

Doug Burgum, FM Flood Coalition, said he is concerned with three aspects of a Minnesota diversion: economic, engineering and political. He said the Corps only takes the national cost/benefit into account, and if the Corps would include regional and local cost/benefit figures, the ND diversion would have the highest ratio.

In response to a question from Mr. Burgum regarding failure mechanisms for diversion plans, Aaron Snyder said the Corps builds failure mechanisms into plans and if a MN diversion would reach capacity, the overflow would not leave its banks but would go

upstream. Mr. Burgum said a ND diversion would benefit from the political support of the Big Eight legislators so he asked the Work Group to support a ND diversion.

Scott Wagner thanked everyone for coming.

The meeting was adjourned at 5:00 p.m.

mfswg10mar11minutes

Metro Flood Study Work Group Meeting
Thursday, March 18, 2010
3:30 p.m.
Fargo City Commission Room

A meeting of the Metro Flood Study Work Group was held at 3:30 p.m. on Thursday, March 18, 2010 in the Fargo City Commission Room.

Work Group Members present: Fargo City Commissioners Tim Mahoney and Brad Wimmer, Moorhead Council Members Dan Hunt, Nancy Otto and Diane Wray-Williams, Cass County Commissioners Scott Wagner and Darrel Vanyo, Clay County Commissioners Kevin Campbell and Grant Weyland, Cass County Water Resource District Manager Tom Fischer, Buffalo-Red River Watershed District Manager Gerald VanAmburg.

Work Group Members absent: None.

Staff Members present: Fargo City Administrator Pat Zavoral, Fargo City Engineer Mark Bittner, Moorhead City Manager Mike Redlinger, Moorhead City Engineer Bob Zimmerman, Cass County Administrator Bonnie Johnson, Cass County Engineer Keith Berndt.

Others present: U.S. Army Corps of Engineers Project Manager Aaron Snyder, U.S. Army Corps of Engineers Senior Planner & Project Manager Craig Evans, U.S. Army Corps of Engineers District Engineer and Commander Col. Jon Christensen, Fargo City Attorney Erik Johnson, Moorhead City Attorney Brian Neugebauer, Southeast Cass Water Resource District Attorney Sean Fredricks, Cass County Attorney Birch Burdick, Buffalo-Red River Watershed Attorney Tami Norgard.

Commissioner Mahoney opened the meeting with introductions.

Col. Jon Christensen, U.S. Army Corps of Engineers, said the successful preparation for the 2010 flood is a testament to the community's model of good teamwork. He said the Metro Flood Study Work Group members are also an example of good teamwork for long term flood protection. He said Corps' staff needs a clear picture of which project the local entities want in order to meet the December 2010 deadline.

Aaron Snyder said the cost to complete the study on the MN and ND diversions will be an additional $2.6 million. He said there may be additional federal funds for the study but he is unsure about availability. Once the Locally Preferred Plan is decided, he said, the Corps will work to meet the December 2010 deadline.

There was discussion regarding the additional funding needed to study the North Dakota diversion plan. Kevin Campbell said discussions should continue among the entities to secure the money needed as soon as possible.

Approval of March 11, 2010 Minutes
Diane Wray-Williams moved the minutes from the March 11, 2010 Metro Flood Study Work Group meeting be approved. Nancy Otto seconded the motion. All members voted aye and the motion was declared carried.

Locally Preferred Plan
Darrell Vanyo said he would like to thank Commissioners Mahoney and Campbell for all the work they have done chairing the Metro Flood Study Work Group.

Darrell Vanyo moved the selection of the ND 35k cfs option as the "Locally Preferred Plan", based upon the following:

1. provides 500-year flood protection to the FM metro area for the Red, Wild Rice, Sheyenne, Maple, Rush and Lower Rush Rivers;
2. meets the objective of this Work Group in that it provides protection for the greatest amount of land for the greatest number of citizens;
3. has received strong support from the citizens on both sides of the river and from local and state leaders;
4. reduces the risk to the loss of life;
5. provides greater protection for the economic base of the area;
6. mitigates the cost, and reduces the need, for construction of levees and other temporary measures;
7. provides regional benefits that are not included in the required analysis by the Corps;
8. is the plan that provides the least amount of residual damage; and
9. meets the cost/benefit criteria.

Nancy Otto seconded the motion. All members of the Metro Flood Study Work Group voted aye and the motion was declared carried.

Kevin Campbell said the motion will go to each governing body within the next week for ratification.

Cost Sharing on Locally Preferred Plan and Increased NED
Craig Evans said the last hydrology runs indicated the NED could be larger than the MN 20k option. He said the newest hydrology analysis, based on the recommendations of an expert panel, will be used for the final NED analysis. He said the benefit/cost ratios look as if they will improve but the Corps does not know yet which plan will be the NED.

There was discussion regarding possible funding sources. Scott Wagner said Moore Engineering has studied possible special assessment districts under the MN and ND options regarding preliminary funding from North Dakota. He said, depending on the NED, the costs will vary but special assessments and sales tax would be considered. Cass County Auditor Mike Montplaisir said the Moore Engineering figures are based on assumptions regarding assessment district size. Tom Fischer said he recently met with a state legislative committee and there is support for flood protection at the state level. In response to a question from Kevin Campbell regarding financial commitment for a project, Aaron Snyder said the Corps will need certification for funding by July 2010.

Mr. Campbell said the group needs to set goals soon for the local share of the $2.6 million.

Tim Mahoney moved the Metro Flood Study Work Group recommend that an equitable cost sharing arrangement must be resolved. Tom Fischer seconded the motion.

There was discussion regarding financial support from the state Governors and legislatures. Diane Wray-Williams said both Governors are supportive and are talking weekly regarding the funding options. Senator Tim Flakoll said the local special assessment cost for his property would be 50% to 60% of projected flood insurance costs. He said it will be important to get statewide support for the project in order to get legislative support. Mark Bittner said the financing decisions are important to meet the December deadline and he said downstream and upstream issues need to be addressed as well.

All members of the Metro Flood Study Work Group voted aye and the motion was declared carried.

Darrell Vanyo moved the Metro Flood Study Work Group recognize and support the value and need for downstream mitigation and upstream retention. Scott Wagner seconded the motion. All members of the Metro Flood Study Work Group voted aye, and the motion was declared carried.

Pat Zavoral suggested the local entities communicate separately regarding funding and return with recommendations to the Work Group. There was discussion regarding a representative from each group and the following volunteered: Cass County - Darrell Vanyo; Clay County - Kevin Campbell; Moorhead - Nancy Otto; Fargo - Brad Wimmer.

Tim Mahoney said the Work Group will not meet for a couple of weeks due to the flooding.

The meeting was adjourned at 4:25 p.m.

mfswg10mar18minutes

Metro Flood Study Work Group Meeting
Thursday, April 22, 2010
3:30 p.m.
Fargo City Commission Room

A meeting of the Metro Flood Study Work Group was held at 3:30 p.m. on Thursday, April 22, 2010 in the Fargo City Commission Room.

Work Group Members present: Fargo City Commissioners Tim Mahoney and Mayor Dennis Walaker representing Brad Wimmer, Moorhead Council Members Nancy Otto and Diane Wray-Williams, Cass County Commissioner Scott Wagner, Clay County Commissioners Kevin Campbell and Grant Weyland, Cass County Water Resource District Manager Tom Fischer, Buffalo-Red River Watershed District Manager Gerald VanAmburg.

Work Group Members absent: Moorhead Council Member Dan Hunt and Cass County Commissioner Darrell Vanyo.

Staff Members present: Fargo City Administrator Pat Zavoral, Fargo City Engineer Mark Bittner, Fargo City Senior Engineer April Walker, Moorhead City Manager Mike Redlinger, Moorhead City Engineer Bob Zimmerman, Cass County Administrator Bonnie Johnson, Cass County Engineer Keith Berndt, Clay County Administrator Vijay Sethi.

Others present: U.S. Army Corps of Engineers Project Manager Aaron Snyder, U.S. Fargo City Attorney Erik Johnson, Moorhead City Attorney Brian Neugebauer, Southeast Cass Water Resource District Attorney Sean Fredricks, Cass County State's Attorney Birch Burdick, Buffalo-Red River Watershed Attorney Tami Norgard, Clay County Assistant Attorney Michelle Lawson.

Commissioner Campbell opened the meeting with introductions.

Approval of March 18, 2010 Minutes
Nancy Otto moved the minutes from the March 18, 2010 Metro Flood Study Work Group meeting be approved. Diane Wray-Williams seconded the motion. All members voted aye and the motion was declared carried.

Update from Corps of Engineers
Aaron Snyder distributed a handout to update committee members. He said $1.3 million in federal funding has been identified for continued study on the project, but needs approval from the Administration and Congress.

Mr. Snyder also discussed hydrology and hydraulic information and said they are working to update models. The timeline calls for the NED plan to be identified by May 10th with the anticipated release of the draft report to the public on May 21st. He said they are also working to update models on downstream impacts to provide at the public meetings in June.

Mr. Snyder said right of entry requests were sent by their office to all potential impacted landowners. Surveys are needed to set alignments and identify final costs.

Mr. Snyder spoke of numerous meetings to be held over the next few months, including a visit from the Assistant Secretary of the Army for Civil Works (ASA-CW) on April 25th; public meetings on June 9th in Moorhead and June 10th in Fargo; landowner meetings on June 14th in Fargo and June 15th in Moorhead; and a downstream stakeholder meeting on June 16th in Hendrum.

Mr. Snyder said the Corps sent the Locally Preferred Plan (LPP) request to the ASA-CW this past Tuesday. The ASA-CW will need to approve the LPP request. Mark Bittner asked what information was submitted to the ASA-CW. Mr. Snyder said LPP motions from all four entities, information on the NED plan, and several alternatives were provided to the ASA-CW. Mr. Snyder said once the ASA-CW rules and approves the LLP, a waiver to tentatively select the plan will need to be given to allow the North Dakota Diversion be the recommended plan. Mr. Snyder hopes to receive the ruling before the May 21st release of the draft report.

Mr. Snyder discussed the flexibility of the alignment for the project. He said there will be some flexibility but it would be in feet versus miles. If the alignment is moved, there must be a good technical reason to move it.

Cass County Informational Meetings
Scott Wagner said Cass County officials will hold informational meetings for cities within Cass County in the upcoming month regarding the North Dakota Diversion. He said everyone will be notified as dates are set. In all, city meetings will be held with 25 cities.

Joint Powers Authority-Governance
Erik Johnson provided a presentation on joint powers authority. He said a joint powers agreement will be needed with Moorhead, Fargo, Clay County, Cass County, Cass County Joint Water Resource District and Buffalo Red River Watershed. Duties of the joint powers authority board would include collection of funds, borrowing of funds, land acquisition and project ownership.

There was discussion on the makeup of the board based on whether the diversion is built in Minnesota or North Dakota, and the issues involved in the decision making process based on the diversion location. Aaron Snyder suggested the joint powers agreement use a percentage to determine the cost share for each entity.

Local Sponsorship
Kevin Campbell said local sponsorship needs to be determined. Aaron Snyder said the process is much simpler with two or less sponsors. Nancy Otto suggested Moorhead and Clay County determine who the sponsor from Minnesota will be, and Fargo and Cass County determine who the sponsor from North Dakota will be. Mr. Campbell suggested the Moorhead Mayor meet with the Clay County Commission Chairman, and Fargo Mayor meet with the Cass County Commission Chairman to discuss this issue.

Mayor Dennis Walaker said in the past, the Corps has recommended two sponsors be designated, and feels both cities should be the sponsors. Scott Wagner believes a conversation between the chairmen and mayors would be valuable regarding local sponsorship. Mr. Wagner also stated the North Dakota project would be built outside the City of Fargo, so Cass County would be a "good fit" for sponsorship.

Diane Wray-Williams asked about the sponsors' role in the project. Aaron Snyder said the sponsors would be responsible to implement the project and to ensure funds are available.

Next Meeting Date
The committee agreed to meet on Thursday, May 13th at 3:30 p.m.

The meeting was adjourned at 4:40 p.m.

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Metro Flood Study Work Group Meeting
Sunday, April 25, 2010
5:00 p.m.
Fargo City Commission Room

A meeting of the Metro Flood Study Work Group was held at 5:00 p.m. on Sunday, April 25, 2010 in the Fargo City Commission Room

Work Group Members Present: Fargo City Commissioner Tim Mahoney, Moorhead Council Members Nancy Otto and Diane Wray-Williams, Cass County Commissioner Scott Wagner, Clay County Commissioners Kevin Campbell and Grant Weyland, Cass County Water Resource District Manager Tom Fischer, Buffalo Red River Watershed District Manager Gerald VanAmburg.

Work Group Members Absent: Fargo City Commissioner Brad Wimmer, Moorhead Council Member Dan Hunt, Cass County Commissioner Darrel Vanyo.

Staff Members Present: Fargo City Administrator Pat Zavoral, Fargo City Engineer Mark Bittner, Moorhead City Manager Michael Redlinger, Moorhead City Engineer Bob Zimmerman, Cass County Administrator Bonnie Johnson, Clay County Administrator Vijay Sethi.

Others Present: U.S. Army Corps of Engineers Project Manager Aaron Snyder, U.S. Army Corps of Engineers District Engineer and Commander Col. Jon Christensen, Fargo Mayor Dennis Walaker, North Dakota Governor John Hoeven, U.S. Senator Byron Dorgan of North Dakota, Assistant Secretary of the Army for Civil Works Jo-Ellen Darcy, Judy DesHarnais, U.S. Army Corps of Engineers, Elizabeth Killian, U.S. Army Corps of Engineers, Fargo Senior Engineer April Walker, Fargo City Attorney Erik Johnson, Moorhead City Attorney Brian Neugebauer, Assistant Clay County Attorney Michelle Winkis, Southeast Cass Water Resource District Attorney Sean Fredricks, Buffalo-Red River Watershed Attorney Tami Norgard.

Senator Byron Dorgan opened the meeting by welcoming all guests and thanking them for attending. He provided a brief overview of the flooding issues and outlined the process for obtaining the necessary federal funds. He stated that a local authority needed to be created to act as fiscal agent for any funds.

U.S. Army Corps of Engineers Project Manager Aaron Snyder led a detailed USACE presentation of the flooding problems in the Red River Valley and provided information on current and future actions needed as well as a projected F-M Metro Study timeline.

Fargo Mayor Dennis Walaker presented Jo-Ellen Darcy with a copy of Bruce Crummy's book, *2009 Red River Historic Flooding*. He discussed some of Winnipeg, Manitoba's flood mitigation projects, such as their retention pond system, and mentioned that

perhaps the USACE team would be interested in touring the site. Col. Jon Christensen stated they had visited Winnipeg and had seen the system.

Governor John Hoeven thanked Secretary Jo-Ellen Darcy for her presence and explained that the number of people in attendance at the meeting was indicative of the measure of cooperation between all the entities involved in this far-reaching project.

Fargo Senior Engineer April Walker gave a presentation on behalf of the Task Force regarding past floods in Fargo Moorhead metropolitan area, explaining some of the issues contributing to the severity of the floods and the area's flood-fighting responses.

Clay County Commissioner Kevin Campbell also welcomed Secretary Darcy. He then explained the reasons for choosing the North Dakota diversion plan.

Cass County Commissioner Scott Wagner added that the Minnesota diversion did not provide as much protection as the North Dakota diversion. He stated the Coast Guard and National Guard completed 75 rescues in 2009, complicated by sub-zero temperatures, snow, ice, and wind.

Moorhead City Council Member Nancy Otto expressed the City of Moorhead's gratitude for Secretary Darcy's presence at the meeting. She explained the harrowing evacuation of MeritCare hospital patients as well as many nursing home patients during the 2009 flood. Stating the diversion is necessary to prevent such an ordeal for patients in years to come, she asked Secretary Darcy to partner with the Task Force to ensure the North Dakota diversion is built to provide safety and assurance of protection to all area residents.

North Dakota Governor Hoeven reiterated the need for the North Dakota diversion plan and explained that a higher NED would make local funding more feasible. He asked Secretary Darcy if there was anything else that needed to be done to support the Task Force position.

Senator Dorgan explained how the NED would affect local shares and stated the cost/benefit ratio needed to be compared to the potential for loss of life in the area should there be another flood like the 2009 flood. He said that while the USACE budget was $4.5 billion per year for the entire country, through the media, the rest of the country understood the need for flood protection here.

Secretary Jo-Ellen Darcy stated that she had been concerned there would be a problem with competition between Minnesota and North Dakota for the diversion and that one side would win and one side would lose. She said she was impressed with the spirit of cooperation between all the entities involved and the commitment to finding a viable solution to the flooding problem. It is a unique situation with a unique plan and that everyone should be proud of it.

North Dakota Governor Hoeven said he was already working with Minnesota Governor Pawlenty to arrange meetings to discuss funding options. He said the point to be made today is to set the proper NED and cost/benefit ratio. While the cost/benefit ratio would look better if the area hadn't done such a good job of protection, he asked that the area not be penalized for these accomplishments.

The meeting adjourned at 6:40 p.m.

Metro Flood Study Work Group Meeting
Thursday, May 13, 2010
3:30 p.m.
Fargo City Commission Room

A meeting of the Metro Flood Study Work Group was held at 3:30 p.m. on Thursday, May 13, 2010 in the Fargo City Commission Room.

Work Group Members present: Fargo City Commissioners Tim Mahoney and Brad Wimmer, Moorhead Council Members Dan Hunt, Nancy Otto and Diane Wray-Williams, Cass County Commissioners Scott Wagner and Darrell Vanyo, Clay County Commissioners Kevin Campbell and Grant Weyland, Cass County Water Resource District Manager Tom Fischer, Buffalo-Red River Watershed District Manager Gerald VanAmburg.

Work Group Members absent: None.

Staff Members present: Fargo City Administrator Pat Zavoral, Fargo City Engineer Mark Bittner, Moorhead City Manager Mike Redlinger, Moorhead City Engineer Bob Zimmerman, Cass County Administrator Bonnie Johnson, Cass County Engineer Keith Berndt, Clay County Administrator Vijay Sethi.

Others present: U.S. Army Corps of Engineers Project Manager Aaron Snyder, Fargo City Attorney Erik Johnson, West Fargo Mayor Rich Mattern, Dilworth Mayor Chad Olson, Red River Basin Commission Executive Director Lance Yohe.

Commissioner Campbell opened the meeting with introductions.

Approval of April 22 and April 25, 2010 Minutes
Scott Wagner moved the minutes from the April 22 and April 25, 2010 Metro Flood Study Work Group meetings be approved. Nancy Otto seconded the motion. All members voted aye and the motion was declared carried.

Status Report
Aaron Snyder said the preliminary analysis has been completed using the updated hydraulics and hydrology. He said the analysis resulted in the MN 35k being the plan with the most net benefits and would tentatively be identified as the NED plan; however, an analysis through some additional modeling will be completed on a MN 40k or 45k, to determine the NED plan. The biggest changes came, he said, in the hydrology and hydraulics which resulted in a change to the annual average damages. He said the MN and ND 35k diversion channel no longer meet the work group's goal of a stage of 36' for that .2 percent flood event, which is a 500-year flood event. Additional work needs to be done on the ND diversion, he said, due to an error that was made on the initial benefit calculations for the Sheyenne River. He said they are also working on updating the cost estimates on the ND side due to some geotechnical and stability issues with the ND diversion. The soils on the ND side are fairly poor, he said, and will drive the

costs up pretty significantly on the ND Diversion. They are working on getting the cost estimates to determine what the local cost shares will be, he said, but at this time it is still too early to determine if those costs will go up or down from a local cost share perspective. He said even though the NED plan is getting bigger the local cost share might not change a whole lot.

Mr. Snyder said right-of-entry requests were sent by their office to all potential impacted landowners and the return response has been about 40%. He said if the group decides on going with a MN 40k or 45k the Corps may have a tough time meeting the schedules.

In response to a question from Nancy Otto regarding the raise in flood stages, Mr. Snyder stated there were two things that drove the flood stages up; one was the hydrology and the other was the updated hydraulic models.

Local Funds Spent to Date
Mark Bittner distributed a Local Cost Summary of the FM Metro Flood Control Feasibility Study. He said the handout shows what the local cost shares are and what has been encumbered thus far. He said the City of Fargo has also been contracting for work in-kind which gets credited against the local share. He said Fargo and Moorhead have contributed the majority of the funds to date. The Corps, he said, is asking the locals to take the lead on the estimated pending work that needs to be done.

In response to a question from Scott Wagner regarding the money that was set aside during the last legislative session for permanent flood protection, Tom Fischer said it is limited to use on the construction of permanent flood protection, not for use on the design phase.

Scott Wagner moved staff be authorized to complete the estimated pending work. Brad Wimmer seconded the motion. All members voted aye and the motion was declared carried.

Cass County Informational Meetings
Darrell Vanyo said Cass County Officials have held three informational meetings so far. He said they gave a presentation about the North Dakota Diversion and discussed funding sources. He said the meetings have been very positive and they received appreciation from City Officials for hosting the meetings.

Downstream Issues
Lance Yohe said his group is working on a long term flood solution that will be reported to the ND and MN Legislatures in January of 2011. He said this year work has been done on modeling, stream flow reductions and a basic picture of what needs to be done, including pieces like the Fargo-Moorhead Diversion. He said his group is interested in helping in any way that they can with staff and resources.

Next Meeting Dates
The committee agreed to meet on Wednesday, May 26th at 3:30 p.m.

The meeting was adjourned at 4:38 p.m.

mfswg10may13minutes

Metro Flood Study Work Group Meeting
Wednesday, May 26, 2010
3:30 p.m.
Fargo City Commission Room

A meeting of the Metro Flood Study Work Group was held at 3:30 p.m. on Thursday, May 26, 2010 in the Fargo City Commission Room.

Work Group Members present: Fargo City Commissioners Tim Mahoney and Brad Wimmer, Moorhead Council Members Brenda Elmer, Nancy Otto and Diane Wray-Williams, Cass County Commissioners Scott Wagner and Darrell Vanyo, Clay County Commissioners Kevin Campbell and Grant Weyland, Cass County Water Resource District Manager Tom Fischer.

Work Group Members absent: Moorhead Council Member Dan Hunt and Buffalo-Red River Watershed District Manager Gerald VanAmburg.

Staff Members present: Fargo City Administrator Pat Zavoral, Fargo City Engineer Mark Bittner, Fargo Senior Engineer April Walker, Moorhead City Manager Mike Redlinger, Moorhead City Engineer Bob Zimmerman, Cass County Administrator Bonnie Johnson, Cass County Engineer Keith Berndt, Clay County Administrator Vijay Sethi.

Others present: U.S. Army Corps of Engineers Project Manager Aaron Snyder, Fargo City Attorney Erik Johnson, Southeast Cass Water Resource District Attorney Sean Fredricks, Moorhead City Attorney Brian Neugebauer, West Fargo Mayor Rich Mattern, Dilworth Mayor Chad Olson, Red River Basin Commission Executive Director Lance Yohe.

Commissioner Mahoney opened the meeting.

Approval of the May 13, 2010 Minutes
Brad Wimmer moved the minutes from the May 13, 2010 Metro Flood Study Work Group meeting be approved adding Grant Weyland to the Work Group Members present for the May 13, 2010 meeting. Grant Weyland seconded the motion. All members voted aye, and the motion was declared carried.

Status Report
Aaron Snyder distributed a Preliminary Update from the Corps of Engineers. He said the Corps has updated numbers since the last meeting which does include information on the MN 40k and 45k. He said the handout provided includes two tables; the first table shows the performance of the diversion channels or their effectiveness compared to the workgroup goal. He said the MN 45k is the diversion needed to meet the group's goal of .2%. Table two, he said, goes through the costs and benefits of any of these projects. Net benefits of the MN 40k, he said, were the largest of any plans considered,

therefore, the MN 40k would be identified as the NED plan. He said the other change from last time is the expected annual damages went up to $195 million.

Pat Zavoral stated some of the issues with the ND 40k are that an additional six to eight weeks of study time would be necessary; however that doesn't preclude the Corps from looking at that option later on in the process. Mr. Snyder said if the Corps was to look at the ND 40k it would delay the Corps by at least six to eight weeks and would guarantee that the December deadline would not be met.

Mr. Snyder said a 50/50 split has been mentioned before during the design phase, which could be done upon the group's request. He said the big thing is that during the design phase whether it is a 75/25 or 50/50 split it would not change the requirements or amount of the funding needed and all dollars contributed would be rolled into the construction phase. He said it would all be money that would be contributed to the project anyway it would just be giving the Corps a few more dollars in the first year than would be if the 50/50 split was agreed upon.

Pat Zavoral said administrative staff and engineers met from all entities and talked about a 50/50 split. He said he is going to rely a little bit on Senator Tom Fischer's suggestion that if the group goes to a 50/50 split, which would mean $15 million from the feds and $15 million locally, Minnesota could then be convinced to come up with ten percent for their share which would be the 90/10 split that has been discussed in the past. He said Senator Fischer has suggested that early on in the Legislative session he will request a change to the language in the current bill to allow for some of the $75 million in state flood funding to be put toward the design phase of the project. He said that would then mean that $6.7 million would be needed locally and $6.7 million would come from the state.

In response to a question from Kevin Campbell on time-frame for funds, Mr. Snyder said the funds will be needed once the appropriation agreement with Congress is signed, which in theory would be in October.

Bob Zimmerman said the City of Moorhead will ask the DNR for any funding that is needed, however, when looking at the elements listed, the only one that could potentially be eligible for Minnesota bond funding would be the outlet structure. He said the City of Moorhead will do what they can to get the funding.

Brad Wimmer moved the Metro Flood Study Work Group agree to a 50/50 split. Second by Darrell Vanyo. All members present voted aye and the motion was declared carried.

Joint Powers Agreement

Erik Johnson said at the last meeting the legal team was asked to move forward with the development of a joint powers agreement. He said the lawyers met to discuss an agreement and will be bringing the preliminary recommendations to the group in the next couple of weeks.

Brian Neugebauer said the legal team will also need to speak with the Corps legal staff about the agreement.

Cost Share Discussion
Mark Bittner said what the Engineering Department has done to date is look at what the structure costs would be for the overall project, since that will be the City's local cost share, even though those costs are in the Corps estimate. Total cost, he said, is about $90 million, which includes engineering. He said Engineering is waiting for a report from HDR, which has the scheduling report, to determine when the dollars need to be spent. It appears, he said, it will be about $5 million for the design phase in the first year.

In response to a question regarding how the Corps envisions the scheduling of the design work to go along with construction, Mr. Snyder stated the project will be broke down into phases. He said what will happen is that the Corps will set aside eight or ten items that the Corps breaks into phases and will design one year and construct the following year. At the same time the diversion is being constructed, he said, the Corps will be working on the next eight to ten design items. He said every year for at least the first four to five years the Corps will be designing one year, constructing the next. He said this would be the most efficient way to do a project this size.

Downstream Impacts
Lance Yohe said he has met with the technical people and engineering firms from the two cities and two counties, and there were three items of discussion. The first being a process question and how this might all unfold, second is the meeting with the Corps on June 16th with all the downstream stake holders and lastly, he said, is a dialogue with Manitoba on their diversion sometime in July. He said the recommendation is to continue to use the group that met, which included April Walker, Mark Bittner, Aaron Snyder, Bob Zimmerman, a couple others and engineering firms to interact with the public and filter information back and forth between the downstream and upstream groups.

Darrell Vanyo moved the group continue to endorse the ND 35k diversion channel knowing that the flood stage level for a 500-year flood event is forty feet. Second by Nancy Otto. All members present voted aye and the motion was declared carried.

Next Meeting Date
The Committee agreed to meet on Thursday, June 10th at 3:30 p.m.

The meeting was adjourned at 4:36 p.m.

mfswg10may26minutes

Metro Flood Study Work Group Meeting
June 10, 2010
3:30 p.m.
Fargo City Commission Room

A meeting of the Metro Flood Study Work Group was held at 3:30 p.m. on June 10, 2010 in the Fargo City Commission Room.

Work Group Members present: Fargo City Commissioners Tim Mahoney and Brad Wimmer, Moorhead Council Members Dan Hunt, Nancy Otto and Diane Wray-Williams, Cass County Commissioners Scott Wagner and Darrell Vanyo, Clay County Commissioner Kevin Campbell, Buffalo-Red River Watershed District Manager Gerald VanAmburg.

Work Group Members absent: Clay County Commissioner Grant Weyland and Cass County Water Resource District Manager Tom Fischer.

Staff Members present: Fargo City Administrator Pat Zavoral, Fargo City Engineer Mark Bittner, Fargo Senior Engineer April Walker, Moorhead City Engineer Bob Zimmerman, Cass County Administrator Bonnie Johnson, Cass County Engineer Keith Berndt, Clay County Administrator Vijay Sethi.

Others present: U.S. Army Corps of Engineers Project Manager Aaron Snyder, U.S. Army Corps of Engineers Senior Planner & Project Manager, Craig Evans, Fargo City Attorney Erik Johnson, West Fargo City Administrator Jim Brownlee, Dilworth Mayor Chad Olson, Red River Basin Commission Executive Director Lance Yohe.

Approval of the May 26, 2010 Minutes
Brad Wimmer moved the minutes from the May 26, 2010 Metro Flood Study Work Group meeting be approved. Diane Wray Williams seconded the motion. All members voted aye, and the motion was declared carried.

Status Report
Aaron Snyder presented a PowerPoint from the June 9th public meeting in Moorhead and stated a lot of the information is very similar to what was presented in February. He said the reason for the public meetings is to present the findings and information contained in the draft feasibility report and environmental impact statement to the public. He said the Corps is also trying to gather public comments, roll them all together, respond to the comments and then incorporate them into the final report. The report has also been provided to the resource agencies, he said, and the Corps is looking to get formal comments from those agencies as well. He said the biggest change since the February presentation is the Corps has been able to incorporate the wet and dry cycles that the panels of experts have reported and currently this area is in a wet cycle.

Mr. Snyder said there are still local decisions and tasks that need to be addressed. Those would be, he said, to identify sponsors for construction and ongoing operations

and maintenance, define non-federal cost sharing arrangements, provide letter supporting project by July 15 and prepare to execute design agreement and provide funding by October 2010. He said the big thing is the certified letter from this group.

Joint Powers Agreement
Erik Johnson stated since the last meeting of the Work Group the legal team along with the liaison group met to go through the Joint Powers Agreement. He walked through the preliminary draft showing the suggested changes to the agreement. He said this is still a working document.

Downstream Impacts
Lance Yohe distributed a report from the Red River Basin Commission regarding the long-term flood solutions project and the metro study downstream/upstream report. He said some of the concerns that have come out of the public meetings are protection needs based on the 2009 flood, transportation issues and future damages when areas no longer qualify for federal disaster threshold assistance.

Next Meeting Date
The Committee agreed to meet on Wednesday, July 7, 2010 at 3:30 p.m.

The meeting was adjourned at 4:48 p.m.

Metro Flood Study Work Group Meeting
July 7, 2010
3:30 p.m.
Fargo City Commission Room

A meeting of the Metro Flood Study Work Group was held at 3:30 p.m. on July 7, 2010 in the Fargo City Commission Room.

Work Group Members present: Fargo City Commissioners Tim Mahoney and Brad Wimmer, Moorhead Council Members Nancy Otto and Diane Wray-Williams, Cass County Commissioners Scott Wagner and Darrell Vanyo, Clay County Commissioner Kevin Campbell, Cass County Water Resource District Manager Tom Fischer, Buffalo-Red River Watershed District Manager Gerald VanAmburg.

Work Group Members absent: Dan Hunt and Grant Weyland.

Staff Members present: Fargo City Engineer Mark Bittner, Fargo Senior Engineer April Walker, Moorhead City Manager Mike Redlinger, Moorhead City Engineer Bob Zimmerman, Cass County Engineer Keith Berndt, Clay County Administrator Vijay Sethi.

Others present: U.S. Army Corps of Engineers Project Manager Aaron Snyder, U.S. Army Corps of Engineers Brett Coleman, Fargo City Attorney Erik Johnson, West Fargo Mayor Rich Mattern, Dilworth Mayor Chad Olson, Red River Basin Commission Executive Director Lance Yohe.

Approval of the June 10, 2010 Minutes
Nancy Otto moved the minutes from the June 10, 2010 Metro Flood Study Work Group meeting be approved. Scott Wagner seconded the motion. All members voted aye, and the motion was declared carried.

Introductions
Aaron Snyder introduced his replacement, Brett Coleman. Mr. Coleman, he said, will be the new Project Manager of the Fargo project from this point on. He said he will still be heavily involved in this project as it moves forward.

Status Report
Aaron Snyder stated there is not a lot new and everything seems to be on track. He said the Corps has had a lot of technical team meetings to work through soil stability and geotechnical issues. He said the Corps has provided an extension to the public review period, which was set to expire on July 26, 2010 that has now been extended to August 9, 2010. With the extension, he said, it will change some of the schedule for the Civil Works review board in Washington, DC which will now be sometime in October. He said the Corps will still be able to meet the December deadline for the Chief's report.

Overview of the Washington, DC Trip
Tim Mahoney stated the trip went very well overall. He said the Corps seems to be on board with the project and did not raise a lot of objections when it was presented to them.

Sponsorship Signing
Erik Johnson stated at the last Work Group meeting he presented the Joint Powers Agreement (JPA) to the group and each of the lawyers then circulated the JPA to the various governing bodies. He said the legal sub-group has been collecting comments from each of the bodies, and the next step would be for the legal sub-group to get back together and go through those comments and present them back to the Work Group.

Brad Wimmer stated the intent of the City of Fargo along with the City of Moorhead, is to be the sponsors of the Fargo Moorhead Metropolitan Risk Management Project.

Tom Fischer stated until the issues with the Cass County Water Resource District Board are resolved, he will not be supportive of this agreement.

Darrell Vanyo stated there are still some issues that need to be worked out with the sponsorship; however, he is confident that the group can work together and come to an understanding.

Darrell Vanyo moved the Sponsorship Agreement between the City of Fargo and the City of Moorhead be approved. Second by Brad Wimmer. On call of the roll Wimmer, Otto, Williams, Wagner, Vanyo, VanAmburg, Mahoney and Campbell voted aye. Fischer voted nay. The motion was declared carried.

Downstream Impacts
Lance Yohe distributed an updated Metro Flood Study Working Group Report. A lot of progress, he said, has been made on the basin modeling. He said he was recently made aware of some activity by with the downstream communities and the county passing resolutions of opposition to the diversion and he will bring more information on that back to the group. He said a lot of the concern is related to what is on the Metro Flood Study Working Group Report.

Diane Ista, member of the Red River Downstream Impact Work Group, stated the Norman County Commissioners passed unanimously, a Resolution of Opposition to the diversion. She said after the Group's June 16, 2010 meeting, more concerns were raised knowing we can have 17 inches of impact from a ten year flood which is not acceptable. She said her suggestion would be if the group has $50 million to help with downstream impacts she would like to see this Metro Group through the Basin Commission help with getting legal and technical representation. Our group, she said, does not feel they are being represented at any of these meetings and this is not acceptable.

Mark Bittner said he feels the downstream impacts could be addressed if there was a broader view of those impacts.

Next Meeting Date

Kevin Campbell stated the committee should meet after the signing of the Sponsorship letter which would be either on Wednesday, July 14, 2010 or Thursday, July 15, 2010 at 3:30 p.m. He said the date would depend on when the Governor's of each of the states would be able to make the signing.

The meeting was adjourned at 4:35 p.m.

Metro Flood Study Work Group Meeting
July 15, 2010
3:30 p.m.
Fargo City Commission Room

A meeting of the Metro Flood Study Work Group was held at 3:30 p.m. on Thursday, July 15, 2010 in the Fargo City Commission Room.

Work Group Members present: Fargo City Commissioners Tim Mahoney and Brad Wimmer, Moorhead Council Members Dan Hunt and Nancy Otto, Cass County Commissioners Scott Wagner and Darrell Vanyo, Clay County Commissioners Kevin Campbell and Grant Weyland, Cass County Water Resource District Manager Tom Fischer, Buffalo-Red River Watershed District Manager Gerald VanAmburg.

Work Group Members absent: Moorhead Council Member Diane Wray-Williams.

Staff Members present: Fargo City Administrator Pat Zavoral, Fargo City Engineer Mark Bittner, Fargo Senior Engineer April Walker, Moorhead City Manager Mike Redlinger, Moorhead City Engineer Bob Zimmerman, Clay County Administrator Vijay Sethi.

Others present: Fargo City Attorney Erik Johnson, Dilworth Mayor Chad Olson, West Fargo City Administrator Jim Brownlee, U.S. Army Corps of Engineers Senior Planner & Project Manager Craig Evans, U.S. Army Corps of Engineers Col. Michael J. Price, North Dakota Governor John Hoeven.

Introductions
Craig Evans introduced Colonel Michael J. Price with the U.S. Army Corps of Engineers. He said Colonel Price is the new district engineer and commander for the Corps.
Colonel Price said he is glad to be a part of the group and looks forward to moving forward with this project.

Approval of the July 7, 2010 Minutes
Scott Wagner moved the minutes from the July 7, 2010 Metro Flood Study Work Group meeting be approved. Nancy Otto seconded the motion. All members voted aye, and the motion was declared carried.

Status Report
Craig Evans stated the Corps is continuing to work with the Natural Resource agencies about mitigation plans and downstream impacts. The Corps, he said, is continuing with the necessary field work; however there are still some outstanding right-of-entry issues that the local agencies are working on. He said the signing of the sponsorship letter today is a major milestone in this process and the Corps appreciates all the hard work that went into getting it done. He said he is very pleased that the Group you have once again met the deadline that we put out there.

He said the draft Environmental Impact Statement is still out for review and the Corps will be accepting comments until August 9, 2010. There has been a request to extend that review period, he said, and the Corps is considering the request. He said the next step for this group would be to consider the funding and being preparing to sign design agreements in October. He said if an extension is granted the Corps will not be done by the December 2010 deadline
In response to a question from Commissioner Mahoney in regards to whether or not downstream information is included in the report Mr. Evans said the Corps is continuing to model what the downstream impacts are; however those impacts are not fully defined yet. He said what was in the draft report was the information that the Corps had available in February and the Corps is continuing to adjust those numbers. He said the information that was shared at the public meetings in June is the latest information that is available.

Nancy Otto moved the Corps continue with the August 9, 2010 deadline for public comments to the draft Environmental Impact Statement. Second by Darrell Vanyo. All members voted aye, and the motion was declared carried.

Joint Powers Agreement
Erik Johnson stated the legal sub-group has been collecting comments from each of the bodies in regards to the Joint Powers Agreement, and have recently gotten together to discuss those comments. He said the legal sub-group will continue to meet and work on another draft to present to the group in the very near future.

Governor John Hoeven stated he has been in discussions for quite some time with Governor Tim Pawlenty about the state's support. He said the State of North Dakota's stance is that ND will fund half of the non-federal, non-Minnesota share and the next move will be for North Dakota to authorize the proposal in the next legislative session. He said he would like to keep the project moving forward as best he can.

Technical Committees
Mark Bittner stated in the last eighteen months or so, the technical team has been very busy. He said with moving into another phase of the project, the Group needs to think about what needs to be done to complete the project and he has come up with four separate tasks that the Group has a responsibility to be involved in.

1. Local coordination of design activities. The Corps does the major design of all the features associated with the project; however he said the Group needs to make sure that there is involvement in the design in some fashion so that the Group can accept what is presented in the end. He said he is proposing a Technical Committee to work with the Corps in a cooperative fashion to bring this project forward.
2. Procurement and coordination of local responsibilities such as utility relocation, bridge building and right-of-way acquisition and he feels a group of technical people should pull that together as the project moves forward.
3. Development of a local financing plan. He said this is a little bit more related to Special Assessments and there are some issues related to how much the potential

assessment will be; however the thought is that there should at least be a model developed that the Group could go to if it were necessary to do Special Assessments.

4. Develop plans for addressing downstream hydraulic impacts and upstream retention.

He said this is the first effort in trying to determine what needs to be done to complete this project.

Next Meeting Date

The Committee agreed to meet on Thursday, August 5, 2010 at 3:30 p.m.

The meeting was adjourned at 4:39 p.m.

Metro Flood Study Work Group Meeting
August 5, 2010
3:30 p.m.
Fargo City Commission Room

A meeting of the Metro Flood Study Work Group was held at 3:30 p.m. on August 5, 2010 in the Fargo City Commission Room.

Work Group Members present: Fargo City Commissioners Tim Mahoney and Brad Wimmer, Moorhead Council Members Brenda Elmer and Diane Wray-Williams, Cass County Commissioners Scott Wagner and Darrell Vanyo, Clay County Commissioners Kevin Campbell and Grant Weyland, Cass County Water Resource District Manager Tom Fischer, Buffalo-Red River Watershed District Manager Gerald VanAmburg.

Work Group Members absent: Moorhead Council Members Dan Hunt and Nancy Otto.

Staff Members present: Fargo City Administrator Pat Zavoral, Fargo City Engineer Mark Bittner, Fargo Senior Engineer April Walker, Moorhead City Manager Mike Redlinger, Moorhead City Engineer Bob Zimmerman, Cass County Engineer Keith Berndt, Clay County Administrator Vijay Sethi.

Others present: U.S. Army Corps of Engineers Project Manager Brett Coleman, U.S. Army Corps of Engineers Senior Planner & Project Manager Craig Evans, Fargo City Attorney Erik Johnson, West Fargo City Administrator Jim Brownlee, Dilworth Mayor Chad Olson.

Approval of the July 15, 2010 Minutes
Darrell Vanyo moved the minutes from the July 15, 2010 Metro Flood Study Work Group meeting be approved. Diane Wray-Williams seconded the motion. All members present voted aye, and the motion was declared carried.

Status Report
Craig Evans stated the Corps released this week some additional information on the downstream impacts between the cities of Halstad and Thompson. He said there has been some confusion with the numbers and he wanted to assure everyone this is the latest information the Corps has been sharing all along. He said the Corps will model as far down as the impact appears to go. He said the Corps is planning to extend the modeling down to Drayton, with the hope that it will ease before the Corps gets all the way down to Drayton. Currently, he said, the Corps knows what the impacts are as far down as Thompson, North Dakota. He said some of the numbers did change a little bit between Halstad and the Fargo-Moorhead area and some of those numbers went up and some went down, but for the most part the numbers were in the same ball park. The reason for the changes in the numbers, he said, is due to the moving of the starting point of the modeling. He said by moving the starting point down to Thompson, the initial conditions in the model change; therefore changing some of the information that was already released by the Corps. He said it is a little hard to guess what the numbers

will be until the modeling is complete. The Corps, he said, will continue to expand the models and will not have information from that modeling until the first part of September.

In response to a question from Commissioner Mahoney regarding the vast difference between Minnesota and North Dakota, Mr. Evans said in general the Minnesota plan is taking 30 square miles out of the floodplain and the North Dakota plan is taking 80 square miles out of the floodplain. He said the floodplain area would be storing water under normal conditions, so the fact that the North Dakota plan takes more area out of the floodplain, that would be visible in the down-streams. He said the North Dakota side is capturing water from the Sheyenne, Maple and other rivers that are not being affected with the Minnesota plan. The modeling the Corps has been using as their baseline assumes that there are no emergency levees in place, he said, and that is not the true condition of what would happen during a flood, however, because of the way that FEMA's regulations work this is what the Corps has been using to establish a baseline condition. He said eventually the Corps will have to look at both cases, however, there has not been enough time to run both scenarios so what is being presented is what the Corps thinks FEMA will eventually want to see and hopefully that is the worst case scenario.

In response to a question from Norman County Engineer Mick Alm regarding an extension to the comment period for the Environmental Impact Statement, Mr. Evans said the Corps does not anticipate extending the comment period due to the fact that in the statement the Corps disclosed that there would be downstream stage increases. He said the Corps did disclose the relative magnitude that the Corps was aware of back in February and continues to release additional information as it is received. The Corps, he said, feels that people have had adequate time to make meaningful comments and extending the comment period would not serve a purpose in the overall decision-making process.

Discussion on the Joint Powers Agreement
Erik Johnson said the legal subcommittee will be meeting on a weekly basis to incorporate the comments received into a draft document and present the Work Group with the document in about 4-5 weeks.

Downstream Impacts
Kevin Campbell said Tim Mahoney and he were contacted by Lance Yohe of the Red River Basin Commission in regards to the role that the Basin Commission will play in the downstream impacts. He said Tim Mahoney, Brenda Elmer, Tom Fischer and he met this afternoon to discuss the Basin Commission's role and the group would like to ask the Red River Basin Commission to go on a fact-finding mission to determine what the downstream communities' current flood plans are, if they are needing to make any changes as a result of the diversion and if they do need to make changes are they having difficulty funding those changes.

Tom Fischer moved the Red River Basin Commission be designated to gather information and develop an inventory of community flood protection needs as it relates

to downstream impacts from the F-M Diversion from Fargo-Moorhead north to Thompson, North Dakota, including what modifications and funding is necessary to implement. The Red River Basin Commission shall work with affected federal and state agencies and area stakeholders and report back to the Metro Flood Study Work Group in September 2010. Brad Wimmer seconded the motion. On call of the roll Members Mahoney, Wimmer, Wray Williams, Wagner, Vanyo, Campbell, VanAmburg, Weyland and Fischer voted aye. Brenda Elmer abstained from voting. The motion was declared carried.

Other Business
Scott Wagner stated the Greater Fargo-Moorhead Economic Development Corporation have 85 to 95% of the data compiled into a report about the economic information from Cass and Clay counties. He said the report should be ready for presentation at the next Work Group meeting.

Next Meeting Date
The Committee agreed to meet on Thursday, September 9, 2010 at 3:30 p.m.

The meeting was adjourned at 4:19 p.m.

Metro Flood Study Work Group Meeting
Thursday, September 9, 2010
3:30 p.m.
Fargo City Commission Room

A meeting of the Metro Flood Study Work Group was held at 3:30 p.m. on Thursday, September 9, 2010 in the Fargo City Commission Room.

Work Group Members present: Fargo City Commissioner Tim Mahoney, Moorhead Council Members Nancy Otto and Diane Wray-Williams, Cass County Commissioners Scott Wagner and Darrell Vanyo, Clay County Commissioners Kevin Campbell and Grant Weyland, Cass County Water Resource District Manager Tom Fischer, Buffalo-Red River Watershed District Manager Gerald VanAmburg.

Work Group Members absent: Moorhead Council Member Dan Hunt and Fargo City Commissioner Brad Wimmer.

Staff Members present: Fargo City Administrator Pat Zavoral, Fargo City Engineer Mark Bittner, Fargo Senior Engineer April Walker, Moorhead City Manager Mike Redlinger, Moorhead City Engineer Bob Zimmerman, Cass County Engineer Keith Berndt, Clay County Administrator Vijay Sethi.

Others present: Fargo City Attorney Erik Johnson, West Fargo City Administrator Jim Brownlee, Dilworth Mayor Chad Olson, Red River Basin Commission Executive Director Lance Yohe.

Approval of the August 5, 2010 Minutes
Scott Wagner moved the minutes from the August 5, 2010 Metro Flood Study Work Group meeting be approved. Diane Wray-Williams seconded the motion. All members voted aye, and the motion was declared carried.

Technical Committee Update
Mark Bittner said Engineering is continuing to do more modeling with local consultants as well as additional work on the downstream location where there is zero impact. He said Engineering has gotten as far down as Drayton and there is still impact, not significant; however Engineering will continue on until a place is found where there is zero impact. He said Engineering is also looking at some options for incorporating storage in the County. He said some areas in Cass County have been located; however, additional modeling would need to be done at an added cost of $100,000.00. The hope is, he said, to have the work done by mid-September or the first part of October, which would give the City a sense if there would be a zero impact with the North Dakota option.

Tom Fischer said the concern is that the permitting is much longer for on-stream storage and large storage projects than some of the projects Mr. Bittner was referring to. He said off-stream projects such as North Ottawa or even smaller than that, which is

associated with drains and/or small tributaries. He said it is a long process considering Maple River dam took ten years to get the permitting and two years to build.

Greater Fargo Moorhead Economic Development Corporation Economic Report
Mary Batcheller, Director of Business Development for the Greater Fargo Moorhead Economic Development Corporation, presented the Regional Economic Impact of Cass County, North Dakota and Clay County, Minnesota.

Downstream Impacts
Lance Yohe said the MN Watershed Districts and the ND Water Resource Districts are in the process of a long-term flood solution project which includes doing some modeling in the tributaries to identify sites that can be used for storage. He said the Red River Basin Commission has had several individual meetings with downstream communities' leadership to gather feedback on concerns the communities have. He said the information is being processed, it will then be sent back to the communities for review, any further feedback from the leaders will be processed to ensure the information is accurate and the information will then be reported back to this group.

Update on the Joint Powers Agreement
Erik Johnson stated there are three issues that are being worked on. The first one, he said, is who is going to own the diversion, what name it will be in and if there may be need for indemnities. A lot of the issues, he said, will be resolved when it is determined how insurance will cover the diversion. The second issue, he said, is determining membership on the Board and how the voting will lie. He said this is an important issue to be resolved. The last issue, he said, is the recreational element and who is going to take over the cost and maintenance of those elements. He said when the JPA is brought to this group there will be a number of contingencies due to the fact that there are upcoming legislative sessions in North Dakota and Minnesota and the outcome of those sessions will be important. He also stated some of the contingencies will need to be removed before entering into an agreement with the Corps. He said he is hoping to have an agreement ready by the next meeting of this group.

Next Meeting Date
The Committee agreed to meet on Thursday, October 7, 2010 at 3:30 p.m.

The meeting was adjourned at 4:32 p.m.

Metro Flood Study Work Group Meeting
October 7, 2010
3:30 p.m.
Fargo City Commission Room

A meeting of the Metro Flood Study Work Group was held at 3:30 p.m. on October 7, 2010 in the Fargo City Commission Room.

Work Group Members present: Fargo City Commissioner Tim Mahoney, Moorhead Council Members Nancy Otto and Diane Wray-Williams, Cass County Commissioner Scott Wagner, Clay County Commissioner Kevin Campbell, Cass County Water Resource District Manager Tom Fischer, Buffalo-Red River Watershed District Manager Gerald VanAmburg.

Work Group Members absent: Fargo City Commissioner Brad Wimmer, Moorhead Council Member Dan Hunt, Cass County Commissioner Darrell Vanyo, and Clay County Commissioner Grant Weyland.

Staff Members present: Fargo City Administrator Pat Zavoral, Fargo City Engineer Mark Bittner, Fargo Senior Engineer April Walker, Moorhead City Manager Mike Redlinger, Cass County Engineer Keith Berndt.

Others present: Fargo Mayor Dennis Walaker, U.S. Army Corps of Engineers Craig Evens and Brett Coleman, Fargo Assistant City Attorney Butch McConn, West Fargo City Commissioner Mike Thorstad, Dilworth Mayor Chad Olson, Red River Basin Commission Executive Director Lance Yohe.

Approval of the September 9, 2010 Minutes
Scott Wagner moved the minutes from the September 9, 2010 Metro Flood Study Work Group meeting be approved. Tom Fischer seconded the motion. All members present voted aye, and the motion was declared carried.

Status Report
Brett Coleman stated the feasibility study has been extended due to the fact that downstream impacts could not be identified at a zero impact. He said as part of the process the Corps is looking at alternatives to find a zero impact point downstream through various concepts. With the schedule, he said, the Corps is shooting for a revised draft EIS document in the spring of 2011.

In response to a question from Commissioner Mahoney regarding when to expect the first shovels on the diversion, Mr. Coleman said the Corps anticipates construction to start in fiscal year 2013.

Mr. Coleman said one of the goals of the group that is looking at the Hydraulics and Hydrology modeling is to try to have zero impact around the Thompson area. He said if

the downstream impacts go past the Thompson area that will be an indicator to the Corps that other alternatives need to be looked at.

In response to a question from Commissioner Mahoney regarding when the Corps anticipates having a solution to the downstream issues, Mr. Coleman said the Corps is still working on that and with the modeling of this system it is very complex. He said the Corps is working as quickly and efficiently as possible; however, right now would not be a responsible time to give a date when the Corps is not certain a specific date could be met.

In response to a question from Commissioner Campbell as to how this change to the downstream impacts will affect the cost/benefit ratio, Craig Evans stated the cost will have to be relooked at; however, he does not feel that what the Corps is looking at will kill the project.

Downstream Impacts
Lance Yohe said there is an effort underway to produce a Basin Wide Comprehensive Strategy and Report with recommendations to be reported to the North Dakota and Minnesota legislatures starting in the Fall of 2010 and early 2011. He said the full report should be complete by June of 2011. He said right now the Basin Commission is working on basin flow reduction efforts and is looking at tributaries trying to find out what sites are available that watersheds may be able to build retention sites on. This information, he said, will then be passed on to the technical people who will provide a specific site to focus in on as relationship modeling is done for this project.

Report on formation of Red River Retention Authority
Sean Fredericks said last spring an update was given on a Joint Powers Agreement the MN Red River Watershed Management Board and the ND Red River Joint Water Resource District were negotiating. He said the Joint Powers Agreement was executed in May of 2010 and the group is now called the Red River Retention Authority. He said the idea is to make the objective of the group very clear to everyone and he feels that the group has accomplished that. He said the whole idea is to get seamless coordination from both joint boards on either side of the River in terms of planning for retention and facilitating construction of retention projects.

Mark Bittner said he strongly supports basin wide protection and retention is also a big part of that; however, there needs to be an understanding that the Corps project has to be a stand-alone project and can only deal with conditions as they are right now. He said the Corps cannot bank on proposed retention; therefore, the project this group is trying to put together is a self-contained project because it has to meet certain criteria.

Joint Powers Agreement
Butch McConn said the attorney group continues to focus on the issues inside the Joint Powers Agreement and one of the primary issues that have been discussed is the insurance requirement. He said discussions will continue with the attorney group unless otherwise advised by the Work Group.

Cass County Sales Tax
Scott Wagner said there are four public meetings scheduled to discuss the proposed Cass County Sales Tax. He said the goal of the meetings is to inform the public about the tax and to secure the other half of the local funding for the diversion.

Next Meeting Date
The Committee agreed to meet again sometime between Thanksgiving and Christmas.

The meeting was adjourned at 4:19 p.m.

Metro Flood Study Work Group Meeting
Thursday, November 18, 2010
3:30 p.m.
Fargo City Commission Room

A meeting of the Metro Flood Study Work Group was held at 3:30 p.m. on Thursday, November 18, 2010 in the Fargo City Commission Room.

Work Group Members present: Fargo City Commissioners Tim Mahoney and Brad Wimmer, Moorhead Council Members Nancy Otto, Diane Wray-Williams, and Dan Hunt, Cass County Commissioners Darrell Vanyo and Scott Wagner, Clay County Commissioners Kevin Campbell and Grant Weyland, Cass County Water Resource District Manager Tom Fischer, Buffalo-Red River Watershed District Manager Gerald VanAmburg.

Staff Members present: Fargo City Administrator Pat Zavoral, Fargo City Engineer Mark Bittner, Fargo Senior Engineer April Walker, Moorhead City Manager Mike Redlinger, Moorhead City Engineer Bob Zimmerman, Cass County Administrator Bonnie Johnson, Cass County Engineer Keith Berndt, West Fargo City Administrator Jim Brownlee, Clay County Administrator Brian Berg.

Others present: Fargo Mayor Dennis Walaker, West Fargo Mayor Rich Mattern, Dilworth Mayor Chad Olson, U.S. Army Corps of Engineers Project Manager Aaron Snyder, U.S. Army Corps of Engineers Brett Coleman and Terry Williams, Red River Basin Commission Executive Director Lance Yohe.

Approval of October 7, 2010 Minutes
Tom Fischer moved the minutes from the October 7, 2010 Metro Flood Study Work Group meeting be approved. Nancy Otto seconded the motion. All members voted aye and the motion was declared carried.

Update from Corps of Engineers
Aaron Snyder distributed a handout outlining updated information on the feasibility study. The Corps has been studying different computer models to locate a zero impact point downstream; however, the initial model showed no zero impact point, which was not anticipated. He said the Corps is looking at concepts to reduce downstream impacts, which include storage cells along the diversion to the south and upstream staging. The exact location of the controlled storage has not been definitely identified, but the anticipation is there will be five miles of impact to the south. The Corps intends to quantify both downstream and upstream impacts; analyze non-structural solutions downstream; and analyze non-structural solutions such as buyouts, relocations and ring levees upstream.

Mr. Snyder discussed the diversion alignment and said the northern alignment was changed, which shortened the diversion channel. Also, he discussed the eastern alignment and said the Corps determined there is not a good technical reason to move it further to the west by about 1½ miles.

Mr. Snyder discussed the feasibility study timeline. He said meetings will be held with impacted areas upstream and downstream in February and March of next year. Project design may begin in August 2011 after the division engineer's transmittal is received.

Mr. Vanyo asked about the shift in alignment to the north. Mr. Snyder said the change took less area out of the floodplain. Mr. Vanyo asked why the western alignment was not considered since it provides a straighter path through the county. Mayor Mattern said he will be very disappointed if the western alignment is no longer an option. Mr. Snyder said the western alignment would be more expensive because the diversion would have to be dug deeper, and there are less environmental and floodplain impacts with the eastern alignment. Also, Mr. Snyder said the policy of the Corps is not to take land out of the floodplain in order for future development. The objective is to maintain and leave existing areas in the condition they were found or to leave the area "as is".

Mr. Berndt expressed concern that the decision regarding the east versus west alignment seemed to be driven by several environmental agencies and based on inaccurate information. Mr. Berndt also noted that FEMA chose not to have anyone present at the agency meeting held earlier in the day where the issues regarding Executive Order 11988 could have been discussed and clarified. He indicated with the eastern alignment, the water surface in the channel would be below the surrounding ground surface. The inlets are designed to a 100-year event; therefore, the one and a half mile strip of land between the two alignments may not be acting as a flood plain regardless of which alignment is chosen.

Mr. Vanyo said he hopes the western alignment has not been completely ruled out by the Corps of Engineers and that they will continue to look at different options for both upstream and downstream impacts.

Technical Committee Update

Mark Bittner said the technical committee consists of city staff, county staff, water resource district staff, and local consultants from Moore Engineering and Houston Engineering. The committee developed a model to quantify downstream impacts from flood protection alternatives. Preliminary mitigation concepts include protected/interior storage, upstream staging, ring dikes and community levees, transportation improvements, buyouts, flowage easements and upstream storage.

Mr. Fischer briefly discussed the Red River Retention Authority Board, whose objective is to look for retention projects within the basin that will benefit and protect the involved parties.

Mr. Bittner discussed costs associated with the feasibility study and said so far about $5 million has been spent. He discussed timelines and said he anticipates basin models to be completed in March 2011.

Red River Basin Commission Meeting Update

Lance Yohe said a meeting with downstream communities will be held tonight at 6:30 p.m. in Perley, Minnesota.

Next Meeting Date
The committee agreed to meet sometime in January after the technical committee completes additional work.

Other Business
Ms. Otto said a meeting was held with Brigadier General Michael Walsh on November 8, 2010, in which the entire study committee was not invited to attend. Mr. Snyder said in the future when General Walsh is in town, the Corps will issue a press release. Mr. Snyder said no decisions were made at the meeting on November 8th.

The meeting was adjourned at 5:00 p.m.

Metro Flood Study Work Group Meeting
Thursday, December 9, 2010
7:00 p.m.
Bennett Elementary School

A meeting of the Metro Flood Study Work Group was held at 7:00 p.m. on Thursday, December 9, 2010, at Bennett Elementary School.

Work Group Members present: Fargo City Commissioner Tim Mahoney, Moorhead Council Members Nancy Otto, Diane Wray-Williams, and Dan Hunt, Cass County Commissioners Darrell Vanyo and Scott Wagner, Clay County Commissioners Kevin Campbell and Grant Weyland, Buffalo-Red River Watershed District Manager Gerald VanAmburg.

Work Group Members absent: Fargo City Commissioner Brad Wimmer.

Staff Members present: Fargo City Engineer Mark Bittner, Fargo Senior Engineer April Walker, Moorhead City Manager Mike Redlinger, Moorhead City Engineer Bob Zimmerman, Cass County Administrator Bonnie Johnson, Cass County Engineer Keith Berndt, Clay County Administrator Brian Berg.

Others present: Oxbow Mayor Jim Nyhof, Moorhead Mayor Mark Voxland, U.S. Army Corps of Engineers Project Manager Aaron Snyder, U.S. Army Corps of Engineers Craig Evans and Terry Williams, Red River Basin Commission Executive Director Lance Yohe, Jake Gust representing Cass County Water Resource District Manager Tom Fischer.

Corps of Engineers Presentation
Aaron Snyder provided a brief history on the diversion process. The Corps has studied computer models to locate a zero impact point downstream, but the initial model showed no zero impact point, which was not anticipated. The Corps is in the process of reviewing methods to reduce downstream impacts, which include upstream storage cells and upstream staging. The number of controlled storage cells has not been identified. The Corps intends to quantify both downstream and upstream impacts; analyze non-structural solutions downstream; and analyze non-structural solutions such as buyouts, relocations and ring levees upstream. He said survey work is being done now along with other geotechnical work.

Mr. Snyder discussed the feasibility study timeline. He said meetings will be held with impacted areas upstream and downstream in February and March of next year. He believes the Corps will have more definite data about upstream impacts by May 2011.

Metro Feasibility Study Report from Technical Team
The technical team consists of city staff, county staff, water resource district staff and local consultants from Moore Engineering and Houston Engineering. The team has developed a model to quantify downstream impacts from flood protection alternatives. Preliminary mitigation concepts include protected/interior storage, upstream staging, ring dikes and community levees, transportation improvements, buyouts, flowage easements and upstream storage.

Oxbow Mayor Jim Nyhof discussed Oxbow's flood protection plan. He said the city recently completed a $1 million road construction project and has received state funding through the North Dakota State Water Commission for a $500,000 flood protection project. The ability to protect their city is limited by geotechnical constraints. He asked for a fair and timely response from the Corps regarding upstream impacts. He believes there is a way to protect everyone during a flood event, and asked to work jointly with the technical team.

Mr. Campbell said Oxbow is invited to be part of the process, similar to the Cities of Dilworth and West Fargo, whose representatives attend all Metro Flood Study Work Group meetings.

Mr. Vanyo asked upstream residents to allow the Corps and engineers to complete their analysis work. He wants to work together to solve flooding problems not only for the metropolitan area, but for surrounding communities as well.

Question and Answer Period
The committee and other staff members provided time to answer questions from the public regarding upstream impacts.

The meeting was adjourned at 8:45 p.m.

Metro Flood Study Work Group Meeting
Thursday, January 13, 2011
3:30 p.m.
Fargo City Commission Room

A meeting of the Metro Flood Study Work Group was held at 3:30 p.m. on Thursday, January 13, 2011 in the Fargo City Commission Room.

Work Group Members present: Fargo City Commissioners Tim Mahoney and Brad Wimmer, Moorhead Council Members Dan Hunt, Nancy Otto and Diane Wray-Williams, Cass County Commissioners Scott Wagner and Darrell Vanyo, Clay County Commissioners Kevin Campbell and Grant Weyland, Buffalo-Red River Watershed District Manager Gerald VanAmburg.

Work Group Members absent: Cass County Water Resource District Manager Tom Fischer.

Staff Members present: Fargo Senior Engineer April Walker, Moorhead City Manager Mike Redlinger, Moorhead City Engineer Bob Zimmerman, Cass County Administrator Bonnie Johnson, Cass County Engineer Keith Berndt, Clay County Administrator Brian Berg.

Others present: U.S. Army Corps of Engineers Project Manager Aaron Snyder, U.S. Army Corps of Engineers Col. Michael J. Price, U.S. Army Corps of Engineers Terry Williams, U.S. Army Corps of Engineers Joe Willging, Fargo City Attorney Erik Johnson, West Fargo Mayor Rich Mattern, Dilworth Mayor Chad Olson, Oxbow Mayor Jim Nyhof.

Introductions
Kevin Campbell introduced Oxbow Mayor Jim Nyhof.

Approval of the November 18 and December 9, 2010 Minutes
Scott Wagner moved the minutes from the November 18 and December 9, 2010 Metro Flood Study Work Group meeting be approved. Diane Wray-Williams seconded the motion. All members voted aye, and the motion was declared carried.

ND Diversion Alignment
Keith Berndt said he would like to comment on the technical comparison between the eastern and western alignments that the County has done in recent months. He said the difference between the two alignments is there is a large electrical substation that would be protected by the western alignment that would not be protected by the eastern alignment. On January 6, 2011, he said, there was a meeting held between the Corps of Engineers and power providers for this region and the power providers pointed out some dramatic information about how critical that substation is to the electrical service of this region. Electrical power, he said, is critical during times of high water with or without a diversion in place and the western alignment would protect the substation whereas the eastern alignment would leave it vulnerable. Another factor, he said, is the

interchange number 342 on I-94 which provides access for critical emergency services across those areas. Willow Creek Subdivision is another factor, he said, that would be protected by the western alignment, but not the eastern. Recently, he said, the County hired a consulting firm to do natural resource assessments comparing the two areas. One of the things that came out of the assessment, he said, was that the aquatic habitat or wetlands that would be impacted by the western alignment would be about 28 acres less than the aquatic habitat impacted by the eastern alignment.

Brad Schmidt, Cass County Electric Cooperative, said Cass County Electric serves about 35,000 member-owners in 8 different counties in Eastern North Dakota and of those 35,000 customers, 28,000 lie within the realms of the protected area. Electricity and water, he said, are often considered by people to be an absolute necessity, especially during a catastrophic event. He said this substation is a very important piece of the integrated complex transmission grid system in which 10 transmission lines either go in or come out of that substation. The idea of where to place the diversion is very important for the utilities serving the valley, he said, and a mere one and a half miles separates a major transmission substation from either being on the wet side or the dry side during a major flood event. He said when it comes down to location of this proposed diversion it becomes a pretty simple matter of logic and common sense. Just as everyone realizes that diking the Red River is not a practical long-term flood solution, he stated, so too would be leaving a major bulk transmission substation outside of the proposed protection area be just as impractical.

Darrell Vanyo stated Cass County engaged the services of Beveridge & Diamond, P.C. for the purpose of education, as these individuals are aware of what Executive Order (EO) No. 11988 means and other processes of the Corps of Engineers legal consultants.

Parker Moore, Associate with Beveridge & Diamond, P.C., said an EO is issued by the President for an administrative purpose to give federal agencies management goals and policies under which to operate. This EO was issued by President Jimmy Carter, he said, as a way to create a system for better managing the nation's flood plain resources. He said to accomplish the goals set out by the EO, several procedural steps have to be followed by federal agencies. In particular, he said, when an agency is proposing to conduct support or allow an action that would be located in or near the flood plain it must consider alternatives to avoid those impacts and to avoid incompatible development in the flood plain. Unfortunately, he said, there are no practical alternatives to this project outside of the flood plain.

Nessa Horewitch, Associate with Beveridge & Diamond, P.C., stated NEPA is the National Environmental Policy Act which is a process oriented statute that requires federal agencies to consider a reasonable range of alternatives that meet the project's purpose. NEPA, she said, requires an agency to identify and analyze the environmental impacts of a project and allows an agency to decide that other considerations are more important than the environmental impacts of the project. A draft Environmental Impact Statement (EIS) has been issued for this project; however, she said, the western

alignment was not considered in that draft. She said for that reason they believe that a supplemental EIS should be considered for the western alignment, as well as additional information on the eastern alignment. It is her understanding, she said, that the Corps has some concerns about the time involved in considering the western alignment; however, the Corps is already planning to issue a supplemental EIS relating to downstream impacts and consideration of the western alignment could be added to that supplemental EIS. The interested parties are already working to gather the technical data that would support the analysis required in the supplemental draft EIS, she said, and considering the western and eastern alignments now could help the project overall.

West Fargo Mayor Rich Mattern presented the Work Group with the response submitted to the Corps of Engineers on behalf of the City of West Fargo opposing the eastern alignment.

Aaron Snyder stated in early spring of 2010 the Work Group selected the eastern alignment as the plan with the possibility of considering the western alignment later on. Comments, he said, were received on a draft report in August and some additional modeling efforts and technical justification were done in December. The primary issue is access to the substation; however, he said, if the Corps can make roads through a lake the Corps can certainly get access to a substation. He said there have also been concerns about the interaction of the diversion with the existing diversion channel. The diversion the Corps is proposing, he said, is much larger than the existing diversions out there today and the proposed diversion will have a much greater level of protection than what is there today. The Corps, he said, does not believe the interaction of the two diversions will lessen the level of protection. This is a very long process, he said, and once it is authorized there is between 4 and 7 years to make sure there is a solution for this set-up before the Corps is ready to go. Mr. Snyder stated with the information the Corps has they are still recommending the eastern alignment; however, the Corps is willing to continue discussions and analysis during the design phase of the study. At the end of the day, he said, any shift in alignment has to comply with all the NEPA requirements and be compliant with the EO and if time is taken out to address this issue right now it will delay the Corps deadline of December 1, 2011.

Colonel Price said the Corps concern is looking at the right alternatives and incorporating the right level of protection for this area and at this time the Corps has all the information that is needed to complete the draft supplemental EIS; however, the Corps will continue to gather additional information.

Next Meeting Date
The Committee agreed to meet on Thursday, February 17, 2011 at 3:30 p.m.

The meeting was adjourned at 4:30 p.m.

Metro Flood Study Work Group Meeting
February 24, 2011
3:30 p.m.
Fargo City Commission Room

A meeting of the Metro Flood Study Work Group was held at 3:30 p.m. on February 24, 2011 in the Fargo City Commission Room.

Work Group Members present: Fargo City Commissioner Tim Mahoney, Moorhead Council Members Dan Hunt, Nancy Otto and Diane Wray-Williams, Cass County Commissioners Scott Wagner and Darrell Vanyo, Clay County Commissioners Kevin Campbell and Grant Weyland

Work Group Members absent: Fargo City Commissioner Brad Wimmer, Cass County Water Resource District Manager Tom Fischer and Buffalo-Red River Watershed District Manager Gerald VanAmburg.

Staff Members present: Fargo City Administrator Pat Zavoral, Fargo City Engineer Mark Bittner, Fargo Senior Engineer April Walker, Moorhead City Manager Mike Redlinger, Moorhead City Engineer Bob Zimmerman, Cass County Administrator Bonnie Johnson, Cass County Engineer Keith Berndt, Clay County Administrator Brian Berg.

Others present: U.S. Army Corps of Engineers Chief, Project Management Branch Aaron Snyder, U.S. Army Corps of Engineers Project Manager Brett Coleman, U.S. Army Corps of Engineers Project Manager Terry Williams, West Fargo Mayor Rich Mattern, Dilworth Mayor Chad Olson, Oxbow Mayor Jim Nyhof, Attorney for Cass County Joint Water Resource District Sean Fredricks, Vice Chairman for the Buffalo-Red River Watershed District Board of Managers Breanna L. Paradeis Kobiela.

Approval of the January 13, 2011 Minutes
Darrell Vanyo stated he would like to draw the Work Group's attention to page 3 of the minutes. On that page, he said, it indicates that Aaron Snyder from the Corps states the Work Group selected the eastern alignment as the plan. He said the Work Group has never formally voted on an eastern or a western alignment just a North Dakota diversion. He said he does not want this to be cast in stone and look back at the minutes and see that the eastern alignment was approved by the Work Group.

Aaron Snyder said back in the spring of 2010 the Corps had stopped focusing on the western alignment based mainly on the cost and the decision was made to proceed with the North Dakota eastern alignment which he believes was agreed upon by the Work Group and the four Boards. That does not mean, he said, that the Corps cannot look at other options later on if new information is made available; however, generally speaking that is why the Corps took this path due to the fact that this group and the four Boards guided the Corps down that path early in the spring of 2010.

Darrell Vanyo moved the minutes from the January 13, 2011 Metro Flood Study Work Group meeting be approved adding the Work Group selected to study the eastern alignment as the plan for cost benefit analysis purposes with the possibility of studying the western alignment. Scott Wagner seconded the motion. All members voted aye, and the motion was declared carried.

Darrell Vanyo moved the amended minutes from the January 13, 2011 Metro Flood Study Work Group be approved. Nancy Otto seconded the motion. All members voted aye, and the motion was declared carried.

Update from Corps of Engineers
Brett Coleman presented the Work Group with a map of the proposed North Dakota Diversion alignments. He said the map is very similar to what has been shown before. The Corps, he said, is moving ahead with a single storage cell partially because the other storage cells did not make sense financially and would not have given enough bang for the buck. The Corps is looking to hold some meetings at the end of March, possibly the 30th or 31st, with the four Boards, he said, to present the supplemental draft EIS and affirmation of support by the four Boards would be needed by April 11, 2011. He said the goal is to present the supplemental draft EIS to the public by the end of April.

In response to a question from Commissioner Mahoney regarding the impacts to Oxbow with the plan that is being shown right now, Aaron Snyder stated with the current plan the mapping shows there would be a 5 foot impact to Oxbow, which is an additional 3 to 4 foot stage on Oxbow, compared to what they have today. He said there would not be ways to protect the entire community; however, the community could look at doing ring levees around certain portions of the community, but Oxbow would defiantly have to look at buying out certain portions of the community with elevations in that magnitude. With the supplemental draft EIS that is coming out at the end of March, he said, the Corps intends to show the homes elevations under existing conditions and then to show the elevations of the homes' with a project. He said with either diversion plan there are going to be impacts to communities whether the communities are upstream or downstream.

Pat Zavoral stated some of the staff has been having discussions on the North Dakota side about when this Committee's work would be complete if a North Dakota project is selected. He said part of the discussions are that some of the technical issues need answers and those answers will lead into the need for more money. If it is a North Dakota issue, he said, North Dakota will still need the support of the State of Minnesota as well as the Minnesota delegation to make sure the diversion gets authorized. He said it really does start to hone into when there should be a hand-off period for this group.

Technical Committee Update
Mark Bittner stated the engineering firms are getting very close to having some answers and more facts for the Work Group to make decisions on. He said there is a contract amendment for an additional $240,000.00 to do further review of six alternatives. Some

of the alternatives are variations of the existing project, he said; however, some of the variations look at extending the project to the south to get a feel for what it looks like and if it will help or if it will hurt. He said the variations will not be to a very high level but will give the Group a sense as to whether or not extending the project to the south will be practical.

Scott Wagner moved each entity go back to their designated Boards and ask for formal approval of the contract amendment with Moore Engineering in the amount of $240,000.00. Nancy Otto seconded the motion. All members voted aye, and the motion was declared carried.

Project Outreach Communication with Area Communities
Sean Fredricks stated various public entities have approached the Joint Board over the last several months and want to engage in discussions about the diversion project. He said the Joint Board is fairly apprehensive to approach the entities at least in an official capacity and would like feedback from the Work Group to determine if there is a need for a formal protocol.

Kevin Campbell stated the best advice may be to try to have a Technical Committee member come along to the meetings to answer any technical questions that may come up.

Other Business
Kevin Campbell presented the group with the updated information from the Red River Basin Commission.

Next Meeting Date
The Committee agreed to meet on Thursday, March 31 at 3:30 p.m.

The meeting was adjourned at 4:51 p.m.

Metro Flood Study Work Group Meeting
April 1, 2011
10:00 a.m.
Fargo City Commission Room

A meeting of the Metro Flood Study Work Group was held at 10:00 a.m. on April 1, 2011 in the Fargo City Commission Room.

Work Group Members present: Fargo City Commissioners Tim Mahoney and Brad Wimmer, Moorhead Council Members Dan Hunt, Nancy Otto and Diane Wray-Williams, Cass County Commissioners Scott Wagner and Darrell Vanyo, Clay County Commissioner Kevin Campbell, Buffalo-Red River Watershed District Manager Gerald VanAmburg.

Work Group Members absent: Clay County Commissioner Grant Weyland, Cass County Water Resource District Manager Tom Fischer.

Staff Members present: Fargo City Administrator Pat Zavoral, Fargo City Engineer Mark Bittner, Fargo Senior Engineer April Walker, Moorhead City Manager Mike Redlinger, Moorhead City Engineer Bob Zimmerman, Cass County Administrator Bonnie Johnson, Cass County Engineer Keith Berndt, Clay County Administrator Brian Berg.

Others present: U.S. Army Corps of Engineers Chief, Project Management Branch Aaron Snyder, U.S. Army Corps of Engineers Project Manager Brett Coleman, U.S. Army Corps of Engineers Project Manager Terry Williams, U.S. Army Corps of Engineers Senior Planner & Project Manager Craig Evans, Clay County Commissioner Jon Evert, Cass County Water Resource District Vice Chairman Rodger Olson, West Fargo Mayor Rich Mattern, Dilworth Mayor Chad Olson, Red River Basin Commission Executive Director Lance Yohe, Fargo Mayor Dennis Walaker.

Approval of the February 24, 2011 Minutes
Brad Wimmer moved the minutes from the February 24, 2011 Metro Flood Study Work Group meeting be approved. Nancy Otto seconded the motion. All members voted aye, and the motion was declared carried.

Update from the Corps of Engineers
Aaron Snyder said the community meetings went well and were well attended. He said the City of Oxbow will be sacrificing homes for the sake of the diversion and have asked the Corps for the development of a mitigation plan and how that will be implemented with the local sponsors. He said he would look to this group to assign members to work with the Corps to come up with concepts and strategies for the plan by April 27, 2011. That date is significant, he said, because it begins the Corps formal comment period and having a plan in place before the formal comment period begins could sway the types of comments that are provided to the Corps.

Darrell Vanyo moved to approve a representative from each entity, the Water Boards and a finance person to work with the Corps to develop a mitigation plan. Nancy Otto seconded the motion. All members voted aye, and the motion was declared carried.

Brett Coleman presented a handout on the comparisons of the Locally Preferred Plan versus the Federally Comparable Plan. He said by April 11th the Corps needs a commitment from the Work Group of the Locally Preferred Plan, a formal request of the 50/50 cost share as the Corps proceeds into the design phase of the project and the sponsors' willingness to pay the increment of going from the FCP plan to the LPP at an estimated cost of $550 million above the cost shares.

Technical Committee Recommendations

Mark Bittner stated the Technical Committee is in a little bit of a difficult situation as there are some technical and political decisions that need to be made. He said there is still work left undone and the Work Group has two viable options, a MN diversion or a ND diversion. This Group, he said, made the recommendation of the ND diversion and that is still a good recommendation; however, the Group does not have all the answers yet. He said he does not believe anything significant has changed with what the Group selected the first time and he believes that the Group should be directed to finish that work.

Actions Requested by April 11, 2011

Darrell Vanyo moved to reaffirm the decision identifying the North Dakota diversion as the Locally Preferred Plan. Second by Nancy Otto. On call of the roll Members Vanyo, Wagner, Otto, Williams, Hunt, Wimmer, Mahoney, Campbell, Evert, Olson and VanAmburg voted aye. The motion was declared carried.

Aaron Snyder stated the 75/25 cost share is standard; however, with this project there are so many local costs associated with the construction, the 50/50 cost share would be more in line. He said based on the President's budget of $12 million for the next fiscal year, if the Corps did a 75/25 cost share on that amount, a year would be lost in the schedule of this project. With a 50/50 cost share, he said, the Corps would be able to maintain the design schedule as it is currently stated in the report.

In response to a question from Mr. Vanyo regarding the opportunity to have work done locally, Mr. Snyder stated the design agreement that was drafted does include language to allow the local sponsors to do some work in kind. Once the Corps moves into the design phase of the project, he said, the Corps will work closely with the locals on what work is done; however, the Corps will ultimately be the ones deciding who will be doing the technical work.

Keith Berndt, Bob Zimmerman and Mark Bittner all indicated support for having the ability to have work done locally.

Mark Bittner said since the scope of the project has extended into West Fargo and Oxbow he would like approval to accept participation from those communities on the Technical Committee.

Darrell Vanyo moved to approve the Technical Committee work with the U.S. Army Corps of Engineers to come up with an arrangement for the amount of work that can be done locally. Second by Nancy Otto. All Members voted aye, and the motion was declared carried.

Scott Wagner moved to approve the request from the U.S. Army Corps of Engineers and the non-Federal sponsors that the cost share for the Preconstruction Engineering and Design Agreement be changed from the standard cost share of 75 percent Federal and 25 percent non-Federal to a cost share of 50 percent Federal and 50 percent non-Federal. Second by Brad Wimmer. On call of the roll Members Wagner, Vanyo, Otto, Williams, Hunt, Wimmer, Mahoney, Campbell, Evert, Olson and VanAmburg voted aye. The motion was declared carried.

Brad Wimmer moved to support and endorse the development of upstream staging in the Locally Preferred Plan, which is the North Dakota diversion, recognizing that mitigation efforts will be borne as a local cost. Second by Nancy Otto.

Craig Evans stated the Corps has reservations about the vagueness of this motion. He said what the Corps is looking for is the endorsement of the plan as presented with the possibility of other options; however, there is no promise that other options will be approved.

Aaron Snyder stated one of reasons the Corps would like this motion a little more clarified is due to the fact that when the Corps sends this motion to the Assistant Secretary of the Army's Office she needs to see that this is a firm and conscience motion that she can agree to as well. His suggestions would be to state the motion as follows: "I move to support and endorse the development of upstream staging and storage in the Locally Preferred Plan, which is the North Dakota East diversion, recognizing that mitigation efforts will be borne as a local cost and the incremental cost is currently estimated at $546,000,000.00."

Diane Wrey-Williams moved to approve the amendments to the motion. Second by Darrell Vanyo. All members voted aye, and the motion was declared carried.

Roll call for the amended motion: Members Wimmer, Mahoney, Vanyo, Wagner, Otto, Williams, Hunt, Campbell, Evert, Olson and Van Amburg voted aye. The motion was declared carried.

Rodger Olson moved to support the study and consideration during the design phase of the Metro Flood Project of alternate routing for Oxbow and West Fargo. Second by Scott Wagner. On call of the roll Members Olson, Van Amburg, Vanyo, Wagner, Otto, Williams, Hunt, Wimmer, Mahoney, Campbell and Evert voted aye. The motion was

declared carried.

Darrell Vanyo moved to approve the Project Management Plan dated March 4, 2011, including Clay County as an investor in the Project. Second by Brad Wimmer. All members voted aye, and the motion was declared carried.

Next Meeting Date
The Committee agreed to meet after the flooding in the Red River Valley has subsided.

The meeting was adjourned at 11:14 a.m.

Metro Flood Study Work Group Meeting
May 12, 2011
3:30 p.m.
Fargo City Commission Room

A meeting of the Metro Flood Study Work Group was held at 3:30 p.m. on May 12, 2011 in the Fargo City Commission Room.

Work Group Members present: Fargo City Commissioners Tim Mahoney and Brad Wimmer, Moorhead Council Members Dan Hunt and Nancy Otto, Cass County Commissioner Darrell Vanyo, Clay County Commissioners Kevin Campbell and Grant Weyland, Buffalo-Red River Watershed District Manager Gerald VanAmburg.

Work Group Members absent: Diane Wray-Williams, Scott Wagner and Tom Fischer.

Staff Members present: Fargo City Administrator Pat Zavoral, Fargo City Engineer Mark Bittner, Fargo Senior Engineer April Walker, Moorhead City Manager Mike Redlinger, Moorhead City Engineer Bob Zimmerman, Cass County Administrator Bonnie Johnson, Cass County Engineer Keith Berndt, Clay County Administrator Brian Berg.

Others present: Fargo City Attorney Erik Johnson, West Fargo Mayor Rich Mattern, Dilworth Mayor Chad Olson, Oxbow Mayor Jim Nyhof, Cass County Water Resource District Vice Chairman Rodger Olson.

Approval of the April 1, 2011 Minutes
Dan Hunt moved the minutes from the April 1, 2011 Metro Flood Study Work Group meeting be approved. Brad Wimmer seconded the motion. All Members present voted aye, and the motion was declared carried.

Update from the Corps of Engineers
Aaron Snyder stated the Corps received approval from the Assistant Secretary of the Army for the revised LPP and the Corps released the report to the public the same day. The report was published to the federal registry on May 6th which, he said, begins the 45 day comment period. He said there are a number of public meetings coming up as part of the official public comment period. There are a number of surveys that the Corps has ongoing, he said, and testing that will continue through the summer. He said everything is on schedule and moving forward smoothly. The meetings with FEMA this past week, he said, went very well and both agencies are close to being in a place where they will be able to move forward and implement this project.

Update on Contract Work
In response to a question from Commissioner Mahoney regarding using local contractors to do the work, Mr. Snyder said working with local contractors will definitely be something that the Corps can do; however, the Corps does not want to see contractors managing contractors; therefore, when the Corps moves forward with local

work and administration it would be better if it is local staff that is on hand to do the work.

Technical Committee Update
Bob Zimmerman gave an overview of the completed and ongoing tasks the Technical Committee has been working on. He said there may be some additional costs associated with the ongoing work that the consultants will be doing; however, as far as the Minnesota side is concerned they are still on target with the budget for the year.

Mark Bittner said the next step is the design agreement, which the Corps anticipates will be signed the first part of August and the Work Group needs to determine which elements should be considered; however, the biggest need is for a governance group to be defined. Mr. Bittner presented the Technical Committee's recommended organizational chart to the Work Group. The point is, he said, this Group needs to have a governing body to help make decisions on what to do and what not to do.

Aaron Snyder said the Corps is committed to moving this project forward and the work in kind has worked very well thus far; however, in the design phase of the project the authority level changes making it more difficult to get approval for that work.

Darrell Vanyo moved the Technical Committee be directed to submit a letter to the Corps requesting Section 221 work in kind. Nancy Otto seconded the motion. All Members present voted aye, and the motion was declared carried.

Joint Powers Agreement
Darrell Vanyo stated the Group is at the point where the Joint Powers Agreement (JPA) needs to get started again to show the Corps that the Work Group is an organized group. He said he would suggest directing the legal group to start a limited JPA that would take care of some of the immediate needs and would give us a flavor of how the JPA Board would really work while the Work Group is still in place.

Kevin Campbell said it is clear the Technical Committee feels their hands are tied and need some additional assistance and designating a project manager or executive director is a significant step that the Technical Committee would like the Work Group to take. He said discussion has been to set up a Board of 9 members; 7 from North Dakota and 2 from Minnesota. The primary goal would be to establish this director and determine needs in Washington, DC and any support that would be needed as well. The legal team, he said, could draft something to form a JPA with a limited scope in a short amount of time so the Technical Committee can get moving with the assistance they need.

Nancy Otto said she would like to make sure that the JPA clearly states what decision making power this 9 member board would have.

Kevin Campbell said the only authority the JPA would have is to hire a project manager and potentially hire a lobbyist.

Darrell Vanyo moved to direct the Legal Team to complete the limited JPA for the Work Group's review, including in the document that the JPA Board will consist of 9 members; 7 from North Dakota and 2 from Minnesota, and a 90/10 cost-share during the design phase of the project. Brad Wimmer seconded the motion. All Members present voted aye, and the motion was declared carried.

Next Meeting Date
The Committee agreed to meet on Thursday, May 26 at 3:30 p.m.

The meeting was adjourned at 4:45.

Metro Flood Study Work Group Meeting
May 26, 2011
1:30 p.m.
Fargo City Commission Room

A meeting of the Metro Flood Study Work Group was held at 1:30 p.m. on May 26, 2011 in the Fargo City Commission Room.

Work Group Members present: Fargo City Commissioners Tim Mahoney and Brad Wimmer, Moorhead Council Members Dan Hunt, Nancy Otto and Diane Wray-Williams, Cass County Commissioner Darrell Vanyo, Clay County Commissioners Kevin Campbell and Grant Weyland, Cass County Water Resource District Manager Tom Fischer.

Work Group Members absent: Cass County Commissioner Scott Wagner, Buffalo-Red River Watershed District Manager Gerald VanAmburg.

Staff Members present: Fargo City Administrator Pat Zavoral, Fargo City Engineer Mark Bittner, Fargo Senior Engineer April Walker, Moorhead City Manager Mike Redlinger, Moorhead City Engineer Bob Zimmerman, Cass County Engineer Keith Berndt, Clay County Administrator Brian Berg.

Others present: U.S. Army Corps of Engineers Project Manager Brett Coleman, U.S. Army Corps of Engineers Project Manager Terry Williams, U.S. Army Corps of Engineers Senior Planner & Project Manager Craig Evans, Fargo City Attorney Erik Johnson, West Fargo Mayor Rich Mattern, Red River Basin Commission Executive Director Lance Yohe, Oxbow Mayor Jim Nyhof, Buffalo-Red River Watershed District Vice Chairman Breanna L. Paradeis Kobiela.

Approval of the May 12, 2011 Minutes
Darrell Vanyo moved the minutes from the May 12, 2011 Metro Flood Study Work Group meeting be approved. Nancy Otto seconded the motion. All Members present voted aye, and the motion was declared carried.

Update from the Corps of Engineers
Brett Coleman stated the Corps has been holding public meetings on the supplemental draft EIS and will be seeking public comment on the supplemental draft EIS until June 20th. He said those comments can be dropped off at the public meetings in writing, submitted to the Corps via email or through the Corps website. On Wednesday, June 1, he said, the Corps will be holding a public hearing on the 404b1 and individuals can make formal comments at that time.

In response to a question from Commissioner Mahoney regarding whether or not the City of Oxbow's attorney should give a report at that time Terry Williams stated if the comments are on the Supplemental Draft EIS that is a separate process. The hearing next week, she said, concerns placement of fill and alternatives and if an individual feels

there comments are relevant to that topic then they should come and make a statement which will be recorded by a court reporter.

Erik Johnson said Brian Neugebauer and he received a copy of the draft design agreement and have been going over the details of that. He said the agreement will need to be signed by August 1, which will then put the cities of Fargo and Moorhead on the line for about $93.6 million.

Joint Powers Agreement on Diversion Authority
Kevin Campbell said the county will work closely with the City of Moorhead to determine who will be represented on the board, as the County has taken the position that a spot is needed on the board. He said the City and County should have an answer to who will be represented on that Board within a month.

In response to a question from Darrell Vanyo regarding the dollar amount necessary to administer a Diversion Authority, Pat Zavoral stated 10% of the $15 million for the design costs, so $1.5 million would be a suggested number. He said that would include the project management and administrative costs related to hiring a Project Manager and any other overhead costs related to administering the proposed Diversion Authority.

Breanna L. Paradeis Kobiela and Tom Fischer were in agreement that the Water Shed Boards would have a difficult time not having a vote on the Board.

Brad Wimmer moved to forward the Joint Powers Agreement to the Member entities for approval. Grant Weyland seconded the motion. On call of the roll Wimmer, Weyland, Vanyo, Fischer, Paradeis Kobiela, Otto, Hunt, Wrey-Williams, Campbell and Mahoney voted aye. The motion was declared carried.

Federal Lobbying Effort
Pat Zavoral stated the Podesta Group was recommended to the City of Fargo by Senator Kent Conrad and endorsed by former Senator Byron Dorgan as a recognized group in Washington, DC to help move this project forward. He said Podesta indicates it is critical in the next six months that a number of things get done with Congress.

Kevin Campbell said he thought the hiring of a lobbyist group was going to be one of the jobs of the Project Manager on the limited JPA Board and he would hate to jump the gun before that Board has been established and take that job away from this individual. He said he realizes time is of the essence, but the Congressional staff may be able to continue working on some of these items.

Darrell Vanyo stated he is comfortable with the Podesta Group; however, he has some concerns about the termination clause agreement. He said he also wonders if the Work Group asked them not to do all the bullet points listed if the fees would be reduced, due to the fact that he feels that the Congressional Delegation has done a good job and could continue to do the work as they have been.

Next Meeting Date
The Committee agreed to meet on Thursday, June 23, 2011 at 3:30 p.m.

The meeting was adjourned at 2:44 p.m.

Metro Flood Study Work Group Emails

Metro Flood Study Work Group Update #1
Sent January 25, 2011

Metro Flood Study Work Group -
I am sending you this email today as the first of hopefully many regular informal updates which will be intended to get you information between work group meetings, provide corrections or updates to any misinformation or statements seen in the media, and to ensure that the group is fully aware of the progress being made on the diversion project.

I wanted to start out today by reminding the group why we are studying this diversion project and how we got to this point. The study began in September 2008 at the request of the cities of Fargo and Moorhead. Initially we anticipated working on small levee segments in the two communities, but we knew that we needed to develop a more community-wide solution. To do so, we looked at a variety of possible measures, including levee systems, diversion channels, non-structural solutions, and storage options. Through the study we were able to show that the diversion alternatives were best at providing a high level of risk reduction to the Fargo-Moorhead Metro area. A diversion channel could reduce the 100-year (1-percent chance, 42.4 at the Fargo gage) stage by nearly 12 feet, resulting in a stage of 30.6 at the Fargo gage.

The largest permanent levee we could construct would only provide approximately 50-year (2-percent chance, 41.0 feet at the Fargo gage) level of protection, similar to a 2009 event. Storage options were estimated to reduce the level of flooding in Fargo-Moorhead by only 1.6 feet from 42.4 to 40.8 feet for a for a 1-percent chance event. A non-structural solution would have been extremely expensive and required relocation of most of the community.

The proposed diversion would significantly reduce flood risk for nearly 200,000 people and nearly 80 square miles of infrastructure that would be at risk without a project.

We have developed some maps of the existing conditions to demonstrate what would happen today, without a project, during the 1-percent chance event and 500-year (0.2-percent chance, 46.7 at the Fargo gage) flood events. These maps can be found on our website at:
http://www.internationalwaterinstitute.org/feasibility/index.htm

What these maps show is that for a 0.2-percent chance flood the following communities would be either partially or completely flooded from the Red River: Christine, Oxbow, Horace, West Fargo, Fargo, Moorhead, Harwood, Argusville, Georgetown, Perley, Hendrum, Halstad, Shelly, Nielsville, and Climax. The 0.2-percent chance event is much larger than any event ever seen during the recent history of the valley and flows on the river would be more than double the flows at the Fargo gage in 2009.

Although the proposed diversion would not provide flood risk reduction to each of the communities listed above, it would give the cities of Horace, West Fargo, Fargo, Moorhead, and Harwood a chance to fight this extremely large flood event.

Providing flood risk reduction to nearly 200,000 people and nearly 80 square miles of infrastructure for the 1-percent chance event will have impacts; the water that is displaced by the project will have to go someplace. Taking the people and infrastructure out of the floodplain reduces the area where water is detained naturally, so flood stages must increase in other areas to compensate. We are currently working hard to determine where the necessary impacts will be and what steps we can take to ensure that those impacts are minimized as much as possible for the people living in those areas.

Please let me know if you have any questions and distribute this information to any interested parties.
Thanks,
Aaron

Metro Flood Study Work Group Update #2
Sent February 1, 2011

Metro Flood Study Work Group -
We are currently on schedule with the development of the technical aspects of the project, but there is still a great deal of work to be completed before we have a final product. There are two key items that I would like to address today: first the project schedule and the upcoming opportunities for communities, the public, and agencies to comment; second the process we will be using to address the impacts of the project.

Currently we are on schedule to complete the final feasibility report and supplemental environmental impact statement (FSEIS) by December 2011. As we move forward, there will be two additional opportunities to gather public input. The first will be in the May 2011 when we release the draft supplemental environmental impact statement (DSEIS) for review. This will provide the opportunity for all stakeholders to provide comments on the proposed project and its possible impacts. The second will be when the Chief of Engineers report is released for State and Agency review. This is anticipated to occur in October 2011.

As was indicated in my last email, providing flood risk reduction to nearly 200,000 people and nearly 80 square miles of infrastructure will unavoidably have impacts; the displaced water will have to go someplace; but, the objective of the project is to develop a proposal that provides the maximum protection while moderating adverse impacts to other areas. Our current focus is defining, to the extent possible, what the impacts will be.

Once the unavoidable impacts are identified, we will develop information on the properties adversely affected by the project. This will include information on what the flooding condition is today without a project and what it will be in the future. We will present maps and information that will show the impacts for the 10, 2, 1, and 0.2-percent chance events. We will also show what the additional depth and duration of flooding will be compared to what would happen today without a project.

To mitigate the impacts of the project there are a number of options that can be pursued, including buyouts, relocations, ring levees, flood proofing, and elevating structures. Which option is used to mitigate impacts depends on the future risk of flooding to the property, the depth and duration of the added water, and the use of the property. We will identify which options we believe to be feasible for the properties impacted and will then work with landowners and communities to determine if there are other solutions that may be better.

As part of the process, we will have public meetings that will describe the real estate acquisition process and how communications between landowners, local sponsors, and the Corps will be handled. Information on the Federal acquisition process can be found at: http://www.fhwa.dot.gov/realestate/realprop/index.html. This is the process that is followed for all Federal projects.

We are committed to providing the public with information on the impacts and the possible options in a timely manner. However, the acquisition process will not be able to start until the project is authorized and funded by Congress.

Please let me know if you have any questions and distribute this information to any interested parties.
Thanks,
Aaron

Metro Flood Study Work Group Update #3
Sent February 15, 2011

Metro Flood Study Work Group -

We are continuing to develop more information on the potential impacts of the proposed diversion project and what mitigation measures could be pursued. We currently anticipate that eliminating or minimizing downstream impacts will require upstream staging at levels of 5-8 feet. Upstream staging would mean temporarily increasing the water surface immediately upstream (south) of the project higher than it would have been without the project in operation. Preliminary analysis shows that this staging will impact approximately 800 structures (350 homes) and 54,000 acres of land (31,000 acres would be impacted without a project and 23,000 additional acres would be impacted by the project) for the 1-percent chance flood event.

We have received many questions as to why the impacts were switched from downstream to upstream. The reason why upstream impacts are currently being considered is to ensure that alternatives considered in our study process cover a broad range. In this regard, our modeling without upstream storage did not identify a point downstream where the impacts no longer exist. We initially anticipated that the downstream impacts would dissipate relatively quickly after flows reentered the Red River downstream of Fargo-Moorhead.

However, the modeling that was conducted showed that without doing anything immediately upstream of the diversion, the downstream impacts would extend all the way to Drayton, ND and beyond. It was estimated that if these downstream impacts continued to the Canadian border, approximately 4,500 structures could be impacted, along with thousands of additional acres of land. The downstream impacts from the outlet of the diversion to Thompson would have impacted 142,000 acres of land compared to 129,000 acres without a diversion, resulting in an additional impact to 13,000 acres of land for the 1-percent chance flood event, and that was only to Thompson.

Because of this uncertainty regarding the extent of downstream impacts, we felt it was necessary to look at alternatives that would allow downstream impacts to be mitigated.

The models being used for the project design and impact analysis are highly complex and detailed. The level of detail in the models and resultant impact analysis are greater than those used for other flood risk management projects in the Red River Basin. This does not mean that the model is perfect, but it does mean that it is the most detailed model ever developed for the Red River Basin.

The modeling indicated that we would need to store approximately 200,000 acre feet of water in close vicinity to the project to fully define the impacts. 200,000 acre feet is the equivalent of 40,000 acres with 5 feet of water. Due to the large amount of water that would need to be placed in storage, the technical options were very limited. The options were limited due to the lack of available storage further upstream and the fact that much more storage would be needed on upstream tributaries to have the same effectiveness as the storage in close vicinity of the project. Past flood events in the Red River Basin show that

floods do not always come from the same location. For instance, in 2006 the contribution from the area downstream of Hickson (on the Red River) and Abercrombie (on the Wild Rice River) represented less than 2-percent of the hydrograph volume at the Fargo gage, whereas in 1997 the contribution of this area was approximately 16-percent of the hydrograph volume at the Fargo gage. In order for storage to be reliable on upstream tributaries extremely large sites would need to be developed in each of the upper watersheds to have the same effectiveness as the storage in close vicinity of the project. These tributary storage sites would impact much more land than the storage in close vicinity of the project. The North Dakota State Water Commission developed an article regarding storage and its effectiveness; this article can be found at: http://www.swc.state.nd.us/4dlink9/4dcgi/GetContentPDF/PB-1755/OxbowMar10.pdf

Two primary options were available for providing the approximately 200,000 acre feet of storage that was needed in close vicinity of the project. These were to construct storage areas or to stage water. As we continued the study, we found that both options will be necessary to fully mitigate the downstream impacts of the project. Initially, we had looked at staging combined with four large storage areas on the south end of the diversion. We have found use of one of these large areas, the storage area furthest to the west, along with staging, will allow us to mitigate downstream impacts of the project.

On another note, the Fargo Forum published an opinion piece on February 12th, that claimed the diversion project would only reduce the flood stage by 3 feet, that claim is incorrect. The diversion channel will reduce the flood stages for the 1-percent chance event by nearly 12 feet.

Please let me know if you have any questions and distribute this information to any interested parties.
Thanks,
Aaron

Metro Flood Study Work Group Update #4
Sent March 22, 2011

Metro Flood Study Work Group -

We met a major milestone this week by providing Draft technical documents to the Agency Technical Review Team for internal Corps review. We will have comments back by March 28th and will work to incorporate those comments prior to release of the Draft Supplemental Environmental Impact Statement in late April.

We have also been working to schedule two upcoming meetings to share information with the public. The first meeting will be March 30 at the Kindred High School Gymnasium, located at 55 1st Avenue South, Kindred, ND. The meeting will begin at 6 p.m. with an informal open house, followed by a presentation at 7 p.m. The second meeting will be March 31 at the West Fargo High School, located at 801 9th Street East in West Fargo, ND. The meeting will begin at 6:30 p.m. with an informal open house, followed by a presentation at 7:30 p.m. Corps staff will be on hand to answer questions at both meetings, and public input is encouraged. We are aware of the current flood forecast and will work with the local sponsors and the hosts of the meetings. If the timing of the meetings conflicts with the flooding situation we may need to postpone them. If the meetings are postponed we will notify the public through the local media and an email to our mailing list.

As you know, the diversion that we are currently proposing will include staging and storage areas, and I wanted to give you some information on how the project may be operated both in the spring and summer.

The proposed diversion, with staging and storage areas, could begin operation when the peak flow in the Red River of the North (RRN) at the USGS gage in Fargo is forecasted to exceed 9,600 cubic feet per second (cfs), which is equivalent to a stage of approximately 26.1 at the Fargo gage. Based on the current hydrology being used for the project design, this equates to between a 2- and 5-year flood event. For general reference, the flow in the RRN has exceeded 9,600 cfs in 20 out of the 108 years of record; however, 11 of the 20 happened in the past 18 years (1993-2010).

Operation of the diversion channel in the summer may be different than it is during the spring because the potential for a large summer flood is lower. We will be conducting an analysis to determine if a different operating plan can be used in the summer to reduce agricultural impacts without causing additional damage to the Fargo-Moorhead communities. We anticipate that we will be able to make some changes to the operating plan and that we will be able to further minimize the impacts to the agricultural community.

If the diversion had to be operated during the summer it could have additional impacts to farming in the region, as summer flooding would likely result in the loss of crops that were already in the fields. Based strictly on the 9,600 cfs threshold, the diversion would have operated four times in the summer; the maximum discharges were 13,200, 9,810, 13,500 and 10,600 cfs in 1975, 2005, 2007 and 2009, respectively. For comparison, the maximum discharges were 29,100 and 21,100 cfs during the spring floods of 2009 and 2010, respectively.

We have also received a number of questions regarding how often the diversion will have water in it. The diversion will have water in it any time the project is in operation, and it will also receive flows from the Sheyenne, Maple, Rush, and Lower Rush rivers for events larger than the 2-year event in these tributaries and regularly from local drainage or runoff from summer storms. This means that the diversion will likely have some water present nearly all of the time. To account for these regular flows, the channel is being designed with a low flow channel that will be able to carry those smaller flows. It is worthwhile to mention that a significant portion of the Sheyenne and Maple river flows will continue to be conveyed east (over the diversion channel) to their natural channels in the protected area to minimize impacts on the aquatic ecosystem and geomorphology of these river systems. However, these flows will not be large enough to cause damage in the protected area.

Please let me know if you have any questions and distribute this information to any interested parties.
Thanks,
Aaron

Metro Flood Study Work Group Update #5
Sent May 2, 2011

Metro Flood Study Work Group -

We met two major milestones last week. First the Assistant Secretary of the Army (Civil Works) reconfirmed recommending the Locally Preferred Plan (LPP) as the tentatively selected plan, and second we released the Supplemental Draft Feasibility Report and Environmental Impact Statement (SDEIS) to the public on April 28, 2010. The report can be retrieved from our website at: http://www.internationalwaterinstitute.org/feasibility/index.htm. We anticipate that a notice will be published in the Federal Register on May 6, 2011, which will commence the official National Environmental Policy Act (NEPA) comment period. Public meetings associated with this official comment period are tentatively scheduled for the week of May 23, 2011. We will provide more details when times and locations for these meetings have been set. In addition to the public meetings, we will hold an official hearing on the Clean Water Act Section 404(b)(1) evaluation; the hearing is scheduled for June 1, 2011 at Centennial Hall and will begin at 7:00 pm.

The Supplemental Draft Feasibility Report and Environmental Impact Statement details the planning process, screening of alternatives, the features of the proposed project and reasonable alternatives, and the associated impacts. Since the Draft Environmental Impact Statement was published in May 2010 there have been a number of changes to the proposed LPP. These include an alignment shift of the diversion northwest of Harwood, the addition of upstream staging and storage area 1, a reduction in the diversion capacity, a tie-back levee running north and south along Cass County 17, and larger levees and control structures to allow the upstream staging. Most of these features were incorporated to minimize the downstream impacts and resulted in net project cost increases of approximately $200 million, including the costs of mitigation.

This summer will be busy for the project team. We will continue to collect information to verify assumptions that have been made as part of the study and to prepare us to move into the design phase, currently scheduled to begin on August 1, 2011. The ongoing work will include a levee breach analysis, geotechnical testing and field work, environmental and cultural surveys, ice modeling, continuing the geomorphology study started last fall, and doing a final review of the hydraulic and hydrologic models. This will mean that there will be many Corps staff and contractors in the area to complete these efforts.

One analysis that I wanted to give more information on is the levee breach analysis, which is being conducted by the Corps. This analysis is being completed to show what would happen if the diversion project were to have a catastrophic failure during a flood event. Although the proposed project will significantly reduce the risk and has a robust design for the Fargo-Moorhead Metro area, the project is not infallible. Federal and State policies require evaluation of loss of life potential for all structures that have significant flood storage. The levee breach analysis will be similar to the loss of life analysis that we performed earlier in the study, however it will be focused on what would happen if the diversion project were to fail and what the possible impacts would be. The loss of life analysis showed the anticipated loss of life during a failure of the

emergency levees for Fargo and Moorhead. The analysis indicated that if there was no evacuation for a 1-percent chance event (100-year event) that approximately 200 individuals could lose their lives; this number increases to 600 for a 0.2-percent chance event (500-year event).

Please let me know if you have any questions and distribute this information to any interested parties.

Thanks,
Aaron

Metro Flood Study Work Group Update #6
Sent June 2, 2011

Metro Flood Study Work Group -

We completed our round of public meetings following the release of the Supplemental Draft Feasibility Report and Environmental Impact Statement. We held four public meetings last week in the study area and were able to meet with many individuals to hear their concerns and thoughts about the project. One of the main issues we heard was how upstream storage needs to be considered to help reduce the risk of flooding in Fargo-Moorhead. As part of this study the Corps has evaluated the effectiveness of upstream storage/retention and the evaluation showed that storage/retention upstream in the Red River basin would not be effective in reducing the risk of flooding in Fargo-Moorhead for large flood events. This would have also been true for the recent, larger historical floods that affected the study area.

The Corps' analysis indicated that if we stored 400,000 acre feet of water upstream we could reduce the peak stage in Fargo by approximately 1.6 feet for a 32,000 cubic feet per second (cfs) event. This is nowhere near the level of stage reduction needed to avoid a catastrophic flood in Fargo-Moorhead. The staging and storage as part of the proposed project will store 200,000 acre feet (more than 65 billion gallons) of water and this will result in a stage reductions downstream which are necessary to minimize the downstream impacts.

The staging and storage as part of the proposed project is effective storage. The further you move the storage away from Fargo-Moorhead the less effective it becomes and the smaller the benefits. To have an equal amount of effective storage further upstream, the total acre-feet required would be significantly more than what is needed with the proposed project, with estimates ranging from 400,000 to greater than 600,000 acre feet. To implement the effective storage upstream equal to the 200,000 acre feet in the storage and staging areas would require many sites, which would result in greater impacts to more people, land property, and the environment. Storage would likely require upwards of 60,000 acres with an average water depth of 10 feet.

Several of the comments we received at the meetings indicated that people believed the 20-percent flow reduction plan that was analyzed by the Red River Basin Commission would solve many of the basin's problems and would be a basin wide solution. This is not the case. The plan for 20-percent flow reduction is based on the 1997 flood, which is a small flood event in the Fargo-Moorhead area and was only 28,000 cfs. The 20-percent reduction would provide some benefits for that event, but it would not solve the problem. The proposed diversion project is designed for flows in excess of 61,000 cfs. To achieve the 20-percent reduction for a large flood event, such as 61,000 cfs, would require much more storage than is available upstream of Fargo-Moorhead. Even if it was possible to construct enough upstream storage to reduce a 0.2-percent (500-yr) event by 20-percent, the resulting peak flow at the Fargo gage would exceed that seen in 2009 by more than 60-percent.The problem cannot be solved with storage upstream in the Red River basin.

There are also additional concerns with storage only solutions, as we recently saw in Valley City, and are currently seeing in Bismarck and Minot. Each of these communities is provided flood risk reduction from reservoirs, which are drawn down to the maximum extent allowed in preparation for spring flood events. This flood risk reduction works extremely well when the reservoir has additional room to store the water; but once the reservoir is full, storage cannot provide any more benefits. When this occurs any water entering the reservoir must be passed downstream to ensure that the dam does not fail. The operations for Valley City, Bismarck, and Minot have saved those communities from significant damage many times, but storage can only do so much.

Please let me know if you have any questions and distribute this information to any interested parties.

Thanks,
Aaron

Metro Flood Study Work Group Update #7
Sent June 23, 2011

Metro Flood Study Work Group -

Many questions regarding real estate issues have been raised. The purpose of this email is to offer information to address some of the questions raised and to provide the public with locations where additional information can be found.

During the Corps public meetings it was stated that depreciated value would be paid for acquired property. While technically true, the statement may mislead some people. The government is required to pay market value for acquired property. We have heard confusion on this issue as some property has been "tax" depreciated to a low value and possibly $0. The depreciated value that was referenced in the answer was not referring to the "tax" depreciated value, but to the depreciated value based on appraisal principles. These principles are separate from income tax accounting. When there is an acquisition, the law requires the property be acquired at market value, which will be based on an approved appraisal. That appraisal will account for the condition and function (depreciation) of the property.

Property acquisition as part of a Federal project is governed by Public Law 91-646, the "Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970," (Uniform Act). The Uniform Act provides important protections and assistance for people affected by Federally funded projects. This law was enacted by Congress to ensure that people whose real property is acquired, or who move as a result of projects receiving Federal funds, will be treated fairly and equitably and will receive assistance in moving from the property they occupy.

The Surface Transportation and Uniform Relocation Assistance Act of 1987, designated the U. S. Department of Transportation as the Federal Lead Agency for the Uniform Act. Duties include the development, issuance, and maintenance of the government-wide regulation, providing assistance to other Federal agencies, and reporting to Congress. This responsibility has been delegated to the Federal Highway Administration and is carried out by the Office of Real Estate Services.

The Fargo-Moorhead Project will follow the Uniform Act as administered through the U.S. Department of Transportation, Federal Highway Administration, Office of Real Estate Services. The rules encourage acquiring agencies to negotiate with property owners in a prompt and amicable manner so that litigation can be avoided.

Specific information on the acquisition process can be found at the following locations:

Federal Highway Administration Office of Real Estate Services -
www.fhwa.dot.gov/realestate/

Acquisition - Acquiring Real Property for Federal and Federal-aid Programs and Projects -
www.fhwa.dot.gov/realestate/realprop/index.html

Relocation – Your Rights and Benefits as a Displaced Person under the Federal Relocation Assistance Program - www.fhwa.dot.gov/realestate/rights/index.html

The following is a list of common questions regarding the acquisition process.

Question 1 – Who are qualified appraisers?

Answer 1 - Qualified appraisers are those determined by the agency to be capable of performing the appraisal work needed. The regulation requires agencies to establish criteria for determining qualifications and competency. Only those appraisers and review appraisers who meet those requirements should be hired. The regulation lists several standards the agency shall review when determining an appraiser or review appraiser's qualifications.

Question 2 - Who determines the offer of just compensation for the property to be acquired?

Answer 2 - The agency determines an estimate of just compensation to be offered the property owner in a two-step process. An appraiser researches the real estate market and presents an appraisal of the current market value. It is important to understand that the Supreme Court has ruled that any alteration in the market value of property being acquired that is attributable to the project for which it is being acquired *MUST* be disregarded by the appraiser. A review appraiser evaluates that appraisal and recommends an amount for an agency official to approve as the agency's estimate of just compensation. For some uncomplicated, low value acquisitions, the agency may determine an appraisal is not required and prepare a waiver valuation that will be the basis upon which an agency official will approve the offer of just compensation.

Question 3 – What if the owner doesn't agree with the amount offered? Is condemnation the only solution when an agency can't reach agreement on the purchase of the property for the project?

Answer 3 - An owner can obtain their own appraisal for consideration in the negotiation process. Agency officials may approve the use of an administrative settlement if it is reasonable, prudent and in the public interest. Agencies may also use other alternative dispute resolution options, such as mediation or arbitration. If all efforts to negotiate/settle fail then the laws of the agency set forth the legal steps the agency must take when they wish to purchase property that an owner does not wish to sell.

Question 4 – When can a property owner be required to turn possession of the property over to an agency?

Answer 4 - A property owner may voluntarily turn control of his or her property over to an agency at any mutually agreeable time. An agency may not require a property owner to give them possession until the sale of the property is complete, payment is made and title is transferred. In the case of property used for business, residence, or farm, the owner must be given the 90-day notice in writing. In situations where condemnation is necessary, the laws governing the agency set forth the steps the agency must take to gain legal and physical

possession. As in negotiated settlements, the 90-day notice on occupied property further governs the physical possession date.

Please let me know if you have any questions and distribute this information to any interested parties.

Thanks,
Aaron

Presentations 1 and 2:

November 17, 2008
November 18, 2008

News Release

US Army Corps
of Engineers ®
St. Paul District
www.mvp.usace.army.mil
Public Affairs Shannon Bauer 651.290.5108 (o) 612-840-9453 (c) Shannon.l.bauer@usace.army.mil

September 23, 2008
Release #PA-2008-XXX

Fargo and Moorhead join with Corps of Engineers to combat flooding in the Red River Basin

SAINT PAUL, MINN. – The City of Fargo, North Dakota and the City of Moorhead, Minnesota signed a feasibility cost share agreement with the U.S. Army Corps of Engineers, St. Paul District, Monday, September 22, to develop a plan to address the flooding problems in the area.

The plan will focus on the Fargo-Moorhead Metropolitan area and will involve looking at numerous alternatives. The plan will identify an implementable project that will reduce the overall risk of flooding to the area. This plan will be developed in coordination with the public and a number of local, state, and federal agencies. Public meetings will be held throughout the life of the project and will be used to gain public input and suggestions on the possible alternatives.

This project is estimated to cost $5.3 million and take 2.5 years to complete. The Corps of Engineers will pay half the expenses, and the non federal partners will pay the other half.

The U.S. Army Corps of Engineers, St. Paul District, serves the American public in the areas of environmental enhancement, navigation, flood damage reduction, water and wetlands regulation, recreation sites and disaster response. It contributes around $126 million to the five-state district economy. The more than 625 employees work at more than 40 sites in five upper-Midwest states. For more information, see www.mvp.usace.army.mil.

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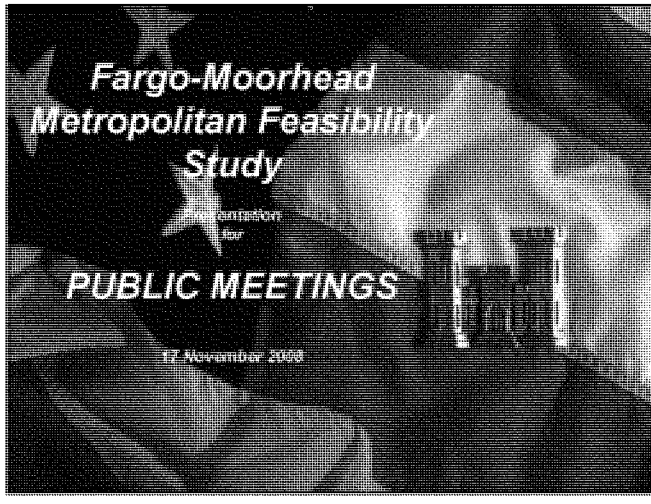
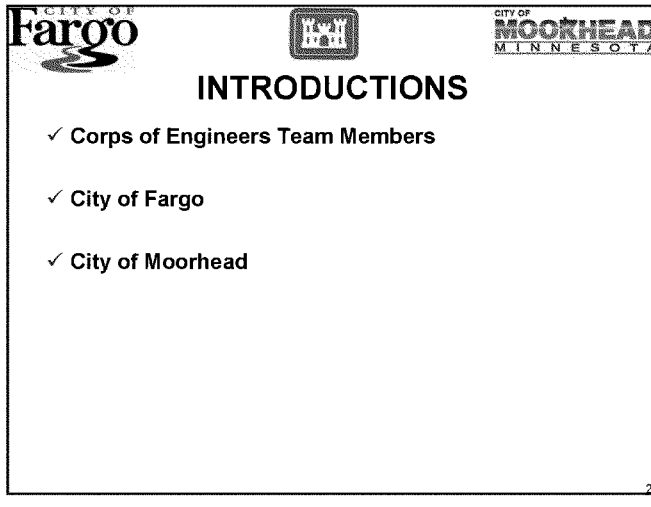

Fargo-Moorhead
Metropolitan Feasibility
Study
PUBLIC MEETINGS
17 November 2008


CITY OF
Fargo
CITY OF
MOORHEAD
MINNESOTA
INTRODUCTIONS
✓ Corps of Engineers Team Members
✓ City of Fargo
✓ City of Moorhead
2

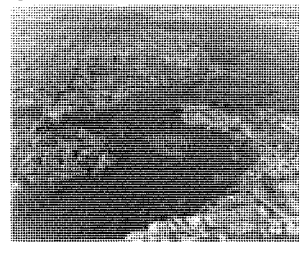
FORMAT FOR MEETING

- ✓ **Please sign in and pick up handouts**
  - ✓ Indicate if you'd like to be added to the mailing list
- ✓ **Slide Presentation**
- ✓ **Question & Answer Period**
- ✓ **Open House**

3

WHY WE'RE HERE

- ✓ **Fargo-Moorhead area has significant flood risk**
- ✓ **Local leaders want a regional solution**
- ✓ **We want public participation in the process**



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STUDY GOALS

- ✓ Develop a system to reduce regional flood risk
- ✓ Determine the Federal role in implementation
- ✓ Document findings in a Feasibility Report
- ✓ Recommend a project to Congress

5

WHO PAYS FOR THIS?

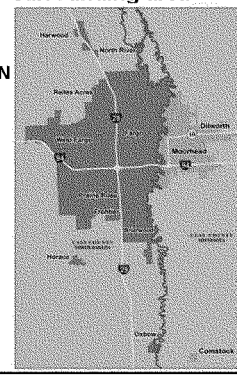
- ✓ Study costs are shared 50% federal, 50% non-federal
- ✓ Congress provides federal funds to the Corps
- ✓ Non-federal funding is provided by:
  - ✓ City of Fargo, ND
  - ✓ City of Moorhead, MN
  - ✓ Buffalo-Red River Watershed District, MN
- ✓ Estimated study cost: $5,318,000
- ✓ Schedule: September 2008-December 2010
- ✓ Phase 1 to be completed by April 2009: $1.3 Million

6

STUDY AREA

✓ Fargo-Moorhead metropolitan & surrounding area

- ✓ North: Harwood, ND & Kragnes, MN
- ✓ South: Hickson, ND
- ✓ East: Dilworth, MN
- ✓ West: West Fargo, ND



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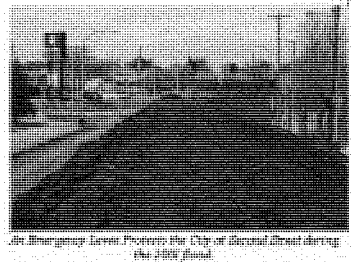
BACKGROUND INFORMATION

✓ Very successful flood-fights

✓ FALSE sense of security.



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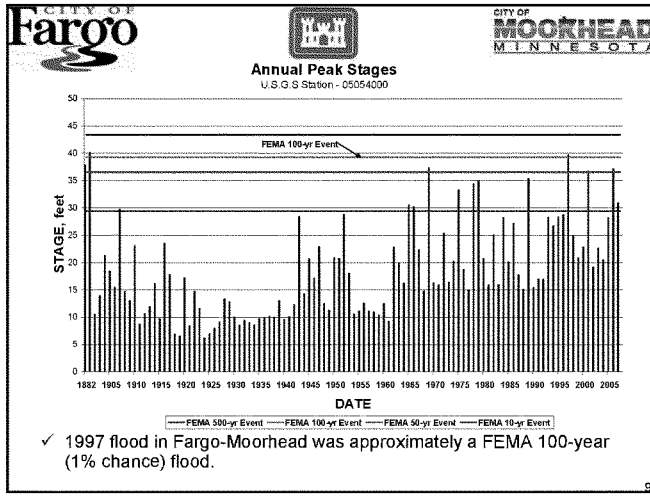
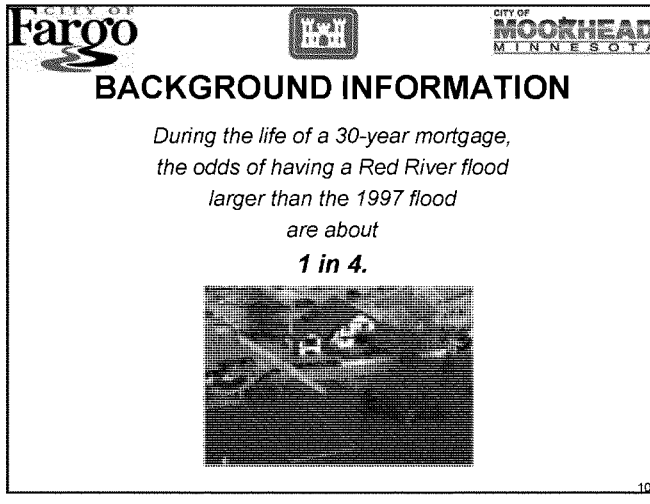
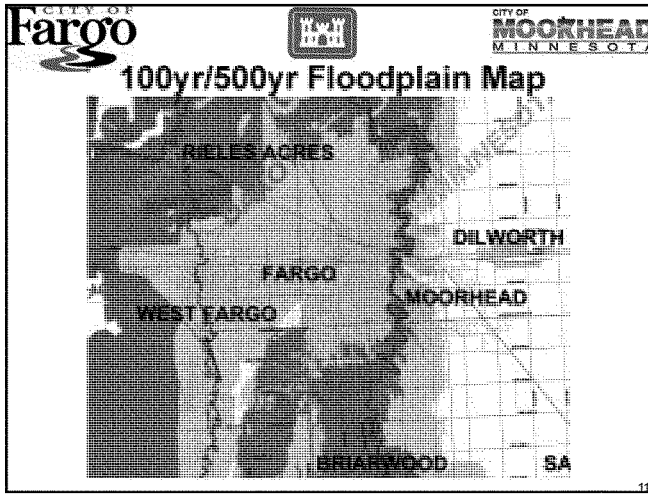
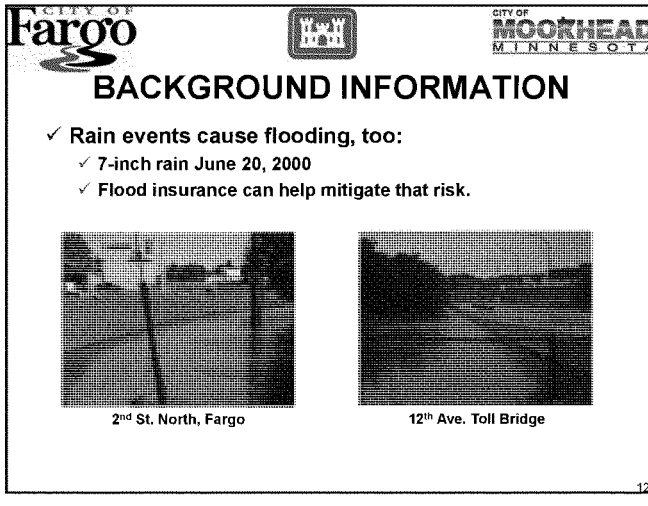
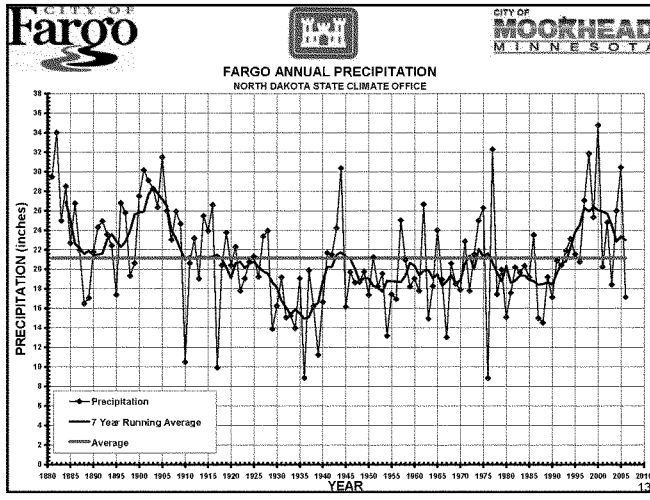
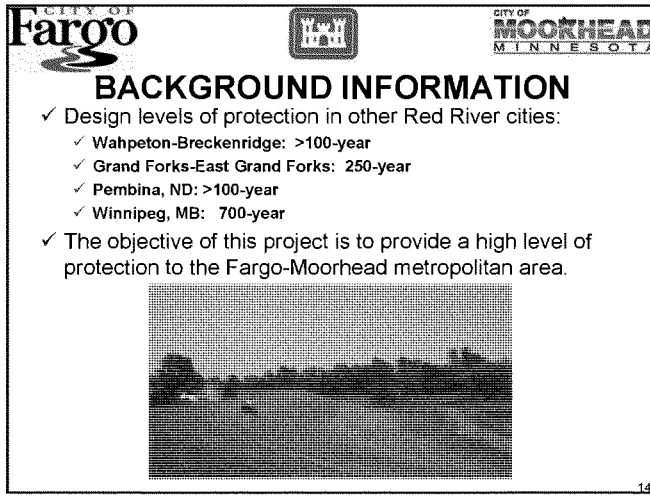

Annual Peak Stages
U.S.G.S Station - 05054000
FEMA 100-yr Event
STAGE, feet
DATE
FEMA 500-yr Event
FEMA 100-yr Event
FEMA 50-yr Event
FEMA 10-yr Event
✓ 1997 flood in Fargo-Moorhead was approximately a FEMA 100-year (1% chance) flood.
9


BACKGROUND INFORMATION
During the life of a 30-year mortgage,
the odds of having a Red River flood
larger than the 1997 flood
are about
1 in 4.
10


CITY OF
Fargo
CITY OF
MOORHEAD
MINNESOTA
100yr/500yr Floodplain Map
RIELLES ACRES
DILWORTH
FARGO
MOORHEAD
WEST FARGO
BRIARWOOD
SA
11

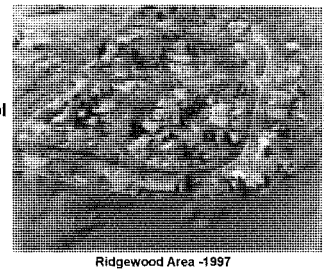

CITY OF
Fargo
CITY OF
MOORHEAD
MINNESOTA
BACKGROUND INFORMATION
✓ Rain events cause flooding, too:
✓ 7-inch rain June 20, 2000
✓ Flood insurance can help mitigate that risk.
2nd St. North, Fargo
12th Ave. Toll Bridge
12


CITY OF Fargo
CITY OF MOORHEAD MINNESOTA
FARGO ANNUAL PRECIPITATION
NORTH DAKOTA STATE CLIMATE OFFICE
PRECIPITATION (inches)
YEAR
Precipitation
7 Year Running Average
Average
13


CITY OF Fargo
CITY OF MOORHEAD MINNESOTA
BACKGROUND INFORMATION
✓ Design levels of protection in other Red River cities:
✓ Wahpeton-Breckenridge: >100-year
✓ Grand Forks-East Grand Forks: 250-year
✓ Pembina, ND: >100-year
✓ Winnipeg, MB: 700-year
✓ The objective of this project is to provide a high level of protection to the Fargo-Moorhead metropolitan area.
14

STUDY SCOPE

- ✓ **This study will augment but not replace other projects underway:**
  - ✓ **Fargo-Ridgewood**
  - ✓ **Oakport**
  - ✓ **Fargo Southside Flood Control**

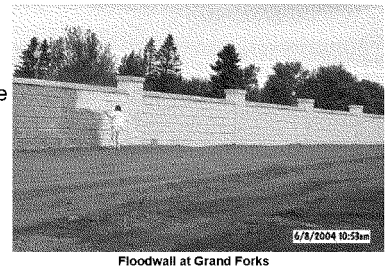


Ridgewood Area -1997

15

ALTERNATIVES

- ✓ Continue Emergency Measures
- ✓ Non-Structural Flood Proofing
- ✓ Flood Barriers
  - ✓ **Levees/Floodwalls**
  - ✓ **Gate Closures**
  - ✓ **Pump Stations**
- ✓ Increase Conveyance
  - ✓ **Diversion Channels**
  - ✓ **Cutoff Channels**
  - ✓ **Replacing Bridges**
- ✓ Flood Storage



Floodwall at Grand Forks

16

TIMELINE

- ✓ Sep 2008: Start feasibility study
- ✓ Apr 2009: Present results of initial screening
- ✓ Jan 2010: Identify tentatively recommended plan
- ✓ Sep 2010: Finalize feasibility report
- ✓ Dec 2010: Transmit recommendation to Congress

17

NEXT STEPS

- ✓ Assess existing conditions
- ✓ Identify flood risk and impacts
- ✓ Develop array of alternative measures
- ✓ Preliminary screening
- ✓ Present initial findings in April 2009

18

CONTACT US

- ✓ Information on back of handout
- ✓ Please sign our sheet to get future mailings.
- ✓ Website:
- ✓ http://www.internationalwaterinstitute.org/feasibility_study/index_feasibility.htm
- ✓ Phone numbers:
  - ✓ Kevin Bluhm 651-290-5247
  - ✓ Craig Evans 651-290-5594
  - ✓ Aaron Snyder 651-290-5489

19

QUESTIONS or COMMENTS?

- ✓ Please come to the podium so everyone can hear.

20

Fargo-Moorhead Metro Feasibility Study
Public Meetings, 17-18 Nov 2008
Notes

Introduction

Two public meetings were held to introduce the Fargo-Moorhead Metro Feasibility study to the public and obtain preliminary public input. The first meeting was held in Moorhead, MN on 17-Nov-08, and the second was held in Fargo, ND on 18-Nov-08. The meetings consisted of a PowerPoint presentation followed by questions from the public.

Moorhead Public Meeting, 17-Nov-08, 7:00-9:00, City Council Chambers

ATTENDEES:
Corps: Craig Evans, Aaron Snyder, Kevin Bluhm, Ryan Price, Scott Jutila, Mike Lesher, Jeff McGrath
Moorhead: Bob Zimmerman, Jody Bertrand
Fargo: April Walker, Mark Bittner
Public: Approximately 50 public participants, including at least 2 Moorhead City Council members

Questions and Answers

Q: What are the new 100-yr and 500-yr FEMA flood stages?
A: 100-yr is 39.5' on the Fargo gage; 500-yr is approx. 41-42'; the old 100-yr was 38.3'

Q: We thought the 1997 flood was much larger than a 100-yr event.
A: During the event it may have been reported as a much larger event. After all analysis was completed, we determined that it was approximately a 100-yr event. The 1997 flood in Grand Forks was approximately a 125-yr event there.

Q: I don't understand how a 100-yr flood could have a 1 in 4 chance of occurring over the next 30 years.
A: That's the way the statistics work. . .

Q: Did you factor in all historic events to figure out the 100-yr and 500-yr stages?
A: Yes.

Q: Do all new developments build ponds to hold water, i.e. to not impact flood levels?
A: Kevin: The Corps assumes in our analyses that the local folks will use best management practices, and the Federal project will not make things worse for others, including ag producers.
A: Bob Z: All subdivisions must include ponds designed to hold a 100-yr runoff event and all houses must be elevated above the 100-yr elevation.

Q: Winnipeg has 700-yr level of protection from their bypass channel. Is that an option for F-M?
A: Yes. We will consider diversion channels.

Q: If regional protection is the goal, why is Fargo's Southside Levee not on the table for a Corps project?
A: April: The FSS project will have no impacts if all of the features are built.

Q: What have we learned from the floods in Iowa last summer?
A: We will be looking at all of the risks and put together a system to reduce them.

Q: What will the feasibility study cost the locals?
A:

Q: Asked to Bob Zimmerman: Can you confirm that there will be no impact from the FSS project?
A: I'm comfortable with the analyses Fargo has done, but I have not run the models myself.

Q: FSS channel extensions will directly impact some landowners. What will happen if they are built and then the Corps diversion is built later?
A: Both projects would stay in place, and we would expect them to both contribute benefits. We do consider impacts to landowners in our analyses of social effects, but our focus will be on doing the most good for the region while impacting as few people as necessary.

Q: Can we just widen the river that's there?
A: There are many issues with channelization, especially from an environmental perspective. The odds of obtaining a permit for channel widening are slim to none. All of our projects must be environmentally acceptable and go through the NEPA process to disclose and mitigate for any adverse environmental impacts.

Q: It seems like common sense to hold off on other projects until this regional plan is complete.
A: Bob Z. and Mike L.: Even with anything we would propose for a regional solution, there will still be a need for a levee on the south side of Fargo because the land is so low.

* * *
Moorhead City Council Member asked the following questions:

Q: What are the realistic options other than a diversion? Storage is too expensive upstream, and levees can't solve the whole problem.
A: We agree with your summary of the options.

Q: FSS project is proposing 3 miles of channel extensions. Aren't these environmentally problematic?

A: Mike L.: The environmental agencies generally do not like them, but they are more acceptable at a higher elevation that will be used less frequently.

* * *

Q: There is concern that the whole FSS proposed package may not be implementable, especially the channel extensions in Minnesota.

Q: Could the regional solution include the Sheyenne Diversion, or does the existence of the SD make us go into MN with a new diversion?
A: Mike L.: There are many complications with tributaries on the ND side. The complication in MN is higher ground, therefore higher expense.
A: Aaron: We will look at all alternatives to make sure we pick the best one.

Q: Where would a MN diversion go? Will my house be impacted?
A: We're not there yet, and we won't be in April either.

Q: What is the level of protection we're looking for?
A: We have to determine what makes economic sense, but we want as high a level as we can justify.
Q: Will the Corps look at the future with and without the FSS project?
A: Kevin: We'll work with our sponsors to determine what the appropriate future condition is.
A: Mike L.: I haven't thought about this yet.

Q: From Mike L. to April W: Would Fargo build the FSS project without all of the proposed features?
A: April: We're shooting for the least impact possible. It would be allowable under floodplain planning to raise water surface up to 9 inches.
A: Mark Bittner: Fargo has looked at diversions, and they're very expensive. There's a good chance the Corps will not find anything economically justified, and even if they do, the cost will be high, and it will take a long time to get funded.

Statement from Moorhead City Council member: There will be a water war if Fargo puts 9 inches of water onto Minnesota.

At this point, Kevin halted the discussion and summarized many of the issues. He asked folks to remember that the Corps study is different than FSS levee, and we're looking for a regional solution.

Q: Why build homes where the low ground and flooding is?

Q: The Sheyenne Diversion project created ponding where there was no flood problem before. Beware of creating unanticipated problems.

Q: Are you designing a passive system or an active system?

A: We want the system to be as passive as possible, but it will likely include pump stations that will need operations and maintenance.

Q: All of the cities that are developing should talk about their future plans before they build something that will be in the path of our project.

Q: Will the feasibility study make any recommendations on how to finance this project?
A: We will ask the sponsors to self-certify that they have the capacity to do the project. The Feasibility study will lay out all expected costs so the cities will know what is needed.

Q: How do we know that the Federal funding will be there for the study and the project?
A: We don't know that. We have to go through the steps to get a project authorized and then funded. All we have authority to do now is study the problem.

Q: What other projects does the Corps have right now.
A: FMMFS and Devils Lake are our two biggest projects in the RRN right now. We also have the Roseau project going into construction; Montevideo, MN; Ada, MN study, and several other smaller studies. (Forgot to mention Wahpeton-Breckenridge and Fargo-Ridgewood).

Q: Why is the Corps coming in now?
A: Local leaders asked us to study the regional flood problem.

Q: What is in Phase 1—what will we know in April 2009?
A: We will be able to show a list of alternatives that we plan to study and another list of alternatives we plan to drop from consideration.

That concluded the group Q&A session for 17-Nov.
* * *

Gaylen Vaa, 6273 7th St. SW, Moorhead (Briarwood) says cutoffs in Minnesota cannot be built without eminent domain, and Fargo cannot condemn land in MN. They need to start working with a MN partner.

* * *

Written Comments from Public:

1) Informative!! Thanks!
2) You done good!
3) Thanks for an outstanding presentation!
4) The projected cost is likely far in excess of potential benefit. Your study should take place before Fargo proceeds with its Southside flood project.
5) Lots of good information. Very Interesting. Thank you
6) Great job. Please notify of next meeting. Thanks.

7) Southside Project
    a. Building levee (& storage) does not depend upon channel approval.
    b. Will Fargo begin levees before 1st phase corps is finished?
8) Great team. Great presentation. Very credible Federal presentation. ☺
9) Very informative – Thank you
10) Very good presentation
11) Good start. Flood stage info- 39.5 on maps and graphs
12) Thank you for your time and efforts to help our community. I will pray for you and all your endeavors.

***

Fargo Public Meeting, 18-Nov-08, Prairie Rose Inn, 7:00-9:00

ATTENDEES:
Corps: Craig Evans, Aaron Snyder, Kevin Bluhm, Ryan Price, Scott Jutila, Mike Lesher, Jeff McGrath
Fargo: April Walker, Mark Bittner
Public: Approximately 40 public participants, including Randy Gjestvang and Lee Klapprodt from ND State Water Commission

Questions and Answers

Q: How does this study interface with the Fargo Southside (FSS) project? The goal of that project is to get FEMA certification in order to avoid the need for flood insurance.
A: We're looking at the whole region—FSS is only one component. FSS is still necessary even if a bigger project is built. Anything we'd do on a larger scale would augment the other smaller projects. We will look to make sure the FSS features are still needed. The system would still have to convey smaller floods through town and have the larger features take flow off of the larger events. There is a city-wide meeting next Monday at the Civic Center.

Q: Here's the obvious question: why do we need floodwalls in Harwood Groves if you're going to build a diversion.
A: You're asking about a detail of the FSS project, and we need to talk about the larger system.

Q: It seems like we're doing the studies backwards—shouldn't we do the macro study first?
A: Macro scale may take several years. Micro scale will still be necessary.

Q: If we already know the micro solutions, why do the macro study?
A: The small projects provide a low level of risk reduction. We still need a larger system.

Q: I question the 1:4 odds you presented. The projects we're talking about will protect us.

Q: Where does the money go?
A: The Corps is spending the money for its work. Phase 1 will determine whether we want to continue.

Q: Could we increase conveyance through town?
A: Mike L.: There are things we could do, but many of them would have significant environmental issues. Bridges could be raised and openings improved.
Kevin: with channelization features we have to factor in environmental considerations.

Q: B/C ratio—is that taking into account urban sprawl and future development?
A: That's a little sticky from a Federal perspective. We count benefits for reducing flood risk to homes, commercial and public infrastructure, and agriculture. Future development (intensification benefits) are highly scrutinized, because we don't want to promote growth in flood plains. We will include intensification benefits in the Regional Economic Analysis, but not in the Federal B/C ratio.

Q: Clarify "channelization."
A: Channelization involving wholesale clearing and straightening of the natural river channel is problematic. Smaller cutoffs at higher elevations are less environmentally damaging.

Q: I don't understand levees. What is wrong with building dams like the Garrison Dam?
A: We don't have really good places to build dams. We are still looking at smaller dams, but they will have limited effectiveness. Channelization of the natural channel has problems. We are considering diversion channels.

Q: What is the depth of water at Fargo vs farther north—does the river get deeper as it goes north?
A: The volume of water does increase as you go downstream and pick up more tributaries.

Q: Are we still considering the "waffle plan?"
A: Scott Jutila: we have looked into that along with other types of distributed storage (in the FMUS study). It is relatively inefficient—we can't completely solve the problem using distributed storage. It may be part of the long-term solution, but not the total solution.
Lee Klapprodt: I concur with Scott. We need a combination of things including watershed management and flood infrastructure.

Q: Is there a potential for FEMA's policies re: flood insurance and grandfathering rates to change?

A: April W.: FEMA will currently grandfather people in if you carry flood insurance now (a loyal customer). That doesn't mean rates won't increase, but they won't move you to a higher rate class through re-mapping. There are no guarantees that FEMA will continue this practice.

Q: How does the future flood map affect development?
A: The City of Fargo provided preliminary FEMA data to developers so they could act accordingly. Local standards require first floor elevation 2.5' above the current base flood.

Q: What is the current base flood elevation?
A: The current elevation is 38.3 feet at the Fargo river gage. The new BFE will be 1' to 2.5' above the existing BFE, depending on where in town you are.

Written Comments from Public:

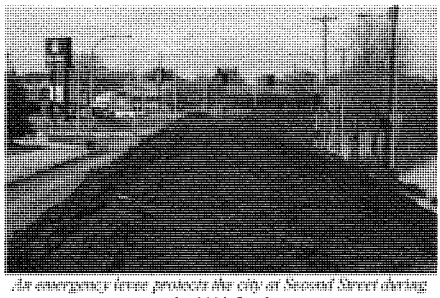
1)
   a. Question doing macro study after implementing micro solutions.
   b. Question assumption that floods are going to get much worse in future as evidence does not support this.
   c. Waffle Storage concept should be reconsidered where farmers are paid for storage when needed.
2) Why not protecting or including Forest River in the floodplain?
3) Kevin did an excellent job!
4) Might be good to know what the above sea level drop is between Wild Rice and Sheyenne confluence with the Red.
5) Hoping for protection in Harwood Groves area asap. Not waiting for additional 5 yrs.

November 2008

US Army Corps of Engineers
St. Paul District

Information Paper

Flood Risk Management: Fargo-Moorhead Metro, North Dakota and Minnesota



An emergency levee protects the city on Second Street during the 2001 flood.

Background

The Fargo-Moorhead metropolitan area is a major health, educational, cultural, and commercial center serving southeastern North Dakota and west-central Minnesota. The area is prone to flooding; the Red River has exceeded flood stage in 49 of the past 105 years and every year from 1993 through 2008. A 500-year event would flood nearly the entire city of Fargo and a large portion of the city of Moorhead, as well as several smaller communities in the area. Flooding occurs not only from the rivers, but also from large rainfall events that overwhelm storm drainage systems. Average annual flood damages are estimated at over $22 million.

Emergency flood fights have been very successful in Fargo and Moorhead, but the record-setting flood of 1997 was smaller than a 100-year event. The area is significantly vulnerable to flooding, despite the history of successful responses to the relatively small flood events that have occurred.

Contact

Aaron Snyder, Project Manager
(651) 290-5489 (651) 290-5258 (fax)
aaron.m.snyder@usace.army.mil

Craig Evans, Project Manager
(651) 290-5594 (651) 290-5258 (fax)
craig.o.evans@usace.army.mil

Status

The Corps and the cities of Fargo and Moorhead are jointly conducting this study. The study will assess the feasibility of measures to reduce flood risk in the entire metropolitan and surrounding area. The study will consider an array of potential alternatives including nonstructural flood proofing, diversion channels, levee/floodwall systems, and flood storage.

The study is not intended to replace other projects already in place or being developed. Rather, it will evaluate additional measures that would further reduce flood risks in the entire study area. The study will determine whether Federal participation can be recommended to implement any proposed measures.

Why Now?

Local leaders recognize that flooding poses a significant risk to people in the entire metro area. Since the 1997 flood, they have taken many actions to reduce that risk, including buying and removing flood-prone homes, building levees, and improving storm drainage systems. There are several projects going right now like Oakport, Fargo-Ridgewood levees, and the Fargo Southside project. But there are limits to what each community can do by itself. They have asked the Corps to help look for a regional solution that would reduce everyone's flood risk.

Schedule and Costs

Phase	Completion	Cost
Phase 1	April 2009	$1,300,000
Phase 2	April 2010	$2,500,000
Phase 3	December 2010	$1,500,000

Phase 1 consists of initial alternative formulation and economic calculations. Phase 2 includes the screening of the alternatives and development of a selected plan. Phase 3 will fully develop the selected plan and make a recommendation to Congress.

Presentations 3 and 4:

May 19, 2009
May 20, 2009

Public Notice

US Army Corps of Engineers ®
St. Paul District
www.mvp.usace.army.mil
Public Affairs

April 16, 2009
Release #PA-2009-XXX

Corps of Engineers seeking public input in Fargo-Moorhead Metro flood study

SAINT PAUL, MINN. – The City of Fargo, N.D. and the City of Moorhead, Minn. along with the U.S. Army Corps of Engineers, St. Paul District, will hold public meetings in May to seek public input for the Fargo-Moorhead Metropolitan feasibility study.

Two public meetings will be held as part of the scoping process for an Environmental Impact Statement. The first meeting will be held on May 19th at Centennial Hall in Fargo, N.D. The second meeting will be held on May 20th at the Hanson Theater on the Minnesota State University, Moorhead campus in Moorhead, Minn. Both meetings will begin at 5:30 p.m. with an open house, followed by a formal presentation at 7:00 p.m. and a question and answer period ending at 9:00 p.m. Anyone interested in the study is welcome to attend either meeting.

The feasibility study will focus on reducing flood risk in the entire Fargo-Moorhead Metropolitan area and surrounding areas. The study will evaluate several alternative measures, including levees and floodwalls, diversion channels, non-structural flood-proofing, relocation of flood-prone structures, and flood storage. Public input is needed on the range and potential environmental impacts of alternatives. There will be more opportunities to provide comments after the Notice of Intent to prepare an Environmental Impact Statement is published in the Federal Register.

This study, which started in September 2008, is estimated to cost $5.3 million and take 2.5 years to complete. The Corps of Engineers will pay half the expenses, and the non federal partners will pay the other half. For more information, contact the Corps project manager, Mr. Craig Evans at craig.o.evans@usace.army.mil.

The U.S. Army Corps of Engineers, St. Paul District, serves the American public in the areas of environmental enhancement, navigation, flood damage reduction, water and wetlands regulation, recreation sites and disaster response. It contributes around $126 million to the five-state district economy. The more than 625 employees work at more than 40 sites in five upper-Midwest states. For more information, see www.mvp.usace.army.mil.

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News Release

US Army Corps of Engineers ®
St. Paul District
www.mvp.usace.army.mil
Public Affairs

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Mark Davidson 651.290.5201 (o) 651.261.6769 (c) mark.d.davidson@usace.army.mil
Peter Verstegen 651.290.5202 (o) 651.587.9354 (c) peter.e.verstegen@usace.army.mil

May 13, 2009
Release #PA-2009-064

Corps holds public meetings on flood-risk study in Fargo, Moorhead

SAINT PAUL, MINN. – The U.S. Army Corps of Engineers, St. Paul District, along with the City of Fargo, N.D., and the City of Moorhead, Minn., will hold public meetings May 19 and 20 to seek public input for the Fargo-Moorhead Metropolitan Feasibility Study. The study will focus on reducing flood risk in the entire Fargo-Moorhead metropolitan area and surrounding areas.

Two public meetings will be held as part of the scoping process for an Environmental Impact Statement. A scoping process gathers public input on possible plans for flood-risk management. The first meeting will be held on May 19 at Centennial Hall in Fargo, N.D. The second meeting will be held on May 20 at the Hansen Theater on the Minnesota State University, Moorhead campus, in Moorhead. Both meetings will begin at 5:30 p.m. with an open house, followed by a formal presentation at 7 p.m., and a question-and-answer period ending at 9 p.m. Anyone interested in the study is welcome to attend either meeting.

The study will evaluate several alternative measures, including levees and floodwalls, diversion channels, non-structural flood-proofing, relocation of flood-prone structures and flood storage. Public input is needed on the range and potential environmental impacts of the alternatives. The Notice of Intent to prepare an Environmental Impact Statement was published in the *Federal Register* on May 5, 2009.

This study, which started in September 2008, is estimated to cost $5.4 million and take 2.5 years to complete. The Corps of Engineers will pay half the expenses, and the non-federal partners will pay the other half. For more information, contact Corps planner and project manager, Aaron Snyder, at aaron.m.snyder@usace.army.mil.

The U.S. Army Corps of Engineers, St. Paul District, serves the American public in the areas of environmental enhancement, navigation, flood damage reduction, water and wetlands regulation, recreation sites and disaster response. It contributes around $126 million to the five-state district economy. The more than 625 employees work at more than 40 sites in five upper-Midwest states. For more information, see www.mvp.usace.army.mil.

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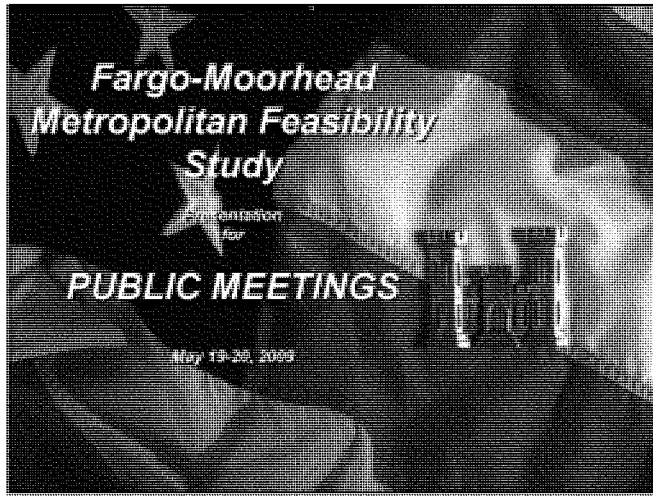
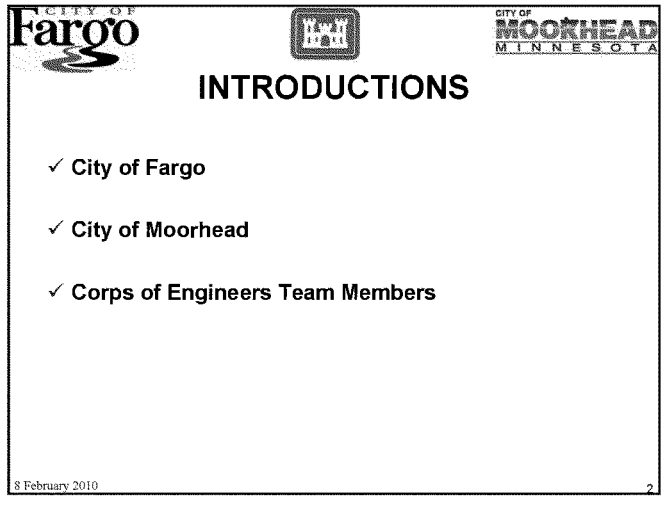

Fargo-Moorhead
Metropolitan Feasibility
Study
PUBLIC MEETINGS


CITY OF
Fargo
CITY OF
MOORHEAD
MINNESOTA
INTRODUCTIONS
✓ City of Fargo
✓ City of Moorhead
✓ Corps of Engineers Team Members
8 February 2010
2

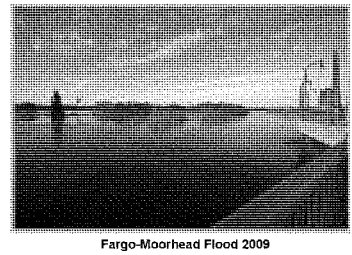
FORMAT FOR MEETING

- ✓ Open House
- ✓ Please sign in and pick up handouts
  - ✓ Indicate if you'd like to be added to the mailing list
- ✓ Slide Presentation
- ✓ Question & Answer Period
- ✓ Open House

8 February 2010 3

WHY WE'RE HERE

- ✓ Fargo-Moorhead area has significant flood risk
- ✓ Further study is warranted for a permanent federal project.
- ✓ We want public participation in the process



Fargo-Moorhead Flood 2009

8 February 2010 4

WHO PAYS FOR THIS?

- ✓ Study costs are shared 50% federal, 50% non-federal
- ✓ Congress provides federal funds to the Corps
- ✓ Non-federal funding is provided by:
  - ✓ City of Fargo, ND
  - ✓ City of Moorhead, MN
  - ✓ Buffalo-Red River Watershed District, MN
- ✓ Estimated study cost: $5,318,000
- ✓ Construction costs are shared 65% fed, 35% non-fed

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Role of the Corps of Engineers

- ✓ Lead feasibility study effort.
- ✓ Identify the plan that provides the most benefits for the nation.
- ✓ Comply with all laws and regulations.
- ✓ Consider the views of all stakeholders.
- ✓ Pay half of the feasibility study costs.

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Fargo/Moorhead Role

- ✓ Full partners in the study team.
- ✓ Develop local consensus.
- ✓ Assist with plan development.
- ✓ Identify local issues.
- ✓ Pay half of the feasibility study costs.

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Planning Process

1. Specify problems and opportunities.
2. Inventory and forecast conditions.
3. Formulate alternative plans.
4. Evaluate effects of alternative plans.
5. Compare alternative plans.
6. Select recommended plan.

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STUDY GOALS

- ✓ Develop a system to reduce regional flood risk
- ✓ Determine the Federal role in implementation
- ✓ Document findings in a Feasibility Report
- ✓ Recommend a project to Congress

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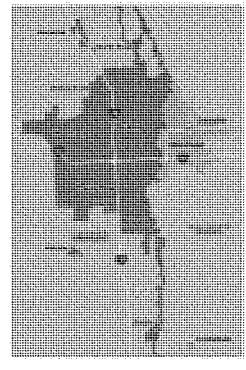
STUDY AREA

- ✓ Fargo-Moorhead metropolitan & surrounding area
  - ✓ North: Harwood, ND & Kragnes, MN
  - ✓ South: Oxbow, ND
  - ✓ East: Dilworth, MN
  - ✓ West: West Fargo, ND



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CITY OF Fargo

CITY OF MOORHEAD MINNESOTA

Risk

- ✓ The 2009 flood was approximately a 125 year flood event.
- ✓ Successful flood fights lead to a false sense of security.
- ✓ It would be very difficult to fight floods larger than the 2009 flood.
- ✓ Failure of emergency levees would be catastrophic.

Fargo-Moorhead Flood

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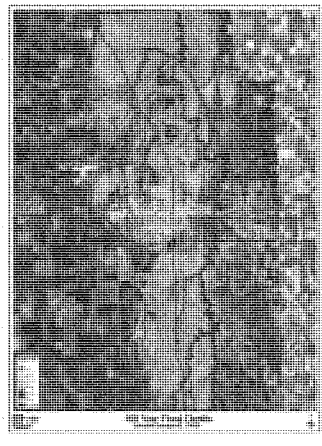

Potential Depths of Inundation

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Potential Depths of Inundation

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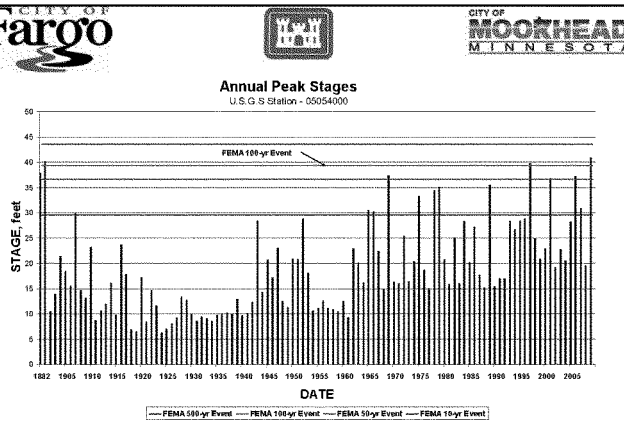

✓ 2009 flood in Fargo-Moorhead was approximately a FEMA 125-year (0.8% chance) flood.

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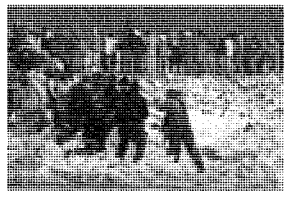
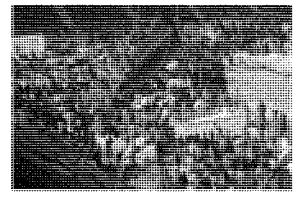
Flood Risk

During the life of a 30-year mortgage,
the odds of having a Red River flood
larger than the 2009 flood
are about

1 in 5.





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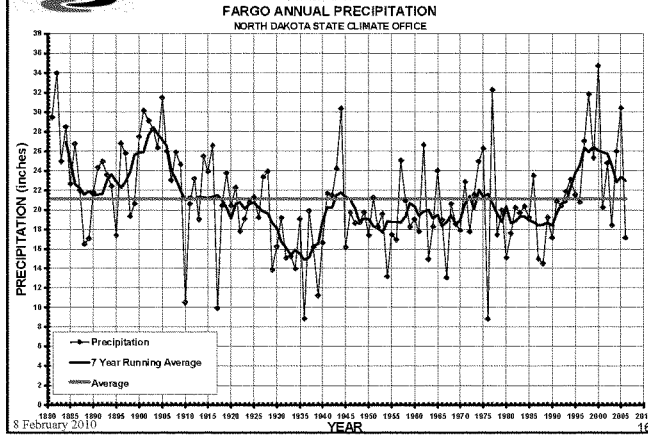

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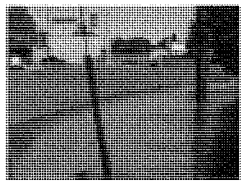
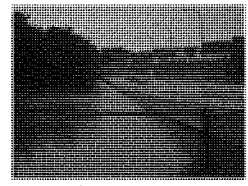
Flood Risk

- ✓ **Rain events cause flooding, too:**
  - ✓ **7-inch rain June 20, 2000**
  - ✓ **Flood insurance can help mitigate that risk.**



2nd St. North, Fargo



12th Ave. Toll Bridge

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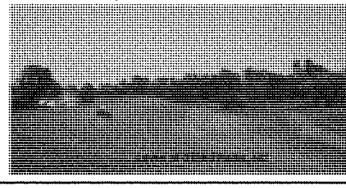
Level of Protection

- ✓ Design levels of protection in other Red River cities:
  - ✓ **Wahpeton-Breckenridge: >100-year**
  - ✓ **Grand Forks-East Grand Forks: 250-year**
  - ✓ **Pembina, ND: >100-year**
  - ✓ **Winnipeg, MB: 700-year**
- ✓ The objective of this project is to provide a high level of protection to the Fargo-Moorhead metropolitan area.



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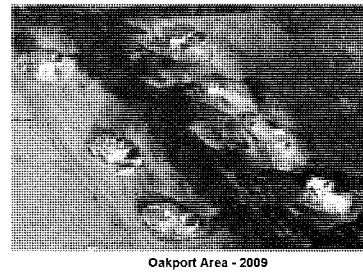
Other Projects

- ✓ Fargo-Ridgewood
- ✓ Oakport
- ✓ Fargo Southside Flood Control



Oakport Area - 2009

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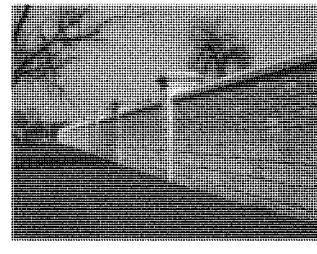
ALTERNATIVES

- ✓ Continue Emergency Measures
- ✓ Non-Structural Flood Proofing
- ✓ Flood Barriers
  - ✓ Levees/Floodwalls
  - ✓ Gate Closures
  - ✓ Pump Stations
- ✓ Increase Conveyance
  - ✓ Diversion Channels
  - ✓ Cutoff Channels
  - ✓ Replacing Bridges
- ✓ Flood Storage



Floodwall at Grand Forks

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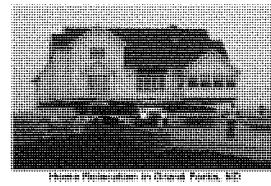
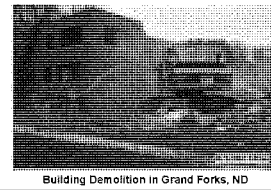
Non- Structural Flood Proofing

- ✓ Relocation of Structures in Flood Plain
- ✓ Buyout and Demolition of Structures
- ✓ Raising of Structures



Home Relocation in Grand Forks, ND



Building Demolition in Grand Forks, ND

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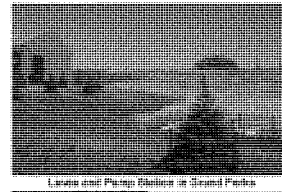
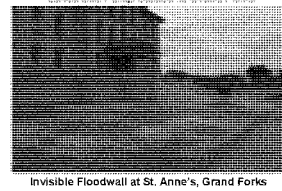
Flood Barriers

- ✓ Earthen Levees
- ✓ Flood Walls
- ✓ Pump Stations
- ✓ Gated Closures



Levee and Pump Station in Grand Forks



Invisible Floodwall at St. Anne's, Grand Forks

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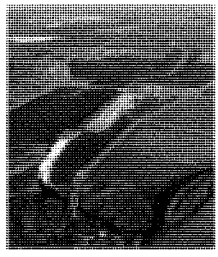
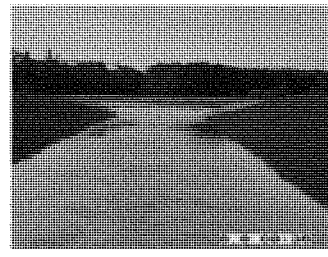
Diversion Channel

- ✓ Would re-route a portion of the flood water around Fargo – Moorhead.
- ✓ We will consider alternative alignments in both ND and MN.
- ✓ Preliminary analysis looked only at the shortest Minnesota diversion.





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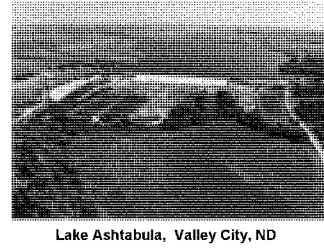
Water Storage

- ✓ Retain water upstream to decrease flood crests.
- ✓ Would not solve problem completely, but could be part of final solution.
- ✓ Could be implemented by state and local governments.



Lake Ashtabula, Valley City, ND

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F-M Upstream Feasibility Study

- ✓ Fargo-Moorhead Upstream Study was started in 2001 and is currently ongoing.
- ✓ Evaluating a system of water retention sites to restore wetlands and store flood waters.
- ✓ Potential system of 200,000 to 400,000 acre-feet of storage could reduce 100-year flood stage by 1.6 feet.
- ✓ Unlikely to be economically justified, but we are looking for ecosystem restoration opportunities.

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Phase I

- ✓ Phase I – Completed April 2009
- ✓ Gathered existing information
  - ✓ Environmental Resources
  - ✓ Social/Cultural Resources
  - ✓ Hydrologic/Hydraulic Conditions
  - ✓ Existing levees and flood reduction measures
- ✓ Average Annual Damages - $64,000,000
  - ✓ Economic Surveys of Residences and Businesses in Fargo and Moorhead
  - ✓ Additional work in Phase II for other communities
  - ✓ Documentation of flood fight costs

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CITY OF Fargo

CITY OF MOORHEAD MINNESOTA

Phase I

- ✓ **Levee Alternative First Cost - $625,000,000**
  - ✓ 1% Levee for both Fargo and Moorhead
  - ✓ Includes Southside Project
- ✓ **East Diversion First Cost - $910,000,000**
  - ✓ Approximately 20 feet deep, 500 foot bottom, total width of 2000 feet
  - ✓ Nearly 30 miles
  - ✓ Included 17 highway and 4 railroad bridges.

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F-M METRO STUDY TIMELINE

- ✓ **Sept 2009: Alternative Screening**
- ✓ **Jan 2010: Identify tentatively recommended plan**
- ✓ **Sep 2010: Finalize feasibility report**
- ✓ **Dec 2010: Transmit recommendation to Congress**
- ✓ **Jan 2011: Begin Plans and Specifications**
- ✓ **April 2012: Begin Construction**

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NEXT STEPS

- ✓ **Seek public input on measures**
  - ✓ Deadline of June 22, 2009
- ✓ **Develop array of alternative measures**
- ✓ **Assess costs and benefits of alternatives**
  - ✓ Economic, Social, and Environmental
- ✓ **Preliminary screening**
- ✓ **Seek public input on alternatives**

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CONTACT US

- ✓ **Information on back of handout**
- ✓ **Please sign our sheet to get future mailings.**
- ✓ **Website:** http://www.internationalwaterinstitute.org/feasibility/index.htm
- ✓ **Phone numbers:**
  - ✓ **Kevin Bluhm 651-290-5247**
  - ✓ **Craig Evans 651-290-5594**
  - ✓ **Aaron Snyder 651-290-5489**

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CITY OF Fargo

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QUESTIONS or COMMENTS?

✓ **Please come to the podium so everyone can hear.**

8 February 2010

31

Date: 05/19/09

Location: Fargo Centennial Hall, Public Meeting

Agenda

5:30 PM Open House

7:00 PM Presentation

7:55 PM Question & Answer

Q. The coverage area is the Fargo metropolitan area, but County officials have not been present. How have you been working with mayors, other elected officials and other organizations?

A. Our official sponsors are listed as the Cities of Fargo, Moorhead and the Buffalo Red Watershed District. Initially a meeting was set up with a large number of stakeholders and coordination continues to take place. Some work may occur in rural areas, but the focus continues to be the metropolitan areas.

Q. How much of the $625 million in the first estimate is attributed to the Southside Project? How would characterize the economic value of the project? Will the Southside Project solve the flood problem?

A. Southside Project totals approximately $160 million of the estimate. Benefits are correlated to the level of protection provided by the project. If flood protection is high enough, flood protection could be extended out beyond the City proper. This project is intended to address regional flood issues. USACE wants to ensure that solving one problem won't cause another one.

Q. It appears that the earliest the project would be constructed would be ten years from now. How can we protect ourselves in the meantime? Does the USACE have a say in how we protect ourselves? I currently have a clay dike in my backyard and I could raise it – does the USACE have anything to say about that?

A. It's a good question that crosses several different jurisdictions including municipal code, state and Federal law. Please provide us with your name and we will research the issue for you because others may also benefit who are in a similar situation. (Mike) The USACE will not likely have an issue with retaining a levy, but you should check with FEMA and your City. (City, Walker) If you are in the floodplain, there is a permit required. The City wants to ensure that your levy is designed properly and does not lie within the floodway.

Q. Could you explain what an invisible wall is? How will a cut-off channel make things better?

A. (Refers to slide) An invisible flood wall, such as those built in Grand Forks, are incorporated into structures and not noticeable as a flood protection measure. In some cases, the structural measures are only present during a flood, but the essence is that invisible measures are incorporated into the landscape. Such measures tend to be operation intensive. Channel cut-offs will shorten the time that it takes for the river to flow through the City which results in a lower water elevation.

Q. In determining costs, are costs just related to physical damage, or is unemployment resulting from the flood keeping people from work factored in?

A. Flood damages are typically the primary driver, however, other costs such as those you mention are factored in. The National Economic Development criteria requires an evaluation of the cost to the Federal government but also the effects on the regional economy. Both losses will be looked at with this project. Productivity of the workforce and social stresses are real and evaluated in total costs, however this becomes very tricky. Often Congress asks for total costs without the social impacts but since Hurricane Katrina, the Federal government is much more sensitive to those issues.

Q. I live at the confluence of the Wild Rice and the Red River – what effect will the project have on the people how live in that area and those upstream.

A. The alternative we've looked at so far will reduce water surface elevations at the area you're talking about. The diversion needs to be looked at in detail to ensure that the water is not conveyed so quickly through the City that it will have a downstream impact.

Q. If a levy is constructed what level will it be constructed at? (For the City) If I want a permit to construct my own levy can I construct it to the level of the 1997 flood?

A. The specific elevation targeting is part of our overall plan development process. We are not there yet, so providing that information at this time would only be a guess. We'll be working on that in the near future. (City, Walker) The City does have a cost-share program, but will not cost-share for those homes on the buyout list. The City will allow you to raise the elevation of your property with a permit. The FEMA maps will be changed soon.

Q. I'm trying to build something in my backyard – how high should I build it? Who will provide me with that guidance?

A. (Refers to flood frequency slide) I would suggest you look at a graph like this and assess the risk of constructing something at a certain elevation. If you look at the recent history, there are higher stages and more frequent flooding in recent years. If you're concerned about the long-term viability of what you're building, you'll incorporate this into your plans. (City, Mark) We've had a number of flood failures in recent years. When making a decision, you need to look not only at your property, but also your neighbors' property to ensure that you're not causing more problems than you're fixing. We had a $125 million worth of damage with the 2000 rain event – even homes with protection were damaged. Building levies also affects the drainage in your yard and you need to take this into consideration.

Q. The diversion costs $900 million – that's $30 million a mile. Is there a diversion channel that would reduce the costs per mile? Any other alternative routes would need to take place before the end of this phase, correct?

A. Part of the reason that the Minnesota side was looked at initially was that it was the shortest flow path and also fewer crossings. On the North Dakota side we would cross more highways and ultimately create a longer diversion channel. We will look at a number of alternatives, but this is a start. We will try to develop all of our alternatives that are reasonable and plausible by September. We hope to come back to you to present you with these alternatives when this is complete.

Q. The diversion will circumvent the City; has any thought been given to buying out a larger portion of the river to create a larger river to convey more water?

A. Making the river convey more water more quickly conflicts with the ecosystem preservation goals of the USACE. Straightening of rivers was once common, but is not often done anymore.

Q. The inherent problem that you have is trying to convey water down a frozen river. Have you thought about using the I-29 corridor as a diversion?

A. We haven't looked at that in detail. We have consulted with DOT and there are safety concerns about using right-of-way for flood control. Remember also, our concept diversion channel had a footprint of 2000 feet wide. The current interstate system does not have that sort of capacity so there are constraints in that particular area.

Q. Who is the decision maker that will identify which plan will be presented to Congress?

A. The initial decision maker is the Commander of the St. Paul District, USACE. The Commander will look to the project managers for affirmation that the stakeholders support the project, the USACE planning

process has been followed and that the project makes sense. After a plan is submitted, Congress needs to make an appropriation for the project that will allow the construction to go forward.

Q. Are the slides available in printed form, or can they be e-mailed out to people upon request?

A. Yes – we will have the slides up on the website, but they are not up yet. Google "Fargo Moorhead Flood Study" and the first hit you have will likely be the website. Both the slides and the handouts will be posted by the beginning of next week. Please let us know if you need anything else.

Q. Why doesn't the USACE have more jurisdiction over the root of the problem which is the drainage of the landscape upstream?

A. We've been studying drainage issues around the Red River and also Devils Lake. While storage has been looked at as a possible solution, the problem is that the costs and land acreage required to address the issue are enormous. Further, the soil in this area is very fertile and using the land for storage takes it out of production. The use of the land for agriculture versus flood storage needs to be taken in to consideration with the cost-benefit analysis.

Q. Could you talk about how the Southside Project will be synchronized with the USACE Project? If Southside goes forward, how does it affect your project?

A. As mentioned during the talk, the Southside Project is a non-Federal project and the local sponsor is working hard to ensure that the Southside Project does not adversely affect the USACE project. The USACE needs to be cognizant of the opportunities in the Southside area that may be in the Federal interest, however, we are not at that point yet. The City has an interest in moving forward with a project as soon as possible. (City, Mark) The City wants to ensure 100-year protection over the Southside area, although the City believes that 100-year protection is also necessary for the rest of the City. It appears that right now, we should be able to achieve a positive cost-benefit ratio for the Southside project. We want to get as much Federal money as we possibly can, but we don't want to jeopardize potential Federal funding; we will be working closely with the USACE to ensure that the Southside project does not increase flood stages.

9:00 PM Open House

Date: 05/20/09

Location: Moorhead State University Hanson Hall, Public Meeting

Agenda

5:30 PM Open House

7:00 PM Presentation

7:50 PM Question & Answer

Q. If the diversion project proceeded in 2012, what would be the completion date?

A. Levy projects will proceed quicker than a diversion project, but everything depends on availability of funds from Congress. Three or four years would be an ideal timeline, but may be optimistic.

Q. There are two omissions in the presentation – you didn't address the land use problem. Farmers want to drain the land as quickly as possible, which is understandable, but it exacerbates flooding. Timing is also an issue if water can be retained at its origin. The time between the pre-crest level and the post-crest level was a few hours – if water can be retained even that long, the peak should decrease.

A. It certainly is an issue that is debated – especially with larger flood events. The assumption at this time is that storage will likely need to be provided through local projects as opposed to a USACE project. Would storage reduce the size and need for a super-structure? That's likely true, but it won't provide the entire solution.

Q. In 1897, the land in downtown Fargo was not built out to the river – that land was all filled in. A flood stage of 40 feet was recorded. When the Freedom Bridge was constructed, the river was constricted to a fraction of its previous width which has exacerbated flooding. If this flood occurred in 1897 without the bridge, a flood of that magnitude with the bridge would certainly be much worse. The only reason that this area was spared in the recent flood was the cold weather. The flood stage is misleading with an official change of the flood stage from 17 feet to 18 feet – this may be a conspiracy to alter the records. Levies may not help in the flooding. The flow is too restricted especially with the Freedom Bridge in town acting as a dam. Ice dams along bridges are another concern that, when they happen, will flood out the entire community regardless of the levy. Fargo-Moorhead needs the equivalent conveyance capacity to the preexisting river. Question – how do bridges constrict the flow and what is the value in building levies above the 40 foot stage?

A. We will look at a number of options including levies, diversions and non-structural solutions. Non-structural solutions include raising structures such as bridges.

Q. Do any of your rules require that your projects be neutral down river (i.e. not making conditions worse downstream)?

A. Those are referred to as "induced damages" and are monitored very closely. USACE will be obligated to mitigate the effects of the project that would adversely affect others downstream.

Q. What is the impact of the Fargo Southside Flood Protection Plan? Will that area be factored into your cost-benefit ratio?

A. We're starting to look at that and acknowledge that it is a delicate situation. The City does not want to move forward with a project and jeopardize a potential future Federal project, but still has an interest in constructing a project soon. The City could move forward with the project on their own, but will likely wait to see what happens with the Feasibility Study.

Q. Has a study been completed that will identify the reason for the increase in flooding frequency? Could the river be dredged to create a deeper river that would increase conveyance?

A. There has been a tendency in the past to look at straightening channels and increasing conveyance as a preferred way to construct a flood control project, but this happens at a high cost to the environment. As to the frequency, there are both wet and dry cycles over time. There appears to be a wet cycle right now, but it is unclear how long it will last. We will look at these issues in detail in conjunction with the study.

Q. The options that you've looked at are mostly structural. Could you talk more about non-structural solutions such as buyouts?

A. Since Katrina, the focus has changed on this issue. In metropolitan areas, the dollars add up quickly for relocation efforts. If we look at pockets or neighborhoods and problem areas, the relocation tends to make sense for structures in high risk areas. We can also look at raising homes to provide protection, but this approach hasn't been very popular in the Midwest given the high number of basements. National experts will be brought in to advise on non-structural solutions.

Q. If bridges are a constriction along the river, why are we not looking at reconfiguring the pilings like on the LA River? Can we have a standardized measuring system for stages given that there are variations in

stage measurements? I am in favor of dredging and straightening of the Red River – it's legal, efficient and will be 30% cheaper. Do we want to save homes or lily-pads?

A. Not aware of the LA River model, but we can talk to you individually about this during the open house. All of the modeling and plans will be completed in 1988 datum. There will be better continuity on stage data in the future, but there has been a reluctance locally to change. There is a national initiative to standardized datum to 1988 (NAVD 88). We have the standardization of data on this list of considerations for the study.

Q. How do you accommodate traffic over a 2000 foot wide ditch? Why wouldn't the diversion channel go through Fargo on the west?

A. Yes – bridges will be reconstructed. We estimate at least seventeen road crossings and four rail crossings. The way the channel is configured, the bridge won't need to be 2000 feet long, but will be fairly large. We've looked at the diversion on the west and it may be a possibility, however, the Minnesota side is the shortest path from point A to point B. We'll be looking at both sides.

Q. What impact does the Rose Creek project (the Fargo Southside Project) have on the Moorhead levies and the overall project? Moorhead still has walkout basements, could those be flood-proofed as part of the project?

A. The Fargo Southside Project will be looked at as part of the study from a permitting standpoint, but the applicant (the City of Fargo) would be required to show that the project either does not change the stage or mitigates the impacts. Any type of levies that would be put in place through a local effort would be evaluated as a part of the study. USACE credits communities for flood protection work that is in place or will be in place in the near future. Flood-proofing walkouts may be part of a non-structural solution. (City) City supports the flood-proofing of structures but it would likely require a permit, and funding has not been identified that would be available to homeowners to do so.

Q. Fargo and Cass County have proceeded with identifying buyouts, but Moorhead has not. What is the involvement of USACE and what is the hierarchy for decision making?

A. FEMA will likely be involved in buyouts. (City) The City is looking at this issue and it will be discussed at the City Council level. Approximately 70 individuals have stepped forward for potential buyouts in Moorhead; interested parties are encouraged to contact the City. The City will seek funding from the Minnesota Department of Natural Resources as well as FEMA for future buyouts. (Clay County) For those outside of Moorhead, Clay County is also compiling a list of interested individuals.

Q. Would the diversion have a grassed bottom or concrete? Who performs long-term maintenance? How will you ensure that the diversion does not result in a 30 mile long stagnant pool of water?

A. Grassed bottom. USACE negotiates maintenance with the communities and that is specified in the plan and agreement. At the conceptual stage, the diversion would flow only during high water and should dry out over the summer. The details of any project are forthcoming.

Q. Why can't you build dikes on buyout land? Why wasn't Fargo flooding addressed with the Grand Forks project?

A. If you take money from FEMA for a buyout, you cannot build on that land at all – this includes private projects or USACE projects (with few exceptions). We'll be coordinating with FEMA on our project. USACE had been working directly with Grand Forks since the 1980's to identify flood protection for the City. It was coincidental that the flood event occurred at about the same time as progression on the project.

Q. The diversions go through dry land. Why can't they be located in areas where the land is wet?

A. This is a starting point for discussion looking at the shortest route around the City. Some people will be impacted by any project that would be constructed. Looking at a large scale solution will mean that certain individuals will have to sacrifice in order to ensure that everyone benefits to the greatest extent possible. There are real consequences to these decisions. The Minnesota (east) diversion is not the only route that can be constructed but is part of an initial look at solutions.

Q. How did you determine where your starting point and ending point would be for the Minnesota (east) diversion? Where does the water end up?

A. The concept is that the diversion would start at the Wild Rice River and enter back in before the Buffalo River near the Sheyenne. We would ensure that with any diversion, that the individuals living downstream will not be adversely affected.

Q. What about wetland reclamation between Lake Traverse and Fargo Moorhead?

A. Anything we can do to increase capacity in the watershed will help the problem, but not solve it. This will be looked at as part of the project and will be evaluated.

CITY OF Fargo

US Army Corps of Engineers

MOORHEAD MINNESOTA

Fargo-Moorhead Metropolitan Feasibility Study

Overview:

The Fargo-Moorhead Metropolitan Feasibility Study is a cooperative effort between the communities of Fargo and Moorhead, with the US Army Corps of Engineers St. Paul District office. This handout is designed to give a summary of the study and include details of what the scope of the study is, and the timeline in which the study will follow.

Study Goals:

- Understand the flood problems in the greater Fargo-Moorhead Metropolitan area
- Develop a regional system to reduce flood risk.
- Determine the Federal Government's role in implementing flood risk reduction measures
- Document study findings in a Feasibility Report and a National Environmental Policy Act (NEPA) Environmental Impact Statement.
- If appropriate, recommend implementation of a federal project to U.S. Congress.

Problems and Opportunities:

The primary problem in the study area is a high risk of flood damage to urban infrastructure from the Red River of the North, the Wild Rice River (ND), the Buffalo River, and the Sheyenne River. There are opportunities in the study area to increase and improve wildlife habitat and provide recreational amenities.

Planning Objectives:

Planning objectives describe desired positive changes. The national objectives for federal water resource projects are to maximize national economic development and restore ecosystem functions.

The following planning objectives support the national objectives:

1. Reduce flood risk and flood damages in the Fargo-Moorhead metropolitan area.
2. Restore or improve degraded riverine and riparian habitat in and along the Red River of the North, Wild Rice River (North Dakota), Sheyenne River (North Dakota), and Buffalo River (Minnesota).
3. Provide additional wetland habitat in conjunction with other project features.
4. Provide recreational opportunities in conjunction with other project features.

Planning Constraints:

Planning constraints describe restrictions that should not be violated. The following planning constraints have been identified for this study:

1. Avoid increasing peak Red River flood stages, either upstream or downstream
2. Comply with the Boundary Waters Treaty of 1909 and other pertinent international agreements.
3. Avoid negatively impacting the Buffalo Aquifer in Minnesota.

Summary Description of Flooding History:

The Fargo-Moorhead metropolitan area has a relatively high risk of flooding. The highest river stages usually occur as a result of spring snowmelt, but summer rainfall events have also caused significant flood damages. The Red River of the North has exceeded the National Weather Service flood stage of 17 feet in 51 of the past 107 years, and every year from 1993 through 2009. The study area is between the Wild Rice River, the Sheyenne River, and the Red River of the North; inter basin flows complicate the hydrology of the region and contribute to extensive flooding

Fargo and Moorhead have become accustomed to dealing with flooding. Sufficient time is usually available to prepare for flood fighting because winter snowfall can be monitored to predict unusual spring runoff. Both communities have well documented standard operating procedures for flood fights. Both communities avoided major flood damages in the historic floods of 1997 and 2009 by either raising existing levees or building temporary barriers. Since the 1997 flood, both communities have implemented mitigation measures, including acquisition of almost 100 floodplain homes, raising and stabilizing existing levees, installing permanent pump stations, and improving storm sewer lift stations and the sanitary sewer system. Although emergency measures have been very successful, they may also contribute to an unwarranted sense of security that does not reflect the true flood risk in the area.

Array of Plans Considered:

This feasibility study will consider a wide range of plans to meet the planning objectives. Each plan is a combination of various management measures. A management measure is a feature or activity at a site that addresses one or more of the planning objectives. The following types of measures will be considered:

No Action. The Corps is required to consider the option of "No Action" as one of the alternatives to comply with the requirements of the National Environmental Policy Act (NEPA). No Action assumes that the Federal Government would implement no project to achieve the planning objectives. No Action, which is synonymous with the Future Without-Project Condition, forms the basis to which all other alternative plans are compared.

Nonstructural. Nonstructural flood risk management measures include things such as buying and relocating flood-prone structures, flood proofing, elevating structures, employing flood warning systems, drainage controls and flood insurance. The Corps must develop and present at least one plan that is primarily nonstructural in nature. Nonstructural measures will also be considered for integration with structural measures to maximize effectiveness of all alternatives.

Structural. Structural measures include constructing large-scale reservoirs, small-scale flood storage, and levees and diversion channels to reduce peak flows or direct floodwaters away from damageable property. The following structural measures will be considered:

- **Continue emergency measures**
- **Flood barriers**
  - Levees
  - Floodwalls
  - Invisible floodwalls
  - Gate closures
  - Pump stations
- **Increase conveyance**
  - Diversion channels around the study area
    - In Minnesota
    - In North Dakota
  - Increased conveyance in Oakport Coulee
  - Cutoff channels (to short-cut existing meanders)
  - Dredging the river channel
  - Flattening slopes on river bank
  - Replacing bridges
- **Flood storage**
  - Large dams upstream
  - Distributed storage upstream

Preliminary Findings:

Between September 2008 and May 2009, the Fargo-Moorhead Metro study team gathered information to assess existing conditions in the study area. Hydraulic models were built to determine expected water surface elevations for a full range of possible flood events. A structure inventory was conducted focusing on both residential and nonresidential structures within the study area. Information gathered included address, structure type, estimated depreciated replacement value, first floor and lowest adjacent grade elevation, presence of a basement, and depreciated replacement value. This information was used to calculate expected annual flood damages if no federal action is taken. The study team looked at two preliminary plans to verify that additional study is warranted.

Economics

The Fargo Moorhead metropolitan area is subject to a relatively high risk of flooding every year. Expected annual damages are the expected value of flood losses for any given year and take into consideration the full range of possible flood events. The expected annual flood damages in the Fargo-Moorhead metropolitan area are currently estimated at over $64 million.

Single event damages consist of damages due to a catastrophic failure of flood protection. For the Fargo Moorhead metropolitan area they are as follows:
100 year flood - $ 2.1 billion
250 year flood - $ 5.0 billion
500 year flood - $ 6.6 billion

Alternatives investigated to date

The study team prepared conceptual designs and cost estimates for two structural alternatives. An east-side diversion channel plan from the confluence of the Wild Rice River to a point northwest of Kragnes, MN could substantially reduce the frequency of high flood stages through Fargo and Moorhead. Such a diversion was estimated to cost approximately $909 million. A levee plan along the Red River in Fargo and Moorhead (including the proposed Fargo Southside Levee) that could be certified to provide 100-year level of protection were estimated to cost approximately $625 million. Neither plan was optimized, and only very preliminary results are available regarding the effectiveness of these alternatives. Additional study is needed to refine these alternatives and explore other concepts in order to identify an optimal plan to reduce flood damages in the study area.

Preliminary Schedule

Sep 2009:	Alternative Screening
Oct 2009:	Public Meeting
Jan 2010:	Indentify tentatively recommended plan
Jan 2010:	Public meeting
Sep 2010:	Finalize feasibility report
Oct 2010:	Public Meeting
Dec 2010:	Transmit recommendation to Congress
Jan 2011:	Begin plans and specifications
Apr 2012:	Begin Construction

How to Get More Information and stay Informed:

Visit the study website at: http://www.internationalwaterinstitute.org/feasibility

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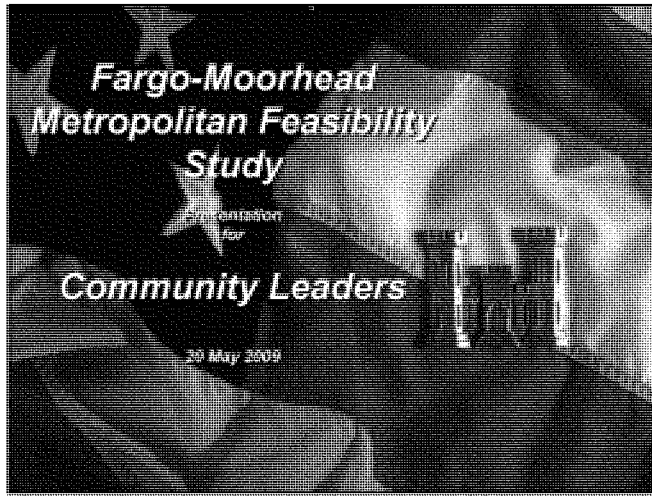
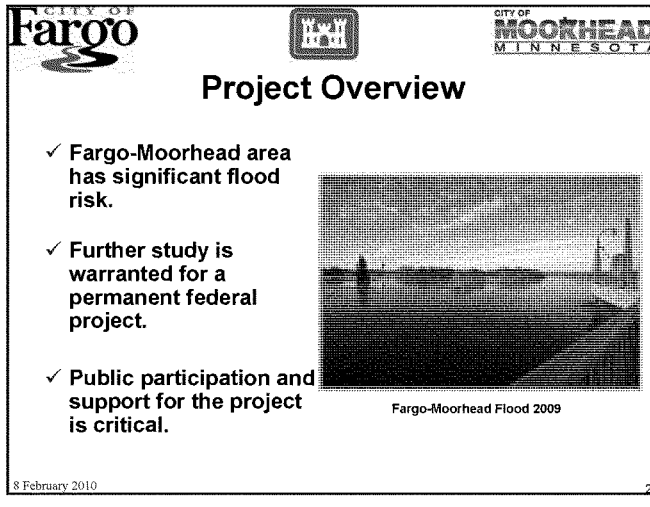
Presentation 5:

May 20, 2009


Fargo-Moorhead
Metropolitan Feasibility
Study
Presentation
for
Community Leaders
20 May 2009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Project Overview
✓ Fargo-Moorhead area has significant flood risk.
✓ Further study is warranted for a permanent federal project.
✓ Public participation and support for the project is critical.
Fargo-Moorhead Flood 2009
8 February 2010
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WHO PAYS FOR THIS?

- ✓ Study costs are shared 50% federal, 50% non-federal
- ✓ Congress provides federal funds to the Corps
- ✓ Non-federal funding is provided by:
  - ✓ City of Fargo, ND
  - ✓ City of Moorhead, MN
  - ✓ Buffalo-Red River Watershed District, MN
- ✓ Estimated study cost: $5,318,000
- ✓ Construction costs are shared 65% fed, 35% non-fed

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Role of the Corps of Engineers

- ✓ Lead feasibility study effort.
- ✓ Identify the plan that provides the most benefits for the nation.
- ✓ Comply with all laws and regulations.
- ✓ Consider the views of all stakeholders.
- ✓ Pay half of the feasibility study costs.

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Fargo/Moorhead Role

- ✓ Full partners in the study team.
- ✓ Develop local consensus.
- ✓ Assist with plan development.
- ✓ Identify local issues.
- ✓ Pay half of the feasibility study costs.

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Planning Process

1. Specify problems and opportunities.
2. Inventory and forecast conditions.
3. Formulate alternative plans.
4. Evaluate effects of alternative plans.
5. Compare alternative plans.
6. Select recommended plan.

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STUDY GOALS

- ✓ Develop a system to reduce regional flood risk
- ✓ Determine the Federal role in implementation
- ✓ Document findings in a Feasibility Report
- ✓ Recommend a project to Congress

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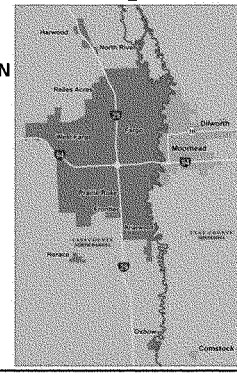
STUDY AREA

- ✓ Fargo-Moorhead metropolitan & surrounding area
  - ✓ North: Harwood, ND & Kragnes, MN
  - ✓ South: Oxbow, ND
  - ✓ East: Dilworth, MN
  - ✓ West: West Fargo, ND



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Risk

- ✓ The 2009 flood was approximately a 125 year flood event.
- ✓ Successful flood fights lead to a false sense of security.
- ✓ It would be very difficult to fight floods larger than the 2009 flood.
- ✓ Failure of emergency levees would be catastrophic.

Fargo-Moorhead Flood

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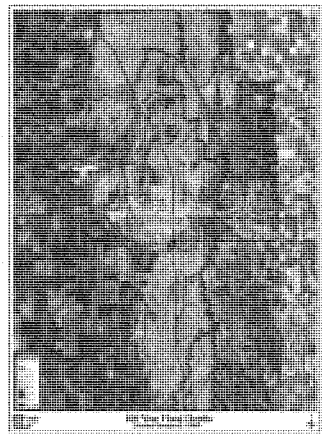

Potential Depths of Inundation

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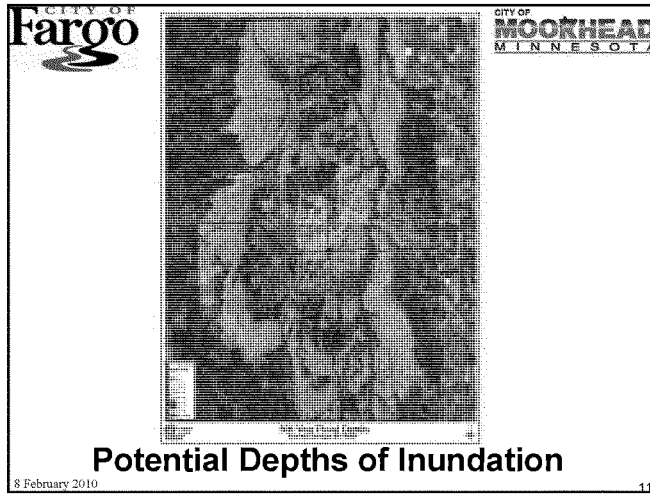
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Potential Depths of Inundation
8 February 2010
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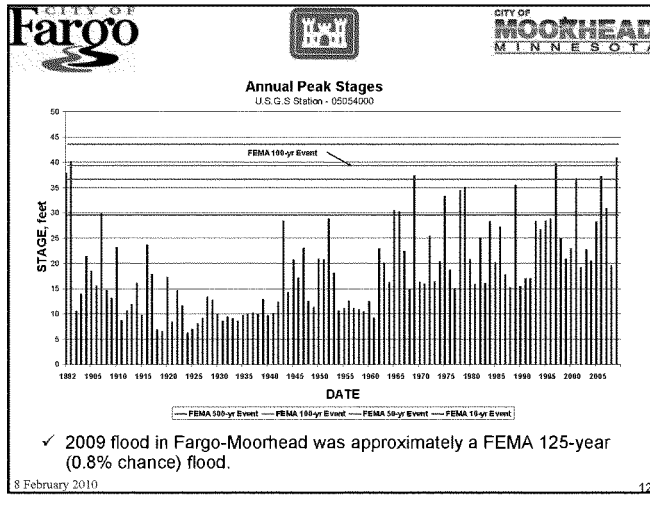
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Annual Peak Stages
U.S.G.S Station - 05054000
FEMA 100-yr Event
STAGE, feet
DATE
FEMA 500-yr Event
FEMA 100-yr Event
FEMA 50-yr Event
FEMA 10-yr Event
✓ 2009 flood in Fargo-Moorhead was approximately a FEMA 125-year (0.8% chance) flood.
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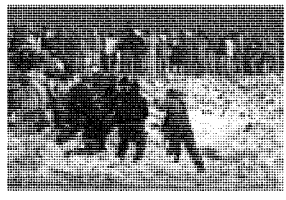
Flood Risk

During the life of a 30-year mortgage,
the odds of having a Red River flood
larger than the 2009 flood
are about

1 in 5.



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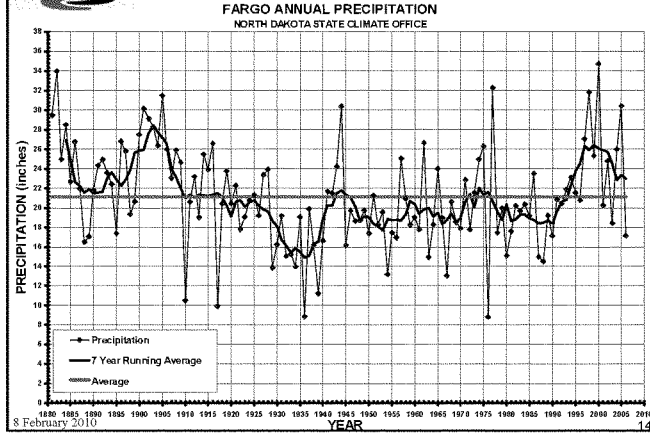

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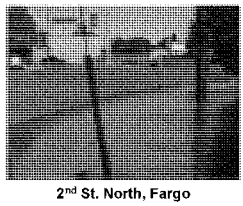
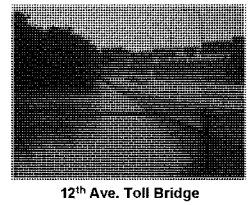
Flood Risk

- ✓ **Rain events cause flooding, too:**
  - ✓ **7-inch rain June 20, 2000**
  - ✓ **Flood insurance can help mitigate that risk.**



2nd St. North, Fargo



12th Ave. Toll Bridge

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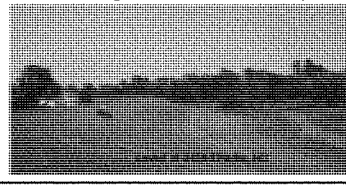
Level of Protection

- ✓ Design levels of protection in other Red River cities:
  - ✓ **Wahpeton-Breckenridge: >100-year**
  - ✓ **Grand Forks-East Grand Forks: 250-year**
  - ✓ **Pembina, ND: >100-year**
  - ✓ **Winnipeg, MB: 700-year**
- ✓ The objective of this project is to provide a high level of protection to the Fargo-Moorhead metropolitan area.



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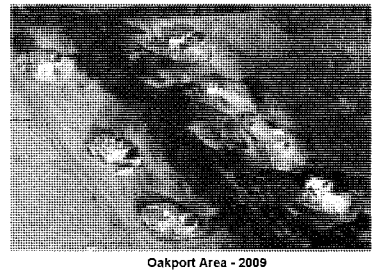
Other Projects

- ✓ Fargo-Ridgewood
- ✓ Oakport
- ✓ Fargo Southside Flood Control



Oakport Area - 2009

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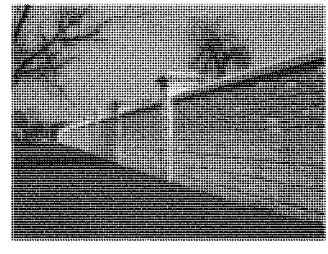
ALTERNATIVES

- ✓ Continue Emergency Measures
- ✓ Non-Structural Flood Proofing
- ✓ Flood Barriers
  - ✓ Levees/Floodwalls
  - ✓ Gate Closures
  - ✓ Pump Stations
- ✓ Increase Conveyance
  - ✓ Diversion Channels
  - ✓ Cutoff Channels
  - ✓ Replacing Bridges
- ✓ Flood Storage



Floodwall at Grand Forks

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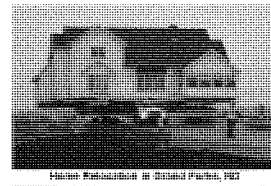
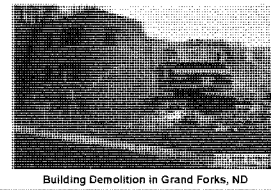
Non- Structural Flood Proofing

- ✓ Relocation of Structures in Flood Plain
- ✓ Buyout and Demolition of Structures
- ✓ Raising of Structures



Building Relocation in Grand Forks, ND



Building Demolition in Grand Forks, ND

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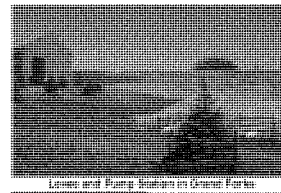
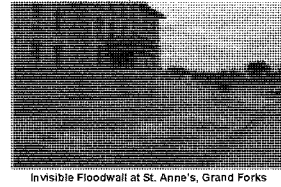
Flood Barriers

- ✓ Earthen Levees
- ✓ Flood Walls
- ✓ Pump Stations
- ✓ Gated Closures



Levees and Pump Stations in Grand Forks



Invisible Floodwall at St. Anne's, Grand Forks

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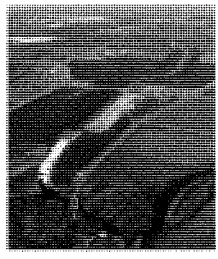
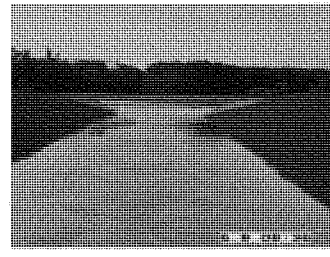
Diversion Channel

- ✓ Would re-route a portion of the flood water around Fargo – Moorhead.
- ✓ We will consider alternative alignments in both ND and MN.
- ✓ Preliminary analysis looked only at the shortest Minnesota diversion.





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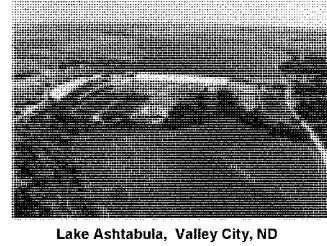
Water Storage

- ✓ Retain water upstream to decrease flood crests.
- ✓ Would not solve problem completely, but could be part of final solution.
- ✓ Could be implemented by state and local governments.



Lake Ashtabula, Valley City, ND

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Phase I

- ✓ **Phase I – Completed April 2009**
- ✓ **Gathered existing information**
  - ✓ Environmental Resources
  - ✓ Social/Cultural Resources
  - ✓ Hydrologic/Hydraulic Conditions
  - ✓ Existing levees and flood reduction measures
- ✓ **Average Annual Damages - $64,000,000**
  - ✓ Economic Surveys of Residences and Businesses in Fargo and Moorhead
  - ✓ Additional work in Phase II for other communities
  - ✓ Documentation of flood fight costs

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Phase I

- ✓ **Levee Alternative First Cost - $625,000,000**
  - ✓ 1% Levee for both Fargo and Moorhead
  - ✓ Includes Southside Project
- ✓ **East Diversion First Cost - $910,000,000**
  - ✓ Approximately 20 feet deep, 500 foot bottom, total width of 2000 feet
  - ✓ Nearly 30 miles
  - ✓ Included 15 highway and 4 railroad bridges.

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F-M METRO STUDY TIMELINE

- ✓ Sept 2009: Alternative Screening
- ✓ Jan 2010: Identify tentatively recommended plan
- ✓ Sep 2010: Finalize feasibility report
- ✓ Dec 2010: Transmit recommendation to Congress
- ✓ Jan 2011: Begin Plans and Specifications
- ✓ April 2012: Begin Construction

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Contact Information

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Q. What does a diversion do to our neighbors north of us?
A. We will not make someone worse off without compensating them.

Q. What is the land price used for diversion?
A. We do not know the final price that will be used in the diversion alternative.

Q. What will the price tag be if alternatives are combined?
A. The final price would be a total of all the different alternatives that are approved.

Q. Would a diversion be slower due to other issues?
A. Net plan would provide maximum benefits for the nation.

Q. Would you be able to have protection above 100yr protection with levees?
A. Right now we are looking at 100 yr protection plus free board, the levee may not be as safe if raised higher. Physical conditions limit the height of the levees.

Mark Bittner and April Walker presented a power point on the Fargo South Side Flood Control Project.

Q. Are the channel extensions in the flood way?
A. In most cases they are, except for one area in Fargo.

Q. Is the Corps study and Fargo South Side running together?
A. FSSFC will be ready to go if Corps decides against a federal project.

Q. What exactly do the channel extensions do?
A. They provide more storage, as well as allow more volume to flow.

Q. How drastically will the channel extensions change the river?
A. The Red river bed is very sound against erosion.

Q. What is the impact on the northern community?
A. With the storage incorporated into the project, there will be a zero impact.

Q. What will the impacts be if every community east of County road 81 is being protected?
A. The model was run with every possible community being protected.

Q. How far south is the benefit (drop in stage)?
A. Rose Coulee (Fargo), Trollwood (Moorhead)

Q. How far south is the Corps going to go with future projects?
A. All communities will be considered.

Q. At what benefit level will the corps justify a plan or project?
A. When the B/C ratio is at least 1 or higher, or $1 cost = $1 benefit

Q. If the FSSFC is in place, would it take away to many benefits?
A. For that reason we are working closely with the city of Fargo. If we don't approve a project the

city will be ready to go ahead with the FSSFC.

Q. When reviewing plans how will you make sure you don't negatively impact the areas north of the FSSFC?
A. The Omaha Corps of Engineers district will conduct an H & H review to make sure it is sound.

Fargo Mayor Dennis Walaker then talked briefly about every entity working together, for that would be the only way permanent flood protection could be obtained. Also stated, the time to act is now, for this may be the last chance to get permanent protection.

Q. Will the Buffalo aquifer be affected?
A. The corps will soon begin studying that question.

Q. What would the diversion do to reduce the flood stage?
A. It would approximately reduce the flood stages as follows: a 500 yr event would be brought down to a 100 yr event. A 100 yr event would be brought down to a 50 yr event

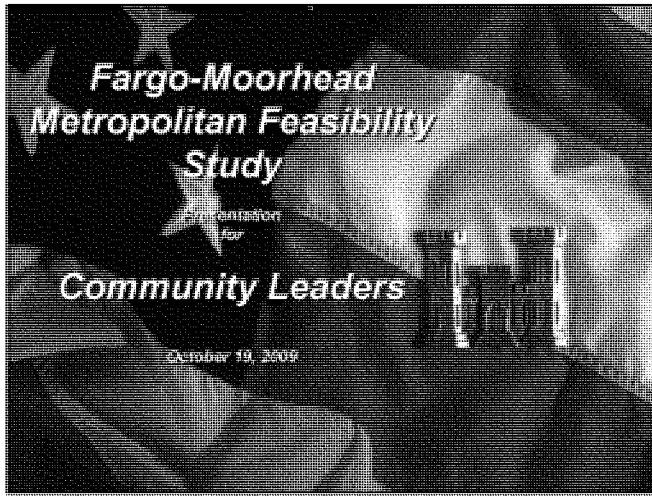
Q. Why weren't channel extensions further south?
A. They would not have as big of an impact. Developments along the river make extensions difficult to implement.

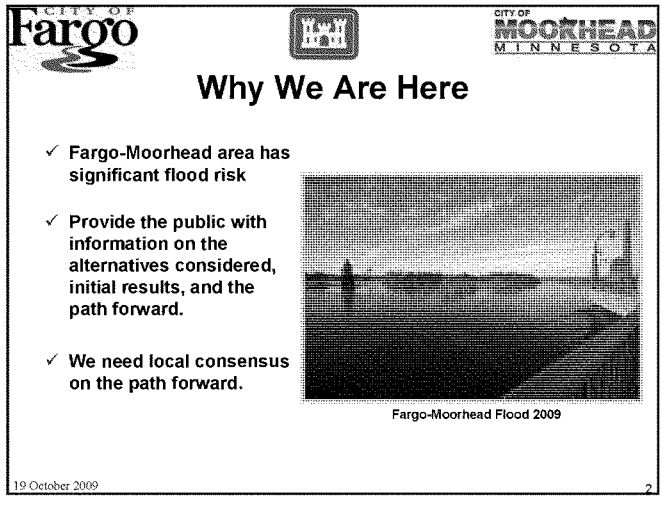
Q. Does the Corps come out of separate districts?
A. All civil works projects in this basin are all from the St. Paul District.

Q. What happens if there is a legal challenge to the channel extensions?
A. It would go through all government entities, before proceeding.

Presentation 6:

October 19, 2009


Fargo-Moorhead
Metropolitan Feasibility
Study
Presentation
for
Community Leaders
October 19, 2009


CITY OF
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Why We Are Here
✓ Fargo-Moorhead area has significant flood risk
✓ Provide the public with information on the alternatives considered, initial results, and the path forward.
✓ We need local consensus on the path forward.
Fargo-Moorhead Flood 2009
19 October 2009
2

Funding and Costs

- ✓ Study costs are shared 50% federal, 50% non-federal
- ✓ Congress provides federal funds to the Corps
- ✓ Non-federal funding is provided by:
  - ✓ City of Fargo, ND
  - ✓ City of Moorhead, MN
  - ✓ Buffalo-Red River Watershed District, MN
  - ✓ Cass County, ND
- ✓ Estimated study cost: $6,400,000
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19 October 2009 3

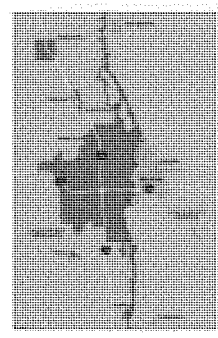
Study Goals

- ✓ Develop a system to reduce regional flood risk
- ✓ Determine the Federal role in implementation
- ✓ Document findings in a Feasibility Report
- ✓ Recommend a project to Congress

19 October 2009 4

Study Area

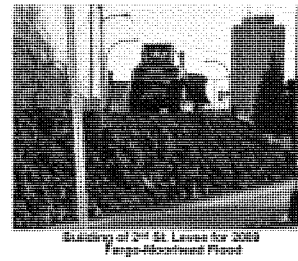
- ✓ **Fargo-Moorhead metropolitan & surrounding area**
  - ✓ **North: Harwood, ND & Kragnes, MN**
  - ✓ **South: Oxbow, ND**
  - ✓ **East: Dilworth, MN**
  - ✓ **West: West Fargo, ND**



19 October 2009 5

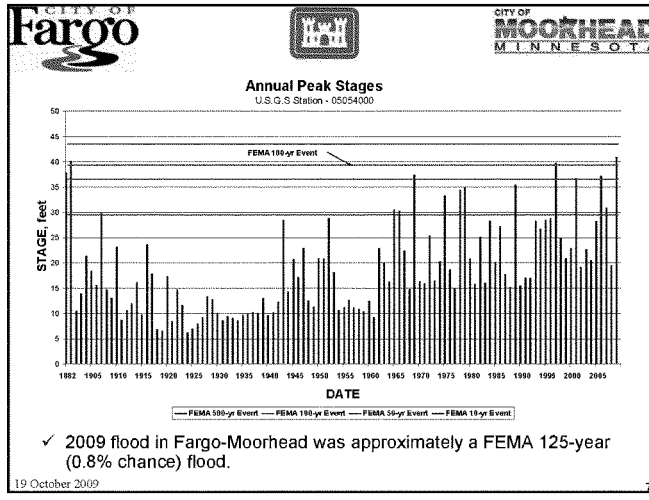
Risk

- ✓ The 2009 flood was approximately a 125 year flood event.
- ✓ Successful flood fights lead to a false sense of security.
- ✓ It would be very difficult to fight floods larger than the 2009 flood.
- ✓ Failure of emergency levees would be catastrophic.



Building of 2nd St Levee for 2009 Fargo-Moorhead Flood

19 October 2009 6


CITY OF Fargo
CITY OF MOORHEAD MINNESOTA
Annual Peak Stages
U.S.G.S Station - 05054000
FEMA 100-yr Event
STAGE, feet
DATE
FEMA 500-yr Event
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FEMA 50-yr Event
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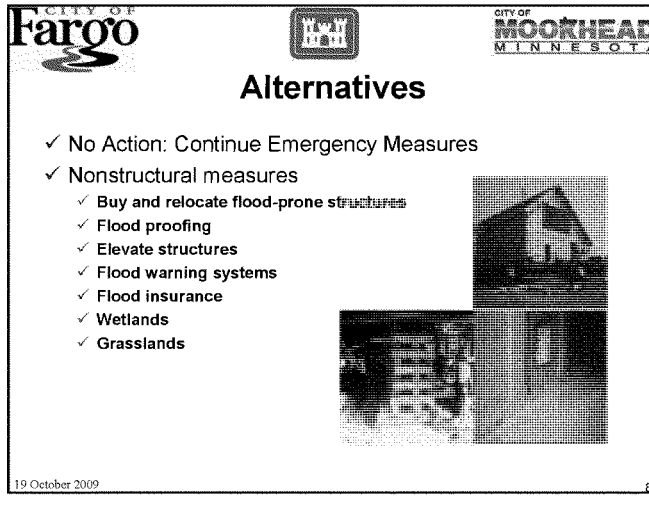
19 October 2009
7


CITY OF Fargo
CITY OF MOORHEAD MINNESOTA
Alternatives
✓ No Action: Continue Emergency Measures
✓ Nonstructural measures
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✓ Flood proofing
✓ Elevate structures
✓ Flood warning systems
✓ Flood insurance
✓ Wetlands
✓ Grasslands
19 October 2009
8

Alternatives

- ✓ Increase conveyance
  - ✓ Diversion channels around the study area
    - ✓ In Minnesota
    - ✓ In North Dakota
  - ✓ Underground tunnels
  - ✓ Interstate 29 viaduct
  - ✓ Increase conveyance in Oakport Coulee
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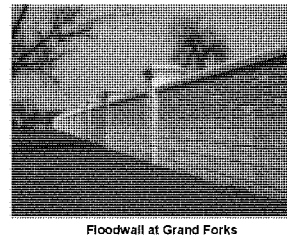
19 October 2009 9

Alternatives



Floodwall at Grand Forks

- ✓ Flood barriers
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  - ✓ Invisible floodwalls
  - ✓ Gate closures
  - ✓ Pump stations
- ✓ Flood storage
  - ✓ Large dams upstream
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  - ✓ Controlled field runoff
  - ✓ Storage ponds, also used for water conservation

19 October 2009 10

Initial Screening Criteria

- ✓ **Effectiveness:** Ability to provide acceptable level of flood risk management
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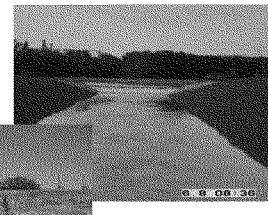
- ✓ **Separable Mitigation:** Is separable mitigation required and what is the cost
- ✓ **Cost Effectiveness:** Comparison of benefits and costs

19 October 2009 11

Initial Screening Results

- ✓ No Action: Continue Emergency Measures
- ✓ Diversion Channels
  - ✓ **Minnesota**
  - ✓ **North Dakota**
- ✓ Levees



19 October 2009 12

CITY OF Fargo

CITY OF MOORHEAD MINNESOTA

Detailed Analysis

- ✓ **Completed Detailed Analysis**
  - ✓ MN Diversions
    - ✓ 6 separate plans (2 alignments & 3 capacities: 25,000, 35,000, and 45,000 cfs)
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  - ✓ Levee Alternative
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  - ✓ Non-Structural Alternatives
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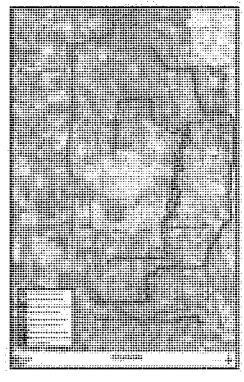
CITY OF Fargo

CITY OF MOORHEAD MINNESOTA



19 October 2009 14

CITY OF Fargo

CITY OF MOORHEAD MINNESOTA

Preliminary Results

Screened Alternatives Ranked by Net Benefits

Alternative	First Cost *	Avg Annual Net Benefits *	Residual Damages *	B/C Ratio
MN Short Diversion 25K	962	11.0	14.3	1.22
MN Short Diversion 35K	1,092	9.4	9.3	1.17
Levee 1% chance (100-year	902	7.7	20.9	1.17
MN Long Diversion 25K	1,055	5.6	15.0	1.10
MN Short Diversion 45K	1,264	2.5	7.4	1.04
MN Long Diversion 35K	1,260	0.3	9.8	1.00
ND East Diversion 35K	1,337	-3.1	9.2	0.95
ND West Diversion 35K	1,363	-4.4	9.2	0.94
Levee 2% chance (50-year)	840	-5.3	37.1	0.88
ND West Diversion 45K	1,439	-6.7	7.6	0.91
MN Long Diversion 45K	1,459	-8.3	8.2	0.89

* In millions of dollars

Note: Expected average annual damages without a project are $73.7 million.

19 October 2009 15

CITY OF Fargo

CITY OF MOORHEAD MINNESOTA

Preliminary Results

Effects of Diversions

	STAGE at the FARGO GAGE		
	2% Chance (50-year)	1% Chance (100-year)	0.2% Chance (500-year)
Existing Condition	37.8	39.5	43.9
25k Diversion	29.1	30.4	39.2
35k Diversion	28.8	29.2	35.9
45k Diversion	27.1	27.2	30.4

Stage	Impacts
27	Fargo Elm Street closed
30	Fargo 2nd Street Dike installed
31	Moorhead 1st Ave. North closed
32	First homes in Moorhead threatened
35	First homes in Fargo threatened
40.8	2009 Flood Record Stage

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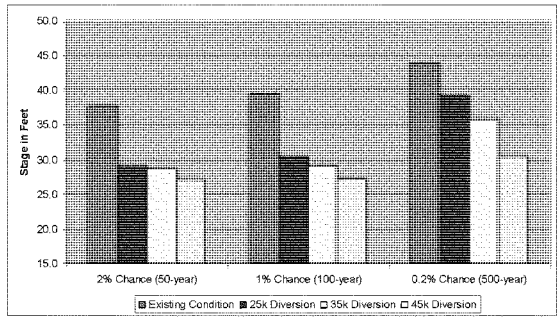
CITY OF Fargo

CITY OF MOORHEAD MINNESOTA

Preliminary Results

Effects of Diversions



19 October 2009 17

CITY OF Fargo

CITY OF MOORHEAD MINNESOTA

Path Forward

- ✓ **Uncertainties:**
  - ✓ Natural Resource impacts (fish passage – greater for ND diversion alignments)
    - ✓ Mitigation costs not accounted
  - ✓ Additional project benefits – ND diversion provides benefits from other rivers
  - ✓ Impacts to upstream/downstream landowners
    - ✓ Known levee impacts, not accounted
    - ✓ Unknown diversion impacts, not accounted
- ✓ **Upcoming Tasks**
  - ✓ Develop additional benefit information
  - ✓ Develop costs for any negative impacts
  - ✓ Develop additional capacity alternatives
  - ✓ Refine alignments

19 October 2009 18

CITY OF Fargo

CITY OF MOORHEAD MINNESOTA

Path Forward

- ✓ Recommend further analysis of:
  - ✓ Minnesota Short Diversion Alignments
    - ✓ Develop new 20K, 30K, 40K capacities
    - ✓ Update 25K & 35K capacities with new hydrology
    - ✓ Optimize
  - ✓ North Dakota East Alignment
    - ✓ Determine extra benefits from tributary floods
    - ✓ Depending on extra benefits decide with sponsors on path forward
  - ✓ Levee Alignments
    - ✓ Develop additional levee profiles – 1.5% chance (75-year)

19 October 2009 19

CITY OF Fargo

CITY OF MOORHEAD MINNESOTA

F-M METRO STUDY TIMELINE

✓ Jan 2010:	Identify unofficial tentatively selected plan
✓ Jan 2010:	Public Meeting
✓ Mar 2010:	Independent External Peer Review
✓ May 2010:	Formal Public Review of Feasibility Report
✓ Sep 2010:	Finalize feasibility report
✓ Dec 2010:	Transmit recommendation to Congress
✓ Jan 2011:	Begin Plans and Specifications
✓ Apr 2012:	Begin Construction

19 October 2009 20

Local Decision Makers

- ✓ **Review Questions/Decisions Handout**
  - ✓ What level of risk is tolerable?
  - ✓ What locally preferred options need to be retained?
    - ✓ Need local decisions by December 1, 2009
  - ✓ Identify sponsors for construction and ongoing O&M
  - ✓ Define non-federal cost sharing arrangements
    - ✓ Non-federal share of the NED plan will be 35-50% of costs
    - ✓ All costs in excess of the NED plan are 100% non-federal
  - ✓ Develop local consensus

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Contact Information

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651-290-5489

Craig O. Evans
Senior Project Manager/Planner, Regional Technical Specialist
St. Paul District, U.S. Army Corps of Engineers
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Fargo-Moorhead Metro Feasibility Study
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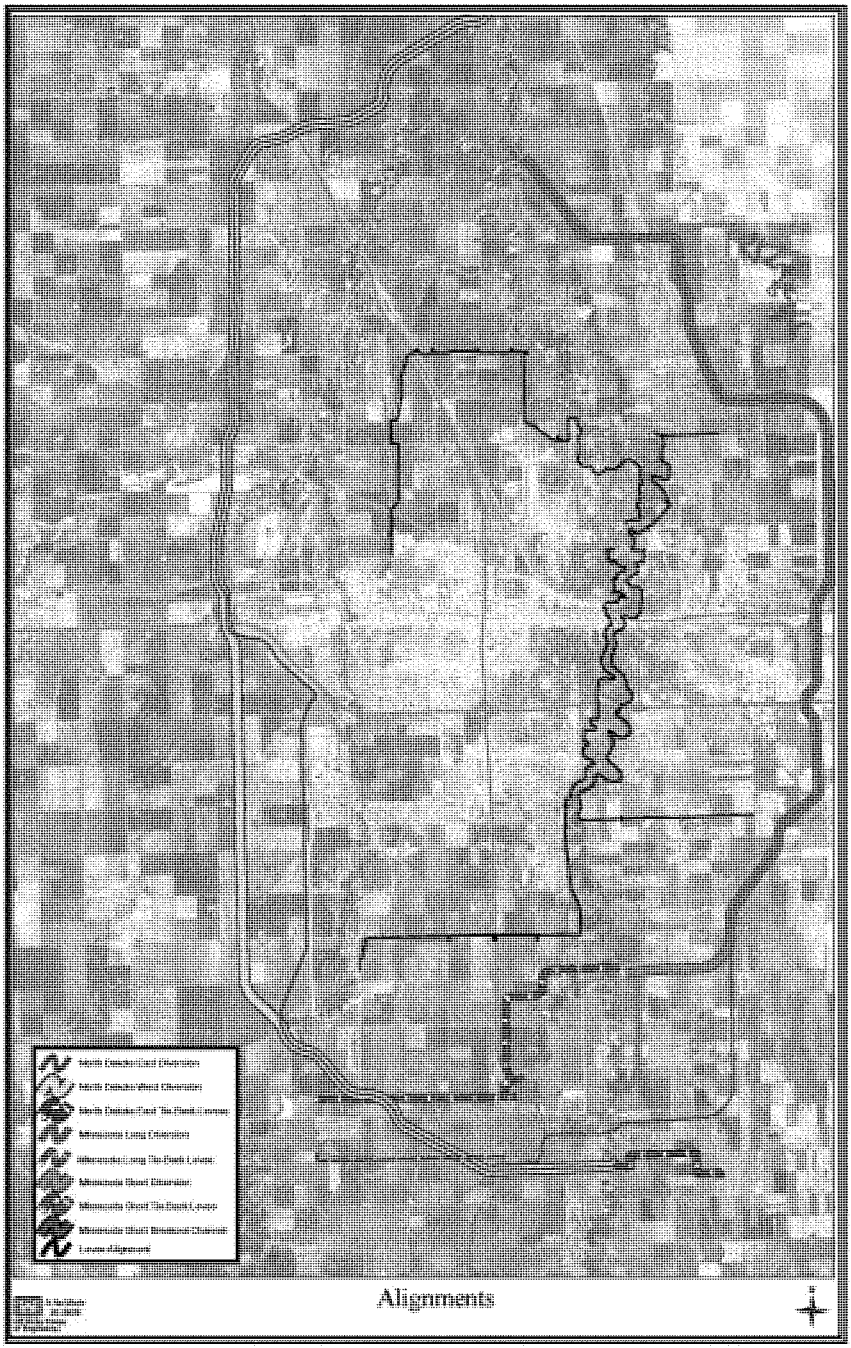
Alignments

Presentations 7 and 8:

October 20, 2009
October 21, 2009

News Release

US Army Corps of Engineers ®
St. Paul District
www.mvp.usace.army.mil
Public Affairs

Shannon Bauer 651.290.5108 (o) 612-840-9453 (c) Shannon.l.bauer@usace.army.mil
Mark Davidson 651.290.5201 (o) 651.261-6769 (c) mark.d.davidson@usace.army.mil

Oct. 19, 2009
Release #PA-2009-141

Corps of Engineers narrows down list of options for potential Fargo-Moorhead flood damage reduction projects

SAINT PAUL, MINN. – After studying numerous potential flood damage reduction options for the Fargo, N.D./Moorhead, Minn., metropolitan area in a feasibility study, the U.S. Army Corps of Engineers, St. Paul District, recommends narrowing the focus of the study to three potential alternatives that will provide the most benefit at the least amount of cost to the tax payer.

These three alternatives include a diversion channel through Minnesota, a diversion channel through North Dakota and levees along the riverbank.

The Corps is presenting its preliminary findings to community leaders this morning. Information provided at this briefing can be found at: ftp://ftp.usace.army.mil/pub/mvp/Fargo_Oct_Meetings/.

The Corps will also present this information and solicit public feedback at two public meetings this week. The first meeting will be **Oct. 20 at the Howard Johnson Inn, Townhouse Room, 301 3rd Ave., N., in Fargo**. The second meeting will be held **Oct. 21 at Hagen Hall/Science Lab Complex Auditorium 104, Minnesota State University-Moorhead campus in Moorhead**. Both meetings will begin at 6 p.m. with an open house, followed by a formal presentation at 7 p.m. and a question and answer period ending at 9 p.m. Anyone interested in the study is welcome to attend either meeting.

The Corps, along with its local sponsors, the cities of Fargo and Moorhead, will continue to study and refine these three optionsbefore making a tentative selection in January of 2010. The tentative selection will undergo both technical and policy reviews prior to public release of the draft report in May 2010.

The U.S. Army Corps of Engineers, St. Paul District, serves the American public in the areas of environmental enhancement, navigation, flood damage reduction, water and wetlands regulation, recreation sites and disaster response. It contributes around $126 million to the five-state district economy. The more than 625 employees work at more than 40 sites in five upper-Midwest states. For more information, see www.mvp.usace.army.mil.

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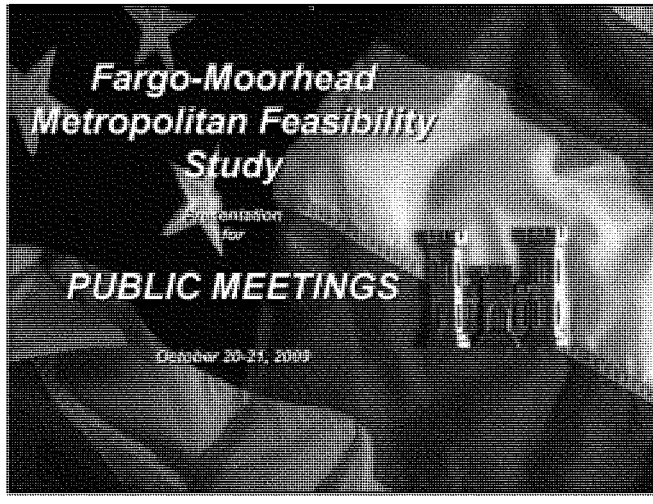
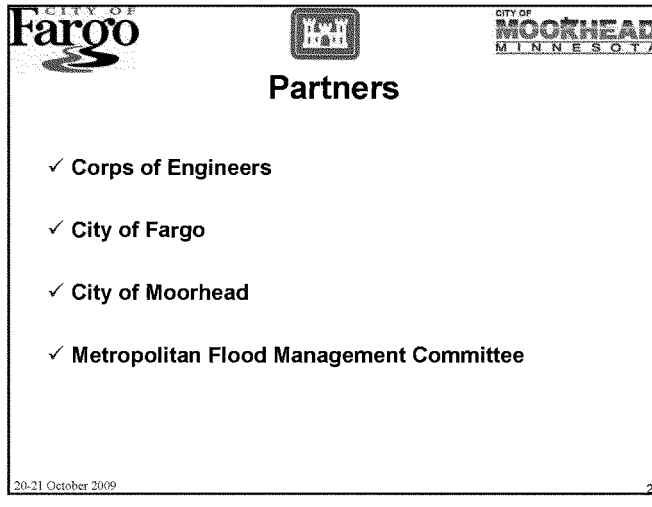

Fargo-Moorhead
Metropolitan Feasibility
Study
PUBLIC MEETINGS
October 20-21, 2009


CITY OF
Fargo
CITY OF
MOORHEAD
MINNESOTA
Partners
✓ Corps of Engineers
✓ City of Fargo
✓ City of Moorhead
✓ Metropolitan Flood Management Committee
20-21 October 2009
2

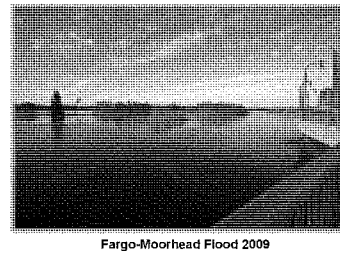
Format for Meeting

- ✓ Open House
- ✓ Please sign in and pick up handouts
  - ✓ Indicate if you'd like to be added to the mailing list
- ✓ Slide Presentation
- ✓ Question & Answer Period
- ✓ Open House

20-21 October 2009 3

Why We Are Here

- ✓ Fargo-Moorhead area has significant flood risk
- ✓ Provide the public with information on the alternatives considered, initial results, and the path forward.
- ✓ We want public participation in the process



Fargo-Moorhead Flood 2009

20-21 October 2009 4

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- ✓ Estimated study cost: $6,400,000
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Planning Process

1. Specify problems and opportunities.
2. Inventory and forecast conditions.
3. Formulate alternative plans.
4. Evaluate effects of alternative plans.
5. Compare alternative plans.
6. Select recommended plan.

20-21 October 2009 6

Study Goals

- ✓ Develop a system to reduce regional flood risk
- ✓ Determine the Federal role in implementation
- ✓ Document findings in a Feasibility Report
- ✓ Recommend a project to Congress

20-21 October 2009 7

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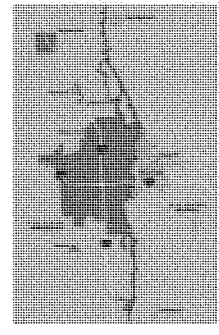

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CITY OF Fargo

CITY OF MOORHEAD MINNESOTA

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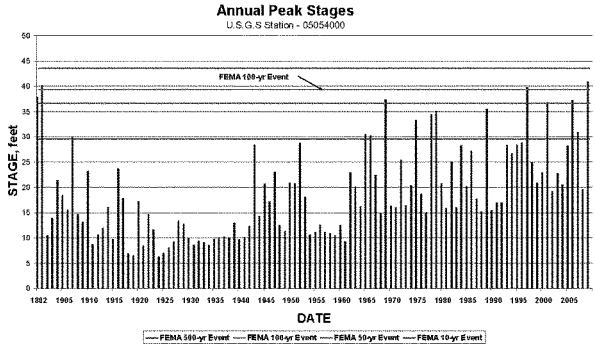
Fargo-Moorhead Flood

20-21 October 2009 9

CITY OF Fargo

CITY OF MOORHEAD MINNESOTA



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20-21 October 2009 10

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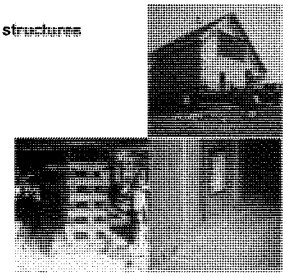
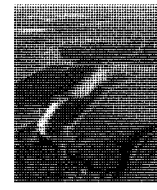


20-21 October 2009 11

Alternatives



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20-21 October 2009 12

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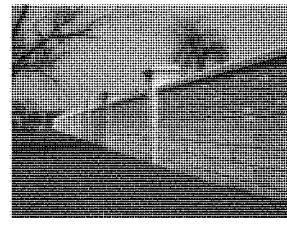

Floodwall at Grand Forks

20-21 October 2009 13

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20-21 October 2009 14

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20-21 October 2009 15

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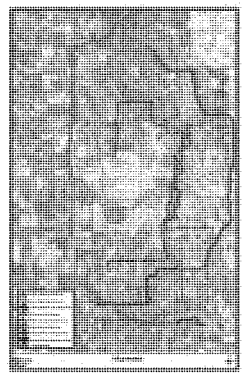
20-21 October 2009 16



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Preliminary Results

Screened Alternatives Ranked by Net Benefits

Alternative	First Cost *	Avg Annual Net Benefits *	Residual Damages *	B/C Ratio
MN Short Diversion 25K	962	11.0	14.3	1.22
MN Short Diversion 35K	1,092	9.4	9.3	1.17
Levee 1% chance (100-year	902	7.7	20.9	1.17
MN Long Diversion 25K	1,055	5.6	15.0	1.10
MN Short Diversion 45K	1,264	2.5	7.4	1.04
MN Long Diversion 35K	1,260	0.3	9.8	1.00
ND East Diversion 35K	1,337	-3.1	9.2	0.95
ND West Diversion 35K	1,363	-4.4	9.2	0.94
Levee 2% chance (50-year)	840	-5.3	37.1	0.88
ND West Diversion 45K	1,439	-6.7	7.6	0.91
MN Long Diversion 45K	1,459	-8.3	8.2	0.89

* In millions of dollars

Note: Expected average annual damages without a project are $73.7 million.

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Preliminary Results

Effects of Diversions

	STAGE at the FARGO GAGE		
	2% Chance (50-year)	1% Chance (100-year)	0.2% Chance (500-year)
Existing Condition	37.8	39.5	43.9
25k Diversion	29.1	30.4	39.2
35k Diversion	28.8	29.2	35.9
45k Diversion	27.1	27.2	30.4

Stage	Impacts
27	Fargo Elm Street closed
30	Fargo 2nd Street Dike installed
31	Moorhead 1st Ave. North closed
32	First homes in Moorhead threatened
35	First homes in Fargo threatened
40.8	2009 Flood Record Stage

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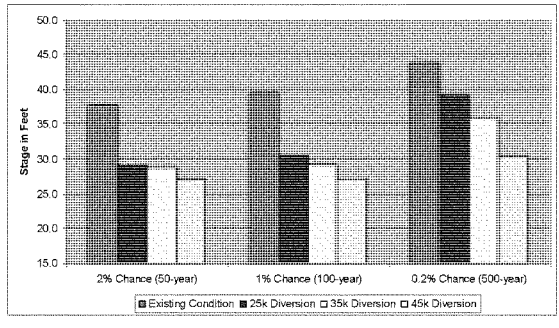
Preliminary Results

Effects of Diversions



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Path Forward

- ✓ **Uncertainties:**
  - ✓ Natural Resource impacts (fish passage – greater for ND diversion alignments)
    - ✓ Mitigation costs not accounted
  - ✓ Additional project benefits
    - ✓ ND diversion provides benefits from other rivers
    - ✓ Additional transportation benefits for diversions
  - ✓ Impacts to upstream/downstream landowners
    - ✓ Known levee impacts, not accounted
    - ✓ Unknown diversion impacts, not accounted
- ✓ **Upcoming Tasks**
  - ✓ Develop additional benefit information
  - ✓ Develop costs for any negative impacts
  - ✓ Develop additional capacity alternatives
  - ✓ Refine alignments

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Path Forward

- ✓ **Recommend further analysis of:**
  - ✓ Minnesota Short Diversion Alignments
    - ✓ **Develop new 20K, 30K, 40K capacities**
    - ✓ **Update 25K & 35K capacities with new hydrology**
    - ✓ **Optimize**
  - ✓ North Dakota East Alignment
    - ✓ **Determine extra benefits from tributary floods**
    - ✓ **Develop new 25K capacity and update 35K capacity with new hydrology**
    - ✓ **Depending on extra benefits decide with sponsors on path forward**
  - ✓ Levee Alignments
    - ✓ **Develop additional levee profiles – 1.5% chance (75-year)**

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Local Decisions

- ✓ **What level of risk is tolerable?**
- ✓ **What locally preferred options need to be retained?**
  - ✓ Need local decisions by December 1, 2009
- ✓ **Identify sponsors for construction and ongoing O&M**
- ✓ **Define non-federal cost sharing arrangements**
  - ✓ Non-federal share of the NED plan will be 35-50% of costs
  - ✓ All costs in excess of the NED plan are 100% non-federal
- ✓ **Develop local consensus**

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F-M METRO STUDY TIMELINE

- ✓ **Jan 2010:** **Identify unofficial tentatively selected plan**
- ✓ **Jan 2010:** **Public Meeting**
- ✓ **Mar 2010:** **Independent External Peer Review**
- ✓ **May 2010:** **Formal Public Review of Feasibility Report**
- ✓ **Sep 2010:** **Finalize feasibility report**
- ✓ **Dec 2010:** **Transmit recommendation to Congress**
- ✓ **Jan 2011:** **Begin Plans and Specifications**
- ✓ **Apr 2012:** **Begin Construction**

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NEXT STEPS

- ✓ **Seek public input on initial screenings and results**
  - ✓ Deadline of November 23, 2009
- ✓ **Refine remaining alternatives**
  - ✓ Assess costs and benefits of alternatives
  - ✓ Economic, Social, and Environmental
- ✓ **Final screening**
  - ✓ Develop one plan that maximizes net national economic benefits
  - ✓ Develop Locally Preferred Plan (if requested)
- ✓ **Seek public input on tentatively selected plan**

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CONTACT US

- ✓ **Information on back of handout**
- ✓ **Please sign our sheet to get future mailings.**
- ✓ **Website:** http://www.internationalwaterinstitute.org/feasibility
- ✓ **Email:**
  - ✓ **Craig Evans –** Craig.O.Evans@usace.army.mil
  - ✓ **Aaron Snyder –** Aaron.M.Snyder@usace.army.mil
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  Suite 401
  St. Paul, MN 55104

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QUESTIONS or COMMENTS?

✓ **Please come to the podium so everyone can hear.**

20-21 October 2009

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US Army Corps
of Engineers

Fargo-Moorhead Metropolitan Feasibility Study

Overview:

The Fargo-Moorhead Metropolitan Feasibility Study is a cooperative effort between the communities of Fargo and Moorhead, with the US Army Corps of Engineers St. Paul District office. This handout is designed to give a summary of the study and include details of what the scope of the study is, and the timeline in which the study will follow.

Study Goals:

- Understand the flood problems in the greater Fargo-Moorhead Metropolitan area
- Develop a regional system to reduce flood risk.
- Determine the Federal Government's role in implementing flood risk reduction measures
- Document study findings in a Feasibility Report and a National Environmental Policy Act (NEPA) Environmental Impact Statement.
- If appropriate, recommend implementation of a federal project to U.S. Congress.

Problems and Opportunities:

The primary problem in the study area is a high risk of flood damage to urban infrastructure from the Red River of the North, the Wild Rice River (ND), the Buffalo River, and the Sheyenne River. There are opportunities in the study area to increase and improve wildlife habitat and provide recreational amenities.

Planning Objectives:

Planning objectives describe desired positive changes. The national objectives for federal water resource projects are to maximize national economic development and restore ecosystem functions.

The following planning objectives support the national objectives:

1. Reduce flood risk and flood damages in the Fargo-Moorhead metropolitan area.
2. Restore or improve degraded riverine and riparian habitat in and along the Red River of the North, Wild Rice River (North Dakota), Sheyenne River (North Dakota), and Buffalo River (Minnesota).
3. Provide additional wetland habitat in conjunction with other project features.
4. Provide recreational opportunities in conjunction with other project features.

Planning Constraints:

Planning constraints describe restrictions that should not be violated. The following planning constraints have been identified for this study:

1. Avoid increasing peak Red River flood stages, either upstream or downstream
2. Comply with the Boundary Waters Treaty of 1909 and other pertinent international agreements.
3. Avoid negatively impacting the Buffalo Aquifer in Minnesota.

Summary Description of Flooding History:

The Fargo-Moorhead metropolitan area has a relatively high risk of flooding. The highest river stages usually occur as a result of spring snowmelt, but summer rainfall events have also caused significant flood damages. The Red River of the North has exceeded the National Weather Service flood stage of 17 feet in 51 of the past 107 years, and every year from 1993 through 2009. The study area is between the Wild Rice River, the Sheyenne River, and the Red River of the North; inter basin flows complicate the hydrology of the region and contribute to extensive flooding

Fargo and Moorhead have become accustomed to dealing with flooding. Sufficient time is usually available to prepare for flood fighting because winter snowfall can be monitored to predict unusual spring runoff. Both communities have well documented standard operating procedures for flood fights. Both communities avoided major flood damages in the historic floods of 1997 and 2009 by either raising existing levees or building temporary barriers. Since the 1997 flood, both communities have implemented mitigation measures, including acquisition of almost 100 floodplain homes, raising and stabilizing existing levees, installing permanent pump stations, and improving storm sewer lift stations and the sanitary sewer system. Although emergency measures have been very successful, they may also contribute to an unwarranted sense of security that does not reflect the true flood risk in the area.

Array of Plans Considered:
The feasibility study considered a wide range of plans to meet the planning objectives. These plans were screened down to eliminate those plans that would either not likely meet the planning objectives, would be excessively costly, or would have extreme impacts on the environment.

- No Action: Continue emergency measures
- Nonstructural measures
    - Buy and relocate flood-prone structures
    - Flood proofing
    - Elevate structures
    - Flood warning systems
    - Flood insurance
    - Wetlands
    - Grasslands
- Flood barriers
    - Levees
    - Floodwalls
    - Invisible floodwalls
    - Gate closures

    - Pump stations
- Increase conveyance
    - Diversion channels around the study area
        - In Minnesota
        - In North Dakota
    - Increase conveyance in Oakport Coulee
    - Cutoff channels (to short-cut existing meanders)
    - Flattening the slopes on river bank
    - Dredge river deeper and wider
    - Replacing bridges
    - Underground tunnels
    - Interstate 29 viaduct
- Flood storage
    - Large dams upstream
    - Distributed storage
    - Controlled field runoff
    - Storage ponds, also used for water conservation
    - Pay landowners for water retention

Initial Screening:
An initial screening was conducted on the Array of Plans considered. The screening criteria used consisted of:

- ✓ **Effectiveness:** Ability to provide acceptable level of flood risk management
- ✓ **Environmental Effects:** Effects on natural and cultural resources
- ✓ **Social Effects:** Effects on socio-economic resources
- ✓ **Acceptability:** Controversy and potential effects on community
- ✓ **Implementability:** Technical, social, legal or institutional issues
- ✓ **Cost:** The first cost of the project and operations and maintenance.
- ✓ **Risk:** The uncertainties surrounding the project
- ✓ **Separable Mitigation:** Is separable mitigation required and what is the cost
- ✓ **Cost Effectiveness:** Comparison of benefits and costs

A detailed analysis was completed on 2 levee plans [2% chance (50-year) and 1% chance (100-year) events], 9 diversion plans (3 in North Dakota and 6 in Minnesota), and 3 Non-structural plans. The results of this analysis indicated that a diversion channel in Minnesota is the most viable alternative. The North Dakota diversion channel alignments have a number of large uncertainties at this time that could affect the analysis, so further study is needed to determine if a viable North Dakota alignment exists. One levee alternative was also found to be viable, and additional analysis will be necessary to determine the National Economic Development Plan.

The screening resulted in recommendations that the following options be carried forward: (1) **No Action: Continne Emergency Measnres**, (2) **Diversion Channels**, and (3) **Levee/Floodwalls**.

The stand alone alternatives of Tunneling, Interstate 29 Viaduct, Dredging and Widening the River, and Cut-Off Channels will no longer be considered. Non-Structural Measures, Flood Storage, Bridge Replacement or Modification, and Wetland and Grassland Restoration will no longer be considered as stand-alone options, but may be incorporated in the overall plan as incrementally justified features.

The alternatives listed in italics and bold below will be carried forward.

Alternative	Cost *	Net Benefits *	B/C Ratio
Levee 2% chance (50-year)	840,000	-5,330	0.88
Levee 1% chance (100-year)	902,000	**7,673**	**1.17**
MN Long Diversion 25K	1,055,000	**5,596**	**1.10**
MN Long Diversion 35K	1,260,000	**266**	**1.00**
MN Long Diversion 45K	1,459,000	-8,283	0.89
MN Short Diversion 25K	**962,000**	**11,025**	**1.22**
MN Short Diversion 35K	1,092,000	**9,424**	**1.17**
MN Short Diversion 45K	1,264,000	**2,501**	**1.04**
ND East Diversion 35K	1,337,000	-3,108	0.95
ND West Diversion 35K	1,363,000	-4,426	0.94
ND West Diversion 45K	1,439,000	-6,718	0.91

* In thousands of dollars

Schedule:

Jan 2010:	**Identify tentatively selected plan**
Jan 2010:	**Public Meeting**
Mar 2010:	**Independent External Peer Review**
May 2010:	**Formal Public Review of Feasibility Report**
Sep 2010:	**Finalize feasibility report**
Dec 2010:	**Transmit recommendation to Congress**
Jan 2011:	**Begin Plans and Specifications**
Apr 2012:	**Begin Construction**

How to get More Information and stay informed:

Visit the study website at: http://www.internationalwaterinstitute.org/feasibility

Primary Study Contacts:

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The City of Moorhead
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The Army Corps of Engineers
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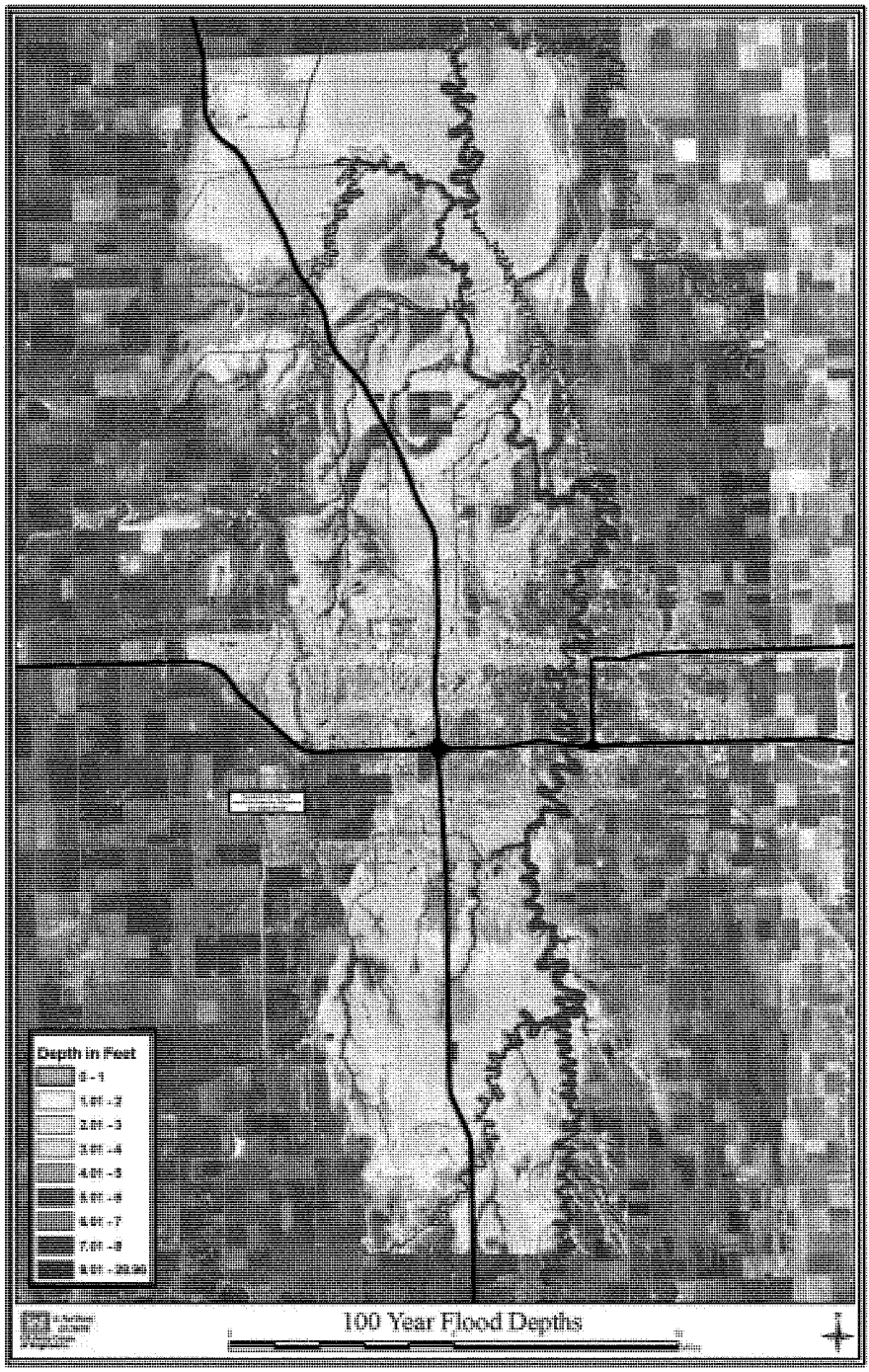
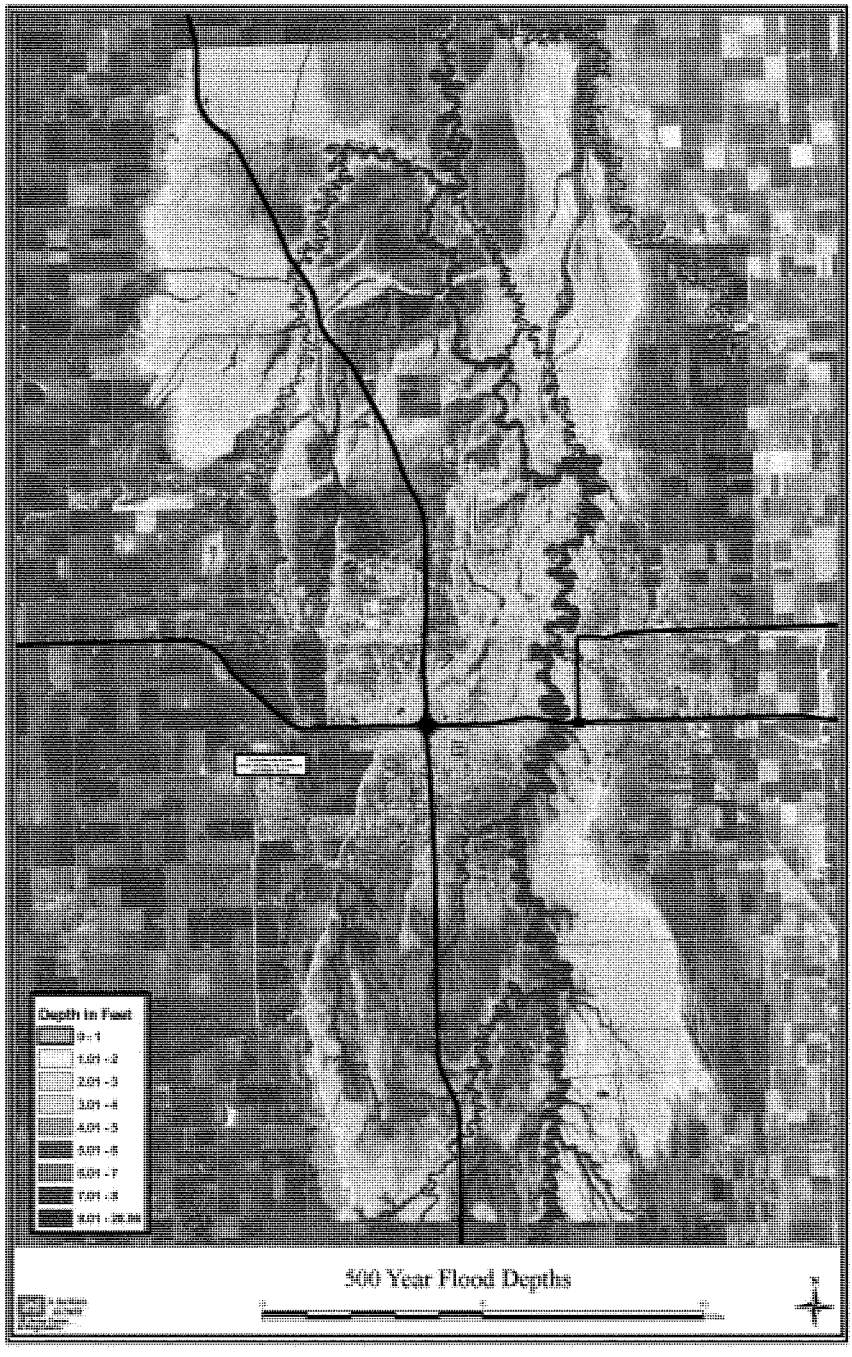
Suite 401 (PM-A)
190 5th Street East
St. Paul, MN 55101


Depth in Feet
100 Year Flood Depths


Depth in Feet
0 - 1
1.01 - 2
2.01 - 3
3.01 - 4
4.01 - 5
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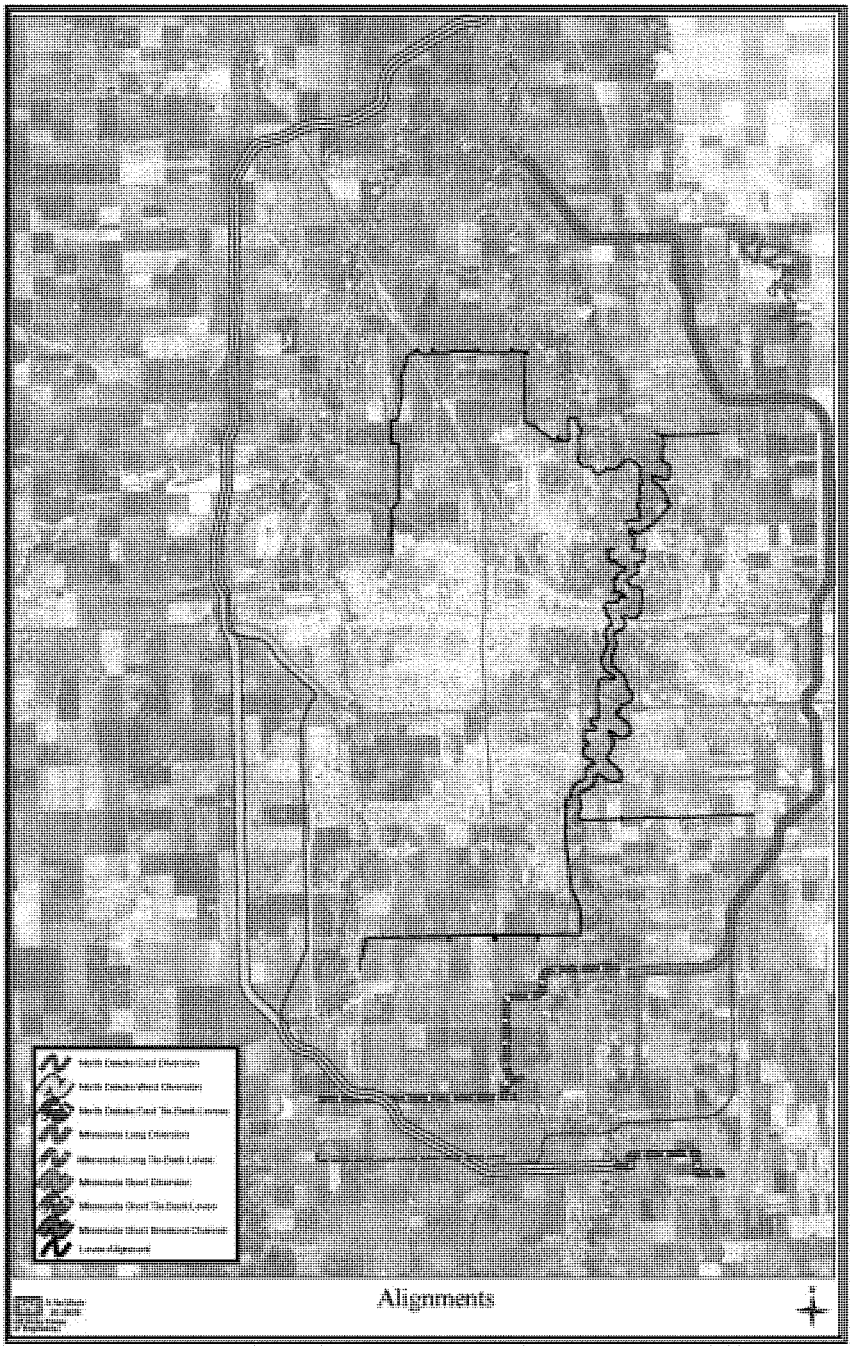
7.01 - 8
8.01 - 10.00
500 Year Flood Depths


Alignments

ALTERNATIVES

No Action:
- Continue emergency measures

Nonstructural measures
- Buy and relocate flood-prone structures
- Flood proofing
- Elevate structures
- Flood warning systems
- Flood insurance
- Wetlands
- Grasslands

Flood barriers
- Levees
- Floodwalls
- Invisible floodwalls
- Gate closures
- Pump stations

Increase conveyance
- Diversion channels around the study area
  - In Minnesota
  - In North Dakota
- Replacing bridges
- Underground tunnels
- Increase conveyance in Oakport Coulee
- Cutoff channels (to short-cut existing meanders)
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Flood storage
- Large dams upstream
- Distributed storage
- Controlled field runoff
- Storage ponds, also used for water conservation
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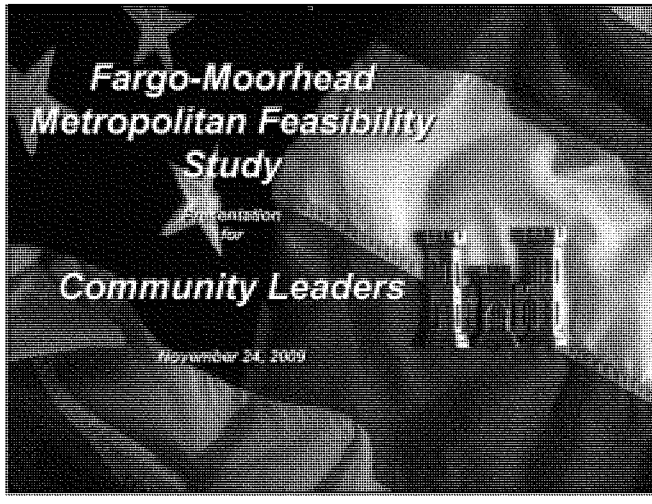
CITY OF Fargo

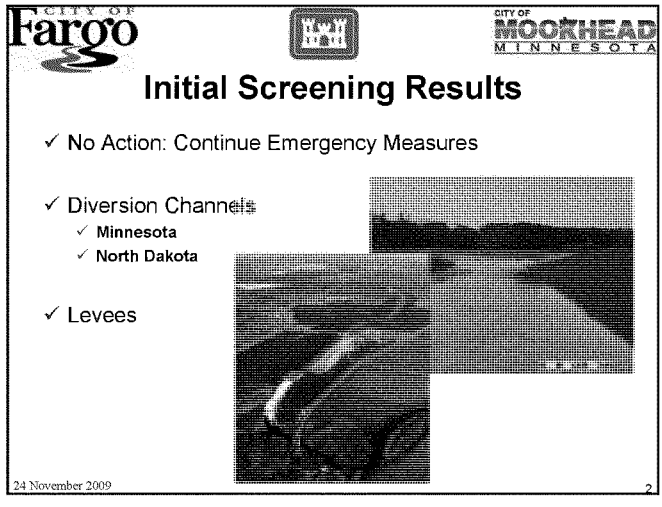
St. Paul District
US Army Corps of Engineers

MOORHEAD MINNESOTA

Presentation 9:

November 24, 2009


Fargo-Moorhead
Metropolitan Feasibility
Study
Presentation
for
Community Leaders
November 24, 2009


CITY OF
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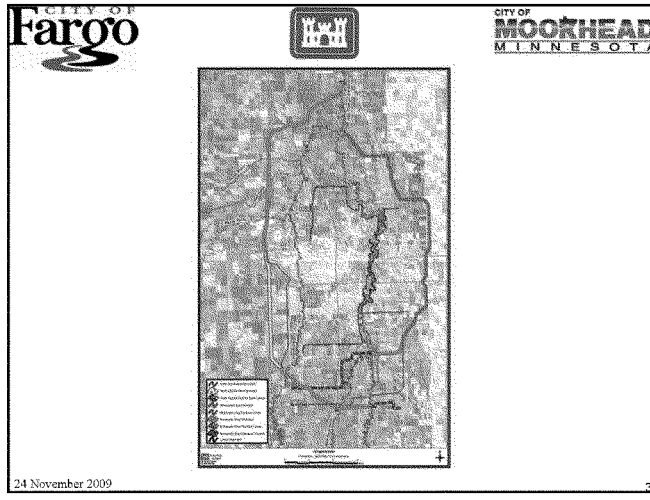
MINNESOTA
Initial Screening Results
✓ No Action: Continue Emergency Measures
✓ Diversion Channels
✓ Minnesota
✓ North Dakota
✓ Levees
24 November 2009
2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MINNESOTA
24 November 2009
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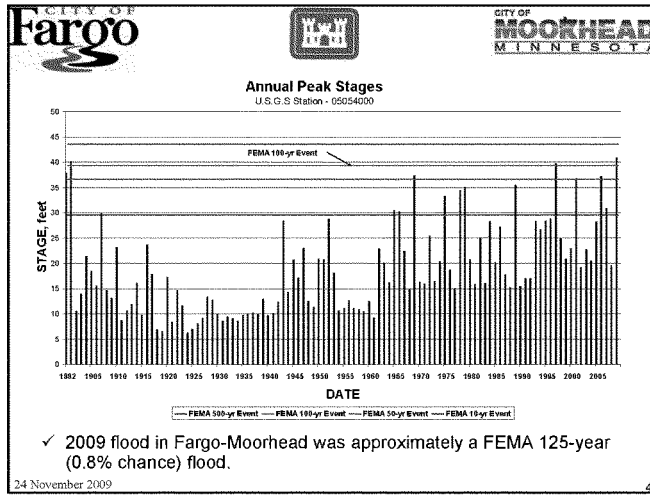
CITY OF
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MINNESOTA
Annual Peak Stages
U.S.G.S Station - 05054000
FEMA 100-yr Event
STAGE, feet
DATE
FEMA 500-yr Event
FEMA 100-yr Event
FEMA 50-yr Event
FEMA 10-yr Event
✓ 2009 flood in Fargo-Moorhead was approximately a FEMA 125-year (0.8% chance) flood.
24 November 2009
4

CITY OF Fargo

CITY OF MOORHEAD MINNESOTA

Preliminary Results

Fargo-Moorhead Metro Feasibility Study
Initial Screening Results, October 2009
Screened Alternatives Ranked by Net Benefits

Alternative	First Cost *	Avg Annual Net Benefits *	Residual Damages *	B/C Ratio	Downstream Impacts **
MN Short Diversion 25K	962	11.0	14.3	1.22	2.1
MN Short Diversion 35K	1,092	9.4	9.3	1.17	2.5
Levee 1% chance (100-year)	902	7.7	20.9	1.17	?
MN Long Diversion 25K	1,055	5.6	15.0	1.10	?
MN Short Diversion 45K	1,264	2.5	7.4	1.04	3.0
MN Long Diversion 35K	1,260	0.3	9.8	1.00	?
ND East Diversion 35K	1,337	-3.1	9.2	0.95	4.1
ND West Diversion 35K	1,363	-4.4	9.2	0.94	?
Levee 2% chance (50-year)	840	-5.3	37.1	0.88	?
ND West Diversion 45K	1,439	-6.7	7.6	0.91	?
MN Long Diversion 45K	1,459	-8.3	8.2	0.89	?

* In millions of dollars
** Inches during 1% Chance flood (100-year)
Note: Expected average annual damages without a project are $73.7 million.

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Preliminary Results

Effects of Diversions

	STAGE at the FARGO GAGE		
	2% Chance (50-year)	1% Chance (100-year)	0.2% Chance (500-year)
Existing Condition	37.8	39.5	43.9
25k Diversion	29.1	30.4	39.2
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45k Diversion	27.1	27.2	30.4

Stage	Impacts
27	Fargo Elm Street closed
30	Fargo 2nd Street Dike installed
31	Moorhead 1st Ave. North closed
32	First homes in Moorhead threatened
35	First homes in Fargo threatened
40.8	2009 Flood Record Stage

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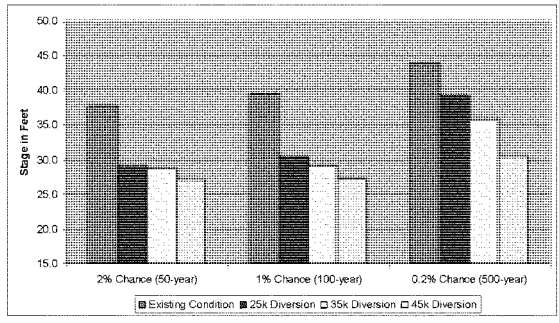
Preliminary Results

Effects of Diversions



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Fargo-Moorhead Metro Feasibility Study
Stage Reductions
based on Phase 1 Discharges and Steady Flow Modeling

100-Year Event

Diversion Capacity	Just Upstream of Sheyenne River		Cass Co. Hwy 20		USGS Gage		52nd Ave. So.		Cass Co. Hwy 16	
	MN Short	ND East 35k ND West 45k	MN Short	ND East 35k ND West 45k	MN Short	ND East 35k ND West 45k	MN Short	ND East 35k ND West 45k	MN Short	ND East 35k ND West 45k
25k Diversion	0.2	N/A	2.5	N/A	8.2	N/A	8.7	N/A	0.6	N/A
35k Diversion	0.2	2.4	2.7	3.9	9.0	9.4	9.7	9.7	0.7	7.9
45k Diversion	0.2	2.9	3.2	4.2	11.0	9.8	12.4	10.2	0.9	8.5

500-Year Event

Diversion Capacity	Just Upstream of Sheyenne River		Cass Co. Hwy 20		USGS Gage		52nd Ave. So.		Cass Co. Hwy 16	
	MN Short	ND East 35k ND West 45k	MN Short	ND East 35k ND West 45k	MN Short	ND East 35k ND West 45k	MN Short	ND East 35k ND West 45k	MN Short	ND East 35k ND West 45k
25k Diversion	0.2	N/A	1.9	N/A	3.8	N/A	2.8	N/A	-0.2	N/A
35k Diversion	0.3	2.6	2.6	3.6	7.1	7.6	6.1	6.4	-0.2	3.9
45k Diversion	0.3	3.8	3.5	5.4	11.4	12.2	11.4	11.8	-0.2	8.6

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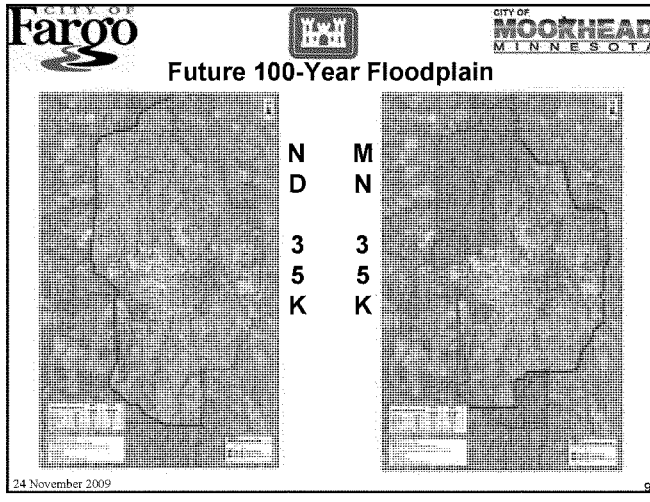
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Future 100-Year Floodplain
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24 November 2009
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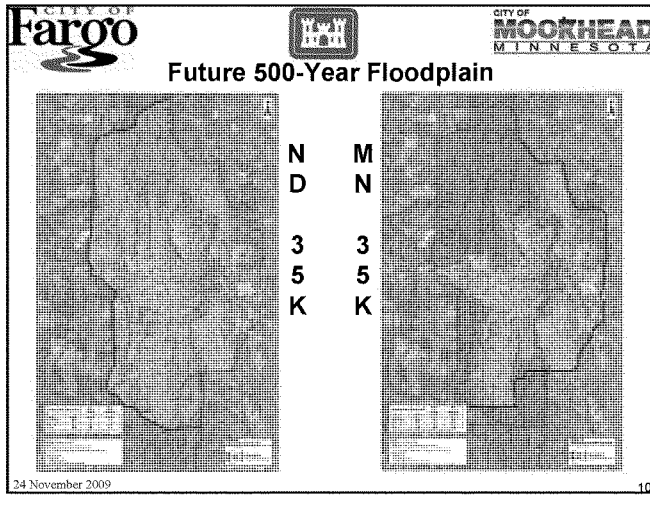
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MINNESOTA
Future 500-Year Floodplain
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24 November 2009
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Path Forward

- ✓ **Uncertainties:**
  - ✓ Natural Resource impacts
    - ✓ Mitigation costs not accounted
    - ✓ Sub-Committee developed to work with resource agencies on issues.
      - ✓ Mitigation costs to be estimated if necessary – Greater potential in ND.
  - ✓ Additional project benefits – ND diversion provides benefits from other rivers
    - ✓ Preliminary Estimate - $500,000 - $1 million average annual.
  - ✓ Impacts to downstream landowners
    - ✓ Diversion impacts (range from 1.5-3.0 inches MN and 2.4-4.1 inches ND)

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Path Forward

- ✓ **Recommend further analysis of:**
  - ✓ **Minnesota Short Diversion Alignments**
    - ✓ **Continued development of 20, 25, 30, and 35K capacities**
    - ✓ **Development of Red River Control Structure**
    - ✓ **Optimize inlet location**
    - ✓ **Optimize tie-back levees**
    - ✓ **General alignments to remain the same – will be modified in future**
  - ✓ **North Dakota East Alignment**
    - ✓ **Determine extra benefits from tributary floods**
    - ✓ **Develop 30 and 35K capacities**
    - ✓ **Develop Red River Control Structure**
    - ✓ **Develop tributary crossing structures**
    - ✓ **General alignments to remain the same – will be modified in future**
  - ✓ **ND Mini Diversion**
    - ✓ **Determine if small ND Diversion could be viable**
      - ✓ Divert water from Maple, Rush, and Lower Rush to the Red River.

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Local Decision Makers

- ✓ **Review Questions**
  - ✓ What level of risk is tolerable?
    - ✓ Stage of 36 feet at the gage for 500-year flood.
  - ✓ What locally preferred options need to be retained?
    - ✓ 30 & 35K ND and 35K MN
    - ✓ Need local decisions by December 1, 2009
  - ✓ Identify sponsors for construction and ongoing O&M
  - ✓ Define non-federal cost sharing arrangements
    - ✓ Non-federal share of the NED plan will be 35-50% of costs
    - ✓ All costs in excess of the NED plan are 100% non-federal
  - ✓ Develop local consensus

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Contact Information

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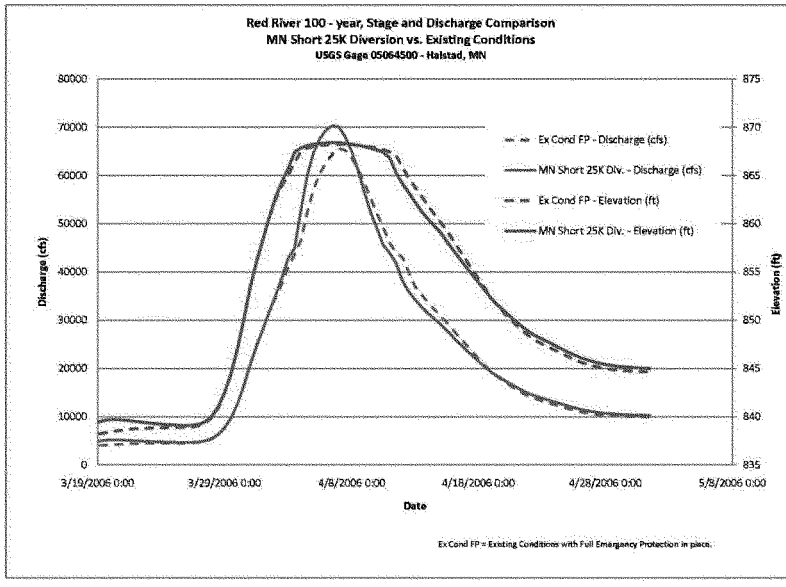
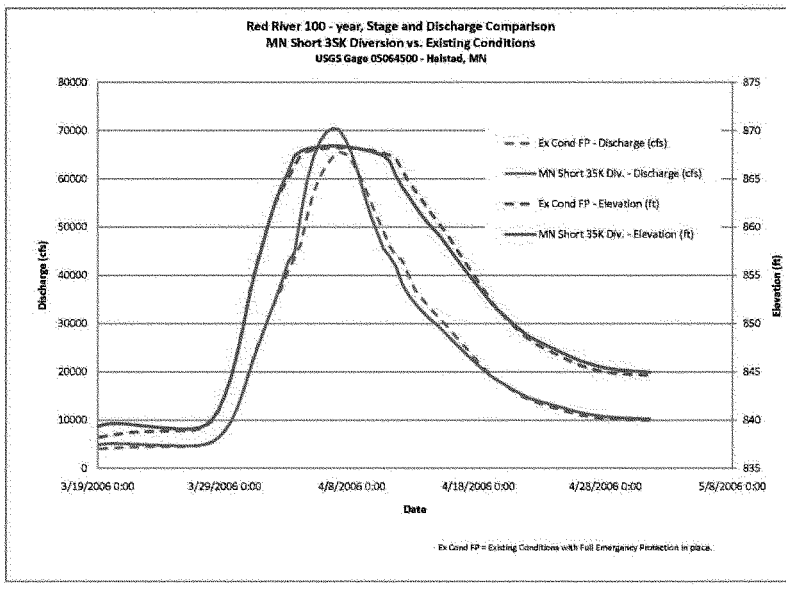

Red River 100 - year, Stage and Discharge Comparison
MN Short 25K Diversion vs. Existing Conditions
USGS Gage 05064500 - Halstad, MN
Ex Cond FP - Discharge (cfs)
MN Short 25K Div. - Discharge (cfs)
Ex Cond FP - Elevation (ft)
MN Short 25K Div. - Elevation (ft)
Discharge (cfs)
Elevation (ft)
Date
3/19/2006 0:00
3/29/2006 0:00
4/8/2006 0:00
4/18/2006 0:00
4/28/2006 0:00
5/8/2006 0:00
Ex Cond FP = Existing Conditions with Full Emergency Protection in place.


Red River 100 - year, Stage and Discharge Comparison
MN Short 35K Diversion vs. Existing Conditions
USGS Gage 05064500 - Halstad, MN
Ex Cond FP - Discharge (cfs)
MN Short 35K Div. - Discharge (cfs)
Ex Cond FP - Elevation (ft)
MN Short 35K Div. - Elevation (ft)
Discharge (cfs)
Elevation (ft)
Date
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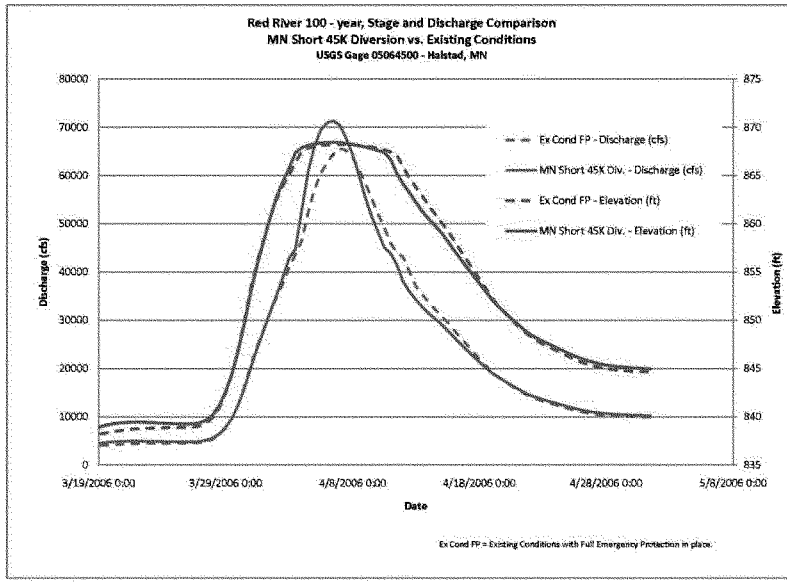
Red River 100 - year, Stage and Discharge Comparison
MN Short 45K Diversion vs. Existing Conditions
USGS Gage 05064500 - Halstad, MN
Ex Cond FP - Discharge (cfs)
MN Short 45K Div. - Discharge (cfs)
Ex Cond FP - Elevation (ft)
MN Short 45K Div. - Elevation (ft)
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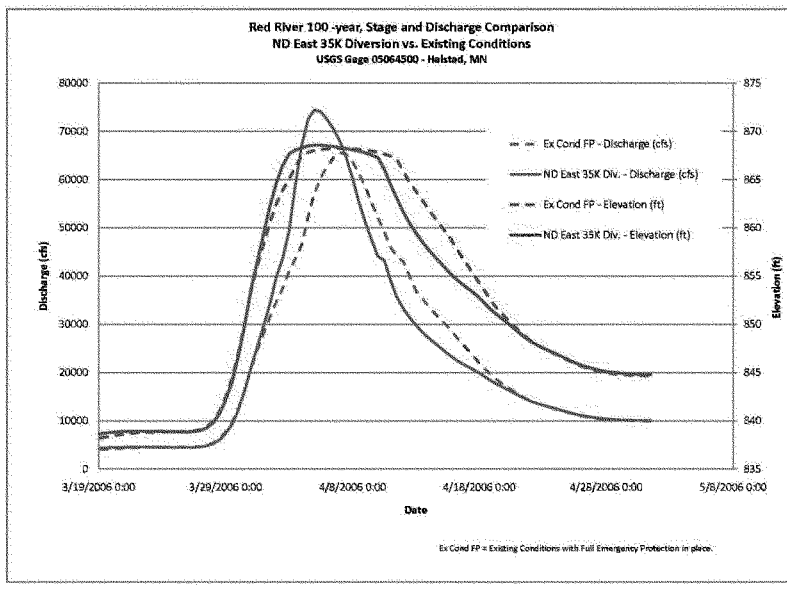
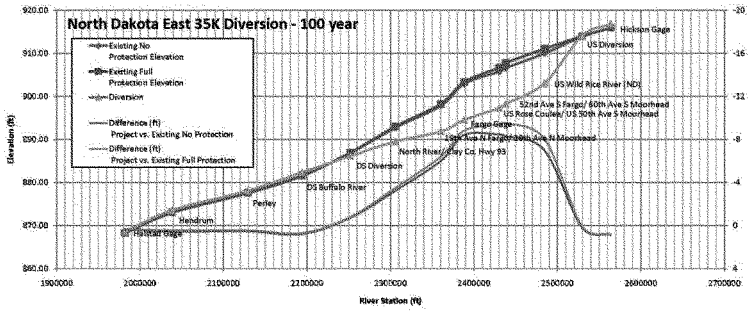

Red River 100 -year, Stage and Discharge Comparison
ND East 35K Diversion vs. Existing Conditions
USGS Gage 05064500 - Halstad, MN
Ex Cond FP - Discharge (cfs)
ND East 35K Div. - Discharge (cfs)
Ex Cond FP - Elevation (ft)
ND East 35K Div. - Elevation (ft)
Discharge (cfs)
Elevation (ft)
Date
3/19/2006 0:00
3/29/2006 0:00
4/8/2006 0:00
4/18/2006 0:00
4/28/2006 0:00
5/8/2006 0:00
Ex Cond FP = Existing Conditions with Full Emergency Protection in place.

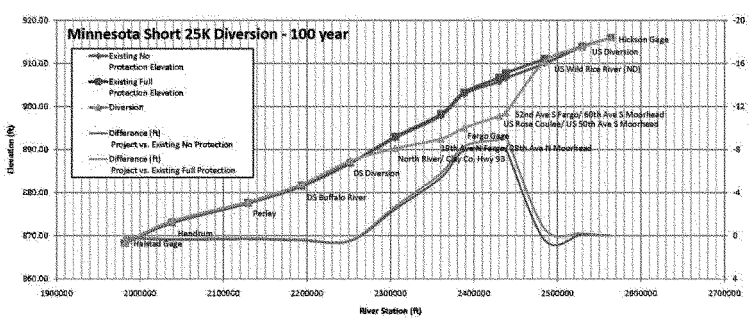
North Dakota East 35K Diversion - 100 year							11/23/2009
Location	Station	Existing No Protection Elevation	Existing Full Protection Elevation	ND 35K East Diversion Elevation	Difference (ft) Project vs. Existing No Protection	Difference (ft) Project vs. Existing Full Protection	
Halstad Gage	1981580	868.21	868.25	868.57	0.36	0.32	
Hendrum	2038409	872.99	873.10	873.55	0.56	0.45	
Perley	2129283	877.54	877.64	878.09	0.55	0.45	
DS Buffalo River	2193941	881.53	881.62	882.32	0.79	0.7	
DS Diversion	2251895	886.84	886.91	886.12	-0.72	-0.79	
North River/ Clay Co. Hwy 93	2305647	892.72	892.97	889.49	-3.23	-3.48	
19th Ave N Fargo/ 28th Ave N Moorhead	2360321	897.85	898.25	891.84	-6.01	-6.41	
Fargo Gage (13th Ave S Fargo, 12th Ave S Moorhead)	2388223	902.91 (40.17*)	903.3 (40.56*)	894.49 (31.75*)	-8.42	-8.81	
US Rose Coulee/ US 50th Ave S Moorhead	2430241	905.74	906.67	897.28	-8.46	-9.39	
52nd Ave S Fargo/ 60th Ave S Moorhead	2438085	906.58	907.75	898.26	-8.32	-9.49	
US ND Wild Rice River	2484618	909.99	911.03	903.04	-6.95	-7.99	
US Diversion	2529420	913.84	913.95	914.03	0.19	0.08	
Hickson Gage	2563878	915.90	915.94	916.76	0.86	0.82	

* Flood stage at USGS Gaging Station 05054000, Fargo, ND



Minnesota Short 25K with Extention - 100 year							11/23/2009
Location	Station	Existing No Protection Elevation	Existing Full Protection Elevation	MN Short 25K Diversion Elevation	Difference (ft) Project vs. Existing No Protection	Difference (ft) Project vs. Existing Full Protection	
Halstad Gage	1981580	868.21	868.25	868.41	0.2	0.16	
Hendrum	2038409	872.99	873.10	873.38	0.39	0.28	
Perley	2129283	877.54	877.64	877.87	0.33	0.23	
DS Buffalo River	2193941	881.53	881.62	881.97	0.44	0.35	
DS Diversion	2251895	886.84	886.91	887.33	0.49	0.42	
North River/ Clay Co. Hwy 93	2305647	892.72	892.97	890.26	-2.46	-2.71	
19th Ave N Fargo/ 28th Ave N Moorhead	2360321	897.85	898.25	892.46	-5.39	-5.79	
Fargo Gage (13th Ave S Fargo, 12th Ave S Moorhead)	2388223	902.91 (40.17*)	903.3 (40.56*)	895.00 (32.26*)	-7.91	-8.3	
US Rose Coulee/ US 50th Ave S Moorhead	2430241	905.74	906.67	897.75	-7.99	-8.92	
52nd Ave S Fargo/ 60th Ave S Moorhead	2438085	906.58	907.75	898.53	-8.05	-9.22	
US ND Wild Rice River	2484618	909.99	911.03	910.40	0.41	-0.63	
US Diversion	2529420	913.84	913.95	913.73	-0.11	-0.22	
Hickson Gage	2563878	915.90	915.94	915.92	0.02	-0.02	

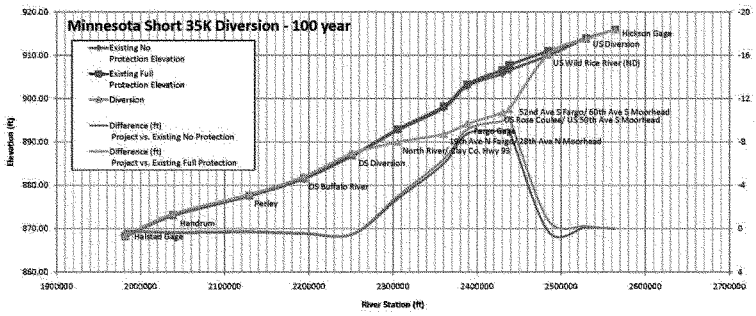
* Flood stage at USGS Gaging Station 05054000, Fargo, ND



11/23/2009

Minnesota Short 35K with Extention - 100 year						
Location	Station	Existing No Protection Elevation	Existing Full Protection Elevation	MN short 35K Diversion Elevation	Difference (ft) Project vs. Existing No Protection	Difference (ft) Project vs. Existing Full Protection
Halstad Gage	1981580	868.21	868.25	868.42	0.21	0.17
Hendrum	2038409	872.99	873.10	873.39	0.4	0.29
Perley	2129283	877.54	877.64	877.88	0.34	0.24
DS Buffalo River	2193941	881.53	881.62	882.01	0.48	0.39
DS Diversion	2251895	886.84	886.91	877.37	-9.47	0.46
North River/ Clay Co. Hwy 93	2305647	892.72	892.97	889.96	-2.76	-3.01
19th Ave N Fargo/ 28th Ave N Moorhead	2360321	897.85	898.25	891.84	-6.01	-6.41
Fargo Gage (13th Ave S Fargo, 12th Ave S Moorhead)	2388223	902.91 (40.17*)	903.3 (40.56*)	894.14 (31.4*)	-8.77	-9.16
US Rose Coulee/ US 50th Ave S Moorhead	2430241	905.74	906.67	896.73	-9.01	-9.94
52nd Ave S Fargo/ 60th Ave S Moorhead	2438085	906.58	907.75	897.55	-9.03	-10.2
US ND Wild Rice River	2484618	909.99	911.03	910.26	0.27	-0.77
US Diversion	2529420	913.84	913.95	913.73	-0.11	-0.22
Hickson Gage	2563878	915.90	915.94	915.92	0.02	-0.02

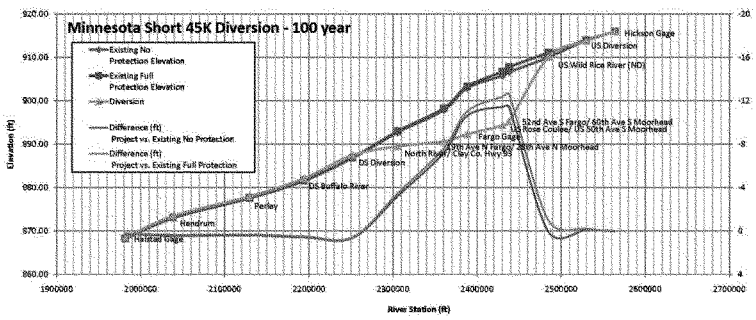
* Flood stage at USGS Gaging Station 05054000, Fargo, ND



11/23/2009

Minnesota Short 45K with Extention - 100 year						
Location	Station	Existing No Protection Elevation	Existing Full Protection Elevation	MN Short 45K Diversion Elevation	Difference (ft) Project vs. Existing No Protection	Difference (ft) Project vs. Existing Full Protection
Halstad Gage	1981580	868.21	868.25	868.46	0.25	0.21
Hendrum	2038409	872.99	873.10	873.44	0.45	0.34
Perley	2129283	877.54	877.64	877.95	0.41	0.31
DS Buffalo River	2193941	881.53	881.62	882.11	0.58	0.49
DS Diversion	2251895	886.84	886.91	887.47	0.63	0.56
North River/ Clay Co. Hwy 93	2305647	892.72	892.97	889.49	-3.23	-3.48
19th Ave N Fargo/ 28th Ave N Moorhead	2360321	897.85	898.25	890.64	-7.21	-7.61
Fargo Gage (13th Ave S Fargo, 12th Ave S Moorhead)	2388223	902.91 (40.17*)	903.3 (40.56*)	892.28 (29.54*)	-10.63	-11.02
US Rose Coulee/ US 50th Ave S Moorhead	2430241	905.74	906.67	894.30	-11.44	-12.37
52nd Ave S Fargo/ 60th Ave S Moorhead	2438085	906.58	907.75	895.17	-11.41	-12.58
US ND Wild Rice River	2484618	909.99	911.03	910.05	0.06	-0.98
US Diversion	2529420	913.84	913.95	913.73	-0.11	-0.22
Hickson Gage	2563878	915.90	915.94	915.94	0.04	0.00

* Flood stage at USGS Gaging Station 05054000, Fargo, ND



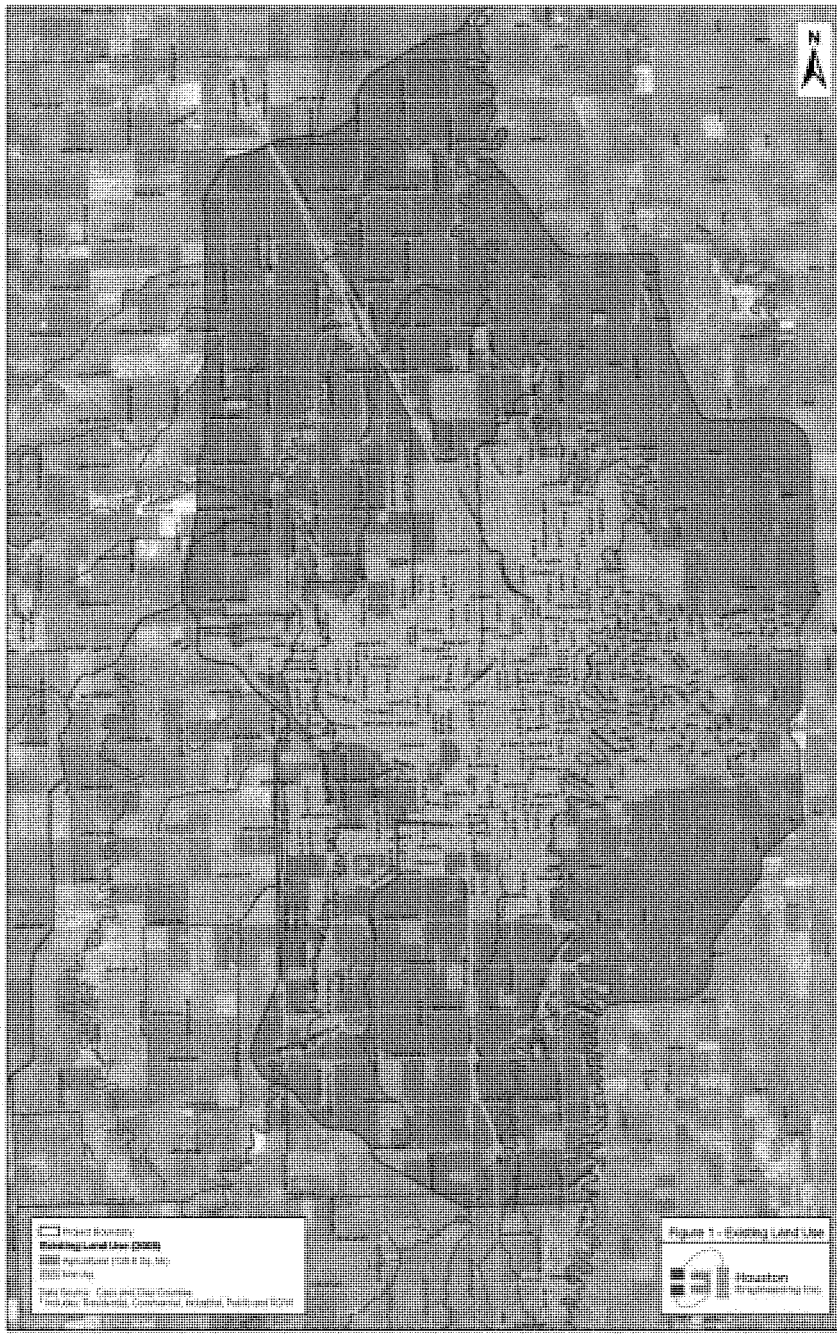

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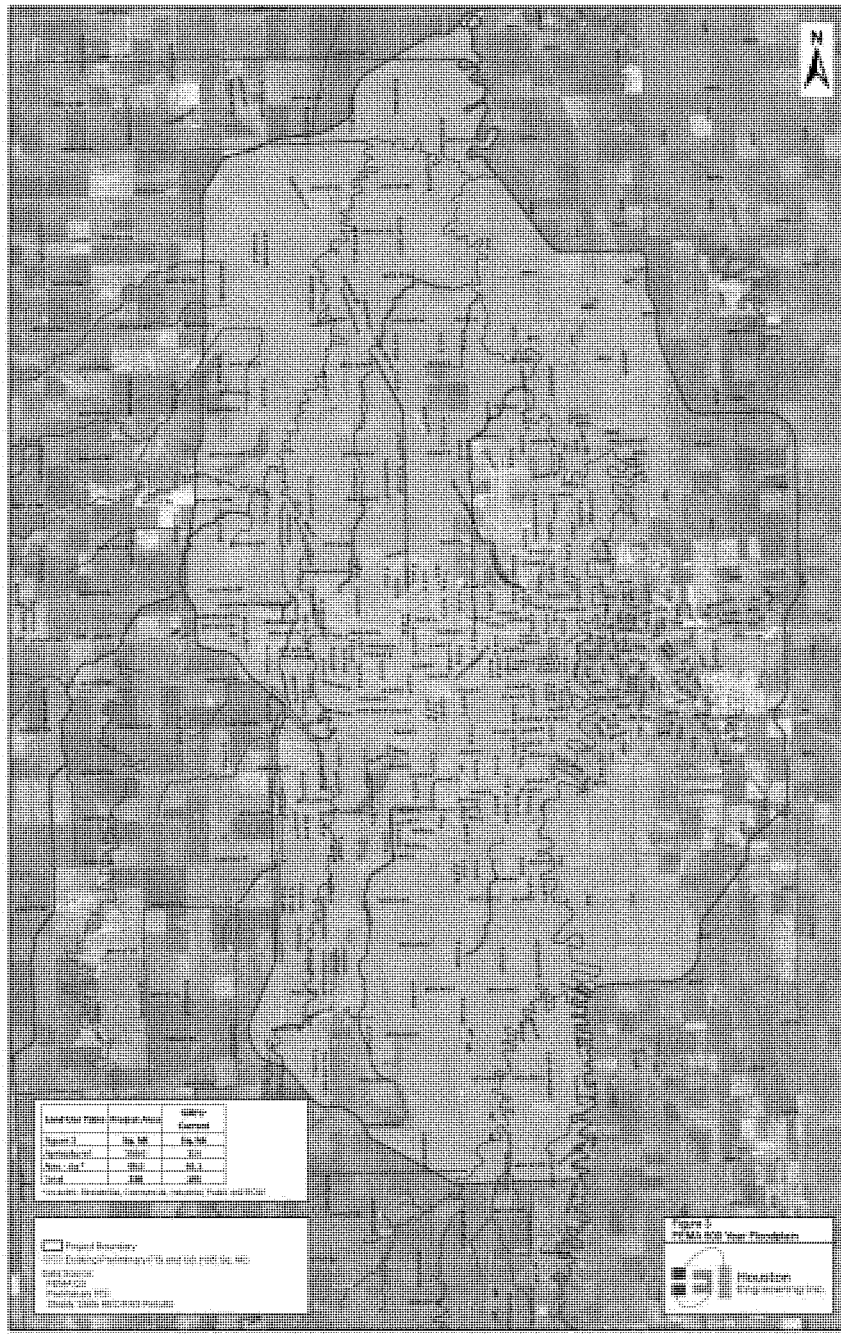
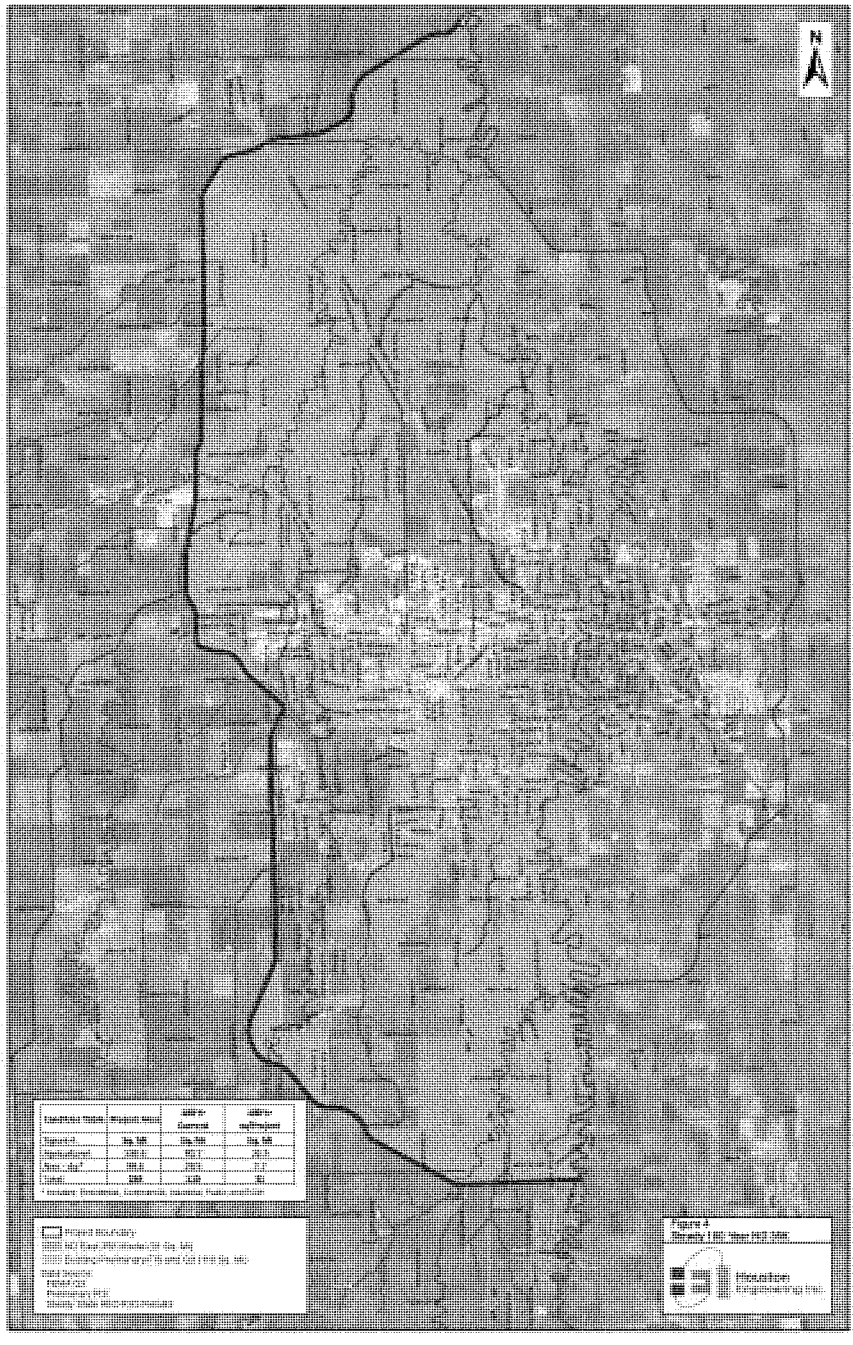
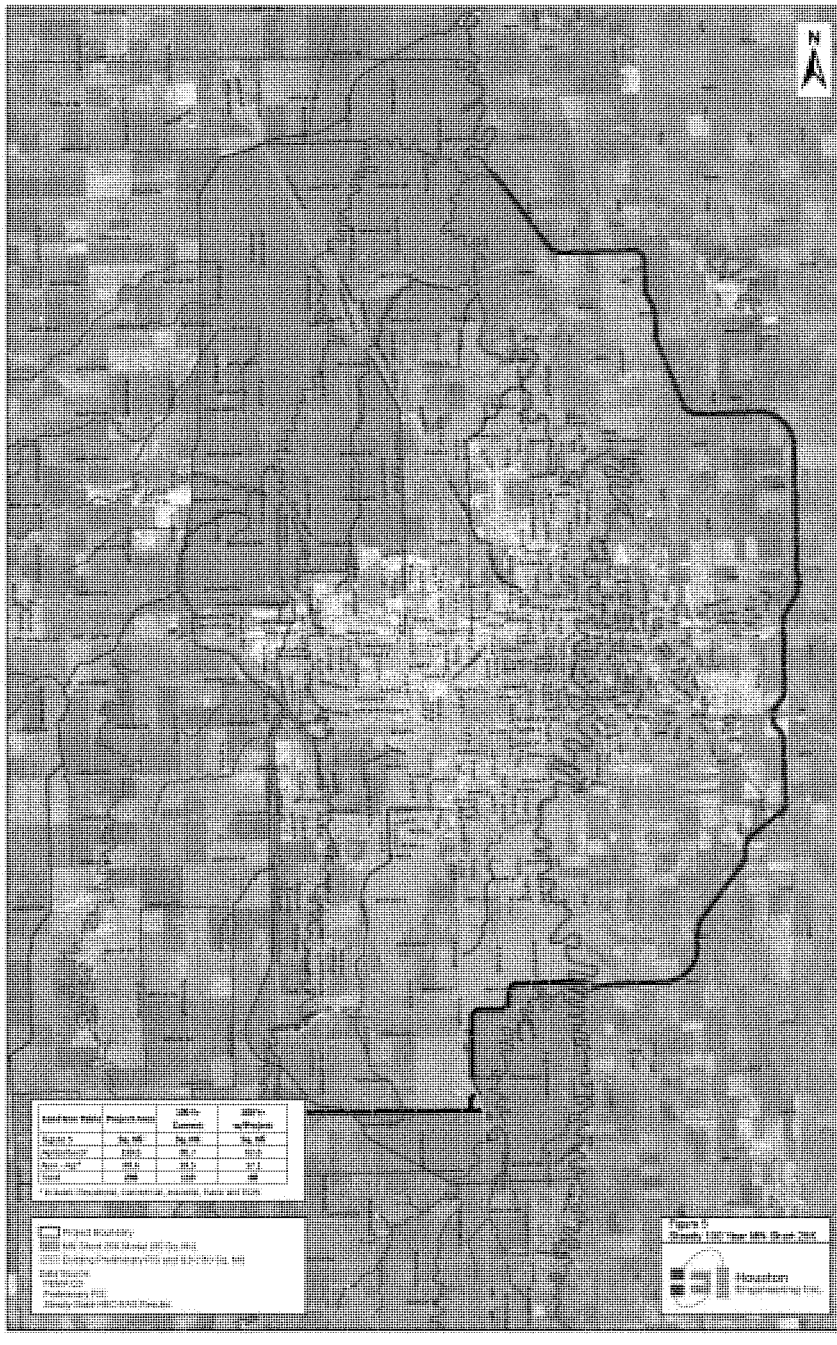
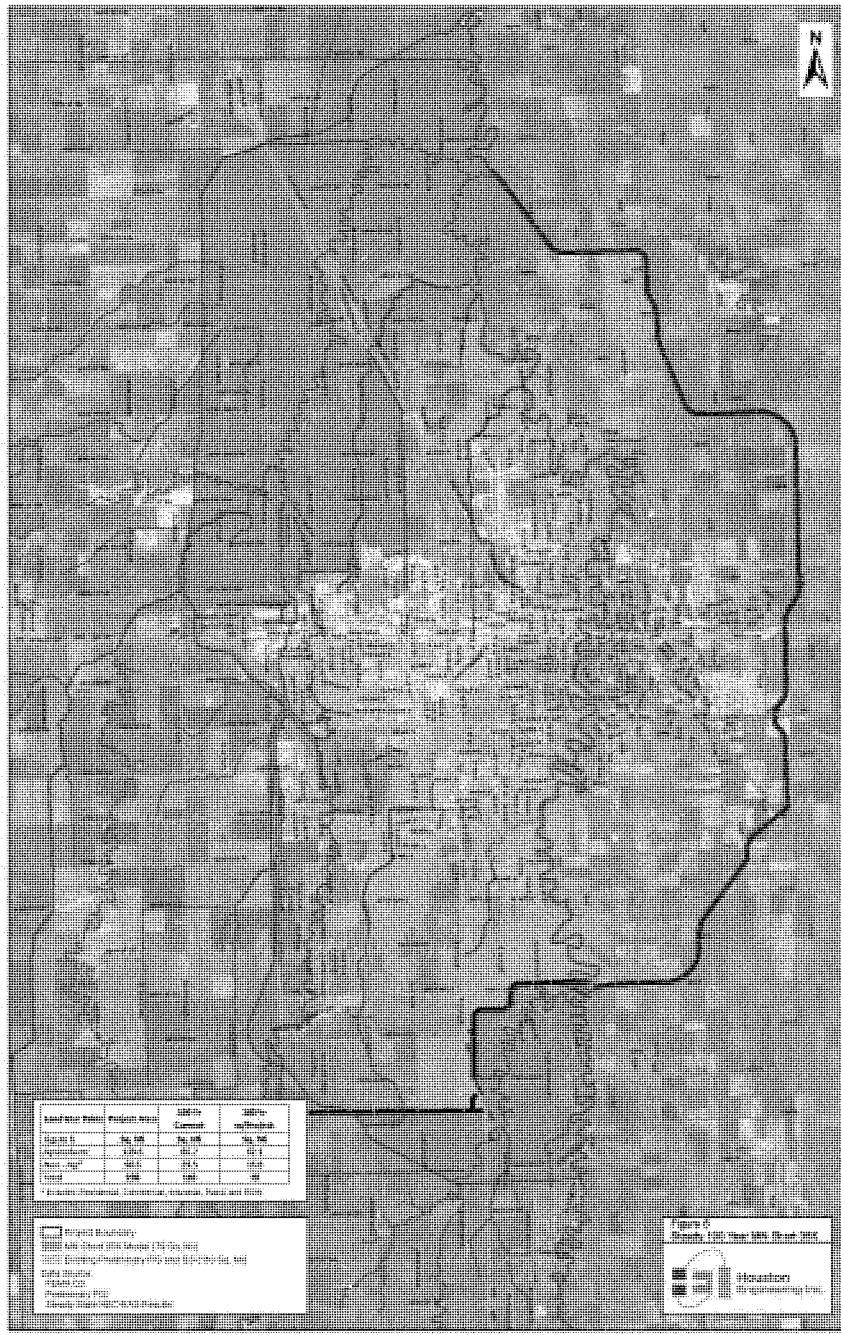
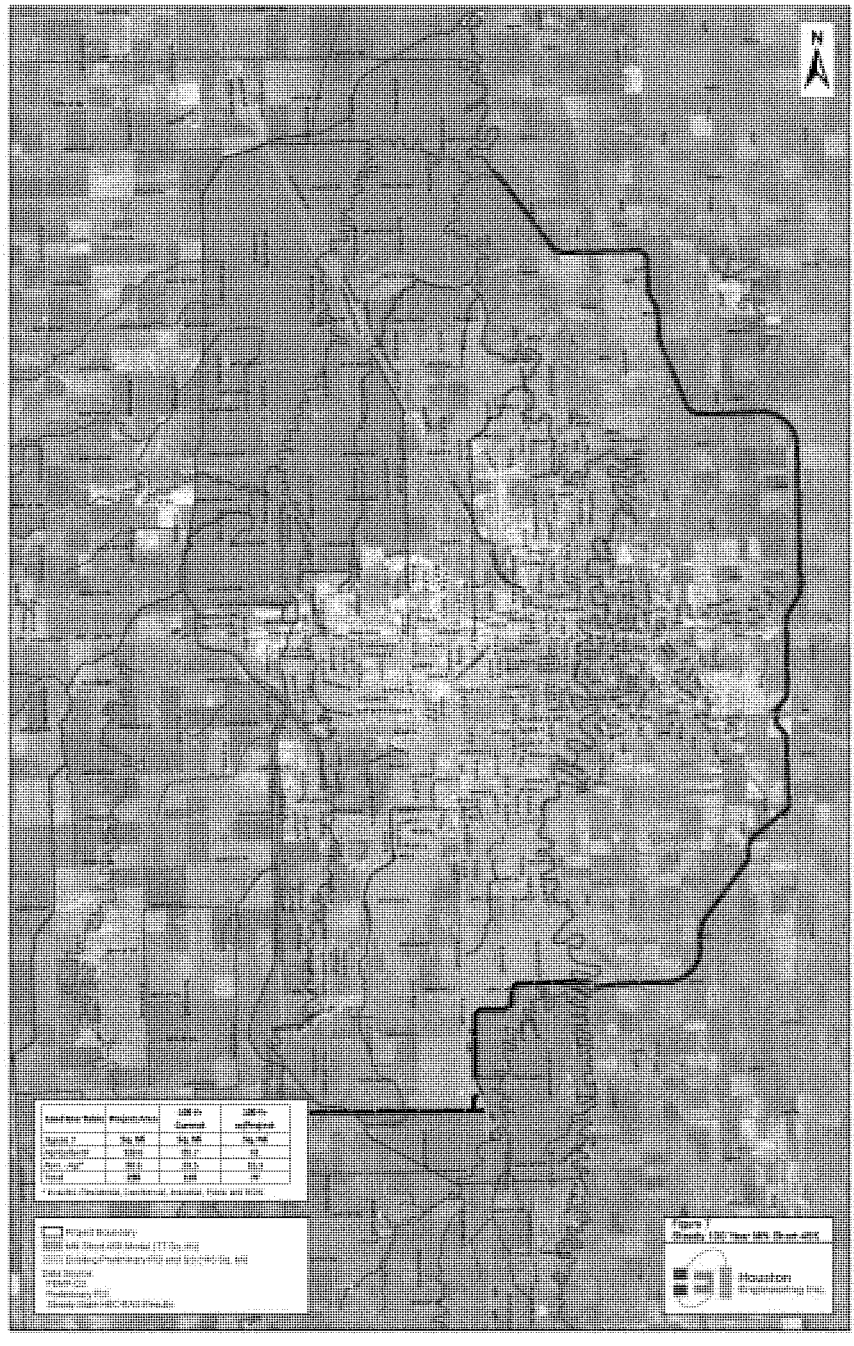
Figure 1 - Existing Land Use
Houston

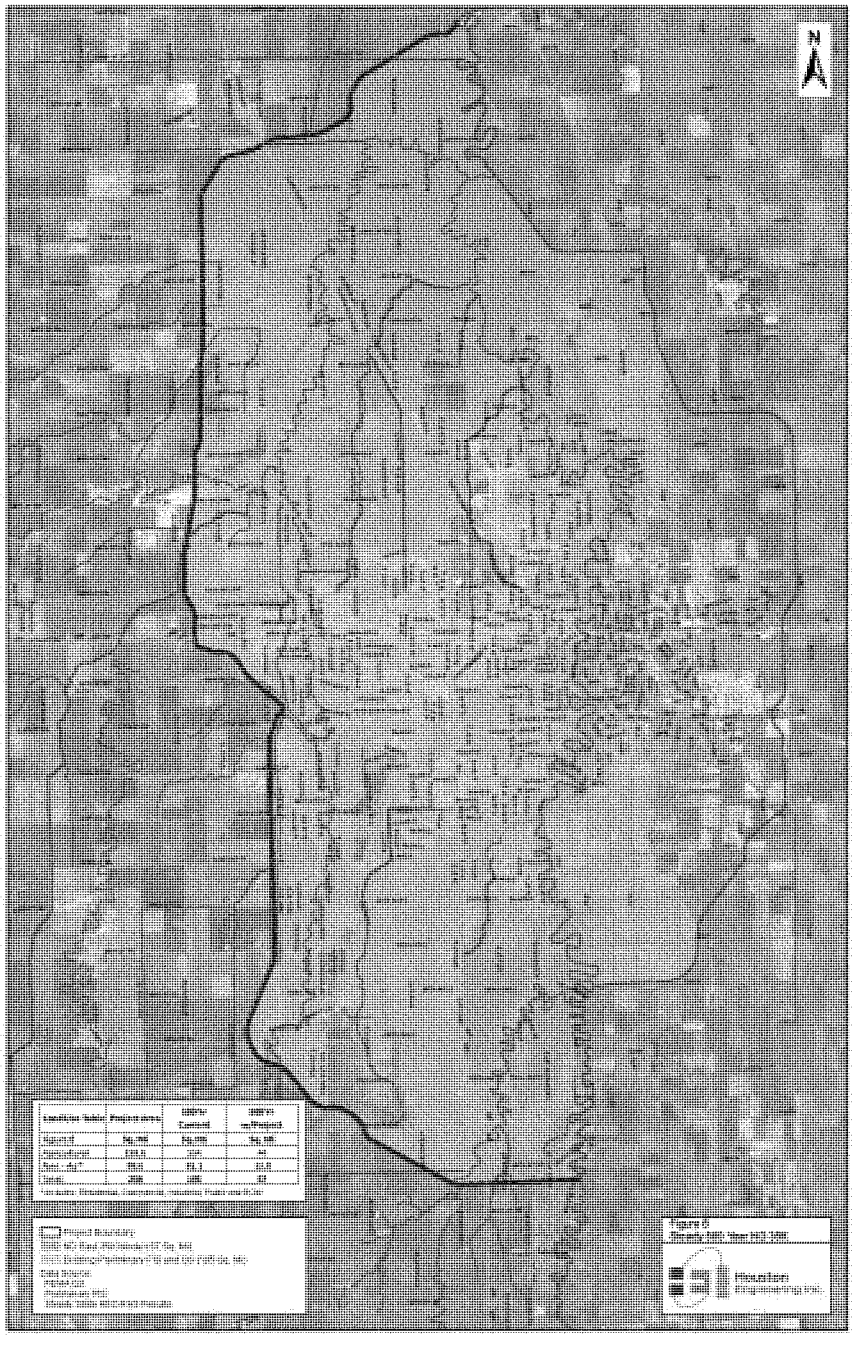


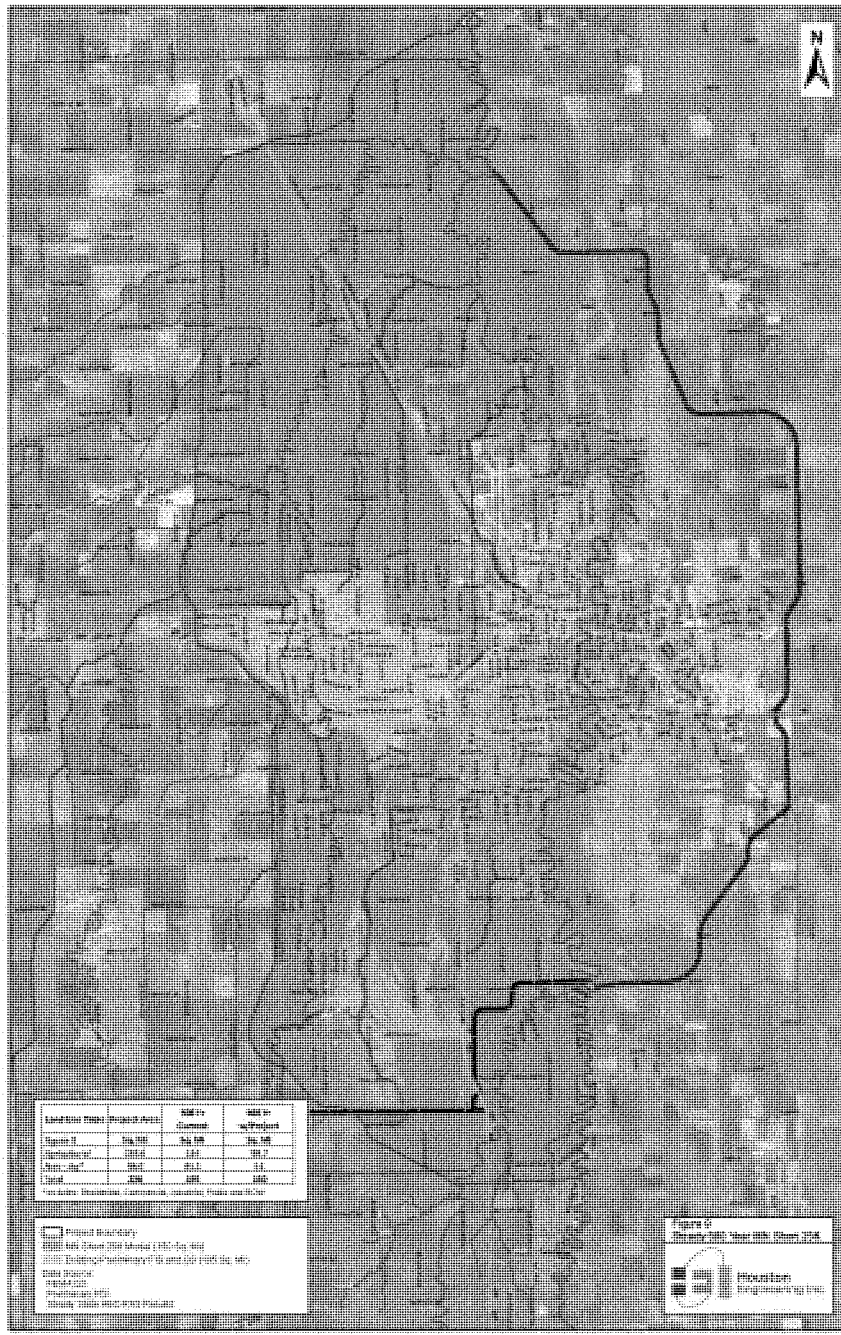


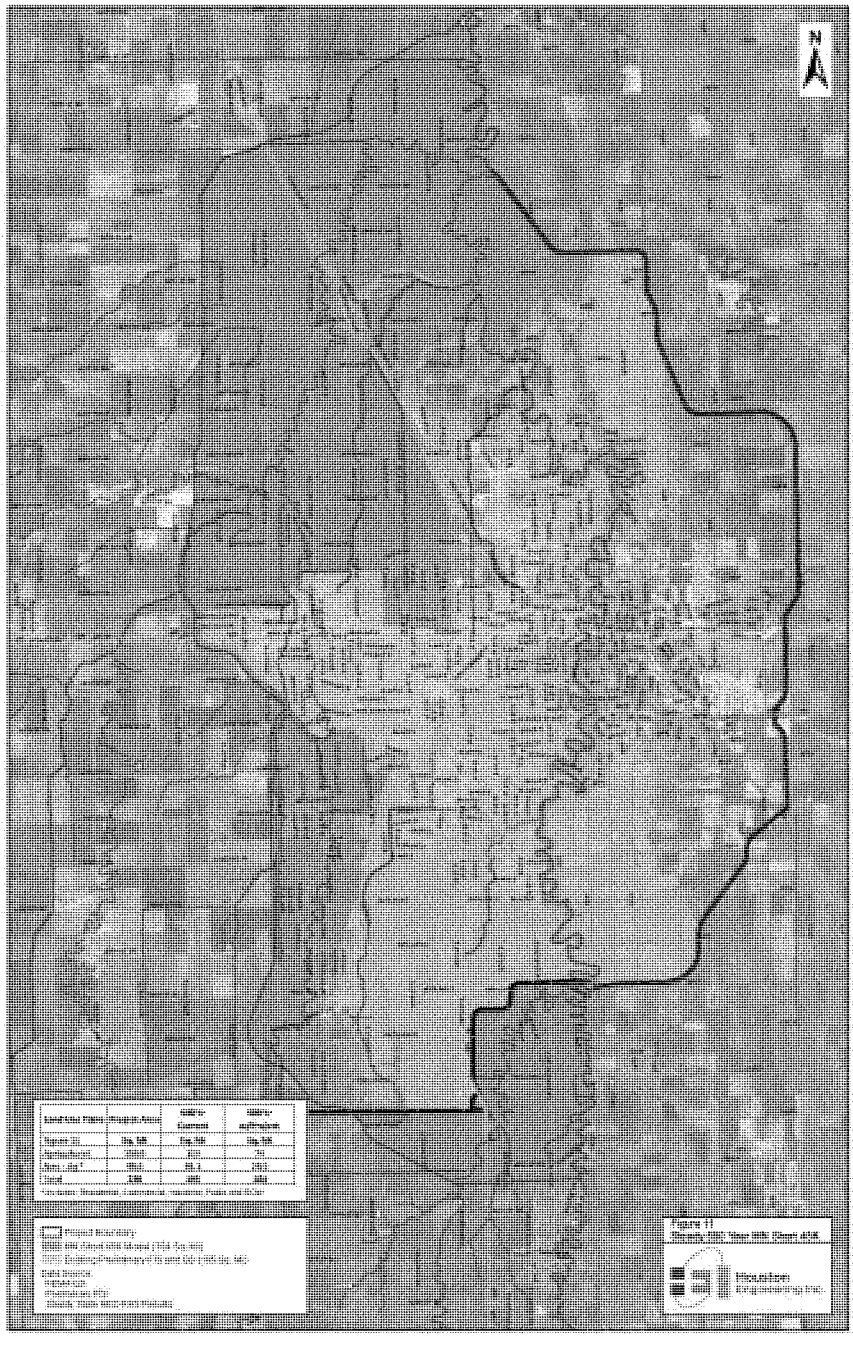


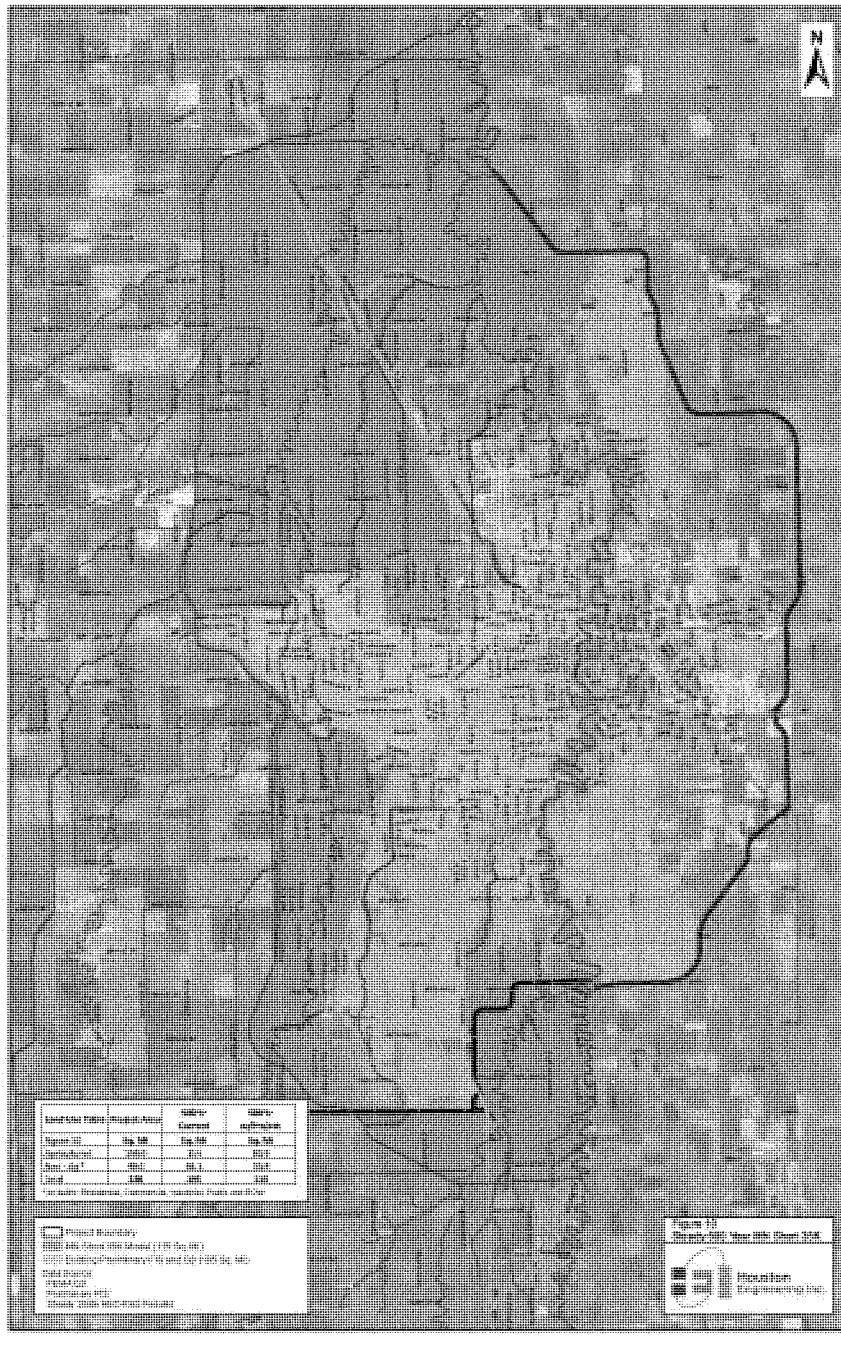












Presentation 10:

February 1, 2010

NEWS RELEASE

U.S. ARMY CORPS OF ENGINEERS **BUILDING STRONG®**

ST. PAUL DISTRICT
Feb. 1, 2010
MVP-PA-2010-019
Shannon Bauer: 651-290-5108, 612-840-9453, shannon.l.bauer@usace.army.mil

Corps of Engineers Presents Diversion Channel Options for Fargo-Moorhead

ST. PAUL, MINN. – The U.S. Army Corps of Engineers, St. Paul District, provided information on the Minnesota and North Dakota diversion plans to local leaders on Monday morning. The information will be used by the local leaders to determine if a locally preferred plan should be pursued. The Corps identified a Minnesota diversion channel as the flood damage reduction plan that will provide the most benefit at the least amount of cost or risk to the tax payer.

The information presented can be found at: ftp://ftp.usace.army.mil/pub/mvp/FMM_Feb_Meeting/.

Two public meetings will be held to present this information to the public and solicit feedback. The first meeting will be **Feb. 2** at the Centennial Hall 207 4th St. N. in Fargo. The second meeting will be held **Feb. 3** at the Hanson Theater in the Center for the Arts on the Minnesota State University, Moorhead campus at 801 13th St. S. in Moorhead. Both meetings will begin at 6 p.m. with an open house, followed by a formal presentation at 7 p.m. and a question and answer period ending at 9 p.m. Anyone interested in the study is welcome to attend either meeting.

The Corps, along with its local sponsors, the cities of Fargo and Moorhead, will continue to analyze, optimize and strengthen the final flood damage resolution before the selection undergoes both technical and policy reviews prior to public release of the draft report in May 2010.

The U.S. Army Corps of Engineers, St. Paul District, serves the American public in the areas of environmental enhancement, navigation, flood damage reduction, water and wetlands regulation, recreation sites and disaster response. It contributes around $175 million to the five-state district economy. The more than 638 employees work at more than 40 sites in five upper-Midwest states. For more information, see www.mvp.usace.army.mil.

-30-

Fargo-Moorhead Metropolitan Feasibility Study

Presentation for Community Leaders
Feb. 1, 2010

CITY OF MOORHEAD MINNESOTA

CITY OF Fargo

US Army Corps of Engineers
BUILDING STRONG®

CITY OF Fargo

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Presentation Overview:

- ✓ Background
- ✓ Risk
- ✓ Alternatives
- ✓ Benefit-Cost Ratios
- ✓ Downstream Impacts
- ✓ Expectations of Local Decision Makers
- ✓ Recommended Path Forward
- ✓ Schedule

1 February 2010 2

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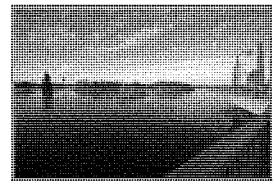
Why we are here:

- ✓ Fargo-Moorhead area has significant flood risk.
- ✓ Provide information to the community leaders so a decision can be made on the path forward.
- ✓ Present information on the alternatives considered, preliminary results, expectations and schedule.
- ✓ We need local consensus on the path forward by April 15.



Fargo-Moorhead Flood 2009

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Project Overview:

- ✓ Feasibility Timeline
  - ✓ Tight schedule mandated by Congressional, state and local officials
  - ✓ Federal and local decisions will impact future efforts
- ✓ Agency and Technical Reviews
  - ✓ Beginning Feb. 16 and March 26
  - ✓ Results are all preliminary prior to those reviews
- ✓ This Presentation
  - ✓ All information is preliminary and subject to change based on reviews
  - ✓ Provide facts on the alternatives considered
  - ✓ Describe the options and risks involved with all alternatives
  - ✓ Corps view on best path forward
  - ✓ Future efforts and schedule

1 February 2010 4

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Funding and Costs:

- ✓ Study costs are shared 50% federal, 50% non-federal
- ✓ Congress provides federal funds to the Corps
- ✓ Non-federal funding provided by:
  - ✓ City of Fargo, ND
  - ✓ City of Moorhead, MN
  - ✓ Buffalo-Red River Watershed District, MN
  - ✓ Cass County, ND
- ✓ Estimated study cost: $8 million

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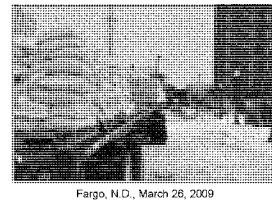
Study Goals:

- ✓ Develop a system to reduce regional flood risk
- ✓ Determine the federal role in implementation
- ✓ Document findings in a Feasibility Report
- ✓ Recommend a project to Congress



Fargo, N.D., March 26, 2009

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What's at risk:

- ✓ The 2009 flood was approximately a 125-year flood event.
- ✓ Successful flood fights lead to a false sense of security.
- ✓ It would be very difficult to fight floods larger than the 2009 flood.
- ✓ Failure of emergency levees would be catastrophic.

Fargo-Moorhead Flood 2009

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Potential Loss of Life:

Event	Anticipated Event (98% Evacuation)	Unanticipated Event (0% Evacuation)
1% Chance (100 yr)	4	200
0.2% Chance (500 yr)	12	594

*Assume Total Metro Population 202,684

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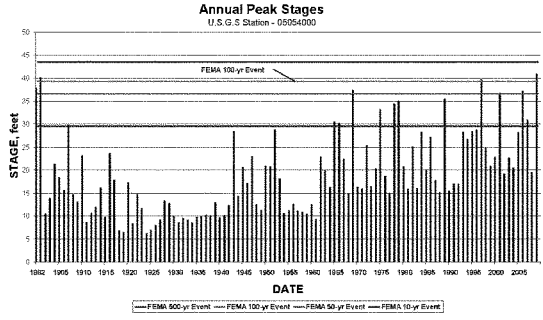
Wetter Climate?



*Hydrologic record shows two periods: wet and dry

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Wetter Climate?

- ✓ Panel of experts met to discuss hydrology
  - ✓ Confirmed increasing trend in flood flow and frequency
  - ✓ Cause of increasing trend is not known
  - ✓ Red River has wet and dry cycles
  - ✓ Currently in a wet cycle, but will eventually switch to dry cycle
- ✓ Recommendations
  - ✓ Use non-standard hydrologic method to estimate future flows
  - ✓ Assume that continued wet conditions are more likely than dry
- ✓ Actions taken
  - ✓ Corps developed modified flow/frequency curves
  - ✓ Will use modified curves for sensitivity analysis of selected plan

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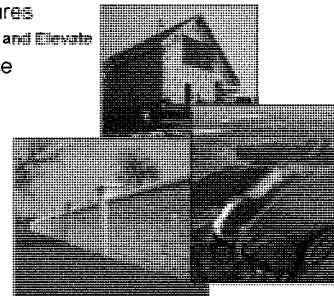
Potential Alternatives:

- ✓ No Action: Continue Emergency Measures
- ✓ Nonstructural Measures
  - ✓ **Buyouts, Relocations and Elevate**
- ✓ Increase Conveyance
  - ✓ **Diversion Channels**
- ✓ Flood Barriers
  - ✓ **Levees/Floodwalls**
- ✓ Flood Storage
  - ✓ **Large/Small**



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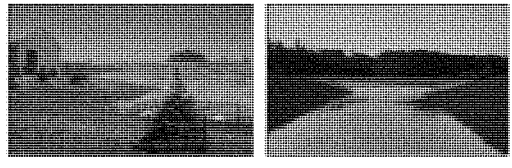
Screening Results:

- ✓ Diversion channels with tie back levees
  - ✓ Minnesota
  - ✓ North Dakota



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North Dakota alignment:

- ✓ 30K and 35K cfs
- ✓ 36 mile-long channel
- ✓ 3.3 miles of tie back levee
- ✓ 8.5 years construction
- ✓ Structures needed
  - ✓ 2 Control structures
  - ✓ 2 River aqueducts
  - ✓ 2 Tributary drop structures
  - ✓ 3 Drop structures
  - ✓ 18 Highway bridges
  - ✓ 4 Railroad bridges

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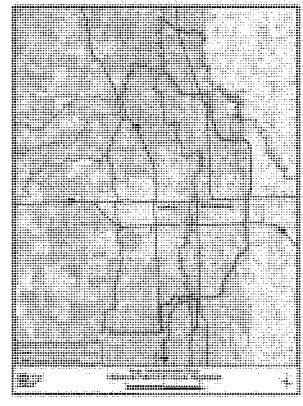
Minnesota alignment:

- ✓ 20, 25, 30 and 35K cfs
- ✓ 25 mile-long channel
- ✓ 9.9 miles of tie back levee
- ✓ 6.5 years construction
- ✓ Structures needed
  - ✓ 1 Control structure
  - ✓ 1 Drop structure
  - ✓ 0 River crossings
  - ✓ 20 Highway bridges
  - ✓ 4 Railroad bridges



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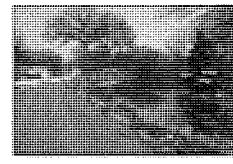
Cost and schedule risk assessment:

- ✓ Purpose was to identify areas of risk impacting cost and schedule.
- ✓ Conducted Jan. 7, 2010, with the Corps, local sponsors and contractors.
- ✓ Results will be used to set contingency costs.
- ✓ Risks can be reduced through additional study.



Levee near Oak Grove School, Flood 2009

1 February 2010 15

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Cost and schedule risk assessment:

✓ Minnesota alignment:

1. Project schedule
2. Time to plan (Feasibility)
3. Number of construction contracts
4. Uncertainty with geotechnical conditions
5. Variation in estimated quantities
6. **Concerns with Dilworth rail yard**
7. Environmental mitigation
8. Potential fluctuation in labor costs
9. Uncertainty with funding stream – federal and local

✓ North Dakota Alignment:

1. Project schedule
2. Time to plan (Feasibility)
3. **Unplanned work – additional project features**
4. **Natural resources issues**
5. Number of construction contracts
6. Uncertainty with Geotechnical Conditions
7. Variation in estimated quantities
8. Environmental Mitigation
9. **Control and diversion of water during construction**
10. Potential fluctuation in labor costs
11. Uncertainty with funding stream – federal and local

****Bold Indicates unique to alignment**

1 February 2010 16

Preliminary results with cost & schedule risk:

Screened Alternatives Ranked by Net Benefits with Cost and Schedule Risk Assessment

Alternative	Cost *	Avg Annual Net Benefits *	Residual Damages *	B/C Ratio	Local Share*
MN Short Diversion 20K	$871	$20.0	$22.7	1.44	$305
MN Short Diversion 25K	$980	$18.9	$18.1	1.37	$414
MN Short Diversion 30K	$1,050	$18.5	$14.8	1.34	$484
MN Short Diversion 35K	$1,143	$15.3	$13.3	1.26	$577
ND East Diversion 30K	$1,231	$12.8	$11.4	1.20	$665
ND East Diversion 35K	$1,295	$11.2	$9.7	1.17	$729

* In millions of dollars
** Calculations based on assumption that NED plan is MN 20K
Expected average annual damages without a project are $77.1 million.

1 February 2010 17

Preliminary results without cost & schedule risk:

Screened Alternatives Ranked by Net Benefits

Alternative	Cost *	Avg Annual Net Benefits *	Residual Damages *	B/C Ratio	Local Share*
MN Short Diversion 20K	$787	$24.3	$22.7	1.59	$275
MN Short Diversion 25K	$892	$23.4	$18.1	1.50	$380
MN Short Diversion 30K	$959	$23.3	$14.8	1.47	$447
MN Short Diversion 35K	$1,049	$20.1	$13.3	1.37	$537
ND East Diversion 30K	$1,109	$19.1	$11.4	1.33	$597
ND East Diversion 35K	$1,168	$17.7	$9.7	1.29	$656

* In millions of dollars
** Calculations based on assumption that NED plan is MN 20K
Expected average annual damages without a project are $77.1 million.

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Effectiveness of Diversions:

	Stage at Fargo Gage (ft)		
	2% Chance (50-year)	1% Chance (100- year)	0.2% Chance (500- year)
Existing Condition	37.8	39.5	43.9
MN Alignment			
20K	30.8	32.8	40.6
25K	29.8	31.4	38.9
30K	29.8	31.1	36.9
35K	29.8	30.3	34.9
ND Alignment			
30K	29.3	29.4	37.0
35K	28.8	29.3	34.9

Stage	Impacts
27	Fargo Elm Street closed
30	Fargo 2nd Street Dike installed
31	Moorhead 1st Ave. North closed
32	First homes in Moorhead threatened
35	First homes in Fargo threatened
40.8	2009 Flood Record Stage

1 February 2010 19

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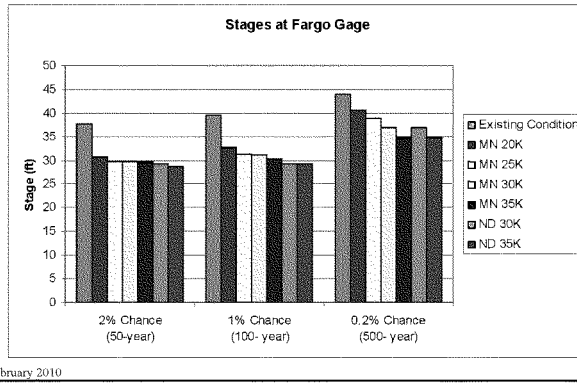
Effectiveness of Diversions:



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Downstream Effects:

Based on 35K diversions and 100-year event

Location	Downstream Stage Increase (Inches)
Minnesota Short 35K - 100 Year	
Halstad Gage	3.7 - 4.6
Near Hendrum	6.8 - 9.4
Perley	4.2 - 6.0
Georgetown	5.3 - 7.7
North Dakota 35K - 100 Year	
Halstad Gage	4.4 - 5.3
Near Hendrum	7.9 - 10.4
Perley	3.6 - 5.4
Georgetown	5.2 - 7.6

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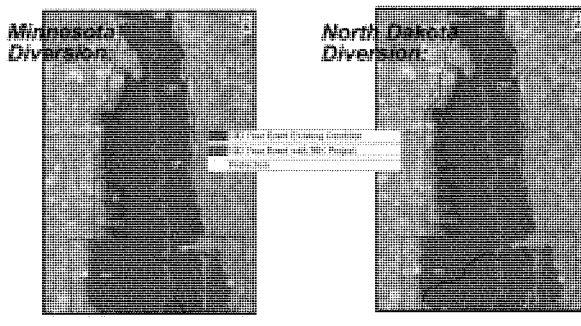
Downstream effects:

Based on 35K diversions and 100-year event



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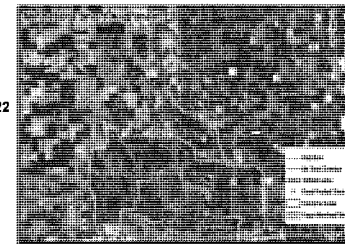
Non-Structural Recommendations:

- ✓ Minnesota Alignment
  - ✓ Residential Structures
    - ✓ **Buyouts: 7**
    - ✓ **Elevate Main Floor: 22**
    - ✓ **Elevate Entire Home: 22**
  - ✓ Critical Facility (school):
    - ✓ **Flood Wall: 1**



Structures included in Non-Structural Plan

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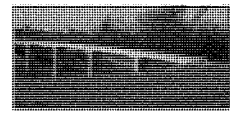
Recreation:

- ✓ Eligible Facilities
  - ✓ Trails: Hiking, Snowmobiling, Cross Country Skiing, etc.
  - ✓ Foot Bridges
  - ✓ Fishing Facilities
  - ✓ Picnic Shelters
  - ✓ Overlooks
  - ✓ Restrooms
  - ✓ Camping facilities, picnic tables, grills, etc.
  - ✓ Multiple Use Courts
  - ✓ Interpretative Signs and Information



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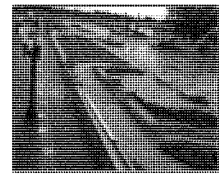
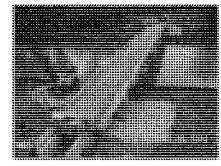
Recreation:

✓Conceptual Plan
- ✓ 48-miles of trails
- ✓ Benches every two miles
- ✓ 2 – Shared-use bridges
- ✓ 2 – Pedestrian-only bridges
- ✓ 3 – Trail heads
- ✓ Rest rooms
- ✓ Potable water
- ✓ Picnic facilities
- ✓ Trees and Shrubs

✓ Average Annual Benefits – $13,147,000





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Local Decisions:

- ✓ What level of risk is tolerable?
- ✓ What locally preferred options need to be retained?
- ✓ Develop consensus on locally preferred plan (LPP)
- ✓ Provide written request for LPP by April 15, 2010
- ✓ Identify sponsors for construction and ongoing O&M
- ✓ Define non-federal cost sharing arrangements

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Local Decisions:

Red River of the North

- ✓ Key Considerations
  - ✓ Downstream impacts
  - ✓ Environmental impacts
  - ✓ Cost uncertainties and risk
    - ✓ Benefit-Cost Ratio could fall below 1.0
    - ✓ Federal cost capped at 65% of NED plan
    - ✓ Non-federal sponsor pays all costs in excess of NED plan
  - ✓ Schedule impacts (Additional time needed to address risks)
  - ✓ Approval of LPP by USACE and ASA(CW) not guaranteed
  - ✓ NED plan appears to be a Minnesota plan (20,000 cfs or smaller)

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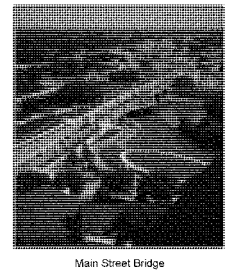
Local Decisions:



Main Street Bridge

- ✓ Is there a Locally Preferred Plan?
  - ✓ Location: North Dakota or Minnesota?
  - ✓ Capacity: 35,000 cfs?
- ✓ Process is driven by local sponsors
- ✓ Work on Locally Preferred Plan will continue at request of sponsors
- ✓ Decision will affect ability to meet schedule

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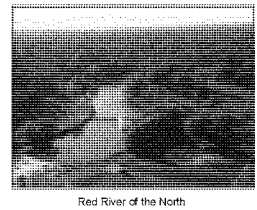
Recommended Path Forward:

- ✓ Develop Additional Plans:
  - ✓ Minnesota 15,000 and 10,000 cfs
    - ✓ To determine NED plan
    - ✓ NED sets baseline for LPP cost share
  - ✓ Optimize Minnesota 35K plan and NED plan
  - ✓ Assess downstream impacts
  - ✓ Develop Recreation Plans



Red River of the North

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Recommended Path Forward:

Corps perspective pending agency and technical reviews:

- ✓ Seek approval to recommend:
  - ✓ Minnesota 35,000 cfs diversion at full cost share (65/35)
  - ✓ Approvals necessary – not guaranteed
    - ✓ Corps Headquarters
    - ✓ Assistant Secretary of the Army (Civil Works)
  - ✓ Based on technical information only
  - ✓ Corps has no preference on decision made by the local sponsors
- ✓ Local sponsors can select any option
  - ✓ Many local concerns to consider
  - ✓ Develop local consensus

1 February 2010 30

Recommended Path Forward:

Upcoming Tasks

- ✓ Continue working with Natural Resources Agencies
  - ✓ Meeting Feb. 3
  - ✓ Address Areas of Risk for both MN and ND diversions
- ✓ Identify Final Alignments
  - ✓ Meetings with local communities
  - ✓ Landowner Meetings in May/June
  - ✓ Public Meetings in May/June
- ✓ Continue to analyze downstream impacts
  - ✓ Meetings with downstream communities

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F-M Metro Study Timeline:

- ✓ Feb 2010: Identify unofficial tentatively selected plan
- ✓ Feb 2010: Public meetings
- ✓ Mar 2010: Independent external peer review
- ✓ Apr 2010: Sponsors request locally preferred plan in writing
- ✓ Apr 2010: Corps Headquarters approval to release draft
- ✓ May 2010: Formal public review of feasibility report/EIS
- ✓ Sep 2010: Finalize feasibility report/EIS
- ✓ Dec 2010: Transmit recommendation to Congress
- ✓ Jan 2011: Begin plans and specifications
- ✓ Apr 2012: Begin construction

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Contact Us:

- ✓ Information on back of handout
- ✓ Please sign our sheet to get future mailings.
- ✓ Web site: http://www.internationalwaterinstitute.org/feasibility
- ✓ E-mail:
  - ✓ Craig Evans – Craig.O.Evans@usace.army.mil
  - ✓ Aaron Snyder – Aaron.M.Snyder@usace.army.mil
- ✓ Mail:

  USACE, St. Paul District
  190 5th St. E.
  Suite 401
  St. Paul, MN 55104

1 February 2010 33

Presentations 11 and 12:

February 2, 2010
February 3, 2010

NEWS RELEASE

U.S. ARMY CORPS OF ENGINEERS **BUILDING STRONG®**

ST. PAUL DISTRICT
Jan. 27, 2010
MVP-PA-2010-016
Shannon Bauer: 651-290-5108, 612-840-9453, shannon.l.bauer@usace.army.mil

Corps of Engineers to host public meetings on Fargo-Moorhead Metro flood study

ST. PAUL, MINN. – The U.S. Army Corps of Engineers, St. Paul District, along with the City of Fargo, N.D., and the City of Moorhead, Minn., will hold two public meetings in February to provide preliminary results of the second screening of possible flood damage reduction alternatives and to seek public input for the Fargo-Moorhead Metropolitan feasibility study.

After studying numerous potential flood damage reduction options for the Fargo-Moorhead Metropolitan area, the study focus was narrowed to two potential alignments that could greatly reduce the possibility of flooding in the Fargo-Moorhead Metropolitan area. These two alignment alternatives include a diversion channel through Minnesota and a diversion channel through North Dakota. The two alternatives have a total of six possible sizes, four in Minnesota and two in North Dakota.

The two meetings will be held to present this information and solicit public feedback. The first meeting will be **Feb. 2** at the Centennial Hall, 207 4th St. N. in Fargo. The second meeting will be held **Feb 3** at the Hanson Theater in the Center for the Arts on the Minnesota State University, Moorhead campus at 801 13th St. S. in Moorhead. Both meetings will begin at 6 p.m. with an open house, followed by a formal presentation at 7 p.m. and a question and answer period ending at 9 p.m. Anyone interested in the study is welcome to attend either meeting.

The Feb. 2 meeting will be available online at the City of Fargo's Web site at www.cityoffargo.com. For more information on this, please contact Karena Carlson, 701-476-6671. Fargo CableOne Channel TV Fargo 12 will broadcast the meeting on Wednesdays at 7 p.m. and Saturdays at 11 a.m.

The Feb. 3 meeting will be available via streaming video on the City of Moorhead's Web site at www.cityofmoorhead.com/flood. For more information on this, please contact Les Bakke, 218-299-5321. Moorhead Community TV will also broadcast the meetings on CableOne Channel 12. See local listing for times.

The Corps, along with its local sponsors, the cities of Fargo and Moorhead, will continue to study and refine these two options before making a final selection. The selection will undergo both technical and policy reviews prior to public release of the draft report in May 2010.

The U.S. Army Corps of Engineers, St. Paul District, serves the American public in the areas of environmental enhancement, navigation, flood damage reduction, water and wetlands regulation, recreation sites and disaster response. It contributes around $175 million to the five-state district economy. The more than 638 employees work at more than 40 sites in five upper-Midwest states. For more information, see www.mvp.usace.army.mil.

-30-

Note to reporters: Information presented at the meeting will not be made available until Feb. 1 at the Metro Flood Management Committee meeting, 9 a.m. at the Fargo Civic Center Centennial Hall. Study project managers Craig Evans and Aaron Snyder will be available after the meeting for questions. To interview one of the project managers individually this week, please contact Shannon Bauer at 651-290-5108 or 612-840-9453. Please do not contact Evans and Snyder directly this week or next, as they will be on a tight schedule.

NEWS RELEASE

U.S. ARMY CORPS OF ENGINEERS **BUILDING STRONG®**

ST. PAUL DISTRICT
Feb. 1, 2010
MVP-PA-2010-019
Shannon Bauer: 651-290-5108, 612-840-9453, shannon.l.bauer@usace.army.mil

Corps of Engineers Presents Diversion Channel Options for Fargo-Moorhead

ST. PAUL, MINN. – The U.S. Army Corps of Engineers, St. Paul District, provided information on the Minnesota and North Dakota diversion plans to local leaders on Monday morning. The information will be used by the local leaders to determine if a locally preferred plan should be pursued. The Corps identified a Minnesota diversion channel as the flood damage reduction plan that will provide the most benefit at the least amount of cost or risk to the tax payer.

The information presented can be found at: ftp://ftp.usace.army.mil/pub/mvp/FMM_Feb_Meeting/.

Two public meetings will be held to present this information to the public and solicit feedback. The first meeting will be **Feb. 2** at the Centennial Hall 207 4th St. N. in Fargo. The second meeting will be held **Feb. 3** at the Hanson Theater in the Center for the Arts on the Minnesota State University, Moorhead campus at 801 13th St. S. in Moorhead. Both meetings will begin at 6 p.m. with an open house, followed by a formal presentation at 7 p.m. and a question and answer period ending at 9 p.m. Anyone interested in the study is welcome to attend either meeting.

The Corps, along with its local sponsors, the cities of Fargo and Moorhead, will continue to analyze, optimize and strengthen the final flood damage resolution before the selection undergoes both technical and policy reviews prior to public release of the draft report in May 2010.

The U.S. Army Corps of Engineers, St. Paul District, serves the American public in the areas of environmental enhancement, navigation, flood damage reduction, water and wetlands regulation, recreation sites and disaster response. It contributes around $175 million to the five-state district economy. The more than 638 employees work at more than 40 sites in five upper-Midwest states. For more information, see www.mvp.usace.army.mil.

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Fargo-Moorhead Metropolitan Feasibility Study

Presentation for the Public
Feb. 2-3, 2010

CITY OF MOORHEAD MINNESOTA

CITY OF Fargo

US Army Corps of Engineers
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Presentation Overview:

- ✓ Background
- ✓ Risk
- ✓ Alternatives
- ✓ Benefit-Cost Ratios
- ✓ Downstream Impacts
- ✓ Expectations of Local Decision Makers
- ✓ Recommended Path Forward
- ✓ Schedule

1 February 2010 2

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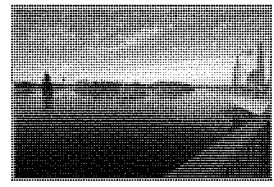
Why we are here:

- ✓ Fargo-Moorhead area has significant flood risk.
- ✓ Provide information to the community leaders so a decision can be made on the path forward.
- ✓ Present information on the alternatives considered, preliminary results, expectations and schedule.
- ✓ We need local consensus on the path forward by April 15.



Fargo-Moorhead Flood 2009

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Project Overview:

- ✓ Feasibility Timeline
  - ✓ Tight schedule mandated by Congressional, state and local officials
  - ✓ Federal and local decisions will impact future efforts
- ✓ Agency and Technical Reviews
  - ✓ Beginning Feb. 16 and March 26
  - ✓ Results are all preliminary prior to those reviews
- ✓ This Presentation
  - ✓ All information is preliminary and subject to change based on reviews
  - ✓ Provide facts on the alternatives considered
  - ✓ Describe the options and risks involved with all alternatives
  - ✓ Corps view on best path forward
  - ✓ Future efforts and schedule

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Funding and Costs:

- ✓ Study costs are shared 50% federal, 50% non-federal
- ✓ Congress provides federal funds to the Corps
- ✓ Non-federal funding provided by:
  - ✓ City of Fargo, ND
  - ✓ City of Moorhead, MN
  - ✓ Buffalo-Red River Watershed District, MN
  - ✓ Cass County, ND
- ✓ Estimated study cost: $8 million

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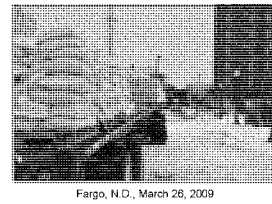
Study Goals:

- ✓ Develop a system to reduce regional flood risk
- ✓ Determine the federal role in implementation
- ✓ Document findings in a Feasibility Report
- ✓ Recommend a project to Congress



Fargo, N.D., March 26, 2009

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What's at risk:

- ✓ The 2009 flood was approximately a 125-year flood event.
- ✓ Successful flood fights lead to a false sense of security.
- ✓ It would be very difficult to fight floods larger than the 2009 flood.
- ✓ Failure of emergency levees would be catastrophic.

Fargo-Moorhead Flood 2009

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Potential Loss of Life:

Event	Anticipated Event (98% Evacuation)	Unanticipated Event (0% Evacuation)
1% Chance (100 yr)	4	200
0.2% Chance (500 yr)	12	594

*Assume Total Metro Population 202,684

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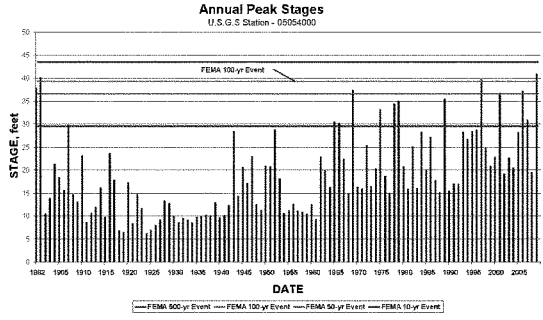
Wetter Climate?



*Hydrologic record shows two periods: wet and dry

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Wetter Climate?

- ✓ Panel of experts met to discuss hydrology
  - ✓ Confirmed increasing trend in flood flow and frequency
  - ✓ Cause of increasing trend is not known
  - ✓ Red River has wet and dry cycles
  - ✓ Currently in a wet cycle, but will eventually switch to dry cycle
- ✓ Recommendations
  - ✓ Use non-standard hydrologic method to estimate future flows
  - ✓ Assume that continued wet conditions are more likely than dry
- ✓ Actions taken
  - ✓ Corps developed modified flow/frequency curves
  - ✓ Will use modified curves for sensitivity analysis of selected plan

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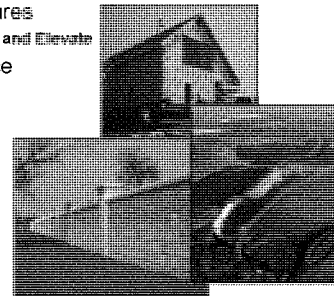
Potential Alternatives:

- ✓ No Action: Continue Emergency Measures
- ✓ Nonstructural Measures
  - ✓ **Buyouts, Relocations and Elevate**
- ✓ Increase Conveyance
  - ✓ **Diversion Channels**
- ✓ Flood Barriers
  - ✓ **Levees/Floodwalls**
- ✓ Flood Storage
  - ✓ **Large/Small**



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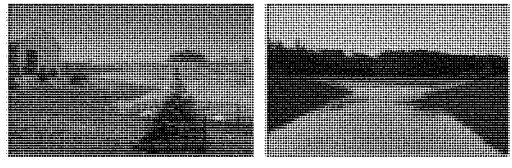
Screening Results:

- ✓ Diversion channels with tie back levees
  - ✓ Minnesota
  - ✓ North Dakota



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North Dakota alignment:

- ✓ 30K and 35K cfs
- ✓ 36 mile-long channel
- ✓ 3.3 miles of tie back levee
- ✓ 8.5 years construction
- ✓ Structures needed
  - ✓ 2 Control structures
  - ✓ 2 River aqueducts
  - ✓ 2 Tributary drop structures
  - ✓ 3 Drop structures
  - ✓ 18 Highway bridges
  - ✓ 4 Railroad bridges

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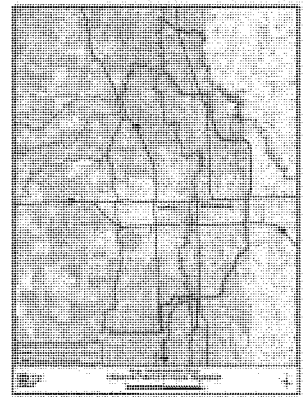
Minnesota alignment:

- ✓ 20, 25, 30 and 35K cfs
- ✓ 25 mile-long channel
- ✓ 9.9 miles of tie back levee
- ✓ 6.5 years construction
- ✓ Structures needed
  - ✓ 1 Control structure
  - ✓ 1 Drop structure
  - ✓ 0 River crossings
  - ✓ 20 Highway bridges
  - ✓ 4 Railroad bridges



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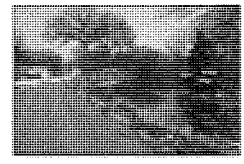
Cost and schedule risk assessment:

- ✓ Purpose was to identify areas of risk impacting cost and schedule.
- ✓ Conducted Jan. 7, 2010, with the Corps, local sponsors and contractors.
- ✓ Results will be used to set contingency costs.
- ✓ Risks can be reduced through additional study.



Levee near Oak Grove School, Flood 2009

1 February 2010 15

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Cost and schedule risk assessment:

✓ Risks with both alignments:

1. Project schedule
2. Time to plan (Feasibility)
3. Number of construction contracts
4. Uncertainty with geotechnical conditions
5. Variation in estimated quantities
6. Environmental mitigation
7. Potential fluctuation in labor costs
8. Uncertainty with funding stream – federal and local

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Cost and schedule risk assessment:

- ✓ Minnesota alignment:
  - ✓ Concerns with Dilworth rail yard
- ✓ North Dakota alignment:
  - ✓ Unplanned work – additional project features
  - ✓ Control and diversion of water during construction
  - ✓ Natural resources issues

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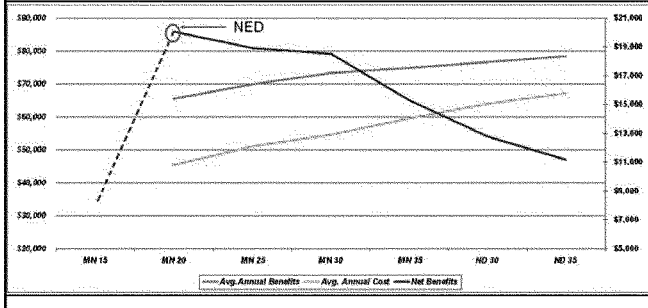
NED determination:



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Preliminary results with cost & schedule risk:

Screened Alternatives Ranked by Net Benefits with Cost and Schedule Risk Assessment

Alternative	Cost *	Avg Annual Net Benefits *	Residual Damages *	B/C Ratio	Local Share*
MN Short Diversion 20K	$871	$20.0	$22.7	1.44	$305
MN Short Diversion 25K	$980	$18.9	$18.1	1.37	$414
MN Short Diversion 30K	$1,050	$18.5	$14.8	1.34	$484
MN Short Diversion 35K	$1,143	$15.3	$13.3	1.26	$577
ND East Diversion 30K	$1,231	$12.8	$11.4	1.20	$665
ND East Diversion 35K	$1,295	$11.2	$9.7	1.17	$729

* In millions of dollars
** Calculations based on assumption that NED plan is MN 20K
Expected average annual damages without a project are $77.1 million.

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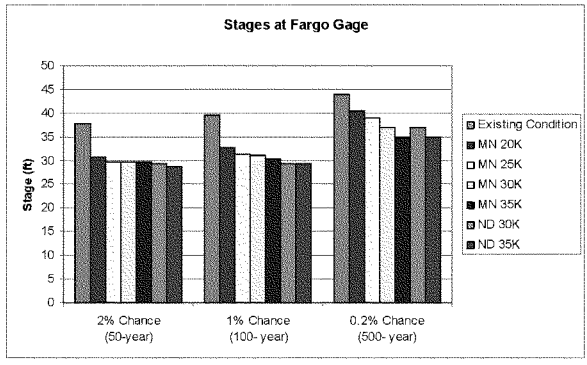
Effectiveness of Diversions:

	Stage at Fargo Gage (ft)		
	2% Chance (50-year)	1% Chance (100- year)	0.2% Chance (500- year)
Existing Condition	37.8	39.5	43.9
MN Alignment			
20K	30.8	32.8	40.6
25K	29.8	31.4	38.9
30K	29.8	31.1	36.9
35K	29.8	30.3	34.9
ND Alignment			
30K	29.3	29.4	37.0
35K	28.8	29.3	34.9

Stage	Impacts
27	Fargo Elm Street closed
30	Fargo 2nd Street Dike installed
31	Moorhead 1st Ave. North closed
32	First homes in Moorhead threatened
35	First homes in Fargo threatened
40.8	2009 Flood Record Stage

1 February 2010 20

Effectiveness of Diversions:



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Downstream Effects:

Based on 35K diversions and 100-year event

Location	Downstream Stage Increase (Inches)
Minnesota Short 35K - 100 Year	
Halstad Gage	3.7 - 4.6
Near Hendrum	6.8 - 9.4
Perley	4.2 - 6.0
Georgetown	5.3 - 7.7
North Dakota 35K - 100 Year	
Halstad Gage	4.4 - 5.3
Near Hendrum	7.9 - 10.4
Perley	3.6 - 5.4
Georgetown	5.2 - 7.6

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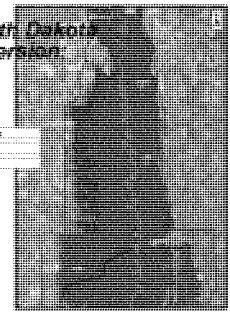
Downstream effects:

Based on 35K diversions and 100-year event

Minnesota Diversion:

North Dakota Diversion:



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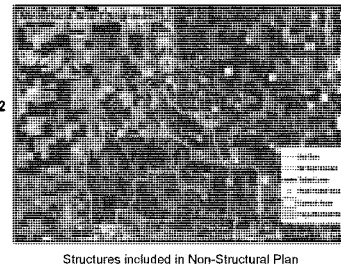
Non-Structural Recommendations:

- ✓ Minnesota Alignment
  - ✓ Residential Structures
    - ✓ **Buyouts: 7**
    - ✓ **Elevate Main Floor: 22**
    - ✓ **Elevate Entire Home: 22**
  - ✓ Critical Facility (school):
    - ✓ **Flood Wall: 1**



Structures included in Non-Structural Plan

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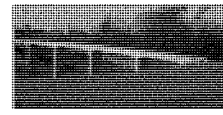
Recreation:

- ✓ Eligible Facilities
  - ✓ Trails: Hiking, Snowmobiling, Cross Country Skiing, etc.
  - ✓ Foot Bridges
  - ✓ Fishing Facilities
  - ✓ Picnic Shelters
  - ✓ Overlooks
  - ✓ Restrooms
  - ✓ Camping facilities, picnic tables, grills, etc.
  - ✓ Multiple Use Courts
  - ✓ Interpretative Signs and Information



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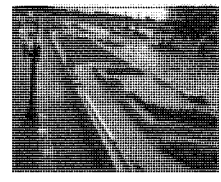
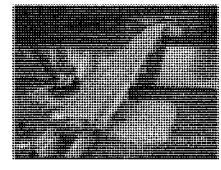
Recreation:

- ✓Conceptual Plan
  - ✓ 48-miles of trails
  - ✓ Benches every two miles
  - ✓ 2 – Shared-use bridges
  - ✓ 2 – Pedestrian-only bridges
  - ✓ 3 – Trail heads
  - ✓ Rest rooms
  - ✓ Potable water
  - ✓ Picnic facilities
  - ✓ Trees and Shrubs
- ✓ Average Annual Benefits – $13,147,000





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Local Decisions:

- ✓ What level of risk is tolerable?
- ✓ What locally preferred options need to be retained?
- ✓ Develop consensus on locally preferred plan (LPP)
- ✓ Provide written request for LPP by April 15, 2010
- ✓ Identify sponsors for construction and ongoing O&M
- ✓ Define non-federal cost sharing arrangements

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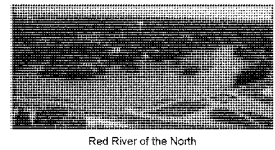
Local Decisions:



Red River of the North

- ✓ Key Considerations
  - ✓ Downstream impacts
  - ✓ Environmental impacts
  - ✓ Cost uncertainties and risk
    - ✓ Benefit-Cost Ratio could fall below 1.0
    - ✓ Federal cost capped at 65% of NED plan
    - ✓ Non-federal sponsor pays all costs in excess of NED plan
  - ✓ Schedule impacts (Additional time needed to address risks)
  - ✓ Approval of LPP by USACE and ASA(CW) not guaranteed
  - ✓ NED plan appears to be a Minnesota plan (20,000 cfs or smaller)

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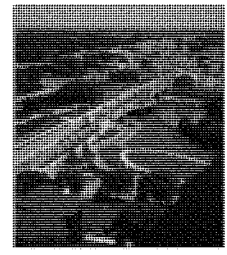
Local Decisions:

- ✓ Is there a Locally Preferred Plan?
  - ✓ Location: North Dakota or Minnesota?
  - ✓ Capacity: 35,000 cfs?
- ✓ Process is driven by local sponsors
- ✓ Work on Locally Preferred Plan will continue at request of sponsors
- ✓ Decision will affect ability to meet schedule



Main Street Bridge

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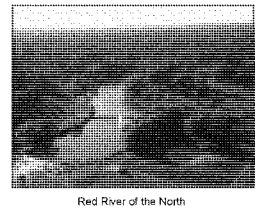
Recommended Path Forward:

- ✓ Develop Additional Plans:
  - ✓ Minnesota 15,000 and 10,000 cfs
    - ✓ To determine NED plan
    - ✓ NED sets baseline for LPP cost share
  - ✓ Optimize Minnesota 35K plan and NED plan
  - ✓ Assess downstream impacts
  - ✓ Develop Recreation Plans



Red River of the North

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Recommended Path Forward:

Corps perspective pending agency and technical reviews:

- ✓ Seek approval to recommend:
  - ✓ Minnesota 35,000 cfs diversion at full cost share (65/35)
  - ✓ Federal Share $743M, Local share $400M
  - ✓ Approvals necessary – not guaranteed
    - ✓ Corps Headquarters
    - ✓ Assistant Secretary of the Army (Civil Works)
  - ✓ Based on technical information only
  - ✓ Corps has no preference on decision made by the local sponsors
- ✓ Local sponsors can select any option
  - ✓ Many local concerns to consider
  - ✓ Develop local consensus

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Recommended Path Forward:

Upcoming Tasks

- ✓ Continue working with Natural Resources Agencies
  - ✓ Meeting Feb. 3
  - ✓ Address Areas of Risk for both MN and ND diversions
- ✓ Identify Final Alignments
  - ✓ Meetings with local communities
  - ✓ Landowner Meetings in May/June
  - ✓ Public Meetings in May/June
- ✓ Continue to analyze downstream impacts
  - ✓ Meetings with downstream communities

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F-M Metro Study Timeline:

- ✓ Feb 2010: Identify unofficial tentatively selected plan
- ✓ Feb 2010: Public meetings
- ✓ Mar 2010: Independent external peer review
- ✓ Apr 2010: Sponsors request locally preferred plan in writing
- ✓ Apr 2010: Corps Headquarters approval to release draft
- ✓ May 2010: Formal public review of feasibility report/EIS
- ✓ Sep 2010: Finalize feasibility report/EIS
- ✓ Dec 2010: Transmit recommendation to Congress
- ✓ Jan 2011: Begin plans and specifications
- ✓ Apr 2012: Begin construction

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Contact Us:

- ✓ Information on back of handout
- ✓ Please sign our sheet to get future mailings.
- ✓ Web site: http://www.internationalwaterinstitute.org/feasibility
- ✓ E-mail:
  - ✓ Craig Evans – Craig.O.Evans@usace.army.mil
  - ✓ Aaron Snyder – Aaron.M.Snyder@usace.army.mil
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  Suite 401
  St. Paul, MN 55104

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US Army Corps of Engineers

Fargo-Moorhead Metropolitan Feasibility Study

Overview:
The Fargo-Moorhead Metropolitan Feasibility Study is a cooperative effort between the communities of Fargo, ND and Moorhead, MN, with the U.S. Army Corps of Engineers St. Paul District. This handout is designed to give a summary of the study, its preliminary findings and the timeline for completion.

Study goals:
- Understand the flood problems in the greater Fargo-Moorhead metropolitan area.
- Develop a regional system to reduce flood risk.
- Determine the federal government's role in implementing flood risk reduction measures.
- Document study findings in a Feasibility Report and a National Environmental Policy Act (NEPA) Environmental Impact Statement.
- If appropriate, recommend implementation of a federal project to the U.S. Congress.

Problems and opportunities:
The primary problem identified in the study area is a high risk of flood damage to urban infrastructure from the Red River of the North, the Wild Rice River (ND), the Buffalo River and the Sheyenne River and its tributaries. Flooding also causes damage to rural infrastructure and agricultural crop land and disrupts transportation and access to properties within the study area. There are opportunities to increase and improve wildlife habitat and to increase recreation in conjunction with measures to reduce flood risk.

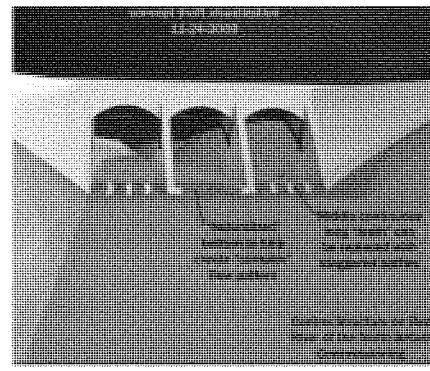
Flooding history:
The Fargo-Moorhead metropolitan area has a relatively high risk of flooding. The Red River has exceeded the National Weather Service flood stage of 18 feet in 46 of the past 107 years, and every year from 1993 through 2009. The study area includes the Wild Rice River, the Sheyenne River and the Red River of the North. Inter basin flows complicate the hydrology of the region and contribute to extensive flooding. The 2009 flood was the flood of record with a peak stage of 40.8 feet on the Fargo gage. Average annual flood damages in the Fargo-Moorhead metropolitan area are currently estimated at more than $77 million. Most communities in the region avoided major flood damages in the historic floods of 1997 and 2009 by either raising existing levees or building temporary barriers. Although emergency measures have been very successful, they may also contribute to an unwarranted sense of security that does not reflect the true flood risk in the area.

Planning process:
This feasibility study began in September 2008. A wide array of potential measures was identified early in the study and expanded with input from the public. From September 2008 through May 2009, the study team gathered information to assess existing conditions in the study area and worked to understand the potential for economic justification of a large regional flood risk management project. In the wake of the 2009 flood, local, state and Congressional officials requested an aggressive schedule to

complete the study by December 2010. From June 2009 through October 2009, the study team performed cursory technical analysis of all proposed measures. The team also developed screening criteria to be used in selecting a plan. Using the preliminary technical information, the team applied professional judgment in order to assess the measures against the screening criteria. Several different scales of flood storage, nonstructural measures, flood barriers and diversion channels were evaluated in more detail during this phase of study. Using all of the information developed, the team compared the alternatives to identify the best plans for further study. The preliminary screening results, released in October 2009, indicated that the most cost-effective plan would likely be a diversion on the Minnesota side, but further study was needed to determine the optimal capacity. The non-federal sponsors requested that two North Dakota diversion plans (30,000 and 35,000 cfs) and a 35,000 cfs Minnesota diversion plan be retained as potential locally preferred plans. The "no action," Minnesota Short Diversion and North Dakota East Diversion alternatives were retained for further analysis, and all other concepts were dropped from consideration as stand-alone plans. Non-structural measures (raising, relocating or buying out structures) were considered for portions of the study area not benefited by the diversions.

Description of diversion plans:
Between October 2009 and February 2010, the diversion channel plans were refined in order to determine the most cost-effective plan and to develop a potential locally preferred plan. The Minnesota Short 20, 25, 30 and 35,000 cubic feet per second (cfs) and the North Dakota East 30 and 35,000 cfs plans were analyzed. Nonstructural measures were considered as additional features in the areas immediately upstream of the diversions and in the areas near the downstream end of the diversions, where the diversions provided little or no benefit.

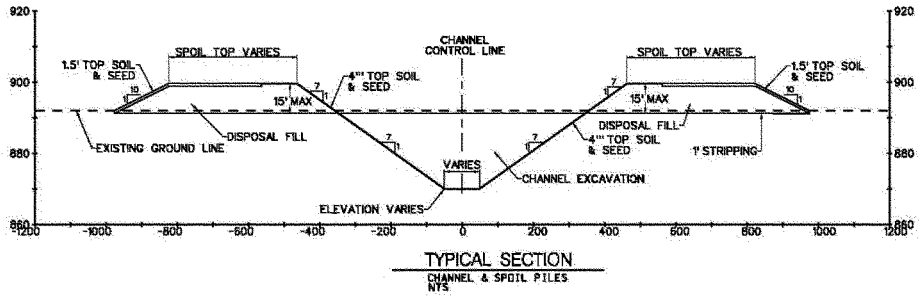
A diversion channel would reduce flood stages by limiting the amount of water that could flow in the natural river channel through town. A gated structure on the Red River would be operated during floods larger than the 20 percent chance event (5-year flood).



A portion of the flood water would be diverted into a channel around the urban area, either through Minnesota or North Dakota. The diversion would not increase the amount of water passing Fargo-Moorhead, but it would slightly alter the timing and magnitude of the peak flow downstream.

The Minnesota plans would be 25 miles long with a maximum bottom width of 360 feet and a maximum excavation depth of 30 feet. The Minnesota plans include a control structure on the Red River, 20 highway bridges and four railroad bridges.

The North Dakota plans would be 36 miles long and cross five tributaries: the Wild Rice, Sheyenne, Maple, Lower Rush and Rush rivers. The North Dakota plans have a maximum channel bottom width of 300 feet and a maximum excavation depth of 32 feet. The North Dakota plans include control structures on the Red River and Wild Rice River, two tributary crossing structures, two tributary drop/diversion structures, 18 highway bridges and four railroad bridges.



TYPICAL SECTION
CHANNEL & SPOIL PILES
NTS

Comparison of plans:
The costs and benefits of each plan were determined in order to identify the plan that maximizes net benefits, which is called the National Economic Development (NED) plan. The federal cost share for construction of any plan is limited to 65 percent of the NED plan. No plan with negative net benefits or a benefit/cost ratio less than 1.0 can be recommended. The following table shows the cost and economic data for each of the diversion plans considered in the latest analyses:

Screened Alternatives Ranked by Net Benefits

Alternative	Cost *	Avg Annual Net Benefits *	Residual Damages *	B/C Ratio	Local Share*
MN Short Diversion 20K	$787	$24.3	$22.7	1.59	$275
MN Short Diversion 25K	$892	$23.4	$18.1	1.50	$380
MN Short Diversion 30K	$959	$23.3	$14.8	1.47	$447
MN Short Diversion 35K	$1,049	$20.1	$13.3	1.37	$537
ND East Diversion 30K	$1,109	$19.1	$11.4	1.33	$597
ND East Diversion 35K	$1,168	$17.7	$9.7	1.29	$656

* In millions of dollars
** Local share calculations assume that the NED plan will be MN 20K
Note: Expected average annual damages without a project are $77.1 million.

Effectiveness of plans:
The following tables show the effects of the various diversion plans on the 2 percent, 1 percent and 0.2 percent chance floods at the Fargo gage and the estimated stage increases for the 35,000 cfs plans:

	Stage at Fargo Gage (ft)		
	2% Chance (50-year)	1% Chance (100- year)	0.2% Chance (500- year)
Existing Condition	37.8	39.5	43.9
MN Alignment			
20K	30.8	32.8	40.6
25K	29.8	31.4	38.9
30K	29.8	31.1	36.9
35K	29.8	30.3	34.9
ND Alignment			
30K	29.3	29.4	37.0
35K	28.8	29.3	34.9

Location	Stage increase without emergency levees (inches)	Stage increse with emergency levees (inches)
Minnesota Short 35K - 100 Year		
Halstad Gage	4.6	3.7
Hendrum	9.4	6.8
Perley	6.0	4.2
Georgetown	7.7	5.3
North Dakota 35K - 100 Year		
Halstad Gage	5.3	4.4
Hendrum	10.4	7.9
Perley	5.4	3.6
Georgetown	7.6	5.2

Key considerations:
The following considerations are critical to decision-makers at this time:

- Information presented to date is preliminary, pending review and approval by the Corps.
- Downstream impacts are still being assessed, but are greater for ND plans.
- Environmental impacts are still being assessed, but are greater for ND plans.
- Cost estimates may increase pending a cost and schedule risk analysis.
- The ND plans are much more complex than the MN plans; if a ND plan is selected, more time will be needed to resolve technical and environmental issues.
- The NED plan may be smaller and lower cost than the MN 20,000 cfs plan.
- Federal policy caps the federal cost for a locally preferred plan at 65 percent of the NED plan; all costs in excess of the NED plan are 100 percent local responsibility.
- Approval of a locally preferred plan by Corps Headquarters and ASA(CW) is not guaranteed.

Recommended path forward:

- Study smaller MN plans to conclusively determine the NED plan.
- Continue to assess environmental and downstream impacts.
- Corps and non-federal sponsors work together to determine a locally preferred plan considering all identified risks. (Sponsors' written request for a locally preferred plan is needed by April 15, 2010, to stay on schedule.)

Schedule:

Feb 2010:	Identify tentatively selected plan
Feb 2010:	Corps of Engineers agency technical review
Mar 2010:	Independent External Peer Review
Apr 2010:	Sponsors request locally preferred plan in writing
May 2010:	Formal public review of feasibility report
Sep 2010:	Finalize feasibility report
Dec 2010:	Transmit recommendation to Congress
Jan 2011:	Begin plans and specifications
Apr 2012:	Begin construction

How to get More Information and stay informed:

Visit the study website at: **http://www.internationalwaterinstitute.org/feasibility**

Primary Study Contacts:

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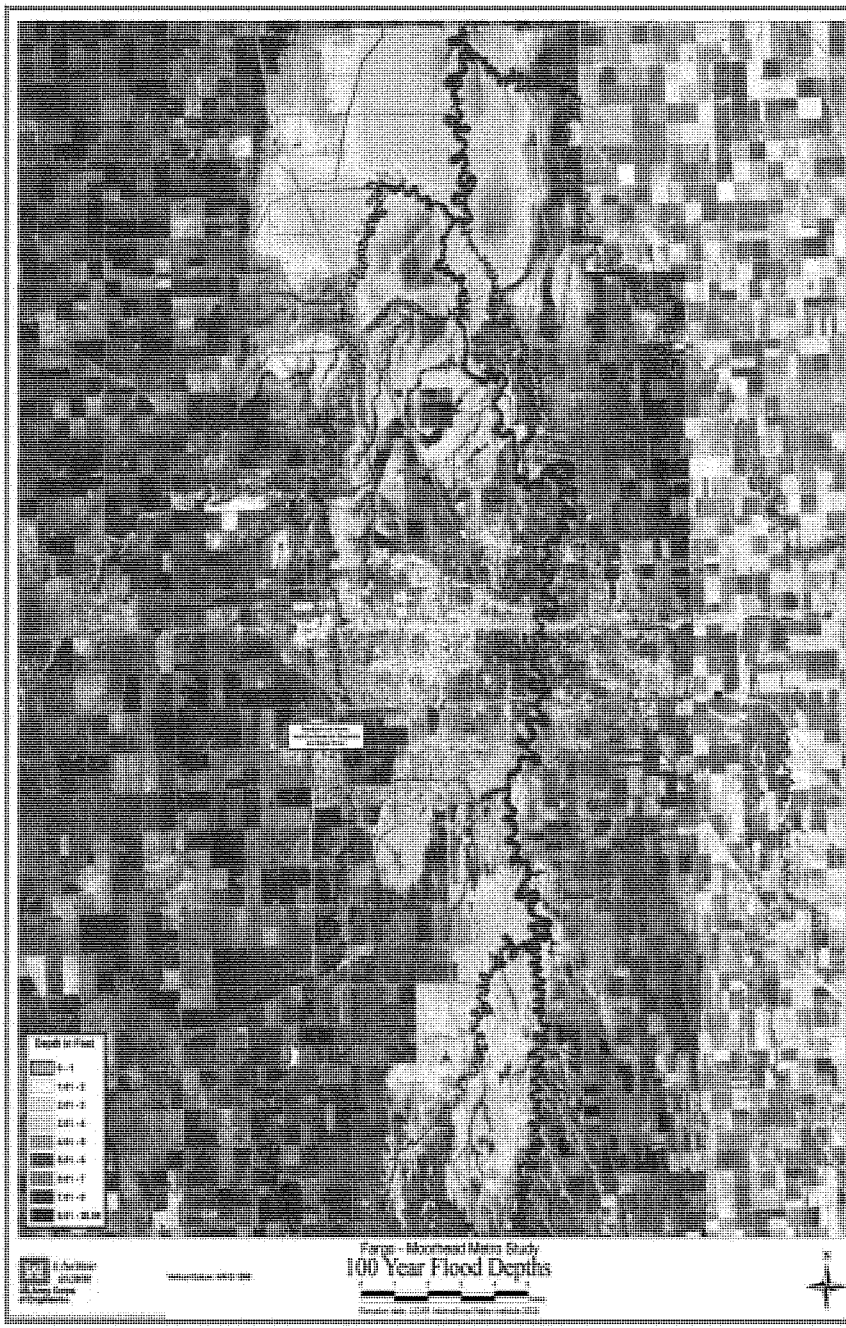
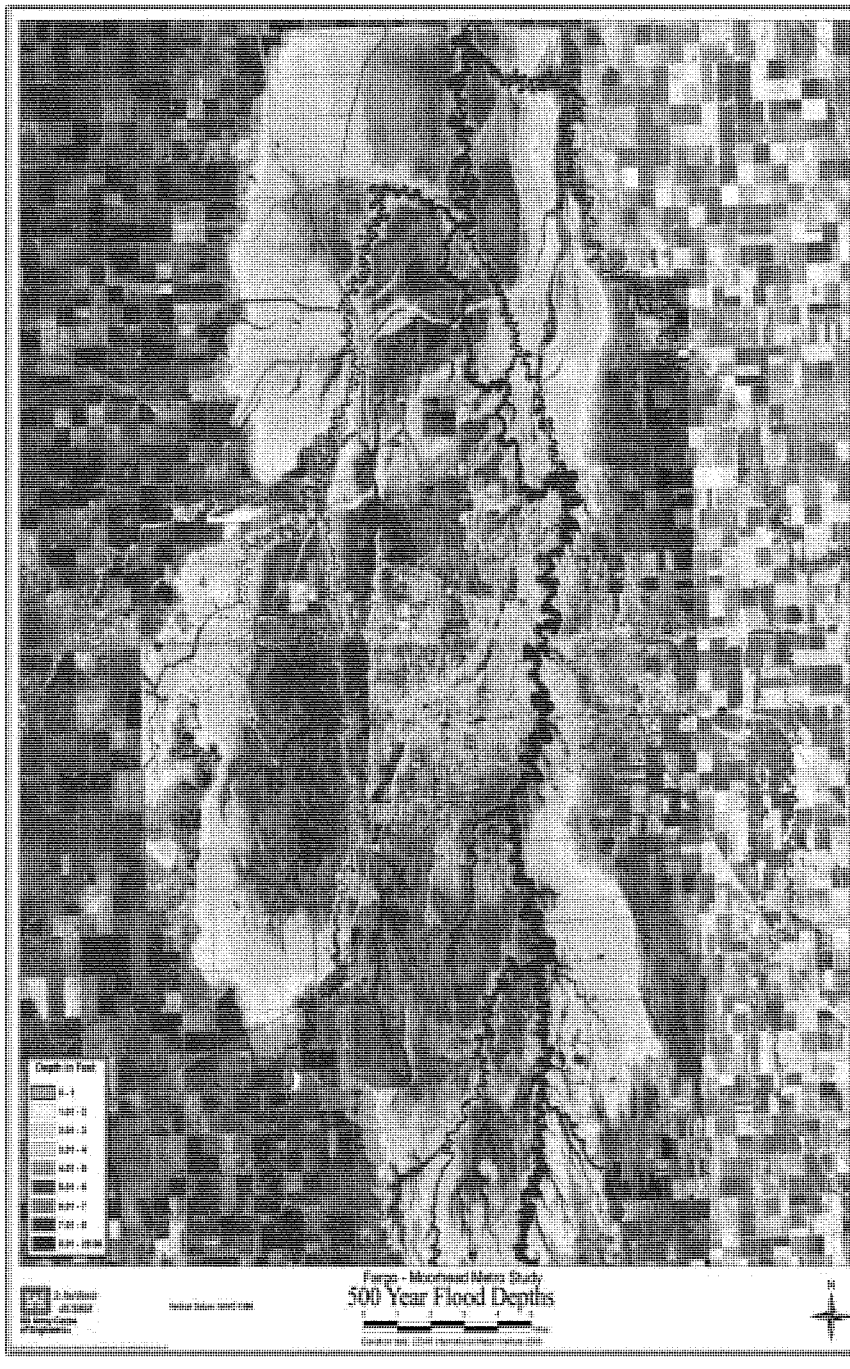
Fargo - Moorhead Metro Study
100 year Flood - Down Stream Impacts - North Dakota 35K Diversion


Fargo - Moorhead Metro Study
100 Year Flood Depths


Depth in Feet
Fargo - Moorhead Metro Study
500 Year Flood Depths

Fargo - Moorhead Metro Study
Alignments
0 1 2 3 4 5
Miles
Vertical Datum: NAVD 1988
St. Paul District
GIS CENTER
US Army Corps
of Engineers
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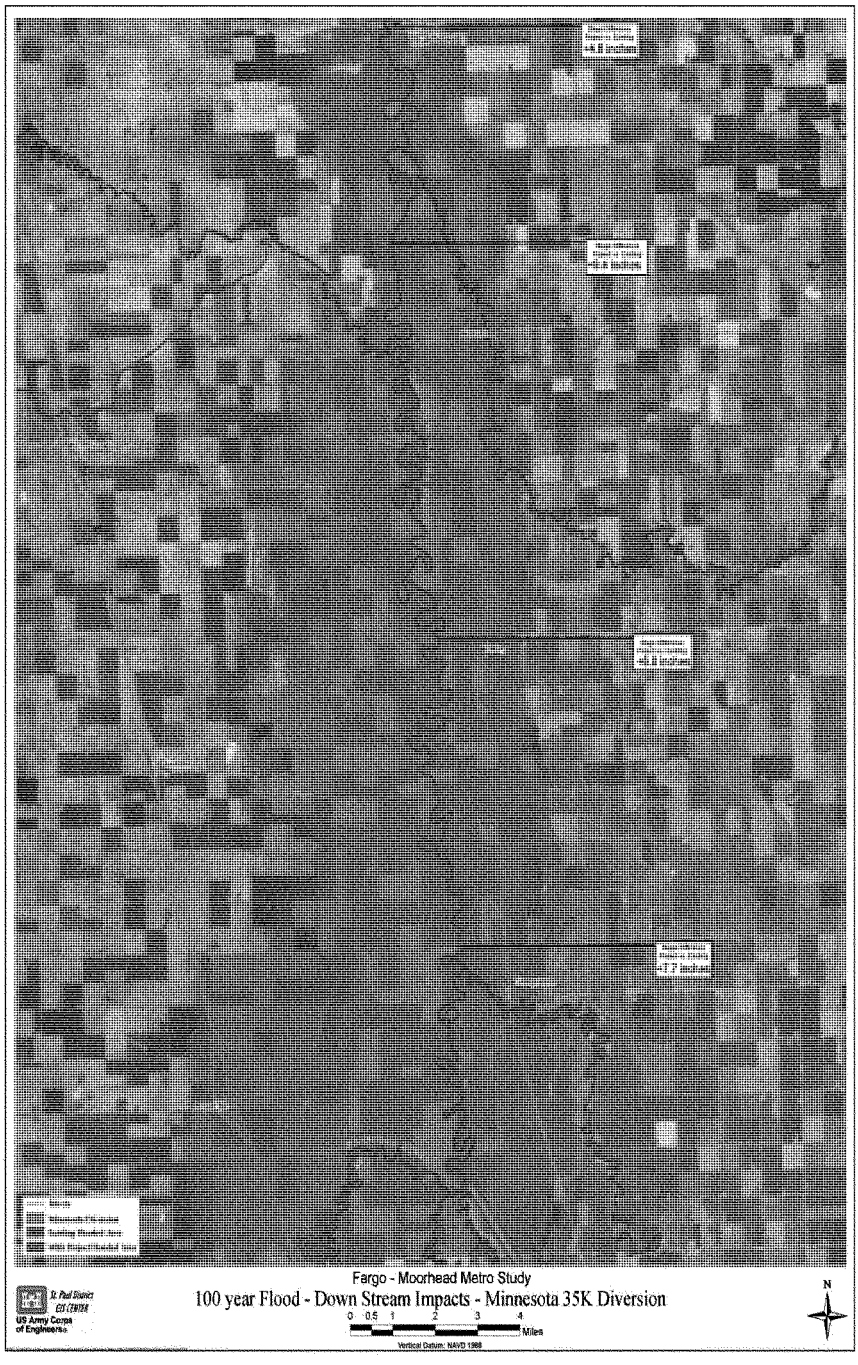
Fargo - Moorhead Metro Study
100 year Flood - Down Stream Impacts - Minnesota 35K Diversion
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Miles
Vertical Datum: NAVD 1988
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US Army Corps of Engineers
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Presentation 13:

February 4, 2010

Fargo-Moorhead Metropolitan Feasibility Study

Presentation for the FMM Work Group
Feb. 04, 2010

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CITY OF Fargo

US Army Corps of Engineers
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Local Decisions:

- ✓ What level of risk is tolerable?
- ✓ What locally preferred options need to be retained?
- ✓ Develop consensus on locally preferred plan (LPP)
- ✓ Provide written request for LPP by April 15, 2010
- ✓ Identify sponsors for construction and ongoing O&M
- ✓ Define non-federal cost sharing arrangements
- ✓ How important is authorization in 2010?

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Local Decisions:

Red River of the North

- ✓ Key Considerations
  - ✓ Downstream impacts
  - ✓ Environmental impacts
  - ✓ Cost uncertainties and risk
    - ✓ Benefit-Cost Ratio could fall below 1.0
    - ✓ Federal cost capped at 65% of NED plan
    - ✓ Non-federal sponsor pays all costs in excess of NED plan
  - ✓ Schedule impacts (Additional time needed to address risks)
  - ✓ Approval of LPP by USACE and ASA(CW) not guaranteed
  - ✓ NED plan appears to be a Minnesota plan (20,000 cfs or smaller)

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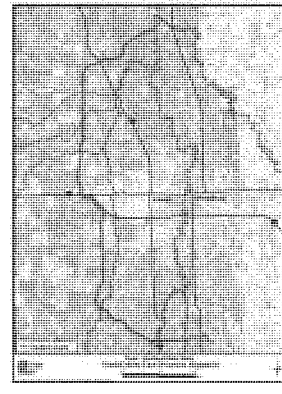
North Dakota alignment:

- ✓ 30K and 35K cfs
- ✓ 36 mile-long channel
- ✓ 3.3 miles of tie back levee
- ✓ 8.5 years construction
- ✓ Structures needed
  - ✓ 2 Control structures
  - ✓ 2 River aqueducts
  - ✓ 2 Tributary drop structures
  - ✓ 3 Drop structures
  - ✓ 18 Highway bridges
  - ✓ 4 Railroad bridges



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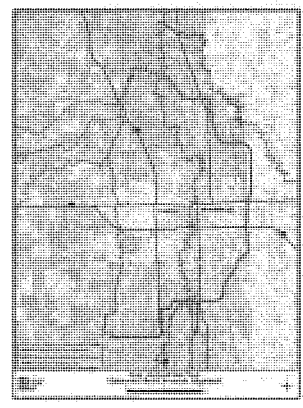
Minnesota alignment:

- ✓ 20, 25, 30 and 35K cfs
- ✓ 25 mile-long channel
- ✓ 9.9 miles of tie back levee
- ✓ 6.5 years construction
- ✓ Structures needed
  - ✓ 1 Control structure
  - ✓ 1 Drop structure
  - ✓ 0 River crossings
  - ✓ 20 Highway bridges
  - ✓ 4 Railroad bridges



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Cost and schedule risk assessment:

✓ Risks with both alignments:

1. Project schedule
2. Time to plan (Feasibility)
3. Number of construction contracts
4. Uncertainty with geotechnical conditions
5. Variation in estimated quantities
6. Environmental mitigation
7. Potential fluctuation in labor costs
8. Uncertainty with funding stream – federal and local

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Cost and schedule risk assessment:

- ✓ Minnesota alignment:
  - ✓ Concerns with Dilworth rail yard
- ✓ North Dakota alignment:
  - ✓ Unplanned work – additional project features
  - ✓ Control and diversion of water during construction
  - ✓ Natural resources issues

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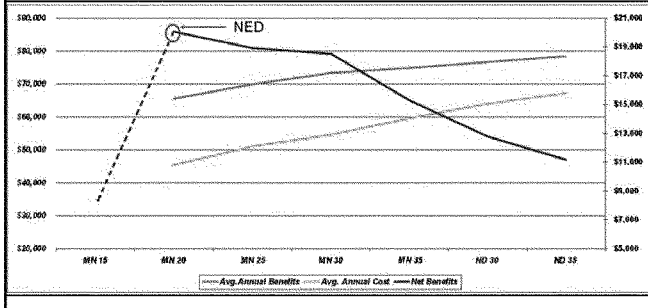
NED determination:



1 February 2010 8

Preliminary results with cost & schedule risk:

Screened Alternatives Ranked by Net Benefits with Cost and Schedule Risk Assessment

Alternative	Cost [1]	Avg Annual Net Benefits [1]	Residual Damages [1]	B/C Ratio	Local Share [1, 2]
MN Short Diversion 20K	$871	$20.0	$22.7	1.44	$305
MN Short Diversion 25K	$980	$18.9	$18.1	1.37	$414
MN Short Diversion 30K	$1,050	$18.5	$14.8	1.34	$484
MN Short Diversion 35K	$1,143	$15.3	$13.3	1.26	$577
MN Short Diversion 35K [3]	$1,143	$15.3	$13.3	1.26	$400 [3]
ND East Diversion 30K	$1,231	$12.8	$11.4	1.20	$665
ND East Diversion 35K	$1,295	$11.2	$9.7	1.17	$729

1. In millions of dollars
2. Calculations based on assumption that NED plan is MN 20K
3. Based on Corps Recommendation - if approved

Expected average annual damages without a project are $77.1 million.

1 February 2010 9

Effectiveness of Diversions:

	Stage at Fargo Gage (ft)		
	2% Chance (50-year)	1% Chance (100- year)	0.2% Chance (500- year)
Existing Condition	37.8	39.5	43.9
MN Alignment			
20K	30.8	32.8	40.6
25K	29.8	31.4	38.9
30K	29.8	31.1	36.9
35K	29.8	30.3	34.9
ND Alignment			
30K	29.3	29.4	37.0
35K	28.8	29.3	34.9

Stage	Impacts
27	Fargo Elm Street closed
30	Fargo 2nd Street Dike installed
31	Moorhead 1st Ave. North closed
32	First homes in Moorhead threatened
35	First homes in Fargo threatened
40.8	2009 Flood Record Stage

1 February 2010 10

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Downstream Effects:

Based on 35K diversions and 100-year event

Location	Downstream Stage Increase (Inches)
Minnesota Short 35K - 100 Year	
Halstad Gage	3.7 - 4.6
Near Hendrum	6.8 - 9.4
Perley	4.2 - 6.0
Georgetown	5.3 - 7.7
North Dakota 35K - 100 Year	
Halstad Gage	4.4 - 5.3
Near Hendrum	7.9 - 10.4
Perley	3.6 - 5.4
Georgetown	5.2 - 7.6

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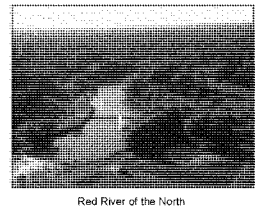
Recommended Path Forward:

- ✓ Develop Additional Plans:
  - ✓ Minnesota 15,000 and 10,000 cfs
    - ✓ To determine NED plan
    - ✓ NED sets baseline for LPP cost share
  - ✓ Optimize Minnesota 35K plan and NED plan
  - ✓ Assess downstream impacts
  - ✓ Develop Recreation Plans



Red River of the North

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Recommended Path Forward:

Corps perspective pending agency and technical reviews:

- ✓ Seek approval to recommend:
  - ✓ Minnesota 35,000 cfs diversion at full cost share (65/35)
  - ✓ Federal Share $743M, Local share $400M
  - ✓ Approvals necessary – not guaranteed
    - ✓ Corps Headquarters
    - ✓ Assistant Secretary of the Army (Civil Works)
  - ✓ Based on technical information only
  - ✓ Corps has no preference on decision made by the local sponsors
- ✓ Local sponsors can select any option
  - ✓ Many local concerns to consider
  - ✓ Develop local consensus

1 February 2010 13

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Recommended Path Forward:

Upcoming Tasks

- ✓ Continue working with Natural Resources Agencies
  - ✓ Meeting Feb. 3
  - ✓ Address Areas of Risk for both MN and ND diversions
- ✓ Identify Final Alignments
  - ✓ Meetings with local communities
  - ✓ Landowner Meetings in May/June
  - ✓ Public Meetings in May/June
- ✓ Continue to analyze downstream impacts
  - ✓ Meetings with downstream communities

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F-M Metro Study Timeline:

- ✓ **12-Feb-10** Draft feasibility report/ EIS to Agency Technical Review (ATR)
- ✓ **26-Mar-10** Complete ATR (comments and responses) and submit draft documents to Corps Vertical Team and for Independent External Peer Review (IEPR).
- ✓ **15-Apr-10 Letter of support for Locally Preferred Plan from sponsors**
- ✓ **30-Apr-10** Complete Alternative Formulation Briefing with Vertical Team
- ✓ **15-May-10 USACE and ASA(CW) approval of LPP**
- ✓ **21-May-10** Release draft report and EIS for concurrent Public/MVD/HQ review

1 February 2010 15

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F-M Metro Study Timeline:

- ✓ **26-May-10** Second IEPR
- ✓ June 2010 Public meetings
- ✓ 2-Jul-10 Public review period complete
- ✓ **15-Jul-10 Sponsors letter of support and financial self certification**
- ✓ **16-Jul-10** IEPR complete
- ✓ **15-Aug-10** Complete draft report and Division Engineer's transmittal to HQ for
- ✓ **9-Sep-10 Civil Works Review Board briefing in Washington, DC – Sponsors Attend**

1 February 2010 16

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F-M Metro Study Timeline:

- ✓ **27-Sep-10** Complete Draft Chief's Report and begin NEPA State and Agency review
- ✓ 15-Oct-10 Public meetings on Final Plan.
- ✓ **6-Dec-10** Sign Chief's Report and ROD and submit to ASA(CW) – Project Authorized, pending Congressional Action

1 February 2010 17

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Schedule and Budget Considerations:

- ✓ **Authorization**
  - ✓ Water Resources Development Act (WRDA) possible
  - ✓ May not be possible again for many years, (7-years between previous WRDAs)
  - ✓ Need to be in WRDA 2010.
- ✓ **Bottom Line**
  - ✓ Authorization in 2010 is critical
  - ✓ MN plan has better chance of making this deadline

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Schedule and Budget Considerations:

- ✓ **Funding**
  - ✓ Need strongest B/C ratio to compete for funds nationally
  - ✓ Need to be policy compliant to be in the President's budget and to compete nationally
  - ✓ In presidents budget ($15,000,000) for next year
  - ✓ Funding could stop without authorization
- ✓ **Bottom Line**
  - ✓ MN plan has better chance of receiving federal funds in the future

1 February 2010 19

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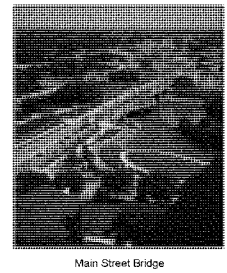
Local Decisions:

- ✓ Is there a Locally Preferred Plan?
  - ✓ Location: North Dakota or Minnesota?
  - ✓ Capacity: 35,000 cfs?
- ✓ Process is driven by local sponsors
- ✓ Work on Locally Preferred Plan will continue at request of sponsors
- ✓ Decision will affect ability to meet schedule



Main Street Bridge

1 February 2010 20

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Contact Us:

- ✓ Web site: http://www.internationalwaterinstitute.org/feasibility
- ✓ E-mail:
  - ✓ Craig Evans – Craig.O.Evans@usace.army.mil
  - ✓ Aaron Snyder – Aaron.M.Snyder@usace.army.mil
- ✓ Mail:

  USACE, St. Paul District
  190 5th St. E.
  Suite 401
  St. Paul, MN 55104

1 February 2010 21

Cities of Fargo & Moorhead Work Group Meeting
4 February 2010
330 – 530
City Hall Fargo, ND

Q: NED plan- if it was the ND 20k then you could have recommended a supersized ND alignment?

A: Yes, but we knew from previous meetings that the NED plan would be on the MN side and the only reason we kept ND on the table was that it was requested at the previous meeting.

Q: MN 35k plan- What happens if the MN 35k is not approved 65/35, can we then drop back to the MN 30k to save cost for the locals?

A: This is two separate issues…

Q: What are the greater hurdles the Corps will have to go over if the locals choose a locally preferred plan and not the NED?

A: Authorizations are critical for the project in 2010. The ND side has much greater technical issues and environmental control structures are the same for both sides.

Q: Please give parameter for how comfortable you are that the MN channel will make the schedule and not the ND.

A: We will not give a percentage, but our gut feel is that we are comfortable with making the MN plan on time.

Q: If the MN 30k became the NED from the extra modeling would that then increase the 65/35 cost share up for the ND plan?

A: Yes.

Q: When will we get the details then to make that decision?

A: It will take about two weeks for the modeling and then another week for the office to turn around the numbers so about three weeks. It is important to note that we only estimate it will cause a vertical shift in the B/C ratio because of how well the MN 20k already captures the 100yr benefits so the extra will be very small.

Q: What range of project B/C ratios are we up against in the Presidents budget?

A: The stimulus B/C ratios are currently around 2.5.

Q: If the MN is chosen is it a possibility to include extra for this project to protect the downstream that would be protected with the ND channel?

A: Possible this could be included as a betterment.

Q: Explain the difference in federal cost share dealing with increases in the project.

A: NED or an approved plan = 65/35 for all increases.
LLP = 100% local cost for all increases above NED 65/35.

Q: A project could be done for less money and would be more effective using storage.

A: 200-400K acre-ft of storage will only provide a reduction in stage of about 1.6' at the Fargo gage. There is not enough feasible area to implement this. It needs to be a combined effort with storage.

Q: Downstream islands are being created.

A: If they were an island before they will still be an island, but there will not be any new islands created and the duration of the water is the same for the amount of time the islands exist.

Presentation 14:

May 13, 2010

Fargo-Moorhead Preliminary Update May 13, 2010

1) Preliminary analysis indicates that the MN35k has the largest net benefits and could be the NED Plan. Additional analysis will be completed on the MN40 and 45k diversions to determine the NED plan.
2) Changes in hydrology and hydraulics resulted in the larger benefits and estimated average annual damages of $177 million.
3) The 35k diversion channels no longer meet the work groups goal of a stage of 36 at the 0.2 percent chance event.
4) Additional work is ongoing for the ND diversion – needed to properly calculate benefits from the Sheyenne River. Cost estimates being updated – geotechnical issues will result in cost increases.
5) Local share of a LPP project will be calculated after the costs are updated.

	Minnesota Short			
	35K	30K	25K	20K
Total Diversion First Cost	$1,066,597	$990,099	$929,562	$856,110
Avg. Annual Diversion Benefit	$154,542	$147,307	$141,193	$126,231
Annual Net Diversion Benefit	**$89,304**	$86,698	$84,283	$73,788
Diversion Benefit-Cost Ratio	2.37	2.43	2.48	2.41
Total Annual Average Damages $177 million				
All costs in $1,000s				

	Stage at Fargo Gage (ft)	
	1% Chance (100- year)	0.2% Chance (500- year)
Existing Condition (Stage)	42.4	46.7
Existing Condition (CFS)	34,700	61,700
35K Diversion Channels	30.6	40.0
Work Group Goal	30	36

Additional Questions:

1) Does this change the request for the LPP?
2) What happens if MN40 or 45 are identified as NED?
3) Does a plan need to be developed that meets the goals of the work group?
4) Scheduling issues: Larger NED plan? Larger LPP?
5) Funding issues: Additional analysis will cost more both Federal and Local.

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Effectiveness of Diversions

	1% Chance Event (100 - year)	0.2% Chance Event (500 - year)
Existing Condition	42.4	46.7
Local Goal	30.0	36.0
MN Alignment		
20K	36.9	43.7
25K	34.8	42.4
30K	33.6	41.9
NED 35K	31.9	39.6
ND Alignment		
LPP 35K	30.6	40.0

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	0.2% Chance Event (500 - year)
Existing Condition	46.7
Local Goal	36.0
35K	40.0
40K	42.4
45K	41.9

35k	40k	45k
$1,237,355	$1,296,951	$1,356,547

25 April 2010 2

Presentations 15 and 16:

June 9, 2010
June 10, 2010

NEWS RELEASE

U.S. ARMY CORPS OF ENGINEERS **BUILDING STRONG®**

ST. PAUL DISTRICT
May 24, 2010
MVP-PA-2010-059
Shannon Bauer: 651-290-5108, 612-840-9453, shannon.l.bauer@usace.army.mil
Mark Davidson: 651-290-5201, 651-261-6769, mark.d.davidson@usace.army.mil

Corps of Engineers to host public meetings on potential Fargo, N.D./Moorhead, Minn., flood protection project

ST. PAUL, MINN. – The U.S. Army Corps of Engineers, St. Paul District, along with the cities of Fargo, N.D., and Moorhead, Minn., will host two public meetings in June to present the information contained in the Corps' integrated draft feasibility and environmental impact statement, or EIS, report for a potential flood damage reduction project in the Fargo/Moorhead metropolitan area.

The first meeting will be **June 9** at the Minnesota State University – Moorhead Student Union Ballroom, located at 615 14th St. S. in Moorhead. The second meeting will be **June 10** at Centennial Hall, 207 4th St. N. in Fargo. Both meetings will begin at 6 p.m. with an open house, followed by a formal presentation at 7 p.m. and a question and answer period ending at 9 p.m. Anyone interested in the project is welcome to attend either meeting, and public input is encouraged. Sign language interpreters will be made available upon request. If needed, please contact Katie Young, Corps project management at 651-290-5259 or via e-mail at katie.m.young@usace.army.mil no later than June 2.

The Corps, along with its local sponsors, the cities of Fargo and Moorhead, will continue to analyze, optimize and strengthen the final flood damage resolution before the selection undergoes both technical and policy reviews prior to public release of the draft report in June 2010.

The U.S. Army Corps of Engineers, St. Paul District, serves the American public in the areas of environmental enhancement, navigation, flood damage reduction, water and wetlands regulation, recreation sites and disaster response. It contributes around $175 million to the five-state district economy. The more than 638 employees work at more than 40 sites in five upper-Midwest states. For more information, see www.mvp.usace.army.mil.

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Web site: http://www.mvp.usace.army.mil/
Facebook: http://www.facebook.com/pages/Saint-Paul-MN/US-Army-Corps-of-Engineers-St-Paul-District/215829254962?ref=ts
Flickr: http://www.flickr.com/photos/usace-stpaul/
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NEWS RELEASE

U.S. ARMY CORPS OF ENGINEERS **BUILDING STRONG®**

ST. PAUL DISTRICT
June 1, 2010
MVP-PA-2010-065
Shannon Bauer: 651-290-5108, 612-840-9453, shannon.l.bauer@usace.army.mil
Mark Davidson: 651-290-5201, 651-261-6769, mark.d.davidson@usace.army.mil

Public invited to comment on Fargo, N.D.-Moorhead, Minn., Metropolitan Area Flood Risk Management Study draft feasibility report and EIS

ST. PAUL, MINN. – The U.S. Army Corps of Engineers, St. Paul District, posted a copy of its draft Feasibility Report and Environmental Impact Statement, or EIS, on the Internet today for the proposed Fargo, N.D.-Moorhead, Minn., Metropolitan Area Flood Risk Management project.

The Corps prepared the draft EIS, which describes the potential significant environmental impacts of the proposed project. Hard copies of the report will also be provided to the public libraries in the cities of Fargo; Moorhead; West Fargo, N.D.; and Halstad, Minn.

A public review and comment period on the draft EIS will begin June 11 and end July 11. Official comments may be submitted electronically via the International Water Institute website at www.internationalwaterinstitute.org/feasibility or mailed to Mr. Aaron Snyder, Corps of Engineers planner and project manager, 180 E. 5th St., Ste. 700, St. Paul, MN 55101-1678.

The draft report and EIS can be seen at: www.internationalwaterinstitute.org/feasibility and http://www.mvp.usace.army.mil/fl_damage_reduct/default.asp?pageid=1455. Full copies of the report and all appendices can be retrieved from: ftp://ftp.usace.army.mil/pub/mvp/Fargo_Moorhead_Draft_Feas_EIS.

The proposed project is a 35,000 cubic feet per second diversion channel in North Dakota. The proposed project would be a 36 mile long diversion channel that would start approximately four miles south of the confluence of the Red and Wild Rice rivers and would reenter the Red River north of the confluence of the Red and Sheyenne rivers. Control structures would be constructed on the Red and Wild Rice rivers at the south end of the project.

The diversion would cross the Sheyenne, Maple, Lower Rush and Rush rivers. At the Sheyenne and Maple rivers, structures would be necessary to allow base flows to follow the natural river channel. Flows in excess of a 50-percent chance event would be diverted into the diversion channel. The Lower Rush and Rush rivers would have drop structures that would drop the entire flow of those rivers into the diversion channel. The plan includes 18 highway bridges and four railroad bridges and would have a construction footprint of approximately 6,560 acres.

The U.S. Army Corps of Engineers, St. Paul District, serves the American public in the areas of environmental enhancement, navigation, flood damage reduction, water and wetlands regulation, recreation sites and disaster response. It contributes around $175 million to the five-state district economy. The more than 638 employees work at more than 40 sites in five upper-Midwest states. For more information, see www.mvp.usace.army.mil.

-30-

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Facebook: http://www.facebook.com/pages/Saint-Paul-MN/US-Army-Corps-of-Engineers-St-Paul-District/215829254962?ref=ts
Flickr: http://www.flickr.com/photos/usace-stpaul/

Fargo-Moorhead Metropolitan Feasibility Study

Presentation for the Public
June 9-10, 2010

CITY OF MOORHEAD MINNESOTA

CITY OF Fargo

US Army Corps of Engineers
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Presentation Overview:

- ✓ Why We are Here
- ✓ Purpose and Scope
- ✓ Existing Conditions
- ✓ Alternatives Considered
- ✓ Screening Results
- ✓ Impacts
- ✓ Tentatively Selected Plan
- ✓ Schedule

9-10 June 2010 2

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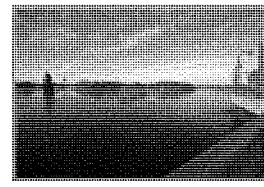
Why we are here:

- ✓ To present the findings and information contained in the draft Fargo-Moorhead Metropolitan Area Feasibility Report and Environmental Impact Statement
- ✓ Gather public comments on the draft report and its contents.



Fargo-Moorhead Flood 2009

9-10 June 2010 3

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Purpose and Scope:

- ✓ Reduce flood risk and flood damages in the Fargo-Moorhead metropolitan area.
- ✓ Restore or improve degraded riverine and riparian habitat in and along the Red River of the North, Wild Rice River (North Dakota), Sheyenne River (North Dakota), and Buffalo River (Minnesota) in conjunction with other flood risk management features.
- ✓ Provide additional wetland habitat in conjunction with other flood risk management features.
- ✓ Provide recreational opportunities in conjunction with other flood risk management features.

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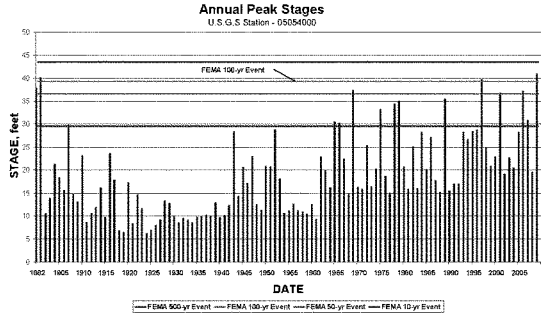
Existing Conditions



*Hydrologic record shows two periods: wet and dry

9-10 June 2010 5

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Existing Conditions

- ✓ Panel of experts met to discuss hydrology
  - ✓ Confirmed increasing trend in flood flow and frequency
  - ✓ Currently in a wet cycle but will eventually switch to dry cycle
- ✓ Recommendations
  - ✓ Use non-standard hydrologic method to estimate future flows
  - ✓ Assume that continued wet conditions are more likely than dry
- ✓ Actions taken
  - ✓ Corps developed modified flow/frequency curves

9-10 June 2010 6

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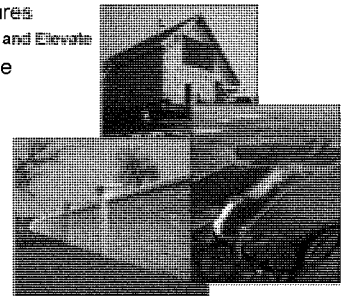
Alternatives Considered:

- ✓ No Action: Continue Emergency Measures
- ✓ Nonstructural Measures
  - ✓ **Buyouts, Relocations and Elevate**
- ✓ Increase Conveyance
  - ✓ **Diversion Channels**
- ✓ Flood Barriers
  - ✓ **Levees/Floodwalls**
- ✓ Flood Storage
  - ✓ **Large/Small**



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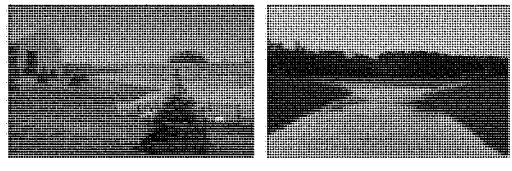
Screening Results:

- ✓ Diversion channels with tie back levees
  - ✓ Minnesota
  - ✓ North Dakota



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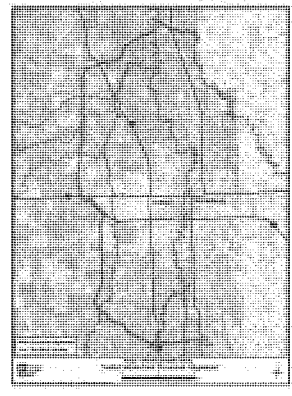
North Dakota alignment:

- ✓ 30K and 35K cfs
- ✓ 36 mile-long channel
- ✓ 3.3 miles of tie back levee
- ✓ 8.5 years construction
- ✓ Structures needed
  - ✓ 2 Control structures
  - ✓ 2 River aqueducts
  - ✓ 2 Tributary drop structures
  - ✓ 3 Drop structures
  - ✓ 18 Highway bridges
  - ✓ 4 Railroad bridges



9-10 June 2010 9

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Minnesota alignment:

- ✓ 20, 25, 30, 35, 40, and 45K cfs
- ✓ 25 mile-long channel
- ✓ 9.9 miles of tie back levee
- ✓ 7.5 years construction
- ✓ Structures needed
  - ✓ 1 Control structure
  - ✓ 1 Drop structure
  - ✓ 0 River crossings
  - ✓ 20 Highway bridges
  - ✓ 4 Railroad bridges

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Screening Results:

Screened Alternatives Ranked by Net Benefits

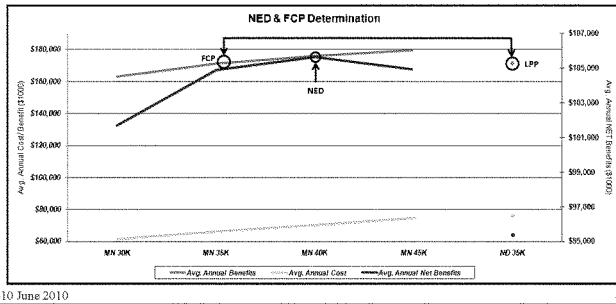
Alternative	Cost [1]	Avg Annual Net Benefits [1]	Avg Annual Benefits [1]	Residual Damages [1]	B/C Ratio
MN Short Diversion 20K	$1,032	$87.0	$140.0	$55.9	2.64
MN Short Diversion 25K	$1,121	$98.8	$156.4	$39.5	2.71
MN Short Diversion 30K	$1,194	$101.7	$163.1	$32.8	2.66
MN Short Diversion 35K	$1,286	$104.9	$171.0	$24.9	2.59
MN Short Diversion 40K [2]	$1,367	$105.6	$175.9	$20.0	2.50
MN Short Diversion 45K [2]	$1,450	$104.9	$179.5	$16.4	2.41
ND East Diversion 35K	$1,462	$95.4	$171.1	$24.8	2.26

1. In millions of dollars with interest during construction and discounting included
2. Estimate based on linear extrapolation

Expected average annual damages without a project are $195.9 million.

9-10 June 2010 11

National Economic Development (NED)
Locally Preferred Plan (LPP)
Federally Comparable Plan (FCP):



9-10 June 2010 12

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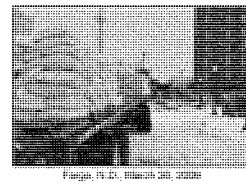
Effectiveness of Diversions:

	Stage at Fargo Gage (ft)	
	1% Chance (100- year)	0.2% Chance (500- year)
Existing Condition (Stage)	42.4	46.7
Existing Condition (CFS)	34,700	61,700
Work Group Goal	30	36
20K MN Diversion Channel	36.9	43.7
25K MN Diversion Channel	34.8	42.4
30K MN Diversion Channel	33.6	41.9
35K ND Diversion Channel	30.6	40
35K MN Diversion Channel	31.9	39.6
40K MN Diversion Channel	31.9	37.6
45K MN Diversion Channel	31.9	35.3



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27	Fargo Elm Street closed
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35	First homes in Fargo threatened
40.8	2009 Flood Record Stage

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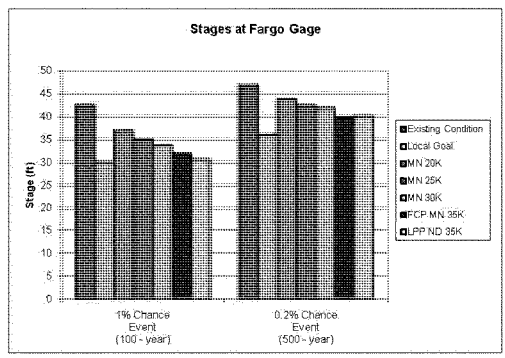
CITY OF Fargo

CITY OF MOORHEAD MINNESOTA

Effectiveness of Diversions:



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CITY OF Fargo

CITY OF MOORHEAD MINNESOTA

Downstream Effects:

Based on 35K diversions and 100-year event

Location	Stage increase (inches)
Minnesota Short 35K - 100 Year	
Halstad Gage	6.7
Peak	7.2
Hendrum	6.8
Perley	4.8
Georgetown	4.7
North Dakota 35K - 100 Year	
Halstad Gage	10.7
Peak	11.6
Hendrum	10.7
Perley	6.6
Georgetown	7.1

* Impacts downstream of Halstad still being assessed.

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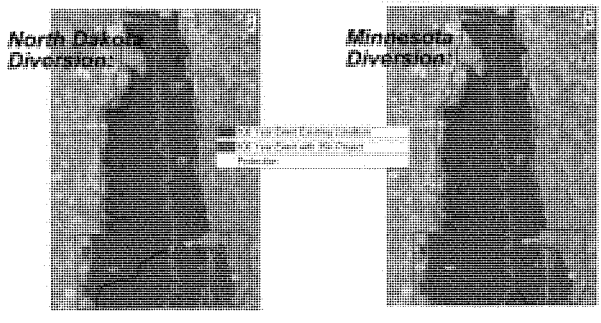
Downstream effects:

Based on 35K diversions and 100-year event



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CITY OF Fargo

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Project Impacts (ND 35k):

- ✓ **Wetlands** - 33 acres direct impacts and193 acres of indirect impacts
- ✓ **Groundwater** - No adverse impacts
- ✓ **Sedimentation** – Minor impacts on Red River and tributaries
- ✓ **Connectivity** – Impacts minimized up to the 2-percent chance event
- ✓ **Riparian and Aquatic Habitat** – 43 acres of river channel and 140 acres of riparian forest
- ✓ **Residences** – Relocation of six residences
- ✓ **Farmland** – 5,400 acres of prime and unique farmland

The project includes appropriate mitigation for unavoidable environmental impacts.

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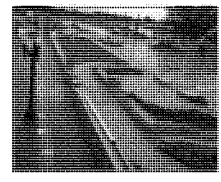
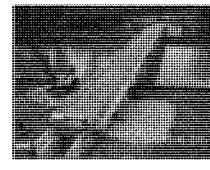
Recreation:

✓Conceptual Plan

- ✓ 48-miles of trails
- ✓ Benches every two miles
- ✓ 2 – Shared-use bridges
- ✓ 2 – Pedestrian-only bridges over diversion
- ✓ 3 – Trail heads
- ✓ Rest rooms
- ✓ Potable water
- ✓ Picnic facilities
- ✓ Trees and Shrubs

✓ Average Annual Benefits – $13,147,000





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Locally Preferred Plan :

- ✓ Identification of Locally Preferred Plan (LPP)
  - ✓ **The Local sponsor identified the ND 35k diversion channel as the LPP, and reaffirmed their commitment on May 26, 2010.**
  - ✓ **Waiver obtained from Assistant Secretary of the Army for Civil Works**

Tentatively Selected Plan:

- ✓ The North Dakota 35k diversion channel is the tentatively selected plan.

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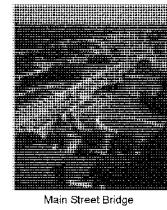
Cost Sharing:

- ✓ Cost Sharing with LPP
  - ✓ **Federal funds capped at 65% of the Federally Comparable Plan (FCP)**
  - ✓ **All costs in excess of the FCP are 100% local responsibility**



Main Street Bridge

ND 35,000 cfs Diversion First Costs			
Item	Federal	Non-Federal	Total
	($)	($)	($)
Flood Risk Management	693.3	544.1	1,237.4
Recreation	17.4	17.4	34.8
Total Project	710.7	561.5	1,272.2
All costs in millions ($1,000,000)			

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Local Decisions and Tasks:

- ✓ Identify sponsors for construction and ongoing operations and maintenance
- ✓ Define non-federal cost sharing arrangements
- ✓ Provide letter supporting the project by July 15, 2010
- ✓ Prepare to execute design agreement and provide funding – October 2010

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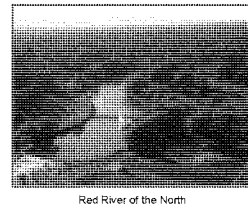
Path Forward:

- ✓ Continue survey work
- ✓ Quantify downstream impacts
- ✓ Develop recreation plan
- ✓ Continue working with natural resources agencies
- ✓ Resolve any issues generated by public and agency reviews



Red River of the North

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F-M Metro Study Timeline:

- ✓ Jul 2010: Independent External Peer Review Complete
- ✓ Jul 26, 2010: Public Review Period Complete
- ✓ Sep 2010: Civil Works Review Board Briefing in Washington DC
- ✓ Sep 2010: Finalize feasibility report/EIS
- ✓ Oct 2010: Public Meetings
- ✓ Dec 2010: Transmit recommendation to Congress
- ✓ Jan 2011: Begin plans and specifications
- ✓ Apr 2012: Begin construction

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CITY OF Fargo

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Provide Formal Comments on the Draft Feasibility Report and Environmental Impact Statement:

- ✓ Comment period ends on July 26, 2010.
- ✓ Web site: http://www.internationalwaterinstitute.org/feasibility
- ✓ Mail:
  Aaron M. Snyder
  USACE, St. Paul District
  180 5th St. E.
  Suite 700
  St. Paul, MN 55101-1678

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US Army Corps
of Engineers

Fargo-Moorhead Metropolitan Area Feasibility Study

Overview:
The Fargo-Moorhead Metropolitan Area Feasibility Study is a cooperative effort between the communities of Fargo, N.D., and Moorhead, Minn., with the U.S. Army Corps of Engineers, St. Paul District. This handout is designed to give a summary of the study, its tentative recommendations and the timeline for completion.

Study goals:

- Understand the flood problems in the greater Fargo-Moorhead metropolitan area.
- Develop a regional system to reduce flood risk.
- Determine the federal government's role in implementing flood risk reduction measures.
- Document study findings in a Feasibility Report and a National Environmental Policy Act (NEPA) Environmental Impact Statement.
- If appropriate, recommend implementation of a federal project to the U.S. Congress.

Problems and opportunities:
The primary problem identified in the study area is a high risk of flood damage to urban infrastructure from the Red River of the North, the Wild Rice River (ND), the Buffalo River, the Sheyenne River and its tributaries. Flooding also causes damage to rural infrastructure and agricultural crop land and disrupts transportation and access to properties within the study area. There are opportunities to increase and improve wildlife habitat and to increase recreation in conjunction with measures to reduce flood risk.

Flooding history:
The Fargo-Moorhead metropolitan area has a relatively high risk of flooding. The Red River exceeded the National Weather Service flood stage of 18 feet in 47 of the past 108 years, and every year from 1993 through 2010. The study area includes the Wild Rice, Sheyenne, Maple, Lower Rush and Rush rivers and the Red River of the North. Inter basin flows complicate the hydrology of the region and contribute to extensive flooding. The flood of record was the 2009 flood with a peak stage of 40.82 feet on the Fargo gage. Average annual flood damages in the Fargo-Moorhead metropolitan area are currently estimated at nearly $196 million. Most communities in the region avoided major flood damages in the historic floods of 1997 and 2009 by either raising existing levees or building temporary barriers. Although emergency measures have been very successful, they may also contribute to an unwarranted sense of security that does not reflect the true flood risk in the area.

Planning process:
This feasibility study began in September 2008. A wide array of potential measures was identified early in the study and expanded with input from the public. From September 2008 through May 2009, the study team gathered information to assess existing conditions in the study area and worked to understand the potential for economic justification of a large regional flood risk management project. In the wake of the 2009 flood, local, state and Congressional officials requested an aggressive schedule to complete the study by December 2010.

From June 2009 through October 2009, the study team performed cursory technical analysis of all proposed measures. The team also developed screening criteria to be used in selecting a plan. Using the preliminary

technical information, the team applied professional judgment in order to assess the measures against the screening criteria. Several different scales of flood storage, nonstructural measures, flood barriers and diversion channels were evaluated in more detail during this phase of study. Using all of the information developed, the team compared the alternatives to identify the best plans for further study. The preliminary screening results, released in October 2009, indicated that the most cost-effective plan would likely be a diversion on the Minnesota side but further study was needed to determine the optimal capacity. The non-federal sponsors requested that two North Dakota diversion plans (30,000 and 35,000 cfs) and a 35,000 cfs Minnesota diversion plan be retained as potential locally preferred plans. The "no action alternative," the Minnesota short diversion channel and the North Dakota east diversion channel were retained for further analysis, and all other concepts were dropped from consideration as stand-alone plans. Non-structural measures (raising, relocating or buying out structures) were considered for portions of the study area not benefited by the diversions.

In March 2010, the cities of Fargo and Moorhead identified the North Dakota 35,000 cfs diversion channel as the locally preferred plan. In April 2010, the U.S Army Corps of Engineers, St. Paul District, received a waiver from the Assistant Secretary of the Army for Civil Works allowing the Corps to recommend the North Dakota 35,000 cfs diversion channel as the locally preferred plan in the draft feasibility report. In May 2010, the Corps identified a Minnesota 40,000 cfs diversion as the National Economic Development plan and a Minnesota 35,000 cfs diversion as the "federally comparable plan" for purposes of calculating federal and non-federal costs to implement the locally preferred plan.

Alternative	Cost [1]	Avg Annual Net Benefits [1]	Avg Annual Benefits [1]	Residual Damages [1]	B/C Ratio
FCP - MN35K	$1,286	$104.9	$171.0	$24.9	2.59
NED - MN40K [2]	$1,367	$105.6	$175.9	$20.0	2.50
LPP - ND35K	$1,462	$95.4	$171.1	$24.8	2.26

1. In millions of dollars with interest during construction and discounting included
2. Estimate based on linear extrapolation

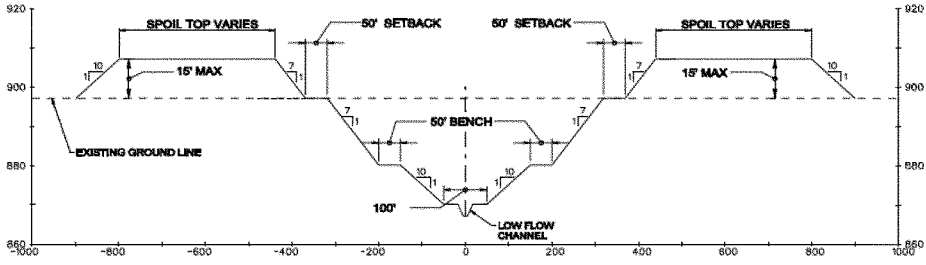
Expected average annual damages without a project are $195.9 million.

The Corps identified the North Dakota 35,000 cfs diversion channel as the locally preferred and tentatively selected plan in its integrated draft Feasibility Report and Environmental Impact Statement. The Corps will accept public comments in accordance with NEPA for a period of 45 days following official notice in the *Federal Register*. (The public comment period is expected to end on July 26, 2010).

Following public review, the St. Paul District will submit the report to Corps Headquarters for policy review and to support a draft report of the Chief of Engineers. The Chief's report will be sent to other federal agencies and the concerned states for final NEPA review. Providing there are no major comments from the NEPA review, the final Chief's report will be sent to the Assistant Secretary of the Army for Civil Works, then to the Office of Management and Budget and then to Congress for possible project authorization.

Description of the tentatively selected plan:
The North Dakota 35,000 cfs diversion channel is the tentatively selected and locally preferred plan. The project would be a 36 mile long diversion channel, starting approximately four miles south of the confluence of the Red and Wild Rice rivers and re-entering the Red River north of the confluence of the Red and Sheyenne rivers. The project would incorporate the existing Horace to West Fargo Sheyenne River diversion channel. The channel bottom width would vary from 100 to 300 feet, and it would have a maximum depth of 29 feet. The plan includes 18 highway bridges and four railroad bridges and would have a construction footprint of approximately 6,560 acres.

Gated control structures on the Red and Wild Rice rivers at the south end of the project would limit flow in the natural Red River channel and direct water to the diversion channel. A connecting channel between the Red and Wild Rice rivers would convey flow from the Red River to the diversion channel inlet on the west side of the Wild Rice River. The diversion would cross the Sheyenne, Maple, Lower Rush, and Rush rivers. At the Sheyenne and Maple river crossings, aqueducts would allow base flows to cross the diversion and follow the natural river channels, but flood flows would be directed into the diversion channel. The Lower Rush and Rush rivers would have drop structures that would drop the entire flow of those rivers into the diversion channel. Recreation features that could be incorporated into the project include multipurpose trails, interpretive signage, benches, trail heads with parking facilities and other related features.



TYPICAL SECTION
NORTH DAKOTA CHANNEL & SPOIL PILES
NTS

Effects of the plan:
The proposed project would significantly reduce flood stages, flood damages and flood risk in the Fargo-Moorhead metropolitan area, but it would not completely eliminate flood risk. Emergency measures would still be required in Fargo-Moorhead during large infrequent flood events, when the flood stage is expected to exceed about 30 feet on the Fargo gage. For reference, the 2009 flood stage was 40.8 feet on the Fargo gage. The following table shows the expected flood stages for existing and proposed conditions:

	Stage at Fargo Gage (ft)	
	1% Chance (100- year)	0.2% Chance (500- year)
Existing Condition	42.4	46.7
LPP - ND35K Plan	30.6	40.0

The diversion channel would change the peak flow and timing of flood events. Flows in the natural Red River channel through Fargo-Moorhead would be significantly reduced, but peak flood stages downstream would likely increase. Although the potential downstream effects on stage, duration and frequency have not been fully quantified, current modeling shows stage increases downstream up to 12 inches during a 1-percent chance event. The Corps will assess the need to compensate affected landowners based on the final model results.

There are 4,626 acres of wetlands in the project area. The proposed project would directly impact approximately 33 acres of wetlands and could indirectly impact up to 193 acres. The project would have no adverse impacts on significant groundwater resources. The project may affect sediment transport, accretion and erosion in the Red River and the affected tributaries, which are critical forces in shaping and maintaining

aquatic habitat, but effects are expected to be minor. Connectivity and access to various habitats is important to fulfill seasonal and life stage-specific habitat needs for river fish. The project features are designed to minimize impacts to connectivity and to facilitate fish passage on the Red River up to a 2-percent chance (50-year) event. Approximately 43 acres of river bed and 140 acres of riparian forest would be directly affected by project features. The project would include appropriate mitigation for unavoidable environmental impacts.

The project would require relocation of approximately six residences or farmsteads and would remove approximately 5,400 acres of prime and unique farmland from operation. Owners would be compensated for the loss of property in accordance with applicable federal and state laws and policies.

Project Costs:

ND 35,000 cfs Diversion First Costs			
Item	Federal	Non-Federal	Total
	($)	($)	($)
Flood Risk Management	693.3	544.1	1,237.4
Recreation	17.4	17.4	34.8
Total Project	710.7	561.5	1,272.2
All costs in millions ($1,000,000)			

The estimated total fully-funded cost escalated to the midpoint of construction is $1.45 billion.

Schedule:

Jun 2010: Landowner and Downstream Meetings
Jul 2010: Public review period complete
Sep 2010: Finalize feasibility report
Dec 2010: Transmit recommendation to Congress
Jan 2011: Begin plans and specifications
Apr 2012: Begin construction

Read and Comment on the Draft EIS:
Visit the study website at: **http://www.internationalwaterinstitute.org/feasibility/**

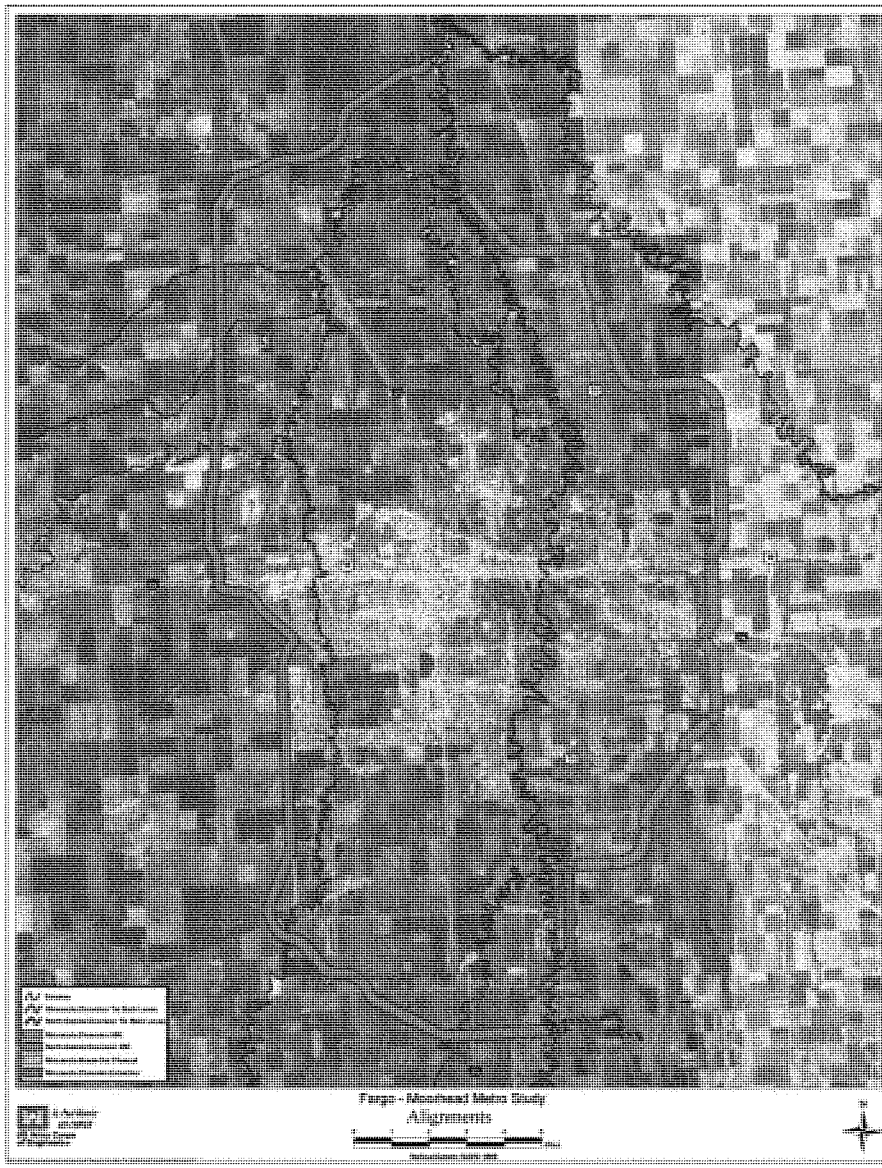
Primary Study Contacts:

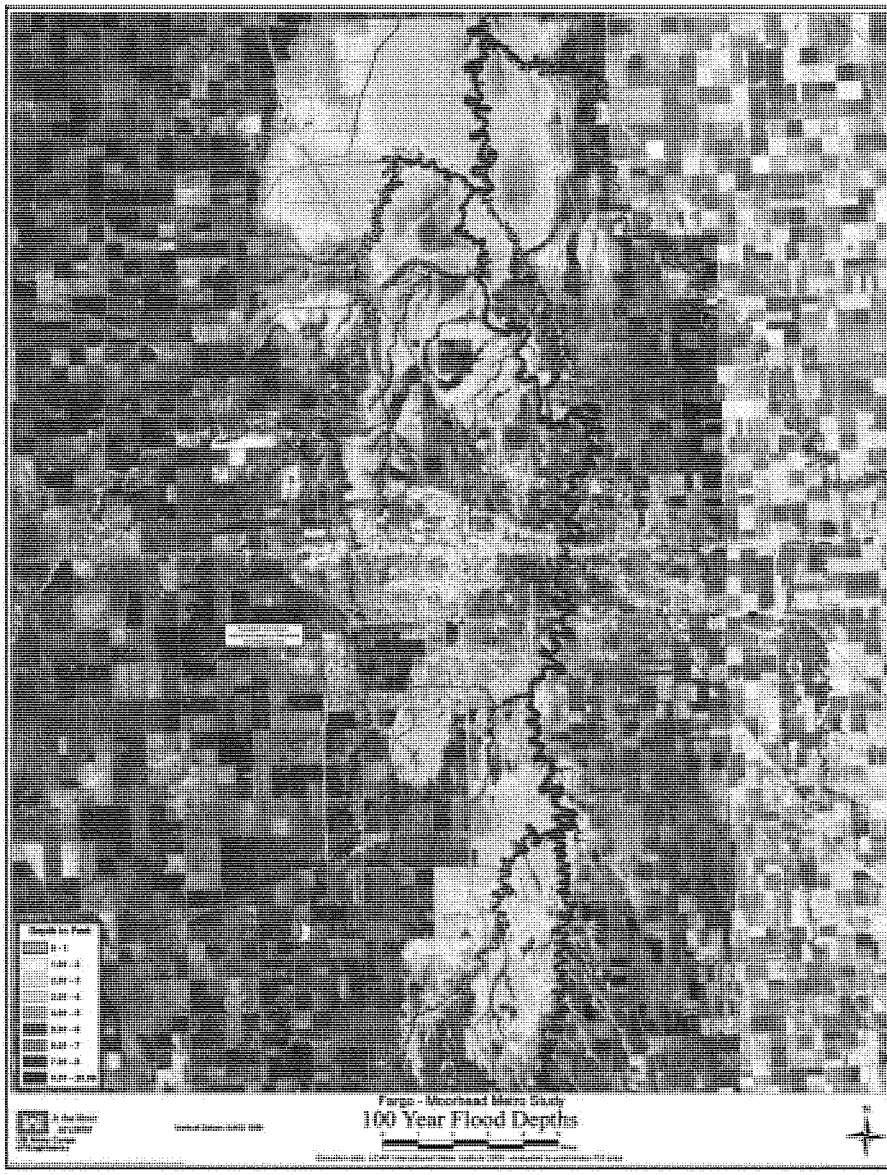
The City of Fargo
April Walker
awalker@cityoffargo.com

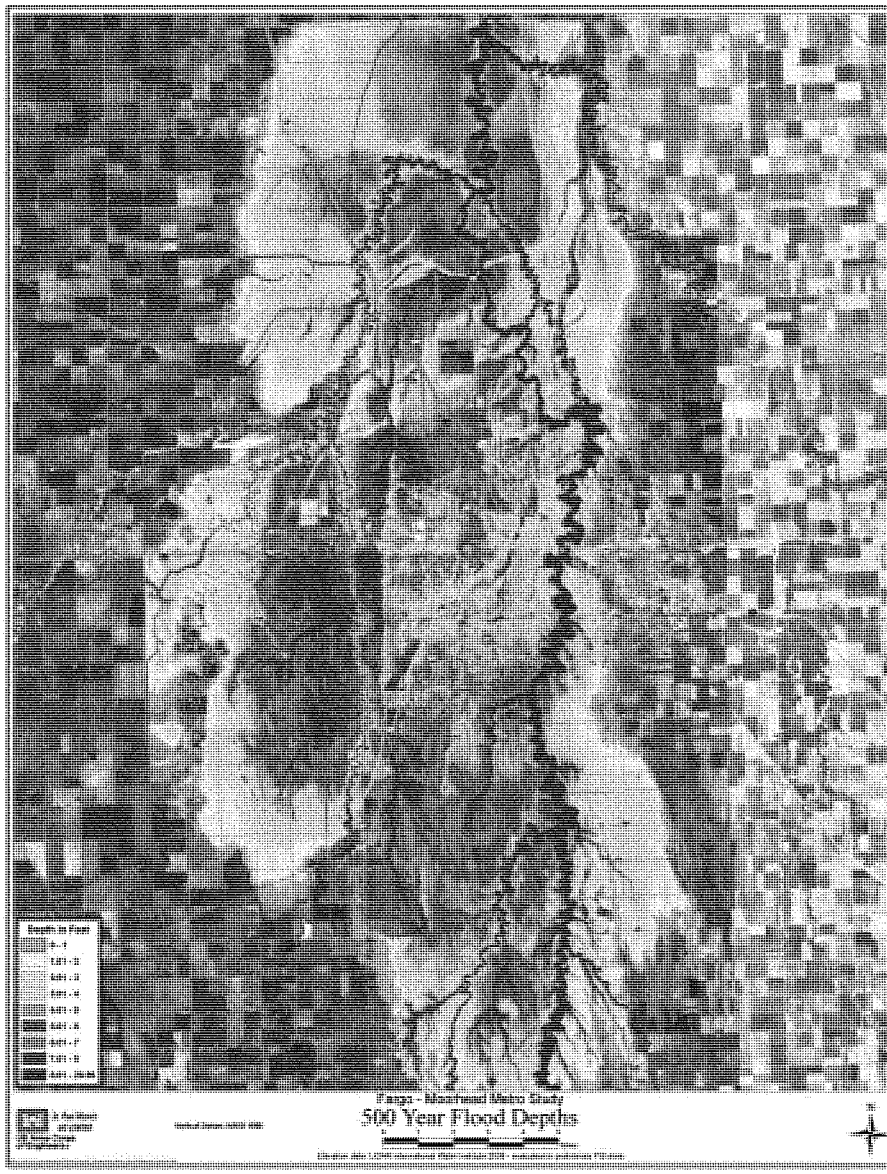
The City of Moorhead
Bob Zimmerman
Bob.Zimmerman@ci.moorhead.mn.us

U.S. Army Corps of Engineers
190 5th Street East, Suite 401 (PM-A)
St. Paul, MN 55101

Aaron Snyder
Aaron.M.Snyder@usace.army.mil


Fargo - Moorhead Metro Study
Alignments


Fargo - Moorhead Metro Study
100 Year Flood Depths


Fargo - Moorhead Metro Study
500 Year Flood Depths

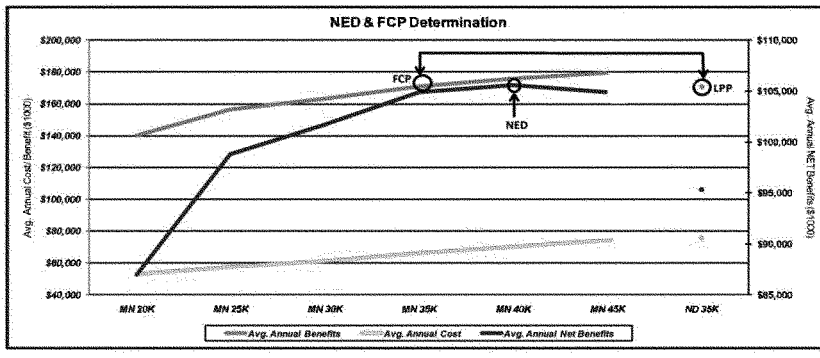
Fargo - Moorhead Metro Study
100 year Flood - Down Stream Impacts - North Dakota 35K Diversion

Fargo - Moorhead Metro Study
100 year Flood - Down Stream Impacts - Minnesota 35K Diversion
0 0.5 1 2 3 4
Miles
Vertical Datum: NAVD 1988
US Army Corps of Engineers
N

Screened Alternatives Ranked by Net Benefits with Cost and Schedule Risk Assessment

Alternative		Cost [1]	Avg Annual Net Benefits [1]	Avg Annual Benefits [1]	Residual Damages [1]	B/C Ratio
MN Short Diversion 20K		$1,032	$87.0	$140.0	$55.9	2.64
MN Short Diversion 25K		$1,121	$98.8	$156.4	$39.5	2.71
MN Short Diversion 30K		$1,194	$101.7	$163.1	$32.8	2.66
MN Short Diversion 35K	FCP	$1,286	$104.9	$171.0	$24.9	2.59
MN Short Diversion 40K [2]	NED	$1,367	$105.6	$175.9	$20.0	2.50
MN Short Diversion 45K [2]		$1,450	$104.9	$179.5	$16.4	2.41
ND East Diversion 35K	LPP	$1,462	$95.4	$171.1	$24.8	2.26

1. In millions of dollars with interest during construction and discounting included
2. Estimate based on linear extrapolation
Expected average annual damages without a project are $195.9 million.



Diversion Channel Effectiveness	Stage at Fargo Gage (ft)	
	1% Chance (100- year)	0.2% Chance (500- year)
Existing Condition	42.4	46.7
Work Group Goal	30	36
35K ND Diversion Channel	30.6	40.0
35K MN Diversion Channel	31.9	39.6
40K Diversion Channels	31.9	37.6
45K Diversion Channels	31.9	35.3

Stage	Impacts
27	Fargo Elm Street Closed
30	Fargo 2nd Stredd Dike Installed
31	Moorhead 1st Ave. N Closed
32	First Homes in Moorhead Threatened
35	First Homes in Fargo Threatened
40.8	2009 Flood Record Stage

US Army Corps of Engineers
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CITY OF Fargo

CITY OF MOORHEAD MINNESOTA

Presentations 17 and 18:

June 14, 2010
June 15, 2010

NEWS RELEASE

U.S. ARMY CORPS OF ENGINEERS **BUILDING STRONG®**

ST. PAUL DISTRICT
May 21, 2010
MVP-PA-2010-061
Shannon Bauer: 651-290-5108, 612-840-9453, shannon.l.bauer@usace.army.mil
Mark Davidson: 651-290-5201, 651-261-6769, mark.d.davidson@usace.army.mil

Corps to host public meetings for landowners that would potentially be impacted by the Fargo, N.D.-Moorhead, Minn., flood diversion project

ST. PAUL, MINN. – The U.S. Army Corps of Engineers, St. Paul District, along with the cities of Fargo, N.D., and Moorhead, Minn., will host two landowner meetings in June. The two meetings will be to provide those landowners potentially impacted by a Fargo-Moorhead flood water diversion channel with information on the project, along with how the acquisition process will work once a project is implemented.

The first meeting will be **June 14** at Centennial Hall, located at 207 4th St. N. in Fargo. The second meeting will be held on **June 15** at the Hjemkomst Center, located at 201 1st Ave. N. in Moorhead. Both meetings will begin at 6 p.m. with an open house, followed by a formal presentation at 7 p.m. and a question and answer period ending at 9 p.m. Anyone interested in the project is welcome to attend either meeting, and public feedback will be encouraged. Sign language interpreters will be made available upon request. If needed, please contact Katie Young at 651-290-5259 or via e-mail at katie.m.young@usace.army.mil no later than June 7.

The Corps, along with its local sponsors, the cities of Fargo and Moorhead, will continue to analyze, optimize and strengthen the final flood damage resolution before the selection undergoes both technical and policy reviews prior to public release of the draft report in June 2010.

The U.S. Army Corps of Engineers, St. Paul District, serves the American public in the areas of environmental enhancement, navigation, flood damage reduction, water and wetlands regulation, recreation sites and disaster response. It contributes around $175 million to the five-state district economy. The more than 638 employees work at more than 40 sites in five upper-Midwest states. For more information, see www.mvp.usace.army.mil.

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Web site: http://www.mvp.usace.army.mil/
Facebook: http://www.facebook.com/pages/Saint-Paul-MN/US-Army-Corps-of-Engineers-St-Paul-District/215829254962?ref=ts
Flickr: http://www.flickr.com/photos/usace-stpaul/
YouTube: http://www.youtube.com/usacemvppao

NEWS RELEASE

U.S. ARMY CORPS OF ENGINEERS **BUILDING STRONG®**

ST. PAUL DISTRICT
June 1, 2010
MVP-PA-2010-065
Shannon Bauer: 651-290-5108, 612-840-9453, shannon.l.bauer@usace.army.mil
Mark Davidson: 651-290-5201, 651-261-6769, mark.d.davidson@usace.army.mil

Public invited to comment on Fargo, N.D.-Moorhead, Minn., Metropolitan Area Flood Risk Management Study draft feasibility report and EIS

ST. PAUL, MINN. – The U.S. Army Corps of Engineers, St. Paul District, posted a copy of its draft Feasibility Report and Environmental Impact Statement, or EIS, on the Internet today for the proposed Fargo, N.D.-Moorhead, Minn., Metropolitan Area Flood Risk Management project.

The Corps prepared the draft EIS, which describes the potential significant environmental impacts of the proposed project. Hard copies of the report will also be provided to the public libraries in the cities of Fargo; Moorhead; West Fargo, N.D.; and Halstad, Minn.

A public review and comment period on the draft EIS will begin June 11 and end July 11. Official comments may be submitted electronically via the International Water Institute website at www.internationalwaterinstitute.org/feasibility or mailed to Mr. Aaron Snyder, Corps of Engineers planner and project manager, 180 E. 5th St., Ste. 700, St. Paul, MN 55101-1678.

The draft report and EIS can be seen at: www.internationalwaterinstitute.org/feasibility and http://www.mvp.usace.army.mil/fl_damage_reduct/default.asp?pageid=1455. Full copies of the report and all appendices can be retrieved from: ftp://ftp.usace.army.mil/pub/mvp/Fargo_Moorhead_Draft_Feas_EIS.

The proposed project is a 35,000 cubic feet per second diversion channel in North Dakota. The proposed project would be a 36 mile long diversion channel that would start approximately four miles south of the confluence of the Red and Wild Rice rivers and would reenter the Red River north of the confluence of the Red and Sheyenne rivers. Control structures would be constructed on the Red and Wild Rice rivers at the south end of the project.

The diversion would cross the Sheyenne, Maple, Lower Rush and Rush rivers. At the Sheyenne and Maple rivers, structures would be necessary to allow base flows to follow the natural river channel. Flows in excess of a 50-percent chance event would be diverted into the diversion channel. The Lower Rush and Rush rivers would have drop structures that would drop the entire flow of those rivers into the diversion channel. The plan includes 18 highway bridges and four railroad bridges and would have a construction footprint of approximately 6,560 acres.

The U.S. Army Corps of Engineers, St. Paul District, serves the American public in the areas of environmental enhancement, navigation, flood damage reduction, water and wetlands regulation, recreation sites and disaster response. It contributes around $175 million to the five-state district economy. The more than 638 employees work at more than 40 sites in five upper-Midwest states. For more information, see www.mvp.usace.army.mil.

-30-

Web site: http://www.mvp.usace.army.mil/
Facebook: http://www.facebook.com/pages/Saint-Paul-MN/US-Army-Corps-of-Engineers-St-Paul-District/215829254962?ref=ts
Flickr: http://www.flickr.com/photos/usace-stpaul/

Fargo-Moorhead Metropolitan Feasibility Study

Presentation for Impacted Landowners
June 14-15, 2010

CITY OF MOORHEAD MINNESOTA

CITY OF Fargo

US Army Corps of Engineers
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CITY OF Fargo

CITY OF MOORHEAD MINNESOTA

Presentation Overview:

- ✓ Why We are Here
- ✓ Purpose and Scope
- ✓ Alternatives Considered
- ✓ Screening Results
- ✓ Impacts
- ✓ Tentatively Selected Plan
- ✓ Schedule
- ✓ Real Estate Information

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CITY OF Fargo

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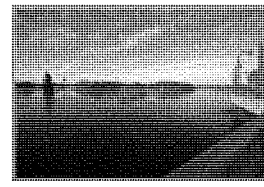
Why we are here:

- ✓ To present the findings and information contained in the draft Fargo-Moorhead Metropolitan Area Feasibility Report and Environmental Impact Statement
- ✓ Gather public comments on the draft report and its contents
- ✓ Explain the real estate acquisition process



Fargo-Moorhead Flood 2009

14-15 June 2010 3

CITY OF Fargo

CITY OF MOORHEAD MINNESOTA

Purpose and Scope:

- ✓ Reduce flood risk and flood damages in the Fargo-Moorhead metropolitan area.
- ✓ Restore or improve degraded riverine and riparian habitat in and along the Red River of the North, Wild Rice River (North Dakota), Sheyenne River (North Dakota), and Buffalo River (Minnesota) in conjunction with other flood risk management features.
- ✓ Provide additional wetland habitat in conjunction with other flood risk management features.
- ✓ Provide recreational opportunities in conjunction with other flood risk management features.

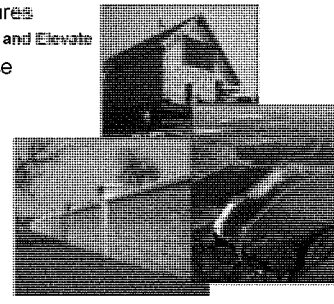
14-15 June 2010 4

CITY OF Fargo

CITY OF MOORHEAD MINNESOTA

Alternatives Considered:

- ✓ No Action: Continue Emergency Measures
- ✓ Nonstructural Measures
  - ✓ **Buyouts, Relocations and Elevate**
- ✓ Increase Conveyance
  - ✓ **Diversion Channels**
- ✓ Flood Barriers
  - ✓ **Levees/Floodwalls**
- ✓ Flood Storage
  - ✓ **Large/Small**



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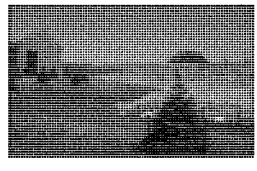
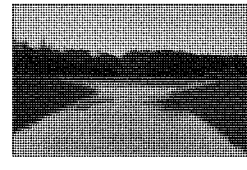
CITY OF Fargo

CITY OF MOORHEAD MINNESOTA

Screening Results:

- ✓ Diversion channels with tie back levees
  - ✓ Minnesota
  - ✓ North Dakota





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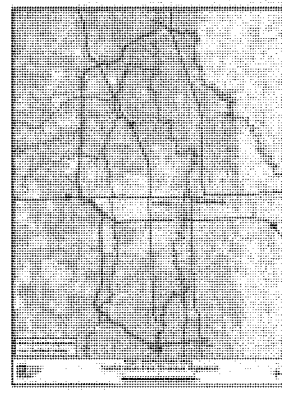
North Dakota alignment:

- ✓ 30K and 35K cfs
- ✓ 36 mile-long channel
- ✓ 3.3 miles of tie back levee
- ✓ 8.5 years construction
- ✓ Structures needed
  - ✓ 2 Control structures
  - ✓ 2 River aqueducts
  - ✓ 2 Tributary drop structures
  - ✓ 3 Drop structures
  - ✓ 18 Highway bridges
  - ✓ 4 Railroad bridges



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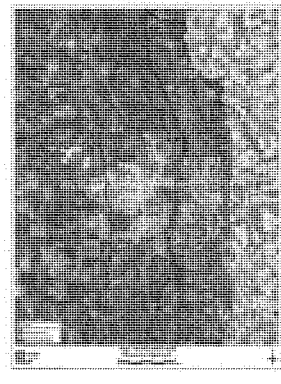
Minnesota alignment:

- ✓ 20, 25, 30, 35, 40, and 45K cfs
- ✓ 25 mile-long channel
- ✓ 9.9 miles of tie back levee
- ✓ 7.5 years construction
- ✓ Structures needed
  - ✓ 1 Control structure
  - ✓ 1 Drop structure
  - ✓ 0 River crossings
  - ✓ 20 Highway bridges
  - ✓ 4 Railroad bridges



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Screening Results:

Screened Alternatives Ranked by Net Benefits

Alternative	Cost [1]	Avg Annual Net Benefits [1]	Avg Annual Benefits [1]	Residual Damages [1]	B/C Ratio
MN Short Diversion 20K	$1,032	$87.0	$140.0	$55.9	2.64
MN Short Diversion 25K	$1,121	$98.8	$156.4	$39.5	2.71
MN Short Diversion 30K	$1,194	$101.7	$163.1	$32.8	2.66
MN Short Diversion 35K	$1,286	$104.9	$171.0	$24.9	2.59
MN Short Diversion 40K [2]	$1,367	$105.6	$175.9	$20.0	2.50
MN Short Diversion 45K [2]	$1,450	$104.9	$179.5	$16.4	2.41
ND East Diversion 35K	$1,462	$95.4	$171.1	$24.8	2.26

1. In millions of dollars with interest during construction and discounting included
2. Estimate based on linear extrapolation

Expected average annual damages without a project are $195.9 million.

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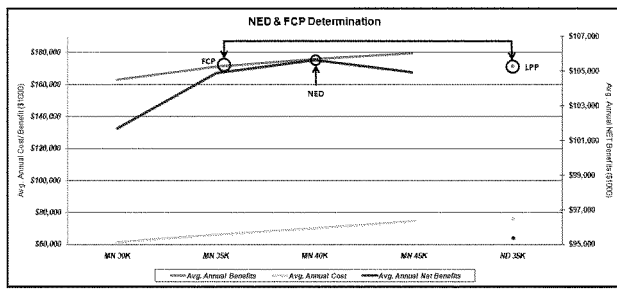
National Economic Development (NED)
Locally Preferred Plan (LPP)
Federally Comparable Plan (FCP):



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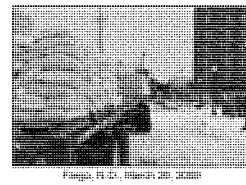
CITY OF Fargo

CITY OF MOORHEAD MINNESOTA

Effectiveness of Diversions:

	Stage at Fargo Gage (ft)	
	1% Chance (100- year)	0.2% Chance (500- year)
Existing Condition (Stage)	42.4	46.7
Existing Condition (CFS)	34,700	61,700
Work Group Goal	30	36
20K MN Diversion Channel	36.9	43.7
25K MN Diversion Channel	34.8	42.4
30K MN Diversion Channel	33.6	41.9
35K ND Diversion Channel	30.6	40
35K MN Diversion Channel	31.9	39.6
40K MN Diversion Channel	31.9	37.6
45K MN Diversion Channel	31.9	35.3



Fargo, ND, March 28, 2009

Stage	Impacts
27	Fargo Elm Street closed
30	Fargo 2nd Street Dike installed
31	Moorhead 1st Ave. North closed
32	First homes in Moorhead threatened
35	First homes in Fargo threatened
40.8	2009 Flood Record Stage

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CITY OF Fargo

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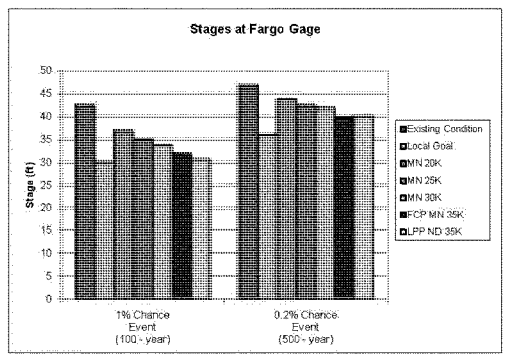
Effectiveness of Diversions:



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CITY OF Fargo

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Downstream Effects:

Based on 35K diversions and 100-year event

Location	Stage increase (inches)
Minnesota Short 35K - 100 Year	
Halstad Gage	6.7
Peak	7.2
Hendrum	6.8
Perley	4.8
Georgetown	4.7
North Dakota 35K - 100 Year	
Halstad Gage	10.7
Peak	11.6
Hendrum	10.7
Perley	6.6
Georgetown	7.1

* Impacts downstream of Halstad still being assessed.

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Downstream effects:

Based on 35K diversions and 100-year event

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Project Impacts (ND 35k):

- ✓ **Wetlands** - 33 acres direct impacts and193 acres of indirect impacts
- ✓ **Groundwater** - No adverse impacts
- ✓ **Sedimentation** – Minor impacts on Red River and tributaries
- ✓ **Connectivity** – Impacts minimized up to the 2-percent chance event
- ✓ **Riparian and Aquatic Habitat** – 43 acres of river channel and 140 acres of riparian forest
- ✓ **Residences** – Relocation of six residences
- ✓ **Farmland** – 5,400 acres of prime and unique farmland

The project includes appropriate mitigation for unavoidable environmental impacts.

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Locally Preferred Plan :

- ✓ Identification of Locally Preferred Plan (LPP)
  - ✓ **The Local sponsor identified the ND 35k diversion channel as the LPP, and reaffirmed their commitment on May 26, 2010.**
  - ✓ **Waiver obtained from Assistant Secretary of the Army for Civil Works**

Tentatively Selected Plan:

- ✓ The North Dakota 35k diversion channel is the tentatively selected plan.

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Federally Comparable Plan (FCP):

- ✓ The MN 35k diversion channel is the FCP.
- ✓ Provides comparable average annual benefits to the LPP
- ✓ Provides greater net benefits than the LPP

Why continue work on the MN plan?

- ✓ FCP sets the baseline for federal costs
- ✓ Need to ensure FCP is implementable

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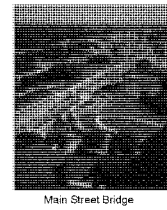
Cost Sharing:

- ✓ Cost Sharing with LPP
  - ✓ **Federal funds capped at 65% of the Federally Comparable Plan (FCP)**
  - ✓ **All costs in excess of the FCP are 100% local responsibility**



Main Street Bridge

ND 35,000 cfs Diversion First Costs			
Item	Federal	Non-Federal	Total
	($)	($)	($)
Flood Risk Management	693.3	544.1	1,237.4
Recreation	17.4	17.4	34.8
Total Project	710.7	561.5	1,272.2
All costs in millions ($1,000,000)			

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Local Decisions and Tasks:

- ✓ Identify sponsors for construction and ongoing operations and maintenance
- ✓ Define non-federal cost sharing arrangements
- ✓ Provide letter supporting the project by July 15, 2010
- ✓ Prepare to execute design agreement and provide funding – October 2010

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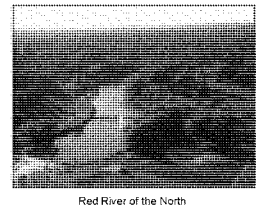
Path Forward:

- ✓ Continue survey work
- ✓ Quantify downstream impacts
- ✓ Develop recreation plan
- ✓ Continue working with natural resources agencies
- ✓ Resolve any issues generated by public and agency reviews



Red River of the North

14-15 June 2010 22

F-M Metro Study Timeline:

- ✓ Jul 2010: Independent External Peer Review Complete
- ✓ Jul 26, 2010: Public Review Period Complete
- ✓ Sep 2010: Civil Works Review Board Briefing in Washington DC
- ✓ Sep 2010: Finalize feasibility report/EIS
- ✓ Oct 2010: Public Meetings
- ✓ Dec 2010: Transmit recommendation to Congress
- ✓ Jan 2011: Begin plans and specifications
- ✓ Apr 2012: Begin construction

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Provide Formal Comments on the Draft Feasibility Report and Environmental Impact Statement:

- ✓ Comment period ends on July 26, 2010.
- ✓ Web site: http://www.internationalwaterinstitute.org/feasibility
- ✓ Mail:
  Aaron M. Snyder
  USACE, St. Paul District
  180 5th St. E.
  Suite 700
  St. Paul, MN 55101-1678

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CITY OF Fargo

CITY OF MOORHEAD MINNESOTA

Federal Real Estate Land Acquisition Procedures

John Albrecht
Chief RE-PA
651-290-5399

CITY OF Fargo

CITY OF MOORHEAD MINNESOTA

- ✓ **INTRODUCTION**
  - ✓ **Benefit for public good**
  - ✓ **Eminent Domain**
  - ✓ **Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, and amended it in 1987 "Uniform Act"**
    - ✓ **PL 91-646**

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✓**JUST COMPENSATION**
✓Approved appraisal
✓Conform with "Uniform Act"

✓www.fhwa.dot.gov/realestate

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✓**FINAL DESIGN**
✓Project Maps
✓Survey
✓Ownership Determined
✓Interest Needed

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✓**PROPERTY APPRAISAL**
✓Fair Market Value
✓Just Compensation
✓Accompany Appraiser by Landowner
✓Conditions affecting property

14-15 June 2010 29

✓**ATTACHMENTS TO LAND**
✓Buildings, Structures, and Improvements
✓Removal of Structure
✓Waiver of appraisal

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- ✓**WRITTEN OFFER**
- ✓Just Compensation
- ✓Time to Consider Offer
- ✓Other Relevant Information
- ✓Negotiations

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CITY OF MOORHEAD MINNESOTA

- ✓**PARTIAL ACQUISITIONS**
- ✓Easements
- ✓Value of Acquisitions
- ✓Damages
- ✓Uneconomic Remnant

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CITY OF Fargo

CITY OF MOORHEAD MINNESOTA

- ✓**SETTLEMENT**
- ✓Negotiations
- ✓Counter-Offers/Proposals
- ✓Mediations
- ✓Condemnations Proceeding

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CITY OF MOORHEAD MINNESOTA

- ✓**PAYMENT**
- ✓Value of Property
- ✓Transfer Title/Grant Easement
- ✓Title Search
- ✓Incidental Expenses

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✓**POSSESSION**

✓Payment must be paid

- ✓**Fair Market Value, or**
- ✓**Court Award**

✓**RESIDENTIAL BUYOUTs**

- ✓**Notice to Occupants**
  - ✓**90 days**
- ✓**Comparable Replacement**

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✓**CONDEMNATION**

✓Eminent Domain

✓State Court

✓Board of Commissioners/Viewers

✓www.fhwa.dot.gov/realestate

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2/2/2011

US Army Corps of Engineers
St. Paul District, Mississippi River Division

Federal Real Estate Land Acquisition Procedures

John Albrecht
Chief RE-PA
651-290-5399

BUILDING STRONG

US Army Corps of Engineers
St. Paul District, Mississippi River Division

- **INTRODUCTION**
  - Benefit for public good
  - Eminent Domain
  - Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, and amended it in 1987 "Uniform Act"
    - PL 91-646

BUILDING STRONG

Slide 2

US Army Corps of Engineers
St. Paul District, Mississippi River Division

- **JUST COMPENSATION**
- Approved appraisal
- Conform with "Uniform Act"
- www.fhwa.dot.gov/realestate

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US Army Corps of Engineers
St. Paul District, Mississippi River Division

- **FINAL DESIGN**
- Project Maps
- Survey
- Ownership Determined
- Interest Needed

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Slide 4

2/2/2011

US Army Corps of Engineers
St. Paul District, Mississippi River Division

- **PROPERTY APPRAISAL**
- Fair Market Value
- Just Compensation
- Accompany Appraiser by Landowner
- Conditions affecting property

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Slide 5

US Army Corps of Engineers
St. Paul District, Mississippi River Division

- **ATTACHMENTS TO LAND**
- Buildings, Structures, and Improvements
- Removal of Structure
- Waiver of appraisal

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St. Paul District, Mississippi River Division

- **WRITTEN OFFER**
- Just Compensation
- Time to Consider Offer
- Other Relevant Information
- Negotiations

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US Army Corps of Engineers
St. Paul District, Mississippi River Division

- **PARTIAL ACQUISITIONS**
- Easements
- Value of Acquisitions
- Damages
- Uneconomic Remnant

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US Army Corps of Engineers
St. Paul District, Mississippi River Division

- **SETTLEMENT**
- Negotiations
- Counter-Offers/Proposals
- Mediations
- Condemnations Proceeding

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US Army Corps of Engineers
St. Paul District, Mississippi River Division

- **PAYMENT**
- Value of Property
- Transfer Title/Grant Easement
- Title Search
- Incidental Expenses

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US Army Corps of Engineers
St. Paul District, Mississippi River Division

- **POSSESSION**
- Payment must be paid
  - Fair Market Value, or
  - Court Award
- **RESIDENTIAL BUYOUTs**
  - Notice to Occupants
    - 90 days
  - Comparable Replacement

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St. Paul District, Mississippi River Division

- **CONDEMNATION**
- Eminent Domain
- State Court
- Board of Commissioners/Viewers
- www.fhwa.dot.gov/realestate

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US Army Corps
of Engineers

Fargo-Moorhead Metropolitan Area Feasibility Study

Overview:
The Fargo-Moorhead Metropolitan Area Feasibility Study is a cooperative effort between the communities of Fargo, N.D., and Moorhead, Minn., with the U.S. Army Corps of Engineers, St. Paul District. This handout is designed to give a summary of the study, its tentative recommendations and the timeline for completion.

Study goals:

- Understand the flood problems in the greater Fargo-Moorhead metropolitan area.
- Develop a regional system to reduce flood risk.
- Determine the federal government's role in implementing flood risk reduction measures.
- Document study findings in a Feasibility Report and a National Environmental Policy Act (NEPA) Environmental Impact Statement.
- If appropriate, recommend implementation of a federal project to the U.S. Congress.

Problems and opportunities:
The primary problem identified in the study area is a high risk of flood damage to urban infrastructure from the Red River of the North, the Wild Rice River (ND), the Buffalo River, the Sheyenne River and its tributaries. Flooding also causes damage to rural infrastructure and agricultural crop land and disrupts transportation and access to properties within the study area. There are opportunities to increase and improve wildlife habitat and to increase recreation in conjunction with measures to reduce flood risk.

Flooding history:
The Fargo-Moorhead metropolitan area has a relatively high risk of flooding. The Red River exceeded the National Weather Service flood stage of 18 feet in 47 of the past 108 years, and every year from 1993 through 2010. The study area includes the Wild Rice, Sheyenne, Maple, Lower Rush and Rush rivers and the Red River of the North. Inter basin flows complicate the hydrology of the region and contribute to extensive flooding. The flood of record was the 2009 flood with a peak stage of 40.82 feet on the Fargo gage. Average annual flood damages in the Fargo-Moorhead metropolitan area are currently estimated at nearly $196 million. Most communities in the region avoided major flood damages in the historic floods of 1997 and 2009 by either raising existing levees or building temporary barriers. Although emergency measures have been very successful, they may also contribute to an unwarranted sense of security that does not reflect the true flood risk in the area.

Planning process:
This feasibility study began in September 2008. A wide array of potential measures was identified early in the study and expanded with input from the public. From September 2008 through May 2009, the study team gathered information to assess existing conditions in the study area and worked to understand the potential for economic justification of a large regional flood risk management project. In the wake of the 2009 flood, local, state and Congressional officials requested an aggressive schedule to complete the study by December 2010.

From June 2009 through October 2009, the study team performed cursory technical analysis of all proposed measures. The team also developed screening criteria to be used in selecting a plan. Using the preliminary

technical information, the team applied professional judgment in order to assess the measures against the screening criteria. Several different scales of flood storage, nonstructural measures, flood barriers and diversion channels were evaluated in more detail during this phase of study. Using all of the information developed, the team compared the alternatives to identify the best plans for further study. The preliminary screening results, released in October 2009, indicated that the most cost-effective plan would likely be a diversion on the Minnesota side but further study was needed to determine the optimal capacity. The non-federal sponsors requested that two North Dakota diversion plans (30,000 and 35,000 cfs) and a 35,000 cfs Minnesota diversion plan be retained as potential locally preferred plans. The "no action alternative," the Minnesota short diversion channel and the North Dakota east diversion channel were retained for further analysis, and all other concepts were dropped from consideration as stand-alone plans. Non-structural measures (raising, relocating or buying out structures) were considered for portions of the study area not benefited by the diversions.

In March 2010, the cities of Fargo and Moorhead identified the North Dakota 35,000 cfs diversion channel as the locally preferred plan. In April 2010, the U.S Army Corps of Engineers, St. Paul District, received a waiver from the Assistant Secretary of the Army for Civil Works allowing the Corps to recommend the North Dakota 35,000 cfs diversion channel as the locally preferred plan in the draft feasibility report. In May 2010, the Corps identified a Minnesota 40,000 cfs diversion as the National Economic Development plan and a Minnesota 35,000 cfs diversion as the "federally comparable plan" for purposes of calculating federal and non-federal costs to implement the locally preferred plan.

Alternative	Cost [1]	Avg Annual Net Benefits [1]	Avg Annual Benefits [1]	Residual Damages [1]	B/C Ratio
FCP - MN35K	$1,286	$104.9	$171.0	$24.9	2.59
NED - MN40K [2]	$1,367	$105.6	$175.9	$20.0	2.50
LPP - ND35K	$1,462	$95.4	$171.1	$24.8	2.26

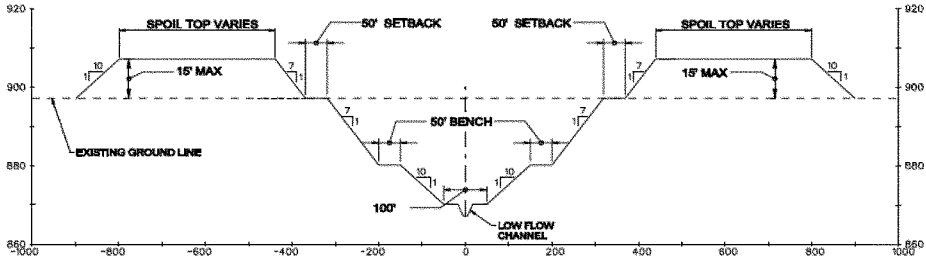
1. In millions of dollars with interest during construction and discounting included
2. Estimate based on linear extrapolation
Expected average annual damages without a project are $195.9 million.

The Corps identified the North Dakota 35,000 cfs diversion channel as the locally preferred and tentatively selected plan in its integrated draft Feasibility Report and Environmental Impact Statement. The Corps will accept public comments in accordance with NEPA for a period of 45 days following official notice in the *Federal Register*. (The public comment period is expected to end on July 26, 2010).

Following public review, the St. Paul District will submit the report to Corps Headquarters for policy review and to support a draft report of the Chief of Engineers. The Chief's report will be sent to other federal agencies and the concerned states for final NEPA review. Providing there are no major comments from the NEPA review, the final Chief's report will be sent to the Assistant Secretary of the Army for Civil Works, then to the Office of Management and Budget and then to Congress for possible project authorization.

Description of the tentatively selected plan:
The North Dakota 35,000 cfs diversion channel is the tentatively selected and locally preferred plan. The project would be a 36 mile long diversion channel, starting approximately four miles south of the confluence of the Red and Wild Rice rivers and re-entering the Red River north of the confluence of the Red and Sheyenne rivers. The project would incorporate the existing Horace to West Fargo Sheyenne River diversion channel. The channel bottom width would vary from 100 to 300 feet, and it would have a maximum depth of 29 feet. The plan includes 18 highway bridges and four railroad bridges and would have a construction footprint of approximately 6,560 acres.

Gated control structures on the Red and Wild Rice rivers at the south end of the project would limit flow in the natural Red River channel and direct water to the diversion channel. A connecting channel between the Red and Wild Rice rivers would convey flow from the Red River to the diversion channel inlet on the west side of the Wild Rice River. The diversion would cross the Sheyenne, Maple, Lower Rush, and Rush rivers. At the Sheyenne and Maple river crossings, aqueducts would allow base flows to cross the diversion and follow the natural river channels, but flood flows would be directed into the diversion channel. The Lower Rush and Rush rivers would have drop structures that would drop the entire flow of those rivers into the diversion channel. Recreation features that could be incorporated into the project include multipurpose trails, interpretive signage, benches, trail heads with parking facilities and other related features.



TYPICAL SECTION
NORTH DAKOTA CHANNEL & SPOIL PILES
NTS

Effects of the plan:
The proposed project would significantly reduce flood stages, flood damages and flood risk in the Fargo-Moorhead metropolitan area, but it would not completely eliminate flood risk. Emergency measures would still be required in Fargo-Moorhead during large infrequent flood events, when the flood stage is expected to exceed about 30 feet on the Fargo gage. For reference, the 2009 flood stage was 40.8 feet on the Fargo gage. The following table shows the expected flood stages for existing and proposed conditions:

	Stage at Fargo Gage (ft)	
	1% Chance (100- year)	0.2% Chance (500- year)
Existing Condition	42.4	46.7
LPP - ND35K Plan	30.6	40.0

The diversion channel would change the peak flow and timing of flood events. Flows in the natural Red River channel through Fargo-Moorhead would be significantly reduced, but peak flood stages downstream would likely increase. Although the potential downstream effects on stage, duration and frequency have not been fully quantified, current modeling shows stage increases downstream up to 12 inches during a 1-percent chance event. The Corps will assess the need to compensate affected landowners based on the final model results.

There are 4,626 acres of wetlands in the project area. The proposed project would directly impact approximately 33 acres of wetlands and could indirectly impact up to 193 acres. The project would have no adverse impacts on significant groundwater resources. The project may affect sediment transport, accretion and erosion in the Red River and the affected tributaries, which are critical forces in shaping and maintaining

aquatic habitat, but effects are expected to be minor. Connectivity and access to various habitats is important to fulfill seasonal and life stage-specific habitat needs for river fish. The project features are designed to minimize impacts to connectivity and to facilitate fish passage on the Red River up to a 2-percent chance (50-year) event. Approximately 43 acres of river bed and 140 acres of riparian forest would be directly affected by project features. The project would include appropriate mitigation for unavoidable environmental impacts.

The project would require relocation of approximately six residences or farmsteads and would remove approximately 5,400 acres of prime and unique farmland from operation. Owners would be compensated for the loss of property in accordance with applicable federal and state laws and policies.

Project Costs:

ND 35,000 cfs Diversion First Costs			
Item	Federal	Non-Federal	Total
	($)	($)	($)
Flood Risk Management	693.3	544.1	1,237.4
Recreation	17.4	17.4	34.8
Total Project	710.7	561.5	1,272.2
All costs in millions ($1,000,000)			

The estimated total fully-funded cost escalated to the midpoint of construction is $1.45 billion.

Schedule:

Jun 2010: Landowner and Downstream Meetings
Jul 2010: Public review period complete
Sep 2010: Finalize feasibility report
Dec 2010: Transmit recommendation to Congress
Jan 2011: Begin plans and specifications
Apr 2012: Begin construction

Read and Comment on the Draft EIS:
Visit the study website at: **http://www.internationalwaterinstitute.org/feasibility/**

Primary Study Contacts:

The City of Fargo
April Walker
awalker@cityoffargo.com

The City of Moorhead
Bob Zimmerman
Bob.Zimmerman@ci.moorhead.mn.us

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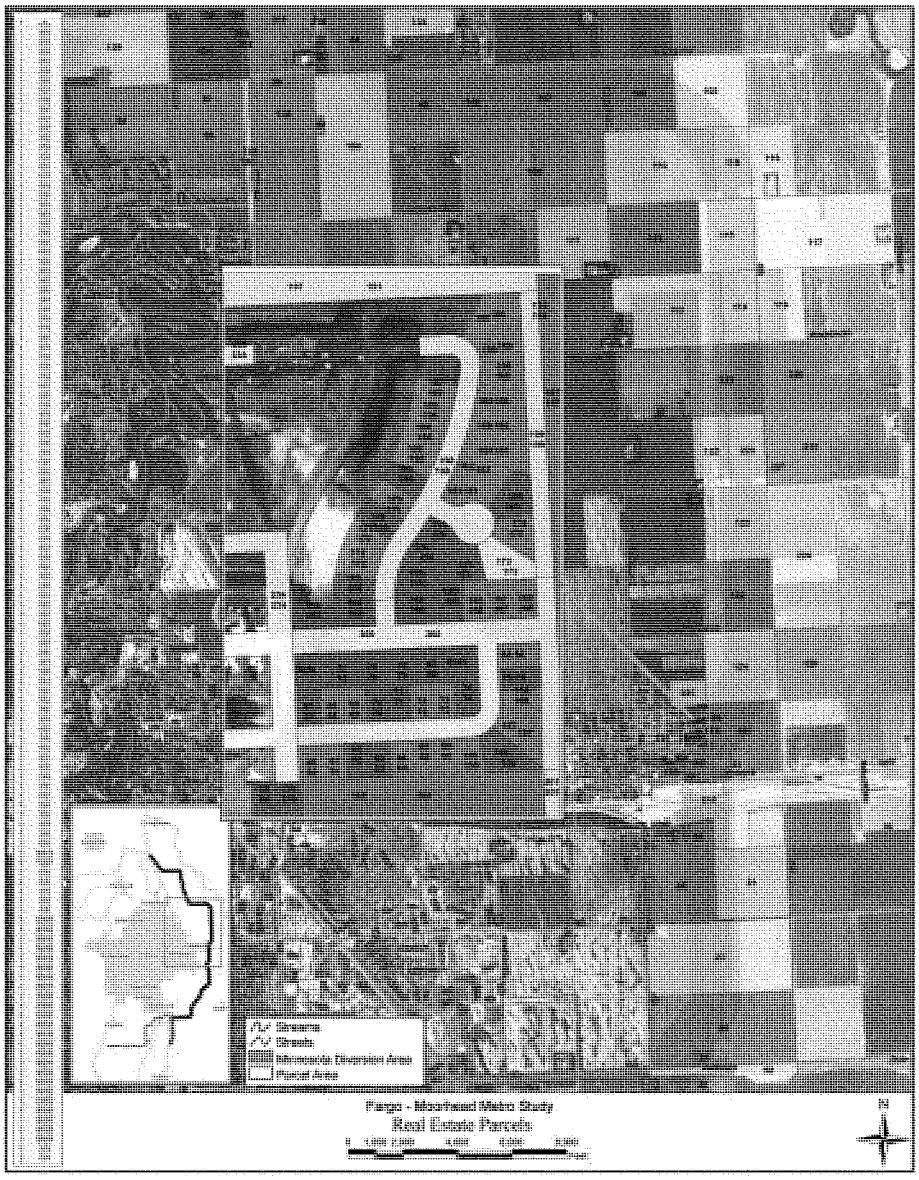
190 5th Street East, Suite 401 (PM-A)
St. Paul, MN 55101

Aaron Snyder
Aaron.M.Snyder@usace.army.mil

Fargo - Moorhead Metro Study
Real Estate Parcels
N


Fargo - Moorhead Metro Study
Real Estate Parcels
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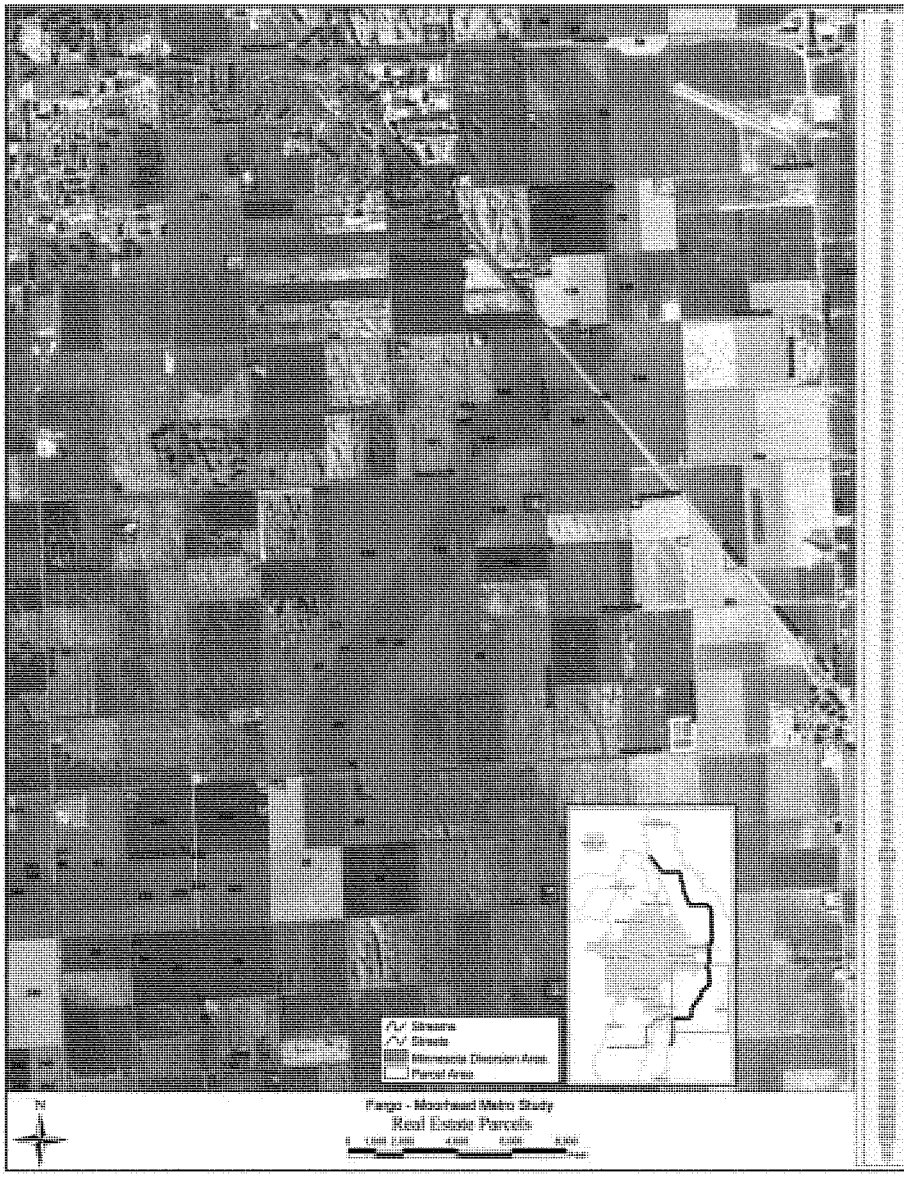
Streams
Roads
Minnesota Diversion Area
Parcel Area
Fargo - Moorhead Metro Study
Real Estate Parcels
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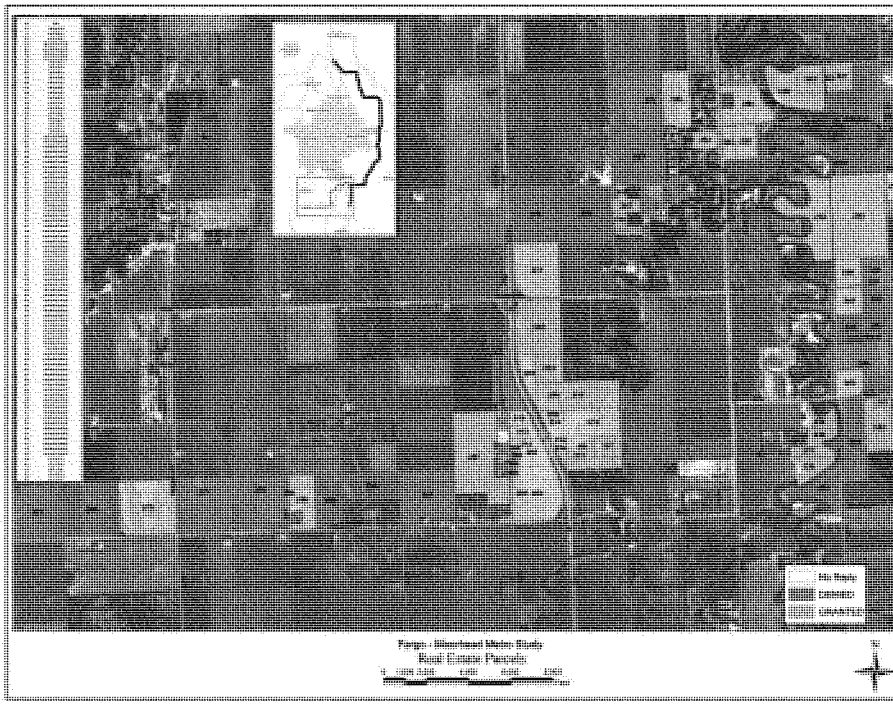
Fargo - Moorhead Metro Study
Real Estate Parcels

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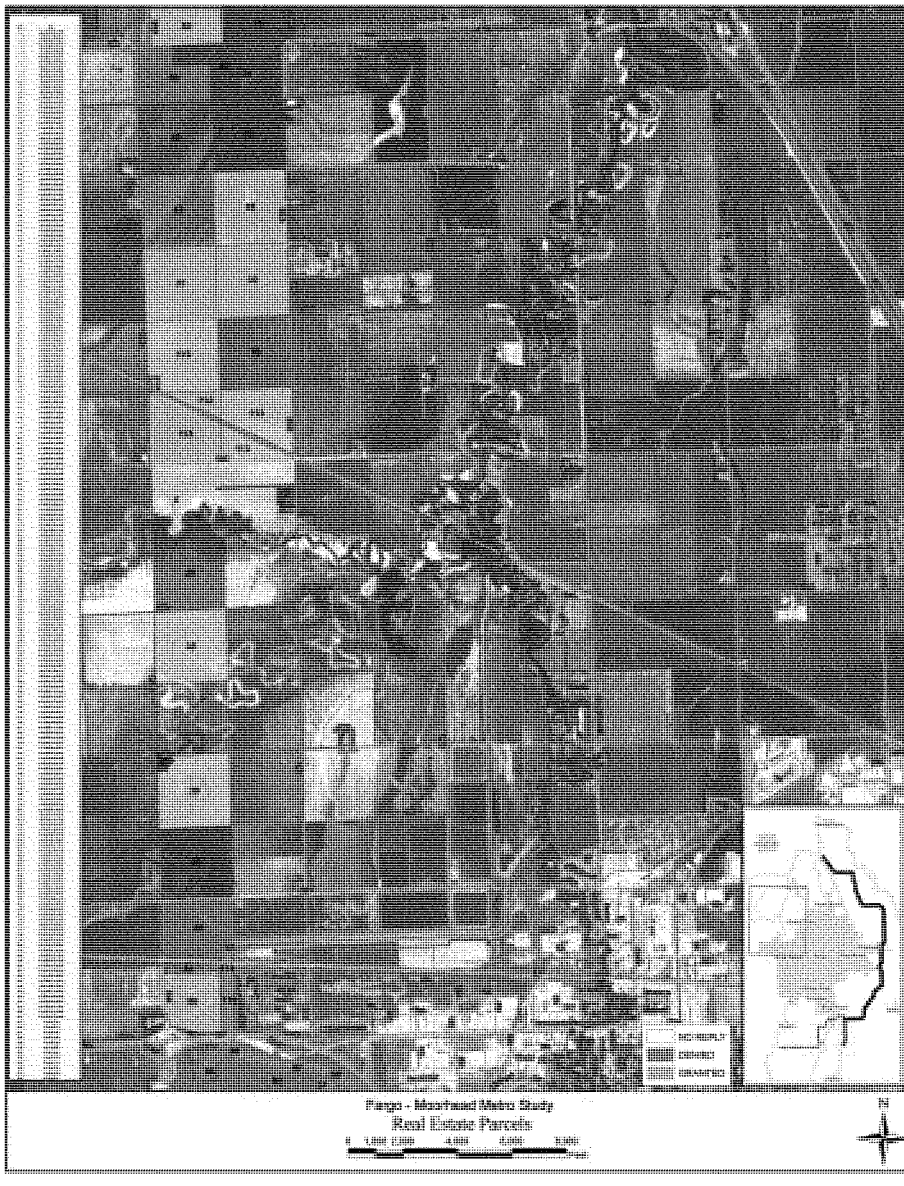
Real Estate Parcels


Fargo - Moorhead Metro Study
Real Estate Parcels
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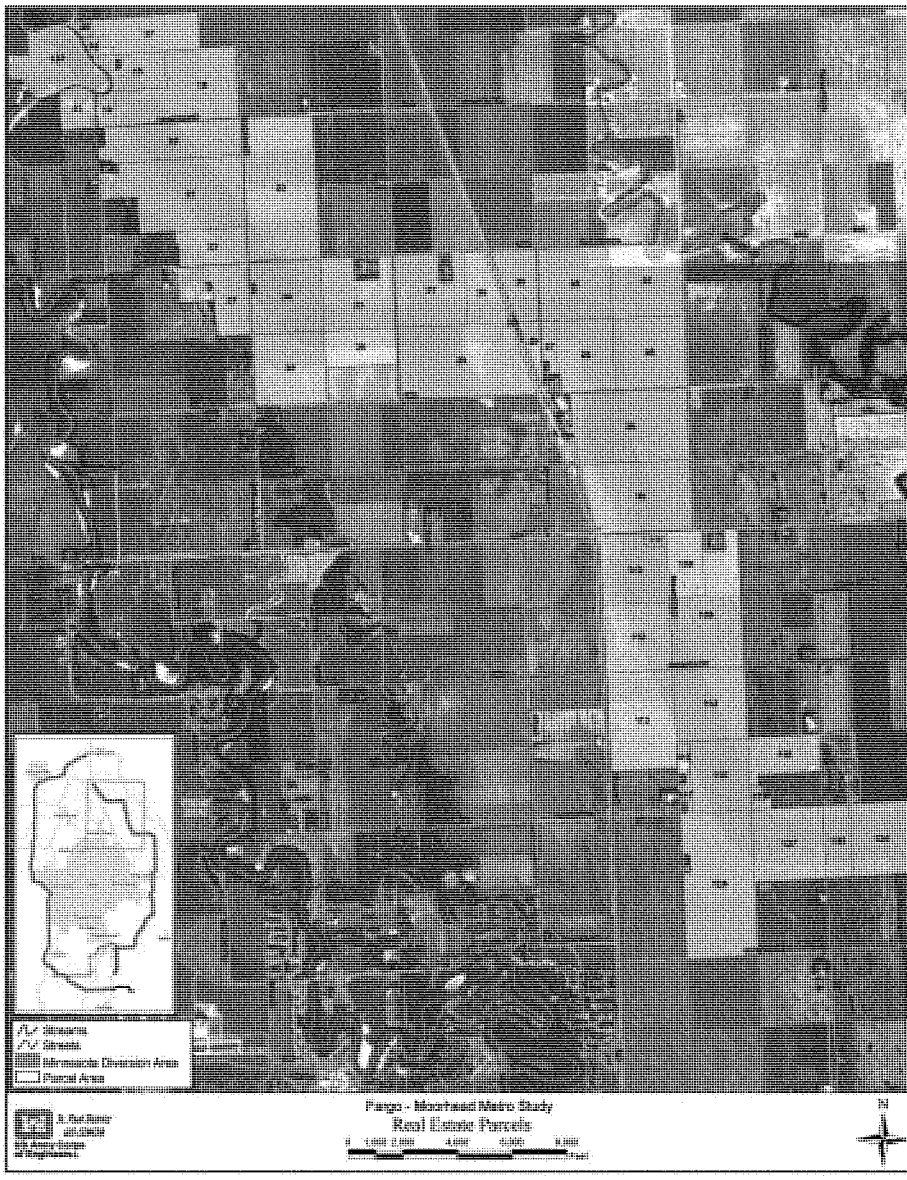
Streams
Streets
Minnesota Diversion Area
Parcel Area
Fargo - Moorhead Metro Study
Real Estate Parcels
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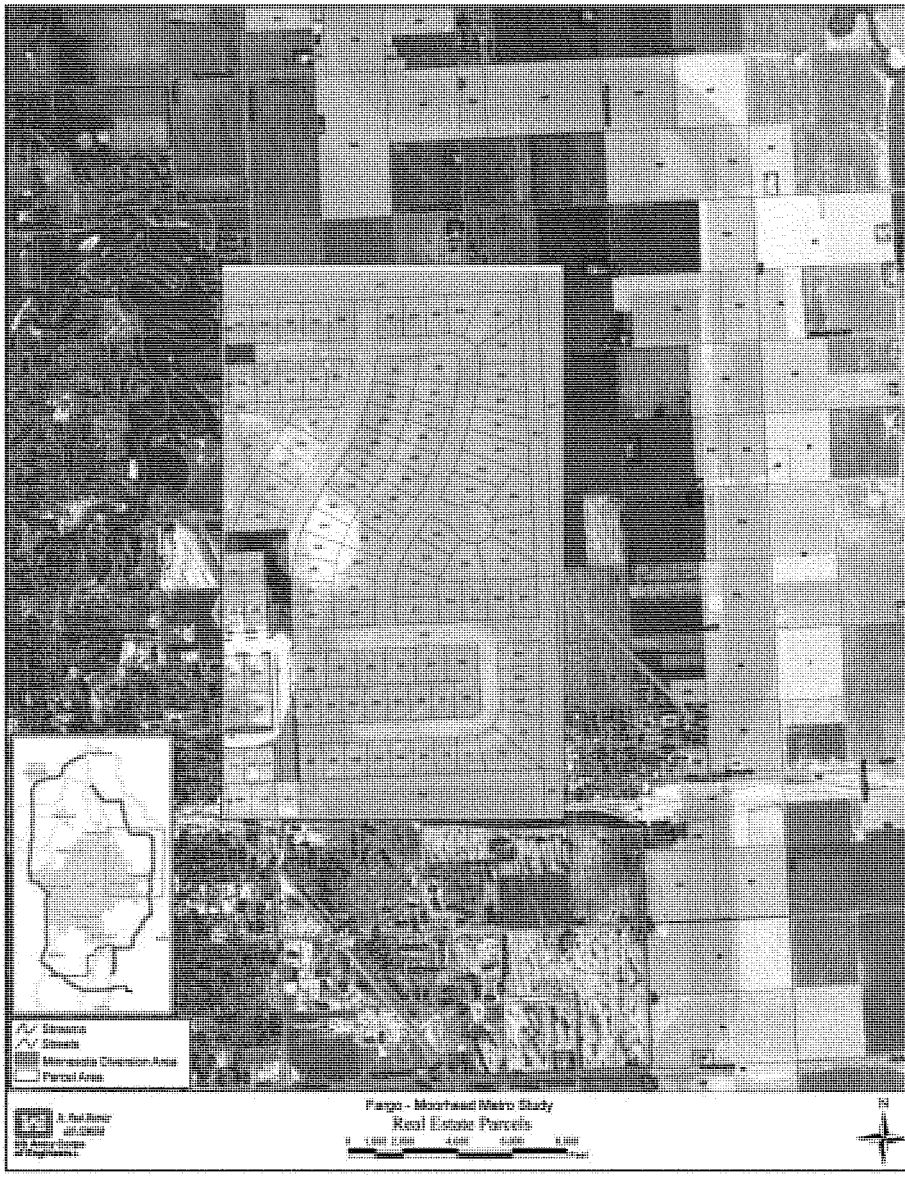
Fargo - Moorhead Metro Study
Real Estate Parcels

Fargo - Moorhead Metro Study
Real Estate Parcels
Streams
Streets
Minnesota Diversion Area
Project Area
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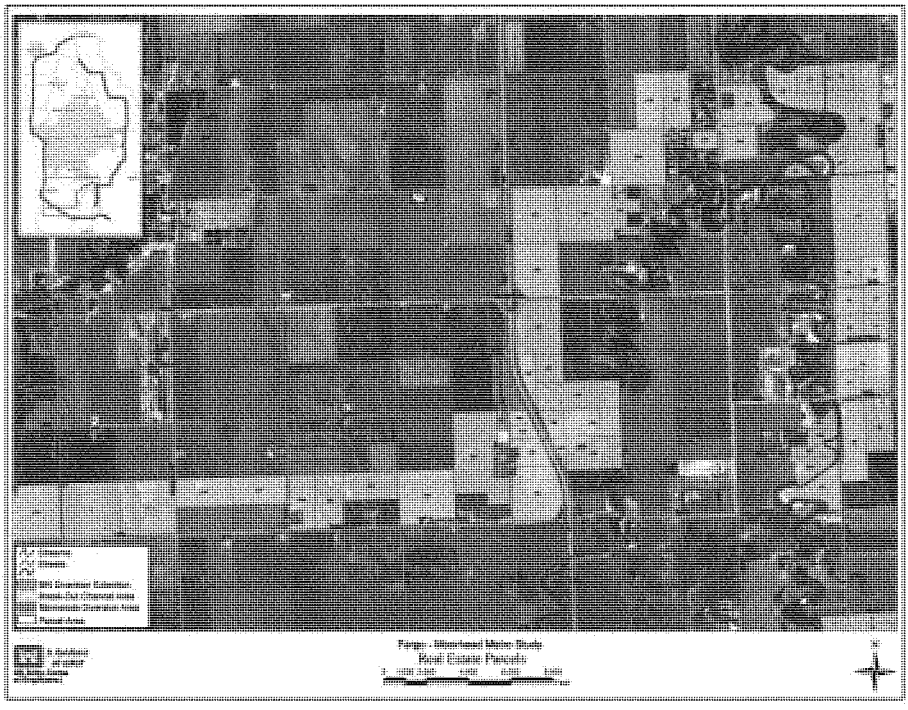
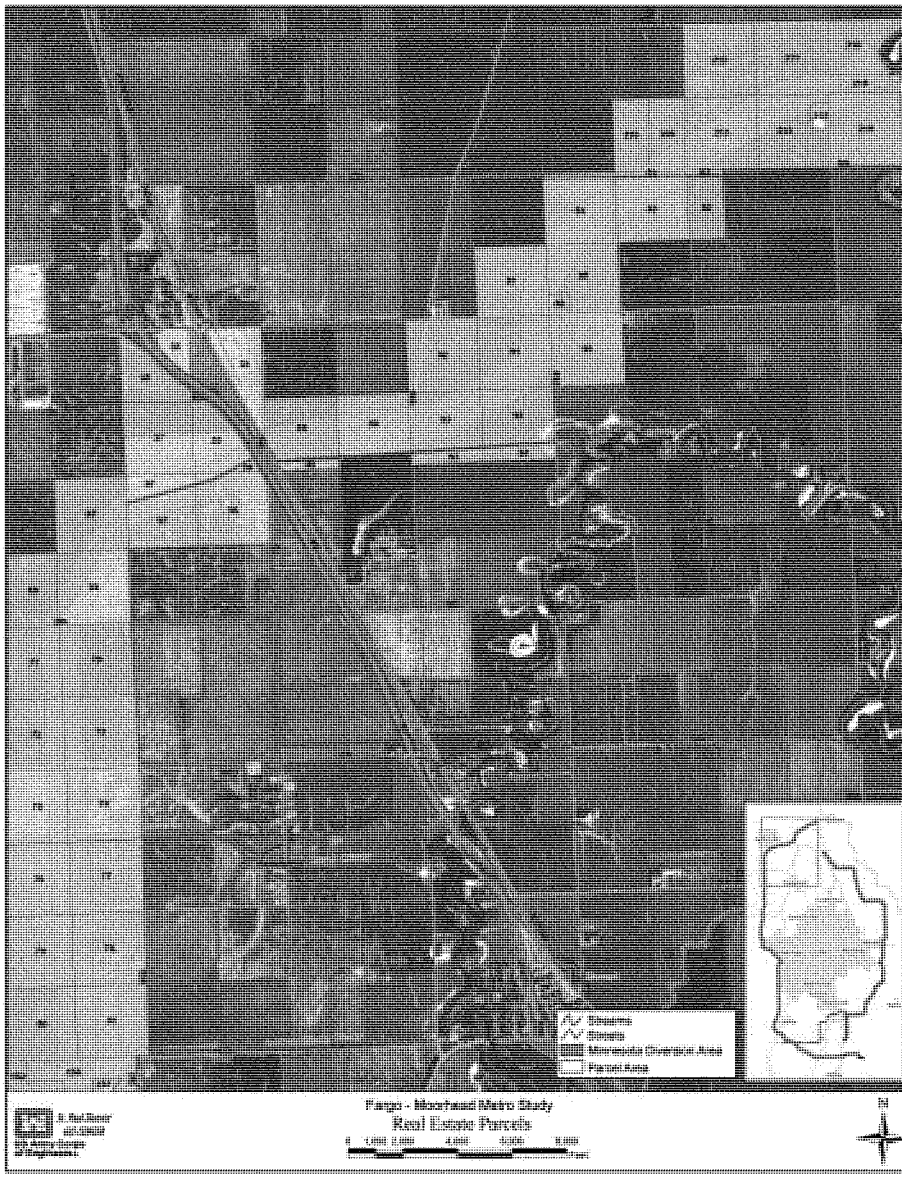
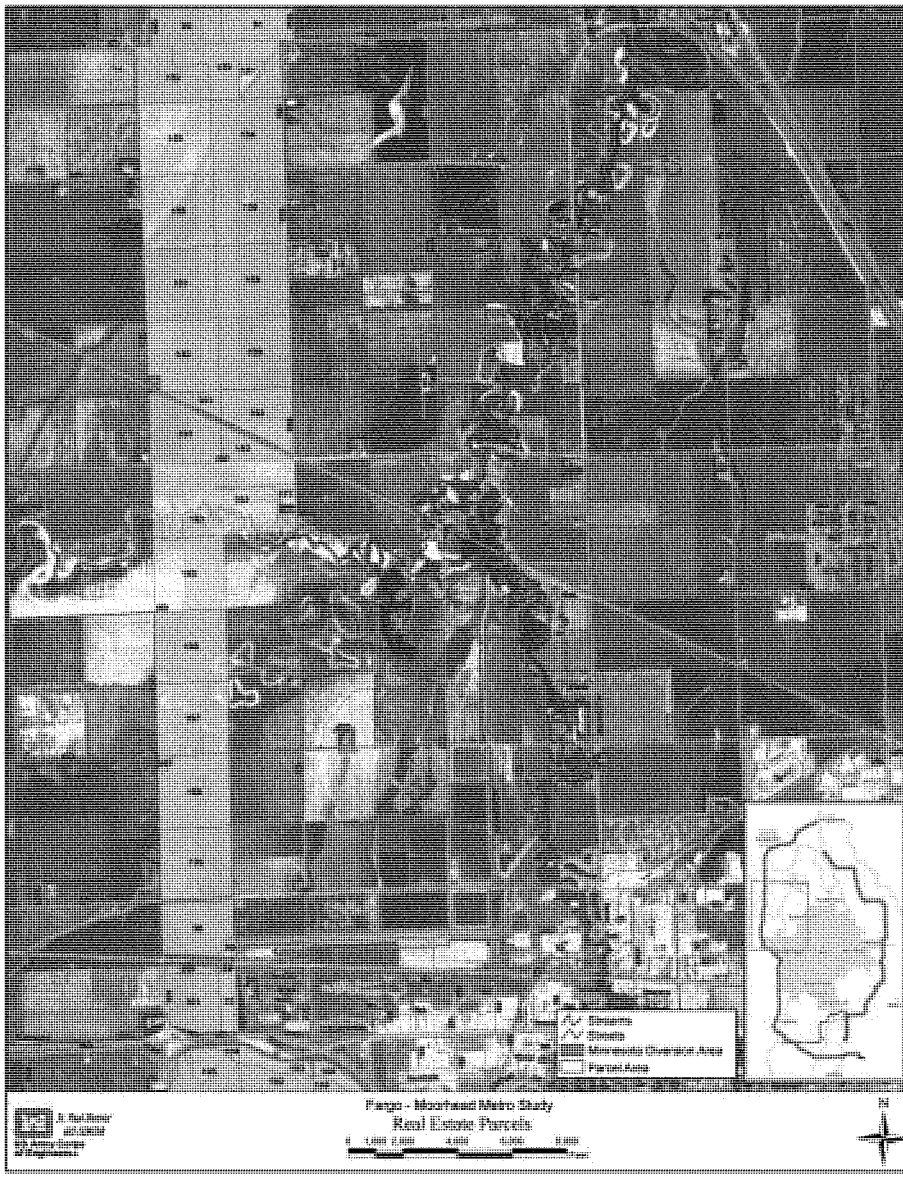



Fargo - Moorhead Metro Study
Real Estate Parcels


Fargo - Moorhead Metro Study
Real Estate Parcels
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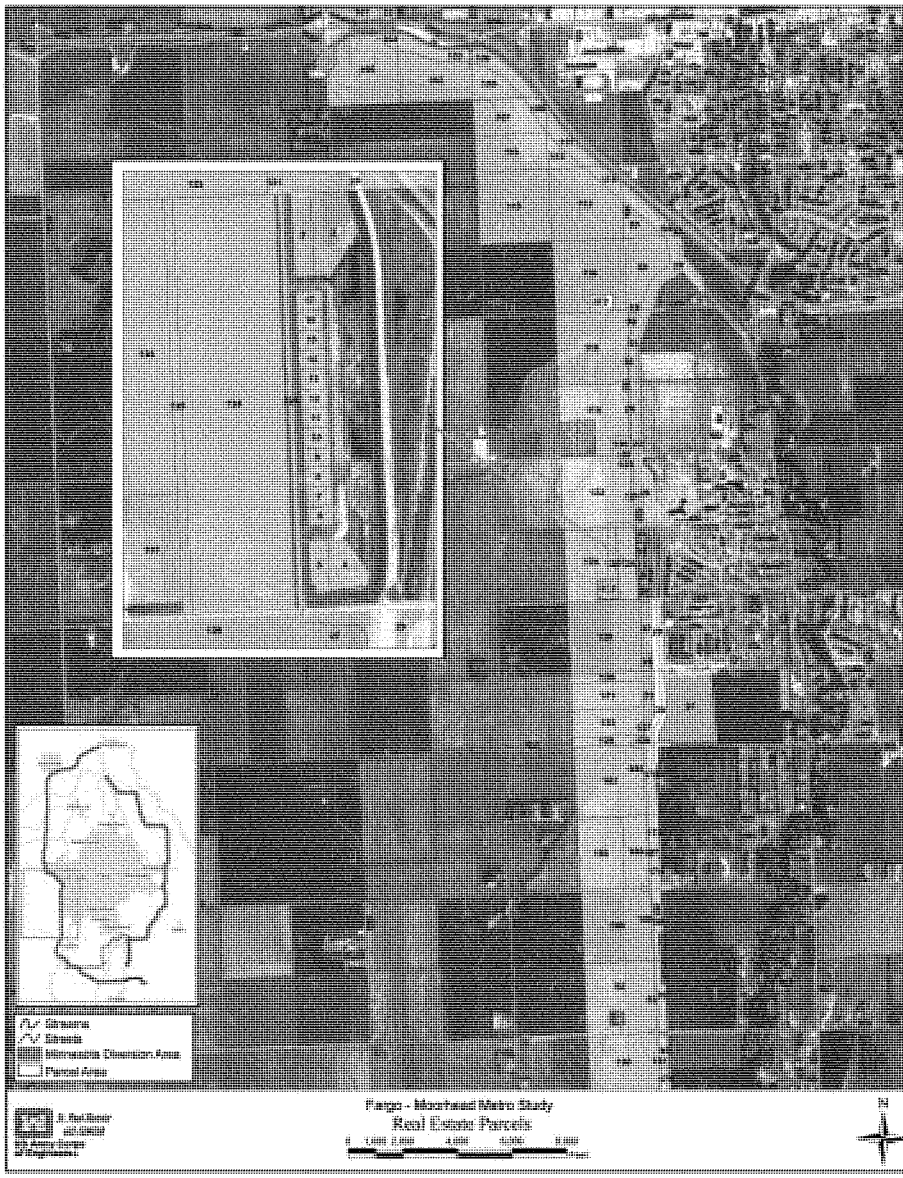
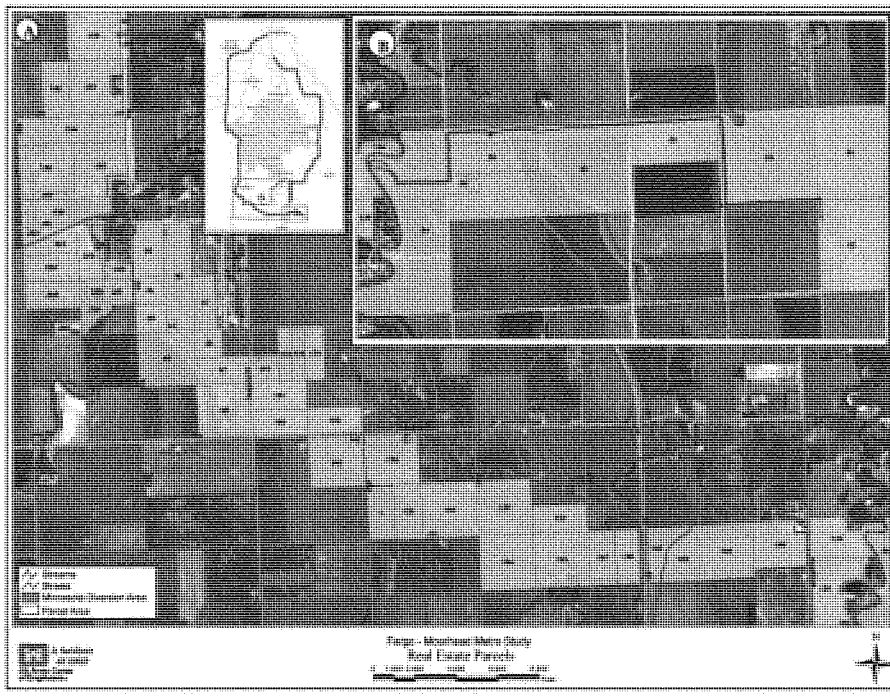

Fargo - Moorhead Metro Study
Real Estate Parcels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Red Basin Parcels

MapNum	Pin	Name	MapNum	Pin	Name	MapNum	Pin	Name	MapNum	Pin	Name
1	64000000830000	CHASE, JOHN P, ETAL	141	528560520	HORIZON PROPERTIES LAND DEV	282	528560180	PETER J & VALORIE A STEICHEN	423	528550080	BMW HOMES INC
2	190210000	TIMOTHY J & BRIAN T LEISETH	142	528560260	MATTHEW & AMY LAMMERS	283	190272800	JOHN K & E MARIE LEISETH	424	528550040	KEITH A & BARBRA MATTHEWS
3	190291870	PIONEER LIFE TRUST	143	528560290	HORIZON PROPERTIES LAND DEV	284	180181800	PERRY & ANNETTE MONTPLAISIR	425	529000001	EAST VIEW LAND DEVELOPMENT
4	190170280	JENNIFER & VICTOR HAUGRUD JR	144	528560250	HORIZON PROPERTIES LAND DEV	285	180091400	PAUL & SHERRI FOSSUM	426	528550260	HORIZON PROPERTIES LAND DEV
5	190203400	THOMAS D WALKER	145	528560180	HORIZON PROPERTIES LAND DEV	286	521060020	DNR	427	528540170	BLAKE SUNDE
6	190292800	JESSE JR & ROXANNE LARSON	146	528560030	HORIZON PROPERTIES LAND DEV	287	521050110	WAYNE T SISTAD	428	528550060	HORIZON PROPERTIES LAND DEV
7	190293800	THOMAS D WALKER ET AL	147	528560040	MN STATE COMM & TECH COLLEGE	288	521050111	JAMES & PATTI SEXTER	429	528540060	HORIZON PROPERTIES LAND DEV
8	190314700	WILLIAM J BYE	148	528560050	HORIZON PROPERTIES LAND DEV	289	521050120	DANIEL T & SHARON TACK	430	528540180	HAROLD & EILEEN CAST
9	190321800	JOHN K & E MARIE LEISETH	149	528560230	HORIZON PROPERTIES LAND DEV	290	521050130	MICHAEL K & SHIRLEY A GRIFFIN	431	528560270	HORIZON PROPERTIES LAND DEV
10	190322300	WILLIAM J BYE	150	528560220	HORIZON PROPERTIES LAND DEV	291	525050150	ROGER WINTER	432	528560060	THOMAS BOWMAN & W DAVIDSON
11	180191000	HARLAN H & LINDA SAUTER	151	528560210	HORIZON PROPERTIES LAND DEV	292	521050160	ROGER WINTER	433	528550180	HORIZON PROPERTIES LAND DEV
12	180202000	DON SWANSON	152	528560080	HORIZON PROPERTIES LAND DEV	293	528540120	LON SCHUR	434	529000001	EAST VIEW LAND DEVELOPMENT
13	180181000	GLADYS I NORBY	153	528560100	HORIZON PROPERTIES LAND DEV	294	528540130	ROBERT & ELEANORE OXLUND	435	528559999	
14	180181000	GLADYS I NORBY	154	528560190	HORIZON PROPERTIES LAND DEV	295	528540135	EMILY N MCDOWELL	436	528539999	
15	180276200	MARIE BRENDEMUHL	155	528550100	PETER J & VALORIE A STEICHEN	296	528550420	HORIZON PROPERTIES LAND DEV	437	528549999	
16	180271000	WARREN BRENDEMUHL	156	528560130	HORIZON PROPERTIES LAND DEV	297	528550430	HORIZON PROPERTIES LAND DEV	438	528559999	
17	180291000	ALFRED L MARKS JR	157	528560210	HORIZON PROPERTIES LAND DEV	298	528550440	HORIZON PROPERTIES LAND DEV	439	528519999	
18	180296500	ARTHUR H SWANSON	158	528560170	HORIZON PROPERTIES LAND DEV	299	528550450	HORIZON PROPERTIES LAND DEV	440	528540115	LLOYD & ANGELA LIEN
19	180280300	MINCH FAMILY LTD PARTNERSHIP	159	528560160	T & S CUSTOM HOMES INC	300	528550460	HORIZON PROPERTIES LAND DEV	441	528540125	DAKOTA DEVELOPMENT CONSTRUCTIO
20	180280300	MINCH FAMILY LTD PARTNERSHIP	160	529000010	MICHAEL, PAMELA ASTRUP & TERRY	301	528550470	HORIZON PROPERTIES LAND DEV	442	528540110	BRYCE STORDAHL & A HYSIBROVEN
21	180272700	MARIE BRENDEMUHL	161	529000001	EAST VIEW LAND DEVELOPMENT	302	528550480	HORIZON PROPERTIES LAND DEV	443	521059999	
22	180272800	MARIE BRENDEMUHL	162	528550050	HORIZON PROPERTIES LAND DEV	303	528540085	TYLER P & LEAH D RISBROVICH	444	528519999	
23	180274000	WARREN BRENDEMUHL	163	528560090	HORIZON PROPERTIES LAND DEV	304	528540200	RICK ERICKSON			
24	180289999		164	528560072	HORIZON PROPERTIES LAND DEV	305	528540195	HORIZON PROPERTIES LAND DEV			
25	180840300	CLEMEDTSON FARM LTD PTSHP	165	528560060	THOMAS BOWMAN & W DAVIDSON	306	528540180	KEVIN L & TAMARA K STEBLETON			
26	210120600	JOHN W & MARY D TORGET	166	529000001	EAST VIEW LAND DEVELOPMENT	307	528530410	HORIZON PROPERTIES LAND DEV			
27	210121000	JOHN FIANDACA TR	167	528559999		308	528550400	HORIZON PROPERTIES LAND DEV			
28	210130100	JOHN W & MARY D TORGET	168	528549999		309	528550390	HORIZON PROPERTIES LAND DEV			
29	210130301	JOSEPH D & NANCY KOLO	169	528559999		310	528550380	HORIZON PROPERTIES LAND DEV			
30	190201110	ROGER C BALL	170	528539999		311	528550370	HORIZON PROPERTIES LAND DEV			
31	190201120	JUDY K BALL	171	190294500	JERRY JOEL MONRICE & CHRISTENSE	312	528550360	HORIZON PROPERTIES LAND DEV			
32	190212000	ROGER BRAKKE	172	529980000	BURLINGTON NORTHERN SANTA FE	313	528550350	HORIZON PROPERTIES LAND DEV			
33	190201500	DONALD & LAURA ENGEL	173	521059999		314	528550340	HORIZON PROPERTIES LAND DEV			
34	190202000	TIMOTHY J & BRIAN T LEISETH	174	210090401	MOORHEAD CITY	315	528540080	CRYSTAL HAUGRUD			
35	190212301	KENNETH & MARGIE SCHLOTFELDT	175	230210301	DEAN M & PAULA JACOBSEN	316	528550520	HORIZON PROPERTIES LAND DEV			
36	190212302	KENNETH & MARGIE SCHLOTFELDT	176	290201001	JAY & EMY LOU STENERSON	317	528540075	ROSEANNE ARENL			
37	210251400	VICTOR C & PHYLLIS MARTIN	177	290301700	LAWRENCE & WILLIAM WUSSOW	318	528540070	JACQUE A REHL			
38	190170280	JENNIFER & VICTOR HAUGRUD JR	178	290301001	ROGER D & ANNA M FISCHER	319	528540180	CHRISTOPHER & MELISSA HOFF			
39	190170281	T C & LORI A SCHEVING	179	230251000	ROBERT B DEVOTT	320	528540250	HORIZON PROPERTIES LAND DEV			
40	190211000	DAVID STEVELAND	180	230254000	CAROLINE FIANDACA	321	528540160	JERRY M & LORI A DEVIER			
41	190153000	FRANCIS M & MAXINE M ALLEN	181	290310200	ASTRUP FARMS INC	322	528540170	HENRY & JENNIFER HAUGE			
42	580001005	CITY OF MOORHEAD	182	180340000	MINCH FAMILY LTD PARTNERSHIP	323	528550280	HORIZON PROPERTIES LAND DEV			
43	190130100	JAMES L NELSON	183	180284000	BARBARA J NELSON	324	528550290	HORIZON PROPERTIES LAND DEV			
44	190101110	ROGER C BALL	184	190153800	WALKER-PARKE FARMS	325	528550300	HORIZON PROPERTIES LAND DEV			
45	190102110	JAMES L & JIMMIE NELSON	185	190153200	WALKER-PARKE FARMS	326	528550310	HORIZON PROPERTIES LAND DEV			
46	190174800	KARLSTROM FARMS INC	186	190265600	WALKER-PARKE FARMS	327	528550320	HORIZON PROPERTIES LAND DEV			
47	180200200	KEVIN C & DIANE E SWANSON	187	520529999		328	528550330	HORIZON PROPERTIES LAND DEV			
48	180184800	PAUL & SHERRI FOSSUM	188	190169999		329	528550340	HORIZON PROPERTIES LAND DEV			
49	180182800	SHERRI FOSSUM	189	64016000010000	SOLIS, WILLIAM & CONNIE	330	528530670	MILFORD & JANICE RANDT			
50	180184000	MARK FOSSUM	190	64018000010000	MARL, JOHN & LYNNE	331	528530680	BRIAN & STEPHANIE WANG			
51	180182700	PAUL & SHERRI FOSSUM	191	64000000200100	JDC DEVELOPMENT LLC	332	528530690	MICHAEL STOTTS			
52	180184700	MARK FOSSUM	192	64000000280100		333	528530700	STEVEN & STACY BEAK			
53	280501800	KEVIN C & DIANE E SWANSON	193	64000000240000	RUTTEN ETAL, FREDERICA ROSE, ETAL	334	528540710	MICHAEL L & NICOLE L REVIER			
54	190190150	JERRY JOEL MONRICE & CHRISTENSE	194	64000000130000	KERPOOT, ERIN R	335	528530720	TRENT & JULIE WOEHRER			
55	520000040	JOHN FIANDACA TR	195	64200000000200	ANDERSON LIVING TRUST, GLORIA V, ETAL	336	528530780	DONALD W & BRANDIE VINCENT			
56	210130400	WARREN JOHNSON FARMS INC	196	64000000132000	PEARSON, ROGER M & PATRICIA A	337	528530770	TERESA LEVITAN-HEGNA			
57	190200300	RICHARD & DAYNA SORBY TRUST	197	64000000400000	FERCHO PROPERTIES LLP	338	528530780	CRARY DEVELOPMENT			
58	210240000		198	64000000750000	BRUNELLE, ROBERT J & PHYLLIS J, LE	339	528530790	LANE SCHMITZ & GINGER DOBSON			
59	521050160	ROGER WINTER	199	64000000731000	SAUVAGEAU, TERRY & KRISTIE	340	528530740	HORIZON PROPERTIES LAND DEV			
60	528540130	ROBERT & ELEANORE OXLUND	200	64000000700000	TESSIER FAMILY TRUST, DONALD E & ADLA, ETAL	341	528530730	STEPHEN L & BRENDA J STRAYER			
61	528540135	EMILY N MCDOWELL	201	64000000950000	COSSETTE, LEO A	342	528531090	CITY OF DILWORTH			
62	528550420	HORIZON PROPERTIES LAND DEV	202	64000000790000	BRUNELLE, ROBERT J & PHYLLIS J, LE	343	528531170	T & S CUSTOM HOMES INC			
63	528550430	HORIZON PROPERTIES LAND DEV	203	15000002080000	JOHNSON, MARTIN D, ETAL	344	528531130	DAWN & KRISTEN ESSEN			
64	528550440	HORIZON PROPERTIES LAND DEV	204	15000002080000	COSSETTE, ANGELA R	345	528531150	CRARY DEVELOPMENT			
65	528550470	HORIZON PROPERTIES LAND DEV	205	64000000730000	SAUVAGEAU, TERRY & KRISTIE	346	528531160	KEVIN & MARY SCHOENBORN			
66	528550490	HORIZON PROPERTIES LAND DEV	206	64000000260000	JDC DEVELOPMENT LLC	347	528531170	PAUL NYKLEBUST & JAMIE ELSEN			
67	528560400	HORIZON PROPERTIES LAND DEV	207	67000001278000	TRUE LIVING TRUST, BRUCE C, ETAL	348	528550060	HORIZON PROPERTIES LAND DEV			
68	528550390	HORIZON PROPERTIES LAND DEV	208	64000000244000	RUTTEN, BONNIE, ETAL	349	528530090	BMW HOMES INC			
69	528550360	HORIZON PROPERTIES LAND DEV	209	64000000220000	FARGO PARK DISTRICT	350	528540050	HORIZON PROPERTIES LAND DEV			
70	528550350	HORIZON PROPERTIES LAND DEV	210	64000001382000	DAKOTA BOY RANCH FOUNDATION	351	528531360	HORIZON PROPERTIES LAND DEV			
71	528550340	HORIZON PROPERTIES LAND DEV	211	64200000000000	EASMAN, DAVID G & PAULA A C	352	528531370	HORIZON PROPERTIES LAND DEV			
72	528550330	HORIZON PROPERTIES LAND DEV	212	64200000000000	EASMAN, DAVID G & PAULA A C	353	528531380	HORIZON PROPERTIES LAND DEV			
73	528550290	HORIZON PROPERTIES LAND DEV	213	64200000000000	MAYFIELD-JORGENSEN, MICHELLE L	354	528531390	TIMOTHY & VICKIE MULLIGAN			
74	528550300	HORIZON PROPERTIES LAND DEV	214	64200000020000	HEUER, JULIE A & PAUL	355	528531400	HORIZON PROPERTIES LAND DEV			
75	528550320	HORIZON PROPERTIES LAND DEV	215	64200000050000	SCHWANKL, WILLIAM P & ELIZABETH	356	528531410	MICHAEL D & JENNIFER P WINTER			
76	528550330	HORIZON PROPERTIES LAND DEV	216	64000000480000	CASS COUNTY FLOOD PROPERTY	357	528550015	HORIZON PROPERTIES LAND DEV			
77	528530540	HORIZON PROPERTIES LAND DEV	217	64000000118000	SCHNEIDER, RANDY	358	528550020	HORIZON PROPERTIES LAND DEV			
78	529990002	DEFOREST ERDMANN	218	64000000120000	E & T DEVELOPMENT	359	528530930	ALLEN & DONNA KRUEGER			
79	230210900	MARVIN & JEAN JACOBSEN	219	64000000118000	SCHNEIDER, RANDY	360	529980003	DEFOREST ERDMANN			
80	230101000	GORDON T & SUSAN KASSENBORG	220	64000000900000	HOVDE, REO T, ETAL	361	521050045	MATTHEW & AMY LAMMERS			
81	180194700	KEVIN C & DIANE E SWANSON	221	64000000700000	KASEMAN, JASON M & SHARON K	362	521050140	TIM BERGMANN & TAMITHA OLSEN			
82	180252000	BENDELLA MAGNES	222	64000000710000	KEVORKIAN, KEVORK, ETAL	363	521050105	GARY ROSENFELDT			
83	190100000	ROGER C BALL	223	64000000260000	TESSIER FAMILY TRUST, DONALD E & ADLA, ETAL	364	528539495	HORIZON PROPERTIES LAND DEV			
84	190104301	ROGER C & JUDY BALL	224	64000000260000	SOLBERG, WARREN L & MARA S	365	528530500	HORIZON PROPERTIES LAND DEV			
85	230094700	RICHARD & DAYNA SORBY TRUST	225	64000000240000	OLSON, IRENE L	366	528530510	HORIZON PROPERTIES LAND DEV			
86	230150800	CLEMEDTSON FARM LTD PTSHP	226	64000000245000	TESSIER PROPERTIES LLP	367	528530520	HORIZON PROPERTIES LAND DEV			
87	230150200	FRANCIS & ROBERT ALLEN	227	64000000243000	OLSON, IRENE L	368	521060050	STEVEN & PAMELA CHERNEY			
88	230023000	TREVOR & CHRISTINE SORBY	228	64000000290000	SOLBERG, WARREN L & MARA S	369	521060060	CITY OF DILWORTH			
89	230037000	TREVOR & CHRISTINE SORBY	229	64000000470000	BOLLEMANS, DANIEL	370	521050070	DNR			
90	230041100	MARK P & JEANNE T CHRISTIANSON	230	64000000280000	SAUVAGEAU, TERRY M & KRISTIE M	371	528530280	STEVEN & PAMELA CHERNEY			
91	230041000	JOHN D SORBY	231	64000000250000	DONAT, JEFFREY A, TRUS	372	528540210	HORIZON PROPERTIES LAND DEV			
92	230133000	JOY ERDEM	232	13514099999999	SAUVAGEAU, TERRY M & KRISTIE M	373	528550130	BRIAN & KARI HALVORSON			
93	230140100	EDWARD M & NOELLA JOHNSON	233	64000000010000	THOMPSON, DOYLE, ETAL	374	528540100	LYNN ANNERSON			
94	230140100	RAMONA JOHNSON ETAL	234	64000000300000	STEARNS, ALLAN E	375	521060120	JOSHUA FEVIG			
95	230130100	DANIEL SKOLNESS INC	235	64000000080000	THOMPSON, JUSTIN A & RENEE A	376	528540105	PAUL T NELSON			
96	230213000	RALPH G GROVER LTD PTSHP	236	64000000020000	AABYE, CARL A	377	528540095	EINAR M SWANSON			
97	230240000	WARREN E TANDE	237	64000000030000	YOUNG, BRUCE J & NANCY E	378	528540090	LARRY A & MARY J BOMMERSBACH			
98	230244000	KRISTI J TANDE	238	64000000040000	AABYE, CARL A	379	528560270	HORIZON PROPERTIES LAND DEV			
99	230243000	DIANE ISCHBAD	239	64240100010000	SONSTHAGEN, BRIAN J & TERESA F	380	528530530	HORIZON PROPERTIES LAND DEV			
100	230193000	KRISTI J TANDE	240	64240100020000	SONSTHAGEN, BRIAN J & TERESA F	381	528530540	HORIZON PROPERTIES LAND DEV			
101	230290100	WILLIAM J BORGEN	241	64240100030000	ERDMANN, JAMES P & TONI L	382	528530570	HORIZON PROPERTIES LAND DEV			
102	230134000	JOY ERDEM	242	64240100040000	SONSTHAGEN, BRIAN J & TERESA F	383	528530580	HORIZON PROPERTIES LAND DEV			
103	230181000	JOY ERDEM	243	64000000070000	TESSIER FAMILY TRUST, DONALD E & ADLA, ETAL	384	528530590	JERRY & JUDY QUITTSCHREIBER			
104	230160000	STEVEN M & THERESA GROTHE	244	64000000050000	AABYE, CARL A	385	528550250	HORIZON PROPERTIES LAND DEV			
105	230109000	ASTRUP FARMS INC	245	64000000290000	SOLBERG LIFE ESTATE, MAVIS M, ETAL	386	528560010	HORIZON PROPERTIES LAND DEV			
106	210010400	RICHARD E & SALINE J OBERG	246	64000000060000	TESSIER FAMILY TRUST, DONALD E & ADLA, ETAL	387	528560020	HORIZON PROPERTIES LAND DEV			
107	230254000	JOAN J & KATHLEEN A FIANDACA	247	64000000310000	ELLINGTON PROPERTIES LLC	388	528560040	T & S CUSTOM HOMES INC			
108	180002000	JOHN SEE & F MEINERSCHAGEN	248	64000000280000	SOLBERG, WARREN L & MARA S	389	528560270	HORIZON PROPERTIES LAND DEV			
109	230032002	DEAN M & PAULA JACOBSEN	249	64000000270000	SOLBERG, WARREN L & MARA S	390	528560280	HORIZON PROPERTIES LAND DEV			
110	230109000	A C BORGEN	250	64000000240000	OLSON, IRENE L	391	528560260	MATTHEW & AMY LAMMERS			
111	230209301	GAIL M PETERSON	251	64000000090000	SOLBERG LIFE ESTATE, MAVIS M, ETAL	392	528560200	HORIZON PROPERTIES LAND DEV			
112	210251201	TODD D & MARY E NELSON	252	64000000260000	SOLBERG, WARREN L & MARA S	393	528550190	HORIZON PROPERTIES LAND DEV			
113	210252300	JAMES R ANDERSON	253	64000000310000	ELLINGTON PROPERTIES LLC	394	528560250	HORIZON PROPERTIES LAND DEV			
114	210254000	RETASSID INC	254	190181000	JAMES LUTZ ET AL	395	528560240	HORIZON PROPERTIES LAND DEV			
115	210253000	ASTRUP FARMS INC	255	190172201	JAMES LUTZ & MARY OSTLING	396	528560030	HORIZON PROPERTIES LAND DEV			
116	290000550	OTTER TAIL VALLEY RAILROAD	256	190171050	JAMES M & MARY L OSTLING	397	528560270	HORIZON PROPERTIES LAND DEV			
117	210362101	FRANCIS M & MAXINE ALLEN	257	190181600	JAMES LUTZ ET AL	398	528560060	MN STATE COMM & TECH COLLEGE			
118	210360000	MERLE ALLEN FAMILY TRUST	258	190170280	JENNIFER & VICTOR HAUGRUD JR	399	528550210	HORIZON PROPERTIES LAND DEV			
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122	210350101	D HAL & LEONOR SELLENE	262	64147000010000	KESLER, GERALD & CAROLYN	403	528530700	ANDREW & CARISSA COX			
123	190040000	MARK R MAIDAHS	263	190202000	TIMOTHY J & BRIAN T LEISETH	404	528560220	HORIZON PROPERTIES LAND DEV			
124	190021700	JIMMIE R NELSON	264	190291870	PIONEER LIFE TRUST	405	528560210	HORIZON PROPERTIES LAND DEV			
125	190030400	ROBERT E NYQUIST	265	190293800	THOMAS D WALKER ET AL	406	528560080	HORIZON PROPERTIES LAND DEV			
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128	528550490	HORIZON PROPERTIES LAND DEV	268	190203400	THOMAS D WALKER	409	528560200	PETER J & VALORIE A STEICHEN			
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3	02081000020000	NORTH CENTRAL DAKOTA INVESTMENTS,
4	02081000070000	LARSON, MARK T & AMY
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44	15000002650000	SMITH LIVING TRUST, J MARIE
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54	150071100	LARRY DAHLSTROM
55	150081000	JUDITH CROWELL & KATH NICHOLS
56	150082301	DAVID A & LINDA D WAGENMANN
57	150082550	NEVA J PAULSON
58	150082570	CLAY & PAULA HESTDALEN
59	150091000	LISA GRANDT
60	150092500	CLIFFORD J & BARA WALSTAD
61	150102000	GAIL M LEWAS
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87	44000001150000	FERCHO FAMILY FARMS LLLP,
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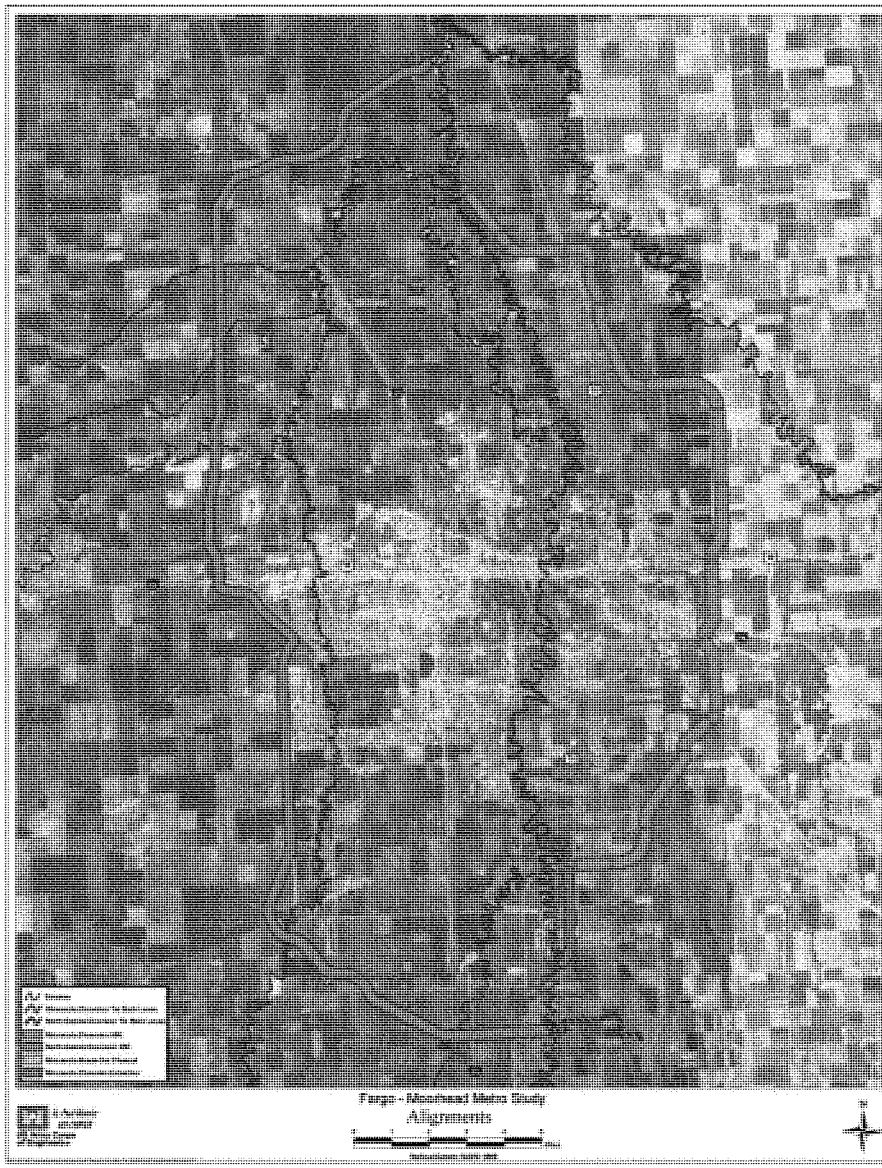
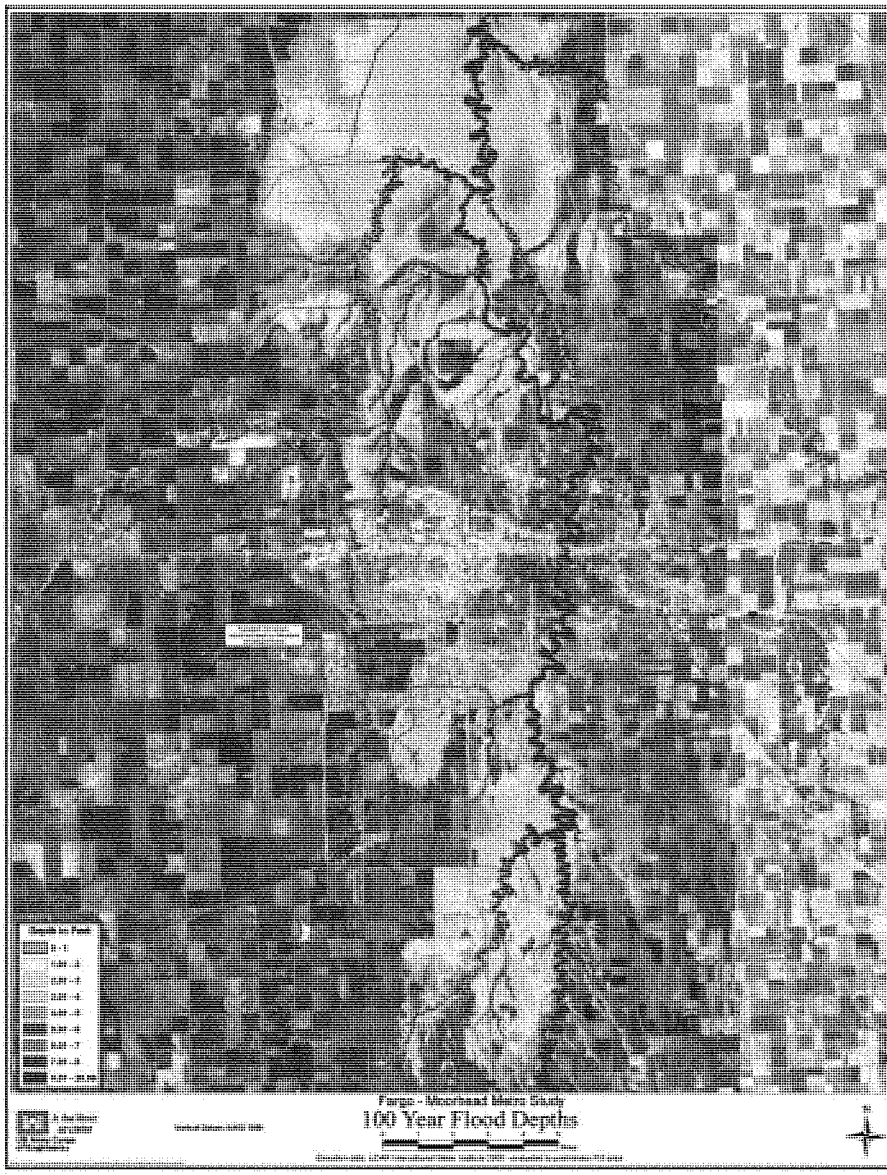
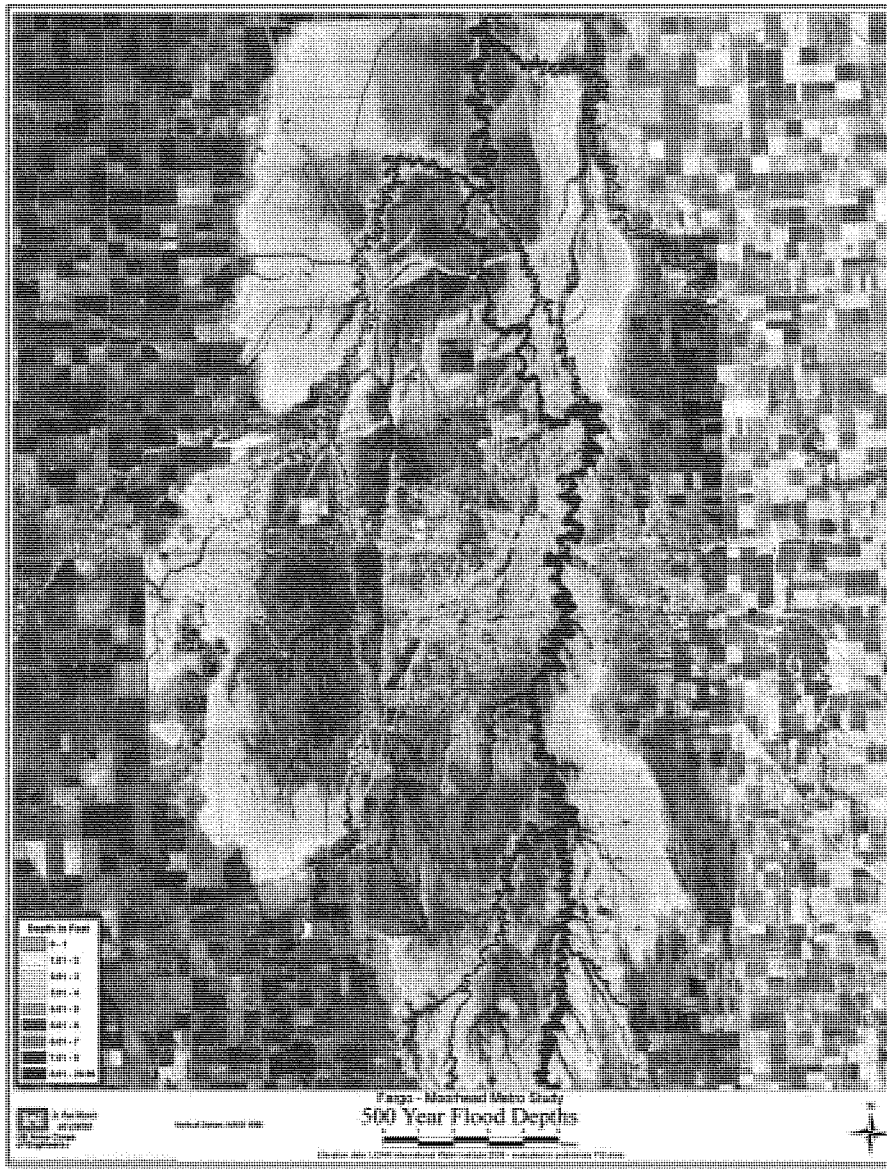

Fargo - Moorhead Metro Study
Alignments


Fargo - Moorhead Metro Study
100 Year Flood Depths


Fargo - Moorhead Metro Study
500 Year Flood Depths

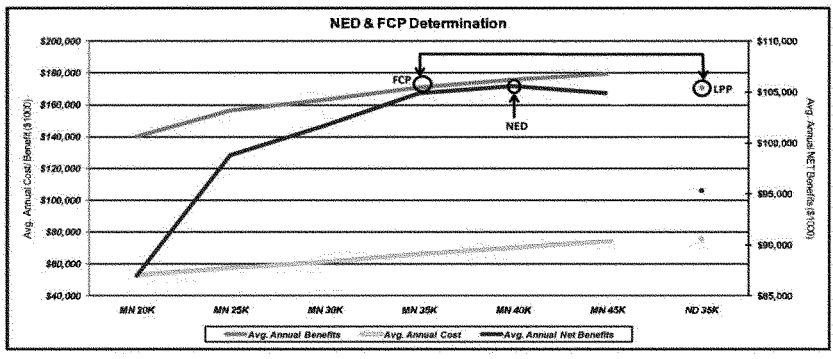
Fargo - Moorhead Metro Study
100 year Flood - Down Stream Impacts - Minnesota 35K Diversion
0 0.5 1 2 3 4
Miles
Vertical Datum: NAVD 1988
St. Paul District
GIS CENTER
US Army Corps of Engineers
N

Fargo - Moorhead Metro Study
100 year Flood - Down Stream Impacts - North Dakota 35% Diversion

Screened Alternatives Ranked by Net Benefits with Cost and Schedule Risk Assessment

Alternative		Cost [1]	Avg Annual Net Benefits [1]	Avg Annual Benefits [1]	Residual Damages [1]	B/C Ratio
MN Short Diversion 20K		$1,032	$87.0	$140.0	$55.9	2.64
MN Short Diversion 25K		$1,121	$98.8	$156.4	$39.5	2.71
MN Short Diversion 30K		$1,194	$101.7	$163.1	$32.8	2.66
MN Short Diversion 35K	FCP	$1,286	$104.9	$171.0	$24.9	2.59
MN Short Diversion 40K [2]	NED	$1,367	$105.6	$175.9	$20.0	2.50
MN Short Diversion 45K [2]		$1,450	$104.9	$179.5	$16.4	2.41
ND East Diversion 35K	LPP	$1,462	$95.4	$171.1	$24.8	2.26

1. In millions of dollars with interest during construction and discounting included
2. Estimate based on linear extrapolation
Expected average annual damages without a project are $195.9 million.



Diversion Channel Effectiveness	Stage at Fargo Gage (ft)	
	1% Chance (100- year)	0.2% Chance (500- year)
Existing Condition	42.4	46.7
Work Group Goal	30	36
35K ND Diversion Channel	30.6	40.0
35K MN Diversion Channel	31.9	39.6
40K Diversion Channels	31.9	37.6
45K Diversion Channels	31.9	35.3

Stage	Impacts
27	Fargo Elm Street Closed
30	Fargo 2nd Stredd Dike Installed
31	Moorhead 1st Ave. N Closed
32	First Homes in Moorhead Threatened
35	First Homes in Fargo Threatened
40.8	2009 Flood Record Stage

US Army Corps of Engineers
BUILDING STRONG®

CITY OF Fargo

CITY OF MOORHEAD MINNESOTA

Presentation 19:

June 16, 2010

NEWS RELEASE

U.S. ARMY CORPS OF ENGINEERS **BUILDING STRONG®**

ST. PAUL DISTRICT
June 1, 2010
MVP-PA-2010-060
Shannon Bauer: 651-290-5108, 612-840-9453, shannon.l.bauer@usace.army.mil
Mark Davidson: 651-290-5201, 651-261-6769, mark.d.davidson@usace.army.mil

Corps of Engineers to host community meeting on the potential downstream impacts of a Fargo, N.D./Moorhead, Minn., flood protection project

ST. PAUL, MINN. – The U.S. Army Corps of Engineers, St. Paul District, in conjunction with the City of Fargo, N.D.; the City of Moorhead, Minn.; Minnesota's Cass County; and North Dakota's Clay County, will host a community meeting to discuss the downstream impacts of a proposed flood water diversion channel for the Fargo-Moorhead metropolitan area along with ongoing efforts to minimize and mitigate flood impacts in the region.

The meeting will be **June 16** at the Norman County West Elementary school gymnasium, located at 320 Main St. in Hendrum, Minn. The meeting will begin at 6 p.m. with an informal open house, followed by a presentation at 7 p.m. Corps' staff will be on hand to answer questions, and public input is encouraged. Sign language interpreters will be made available upon request. If needed, please contact Katie Young at 651-290-5259 or via e-mail at katie.m.young@usace.army.mil no later than June 7.

The Corps, along with its local sponsors, the cities of Fargo and Moorhead, will continue to analyze, optimize and strengthen the final flood damage resolution before the selection undergoes both technical and policy reviews prior to public release of the draft report in June 2010.

The U.S. Army Corps of Engineers, St. Paul District, serves the American public in the areas of environmental enhancement, navigation, flood damage reduction, water and wetlands regulation, recreation sites and disaster response. It contributes around $175 million to the five-state district economy. The more than 638 employees work at more than 40 sites in five upper-Midwest states. For more information, see www.mvp.usace.army.mil.

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Web site: http://www.mvp.usace.army.mil/
Facebook: http://www.facebook.com/pages/Saint-Paul-MN/US-Army-Corps-of-Engineers-St-Paul-District/215829254962?ref=ts
Flickr: http://www.flickr.com/photos/usace-stpaul/
YouTube: http://www.youtube.com/usacemvppao

NEWS RELEASE

U.S. ARMY CORPS OF ENGINEERS **BUILDING STRONG®**

ST. PAUL DISTRICT
June 1, 2010
MVP-PA-2010-065
Shannon Bauer: 651-290-5108, 612-840-9453, shannon.l.bauer@usace.army.mil
Mark Davidson: 651-290-5201, 651-261-6769, mark.d.davidson@usace.army.mil

Public invited to comment on Fargo, N.D.-Moorhead, Minn., Metropolitan Area Flood Risk Management Study draft feasibility report and EIS

ST. PAUL, MINN. – The U.S. Army Corps of Engineers, St. Paul District, posted a copy of its draft Feasibility Report and Environmental Impact Statement, or EIS, on the Internet today for the proposed Fargo, N.D.-Moorhead, Minn., Metropolitan Area Flood Risk Management project.

The Corps prepared the draft EIS, which describes the potential significant environmental impacts of the proposed project. Hard copies of the report will also be provided to the public libraries in the cities of Fargo; Moorhead; West Fargo, N.D.; and Halstad, Minn.

A public review and comment period on the draft EIS will begin June 11 and end July 11. Official comments may be submitted electronically via the International Water Institute website at www.internationalwaterinstitute.org/feasibility or mailed to Mr. Aaron Snyder, Corps of Engineers planner and project manager, 180 E. 5th St., Ste. 700, St. Paul, MN 55101-1678.

The draft report and EIS can be seen at: www.internationalwaterinstitute.org/feasibility and http://www.mvp.usace.army.mil/fl_damage_reduct/default.asp?pageid=1455. Full copies of the report and all appendices can be retrieved from: ftp://ftp.usace.army.mil/pub/mvp/Fargo_Moorhead_Draft_Feas_EIS.

The proposed project is a 35,000 cubic feet per second diversion channel in North Dakota. The proposed project would be a 36 mile long diversion channel that would start approximately four miles south of the confluence of the Red and Wild Rice rivers and would reenter the Red River north of the confluence of the Red and Sheyenne rivers. Control structures would be constructed on the Red and Wild Rice rivers at the south end of the project.

The diversion would cross the Sheyenne, Maple, Lower Rush and Rush rivers. At the Sheyenne and Maple rivers, structures would be necessary to allow base flows to follow the natural river channel. Flows in excess of a 50-percent chance event would be diverted into the diversion channel. The Lower Rush and Rush rivers would have drop structures that would drop the entire flow of those rivers into the diversion channel. The plan includes 18 highway bridges and four railroad bridges and would have a construction footprint of approximately 6,560 acres.

The U.S. Army Corps of Engineers, St. Paul District, serves the American public in the areas of environmental enhancement, navigation, flood damage reduction, water and wetlands regulation, recreation sites and disaster response. It contributes around $175 million to the five-state district economy. The more than 638 employees work at more than 40 sites in five upper-Midwest states. For more information, see www.mvp.usace.army.mil.

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Web site: http://www.mvp.usace.army.mil/
Facebook: http://www.facebook.com/pages/Saint-Paul-MN/US-Army-Corps-of-Engineers-St-Paul-District/215829254962?ref=ts
Flickr: http://www.flickr.com/photos/usace-stpaul/

Fargo-Moorhead Metropolitan Feasibility Study

Presentation for downstream stakeholders
June 16, 2010

CITY OF MOORHEAD MINNESOTA

CITY OF Fargo

US Army Corps of Engineers
BUILDING STRONG®

CITY OF Fargo

CITY OF MOORHEAD MINNESOTA

Presentation Overview:

- ✓ Why We are Here
- ✓ Purpose and Scope
- ✓ Alternatives Considered
- ✓ Screening Results
- ✓ Tentatively Selected Plan
- ✓ Downstream Impacts
- ✓ Schedule

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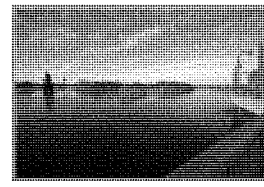
Why we are here:

- ✓ To present the findings and information contained in the Draft Fargo-Moorhead Metropolitan Feasibility Report and Environmental Impact Statement
- ✓ Gather public comments on the Draft report and its contents
- ✓ Discuss the downstream impacts and what could be done to offset the impacts



Fargo-Moorhead Flood 2009

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Purpose and Scope:

- ✓ Reduce flood risk and flood damages in the Fargo-Moorhead metropolitan area.
- ✓ Restore or improve degraded riverine and riparian habitat in and along the Red River of the North, Wild Rice River (North Dakota), Sheyenne River (North Dakota), and Buffalo River (Minnesota) in conjunction with other flood risk management features.
- ✓ Provide additional wetland habitat in conjunction with other flood risk management features.
- ✓ Provide recreational opportunities in conjunction with other flood risk management features.

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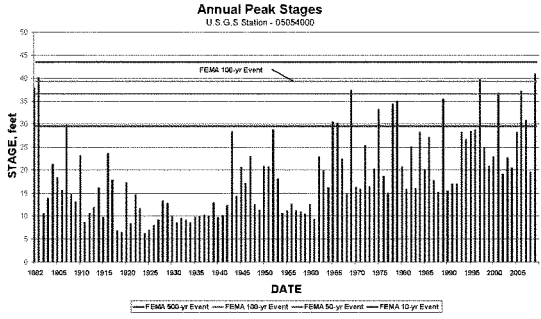
Existing Conditions



*Hydrologic record shows two periods: wet and dry

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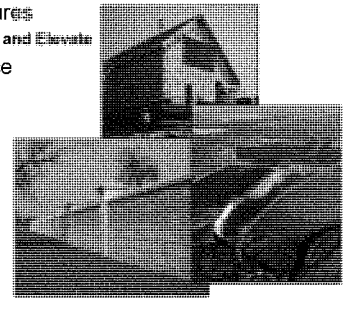
Alternatives Considered:

- ✓ No Action: Continue Emergency Measures
- ✓ Nonstructural Measures
  - ✓ **Buyouts, Relocations and Elevate**
- ✓ Increase Conveyance
  - ✓ **Diversion Channels**
- ✓ Flood Barriers
  - ✓ **Levees/Floodwalls**
- ✓ Flood Storage
  - ✓ **Large/Small**



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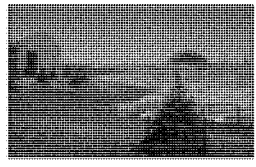
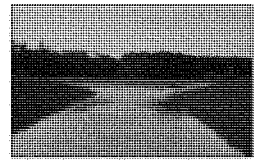
Screening Results:

- ✓ Diversion channels with tie back levees
  - ✓ Minnesota
  - ✓ North Dakota





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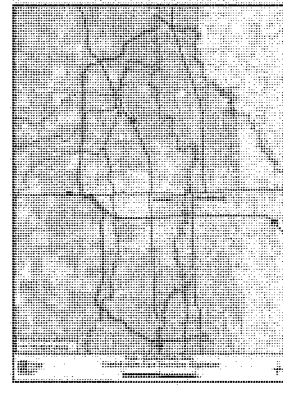
North Dakota alignment:

- ✓ 30K and 35K cfs
- ✓ 36 mile-long channel
- ✓ 3.3 miles of tie back levee
- ✓ 8.5 years construction
- ✓ Structures needed
  - ✓ 2 Control structures
  - ✓ 2 River aqueducts
  - ✓ 2 Tributary drop structures
  - ✓ 3 Drop structures
  - ✓ 18 Highway bridges
  - ✓ 4 Railroad bridges



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Screening Results:

Screened Alternatives Ranked by Net Benefits with Cost and Schedule Risk Assessment

Alternative	Cost [1]	Avg Annual Net Benefits [1]	Avg Annual Benefits [1]	Residual Damages [1]	B/C Ratio	Local Share [1, 3]	Federal Share
MN Short Diversion 20K	$1,032	$87.0	$140.0	$55.9	2.64	$403	$629
MN Short Diversion 25K	$1,121	$98.8	$156.4	$39.5	2.71	$392	$728
MN Short Diversion 30K	$1,194	$101.7	$163.1	$32.8	2.66	$420	$774
MN Short Diversion 35K	$1,286	$104.9	$171.0	$24.9	2.59	$450	$836
MN Short Diversion 40K [2]	$1,367	$105.6	$175.9	$20.0	2.50	$480	$888
MN Short Diversion 45K [2]	$1,450	$104.9	$179.5	$16.4	2.41	$564	$886
ND East Diversion 35K	$1,462	$95.4	$171.1	$24.8	2.26	$626	$836

1. In millions of dollars with interest during construction and discounting included
2. Estimate based on linear extrapolation
3. Calculations based on assumption that cost share for ND35k is based on MN35k others on NED of MN40k

Expected average annual damages without a project are $195.9 million.

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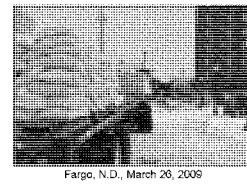
Effectiveness of Diversions:

	Stage at Fargo Gage (ft)	
	1% Chance (100- year)	0.2% Chance (500- year)
Existing Condition (Stage)	42.4	46.7
Existing Condition (CFS)	34,700	61,700
Work Group Goal	30	36
20K Diversion Channels	36.9	43.7
25K Diversion Channels	34.8	42.4
30K Diversion Channels	33.6	41.9
35K ND Diversion Channel	30.6	40.0
35K MN Diversion Channel	31.9	39.6
40K Diversion Channels	31.9	37.6
45K Diversion Channels	31.9	35.3



Fargo, N.D., March 26, 2009

Stage	Impacts
27	Fargo Elm Street closed
30	Fargo 2nd Street Dike installed
31	Moorhead 1st Ave. North closed
32	First homes in Moorhead threatened
35	First homes in Fargo threatened
40.6	2009 Flood Record Stage

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Locally Preferred Plan :

- ✓ Identification of Locally Preferred Plan (LPP)
  - ✓ **The Local sponsor identified the ND 35k diversion channel as the LPP, and reaffirmed their commitment on May 26, 2010.**
  - ✓ **Waiver obtained from Assistant Secretary of the Army for Civil Works**

Tentatively Selected Plan:

- ✓ The North Dakota 35k diversion channel is the tentatively selected plan.

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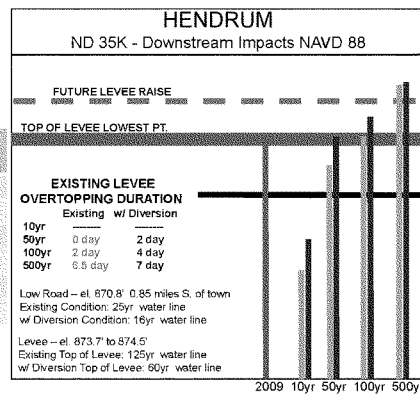
HWY 75
LEVEE
EXISTING CONDITION
w/ DIVERSION CONDITION

	Existing Elev.	w/ Diversion Elev.
10 yr	867'	868.4'
50 yr	872'	873.4'
100 yr	873.5'	874.4'
500 yr	875.9'	876.0'
2009	873.55'	

NGVD 29 = NAVD 88 - 1.12'



16 June 2010

Downstream Effects:

Based on 35K diversions and 100-year event

Location	Stage increase (inches)
Minnesota Short 35K - 100 Year	
Halstad Gage	6.7
Peak	7.2
Hendrum	6.8
Perley	4.8
Georgetown	4.7
North Dakota 35K - 100 Year	
Halstad Gage	10.7
Peak	11.6
Hendrum	10.7
Perley	6.6
Georgetown	7.1

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Downstream Effects:

Based on 35K diversions for 10 and 50-year event

Location	Stage increase (inches)
Minnesota Short 35K - 10 Year	
Halstad Gage	6.5
Hendrum	4.9
Perley	4.4
Georgetown	3.7
North Dakota 35K - 10 Year	
Halstad Gage	20.6
Hendrum	16.6
Perley	12.8
Georgetown	10.8

Location	Stage increase (inches)
Minnesota Short 35K - 50 Year	
Halstad Gage	9.2
Peak	11.6
Hendrum	11.9
Perley	7.4
Georgetown	5.6
North Dakota 35K - 50 Year	
Halstad Gage	14.4
Hendrum	16.8
Peak	17.0
Perley	9.8
Georgetown	8.2

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Downstream effects:

Based on ND35K diversion and 10-year event

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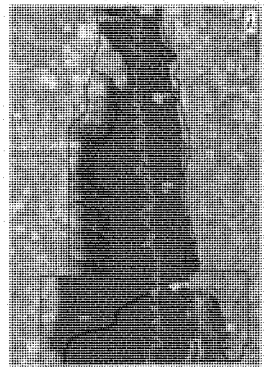
Downstream effects:

Based on ND 35K diversion and 50-year event



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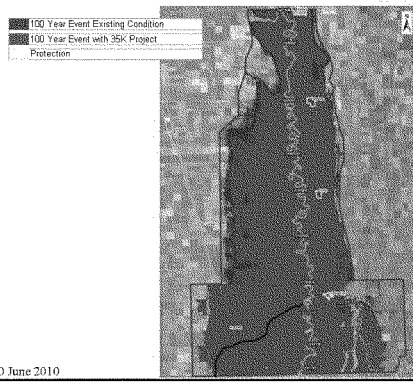
Downstream effects:

Based on ND 35K diversion and 100-year event



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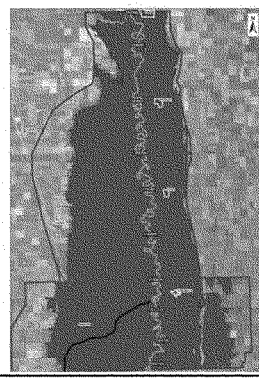
Downstream effects:

Based on ND 35K diversion and 500-year event



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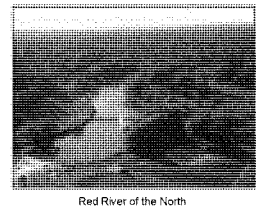
What is being done downstream?

- ✓ Additional analysis on extent of downstream impacts.
- ✓ Analysis of downstream communities/farmsteads to determine if federal participation is justified.
- ✓ Efforts from state and local agencies to assist in offsetting the impacts.



Red River of the North

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F-M Metro Study Timeline:

- ✓ Jul 2010: Independent External Peer Review Complete
- ✓ Jul 26, 2010: Public Review Period Complete
- ✓ Sep 2010: Civil Works Review Board Briefing in Washington DC
- ✓ Sep 2010: Finalize feasibility report/EIS
- ✓ Oct 2010: Public Meetings
- ✓ Dec 2010: Transmit recommendation to Congress
- ✓ Jan 2011: Begin plans and specifications
- ✓ Apr 2012: Begin construction

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Provide Formal Comments on the Draft Feasibility Report and Environmental Impact Statement:

- ✓ Comment period ends on July 26, 2010.
- ✓ Web site: http://www.internationalwaterinstitute.org/feasibility
- ✓ Mail:

  Aaron M. Snyder
  USACE, St. Paul District
  180 5th St. E.
  Suite 700
  St. Paul, MN 55101-1678

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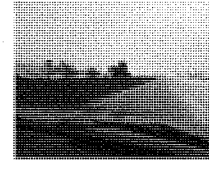
4/13/2011

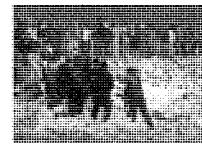
Community Flood Protection Project Improvements

U.S. Army Corps of Engineers (USACE) Downstream Communities Meeting

Background

- Initiated by the BRRWD, WRWD, and SHWD – Spring 2009
- General Project Steps:
  - Phase 1 - Conceptual Designs developed by City/WSD
    - Landowner Meeting(s)
    - Community Meeting (s)
    - City Petition to WSD for Project Development
  - Phase 2 – Project Planning
    - Engineer's Report Developed
    - Appraiser's Report Developed
    - Land Options
    - State Cost Share Secured
    - Public Hearing/Board Action
  - Phase 3 – Construction/Land Acquisition

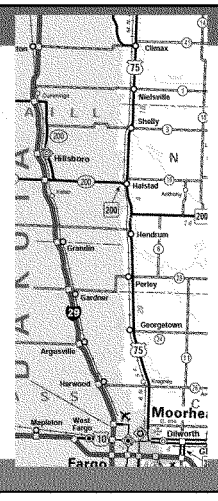




Communities Included

Communities Included (Along Red River):

- Georgetown (BRRWD) – Phase 2 in Progress
- Perley (WRWD) – Beginning Phase 3
- Hendrum (WRWD) – Beginning Phase 3
- Halstad (WRWD) – On Hold
- Shelly (WRWD) – Phase 1 Complete – Awaiting Funding of Phase 2
- Nielsville (SHWD) – Phase 1 in Progress
- Climax (SHWD) – Phase 1 Complete – Awaiting Funding of Phase 2

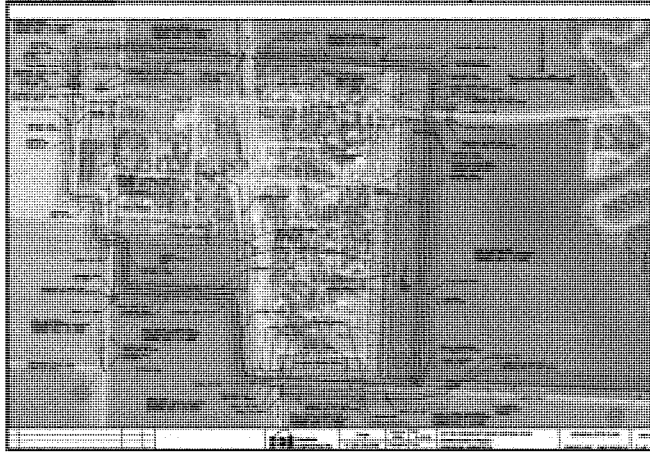


Design Options being Considered

- Level of Protection
  - Effective 100-yr Protection
    - Provide minimum of 100-yr level of protection + freeboard
      - Minimum of 100yr + 3-ft downstream
      - Other Design Concerns:
        - » Ice Jam, Wave Action, Settlement, Topsoil,…
  - Alternative Height – 100+1'… State Funding at 2% MHI…
- Other Design Components
  - Internal Storage/Drainage
  - Pumping Stations
  - Improved Closure Structures
  - Road Closure Options
  - Operation and Maintenance Plan

4/13/2011

Hendrum – Preliminary Plan



Project Funding

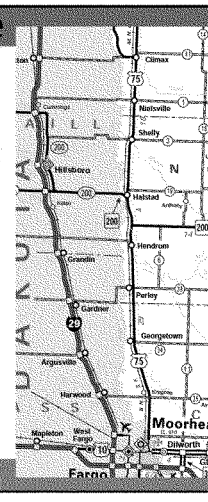
- 100yr+1 Protection
  - City Share to be capped at 2% of the median household income… remaining balance to be funded by the State of Minnesota
    - City of Perley
      - Current Project Cost Estimate = $2.05M
        - » $32,500 Perley /2.02M State of Minnesota
    - City of Hendrum
      - Current Project Cost Estimate = $1.94M
        - » $86,800 Hendrum /1.85M State of Minnesota
- Added Height above 100yr+1
  - City / State at 50-50 Cost Share
    - City of Hendrum
      - Added Cost 100yr+1 to 100yr+3= $256K
        - » $128K Hendrum /128K State of Minnesota

4/13/2011

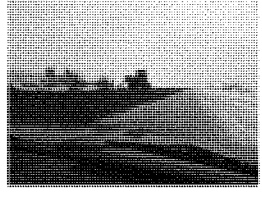
Construction Schedule

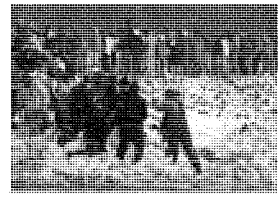
Expected Project Construction Schedule:

- Georgetown (BRRWD) – 2010/2011
- Perley (WRWD) – Fall 2010
- Hendrum (WRWD) – Fall 2010
- Halstad (WRWD) – On Hold
- Shelly (WRWD) – 2011+
- Nielsville (SHWD) – 2011+
- Climax (SHWD) – 2011+



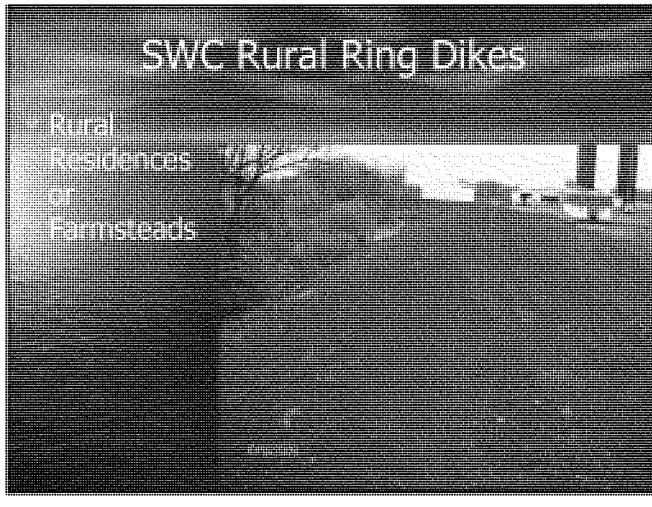
Questions





4/13/2011

ND SWC Cost Share for Flood Damage Reduction Projects
June 16, 2010


SWC Rural Ring Dikes
Rural Residences or Farmsteads

SWC Ring Dike Criteria

- Minimal engineering required
- Height: 2 feet above recent flood or 100-year flood
- Top Width:
  - 4 feet, if height is 5 feet or less
  - 6 feet, if height is 5 feet to 14 feet
  - 8 feet, if height is greater than 14 feet
- Side Slopes: 3 horizontal to 1 vertical

ND SWC Ring Dike Cost Sharing

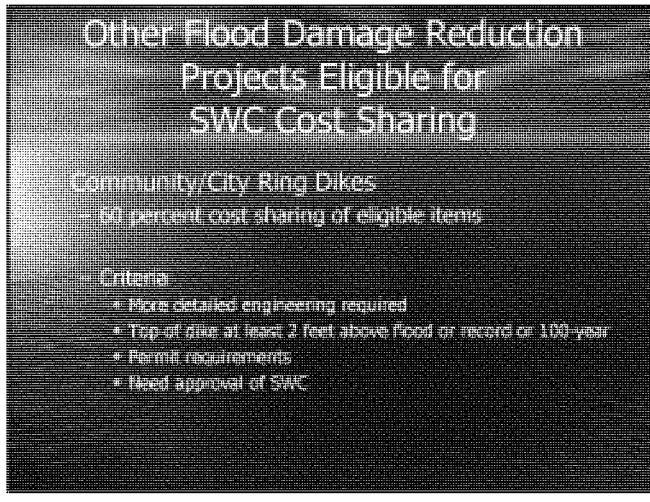
- Contact local Water Resource Board to start process
- 50 percent of eligible items
  - Capped at $40,000 (SWC share)
- If contracted
  - Bid amount used for cost sharing
- If landowner does work
  - Payment based on unit prices

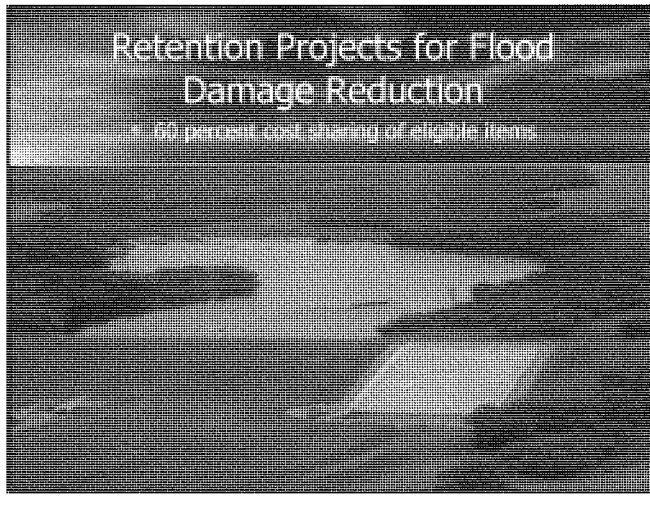
SWC Available Funds

- $400,000 Obligated in June 2009
  - 21 projects
- Another $400,000 obligated fall of 2009

USDA Farmstead Ring Dike Program

- MN and ND
  - Must be a producer
  - Up to 75% cost sharing
- Roughly 60 in each State signed up last year
  - Projects being designed in 2009
  - Construction underway now (some completed)
- ND SWC could cost share 50-50 on non-federal cost


Other Flood Damage Reduction Projects Eligible for SWC Cost Sharing
Community/City Ring Dikes
- 50 percent cost sharing of eligible items
Criteria
* More detailed engineering required
* Top of dike at least 2 feet above flood or record or 100-year
* Permit requirements
* Need approval of SWC


Retention Projects for Flood Damage Reduction
- 50 percent cost sharing of eligible items

North Dakota Water Resource Districts

North Dakota & Border Water Flood Storage Projects Above Red River at Halstad, MN

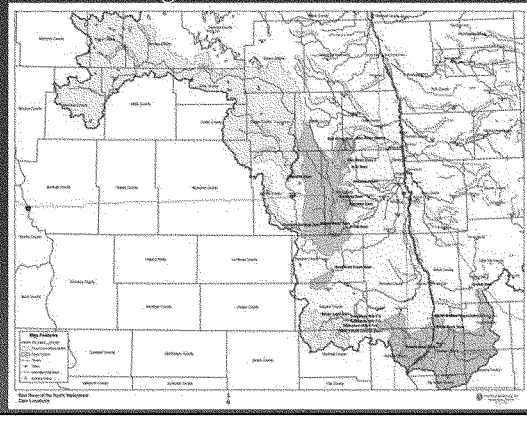
June 16, 2010

Presentation by:
Southeast Cass Water Resource District
& Moore Engineering, Inc.

7vL

Red River Basin Above Halstad, MN

Including White Rock Dam Watershed



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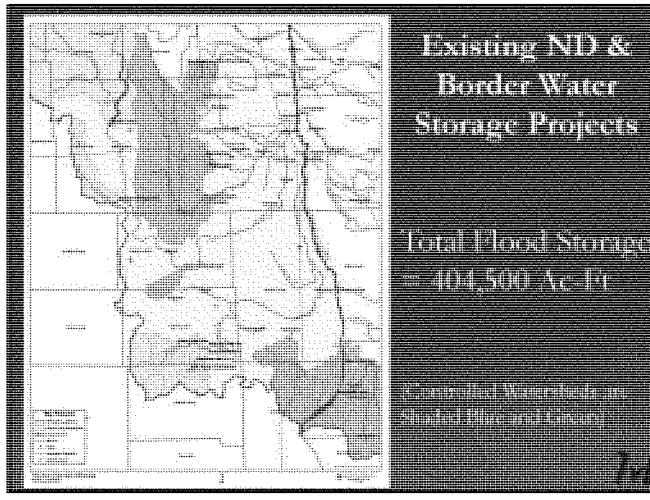
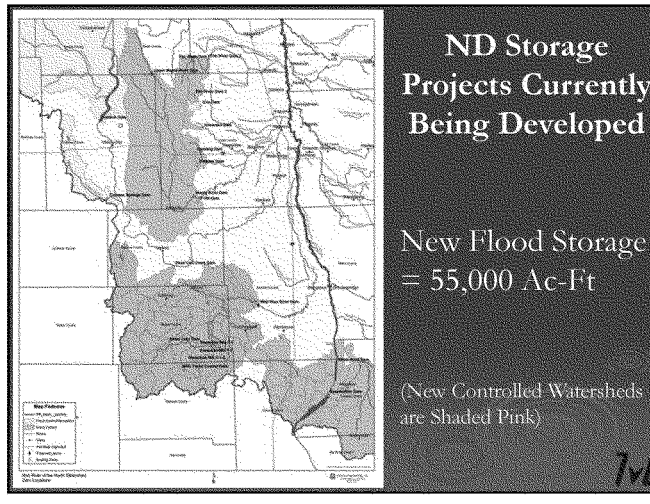

Existing ND &
Border Water
Storage Projects
Total Flood Storage
= 404,500 Ac-Ft
(Controlled Watersheds are
Shaded Blue and Green)


ND Storage
Projects Currently
Being Developed
New Flood Storage
= 55,000 Ac-Ft
(New Controlled Watersheds
are Shaded Pink)

US Army Corps
of Engineers

Fargo-Moorhead Metropolitan Area Feasibility Study

Overview:
The Fargo-Moorhead Metropolitan Area Feasibility Study is a cooperative effort between the communities of Fargo, N.D., and Moorhead, Minn., with the U.S. Army Corps of Engineers, St. Paul District. This handout is designed to give a summary of the study, its tentative recommendations and the timeline for completion.

Study goals:

- Understand the flood problems in the greater Fargo-Moorhead metropolitan area.
- Develop a regional system to reduce flood risk.
- Determine the federal government's role in implementing flood risk reduction measures.
- Document study findings in a Feasibility Report and a National Environmental Policy Act (NEPA) Environmental Impact Statement.
- If appropriate, recommend implementation of a federal project to the U.S. Congress.

Problems and opportunities:
The primary problem identified in the study area is a high risk of flood damage to urban infrastructure from the Red River of the North, the Wild Rice River (ND), the Buffalo River, the Sheyenne River and its tributaries. Flooding also causes damage to rural infrastructure and agricultural crop land and disrupts transportation and access to properties within the study area. There are opportunities to increase and improve wildlife habitat and to increase recreation in conjunction with measures to reduce flood risk.

Flooding history:
The Fargo-Moorhead metropolitan area has a relatively high risk of flooding. The Red River exceeded the National Weather Service flood stage of 18 feet in 47 of the past 108 years, and every year from 1993 through 2010. The study area includes the Wild Rice, Sheyenne, Maple, Lower Rush and Rush rivers and the Red River of the North. Inter basin flows complicate the hydrology of the region and contribute to extensive flooding. The flood of record was the 2009 flood with a peak stage of 40.82 feet on the Fargo gage. Average annual flood damages in the Fargo-Moorhead metropolitan area are currently estimated at nearly $196 million. Most communities in the region avoided major flood damages in the historic floods of 1997 and 2009 by either raising existing levees or building temporary barriers. Although emergency measures have been very successful, they may also contribute to an unwarranted sense of security that does not reflect the true flood risk in the area.

Planning process:
This feasibility study began in September 2008. A wide array of potential measures was identified early in the study and expanded with input from the public. From September 2008 through May 2009, the study team gathered information to assess existing conditions in the study area and worked to understand the potential for economic justification of a large regional flood risk management project. In the wake of the 2009 flood, local, state and Congressional officials requested an aggressive schedule to complete the study by December 2010.

From June 2009 through October 2009, the study team performed cursory technical analysis of all proposed measures. The team also developed screening criteria to be used in selecting a plan. Using the preliminary

technical information, the team applied professional judgment in order to assess the measures against the screening criteria. Several different scales of flood storage, nonstructural measures, flood barriers and diversion channels were evaluated in more detail during this phase of study. Using all of the information developed, the team compared the alternatives to identify the best plans for further study. The preliminary screening results, released in October 2009, indicated that the most cost-effective plan would likely be a diversion on the Minnesota side but further study was needed to determine the optimal capacity. The non-federal sponsors requested that two North Dakota diversion plans (30,000 and 35,000 cfs) and a 35,000 cfs Minnesota diversion plan be retained as potential locally preferred plans. The "no action alternative," the Minnesota short diversion channel and the North Dakota east diversion channel were retained for further analysis, and all other concepts were dropped from consideration as stand-alone plans. Non-structural measures (raising, relocating or buying out structures) were considered for portions of the study area not benefited by the diversions.

In March 2010, the cities of Fargo and Moorhead identified the North Dakota 35,000 cfs diversion channel as the locally preferred plan. In April 2010, the U.S Army Corps of Engineers, St. Paul District, received a waiver from the Assistant Secretary of the Army for Civil Works allowing the Corps to recommend the North Dakota 35,000 cfs diversion channel as the locally preferred plan in the draft feasibility report. In May 2010, the Corps identified a Minnesota 40,000 cfs diversion as the National Economic Development plan and a Minnesota 35,000 cfs diversion as the "federally comparable plan" for purposes of calculating federal and non-federal costs to implement the locally preferred plan.

Alternative	Cost [1]	Avg Annual Net Benefits [1]	Avg Annual Benefits [1]	Residual Damages [1]	B/C Ratio
FCP - MN35K	$1,286	$104.9	$171.0	$24.9	2.59
NED - MN40K [2]	$1,367	$105.6	$175.9	$20.0	2.50
LPP - ND35K	$1,462	$95.4	$171.1	$24.8	2.26

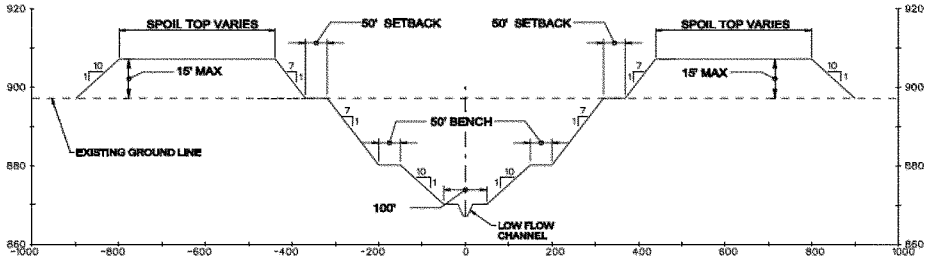
1. In millions of dollars with interest during construction and discounting included
2. Estimate based on linear extrapolation
Expected average annual damages without a project are $195.9 million.

The Corps identified the North Dakota 35,000 cfs diversion channel as the locally preferred and tentatively selected plan in its integrated draft Feasibility Report and Environmental Impact Statement. The Corps will accept public comments in accordance with NEPA for a period of 45 days following official notice in the *Federal Register*. (The public comment period is expected to end on July 26, 2010).

Following public review, the St. Paul District will submit the report to Corps Headquarters for policy review and to support a draft report of the Chief of Engineers. The Chief's report will be sent to other federal agencies and the concerned states for final NEPA review. Providing there are no major comments from the NEPA review, the final Chief's report will be sent to the Assistant Secretary of the Army for Civil Works, then to the Office of Management and Budget and then to Congress for possible project authorization.

Description of the tentatively selected plan:
The North Dakota 35,000 cfs diversion channel is the tentatively selected and locally preferred plan. The project would be a 36 mile long diversion channel, starting approximately four miles south of the confluence of the Red and Wild Rice rivers and re-entering the Red River north of the confluence of the Red and Sheyenne rivers. The project would incorporate the existing Horace to West Fargo Sheyenne River diversion channel. The channel bottom width would vary from 100 to 300 feet, and it would have a maximum depth of 29 feet. The plan includes 18 highway bridges and four railroad bridges and would have a construction footprint of approximately 6,560 acres.

Gated control structures on the Red and Wild Rice rivers at the south end of the project would limit flow in the natural Red River channel and direct water to the diversion channel. A connecting channel between the Red and Wild Rice rivers would convey flow from the Red River to the diversion channel inlet on the west side of the Wild Rice River. The diversion would cross the Sheyenne, Maple, Lower Rush, and Rush rivers. At the Sheyenne and Maple river crossings, aqueducts would allow base flows to cross the diversion and follow the natural river channels, but flood flows would be directed into the diversion channel. The Lower Rush and Rush rivers would have drop structures that would drop the entire flow of those rivers into the diversion channel. Recreation features that could be incorporated into the project include multipurpose trails, interpretive signage, benches, trail heads with parking facilities and other related features.



TYPICAL SECTION
NORTH DAKOTA CHANNEL & SPOIL PILES
NTS

Effects of the plan:
The proposed project would significantly reduce flood stages, flood damages and flood risk in the Fargo-Moorhead metropolitan area, but it would not completely eliminate flood risk. Emergency measures would still be required in Fargo-Moorhead during large infrequent flood events, when the flood stage is expected to exceed about 30 feet on the Fargo gage. For reference, the 2009 flood stage was 40.8 feet on the Fargo gage. The following table shows the expected flood stages for existing and proposed conditions:

	Stage at Fargo Gage (ft)	
	1% Chance (100- year)	0.2% Chance (500- year)
Existing Condition	42.4	46.7
LPP - ND35K Plan	30.6	40.0

The diversion channel would change the peak flow and timing of flood events. Flows in the natural Red River channel through Fargo-Moorhead would be significantly reduced, but peak flood stages downstream would likely increase. Although the potential downstream effects on stage, duration and frequency have not been fully quantified, current modeling shows stage increases downstream up to 12 inches during a 1-percent chance event. The Corps will assess the need to compensate affected landowners based on the final model results.

There are 4,626 acres of wetlands in the project area. The proposed project would directly impact approximately 33 acres of wetlands and could indirectly impact up to 193 acres. The project would have no adverse impacts on significant groundwater resources. The project may affect sediment transport, accretion and erosion in the Red River and the affected tributaries, which are critical forces in shaping and maintaining

aquatic habitat, but effects are expected to be minor. Connectivity and access to various habitats is important to fulfill seasonal and life stage-specific habitat needs for river fish. The project features are designed to minimize impacts to connectivity and to facilitate fish passage on the Red River up to a 2-percent chance (50-year) event. Approximately 43 acres of river bed and 140 acres of riparian forest would be directly affected by project features. The project would include appropriate mitigation for unavoidable environmental impacts.

The project would require relocation of approximately six residences or farmsteads and would remove approximately 5,400 acres of prime and unique farmland from operation. Owners would be compensated for the loss of property in accordance with applicable federal and state laws and policies.

Project Costs:

ND 35,000 cfs Diversion First Costs			
Item	Federal	Non-Federal	Total
	($)	($)	($)
Flood Risk Management	693.3	544.1	1,237.4
Recreation	17.4	17.4	34.8
Total Project	710.7	561.5	1,272.2
All costs in millions ($1,000,000)			

The estimated total fully-funded cost escalated to the midpoint of construction is $1.45 billion.

Schedule:

Jun 2010: Landowner and Downstream Meetings
Jul 2010: Public review period complete
Sep 2010: Finalize feasibility report
Dec 2010: Transmit recommendation to Congress
Jan 2011: Begin plans and specifications
Apr 2012: Begin construction

Read and Comment on the Draft EIS:
Visit the study website at: **http://www.internationalwaterinstitute.org/feasibility/**

Primary Study Contacts:

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awalker@cityoffargo.com

The City of Moorhead
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St. Paul, MN 55101

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CITY OF Fargo

CITY OF MOORHEAD MINNESOTA

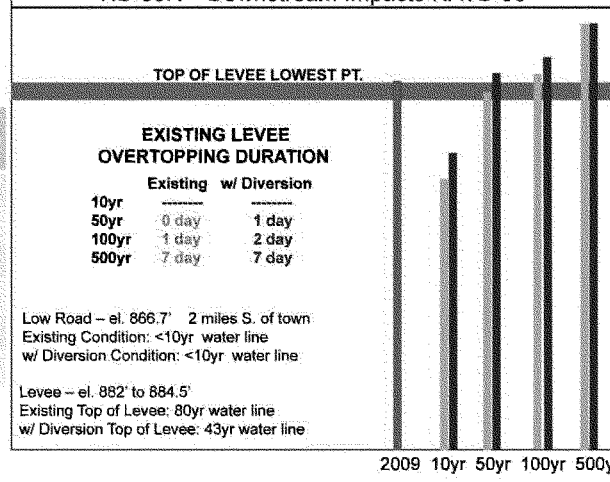
GEORGETOWN

ND 35K – Downstream Impacts NAVD 88

HWY 75
LEVEE
EXISTING CONDITION
w/ DIVERSION CONDITION

	Existing Elev.	w/ Diversion Elev.
10 yr	878.8'	879.7'
50 yr	881.7'	882.4'
100 yr	882.3'	882.9'
500 yr	884.0'	884.0'
2009	882.0'	

NGVD 29 = NAVD 88 - 1.04'



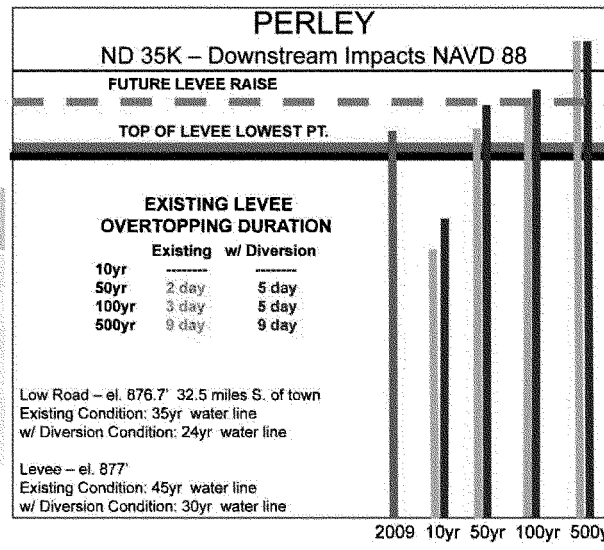
16 June 2010

CITY OF Fargo

CITY OF MOORHEAD MINNESOTA

HWY 75
LEVEE
EXISTING CONDITION
w/ DIVERSION CONDITION

	Existing Elev.	w/ Diversion Elev.
10 yr	873.3'	874.4'
50 yr	877.4'	878.2'
100 yr	878.2'	878.8'
500 yr	880.3'	880.3'
2009	877.4'	
NGVD 29 = NAVD 88 - 1.08'		



16 June 2010

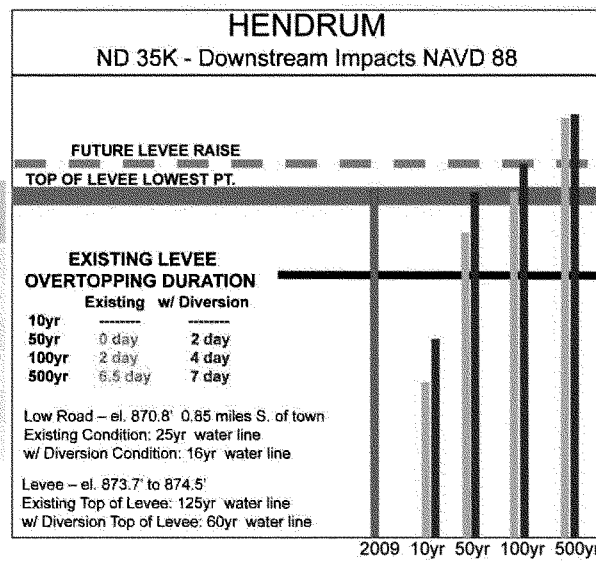
CITY OF Fargo

CITY OF MOORHEAD MINNESOTA

HWY 75
LEVEE
EXISTING CONDITION
w/ DIVERSION CONDITION

	Existing Elev.	w/ Diversion Elev.
10 yr	867'	868.4'
50 yr	872'	873.4'
100 yr	873.5'	874.4'
500 yr	875.9'	876.0'
2009	873.55'	

NGVD 29 = NAVD 88 - 1.12'



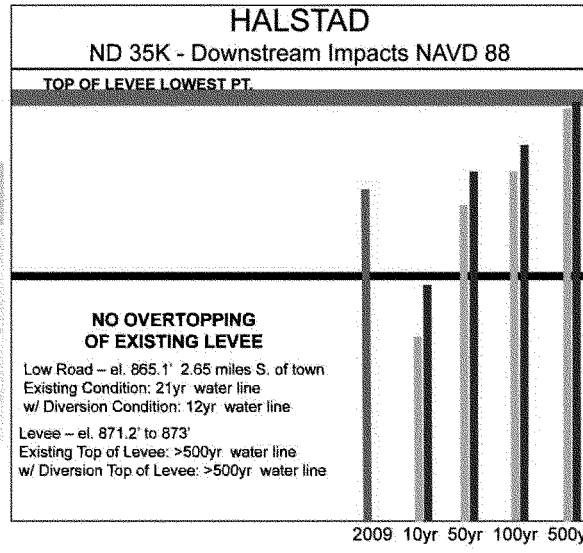
16 June 2010

CITY OF Fargo

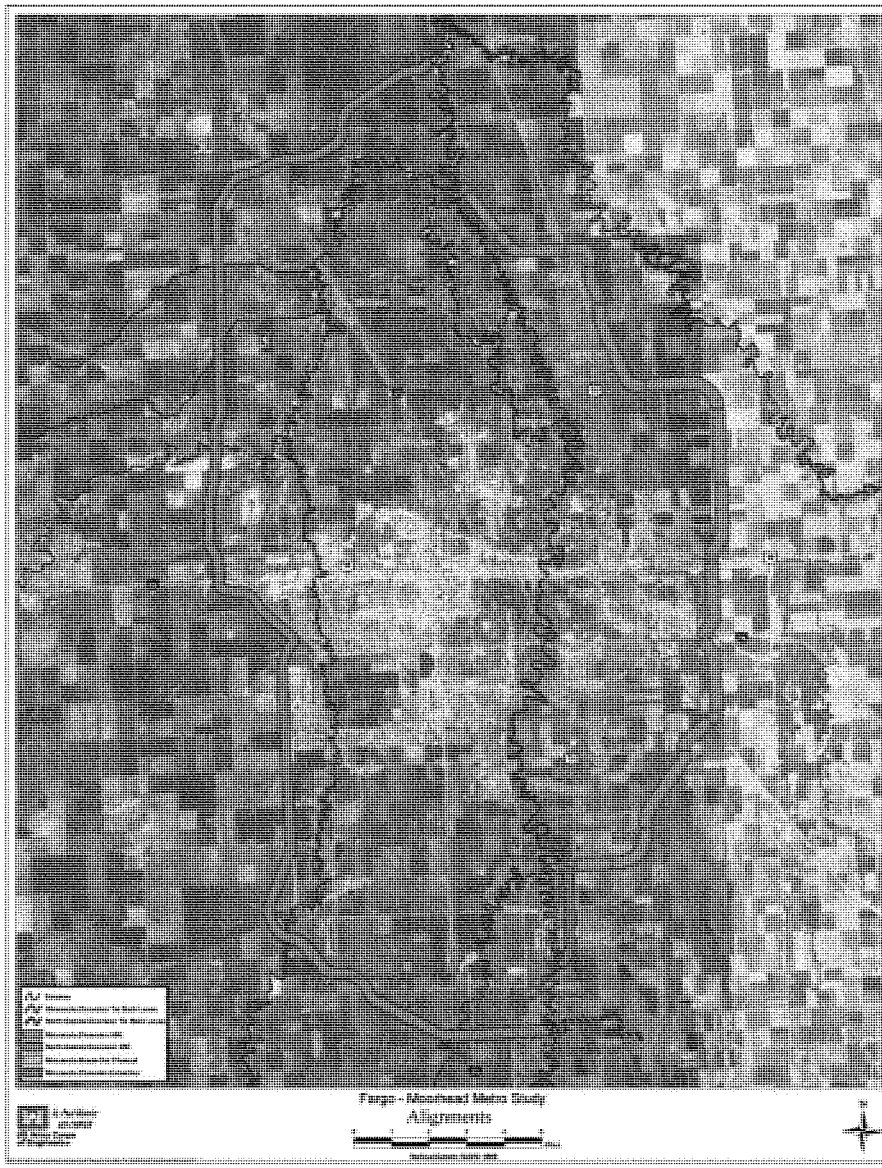
CITY OF MOORHEAD MINNESOTA

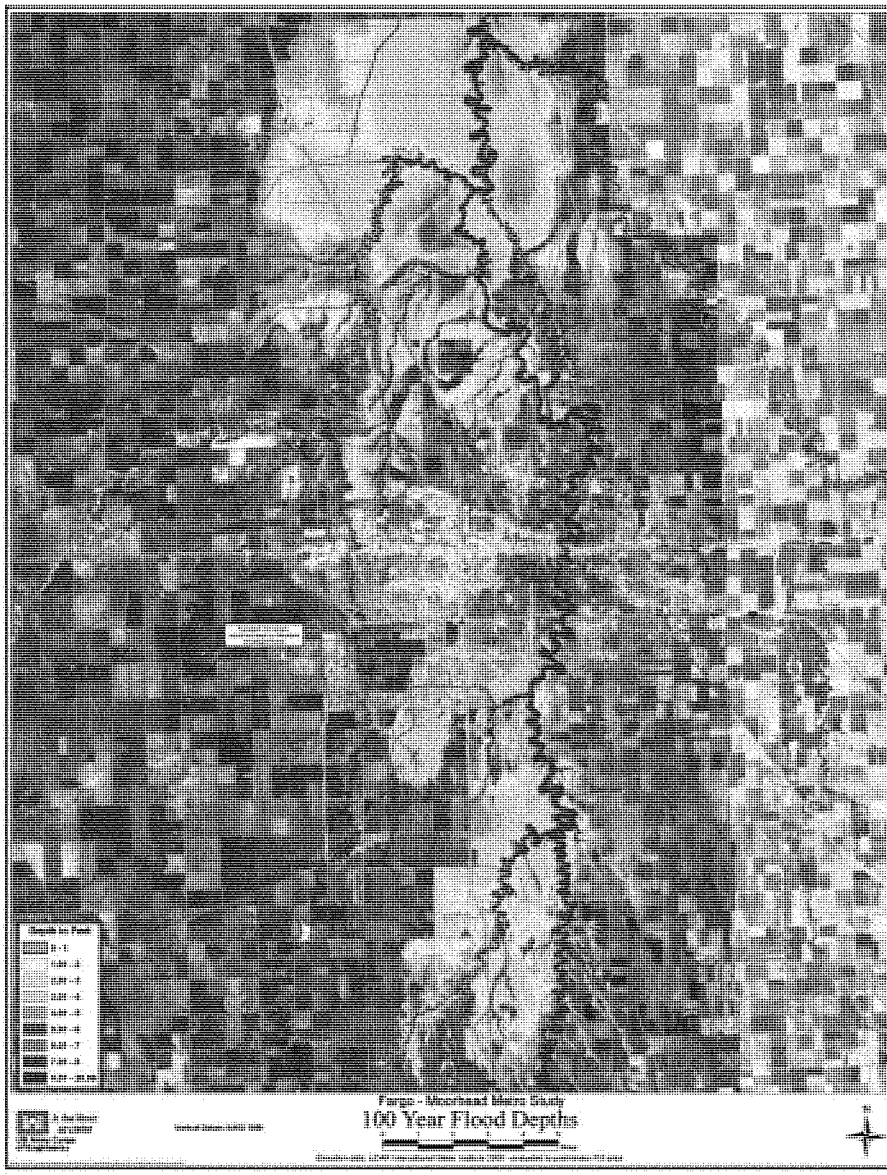
HWY 75
LEVEE
EXISTING CONDITION
w/ DIVERSION CONDITION

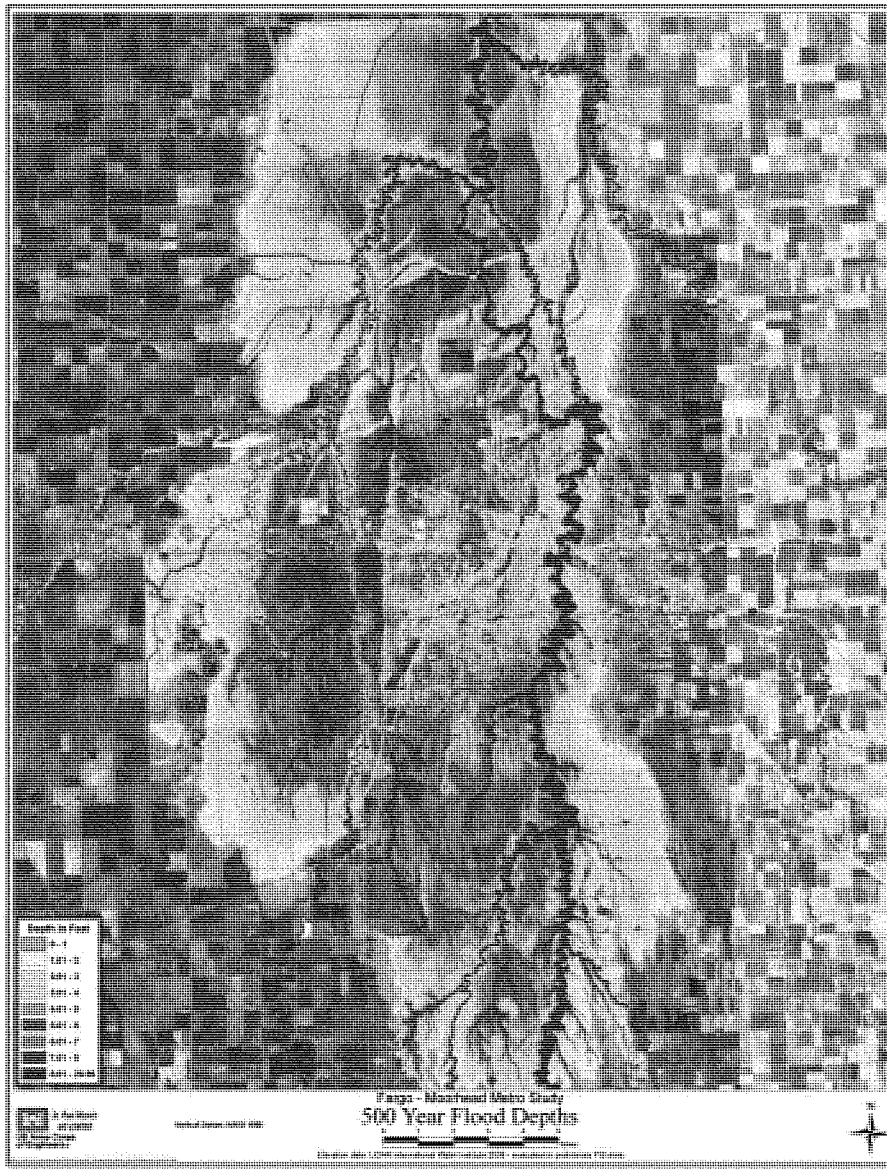
	Existing Elev.	w/ Diversion Elev.
10 yr	863'	864.7'
50 yr	867.4'	868.6'
100 yr	868.6'	869.5'
500 yr	870.7'	870.9'
2009	867.99'	
NGVD 29 = NAVD 88 - 1.09'		



16 June 2010


Fargo - Moorhead Metro Study
Alignments


Fargo - Moorhead Metro Study
100 Year Flood Depths


Fargo - Moorhead Metro Study
500 Year Flood Depths

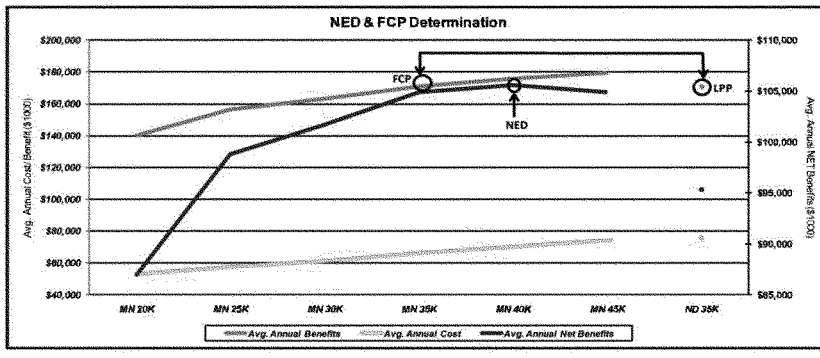
Fargo - Moorhead Metro Study
100 year Flood - Down Stream Impacts - North Dakota 35K Diversion

Fargo - Moorhead Metro Study
100 year Flood - Down Stream Impacts - Minnesota 35K Diversion
0 0.5 1 2 3 4
Miles
Vertical Datum: NAVD 1988
St. Paul District
GIS CENTER
US Army Corps of Engineers
N

Screened Alternatives Ranked by Net Benefits with Cost and Schedule Risk Assessment

Alternative		Cost [1]	Avg Annual Net Benefits [1]	Avg Annual Benefits [1]	Residual Damages [1]	B/C Ratio
MN Short Diversion 20K		$1,032	$87.0	$140.0	$55.9	2.64
MN Short Diversion 25K		$1,121	$98.8	$156.4	$39.5	2.71
MN Short Diversion 30K		$1,194	$101.7	$163.1	$32.8	2.66
MN Short Diversion 35K	FCP	$1,286	$104.9	$171.0	$24.9	2.59
MN Short Diversion 40K [2]	NED	$1,367	$105.6	$175.9	$20.0	2.50
MN Short Diversion 45K [2]		$1,450	$104.9	$179.5	$16.4	2.41
ND East Diversion 35K	LPP	$1,462	$95.4	$171.1	$24.8	2.26

1. In millions of dollars with interest during construction and discounting included
2. Estimate based on linear extrapolation
Expected average annual damages without a project are $195.9 million.



Diversion Channel Effectiveness	Stage at Fargo Gage (ft)	
	1% Chance (100- year)	0.2% Chance (500- year)
Existing Condition	42.4	46.7
Work Group Goal	30	36
35K ND Diversion Channel	30.6	40.0
35K MN Diversion Channel	31.9	39.6
40K Diversion Channels	31.9	37.6
45K Diversion Channels	31.9	35.3

Stage	Impacts
27	Fargo Elm Street Closed
30	Fargo 2nd Stredd Dike Installed
31	Moorhead 1st Ave. N Closed
32	First Homes in Moorhead Threatened
35	First Homes in Fargo Threatened
40.8	2009 Flood Record Stage

US Army Corps of Engineers
BUILDING STRONG®

CITY OF Fargo

CITY OF MOORHEAD MINNESOTA

Presentation 20:

August 5, 2010

NEWS RELEASE

U.S. ARMY CORPS OF ENGINEERS **BUILDING STRONG®**

ST. PAUL DISTRICT
Aug. 3, 2010
MVP-PA-2010-085
Shannon Bauer: 651-290-5108, 612-840-9453, shannon.l.bauer@usace.army.mil
Mark Davidson: 651-290-5201, 651-261-6769, mark.d.davidson@usace.army.mil

Corps released additional information on downstream impacts for Fargo-Moorhead diversion channels to the public

ST. PAUL, MINN. – The U.S. Army Corps of Engineers, St. Paul District, released updated downstream impacts to the public today for the proposed Fargo-Moorhead Metropolitan Area Flood Risk Management project. Information on the downstream impacts can be viewed at: http://www.internationalwaterinstitute.org/feasibility/Downstream_Impacts_Release.pdf or ftp://ftp.usace.army.mil/pub/mvp/FMM_Downstream/.

The most recent analysis examined the anticipated impacts to communities downstream of the proposed diversion channels. Analysis was completed for communities between Georgetown, Minn., and Thompson, Minn.

The draft report and EIS is still available to the public for review and comment. The review period will end Aug. 9, 2010. The report can be viewed at http://www.internationalwaterinstitute.org/feasibility/index.htm or at the public libraries in the cities of Fargo; West Fargo, N.D.; Moorhead, Minn.; and Halstad, Minn. Official comments on the draft EIS may be submitted electronically via the International Water Institute website, or written comments can be directed to Aaron Snyder, Corps of Engineers planner and project manager, 180 East 5th Street, Suite 700, St. Paul, MN 55101.

The Corps, along with its local sponsors, the cities of Fargo and Moorhead, will continue to analyze, optimize and strengthen the final flood damage resolution before the final report and EIS is completed in December 2010.

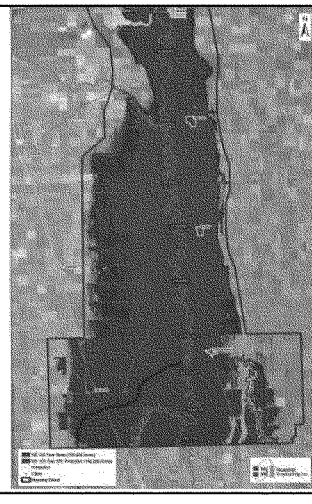
The U.S. Army Corps of Engineers, St. Paul District, serves the American public in the areas of environmental enhancement, navigation, flood damage reduction, water and wetlands regulation, recreation sites and disaster response. It contributes around $175 million to the five-state district economy. The more than 638 employees work at more than 40 sites in five upper-Midwest states. For more information, see www.mvp.usace.army.mil.

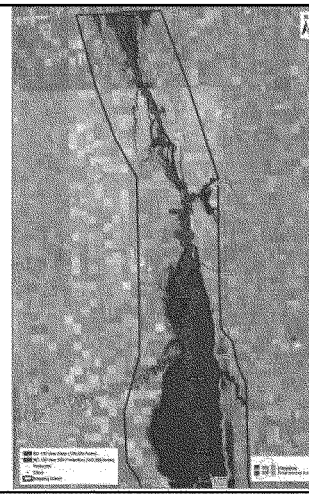
-30-

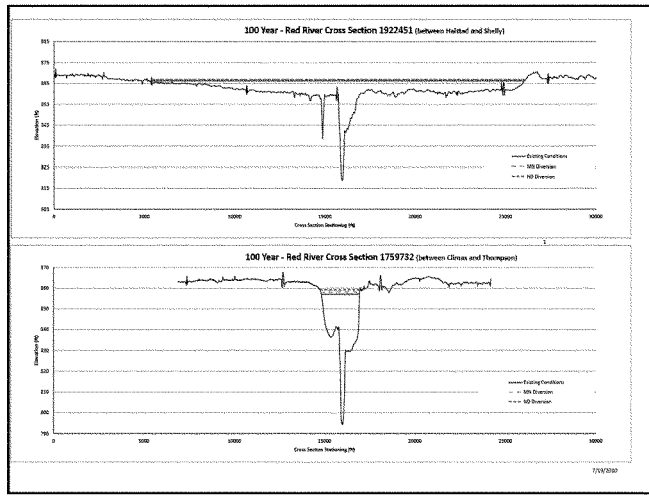
Web site: http://www.mvp.usace.army.mil/
Facebook: http://www.facebook.com/pages/Saint-Paul-MN/US-Army-Corps-of-Engineers-St-Paul-District/215829254962?ref=ts
Flickr: http://www.flickr.com/photos/usace-stpaul/
YouTube: http://www.youtube.com/usacemvppao

2/3/2011

100-Year Event (1% Chance)			
Location	Station	Stage increase (inches)	
		Minnesota 35K	North Dakota 35K
Thompson	1667665	9.4	15.8
Hwy 25/Co.Rd 221	1719816	13.0	23.6
Peak	1759732	14.0	
Peak	1762993		25.4
Climax	1763746	13.8	25.3
Marsh River	1864960	10.7	19.4
Shelly	1890722	8.6	15.1
Co. Rd. 139	1951761	5.9	9.8
Halstad Gage	1981580	6.2	10.4
Hendrum	2038359	8.0	11.3
Perley	2129181	6.1	7.6
Georgetown	2193941	5.9	8.4






100 Year - Red River Cross Section 1922451 (between Halstad and Shelly)
Existing Conditions
MN Diversion
ND Diversion
100 Year - Red River Cross Section 1759732 (between Climax and Thompson)
Existing Conditions
MN Diversion
ND Diversion
7/19/2010

Draft Fargo-Moorhead Metro Feasibility Study

Preliminary Downstream Impact Analysis

July 2010

US Army Corps of Engineers ®

Prepared by:
U.S. Army Corps of Engineers
St. Paul District
180 Fifth Street East, Suite 401
St. Paul, Minnesota 55101-1638

Draft Fargo-Moorhead Metro Feasibility Study

Preliminary Downstream Impact Analysis

July 2010

Downstream Effects

The attached documents reflect the most recent analysis of the anticipated impacts of the two diversion alternatives, the North Dakota 35K and the Minnesota 35K. The existing flooding in these areas is shaded blue and the anticipated additional flooding resulting from the diversion is shown in red. The analysis was performed for 10-, 50-, 100-year events for both diversions.

Currently, during a 100-year event, there are a total of 1,534 structures at risk between Fargo-Moorhead and Thompson due to their location within the floodplain, of which 343 are residences. Under the North Dakota 35K alternative, there would be an additional 202 structures affected, 77 of these being residences. With the Minnesota 35K diversion, there would be an additional 127 structures affected, 44 of these being residences. Although the flood depths increase north of Halstad, the river does not spread out as far as in other portions of the Red River Valley due to a narrowing of the floodplain.

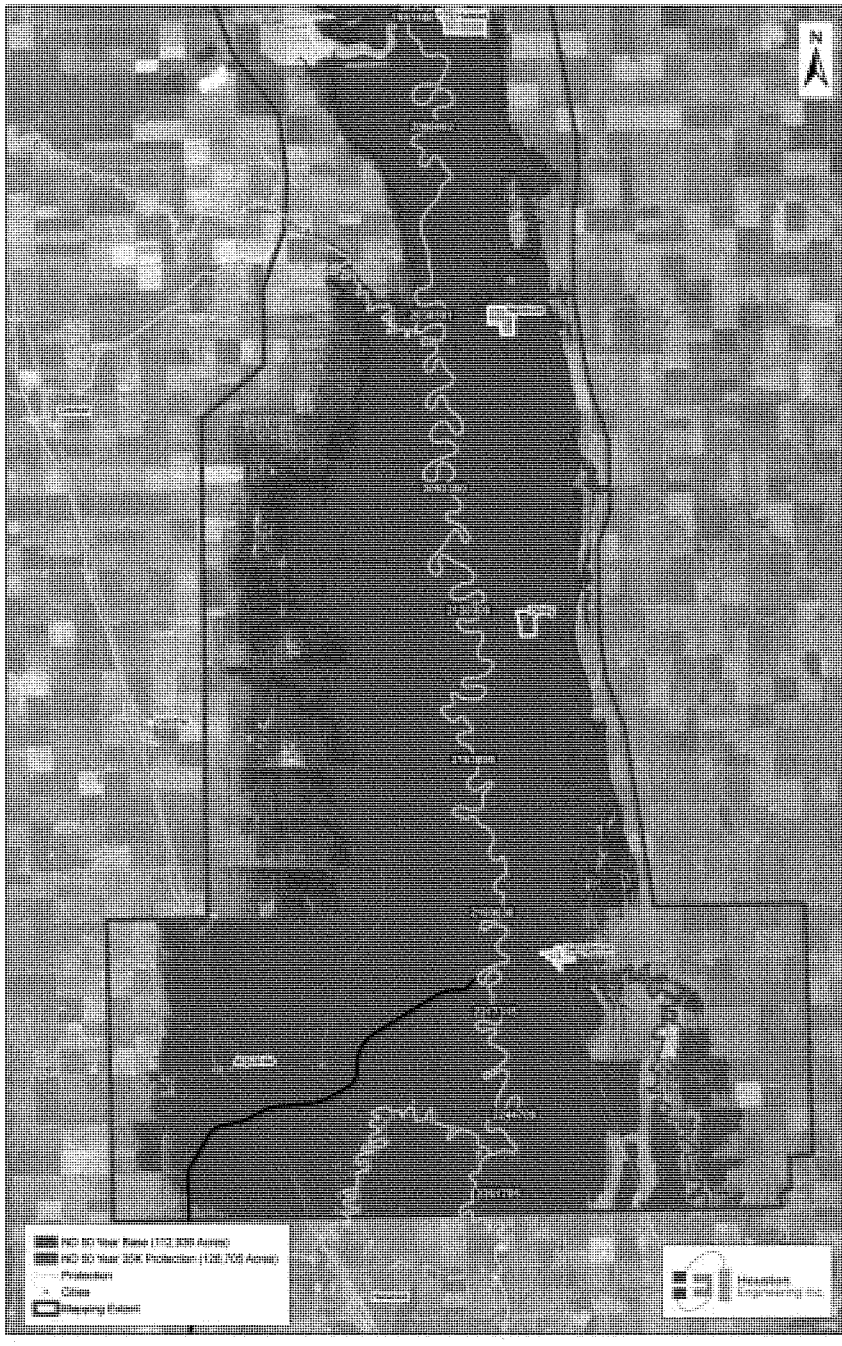
The following tables correspond to the attached maps. These reflect the additional stage increase at each station. The station numbers below correspond to points on the attached maps. The stations show the distance in feet along the centerline of the river starting at the north and progressing southward.

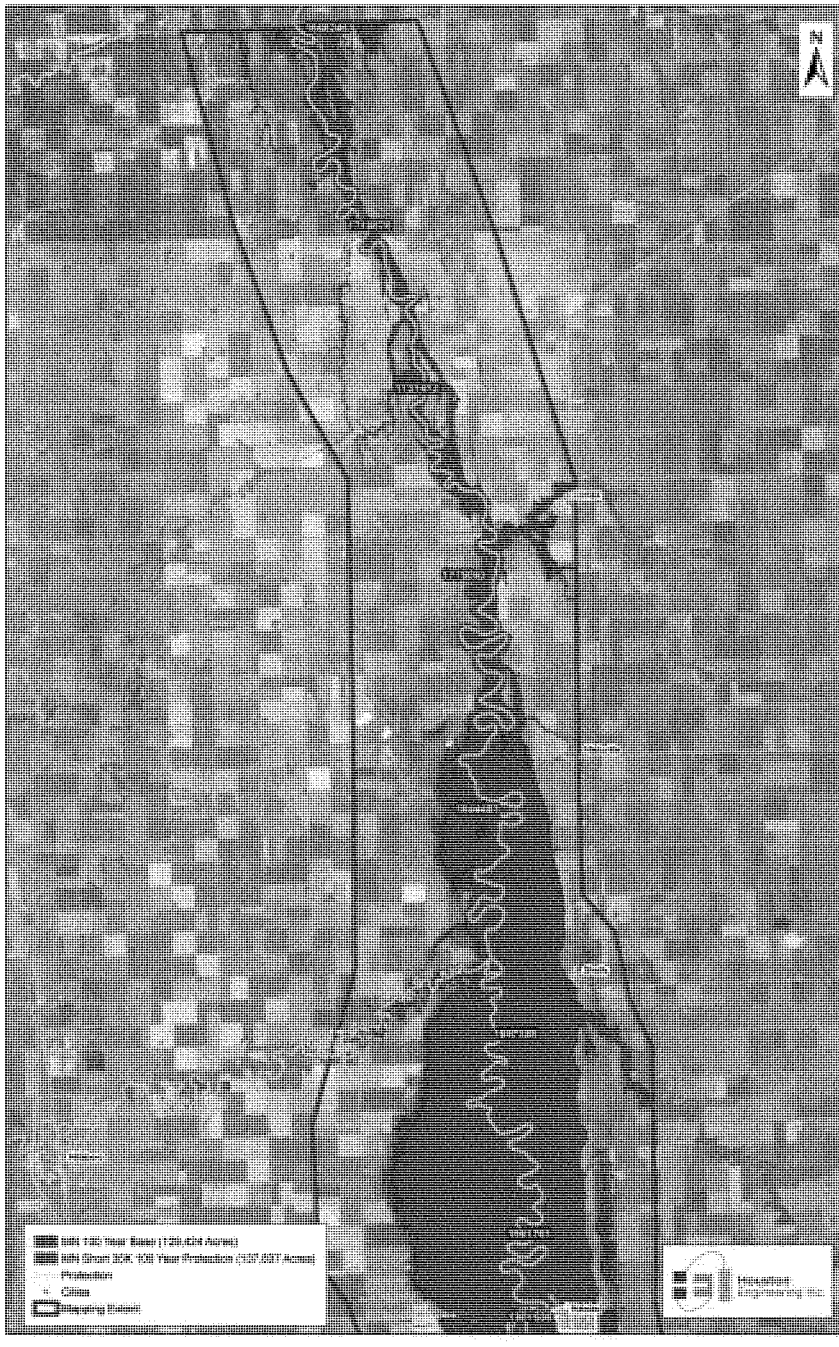
The Corps will continue to analyze the impacts downstream of Thompson and will report these findings as they become available. The Corps will also complete economic and takings analyses for the area downstream of Halstad and eventually Thompson in the future.

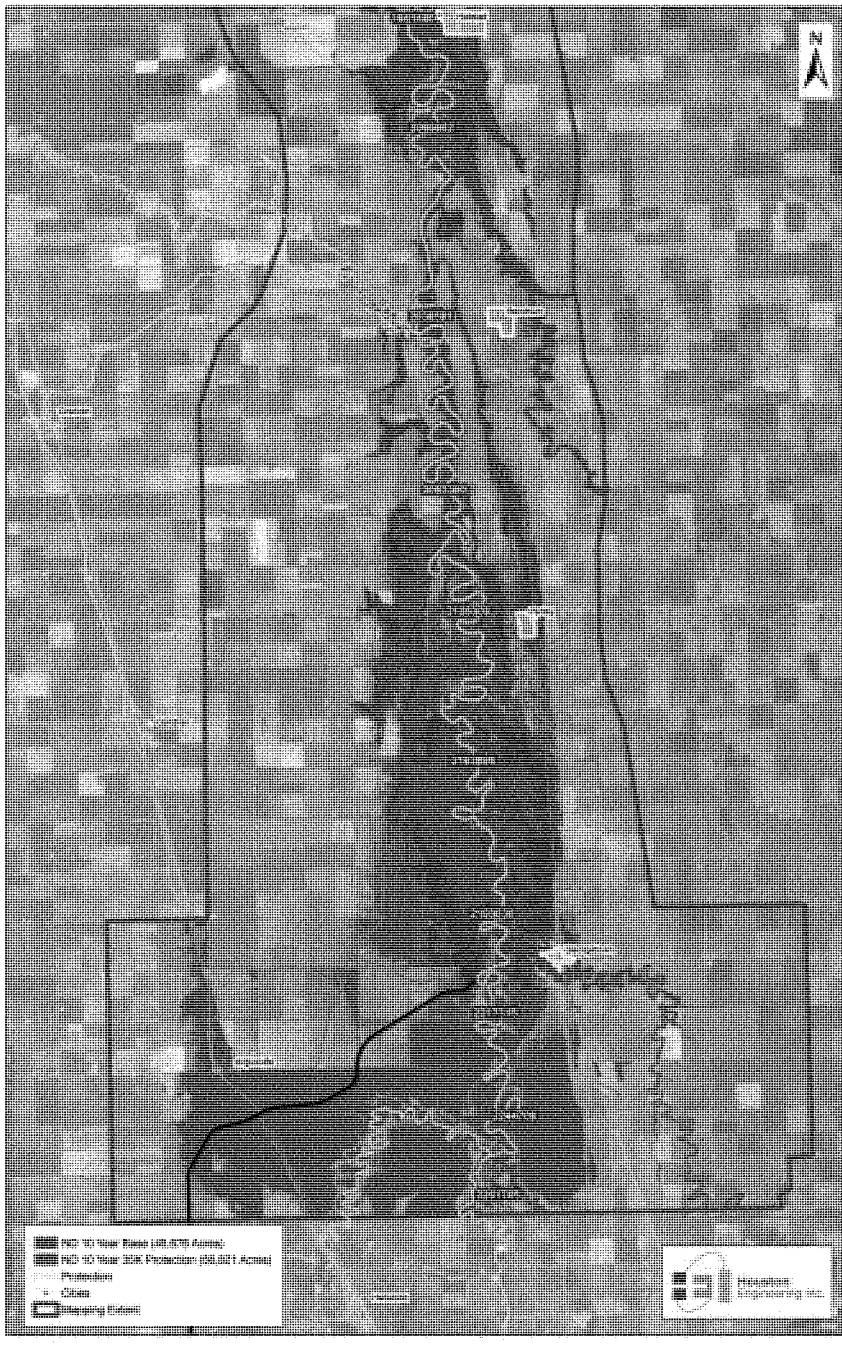
10-Year Event (10% Chance)			
Location	Station	Stage increase (inches)	
		Minnesota 35K	North Dakota 35K
Thompson	1667665	3.2	12.2
Hwy 25/Co.Rd 221	1719816	3.6	13.3
ND Peak	1745606		13.9
Climax	1763746	3.6	13.6
Marsh River	1864960	3.4	11.9
Shelly	1890722	3.6	12.0
MN Peak	1891054	4.0	
Co. Rd. 139	1951761	3.1	8.3
Halstad Gage	1981580	2.9	7.6
Hendrum	2038359	3.6	8.0
Perley	2129181	4.1	11.4
Georgetown	2193941	4.0	10.6

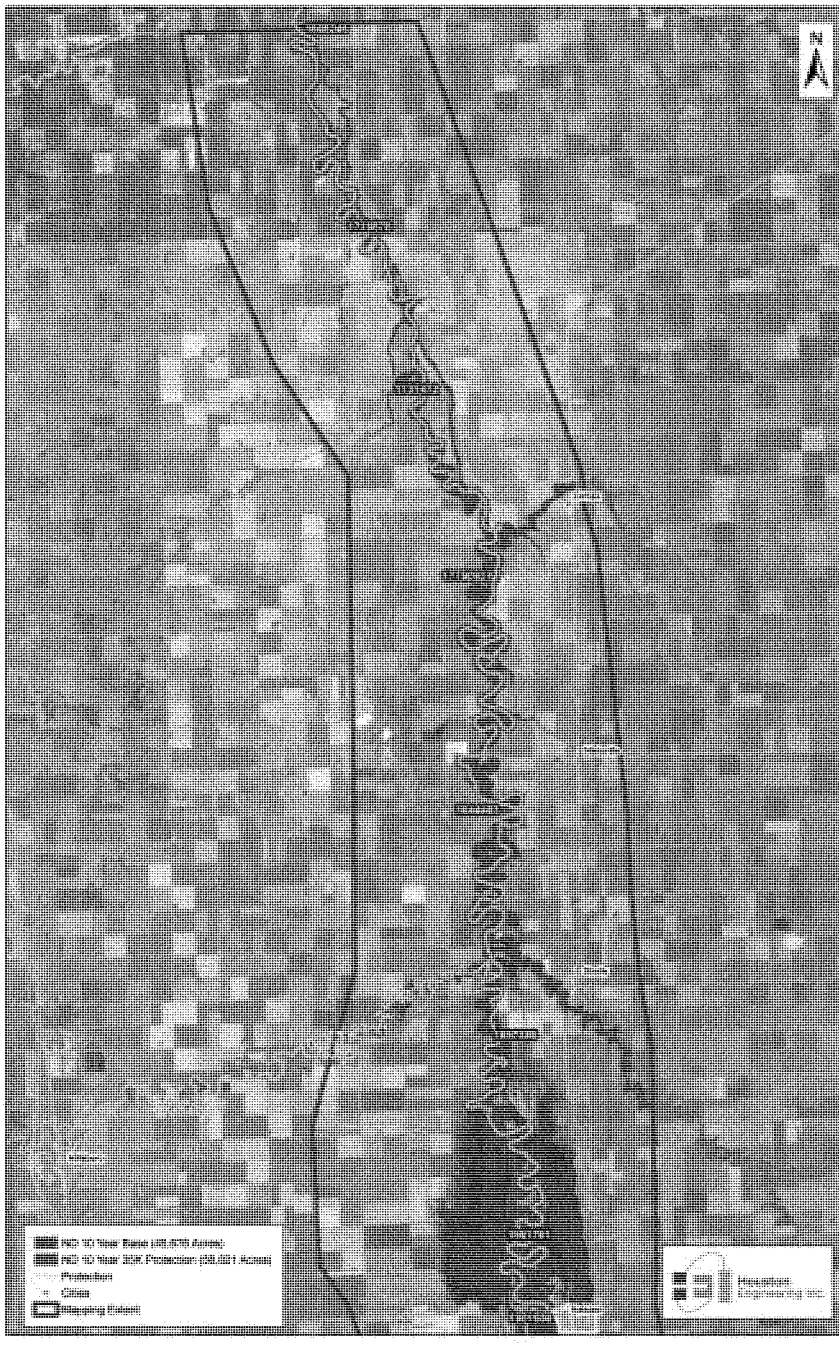
50-Year Event (2% Chance)			
Location	Station	Stage increase (inches)	
		Minnesota 35K	North Dakota 35K
Thompson	1667665	9.0	20.9
Hwy 25/Co.Rd 221	1719816	11.8	26.9
Peak	1763493	13.2	29.4
Climax	1763746	13.1	29.3
Marsh River	1864960	10.0	22.2
Shelly	1890722	8.0	17.3
Co. Rd. 139	1951761	5.0	10.0
Halstad Gage	1981580	5.5	10.3
Hendrum	2038359	9.2	15.1
Perley	2129181	6.6	9.4
Georgetown	2193941	4.9	8.0

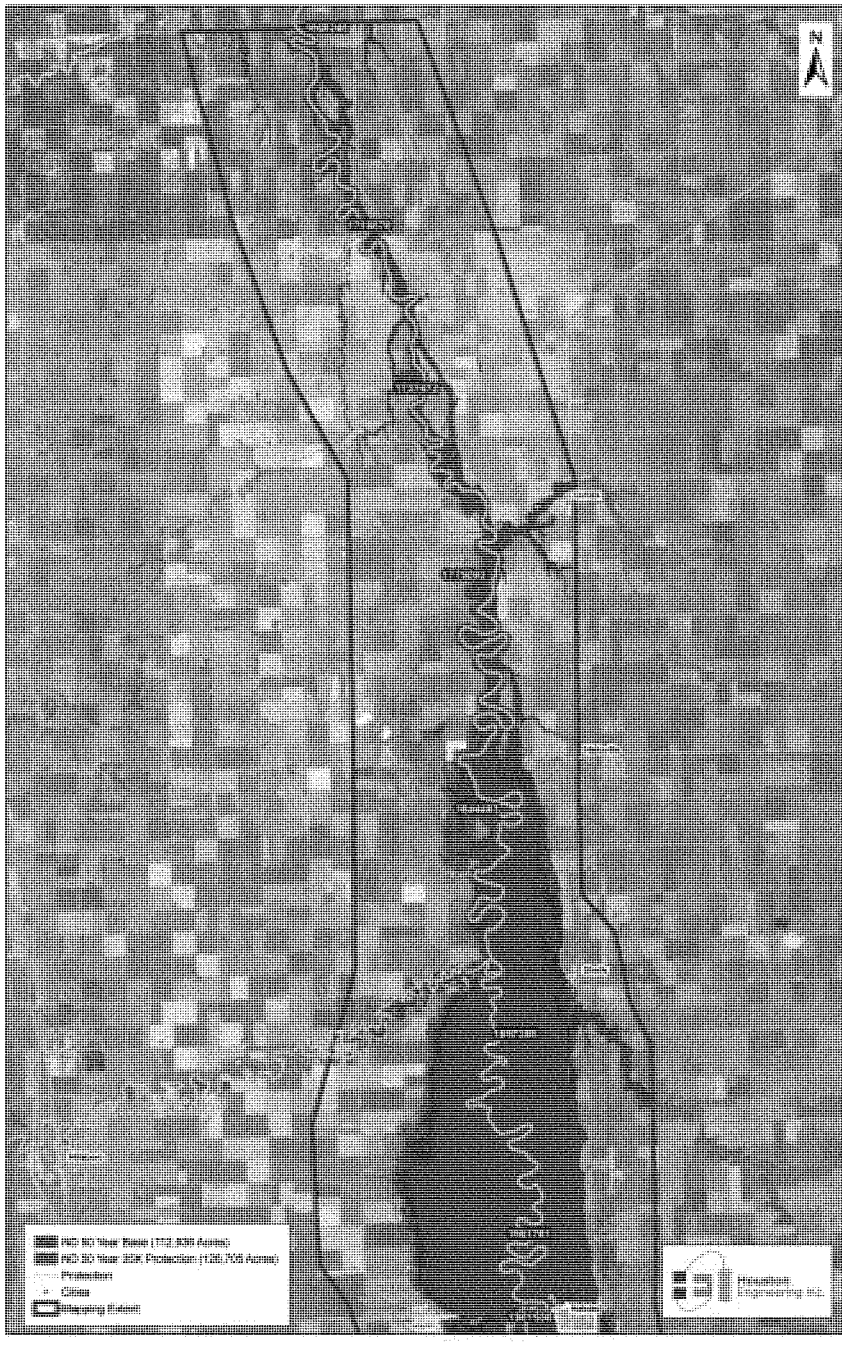
100-Year Event (1% Chance)			
Location	Station	Stage increase (inches)	
		Minnesota 35K	North Dakota 35K
Thompson	1667665	9.4	15.8
Hwy 25/Co.Rd 221	1719816	13.0	23.6
Peak	1759732	14.0	
Peak	1762993		25.4
Climax	1763746	13.8	25.3
Marsh River	1864960	10.7	19.4
Shelly	1890722	8.6	15.1
Co. Rd. 139	1951761	5.9	9.8
Halstad Gage	1981580	6.2	10.4
Hendrum	2038359	8.0	11.3
Perley	2129181	6.1	7.6
Georgetown	2193941	5.9	8.4



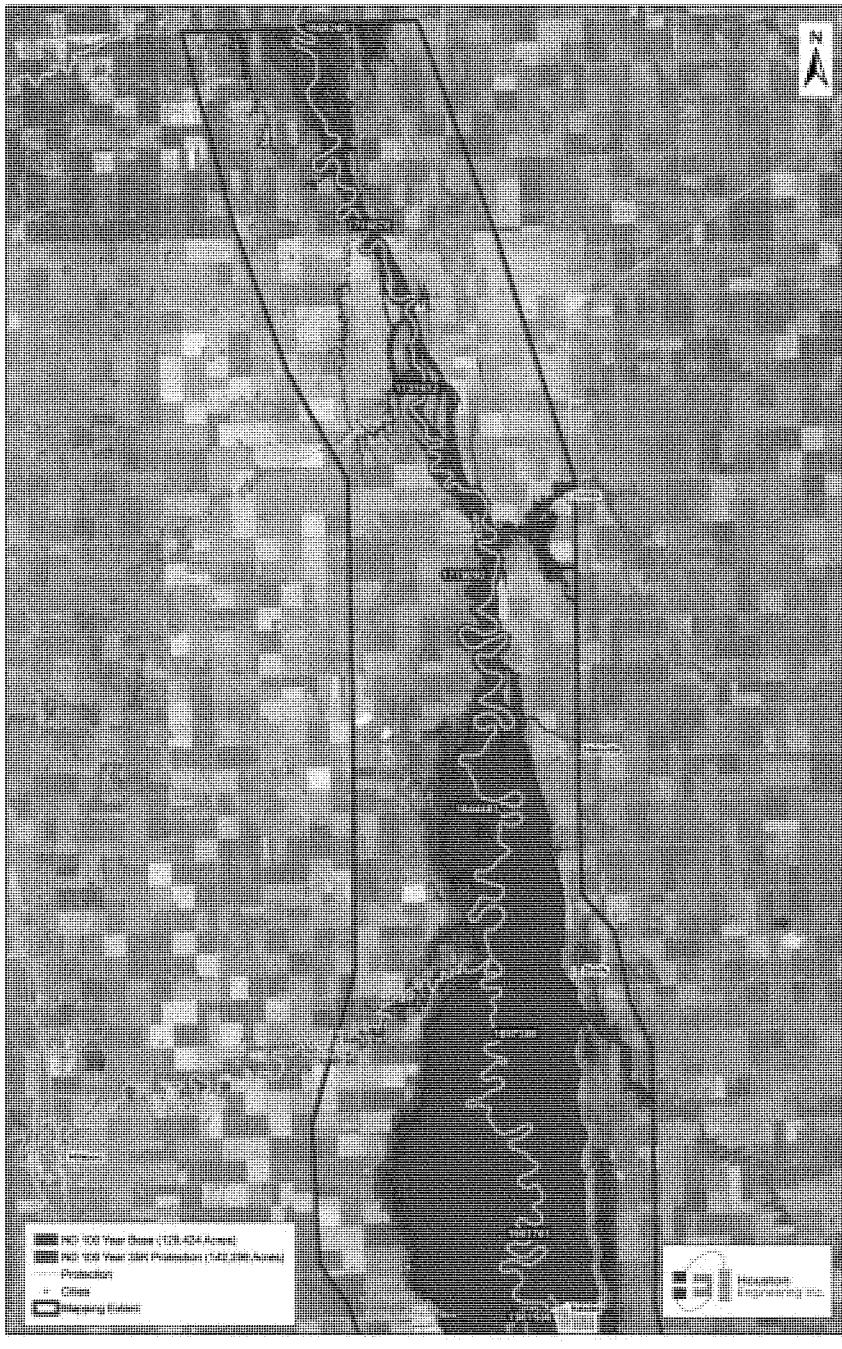



N
Protection
Cities





N
Protection
Cities
Mapping Extent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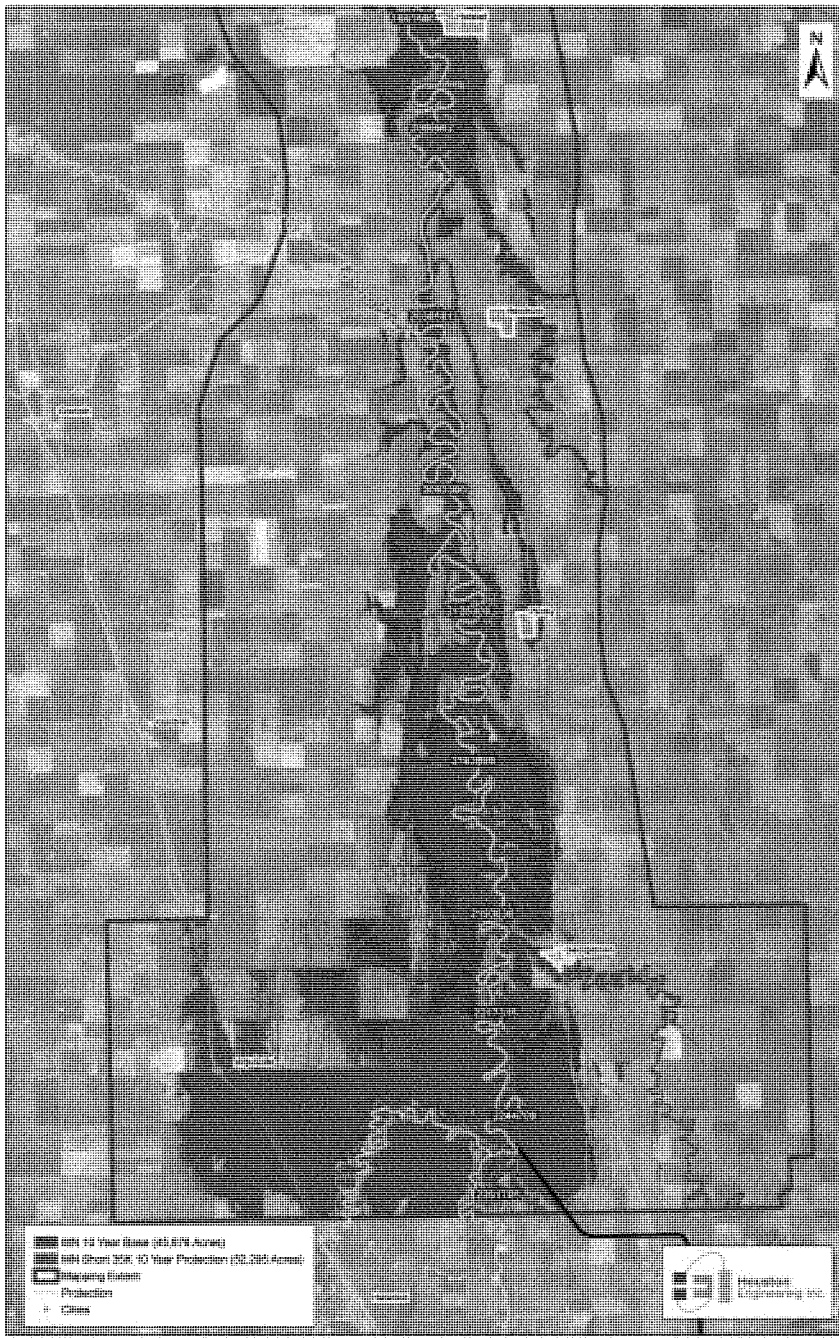
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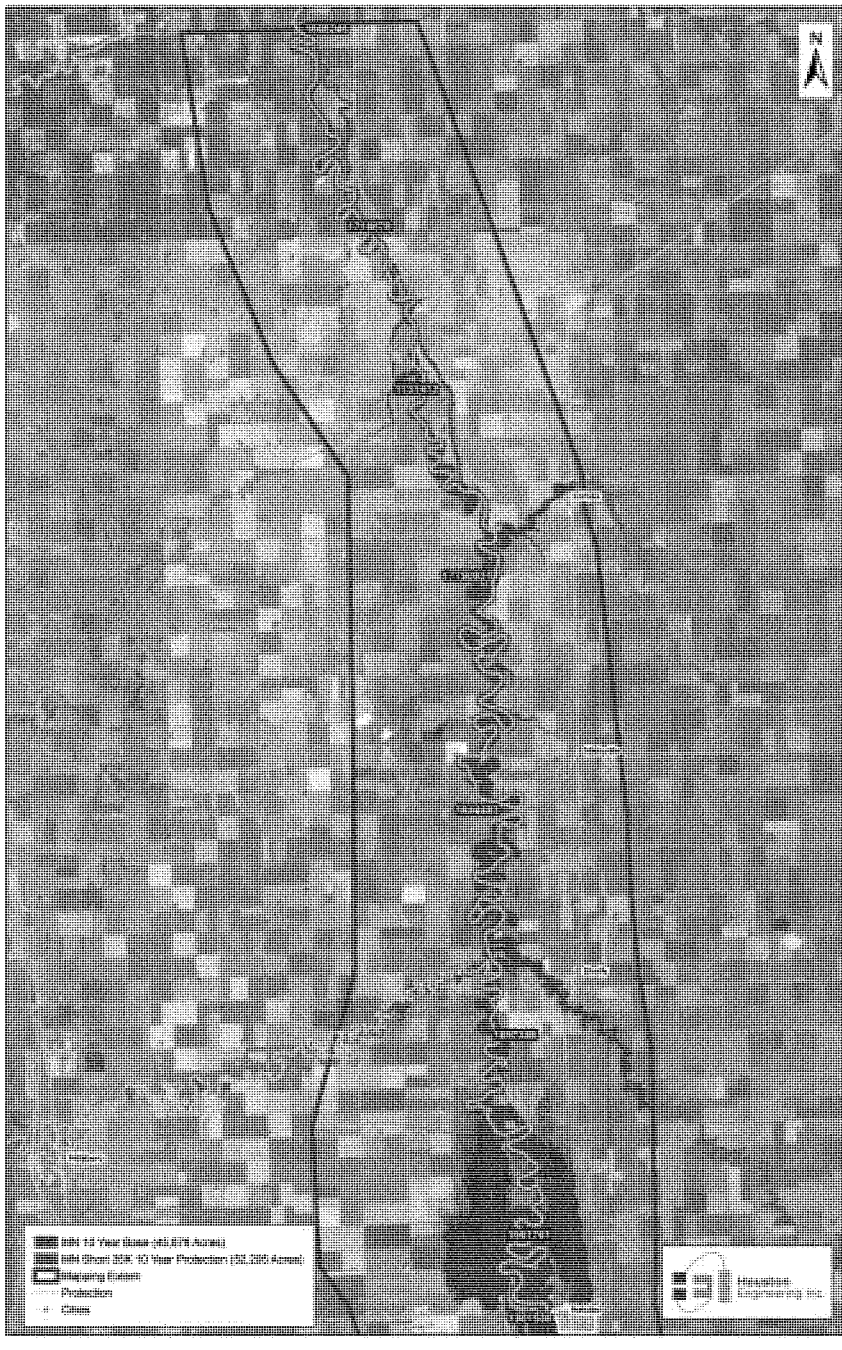
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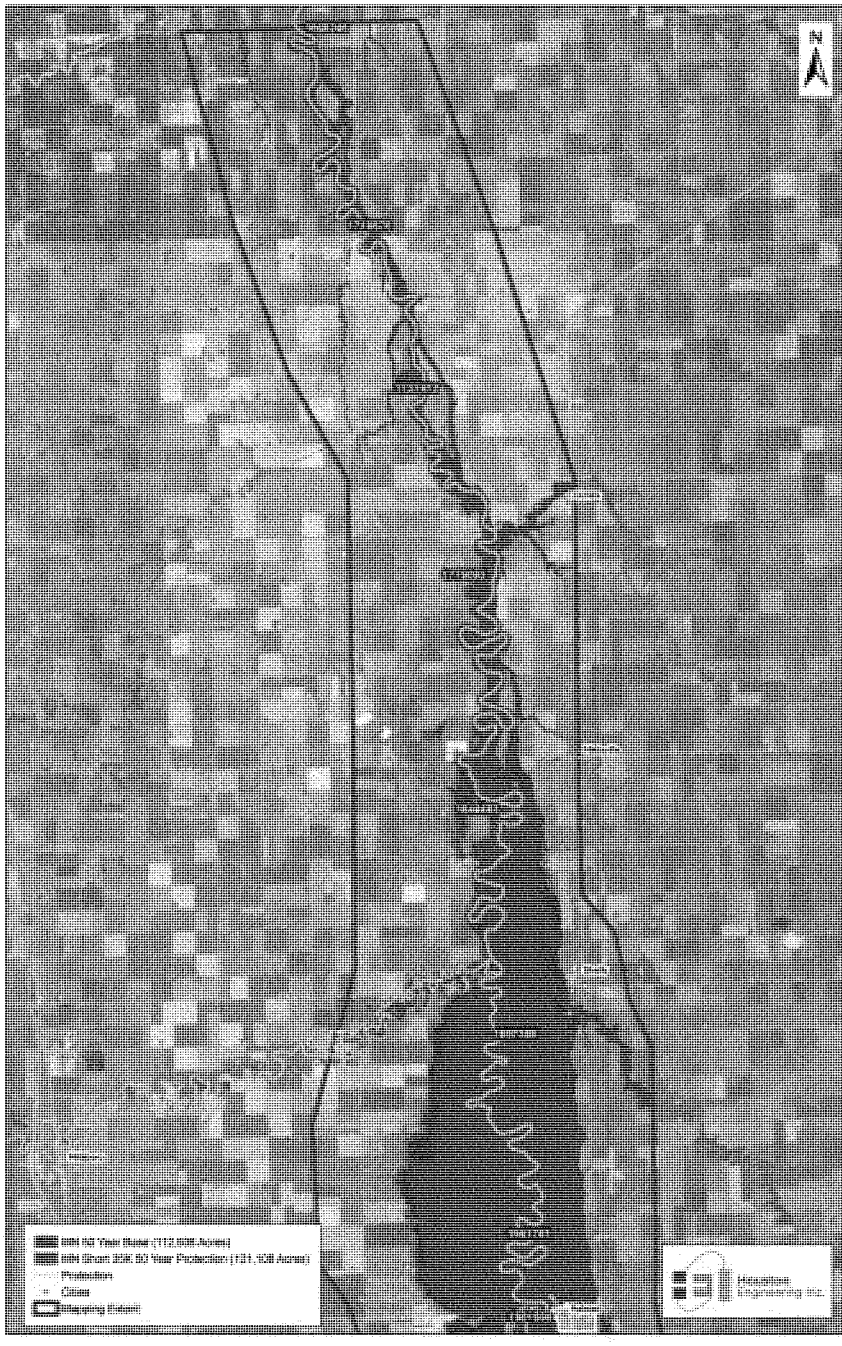
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Cities
Mapping Extent

Presentation 21:

November 18, 2010

Fargo-Moorhead Metropolitan Feasibility Study

Presentation for FMM Work Group
November 18, 2010

CITY OF MOORHEAD MINNESOTA

CITY OF Fargo

US Army Corps of Engineers
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CITY OF MOORHEAD MINNESOTA

Brief Project History

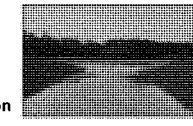
- ✓ From the Draft EIS
  - ✓ **The screening results produced –**
    - ✓ **Diversion channels with tie back levees**
      - ✓ Minnesota
      - ✓ North Dakota
  - ✓ **The different alignments were compared at various flow volumes**
  - ✓ **The Locally Preferred Plan (LPP) is ND 35K.**
  - ✓ **The Federally Comparable Plan (FCP) in MN 35K.**
  - ✓ **Project impacts were estimated for the LPP and FCP**

18 Nov 2010 2

CITY OF Fargo

CITY OF MOORHEAD MINNESOTA

Brief Project History



- ✓ Downstream impacts
  - ✓ **Computer modeled to Halstad**
    - ✓ **No zero impact point identified**
  - ✓ **Computer model extended to Thompson**
    - ✓ **No zero impact point identified**
  - ✓ **Computer model extended to Drayton**
    - ✓ **No zero impact point identified**
- ✓ Initial model showed no zero impact point, this was not anticipated.

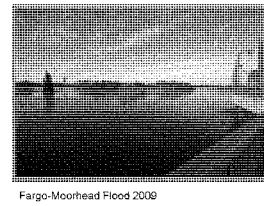
18 Nov 2010 3

CITY OF Fargo

CITY OF MOORHEAD MINNESOTA

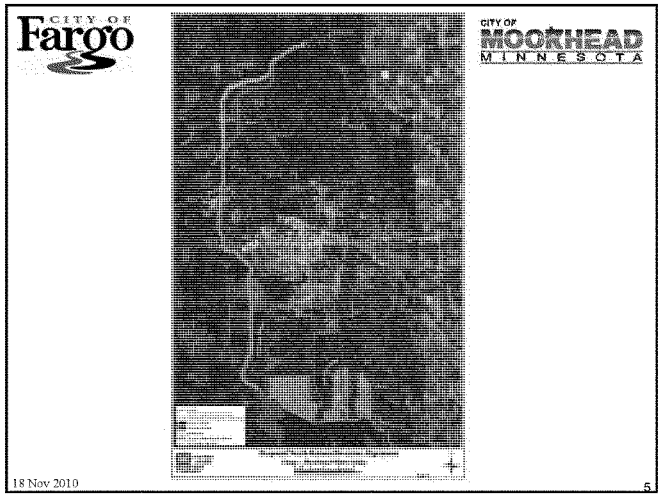
Current Analysis

- ✓ Additional hydraulic modeling completed
  - ✓ **Model reviewed by others**
- ✓ Looking at concepts to reduce downstream impacts
  - ✓ **Storage cells along diversion**
  - ✓ **Upstream staging**



Fargo-Moorhead Flood 2009

18 Nov 2010 4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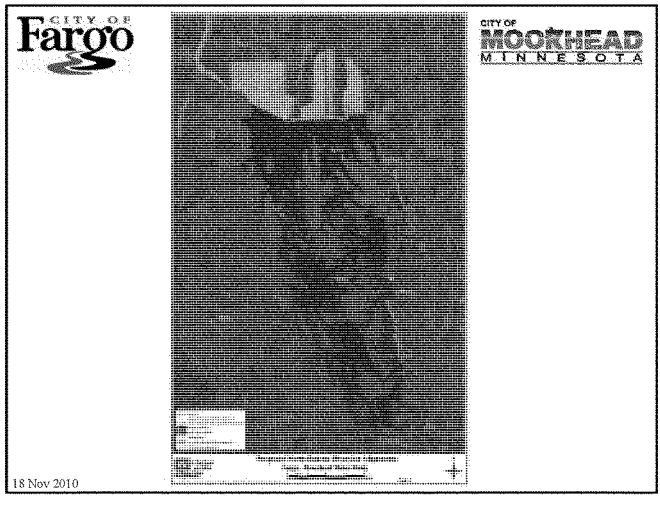
18 Nov 2010
5


CITY OF
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MINNESOTA
18 Nov 2010

CITY OF Fargo

CITY OF MOORHEAD MINNESOTA

ND Diversion 1% event
Possible number of structures Impacted*

Estimated Downstream Structures – 4500

Or

Estimated Upstream Structures - 800

***Estimates based on preliminary information – Actual impacts will be different - depth of impacts has not been determined and will vary by location**

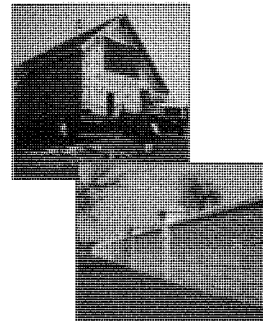
18 Nov 2010 7

CITY OF Fargo

CITY OF MOORHEAD MINNESOTA

Path Forward:

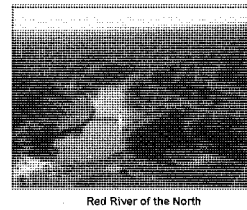
- ✓ Quantify downstream impacts
- ✓ Quantify upstream impacts
- ✓ Analyze non-structural solutions downstream of ND Diversion.
- ✓ Upstream/Storage Impacts
  - ✓ **Analyze non-structural solutions**
    - ✓ **Buy-outs**
    - ✓ **Relocations**
    - ✓ **Ring Levees**
  - ✓ **Complete Takings Analysis**
  - ✓ **Continue working with Project Sponsors to address impacts.**



18 Nov 2010 8

Path Forward:

- ✓ Continue survey work
- ✓ Continue geotechnical work
- ✓ Continue working with natural resources agencies
- ✓ Conduct geomorphology study
- ✓ Resolve issues generated by public and agency reviews
- ✓ No additional NED/FCP analysis
- ✓ Working with HQ/ASA(CW) on downstream impact costs



Red River of the North

18 Nov 2010 9

F-M Metro Study Timeline:

✓	26 Nov 10	Unsteady model updated
✓	10 Jan 11	Refinement of LPP
✓	Feb/Mar 11	Meetings in impacted areas (up or downstream)
✓	27 Apr 11	Supplemental Draft EIS to EPA for publication
✓	May 11	Public Meeting(s)
✓	20 Jun 11	Complete 45-day NEPA public comment period
✓	1 Aug 11	Division Engineer's Transmittal
✓	7 Sept 11	Submit Draft Chief's Report and Final EIS to EPA for publication
✓	1 Dec 11	Sign Chief's Report

18 Nov 2010 10

Presentations 22 and 23:

December 9, 2010
December 9, 2010

Fargo-Moorhead Metropolitan Feasibility Study

Presentation for FMM Work Group
December 09, 2010

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Brief Project History

- ✓ From the Draft EIS
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09 Dec 2010 2

CITY OF Fargo

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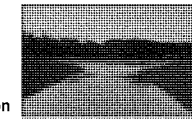
Brief Project History



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  - ✓ **Computer model extended to Thompson**
    - ✓ **No zero impact point identified**
  - ✓ **Computer model extended to Drayton**
    - ✓ **No zero impact point identified**
- ✓ Initial models found no zero impact point downstream
  - ✓ **This was not anticipated and not acceptable.**
- ✓ Depth, duration, and frequency of impacts was acceptable.

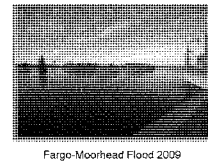
09 Dec 2010 3

CITY OF Fargo

CITY OF MOORHEAD MINNESOTA

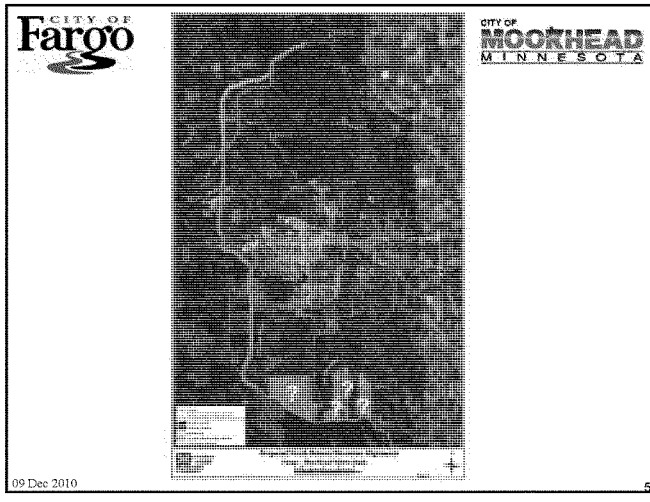
Current Analysis

- ✓ Provide Information to Public
  - ✓ **Potential upstream storage areas and impacts**
  - ✓ **Ensure distribution of information prior to supplemental draft report**
- ✓ Additional hydraulic modeling completed
  - ✓ **Model reviewed by others**
- ✓ Looking at concepts to reduce downstream impacts
  - ✓ **Storage cells along diversion**
  - ✓ **Upstream staging**



Fargo-Moorhead Flood 2009

09 Dec 2010 4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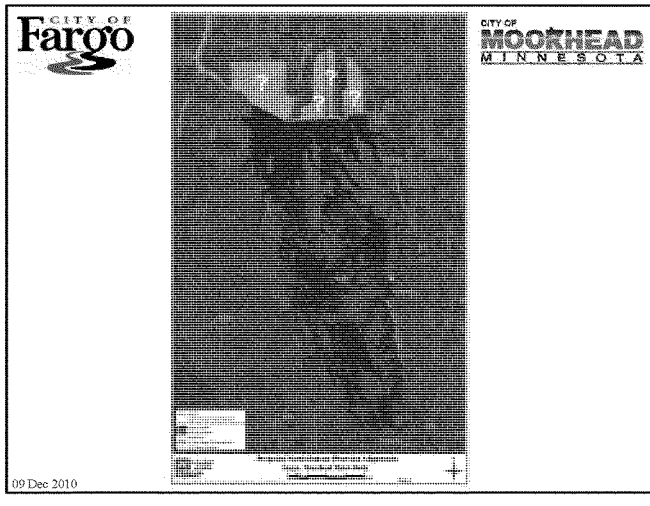
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09 Dec 2010

CITY OF Fargo

CITY OF MOORHEAD MINNESOTA

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09 Dec 2010 7

CITY OF Fargo

CITY OF MOORHEAD MINNESOTA

Path Forward:

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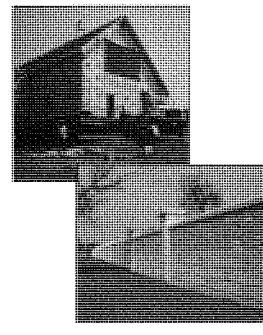

09 Dec 2010 8

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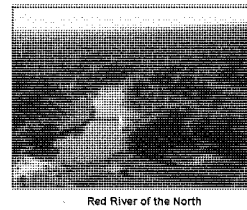

Red River of the North

09 Dec 2010 9

F-M Metro Study Timeline:

✓	10 Jan 11	Refinement of LPP
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✓	27 Apr 11	Supplemental Draft EIS to EPA for publication
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✓	20 Jun 11	Complete 45-day NEPA public comment period
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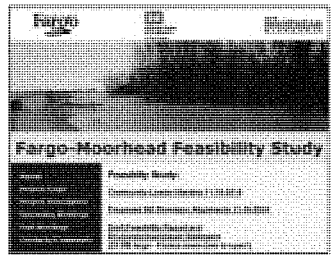
✓	1 Dec 11	Sign Chief's Report

09 Dec 2010 10

F-M Metro Information



http://www.internationalwaterinstitute.org/feasibility/index.htm

09 Dec 2010 11

Presentation 24:

January 13, 2011

Fargo-Moorhead Metropolitan Feasibility Study

Presentation for FMM Work Group
January 13, 2011

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ND Diversion Alignment: East or West?

- ✓ Draft Report – June 2010
  - ✓ Recommended East Alignment
  - ✓ Corps indicated to Work Group that East or West could be considered in the future
- ✓ Draft report comments received by August 9, 2010
- ✓ Additional modeling efforts to west of West Fargo, December 2010.
- ✓ Request to local sponsors for technical justification, December 2010.

13 Jan 2011 2

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Executive Order 11988 - Floodplain Management

E.O. 11988 was enacted in 1977 "in order to avoid to the extent possible the long and short term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct or indirect support of floodplain development wherever there is a practicable alternative."

13 Jan 2011 3

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Draft EIS Comments related to E.O. 11988

✓ EPA –

"The indirect impact analysis should also include the provisions of Executive Order 11988. Using the procedure described in "Further Advice on Executive Order 11988 Floodplain Management", Interagency Task Force on Floodplain Management, 1987, the indirect impact analysis should address induced development in the floodplain and in flood storage areas."

13 Jan 2011 4

CITY OF Fargo

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Draft EIS Comments related to E.O. 11988

✓ FEMA –

"...the documents can be improved by identifying measures to reduce the alternatives' indirect support of future development in the floodplain...Section 10 of USACE Regulation No. 1165-2-26 (March 30, 1984)..."consideration shall be given to deletion of separable segments of a plan when such segments protect undeveloped land and would likely induce development in the flood plain for which another practicable non-flood plain alternative may exist."

13 Jan 2011 5

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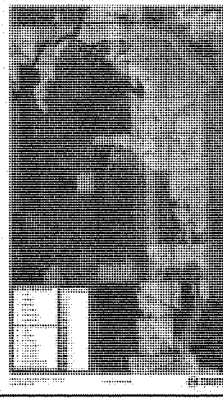
Sheyenne River Floodplain



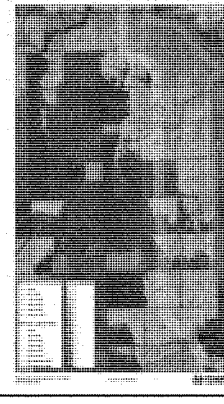
1% Chance event

904.8'

0.2% Chance Event

905.5'

WAPA Substation 907-909'



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CITY OF Fargo

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Possible Environmental Impacts of West Alignment

- ✓ Additional Floodplain Impacts
  - ✓ **1.0 percent chance (100-year) - 9.2 square miles**
  - ✓ **0.2 percent chance (500-year) - 10.8 square miles**
  - ✓ **Unknown downstream impacts**
- ✓ Other Impacts
  - ✓ **Assumed to be fairly similar for both alignments**
    - ✓ **Wetlands**
    - ✓ **Forested areas**
    - ✓ **Etc.**

13 Jan 2011 7

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Local Information provided

13 Jan 2011 8

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Local Information Provided to Date

- ✓ West Fargo Sewage Lagoons
  - ✓ Benefited by both alignments
- ✓ WAPA Sub-station
  - ✓ Primary problem is access during floods
  - ✓ Benefited by West alignment
  - ✓ Other possible alternatives need to be considered
    - ✓ Possible mitigation areas
  - ✓ Coordinating with WAPA and local utilities
- ✓ Hayden Heights Development
  - ✓ Both East and West alignments could go around development

13 Jan 2011 9

CITY OF Fargo

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Recommended Path Forward

- ✓ Feasibility Report and EIS will keep the ND East Alignment as recommended plan.
  - ✓ **Sheyenne River floodplain to remain unchanged near existing diversion.**
- ✓ Willing to continue discussions and analysis during the design phase of the study. Any alignment shift must:
  - ✓ **Comply with NEPA requirements.**
  - ✓ **Be compliant with EO 11988.**

13 Jan 2011 10

CITY OF Fargo

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Notice of Intent

- ✓ The Corps recently published a Notice of Intent to prepare a Supplemental Draft Environmental Impact Statement and Feasibility Study to further evaluate impacts of the project and the potential measures to mitigate those impacts.
- ✓ Comments on the scope of the Supplemental Draft EIS/FS are due before January 26, 2011.

13 Jan 2011 11

CITY OF Fargo

CITY OF MOORHEAD MINNESOTA

F-M Metro Study Timeline:

✓	Feb/Mar 11	Meetings in impacted areas (up or downstream)
✓	27 Apr 11	Supplemental Draft EIS to EPA for publication
✓	May 11	Public Meeting(s)
✓	20 Jun 11	Complete 45-day NEPA public comment period
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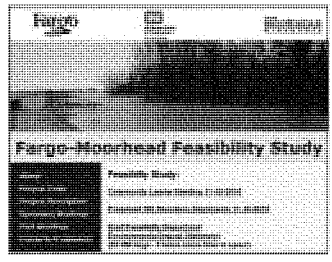
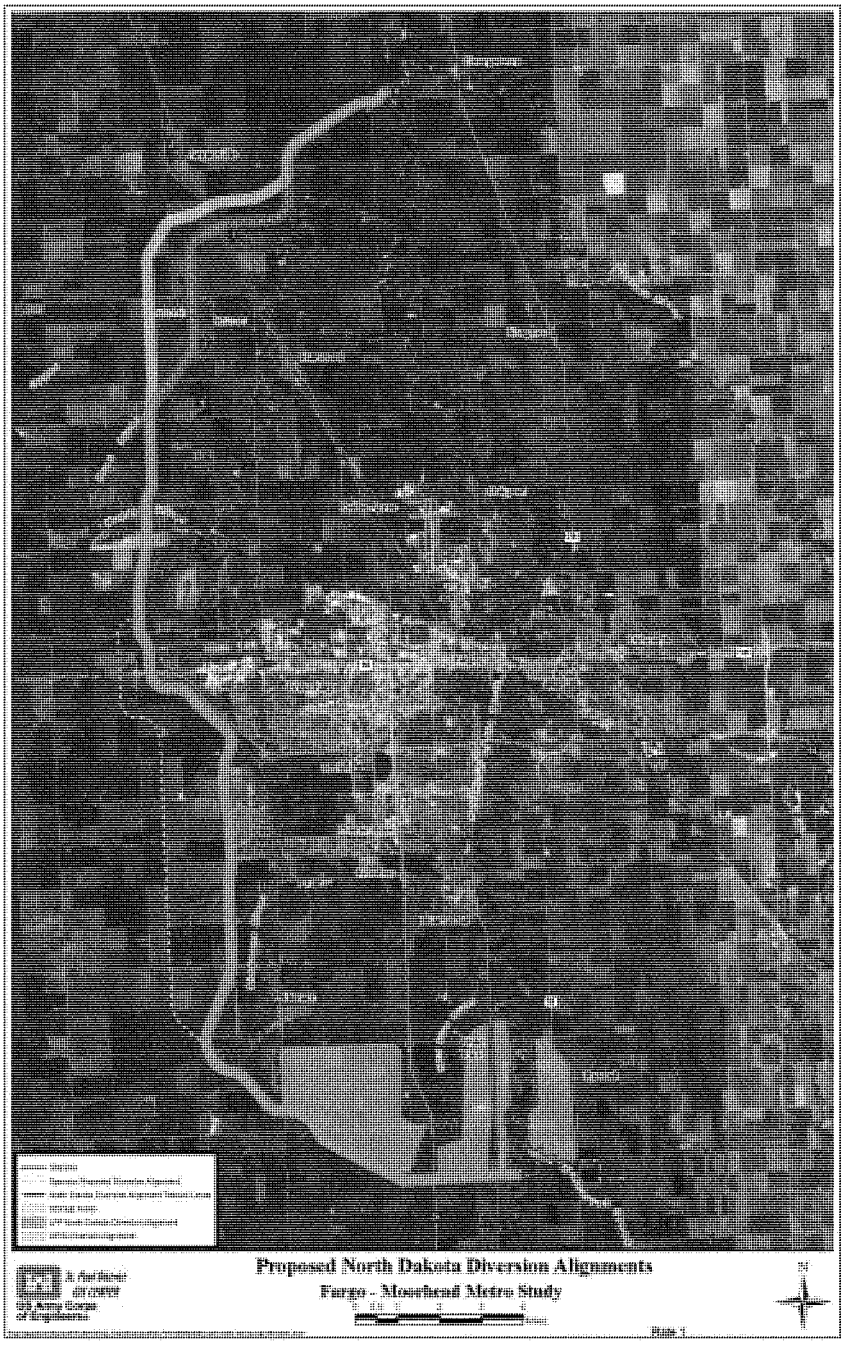
19 Jan 2011 12

F-M Metro Information



http://www.internationalwaterinstitute.org/feasibility/index.htm

13 Jan 2011 13


Proposed North Dakota Diversion Alignments
Fargo - Moorhead Metro Study

Presentation 25:

February 24, 2011

Proposed North Dakota Diversion Alignments
Fargo - Moorhead Metro Study

Proposed North Dakota Diversion Alignments
Fargo - Moorhead Metro Study
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Presentation 26:

March 30, 2011

Fargo-Moorhead Metropolitan Feasibility Study

Public Meetings, March 30-31, 2011

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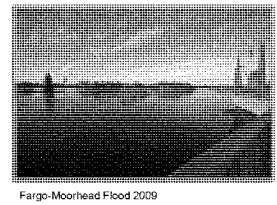
Why we are here:

- ✓ To present information on the revised diversion plan, which includes the North Dakota East diversion alignment combined with flood storage and upstream staging.
- ✓ Gather public comments on the proposed plan.



Fargo-Moorhead Flood 2009

March 2011 2

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Presentation Overview:

- ✓ Existing conditions
- ✓ Planning process, decisions and alternatives considered
- ✓ Revised diversion plan
- ✓ Path forward
- ✓ Local actions required
- ✓ Schedule

March 2011 3

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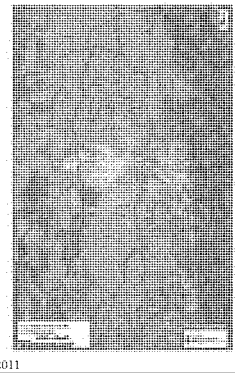
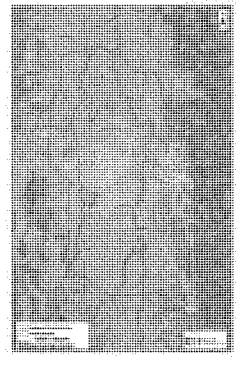
Existing Conditions: 1% and .2% Chance





March 2011 4

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Selection of Diversion Channel:

- ✓ From the Draft EIS
  - ✓ **Alternatives Considered:**
    - ✓ **Non-structural**
    - ✓ **Levees/floodwalls**
    - ✓ **Upper basin storage**
    - ✓ **Retention/controlled field runoff**
    - ✓ **Diversion channels**
    - ✓ **Combinations**
  - ✓ **Result:**
    - ✓ **Diversion channels with tie back levees**
      - ✓ Minnesota
      - ✓ North Dakota
  - ✓ **The Locally Preferred Plan (LPP) was ND 35K.**
  - ✓ **The Federally Comparable Plan (FCP) is MN 35K.**

March 2011 5

CITY OF Fargo

Levees:

- ✓ 50-year level - $900 million.
- ✓ No high ground on ND side.
- ✓ Need to completely ring around Fargo and West Fargo.
- ✓ Once exceeded flooding of entire community.
- ✓ Cost share closer to 50/50 – LERRDs

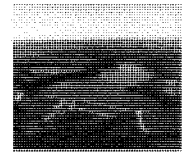
March 2011 8

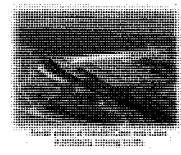
CITY OF Fargo

CITY OF MOORHEAD MINNESOTA

Storage:

- ✓ 400,000 Acre Feet provides 1.6 feet of benefit in Fargo-Moorhead
- ✓ 400,000 Acre Feet is 40,000 acres covered with 10 feet of water.
- ✓ Cost per acre foot average $1,000 - $1,500
- ✓ $400-600 million for 1.6 feet of benefits to Fargo-Moorhead.
- ✓ Limited Reliability





March 2011 7

CITY OF Fargo

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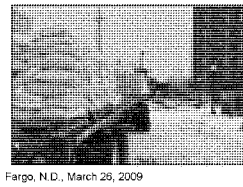
Effectiveness of Diversions:

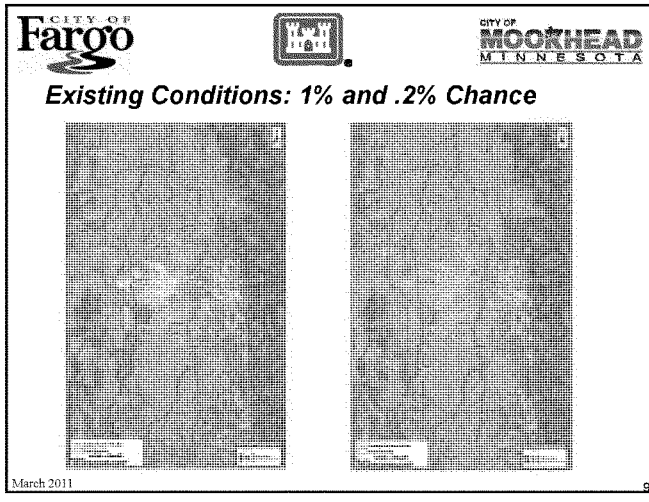
	Stage at Fargo Gage (ft)	
	1% Chance (100- year)	0.2% Chance (500- year)
Existing Condition (Stage)	42.4	46.7
Existing Condition (CFS)	34,700	61,700
Work Group Goal	30	36
20K MN Diversion Channel	36.9	43.7
25K MN Diversion Channel	34.8	42.4
30K MN Diversion Channel	33.6	41.9
35K ND Diversion Channel	30.6	40
35K MN Diversion Channel	31.9	39.6
40K MN Diversion Channel	31.9	37.6
45K MN Diversion Channel	31.9	35.3

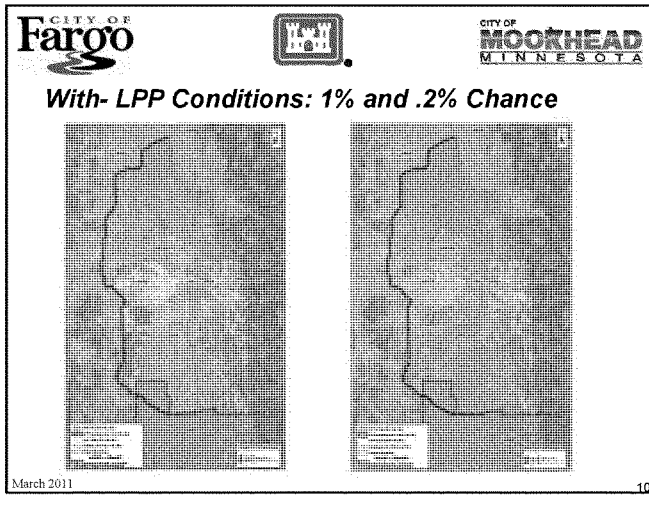


Fargo, N.D., March 26, 2009

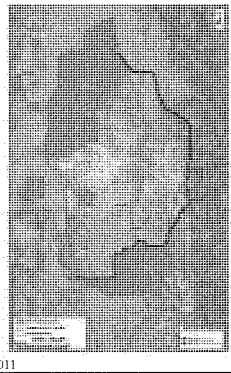
Stage	Impacts
19	Fargo Elm Street closed at El Zagel
30	Fargo 2nd Street Dike installed
31	Moorhead 1st Ave. North closed
35	First homes in Moorhead threatened
35	First homes in Fargo threatened
40.8	2009 Flood Record Stage

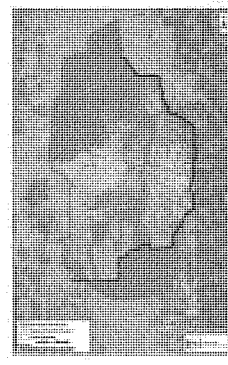
March 2011 8


CITY OF
Fargo
CITY OF
MOORHEAD
MINNESOTA
Existing Conditions: 1% and .2% Chance
March 2011
9


CITY OF
Fargo
CITY OF
MOORHEAD
MINNESOTA
With- LPP Conditions: 1% and .2% Chance
March 2011
10

With-FCP Conditions: 1% and .2% Chance





March 2011 11

Why was ND Diversion identified as Locally Preferred Plan (LPP)?

- ✓ Provides risk reduction from the Red, Wild Rice, Sheyenne, Maple, Rush and Lower Rush Rivers
- ✓ Provides protection for the greatest amount of land for the greatest amount of citizens
- ✓ Has received strong support from citizens on both sides of the river and from local and state leaders
- ✓ Reduces the risk to the loss of life
- ✓ Provides greater protection for the economic base of the area
- ✓ Mitigates cost and reduces the need for construction of levees and other temporary measures

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Downstream Impacts (as known in September 2010):

- ✓ Downstream impacts
  - ✓ **Computer modeled to Halstad, Thompson and Drayton**
    - ✓ **No zero impact point identified**
  - ✓ **This was not anticipated and not acceptable.**
- ✓ The undefined extent of impacts required additional modeling.

Location	Stage Increase (inches)
Minnesota Short 35K - 100 Year	
Climax	12.5
Halstad Gage	6.7
Hendrum	6.8
Perley	4.8
Georgetown	4.7
North Dakota 35K - 100 Year	
Climax	25.4
Halstad Gage	10.7
Hendrum	10.7
Perley	6.6
Georgetown	7.1

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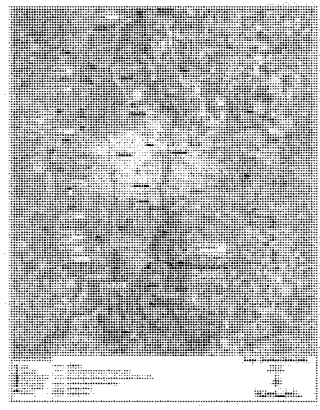
Analysis since September 2010:

- ✓ Looked at concepts to reduce downstream impacts
  - ✓ **Storage cells along diversion**
  - ✓ **Upstream staging**
- ✓ Current Plan
  - ✓ LPP currently proposed is the ND alignment with upstream staging and Storage Area 1
  - ✓ 200,000 ac-ft of storage/staging required to nearly eliminate downstream impacts
    - ✓ Storage Area 1: 50,000 ac-ft (4,360 ac)
    - ✓ Upstream Staging: 150,000 ac-ft
  - ✓ Impacts are located near benefitted area vs. downstream to Canadian border

March 2011 14



Current Plan:
ND alignment
with staging
and storage

March 2011 15

Upstream Staging – LPP:

Locally Preferred Plan - 50 Year (2009) (Upstream)			
Location	Existing No Protection Elevation	LPP Diversion Elevation	Difference (ft) Project vs. Existing No Protection
US LPP Diversion	913.76	920.86	7.10
Hickson Gage	916.34	920.92	4.58
Abercrombie	934.48	934.62	0.14

Locally Preferred Plan - 100 Year (Upstream)			
Location	Existing No Protection Elevation	LPP Diversion Elevation	Difference (ft) Project vs. Existing No Protection
US LPP Diversion	914.65	922.88	8.23
Hickson Gage	917.52	922.90	5.38
Abercrombie	935.62	935.73	0.11

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Residual Downstream Stages – LPP:

Difference (ft) Project vs. Existing, No Protection		
Location	50-Year (2% Chance) Event (2009)	100-Year (1% Chance) Event
Drayton Gage	0.08	0.08
Oslo Gage	0.04	0.06
Grand Forks Gage	0.18	0.24
Maximum Impact Location	0.38	0.29
Thompson Gage	0.24	0.04
Halstad Gage	0.00	-0.06
Hendrum	-0.12	-0.06
Perley	-0.32	-0.28
Georgetown	-0.23	-0.25

Potential exists to mitigate residual impacts with Operation Plan

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Upstream and Downstream Stage Increases, all Plans:

LPP (currently proposed): Includes upstream staging and storage

FCP: MN35K, downstream impacts

ND35K (previously identified): Has downstream impacts

(NI: Not Identified/modeled)

Stage Increase (inches)			
Location	1% Chance (100-Year) Event		
	LPP	FCP	ND35K
Downstream Locations			
Emerson Gage	NI	0.7	NI
Pembina Gage	NI	2.0	NI
Drayton Gage	1.0	1.7	NI
Oslo Gage	0.7	1.1	NI
Grand Forks Gage	2.9	4.1	NI
LPP Maximum DS Impact Location	3.5	--	--
32nd Ave. Grand Forks	3.4	5.8	--
Thompson Gage	0.5	7.0	15.8
Hwy 29/Co Rd 221	-0.2	10.7	23.6
ND35K Maximum Impact Location	--	--	25.4
DS Sandhill River/Climax	-0.5	11.8	25.3
FCP (MN35K) Maximum Impact Location	--	12.5	--
Halstad Gage	-0.7	6.2	10.4
Hendrum	-0.7	6.6	11.3
Perley	-3.4	6.6	7.6
Georgetown	-3.0	5.8	8.4
Upstream Locations			
US FCP Diversion	--	6.8	--
US ND Wild Rice River	-107.9	5.3	-105.1
US LPP Diversion	98.8	--	0.2
Hickson Gage	64.6	-0.1	0.1
Abercrombie	1.3	0.0	--

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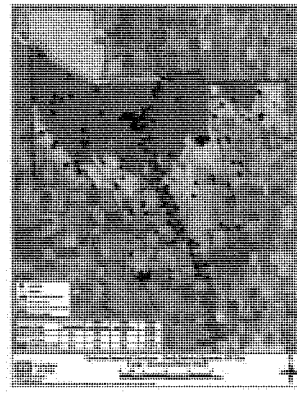
LPP Upstream Staging:

- ✓ Estimated cost of upstream staging is $200 Million
- ✓ Nearly eliminates downstream impacts

Depth in Feet	Residential	Non-Residential	Total Structures	Total Acres
0-1 Feet	84	112	196	5,298
1-3 Feet	73	152	225	7,361
> than 3 Feet	218	165	383	21,271
Totals	375	429	804	33,930



March 2011 19

LPP Upstream Mitigation:

- ✓ Preliminary Mitigation Concept:
  - ✓ Upstream staging area considered necessary to operate the project.
  - ✓ Mitigation measures based on total depth of water, with Project:
    - ✓ Farmland: Flowage Easements on property in staging area
    - ✓ Structures:
      - ✓ 0 to 1 foot – Flowage Easement only
      - ✓ 1 to 3 feet – Ring Dike or Buyout (depends on access/duration)
      - ✓ Greater than 3 feet – Buyout
  - ✓ Work with Oxbow, Bakke, Hickson, Comstock to develop plan
  - ✓ Raise I-29, MN Hwy 75, and Railroad in staging area.

March 2011 20

LPP Upstream Mitigation:

- ✓ Real Estate Acquisition is a Local Sponsor responsibility:
  - ✓ **Corps requires mitigating properties based on Takings analysis (increase in depth, frequency and duration).**
  - ✓ **Concept presented would be significantly greater than what Corps would require.**
  - ✓ **Mitigation must be complete when Project goes into operation.**
    - ✓ **2021 earliest operation**
  - ✓ **Will change as project is designed**
    - ✓ **Continue analysis to minimize impacts in the future**
  - ✓ **Mitigation as part of Project cannot begin until Congress authorizes and funds the Project.**

March 2011 21

LPP Cost Increases:

Cost Increases:			
May 10 - August 10: Geotechnical changes			
August 10 - March 11: Offsetting of downstream impacts			
	May 2010	August 2010	Current (March 2011)
Project First Cost	$1,252,497,920	$1,484,913,000	$1,709,100,000

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Project Cost Estimates:

Item	ND35K (Flood Risk Management Only)	LPP (Flood Risk Management Only)	FCP (Flood Risk Management Only)	Difference (LPP- FCP)
Project First Cost	$1,484,913,000	$1,709,100,000	$1,162,725,000	$546,375,000
Federal Share	$755,772,000	$755,772,000	$755,772,000	$0
Non-federal Share	$729,141,000 *	$953,328,000	$406,953,000 *	$546,375,000
Average Annual Cost	$86,309,000	$98,261,000	$69,102,000	$29,159,000
Average Annual Benefits	$173,777,000	$174,790,000	$172,454,000	$2,336,000
Net Benefits	$87,468,000	$76,529,000	$103,352,000	($26,823,000)
Benefit to Cost Ratio	2.01	1.78	2.50	
Average Annual Residual Flood Damages	$32,000,000	$32,000,000	$30,000,000	$2,000,000

* Does not include costs for downstream mitigation

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Project Operation:

- ✓ Operation, staging and storage could begin when peak flow in the Red River is forecasted to exceed 9,600 cfs at Fargo (2-5 yr event)
- ✓ Would have operated 20 out of 108 years of record
- ✓ Summer operation: Would have operated 4 times during period of record
- ✓ Detailed Operation Plan will be developed during design and optimized after project completed
  - ✓ **Likely have separate operating plans for Spring and Summer**
  - ✓ **Minimize summer operation**

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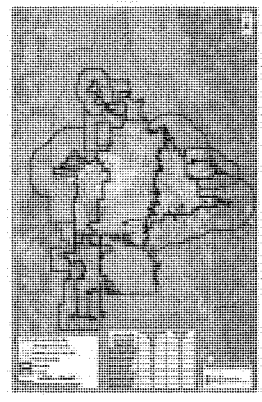
Area Removed from 1% Chance Floodplain:

	Area (sq. mi.) in existing 1% floodplain	Area (sq. mi.) in 1% floodplain w/Project	Difference
Fargo City Limits	26.2	2.4	23.8
Fargo ET Limits	26.6	3.1	23.5
West Fargo City Limits	0.8	0.4	0.4
West Fargo ET areas	7.7	1.3	6.4
Harwood City Limits	0.9	0.1	0.8
Harwood ET Limits	6.9	1.1	5.8
Horace City Limits	3.4	1.4	2
Horace ET Limits	0.7	1.1	-0.4
Moorhead City Limits	3.6	1.1	2.5
Moorhead ET Limits	4.6	0.8	3.8
Dilworth City Limits	0.0	0.0	0
Dilworth ET Limits	0.0	0.0	0
Totals	81.4	12.8	68.6



March 2011 25

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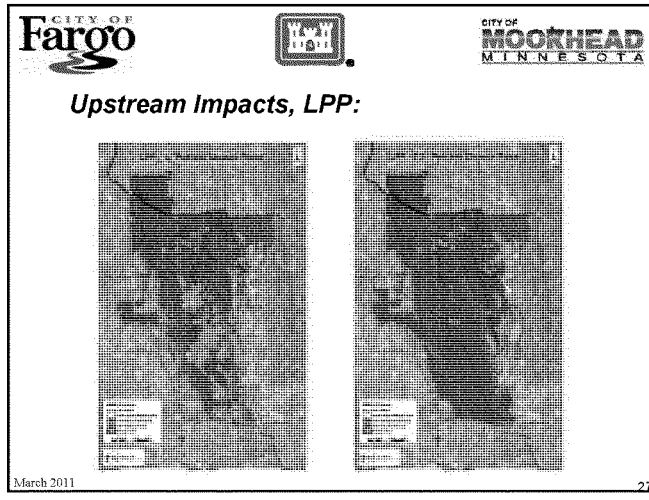
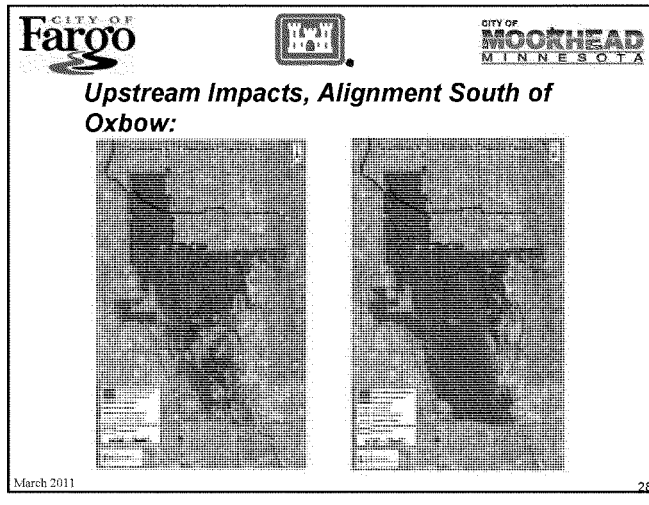
CITY OF MOORHEAD MINNESOTA

LPP Variations Considered:

- ✓ 6 Variations were considered:
  - ✓ **No storage/more storage**
  - ✓ **No staging/more staging**
  - ✓ **Allow additional downstream stage increases**
  - ✓ **Shift alignment south of Oxbow**
- ✓ No great cost differences
- ✓ All variations have impacts and tradeoffs

March 2011 26


Fargo
CITY OF
MOORHEAD
MINNESOTA
Upstream Impacts, LPP:
March 2011
27


Fargo
CITY OF
MOORHEAD
MINNESOTA
Upstream Impacts, Alignment South of Oxbow:
March 2011
28

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Project Benefits of LPP with Upstream Staging/Storage:

- ✓ Reduce flood risk to over 200,000 people
  - ✓ **Fargo**
  - ✓ **Moorhead**
  - ✓ **West Fargo**
  - ✓ **Horace**
  - ✓ **Harwood**
- ✓ Protect 70 square miles of infrastructure
- ✓ Provide additional protection from the Wild Rice, Sheyenne, Rush, Lower Rush and Maple Rivers
- ✓ Handles events much larger than the 500-year (Mn plan does not)
- ✓ Diversion is a proven, reliable solution

March 2011 29

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Recommended Path Forward:

- ✓ Alignment changes have been requested
- ✓ Feasibility Report/EIS will keep the ND East Alignment as recommended plan.
  - ✓ **Stay on schedule for Chief's Report and starting design**
- ✓ Changes can be considered during design phase and must:
  - ✓ **Comply with NEPA (review & disclosure).**
  - ✓ **Be compliant with EO 11988.**
  - ✓ **Be compliant with Clean Water Act.**
  - ✓ **May require additional Congressional authorization**

March 2011 30

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Local Action Items:

- ✓ Confirmation of support for LPP by April 11, 2011
- ✓ Provide formal request for 50/50 cost share of Planning Engineering and Design by April 11.
- ✓ Commitment to pay difference between LPP and FCP (Estimated $546,375,000)
- ✓ Impacts of a delayed decision (after April 11):
  - ✓ **Delay release of SDEIS for public/agency review**
  - ✓ **Delay in obtaining Chief's Report**
  - ✓ **Delay in start of design phase**

March 2011 31

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F-M Metro Study Timeline:

✓	Mar 30-31	Public Meetings
✓	11 Apr 11	Letters of Sponsor Support for LPP
✓	27 Apr 11	SDEIS to EPA for Public Release
✓	May /Jun11	Public Meeting(s)
✓	20 Jun 11	Complete 45-day NEPA public comment period
✓	1 Aug 11	Division Engineer's Transmittal (begin design)
✓	7 Sept 11	Submit Draft Chief's Report and Final EIS to EPA for publication
✓	1 Dec 11	Sign Chief's Report
✓	1 Oct 12	Sign Project Partnership Agreement*
✓	Spring 2013	Begin Construction*

** Requires authorization and funding from Congress*

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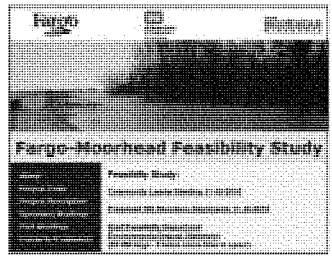
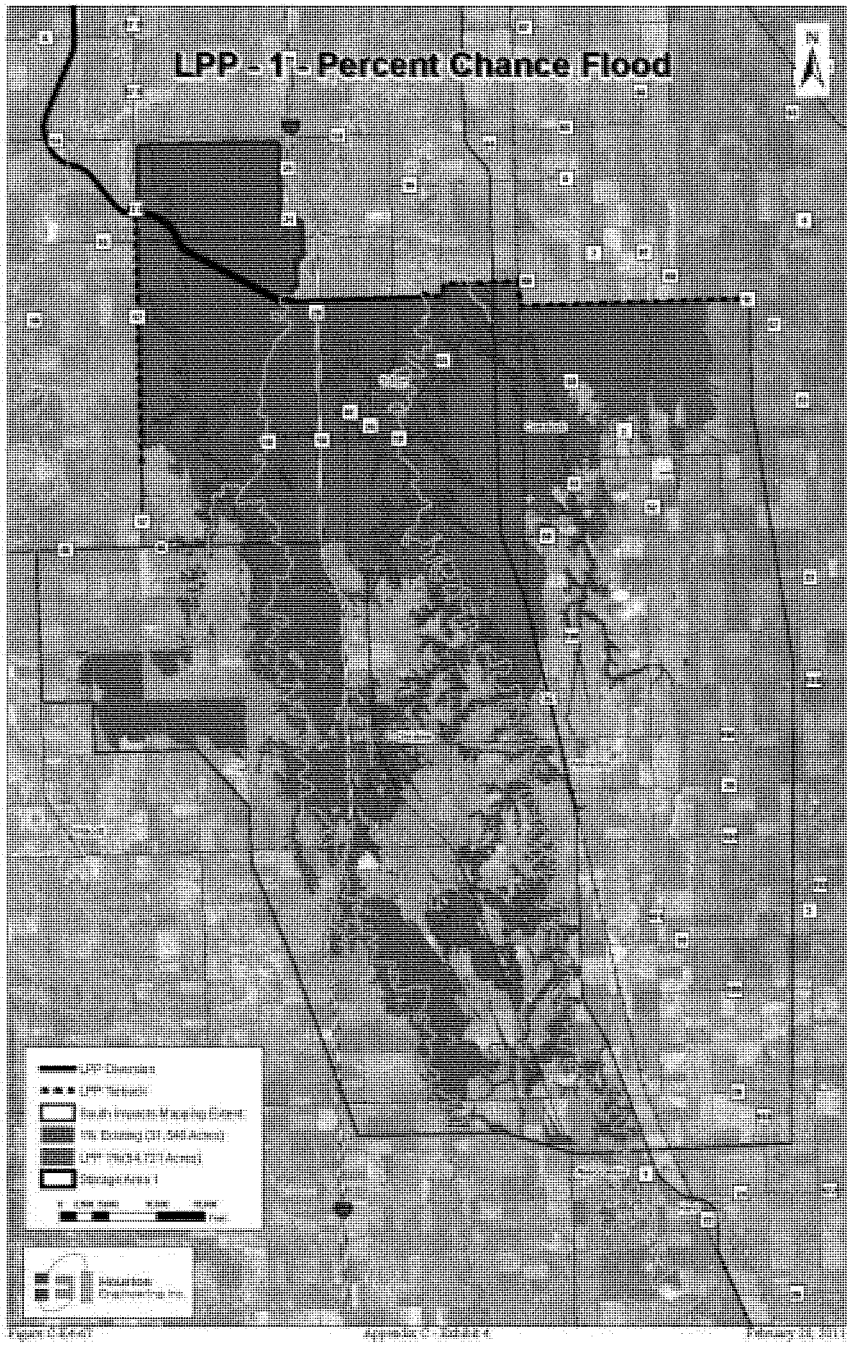
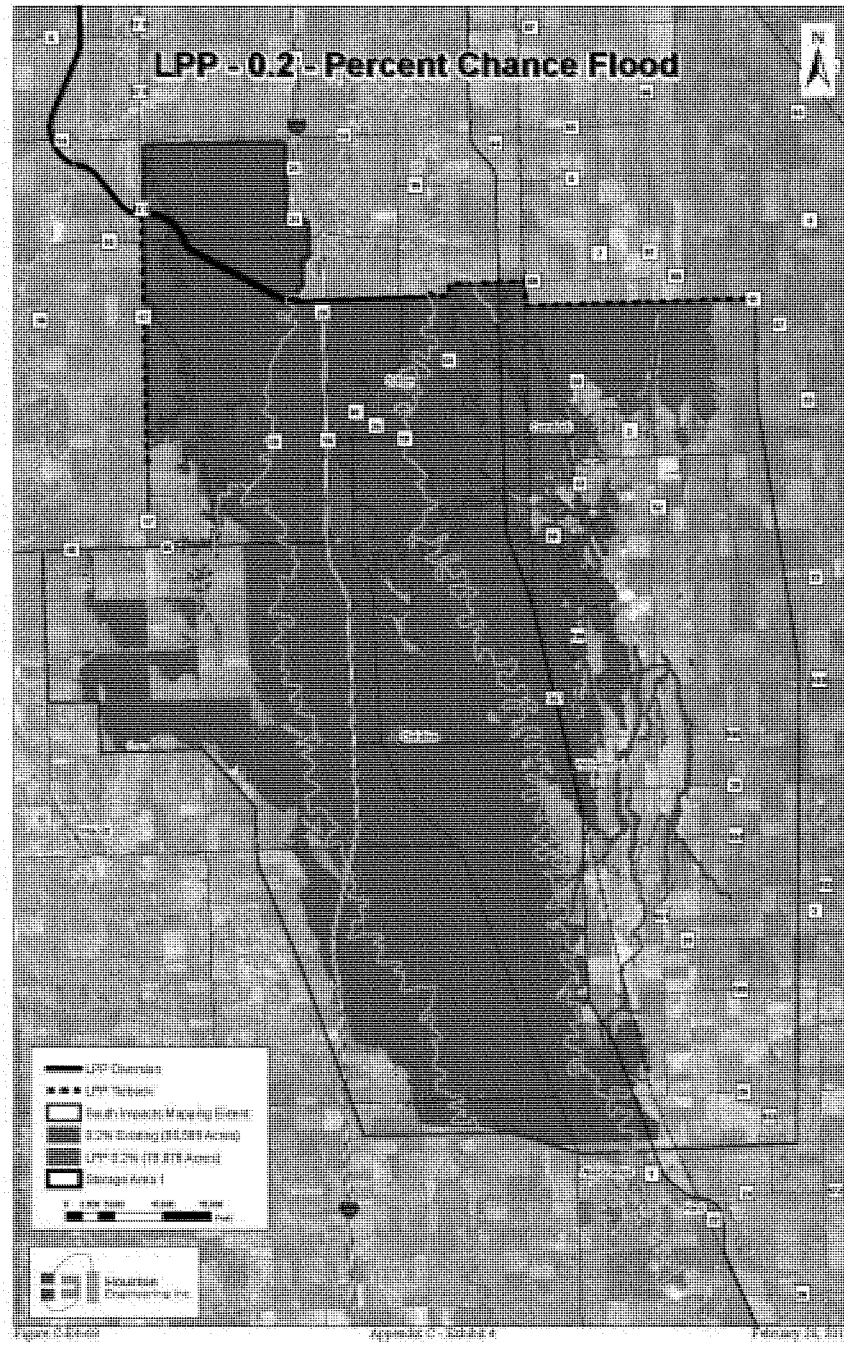
F-M Metro Information

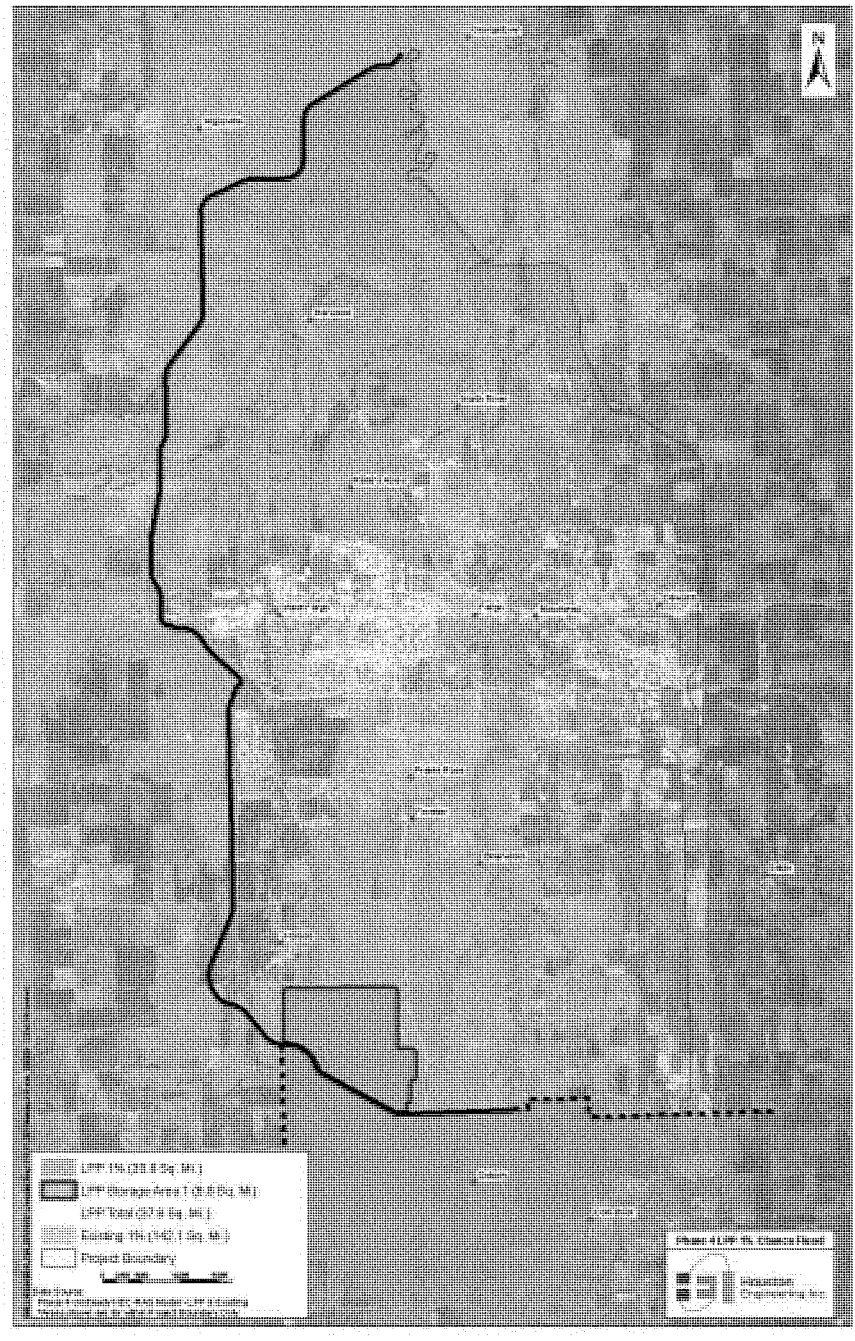


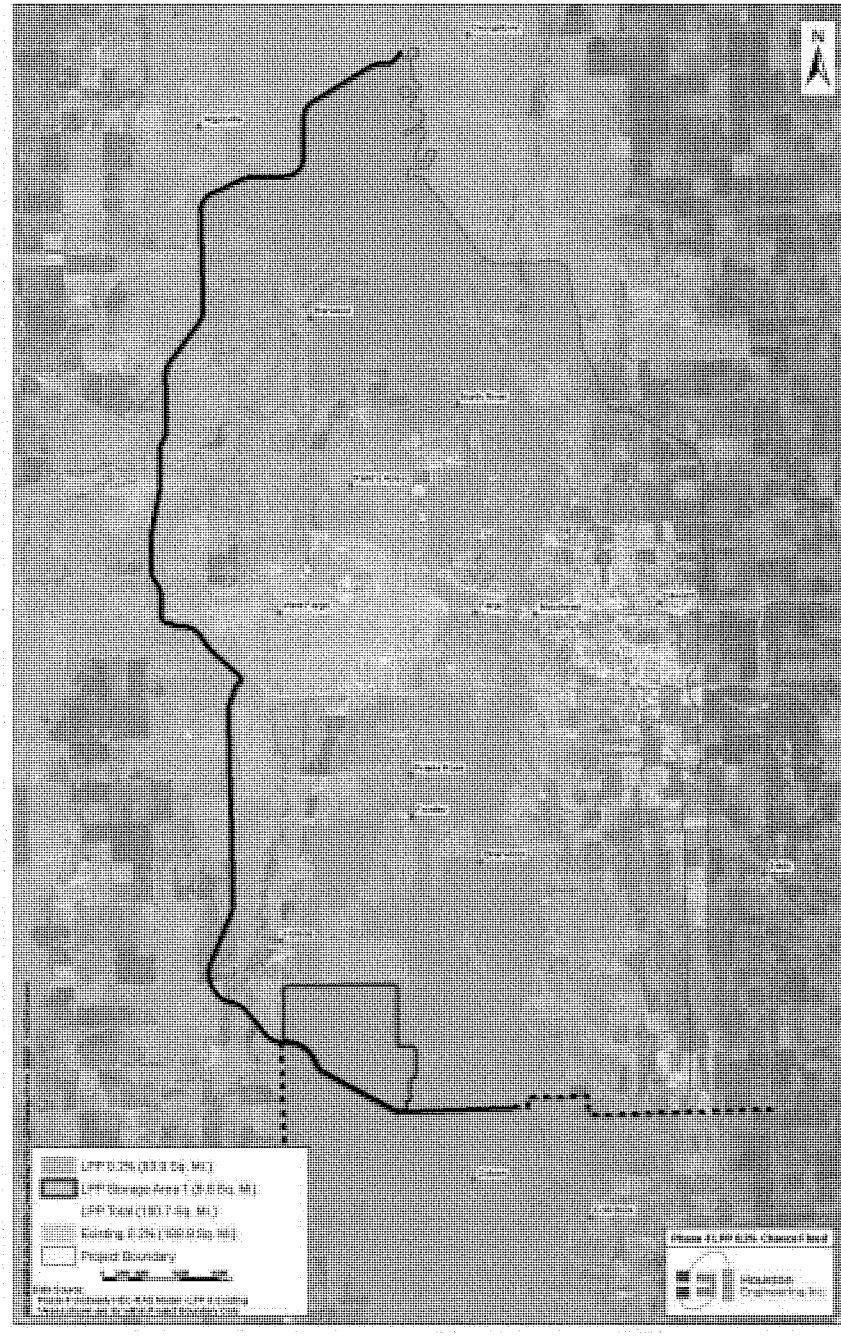
http://www.internationalwaterinstitute.org/feasibility/index.htm

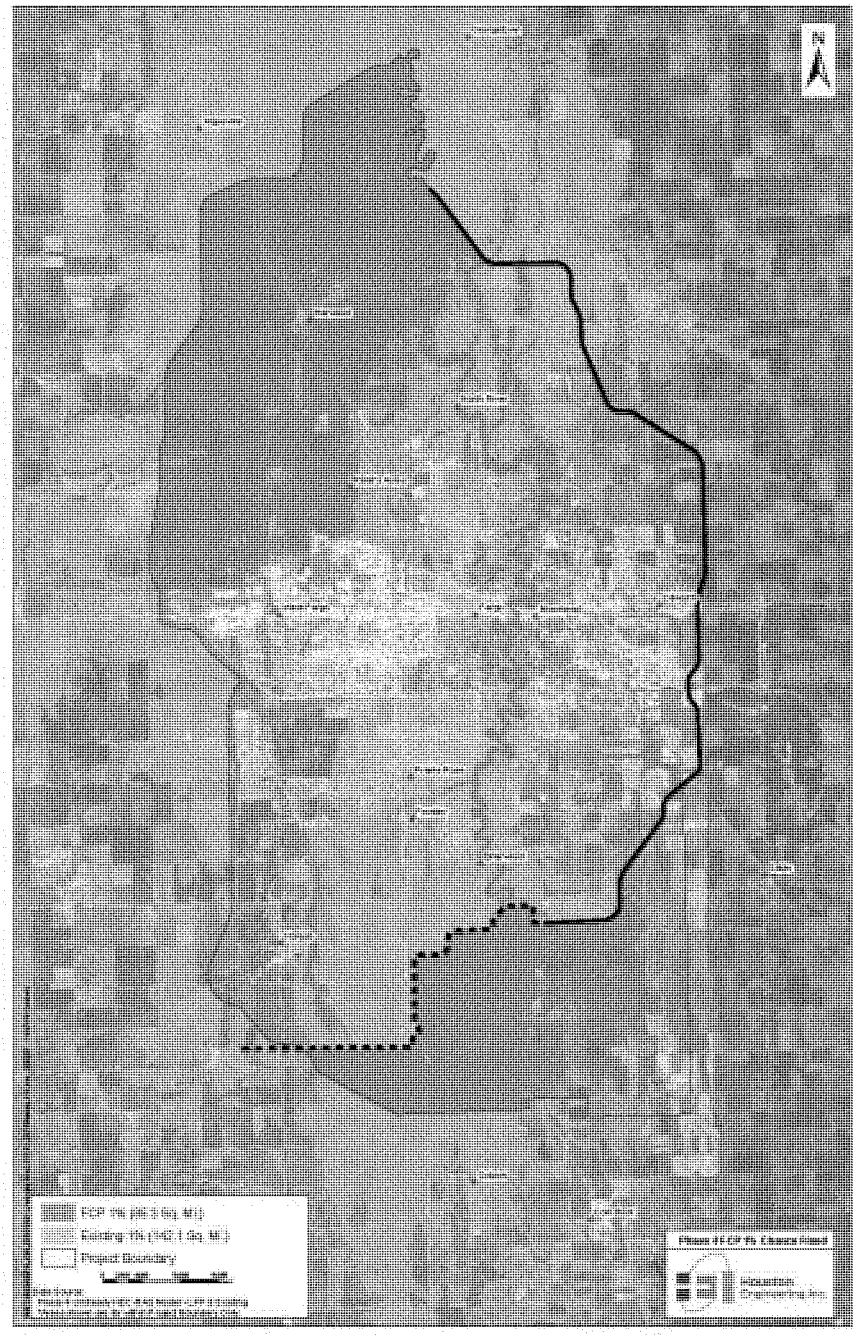
March 2011 33

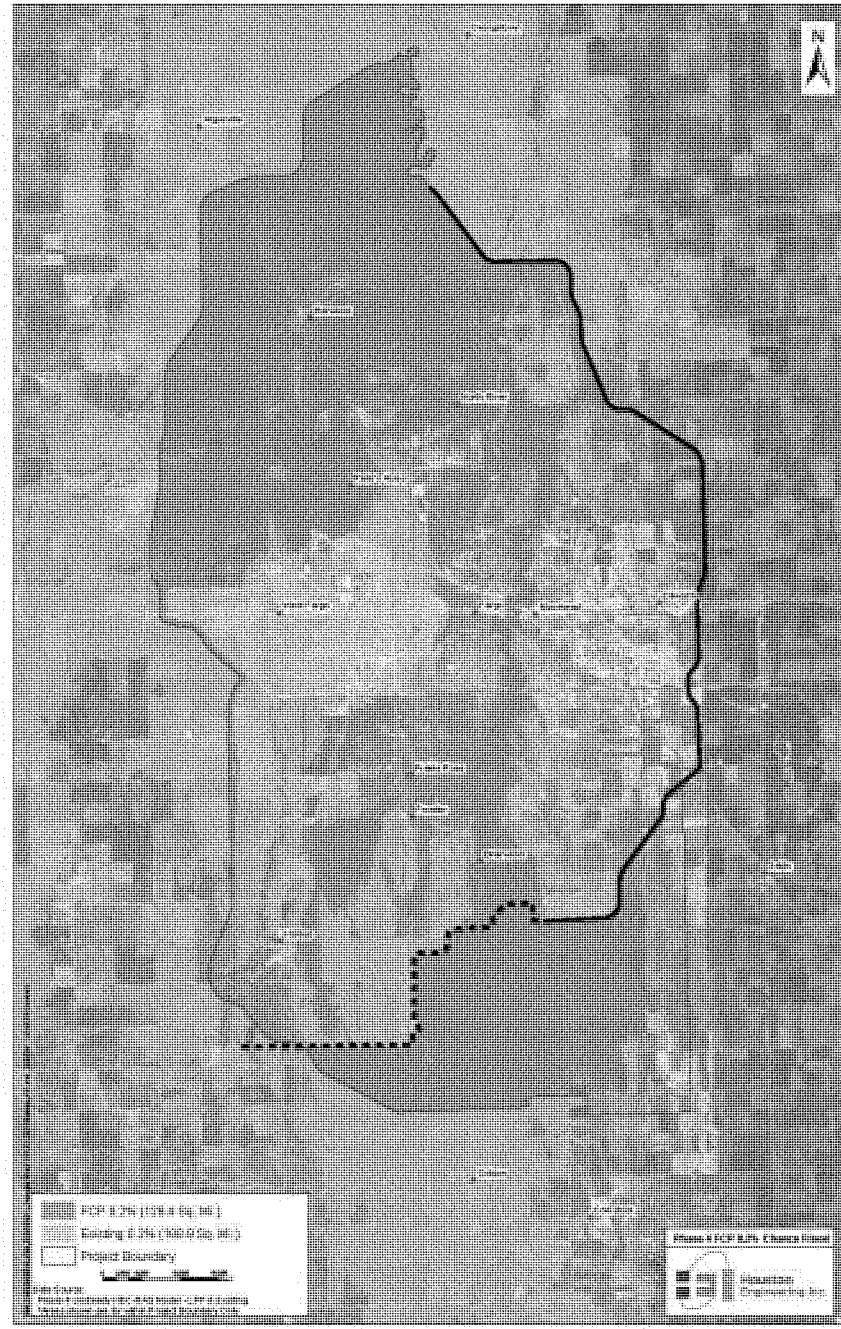

LPP - 1 - Percent Chance Flood

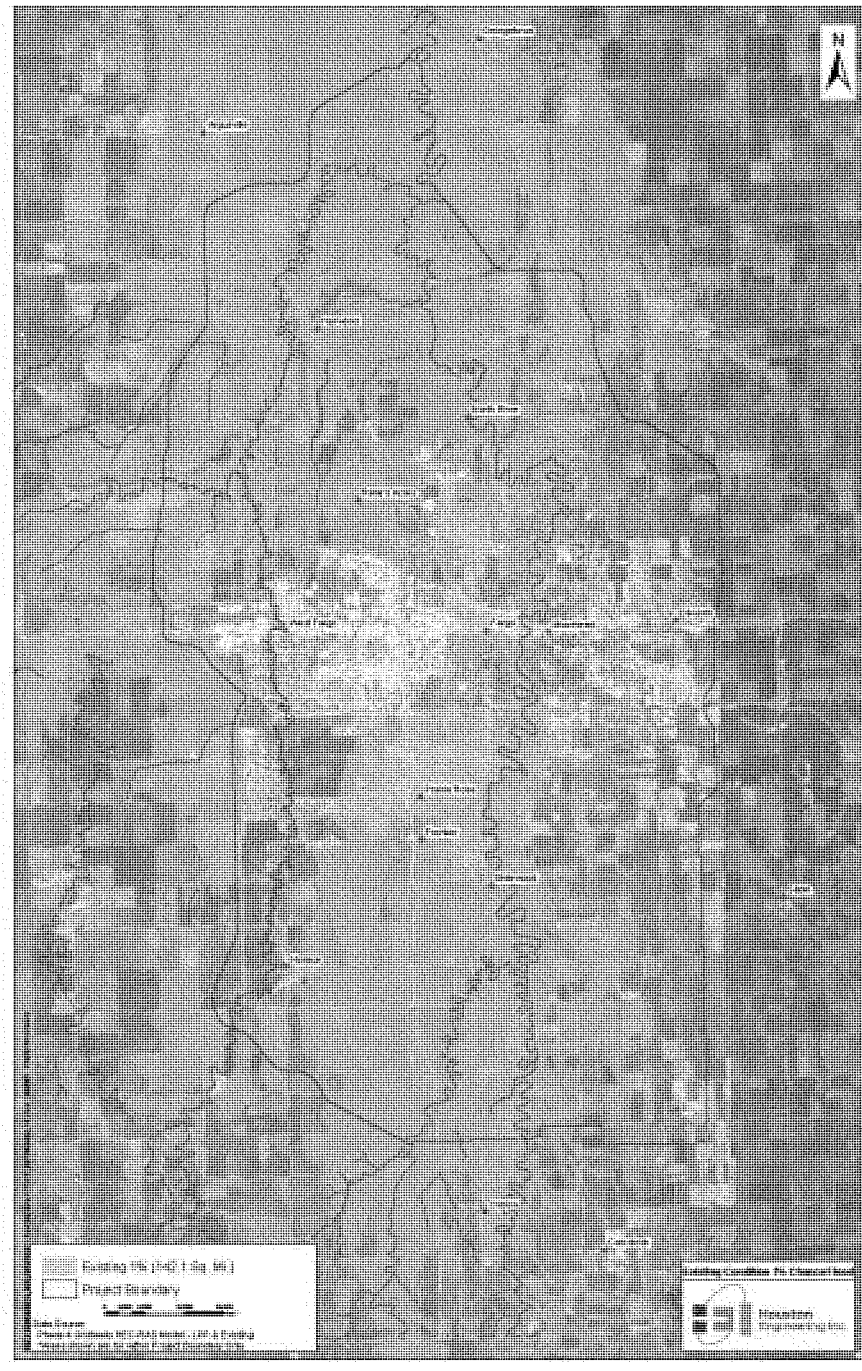

LPP - 0.2 - Percent Chance Flood


Project Boundary


Project Boundary


Project Boundary


Project Boundary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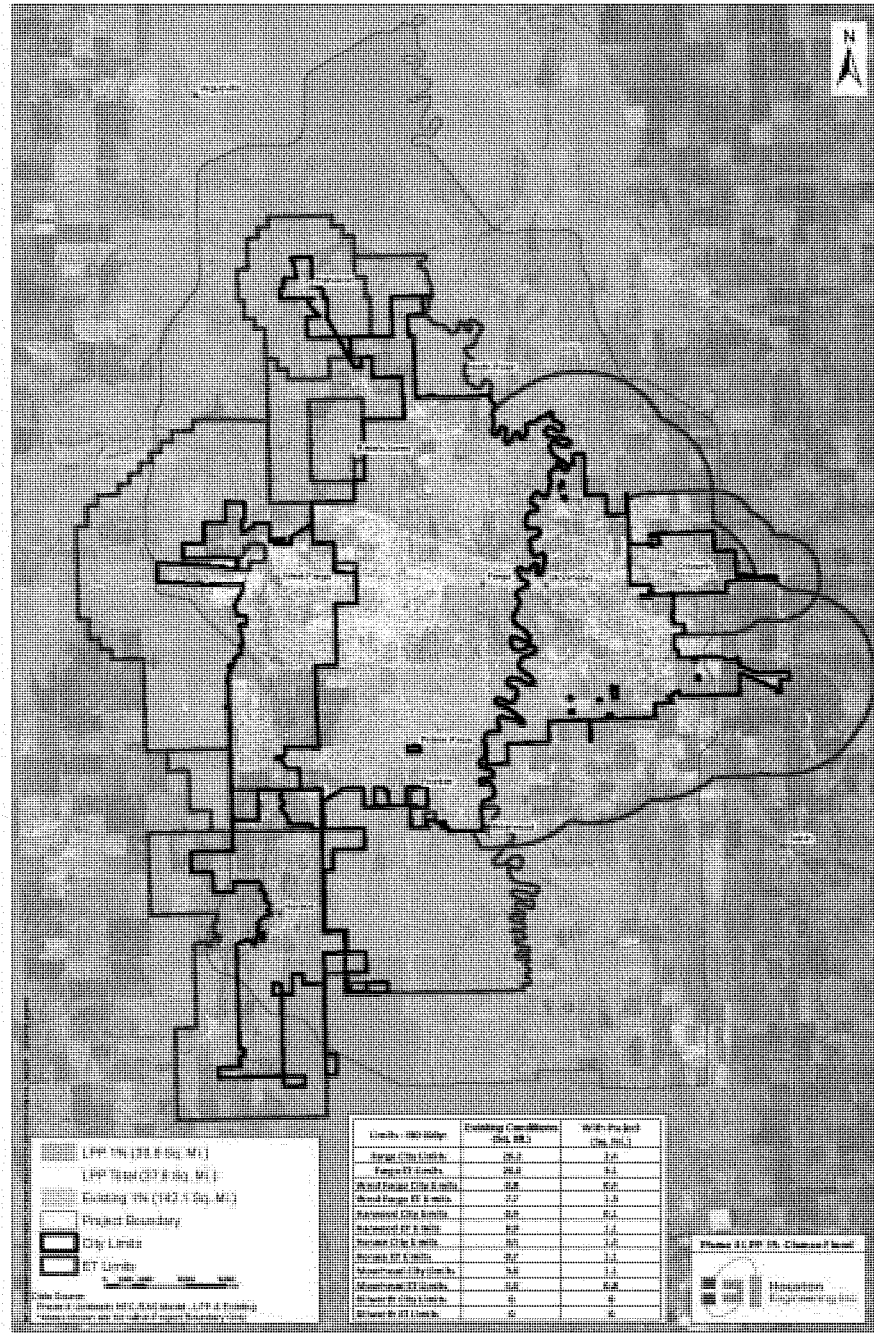
Project Boundary
Houston Engineering Inc.

N
Project Boundary


N
LPP 1% (38.8 Sq. Mi.)
LPP Total (37.8 Sq. Mi.)
Existing 1% (142.1 Sq. Mi.)
Project Boundary
City Limits
ET Limits
Data Source:
Existing Conditions (Sq. Mi.)
With Project (Sq. Mi.)
Fargo City Limits
Fargo ET Limits
West Fargo City Limits
West Fargo ET Limits
Horwood City Limits
Horwood ET Limits
Harwood City Limits
Harwood ET Limits
Mapleton City Limits
Mapleton ET Limits
Kindred City Limits
Kindred ET Limits
Wheatland City Limits
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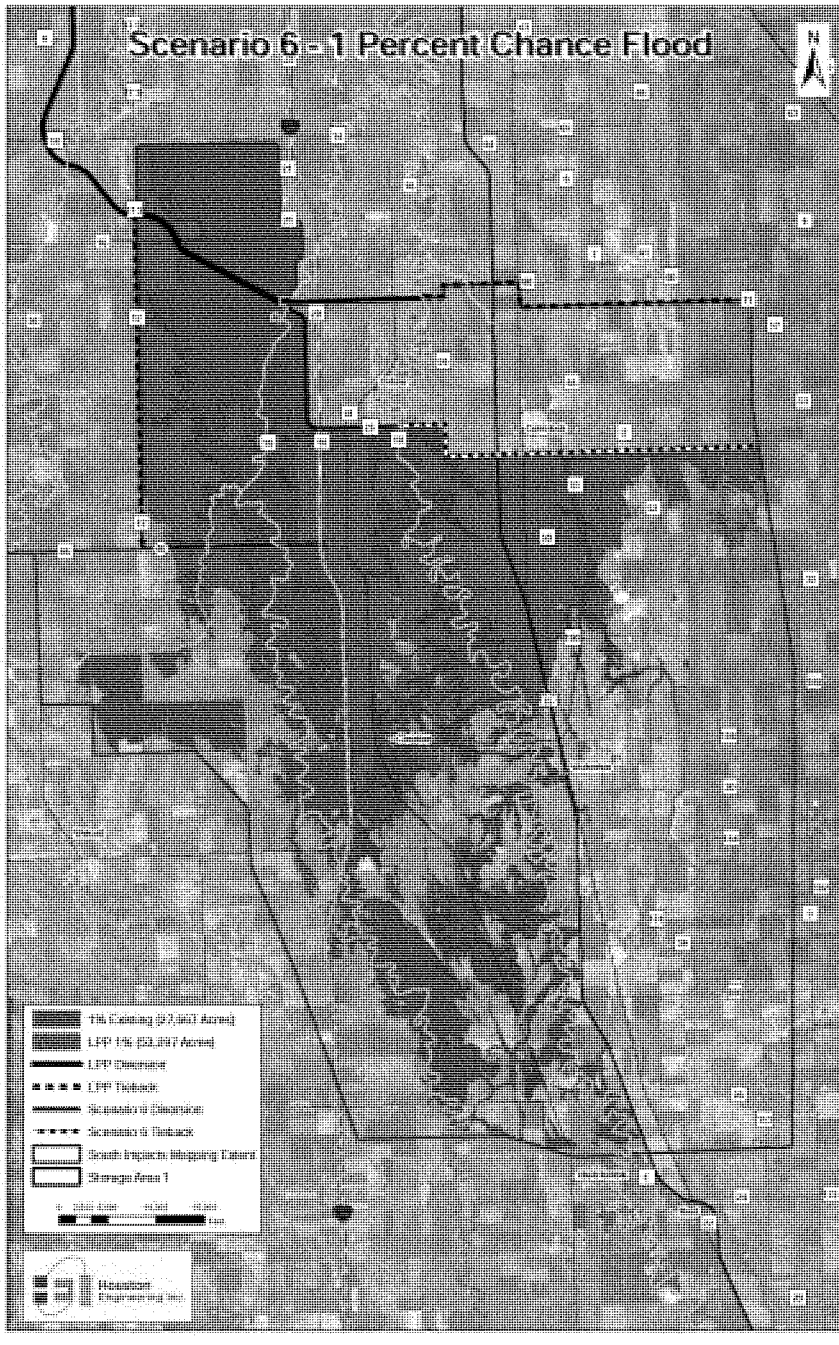
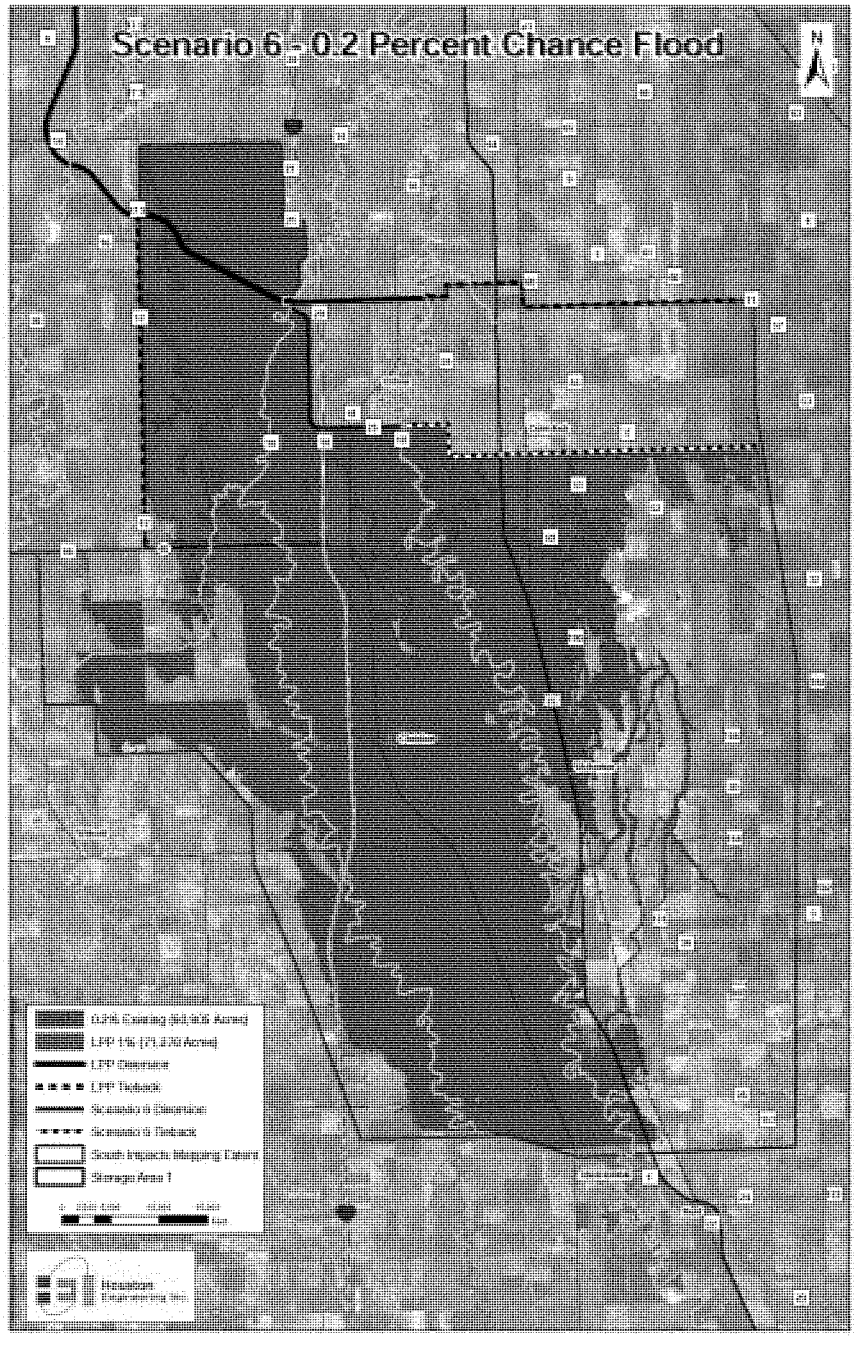
Hickson ET Limits
Hickson
Engineering, Inc.


Scenario 6 - 1 Percent Chance Flood


Scenario 6 - 0.2 Percent Chance Flood
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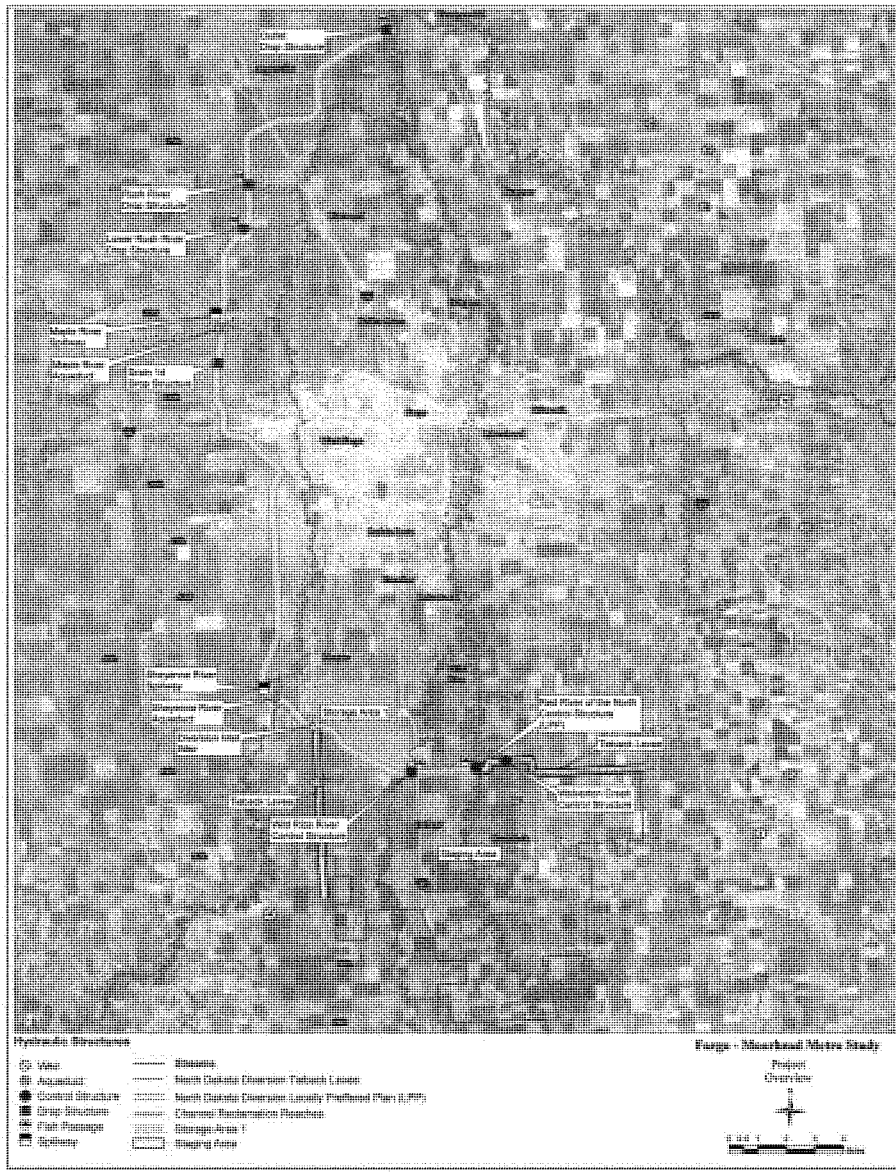
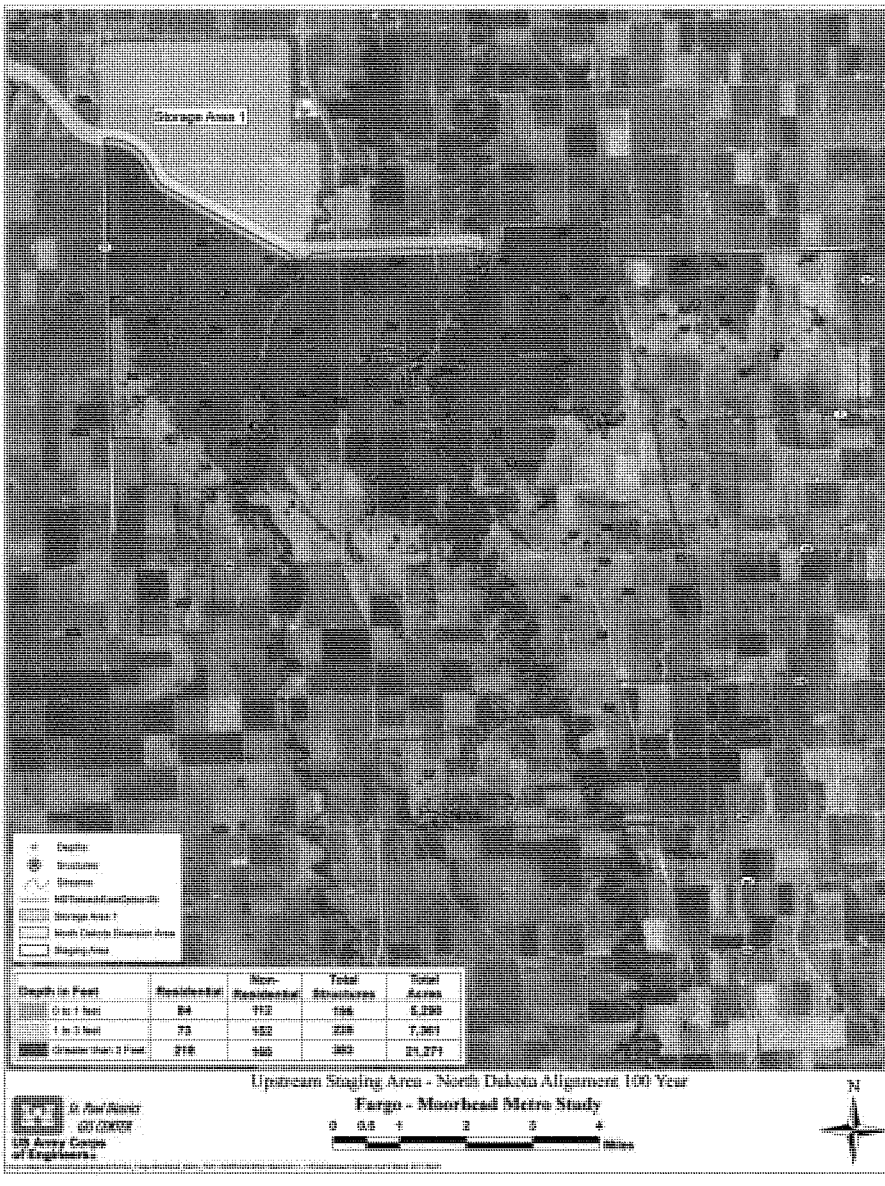
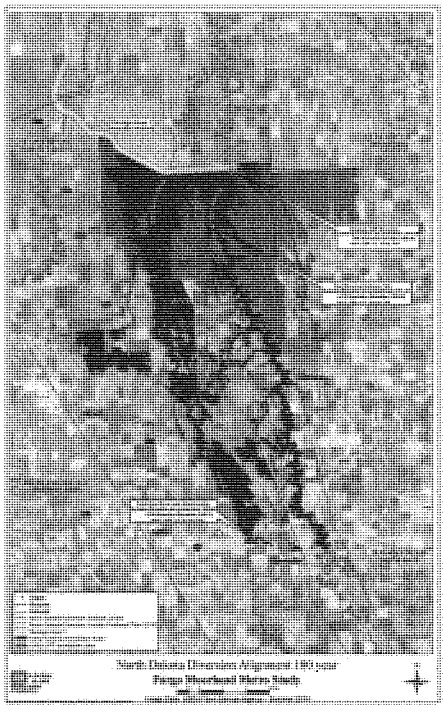
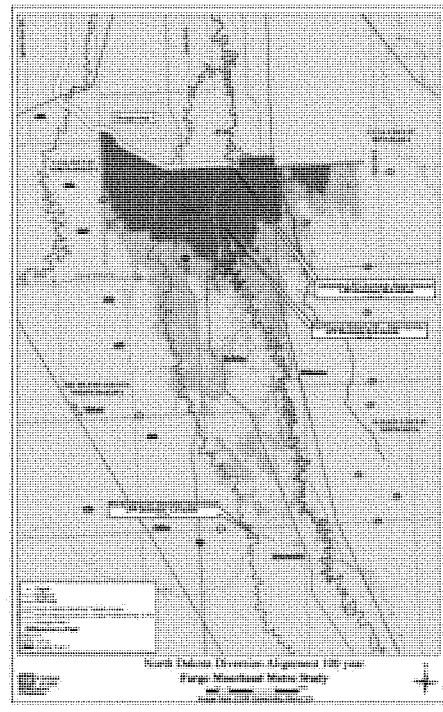
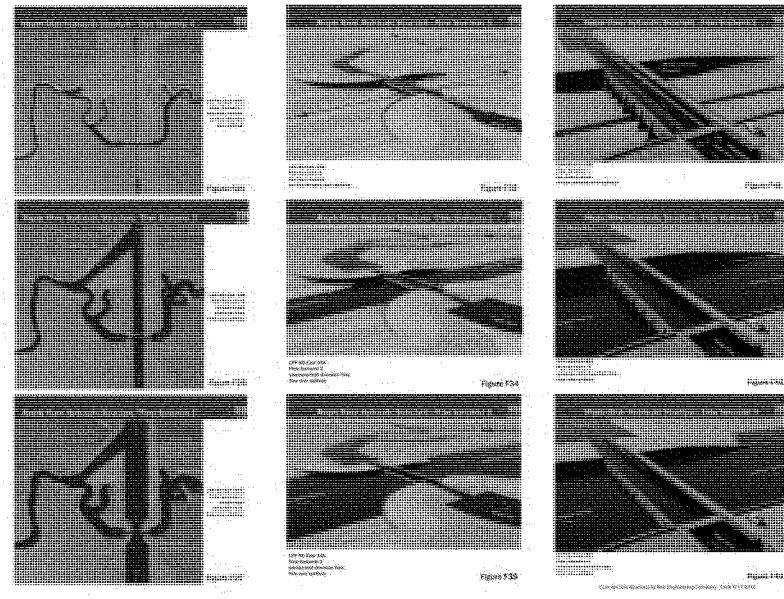
LPP Diversion
LPP Tieback
Scenario 6 Diversion
Scenario 6 Tieback
South Impacts Mapping Extent
Storage Area 1

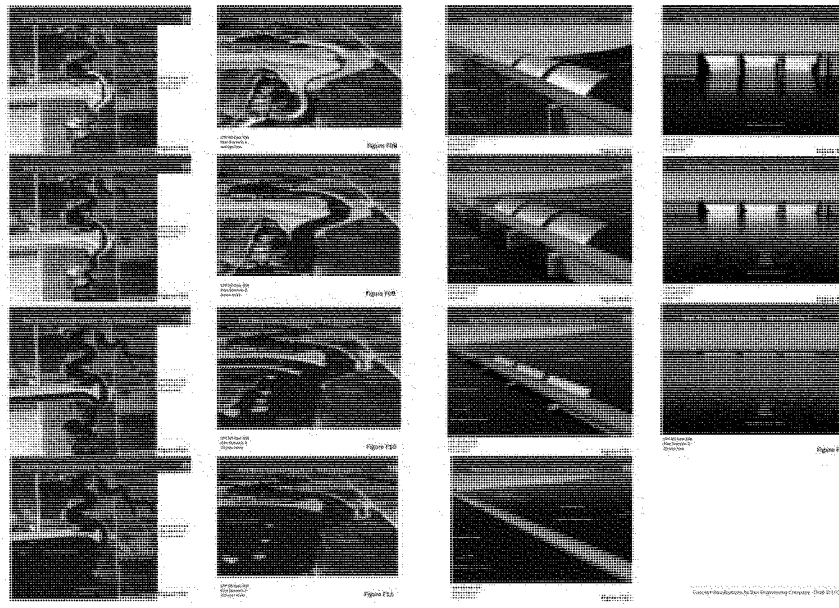

Hydraulic Structures
Fargo - Moorhead Metro Study
Project Overview


Storage Area 1
Upstream Staging Area - North Dakota Alignment 100 Year
Fargo - Moorhead Metro Study
N


North Dakota Diversion Alignment 100 year
Fargo Moorhead Metro South


North Dakota Diversion Alignment 100 year
Fargo Moorhead Metro South





Presentations 27 and 28:

March 30, 2011
March 31, 2011

NEWS RELEASE

U.S. ARMY CORPS OF ENGINEERS **BUILDING STRONG®**

ST. PAUL DISTRICT
March 16, 2011
MVP-PA-2011-031
Shannon Bauer: 651-290-5108, 612-840-9453, shannon.l.bauer@usace.army.mil
Mark Davidson: 651-290-5201, 651-261-6769, mark.d.davidson@usace.army.mil
Patrick Moes: 651-290-5202, 651-366-7539, patrick.n.moes@usace.army.mil

Corps of Engineers to host community meeting on the potential impacts of a Fargo, N.D./Moorhead, Minn., flood risk management project

ST. PAUL, Minn. – The U.S. Army Corps of Engineers, St. Paul District, in conjunction with the city of Fargo, N.D.; the city of Moorhead, Minn.; Minnesota's Clay County; and North Dakota's Cass County, will host two community meetings to discuss the potential impacts of a proposed flood water diversion channel for the proposed Fargo-Moorhead metropolitan area flood risk management project.

The first meeting will be held **March 30** at the Kindred High School Gymnasium, located at 55 1st Ave. S., Kindred, ND. The meeting will begin at 6 p.m. with an informal open house, followed by a presentation at 7 p.m.

The second meeting will be held **March 31** at the West Fargo High School, located at 801 9th Street E. in W. Fargo, ND. The meeting will begin at 6:30 p.m. with an informal open house, followed be a presentation at 7:30 p.m.

Corps' staff will be on hand to answer questions at both meetings, and public input is encouraged.

The Corps, along with its local partners, the cities of Fargo and Moorhead, continues to analyze, optimize and strengthen the proposed project prior to public release of the supplemental draft environmental impact statement and feasibility report in April 2011.

The U.S. Army Corps of Engineers, St. Paul District, serves the American public in the areas of environmental enhancement, navigation, flood damage reduction, water and wetlands regulation, recreation sites and disaster response. It contributes around $175 million to the five-state district economy. The 700 employees work at more than 40 sites in five upper-Midwest states. For more information, see www.mvp.usace.army.mil.

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Web site: http://www.mvp.usace.army.mil/
Facebook: http://www.flickr.com/photos/usace-stpaul/
Flickr: http://www.flickr.com/photos/usace-stpaul/
YouTube: http://www.youtube.com/usacemvppao

Fargo-Moorhead Metropolitan Feasibility Study

Public Meetings, March 30-31, 2011

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US Army Corps of Engineers
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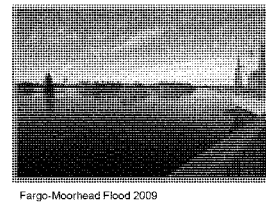
Why we are here:

- ✓ To present information on the revised diversion plan, which includes the North Dakota East diversion alignment combined with flood storage and upstream staging.
- ✓ Gather public comments on the proposed plan.



Fargo-Moorhead Flood 2009

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Presentation Overview:

- ✓ Existing conditions
- ✓ Planning process, decisions and alternatives considered
- ✓ Revised diversion plan
- ✓ Path forward
- ✓ Local actions required
- ✓ Schedule

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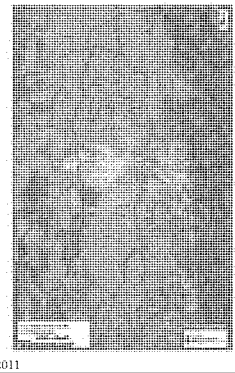
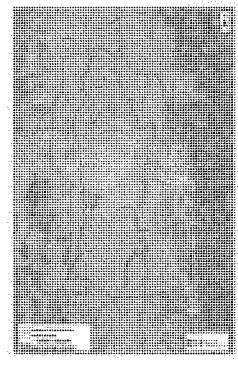
Existing Conditions: 1% and .2% Chance





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Selection of Diversion Channel:

- ✓ From the Draft EIS
  - ✓ **Alternatives Considered:**
    - ✓ **Non-structural**
    - ✓ **Levees/floodwalls**
    - ✓ **Upper basin storage**
    - ✓ **Retention/controlled field runoff**
    - ✓ **Diversion channels**
    - ✓ **Combinations**
  - ✓ **Result:**
    - ✓ **Diversion channels with tie back levees**
      - ✓ Minnesota
      - ✓ North Dakota
  - ✓ **The Locally Preferred Plan (LPP) was ND 35K.**
  - ✓ **The Federally Comparable Plan (FCP) is MN 35K.**

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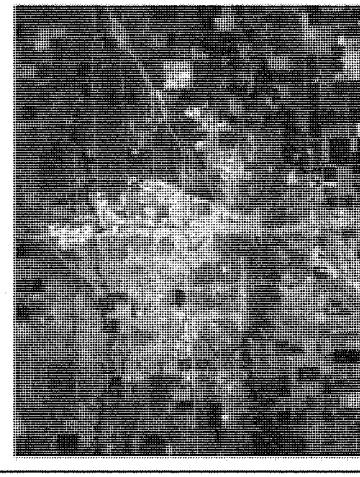
Levees:

- ✓ 50-year level - $900 million.
- ✓ No high ground on ND side.
- ✓ Need to completely ring around Fargo and West Fargo.
- ✓ Once exceeded flooding of entire community.
- ✓ Cost share closer to 50/50 – LERRDs



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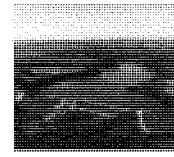
Storage:

- ✓ 400,000 Acre Feet provides 1.6 feet of benefit in Fargo-Moorhead
- ✓ 400,000 Acre Feet is 40,000 acres covered with 10 feet of water.
- ✓ Cost per acre foot average $1,000 - $1,500
- ✓ $400-600 million for 1.6 feet of benefits to Fargo-Moorhead.
- ✓ Limited Reliability



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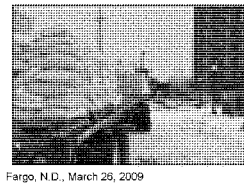
Effectiveness of Diversions:

	Stage at Fargo Gage (ft)	
	1% Chance (100- year)	0.2% Chance (500- year)
Existing Condition (Stage)	42.4	46.7
Existing Condition (CFS)	34,700	61,700
Work Group Goal	30	36
20K MN Diversion Channel	36.9	43.7
25K MN Diversion Channel	34.8	42.4
30K MN Diversion Channel	33.6	41.9
35K ND Diversion Channel	30.6	40
35K MN Diversion Channel	31.9	39.6
40K MN Diversion Channel	31.9	37.6
45K MN Diversion Channel	31.9	35.3



Fargo, N.D., March 26, 2009

Stage	Impacts
19	Fargo Elm Street closed at El Zagel
30	Fargo 2nd Street Dike installed
31	Moorhead 1st Ave. North closed
35	First homes in Moorhead threatened
35	First homes in Fargo threatened
40.8	2009 Flood Record Stage

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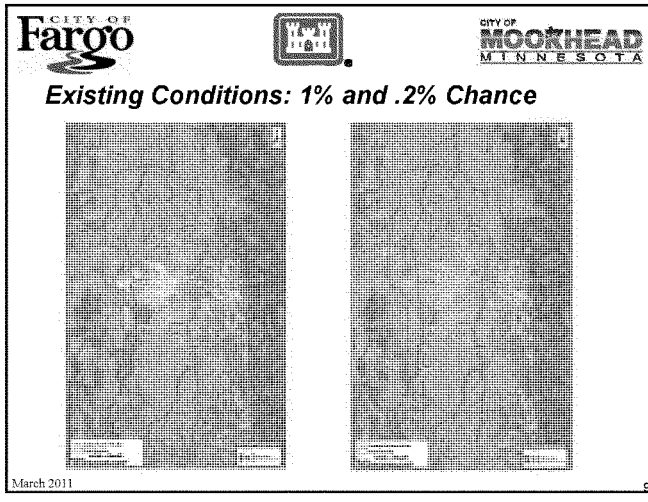
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Existing Conditions: 1% and .2% Chance
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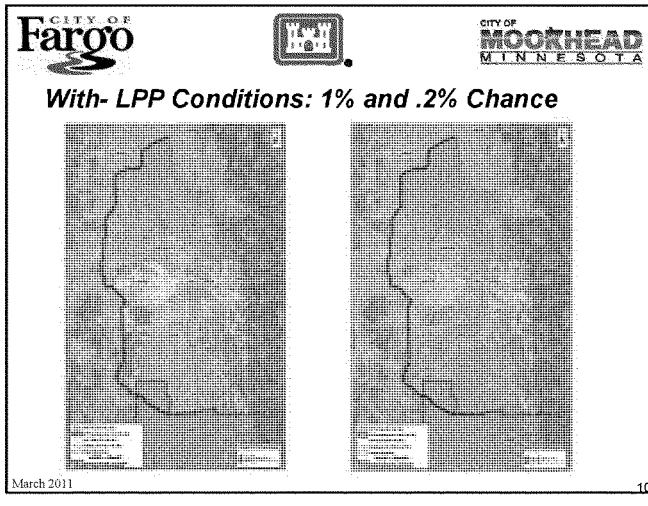
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With- LPP Conditions: 1% and .2% Chance
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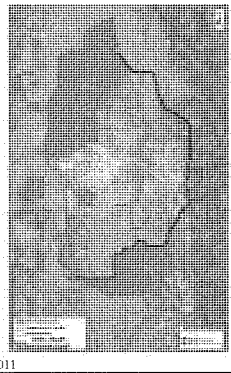
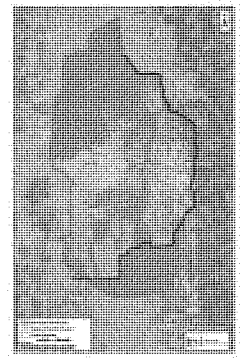
With-FCP Conditions: 1% and .2% Chance





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Why was ND Diversion identified as Locally Preferred Plan (LPP)?

- ✓ Provides risk reduction from the Red, Wild Rice, Sheyenne, Maple, Rush and Lower Rush Rivers
- ✓ Provides protection for the greatest amount of land for the greatest amount of citizens
- ✓ Has received strong support from citizens on both sides of the river and from local and state leaders
- ✓ Reduces the risk to the loss of life
- ✓ Provides greater protection for the economic base of the area
- ✓ Mitigates cost and reduces the need for construction of levees and other temporary measures

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Downstream Impacts (as known in September 2010):

- ✓ Downstream impacts
  - ✓ **Computer modeled to Halstad, Thompson and Drayton**
    - ✓ **No zero impact point identified**
  - ✓ **This was not anticipated and not acceptable.**
- ✓ The undefined extent of impacts required additional modeling.

Location	Stage Increase (inches)
Minnesota Short 35K - 100 Year	
Climax	12.5
Halstad Gage	6.7
Hendrum	6.8
Perley	4.8
Georgetown	4.7
North Dakota 35K - 100 Year	
Climax	25.4
Halstad Gage	10.7
Hendrum	10.7
Perley	6.6
Georgetown	7.1

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Analysis since September 2010:

- ✓ Looked at concepts to reduce downstream impacts
  - ✓ **Storage cells along diversion**
  - ✓ **Upstream staging**
- ✓ Current Plan
  - ✓ LPP currently proposed is the ND alignment with upstream staging and Storage Area 1
  - ✓ 200,000 ac-ft of storage/staging required to nearly eliminate downstream impacts
    - ✓ Storage Area 1: 50,000 ac-ft (4,360 ac)
    - ✓ Upstream Staging: 150,000 ac-ft
  - ✓ Impacts are located near benefitted area vs. downstream to Canadian border

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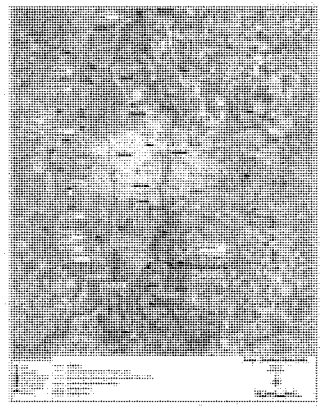

Current Plan:
ND alignment
with staging
and storage

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Upstream Staging – LPP:

Locally Preferred Plan - 50 Year (2009) (Upstream)			
Location	Existing No Protection Elevation	LPP Diversion Elevation	Difference (ft) Project vs. Existing No Protection
US LPP Diversion	913.76	920.86	7.10
Hickson Gage	916.34	920.92	4.58
Abercrombie	934.48	934.62	0.14

Locally Preferred Plan - 100 Year (Upstream)			
Location	Existing No Protection Elevation	LPP Diversion Elevation	Difference (ft) Project vs. Existing No Protection
US LPP Diversion	914.65	922.88	8.23
Hickson Gage	917.52	922.90	5.38
Abercrombie	935.62	935.73	0.11

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Residual Downstream Stages – LPP:

Difference (ft) Project vs. Existing, No Protection		
Location	50-Year (2% Chance) Event (2009)	100-Year (1% Chance) Event
Drayton Gage	0.08	0.08
Oslo Gage	0.04	0.06
Grand Forks Gage	0.18	0.24
Maximum Impact Location	0.38	0.29
Thompson Gage	0.24	0.04
Halstad Gage	0.00	-0.06
Hendrum	-0.12	-0.06
Perley	-0.32	-0.28
Georgetown	-0.23	-0.25

Potential exists to mitigate residual impacts with Operation Plan

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Upstream and Downstream Stage Increases, all Plans:

LPP (currently proposed): Includes upstream staging and storage

FCP: MN35K, downstream impacts

ND35K (previously identified): Has downstream impacts

(NI: Not Identified/modeled)

Stage Increase (inches)			
Location	1% Chance (100-Year) Event		
	LPP	FCP	ND35K
Downstream Locations			
Emerson Gage	NI	0.7	NI
Pembina Gage	NI	2.0	NI
Drayton Gage	1.0	1.7	NI
Oslo Gage	0.7	1.1	NI
Grand Forks Gage	2.9	4.1	NI
LPP Maximum DS Impact Location	3.5	--	--
32nd Ave. Grand Forks	3.4	5.8	--
Thompson Gage	0.5	7.0	15.8
Hwy 25/Co Rd 221	-0.2	10.7	23.6
ND35K Maximum Impact Location	--	--	26.4
DS Sandhill River/Climax	-0.5	11.8	26.3
FCP (MN35K) Maximum Impact Location	--	12.5	--
Halstad Gage	-0.7	8.2	10.4
Hendrum	-0.7	8.6	11.3
Perley	-3.4	6.6	7.6
Georgetown	-3.0	5.8	8.4
Upstream Locations			
US FCP Diversion	--	6.8	--
US ND Wild Rice River	-107.9	5.3	-105.1
US LPP Diversion	98.8	--	0.2
Hickson Gage	64.6	-0.1	0.1
Abercrombie	1.3	0.0	--

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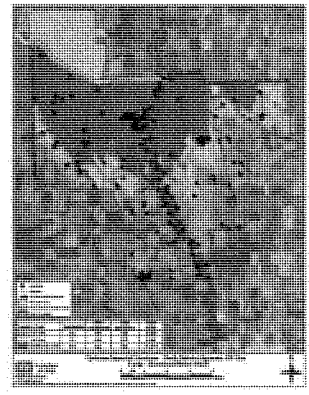
LPP Upstream Staging:

- ✓ Estimated cost of upstream staging is $200 Million
- ✓ Nearly eliminates downstream impacts

Depth in Feet	Residential	Non-Residential	Total Structures	Total Acres
0-1 Feet	84	112	196	5,298
1-3 Feet	73	152	225	7,361
> than 3 Feet	218	165	383	21,271
Totals	375	429	804	33,930



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LPP Upstream Mitigation:

- ✓ Preliminary Mitigation Concept:
  - ✓ Upstream staging area considered necessary to operate the project.
  - ✓ Mitigation measures based on total depth of water, with Project:
    - ✓ Farmland: Flowage Easements on property in staging area
    - ✓ Structures:
      - ✓ 0 to 1 foot – Flowage Easement only
      - ✓ 1 to 3 feet – Ring Dike or Buyout (depends on access/duration)
      - ✓ Greater than 3 feet – Buyout
  - ✓ Work with Oxbow, Bakke, Hickson, Comstock to develop plan
  - ✓ Raise I-29, MN Hwy 75, and Railroad in staging area.

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LPP Upstream Mitigation:

- ✓ Real Estate Acquisition is a Local Sponsor responsibility:
  - ✓ **Corps requires mitigating properties based on Takings analysis (increase in depth, frequency and duration).**
  - ✓ **Concept presented would be significantly greater than what Corps would require.**
  - ✓ **Mitigation must be complete when Project goes into operation.**
    - ✓ **2021 earliest operation**
  - ✓ **Will change as project is designed**
    - ✓ **Continue analysis to minimize impacts in the future**
  - ✓ **Mitigation as part of Project cannot begin until Congress authorizes and funds the Project.**

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LPP Cost Increases:

Cost Increases:			
May 10 - August 10: Geotechnical changes			
August 10 - March 11: Offsetting of downstream impacts			
	May 2010	August 2010	Current (March 2011)
Project First Cost	$1,252,497,920	$1,484,913,000	$1,709,100,000

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Project Cost Estimates:

Item	ND35K (Flood Risk Management Only)	LPP (Flood Risk Management Only)	FCP (Flood Risk Management Only)	Difference (LPP- FCP)
Project First Cost	$1,484,913,000	$1,709,100,000	$1,162,725,000	$546,375,000
Federal Share	$755,772,000	$755,772,000	$755,772,000	$0
Non-federal Share	$729,141,000 *	$953,328,000	$406,953,000 *	$546,375,000
Average Annual Cost	$86,309,000	$98,261,000	$69,102,000	$29,159,000
Average Annual Benefits	$173,777,000	$174,790,000	$172,454,000	$2,336,000
Net Benefits	$87,468,000	$76,529,000	$103,352,000	($26,823,000)
Benefit to Cost Ratio	2.01	1.78	2.50	
Average Annual Residual Flood Damages	$32,000,000	$32,000,000	$30,000,000	$2,000,000

* Does not include costs for downstream mitigation

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Project Operation:

- ✓ Operation, staging and storage could begin when peak flow in the Red River is forecasted to exceed 9,600 cfs at Fargo (2-5 yr event)
- ✓ Would have operated 20 out of 108 years of record
- ✓ Summer operation: Would have operated 4 times during period of record
- ✓ Detailed Operation Plan will be developed during design and optimized after project completed
  - ✓ **Likely have separate operating plans for Spring and Summer**
  - ✓ **Minimize summer operation**

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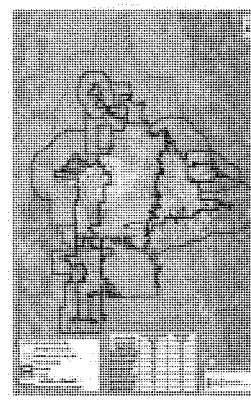
Area Removed from 1% Chance Floodplain:

	Area (sq. mi.) in existing 1% floodplain	Area (sq. mi.) in 1% floodplain w/Project	Difference
Fargo City Limits	26.2	2.4	23.8
Fargo ET Limits	26.6	3.1	23.5
West Fargo City Limits	0.8	0.4	0.4
West Fargo ET areas	7.7	1.3	6.4
Harwood City Limits	0.9	0.1	0.8
Harwood ET Limits	6.9	1.1	5.8
Horace City Limits	3.4	1.4	2
Horace ET Limits	0.7	1.1	-0.4
Moorhead City Limits	3.6	1.1	2.5
Moorhead ET Limits	4.6	0.8	3.8
Dilworth City Limits	0.0	0.0	0
Dilworth ET Limits	0.0	0.0	0
Totals	81.4	12.8	68.6



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LPP Variations Considered:

- ✓ 6 Variations were considered:
  - ✓ **No storage/more storage**
  - ✓ **No staging/more staging**
  - ✓ **Allow additional downstream stage increases**
  - ✓ **Shift alignment south of Oxbow**
- ✓ No great cost differences
- ✓ All variations have impacts and tradeoffs

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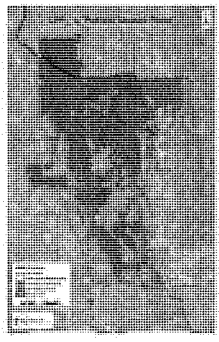
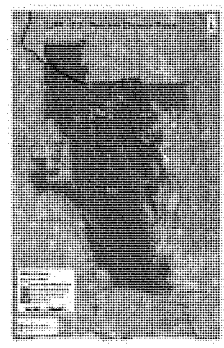
Upstream Impacts, LPP:





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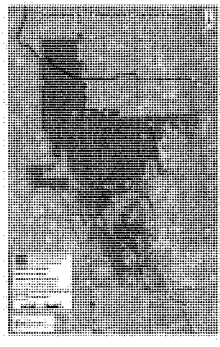
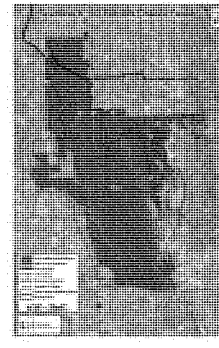
Upstream Impacts, Alignment South of Oxbow:





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Project Benefits of LPP with Upstream Staging/Storage:

- ✓ Reduce flood risk to over 200,000 people
  - ✓ **Fargo**
  - ✓ **Moorhead**
  - ✓ **West Fargo**
  - ✓ **Horace**
  - ✓ **Harwood**
- ✓ Protect 70 square miles of infrastructure
- ✓ Provide additional protection from the Wild Rice, Sheyenne, Rush, Lower Rush and Maple Rivers
- ✓ Handles events much larger than the 500-year (Mn plan does not)
- ✓ Diversion is a proven, reliable solution

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Recommended Path Forward:

- ✓ Alignment changes have been requested
- ✓ Feasibility Report/EIS will keep the ND East Alignment as recommended plan.
  - ✓ **Stay on schedule for Chief's Report and starting design**
- ✓ Changes can be considered during design phase and must:
  - ✓ **Comply with NEPA (review & disclosure).**
  - ✓ **Be compliant with EO 11988.**
  - ✓ **Be compliant with Clean Water Act.**
  - ✓ **May require additional Congressional authorization**

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Local Action Items:

- ✓ Confirmation of support for LPP by April 11, 2011
- ✓ Provide formal request for 50/50 cost share of Planning Engineering and Design by April 11.
- ✓ Commitment to pay difference between LPP and FCP (Estimated $546,375,000)
- ✓ Impacts of a delayed decision (after April 11):
  - ✓ **Delay release of SDEIS for public/agency review**
  - ✓ **Delay in obtaining Chief's Report**
  - ✓ **Delay in start of design phase**

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F-M Metro Study Timeline:

✓	Mar 30-31	Public Meetings
✓	11 Apr 11	Letters of Sponsor Support for LPP
✓	27 Apr 11	SDEIS to EPA for Public Release
✓	May /Jun11	Public Meeting(s)
✓	20 Jun 11	Complete 45-day NEPA public comment period
✓	1 Aug 11	Division Engineer's Transmittal (begin design)
✓	7 Sept 11	Submit Draft Chief's Report and Final EIS to EPA for publication
✓	1 Dec 11	Sign Chief's Report
✓	1 Oct 12	Sign Project Partnership Agreement*
✓	Spring 2013	Begin Construction*

** Requires authorization and funding from Congress*

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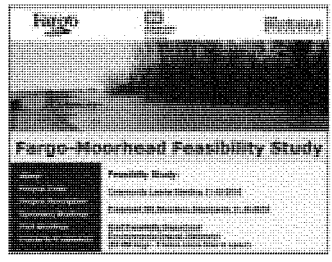
F-M Metro Information



http://www.internationalwaterinstitute.org/feasibility/index.htm

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US Army Corps of Engineers

Fargo-Moorhead Metropolitan Area Feasibility Study

Overview:
The Fargo-Moorhead Metropolitan Area Feasibility Study is a cooperative effort between the communities of Fargo, N.D., and Moorhead, Minn., with the U.S. Army Corps of Engineers, St. Paul District. This handout is designed to give a summary of the study, its tentative recommendations and the timeline for completion.

Study goals:

- Understand the flood problems in the greater Fargo-Moorhead metropolitan area.
- Develop a regional system to reduce flood risk.
- Determine the federal government's role in implementing flood risk reduction measures.
- Document study findings in a Feasibility Report and a National Environmental Policy Act (NEPA) Environmental Impact Statement.
- If appropriate, recommend implementation of a federal project to the U.S. Congress.

Problems and opportunities:
The primary problem identified in the study area is a high risk of flood damage to urban infrastructure from the Red River of the North, the Wild Rice River (ND), the Buffalo River, the Sheyenne River and its tributaries. Flooding also causes damage to rural infrastructure and agricultural crop land and disrupts transportation and access to properties within the study area. There are opportunities to increase and improve wildlife habitat and to increase recreation in conjunction with measures to reduce flood risk.

Flooding history:
The Fargo-Moorhead metropolitan area has a relatively high risk of flooding. The Red River exceeded the National Weather Service flood stage of 18 feet in 47 of the past 108 years, and every year from 1993 through 2010. The study area includes the Wild Rice, Sheyenne, Maple, Lower Rush and Rush rivers and the Red River of the North. Inter basin flows complicate the hydrology of the region and contribute to extensive flooding. The flood of record was the 2009 flood with a peak stage of 40.82 feet on the Fargo gage. Average annual flood damages in the Fargo-Moorhead metropolitan area are currently estimated at over $194.8 million. Most communities in the region avoided major flood damages in the historic floods of 1997 and 2009 by either raising existing levees or building temporary barriers. Although emergency measures have been very successful, they may also contribute to an unwarranted sense of security that does not reflect the true flood risk in the area.

Planning process:
This feasibility study began in September 2008. A wide array of potential measures was identified early in the study and expanded with input from the public. From September 2008 through May 2009, the study team gathered information to assess existing conditions in the study area and worked to understand the potential for economic justification of a large regional flood risk management project. In the wake of the 2009 flood, local, state and Congressional officials requested an aggressive schedule to complete the study by December 2010.

From June 2009 through October 2009, the study team performed cursory technical analysis of all proposed measures. The team also developed screening criteria to be used in selecting a plan. Using the preliminary technical information, the team applied professional judgment in order to assess the measures against the screening criteria. Several different scales of flood storage, nonstructural measures, flood barriers and diversion channels were evaluated in more detail during this phase of study. Using all of the information developed, the team compared the alternatives to identify the best plans for further study. The preliminary screening results, released in October 2009, indicated that the most cost-effective plan would likely be a diversion on the Minnesota side, but further study was needed to determine the optimal capacity. The non-federal sponsors requested that two North Dakota diversion plans with capacities of 30,000 and 35,000 cubic feet per second (cfs) and a 35,000 cfs Minnesota diversion plan be retained as potential locally preferred plans. The "no action alternative," the Minnesota short diversion channel and the North Dakota east diversion channel were retained for further analysis, and all other concepts were dropped from consideration as stand-alone plans. Non-structural measures (raising, relocating or buying out structures) were considered for portions of the study area not benefited by the diversions.

In March 2010, the cities of Fargo and Moorhead identified the North Dakota East 35,000 cfs diversion channel (ND35K plan) as the locally preferred plan (LPP). In April 2010, the U.S Army Corps of Engineers, St. Paul District, received a waiver from the Assistant Secretary of the Army for Civil Works allowing the Corps to recommend the ND35K plan as the LPP in the draft feasibility report. In May 2010, the Corps identified a Minnesota 40,000 cfs diversion as the National Economic Development plan and a Minnesota 35,000 cfs diversion as the "federally comparable plan" (FCP) for purposes of calculating federal and non-federal costs to implement the LPP.

Screened Alternatives Ranked by Net Benefits with Cost and Schedule Risk Assessment

Alternative	Cost [1]	Avg Annual Net Benefits [1]	Avg Annual Benefits [1]	Residual Damages [1]	B/C Ratio
MN Short Diversion 20K	$1,032	$87.0	$140.0	$55.9	2.64
MN Short Diversion 25K	$1,121	$98.8	$156.4	$39.5	2.71
MN Short Diversion 30K	$1,194	$101.7	$163.1	$32.8	2.66
MN Short Diversion 35K	$1,286	$104.9	$171.0	$24.9	2.59
MN Short Diversion 40K [2]	$1,367	$105.6	$175.9	$20.0	2.50
MN Short Diversion 45K [2]	$1,450	$104.9	$179.5	$16.4	2.41
ND East Diversion 35K	$1,462	$95.4	$171.1	$24.8	2.26

1. In millions of dollars with interest during construction and discounting included
2. Estimate based on linear extrapolation
Expected average annual damages without a project are $195.9 million.

The Corps identified the ND35K plan as the locally preferred and tentatively selected plan in its May 2010 integrated Draft Feasibility Report and Environmental Impact Statement (DEIS). On June 11, 2010, the Corps published a notice of availability of the DEIS in the Federal Register; public comments were accepted through August 9, 2010.

Hydraulic models completed in August 2010 showed that downstream stage increases from the proposed diversion extended much farther downstream than expected. Because of that, the Corps decided to extend the study schedule to further evaluate impacts and potential measures to mitigate for those impacts. A

Supplemental DEIS (SDEIS) including the additional analyses will be available for public review and comment in the spring of 2011.

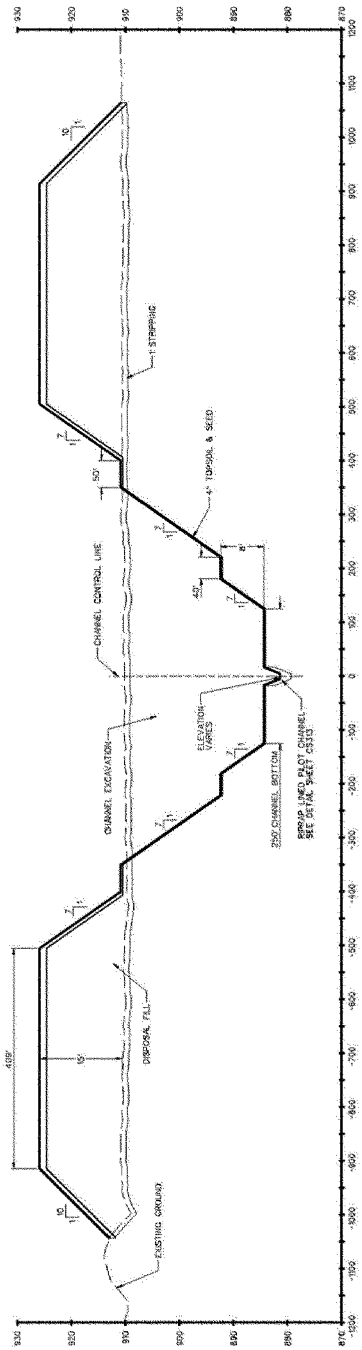
Following public review, the St. Paul District will submit the report to Corps Headquarters for policy review and to support a draft report of the Chief of Engineers. The Chief's report will be sent to other federal agencies and the concerned states for final NEPA review. Providing there are no major comments from the NEPA review, the final Chief's report will be sent to the Assistant Secretary of the Army for Civil Works, then to the Office of Management and Budget and then to Congress for possible project authorization.

Description of the revised locally preferred plan (LPP):
The revised LPP diversion alignment is nearly identical to the original LPP alignment. It starts approximately four miles south of the confluence of the Red and Wild Rice Rivers and extends west and north around the cities of Horace, Fargo, West Fargo, and Harwood and ultimately re-enters the Red River north of the confluence of the Red and Sheyenne Rivers near the city of Georgetown, MN. The diversion channel crosses the Wild Rice, Sheyenne, Maple, Rush and Lower Rush rivers. The alignment is approximately 36 miles long and incorporates the existing Horace to West Fargo Sheyenne River diversion channel. The LPP includes 19 highway bridges and 4 railroad bridges that cross the diversion channel. The alignment was shifted slightly from its original path in the northwest metro area to avoid an existing ditch system as requested by local interests. The LPP includes 10.1 miles of tie-back levees, gated control structures on the Red River of the North and Wild Rice River, an inlet weir, large aqueduct structures on the Sheyenne River and Maple River, drop structures on the Lower Rush River and Rush River, and a large outlet drop structure. Figure 1 shows a typical cross-section for the LPP Diversion Channel and Spoil Disposal Piles.

The LPP has a capacity of approximately 20,000 cfs in combination with a flood water storage area and upstream staging. Upstream staging means temporarily increasing flood stages immediately upstream of the control structures and diversion channel inlet in a "staging area" in order to change the timing of the hydrograph and the peak flow rate that is passed downstream. A storage cell known as Storage Area 1 was also added to the LPP; this cell will be confined by levees constructed as part of the project. The storage cell and staging area can hold approximately 200,000 acre-feet of flood water. The smaller diversion channel combined with storage and staging nearly eliminates downstream impacts while causing impacts in a smaller, better-defined geographic area upstream. The revised LPP provides the same level of annual economic benefits in the Fargo-Moorhead Metropolitan area as the original LPP and the FCP. Recreation features that could be incorporated into the project include multipurpose trails, interpretive signage, benches, trail heads with parking facilities and other related features.

Effects of the plan:
The proposed LPP would significantly reduce flood damages and flood risk in the Fargo-Moorhead metropolitan area, but it would not completely eliminate flood risk. The LPP will reduce flood stages on the Red River in the cities of Fargo and Moorhead and will also reduce stages on the Wild Rice, Sheyenne, Maple, Rush and Lower Rush Rivers between the Red River and the diversion channel. With the LPP in place, the stage from a 1-percent chance flood event on the Red River would be reduced from approximately 42.4 to 30.6 feet on the Fargo gage. At that level, only minimal emergency measures would be required to safely pass the 1-percent chance flood event with the LPP in place. However, floods larger than the 1-percent chance event will still require emergency flood fighting measures; with the LPP in operation, the stage for a 0.2-percent chance flood event would be approximately 40.0 feet, which is comparable to the 2009 flood event.
The following tables show the expected upstream and downstream flood stage increases for the 1-percent chance flood event for the LPP, FCP and ND35K plans:

Figure 1
Typical Cross-Section
Diversion Channel and Soil Disposal Piles



1% Chance (100-Year) Event			
Location	Stage Increase (Inches)		
	LPP	FCP	ND35K
Downstream Locations			
Emerson Gage	--	0.7	--
Pembina Gage	--	2.0	--
Drayton Gage	1.0	1.7	--
ND SH#17/MN SH317	0.8	1.6	--
Co. Hwy 15	0.6	1.8	--
Oslo Gage	0.7	1.1	--
DS Grand Forks Levees	1.8	2.5	--
Grand Forks Gage	2.9	4.1	--
LPP Maximum DS Impact Location	3.5	--	--
32nd Ave, Grand Forks	3.4	5.8	--
Thompson Gage	0.5	7.0	15.8
Hwy 25/Co.Rd 221	-0.2	10.7	23.6
ND35K Maximum Impact Location	--	--	25.4
DS Sandhill River/Climax	-0.5	11.8	25.3
FCP (MN35K) Maximum Impact Location	--	12.5	--
Nielsville	-0.5	12.4	22.8
DS Marsh River	-0.4	10.7	19.4
US Goose River/Shelly	-0.5	9.2	15.1
Halstad Gage	-0.7	6.2	10.4
Hendrum	-0.7	6.6	11.3
Perley	-3.4	6.6	7.6
Georgetown	-3.0	5.8	8.4
Upstream Locations			
US FCP Diversion	--	6.8	--
US ND Wild Rice River	-107.9	5.3	-105.1
US LPP Diversion	98.8	--	0.2
Hickson Gage	64.6	-0.1	0.1
Abercrombie	1.3	0.0	--

Construction of the LPP would directly impact 6 homesteads and 8,054 acres of land. Use of Storage Area 1 would impact an additional 23 homesteads, a Cass County Rural Water treatment facility and 3,500 acres of land. The upstream staging area would impact 804 structures including 375 residential structures and 33,390 acres of land. The project would impact approximately 1161 acres of wetlands. The LPP would remove approximately 70 square miles from the 1-percent chance floodplain; these areas could be used for future development. The project would have no adverse impacts on significant groundwater resources. The project may affect sediment transport, accretion and erosion in the Red River and the affected tributaries, which are critical forces in shaping and maintaining aquatic habitat, but effects are expected to be minor. Connectivity and access to various habitats is important to fulfill seasonal and life stage-specific habitat needs for river fish. The project features are designed to minimize impacts to connectivity and to facilitate fish passage on the Red River, but fish passage will be blocked during portions of some flood events. The project would include appropriate mitigation for unavoidable environmental impacts.

Approximately 405 residential properties may be affected by the project. Landowners would be compensated for the loss of property in accordance with applicable federal and state laws and policies. If compensation is necessary, depending upon the location and level of impact, compensation could be made in the form of easements, ring levees, buyout/relocation or other appropriate measures.

Project Costs:
The total estimated first cost of the LPP based on October 2011 price levels is $1,745,260,000, with the federal and non-federal shares of total first cost estimated at $773,852,000 and $971,408,000, respectively. The flood risk management features have an estimated total first cost of $1,709,100,000, with the federal and non-federal shares estimated at $755,772,000 and $953,328,000, respectively. The recreation features have an estimated total first cost of $36,160,000, with the federal and non-federal shares estimated at $18,080,000 and $18,080,000 respectively. The annual operation and maintenance costs are $3,111,000. The LPP has an overall benefit-cost ratio of 1.80 and would provide in excess of 1-percent chance level of risk reduction for the majority of the region. The following table summarizes the LPP and FCP first costs:

LPP & FCP Diversion First Cost Comparison

Item	LPP (Flood Risk Management Only)	FCP (Flood Risk Management Only)	Difference (LPP- FCP)
Project First Cost	$1,709,100,000	$1,162,725,000	$546,375,000
Federal Share	$755,772,000	$755,772,000	$0
Non-federal Share	$953,328,000	$406,953,000	$546,375,000
Average Annual Cost	$98,261,000	$69,102,000	$29,159,000
Average Annual Benefits	$174,790,000	$172,454,000	$2,336,000
Net Benefits	$76,529,000	$103,352,000	($26,823,000)
Benefit to Cost Ratio	1.78	2.50	
Average Annual Residual Flood Damages	$32,000,000	$30,000,000	$2,000,000

Schedule:
Apr 2011: Submit Supplemental Draft EIS to EPA
May/Jun 2011: State, Agency and Public Review and Comment Period
September 2011: Civil Works Review Board
December 2011: Signed Record of Decision

For more information:
Visit the study website at: **http://www.internationalwaterinstitute.org/feasibility/**

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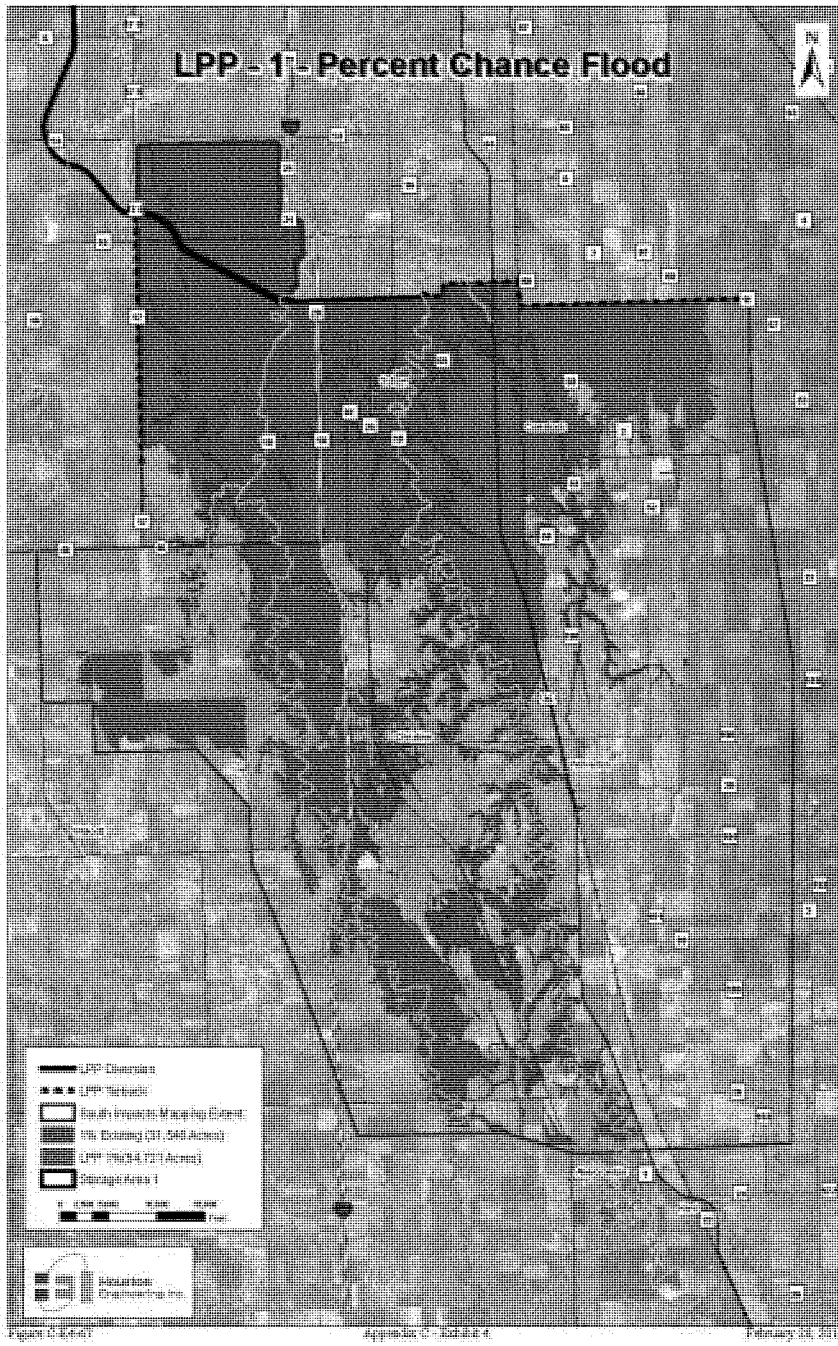
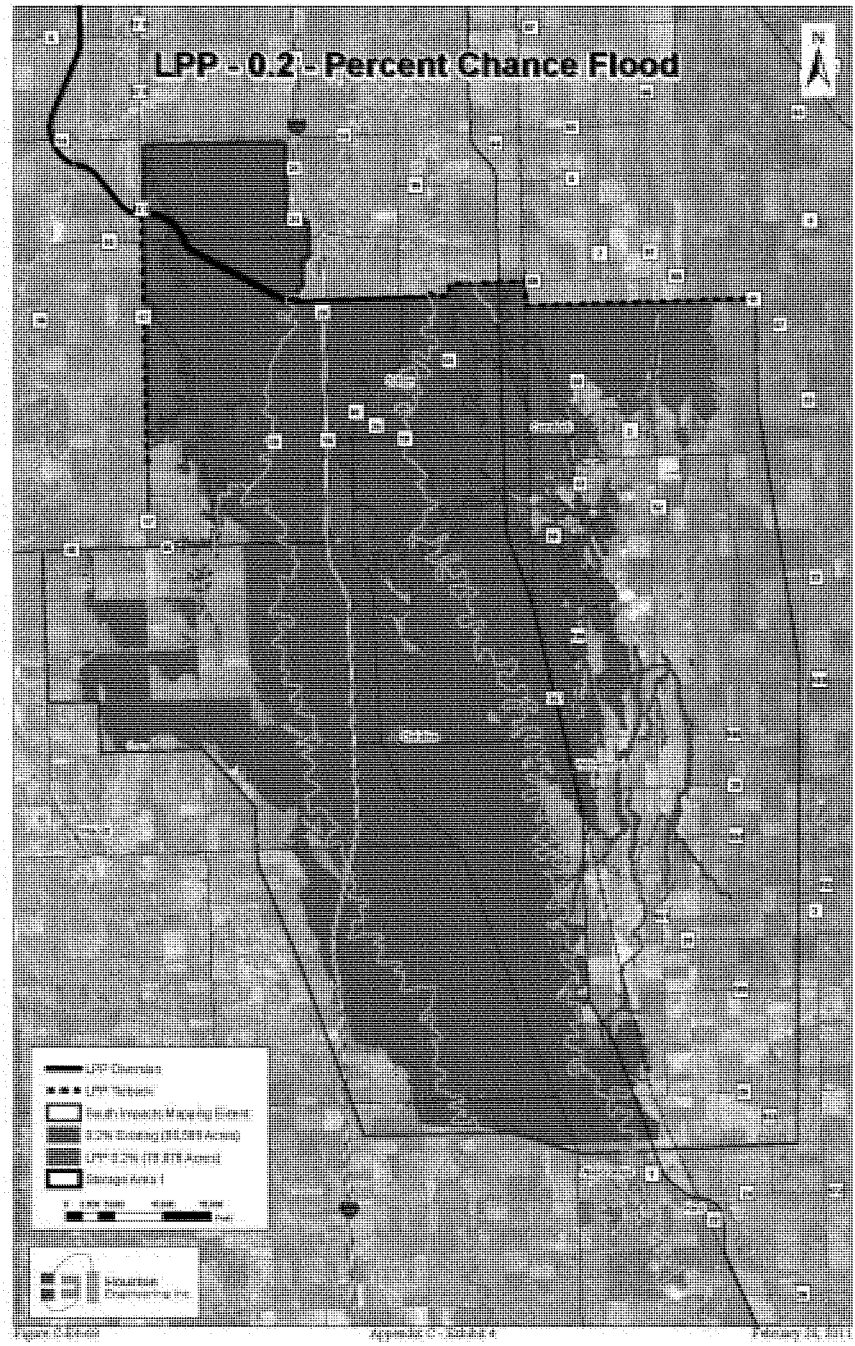
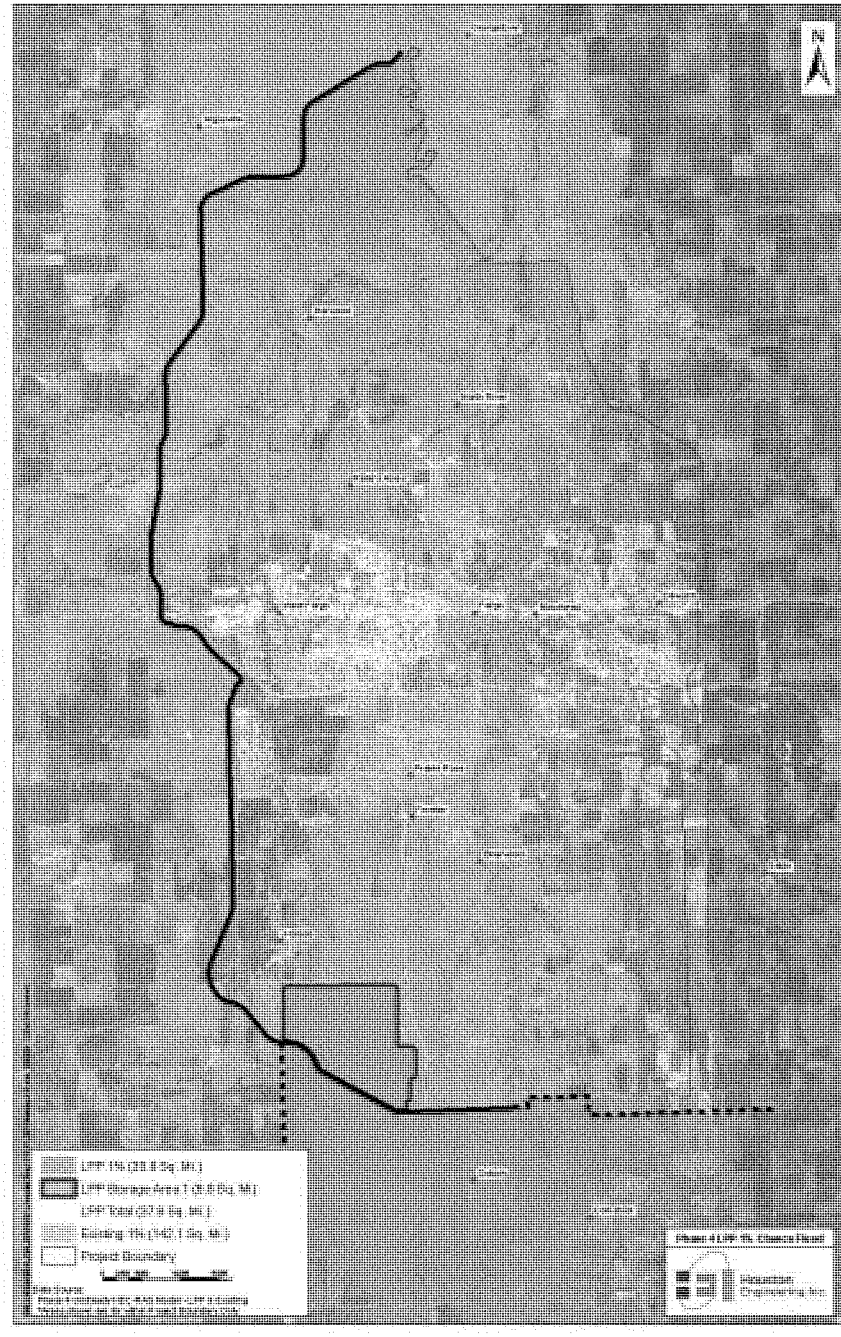
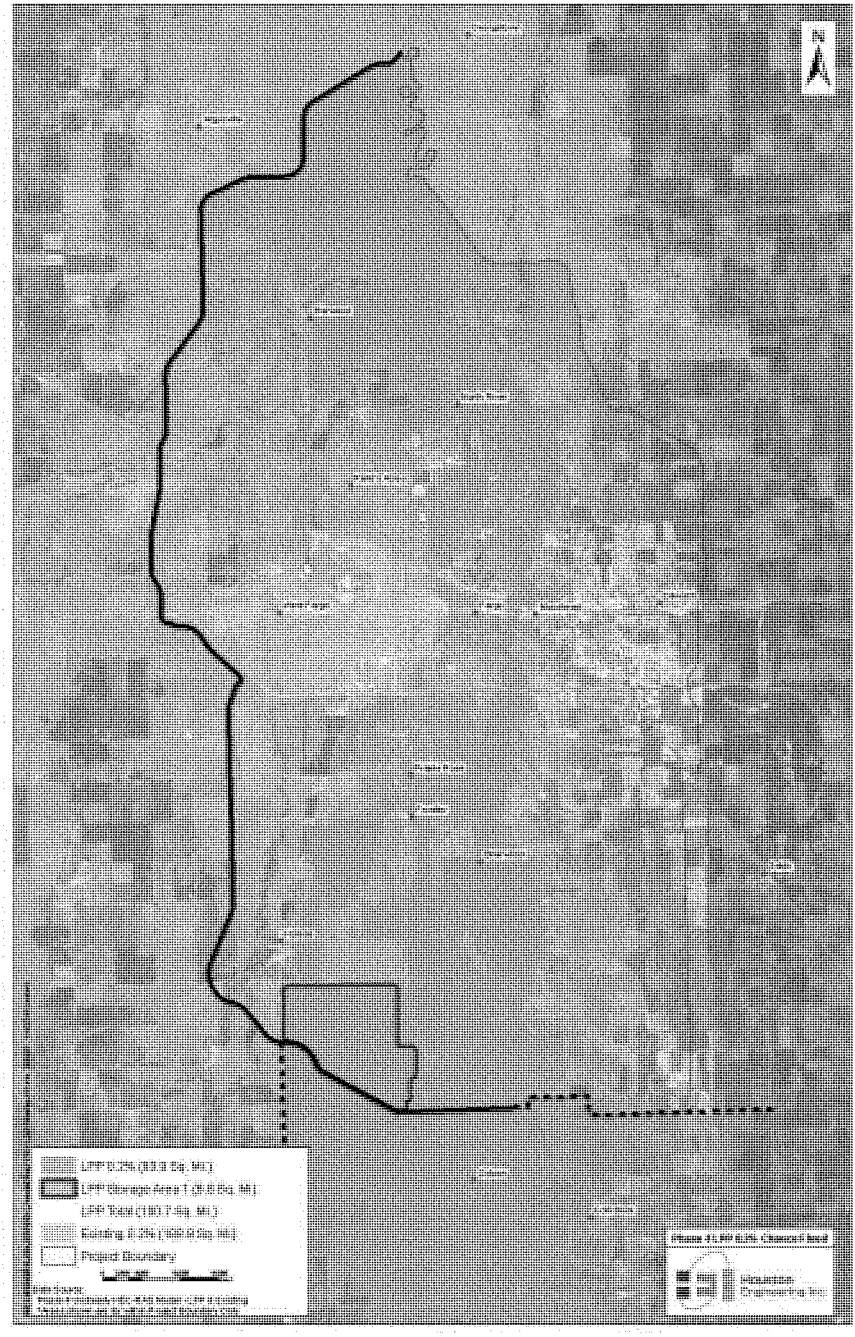
Brett.R.Coleman@usace.army.mil


LPP - 1 - Percent Chance Flood


LPP - 0.2 - Percent Chance Flood


Project Boundary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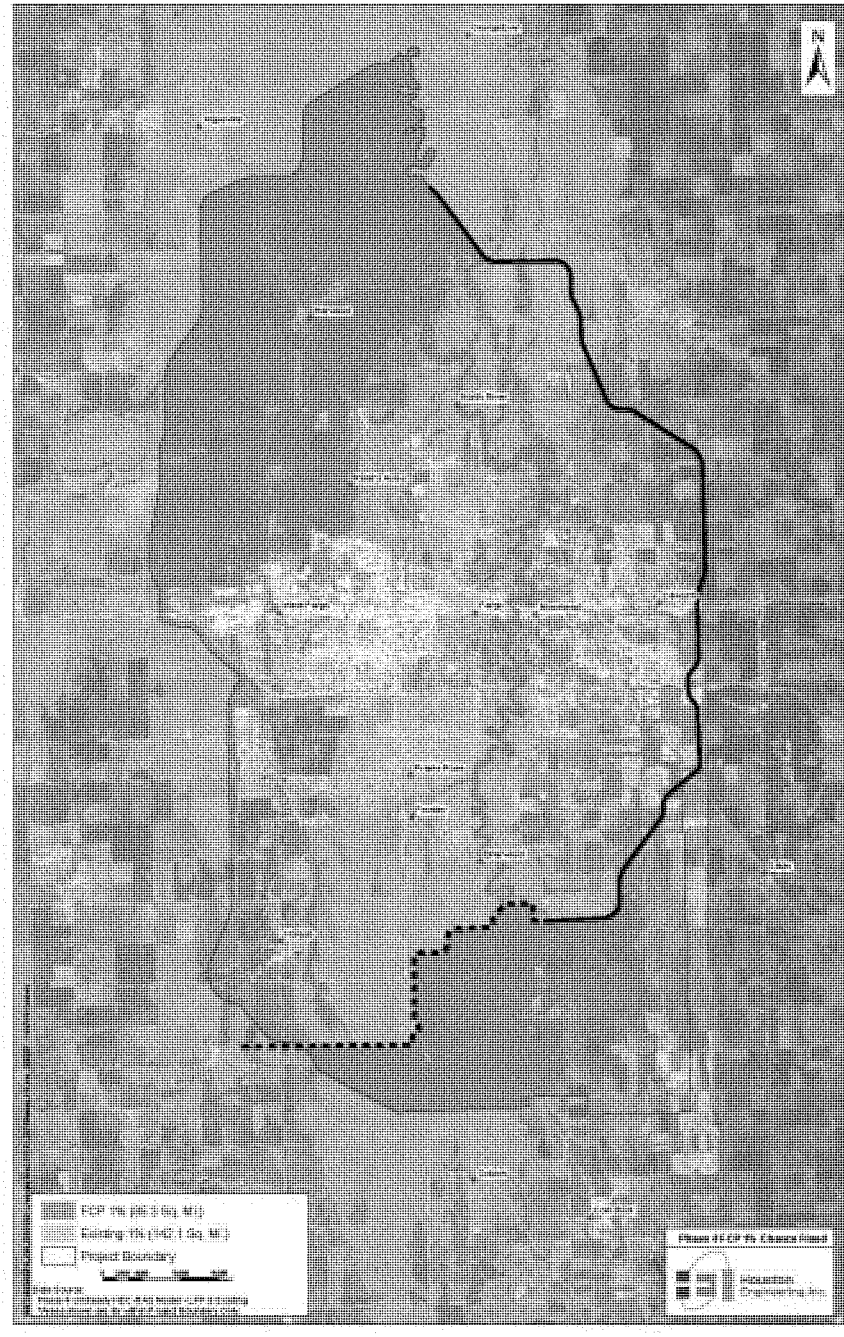
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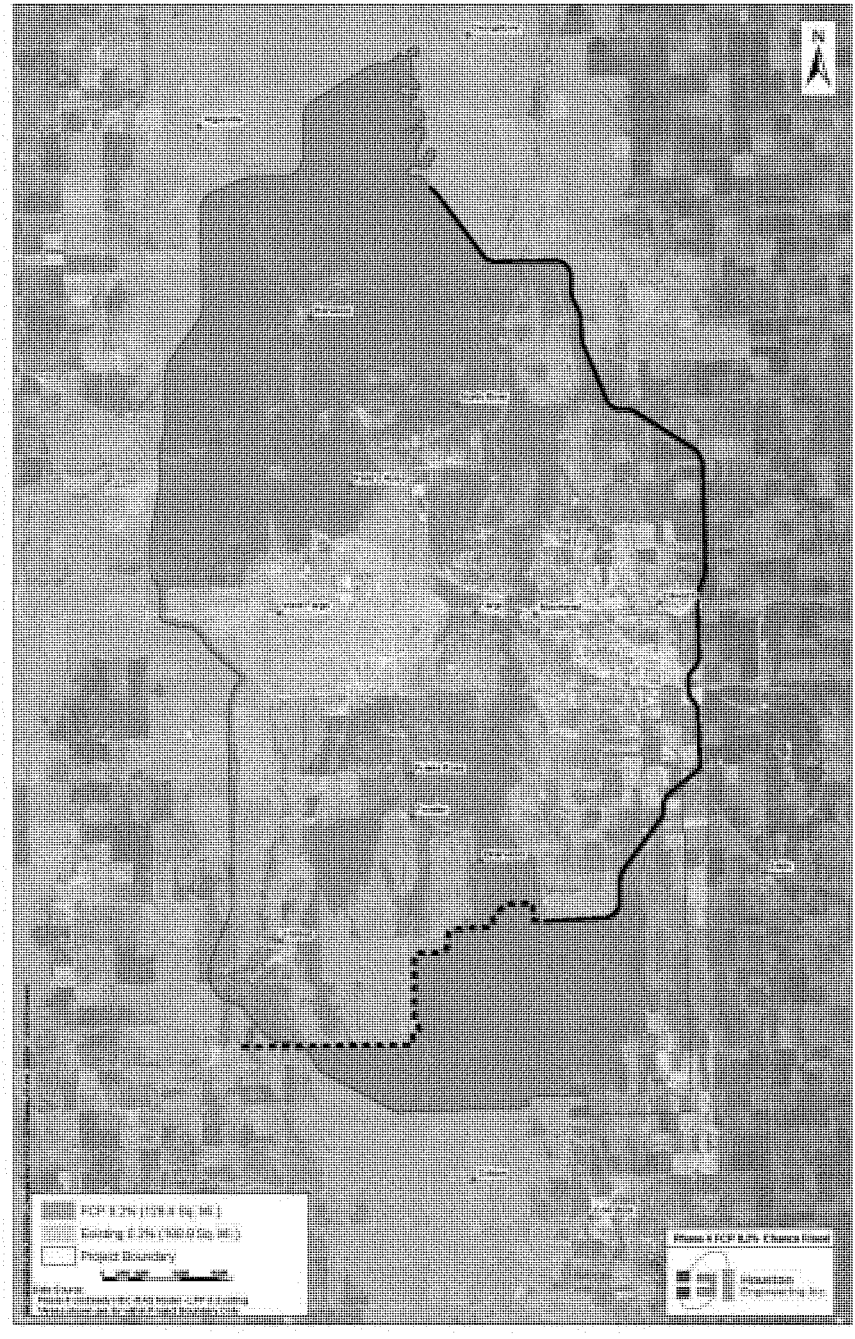
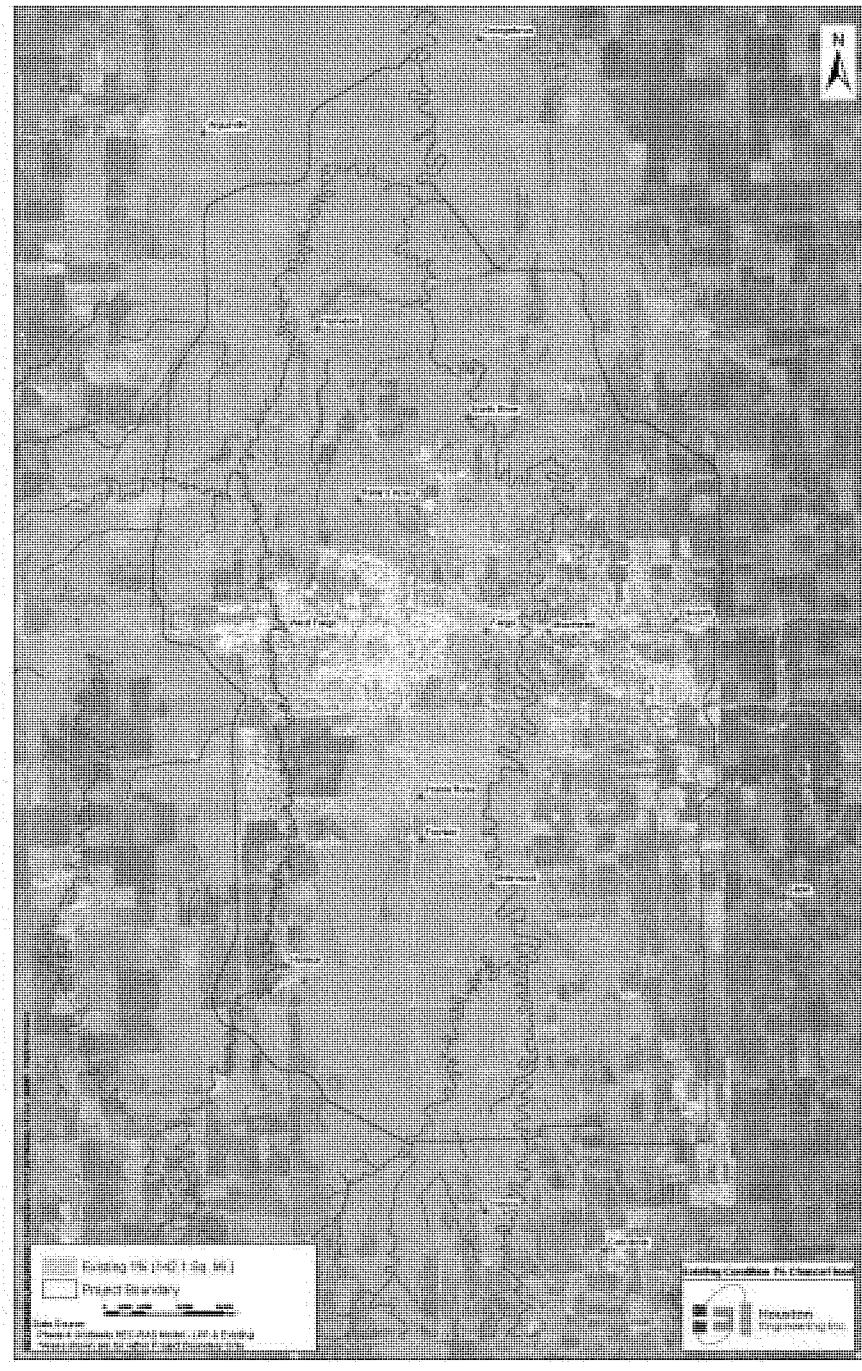

Project Boundary

N
Project Boundary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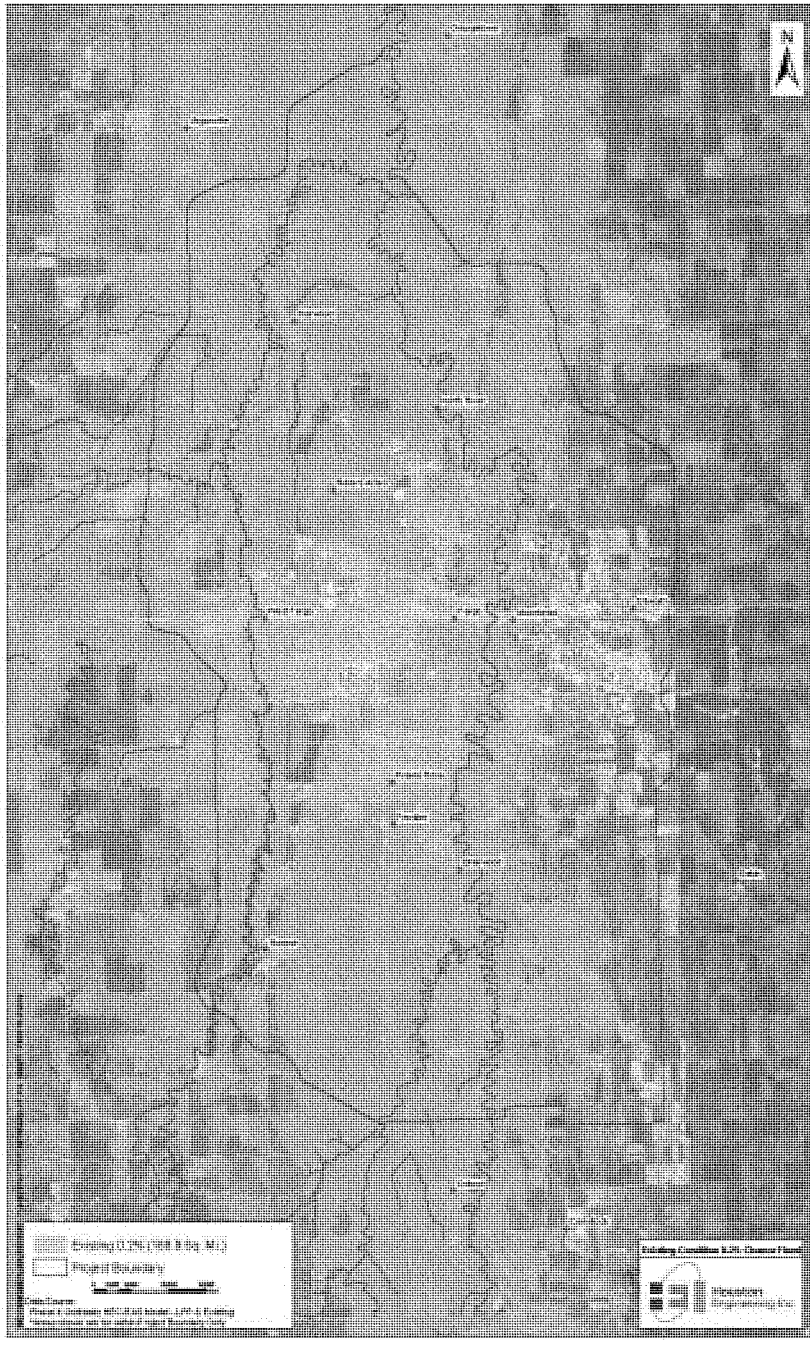
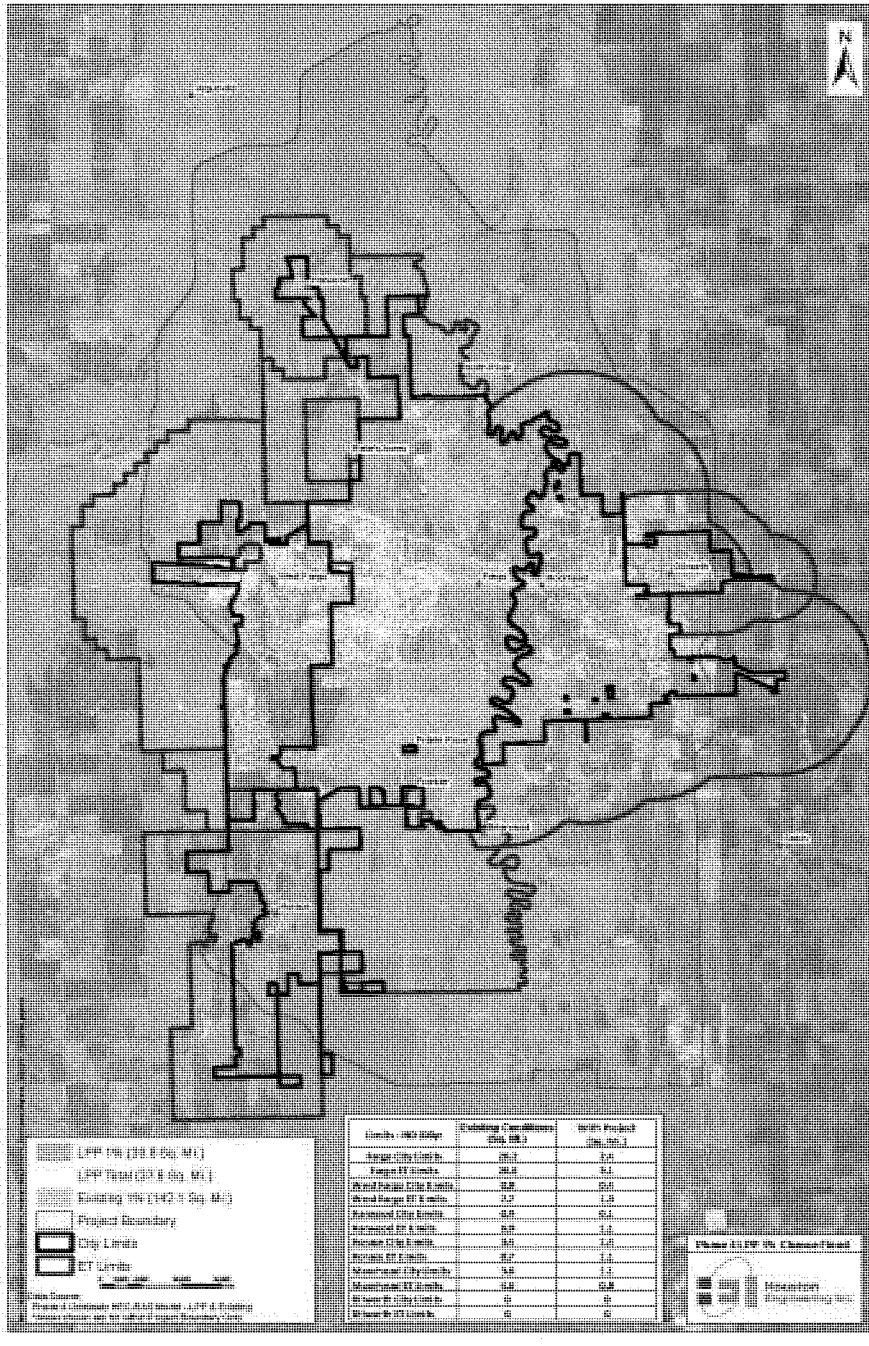
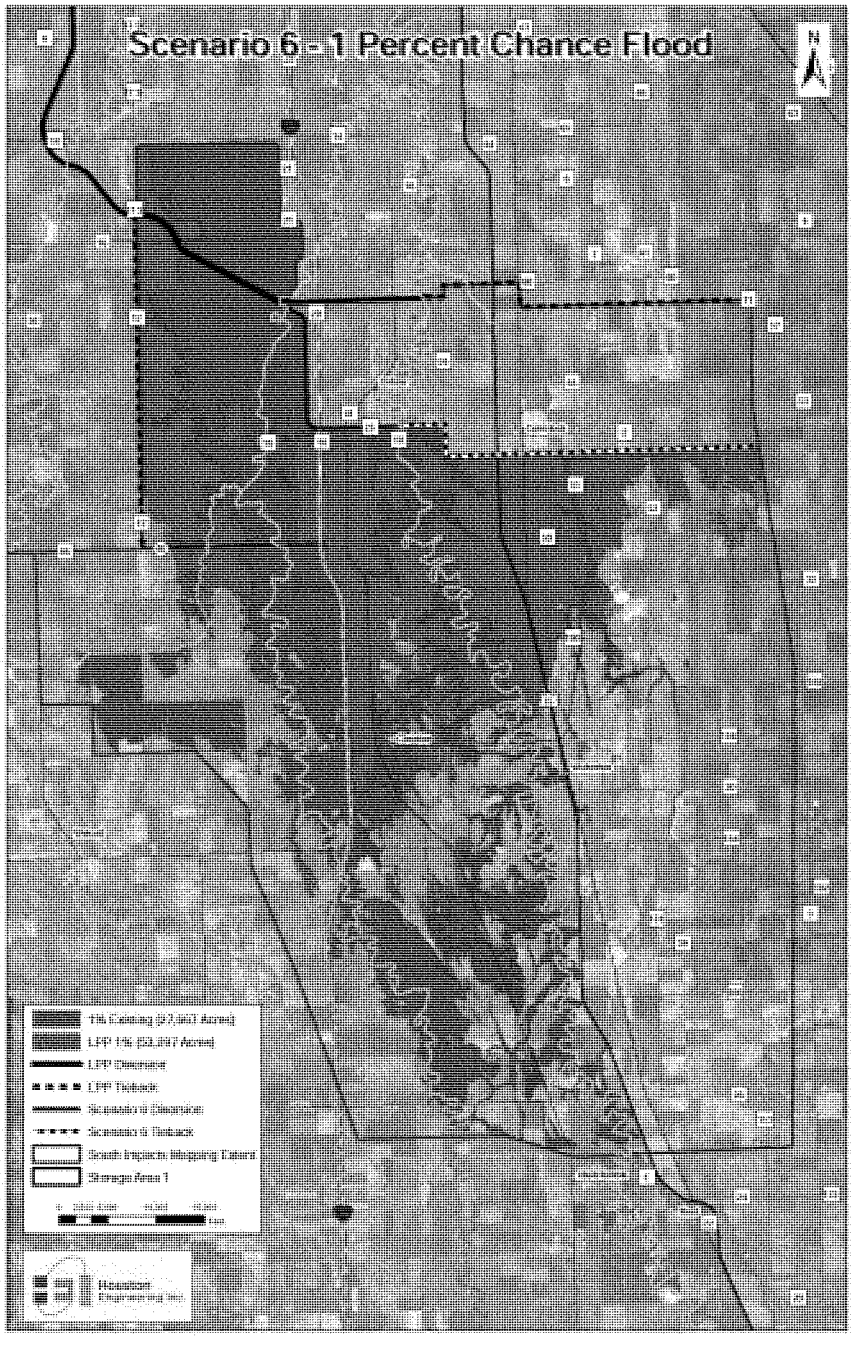
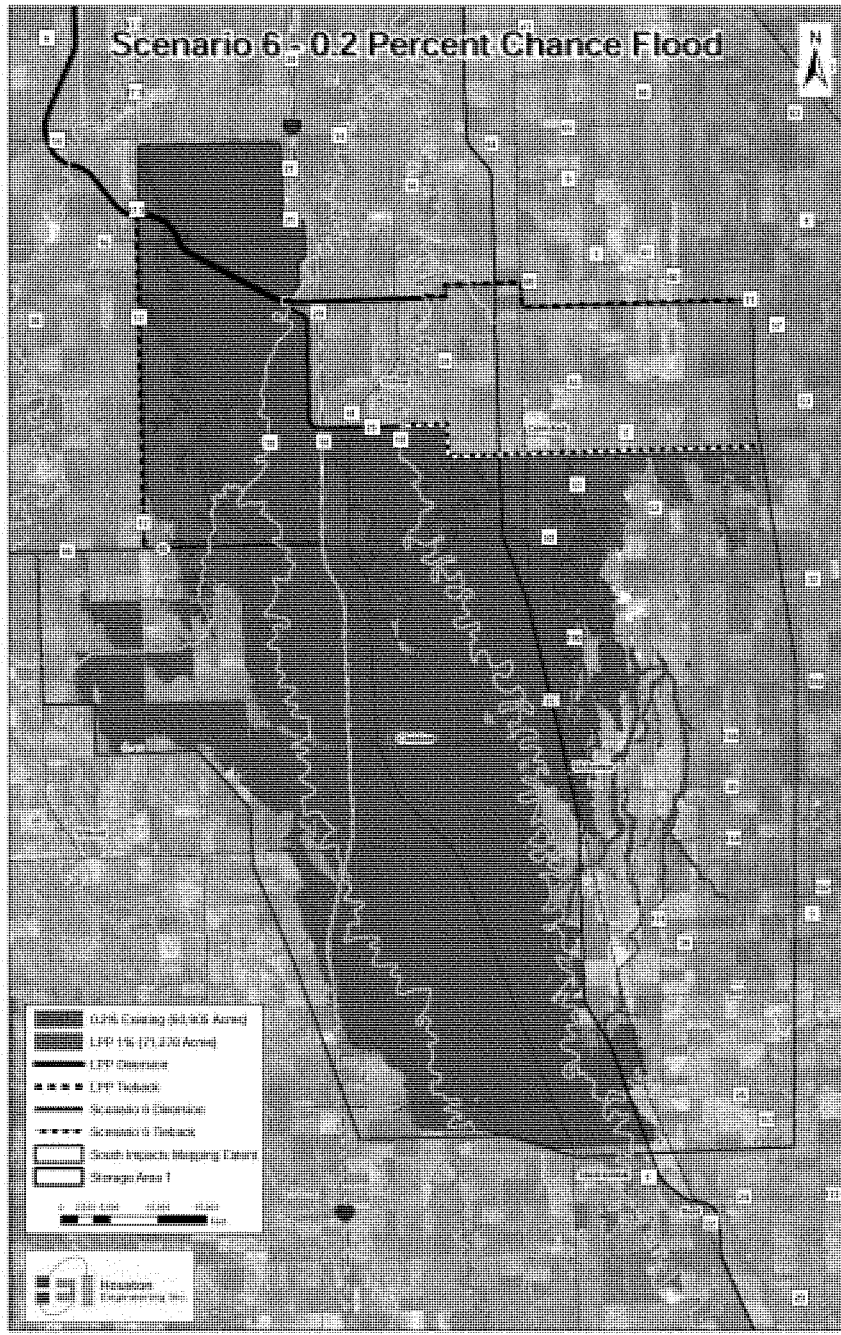
Project Boundary




N
Project Boundary
City Limits
ET Limits


Scenario 6 - 1 Percent Chance Flood
N
Storage Area 1


Scenario 6 - 0.2 Percent Chance Flood
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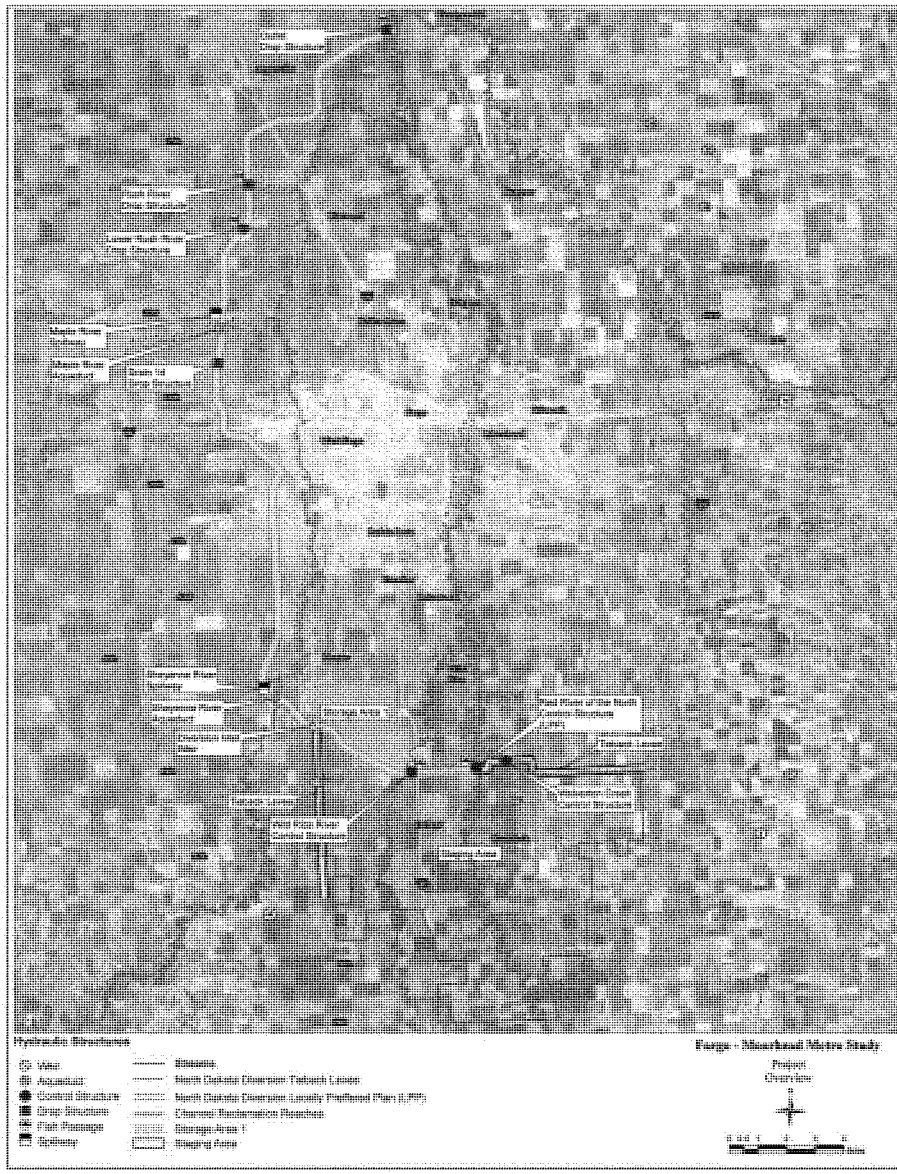
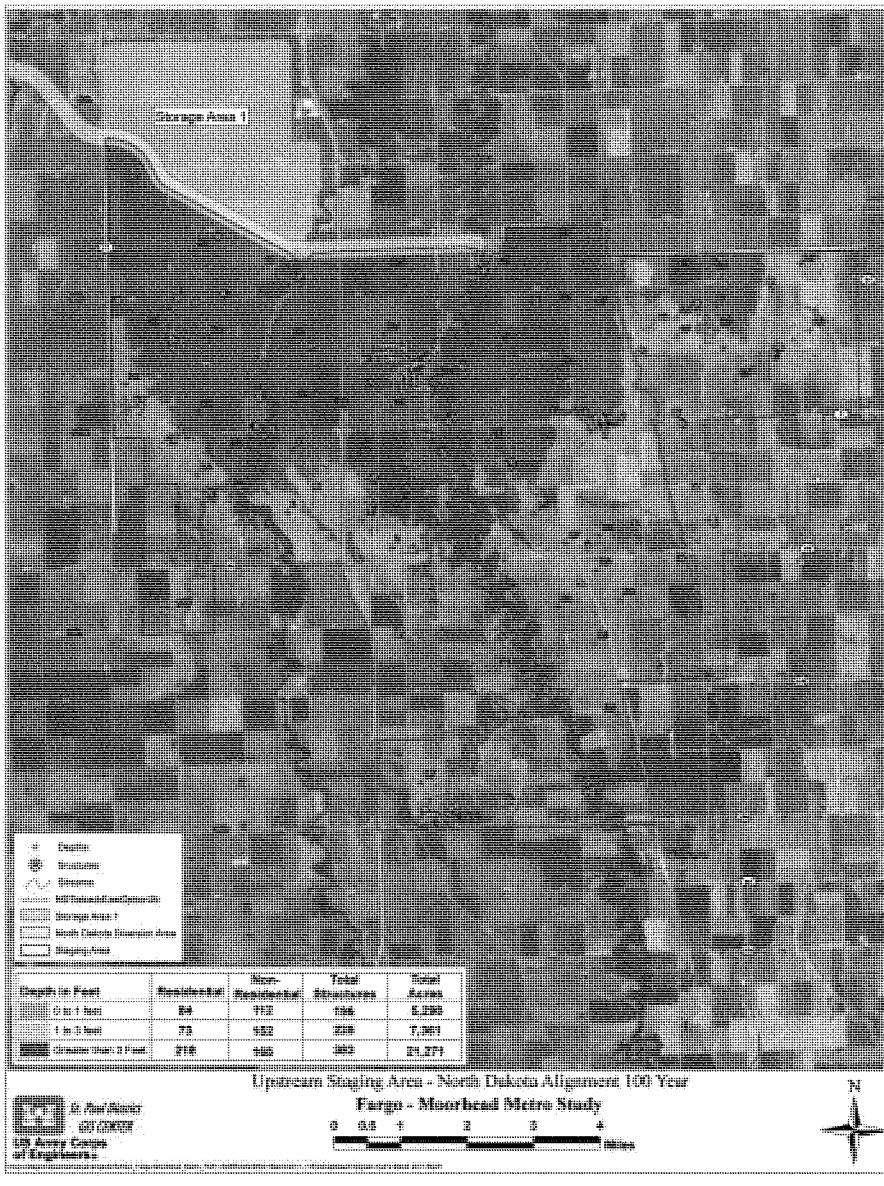
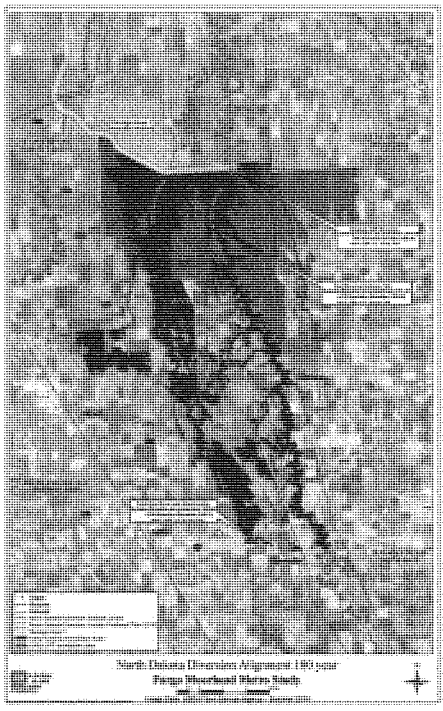
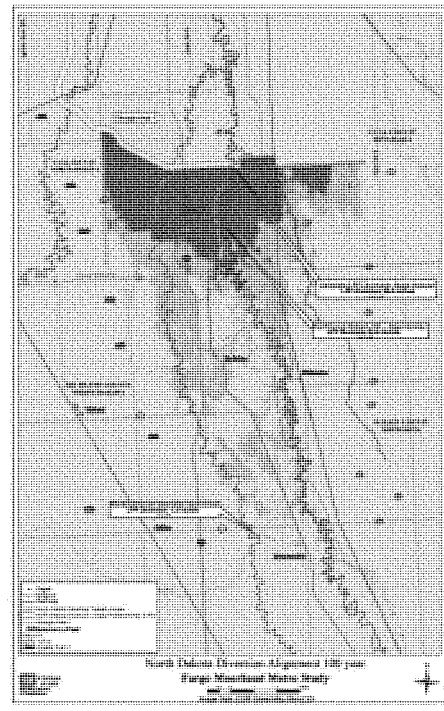
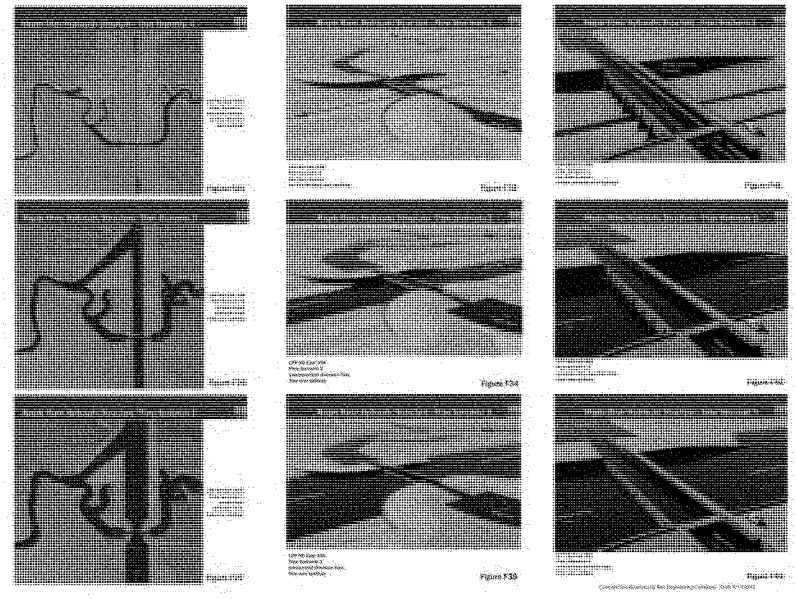
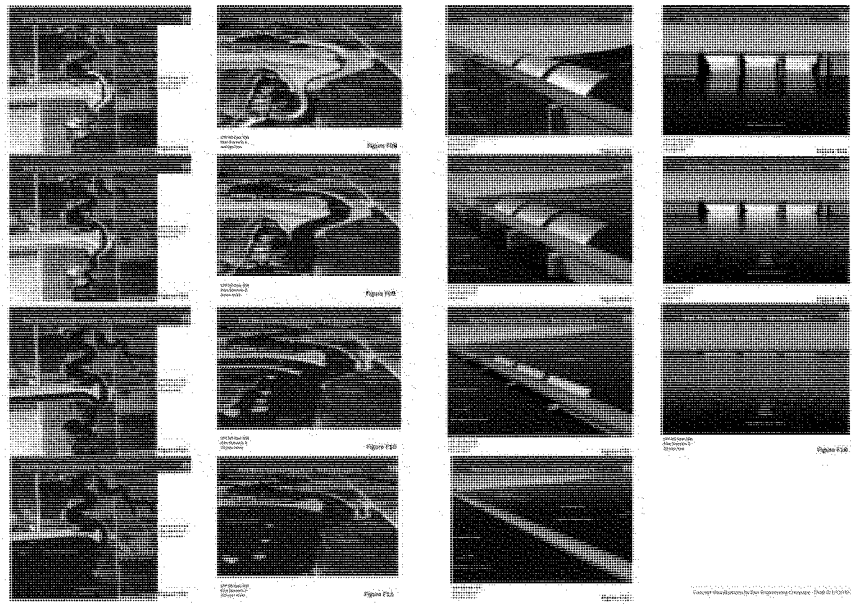

Hydraulic Structures
Fargo - Moorhead Metro Study
Project Overview


Storage Area 1
Upstream Staging Area - North Dakota Alignment 100 Year
Fargo - Moorhead Metro Study
N


North Dakota Diversion Alignment 100 year
Fargo Moorhead Metro Study


North Dakota Diversion Alignment 100 year
Fargo Moorhead Metro Study





Presentation 29:

April 1, 2011

Work Group Handout

April 1, 2011

Item	LPP (Flood Risk Management Only)	FCP (Flood Risk Management Only)	Difference (LPP- FCP)
Project First Cost	$1,709,100,000	$1,162,725,000*	$546,375,000
Federal Share	$755,772,000	$755,772,000	$0
Non-federal Share	$953,328,000	$406,953,000*	$546,375,000
Average Annual Cost	$98,261,000	$69,102,000	$29,159,000
Average Annual Benefits	$174,790,000	$172,454,000	$2,336,000
Average Annual Net Benefits	$76,529,000	$103,352,000	($26,823,000)
Benefit to Cost Ratio	1.78	2.50	
Average Annual Residual Flood Damages	$32,000,000	$30,000,000	$2,000,000

(* Does not include costs for downstream mitigation)

LPP = North Dakota east diversion alignment with upstream impacts
FCP = Minnesota diversion alignment with downstream impacts
ND35K = North Dakota east diversion alignment with downstream impacts

	LPP
Fully Funded Project Cost	**$1,971,139,000**
Federal Share	$855,627,000
Non-federal Share	$1,115,512,000

CHANNEL ALIGNMENT PARAMETERS	North Dakota		Minnesota
	LPP	ND35K	FCP
Maximum top width (feet)	2200	2450	2800
Bottom width (feet)			
Maximum	250	300	400
Minimum	100	100	225
Diversion			
Maximum depth (from natural ground)	28	29	30
Excavation (million cu. yards)	54	67	55
Low flow channel (3 ft X 10 ft)	√	√	√
Length of diversion channel (miles)	36	36	25
Channel extension (miles)	--	--	3.69
Length of tie back levee (miles)	10.1	3.26	9.86
Height of levee (feet)	17	8	8
Length of Storage Area 1 levee (miles)	12	--	--
Height of Storage Area 1 levee (feet)	17	--	--
Acres of flood storage area	4360	--	--
Number of houses in diversion footprint	6	6	5
Acres in project footprint (diversion & levees)	8054	6560	6415
Acres of wetlands impacted - worst case	1161	1058	972
Hydraulic structures			
Drop structures	4	3	1
River crossings	6	6	0
Highway bridges	19	18	20
Railroad bridges	4	4	4
Stage at Fargo gage			
0.2 % chance event (500yr) (ft)	40	40	39.6
1% chance event (100yr) (ft)	30.8	30.6	31.9
Stage impacts for 1% chance event			
Downstream max stage increase (inches)	3.5	25	12.5
Number of structures impacted downstream	10	1039[1]	1039[1]
Upstream max stage increase (inches)	98.8	0.2	6.8
Number of structures impacted upstream	1055[2]	--	346
Land removed from 1% floodplain (sq. miles)	69	80	30

[1] only calculated to Thompson, ND at this time
[2] Including Storage Area 1, Staging Area and structures upstream of the Staging Area

Presentations 30 - 33:

May 23, 2011
May 24, 2011
May 25, 2011
May 26, 2011

NEWS RELEASE

U.S. ARMY CORPS OF ENGINEERS **BUILDING STRONG®**

ST. PAUL DISTRICT
May 6, 2011
MVP-PA-2011-088
Shannon Bauer: 651-290-5108, 612-840-9453, shannon.l.bauer@usace.army.mil
Mark Davidson: 651-290-5201, 651-261-6769, mark.d.davidson@usace.army.mil

Corps of Engineers to host public meetings on potential Fargo, N.D.-Moorhead, Minn. flood risk management project

ST. PAUL, MINN. – The U.S. Army Corps of Engineers, St. Paul District, along with the cities of Fargo, N.D., and Moorhead, Minn., will host four public meetings in May to present the information contained in the Corps' Supplemental Draft Feasibility Report and Environmental Impact Statement, or SDEIS, report for a potential flood risk management project in Fargo/Moorhead metropolitan area.

The first three meetings will begin at 6 p.m. with an open house, followed by a formal presentation at 7 p.m. and a question and answer period ending at 9 p.m.

The first meeting will be **May 23** in Centennial Hall, 202 Third St. N., Fargo.

The second meeting will be **May 24** at the Kindred High School Gymnasium, 55 1st Ave. S., Kindred.

The third meeting will be **May 25** in Salon A at the Marriott and Moorhead Area Conference Center, 1080 28th Ave. S., Moorhead.

The fourth meeting will be **May 26** at the Norman County West Elementary School Gymnasium, 320 Main Street West in Hendrum, Minn. This meeting will begin at 6:30 p.m. with an open house, followed by a formal presentation at 7:30 p.m. and a question and answer period ending at 9:30 p.m.

Anyone interested in the project is welcome to attend and public input is encouraged. If sign language interpreters are needed, please contact Katie Young, Corps project management, at 651-290-5259 or via e-mail at katie.m.young@usace.army.mil no later than May 13.

The U.S. Army Corps of Engineers, St. Paul District, serves the American public in the areas of environmental enhancement, navigation, flood damage reduction, water and wetlands regulation, recreation sites and disaster response. It contributes around $175 million to the five-state district economy. The more than 638 employees work at more than 40 sites in five upper-Midwest states. For more information, see www.mvp.usace.army.mil.

-30-

Web site: http://www.mvp.usace.army.mil/
Facebook: http://www.facebook.com/pages/Saint-Paul-MN/US-Army-Corps-of-Engineers-St-Paul-District/215829254962?ref=ts
Flickr: http://www.flickr.com/photos/usace-stpaul/
YouTube: http://www.youtube.com/usacemyppao

Fargo-Moorhead Metropolitan Feasibility Study

Public Meetings, May 23-26, 2011

CITY OF MOORHEAD MINNESOTA

CITY OF Fargo

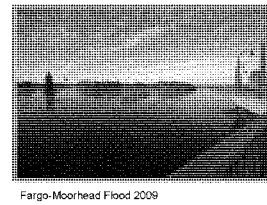
US Army Corps of Engineers
BUILDING STRONG®

CITY OF Fargo

CITY OF MOORHEAD MINNESOTA

Why we are here:

- ✓ To present information on the revised diversion plan, which includes the North Dakota East diversion alignment combined with flood storage and upstream staging.
- ✓ To gather public comments on the Supplemental Draft Feasibility Report and Environmental Impact Statement (SDEIS).



Fargo-Moorhead Flood 2009

May 2011 2

CITY OF Fargo

CITY OF MOORHEAD MINNESOTA

Presentation Overview:

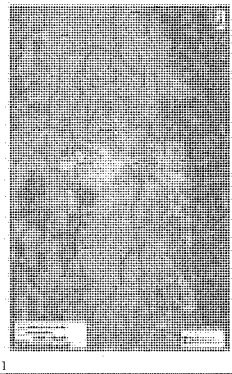
- ✓ Existing conditions
- ✓ Selection of Diversion Plan
- ✓ Current Diversion Plan
- ✓ Impacts
- ✓ Project Operation
- ✓ Project Benefits
- ✓ Schedule
- ✓ How to comment

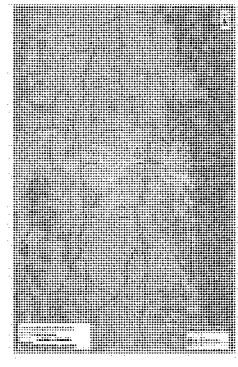
May 2011 3

CITY OF Fargo

CITY OF MOORHEAD MINNESOTA

Existing Conditions: 1% and 0.2% Chance





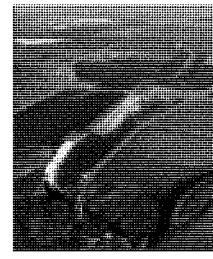
May 2011 4

CITY OF Fargo

CITY OF MOORHEAD MINNESOTA

Alternatives Considered:

- ✓ Non-structural
- ✓ Levees/floodwalls
- ✓ Upper basin storage
- ✓ Retention/controlled field runoff
- ✓ Diversion channels
- ✓ Combinations



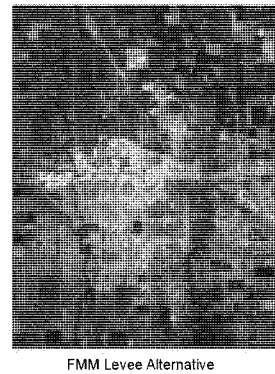
May 2011 5

CITY OF Fargo

CITY OF MOORHEAD MINNESOTA

Levees were Considered:

- ✓ 50-year level (2009) - $900 million
- ✓ No high ground on ND side
- ✓ Need to completely ring around Fargo and West Fargo
- ✓ Once exceeded, entire community floods
- ✓ Impacts not considered



FMM Levee Alternative

May 2011 6

CITY OF Fargo

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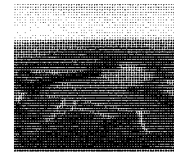
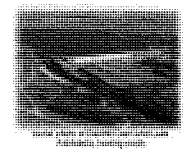
Storage was Considered:

- ✓ 400,000 Acre Feet provides 1.6 feet of benefit in Fargo-Moorhead
  - ✓ **400,000 Acre Feet = 40,000 acres covered with 10 feet of water.**
- ✓ Cost per acre foot average $1,000 - $1,500
- ✓ $400-600 million for 1.6 feet of benefits to Fargo-Moorhead (goal is 12.4 feet).
- ✓ Limited Reliability



Aerial photo of Homme Dam



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Results:

- ✓ North Dakota 35K Diversion Channel, the Locally Preferred Plan (LPP)

- ✓ The Federally Comparable Plan (FCP) = MN 35K
- ✓ The National Economic Development Plan (NED) = MN 40K

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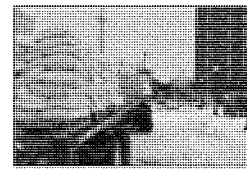
Effectiveness of Diversions:

	Stage at Fargo Gage (ft)	
	1% Chance (100- year)	0.2% Chance (500- year)
Existing Condition (Stage)	42.4	46.7
Existing Condition (CFS)	34,700	61,700
Work Group Goal	30	36
20K MN Diversion Channel	36.9	43.7
25K MN Diversion Channel	34.8	42.4
30K MN Diversion Channel	33.6	41.9
35K ND Diversion Channel	30.6	40
35K MN Diversion Channel	31.9	39.6
40K MN Diversion Channel	31.9	37.6
45K MN Diversion Channel	31.9	35.3



Fargo, N.D., March 26, 2009

Stage	Impacts
19	Fargo Elm Street closed at El Zagel
30	Fargo 2nd Street Dike installed
31	Moorhead 1st Ave. North closed
35	First homes in Moorhead threatened
35	First homes in Fargo threatened
40.8	2009 Flood Record Stage

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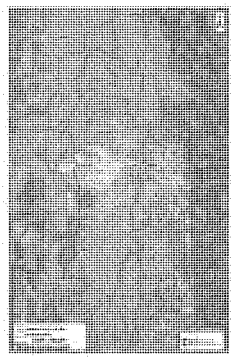
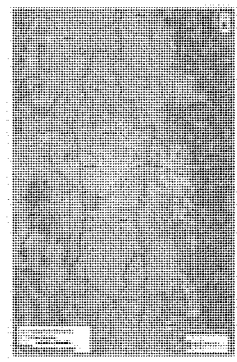
Existing Conditions: 1% and 0.2% Chance





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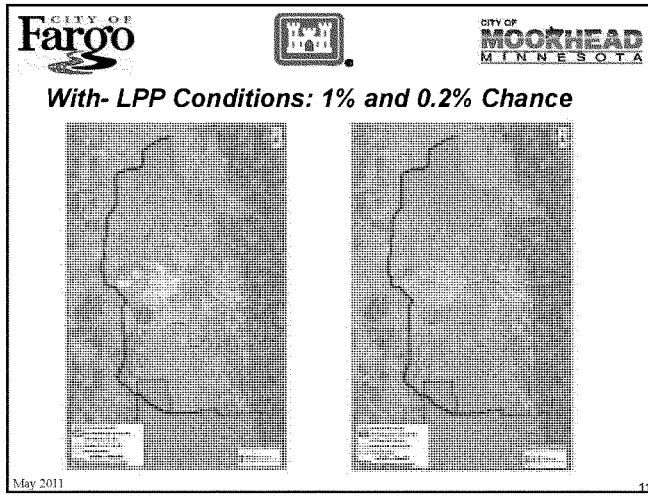
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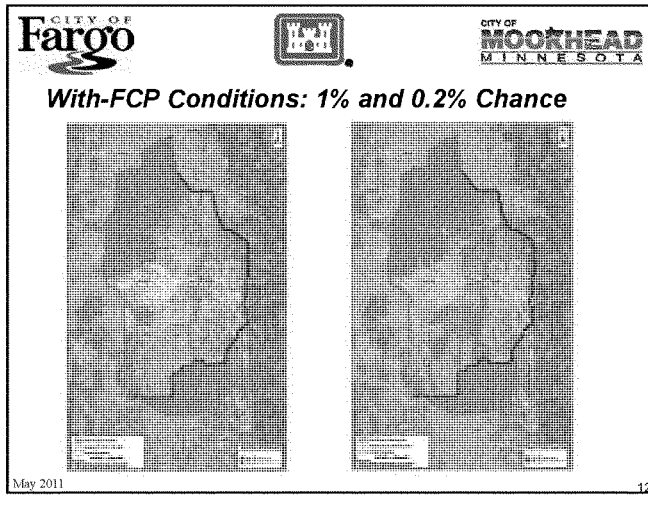
With- LPP Conditions: 1% and 0.2% Chance
May 2011
11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MOORHEAD
MINNESOTA
With-FCP Conditions: 1% and 0.2% Chance
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Why was ND Diversion identified as Locally Preferred Plan (LPP)?

- ✓ Provides risk reduction from the Red, Wild Rice, Sheyenne, Maple, Rush and Lower Rush Rivers
- ✓ Provides benefits to the greatest amount of land for the greatest amount of citizens
- ✓ Has received strong support from citizens on both sides of the river and from local and state leaders
- ✓ Reduces the risk to the loss of life
- ✓ Provides greater protection for the economic base of the area
- ✓ Mitigates cost and reduces the need for construction of levees and other temporary measures

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Downstream Impacts
(as known in September 2010):

- ✓ Computer modeled to Halstad, Thompson and Drayton
- ✓ No zero impact point identified
- ✓ Undefined extent of impacts required additional modeling

Location	Stage Increase (inches)
Minnesota Short 35K - 100 Year	
Climax	12.5
Halstad Gage	6.7
Hendrum	6.8
Perley	4.8
Georgetown	4.7
North Dakota 35K - 100 Year	
Climax	25.4
Halstad Gage	10.7
Hendrum	10.7
Perley	6.6
Georgetown	7.1

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Analysis since September 2010:

- ✓ Looked at concepts to reduce downstream impacts
  - ✓ Storage cells along diversion
  - ✓ Upstream staging
- ✓ Current Plan - ND Diversion with Staging/Storage
  - ✓ 200,000 ac-ft of staging/storage required to nearly eliminate downstream impacts
    - ✓ Storage Area 1: 50,000 acre-feet (4,360 acres)
    - ✓ Upstream Staging: 150,000 acre-feet
  - ✓ Impacts located near benefitted area vs. downstream to Canadian border

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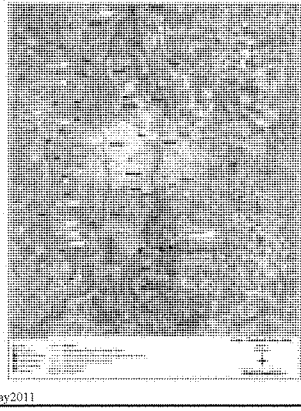

Current Plan: ND alignment with staging and storage

- ✓**20K cfs**
- ✓**36 mile-long channel**
- ✓**10 miles of tie back levee**
- ✓**Storage Area**
- ✓**Staging Area**
- ✓**Structures**
  - ✓2 Control structures
  - ✓2 River aqueducts
  - ✓4 Tributary drop structures
  - ✓19 Highway bridges
  - ✓4 Railroad bridges
  - ✓Fish Passage

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Project Impacts:

- ✓ **Wetlands** – 1,161 acres of direct impacts
- ✓ **Groundwater** – Slightly lowered water table near channel
- ✓ **Aquifers** – Small potential to influence aquifers
- ✓ **Erosion and Sedimentation** – No significant impacts
- ✓ **Connectivity** – Impacts negated due to minimization and mitigation
- ✓ **Riparian and Aquatic Habitat** – 46 acres of river channel and 118 acres of riparian forest
- ✓ **Structures** – Approximately 1,100 impacted of which approximately 400 are residences
- ✓ **Farmland** – 6,878 acres of prime and unique farmland

The project includes appropriate mitigation for unavoidable environmental impacts.

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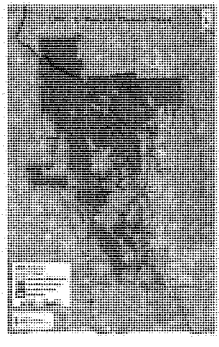
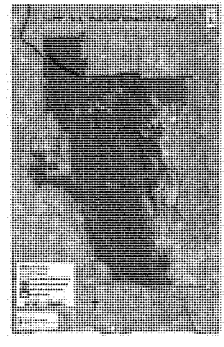
Upstream Impacts, Locally Preferred Plan:





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Upstream Staging – LPP:

	50 Year (2009) (Upstream)			100 Year (Upstream)		
Location	Existing No Protection Elevation	LPP Diversion Elevation	Difference (ft) Project vs. Existing No Protection	Existing No Protection Elevation	LPP Diversion Elevation	Difference (ft) Project vs. Existing No Protection
US LPP Diversion (at RR Control Structure)	913.76	920.86	7.10	914.65	922.88	8.23
Hickson Gage	916.34	920.92	4.58	917.52	922.90	5.38
Abercrombie	934.48	934.62	0.14	935.62	935.73	0.11

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Residual Downstream Stages – LPP:

Difference (ft) Project vs. Existing, No Protection			
Location	50-Year Chance Event (2009)	100-Year Chance Event	2006 Historic Event
Drayton Gage	0.08	0.08	0.02
Oslo Gage	0.04	0.06	0.03
Grand Forks Gage	0.18	0.24	0.09
Maximum Impact Location	0.38	0.29	
Thompson Gage	0.24	0.04	0.21
Maximum Impact Location			0.26
Halstad Gage	0.00	-0.06	0.06
Hendrum	-0.12	-0.06	
Perley	-0.32	-0.28	
Georgetown	-0.23	-0.25	

Potential exists to mitigate residual impacts with Operation Plan

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Upstream and Downstream Stage Increases, all Plans:

LPP (currently proposed): Includes upstream staging and storage (orange)

FCP: MN35K, downstream impacts (purple)

ND35K (previously identified): Has downstream impacts (green)

(NI: Not Identified/modeled)

Stage Increase (inches)			
Location	1% Chance (100-Year) Event		
	LPP	FCP	ND35K
Downstream Locations			
Emerson Gage	NI	0.7	NI
Pembina Gage	NI	2.0	NI
Drayton Gage	1.0	1.7	NI
Oslo Gage	0.7	1.1	NI
Grand Forks Gage	2.9	4.1	NI
LPP Maximum DS Impact Location	3.5	--	--
32nd Ave, Grand Forks	3.4	5.9	--
Thompson Gage	0.6	7.0	16.8
Hwy 25/Co Rd 221	-0.2	10.7	23.6
ND35K Maximum Impact Location	--		25.4
DS Sandhill River/Climax	-0.5	11.8	25.3
FCP (MN35K) Maximum Impact Location	--	12.6	--
Halstad Gage	-0.7	6.2	10.4
Hendrum	-0.7	6.5	11.3
Perley	-3.4	6.6	7.6
Georgetown	-3.0	5.8	8.4
Upstream Locations			
US FCP Diversion	--	6.8	--
US ND Wild Rice River	-107.8	5.3	-105.1
US LPP Diversion	98.8	--	0.2
Hickson Gage	54.6	-0.1	0.1
Abercrombie	1.3	0.0	--

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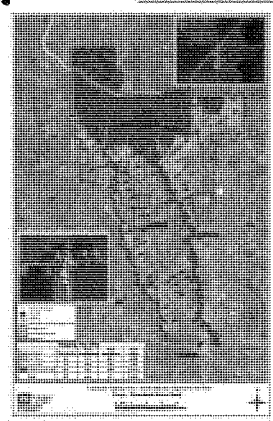
LPP Upstream Staging:

✓ Estimated cost to offset downstream impacts is $200 million

✓ Nearly eliminates downstream impacts

Depth in Feet	Residential	Non-Residential	Total Structures	Total Acres
0-1 Feet	95	110	205	5,298
1-3 Feet	75	149	224	7,361
> than 3 Feet	217	165	382	21,271
Totals	387	424	811	33,930



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LPP Upstream Mitigation:

- ✓ Preliminary Mitigation Concept:
  - ✓ **Upstream staging area considered necessary to operate the project.**
  - ✓ **Mitigation measures based on total depth of water, with Project:**
    - ✓ **Farmland: Flowage Easements on property in staging area**
    - ✓ **Structures:**
      - ✓ **0 to 1 foot – Flowage Easement only**
      - ✓ **1 to 3 feet – Ring Dike or Buyout (depends on access/duration)**
      - ✓ **Greater than 3 feet – Buyout. No habitable structures allowed.**

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LPP Upstream Mitigation:

- ✓ Preliminary Mitigation Concept:
  - ✓ **Entire area can still be farmed**
    - ✓ **Crop Insurance cover damages not caused by project**
  - ✓ **Work with Oxbow, Bakke, Hickson, Comstock to develop plan**
  - ✓ **Infrastructure**
    - ✓ **Raise I-29, MN Hwy 75, and Railroad in staging area.**
  - ✓ **Impacts outside Staging Area mitigated if Takings analysis requires**

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LPP Upstream Mitigation:

- ✓ Real Estate Acquisition is a Local Sponsor responsibility:
  - ✓ **Corps requires mitigating properties based on Takings analysis**
    - ✓ **increase in depth, frequency and duration**
  - ✓ **Concept presented would be significantly greater than what Corps would require**
  - ✓ **Will continue analyzing ways to minimize impacts**
  - ✓ **Mitigation begins after Congress authorizes and funds the Project**
  - ✓ **Mitigation must be complete when Project goes into operation**
    - ✓ **2021 earliest**

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LPP Cost Increases:

May 10 - August 10: Geotechnical changes			
August 10 - April 11: Offsetting of downstream impacts			
	May 2010	August 2010	Current (April 2011)
Project First Cost	$1,252,498,000	$1,484,913,000	$1,733,834,000

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Project Cost Estimates:

Item	LPP (Flood Risk Management Only)	FCP (Flood Risk Management Only)	Difference (LPP- FCP)
Project First Cost	$1,733,834,417	$1,180,274,220	$553,560,197
Federal Share	$767,178,993	$767,178,993	$0
Non-federal Share	$966,655,424	$413,095,227	$553,560,197
Average Annual Cost	$100,090,000	$70,593,000	$29,497,000
Average Annual Benefits	$174,817,000	$172,454,000	$2,363,000
Net Benefits	$74,727,000	$101,861,000	($27,134,000)
Benefit to Cost Ratio	1.75	2.44	
Average Annual Residual Flood Damages	$32,000,000	$30,000,000	$2,000,000
Average Annual Operation and Maintenance	$3,617,000	$3,494,000	$123,000

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Project Operation:

- ✓ Operation, staging and storage could begin when peak flow in the Red River is forecasted to exceed 9,600 cfs at Fargo (2-5 yr event)
- ✓ Would have operated 21 out of 109 years of record
- ✓ Summer operation: Might have operated 4 times during period of record (1975, 2005, 2007, 2009)
- ✓ Detailed Operation Plan will be developed during design and optimized after project completed
  - ✓ **Likely have separate operating plans for Spring and Summer**
  - ✓ **Minimize summer operation**

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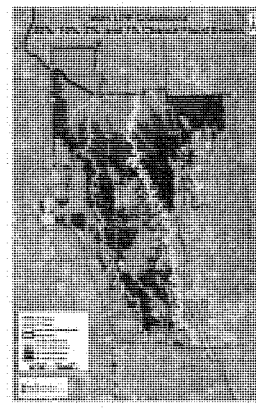
Project Operation:

EVENT	FLOWS (cfs)
20% - Chance (5-yr)	12,150
2007 Summer	13,500
10% - Chance (10-yr)	17,000
2% - Chance (50-yr)	29,300
2009 Flood of Record	29,500
1% - Chance (100-yr)	34,700
0.2% - Chance (500-yr)	61,700



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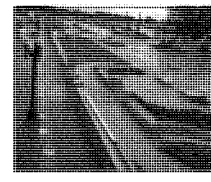
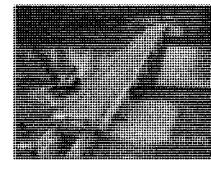
Recreation:

- ✓Average Annual Benefits – $5,130,000
- ✓Conceptual Plan
  - ✓ 44-miles of trails
  - ✓ Benches every mile
  - ✓ 2 – Shared-use bridges
  - ✓ 2 – Pedestrian-only bridges
  - ✓ 3 – Trail heads
  - ✓ Rest rooms
  - ✓ Potable water
  - ✓ Picnic facilities
  - ✓ Trees and Shrubs
  - ✓ Fishing Structures





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Project Benefits of LPP with Upstream Staging/Storage:

- ✓ Reduce flood risk to over 200,000 people
  - ✓ **Fargo**
  - ✓ **Moorhead**
  - ✓ **West Fargo**
  - ✓ **Horace**
  - ✓ **Harwood**
- ✓ Protect 70 square miles of infrastructure
- ✓ Provide additional protection from the Wild Rice, Sheyenne, Rush, Lower Rush and Maple Rivers
- ✓ Handles events much larger than the 500-year (Mn plan does not)
- ✓ Diversion is a proven, reliable solution

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Alignment Changes:

- ✓ Alignment changes have been discussed
- ✓ Feasibility Report/EIS tentatively recommends the ND East Alignment
- ✓ Changes can be considered during design phase and must:
  - ✓ **Comply with NEPA (review & disclosure)**
  - ✓ **Be compliant with EO 11988.**
  - ✓ **Be compliant with Clean Water Act.**
  - ✓ **May require additional Congressional authorization**

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F-M Metro Project Timeline:

- ✓ 28 Apr 11 Supplemental Draft EIS to EPA for Public Release
- ✓ 23-26 May Public Meetings
- ✓ 1 June 11 404(b)(1) Evaluation Hearing
- ✓ 20 June 11 Complete 45-day NEPA comment period
- ✓ 1 Aug 11 Begin design
- ✓ 28 Sept 11 Submit Draft Chief's Report and Final EIS to EPA for publication
- ✓ Dec 11 Sign Chief's Report
- ✓ Oct 12 Sign Project Partnership Agreement*
- ✓ Spring 2013 Begin Construction*
- ✓ 2021 Project Operable*

** Requires authorization and funding from Congress*

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How to Comment:

- ✓ Comment period ends on June 20, 2011.
- ✓ Web site: http://www.internationalwaterinstitute.org/feasibility
- ✓ Mail:
  Aaron M. Snyder
  USACE, St. Paul District
  180 5th Street East
  Suite 700
  St. Paul, MN 55101-1678
- ✓ Hard copies located at Fargo, Moorhead, West Fargo, Breckenridge, Climax and Kindred Public Libraries

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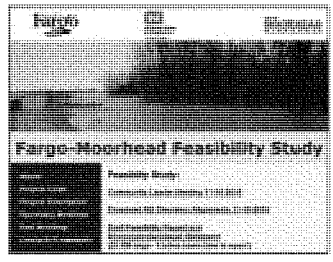
F-M Metro Information



http://www.internationalwaterinstitute.org/feasibility/index.htm

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US Army Corps
of Engineers

Fargo-Moorhead Metropolitan Area Feasibility Study

Overview:
The Fargo-Moorhead Metropolitan Area Feasibility Study is a cooperative effort between the U.S. Army Corps of Engineers, St. Paul District and the communities of Fargo, N.D. and Moorhead, Minn. This handout is designed to give a summary of the study, its tentative recommendations and the timeline for completion.

Study goals:

- Understand the flood problems in the greater Fargo-Moorhead metropolitan area.
- Develop a regional system to reduce flood risk.
- Determine the federal government's role in implementing flood risk reduction measures.
- Document study findings in a Feasibility Report and a National Environmental Policy Act (NEPA) Environmental Impact Statement.
- If appropriate, recommend implementation of a federal project to the U.S. Congress.

Problems and opportunities:
The primary problem identified in the study area is a high risk of flood damage to urban infrastructure from the Red River of the North, the Wild Rice River (ND), the Buffalo River, the Sheyenne River and its tributaries. Flooding also causes damage to rural infrastructure and agricultural crop land and disrupts transportation and aceess to properties within the study area. There are opportunities to increase and improve wildlife habitat and to increase recreation in conjunction with measures to reduce flood risk.

Flooding history:
The Fargo-Moorhead metropolitan area has a relatively high risk of flooding. The Red River exceeded the National Weather Service flood stage of 18 feet in 48 of the past 109 years, and every year from 1993 through 2011. The study area includes the Wild Rice, Sheyenne, Maple, Lower Rush and Rush rivers and the Red River of the North. Inter basin flows complicate the hydrology of the region and contribute to extensive flooding. The flood of record was the 2009 flood with a peak stage of 40.8 feet on the Fargo gage. Average annual flood damages in the Fargo-Moorhead metropolitan area are currently estimated at over $194.8 million. Most communities in the region avoided major flood damages in the historic floods of 1997 and 2009 by either raising existing levees or building temporary barriers. Although emergency measures have been very successful, they may also contribute to an unwarranted sense of security that does not reflect the true flood risk in the area.

Planning process:
This feasibility study began in September 2008. A wide array of potential measures was identified early in the study and expanded with input from the public. From September 2008 through May 2009, the study team gathered information to assess existing conditions in the study area and worked to understand the potential for economic justification of a large regional flood risk management project. In the wake of the 2009 flood, local, state and Congressional officials requested an aggressive schedule to complete the study by December 2010.

From June 2009 through October 2009, the study team performed cursory technical analysis of all proposed measures. The team also developed screening criteria to be used in selecting a plan. Using the preliminary technical information, the team applied professional judgment in order to assess the measures against the screening criteria. Several different scales of flood storage, nonstructural measures, flood barriers and diversion channels were evaluated in more detail during this phase of study. Using all of the information developed, the team compared the alternatives to identify the best plans for further study. The preliminary screening results, released in October 2009, indicated that the most cost-effective plan would likely be a diversion on the Minnesota side, but further study was needed to determine the optimal capacity. The non-federal sponsors requested that two North Dakota diversion plans with capacities of 30,000 and 35,000 cubic feet per second (cfs) and a 35,000 cfs Minnesota diversion plan be retained as potential locally preferred plans. The "no action alternative," the Minnesota short diversion channel and the North Dakota east diversion channel were retained for further analysis, and all other concepts were dropped from consideration as stand-alone plans. Non-structural measures (raising, relocating or buying out structures) were considered for portions of the study area not benefited by the diversions.

In March 2010, the cities of Fargo and Moorhead identified the North Dakota East 35,000 cfs diversion channel (ND35K plan) as the locally preferred plan (LPP). In April 2010, the U.S Army Corps of Engineers, St. Paul District, received a waiver from the Assistant Secretary of the Army for Civil Works allowing the Corps to recommend the ND35K plan as the LPP in the draft feasibility report. In May 2010, the Corps identified a Minnesota 40,000 cfs diversion as the National Economic Development plan and a Minnesota 35,000 cfs diversion as the "federally comparable plan" (FCP) for purposes of calculating federal and non-federal costs to implement the LPP.

Screened Alternatives Ranked by Net Benefits with Cost and Schedule Risk Assessment

Alternative	Cost [1]	Avg Annual Net Benefits [1]	Avg Annual Benefits [1]	Residual Damages [1]	B/C Ratio
MN Short Diversion 20K	$1,032	$87.0	$140.0	$55.9	2.64
MN Short Diversion 25K	$1,121	$98.8	$156.4	$39.5	2.71
MN Short Diversion 30K	$1,194	$101.7	$163.1	$32.8	2.66
MN Short Diversion 35K	$1,286	$104.9	$171.0	$24.9	2.59
MN Short Diversion 40K[2]	$1,367	$105.6	$175.9	$20.0	2.50
MN Short Diversion 45K[2]	$1,450	$104.9	$179.5	$16.4	2.41
ND East Diversion 35K	$1,462	$95.4	$171.1	$24.8	2.26

1. In millions of dollars with interest during construction and discounting included
2. Estimate based on linear extrapolation
Expected average annual damages without a project were $195.9 million.

The Corps identified the ND35K plan as the locally preferred and tentatively selected plan in its May 2010 integrated Draft Feasibility Report and Environmental Impact Statement (DEIS). On June 11, 2010, the Corps published a notice of availability of the DEIS in the Federal Register; public comments were accepted through August 9, 2010.

Hydraulic models completed in August 2010 showed that downstream stage increases from the proposed diversion extended much farther downstream than expected. Because of that, the Corps decided to extend the study schedule to further evaluate impacts and potential measures to mitigate for those impacts. A Supplemental DEIS (SDEIS) including the additional analyses was made available for public review and comment on April 29, 2011.

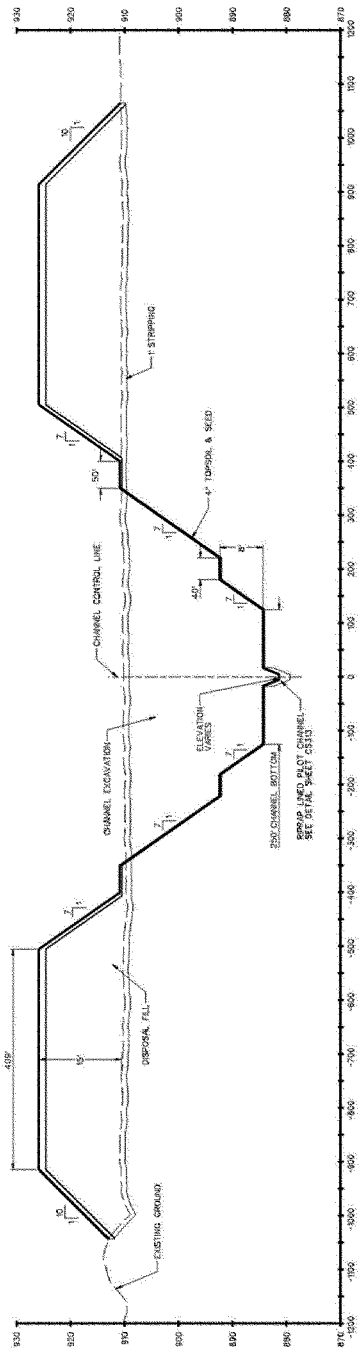
Following public review, the St. Paul District will submit the report to Corps Headquarters for policy review and to support a draft report of the Chief of Engineers. The Chief's report will be sent to other federal agencies and the concerned states for final NEPA review. Providing there are no major comments from the NEPA review, the final Chief's report will be sent to the Assistant Secretary of the Army for Civil Works, then to the Office of Management and Budget and then to Congress for possible project authorization.

Description of the revised locally preferred plan (LPP):
The revised LPP diversion alignment is nearly identical to the original LPP alignment. It starts approximately four miles south of the confluence of the Red and Wild Rice Rivers and extends west and north around the cities of Horace, Fargo, West Fargo, and Harwood and ultimately re-enters the Red River north of the confluence of the Red and Sheyenne Rivers near the city of Georgetown, MN. The diversion channel crosses the Wild Rice, Sheyenne, Maple, Rush and Lower Rush rivers. The alignment is approximately 36 miles long and incorporates the existing Horace to West Fargo Sheyenne River diversion channel. The LPP includes 19 highway bridges and 4 railroad bridges that cross the diversion channel. The alignment was shifted slightly from its original path in the northwest metro area to avoid an existing ditch system as requested by local interests. The LPP includes 10.1 miles of tie-back levees, gated control structures on the Red River of the North and Wild Rice River, an inlet weir, large aqueduct structures on the Sheyenne River and Maple River, drop structures on the Lower Rush River and Rush River, and a large outlet drop structure. Figure 1 shows a typical cross-section for the LPP Diversion Channel and Spoil Disposal Piles.

The LPP has a capacity of approximately 20,000 cfs in combination with a flood water storage area and upstream staging. Upstream staging means temporarily increasing flood stages immediately upstream of the control structures and diversion channel inlet in a "staging area" in order to change the timing of the hydrograph and the peak flow rate that is passed downstream. A storage cell known as Storage Area 1 was also added to the LPP; this cell will be confined by levees constructed as part of the project. The storage cell and staging area can hold approximately 200,000 acre-feet of flood water. The smaller diversion channel combined with storage and staging nearly eliminates downstream impacts while causing impacts in a smaller, better-defined geographic area upstream. The revised LPP provides the same level of annual economic benefits in the Fargo-Moorhead Metropolitan area as the original LPP and the FCP. Recreation features that could be incorporated into the project include multipurpose trails, interpretive signage, benches, trail heads with parking facilities and other related features.

Effects of the plan:
The proposed LPP would significantly reduce flood damages and flood risk in the Fargo-Moorhead metropolitan area, but it would not completely eliminate flood risk. The LPP will reduce flood stages on the Red River in the cities of Fargo and Moorhead and will also reduce stages on the Wild Rice, Sheyenne, Maple, Rush and Lower Rush Rivers between the Red River and the diversion channel. With the LPP in place, the stage from a 1-percent chance flood event on the Red River would be reduced from approximately 42.4 to 30.6 feet on the Fargo gage. At that level, only minimal emergency measures would be required to safely pass the 1-percent chance flood event with the LPP in place. However, floods larger than the 1-percent chance event will still require emergency flood fighting measures; with the LPP in operation, the stage for a 0.2-percent chance flood event would be approximately 40.0 feet, which is comparable to the 2009 flood event.

The following tables show the expected upstream and downstream flood stage increases for the 1-percent chance flood event for the LPP, FCP and ND35K plans: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1% Chance (100-Year) Event			
Location	Stage Increase (Inches)		
	LPP	FCP	ND35K
Downstream Locations			
Emerson Gage	--	0.7	--
Pembina Gage	--	2.0	--
Drayton Gage	1.0	1.7	--
ND SH#17/MN SH317	0.8	1.6	--
Co. Hwy 15	0.6	1.8	--
Oslo Gage	0.7	1.1	--
DS Grand Forks Levees	1.8	2.5	--
Grand Forks Gage	2.9	4.1	--
LPP Maximum DS Impact Location	3.5	--	--
32nd Ave, Grand Forks	3.4	5.8	--
Thompson Gage	0.5	7.0	15.8
Hwy 25/Co.Rd 221	-0.2	10.7	23.6
ND35K Maximum Impact Location	--	--	25.4
DS Sandhill River/Climax	-0.5	11.8	25.3
FCP (MN35K) Maximum Impact Location	--	12.5	--
Nielsville	-0.5	12.4	22.8
DS Marsh River	-0.4	10.7	19.4
US Goose River/Shelly	-0.5	9.2	15.1
Halstad Gage	-0.7	6.2	10.4
Hendrum	-0.7	6.6	11.3
Perley	-3.4	6.6	7.6
Georgetown	-3.0	5.8	8.4
Upstream Locations			
US FCP Diversion	--	6.8	--
US ND Wild Rice River	-107.9	5.3	-105.1
US LPP Diversion	98.8	--	0.2
Hickson Gage	64.6	-0.1	0.1
Abercrombie	1.3	0.0	--

Construction of the LPP would directly impact 6 homesteads and 8,054 acres of land. Use of Storage Area 1 would impact an additional 23 homesteads, a Cass County Rural Water treatment facility and 3,500 acres of land. The upstream staging area would impact 811 structures including 387 residential structures and 33,390 acres of land. The project would impact approximately 1161 acres of wetlands. The LPP would remove approximately 70 square miles from the 1-percent chance floodplain; these areas could be used for future development. The project would have no adverse impacts on significant groundwater resources. The project may affect sediment transport, accretion and erosion in the Red River and the affected tributaries, which are critical forces in shaping and maintaining aquatic habitat, but effects are expected to be minor. Connectivity and access to various habitats is important to fulfill seasonal and life stage-specific habitat needs for river fish. The project features are designed to minimize impacts to connectivity and to facilitate fish passage on the Red River, but fish passage will be blocked during portions of some flood events. The project would include appropriate mitigation for unavoidable environmental impacts.

Approximately 400 residential properties may be affected by the project. Landowners would be compensated for the loss of property in accordance with applicable federal and state laws and policies. If compensation is necessary, depending upon the location and level of impact, compensation could be made in the form of easements, ring levees, buyout/relocation or other appropriate measures.

Project Costs:
The total estimated first cost of the LPP based on October 2011 price levels is $1,769,689,000, with the federal and non-federal shares of total first cost estimated at $785,106,000 and $984,583,000, respectively. The flood risk management features have an estimated total first cost of $1,733,834,000, with the federal and non-federal shares estimated at $767,178,000 and $966,656,000, respectively. The recreation features have an estimated total first cost of $35,855,000, with the federal and non-federal shares estimated at $17,927,000 and $17,927,000 respectively. The annual operation and maintenance costs are $3,664,000. The LPP has an overall benefit-cost ratio of 1.77 and would provide in excess of 1-percent chance level of risk reduction for the majority of the region. The following table summarizes the LPP and FCP first costs:

LPP & FCP Diversion First Cost Comparison

Item	LPP (Flood Risk Management Only)	FCP (Flood Risk Management Only)	Difference (LPP- FCP)
Project First Cost	$1,733,834,417	$1,180,274,220	$553,560,197
Federal Share	$767,178,993	$767,178,993	$0
Non-federal Share	$966,655,424	$413,095,227	$553,560,197
Average Annual Cost	$100,090,000	$70,593,000	$29,497,000
Average Annual Benefits	$174,817,000	$172,454,000	$2,363,000
Net Benefits	$74,727,000	$101,861,000	($27,134,000)
Benefit to Cost Ratio	1.75	2.44	
Average Annual Residual Flood Damages	$32,000,000	$30,000,000	$2,000,000

Schedule:
6 May – 20 June 2011: State, Agency and Public Review and Comment Period for SDEIS
August 2011: Begin Design
September 2011: Civil Works Review Board
December 2011: Signed Record of Decision

For more information:
Visit the study website at: **http://www.internationalwaterinstitute.org/feasibility/**

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US Army Corps
of Engineers

Fargo-Moorhead Metro Area Feasibility Study FAQs

Q1: Why was a diversion channel rather than levees or water retention recommended?

A1: The study found that a diversion was the only concept that could significantly reduce flood risk in the Fargo, N.D.-Moorhead, Minn. area from flood events larger than the 2009 event. A diversion channel is the safest and most robust flood risk reduction option available because no matter the size of the flood, a diversion channel will provide some benefits. When floods exceed the capacity of levees and dams, the results can be catastrophic. A number of alternatives, including levees and water retention, were analyzed before a diversion channel was tentatively recommended. Due to a lack of high ground in the area, levees could only be built to a height that would reliably contain the 50-year flood, which is similar to the 2009 flood. For greater levels of protection, a ring levee would have to be built around the cities of Fargo and West Fargo, N.D. making this option cost prohibitive. Flood storage was also considered. Water resource managers in the Red River Basin estimated in the Fargo-Moorhead and Upstream Feasibility Study that up to a total of 400,000 acre-feet of flood storage (or 40,000 acres covered with 10 feet of water) could be constructed at various locations upstream of Fargo-Moorhead at a cost of approximately $600 million. Such a system of storage sites would reduce the 100-year flood crest at Fargo by less than two feet. The proposed diversion would reduce the 100-year flood stage in Fargo by 12.4 feet.

Q2: Why is the North Dakota diversion channel the tentatively selected plan, when the Minnesota diversion channel is cheaper?

A2: The local sponsors for the project, the cities of Fargo and Moorhead, as well as representatives from Cass and Clay counties, overwhelmingly supported the North Dakota diversion and selected it as their Locally Preferred Plan because it reduces flood risk for a much larger portion of the metro area. Because the Minnesota diversion is the National Economic Development Plan, the federal government will cap its contribution towards the project at what it would have contributed had the Minnesota plan been selected instead.

Q3: Why was the current alignment selected?

A3: The current alignment was selected for technical and policy reasons. The design intent was to benefit as much existing development as possible, while minimizing overall impacts to the floodplain and the environment while at the same time minimizing costs. The diversion alignment was located to keep flood water out of the Rose Creek watershed by capturing overland flows south of Fargo and to stay south and west of the existing Sheyenne River Diversion control structure at Horace, N.D. The diversion outlet was located downstream of the mouth of the Sheyenne River to maintain natural drainage within the benefitted area. The channel alignment north and west of Harwood, N.D. was adjusted to avoid Drain 13, as requested in a petition from local landowners. In general, to the extent possible, the alignment avoids existing structures and crosses rivers and roads at right angles.

Q4: Why are you proposing to cause upstream impacts now rather than downstream impacts?

A4: Hydraulic modeling showed that the downstream impacts were far greater than first anticipated, extending beyond Drayton, N.D., approximately 211 river miles downstream, and possibly to Canada. However, further study showed that downstream impacts could almost entirely be eliminated by temporarily staging approximately 200,000 acre-feet of water immediately upstream of the diversion. Staging water upstream would affect approximately 1,000 structures as compared to approximately 4,500 structures affected downstream without staging.

Q5: Is this plan final or can the alignment be moved before the diversion channel is built?

A5: As the design proceeds, minor adjustments to the alignment can be expected. Each alignment adjustment will be determined on a case-by-case basis. We can also consider major changes to the alignment, such as moving it west or south, during the design phase; however, we would still have to comply with current laws and policies to include the National Environmental Policy Act, the Clean Water Act and Executive Order 11988. (Executive Order 11988 requires agencies to minimize impacts on the floodplain). Changes may also require Congressional reauthorization.

Q6: Why does the project include recreation features?

A6: Recreation features are generally included in flood risk management projects because they provide additional economic benefits to the local communities at relatively small cost. Flood risk management projects in St. Paul, Minn., Rochester, Minn., Grand Forks, N.D., and East Grand Forks, Minn. included such features. The cost of recreation features are shared 50/50 between the non-federal sponsors and the federal government.

Q7: How will this diversion channel affect the Sheyenne Diversion Channel?

A7: The existing Sheyenne River diversion is really two diversion projects: the Horace to West Fargo diversion and the West Fargo diversion. The Fargo-Moorhead Metro diversion would incorporate and expand the Horace-to-West Fargo channel. From West Fargo north, the Fargo-Moorhead Metro diversion would run alongside the existing West Fargo diversion and be set far enough away so as to not affect the existing diversion. The Fargo-Moorhead Metro diversion would reduce risk in the cities of Horace and West Fargo from Sheyenne River floods more than the current Sheyenne Diversion does, and it will also reduce flood risk from Red River and Wild Rice River flood events.

Q8: Why have costs increased since you released the Draft Environmental Impact Statement?

A8: In the May 2010 Draft EIS, the tentatively selected plan had an estimated first cost of $1.3 billion. In early fall of 2010, we refined the Draft EIS with the new data we collected during the study process. The new data indicated that the diversion channel had to be adjusted to minimize the contact with the Brenna clay formation (a weaker soil). These adjustments to the plan increased the first costs to $1.5 billion. Shortly thereafter, we determined that the downstream impacts from the North Dakota 35K diversion were not acceptable. We modified the plan to include upstream impacts in an effort to minimize the extensive downstream impacts, and the mitigation for the upstream impacts increased the first costs to $1.7 billion.

Q9: How will the diversion channel cross five rivers?

A9: At the Wild Rice River, there will be a gated water control structure similar to the one on the Red River at the upstream end of the project. Where the diversion crosses under the Sheyenne and Maple rivers, aqueduct structures will allow some of the natural river flows to cross over the diversion. Similar structures are more common in Europe and have been constructed in the United States, typically for water supply or canal projects. The Rush and Lower Rush rivers will be completely diverted into the diversion channel via drop structures. The existing Rush and Lower Rush river channels will be abandoned.

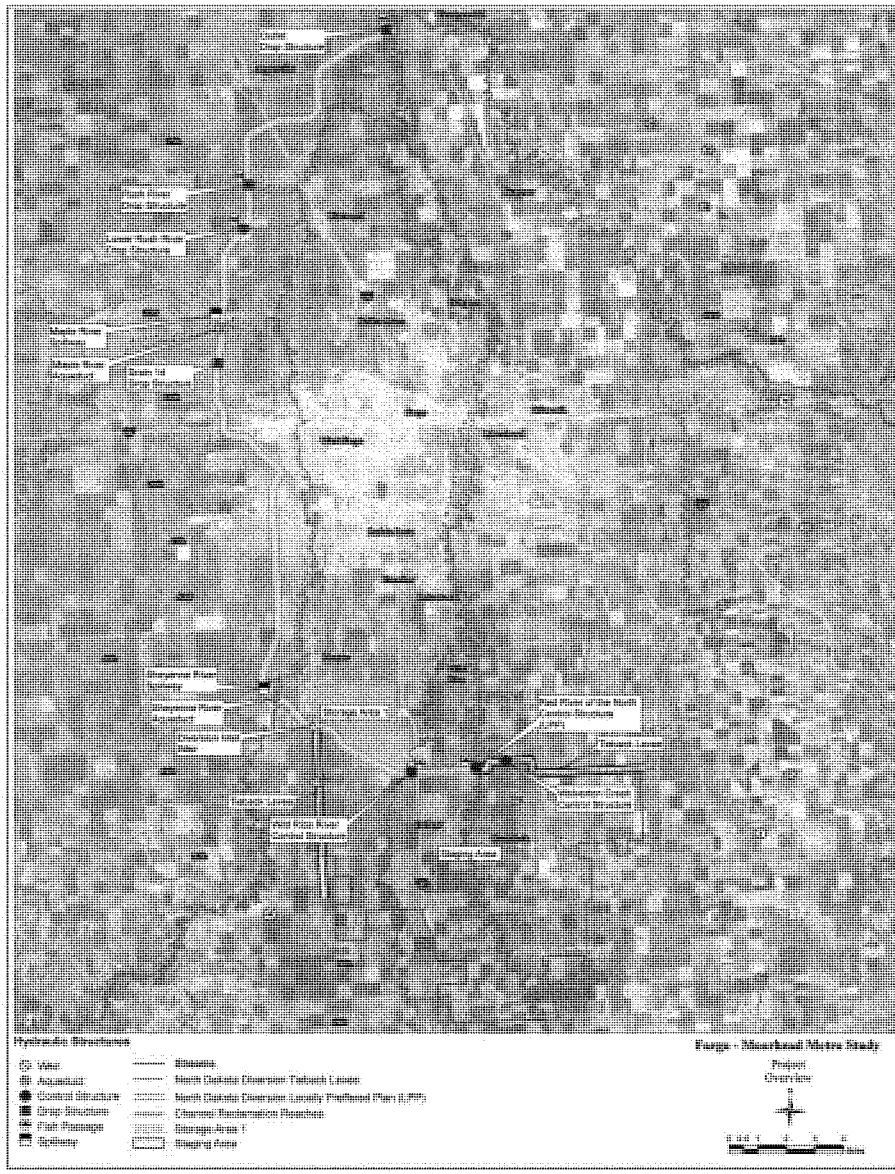
Q10: Is it true that the Fargo-Moorhead Metro area will be protected to a 500-year level when other communities in the basin have less protection?

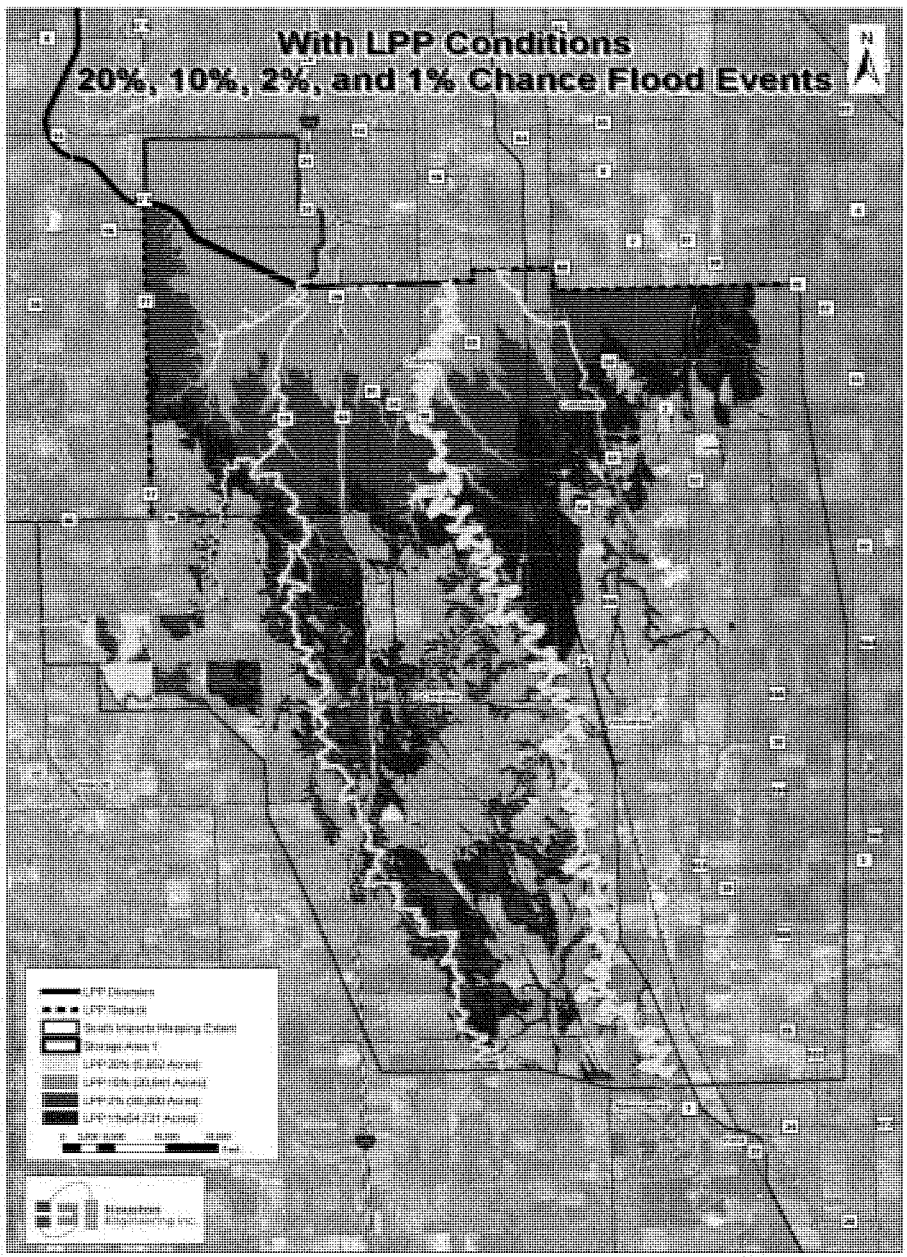
A10: The diversion project will significantly reduce flood damages in the benefitted area by reducing the frequency of high flows in the natural river channels through town. For floods up to a 100-year event, only minimal emergency efforts would be required within the benefitted area. A 500-year flood would cause a stage of approximately 40 feet with the diversion channel in place that would require emergency measures similar to those used during the 2009 flood (stage of 40.8 feet). It is important to remember that the Fargo-Moorhead area is prone to localized flooding from extreme rainfall events, and the diversion project would not reduce that risk.

Q11: Will the 45-day public review period for the Supplemental Draft EIS be extended upon request?

A11: The Corps will consider any request for an extension but at this time does not anticipate extending the review period. The public review period began May 6 when the Supplemental Draft EIS notice of availability was published in the *Federal Register* and ends 45 days later on June 20. The Supplemental Draft EIS will have been available for public review for longer than 45 days, as it was posted on the project website April 28 and mailed out to agencies and libraries April 29. The Corps began releasing the details of the tentatively selected plan several months ago. In addition, several public meetings, including ones specifically for landowners upstream, were held prior to release of the Supplemental Draft EIS and information was made public on the project website. Finally, although the tentatively selected plan identified in the Supplemental Draft EIS is different from that identified in the Draft EIS, the majority of the information conveyed in the Supplement is similar to that conveyed in the Draft and the features of the other alternatives remained largely the same.

The Fargo-Moorhead Metro area has suffered from extensive flooding nearly every year as of late, and it is critical that this project be considered by Congress as soon as possible so a project can be implemented. There is a specific process with specific timelines that must be followed in order to present the project to Congress. Given the extensive information already shared with the public and the desire to attempt to obtain Congressional authorization as soon as possible, the Corps does not anticipate extending the public review period.


Hydraulic Structures
Fargo - Moorhead Metro Study
Project Overview


With LPP Conditions
20%, 10%, 2%, and 1% Chance Flood Events
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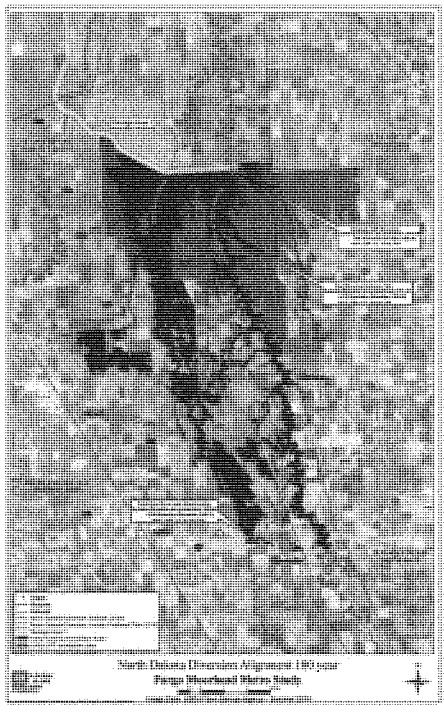
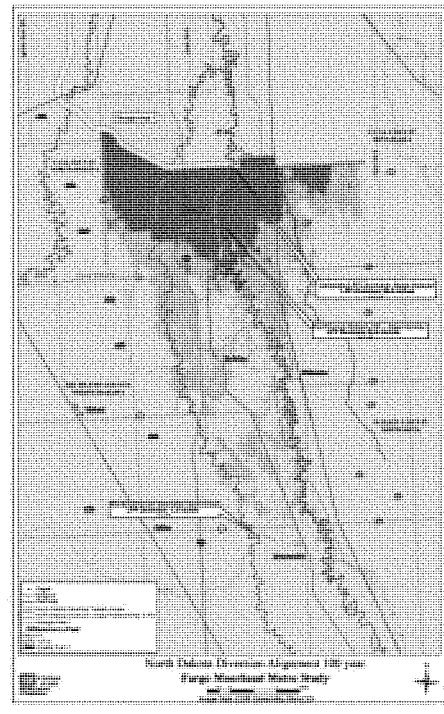
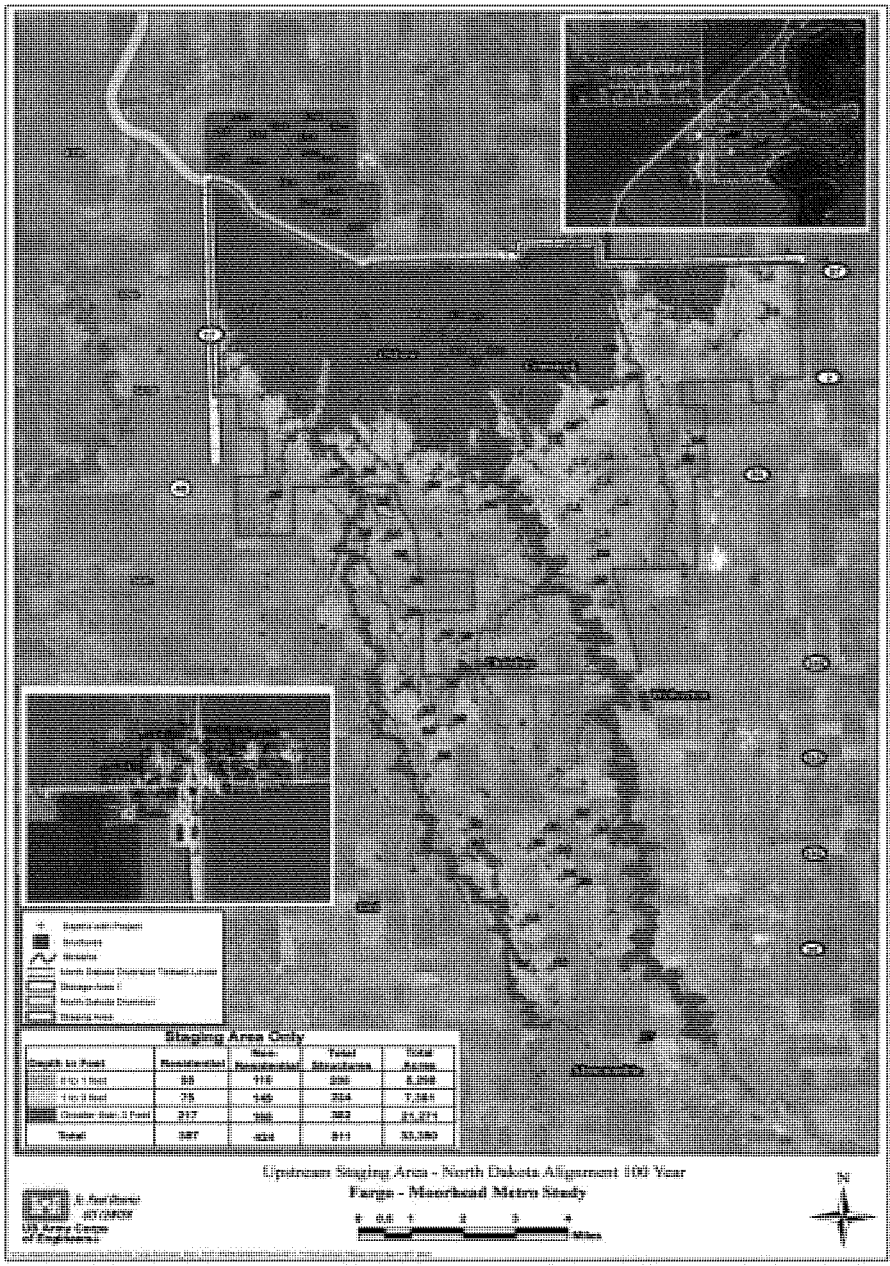

North Dakota Diversion Alignment 100 year
Fargo Moorhead Metro South


North Dakota Diversion Alignment 100 year
Fargo Moorhead Metro South


Staging Area Only
Upstream Staging Area - North Dakota Alignment 100 Year
Fargo - Moorhead Metro Study
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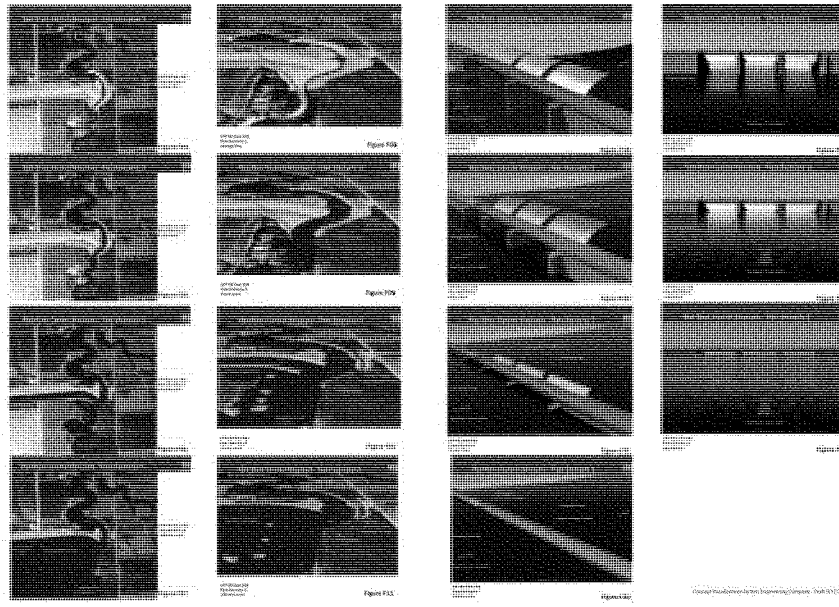

Presentation 34:

June 1, 2011

US Army Corps of Engineers®
St. Paul District

Public Notice

CLEAN WATER ACT SECTION 404(b)(1) EVALUATION
FARGO- MOORHEAD METROPOLITAN AREA FLOOD RISK MANAGEMENT

Date: April 28, 2011 **In Reply Refer to:** Project Management and Development Branch

Notice of Public Hearing. **The U.S. Army Corps of Engineers, St. Paul District**, will hold a formal public hearing on the Clean Water Act Section 404(b)(1) Evaluation contained in the Supplemental Draft Feasibility Report and Environmental Impact Statement for Fargo-Moorhead Metropolitan Area Flood Risk Management. The Report/EIS is available for review at http://www.mvp.usace.army.mil/ or at www.internationalwaterinstitute.org/feasibility. The hearing will be held on **June 1, 2011 in Fargo, North Dakota at Centennial Hall. Doors will be open at 6:00 pm for informal discussion with Corps of Engineers Representatives. The hearing will begin at 7:00 pm and conclude at 9:00 pm. The hearing is being held under the authority of Section 404 of the Clean Water Act.**

The primary purpose of the hearing is to gather additional information from the public or interested federal and state agencies regarding the Section 404(b)(1) Evaluation contained in the Supplemental Draft Feasibility Report and Environmental Impact Statement released in April 2011. However, any comments received on other aspects of the Report/EIS will be considered as comments on the Report/EIS and addressed as such. The Corps will give no formal presentation on the study during the hearing. No responses to statements or comments will be provided by the Corps during the hearing.

Any person or organization may present an oral or written statement, call witnesses to present oral or written statements, or present recommendations as to an appropriate decision during the hearing. The statement may be provided personally or through an attorney or representative. Those individuals who wish to give public oral testimony will be asked to pre-register for a maximum five-minute speaking period.

While cross examination of presenters is not allowed, the Corps will provide an opportunity for oral or written rebuttal of statements made at the hearing. Oral rebuttals are limited to 2 minutes each.

Those submitting comments are advised that all comments received will be available to the public, to include the possibility of posting on a publically accessible website. Commenters are requested not to include personal privacy information, such as home addresses or home phone numbers, in their comments unless they do not object to such information being made available to the public.

The hearing will be recorded by a court reporter and a verbatim transcript will be made available for review after the hearing. Written comments, statements, rebuttals or recommendations may also be provided to the Corps during the hearing. Additionally, written comments or rebuttals may be submitted to the Corps through June 13, 2011. Comments not presented at the hearing should be submitted to the U.S. Army Corps of Engineers, St. Paul District, ATTN: CEMVP-PM-B, 180 Fifth Street East, Suite 700, St. Paul, MN 55101-1678.

Aaron M. Snyder
Chief, Project Management and Development Branch

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3 CLEAN WATER ACT SECTION 404(b)(1) EVALUATION
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5 PUBLIC HEARING
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7 FARGO-MOORHEAD METROPOLITAN AREA FLOOD RISK MANAGEMENT
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11 June 1, 2011
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17 Location:
Centennial Hall
Fargo, North Dakota
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20 Reporter: Carolyn Taylor Pekas, RPR
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1 WHEREUPON,
2 the following proceedings were had,
3 to wit:
4 LT. COL. BERGMANN: Good evening, ladies and
5 gentlemen. We're going to get started here. My name
6 is Lieutenant Colonel Kendall Bergmann. I am the
7 Deputy District Engineer for the St. Paul District of
8 the U.S. Army Corps of Engineers.
9 With me this evening are Mr. Kevin Bluhm,
10 our Economist; Ms. Molly McKegney from our Office of
11 Counsel; Mr. Aaron Snyder, one of our chief -- Chief
12 of Project Management; Mr. Craig Evans, our Chief of
13 Planning; Mr. Brett Coleman, our Project Manager; and
14 Ms. Terry Williams, also one of our Project Managers.
15 I would like to welcome you tonight to this
16 public hearing regarding the Clean Water Act Section
17 404(b)(1) Evaluation, which was included as
18 Attachment 1 in the Supplemental Draft Feasibility
19 Report and Environmental Impact Statement for
20 Fargo-Moorhead Metropolitan Area Flood Risk
21 Management.
22 The primary purpose of tonight's hearing is
23 to gather additional information from the public or
24 interested federal and state agencies regarding the
25 Section 404(b)(1) Evaluation. The Corps of Engineers

1 will not be giving a formal presentation tonight on
2 the study. And although information or evidence
3 which is received during this hearing will be
4 considered in evaluating the proposed Fargo-Moorhead
5 Metropolitan Area Flood Risk Management project, no
6 responses to statements or comments will be provided
7 during this hearing tonight.
8 As this hearing is part of the Clean Water
9 Act process, please focus your statements on issues
10 related to the Clean Water Act Section 404(b)(1)
11 Evaluation, which was Attachment 1 to the
12 Supplemental Draft Feasibility Report and
13 Environmental Impact Statement. If you have
14 additional comments on the Report or EIS document
15 that are unrelated to the Clean Water Act Section
16 404(b)(1) Evaluation, please submit those comments
17 through the process outlined in the Feasibility
18 Report and the EIS document and at the study website.
19 The website addresses -- or excuse me. The website
20 address can be obtained from any one of the Corps
21 employees at the hearing tonight.
22 Any person or organization may present an
23 oral or written statement, call witnesses to present
24 oral or written statements, or present
25 recommendations as to an appropriate decision. The

1 statement may be provided personally or through an
2 attorney or representative. Those individuals who
3 wish to give public oral testimony tonight must
4 preregister and will be given five minutes to present
5 their oral statement. I will advise when their time
6 has expired, and we'll go through that in a minute,
7 with the display behind me.
8 Cross-examination of presenters or witnesses
9 is not allowed, and individuals cannot be compelled
10 to testify. Cannot be compelled to testify. Oral or
11 written rebuttal of statements can be made after
12 everyone has had the chance to make their initial
13 statement and if time allows. Oral rebuttals will be
14 limited to two minutes each. The information
15 obtained at this hearing will become part of our
16 administrative record and will be considered as part
17 of the decision-making process.
18 The hearing will be recorded by a court
19 reporter, and a verbatim transcript will be made
20 available for review after the hearing. Written
21 comments, statements, rebuttals or recommendations
22 may also be provided to the Corps of Engineers during
23 the hearing. Additionally, written statements or
24 rebuttals may be submitted to the Corps through
25 June 13, 2011. Statements not presented at the

1 hearing should be submitted to the United States Army
2 Corps of Engineers, St. Paul District, Attention
3 CEMVP-PM-B, 180 Fifth Street East, Suite 700, St.
4 Paul, Minnesota, 55101-1678. Please identify that
5 the comment is being submitted as part of the Section
6 404(b)(1) process.
7 In addition, as appropriate, statements and
8 comments on the Section 404(b)(1) Evaluation will be
9 addressed as comments on the Supplemental Draft
10 Environmental Impact Statement in the Final
11 Environmental Impact Statement.
12 Those submitting comments are advised that
13 all comments received will be available to the
14 public, to include the possibility of posting on a
15 publicly-accessible website. Commenters are
16 requested not to include personal privacy information
17 such as home addresses or home telephone numbers in
18 their comments unless the individual does not object
19 to such information being made available to the
20 public.
21 As you entered this evening you should have
22 received a form to fill out. This form serves
23 several important purposes at this hearing. It
24 enables us to determine who wishes to make a
25 statement at this hearing, it creates a record of

1 attendance at the hearing, and it provides us with
2 contact information if it is necessary to seek
3 clarification of your statement.
4 If you did not fill out a form earlier,
5 please pick one up at the table at the back of the
6 room where you entered and complete it before giving
7 it to one of the Corps of Engineers representatives
8 seated at the table.
9 For the procedures we will follow tonight,
10 at the outset I want to clarify that while this is an
11 information-gathering hearing, it is not an
12 adversarial process. Accordingly, witnesses are not
13 sworn to provide statements under oath and no
14 cross-examination is allowed. Rebuttal of testimony
15 is permitted to the extent that it is relevant, if
16 time is available, and if a party desires to provide
17 such a response. To ensure that everyone who wishes
18 to participate has an opportunity to make a
19 statement, I ask that you limit your -- to ensure
20 that everyone who wishes to participate has an
21 opportunity to make a statement, I ask that you limit
22 your initial statement to five minutes. If time
23 permits you may supplement that statement or offer
24 rebuttal to earlier statements of other speakers if
25 all parties who wish to speak have had an opportunity

1 to do so. Any oral rebuttals will be limited to two
2 minutes each. Currently the hearing is scheduled to
3 conclude at 9:00 p.m., so it is important to adhere
4 to time limitations to ensure that all interested
5 attendees have the opportunity to speak. Again, you
6 may submit a written statement in lieu of oral
7 testimony. The record of this hearing will remain
8 open through June 13, 2011, for submittal of
9 additional written statements or documents.
10 While it is very likely that speakers may
11 have different opinions regarding the project, I ask
12 that you respect each person's right to freely
13 express their views with no disruption or
14 disturbance.
15 Since this is a formal hearing we have
16 arranged for a court reporter to record all
17 statements made during this hearing. Our court
18 reporter this evening is Ms. Carolyn Taylor Pekas.
19 Please speak slowly and clearly so that all -- or so
20 that an accurate recording can be made of your
21 statement. A transcript of the hearing will be
22 available for review at the St. Paul District Office,
23 or any person wishing to have their own copy may
24 contact Ms. Terry Williams, who is seated at the
25 front desk, and her number is (651) 290-5517.

As I call your name, please come forward to the microphone in the center and state your full name and then spell your last name so that it is recorded correctly in the hearing transcript. When calling a speaker to make their presentation, I will also announce the name of the following speaker so they may be available and prepared to offer their testimony.

Please remember that our court reporter must record your name each time you speak. This is your opportunity to get your input into the record.

At this time, before we start, I'll turn it over to Mr. Bluhm and he'll go over the display here for the five minute to kind of help you out so you know when your time is coming to an end, and then also for the two minute, and then we'll proceed.

MR. BLUHM: All right. Thank you, sir. As part of this meeting I want to make sure that everybody has a chance to have their accurate five minutes reflected. Keep in mind my job here at the podium will be to moderate the time and to try to help keep the meeting running smoothly.

Lieutenant Colonel Bergmann is your hearing officer. You'll want to address him with all your comments, statements and testimony. My job, again,

1 will only be to help serve and monitor time.
2 The slides here that I have will run four
3 minutes during the initial portion, green for the
4 four minutes, and then at the one minute remaining it
5 will start to change from a yellow, showing one
6 minute, 45 seconds, 30 seconds, 15 seconds remaining.
7 Once your five minutes has been exceeded, the box
8 will turn to red, and at that time I'll indicate that
9 five minutes have passed. At that point it would be
10 appropriate to make a concluding statement and finish
11 your comments for us. If you have other comments you
12 would like to make, after the entire panel has had a
13 chance that has registered to speak, you may come
14 back up for rebuttal. If you would like to come and
15 address the hearing for a second time, it's important
16 that you go back to the registration table and inform
17 them that you'd like to come back for rebuttal so we
18 can put it back in the queue, okay?
19 So with that, that's all the remarks I had.
20 I'm ready on this side, sir.
21 LT. COL. BERGMANN: Okay. The first speaker
22 is Mr. Ray Holzhey, and the person standing by will
23 be Ms. Leah Rogne. Mr. Holzhey?
24 RAYMOND HOLZHEY: Hello. My name is Raymond
25 Eugene Holzhey, H-O-L-Z-H-E-Y.

1 In examining the Environmental Impact
2 Statement between last year's event and this year's,
3 one of the primary changes was the addition of the
4 dam. The dam follows Highway 75 and County 17. If
5 you look at that and you analyze it in the events
6 that have happened in the last three years, there's a
7 problem with probably wetlands water and water flow,
8 because the Sheyenne River in all three of the last
9 three years has followed Highway -- State Highway 46,
10 County 14 and County 16 across to return to the Wild
11 Rice as its emergency spillway. Currently in the
12 diagrams in the document there is nothing to deal
13 with that.
14 Additionally, the (inaudible) type net that
15 catches the water from the two main rivers will
16 prevent the water from following its normal course up
17 through the acreages and refreshing the water in the
18 wetlands that will now be converted in the 100-year
19 event, so what we have at this point is a change in
20 the water flow and the water quality for the area.
21 Just a quick question. Are my comments
22 really limited only to 404(b)? Because the paperwork
23 I saw said we could submit other comments.
24 MR. BLUHM: You can submit other comments
25 with your time, yes.

1 RAYMOND HOLZHEY: Okay. Additionally, there
2 have been some recent developments, I think, that
3 would affect the cost basis of the plan. If I look
4 back at the June 2010 plan, the no action plan was
5 billed at I think 195.4 million dollars. The current
6 plan shows the exact same cost for no action, yet
7 during this time both Fargo and Moorhead have done
8 extensive buyouts. In addition to that they've
9 placed levees, and Fargo has committed to building
10 levees with protection to 42 feet, yet the -- the
11 cost, the no action plan, represents the same almost
12 exact number. It's hard to say because the
13 precision's not there, but I think the precision's
14 accurate enough to say that that hasn't been included
15 in the plan. If those mitigations to 42 feet were
16 included in the plan, it's my assertion that the dam
17 could be made significantly smaller and could affect
18 far less wetlands.
19 Fargo is currently being protected to a
20 maximum of 30 feet, with a flow of 10,000 cfs, which
21 is gonna affect sedimentation rates in the main
22 channel. As we've seen this week in Bismarck, the
23 increase in the flows out of this dam matches
24 (inaudible) river. It's been the Corps' practice for
25 decades to flush the Fort Peck dam and the Missouri

1 River dam to cause flooding, to deposit sedimentation
2 back down rivers, yet the flow rates that are being
3 limited to going through Fargo at 30 feet will
4 probably not have any effect on that, it's gonna
5 change the constitution of the water and probably
6 fill that channel with sedimentation, requiring
7 further regimented monitoring of the water quality.
8 Plus, I believe that the cost of the plan
9 could be reduced significantly if this local
10 mitigation was included within the plans, and I think
11 these things need to be looked at. Thank you.
12 MR. BLUHM: Thank you.
13 LT. COL. BERGMANN: Okay. Ms. Rogne, if you
14 will please come forward, and then Mr. Ulven, you'll
15 be next.
16 LEAH ROGNE: Thank you. I am Dr. Leah
17 Rogne, and I'm Associate Professor of Sociology at
18 Minnesota State University, Mankato, and Director of
19 its Applied Sociology Program.
20 MR. BLUHM: Excuse me. Can I have you spell
21 your last name, please?
22 LEAH ROGNE: R-O-G-N-E. I would like to
23 speak about the lack of a fair public involvement
24 process in the planning for the Fargo/Moorhead Metro
25 Flood Control Study. I believe that the process is

1 so deeply flawed that the Corps of Engineers should
2 not be moving forward with its 404(b)(1) Evaluation
3 at this time. The haste in which this project is
4 being propelled forward does a disservice to the
5 region's residents and taxpayers who hope for flood
6 protection, and especially to those currently paying
7 for this wholly inadequate planning process. The
8 course of action that has been followed by the local
9 sponsors has served to undermine public trust by
10 members of a wide community that has been left out of
11 the process.
12 The upstream staging portion of the project
13 was quickly added to the plan, and its ramifications
14 have not been fully addressed so far in Corps
15 studies. It is inappropriate to be moving forward
16 without a thorough assessment of the cultural, social
17 and economic impacts of flooding up to 54,000 acres
18 of agricultural land for this project.
19 In the apparent haste to move this project
20 forward for political reasons, the plan has fallen
21 far short of addressing these important elements.
22 The plan includes an assessment of cultural
23 resources for only the area affected by the diversion
24 channel itself. There's no consideration whatsoever
25 of cultural resources for the 54,000-acre area

1 affected by staging or flooding land upstream.
2 The project has failed to provide even the
3 most cursory examination of the social impacts of the
4 staging area, treating these issues only in
5 generalities and with speculation. The Corps has
6 presented no hard social science data to support
7 their claims related to social effects. There have
8 been no data collected: no focus groups, no
9 interviews, no observations, no social network
10 analysis, and no basic community studies to assess
11 the nature of the social and economic ties for the
12 thousands of North Dakota and Minnesota residents who
13 would be affected negatively by the project.
14 And lastly and perhaps most alarmingly for a
15 region whose heart is agriculture, the economic
16 analysis related to agriculture has been entirely
17 inadequate to capture the long-term impact on this
18 most central economic engine of the region.
19 I will touch on only a few issues in the
20 interest of time. Planners speculate that reduced
21 yields caused by delayed planting could be addressed
22 by installing drain tile. These staggering costs are
23 not in the project, but would be the responsibility
24 of local sponsors, Fargo and Moorhead. The
25 cumulative loss of land -- of value on land for which

1 crop insurance would not be available due to manmade
2 flooding has not been addressed. These costs as well
3 would be assigned to the local sponsors. Area
4 farmers are currently reeling from the admission by
5 the Corps that if they were to be among those caught
6 in a forced buyout, they would get the tax
7 depreciated value for their farm operation, which
8 means, in short, for many farmers nothing at all.
9 In addition, expert comments in the
10 geotechnical appendices of the SDEIS raise questions
11 about the lack of adequate analysis of soil issues
12 for the project. Without proper soil analysis,
13 including test scores, the true cost of the project
14 cannot be estimated.
15 These and other acts of commission and
16 omission in the plan demonstrate an appalling lack of
17 consideration of the real economic costs of this
18 project to the region's agricultural producers and
19 thus to the region as a whole. The people who would
20 be paying for these additional costs, the local
21 taxpayers, need to be fully informed of what they
22 will be asked to invest over the life of the project,
23 year after year, and to be able to make a choice
24 about what is most reasonable for them.
25 For these reasons I believe that the

1 401(b)(1) Evaluation is premature and inappropriate
2 at this time and that the scope of planning for the
3 project needs to be widened and deepened to address
4 the full range of factors and alternatives related to
5 a regional solution to flooding problems in the Red
6 River Valley. Thank you.
7 MR. BLUHM: Thank you.
8 LT. COL. BERGMANN: Mr. Ulven, if you would,
9 please, and Mr. Biewer, you'll be next in line.
10 WAYNE ULVEN: My name is Wayne Ulven,
11 U-L-V-E-N. I'm the superintendent of District 44, a
12 small district that is on the northern part of
13 Richland County.
14 Until March of 2011 we were told that this
15 diversion was not going to affect our district at
16 all. In fact, in a December meeting I was told that
17 it should not affect us whatsoever. Since then the
18 staging area, it has become evident that that is
19 going to go down to the Christine line, which is part
20 of our school district, all the way from 46 to the
21 Christine area. Not only that, last week I was
22 informed that also the Wild Rice area will also be
23 raised, the Wild Rice in that area, and that also
24 will affect our school district. We have -- if
25 that's the case, we have a possible chance of

1 affecting 19 percent of our student population.
2 That's just the staging area, not considering the
3 Wild Rice area, and about 22 percent of our taxable
4 valuation.
5 The biggest problem that I see with this is
6 the growth potential. 60 percent of our population
7 is on the east side of 29, and this growth area that
8 is in the northern part of -- excuse me, the northern
9 part of Richland County is one of our major growth
10 areas. We have other growth areas, but this is one
11 of our major growth areas. People choose this area
12 for schools, churches, they create their own
13 communities, but they do it as a means of -- they
14 feel this is the best place for their children to be
15 raised. An example just happened last week. Parent
16 came and visited with me at our school, talked about
17 our -- what we have to offer and everything, and they
18 chose our school. They also found a house along the
19 Wild Rice which is out of the staging area, but it's
20 between Christine and 46. They found a place, they
21 settled on a price, and when they went into the bank
22 the bank told them, "Do you realize this is a
23 possible diversion area?" The sale of the house
24 ceased to exist.
25 The development area in that area furthest

1 to the east of that farmstead is gonna be null and
2 void. It will not be a development area any longer.
3 In speaking and in looking at a 10-year
4 space, we have increased our population in our
5 district by 50 houses, which equates to 1.5 students
6 per house. To stop the growth of our -- and the
7 potential of the growth for our district would be --
8 is going to be stopped due to this diversion. We
9 were not informed, we were not allowed in or we were
10 not invited into the -- into making the decision, and
11 we were not -- we have not been invited since.
12 I feel that this is a district- or a
13 region-wide decision, and I feel that our school
14 district is gonna suffer because of this, and -- and
15 because of the possibility of the diversion. Thank
16 you.
17 MR. BLUHM: Thank you.
18 LT. COL. BERGMANN: Mr. Biewer? And
19 Mr. Hall, you'll be next after him.
20 DENNIS BIEWER: My name is Dennis James
21 Biewer, B-I-E-W-E-R. I'm a member of the Bakke
22 Addition and president of the members of the
23 Homeowners Association. I'm also a supervisor for
24 the township.
25 The purpose of the feasibility study that

1 was described in the Environmental Impact Statement,
2 the intent of the study, as described at the second
3 hearing, was of the affected area within the
4 Fargo-Moorhead metropolitan area. This area went as
5 far south as 20 miles of Interstate 94. Hickson,
6 Bakke, Oxbow, happen to be within that area. The
7 results of the study have said because they are in an
8 area that will be inundated with water greater than
9 three feet, no habitat structures can exist,
10 therefore those areas are to be wiped out. Not only
11 is this area being wiped out, it now is presented
12 that the area is also reaching far into Richland
13 County.
14 There have been numerous groups making
15 studies, doing impact studies, going down into
16 northern South Dakota, into southern Richland County
17 in North Dakota, looking at retention of water. We
18 do not feel that the Corps is taking the time because
19 of the -- of the scope of the study to look -- to
20 give fair consideration for the upstream retention.
21 With upstream retention we believe that enough water
22 can be held back which at a minimum can prevent the
23 damage of just allowing a diversion around Fargo. We
24 are wiping communities out, we are wiping out
25 families, and we are taking an affect on school

1 districts, as was just announced by Wayne Ulven.
2 We ask that the Corps take the time to do
3 more studies. This project is a very large project.
4 We know the Corps is taking a lot of precaution;
5 however, they are not looking at an area of impact
6 that will protect a bigger scope of people. Richland
7 County has their concerns. Wilkin County of
8 Minnesota. If we would take the time to do more
9 studies, let the impacts come out, and then also we
10 are asking that the communities that are gonna be
11 impacted to help pay for the cost are given --
12 announced somehow in the media or something so they
13 understand the impact of the cost structure to this
14 project. Thank you.
15 MR. BLUHM: Thank you.
16 LT. COL. BERGMANN: Mr. Hall? And Mr. Kolb,
17 you'll be next.
18 STEVE HALL: I'm Steve Hall, superintendent
19 of Kindred Public School District. Last name's Hall,
20 H-A-L-L.
21 The Kindred Public School District is
22 located just south of the Fargo/West Fargo
23 communities. We touch the Fargo/West Fargo school
24 district line. It happens that this diversion plan,
25 water retention plan, follows the school district

1 line pretty closely as it comes off the Red River and
2 wraps around west toward West Fargo and Horace and
3 works its way north.
4 The impact on the Kindred School District is
5 significant if this plan would go through. The water
6 retention area held back by the dam that would hold
7 the water is 23 percent of our Kindred School
8 District valuation. In comparison to Fargo and West
9 Fargo, that would only -- the amount of valuation
10 that would affect Fargo and West Fargo would only be
11 about one and a half to two percent of their school
12 district. In our case it's almost one quarter of our
13 school district valuation.
14 The Kindred School District -- impacts on
15 the district probably are a bit different because
16 we're a government entity, other than a -- the
17 landowners or owners of property or business, and
18 therefore our effect is different because we are
19 supported by taxes and valuations of the district.
20 Also impacted is the -- are the students,
21 the student population. The students in this water
22 retention area is about 19 percent, so pretty close
23 to one-fifth of the school district population lives
24 within this water retention area. So those two --
25 those two entities are very important to school

1 districts, and the Kindred School District and the
2 Richland School District, as was presented by Mr.
3 Ulven earlier.
4 I would like to comment on one particular
5 area of this plan, and that's County Road 17 and the
6 tie-back levee. There is no doubt that I think there
7 needs to be more study and more information shared
8 with patrons on the west side of the tie-back levee
9 that runs down County Road 17. That water in the
10 study says that County Road 17 will be a spillway
11 when the water reaches a certain level, and that
12 spillway would push the water or allow the water to
13 flow west, and west is toward the city of Kindred.
14 Oxbow and the Bakke Addition, those two are in the
15 water retention area, but if the tie-back levee would
16 overflow and that spillway allows water to go west,
17 we would have significant water between County Road
18 17 and the town of Kindred, which is right where the
19 Sheyenne River is, and that tie-back levee stops
20 water from going in the direction that it naturally
21 flows during every spring flood. When it runs out,
22 it runs east toward the Wild Rice River and Red
23 River.
24 I think it's reasonable to have more
25 information and it's reasonable for all patrons and

1 our school district to have information about the
2 impact on the people that live within that area, and
3 that's anywhere from County Road or Highway 46 north
4 to I-94 where the water currently impacted many
5 people this year, and if this was put in place, I
6 think it would even -- it would definitely impact
7 them more, and I think there needs to be more
8 research and more study done to inform the people
9 about what impact this is going to have when water
10 continues to build to the west of County Road 17 and
11 the tie-back. Thank you.
12 LT. COL. BERGMANN: Thank you. Mr. Kolb?
13 JOHN KOLB: My name is John Kolb, K-O-L-B.
14 I represent -- I'm an attorney from St. Cloud,
15 Minnesota, and I represent the Minn-Dak Upstream
16 Coalition.
17 I am going to also be presenting written
18 comments by your deadline, but on behalf of my client
19 we're objecting to the proposed Corps' finding of
20 compliance with the requirements of the Water Act
21 Section 404(b)(1).
22 We also object to the Corps' proposed
23 finding that the locally preferred plan which is
24 currently being proposed is the least environmentally
25 damaging practical alternative.

1 There are a few items I'd like to highlight,
2 which will also be dealt with in detail in our
3 written comments. First is a specific statement that
4 the proposed plan is the least environmentally
5 damaging practical alternative that would achieve the
6 overall project purpose of reducing flood risk from
7 both the Red River and the five North Dakota
8 tributaries.
9 In looking at the project purpose, there is
10 nothing said about a requirement to eliminate
11 flooding from the five North Dakota tributaries, and
12 a statement of general purpose in federal courts has
13 held that it means the basic project purpose plus
14 consideration of costs and technical and logistical
15 feasibility, but does not include secondary project
16 purposes.
17 I will submit that the inclusion of a
18 purpose that is directed at the five tributaries has
19 the potential to violate Executive Order 11988
20 dealing with floodplain since the current plan
21 proposing to intercept and carry floodwaters from
22 those five tributaries eliminates floodplain and
23 creates a potential development opportunity which
24 would be violating of the Executive Order.
25 I also, and this will be dealt with in more

1 detail in our written comments as well, do not agree
2 that the applicants have presented a fair
3 alternatives analysis with regard to the currently
4 proposed plan. The currently proposed plan involves
5 both retention and a diversion. None of the prior
6 plans, prior to this, have included retentions, and
7 in fact, when the original feasibility of the
8 original screening occurred, the only two proposals
9 that went forward as standalone were diversion and
10 the no action alternative. What I believe the
11 applicants have discovered is that diversion is not a
12 standalone alternative, and so they have now combined
13 it with an alternative that was left or that was
14 previously screened out. And what they haven't done
15 is they haven't looked at what are the various
16 options for combining diversion with retention, and
17 there are several studies in the current report that
18 show that there are other effective retention
19 alternatives that would not involve the relocation of
20 entire towns and the inundation of as much which is
21 appraised prime and unique farmland, and those --
22 that is a true alternatives analysis to determine
23 which of those options or combinations of options is
24 the least environmentally damaging practical
25 alternative.

1 It would be better that the applicants
2 looked at the current locally proposed plan and then
3 looked at alternatives which included the other
4 previously screened alternatives such as structural
5 alternatives and other nonstructural alternatives to
6 determine whether now a combination of the original
7 alternatives that were screened out would actually
8 provide a better environmentally -- or least
9 environmentally damaging practical alternative.
10 And with my minute remaining, I will cease
11 my comments there. Thank you.
12 MR. BLUHM: Thank you.
13 LT. COL. BERGMANN: At this time this is all
14 of the initial speakers that have signed up. Before
15 we turn it over to open it up for rebuttals or
16 supplemental statements, is there anyone in the
17 audience that would like to make an initial statement
18 or comment at this time? If you would, before you do
19 would you sign in over there, we can get the
20 information, and we'll bring you forward.
21 Okay. Mr. Bice, if you would, please? And
22 then Ms. -- I'm sorry, Engelson?
23 COLLEEN ISRAELSON: Israelson.
24 LT. COL. BERGMANN: I'm sorry. Israelson.
25 You'll be next.

1 MIKE BICE: Hi. My name is Mike Bice,
2 B-I-C-E. I'm a resident of Bakke Addition, and also
3 owner of a local bar in Hickson, North Dakota.
4 My comments are directed, first of all, from
5 what I understand in mitigational things, is I don't
6 understand how you can mitigate when the Corps says
7 in there they want to relocate an establishment.
8 Less concerned about myself, I don't see how you can
9 relocate a bar when you eliminate the entire
10 communities of Bakke Addition, Hickson, Comstock and
11 Oxbow, which would be the cultural basis, the bar
12 serves as a local tavern for gatherings. Also, it
13 would also, under the same reason, churches as well,
14 you eliminate congregations from the cultural
15 aspects. Your study does not even touch anything
16 down in those aspects.
17 Also, applying to the Kindred School
18 District as well, where my children go and play with
19 the kids that are neighbors in Bakke, Hickson, Oxbow
20 and Comstock, you eliminate that, there's no cultural
21 impact whatsoever in this study in this buyout area.
22 In my opinion, it's the most impacted cultural area,
23 as well as where the -- the diversion slash -- which
24 is a dam, goes through, it currently protects some of
25 the deepest water that floods every spring on the --

1 where the Wild Rice River and the Red join each
2 other. It's usually five feet underwater just north
3 of where the diversion is gonna be to where -- south
4 of it to where our -- our land is not flooded at all,
5 whatsoever, so it makes no practical sense to me how
6 you flood out the higher ground when the common sense
7 pooling area would be where the water level already
8 stands at five feet. You'd have to dig less, which
9 would lower the cost.
10 I believe you've been guided by the metro
11 group to protect that land for future development in
12 violation of 11988, and I guess that's all I have to
13 say. Thank you.
14 MR. BLUHM: Thank you, sir.
15 LT. COL. BERGMANN: Thank you.
16 Ms. Israelson? And I apologize for earlier
17 mispronouncing your name.
18 COLLEEN ISRAELSON: In Richland County, I'm
19 wondering, did anyone --
20 MR. BLUHM: Can I ask you just to start with
21 your name and spell your last name for us?
22 COLLEEN ISRAELSON: I-S-R-A-E-L-S-O-N,
23 Colleen.
24 MR. BLUHM: Colleen. Okay. When you're
25 ready, go ahead. Sorry.

1 COLLEEN ISRAELSON: In Richland County, did
2 anyone here go around and meet the people in the
3 flood stage area?
4 (No audible response.)
5 MR. BLUHM: There's no response from the
6 panel, so it's just a statement for you.
7 COLLEEN ISRAELSON: I'm asking a question.
8 Did you go and assess the property in the flood stage
9 area?
10 MR. BLUHM: At this hearing there's no
11 answers.
12 COLLEEN ISRAELSON: There's no answers.
13 MR. BLUHM: Right. Thank you.
14 COLLEEN ISRAELSON: Okay. I'm assuming
15 that's a no. You don't know me, you don't know my
16 name, no one here knows my name. I can pretty well
17 assess that by Aaron's look of blankness.
18 We have 1,100 plus acres in that flood stage
19 area. You don't know my first name, you don't know
20 my husband's name, you don't know my neighbors or
21 anyone there, so that means no one has visited with
22 or talked to anyone on the Red River in the flood
23 stage area. I find that really interesting. You're
24 going to flood us out, and on March 31st we were at
25 zero impact. That's what we were told by

1 Mr. Mahoney. And yet in November I was told by
2 someone that you were prowling around trying to get
3 soil samples on the Red River. Different property
4 owner. No permission, just prowling around. You
5 never visited with them, never talked to anyone,
6 never introduced yourself, never assessed anything,
7 never sat down, had a cup of coffee, never said, hey,
8 what's your name, how are you doing, whatever. So
9 you've not met any one of us, not one person in this
10 flood stage area. That's pretty stinking poor.
11 That's one thing.
12 And the other thing is no community, what's
13 the purpose of living there? Why would any of us
14 stay?
15 And the ice flow? You've given no
16 consideration to the ice flow. You think that
17 clamshell thing is gonna open up those ice flows?
18 You are kidding yourself. The trees and the crap is
19 gonna flow in there. Not gonna happen.
20 And then the damming up for all the
21 surrounding communities? It's not gonna be just
22 Christine in the flood stage area, it's gonna be
23 Kindred, Davenport, Mapleton, Perley, Hendrum. It's
24 not gonna be just a little area. You're blocking up
25 everything. You don't live here, you don't know.

1 MR. BLUHM: Okay. Thank you.
2 LT. COL. BERGMANN: At this time I'll ask
3 again, is there anyone that would like to make an
4 initial statement at this hearing?
5 (No audible response.)
6 LT. COL. BERGMANN: If there are no other
7 comments, the rebuttal/supplemental statement period
8 will now begin. Oral rebuttals and supplemental
9 statements are limited to two minutes each. And
10 those wishing to offer statements at this time must
11 again register at the table prior to making those
12 statements so we can have an accurate record.
13 At this time is there anyone that would like
14 to make a rebuttal or a supplemental statement to
15 what has been made previously?
16 (No audible response.)
17 LT. COL. BERGMANN: If there are no other
18 comments, I will close this hearing. But just so you
19 know, we will stay around until 9 o'clock tonight, if
20 you wish to talk to some of the engineers or the
21 members offline.
22 We appreciate your participation and
23 comments on the Clean Water Act Section 404(b)(1)
24 Evaluation. If in the next few days you believe that
25 you have additional information for the record, you

1 may mail that information to the St. Paul District
2 and we will make it part of the official record. Our
3 address is on the cards that have been placed near
4 the front door. Correspondence must be postmarked or
5 hand delivered on or before June 13, 2011, once
6 again.
7 Thank you, ladies and gentlemen, and have a
8 good night.
9 (These proceedings were concluded at 7:41
10 o'clock p.m., the same day.)
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1 REPORTER'S CERTIFICATE

2 I, Carolyn Taylor Pekas, a general shorthand
3 reporter, P.O. Box 886, Fargo, North Dakota, do
4 hereby certify that the foregoing thirty-two (32)
5 pages of typewritten material constitute a full, true
6 and correct transcript of my original stenotype
7 notes, as they purport to contain, of the transcript
8 of proceedings reported by me at the time and place
9 hereinbefore mentioned.
10
11
12 _____
13 Carolyn Taylor Pekas
P.O. Box 886
14 Fargo, North Dakota 58107
15
16
17 Dated this 6th day of June, 2011.
18
19
20
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Appendix R
Draft Environmental Impact Statement Public and Private Comments Received

Fargo-Moorhead Metropolitan Area
Flood Risk Management

Final Feasibility Report and
Environmental Impact Statement

July 2011

US Army Corps
of Engineers ®

Prepared by:
U.S. Army Corps of Engineers
St. Paul District
180 Fifth Street East, Suite 700
St. Paul, Minnesota 55101-1678

USACE-MVP-0000088009

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
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August 5, 2010

Ref: 8EPR-N

Mr. Aaron Snyder
St. Paul District
U.S. Army Corps of Engineers
190 E. 5th St., Suite 401
St. Paul, MN 55101

Re: Fargo-Moorhead Metro Area
Flood Risk Management
FR/DEIS # 20100210

Dear Mr. Snyder:

The U.S. Environmental Protection Agency, Regions 8 and 5 (EPA) have reviewed the U.S. Army Corps of Engineers (Corps) Draft Feasibility Report and Environmental Impact Statement (FR/DEIS) for the Fargo-Moorhead Metropolitan Area Flood Risk Management project. EPA offers these comments in accordance with the Agency's responsibilities under the National Environmental Policy Act (NEPA), 42 U.S.C. Section 4332(2)(C) and Section 309 of the Clean Air Act, 42 U.S.C. Section 7609.

The majority of the Fargo-Moorhead metropolitan area is located in the floodplain of the Red River of the North and several tributaries. The proposed project is to reduce flood risk and flood damages. EPA has participated throughout the development of this project and we agree with the Corps that an action alternative is necessary to reduce flood risk and flood damages and to improve public safety.

The FR/DEIS fully analyzes three alternatives: No Action – continue emergency measures, a North Dakota diversion channel alternative and a Minnesota diversion channel alternative. Both diversion channel alternatives have a capacity of 35,000 cubic feet per second (cfs). The North Dakota diversion channel (ND 35K) which is also the Locally Preferred Plan alternative (LPP), has been identified by the Corps as the tentatively preferred alternative in the FR/DEIS. The Minnesota alternative (MN 35K) is also referred to as the Federally Comparable Plan (FCP).

The following bullets summarize EPA's concerns about the proposed project and our recommendations to improve the environmental analysis and mitigation measures. EPA's specific comments on the FR/DEIS start on page 5 of this letter.

EPA Concerns:

- The information provided in the Clean Water Act (CWA) § 404(b)(1) analysis does not fully support the conclusion that the ND 35K alternative (the tentatively selected preferred alternative) is the least environmentally damaging practicable alternative (LEDPA). This alternative impacts substantially more wetlands and riparian areas than the MN 35K alternative.
- The broad-based non-structural alternative described in Appendix P. and various scoping meetings appears to have been eliminated from the tentatively selected preferred alternative. The broad-based non-structural alternative measures will be important in maintaining the sustainability of flood protection in the Fargo-Moorhead area and limiting development in flood prone areas.
- The flood flow rates used to develop the proposed flood protection measures and determine environmental impacts have changed several times as the FR/DEIS was being prepared. As a whole, the project and analysis is much improved with the recalculation of flood rates, however the document is difficult to follow and it is often unclear which flood rates were used for the impact analysis.
- The impact analysis of the proposed alternatives on downstream flooding is incomplete because of the revisions to the flood flows mentioned above.
- The FR/DEIS did not include the environmental impacts of induced growth from changes to the regulatory floodplain.
- The mitigation and monitoring plans for the project are largely undefined.

EPA Recommendations:

- The CWA §404(b)(1) analysis needs to be revised to include a complete description of the decision process which resulted in identification of the tentatively preferred alternative, ND 35K. This documentation should include descriptions of the alternatives analyses, practicability determinations, and consideration of local preferences for both the ND 35K and MN 35K diversion channel alternatives.
- The broad-based non-structural alternative needs to be more fully developed and implemented as part of the selected diversion channel alternative.
- The revised impact analysis of the diversion channels on downstream flooding needs to be recalculated and mapped based on the new flows and distributed to the public and government agencies prior to issuing the FEIS.
- The environmental analysis needs to be updated or referenced to the recalculated flood discharge rates.

- Draft mitigation and monitoring plan(s) should be included in the FEIS identifying which measures are required, who will be implementing and funding the measures and identifying the criteria that will be used to determine success. Further, a monitoring and adaptive management program should be created to ensure mitigation measures are implemented effectively. Public participation and accountability should be included as part of these plans.
- The environmental analysis needs to look at the indirect impacts of the project such as inducing development in the former 100-year floodplain. The main areas of indirect impacts are wetland losses, loss of flood storage areas, and loss of riparian habitat. Ironically, the diversion channels will also increase development in the floodplain, increasing the area that may need to be protected during major flood events.
- The document should include a cumulative impacts analysis of other projects in the basin or affecting the basin including, but not limited to, Devil's Lake Outlet, which contributes or will contribute to flows into the Sheyenne River or other tributaries of the Red River during seasonal high flows.

Rating:

EPA's comments are based on the FR/DEIS and appendices that we received in June 2010. During our review of the FR/DEIS, we have also been discussing preparation of updated designs, revised analysis and development of the mitigation plan. We understand the tight schedule for construction of the Fargo-Moorhead flood control project has necessitated issuance of iterative versions of the feasibility studies, design plans and environmental analysis. However, we are concerned that the public and participating agencies may not have a full opportunity to review and comment on the major studies being prepared between the DEIS and FEIS. We recommend that the mitigation plan, downstream flooding analysis and fuller development of the non-structural alternatives be released to the public and agencies for comment prior to incorporating the information into the FEIS.

Pursuant to EPA policy and guidance, EPA rates the environmental impact of an action and the adequacy of the NEPA analysis. Since the Corps has "tentatively" identified a preferred alternative, EPA is rating each alternative presented in the FR/DEIS. Based on our review of the FR/DEIS and 404 (b)(1) analysis, we are rating the FR/DEIS as "EO-2" (Environmental Objections-Insufficient Information). The "EO" rating is based on impacts to wetlands and riparian areas. The "2" rating is based on the need for clarification or disclosure of information and the need for a final mitigation plan to accompany the Final EIS. A description of EPA's EIS rating system is also enclosed.

Thank you for considering our input. We would like to schedule a telephone call with the Army Corps of Engineers to discuss the concerns raised in this letter. If you have any questions regarding our comments, please call me at (303) 312-6004 or you may contact Dana Allen of my staff at (303) 312-6870. You may also contact Ken Westlake in Region 5 at (312) 886-2910.

Sincerely,

Larry Svoboda
Director, NEPA Program
Office of Ecosystems Protection and Remediation

EPA's Comments on the
Fargo-Moorhead Draft Feasibility Report and
Environmental Impact Statement (FR/DEIS)
August 5, 2010

Background

The majority of the Fargo-Moorhead metropolitan area is located in the floodplain of the Red River of the North and several tributaries. The Red River has exceeded the National Weather Service flood stage of 18 feet in 47 of the past 108 years, and every year from 1993 through 2010. Although emergency measures have been successful, future average annual flood damages in the Fargo-Moorhead are estimated at $195.9 million without an extensive flood control project.

The purpose of the proposed project is to reduce flood risk and flood damages in the Fargo-Moorhead Metropolitan area. The project will also restore or improve riparian habitat, increase wetland habitat and provide recreational opportunities. The FR/DEIS fully analyzes three alternatives: No Action – continue emergency measures, a North Dakota diversion channel and a Minnesota diversion channel. Both diversion channel alternatives have a capacity of 35,000 cubic feet per second. The Locally Preferred Plan alternative, the North Dakota 35K diversion channel, has been identified by the Corps as the tentatively preferred alternative in the FR/DEIS.

ND 35K
Locally Preferred Plan (LPP)
North Dakota, west of Fargo
36 miles long diversion channel
18 hwy bridges, 4 railroad bridges
5 control structures at :
Red, Wild Rice, Sheyenne, Maple, Rush and Lower Rush Rivers

MN 35K
Federally Comparable Plan (FCP)
Minnesota, east of Moorhead
25 miles long diversion channel
20 highway bridges, 4 railroad bridges
Red River control structure

Wetlands

Clean Water Act § 404(b)(1) Analysis

1. The FR/DEIS includes a preliminary Clean Water Act (CWA) § 404(b)(1) Guidelines Evaluation in Attachment 1. The CWA § 404 (b)(1) analysis is used to determine the Least Environmentally Damaging Practical Alternative (LEDPA) under CWA § 404. The CWA § 404(b)(1) Guidelines state "no discharge shall be allowed if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem (waters of the U.S.) so long as the alternative does not have other significant adverse consequences" 40 C.F.R. 230.10(a).

The information provided in the CWA § 404(b)(1) analysis does not fully support the conclusion that the ND 35K alternative (the tentatively selected preferred alternative) is the LEDPA. The Corps needs to provide additional detail and discussion to justify why they believe the MN alternative (the FCP or NED) is not practicable. It appears that the MN 35K (FCP) alternative was not included in the § 404(b)(1) analysis because the FR/DEIS and § 404(b)(1) analyses used two different project purpose statements, with the project purpose statement for § 404(b)(1) specifically and additionally including reducing flood risk, flood damages and flood protection costs related to flooding of the ND tributaries. It is our understanding from discussions with the Corps that the MN alternative was not considered practicable for other reasons independent of either stated project purpose. In accordance with the Guidelines, an alternative is considered practicable if it is available and capable of being done after taking into consideration cost, existing technology and logistics in light of overall project purposes.

The CWA § 404(b)(1) analysis needs to be revised to include a complete description of the decision process which resulted in identification of the tentatively preferred alternative. This documentation should include description of all FR/DEIS alternatives analyses (including the non-structural alternative measures associated with the MN 35K), practicability determinations, and consideration of local preferences. The burden of proof to demonstrate compliance with the Guidelines rests with the Corps, and sufficient information must be provided in the analysis (40 CFR 230.12(a)(3)(iv)). The § 404(b)(1) analysis needs to include additional documentation to substantiate the Corps' position that the ND 35K is the LEDPA. While this information may be available in other parts of the document, it needs to be presented in the context of the § 404(b)(1) analysis to substantiate the Corps conclusions.

2. The CWA § 404(b)(1) evaluation refers to the National Economic Development (NED) Plan, currently the Minnesota 40K alternative. However, the NED alternative was not analyzed in the FR/DEIS. The MN 35K (FCP) and the ND 35K (LPP) are the only alternatives fully analyzed in the FR/DEIS. We recommend that the alternatives discussed in the § 404(b)(1) evaluation be consistent with the FR/DEIS.

Wetlands -- Environmental Analysis and Mitigation

3. As described on page 260 in the mitigation section of the FR/DEIS, much of the proposed mitigation for riparian and geomorphic impacts is undefined. The FR/EIS identifies mitigation opportunities within the diversion channel for wetland impacts. However, this mitigation will not be appropriate for providing in-kind mitigation for impacts to forested wetland acres. Additionally, the Corps must also ensure that the suite of chemical, physical and ecological functions provided by the impacted wetlands are appropriately characterized and replaced. In order to do this, the Corps will need to provide a thorough analysis of the functions of the affected wetlands and riparian areas and identify in the mitigation plan how these functions will be mitigated. The mitigation plan should be consistent with the joint EPA, Corps Final Rule for Compensatory Mitigation for Losses of Aquatic Resources (2008).

We recommend that the FEIS include a full wetlands impact analysis, including a preliminary wetlands mitigation plan outlining the replacement ratios and availability of sites for in-kind mitigation.

4. In addition to wetlands mitigation options within the diversion channel, we recommend that additional mitigation opportunities for impacts to waters of the United States be identified and pursued in the upper watersheds of the Red, Wild Rice, Sheyenne, Maple and Rush river systems. These could include conversion of prior converted croplands back to wetlands and ponds (which will also assist in the retention of water in the watershed), and reversing the trend of the hydrograph toward more water.

5. For the ND 35K alternative, we note that the majority of the wetlands mitigation is proposed to take place in the diversion channel after intercepting the Rush and Lower Rush Rivers. We recommend that the expanded wetland analysis examine this area and other areas north and south of the Cities of Fargo and Moorhead for areas suitable for flood storage to mitigate the increase in flooding that would result from the proposed diversion channels. Looking at the flood depth maps and the areal extent of previous flooding, it appears that many of these areas have traditionally functioned as flood storage areas. These areas may also provide appropriate sites for forested wetland mitigation. The analysis should also look at the feasibility of modifying the proposed diversion channel in undeveloped areas, so that some areas of the channel bottom could revegetate with trees and shrubs.

6. The impact analysis for wetland losses underestimates direct impacts by separating construction impacts and permanent impacts and overestimates construction and indirect impacts caused by the channel by using a 2,000 foot width of disturbance to estimate wetland impacts. The analysis does not include the impacts from induced growth or the impacts of diverting flow from the Maple, Sheyenne and Rivers. The table below summarizes wetland impacts from the FR/DEIS:

	MN 35K (FCP)	ND 35K (LPP)
Wetland losses		
Permanent (channel footprint), direct impact	17 acres	32.5 acres
Wetlands within 5250' corridor Mix of direct construction (temporary), and indirect (2000 foot width likely over estimated impacts)	85 acres	192 acres Does not include Rush Rivers de-watering and reduced flows for Maple and Sheyenne Rivers
	[Width of Disturbance	≈ 2,000']
Indirect from induced development	Not included in FR/DEIS	Not included in FR/DEIS

We recommend that the analysis of direct wetlands impacts be revised to include construction impacts in the direct impacts. Further, these direct impacts should be divided into temporary (construction) and permanent (footprint of project) wetland losses.

Typically, indirect impacts would be those wetland losses that occur later or at locations not in the project area as a result of the project. For infrastructure projects, most indirect impacts stem from induced growth. By removing a substantial area of the community from the hundred year floodplain, additional and/or more rapid development will occur. This development will cause additional wetland impacts because of directly filling wetlands or draining wetlands for development.

7. Other likely indirect impacts would be from the diversion channel intercepting or cutting off wetland water sources. For example, it appears that there will be substantial wetland impacts from intercepting the flows into the Rush Rivers below the diversion channel, as described on page 201 of the FR/DEIS. The diversion channel may also block groundwater flow into this wetland area, depending on whether groundwater is a major source of water for the wetland system.

8. Table 16 -- Effectiveness in meeting planning objectives (page 80 FR/DEIS), lists the MN 35K as providing 1090 additional acres of wetlands. The North Dakota alignment would provide 593 additional acres of wetlands. The FEIS should clarify the source of these numbers and the reason for the large difference.

Design Flows for Flood Protection

Preparation of the FR/DEIS and impact analysis information have generated a lot of new analysis to quantify the appropriate design flood flow events for the Red River of the North. The FR/DEIS and the studies supporting the FR/DEIS have been in development during the same time frame as the new flood flow analysis. Overall, the recalculation of flood flow rates, in particular from the expert panel, will result in much better flood protection, improved design and a more sustainable flood control. However, it appears that much of the FR/DEIS impact analysis was prepared based on modeling using the 2009 flood stage as the equivalent of the 1% (100-year) flood event flow. The peak flood flows have been revised upwards to take into account climatic wet and dry cycles. The table below summarizes some of the different flood flow rates that have been used in developing the analysis for the Fargo-Moorhead flood control improvements and FR/DEIS.

	1% Chance (100- yr)		0.5% Chance (500-yr)	
	Stage at Fargo	Flow Rate (cfs)	Stage at Fargo	Flow Rate (cfs)
National Weather Service flood stage	18'			
FEMA (current)	38.3'			
FEMA (proposed)	39.3'			
2009 flood (Phase 3 feasibility study)	40.82'	29,400	46.7'	61,700
Expert Opinions – wet year	42.4'	34,700		

9. The FEIS should summarize the flood flows that will be used for the design of the proposed project and flood control efforts in the Fargo-Moorhead area. The FEIS also should note throughout the document which flow rates/flood stage were used in determining the impacts of the proposed project and determine whether the existing analysis needs to be updated for the new flood flows and stages. In particular, as noted in the FR/DEIS on page 145, the impact analysis for downstream water quantity will need to be revised in the FEIS to reflect new flow information and to analyze impacts from 0.5% probability (500-yr) flood.

10. The revised flow rate discussion should also disclose the various flood flow rates and stages that are being (will be) used for local, state, and FEMA flood protection efforts. The discussion should also address whether the revised flood stage numbers will change the local subdivision regulations and land use planning. (See also comments below regarding non-structural alternative).

11. The FEIS should discuss the pros and cons of designing a diversion channel for the approximately 1% probability (100-yr) flood event. This discussion should look at some of the other storm events such as the 700 -year flood level used in Winnipeg. We understand that level of flood protection is unlikely to be implemented solely by the Corps. However, it appears that additional flood protection can be gained by combining some of the measures from the non-structural alternative with a diversion channel alternative. [For example, will communities continue to raise or flood-proof new construction in case there is a greater than 1% (100-year) flood event or if the climatic wet cycle continues to increase flood discharge rates.]

12. Devil's Lake basin is currently experiencing rising waters and there is a renewed urgency to lower water levels. New proposals have been developed recently to increase discharges from Devil's Lake into the Sheyenne River. To the extent feasible, the FEIS should analyze the potential impacts of increased flow to the proposed project and flooding in the Fargo-Moorhead area.

Non-Structural Alternative

Sustainability and Preservation of the Floodplain

Over the last one hundred years, a series of flood control projects have been constructed to reduce flood risk for the Fargo-Moorhead area. In the long term, none of these flood protection measures have maintained the desired level of flood protection. Many of these previous flood control projects have been undermined by development in flood-prone areas, re-building in flood prone areas, and agricultural and development activities which eliminate flood storage and increase peak flows. Climatic cycles have also affected flooding. New flood control projects often have the effect of increasing development in flood prone areas. We anticipate that more flood prone areas in metropolitan Fargo-Moorhead will be developed as a result of the project changing the regulatory floodplain and zoning and building requirements.

13. Even if the new flood diversion channel is constructed, the Fargo-Moorhead area will continue to experience some flooding due the topography of the Red River Basin. As noted on page 235, Figure 82, there will still be substantial flooding north and south of Fargo

during the 500-year storm. Flooding will continue along all rivers during larger flood events. We are therefore, very concerned to see that the non-structural alternative has been dropped from the tentatively preferred alternative, in Section 3.11.1.2, page 89. It was our understanding from earlier discussions that the non-structural alternatives would be carried through and implemented along with the selected "structural" alternative. All of the measures listed on page 4 of Appendix P – Non-Structural should be implemented along with the "construction alternatives"; such as:

- Floodplain regulation and floodplain management,
- Coordinate with the National Flood Control Insurance Program,
- Watershed/floodplain land use planning,
- Land development redirection
- Raise buildings above a particular flood elevation
- Restore natural and beneficial floodplain functions

The "non-structural" alternative in the FR/DEIS also seems to have been modified from the initial concept of preserving and maximizing flood protection in the entire Fargo-Moorhead Metropolitan Area, as discussed in earlier interagency meetings and Appendix P. In the FR/DEIS, the non-structural alternative focuses on construction actions for buildings identified in two specific areas northwest and south of Fargo to increase flood protection for the MN 35K alternative.

We therefore recommend that the non-structural alternative described in Appendix P and other project meetings be fully integrated into the flood diversion channel project. We understand that the Corps will not be implementing and funding much of the non-structural alternative; however, the long-term success of the Corps' flood control project will be dependent on successful implementation of the non-structural alternative.

14. The non-structural alternative should be more fully developed. For example, will all or some of the measures listed on page 4 of Appendix P be implemented, what entities will be responsible for implementing the measures and how will the measures be funded? The non-structural alternative should incorporate the measures that have already been implemented by state and local governments updated to reflect changes that are anticipated as a result of the diversion channel. The expanded alternatives discussion should disclose how local and Federal Emergency Management Agency (FEMA) floodplain ordinances and building restrictions will be affected by the revised floodplain delineation that will result from construction of one of the diversion channels.

15. Implementation of the non-structural alternative should correlate with the additional analysis on indirect impacts (discussed below), as the level of induced growth in flood prone areas will vary depending on the implementation of the non-structural alternative. The Corps may want to consider using an expert panel to envision how the non-structural alternative will be implemented in the planning time frame (e.g., 20 years in the future). The indirect impact analysis would be based on that combination of future development and non-structural flood control policies and projects.

16. Among the more important of the non-structural alternative measures listed on page 4 of Appendix P are: continuation of floodplain regulations and floodplain management, restoring natural and beneficial floodplain function, coordination with the national flood insurance program, and land development redirection. We also recommend limiting any new land drainage activities that could increase peak flows, unless the increase in peak flow could be offset through mitigation.

17. We also recommend that the non-structural alternative be modified to focus on future and ongoing activities instead of focusing on existing buildings with a high risk of flooding. How will the cities, towns and counties reduce or eliminate flood risk for new development, or major renovations of existing development?

18. The FEIS should also discuss how the flood diversion channel and non-structural alternatives will be implemented. Who will manage the diversion structures and channel? What will be the funding and organizational structure of this flood control district? Who will be maintaining the riparian habitat and flood carrying capacity of the existing floodplains of the Red River of the North and Fargo-Moorhead tributaries?

19. This project will provide one of the best opportunities to accelerate implementation of the objectives and recommendations of the International Red River Board (IRRB) [1]in the Fargo-Moorhead Area. We suggest that the recommendations of the IRRB be more directly incorporated into the non-structural alternative. Of course, the proposed project will meet the International Joint Commission (IJC) Recommendation #4: to implement flood protection measures for the Fargo-Moorhead area. In particular, we recommend that the analysis of the non-structural alternative evaluate how well the proposed non-structural measures will achieve Recommendation 26:

    Governments at all levels should undertake the following measures:

    a. Develop and implement comprehensive, multi-faceted plans for concurrently reducing flood damage and protecting and enhancing the natural environment; and
    h. Integrate floodplain management activities into the broader field of watershed and basin management.

Increased Downstream Flooding

Page 81 (alternatives comparison) and Section 5.2.1.4 –Downstream Water Quantity on Page 145 have placeholders for revising the analysis of downstream flooding impacts. It is unclear which flood discharge rates were used to determine the increase in flood stages caused by the proposed alternatives and the maps of the areas which will be affected by increased downstream flooding.

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[1] "How Are We Living with the Red?", R. Halliday & Associates, June 2009, http://www.ijc.org/php/publications/pdf/ID1633.pdf; and "Living with the Red – A Report to the Governments of Canada and the United States on Reducing Flood Impacts in the Red River Basin", November 2000, http://www.ijc.org/php/publications/html/living.html

20. The increased downstream flooding impact analysis needs to be revised based on the recalculated flood flow rates as determined by the expert panel. The revised analysis should be released to the public and other agencies well before the FEIS is issued.

21. Mitigation should be developed to reduce the higher peak flows caused by either of the proposed diversion channels. This mitigation might include provisions such as leasing farm fields during the peak runoff or the use of recreation fields or golf courses to store flood waters and reduce peak flood flows.

22. The analysis in Section 5.2.1.4 Downstream Water Quantity should be expanded to include the impacts of the proposed project during a 500-year flood event for both alternatives.

Changes in Hydrology, Geomorphology

23. The proposed flood diversion channel will greatly change the flow pattern and quantity of flow for all the diverted or partially diverted rivers. The FEIS should add mitigation measures to compensate for the abandonment of 2.7 miles of the Rush River and 3 miles of the Lower Rush River (Table 46). Although the Rush and Lower Rush Rivers have lower quality aquatic habitat and less abundant aquatic life than more natural streams, the loss of 5.7 miles of aquatic/riparian habitat still needs to be mitigated. The proposal to offset the loss of these tributaries through a meandering channel at the bottom of the diversion channel (page 266) needs to be developed sufficiently to determine the potential aquatic life and riparian habitat functions and values of the channel. There is little information in the FR/DEIS about the design and biological functions of the North Dakota diversion channel after intercepting the Rush and Lower Rush Rivers. Based on that limited information (e.g., the cross-section view of the channel, vegetation restrictions and channel description), it appears that the aquatic habitat values of the diversion channel might be rather limited. Additional information is needed to determine if the diversion channel can compensate for the loss or part of the loss of the Rush and Lower Rush Rivers.

24. Additional mitigation options should be pursued for adverse effects on stream geomorphology. While the 50% and 20% flow events will maintain transport of finer sediments, larger flow events may be required to sustain long-term geomorphic channel functions. Monitoring and mitigation options that consider these long-term functions should be incorporated as part of any updated mitigation plan. Also, it is unclear why riparian buffer establishment and restoration is proposed as mitigation for stream geomorphic impacts. Proposed mitigation should offset the functions lost by the proposed action. Riparian buffers do little to transport instream sediments and maintain substrate heterogeneity in streams.

25. The FEIS should include mitigation measures to offset the impacts of reducing flood flows to the equivalent of the 2-year storm for the Sheyenne and Maple Rivers. For example, is it possible to convey the equivalent of the 100-year storm from the diversion channel through the Sheyenne and Maple Rivers to maintain the floodplain and potentially reduce

downstream effects of the diversion channel? The purposes of the mitigation measures would be to maintain existing flood conveyance capacities of these rivers and consequent condition of riparian and wetlands habitat.

26. Significant geomorphic impacts are not anticipated for the Sheyenne and Maple Rivers and mitigation costs are not included in the cost estimates. We recommend modifying the cost estimates to include long-term monitoring of stream geomorphology and sediment movement, as these potential effects are likely to occur gradually and may not be detected for several years.

27. On page 108, first paragraph, the Wild Rice River is identified as having "a greater sediment transport capacity of coarser material that exerts a bigger control on channel morphology." However, the impacts of diverting a portion of the Wild Rice River and sediment were not included in the Environmental Consequences, Section 5.2.1.3 Sediment and Erosion. The FEIS should include a discussion of potential impacts of diverting a portion of the sediment load on the downstream stream morphology of the Wild Rice River and Red River.

Indirect Impacts of Reducing the Floodplain

The FR/DEIS indicate that all of the diversion channel alternatives are expected to have a beneficial effect on the growth and development of the Fargo-Moorhead Metropolitan area. This beneficial effect is expected to be greater for the North Dakota alignment because it removes a much larger area from the existing floodplain.

The FR/DEIS (Section 5.2.3.2.1, page213) also indicates that developable lands within the project area will retain or increase in property value through removal of flood risk damage, there would no longer be a need to raise or flood-proof new construction, and that new development or intensification of existing development should be pursued only in a manner that retains awareness and sensitivity to the residual flood threat.

This indirect impact analysis is important for two reasons. First, the environmental analysis (FEIS) should include a comprehensive analysis of indirect impacts to resources (i.e., wetlands) as a result of the proposed flood control project. The results obtained in this analysis will aid in identifying the resources of concern to concentrate on when preparing the cumulative impacts analysis for the proposed project. Secondly, this discussion is an important tool (i.e., land use planning, zoning, etc.) for presenting the entire array of flood control and protection measures that are available to protect the metropolitan area. This analysis should directly correlate with the non-structural alternative, taking into account the likelihood of implementation of the various measures under the non-structural alternative. Implementation of the various flood control measures may vary from area to area and jurisdiction to jurisdiction. In summary, we believe that the indirect impact analysis developed in conjunction with the implementation plans for the non-structural alternatives will provide important information to the decision maker and local communities to reduce both flood risks and environmental impacts.

28. The FEIS should disclose the impacts of new growth and particularly growth induced by improved flood protection. The issues or resources that that are most likely to be affected by growth are: additional wetland and riparian habitat losses, loss of prime farmland, increased peak flows from suburbanization, and loss of floodplain or floodwater storage areas.

29. More specifically, we recommend the FEIS disclose the potential indirect impacts associated with growth and development by addressing the following:
    - What, if any, measures have local communities implemented or plan to implement (i.e., land use plans, zoning, regulations, etc.) to protect and enhance resources of concern in their community and when are these measures expected to be implemented? We recommend that this type of information be included in the more fully developed non-structural alternative plans.
    - Types of new development (i.e., residential, commercial, industrial, recreational, etc.) that might take place in the more developable area;
    - Ordinances, etc. protective of natural resources located in the developable area(s); and
    - Whether existing public facilities (i.e., wastewater treatment plant, police and fire protection, etc.) will be able to handle proposed development.

30. The FEIS should also analyze the impacts of increased development in flood prone areas with potentially less flood protection than much of the existing development in Fargo and Moorhead. For example, we understand that new development will no longer be required to flood proof or elevate above the flood stage. If a flood event greater than the 1% probability (100-yr) occurs, then the new developments could be more likely to be flooded.

31. Looking at the backwater analysis, it appears that the 1% probability (100-year) flood stage elevation will decrease significantly as a result of constructing one of the proposed diversion channels. How will development be affected by the changes in flood elevations for FEMA flood insurance maps and local building and flood control ordinances?

32. The indirect impact analysis should also include impacts from the tributary diversions for the North Dakota alternative. The channel will divert most of the flood flow from the Maple and Sheyenne Rivers. Only the equivalent of the 50% (2-yr) to 33% (3yr) probability flood flows will continue downstream of the diversion channel. How will the diversion of peak flood flows affect development in the historic Sheyenne and Maple River floodplains? In particular, it appears that new development or expanded development could be built closer to the Maple River and Sheyenne River affecting floodplains and riparian areas. The new development may also be less protected from flooding due to changes in building codes and ordinances. Similarly, the Lower Rush and Rush Rivers will be completely diverted into the diversion channel with no downstream flow. From the FR/DEIS, it appears that much of the area between the Lower Rush and Rush Rivers is wetlands. How will the diversion of these two rivers affect potential development or farming practices in this area?

33. The indirect impact analysis should also include the provisions of Executive Order 11988. Using the procedures described in "Further Advice on Executive Order 11988 Floodplain Management", Interagency Task Force on Floodplain Management, 1987, the indirect impact analysis should address induced development in the floodplain and in flood storage areas.

Environmental Justice

34. The environmental justice (EJ) analysis should be expanded north to include the areas that will have increased flooding as a result of the proposed diversion channel. For example, are there any potential EJ communities in Harwood, Argusville or Georgetown?

35. The EJ analysis should also look in more detail at the areas identified as potential environmental justice communities illustrated in Figures 82, 84, 85 and 86. In particular, several areas have been identified as having higher than average percentages of minority populations compared to county averages along the Minnesota alignment. There are also two areas adjacent to the proposed diversion channel alignment in West Fargo with higher than average percentages of minority populations. We recommend that the FEIS look at these areas in more detail to determine the nature of the potential EJ community, the proximity of the potential EJ community to the proposed diversion channel, and how the project may impact the population. For example, looking at aerial photographs, it appears that there is a small subdivision located in the vicinity of 40th Street North and 70th Ave North (Co Hwy 95) in one of the potential EJ areas (Clay County). Other Minnesota areas identified as potential EJ communities appear to have only one or two dispersed farm houses. The more detailed analysis should identify if any special out reach measures are needed to explain the potential impacts of the proposed diversion channel such as construction disruption, noise and fugitive dust. The diversion channel may also adversely affect the mobility of these communities to connect to jobs, schools and other members of the community.

Additional Comments

36. We recommend adding plan views of the Wild Rice River diversion structure and channel for different flow scenarios to the FEIS. This information would be similar to the conceptual views shown in FR/DEIS Figures 17-23 for the Maple and Sheyenne Rivers.

37. We recommend expanding Table 38 -- Hydraulic data for the Wild Rice River tributary structure, on page 204 to include flood events greater than the 5-year flood event. We understand from discussions with the Corps, that the diversion channel will divert only a portion of flood flows and the Wild Rice River will continue to convey some flood flows.

38. Major construction projects such as the proposed diversion channels can have significant local air impacts from construction equipment diesel engines. We recommend that air quality mitigation measures such at the following, be incorporated into the construction contracts.
    - Prohibit unnecessary idling of construction equipment;
    - Require use of low-sulfur fuel;
    - Locate diesel engines as far away as possible from residential areas;
    - Locate staging areas as far away as possible from residential uses;
    - Require heavy construction equipment to use the cleanest available engines or be retrofitted with diesel particulate control technology;
    - Use alternatives to diesel engines and/or diesel fuels such as: biodiesel, liquid natural gas (LNG) or compressed natural gas (CNG), fuel cells, and electric engines;
    - For winter time construction, install engine pre-heater devices to eliminate unnecessary idling;
    - Prohibit tampering with equipment to increase horsepower or to defeat emission control devices effectiveness;
    - Require construction vehicle engines to be properly tuned and maintained; and
    - Use construction vehicles and equipment with the minimum practical engine size for the intended job.

United States Department of the Interior

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Denver, Colorado 80225-0007

TAKE PRIDE IN AMERICA

July 26, 2010

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ER 10/512

Colonel Michael J. Price
District Engineer
U.S. Army Corps of Engineers
St. Paul District
180 Fifth Street East, Suite 700
St. Paul, Minnesota 55101-1678
Attention: Aaron M. Snyder

Dear Colonel Price:

The Department of the Interior (Department) has reviewed Feasibility Report and Draft Environmental Impact Statement, **Fargo-Moorhead Metropolitan Area Flood Risk Management**, Cass County, North Dakota and Clay County, Minnesota, and offers the following comments:

GENERAL COMMENTS

The United States Fish and Wildlife Service (USFWS) is authorized under the Fish and Wildlife Coordination Act (16 U.S.C. 661 et seq.) to provide recommendations to the Corps of Engineers on federally-funded water development projects. Based on information available at this time and the Impact Analysis outlined in its Draft Fish and Wildlife Coordination Act Report (May 2010), the USFWS recommends that, should the Corps of Engineers and the Local Project Sponsors proceed with the Fargo-Moorhead Metropolitan Flood Risk Reduction Project, the Minnesota 35,000 (MN 35K) Diversion Channel Alternative be the selected Alternative.

Adverse ecological impacts will occur with either of the Diversion Channel Alternatives. For the following reason, however, the MN 35K Alternative would result in less severe ecological impacts than the North Dakota 35,000 (ND 35K) Diversion Channel Alternative:

1. The ND 35K Alternative is anticipated to adversely impact approximately 88 more acres of wetland than the MN 35K Alternative;
2. The ND 35K Alternative, as proposed, would result in 29 more acres of adverse impacts to aquatic habitat than the MN 35K Alternative;

3. The ND 35K Alternative would adversely impact 5 rivers in addition to the main stem of the Red River;
4. Apart from the work that would occur within the Red River and the adjacent riparian habitat, the land uses that would be primarily affected by the MN 35K Alternative have limited wildlife habitat value.

For a complete list of fish and wildlife recommendations, please refer to the USFWS Draft Fish and Wildlife Coordination Act (FWCA) Report (Attachment 2) within the US Army Corps of Engineers Draft Feasibility Report and Environmental Impact Statement, Fargo – Moorhead Metropolitan Area Flood Risk Management.

SPECIFIC COMMENTS - Chapter 4.0 Affected Environments

Pg. 127: The document contains several statements that reference USGS 2009b; however, the list of citations does not include the reference. We suggest the Final EIS list of citations include the USGS 2009b reference.

Pg. 128 & 129: The document contains several statements that reference USGS 2009a; however, the list of citations does not include the reference. We suggest the Final EIS list of citations include the USGS 2009a reference.

Pg. 127: The document states that "In the 1940s, there were an estimated 21 whooping cranes left in the world." We suggest the Final EIS include a reference for the statement.

Pg. 127: The document states that "There are an estimated 7,000 to 9,000 wolves in Alaska and more than 3,500 in the lower 48 states. The main threats to the survival of the gray wolf were mainly due to the hunting and trapping of the wolf because it was thought of as a nuisance, and habitat loss due to human encroachment into wolf territories." We suggest the Final EIS include a reference for the statement.

We appreciate the opportunity to review the document and provide comments. If you have questions concerning USFWS's comments, please contact Tony Sullins, Field Supervisor of the Twin Cities Ecological Services Field Office, at phone 612-725-3548 extension 2201. If you have any questions concerning the U.S. Geological Survey comments, please contact Gary LeCain, USGS Coordinator for Environmental Document Reviews, at (303) 236-5050 (x229) or at gdlecain@usgs.gov

Sincerely,

Robert F. Stewart
Regional Environmental Officer

Attachment – Draft FWCA Report

DRAFT REPORT

Fish and Wildlife Coordination Act Report
Fargo-Moorhead Metropolitan Area
Flood Risk Management Project

May 27, 2010

USACE-MVP-0000088009
DEIS Public and Private Comments Received

INTRODUCTION

The Red River of the North and its associated watershed has experienced several large-scale flood events in the past decade. Significant financial damage resulting from these events has led to several coordinated local, state, and federal agency attempts to address flood-related impacts within the Red River Basin. In September 2008, officials from the City of Fargo, North Dakota and City of Moorhead, Minnesota along with the U.S Army Corps of Engineers (Corps) entered into a Feasibility Cost Share Agreement. The Corps then issued a Notice of Intent to complete an Environmental Impact Statement (EIS) in the May 5, 2009 Federal Register. Accordingly, the Fargo – Moorhead Metropolitan Area Flood Risk Management Feasibility Study focused on alternatives that would alter flood levels and/or protect the Cities of Fargo and Moorhead against elevated flood levels from the Red River.

The U.S. Fish and Wildlife Service (Service) is authorized under the Fish and Wildlife Coordination Act (16 U.S.C. 661 et seq.) to provide reports on federally funded water development projects. The Fish and Wildlife Coordination Act (FWCA) states that fish and wildlife resources shall receive equal consideration with other project purposes in federal water resource development program activities. In accordance with the October 2009, Scope of Work (SOW) for this project, the Service agreed to provide continuous review of project details and documents and a FCWA report based on coordination efforts and final alternative designs provided by the Corps. The Service's February 1, 2010, project review and comment letter was provided to the Corps, which provides a review of fish and wildlife resources within the proposed project area, and potential environmental and ecological impacts associated the proposed project activities. The Service's February 1, 2010 letter satisfies the requirements of the Planning Aid Letter (PAL) per the FWCA. This report constitutes the report of the Secretary of the Interior as required by Section 2(b) of the FWCA and, when finalized, will fulfill the Service's commitment as outlined in the SOW.

The Minnesota Department of Natural Resources (MNDNR) provided valuable information regarding resources in the Red River and the Red River Valley and the project area for incorporation into this report. The MNDNR and the North Dakota Game and Fish Department participated in several joint agency discussions on project alternatives.

STUDY AREA

The rich soils and extremely flat terrain of ancient glacial Lake Agassiz located in and around Fargo and Moorhead supports a largely rural and agricultural community with the majority of development occurring in the metropolitan area. Human activities have induced significant environmental changes within the watershed, engineered by numerous drainage ditches, stream channelization, and subsurface tile drainage. The average annual precipitation for Fargo, North Dakota is 21.29 inches.

The proposed project could influence the following major watersheds in North Dakota: western Wild Rice River, Lower Sheyenne River, and the Maple River. The Marsh River and Red River major watersheds are in North Dakota and Minnesota, and could be influenced by the proposed project. The Buffalo River major watershed in Minnesota could also be influenced by the proposed project.

Large wetland complexes are rare within the proposed project area, and the affected portions of the surrounding watersheds. Smaller wetlands are scattered throughout the interior of the watershed and have been heavily impacted by human activities.

The main collection point for surface runoff and drainage in the project area is the Red River, which is also influenced by the in-flows of the Wild Rice (ND), Sheyenne (ND), Maple (ND), Lower Rush (ND), Rush (ND), and the Buffalo (MN) Rivers (Figure 1). The Red River originates at Lake Traverse to the south, and flows north where it enters Lake Winnipeg. The Red River and the associated Valley are generally flat with a south to north, channel gradient slope that averages a one-half foot fall per mile.

Stream flow measurements taken at a USGS gauge station in the Red River at Fargo, North Dakota show mean monthly flows in winter months (2009-2010) of 1,000 cubic feet per second (cfs). However, stream flow data collected in mid March of 2010 showed flows exceeding 20,000 cfs in the Fargo, ND area. Portions of the Red River and its tributaries, affected by this project, have been channelized or impacted by flood reduction and drainage improvement projects in the past which include bank armoring, floodplain levees, ditching, and tiling.

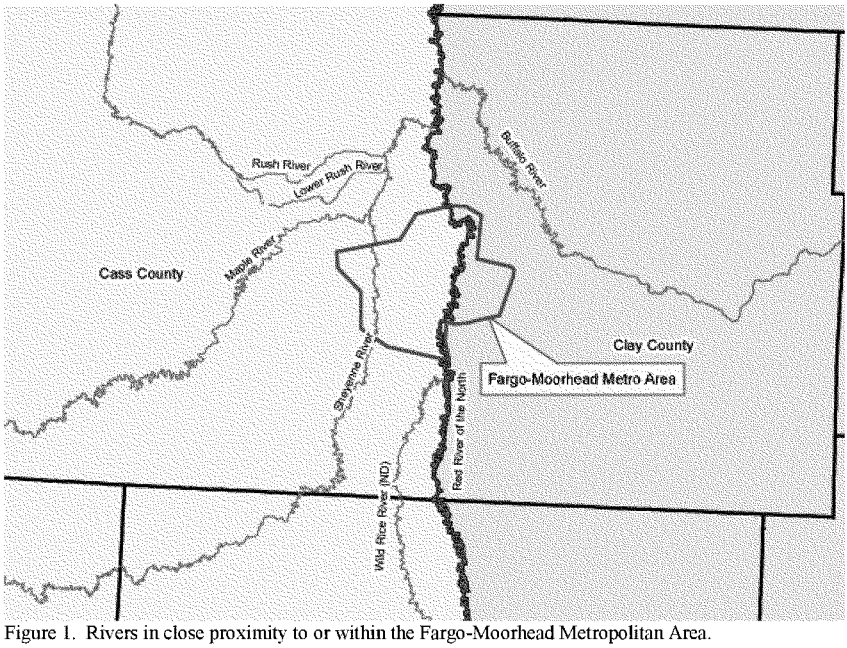

Figure 1. Rivers in close proximity to or within the Fargo-Moorhead Metropolitan Area.

FISH AND WILDLIFE RESOURCES

This section describes existing conditions for fish, wildlife, and habitat resources within the project area that may be either directly or indirectly impacted by the alternatives considered. This area includes the various diversion channel alternatives around Fargo/Moorhead (Figure 2) as well as the riparian corridors along the Red, Wild Rice (North Dakota), Sheyenne, Maple, Lower Rush, and the Rush River.

Riparian vegetation along the Red River and tributaries is heavily influenced by the extensive amount of agriculture in the area and the frequent flood events. Tree canopy and understory species typical of disturbed habitats are the primary dominates in the vegetated riparian zone. The riparian corridor provided by the Red River is the most protected method of travel for wildlife species in the project area. Wildlife capable of adapting to a variety of changing habitats, such as raccoon, skunk, and deer, are common closer to the metropolitan area. A list of wildlife species found through the project site is in Appendix I.

The landscape surrounding Fargo/Moorhead, outside the Red River riparian zone, provides only small pockets wildlife habitat in the form of woods, wetlands, and grasslands. There are many agricultural fields that harbor important short-term open

water habitat for migratory birds in the spring. Although the extent of these ephemeral, open water areas has not been mapped, aerial photography suggests they are prevalent throughout the area. These areas provide critical feeding and resting areas for migratory birds, especially if precipitation or snowmelt has inundated other shallow water habitats in their migratory path.

The Red, Wild Rice (North Dakota), Sheyenne, Maple, Lower Rush, and Rush Rivers, support both game and non-game fish (Appendix 1). Diversity, abundance, and distribution are largely dependent upon existing barriers, water quality issues and winterkill due to low flow events. The Fargo/Moorhead area is known for its sport fishing opportunities, including channel catfish, walleyes, and northern pike. The sport fishery has benefited greatly from MNDNR efforts in removal of low head dams and stocking efforts.

Several mussel species have also been documented within the Red River and tributaries. Some survey work was completed in 2008, in the Fargo/Moorhead area, by the MNDNR, but minimal data currently exists for mussels species present within the Red, Wild Rice (ND), Sheyenne, Maple, Lower Rush, and Rush Rivers.

Biotic surveys within the Red, Wild Rice (ND), Sheyenne, Maple, Lower Rush, and Rush Rivers are currently underway or scheduled to occur in the Spring/Summer of 2010. Results of these surveys, as provided to the Service, will be incorporated into the Final FWCA Report for the Fargo/Moorhead Project.

Wetlands

The majority of the wetlands within the proposed project area are palustrine emergent, palustrine forested, and riverine wetlands. The majority of the wetlands within the project area are located along the river corridors. Many of the small isolated wetlands outside the riparian zone are influenced by agriculture activities (drainage, tillage, grazing, etc.). Temporarily flooded basins, including actively farmed basins, have the potential to provide excellent "stop-over" habitat for spring migrating birds.

Federal Candidate, Threatened, and Endangered Species

Four listed or candidate species under the Endangered Species Act of 1973 (ESA), as amended, occur within Clay County, Minnesota and Cass County, North Dakota. The Dakota skipper (Candidate) and western prairie fringed orchid (threatened) occur in Clay County, Minnesota, and the whooping crane (Endangered) and the gray wolf (Endangered) occur in Cass County, North Dakota.

Our current records do not indicate the presence of any individuals of the federally listed species within the proposed project area. If at any point during project planning, construction, or operation should additional information on listed species become available, or should a new species be listed, the Corps will reinitiate consultation with the Twin Cities Field Office of the USFWS.

Bald Eagle Nests

Bald eagles and their nests are protected from take and disturbance, respectively, per the Bald and Golden Eagle Protection Act. The Service verified the location of two bald eagle nests within the proposed project area. One nest is located on the northwest edge of the City of Fargo along the Sheyenne River in close proximity to a housing development. It was also verified with local private residents in the area that the nest was active and successful in 2009. The other nest is located north of the Cities of Fargo and Moorhead, close to the confluence of the Sheyenne River and the Red River. Verification of the second nest's 2009 activity was not possible at the time of the field visit. The Service will attempt to verify 2010 activity of both these nests, and include nest activity information in the Final FWCA Report.

During the planning and construction phases of the Fargo-Moorhead project the Service's National Bald Eagle Management Guidelines (May 2007) should be utilized to reduce impacts to any and all bald eagles nesting within the proposed project area. Because of the long timeline associated with this project (eight plus years) the Service recommends that raptor nest surveys be completed in all wooded areas potentially affected by this project. The raptor nest surveys should be completed at a minimum in the spring of the year proceeding construction within or near any affected wooded areas.

Migratory Bids

Due to the varied habitat and cover types throughout the project site, in both Minnesota and North Dakota, there is the potential to impact wetlands, grasslands, and woodlands during the construction or excavation phases necessary to complete this type of project. The aforementioned habitat types can provide preferred nesting habitat for a variety of migratory bird species. Upon final selection of a path for the diversion channel and levee alignments, mapping of significant migratory bird nesting areas should be coordinated with the Service.

Development of a construction timeline to minimize impacts to these areas during prime nesting times should be considered. The Service recommends that proposed construction and excavation within potential bird nesting habitat be completed outside of the primary nesting period (April 1st to August 31st) when possible and feasible. Attempts to minimize impacts to potential migratory bird nesting habitats should be made at all times during construction and excavation.

ALTERNATIVES

During the original screening process of the proposed project, 11 alternatives were evaluated to determine which would be most the implementable, and which alternatives would move forward for further analysis. The Corps Alternative Screening Document, December 2009, provides explanation of the screening process, and provided the

recommendation that the No Action and Diversion Channel alternatives should be carried forward for further evaluation as stand-alone alternatives.

No Action

This alternative represents future conditions without the project. Major flood events, such as 100-year events and higher, would continue to occur on a periodic basis. Land use in and surrounding the Cities of Fargo and Moorhead would remain the same. The alternative also anticipated that both Cities would continue to expand as population growth and economy allowed. The Cities would continue to rely on emergency flood protection measures; existing levee protection, temporary levees and floodwalls, and sand bagging activities that are completed as needed in response to flooding.

Flood Barriers

This alternative includes the use of permanent flood barrier measures such as levees, floodwalls, invisible floodwalls, gate closures, and pump stations. For analysis purposes the flood barriers alternative would have resulted in levees on both the Fargo and Moorhead sides of the Red River. Two levee top profiles were considered by the Corps, which could reliably contain the 2% chance and the 1% chance of flooding. This alternative was not pursued further as a stand-alone alternative by the Corps for the purposes of this project.

Diversion Channel

A diversion channel would direct flood waters from the Red River into a constructed channel around the Cities of Fargo and Moorhead, and eventually the diverted waters would enter back into the Red River downstream of Fargo/Moorhead. During early planning stages of the project the Corps developed multiple diversion channel alignments on both the Minnesota and North Dakota side of the Red River. Originally the Corps staff determined that the Minnesota 20,000 cubic feet per second (cfs) (MN 20K Alternative) was the National Economic Development (NED) plan, which had the best benefit: cost ratio. Hydraulics modeling was then updated and calibrated to the 2009 event, hydrology data was updated to include 2009, and the Expert Opinion Elicitation (EOE) Panel identified a distinct "wet" period of record. This combination of items led to an increase in anticipated annual damages, which in turn led to greater benefits resulting from a larger plan. At this point it was then determined that the 35,000 cfs (MN 35K Alternative) is the appropriate NED plan. The Corps recommended the Minnesota 35,000 cfs (MN 35K Alternative) to the local sponsor as the Preferred Alternative. The local sponsors of the Fargo/Moorhead project requested that the Corps move forward with the North Dakota 35,000 cfs (ND 35K Alternative). Both the MN 35K Alternative and the ND 35K Alternative would provide diversion of flood waters, around the metropolitan area, starting at a 5 year storm event. The local sponsors felt that the ND 35K Alternative provided more local flood reduction benefits then the MN 35K Alternative.

Under the MN 35K Alternative, the majority of the impacted lands along a diversion channel alignment in Minnesota would consist of agricultural lands. The ND 35K Diversion Channel Alternative will impact five tributaries to the Red River; the Wild Rice River (North Dakota), Sheyenne River, Maple River, Lower Rush River, and the Rush River. Common resource concerns between the Minnesota and North Dakota Alternatives include the Red River channel impacts, construction of a control structure within the Red River, loss of fish passage within the main stem of the Red River, sedimentation issues in the Red River, loss of riparian habitat, wetland impacts, and the fate of fish entering the diversion channel during flood events.

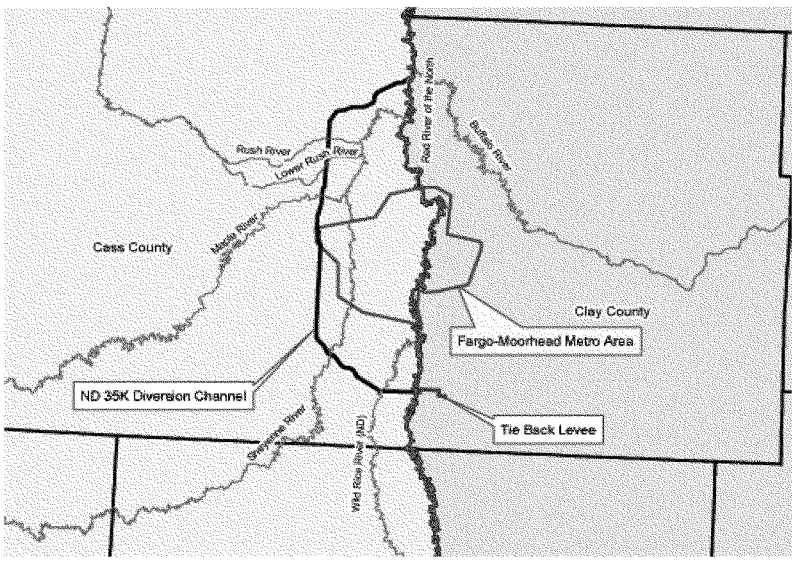

Figure 2. Proposed ND 35K Diversion Channel Alternative

ND 35K Diversion Channel (Locally Selected Alternative)

This alternative is located west of the Cities of Fargo and Moorhead, with an inlet planned to be constructed south of the Fargo/Moorhead metropolitan area on the Red River approximately 4 miles south of the confluence of the Red River and the Wild Rice River (North Dakota), see Figure 2. The outlet of the diversion channel into the Red River is planned to be constructed north of the Fargo/Moorhead metropolitan area on the Red River approximately 3.5 miles north of the confluence of the Red River and the Sheyenne River.

The diversion channel will have an average bottom width of 360 feet, and internal 1(vertical):7(horizontal) side slopes. The internal side slopes will be increased to 1:5 at

highway and railroad intersections. The peak of the spoil piles adjacent to the diversion channel will not exceed 15 feet above existing grade, and external side slopes of the diversion channel will range from 1:7 to 1:10. Total width of the diversion channel construction including; bottom width, internal slopes, and external side slopes will be approximately 2,150 feet. With a total length of approximately 36 miles, the total affected footprint of the diversion channel is approximately 9,382 acres.

The inlet of the diversion channel on the west bank of the Red River will consist of a metal sheet pile and rock weir structure. The inlet of the weir structure is set one foot above the 5 year storm event. A second weir structure will be constructed within the diversion channel on the east bank of the Wild Rice River (ND). This second weir structure will be over topped by diverted flows from the Red River once a 5 year storm event flow is exceeded. A gated control structure will be constructed in the Wild Rice River (ND), with two tainter gates (30 feet wide and 20 feet high). The gates will generally be fully open, but during large flow events the gates will be lowered to restrict the flow into the Fargo-Moorhead Metro to the 5 year storm event flows. Flows above the 5 year event would overtop a third weir, on the west bank of the Wild Rice River (ND) into the diversion channel. Diverted flood waters will flow west and north around the Fargo/Moorhead metropolitan area. The diversion channel will affect four additional tributaries rivers; the Sheyenne River, the Maple River, the Lower Rush River, and the Rush River. The diversion channel will outlet into the Red River over a weir and rip rap structure.

Concrete bypass structures will be built to convey waters within the diversion channel under the Sheyenne and Maple Rivers. The structures will allow the Sheyenne and Maple Rivers to flow through under normal conditions. However, flows exceeding the 2 year storm event within the Sheyenne and Maple will overtop small weir structures and flow through constructed channels into the main diversion channel. The Lower Rush and Rush Rivers will be routed, via drop structures, directly into the diversion channel. The channels of the Lower Rush and Rush Rivers between the diversion channel and downstream to their confluences with the Sheyenne River will be abandoned, and allowed to function as temporary flooded open ditches and as wetland habitat during the drier periods of the growing season.

A large control structure is proposed to be placed in the Red River channel, approximately 1,600 feet downstream of the diversion channel inlet. The concrete structure will have three gates, each 40 feet wide by 40 feet tall. During normal flows the control structure would be completely open, and during flow events exceeding the 5 year storm event the gates would close and the structure would act as a barrier that would back water into the diversion channel. A concrete fish ramp is proposed for construction to allow fish passage from during flows between the 5 year storm event and the 50 year storm event.

A three mile tie back levee will need to be constructed to connect the Red River control structure to high ground. The levee will prevent flood waters from flowing over land to north and east into the Fargo/Moorhead metropolitan area.

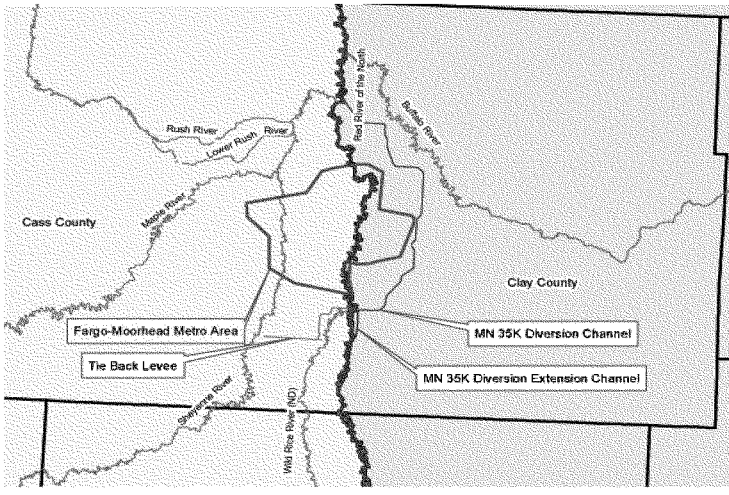

Figure 3. Proposed MN 35K Diversion Channel Alternative

MN 35K Diversion Channel (Corps Recommended Alternative)

This alternative is located east of the Cities of Fargo and Moorhead, with an inlet planned to be constructed south of the Fargo/Moorhead metropolitan area on the Red River north of the confluence of the Red River and the Wild Rice River (North Dakota), see Figure 3. The outlet of the diversion channel into the Red River is planned to be constructed north of the Fargo/Moorhead metropolitan area on the Red River, north of the confluence of the Red River and the Sheyenne River.

The diversion channel will have an average bottom width of 360 feet, and internal 1(vertical):7(horizontal) side slopes. The internal side slopes will be increased to 1:5 at highway and railroad intersections. The peak of the spoil piles adjacent to the diversion channel will not exceed 15 feet above existing grade, and external side slopes of the diversion channel will range from 1:7 to 1:10. Total width of the diversion channel construction including; bottom width, internal slopes, and external side slopes will be approximately 2,150 feet. With a total length of approximately 25 miles, the total affected footprint of the diversion channel is approximately 6,415 acres.

The inlet of the diversion channel on the east bank of the Red River will consist of a metal sheet pile and rock weir structure. Water from the Red River will begin to flow over the weir structure after a 5 year storm event flow is exceeded. Once the water has overtopped the weir structure the diversion channel will go east and north around the Fargo/Moorhead metropolitan area. The diversion channel will primarily bisect land

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currently used for agricultural production. The diversion channel will outlet into the Red River over a rip rap structure.

The diversion channel will function as a temporary flooded open ditch during the conveyance of flood waters, and as mix of channel habitat and wetland habitat during low flow periods.

A large control structure is proposed to be placed in the Red River channel, approximately 1,600 feet downstream of the diversion channel inlet. The concrete structure will have three gates, each 40 feet wide by 40 feet tall. During normal flows the control structure would be completely open, and during flow events exceeding the 5 year storm event the gates would close and the structure would act as a barrier that would back water into the diversion channel. A concrete fish ramp is proposed for construction to allow fish passage during flows between the 5 year storm event and the 50 year storm event.

A 9.9 mile tie back levee will need to be constructed to connect the Red River control structure to high ground. The levee will prevent flood waters from flowing over land to the north and west into the Fargo/Moorhead metropolitan area.

In addition to the main diversion channel this alternative would include two smaller channels upstream of the Red River structure. A three mile long supplementary channel will run south parallel to the Red River to allow for additional capacity, see Figure 3. This channel will have a bottom width of 50 feet. A second supplementary channel, less then one mile long, is located near the intersection of I-29 and Cass County Highway 16, not shown in any Figures. This second supplementary channel also has a bottom width of 50 feet.

	ND 35K Diversion	MN 35K Diversion
Length of Channel	36 miles	25 miles
Total Width of Channel	2,150 feet	2,150 feet
Impact of Primary Diversion Channel	9,382 acres	6,515 acres
Secondary Diversion Channels	0	2
Length of Tie Back Levee	3.3 miles	9.9 miles

Table 1. Comparison of ND 35K and MN 35K Alternative specifics.

Non-structural Measures

This alternative encompasses various flood-proofing measures such as the relocation of businesses and residential structures to an area outside the floodplain, elevation of structures, land acquisition and buyouts, basement removals, dry and wet flood proofing, and additional flood preparedness plans and warnings. Due to highly negative social impacts and the extremely high costs associated with this alternative, non-structural measures were not further considered as a stand-alone alternative by the Corps for the

purposes of this project. The Corps did make the recommendation that the non-structural alternative should be considered for possible inclusion as a feature of the overall plan where it could be incrementally justified.

Flood Storage

The storage alternative would have involved preservation of natural floodplain, restoration of wetlands, and the construction of dams and other water retention facilities throughout the watershed. Utilization of agricultural fields for flood water retention would need to be a major component of this alternative. Through modeling the Corps determined that the storage alternative would have low effectiveness in larger flood events, but may be helpful in small flood events. Due to the low level of effectiveness during large flood events and the high costs associated with this alternative, flood storage was not further considered as a stand-alone alternative by the Corps for the purposes of this project. The Corps did make the recommendation that the flood storage alternative should be considered for possible inclusion as a feature of the overall plan where it could be incrementally justified, and it should be considered by the local communities within the basin.

Tunneling

This alternative would entail the construction of a series of tunnels under the Cities of Fargo and Moorhead to convey floodwaters, and reduce the water levels in the Red River. This alternative would provide similar benefits to the diversion channel alternatives, but with a much greater cost. There would also be significant negative impacts to aquatic habitats and fish passage associated with the tunneling alternative. Due to the high costs and uncertainties of long term maintenance associated with this alternative, tunneling was not further considered as a stand-alone alternative by the Corps for the purposes of this project.

Bridge Replacement or Modification

Bridge replacement or modification was considered because in some cases this can increase water conveyance and reduce flood stages within the river. However, in the case of Fargo/Moorhead and the Red River, the Corps determined that complete removal of the bridges had only a minor affect on flood levels. Due to the low level of effectiveness and the high costs associated with this alternative, bridge replacement or modification was not further considered as a stand-alone alternative by the Corps for the purposes of this project. The Corps did make the recommendation that the bridge replacement or modification alternative should be considered for possible inclusion as a feature of the overall plan where it could be incrementally justified.

Interstate 29 Viaduct

This alternative would involve reconstruction of the existing Interstate 29 corridor to function as an open viaduct during flood events. During non-flood times the corridor

would then function as an interstate highway. This alternative would have significant negative impacts for fish passage and sedimentation, and there would be minimal environmental benefit as the interstate corridor would function as a highway during non-flood periods. Due to the low level of cost effectiveness and unacceptable transportation impacts associated with this alternative, the Interstate 29 viaduct was not further considered as a stand-alone alternative by the Corps for the purposes of this project.

Dredging and Widening the River

An alternative to deepen and widen the Red River to accommodate great flow conveyance through the Fargo/Moorhead area was considered. This alternative would result in substantial environmental impacts including; increased sedimentation, loss of suitable fish and mussel habitats, riparian habitat loss, wildlife mortality during excavation activities, and a high likelihood of riverbank instability issues. There would also be social impacts as homes and property would need to be acquired to insure the Red River could be widened to accommodate the new river depths. This alternative would also violate a number of local and national policies. Due to associated policy violations and the high costs associated with long term maintenance of this alternative, dredging and widening of the Red River was not further considered as a stand-alone alternative by the Corps for the purposes of this project.

Wetland and Grassland Restoration

Wetland and grassland restoration areas could be established to provide flood storage and also reduce peak runoff. Costs of this alternative were anticipated to be high due to large land acquisition needs to implement restoration activities. The Corps staff determined that the benefits of wetland restoration would be localized, and the flood storage needs of the Fargo/Moorhead area would not be met. Due to the low level of effectiveness to offset flood damages, high costs, and the large land acquisitions associated with this alternative, wetland and grassland restoration was not further considered as a stand-alone alternative by the Corps for the purposes of this project. The Corps did make the recommendation that the wetland and grassland restoration alternative should be considered for possible inclusion as a feature of the overall plan where it could be incrementally justified.

Throughout the project and comment process the Service has recommended that the Corps consider the utilization of wetland restoration within the watershed of the project to increase flood water storage and attenuation.

Cut-off Channels

Cut-off channels would be excavated across meanders within the Red River channel in the Cities of Fargo and Moorhead. Straightening the channel would allow greater conveyance of water through the Cities, and potentially reduce peak flood stages. This alternative would impact riparian habitat, wetlands, and potentially fisheries resources that are adjacent to or utilize these meanders. According to Corps staff this alternative

would not provide substantial flood risk reduction. There would also be the potential for this alternative to violate state and federal policies. Due to the low reduction of flood risk and the environmental impacts associated with this alternative, cut-off channels was not further considered as a stand-alone alternative by the Corps for the purposes of this project. The Corps recommended that the cut-off channels alternative be considered for possible inclusion as a feature of the overall plan where it could be incrementally justified.

IMPACT ANALYSIS

This Report focuses on potential impacts that would result from the activities involved with the construction, excavation, and operation of the Locally Selected Alternative. Environmental impacts from the ND 35K Diversion Channel Alternative (the Locally Selected Alternative) and the MN 35K Diversion Channel Alternative, may be separated into two categories: direct impacts (those caused by project construction), and indirect impacts (those associated with project operation). Several resource concerns were detailed in the Service's February 1, 2010 letter.

Direct Impacts of the ND 35K Diversion Channel Alternative

Habitat Loss

Construction and excavation associated with the proposed project will result in the removal or degradation of riparian forests, wetlands (various types), grasslands, and riverine aquatic habitat. The current plan for structure placement and diversion channel route will result in the following impacts; 137 acres of forested habitat, 33 acres (direct) and 157 acres (indirect) of wetlands, and 39 acres of riverine aquatic habitat. Activities resulting in direct impacts include; diversion channel excavation, Red River control structure construction, weir construction, levee constructions, tributary crossing construction, and tributary flow diversion and abandonment (Lower Rush and Rush Rivers).

The exact acreage of the various habitats impacted by the project should be calculated once the extent and location of the alternatives are determined.

Fisheries

Construction and excavation within the riverine aquatic habitats could kill adult or juvenile fish. Sediment discharges caused by the aforementioned work could result in adult and juvenile individuals being killed if their gills become filled with sediment, spawn bed abandonment by adult fish, and also the covering of spawning beds with silts and fines resulting in the loss of eggs within the bed. Large sediment loads could also lead to disruptions in foraging success for fish directly downstream of excavation and construction areas within the rivers or areas of bank construction or excavation. Disruption of foraging success could result in the death of juvenile individuals, or prohibit adult fish from spawning due to malnutrition.

Wildlife

Excavation and construction within forested areas, wetlands, and grasslands may be expected to potentially kill or displace nesting adult birds if construction activities occur during the primary nest seasoning (April 1st – August 31st). Abandonment of nests and crushing of eggs within construction and excavation areas is also considered a direct wildlife impact.

Mammal species within the excavation and construction areas will be displaced or killed during project activities. The majority of adult individuals should be mobile enough to move out of the construction/excavation areas prior to being injured or killed by equipment. The exception may be borrowing species that may be injured or killed during excavation activities. Juvenile individuals may not be able to avoid construction and excavation activities resulting in injury or death of certain individuals.

Mussel species within the riverine aquatic habitats may be killed by direct construction or excavation activities within mussel beds. Feeding activities and gill function may be interrupted by large sediment loads during construction and excavation activities. This could result in the death of individuals, or a reduction in or lack of reproduction by adult individuals.

Indirect Impacts of the ND 35K Diversion Channel Alternative

Habitat Loss and Conversation

With additional sediment load and deposition occurring the Red, Wild Rice (ND), Sheyenne, and Maple Rivers will experience some alteration of their bed composition. Also, because of structure placement and reductions in the current regular flood flows through these Rivers, sediments could accumulate and alter the aquatic habitat. This could also result in the need for regular mechanical clean out, which would disturb riparian habitat, aquatic habitat, and fish and wildlife species in the area of the clean out.

Wetlands within the floodplains of the Red, Wild Rice (ND), Sheyenne, and Maple Rivers, and downstream of the proposed structures and diversion channel, may be converted to non-wetland or a drier hydrologic regime if they are heavily influenced hydrologically by regular flood events that currently occur. Wetlands found at the confluences of the Lower Rush and Rush Rivers with the Sheyenne River would likely be converted to non-wetland or a drier hydrologic regime once the Lower Rush and Rush River channels are abandoned.

Fisheries

Movement of fish species within the Red, Sheyenne, and Maple Rivers will be impeded by structures constructed within the river channels as part of this project. These fish passage impacts will be noticeable during larger flood flow events when the gates on the

Red River control structure are closed, and when flow velocities through the structures on the Sheyenne and Maple Rivers become high enough to impede fish passage, primarily for smaller species.

Aquatic organisms displaced by flood events would also be affected by operation of a diversion channel. Fish carried into the diversion may be vulnerable to stranding during lower but more frequent flood events (e.g. 5 or 10 year event) if 1) they are unable to find their way back to the river as water levels recede or 2) the flow dissipates before reconnecting to the Red River. Flood-formed scour pools may provide refugia for these fish but they would not survive the winter in such habitat. During planning it has been mentioned that a base flow will be maintained throughout the entire diversion channel. A base flow would be beneficial, but larger species may not be able to effectively move even with a base flow channel.

Given the scenario above, it appears that a certain degree of fish mortality is unavoidable. The level of mortality is dependant upon the number of fish entering the diversion channel, abundance of water in the channel, and the life stage (juvenile or adult) of the affected individuals.

Wildlife

Once the project is in the operational phase mussels could be affected by additional direct impacts of operation. In large flood flows the gates on the Red River control structure will close, resulting in deposition of sediment on the upstream side of the structure. A large sediment load could bury and kill individuals. Sediment deposition will also occur on the Wild Rice River (ND) at the point of confluence with the proposed diversion channel and down stream of this point. The structures on the Sheyenne and Maple Rivers will restrict flows during flood events, and a portion of the water will be directed into the diversion channel. Water that remains within the river channels will continue to carry the bulk of the sediment load, however the quantity and flow of water will be diminished. This will result in additional sediment deposition downstream of the proposed structures. These areas of additional sediment deposition could bury and kill mussels if significant mussel beds are present.

Mussel species dispersal may be restricted during the operational phases of this project. Mussels infest host fish with glochidia, larval stage of mussel, which results in the host fish potentially transporting the glochidia to new suitable aquatic habitat. If fish passage is restricted during large flood events potentially infested fish will not be able to disperse the glochidia. Infested fish may also move up the diversion channel and become stranded, or the glochidia could drop off in the diversion channel in unsuitable permanent habitat. Infested fish moving in the diversion channel could result in the loss of larval stage mussels, and reduce the reproductive success and dispersion of various mussel species.

Direct Impacts of the MN 35K Diversion Channel Alternative

Habitat Loss

Construction and excavation associated with the proposed project will result in the removal or degradation of riparian forests, wetlands (various types), grasslands, and riverine aquatic habitat. The current plan for structure placement and diversion channel route will result in the following impacts; 75 acres of forested habitat, 17 acres (direct) and 85 acres (indirect) of wetlands, and 10 acres of riverine aquatic habitat. Activities resulting in direct impacts include; diversion channel excavation, Red River control structure construction, weir construction, and levee constructions.

The exact acreage of the various habitats impacted by the project should be calculated once the extent and location of the alternatives are determined.

Fisheries

Construction and excavation within the Red River could kill adult or juvenile fish. Sediment discharges caused by the aforementioned work could result in adult and juvenile individuals being killed if their gills become filled with sediment, spawn bed abandonment by adult fish, and also the covering of spawning beds with silts and fines resulting in the loss of eggs within the bed. Large sediment loads could also lead to disruptions in foraging success for fish directly downstream of excavation and construction areas within the rivers or areas of bank construction or excavation. Disruption of foraging success could result in the death of juvenile individuals, or prohibit adult fish from spawning due to malnutrition.

Wildlife

Excavation and construction within forested areas, wetlands, and grasslands may be expected to potentially kill or displace nesting adult birds if construction activities occur during the primary nest seasoning (April 1st – August 31st). Abandonment of nests and crushing of eggs within construction and excavation areas is also considered a direct wildlife impact.

Mammal species within the excavation and construction areas will be displaced or killed during project activities. The majority of adult individuals should be mobile enough to move out of the construction/excavation areas prior to being injured or killed by equipment. The exception may be borrowing species that may be injured or killed during excavation activities. Juvenile individuals may not be able to avoid construction and excavation activities resulting in injury or death of certain individuals.

Mussel species within the Red River may be killed by direct construction or excavation activities within mussel beds. Feeding activities and gill function may be interrupted by large sediment loads during construction and excavation activities. This could result in the death of individuals, or a reduction in or lack of reproduction by adult individuals.

Indirect Impacts of the MN 35K Diversion Channel Alternative

Habitat Loss and Conversation

With additional sediment load and deposition occurring, the Red River will experience some alteration of bed composition. Also, because of structure placement and reductions in the current regular flood flows through the Red River, sediments could accumulate and alter the aquatic habitat. This could also result in the need for regular mechanical clean out, which would disturb riparian habitat, aquatic habitat, and fish and wildlife species in the area of the clean out.

Wetlands within the floodplain of the Red River, and downstream of the proposed structures and diversion channel, may be converted to non-wetland or a drier hydrologic regime if they are heavily influenced hydrologically by regular flood events that currently occur.

Fisheries

Movement of fish species within the Red River will be impeded by the construction of the control structure within the river channel as part of this project. Fish passage impacts will be noticeable during larger flood flow events when the gates on the Red River control structure are closed.

Aquatic organisms displaced by flood events would also be affected by operation of a diversion channel. Fish carried into the diversion may be vulnerable to stranding during lower but more frequent flood events (e.g. 5 or 10 year event) if 1) they are unable to find their way back to the river as water levels recede or 2) the flow dissipates before reconnecting to the Red River. Flood-formed scour pools may provide refugia for these fish but they would not survive the winter in such habitat. During planning it has been mentioned that a base flow will be maintained throughout the entire diversion channel. A base flow would be beneficial, but larger species may not be able to effectively move even with a base flow channel.

Given the scenario above, it appears that a certain degree of fish mortality is unavoidable. The level of mortality is dependant upon the number of fish entering the diversion channel, abundance of water in the channel, and the life stage (juvenile or adult) of the affected individuals.

Wildlife

Once the project is in the operational phase mussels could be affected by additional impacts of operation. In large flood flows the gates on the Red River control structure will close, resulting in deposition of sediment on the upstream side of the structure. A large sediment load could bury and kill individuals. Sediment deposition may also occur downstream of the Red River control structure. Water that remains within the river

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channel will continue to carry the bulk of the sediment load, however the quantity and flow of water will be diminished. These areas of additional sediment deposition could bury and kill mussels if significant mussel beds are present.

Mussel species dispersal may be restricted during the operational phases of this project. Mussels infest host fish with glochidia, larval stage of mussel, which results in the host fish potentially transporting the glochidia to new suitable aquatic habitat. If fish passage is restricted during large flood events potentially infested fish will not be able to disperse the glochidia. Infested fish may also move up the diversion channel and become stranded, or the glochidia could drop off in the diversion channel in unsuitable permanent habitat. Infested fish moving in the diversion channel could result in the loss of larval stage mussels, and reduce the reproductive success and dispersion of various mussel species.

PROPOSED MITIGATION ACTIVITIES

1. A constructed fish ramp, 50 feet wide, is proposed to improve fish passage around the Red River control structure during large flow events when the gates will be closed. (Both Alternatives)
2. A natural substrate will be maintained under the Red River control structure and the structures on the Sheyenne and Maple Rivers to allow for complex flow regimes, which will allow for better fish passage through the structures. (Both Alternatives)
3. Maintain a base flow channel within the diversion channel to assist in minimizing fish stranding. (Both Alternatives)
4. Allow the bottom of the diversion channel function as aquatic and seasonal wetland habitats to provide habitat to local wildlife. (Both Alternatives)
5. The abandoned Lower Rush and Rush River channels to function as seasonal wetlands and aquatic habitats to benefit local wildlife species. (ND 35K Alternative Only)
6. All wetland impacts will be replaced at a ratio to meet or exceed the Compensatory Mitigation Standards of the Clean Water Act, Section 404 Permit Program. State wetland laws will also be satisfied. (Both Alternatives)
7. Impacted forested areas will replaced at a 1:1 ratio. (Both Alternatives)
8. Grassland habitat impacts will be offset by the reconstruction of native prairie on the inside slope of the diversion channel following construction. (Both Alternatives)

RECOMMENDATIONS

1. Determine wetland acreage to be impacted directly or indirectly by the proposed project, and assess the functions and values of individual wetlands with an established method of assessment, such as the Minnesota Rapid Assessment Method (MnRAM).
2. Provide compensatory mitigation for all wetland impacts in accordance with the standards specified for a Section 404 Permit under the Clean Water Act. A final

wetland mitigation plan should be coordinated with the Service and Corps Regulatory Project Manager.

3. Wetlands within the currently active floodplains of the Red, Wild Rice (ND), Sheyenne, Lower Rush, and Rush Rivers, downstream of the proposed structures and the diversion channel crossings or channel abandonments should be monitored for a 10 year period following the beginning of project flood reduction operations. This monitoring should focus on hydrologic impacts to the wetlands, wetland type conversions, and loss of wetlands. (ND 35K Alternative Only)
4. Biotic surveys within the potentially affected reaches of Red, Wild Rice (ND), Sheyenne, Maple, Lower Rush, and Rush Rivers should be conducted to determine species presences and potential suitable habitat areas (i.e. mussel beds, spawning habitats, etc)
5. Utilize native plant species in all aspects of mitigation, reconstruction, and replanting involved with the project.
6. Avoid impacts to migratory bird nesting habitats (woodlands, grasslands, and wetlands) during the primary nesting season, April 1st to August 31st, to the greatest extent that is feasible.
7. Provide equal mitigation (1:1) for lands currently enrolled in state or federally funded restoration or conservation programs that will be impacted by the proposed project.
8. Raptor nest surveys should be conducted every spring to determine the presence of existing or new nests that may be affected by the project construction and excavation activities. Surveys should be completed annually prior to "leaf out" until the project construction is complete.
9. Follow the Service's National Bald Eagle Management Guidelines to minimize the likely-hood that the proposed project will affected any bald eagles nesting in the Fargo/Moorhead Project Area.

SUMMARY

River channel morphology is largely defined by the frequency and intensity of floods. Flood events and the intensity of their environmental effects are naturally unpredictable. The ND 35K Alternative and the MN 35K Alternative involve the construction and operation of a control structure within the Red River. Operation of the Red River control structure and the associated diversion channel would reduce the occurrence of flood flows, exceeding the 5 year storm event, into the Fargo – Moorhead Metro Area. This reduction in flood events could affect sediment loads and deposition within the Red River. The ND 35K Alternative also includes a second control structure within the Wild Rice (ND) River, diversion channel crossing structures on the Sheyenne and Maple Rivers, and the abandonment of portions of the Lower Rush and Rush Rivers.

Both diversion channel alternatives will result in direct and indirect wetland impacts. The ND 35K Alternative could potentially impact approximately 88 more acres then the MN 35K Alternative. There will be some wetland loss through direct excavation and/or fill of wetlands during channel, levee, and structure construction. Riparian wetlands

along the river corridors are likely to incur some indirect impacts as the change in flood elevations may result in changes to the hydrologic inputs to some of these wetlands. The exact extent of wetland impacts cannot be quantified at this time as the footprint and design of the project have not been finalized. Wetland mitigation needed to address these issues should be carried out concurrent with project construction.

Both alternatives may potentially impact fish passage, fish spawning areas, mussel beds, and terrestrial wildlife habitat during construction, excavation, operation, and maintenance of the proposed Fargo-Moorhead Flood Reduction Project. The ND 35K Alternative as proposed will result in greater ecological impacts, then the MN 35K Alternative, see Table 2 below. Alternative impacts are greater due to the higher number of rivers affected by the diversion channel and wildlife habitat disturbance. Outside of work within the Red River and the adjacent riparian habitat the MN 35K Alternative primarily affects agricultural lands.

The Service is authorized under the Fish and Wildlife Coordination Act (16 U.S.C. 661 et seq.) to provide recommendations to the Corps on federally funded water development projects. Therefore, based on data available at this time, and the Impact Analysis outlined within this report the Service recommends, should the Corps and the Local Project Sponsors move forward with the Fargo-Moorhead Metropolitan Flood Risk Reduction Project, the MN 35K Diversion Channel Alternative should be the selected Alternative. Although ecological impacts will occur with either of the Diversion Channel Alternatives, the MN 35K Alternative would result in less ecological impact when compared to the ND 35K Diversion Channel Alternative.

	ND 35K Diversion	MN 35K Diversion
Direct Wetland Impacts	33 acres	17 acres
Indirect Wetland Impacts	157 acres	85 acres
Total Wetland Impacts	190 acres	102 acres
Forest Impacts	137 acres	75 acres
Aquatic Riverine Impacts	39 acres	10 acres
Red River Fish Passage Impacts	Yes	Yes
Red River Tributary Fish Passage Impacts	Yes	No
# of Rivers Impacted	6	1
Federal Threatened and Endangered Species Impacted	No	No
Bald Eagles Impacted	No	No
Red River Sedimentation Impacts	Yes	Yes
Red River Tributary Sedimentation Impacts	Yes	No

Table 2. Impact Analysis Comparison of ND 35K and MN 35K Alternatives.

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APPENDIX 1

FISH AND WILDLIFE RESOURCES OF THE RED RIVER

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Table 1. Fish species present in the Red River drainage. (Aadland et al. 2005)

Common Name	Scientific Name
Chestnut lamprey	*Ichthyomyzon castaneus*
Silver lamprey	*Ichthyomyzon unicuspis*
White sucker	*Catostomus commersoni*
Silver redhorse	*Moxostoma anisurum*
Golden redhorse	*Moxostoma erythrurum*
Shorthead redhorse	*Moxostoma macrolepidotum*
Greater redhorse	*Moxostoma valenciennesi*
Spotfin shiner	*Cyprinella spiloptera*
Carp	*Cyprinus carpio*
Brassy Minnow*	*Hybognathus hankinsoni*
Common shiner	*Luxilus cornutus*
Bowfin	*Amia calva*
Emerald shiner	*Notropis atherinoides*
Bigmouth shiner	*Notropis dorsalis*
Blackchin shiner*	*Notropis heterodon*
Blaeknose shiner*	*Notropis heterolepis*
Sand shiner	*Notropis stramineus*
River shiner	*Notropis blennius*
Spottail shiner	*Notropis hudsonius*
Carmine shiner*	*Notropis percobromus*
Northern redbelly dace*	*Phoxinus eos*
Fathead minnow	*Pimephales promelas*
Western blacknose dace*	*Rhinichthys obtusus*
Longnose dace	*Rhinichthys cataractae*
Creek chub	*Semotilus atromaculatus*
Black bullhead	*Ameiurus melas*
Yellow bullhead	*Ameiurus natalis*
Brown bullhead	*Ameiurus nebulosus*
Channel catfish	*Ictalurus punctatus*
Tadpole madtom	*Noturus gyrinus*
Central Mudminnow	*Umbra limi*
Northern pike	*Esox lucius*
Trout-perch	*Percopsis omiscomaycus*
Rock bass	*Ambloplites rupestris*
Pumpkinseed*	*Lepomis gibbosus*
Bluegill	*Lepomis macrochirus*
Largemouth bass*	*Micropterus salmoides*
Black crappie	*Pomoxis nigromaculatus*
White Crappie	*Pomoxis annularis*
Johnny darter	*Etheostoma nigrum*
Yellow perch	*Perca flavescens*
Blackside darter	*Percina maculata*
Logperch	*Percina caprodes*
Sauger	*Stizostedion canadense*
Walleye	*Stizostedion vitreum*
Freshwater drum	*Aplodinotus grunniens*

Table 1 cont'd. Fish species present in the Red River drainage. (Aadland et al. 2005)

Common Name	Scientific Name
Goldeye	*Hiodon alosoides*
Mooneye	*Hiodon tergisus*
Rainbow trout*	*Oncorhynchus mykiss*
Quillback	*Carpiodes cyprinus*
Bigmouth Buffalo	*Ictiobus cyprinellus*
Goldfish	*Carassius auratus*
Silver chub	*Macrhybopsis margarita*
Hornyhead chub	*Nocomis biguttatus*
Golden shiner	*Notemigonus chrysoleucas*
Bluntnose minnow	*Pimephales notatus*
Flathead chub	*Platygobio gracilis*
Stonecat	*Noturus flavus*
Muskellunge	*Esox masquinongy*
Rainbow smelt	*Osmerus mordax*
Banded killifish	*Fundulus diaphanous*
Burbot	*Lota lota*
White bass	*Morone chrysops*
Green sunfish	*Lepomis cyanellus*
Orangespotted sunfish	*Lepomis humilis*
Smallmouth bass	*Micropterus dolomieu*
Iowa Darter	*Etheostoma caeruleum*
Lake Sturgeon	*Acipenser fulvescens*

*Found in the tributaries to the Red River, but not in the main stem of the Red River.

Table 2. Mammals of the Fargo-Moorhead Project Area.

Common Name	Common Name
Grey fox	Fox squirrel
Red fox	Red squirrel
Raccoon	Northern flying squirrel
Striped skunk	Beaver
Coyote	Muskrat
Masked shrew	Deer mouse
Pygmy shrew	White-footed mouse
Short-tailed shrew	Southern red-backed vole
Star-nosed mole	Meadow vole
Little brown myotis	Prairie vole
Big brown bat	Norway rat
Red bat	House mouse
Eastern Cottontail Rabbit	Meadow jumping mouse
White-tailed jackrabbit	Plains pocket mouse
Eastern chipmunk	Ermine
Least chipmunk	Long-tailed weasel
Woodchuck	Least weasel
Thirteen-lied ground squirrel	Gray wolf
Franklin's ground squirrel	River otter
Eastern gray squirrel	Mink
White-tailed deer	Badger
Opossum	

Table 3. Amphibians and Reptiles of Clay County, Minnesota.

Common Name (Amphibians)	Common Name (Reptiles)
Northern leopard frog	Common garter snake
Wood frog	Redbelly snake
Gray treefrog	Plains hog nosed snake
Western chorus frog	Plains garter snake
Boreal chorus frog	Smooth green snake
American toad	Snapping turtle
Canadian toad	Painted turtle
Great plains toad	Prairie skink
Tiger salamander	

Table 4. Mussels in the Fargo-Moorhead Area. (Sietman 2008)

Common Name	Scientific Name
Fatmucket	*Lampsilis siliquoidea*
Threeridge	*Amblema plicata*
Giant floater	*Pyganodon grandis*
Black Sandshell	*Ligumia recta*

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Table 5. Breeding Birds of Clay County, Minnesota. (MN DNR)

Common Name	Common Name
Canada goose	Sedge wren
Wood duck	Eastern bluebird
Mallard	Veery
Blue winged teal	American robin
Ring necked duck	Gray catbird
Pied billed grebe	Brown thrasher
Red necked grebe	European starling
Double crested cormorant	Cedar waxwing
Great blue heron	Yellow warbler
Northern harrier	Chestnut sided warbler
Red tailed hawk	American redstart
Killdeer	Ovenbird
Upland sandpiper	Common yellowthroat
Wilson's snipe	Scarlet tanager
Black tern	Chipping sparrow
Rock pigeon	Clay colored sparrow
Mourning dove	Field sparrow
Great horned owl	Vesper sparrow
Chimney swift	Savannah sparrow
Ruby throated hummingbird	Grasshopper sparrow
Red bellied Woodpecker	Le Conte's sparrow
Yellow bellied sapsucker	Song sparrow
Downy woodpecker	Swamp sparrow
Hairy woodpecker	Rose breasted grosbeak
Northern flicker	Indigo bunting
Eastern wood-pewee	Bobolink
Alder flycatcher	Red winged blackbird
Willow flycatcher	Western meadowlark
Least flycatcher	Yellow headed blackbird
Eastern phoebe	Brewer's blackbird
Great crested flycatcher	Common grackle
Western kingbird	Brown headed cowbird
Eastern kingbird	Baltimore oriole
Yellow throated vireo	American goldfinch
Warbling vireo	Baird's sparrow
Red eyed vireo	Bald eagle
Blue jay	Burrowing owl
American crow	Chestnut collared longspur
Horned lark	Greater prairie chicken
Tree swallow	Henslow's sparrow
Bank swallow	Loggerhead shrike
Barn swallow	Marbled godwit
Black capped chickadee	Nelson's sharp tailed sparrow
White breasted nuthatch	Sprague's pipit
House wren	Trumpeter swan
Wilson's phalarope	Yellow rail
Northern cardinal	

USACE-MVP-0000085009
DEIS Public and Private Comments Received

U.S. Department of Homeland Security
500 C Street, SW
Washington, DC 20472

FEMA

August 9, 2010

Mr. Aaron Snyder
U.S. Army Corps of Engineers
St. Paul District
190 Fifth Street East, Suite 401
St. Paul, Minnesota 55101-1638

Re: Federal Emergency Management Agency's (FEMA) Comments on the *Integrated Draft Feasibility Report and Environmental Impact Statement Fargo-Moorhead Metropolitan Area Flood Risk Management*, May 2010

Dear Mr. Snyder:

FEMA received the *Integrated Draft Feasibility Report and Environmental Impact Statement Fargo-Moorhead Metropolitan Area Flood Risk Management* (Integrated Draft FR/EIS). The document has been reviewed by our Region V and Region VIII offices as well as our Headquarters office. FEMA offers the following comments for your consideration:

Downstream Impacts: As the *Integrated Draft FR/EIS* indicates, an analysis of the downstream impact is needed for this project. The National Flood Insurance Program (NFIP) regulations, applicable to Federal agencies through Section 3(a) of Executive Order 11988 – *Floodplain Management*, require:

1. An evaluation of alternatives that would not result in increases in the Base (1-percent-annual-chance) Flood Elevations (BFEs), with an explanation of why they are not feasible (44 Code of Federal Regulations (CFR) 65.12(a)(2)); and

2. Certification that no structures are located in areas that would be impacted by the increased BFEs (44 CFR 65.12(a)(5)).

Although the project itself is still in its feasibility evaluation stage, FEMA believes that these two requirements would have a direct impact on the analysis. These requirements may implicate additional alternatives, modifications to the alternatives, and may affect the National Economic Development, Regional Economic Development, and Other Social Effects accounts in your analysis. For example, the evaluation may show that acquisitions and other mitigation/ minimization measures are required in order to comply

with 44 CFR 65.12(a)(5), that there would be significant impact to existing infrastructure downstream, such as roads, buildings, and public services, that the

likelihood for disaster assistance may increase downstream, that flood insurance premiums would increase to communities downstream, that historic properties that have not been accounted for would be affected, or that there could be disproportionate adverse impact to low-income and minority communities downstream. Therefore, FEMA encourages you to revise the *Integrated Draft FR/EIS* to take into account these elements and provide FEMA an opportunity to review the revised version before it becomes final.

Minimization and Floodplain Development: The *Integrated Draft FR/EIS* contains a discussion of the responsibilities of the U.S. Army Corps of Engineers (USACE) under Executive Order 11988. The document can be improved by identifying those measures that would minimize the adverse impacts from the proposed floodplain modification. For example, consideration should be given to measures that put occupants of the base floodplain on notice of the residual risk associated with living in the area protected by these systems, and measures to minimize backflow impacts from the diversion channels.

In addition, the documents can be improved by identifying measures to reduce the alternatives' indirect support of future development in the floodplain. This is in the spirit of Section 10 of USACE Regulation No. 1165-2-26 (March 30, 1984), which provides, for example, that "consideration shall be given to deletion of separable segments of a plan when such segments protect undeveloped land and would likely induce development in the flood plain for which another practicable non-flood plain alternative may exist."

Other Factors to Consider: Although not critical for the *Integrated Draft FR/EIS* and for this early stage of the process, we wanted to keep you apprised of other requirements that should be taken into account before the project commences. 44 CFR 65.12(a) requires conditional approval from FEMA before the project is undertaken. The information that FEMA will request for this process includes:

1. Documentation of the legal notice to all impacted property owners, within and outside the community, explaining the impact of the proposed action on their property (44 CFR 65.12(a)(3));

2. Concurrence of the Chief Executive Officers of all communities impacted by the proposed action (44 CFR 65.12(a)(4));

3. A request for revision of the BFE determination (44 CFR 65.12(a)(6)); and

4. A request for floodway revision (44 CFR 65.12(a)(7)).

I hope you find these comments helpful. If you have any questions, please contact me, by telephone at (202) 646-2741 or email at jomar.maldoando@dhs.gov, at your earliest convenience.

Sincerely,

Jomar Maldonado
FEMA Environmental Officer

cc:

Sandra Knight, Deputy Federal Insurance and Mitigation Administrator, Mitigation
Andrew Velasquez III, Region V Regional Administrator
Amanda Ratliff, Regional Environmental Officer, Region V
Norbert Schwartz, Mitigation Division Director, Region V
Robin Finegan, Region VIII Regional Administrator
Steven Hardegen, Regional Environmental Officer, Region VIII
Jeanine Petterson, Mitigation Division Director, Region VIII
Pete Rabbon, Program Director, National Flood Risk Management Program, USACE
Zoltan Montvai, Chief, Planning Management Branch, USACE

United States Department of Agriculture

NRCS

Natural Resources Conservation Service
375 Jackson Street, Suite 600
St. Paul, MN 55101-1854

August 4, 2010

Mr. Aaron Snyder
USACE Planner and Project Manager
190 East Fifth Street, Suite 401
St. Paul, MN 55101

IN REPLY REFER TO: Draft EIS for Fargo-Moorhead Metropolitan Area Flood Risk Management

Dear Mr. Snyder:

The Minnesota Natural Resources Conservation Service (NRCS) has reviewed the above-referenced project. Our comments are as follows:

Because of the location and type of activity proposed, this project will impact agricultural lands. It is a requirement that a Farmland Policy Protection Act (FPPA) site assessment be appropriately filed. A review of Section 5.2.1.11 indicates that an AD-1006 has been filed for each of the North Dakota and Minnesota alternatives. Should the alternatives be modified to impact additional farmland, the FPPA review should be reinitiated.

The EIS has addressed both direct and indirect wetland impacts for both the North Dakota and Minnesota alternatives. It should be noted that upon determination of a final recommended plan, compensatory mitigation must meet the requirements of both Section 404 of the Clean Water Act and in the case of Minnesota alternatives, the requirements of the Minnesota Wetland Conservation Act (WCA).

The project sponsors are not USDA program benefit recipients, thus the wetland conservation (Swampbuster) provisions of the 1985 Food Security Act, as amended, are not applicable. It should be noted however, that actions by a non-USDA participant third party (project sponsor) which impact agricultural wetlands owned or operated by USDA participants, may jeopardize the owner/operators USDA eligibility. If such impacts are anticipated, the landowner/operator should contact the county Farm Service Agency (FSA) office to consider an application for a third party exemption.

The Draft Feasibility Report and EIS mention that flooding at Fargo has increased over recent decades based on a review of annual peak discharge data. However, results from the Expert Opinion Elicitation on page 85 state that revised flow frequency curves show 1 percent flows decreasing from 34,700 cfs (present) to 31,300 cfs (in 2060). Aren't these statements contradictory?

The document acknowledges that the Locally Preferred Plan will result in increased stages downstream of the project however potential economic impact and mitigation issues are not included in this Draft Feasibility Report and EIS. In Appendix B (Hydraulics) Section B.8.1.3 it states that more detail of downstream impacts is provided in Appendices D and E, however a search of those appendices did not provide that information.

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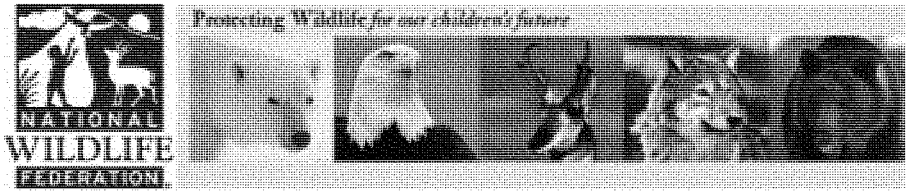
In past NRCS PL-566 planning experiences in the Red River Valley, project alternatives resulting in increased downstream stages can have significant social and economic issues. The draft document mentions that downstream impacts are currently being studied in detailed and will be presented in the Final Feasibility Report and EIS this. NRCS would be interested in reviewing this final analysis, mainly from the standpoint of impact on agricultural lands. Also, several working papers developed by the Red River Basin Flood Damage Reduction Work Group suggest that upland runoff reduction strategies in the form of wetland restoration/creation and small impoundments can reduce Red River flood flows. With the increasing level of participation in state and federal wetland-restoration programs, perhaps the impacts of upland storage could be considered in the analysis of the downstream impacts of the diversion.

Sincerely,

PAUL A. FLYNN
State Resource Conservationist



June 7, 2010

Terry J. Birkenstock, Chief
Environmental and Economic Analysis
Branch, 190 Fifth Street East
St. Paul, MN 55101–1638

Via Fax: 651-290-5258

Dear Mr. Birkenstock:

On behalf of the National Wildlife Federation (NWF), I would like to make an official request for an extension of the 45-day comment period for the Draft Feasibility and Environmental Impact Statement of the Fargo-Moorhead Metropolitan Area Flood Risk Management report. The NWF has been intensely involved with this issue since the U.S. Army Corps of Engineers (USACE) started their scoping process and is deeply committed to ensuring a positive outcome for fish and wildlife species in the Red River basin.

The draft feasibility/EIS report (nearly 400 pages) warrants an extension simply because of its sheer length and intricacy. In order to formulate meaningful and scientific comments from stakeholders, farmers, citizens and conservationists, an extension is a necessity. We request 90 additional days to the comment period.

For a project with a price tag of more than $1 billion, all alternatives and publics comments should be fully researched and exhausted before the USACE reaches a final decision. In this economy, haphazard spending for a diversion project is not only unwarranted, but also irresponsible management of resources, both economically and ecologically.

Thank you for considering our request.

Best regards,

Tom France

Tom France, Regional Executive Director

National Wildlife Federation • Northern Rockies & Prairies Regional Center
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June 22, 2009

Terry J. Birkenstock, Chief,
Environmental and Economic Analysis
Branch, 190 Fifth Street East, St. Paul,
MN 55101–1638

Re: Scoping Comments on Proposed Flood Risk Management Project on the Red River of the North

Dear Mr. Birkenstock:

On behalf of the National Wildlife Federation, we offer these scoping comments on the Environmental Impact Statement being prepared by the Corps of Engineers on the Flood Risk Management Project on the Red River of the North.

In the Notice of Intent (74 Fed. Reg. 20684, May 5, 2009), the Corps of Engineers proposed to evaluate measures for reducing flood risk in the Fargo-Moorhead Metropolitan Study Area. Alternatives to be evaluated include, but are not limited to, levees and floodwalls, diversion channels, non-structural flood proofing, relocation of flood prone structures, and flood storage.

In order to evaluate a full range of alternatives, we urge the COE to 1) expand the study area to include all upstream watershed basins and 2) evaluate wetland restoration and other non-structural approaches as an alternative for flood control and protection.

In preparing this scoping letter, we have been impressed by the amount and quality of the literature available that evaluates wetland restoration and other non-structural mechanisms as an alternative to structural approaches to flood control. From our perspective, levee construction and diversions are very expensive, threaten downstream communities with additional flood hazard and offer no environmental benefits. In contrast, wetland restoration can reduce flood peaks and shift the timing of flood events even while providing a broad array of ancillary benefits including cleaner water, larger fish and wildlife populations and enhanced recreational opportunities. We note too, that such benefits have real economic value.

In addition to much research on the positive benefits of wetland restoration, related studies have also demonstrated that wetland drainage in the Red River basin have significantly increased both

the timing and size of Red River floods and also that wetland drainage continues to effect thousands of acres annually. Wetland restoration will help offset these destructive land use practices that are so costly in terms of water quality, wildlife and flood costs.

Because wetland restoration and better watershed management are an economical, ecological and sustainable method for flood control, we strongly urge for the Army Crops of Engineers to go beyond the "quick-fix", expensive and finite solution of levees and diversions, and consider looking "upstream" to a watershed/wetland approach to managing flooding on the Red River.

A. The EIS Must Utilize a Larger Study Area and Evaluate the Impacts of Wetland Drainage on Flood Frequency, Flood Timing and Flood Severity.

The Notice of Intent suggests that the EIS being prepared by the Corps will only evaluate flood impacts and alternatives measures to prevent flooding within the Fargo-Moorhead Metropolitan Area. This limited study area will not allow the Corps to accurately evaluate the causes of increased flooding in the Red River Basin or the full range of alternative remedies, including wetland restoration and other watershed management possibilities. Ample evidence demonstrates that wetland drainage throughout the Red River basin has significantly contributed to increased flood frequencies and flood peaks.

The prairie pothole wetlands of the northern Great Plains are one of the world's great natural resource treasures. Within this 300,000 square mile area, retreating glaciers left tens of thousands of small depressions that seasonally fill with water and provide habitat for millions of waterfowl, shore birds and other wildlife species. Almost since farming began in this region in the mid 1800's, wetland drainage has been employed to increase tillable acreage and to facilitate other agricultural activities. The cumulative impacts of this wetland drainage have been staggering. Over the last 100 years, and especially since the end of the Second World War, over 50% of the region's wetlands have been drained with over 90% in some watershed basins.

In addition to the severe impacts to wildlife and water quality, wetland drainage has also impacted the timing, frequency and severity of floods throughout the region. Wetland drains and channels literally crisscross the entire region and dramatically accelerate spring run-off and reduce upstream, upland water storage capacity.

For example, much of the damage caused by the extensive flooding along the Mississippi River in 1993 resulted from levee failure as the river reestablished historic connections to the floodplain as well as the loss of upstream wetland storage and the alteration of the landscape that encouraged water to quickly drain into the nearest river or stream. Indeed, a recent study by The Wetlands Initiative noted that the wetlands lost in the upper Mississippi River had the capacity to retain all of the water that caused the 1993 flooding. Thus, although elaborate storage dam and levee systems can "reclaim" the floodplain for agriculture and human settlement in most years, the increasingly frequent and inevitable large floods the Great Plains and Midwest are seeing impose high disaster costs to society.

Evidence strongly suggests that wetland drainage has significantly impacted flooding in the Red river basin. In fact, the Red River basin has experience 8 of the 10 all time record flood crests in the past 30 years. One study dealing with watershed contributions to the Red River was published 28 years ago by soil scientists at North Dakota State University. It found an average 60% increase in stream flow rates and concluded that:

> Significant increases in flow to the Maple, Wild Rice and Goose Rivers have occurred over the last 30 to 40 years. Flow rates were shown to be related to climate (precipitation), however, there appears to be no chance in precipitation patterns to account for increase in flow rates. Predicted flow rates were shown to be closely related to basin size due to land drainage in the Maple River and Goose River basins.

Since this study was published, wetland drainage has continued throughout the Red River.

Based on this information, the EIS should enlarge the study area to include all upstream river basins above Fargo-Moorhead. In taking this step, the EIS will necessarily have to evaluate the impacts on flood crests, flood frequencies and flood severity of wetland drainage. Through this evaluation, the EIS can then take the next and most critical step – evaluating the benefits of wetland restoration in terms of reducing these flood impacts.

B. The EIS Must Develop a Wetland Restoration Alternative

Restoring upstream storage capacity must be studied as an alternative to flood mitigation for the Red River. Several studies have demonstrated the effectiveness and feasibility of restoring wetlands or using upland depressions to temporarily store water during a flood event. One such study concluded that, "non-structural means as temporary storage of runoff on agricultural lands in the upland areas of the watershed during periods when flood risks are high, may provide ecological benefits…at the same time diminishing the threat of downstream flooding."[1] Another study concluded that, "floodwater attenuation is one of the most widely recognized ecosystem services provided by restored wetlands…" The potential storage capacity on USDA program lands in the PPR alone is, conservatively, 56,513 ha-m (458,151 acre-feet) of water, if filled to maximum capacity.[2] Additionally, restoring drained and farmed wetlands could increase the water retention capacity of a watershed in the PPR of Minnesota, "by up to 63%."[3] Depressional wetlands in the Devils Lake basin of North Dakota have the potential to store around 72% of the total runoff volume from a 2-year frequency runoff event and 41% of a 100-year frequency runoff event.[4]

1. The Restoration of Wetlands can significantly reduce flood frequency and severity while also providing vital ecosystem benefits.

The benefits of wetland restoration are numerous. Wetlands provide various ecosystem services to farmers and communities, recreational opportunities, global warming mitigation, and most importantly, flood control. One study concluded that, "wetlands on [USDA] program lands [in the PPR] have significant potential to intercept and store precipitation that otherwise might

contribute to "downstream" flooding.[5] Additionally, the "conversion of cultivated cropland to grassland cover as part of conservation programs results in a reduction in surface runoff and, ultimately, reduces the rate at which a basin refills and overflows.[6]

An Army Corps study on the Charles River in Massachusetts concluded that the floodplain wetlands were so effective for flood control the Corps purchased the wetlands rather than drain them to build a levee system. Maintaining the 3,400 ha of wetlands in the Charles River basin rather than draining them saved Boston an additional $17 million in flood damages per year.[7] Another study looking at the relationship between upstream wetland drainage and downstream flooding concluded that, the increase in peak stream flow was significant for all sizes of streams when wetlands were removed.[8]

Utilizing wetlands for flood protections provide a multitude of additional benefits. Increasing wetland habitat will provide stability to migrating and nesting bird habitats as well as numerous other species of wildlife. This in turn creates opportunities for hunting, fishing, bird watching, hiking and other types of recreation. Wetlands also serve as nature's kidneys, filtering polluted water and releasing cleaner water into both nearby ground and surface waters. This improves water quality. Wetlands further serve to recharge ground and surface waters, meaning that while they prevent flooding in wet times, they serve to replenish and retain adequate water supplies and stream flow during drier times. As climate change increases the severity and frequency of both floods and droughts, these functions will become crucial to maintaining healthy aquatic systems and to protecting communities from the impacts of climate change. Wetlands play at least two critical roles in mitigating the effects of climate change, "one in the management of greenhouse gases (especially carbon dioxide) and the other in physically buffering climate change impacts."[9] Studies show the great potential for wetlands to act as carbon sinks to sequester carbon, thus mitigating the impacts of global warming. USGS data suggests that terrestrial carbon capture may be greater in wetlands over smaller acreage than the potential capture on a larger area of cropland.[10]

Given the multitude of benefits in addition to flood protection that wetland restoration provides, especially in light of the many challenges presented by climate change, it is the most effective, affordable, and ecologically sound solution for the Red River basin, and must be given the full consideration of the Army Corps of Engineers, when preparing the EIS for the proposed flood protection plan, found at 74 FR 20684.

2. The Prairie Pothole Region (PPR) Provides Viable Wetland Restoration Opportunities

The prairie landscape, prior to major drainage and alteration after European settlement, was defined by its wetlands.[11] This system of wetlands is still vitally important today, but in need of restoration to provide the functions it once provided. The significance of the prairie wetland landscape is exemplified in the Prairie Pothole Region (PPR) of the United States and Canada. This area extends over 300,000 square miles from north central Iowa and western Minnesota

through North and South Dakota, into eastern Montana and north into Canada. The unique Prairie Pothole ecosystem is the result of retreating glaciers, which left the landscape dotted with pothole wetlands.[12] Despite the harsh climate of wet/dry cycles, winter freezing and varied salinity, "the PPR is an extremely productive area for both agricultural products and wildlife."[13] The PPR ecosystem is of "unparalleled importance to breeding waterfowl and many other species of wetland wildlife," in addition to acting as a nutrient sink, storing runoff to reduce flooding, sequestering carbon and providing other "environmental and socio-economic values."[14] The PPR hosts more than 300 species of birds which rely on this region – "177 species for breeding and nesting habitat and another 130 for feeding and resting during spring and fall migrations."[15] The PPR is a vital resting and replenishing area for migratory birds. Waterfowl banded in the PPR have been found in 46 other states, 10 Canadian provinces and 23 other countries.[16] In addition to birds, muskrats, foxes, deer and a variety of other wildlife rely on the PPR.[17]

Besides a rich wildlife habitat, the PPR captures precipitation and mitigates flooding. Historically, over "80% of the land surface drained into potholes rather than streams and rivers," where the water would then evaporate or seep into the ground, recharging underground aquifers.[18] Grasslands further reduced the runoff of water and sediment, creating a more stable water level and enabled the area to host a diverse community of native grasses, sedges, rushes and other submersed vegetation.[19] Given the multitude of benefits provided by the PPR, the InterGovernmental Panel on Climate Change (IPCC) concluded in a special report that, "Any additional stress [to the PPR] would be of great concern and could be accommodated only through active programs to protect, enhance, and increase wetland areas in this region."[20]

3. The Waffle Project, combined with Wetland Restoration is also a viable alternative.

One effort currently being studied and potentially implemented in the Red River basin is called the Waffle Project. The Energy & Environmental Research Center (EERC) "recognized the need for alternative methods of flood protection to augment existing flood protection measures. This sentiment was mirrored by other major organizations and agencies in the Red River Basin, and it was determined that innovative concepts of nonstructural measures should be explored to augment the design capacities of structural measures planned to protect against future floods similar in scope to, or greater than, the 1997 flood."[21]

As Minnesota Public Radio reported in 2006, "the waffle plan is simple. Existing roads serve as levees to store water in farmers' fields. The potential for storage is amazing. One square mile storing water a foot deep would hold more than 200 million gallons of water."[22] Because this plan looks to slow the movement of water entering the system at any time, the chances of flooding are greatly minimized. The additional benefit of the plan would allow the retained water to recharge the aquifer and prevent droughts in the future. The Waffle Plan is also a more affordable solution to mitigating flood damage, with the pricetag to implement the Plan across the Red River basin "estimated at $50 million. The protective dike system in Grand Forks cost $397 million."[23] And, the estimated cost of levees or a diversion channel along the Red River far exceed Grand Forks at $625 million and $909 million, respectively.

In this economy, haphazard spending for a levee or diversion project is not only unwarranted, but also irresponsible management of resources, both economically and ecologically. And the extraneous building costs are not a one-time expense. Levees will require continued spending for maintenance and upkeep, and they are uncertain to retain flood waters in our world of extreme weather patterns, so greater structures may have to be built in the future, at greater costs, in order to seize the swelling waters of the Red River.

When the Waffle Project is implemented in conjunction with continued wetland restoration, a successful and long-term flood protection plan results. Programs such as the Waffle Project, Wetland Reserve Program, and other studies and programs through Ducks Unlimited, US Fish & Wildlife, and numerous other agencies and organizations, provide ample data and opportunity to implement wetland restoration as a significant option to prevent flooding downstream.

C. The EIS Must Utilize a Larger Study Area and Consider Wetland Restoration Alternatives in Order to Comply With the National Environmental Policy Act.

An additional requirement for the Army Corps to consider in its EIS are the simultaneous actions of the Fargo-Moorehead Metro Project and the Southside Flood Control Project, which calls into question requirements under NEPA regarding connected actions. An assessment of cumulative impacts is required by the Council on Environmental Quality (CEQ) regulations under NEPA.[24] Cumulative effects are defined as," the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions ."[25]

When considering whether there are cumulative effects or connected actions, an agency must look at the scope of the proposed project and must consider 3 types of actions: connected actions, cumulative actions and similar actions.[26] A connected action means that there is a close relationship between actions which must be considered in a single EIS. Similarly, a single EIS must be prepared for cumulative actions, which when viewed with other actions "have cumulatively significant impacts and should therefore be discusses in the same impact statement."[27] A similar action is one, when viewed with other proposed or reasonably foreseeable actions have similarities that would be reasonable to analyze together in a single impact statement.[28] In the context of the Fargo-Moorhead and Southside Projects, given their timing, scope, relatedness, and proximity, the projects would be considered cumulative actions, and are required, by NEPA, to be considered under a single EIS.[29]

Thank you for considering the comments on the Notice of Intent. Please feel free to contact any us if you would like additional information.

Terry J. Birkenstock
6/25/2009
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Thomas France, Regional Executive Director

Endnotes:

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August 9, 2010

VIA U.S. MAIL AND E-MAIL (aaron.m.snyder@usace.army.mil)

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Re: Comments on Draft Feasibility Report and Environmental Impact Statement on the Fargo-Moorhead Metropolitan Area Flood Risk Management Project on the Red River of the North

Dear Mr. Snyder:

On behalf of the National Wildlife Federation, we offer these comments on the Draft Feasibility Report and Environmental Impact Statement (DEIS) on the Fargo-Moorhead Metropolitan Area Risk Management Flood Project on the Red River of the North.

The National Wildlife Federation recognizes the need for additional flood control for the Fargo-Moorhead area. Unfortunately, we cannot support moving forward with the U.S. Army Corps of Engineers' ("the Corps") preferred alternative in the DEIS, a massive and expensive diversion channel that will cause unacceptable environmental impacts and put downstream communities and landscapes at additional flood risk.

We are exceedingly disappointed that the Corps has proposed building "The Big Ditch" without a basin-wide analysis of how flood risk can best be managed and without more thoroughly considering other structural and non-structural alternatives that would not only reduce flood risk, but also provide additional environmental and economic benefits. From our analysis, it seems clear that a combination of wetland restoration and farm field storage projects could provide effective flood control and also provide significant benefits to fish and wildlife resources, water quality, and local economies.

We understand the Corps may not have the capacity or the desire to actually move forward with these greener alternatives. Nonetheless, to bring forward a proposal that is so expensive that it may never be funded and so controversial that it may never be built, does no good service to the people of Fargo-Moorhead. In contrast to the divisive ditching project proposed by the Corps, wetland restoration and farm field water storage would be broadly supported by a diverse public that includes farmers, conservationists, and those concerned with economically responsible public works projects.

We urge the Corps to enlist other partners, such as the Natural Resource Conservation Service, the U.S. Fish and Wildlife Service (USFWS), and state and local agencies, and to move forward with a supplemental environmental impact statement that includes a basin-wide assessment and that evaluates a full array of water management alternatives.

A. Introduction

Human activities and alterations in, and around, the Red River Basin (RRB) have led to significant environmental changes throughout the watersheds, including the metropolitan areas of Fargo, North Dakota and Moorhead, Minnesota and their surrounding rural and agricultural communities. Fargo-Moorhead has always been threatened by flooding from the Red River of the North. In the last two decades, however, floods have become more frequent and more severe because thousands of wetlands throughout the RRB have been drained and converted into farmland. Prairie wetlands that once soaked up thousands of acre feet of water have been ditched and drained, increasing both the amount of spring melt water and the rate at which it enters the Red River. North Dakota and Minnesota have lost several hundred thousand acres of wetlands since the establishment of agricultural communities beginning in the 1800s, and North Dakota's wetlands continue to be drained at a rate of 20,000 acres per year.[i] Climate change has also led to earlier and more abundant springtime runoff into the RRB and will continue to do so for the unforeseeable future. As both flood peaks and floods have increased, so too has the cost of fighting floods. The communities of Fargo and Moorhead now spend more than $195 million annually for flood damages.

In response to the threat of more severe and more frequent flooding, the Corps has evaluated a limited number of engineering alternatives to reduce the threat of flooding in the Fargo-Moorhead area. Based on this evaluation, the Corps now proposes to build a 36-mile-long diversion channel around the Fargo-Moorhead area. The Corps' preferred diversion channel alternative will cover 9,382 acres, and will impact 137 acres of forest habitat, 226 acres either directly or indirectly of wetlands, and 39 acres of riverine aquatic habitat. The diversion channel will span between 100 and 300 feet in width. The projected cost of the diversion channel construction is $1.4 billion, although some believe this estimate understates the cost of the project. The Corps' DEIS fails to factor into its cost estimations the expense of potential downstream mitigation that may also be needed, as well as maintenance and operation costs in the future.

The National Wildlife Federation strongly opposes the Corps' proposed diversion channel, and disagrees with many assessments made in the DEIS. Not only will the project be a massive federal and state expenditure, but also does not even guarantee to solve the RRB's current catastrophic flooding problems. Furthermore, the diversion channel will offer no ecological benefits, and will almost certainly have large negative impacts on the region's fish and wildlife and their habitats.

B. The DEIS fails to adequately address the negative consequences of the Red River diversion channel options.

In the DEIS, the Corps has evaluated eight different diversion channel alternatives, including the MN20k, MN25k, MN30k, MN35k, MN40k, MN45k, ND30k, and the ND35k. The ND35k was chosen as the Corps' Locally Preferred Plan (LPP), the MN40k was chosen as the National Economic Development plan (NED), and the MN35k was chosen as the Federally Comparable Plan (FCP).

Under NEPA, it is "mandate[d] that federal agencies take a hard look at the environmental consequences of a major federal action before taking that action." *Mid States Coalition for Progress v. Surface Transp. Bd.*, 345 F.3d 520, 533 (8th Cir.2003). Listed below are several potentially damaging effects of the Corps' LPP, which seriously call into question the thoroughness of the Corps' DEIS.

1. Most damaging and expensive plan

The proposed LPP will result in greater ecological impacts than both the FCP and the NED.[ii] More tributaries and roughly 120 more acres of wetlands, forests, aquatic riverine, and fish tributaries and passages will be affected from the LPP than the FCP. The LPP will have a greater impact on wildlife and fisheries than the FCP and the NED. Under the Fish and Wildlife Coordination Act (16 U.S.C. 661 et seq.), the U.S. Fish and Wildlife Service (USFWS) is authorized to provide recommendations to the Corps on federally funded water development projects. For the reasons listed above, the USFWS has recommended the FCP alternative rather than the LPP.[iii] The comparable costs (in millions) of the LPP, FCP, and NED are $1,462, $1,236, and $1,367, respectively. (DEIS-ES-11).

The Corps selected the LPP primarily because of political considerations. The primary impetus for the construction of the massive diversion channel being proposed has come from the North Dakota congressional delegation and the City of Fargo. Because of lukewarm support for the project by Moorhead and other Minnesota political entities, North Dakota supporters pressured the Corps and the Assistant Secretary for Civil Works to accept the LPP alternative. The result is that the DEIS has identified a preferred alternative that is the most ecologically harmful and the most expensive, the 36-mile North Dakota LPP.

2. More flooding downstream

The DEIS states that downstream effects of the diversion channel on social resources could be significant, but it fails to adequately measure these impacts. The Red River is more than 500 miles long, with Fargo and Moorhead being located very near its point of origin at the Bois de Sioux River. Downstream effects of a large diversion channel could impact virtually hundreds of river miles. For the ND35k plan (LPP), the Corps only analyzed 43.5 river miles downstream.

The Red River flows northward and eventually empties into Lake Winnipeg near Manitoba, Canada. The river's northward flow creates an increased possibility of ice downstream. Large pieces of ice in the Red River create an even greater risk of springtime flooding downstream of Fargo-Moorhead, making this region particularly sensitive to springtime runoff. Furthermore, the Fargo-Moorhead diversion channel will also increase water levels downstream because more natural floodplain storage will have been eliminated. In all flooding scenarios mentioned in

section 5.2.1.4.1 (10-percent, 2-percent, and 1-percent chance), it was determined that *more* acreage would be impacted than the amount of acreage that is currently being impacted. (DEIS-153). In July 2010, the Corps issued a Preliminary Downstream Impact Analysis that also demonstrated that that both the LPP and the FCP would cause more flooding downstream. The DEIS needs to provide supporting information that even more homes downstream of Fargo-Moorhead will not be lost due to the increased water levels from the diversion, and that costs of flood control and repairs for flood damage would not actually *increase* as a result of the diversion channel.

3. Changes in sediment distribution

Section 5.2.1.3 states that "the proposed diversion structures should not lead to an appreciable change in suspended sediment concentrations along the project area," but the DEIS fails to give any concrete sedimentation data. The Corps' diversion channel will substantially affect sedimentation in the Red River and other connected tributaries. Sedimentation is a major problem in many rivers and lakes, which can cause a reduction in storage capacity that can lead to flooding. A build up of sediment can also lead to many aquatic changes that could have negative impacts on aquatic life. As a result, fish may begin avoiding areas of heavy sedimentation, ultimately changing their migratory patterns, wintering grounds, nursery areas, or spawning habitat. Valuable fish spawning areas could be covered in silt, and the sediment increase could lead to adult and juvenile fish mortality if their gills become filled with sediment.[iv] Fish foraging success will decline, which could also lead to mortality, especially in younger fish, and adult fish could be kept from spawning due to malnutrition.[v] Therefore, sedimentation impacts and sedimentation mitigation costs must be included in the final EIS.

4. Destruction of wetlands

The diversion channel will affect more than 200 acres of wetlands. The Corps has suggested that any wetland taken away or adversely affected by the diversion channel will be replaced with new wetlands within the diversion channel in a low flow channel. The DEIS describes the low flow channel as "a channel that is typically in the center of a larger channel which is sized to handle small flows from drains, ditches or groundwater." It will be approximately 10 feet wide and 3 feet deep. (DEIS-166). The National Wildlife Federation challenges the feasibility of the Corps' solution of simply "replacing" wetlands by simulating wetland conditions on the bottom of the diversion channel in a low flow channel. A strip of wetlands 10 feet wide does not provide the security and benefits that larger blocks of wetlands provide. The DEIS does not address how these wetlands will be comparable to the previously existing wetlands that were affected by the diversion and does not describe the diversion channel wetlands' functions for surrounding wildlife. In addition, many problems can arise with a low flow channel. The channel will need frequent maintenance and modifications to ensure that it is effective, and it can be very easily damaged in severe situations such as flooding or drought. Section 5.2.1.6.3 of the DEIS states that "wetlands near [the Lower Rush River and the Rush River] could be impacted by not getting the same recharge from overland flooding that they have received in the past," but there is nothing further discussing how those negative impacts will be mitigated and what mitigation efforts will cost. The final EIS must include projected mitigation costs for additional wetlands

that might be impaired such as those near the Lower Rush and Rush rivers. The Corps must also include in its final EIS exactly what function the low flow channel will serve and how it is guaranteed to adequately compensate for existing wetlands adversely affected by the diversion channel.

5. Diversion will affect multiple tributaries and potentially harm their fish and wildlife

The North Dakota diversion would cross five tributaries: Wild Rice River, Sheyenne River, Maple River, Lower Rush River, and Rush River. (DEIS-ES-15). In addition, the DEIS states that "[t]he channels of the Lower Rush and Rush Rivers between the diversion channel and downstream to their confluences with the Sheyenne River will be abandoned..." (DEIS-166).

On page 15 of their Draft Feasibility Report and EIS, the USFWS states that nesting birds, mammals, and mussel species could be displaced or killed during the project's construction, and nesting birds' eggs could be abandoned or crushed. The USFWS states on page 14 of their Draft Feasibility Report and EIS that "construction and excavation within the riverine aquatic habitats could kill adult or juvenile fish," and some fish mortality is unavoidable. The USFWS also states that the additional sediment load, deposition, and accumulation into the Red River could alter aquatic and riverine habitat.

The DEIS indicates that fish could use the diversion channel, but the diversion channel will not contain any meaningful fisheries. The DEIS continues on to state that fish ending up in the diversion channel without their natural habitat will not be a significant issue during the operation of the diversion channel. (DEIS-ES-14). Fish caught in the diversion channel during flooding, however, will be forced to use concrete fish ramps for passage. It is not known at this point whether certain sensitive fish species, such as the Lake Sturgeon, will be successful at using artificial passages. The DEIS also does not address how changing the velocity of water within the diversion might affect certain fish species. The velocity of the water within the diversion and downstream of the diversion could be too strong and prevent certain species and juvenile fish from traveling upstream.

The diversion channel will create numerous problems for multiple tributaries and wildlife and aquatic species. The final EIS must address the negative impacts to all tributaries and the specific adversities facing wildlife and aquatic life. A plan to mitigate these adversities must be identified and mitigation costs must be included in the final EIS.

C. The DEIS failed to analyze flood mitigation in the entire Red River Basin.

In a letter dated June 22, 2009 (attached), we urged the Corps to look for a flood mitigation plan that would alleviate flooding basin-wide rather than just the areas of Fargo and Moorhead. The limited study area of only Fargo-Moorhead does not allow the Corps to accurately evaluate the causes of increased flooding in the RRB or the full range of alternative remedies. In particular, the study would have needed to include the area above or upstream from Fargo-Moorhead. The entire Flood Risk Management study has been flawed from the beginning because the RRB was not analyzed in its totality.

According to the National Weather Service, the Red River of the North has exceeded the flood stage of 18 feet in 47 of the past 108 years, and every year from 1993 through 2010. (DEIS-5). The increased flooding over the past century has been a direct consequence of wetland loss in the interest of agricultural development. Studies have demonstrated that wetland drainage in the RRB has significantly increased both the timing and size of Red River floods and also that wetland drainage continues to affect thousands of acres annually. Wetland restoration throughout the RRB would help offset these destructive land use practices that are so costly in terms of water quality, wildlife and flood costs. Several studies have demonstrated the effectiveness and feasibility of restoring wetlands or using upland depressions to temporarily store water during a flood event. The restoration of wetlands can significantly reduce flood frequency and severity while also providing vital ecosystem benefits.

A possibility for wetland restoration lies in the Prairie Pothole Region's wetlands of the northern Great Plains, which span more than a 300,000-square-mile area. Almost since farming began in this region in the mid 1800s, wetland drainage has been employed to facilitate agricultural activities. According to the 1997 Minnesota Wetlands Conservation Plan, more than 95% of the native wetlands in the Minnesota portion of the RRB and upstream sub-basin have been lost. The cumulative impacts of this wetland drainage have been significant with more than 50% of the region's wetlands having been drained with more than 90% in some watershed basins. Wetlands in the Devils Lake basin of North Dakota have the potential to store approximately 72% of the total runoff volume from a 2-year frequency runoff event and 41% of a 100-year frequency runoff event.[vi] Restoring drained and farmed wetlands could increase the water retention capacity in the Prairie Pothole Region of Minnesota "by up to 63%."[vii] Furthermore, potholes are natural filters for nutrients such as sediments containing nitrogen and phosphorous, therefore, improving water quality.[viii] We recommended to the Corps in our June 22, 2009 letter that they explore and analyze this reasonable and logical alternative, however, the Corps' DEIS failed to do so.

Grasslands or grazing lands span approximately 600 million acres of the United States. Grasslands have proven to be a major source of watershed filtration, ground water recharge, and carbon sequestration. Grasslands have excellent potential to markedly improve water and air quality.[ix] Proper management of existing grasslands can enhance the land's ability to better reduce erosion and flooding by slowing and more evenly distributing surface waters. Grasslands also help the percolation of precipitation creating recharged groundwater aquifers. Conservation of grasslands can occur on private and public lands, and wildlife populations thrive with the availability of these habitats. Through cooperative efforts with agencies such as the Bureau of Land Management (BLM) and the Natural Resources Conservation Service (NRCS), private landowners can learn to maintain their property as grasslands in a manner that is most effective in preventing soil erosion and flooding in the Red River basin. Again, the Corps failed to explore this economically feasible and ecologically friendly alternative in its DEIS.

Based on this information, the Corps should enlarge its study area to include all upstream river basins above Fargo-Moorhead. As a result, the Corps will necessarily have to evaluate the impacts of flood crests, flood frequencies and flood severity of wetland drainage. It is only then

that the Corps can adequately evaluate the benefits of wetland and grassland restoration in terms of reducing these flood impacts.

D. The DEIS failed to adequately evaluate reasonable non-structural and flood storage alternatives.

Without the Corps' study of the entire RRB, it would be impossible to fully and accurately evaluate non-structural alternatives at scale because the study did not identify an analysis of an area that was properly scaled. The study only included Fargo-Moorhead, and for that area only, the DEIS identifies several measures retained for possible inclusion as features of the alternative plans. Those measures include: non-structural measures, flood storage, and wetland and grassland restoration. The DEIS provides an extensive analysis of a non-structural measure contained in Appendix P, which illustrates a very invasive and tedious process of raising and flood-proofing individual homes at a significant cost. However, all other measures, including wetland restoration, grassland restoration, and flood storage are dismissed as stand-alone plans with less than a page of justification in the DEIS.

1. The Corps must evaluate the Waffle Project.

The Energy & Environmental Research Center (EERC) of the University of North Dakota began conducting a four-year study on flood prevention in the wake of the devastating 1997 flood in the RRB. The goal of the study, beginning in 2002, was to see how a process referred to as the Waffle Project ("the Waffle") could mitigate the effects of mild to severe springtime flooding in the population center of Fargo-Moorhead, in addition to the surrounding areas of North Dakota, South Dakota and Minnesota. The Waffle uses micro-basins or preexisting areas, such as depressed agricultural lands bordered by raised roads, for short-term water storage. Agricultural areas make up approximately 74% of the land area in the RRB, making potentially 36,000 square miles of the RRB available for the Waffle Project.[x] The study randomly selected 3,732 sections of land to use in evaluating water storage potential, and multiple scenarios were used due to non-uniformity of Waffle sizes. The sections showed that their storage volume estimate was 583,400 acre-feet, which includes a reduction for the freeboard between the stored water surface and the lowest point on the surrounding roads and a reduction to account for natural water storage.[xi] The most significant impact shown in the study was a 7-foot decrease in the water level of the Red River in the Fargo-Moorhead area during floods. The study showed that the Waffle can successfully slow and significantly reduce the drainage of excess runoff before it enters water tributaries, most notably, the Red River of the North.

a. Costs associated with the Waffle

Costs associated with the Waffle were projected for a 50-year period. The Waffle would first involve finding landowners willing to enroll in the program, and then implementing the project by modifying existing culverts and installing new culverts and other water control mechanisms. There would also be costs associated with landowner payments and maintenance, and administrative overhead. Adjustments to cost projections were made for probability of flood occurrence, expected damage to residential and commercial properties and public infrastructure,

current economic conditions and value of real property, changes in flood protection, and future population changes. Waffle sizes were also divided into three categories: maximum, moderate and minimum, with costs projected as baseline, optimistic and pessimistic on full-scale and half-scale hypothetical models. Below are the results of this cost analysis.

Present Value of Projected Costs of the Waffle, 2006 through 2055[xii]

Scale & Acreage Est.	Baseline	Optimistic	Pessimistic
Full-Scale			
Minimum	$207,931,000	$155,739,000	$287,326,000
Moderate	$362,191,000	$269,537,000	$494,872,000
Maximum	$543,040,000	$402,721,000	$738,602,000
Half-Scale			
Minimum	$107,964,000	$80,915,000	$149,494,000
Moderate	$184,797,000	$137,578,000	$252,897,000
Maximum	$275,505,000	$204,386,000	$375,132,000

The cost analysis table above illustrates that a plan for significant flood reduction on a full-scale effort can be implemented for between $156 and $739 million during the next 50 years. This is a stark contrast from the Corps' $1.4 billion diversion channel, a price tag that only includes construction cost, and not operations and maintenance costs. The above table and the Waffle study's flood reduction results flatly contradict the Corps' conclusion that flood storage is cost prohibitive and less effective than a 36-mile diversion channel. The Waffle study suggests that significantly less storage than that determined by the Corps is needed to achieve a substantial flood level reduction. The numbers that the Corps lists in Section 3.4.6.2 of the DEIS were derived from a very preliminary modeling effort conducted through the Fargo-Moorhead Upstream Feasibility Study, which did not actually look at specific storage options in each of the tributaries of the Red River. Instead, the Corps estimated what the tributary flow reduction would be based on general assumptions. There is no rational explanation supporting the Corps' conclusion that doubling the storage volume from 200,000 acre-feet to 400,000 acre-feet only achieved another 0.2-feet stage reduction at Fargo.

b. Economic benefits from the Waffle

The Waffle Project studies show that net benefits of the Waffle could be significant over the next 50 years, with benefits being positive in 106 of the 108 scenarios that were evaluated. More than 85% of the scenarios indicated benefits in excess of $300 million, and more than half of the scenarios had benefits in excess of $500 million. Some scenarios showed economic benefits of up to $700 million.[xiii]

2. The Corps must evaluate other flow reduction strategies.

Similar to the EERC's Waffle, the Red River Basin Commission (RRBC) also created a strategy that would decrease flood levels in the RRB. They simulated 1997 flood conditions (9.25" of

precipitation) and found that their storage areas could reduce flood levels in the Red River up to 20% in some areas. They found that the most significant reduction was a 20% peak flow reduction and 20% volume reduction at White Rock, South Dakota. The study demonstrates that storage areas built in river basins are 80% effective, and if all of the tributary basins upstream of the Red River do their share in flood storage, effects on Red River flood reduction can be substantial.[xiv]

There was no formal cost-benefit analysis done for this study. However, preliminary estimates showed that upstream storage competes very favorably with the Corps' diversion channel option because of the ratio based on the Fargo-Moorhead area damages alone. There would also be more widespread flood control benefits, in addition to a great potential for natural resource benefits under this program.

3. The Corps must evaluate an alternative that combines wetland and grassland restoration and other flow reduction strategies.

It is clear that the optimal strategy for minimizing flood risk, while also improving water quality and fish and wildlife habitat in the RRB, would involve a combination of wetland restoration and utilizing farm fields for temporary storage. The Corps, working with state fish and wildlife agencies and other federal agencies including the USFWS and the Natural Resources Conservation Service, should develop an alternative or alternatives that combine these approaches. The National Wildlife Federation urges the Corps to formulate an alternative that would include 500,000 acre-feet of storage through wetland and grassland restoration and an additional 500,000 acre-feet of storage through temporary storage utilizing farm fields.

In evaluating such an alternative, the Corps should consider the following costs and benefits.

- Flood control benefits
- Water quality benefits
- Fishery benefits
- Benefits to upland and migratory birds
- Recreational benefits, including increased hunting and fishing opportunities.

E. Wetland and grassland restoration, combined with flood storage, will have many positive impacts.

A successful and long-term flood protection plan results when flood storage concepts, such as those developed by EERC and RRBC, are implemented in conjunction with grassland and wetland restoration.

1. Protects more than just two cities

The Corps' diversion channel will only provide significant flood protection for two major metropolitan areas, Fargo and Moorhead. All other downstream cities and communities will not receive the benefited flood protection, and will likely see more flooding due to increased water

flow from the diversion channel. Should wetland and grassland restoration strategies be implemented along with flood-water-storage projects, not only will Fargo-Moorhead see decreased flooding, but downstream cities and communities will also experience flood relief. Flooding is also likely to be decreased upstream from Fargo and Moorhead, which only adds to the overall benefit of wetland and grassland restoration and flood storage efforts. Programs such as EERC's Waffle Project, RRBC's Flow Reduction Strategy, and concepts created by numerous other agencies and organizations, including Wetland Reserve Program and USFWS, provide ample data and opportunity to implement wetland and grassland restoration and flood storage as viable alternatives for flood prevention downstream.

2. **Creates and enhances wildlife habitat and recreation, while also mitigating affects of climate change**

Increasing wetland habitat will provide stability to migrating and nesting bird habitats, as well as numerous other species of wildlife. This in turn creates opportunities for hunting, fishing, bird watching, hiking and other recreation. Wetlands also play an important role in filtering polluted water and recharging the aquifer into both nearby ground and surface waters, greatly improving water quality. Grasslands further reduce the runoff of water and sediment, creating a more stable water level and providing an area to host a diverse community of native grasses, sedges, rushes and other submersed vegetation.[xv]

Wetlands play at least two critical roles in mitigating the effects of climate change, "one in the management of greenhouse gasses (especially carbon dioxide) and the other in physically buffering climate change impacts."[xvi] Wetlands International, a global organization that works to sustain and restore wetlands, states that "inland wetlands in arid regions can play a very cost-effective role in attenuating the impacts of extreme weather events such as the impacts of extremes in precipitation and increases in evaporation due to higher temperatures."[xvii] Wetlands serve to recharge ground and surface waters, meaning that while they prevent flooding in wet times, they serve to replenish and retain adequate water supplies and stream flow during drier periods.

The benefits of wetland and grassland restoration are numerous. Wetlands and grasslands provide various ecosystem services to farmers and communities, recreational opportunities, global warming mitigation, and most importantly, flood control. One study concluded that, "wetlands on [USDA] program lands [in the PPR] have significant potential to intercept and store precipitation that otherwise might contribute to downstream flooding."[xviii] Additionally, the conversion of cultivated cropland to grassland cover as part of conservation programs results in a reduction in surface runoff and, ultimately, reduces the rate at which a basin refills and overflows.

3. **Economic benefit to farmers**

The preferred diversion plan (LPP) would eliminate approximately 5,400 acres of farmland from operation. (DEIS-ES-15). On the other hand, the Waffle or Flow Reduction Strategy would only "borrow" or "rent" land from willing landowners in the event of flooding. Even if the land was

used to store water, it would be done early enough in the spring so that the landowner would still be able to farm their crop in most years. Therefore, the payment from these flood storage programs would be a bonus above and beyond the farmer's "normal" agricultural income.

4. Set precedence for other green flood control solutions

As human activity continues to escalate and their harmful affects become increasingly evident through climate change, environmentally friendly alternatives will only gain in popularity. The states of North Dakota and Minnesota have a unique opportunity to show the rest of the nation a more natural and cost effective method of flood control. The precedent could be set for more ecologically favorable flood mitigation efforts rather than more expensive, concrete and environmentally damaging solutions. There has already been an international trend to move toward nonstructural flood control methods, and it is in our nation's best interest to closely follow in the same direction.

F. Conclusion

The U.S. Army Corps of Engineers is planning a 36-mile-long diversion channel around Fargo that will cost North Dakota and the Federal government $1.4 billion to construct. The projected $1.4 billion cost does not even include mitigation and maintenance expenses in the years after construction of the diversion channel has been completed. During this country's time of economic uncertainty, the Corps' project seems not only irrational and impractical, but also downright irresponsible when other green options to restore wetlands and grasslands along with creating flood storage have proven to be just as effective and a far less expensive means of flood mitigation. The Corps' colossal and esthetically displeasing diversion channel will be not only a massive state and federal expenditure, but also an ecological nightmare with resounding affects for centuries. If cities and communities within the Red River Basin do not want to face even bigger and more expensive problems combined with wildlife habitat destruction and decline a decade from now, the Corps must seriously reconsider their chosen diversion channel alternative.

Much of the Red River Basin flooding has been a direct result of wetland and grassland elimination during the past century for the sake of agricultural development. However, even though agricultural land is largely to blame for the present-day flooding predicament, it can now be used as temporary flood storage that would prevent dangerous flood levels. Grasslands and wetlands not only have remarkable abilities to store excess water runoff, but they are also attractive and provide much needed wildlife habitat in a region of the country that continues to have rapid human population increases. In its DEIS, however, the Corps all but completely ignores these environmentally friendly alternatives.

In recent case law, it is determined that "[w]hile the EIS need not be exhaustive, the existence of a viable but unexamined alternative renders an [EIS] inadequate." *Friends of the Boundary Waters Wilderness v. Dombeck*, 164 F.3d 1115, 1128 (8th Cir. 1999). There is no doubt that the Corps' DEIS leaves many alternatives largely unexamined. We strongly urge the Corps to fully address and consider the use of non-structural techniques for flood control. It is irresponsible for

the Corps not to consider more reasonable, but similarly effective solutions that do not have the long-term effects on the tributaries and streams of the Red River.

The National Wildlife Federation sincerely thanks you for considering these comments on the Draft Feasibility Report and Environmental Impact Statement on the Fargo-Moorhead Metropolitan Area Flood Risk Management Project on the Red River of the North. Please do not hesitate to contact us if you have questions or would like additional information.

Thomas France, Regional Executive Director
National Wildlife Federation

Chris Hesla, Executive Director
South Dakota Wildlife Federation

Gary Botzek, Executive Director
Minnesota Conservation Federation

Cc; Senator Byron Dorgan
Senator Kent Conrad
Congressman Earl Pomeroy
Senator Amy Klobuchar
Senator Al Franken
Congressman Collin Peterson
Senator Tim Johnson
Senator John Thune
Congresswoman Stephanie Herseth Sandlin

Endnotes:

[i] Gary L. Pearson, *Draining the Great Marsh*, USA Today, November 1985: 83-89.
[ii] U.S. Fish and Wildlife Service Coordination Act Report, Fargo Moorhead Metro Draft Feasibility Report and Environmental Impact Statement, p. 21 (May 27, 2010).
[iii] *Id.*
[iv] *Id.* at 14.
[v] *Id.*
[vi] USGS, Robert A. Gleason & Brian A Tangen, *Ecosystem Services Derived from Wetland Conservation Practices in the United States Prairie Pothole Region with an Emphasis on the U.S. Department of Agriculture Conservation Reserve and Wetlands Reserve Programs* ch. D: Floodwater Storage, http://pubs.usgs.gov/pp/1745/pdf/;;1745web.pdf (accessed July 8, 2010).
[vii] *Id.*
[viii] Rex R. Johnson, Fred T. Oslund & Dan R. Hertel, (May/June 2008). The past, present and future of prairie potholes in the United States, *Journal of Soil and Water Conservation* 63(3), 86A.

[ix] Grazing Land Conservation Initiative Strategic Plan 2010-2015, http://www.glci.org/images/Current%20News/StrategicPlan_WebVersion3.pdf (accessed August 5, 2010).
[x] J.D. Stoner, D.L. Lorenz, G.L. Wiche & R.M. Goldstein, 1993, Red River of the North Basin, Minnesota, North Dakota, and South Dakota: Water Resources Bulletin, v. 29, no. 4, p. 575-615.
[xi] B. A. Kurz, W.D. Peck, E.N. Steadman, L.L. de Silva, S. K. Hanson, M.D. Kurz, T. K. Simonsen, & X. Wang, 2008, *An Overview of the Waffle Concept, A Tool For Water Management in the Red River Basin.* http://www.undeerc.org/waffle/overview.pdf (accessed August 5, 2010).
[xii] Dean A. Bangsud, Eric A. DeVuyst, & F. Larry Leistritz, *Benefit-cost Analysis of the Waffle®: Initial Assessment*, 37 (North Dakota State University 2008).
[xiii] Kurz, Peck, Steadman, de Silva, Hanson, Kurz, Simonsen, & Wang, *supra* n. xi at 44-52.
[xiv] Red River Basin Commission and Bois de Sioux Watershed District, *Application of the Flow Reduction Strategy in the Bois de Sioux Watershed*, 7-18 (JOR Engineering 2010).
[xv] Rex R. Johnson, Fred T. Oslund & Dan R. Hertel, (May/June 2008). The past, present and future of prairie potholes in the United States, *Journal of Soil and Water Conservation* 63(3), 85A. at 14.
[xvi] The Ramsar Convention on Wetlands, *Wetland Values and Function: Climate Change Mitigation*, http://www.ramsar.org/info/values_climate_e.htm (last updated July 2010).
[xvii] Moreno J. Garcia, *Cost-effectiveness of maintaining and restoring wetlands as an adaptation measure against climate change*, Wetlands International, http://www.indiaenvironmentportal.org.in/files/wetlands%20and%20climate%20change.pdf, (last updated April 2010).
[xviii] Gleason & Tangen, *supra* n. vi.

Kent Eken
State Representative

District 2A
Becker, Clearwater, Mahnomen,
Norman and Polk Counties

Minnesota House of Representatives

August 6, 2010

Aaron Snyder
US Army Corps of Engineers
180 East 5th Street, Suite 700
Saint Paul, MN 55101

Dear Mr. Snyder:

I am writing today regarding the draft Environmental Impact Statement (DEIS) and concerns I have regarding the Fargo-Moorhead Metropolitan Area Flood Risk Management project.

My concerns revolve around the effects a Fargo-Moorhead diversion channel will have on the communities and areas downstream from it. The DEIS clearly identifies there will be significant impacts downstream, which the recent preliminary downstream analysis of the preferred North Dakota 35K option projects to be anywhere from 7.6 to 22.2 inches of additional floodwaters (depending on the flood event) for the areas I represent.

Some of the current levies, ring dikes, and other protection methods will shelter people from this projected increase in flooding. However, it will still have negative effects on these folks. Communities and families will be stranded and cut off from their jobs, schools, medical care, grocery stores, and other essentials longer than in the past, since the additional waters will take more time to recede.

They will be the lucky ones, as others will not be able to protect against the higher waters or be under water for the first time ever because of failing levies/dikes or floodwaters reaching new areas. The result will be additional personal property damage, public infrastructure and asset loss, plus possible natural resource deterioration. There will also be increased economic loss with farmers' fields being under water for longer durations or for the first time, which will delay plantings and reduce yields. Since the region's economy is driven by agriculture, the effects will be felt beyond those that are actually flooded.

3463 - 170th Ave., Twin Valley, Minnesota 56584 (218) 584-8109
State Office Building, 100 Rev Dr Martin Luther King Jr Blvd, St. Paul, Minnesota 55155-1298 (651) 296-9918
FAX: (651) 296-2080 Email: rep.kent.eken@house.mn

USACE-MVP-0000088909
DEIS Public and Private Comments Received

Protecting the folks of the Fargo-Moorhead area is a laudable goal. While it is good the DEIS acknowledges there will be downstream impacts, the plan actually needs to include proposals to do something about it. In fact the current plan is likely in violation of federal Executive Order 11988 and FEMA regulations for just that reason. Under it federal projects need to avoid actions that adversely affect floodplains or take mitigation measures if avoidance is not practicable. The current Fargo-Moorhead diversion project does neither. The failure to include mitigation also puts it at risk of not receiving state permits and even funding.

It is for these reasons why the project and DEIS need to be amended to include mitigation efforts and a review of whether they cancel out the identified downstream impacts. Without these additional materials the DEIS is incomplete and the project does not have my support.

Thank you for taking public comment on the project and listening to my strong downstream concerns with the diversion.

Sincerely,

Kent Eken

Kent Eken
State Representative

MINNESOTA MDH DEPARTMENT OF HEALTH

Protecting, maintaining and improving the health of all Minnesotans

June 23, 2010

Mr. Aaron M. Snyder
Project Manager - St. Paul District of Corps of Engineers
Sibley Square at Mears Park
190 Fifth Street East
St. Paul, Minnesota 55101-1638

Dear Ms. Snyder:

Subject: Comments on Draft Feasibility Report and Environmental Impact Statement for Fargo-Moorhead Metropolitan Area Flood Risk Management

It is the responsibility of the U.S. Army Corps of Engineers (COE) to identify and protect well locations during construction of the potential Minnesota Diversion Channel. As described on pages 171 and172 of the Draft Feasibility Report and Environmental Impact Statement, the COE will identify drinking water supply wells and have measures in-place during and after construction of the diversion channel to monitor groundwater levels in public and private supply wells and to protect the aquifer from anthropogenic impacts. The COE also should have a contingency plan in-place to protect the water supply wells in case of spills during construction of the diversion channel. Care should be taken to divert surface water flow during construction of the diversion channel away from well casings.

The enclosed map shows the locations of public water supplies and four Drinking Water Supply Management Areas (DWSMAs) that are in the area of the potential Minnesota Diversion Channel. The vulnerability of the two largest DWSMAs for the City of Moorhead public water supply wells is very high. The smaller DWSMA that is located closest to Moorhead has a vulnerability ranking that is listed as low. The DWSMA that is located farthest to the east is for the City of Glyndon public water supply wells. The vulnerability of that DWSMA also is low.

If you have any questions about these comments, please contact Sheila Grow by email or phone at sheila.grow@state.mn.us or 651-201-4692. Thank you for the opportunity to comment on the proposed flood Diversion Channel.

Sincerely,

John Linc Stine
Assistant Commissioner
Minnesota Department of Health
P.O. Box 64975
St. Paul, Minnesota 55164-0975

Enclosure

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USACE-MVP-0000088909
DEIS Public and Private Comments Received

MINNESOTA MDH DEPARTMENT OF HEALTH

Protecting, maintaining and improving the health of all Minnesotans

July 7, 2010

Mr. Aaron M. Snyder
Project Manager - St. Paul District of Corps of Engineers
Sibley Square at Mears Park
190 Fifth Street East
St. Paul, Minnesota 55101-1638

Dear Ms. Snyder:

Subject: Comments on Draft Feasibility Report and Environmental Impact Statement for Fargo-Moorhead Metropolitan Area Flood Risk Management

Thank you for your June 3, 2010 letter to Commissioner Dr. Sanne Magnan regarding the above – referenced "Draft Feasibility Report and Environmental Impact Statement for Fargo-Moorhead Metropolitan Area Flood Risk Management." The MN Department of Health has primacy for implementation of the Safe Drinking Water Act in MN and, accordingly, we offer these comments.

It is the responsibility of the U.S. Army Corps of Engineers (COE) to identify and protect well locations during construction of the potential Minnesota Diversion Channel. As described on pages 171 and172 of the Draft Feasibility Report and Environmental Impact Statement, the COE will identify drinking water supply wells and have measures in-place during and after construction of the diversion channel to monitor groundwater levels in public and private supply wells and to protect the aquifer from anthropogenic impacts. The COE also should have a contingency plan in-place to protect the water supply wells in case of spills or unintended releases that could contaminate drinking water sources during construction of the diversion channel. Care should be taken to divert surface water flow during construction of the diversion channel away from well casings.

The enclosed map shows the locations of public water supplies and four Drinking Water Supply Management Areas (DWSMAs) that are in the area of the potential Minnesota Diversion Channel. The vulnerability of the two largest DWSMAs for the City of Moorhead public water supply wells is very high. The smaller DWSMA that is located closest to Moorhead has a vulnerability ranking that is listed as low. The DWSMA that is located farthest to the east is for the City of Glyndon public water supply wells. The vulnerability of that DWSMA also is low.

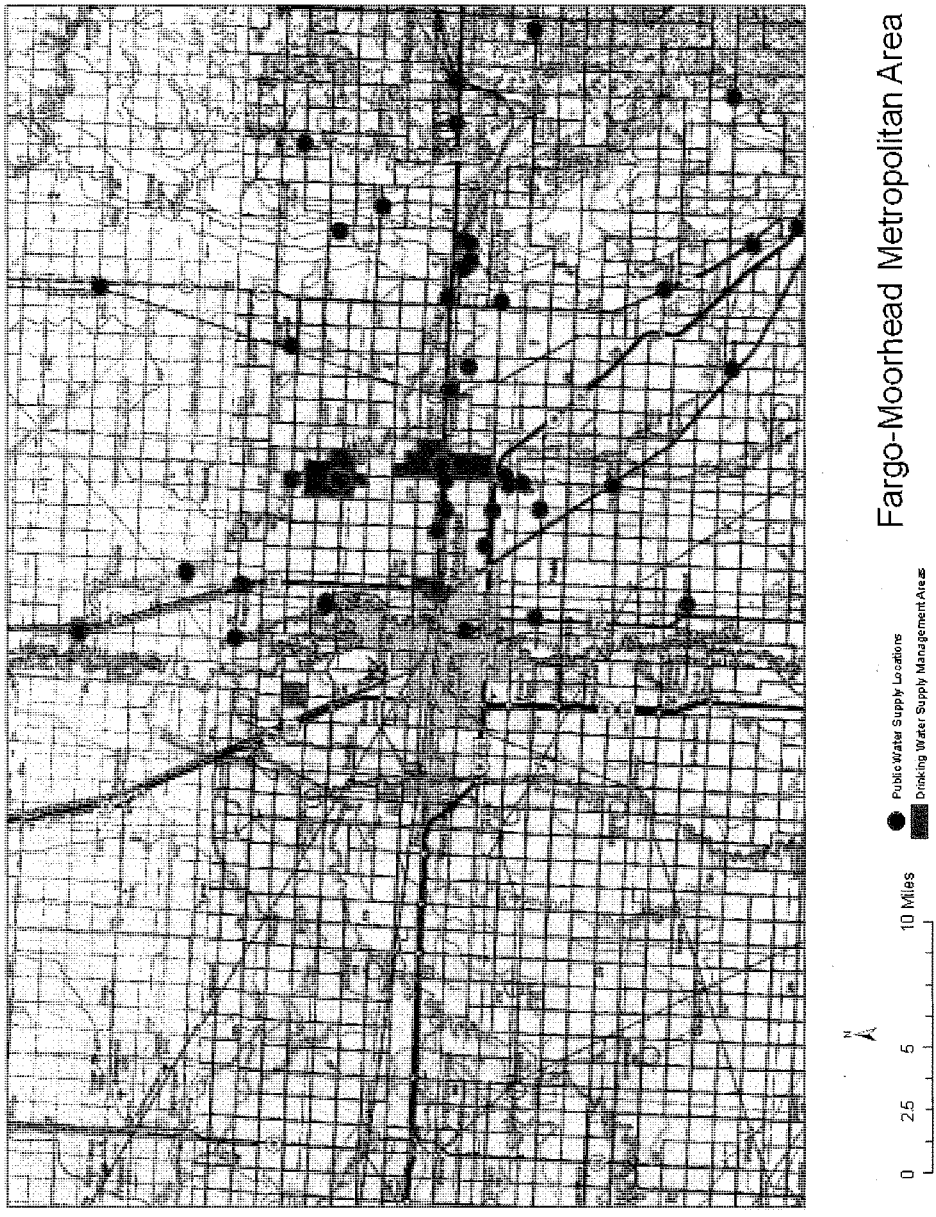
Page 2
Mr. Aaron M. Snyder
July 7, 2010

If you have any questions about these comments, please contact Sheila Grow by email or phone at sheila.grow@state.mn.us or 651-201-4692. Thank you for the opportunity to comment on the proposed flood Diversion Channel.

Sincerely,

John Linc Stine
Assistant Commissioner
Minnesota Department of Health
P.O. Box 64975
St. Paul, Minnesota 55164-0975

Enclosure


Fargo-Moorhead Metropolitan Area
Public Water Supply Locations
Drinking Water Supply Management Areas
N
0 2.5 5 10 Miles

Minnesota Pollution Control Agency
520 Lafayette Road North | St. Paul, MN 55155-4194 | 651-296-6300 | 800-657-3864 | 651-282-5332 TTY | www.pca.state.mn.us

August 4, 2010

Mr. Aaron Snyder
USACE Planner and Project Manager
190 East 5th Street, Suite 401
St. Paul, MN 55101

Re: Fargo-Moorhead Metropolitan Area Flood Risk Management Draft Feasibility Report and Environmental Impact Statement

Dear Mr. Snyder:

Thank you for the opportunity to review and comment on the Draft Feasibility Report and Environmental Impact Statement (DEIS) for the Fargo-Moorhead Metropolitan Area Flood Risk Management project (Project) in Fargo, North Dakota and Moorhead, Minnesota. The Project consists of the construction of a 36 mile long diversion channel around the Fargo-Moorhead Metropolitan Area to reduce flood risk. Regarding matters for which the Minnesota Pollution Control Agency (MPCA) has regulatory responsibility and other interests, the MPCA staff has the following comments for your consideration.

MPCA staff believe that the DEIS adequately addresses the potential environment impacts that could occur as a result of the construction and operation of the diversion channel. The DEIS also adequately addresses the variety of means to mitigate those impacts if they were to occur. We acknowledge that during the construction of the diversion channel and control structures on the main stem of the Red River, there may be temporary impacts to impaired reaches (turbidity) of the Red River downstream. In order to minimize erosion and sedimentation caused by construction activities, a Stormwater Pollution Prevention Plan must be developed that addresses utilization of appropriate water quality Best Management Practices. It is not anticipated that the long term operation of the diversion channel and the control structures will have an adverse affect on the water quality of the Red River.

We appreciate the opportunity to review this project. Please be aware that this letter does not constitute approval by the MPCA of any or all elements of the Project for the purpose of pending or future permit action(s) by the MPCA. Ultimately, it is the responsibility of the Project proposer to secure any required permits and to comply with any requisite permit conditions. If you have any questions concerning our review of this DEIS, please contact me at 651-757-2508.

Sincerely,

Karen Kromar

Karen Kromar
Planner Principal
Environmental Review and Feedlot Section
Regional Division

KK:bt

cc: Craig Affeldt, MPCA, St. Paul
Jim Ziegler, MPCA, Detroit Lakes
John Frederick, MPCA, Detroit Lakes
Will Haapala, MPCA, Detroit Lakes

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Minnesota Department of Natural Resources

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August 6, 2010

Aaron Snyder
USACE Project Manager
190 East 5th Street
Suite 401
St. Paul, MN 55101

RE: Minnesota Department of Natural Resources (DNR) Comments
Fargo Moorhead Draft Feasibility Report and Environmental Impact Statement (DEIS)

Dear Mr. Snyder,

For approximately the past 14 months, the Minnesota Department of Natural Resources (DNR) has been an active participant in the U.S. Army Corp of Engineers' (ACOE) efforts to develop a Scoping Document and Feasibility Study for flood risk management in the Fargo-Moorhead Metropolitan Area. The letter serves several purposes because the Feasibility Study is being conducted concurrently with Federal EIS preparation, and also due to the fact that the DNR has determined a Minnesota State EIS must be prepared for the tentatively preferred option. With this in mind, the letter addresses environmental effects and feasibility considerations, and can provide insight for the types of issues that the DNR would address as part of State environmental review and permitting. It is again important to place in context that our involvement to date does not constitute an endorsement for any one alternative, but rather provide design assistance and options for mitigation. Through multiple design concept changes, efforts have been made, that if implemented will help to reduce very certain impacts; however, significant resource concerns remain and must be addressed. Addressing these concerns early on will facilitate future State environmental review and permitting.

Past DNR correspondence remains relevant as many concerns remain unaddressed. Likewise, the following attachments are part of our DEIS comments and should be included in the record as such:

Attachments:
1. DNR comments - January 14, 2010
2. DNR comments - March 16, 2010
3. DNR informal scoping comments 2009

DNR comment topics remain consistent with past correspondence (attached) and include new topics. For each topic both general and, in some cases, specific comments (which reference specific areas in the DEIS) are provided. The DNR has the following comments:

Scope of Alternatives

General Comments:
The State of Minnesota has long been supportive of flood protection projects that utilize a comprehensive watershed approach to flood damage reduction. Such an approach integrates both flood damage reduction benefits and natural resource enhancements. This basin-wide approach is described in the 1998 Mediation Agreement and is supported by local sponsors that include the Red River Watershed Management Board, as well as the watershed districts in the Valley.

Flood storage, as a stand-alone plan, may not be a viable option able to meet both the sponsor's flood damage reduction goals and the ACOE feasibility planning objectives. Previous DNR scoping comments state that opportunities exist to increase and improve ecosystem and wetland restoration, wildlife habitat, and to provide recreational opportunities through the use of multipurpose water retention areas. Previous DNR scoping comments also indicated that water retention should be included in the mix of alternatives. The DEIS has not thoroughly included an evaluation of a comprehensive array of multi-faceted alternatives, such as upstream storage, flood barrier, floodway, and diversion combination alternatives. A comprehensive solution that includes storage options would provide needed mitigation for hydraulic impacts to downstream areas, be consistent with the comprehensive basin-wide approach, meet the feasibility study planning objectives, and have greater support.

Specific Comments:
Section 3.5.6 indicates that, "Following the development of the diversion alternatives, additional consideration was given to flood storage, wetland and grassland restoration... It was determined that these measures would not provide any additional justified increment. This is due to the fact that the diversion alternatives provided a very high level of flood risk reduction, and they captured a large portion of the benefits that could be captured by a project." This analysis assumes the diversion alternatives as proposed are acceptable stand alone projects.

Recommendation:

> *The EIS should include an alternative that is composed of a comprehensive array of multi-faceted alternatives, such as upstream storage, flood barrier, floodway, and diversion combination alternatives. Effects on the Study planning objectives (e.g. provide additional wetland habitat) and constraints (e.g. avoid downstream stage increases and loss of floodplain) must be part of the discussion in the EIS for all of the alternatives. Evaluation of the storage option with smaller diversion channels must be explored.*

Hydrology

General Comments:
Section 3.9.1 in the DEIS indicates that, "In an effort to account for the uncertainty in climate variability, a non-traditional hydrologic analysis was used to ensure that the selected plan would perform in the future." Part of this non-traditional approach involves use of a truncated period of record. It is not clear why this shortened record is used. The Expert Opinion Elicitation (EOE) Panel concluded that a long-term gauge record

should be broken into a wet period and a dry period. The justification for this action is also not well documented in the DEIS.

Past land use changes, specifically accelerated drainage, may have also influenced the hydrology and flow record of the Study area, yet this does not appear to be taken into consideration when deciding to split the long-term record. If land use changes were partially responsible (and not likely to be reversed), then discarding the first 40 years of the record may be more justifiable.

Recommendation:

> *The Final EIS must justify the decision to split a long-term gage record into a wet and dry period. This should include an analysis of available climate records to show that such a climate cycle has occurred during the last 100 years. Without suitable justification and/or explanation of the non-homogeneous gage record, the full period of record should be used.*
>
> *The use of the non-traditional hydrology has significant affect on the economic analysis among other potentially significant effects. A comparison of the benefits for the old and new hydrology at the 10, 50, 100, 500-year events must be provided. The non-traditional hydrology must be used consistently for the entire analysis in estimating potential impacts (e.g. fisheries), mitigation, and be applied for regulatory purposes (FEMA flood map revision). For example, this would require the communities of Fargo-Moorhead to use the 1% (100-year) elevation of 905.14 (gage elevation of 42.4) for the base flood elevation for floodplain zoning purposes. Without such consistency, the DNR cannot support the use of a non-traditional hydrologic analysis.*

Downstream Hydraulic Effects

General Comments:
The DNR understands that for any properties deemed to have incurred a taking, compensation and mitigation is required. Furthermore, we understand the ACOE position that their regulations do not authorize the funding of compensation or mitigation for downstream hydraulic impacts unless the takings threshold is met.

The Council on Environmental Quality (CEQ) guidance titled "NEPA's Forty Most Asked Questions" indicates that, "All relevant, reasonable mitigation measures that could improve the project are to be identified, even if they are outside the jurisdiction of the lead agency or the cooperating agencies, and thus would not be committed as part of the RODs of these agencies." Sections 1502.16(h), 1505.2(c). This will serve to [46 FR 18032] alert agencies or officials who can implement these extra measures, and will encourage them to do so."

The alternatives proposed will result in significant downstream stage increases, yet there is no mitigation proposed in the DEIS. A July 210 report *Preliminary Downstream Impact Analysis* was received on August 3, 2010, six days before the end of the public comment period; we will evaluate those issues when the report is final. Initial review of the preliminary report verifies our concern about downstream stage increases as all flood frequencies. The DNR position remains (*see DNR 1-14-10 comments*) that any increases in downstream stage or discharge are unacceptable without mitigation and

losses of floodplain storage must be effectively replaced. For each alternative, costs associated with downstream mitigation must be included in the project cost. Regardless of USACE authority, the DNR views mitigation as the responsibility of USACE and the local sponsors to mitigate any increase in water levels and flood flows downstream. To date, no such commitments are in place. This will be a significant issue as it relates to permits and funding from our agency and will influence our input concerning flood map revision by FEMA.

Recommendation:

The final EIS should include a description of the takings analysis and be explicit as to why the project does or does not result in a taking. Inclusion of the taking analysis as an appendix would be useful. The EIS must include mitigation and its estimated cost for addressing the downstream stage and flow increases regardless of ACOE authority to fund such mitigation actions.

The DEIS has not identified how the ACOE has complied with Executive Order 11988 on floodplains. In addition, the DEIS has not discussed the compliance with FEMA standards relating to the stage increase. These deficiencies must be addressed in the EIS.

Specific Comments:
The DEIS clearly indicates that all alternatives as proposed will result in potentially significant downstream impacts. Specifically:

Section 3.7.3.4.2 indicates that, "All of the diversion channel alternatives will change the timing and flows of water, significantly reducing the quantity of water flowing through the communities of Fargo and Moorhead. As a result of the modifications to the timing of the flows, downstream impacts are anticipated."

Also, Sections 5.2.1.4.1 and 5.2.1.4.1 state that for both the MN35K and the ND35K plan "Increases in the level and duration of downstream flooding would have no appreciable effects on natural resources, but may result in significant adverse effects on social resources."

Lastly, Section 5.4.1.3 indicates that, "all diversion channel alternatives include anticipated impacts for the 10, 2 and 1-percent chance events." In addition, "would extend approximately 45 miles downstream."

Recommendation:

The EIS must document how it was determined that increases in downstream flooding "...will have no appreciable effects on natural resources". It is very likely that additional downstream stage increases will result in increased erosion, nutrient loading and other impacts.

It is unclear how plans that will result in downstream stage increases are consistent with the identified planning constraints (e.g. avoid increasing peak stages). This must be explained the EIS.

The DEIS only provides preliminary data. The full extent of downstream stage increase must be included in the final EIS.

Downstream impacts must be quantified downstream to a point where there is no increase in discharge or stage.

Geomorphic Processes and Aquatic Habitat

General Comments:
The DEIS drastically discounts the potential for impacts caused by changes in geomorphic processes.

Geomorphic effects of flood control projects have historically far exceeded anticipated effects. For example, the ACOE channelization of the Wild Rice River resulted in 12 feet of headward incision, 8 feet of downstream aggradation, and had a devastating impact to over 40 miles of river....these effects were not anticipated, and currently there are no plans in place to fix the problem. The EIS suggests that these effects will be small due to the relatively high contribution of suspended sediment load compared to sand and other bedload. This is also predicated on the assumption that sediments are uniformly distributed through the water column.

While the DEIS alludes to monitoring, no sediment data have been provided on which to base the above assumptions or the discounting of geomorphic effects. The very high total sediment load of the Red River and its tributaries contradict this assessment. DNR has observed major sedimentation along the Red following large events. The proposed project will significantly change the distribution of flow and sediment. Any alteration of the existing hydrologic and sediment regimes has the potential to result in sedimentation or incision. Either of these effects can adversely affect habitat quality. The structures will draw surface water that typically has relatively low sediment concentrations. This will send relatively high concentrations of sediment down the natural channel with less power to carry it.

The DEIS indicates that further evaluation will take place to verify potential impacts, including pre- and post-construction monitoring. The DNR believes that a robust monitoring program is needed, and we will continue to work with agencies and local sponsors in the development of such a program.

The DEIS also indicates that monitoring will be done in close coordination between agencies, and that coordination should include discussion as to whether future action would be needed if impacts were identified. Unless data is provided upon which comprehensive analysis and conclusions can be deducted; we have no reason to concur with the ACOE assumption that impacts are not likely and feel strongly that mitigation is necessary and warranted. The types of mitigation warranted, along with associated costs, should be included into the project cost. Increasing the amount of mitigation already proposed for footprint impacts associated with the Red River control structure would be meaningful and help to offset likely geomorphic impacts.

Recommendation:

There is no substantiation for the assumption of a uniform distribution of sediment particle sizes through the water column. A particle size analysis of total

sediment load of the Red River would provide the necessary basis for such a conclusion and should be included in the final EIS. Without this information, mitigation must be included for geomorphic impacts to the Red River.

The EIS should also discuss whether impacts associated with reduced flow from the confluences of the Rush and Lower Rush Rivers to a diversion outlet are anticipated. Flows will be further reduced along this reach creating opportunity for sedimentation that will, in turn impact aquatic habitat.

The EIS should include a determination whether additional debris and ice in the project area will impact channel stability in the portion of the Red River which will be diverted. Potential geomorphic impacts to Wolverton Creek and necessary mitigation must be included in the EIS.

Direct Habitat Loss

General Comments:
The DEIS acknowledges that mitigation will be provided for the Red River Structure footprint impacts of approximately .5 miles (10 acres). The DNR has been and will continue to work with the ACOE in identifying potential mitigation projects to be included in the Final EIS, that, when completed, will replace lost habitat function and value. The DNR supports mitigation projects where the effectiveness can be readily assessed (also see DNR Mitigation Comments below).

Wetland Impacts

General Comments:
According to the DEIS, the Minnesota diversion alignment would directly impact approximately17 acres of wetlands and could indirectly impact up to 85 acres of wetlands, while the North Dakota diversion alignment would directly impact approximately 33 acres of wetlands and could indirectly impact up to 193 acres of wetlands.

The DEIS goes on to state, "Either alternative would include appropriate measures to minimize or mitigate potential losses to wetland areas." In addition, impact "will be offset by the creation of wetlands within the diversion channel bottom." And finally, "The area available on the bottom of the diversion channel for all alternatives far exceeds the amount of wetland acres that would be impacted."

The DEIS lacks crucial information necessary to determine the appropriateness of wetland mitigation. While it may be true that replacement acreage far exceeds that of the acreage impacted, the DEIS does not describe how the mitigation will or will not replace the functions and values lost at the impact sites. This information is critical in determining whether the proposed mitigation will actually replace the loss of habitat and ecological function (i.e., whether it's appropriate). This information also relates to the planning objective of restoring or improving degraded riverine and riparian (including wetlands) habitat.

Recommendation:

The EIS must specifically discuss how the proposed wetland mitigation will replace the functions and values lost at the impact sites. The EIS must also discuss the potential for created channel-bottom wetlands to be influenced by aggressive non-native invasive plant species over time and subsequent impacts on function and value. This potential outcome must be discussed in context or in determining the appropriate replacement ratio.

Fish Passage and Biological Connectivity

General Comments:
The fish bypasses and other structures are necessary and helpful in minimizing potential impacts to fishes; however, they do not replace the function of the natural channel for flows higher than the 5-year event. While passage during the open gate condition is reasonably satisfied, the proposed fishways have not been detailed to the degree that effectiveness can be assessed.

The DEIS states minimum effects of the project on fish passage by giving percentages of blockage based on the entire record of daily values. There are several problems with this assumption:

A. Fish migration is seasonal and for many species, spawning migration cues are associated with the spring flood. As a result, percentages would have greater relevance when put in the context of these migration periods.
B. Currently, fish passage is least impeded during floods greater than the two-year event as barrier structures are inundated and long migrations can only occur during these high flow events. The proposed project has the greatest affects during high flows when the river is most passable. Greater context would be provided by considering percentages of flows above the two-year event when the structure would block passage.
C. Fish populations in rivers are often sustained by unusual events. Large floods often are associated with large year classes of some species. These unusual events may be responsible for sustaining populations.
D. Spawning migrations are very sensitive to timing...fish cannot simply wait around for passage. A combination of day-length, water temperature, and hydrology all need to be appropriate. Blockage during the spawning run can result in egg absorption, stress-related disease and other mortality factors.
E. Using USACE analysis of gauge data from 1942 to present, 13 of 68 years or 19% of years would have had fish migration limited (using the bypass channel) for one week or more during April, 4% of the years would have had fish migration limited for two weeks or more.

Fish are likely to be drawn into the diversion channel during operation. Since the duration of operation is short, there is potential for stranding and mortality of large numbers of migrating fishes. The impacts of this mortality could be substantial especially for long-lived and rare fishes like lake sturgeon. The ND diversion channel would have a fish bypass to get fish over the 20' head difference rather than the rock ramp proposed for a MN diversion. This will further increase the chances of stranding in the diversion channel and limit fish passage. Additional mitigation measures should be

considered such as operations that allow gradual reduction of water in the diversion channel.

It is the MN DNR Fisheries' experience that fish movement is substantially impeded within and through long, channelized river segments and ditches, such as those presented in all of the alternatives. This is likely due to homogeneous low value habitat conditions present in many ditches. This concern has been brought up repeatedly in discussions but is not addressed in the draft EIS, rather, it has been assumed that fishes will use the diversion channel in the same manner they would use natural channels.

The assumption throughout the DEIS is that fish passage on either the Red or its tributaries will not be significantly affected due to features built into the project that are intended to minimize impacts. No evidence, either empirical or from literature, is provided to support this position.

Recommendation:

The analysis provided by the EIS must rely on hydrologic data (updated data), empirical evidence, and peer-reviewed literature to draw conclusion pertaining to potential fish passage impacts. The EIS should attempt to address: to what extent the proposed passage facilitation measures will alleviate fish passage impacts; what species will utilize the proposed design based minimization efforts, and; what extent multiple restriction structures will compound passage impacts. The EIS must also place fish passage percentages in context of migration periods of various species in the Red River system rather than the entire record.

The EIS should utilize empirical evidence, peer reviewed literature and include a literature-cited section.

Specific Comments:

It is the DNR's understanding that a tieback levee associated with a Red River control structure will also cross Wolverton Creek.

Recommendation:

Impacts to fish passage at Wolverton Creek must be included in the EIS.

Section 5.2.1.8.1.4 indicates that a notched weir will be included. This is helpful in minimizing impacts associated with the stranding of fish; however, it is unclear if the notch effects are represented in the hydrographs (i.e. how fast will flows shut off in the diversion once the 20% event flows have passed).

Recommendation:

This EIS must indicate whether the notch effects are represented in the hydrographs.

Section 5.2.1.8.1.5.1, which discusses the Red River control structure effects on connectivity concludes that, "all diversion channel alternatives would largely avoid and minimize significant adverse impacts to fish migration...and have a small adverse effect

on biotic connectivity." In addition, "although connectivity would be slightly affected, it appears unlikely this effect would result in a detectable response in terms of a measurable population change by fish. Thus, any of the diversion channel alternatives would have a less-than-significant impact to fish population levels in the Red River basin as a result of slightly reduced connectivity." For reasons stated above, the DNR does not concur with these conclusions and believes mitigation is necessary (also see Mitigation General Comments section).

Debris and Ice

General Comments:
Widening the gates to 50' will reduce chance of debris blocking the structure resulting in a reduction in maintenance need (debris removal). It is likely that the Red River through the study area will have a reduced capacity to transport debris and ice. This may in turn result in changes in the flow dynamics and geomorphic processes. The effect of debris and ice on safety, flow, channel stability and habitat will extend beyond times of operation.

Recommendation:

> *The EIS must acknowledge that woody debris is an important component of many river systems providing fish habitat and channel stability. The final EIS should expand on the discussion of debris and ice as it relates to operation, maintenance, geomorphic processes and habitat.*

State Environmental Review and Permitting

General Comments:
On July 19, 2010, it was determined that the tentatively preferred alternative requires preparation of a Minnesota State Environmental Impact Statement. The relationship between Federal and Minnesota state environmental review is addressed under Minnesota Rules 4410.3900, that requires, if a Federal draft or final EIS has been prepared for a project, the RGU must use the Federal EIS as the Minnesota State draft EIS provided it addresses the scoped issues and the State EIS content standards.

Minnesota has not initiated the State scoping process and many of the issues discussed to date will likely require additional analysis. Elimination or mitigation of downstream stage increases will also be required to secure the necessary DNR Division of Waters permit(s).

Specific Comments:
Section 3.12.4 titled "Permits" should include the need for a state EIS.

Safety

General Comments:
The Preliminary Section 404(b)(1) Evaluation indicates that, "During high flows when the control structures are under operation, recreational use (boaters, jet skis, canoes, kayaks, etc.) will not be allowed to pass through the structure due to safety concerns."

Recommendation:

Section 5.2.3.1.5 titled, "Public Health and Safety" should include a description of safety and operational measures proposed to ensure the safety of recreational users on the Red River and its tributaries.

As indicated in our January 2010 letter, diversion structures provide a barrier to flow during operation and have a risk of sudden and catastrophic failure presenting safety concerns for downstream habitants and recreational enthusiasts.

Recommendation:

The EIS should include an analysis of control structure catastrophic failure risk and provide loss of life estimates in the event of catastrophic failure.

According to Minnesota Rules, the proposed control structure on the Red River meets the definition of a high hazard dam. As such, preparation of Minnesota State EIS is mandatory. A Dam Safety Permit from the DNR Division of Waters will also be required.

Recommendation:

It is imperative that the federal and state EIS provide the safety information mentioned above as well as adequate information to inform the state permitting process. At a minimum, this information must include that described as required in a "Preliminary Report" under Division of Waters Rules 6115.0410 Sub. 3.

Mitigation

General Comments:
Based on case studies, peer reviewed literature, Minnesota Rules and professional experience; the DNR believes that the project has the potential to result in significant impacts to fish passage and biological connectivity, geomorphic impacts, and downstream stage increases. Unless data can be provided, upon which analysis and conclusion can be deducted that clearly show that impacts will be less than significant, our position remains that mitigation is required and cost estimates need to be included.

The DEIS appears to only offer or consider mitigation for impacts that the ACOE projects to be significant. The Council on Environmental Quality (CEQ) guidance titled "NEPA's Forty Most Asked Questions" indicates that, "mitigation must be considered for impacts that, by themselves would not be considered "significant". Once the proposal itself is considered as a whole to have significant effects, all of its specific effects on the environment (whether or not "significant") must be considered, and mitigation measures must be developed where it is feasible to do so. Sections 1502.14(f), 1502.16(h), 1508.14."

Recommendation:

The EIS must explicitly state why it is not feasible to provide mitigation for what the Corp's feels are less than significant impacts (i.e. fish passage, Red River and tributary geomorphology, and downstream stage increases).

The EIS must demonstrate that proposed mitigation measures ensure no loss of habitat function or values. Replacement of habitat, as a mitigation method, can replace lost functions and values. The success of habitat restoration or creation in replacing function and value can be estimated with the Habitat Evaluation Procedure (HEP), Habitat Equivalency Analysis (HEA) or other methods.

Specific Comments:
5.5.1.5 Stream Re-meandering
As previously indicated (March 16, 2010, DNR letter), the DNR believes that money targeted at pre-existing comprehensive ecosystem restoration initiatives will help ensure the most value for mitigation efforts. The DNR is aware of several restoration projects (e.g. Lower Wild Rice River, Buffalo River through Hawley) that if completed would restore stream or river habitat by recreating meanders and riparian habitat lost through channelization. The functions and values gained by these projects could be as mitigation for project-induced impacts.

5.5.1.6 Riparian Buffer Strips
The DNR questions the value of using riparian buffer strips along the Wild Rice River as mitigation for impacts likely to occur on the same stretch of river. The establishment of a riparian buffer in this area may be better suited as mitigation for riparian forest (wetland or upland) impacts elsewhere.

5.5.1.7 Fish Passage
DNR believes that improving fish passage as a systemic mitigation approach will improve connectivity in the Red River system as a whole. We also strongly believe this is required to offset project-induced impacts to fish passage and biological connectivity that will remain after minimization efforts.

We agree that completion of fish passage projects will open up previously unreachable habitats (of varying quality) for use. This will result in an overall increase in function and value for those habitats. However, the use of this approach as mitigation for measurable footprint impacts is questionable due to the difficulty in assessing effectiveness. While it "is possible fish passage could have broader and more meaningful benefits than site specific mitigation", the DNR does not support this approach as mitigation for habitat impacts. We support mitigation projects that are measurable and can be effectively assessed (i.e. can quantify functions and values gained and demonstrate that they replace function and value loss at impact locations).

If the ACOE proceeds with a systemic approach to mitigation for impacts other than those associated with the loss of connectivity, it will be necessary to increase the scope of planned pre- and post-construction monitoring to include the new "reachable" habitats.

Adaptive Management

General Comments:
In order for adaptive management to be successful, there must be identified indicators and criteria that reflect the desired conditions (e.g. what level of deviation from the existing condition is acceptable?); monitoring of the indicators and criteria for deviation; and implementation of management actions when the desired conditions are violated (or when conditions are deteriorating and preventive measures are available). At present, other than the commitment that pre- and post-construction monitoring will take place,

there are no identified criteria or indicators that reflect the desired condition or assurance (financial or agreements) that future management action will take place.

Specific Comments:
Section 5.5.3 provides no assurance of Federal funding if problems are found during post project monitoring (e.g. "could take action...could work with Corps to secure potential funding...could include seeking congressional action"). T he Council on Environmental Quality (CEQ) guidance titled "NEPA's Forty Most Asked Questions" states that, "to ensure that environmental effects of a proposed action are fairly assessed, the probability of the mitigation measures being implemented must also be discussed. Thus, the EIS and the Record of Decision should indicate the likelihood that such measures will be adopted or enforced by the responsible agencies. Sections 1502.16(h), 1505.2."

Recommendation:

> *The EIS must discuss the likelihood of securing future funding and the probability of mitigation measures being implemented in the future. A commitment on behalf of the sponsors in the form of financial assurance and agreement to undertake future mitigation is necessary. Examples of how adaptive management has been used successfully on other ACOE projects would also provide greater assurance.*

Invasive Species

General Comments:
The DEIS does not discuss the potential for invasive species transport during construction or how the operation of the project may potentially be affected. A zebra mussel veliger was recently discovered in the Red River. It is unknown whether zebra mussels will become established in the Red River. Regardless, maintenance associated with removal from infrastructure (to ensure smooth operation) can be costly and should be included in the analysis provided by the EIS.

Rare Species

General Comments:
Every state recently completed a "state wildlife action plan (SWAP)" which identifies conservation needs for species of concern, including threatened and endangered wildlife and other important wildlife species. Minnesota's SWAP titled, "Tomorrow's Habitat for the Wild and Rare" describes conservation concerns for species of greatest conservation need (SGCN) and their *key habitats* within various landscape settings.

Recommendation:

> *In the interests of providing a quantitative comprehensive analysis, the EIS, must describe whether key habitats and SGCN are present in the project area (Section 4) and whether they will be affected by the project (Section 5).*

Specific Comments:
There appears to be inconsistency between the Minnesota Rare Species Guide, data provided in the DEIS main document, and Appendix F.

Section 4.2.1.9 and Table 25 implies that lake sturgeon no longer exist in the Red River basin. Although this was the assumption in the not so distant past, we now know that through our repopulation efforts and recapture records, including netting and angler accounts, lake sturgeon are now present in both lakes and streams in the basin, including the Red River.

Recommendation:

The EIS must rely on up to date accurate information. An updated table similar to that used in Appendix F should be included in Section 4.2.1.14.4 of the EIS. After Section 4 is updated, Section 5.2.1.10 must provide impact determinations for all state and federally listed species (this section only indicates that the Fish and Wildlife Service does not have records of federally listed species in the project area).

If rare species surveys are planned or have been completed, this information must be included in the EIS.

The EIS should document the known presence of lake sturgeon in the Red River basin.

Planning Objective and Constraints

General Comments:
The Feasibility Report planning objectives and constraints provide a template and parameters that, if adhered to, would likely result in a project that (as taken from the Feasibility Study):

- Reduces flood risk and flood damages in the Fargo-Moorhead metropolitan area.
- Restores or improve degraded riverine and riparian habitat in and along the Red River of the North, Wild Rice River (North Dakota), Sheyenne River (North Dakota), and Buffalo
  River (Minnesota) in conjunction with other flood risk management features.
- Provides additional wetland habitat in conjunction with other flood risk management features, and
- Provides recreational opportunities in conjunction with other flood risk management features.
- Avoids increasing peak Red River flood stages, either upstream or downstream
- Minimizes loss of floodplain in accordance with Executive Order 11988, Floodplain Management

Such a project would better fit within the "basin-wide approach" as described in the 1998 Mediation Agreement. However, the tentatively preferred alternative drastically deviates from the Feasibility Study Planning Objectives and Constraints.

Conclusion

The DNR remains committed to flood protection efforts in the Red River Valley; however, the DNR is concerned that, if the locally preferred plan (ND 35) is selected, there will be significant impact to up to 58 miles of the Red River. In addition, fish passage and

biological connectivity will be degraded, and unacceptable stage increases extending more than 50 miles downstream would influence several communities. The final EIS must demonstrate how the ACOE and project sponsors will eliminate these significant environmental effects.

This project is estimated in excess of $1.4 billion dollars and will be with us for a very long time. Accordingly, the Corps' and local sponsors must ensure on the front end, the best design possible that protects the Fargo-Moorhead Area, downstream communities, and addresses the array of environmental concerns; is the design selected.

Thank you for considering our input.

Sincerely,

Michael R. Carroll
NW Regional Director
mike.carroll@state.mn.us

Cc: Commissioner's Office
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January 14, 2010

Col. Jon Christenson
US Army Corps of Engineers
Sibley Square at Mears Park
190 5th Street East, Suite 401
St. Paul, MN 55101-1638

RE: Fargo Moorhead Flood Reduction – MNDNR Comments

Dear Col. Christenson,

For approximately the last eight months the MN Department of Natural Resources has participated in the Corps' efforts to develop a Scoping Document and Feasibility Study for a flood mitigation project encompassing the Fargo-Moorhead metropolitan areas. In that time our agency has provided significant resource management expertise in an effort to develop options that maintain as much natural form and function of the impacted resources as is possible given the Corps' funding and project development constraints. As a result, our agency feels it is necessary to ensure that we place in context that our involvement to date has been to provide design assistance and not an endorsement of any one alternative or that all anticipated impacts have been mitigated through this process. In fact, it is anticipated that any preferred alternative will undergo significant additional review, design improvement and still require mitigation.

It is important to note that the State of MN is committed to flood protection in the Red River Valley. Significant financial resources have been expended to protect and mitigate flood damages to almost every Minnesota community along the river from Browns Valley in the south to St. Vincent in the north. Mitigation efforts also extend to agricultural areas through collaboration with local sponsors that include the Red River Watershed Management Board and the numerous watershed districts in the Valley. Water storage and natural resource enhancement is a significant component of this collaborative effort. Any project for the Fargo- Moorhead metropolitan area should remain consistent with these existing local efforts. It would be unacceptable to promote a project that negates efforts to store water or a project that increases flood levels and risk to a downstream community.

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Following are concerns that the Department view as the primary issues that will need to be better addressed through improved design or mitigation.

DNR Comments:

Many agree that changes or regulation of flow in a river system have great potential to initiate a succession of changes and impacts. Some of these impacts are direct and measurable, while many occur over time and too slowly to be observed directly. Due to the ecological connectivity in rivers, impacts can be far reaching, result in loss of functions and values, and require mitigation. The environmental review document(s) and subsequent project design must give full consideration and analysis of the potential impacts associated with the following topics of concern:

Lost habitat:
The proposal to build the structure off channel and reroute the river through it while filling the existing channel will eliminate existing aquatic habitat. Changes in slope and geomorphologic issues may result. Maintaining the same channel length in a new armored channel will not directly replace this habitat. Also, re-routing of tributaries (Rush and Lower Rush) will involve abandonment of existing stream habitat requiring mitigation.

Accumulation of sediment in a riverbed can have a substantial impact on fish. Fish are highly susceptible to the changes in their aquatic environment and are uniquely connected to their environment. In response to accumulation of sediment, fish may begin to change their migratory patterns to avoid areas once used for habitat such as wintering grounds, nursery areas, or spawning areas.

Effective mitigation depends on replacement of lost functions of the impacted habitat. The integrity of mitigation projects is required to ensure effectiveness. In addition, it is imperative that mitigation project costs are included in the cost/benefit analysis and environmental review.

Downstream hydraulic effects: Any increase in downstream stage or discharge is unacceptable without efforts to mitigate these increases. This will be a significant issue as it relates to permits from our agency and will influence our agency's input concerning flood map revisions by FEMA. This concern is greatest where the impacts extend to downstream communities with detailed flood studies. These increases are primarily due to the loss of floodplain storage as a result of the operation of the diversion channel. This loss of floodplain storage needs to be effectively replaced through upstream storage options.

Debris and ice: Having larger and fewer openings in a diversion structure will decrease the potential for trees, ice, and other debris to create restrictions in flow, however; even full span bridges on the Red River have major debris and ice problems. Restrictions can create a host of problems with fish passage, safety, and other issues that would not be

restricted to just operational flow. It is preferable to pass rather than remove natural debris, as it serves an important role in the ecology of a river system. A thorough analysis of future operation and maintenance activities and associated potential impacts is needed.

Recreational analysis: A thorough analysis of the recreational uses of the Red River and its tributaries and how the various project proposal will impact those uses is needed. Project induced recreational opportunities should also be explored and pursued whenever possible.

Channel stability effects: The current Red River diversion structure will send surface waters into the diversion while water from the bottom of the water column will be sent down the natural channel. Although suspended load dominates the Red Rivers sediment load, the distribution of suspended materials is typically highest near the bed. As a result, a disproportionate sediment supply would potentially be routed down the natural channel with reduced stream power to carry it through resulting in sediment aggregation.

Minnesota currently has massive erosion and sedimentation problems resulting from flood control projects where sediment transport and channel stability were either ignored or misunderstood. The sediment load is variable across the tributaries of which a ND diversion alternative would cross. It is imperative that the potential for channel stability impacts associated with each alternative and associated project components (e.g. diversion structure, bypass structures and tributary crossings and bypasses) be fully analyzed.

Safety Issues: During operation, diversion structures provide a barrier to flow. Flood barriers have a risk of sudden and catastrophic failure presenting safety concerns for downstream habitants and recreational enthusiasts. Minnesota Rules, chapter 4410.4400, subpart 18 requires preparation of a State Environmental Impact Statement (EIS) for construction of a Class I dam. Whether or not a diversion structure alternative qualifies as a Class I dam is determined by a breech analysis. The DNR understands that the COE is conducting this analysis and will provide the results upon completion for our review. Shortly after review, we will provide a need determination regarding whether or not preparation of a EIS under Minnesota Rules, chapter 4410 is required. If required, the DNR (as the Responsible Government Unit) will consult with the COE to reduce duplication between Minnesota Statutes and the National Environmental Policy Act.

Floodplain Impacts: The flora and fauna within a floodplain depend on periodic inundation to maintain its existing ecology. The potential for impacts to floodplain wetlands and species using those habitats increases as flows are diverted more frequently. Over time, ecological changes may ensue. Having baseline data and then monitoring and measuring changes over time will provide a means to measure potential impacts and subsequent mitigation requirements. Our concern for potential impacts

greatly increases when passing flows less than a 5-year event, such as those associated with some of the ND tributary crossings. A thorough analysis of existing floodplain resources and estimates of potential impacts is needed.

Fish passage: Since the current Red River has unimpeded passage from Hickson to Drayton, and since the river currently has total passage at flows above the 2 year event, any lost reduction in passage is an environmental loss. Dealing with twelve feet of head loss at this site is no small task. It is our understanding that the current diversion structure design will allow for fish passage for up to a 5-year event, at which time fish ladders will become operational and potentially provide passage (for an unknown percentage the fish population) for up to 50 year events. Ideally, fish passage would be provided for all flood events, however; a loss in resilience would still be likely, as fish passage would be restricted.

An analysis of how accommodating fish passage at various flood events will potentially affect fish passage, resilience, project design, and the cost-to-benefit ratio is needed. The chosen alternative can then be based on the design which both minimizes the potential impacts and is still practicable. Diversion channels have the potential to cause fish stranding and increased predation. It is not likely that quality fish habitat can be provided in a diversion channel and fish usage of any diversion channel should be excluded when possible by design.

Land use and changes have and occurred progressively over time resulting in more rapid conveyance of water. Climate changes are occurring and basins response in not fully understood. Flood frequency estimation records encompass much of this period of change. Likewise, the records upon which flood frequency estimations are based upon may underestimate future flood potential.

Future flood frequency estimates based on a greater "look back" period may produce flood frequency estimates that are misleading. Using a shorter look back period, and actually accounting for anticipated future changes in land use and climate will result in the estimation of events that are not as rare as they would appear to be using the entire historic record. Fish passage design accommodations based on these adjusted estimates would further minimize potential impacts.

Conclusion

The DNR believes that the project alternatives under consideration have the potential to impact up to 58 miles of the Red River system. It is imperative that the Corps of Engineers continue to meet with DNR staff regularly to develop project designs that avoid and minimize identified potential impacts to the extent possible, however; even after these efforts, a loss in ecological function is still likely. These unavoidable losses will require mitigation. Mitigation projects must replace all project induced lost functions and values.

Finding balance between important economic, environmental and social consideration has and continues to be challenging in developing flood reduction projects. The DNR is committed to continued collaboration with the Corps of Engineers and other stakeholders in developing meaningful well-balanced flood reduction projects. The DNR would like to meet with the Corps of Engineers in the near future to discuss specific mitigation projects that when completed, provide the greatest value. Please contact Regional Environmental Review Ecologist Nathan Kestner at 218-308-2672 to set up a meeting with DNR staff to discuss these projects.

Thank you for considering our input.

Sincerely,

Michael R. Carroll
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cc: Aaron Snyder, COE
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March 16, 2010

Col. Jon Christenson
US Army Corps of Engineers
Sibley Square at Mears Park
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RE: Fargo-Moorhead Flood Reduction – MN DNR Project Mitigation Comments

Dear Col. Christenson,

The Minnesota Department of Natural Resources (DNR) remains committed to flood protection efforts in the Red River Valley. Through multiple design concept changes, efforts have been made to reduce potential fish passage impacts associated with a Fargo Diversion; however, we do not share the conclusion that remaining impacts will be insignificant or that project design elements alone can bring impacts to a level not warranting mitigation. Any such conclusion prior to a thorough impact analysis is premature. Furthermore, efforts to mitigate direct and indirect impacts to habitat must replace lost functions. Focusing mitigation efforts on areas identified as impaired and in need of restoration will likely provide the most value. Following are some considerations regarding connectivity and habitat impacts:

Fish Passage Considerations in the Red River of the North System

For a Minnesota Diversion, the current proposed measures to help alleviate fish passage problems above the 5-year discharge include both a fish passageway around the restriction structure and fish passage provided over the spillway for the Diversion channel. It is not known; however:

- What extent the current proposed passage facilitation measures will alleviate fish passage impacts. It is widely know that fish bypass channels are not 100% effective.
- What species will utilize the proposed design-based minimization efforts (documentation on lake sturgeon using fish bypasses is limited).
- What extent multiple restriction structures and tributary crossings will compound passage impacts (e.g. a ND diversion alternative).

The following is information about connectivity impacts, values of the River system as a fishery, and a description of past efforts and ongoing initiatives to increase connectivity and enhance those values:

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- Impacts remaining after minimization efforts cannot be mitigated onsite; therefore, off-site mitigation is necessary.

- Currently, Christine and Hickson dams are fish passage barriers up to approximately the 2-year recurrence discharge. The Fargo structure on mainstem Red River would be a fish passage barrier to some extent at the 5-year recurrence discharge and greater. Therefore, the unimpeded fish passage upstream from Fargo-Moorhead that currently exists for all flows above the 2-year discharge would become impaired to some degree above the 5-year discharge. For a Minnesota Diversion, the two proposed measures to permit fish passage above the 5 year discharge include both a by-pass fishway around the structure on the Red River and a rock arch rapids to provide a passable slope over the flood diversion channel weir. These fishways are considered essential with the existing project design. However, it is accepted among resource managers that fish by-pass channels are not 100% effective and it is not known to what extent the fish by-pass channel on the Red River structure will alleviate fish passage impacts.

- Corps of Engineers data indicates that Drayton Dam washes out and becomes passable to most fish species, including lake sturgeon, at approximately the 80% event. However, during critical times when many fishes are migrating to spawning habitats, passage has historically been limited to approximately 13% of the time in March, 50% in April, 35% in May, and 20% in June. Removal or modification of existing barriers increases overall net passage and connectivity and removal of downstream barriers will increase passage potential at existing and future upstream barriers.

- Connectivity of rivers and their associated tributaries is necessary to maintain ecological diversity and function.

- During floods, fishes use the inundated floodplain for a variety of reasons including, refuge from higher velocities, making use of additional food sources, and migrating upstream and downstream in the slower waters found in the floodplain. Diverting floodwaters to the diversion channel decreases existing higher quality floodplain habitat, diverts migrating fish into lower quality diversion channel habitat, and poses an impediment to the movement of fishes.

- Most of the 57 species known to inhabit the mainstem of Red River migrate throughout the system to one extent or another. Channel catfish and lake sturgeon are two species of particular concern. With channel catfish being present in high numbers, the presence of fish exceeding 40 inches, fishing effort exceeding 110,000 hours/year and harvest exceeding 43,000 lbs/ year, the Red River of the North arguably supports the best recreational channel catfish fishery in North America. The ability of channel catfish to migrate throughout the Red River basin is critical. Channel catfish have been shown to move long distances, both upstream and downstream, within and between the Red River and its tributaries as catfish seasonally migrate between summer, overwintering and spawning habitats (Hegrenes, 1992; Wendel, 1999; McDonald 1990).

The lake sturgeon is a member of the sturgeon family of fishes that are imperiled throughout the world. Overharvest and construction of dams are frequently cited as the causative factors of population declines. Construction of dams is widely believed to be one of the major factors that have led to the near extirpation of the lake sturgeon from the Red River Basin.

Efforts by state, federal and tribal agencies to re-establish lake sturgeon (a State designated species of special concern) in the Red River basin have been ongoing since the mid-1990's. As part of this effort, juvenile lake sturgeon were tagged in 1997 and 1998 and released in Detroit Lake, Otter Tail Lake, and the Otter Tail River to begin the restoration and to gather information on lake sturgeon movement through the basin. Subsequent recapture information showed that juvenile lake sturgeon migrated long distances within a year, including some that migrated hundreds of miles down and miles up tributary streams, even though the stocked sturgeon were not sexually mature. Male lake sturgeon reach sexual maturity in approximately 10-15 years, and females reach maturity in 20-25 years. The first large-scale reintroduction of lake sturgeon fry and fingerlings (first year fish) occurred in 1999, which means there are likely mature male sturgeon in Red River that are beginning to make upstream migrations associated with spawning behavior. Female lake sturgeon spawn once every six to ten years. The fact that lake sturgeon exhibit long-distance seasonal migrations, take a relatively long time to reach sexual maturity and spawn infrequently, emphasizes the need to provide uninhibited connectivity throughout the Red River and its tributaries in order to re-establish and sustain lake sturgeon in the Red River Basin. The long-range goal for lake sturgeon restoration in the Red River basin is to establish a self-sustaining population over the next 20 to 30 years (MN DNR, 2002).

In addition to catfish and sturgeon, Red River species such as walleye, sauger, goldeye, an others, also exhibit long-distance, season migration patterns. Spawning migrations by many species are initiated by an increase in discharge, most often associated with annual spring high discharges. This is the same relative time period when the Fargo structure would have the highest probability of being operated.

- Significant energy has been put into restoring connectivity along the Red River and its tributaries with past project such as Riverside, Fargo North, Midtown, Fargo South, and Kidder on the Red River; and Point, Crookston, Heiberg, and at least 25 other fish passage projects on Red River Tributaries.

Given the facts described above, the DNR believes that any additional impedance to seasonal fish migration patterns may result in significant impacts to catfish, lake sturgeon and other species populations over time. It is imperative that any unavoidable impacts be mitigated. It may be possible to offset some project-induced impacts by improving fish and system connectivity.

Efforts are currently underway to alleviate or provide passage through these dams:

- Drayton Dam (Section 18, T 159 N, R 50 W)
- Christine (Section 18, T 136 N, R 48 W) and Hickson Dams (Section 19, T 137 N, R 48 W)

Ensuring that these projects are completed will go a long way to connecting the system and providing mitigation for passage impacts associated with a Fargo Diversion.

Direct and Indirect Habitat Mitigation Considerations
The DNR agrees that money targeted at pre-existing comprehensive ecosystem restoration initiatives will help ensure the most value for mitigation efforts. One such initiative that the DNR feel would go a long way in mitigating impacts associated with a Fargo diversion project is completion of an ecosystem restoration and flood damage reduction project on the lower Wild Rice River. Implementation of this project would restore wetland and aquatic habitat, restore form and function to the floodplain, and restore connectivity to segmented floodplain forest.

The MNDNR will continue to provide resource management expertise in an effort to develop options that maintain as much natural form and function of the impacted resources as is possible.

Thank you for considering our input.

Sincerely,

Michael R. Carroll
Regional Director
mike.carroll@state.mn.us

Cc: Aaron Snyder, COE
Elliot Stefanik, COE
Craig Evans, COE
Kent Lokkesmoe, Director Division of Waters

Sources:

Hegrenes, S.G. 1992. Age, growth and reproduction of channel catfish in the Red River of the North. Master's thesis. University of North Dakota, Grand Forks, ND.

McDonald, D. 1990. The channel catfish sport harvest of the lower Red River. Master's thesis. University of Manitoba, Winnipeg.

MN DNR. 2002. Restoration of extirpated lake sturgeon (Acipenser fulvescens) in the Red River of the North watershed. Minnesota Department of Natural Resources, Division of Fisheries, Bemidji, MN.

Wendel, J.L. 1999. Habitat use and movements of channel catfish in the Red River of the North. Master's thesis. University of North Dakota, Grand Forks, ND.

Fargo/Moorhead Feasibility Study Scoping Comments
Bob Bezek [Bob.Bezek@dnr.state.mn.us]

Jon,

In response to the initial meeting you had in Fargo and your request for some input based on that meeting, comments were solicited from Department staff. While I did get some input back it was very general in nature. I think it would have been helpful to have a formal request to respond to. That being said, following is a summation of the comments we received.

1. Continue to consult Natural Heritage data.

2. It is anticipated that a channel diversion through agriculture land will not have significant impacts to wildlife resources for production or movement. Depending on the type of vegetation and management practices employed some benefits may be realized in a diversion channel.

3. Levees and floodwalls along the river may effect the movement of some species of wildlife such as geese, but would not be significant in either a negative or positive way.

4. The employment of water retention should be included in the mix of alternatives. Opportunities exist to increase and improve ecosystem and wetland restoration, wildlife habitat and provide recreational opportunities through the use of multipurpose water retention areas.

5. Attached for consideration is Technical Paper 12 (Wetland Hydrology & Biodiversity in the Red River Basin, Minnesota) developed by the Red River Flood Damage Reduction Work Group.

6. The potential for impacts to the Buffalo Aquifer need to be addressed in the consideration of alternatives.

7. Many regional flood mitigation efforts are either under way or planned by groups such as the Red River Water Management Board and the Red River Basin Commission. Every effort should be made to identify all possible partners to leverage money and benefits where ever possible.

8. It is recommended that structural flood control measures not be utilized to promote development in currently undeveloped areas prone to flooding.

Again, these are just some initial comments. Once you compile the comments you have received from others it might help to route those to our staff as well. Thanks for the opportunity to provide input Jon.

Best Regards, Bob Bezek

Robert J. Bezek
NW Regional Hydrologist
MN DNR Waters - Bemidji
(o) 218-308-2621
(c) 218-760-7096

From: Nathan Kestner
To: craig.o.evans@usace.army.mil
CC: Bezek, Bob; Buesseler, Peter; Doneen, Randall; Groshens, Tom
Date: 8/27/2009 1:05 PM
Subject: Fargo-Moorhead Metro Feasibility, Draft Scoping Document - DNR Comments
Attachments: Wetland Hydrology and Bio.pdf; Wetland Restoration to.pdf; Nathan Kestner.vcf

Craig,

It appears that all previous DNR comments and concerns have been included in either the Scope of Alternatives or Scope of Issues To Be Addressed in the EIS sections of the Draft Scoping Document.

Based on staff comments, it was suggested that additional emphasis be placed on wetland restoration as a flood storage alternative:

Wetland Restoration
The employment of water retention through wetland restoration has been included in the Scoping Document in both the scope of alternatives and in the scope of issues to be addressed section.

Wetland restorations have multi-purpose benefits (water quality, fish & wildlife habitat) that are not always captured in cost-benefit analysis. The restoration of wetland ecosystems can result in a change in one or more functions which include; water quality improvement, floodwater retention, fish and wildlife habitat, aesthetic and biological activity. The value (or estimate of the importance or worth) of one or more of these changes in function should be included in the cost benefit and impact analysis. Additionally, there will likely be many other agencies (MDNR, NDDNR, USFWS, MPCA, Watershed Districts) willing to partner on projects that would help distribute the cost this consideration should also be included in any cost benefit analysis.

Attached for consideration are two papers that provide recommendations and/or acknowledge that further study of wetland restorations for flood benefits is needed. These papers may be of value in preparing the EIS.

- Technical Paper 12 (Wetland Hydrology & Biodiversity in the Red River Basin, Minnesota) developed by the Red River Flood Damage Reduction Work Group).

- Agribusiness & Applied Economics Report No. 432a (The Feasibility of Wetland Restoration to Reduce Flooding in the Red River Valley: A Case Study of the Maple River Watershed, North Dakota).

It is our anticipation that the alternative of wetland restoration will be given thorough consideration and comprehensive review in the EIS. The DNR will be submitting more formal comments for the final document. Please call me with any questions.

Thank you

Nathan Kestner
Environmental Assessment Biologist
MN DNR Division of Ecological Resources
2115 Birchmont Beach Rd NE, Bemidji, MN 56601
218-308-2672, 218-755-4066 (fax)

From: Nathan Kestner
To: Sobiech, Jonathan J MVP
CC: Bezek, Bob; Buesseler, Peter; Carlson, Thomas; Drewes, Henry; Groshe...
Date: 10/2/2009 3:18 PM
Subject: Re: Diversion Channel Alternatives
Attachments: Nathan Kestner.vcf

Jon-

The DNR appreciates the opportunity to provide comments on the diversion channel alternatives being considered as part of the Phase 2 Feasibility study for the Fargo-Moorhead Metro Flood Risk Management Project. DNR staff did not review North Dakota diversion alternatives, however; we have given the Minnesota alternatives a preliminary review and offer the following comments:

Wildlife:
As far as Wildlife is concerned, there doesn't appear to be any issues or concerns with either alignment as both alternatives are located on tillable land. The DNR encourages a management scheme of the channel which provides wildlife habitat value.

Fisheries:
1. The DNR recommends setting inlet diversion crest elevations at the 10 year event level, allowing flows associated with less frequent events to continue to flow down Red River of the North.
2.Ensure all structures , including culverts and diversions, are designed to allow fish passage.
3.Design all structures and channels to ensure vertical and lateral stream channel stability, and maintain functionality.
4.Design the low-flow pilot channel within the diversion channel as a Rosgen E channel type to mimic natural stream morphology and functionality.
5.Establish project monitoring plan to identify stream, ditch and diversion channel adjustments over time, and design and implement maintenance activities as necessary.

Vegetation:
Other than what has already been stated (regarding a management scheme which provides habitat value), the DNR does not have further specific comments pertaining to the selection of vegetation species within the diversions. We will provide further input in the future if a diversion alternative is further pursued.

Thank you for the opportunity to provide these comments. The MnDNR looks forward to working with the Corps of Engineers in a collaborative manner. As the project moves forward the DNR will have more substantive and formalized comments. Please feel free to give me a call at 218-308-2672 with any questions.

Thank you.

Nathan Kestner
Environmental Assessment Biologist
MN DNR Division of Ecological Resources
2115 Birchmont Beach Rd NE, Bemidji, MN 56601
218-308-2672, 218-755-4066 (fax)

>>> "Sobiech, Jonathan J MVP" <Jonathan.J.Sobiech@usace.army.mil> 9/30/2009 4:20 PM >>>
Hello,
I am writing to follow up with the diversion channel alternatives I sent out. I am looking for comments by the end of this week Oct 2nd if possible. I would also like to set up a meeting/workshop to discuss the comments and the impacts these alternatives will create. I was hoping to have a meeting the week of October 12th, but realize that is too soon and instead am shooting for the week of October 26th. Your input on this alternative is extremely important for this process, I look forward to hearing from all of you.
Thanks for your hard work on this project I really appreciate it.
Jon

Jonathan Sobiech
Forester
US Army Corps of Engineers
190 East 5th St, Suite 401
St Paul, MN 55101
Office phone 651-290-5428
Cell 651-380-0979
fax 651-290-5258

NORTH DAKOTA
DEPARTMENT of HEALTH

ENVIRONMENTAL HEALTH SECTION
Gold Seal Center, 918 E. Divide Ave.
Bismarck, ND 58501-1947
701.328.5200 (fax)
www.ndhealth.gov

June 24, 2010

AARON M SNYDER
USACE PLANNER AND PROJECT MANAGER
ST PAUL CORPS OF ENGINEERS
190 EAST 5TH STREET SUITE 401
ST PAUL MN 55101

RE: Draft Feasibility Report and EI Statement for Fargo-Moorhead Metro Area Cass County

Dear Mr. Snyder:

This department has reviewed the information concerning the above-referenced project submitted under date of June 3, 2010, with respect to possible environmental impacts.

This department believes that environmental impacts from the proposed construction will be minor and can be controlled by proper construction methods. With respect to construction, we have the following comments:

1. All necessary measures must be taken to minimize fugitive dust emissions created during construction activities. Any complaints that may arise are to be dealt with in an efficient and effective manner.

2. Care is to be taken during construction activity near any water of the state to minimize adverse effects on a water body. This includes minimal disturbance of stream beds and banks to prevent excess siltation, and the replacement and revegetation of any disturbed area as soon as possible after work has been completed. Caution must also be taken to prevent spills of oil and grease that may reach the receiving water from equipment maintenance, and/or the handling of fuels on the site. Guidelines for minimizing degradation to waterways during construction are attached.

3. Projects disturbing one or more acres are required to have a permit to discharge storm water runoff until the site is stabilized by the reestablishment of vegetation or other permanent cover. Further information on the storm water permit may be obtained from the department's website or by calling the Division of Water Quality (701.328.5210). Projects disturbing less than one acre also are required to have a permit if the project is part of a larger common plan of development or sale, and the larger common plan ultimately disturbs one or more acres. A temporary dewatering permit may be required in order to discharge water from sources other than storm water runoff and uncontaminated groundwater.

Projects that have a discharge point located within 2,000 feet of, and flow to, a water body listed as impaired due to sediment, suspended solids or turbidity under section 303(d) of the Federal CWA (see the department's 303(d) List) should use caution to prevent impacts to the water body and water quality monitoring projects. If a project discharges to a water body with a total maximum daily load (TMDL) allocation of sediment, suspended solids or turbidity, the storm water pollution prevention plan for the project must be consistent with the assumptions, allocations and requirements of the TMDL.

In addition, cities or counties may impose additional requirements and/or specific best management practices for construction affecting their storm drainage system. Check with local officials to be sure any local storm water management considerations are addressed.

4. Noise from construction activities may have adverse effects on persons who live near the construction area. Noise levels can be minimized by ensuring that construction equipment is equipped with a recommended muffler in good working order. Noise effects can also be minimized by ensuring that construction activities are not conducted during early morning or late evening hours.

The department owns no land in or adjacent to the proposed improvements, nor does it have any projects scheduled in the area. In addition, we believe the proposed activities are consistent with the State Implementation Plan for the Control of Air Pollution for the State of North Dakota.

These comments are based on the information provided about the project in the above-referenced submittal. The U.S. Army Corps of Engineers may require a water quality certification from this department for the project if the project is subject to their Section 404 permitting process. Any additional information which may be required by the U.S. Army Corps of Engineers under the process will be considered by this department in our determination regarding the issuance of such a certification.

If you have any questions regarding our comments, please feel free to contact this office.

Sincerely,

L. David Glatt, P.E., Chief
Environmental Health Section

LDG:mjm

Attach. (as stated)

P.S. The department will send separate review of this EIS.

NORTH DAKOTA
DEPARTMENT of HEALTH

ENVIRONMENTAL HEALTH SECTION
Gold Seal Center, 918 E. Divide Ave.
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Construction and Environmental Disturbance Requirements

These represent the minimum requirements of the North Dakota Department of Health. They ensure that minimal environmental degradation occurs as a result of construction or related work which has the potential to affect the waters of the State of North Dakota. All projects will be designed and implemented to restrict the losses or disturbances of soil, vegetative cover, and pollutants (chemical or biological) from a site.

Soils

Prevent the erosion of exposed soil surfaces and trapping sediments being transported. Examples include, but are not restricted to, sediment dams or berms, diversion dikes, hay bales as erosion checks, riprap, mesh or burlap blankets to hold soil during construction, and immediately establishing vegetative cover on disturbed areas after construction is completed. Fragile and sensitive areas such as wetlands, riparian zones, delicate flora, or land resources will be protected against compaction, vegetation loss, and unnecessary damage.

Surface Waters

All construction which directly or indirectly impacts aquatic systems will be managed to minimize impacts. All attempts will be made to prevent the contamination of water at construction sites from fuel spillage, lubricants, and chemicals, by following safe storage and handling procedures. Stream bank and stream bed disturbances will be controlled to minimize and/or prevent silt movement, nutrient upsurges, plant dislocation, and any physical, chemical, or biological disruption. The use of pesticides or herbicides in or near these systems is forbidden without approval from this Department.

Fill Material

Any fill material placed below the high water mark must be free of top soils, decomposable materials, and persistent synthetic organic compounds (in toxic concentrations). This includes, but is not limited to, asphalt, tires, treated lumber, and construction debris. The Department may require testing of fill materials. All temporary fills must be removed. Debris and solid wastes will be removed from the site and the impacted areas restored as nearly as possible to the original condition.

Environmental Health Section Chief's Office 701.328.5150	Division of Air Quality 701.328.5188	Division of Municipal Facilities 701.328.5211	Division of Waste Management 701.328.5166	Division of Water Quality 701.328.5210

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North Dakota State Water Commission
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August 9, 2010

Mr. Jonathan Sobiech
U.S. Army Corps of Engineers - St. Paul District
180 Fifth Street East, Suite 700
St. Paul, MN 55101-1678

Dear U.S. Army Corps of Engineers - St. Paul District:

Thank you for the opportunity to review the May 2010, Fargo-Moorhead Metro Area Flood Risk Management, Draft Feasibility Report and EIS.

As we are all too aware, flooding in the F-M area has been a habitual problem that needs resolution. We are optimistic that through this study, and ultimately through the resulting alternative(s), a long term solution to the F-M area's flood-related issues can be advanced. For that reason, we applaud your efforts, and encourage your aggressive time schedule to move this effort forward in a timely, and environmentally sound manner.

The following include State Water Commission staff comments related to specific sections of the report:

Section 1.5.2, Page 7
There are also several non-federal studies ongoing in the watershed upstream of the study area for the Fargo-Moorhead proposed project. This includes studies of potential flood storage on the Wild Rice River, Sheyenne River, Maple River, and Rush River.

Section 1.5.3, Page 8
There are several other projects in the watershed upstream of the study area for the Fargo-Moorhead proposed project that deserve mention. These include:

- Three dams constructed on the upper portion of the Wild Rice River in Sargent County with flood storage of 1,523 acre-feet, 253 acre-feet, and 1,225 acre-feet. These dams were constructed through the Natural Resource Conservation Service (NRCS).
- Dead Colt Creek Dam, which is located on a tributary of the Sheyenne River in Ransom County, has 4,935 acre-feet of flood storage.
- The T-180 dam on a tributary of Maple River in Cass County (immediately downstream of the A-170 dam) provides 2,890 acre-feet of flood storage.

- Three dams on tributaries of the Maple River: Absaraka Dam, 895 acre-feet; Garsteig Dam, 1,380 acre-feet; and Embden Dam, 2,610 acre-feet. These dams were constructed through the NRCS.
- Erie Dam, located on the upper portion of the Rush River, with about 300 acre-feet of flood storage.
- Three dams on Elm River have flood storage of 2,641 acre-feet, 3,983 acre-feet, and 424 acre-feet. These were constructed through the NRCS.

Section 1.5.3.10, Page 10
It is stated that the Maple River Dam was proposed with 35,000 acre-feet of flood storage. However, it does not go on to say that it was actually constructed to provide 60,000 acre-feet of storage.

Section 3.12.4, Page 99
Sovereign land permits are provided through North Dakota's Office of the State Engineer, not through the State Water Commission. In addition, a construction permit would also be required from the Office of the State Engineer.

Section 4.2.1.9.1, Page 120 [Paragraph 3]
There are channel weirs on the Maple and Wild Rice Rivers. The channel weir on the Wild Rice River is located near the town of Wild Rice, a short distance upstream of the confluence with the Red River. A channel weir is located on the Maple River within 1 mile of the confluence of the Sheyenne River. There is another structure between there and the City of Mapleton. There may be some form of material extending downstream of this structure, at a flatter slope. There is also another channel weir located upstream of Mapleton, about 1 mile south of I-94.

Regarding general comments on the Draft EIS, we offer the following:

As stated previously, we absolutely agree that the Fargo-Moorhead area is vulnerable to floods, and is in need of permanent protection. We also concur with the decisions being made by the Fargo-Moorhead Metro Flood Committee.

We are, however, concerned with potential impacts that the proposed project would have on downstream areas. And, it is our understanding that a study of those impacts is currently being extended downstream of Halstad. (The unincorporated town of Caledonia may also have some impacts that deserve consideration.)

We agree to comments made at recent public meetings that farmsteads, and other sites, need to be reviewed individually in order to determine the extent of impacts to them from any selected alternative(s). Please note that the State Water Commission does have cost-share programs available for farmstead ring dikes and storage sites that could provide funding assistance toward protecting downstream areas from additional damages.

There are also concerns for landowners along the route of the proposed diversion channel. This is a major disruption to those individuals. Some will be forced to move, and others, at

the very least, will be negatively impacted in one way or another. Therefore, it is important that they receive fair compensation. More recently, there has been discussion that a slight change in the alignment of the channel may reduce the amount of farmsteads that would need to be moved, while not compromising the effectiveness of the project. We would support those changes.

Generally speaking, the State Water Commission is supportive of this F-M Metro Area project effort. And, we are committed to assisting the Corps of Engineers in any way we can to find a viable solution to the serious flooding problems that have plagued the F-M area for decades. In support of this pledge and of the project, the Commission has already obligated a substantial financial contribution for North Dakota's share.

In closing, we sincerely appreciate the professionalism and extra effort Corps staff have shown in advancing this critically important project to meet the Congressional approval deadline of December 2010.

If you have any questions or would like clarification on any of the above comments, please contact Randy Gjestvang at our Red River office at 701-282-2318, or email him at rgjestvang@nd.gov.

Thank you for your consideration of our comments.

Sincerely,

Todd Sando, P.E.
State Engineer

TS:rg:lw:pmf/1955

"VARIETY IN HUNTING AND FISHING"

NORTH DAKOTA GAME AND FISH DEPARTMENT

100 NORTH BISMARCK EXPRESSWAY BISMARCK, NORTH DAKOTA 58501-5095 PHONE 701-328-6300 FAX 701-328-6352

August 9, 2010

Aaron Snyder
USACE Planner and Project Manager
190 East 5th Street
Suite 401
St. Paul, MN 55101

Re: Fargo/Moorhead Metropolitan Area Flood Risk Environmental Impact Statement

Dear Mr. Snyder:

The North Dakota Game and Fish Department has received a copy of the Draft Environmental Impact Statement (DEIS) for Fargo/Moorhead Metropolitan Area Flood Risk Management. The scope of the DEIS is to evaluate flood risk management measures that could be implemented as a Federal project in the Fargo-Moorhead Metropolitan Area. Department personnel have worked closely with the Corps of Engineers and the local sponsors to assure adequate flood protection is implemented in the Fargo/Moorhead area while minimizing impacts to fish and wildlife resources.

Although the COE and the local sponsors have worked diligently to assure an environmentally friendly project is implemented, we have the following concerns in the DEIS that should be addressed:

5.5.1.3 – The Department has considerable concern regarding the functionality of the fish passage channel at the Wild Rice River. It appears the fish passage channel will only allow fish to enter the diversion channel and not directly back into the Wild Rice River. Fish passage will be severely limited during any event greater than a 5-year event under this scenario.

5.5.1.6 – Given the geomorphic impacts to the Wild Rice River, the Department encourages the COE to consider utilizing the Emergency Watershed Protection (EWP) program administered by the Natural Resource Conservation Service (NRCS) or acquire riparian corridors in fee title to mitigate these impacts.

5.5.1.7 – Fish passage is being considered for three dams on the Red River. The Department believes Drayton Dam is a higher priority than Christine and Hickson Dams. Drayton Dam currently acts as the largest obstacle to establishing connectivity to the Red River and its tributaries upstream of the dam. It is a shared resource between the States of North Dakota and Minnesota in which mitigation credits could also be shared.

5.5.1.8 – There are considerable wetland acres affected by the diversion channel impacting numerous types of wetlands. The DEIS indicates these wetlands will be mitigated within the diversion channel. The Department is concerned this type of mitigation will neither replace the form nor function of the impacted wetlands; therefore, alternative mitigation may need to be considered.

5.5.1.9 – The Department prefers mitigation for the riparian forest impacts include acquisition of mitigation lands. The Department's philosophy is if public dollars are being utilized for the project then the mitigation should be available for public use. The Department would also consider entering into a MOU to manage these properties if they are of adequate size and habitat quality.

5.5.2.1 – As part of the post construction monitoring and concerns for fish passage at the structures, the Department requests actual velocities be collected at various river stages to assure adequate velocity gradients are available to the fish communities. There is a great deal of uncertainty if the structures will function as modeled. If an adequate velocity gradient is not available to the aquatic community, modifications to the project will need to occur.

5.5.3 – There are numerous impacts that can be readily mitigated, however there are also numerous unknowns regarding fish passage and geomorphic impacts that are going to be very difficult to quantify. The Department has voiced concern numerous times regarding the need to assure funding is available to allow for future modification of the project or additional mitigation to offset those unidentified impacts. The local sponsor and COE should be responsible for developing a trust fund or other mechanism during the initial financial planning stages to account for the development of this fund. If modifications to the project have large costs associated with them that the trust fund could not fund, then the Corps's Continuing Authorities Program could be utilized.

Another component of the project not addressed are indirect impacts. Due to the design of the various gates and structures, the Department is concerned with the potential for increased grubbing and clearing of the Red River and the five tributaries. Although woody debris (both in channel and the riparian corridor) may increase maintenance at the various structures, it also provides important habitat for both aquatic and terrestrial organisms. The Department does not support the wholesale removal of woody debris or removal of live trees immediately adjacent to the rivers. Additionally, the probability of increased drainage (i.e. tile or surface drains) is likely. How will indirect impacts such as the previously mentioned impacts be addressed?

Sincerely,

Michael G. McKenna
Chief
Conservation & Communication Division

blk

North Dakota Department of Transportation

Francis G. Ziegler, P.E.
Director

John Hoeven
Governor

August 5, 2010

Aaron M. Snyder, Project Manger
St. Paul Corps of Engineers
Sibley Square at Mears Park
190 Fifth Street East
St. Paul, MN 55101-1638

DRAFT FEASIBILITY REPORT AND ENVIRONMENTAL IMPACT STATEMENT FOR FARGO-MOORHEAD METROPOLITAN AREA FLOOD RISK MANAGEMENT FARGO, NORTH DAKOTA AND MOORHEAD, MINNESOTA

We have reviewed your June 3, 2010, letter.

The project referenced above will have no adverse effect on the North Dakota Department of Transportation highways.

However, if any work needs to be done on highway right-of-way, appropriate permits and risk management documents will need to be obtained from the Department of Transportation District Engineer, Robert Walton at 701-239-8903.

RONALD J. HENKE, P.E., DIRECTOR – OFFICE OF PROJECT DEVELOPMENT

57: rjh:js

c: Robert Walton, Fargo District Engineer

608 East Boulevard Avenue • Bismarck, North Dakota 58505-0700
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STATE HISTORICAL SOCIETY OF NORTH DAKOTA

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Fargo - Secretary

Albert I. Berger
Grand Forks

Calvin Grinnell
New Town

Diane K. Larson
Bismarck

A. Ruric Todd III
Jamestown

Sara Otte Coleman
Director
Tourism Division

Kelly Schmidt
State Treasurer

Alvin A. Jaeger
Secretary of State

Mark A. Zimmerman
Director
Parks and Recreation Department

Francis Ziegler
Director
Department of Transportation

Merlan E. Paaverud, Jr.
Director

Accredited by the American Association of Museums since 1986

June 14, 2010

Mr. Aaron M. Snyder, Project Manager
Department of the Army
St. District Corps of Engineers
190 Fifth Street East Suite 401
St. Paul, Minnesota 55101-1638

ND SHPO REF:09-1166 COE Draft Feasibility Report and Environmental Impact Statement: Fargo-Moorhead Metropolitan Area Flood Risk Management

Dear Mr. Snyder:

We have received and reviewed correspondence and documentation for : "COE Draft Feasibility Report and Environmental Impact Statement: Fargo-Moorhead Metropolitan Area Flood Risk Management," (May 2010).

As outlined and discussed in various sections of the document (e.g., 4.2.2, 4.2.3, 5.4.2), cultural resource protocols will be treated with respect to a Programmatic Agreement. Further, identification efforts for cultural resources that may be impacted by the project remain to be undertaken. Finally, we look forward to continuing consultation on this project, and to the review of forthcoming documentation regarding it.

Thank you for the opportunity to review the project. If you have any questions please contact either Susan Quinnell at (701) 328-3576 or squinnell@nd.gov or Paul Picha at (701) 328-3574.

Sincerely,

Merlan E. Paaverud, Jr.
State Historic Preservation Officer (North Dakota)
and
Director, State Historical Society of North Dakota

North Dakota Heritage Center • 612 East Boulevard Avenue, Bismarck, ND 58505-0830 • Phone 701-328-2666 • Fax: 701-328-3710
Email: histsoc@nd.gov • Web site: http://history.nd.gov • TTY: 1-800-366-6888

NORMAN COUNTY BOARD OF COMMISSIONERS

RESOLUTION NO. CR 09-06-10-3

Commissioner Jacobson introduced the following resolution and moved it's adoption:

WHEREAS, The United States Army Corps of Engineers, (USACE) has proposed constructing flood water diversion channels around the cities of Fargo,ND and Moorhead MN.

WHEREAS, The proposed diversion channel redeposits the floodwater back into the Red River in northern Clay County of MN or Northern Cass County of ND.

WHEREAS, Norman County is situated directly north and downstream from the point at which the proposed diversion channels reenter the Red River.

WHEREAS, The proposed flood diversion channels will change the flow regime of the Red River during flood events and is estimated to cause an adverse impact of as much as seventeen inches of additional crest elevation to western Norman County.

WHEREAS, Increased flood crest of the magnitude envisioned by the USACE will adversely impact roads, bridges, utilities, farms, personal property, commerce, public safety, and personal well being to those downstream of the proposed diversion.

WHEREAS, A change in flow regime that results in adverse impacts to Norman County and its residents and or others situated downstream from the proposed diversion projects is not acceptable.

NOW THEREFORE, To preserve the interests of Norman County and its people, the Norman County Board of Commissioners do hereby go on record of opposing the FM diversion project as it is now proposed.

The motion for adoption of the forgoing resolution was duly seconded by commissioner Olson and upon vote being taken thereon, All voted in favor thereof: and None voted against the same: whereupon said resolution was declared duly passed and adopted

Adopted this 6 day of July, 2010

By Lee Ann Hall
Lee Ann Hall, Chair

Attest Richard Munter
Richard Munter, Auditor Treasurer

NORMAN COUNTY BOARD OF COMMISSIONERS

RESOLUTION NO. CR 07-22-10-1

Commissioner Hall introduced the following resolution and moved it's adoption:

WHEREAS, The United States Army Corps of Engineers, (USACE) has determined that impacts are expected north of Halstad, MN. as a result of construction of the proposed Fargo Moorhead diversion.

WHEREAS, The USACE has just recently released this information.

WHEREAS, The USACE has not indicated to citizens north of Halstad the magnitude of the expected impacts.

WHEREAS, The citizens situated north of Halstad, MN. are unable to determine their situation as a result of impacts of the FM diversion due to lack of information.

WHEREAS, The USACE has set August 9, 2010 as the deadline for public comment on the proposed FM diversion.

WHEREAS, An August 9th deadline does not provide sufficient time for residents situated north of Halstad to determine how the impacts of the proposed FM diversion will affect them and submit comment.

NOW THEREFORE, To preserve the interests of Norman County and its people, the Norman County Board of Commissioners do hereby go on record of requesting the USACE to extend the time frame of public comment in regard to the proposed FM diversion to accommodate the needs and rights of citizens situated north of Halstad, MN.

The motion for adoption of the forgoing resolution was duly seconded by commissioner Gunderson and upon vote being taken thereon, 5 voted in favor thereof: and 0 voted against the same: whereupon said resolution was declared duly passed and adopted

Adopted this 22 day of July, 2010

By Lee Ann Hall
Lee Ann Hall, Chair

Attest Richard D Munter
Richard Munter, Auditor Treasurer

Norman County
Auditor/Treasurer Office
PO Box 266
Ada MN 56510-0266

Phone 218 784-5473
Fax 218 784-4531
Web: www.co.norman.mn.us
Email: rick.munter@co.norman.mn.us

August 3, 2010

Terry J Birkenstock
St. Paul District, Corps of Engineers
180 Fifth Street East, Suite 700
St. Paul MN 55101-1678

Dear Mr. Birkenstock,

The Norman County Board of Commissioners respectfully requests that you reconsider our resolution to extend the comment period of the Draft Feasibility Report and Environmental Impact Statement For The Fargo-Moorhead Metropolitan Area Flood Risk Management Report.

At issue is the fairness to the citizens in Northwestern Norman County and areas north of there – at this point in time they have no idea how the proposed diversion will impact them.

Please reconsider our request to extend this time frame.

On behalf of the Norman County Board of Commissioners
Sincerely,

Richard Munter
Norman County Auditor/Treasurer

cc: Amy Kolbuchar, Al Franken, Collin Peterson, Craig Evans

Equal Opportunity Employer

Cooperating for Conservation

NORMAN COUNTY SOIL & WATER CONSERVATION DISTRICT

100 Main Avenue East – PO Box 60
Twin Valley Minnesota 56584
Phone (218) 584-5169 Fax (218) 584-5667
E-Mail – swcd@tvutel.com

August 2nd, 2010

US Army Corps of Engineers
Headquarters
St. Paul District
190 Fifth Street East
St. Paul, MN 55101-1638

Subject: Soil Erosion issues related to Fargo-Moorhead diversion and flooding of the Red River of the North.

The Norman County Soil and Water Conservation District would like to request that the USACE determine and quantify the costs of erosion and associated sedimentation caused by the increased flood crest elevations from the proposed Fargo-Moorhead diversion. We would like to see this done at various crest elevations, before and after the proposed diversion, at locations downstream of the proposed diversion.

Soil erosion and sedimentation has become a common occurrence and serious problem in the Red River Basin as a result of flooding. Soil erosion removes several inches to several feet of top soil and redeposit's it downstream as sedimentation. This has resulted in reduced crop production capacity, lost revenue to landowners and growers and increased flooding, thereby reducing the economic vitality of our communities.

The proposed Fargo Moorhead diversion is estimated to cause as much as seventeen inches of additional flood crest elevations in areas downstream of the proposed diversion. We assume this additional crest elevation, due to the Fargo-Moorhead diversion, will exacerbate the erosion and sedimentation problem and its' associated costs.

Erosion and sedimentation, as a consequence of flooding, has been overlooked by many over the years. This issue may be the largest, in terms of cost, to our communities and the environmental impacts of the proposed Fargo-Moorhead diversion. We look forward to your reply.

Sincerely,

Ron Thorsrud
Chairman, Norman County Soil and Water Conservation District

CC:
MN State and Federal elected officials
MNDNR
MN Pollution Control
MN Center for Environmental Advocacy
Red River Basin Commission
Red River Watershed Management District
Red River Watershed FDR
NRCS
Clay SWCD
Polk SWCD

NORMAN COUNTY WEST

ISD #2527

EQUAL OPPORTUNITY EMPLOYER

WEST ELEMENTARY
PO Box 39, Hendrum, MN 56550
(218) 861-5800 FAX (218) 861-6223

WEST HIGH
PO Box 328, Halstad, MN 56548
(218) 456-2151 FAX (218) 456-2193

Board Members
Diane Brommenschenkel, Jamie Hennen, Anita Olson, Craig Steen, Chris Strand, Ann Tommerdahl

NCW Mission Statement
To build caring and contributing members of a community

RESOLUTION FROM THE NORMAN COUNTY WEST SCHOOL BOARD, REGARDING THE PROPOSED DIVERSION PROJECT IN FARGO, NORTH DAKOTA AND MOORHEAD, MINNESOTA.

Be is resolved that the Norman County West School District #2527, has some major concerns with the proposed Flood Diversion Project being discussed for Fargo and Moorhead. Our school district has students attending school from the communities of; Georgetown, Perley, Hendrum, Halstad, Shelly, and Nielsville. We also have a large percentage of our students living on farms near these communities. We also currently have 13 students attending our schools from the North Dakota side of the Red River.

The Norman County West School District is in opposition to the current proposed project, because it does not include any proposed retention components to the project. We're in opposition for the following reasons;

- The Diversion will get the water through the Fargo/Moorhead area very quickly, and as a result, will compound our already existing flood problem.
- Our students suffer every year, because of the continued flood problem. Two years ago, our students missed nine student days, due to the flood. When you add the extra days that the High School students had to sand bag to save the farms up and down the district, it's probably closed to 15 days of instruction. Even last year, when we lucked out, our High School students were released for 2 days to sand bag. It's predicted that the diversion could raise the flood levels as much at 17 inches. This will only mean additional student days lost.

It is the policy of this school district not to discriminate on the basis of race, color, national origin, sex or disability in its educational programs, activities, or employment policies. Inquiries regarding compliance may be directed to the elementary school at Hendrum, Minnesota, at 218-861-5800, or the Director of the Office for Civil Rights, Department of Health, Education, and Welfare, Washington, DC.

- Bussing gets to be a major headache both during and after the flood. Roads become impassable, and after the flood waters recede, it takes weeks to get some of them repaired. A 6 mile bus trip between the two schools at Hendrum and Halstad, have increased to a 21 mile trip, with Highway 75 under water.

We are not in opposition to the idea of a diversion in Moorhead and Fargo. We are in opposition to fact that our flood problem will get worse, without some type of retention put in place.

Respectfully,

Craig Steen, Chair

Anita Olson

Jamie Hennen

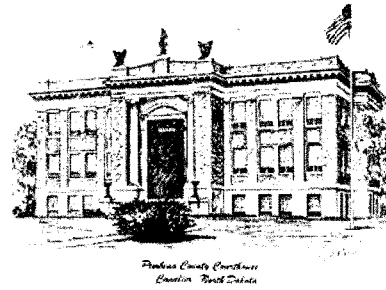
Chris Strand

Diane Brommenschenkel

Ann Tommerdahl

Ollen Church, Superintendent

PEMBINA COUNTY
North Dakota



OFFICES OF AUDITOR/TREASURER
SUPT OF SCHOOLS DESIGNEE

Linda Schlittenhard

Dawn Useldinger-Menzies
Deputy Auditor/Treasurer

Renee L Lunde
Deputy Auditor/Treasurer

Telephone 701-265-4231 Fax 701-265-4876
301 Dakota Street West #1, Cavalier, ND 58220
Email: lschlitt@nd.gov
www.pembinacountynd.gov

August 4, 2010

Aaron Snyder
St Paul District, Corps of Engineers
180 Fifth St E, Ste 700
St Paul, MN 55101-1678

Dear Mr. Snyder,

The Pembina County Board of Commissioners respectfully requests that you reconsider our resolution to extend the comment period for the Draft Feasibility Report and Environmental Impact Statement for the Fargo-Moorhead Metropolitan Area Flood Risk Management Report.

At this point in time we are uncertain how the proposed diversion will impact our community and surrounding communities, therefore, please reconsider our request for an extension to this time frame.

On behalf of the Pembina County Board of Commissioners

Sincerely,

Linda Schlittenhard

Linda Schlittenhard
Pembina County Auditor/Treasurer

Enc

PEMBINA COUNTY BOARD OF COMMISSIONERS

RESOULUTION NO. R08-03-10

Commissioner Ralston introduced the following resolution and moved it's adoption:

WHEREAS, the United States Army Corps of Engineers, (USACE) has determined that impacts are expected north of Grand Forks, ND as a result of construction of the proposed Fargo Moorhead diversion.

WHERAS, The USACE has just recently released this information.

WHEREAS, The USACE has not indicated to citizens north of Grand Forks, ND the magnitude of the expected impacts.

WHEREAS, The citizens situated north of Grand Forks, ND are unable to determine their situation as a result of the FM diversion due to lack of information.

WHEREAS, The USACE has set August 9, 2010 as the deadline for public comment on the proposed FM diversion.

WHEREAS, An August 9, 2010 deadline does not provide sufficient time for residents situated north of Grand Forks, ND to determine how the impacts of the proposed FM diversion will affect them and submit comment.

NOW THEREFORE, To preserve the interests of Pembina County and its people, the Pembina County Board of Commissioners do hereby go on record of requesting the USACE to extend the time frame of public comment in regard to the proposed FM diversion to accommodate the needs and rights of citizens situated north of Grand Forks, ND

The motion for adoption of the forgoing resolution was duly seconded by Commissioner Adamson and upon vote being taken theron, 5 voted in favor thereof; and 0 voted against the same: whereupon said resolution was declared duly passed and adopted.

Adopted this 3rd day of August, 2010

By Hetty Walker
Hetty Walker, Chairman
Pembina County Board of Commission

ATTEST: Linda Schlittenhard
Linda Schlittenhard, Auditor/Treasurer

PEMBINA COUNTY BOARD OF COMMISSIONERS

RESOULUTION NO. R08-03-10

Commissioner Ralston introduced the following resolution and moved it's adoption:

WHEREAS, the United States Army Corps of Engineers, (USACE) has determined that impacts are expected north of Grand Forks, ND as a result of construction of the proposed Fargo Moorhead diversion.

WHERAS, The USACE has just recently released this information.

WHEREAS, The USACE has not indicated to citizens north of Grand Forks, ND the magnitude of the expected impacts.

WHEREAS, The citizens situated north of Grand Forks, ND are unable to determine their situation as a result of the FM diversion due to lack of information.

WHEREAS, The USACE has set August 9, 2010 as the deadline for public comment on the proposed FM diversion.

WHEREAS, An August 9, 2010 deadline does not provide sufficient time for residents situated north of Grand Forks, ND to determine how the impacts of the proposed FM diversion will affect them and submit comment.

NOW THEREFORE, To preserve the interests of Pembina County and its people, the Pembina County Board of Commissioners do hereby go on record of requesting the USACE to extend the time frame of public comment in regard to the proposed FM diversion to accommodate the needs and rights of citizens situated north of Grand Forks, ND

The motion for adoption of the forgoing resolution was duly seconded by Commissioner Adamson and upon vote being taken theron, 5 voted in favor thereof; and 0 voted against the same: whereupon said resolution was declared duly passed and adopted.

Adopted this 3rd day of August, 2010

By Hetty Walker
Hetty Walker, Chairman
Pembina County Board of Commission

ATTEST: Linda Schlittenhard
Linda Schlittenhard, Auditor/Treasurer

RESOLUTION OF THE POLK COUNTY
BOARD OF COMMISSIONERS

The following resolution (2010-7-41) was offered by Commissioner Buness:

WHEREAS, The United States Army Corps of Engineers, (USACE) has proposed constructing flood water diversion channels around the cities of Fargo, ND and Moorhead, MN; and

WHEREAS, The proposed diversion channel re-deposits the floodwater back into the Red River in northern Clay County of MN or Northern Cass County of ND; and

WHEREAS, The proposed flood diversion channels will change the flow regime of the Red River during flood events and is estimated to cause an adverse impact of as much as seventeen inches of additional crest elevation to western Polk County; and

WHEREAS, Increased flood crest of the magnitude envisioned by the USACE will adversely impact roads, bridges, utilities, farms, personal property, commerce, public safety, and personal well being to those downstream of the proposed diversion; and

WHEREAS, The comment period is to be closed on August 9, 2010.

THEREFORE BE IT RESOLVED, That to preserve the interests of Polk County and its people, the Polk County Board of Commissioner do hereby go on record of opposing the closure of the comment period on the Fargo-Moorhead diversion prior to flood crest impact data being provided to Polk County for points downstream of Halstad, Minnesota.

Commissioner Diedrich seconded the foregoing resolution and it was declared adopted upon the following vote. YEAS: Buness, Montague, Affeldt, Diedrich. NAYS: None.

STATE OF MINNESOTA)
) ss.
COUNTY OF POLK)

I, John P. Schmalenberg, County Coordinator to and Clerk of the Polk County Board of Commissioners do hereby certify that I have compared the foregoing resolution with the original resolution filed in my office on the 20th day of July, 2010 and that the same is a true and correct copy of the whole thereof.

WITNESS my hand and Official Seal of Polk County at Crookston, Minnesota this 20th day of July 2010.

John P. Schmalenberg
County Coordinator
Clerk of the Board

JUL 2010

TRAILL COUNTY AUDITOR
Rebecca M Braaten

PO Box 429 Hillsboro ND 58045-0429
Phone: 701-636-4458 Fax: 701-636-5418
Email: rebecca.braaten@co.traill.nd.us

August 4, 2010

US Army Corps of Engineers
St Paul District
190 Fifth Street East
St. Paul, MN 55101-1638

To Whom It May Concern:

At their regular meeting on August 3, 2010 the Traill County Board of Commissioners unanimously adopted the enclosed resolutions and would like the Army Corps of Engineers to consider the impact that the Fargo/Moorhead diversion will have on the citizens downstream of the proposed diversion on both the North Dakota and Minnesota sides of the Red River.

Thank you.

Sincerely,

Rebecca M Braaten
Traill County Auditor

RESOLUTION #1

Commissioner Larson introduced the following resolution and moved its adoption, which was seconded by Commissioner Elliott:

WHEREAS, the United States Army Corps of Engineers, (USACE) has proposed constructing flood water diversion channels around the cities of Fargo, ND and Moorhead, MN.

WHEREAS, The proposed diversion channel redeposit's the floodwater back into the Red River in Northern Clay County of MN or Northern Cass County of ND.

WHEREAS, The proposed flood diversion channels will change the flow regime of the Red River during flood events and is estimated to cause an adverse impact of as much as seventeen inches of additional crest elevation to eastern Traill County.

WHEREAS, Increased flood crest of the magnitude envisioned by the USACE will adversely impact roads, bridges, utilities, farms, personal property, commerce, public safety and personal well being to those downstream of the proposed diversion.

WHEREAS, A change in flow regime that results in adverse impacts to Traill County and its residents and others situated downstream from the proposed diversion projects is not acceptable.

NOW THEREFORE BE IT RESOLVED, to preserve the interests of Traill County and its citizens, the Traill County Board of Commissioners do hereby go on record of opposing the FM diversion project.

Upon roll call vote being taken thereon, the following voted in favor: Commissioners Eblen, Elliott, Larson and Osland

the following voted against the same: Commissioner Peterson
and the following were absent: None
whereupon said resolution was declared duly passed.

Dated this 3rd day of August, 2010

Attest:

Rebecca M Braaten, County Auditor

Thomas Eblen, Chairman

RESOLUTION #2

Commissioner Peterson introduced the following resolution and moved its adoption, which was seconded by Commissioner Elliott:

WHEREAS, The United States Army corps of Engineers, (USACE) has determined that impacts are expected north of Halstad, MN as a result of construction of the proposed Fargo Moorhead diversion.

WHEREAS, The USACE has just recently released this information.

WHEREAS, The USACE has not indicated to the citizens north of Halstad the magnitude of the expected impacts.

WHEREAS, The citizens situated north of Halstad, MN are unable to determine their situation as a result of impacts of the FM diversion due to lack of information.

WHEREAS, The USACE has set August 9, 2010 as the deadline for public comment on the proposed FM diversion.

WHEREAS, An August 9, 2010 deadline does not provide sufficient time for residents situated north of Halstad to determine how the impacts of the proposed FM diversion will affect them and submit comment.

NOW THEREFORE IT BE RESOLVED, To preserve the interests of Traill County and its citizens, the Traill County Board of Commissioners do hereby go on record requesting the USACE to extend the time frame of public comment to regard the proposed FM diversion to accommodate the needs and rights of citizens situated north of Halstad, MN.

Upon roll call vote being taken thereon, the following voted in favor: Commissioners Eblen, Elliott, Peterson, Larson and Osland

the following voted against the same: None
and the following were absent: None
whereupon said resolution was declared duly passed.

Dated this 3rd day of August, 2010.

Attest:

Thomas Eblen, Chairman

Rebecca M Braaten, County Auditor

CITY OF Fargo

MOORHEAD MINNESOTA

July 15, 2010

Colonel Michael J. Price
District Engineer, Corps of Engineers
180 East 5th Street, Suite 700
St. Paul, MN 55101-1678

Dear Colonel Price:

The cities of Fargo, North Dakota and Moorhead, Minnesota offer continued support for the North Dakota Diversion alternative of the Fargo Moorhead Metropolitan Flood Risk Management Project.

Through hours of work on the Fargo Moorhead Metropolitan Area Flood Risk Management Study, local, state staff and elected officials as well as Corps of Engineers staff has produced a locally preferred plan (LPP) to divert water around the Fargo-Moorhead metropolitan area in rural Cass County, North Dakota. This 35,000 cfs LPP diversion plan will reduce the flooding potential in the communities to manageable levels in the Red River of the North as it winds its way through the cities. Current estimates of the project first costs are $1,272,108,000 with federal and non-federal shares estimated at $710,666,000 and $561,442,000, respectively.

The states of Minnesota and North Dakota have agreed to consider funding a portion of the local share. Affected governmental entities within the protected areas of the diversion have also agreed to consider the funding of design, construction and other local costs.

This request is from Moorhead, Minnesota and Fargo, North Dakota to be recognized as the non-federal sponsors to continue the planning, design and construction of the North Dakota diversion plan for Fargo-Moorhead and Cass and Clay counties. This letter, while not legally binding on the sponsors of Fargo and Moorhead or the states of Minnesota or North Dakota as an obligation of future funds, does declare our full support of the diversion project.

Accordingly, the Sponsors recognize that the project requires the non-Federal sponsor to contribute 35% of the Federally Comparable Plan (FCP) total project costs and 100% of the incremental cost between the FCP and the LPP, including all rights-of-way acquisition, relocation, bridge construction, and any improvements to support this

project that is not federally eligible for funding. Moreover, it is recognized the Sponsors will be responsible to operate, maintain, rehabilitate, repair and/or replace project components if necessary. The Self-Certification of Financial Capability, approved by our governing bodies and fully executed, is enclosed.

The cities of Fargo and Moorhead are pleased to offer continuing support of this project and specifically for the locally preferred plan. We appreciate the hard work that has been put in to date allowing the team to arrive at an implementable plan that provides a great number of benefits for over 200,000 residents of two major cities in our region, two states and the nation. We look forward to the continued cooperation and partnership with the Corps, state and local entities as we move forward with the FM Metro Flood Risk Management Project.

Sincerely,

Dennis R. Walaker
Mayor
City of Fargo, North Dakota

Mark Voxland
Mayor
City of Moorhead, Minnesota

so
enclosure
mfsponsoralt

NON-FEDERAL SPONSOR'S
SELF-CERTIFICATION OF FINANCIAL CAPABILITY
FOR DECISION DOCUMENTS

We, Dennis R. Walaker and Mark Voxland, do hereby certify that we are the Mayors of the cities of **Fargo, North Dakota** and **Moorhead, Minnesota**, respectively (jointly referred to as the "Non-Federal Sponsor"); that we are aware of the financial obligations of the Non-Federal Sponsor for the **Fargo Moorhead Metropolitan Area Flood Risk Management Project**; and that the Non-Federal Sponsor will have the financial capability to satisfy the Non-Federal Sponsor's obligations for that project. We understand that the Government's acceptance of this self-certification shall not be construed as obligating either the Government or the Non-Federal Sponsor to implement a project.

IN WITNESS WHEREOF, we have made and executed this certification this 15th day of July, 2010.

BY: _____
Dennis R. Walaker, Mayor
City of Fargo, North Dakota

DATE: 15 July, 2010

Attest: _____
Steven Sprague, City Auditor

DATE: 15 July, 2010

BY: _____
Mark Voxland, Mayor
City of Moorhead, Minnesota

DATE: 15 July, 2010

BY: _____
Michael J. Redlinger, City Manager

DATE: 7/15/10

RESOLUTION NO. 2010-08-01

A RESOLUTION REGARDING
FARGO-MOORHEAD DIVERSION PROJECT

WHEREAS, There is proposed a Fargo-Moorhead Diversion Project which will have dramatic impact upon down stream property, including land in Norman County

AND WHEREAS, Said Diversion Project may have significant impact upon tributaries to the Red River of the North, including the Wild Rice River which has had a significant impact upon the City of Ada.

AND WHEREAS, The City of Ada has deep concerns about the proposed Project and the potential for disastrous consequences to down stream property owners and the residents of Ada.

NOW, THEREFORE, It is hereby resolved that the City of Ada requests that the Cities of Fargo and Moorhead and the Counties of Cass County, North Dakota, and Clay County, Minnesota, and the Army Core of Engineers and all other government agencies involved in said project, provide more time for public input on the Fargo-Moorhead Diversion Project and more study and discussion of the downstream effect.

BE IT FURTHER RESOLVED That the period allowed for public input be extended a reasonable period of time for further input.

Upon above Resolution being put to the vote, the above Resolution was passed by the following vote:

Ayes: Pinsonneault, Hansen, Edwards, Peterson, Austinson

Nayes: Roux, Robertson.

Dated: August 4, 2010

Jim Ellefson
Jim Ellefson, Mayor

ATTEST:

Shelley Kappes
Shelley Kappes, City Clerk

W:8/10

LT: VE Chris Ag
Original: DPM

City of Drayton

PO Box 280
Drayton ND 58225
701-454-3590

August 5, 2010

United States Army Corps of Engineers
St. Paul District
Attention: Colonel Price
180 5th Street East, Suite 700
St. Paul, Minnesota 55101-1678

Dear Colonel Price:

The City of Drayton, ND, expresses concern about the proposed Fargo Diversion. We are very anxious to hear how the diversion might affect the Thompson Bridge area. We ask that further study be completed to determine what effect such a project will have on Drayton and other cities in the northern Red River Valley. Until that information is available, we ask that the project be put on hold.

The City of Drayton cannot withstand any additional flood water. It would also be detrimental to us if flood waters from the south reach us quicker. Because the river flows north, the river at Drayton is still frozen when Fargo is cresting. Sending flood waters to us faster is a recipe for disaster.

Thank you for allowing us to comment on this matter. Please keep us informed on further developments.

Sincerely,

Ardis J. Olson
Mayor, City of Drayton

Ardis Olson, Mayor
Mark Prigge, Council
Michael Larson, Council
Randy Schuster, Council
Paul Deubner, Council
Scott Kraft, Council
Jason Woinarowicz, Council

RESOLUTION NO. 10 – 08 - 85

Council Member Pokrzywinski, supported by Council Member Leigh, introduced the following resolution and moved its adoption:

WHEREAS, The City of East Grand Forks is not opposed to the Fargo-Moorhead Diversion Project, and supports it's timely completion.

WHEREAS, The City of East Grand Forks supports basin wide retention to help mitigate the impacts.

WHEREAS, The United States Army Corps of Engineers, (USACE) has determined that impacts are expected north of Halstad, MN as a result of construction of the proposed Fargo-Moorhead diversion.

WHEREAS, The USACE has just recently released this information.

WHEREAS, The USACE has not indicated to citizens north of Halstad, including East Grand Forsk, the magnitude of the expected impacts.

WHEREAS, The citizens situated north of Halstad, MN are unable to determine their situation as a result of impacts of the FM diversion due to lack of information.

WHEREAS, The USACE has set August 9, 2010 as the deadline for public comment on the proposed FM diversion.

WHEREAS, an August 9th deadline does not provide sufficient time for residents of East Grand Forks to determine how the impacts of the proposed FM diversion will affect them and submit comment.

NOW THEREFORE, to preserve the interests of East Grand Forks, the City Council requests the USACE to extend the time frame of public comment in regard to the proposed FM diversion to accommodate the needs and rights of East Grand Forks citizens.

Voting Aye: Buckalew, Tweten, Gregoire, Leigh, Pokrzywinski, DeMers, and Grassel.
Voting Nay: None.
Absent: None.

The President declared the resolution passed. Passed: August 3, 2010

Attest:

City Administrator/Clerk-Treasurer

President of Council

I hereby approve the foregoing resolution this 3rd of August, 2010.

Lynn Haus

Mayor

City of East Grand Forks

600 DeMers Ave • P.O. Box 373 • East Grand Forks, MN 56721
218-773-2483 • 218-773-9728 fax www.eastgrandforks.net

August 6, 2010

Mr. Aaron Synder
USACE Planner and Project Manager, PTAP
Chief Project Manager Branch (PM-B)
180 East 5th Street, Suite 700
St. Paul, MN 55101

RE: Draft Feasibilty Report and Environmental Impact Statement - FM Metropolitan Area

Dear Mr. Snyder:

The City of East Grand Forks supports flood control projects for the entire Red River Valley, including the Fargo-Moorhead area. Our elected officials have invited State and Federal officials to our community during the past two seasons of spring flood events so that they could see the differences and the benefits to our flood protection along the Red River; and to encourage our representatives to assist other communities.

With that in mind the following are the comments from the City of East Grand Forks pertaining to the above draft report for the Fargo-Moorhead Flood Control Project.

- The cities of Grand Forks/East Grand Forks just completed a $400 million flood control project to a 210-year design. We expect our flood control project to retain that level of protection when the Fargo-Moorhead project is completed. In other words, we expect to be kept whole.

- Given the data to date, summer floods would also be more likely to reach flood stage and could impact our state campground and the underpass on 4th Ave NW. This is unacceptable. The City of East Grand Forks and the State of Minnesota have a large investment in the campground. We do not want to lose any future revenues or positive community impacts due to the to the proposed Fargo-Moorhead project. The campground was protected by a small levee before the main Citywide levee project was completed. The Corps asked us to remove the levee because it caused a 0.10 foot rise in the computed water surface elevation near the Sorlie bridge. The impacts of the proposed project far exceed that rise given the currently-available information.

- The City of East Grand Forks recently submitted a project to the USCOE for review. The City was told by the Corps that the City could not raise the floodway elevation by more than *one-hundredth* (0.01) of one foot. Therefore, we cannot understand how the USCOE can propose a project that raises our flood profiles by *over one foot* without a proposed mitigation plan.

The City of East Grand Forks is an Affirmative Action Equal Opportunity Employer.

- During the design of the GF/EGF project, we understood that we could not negatively impact areas upstream or downstream of our project, and a detailed study was undertaken to determine the impacts of the GF/EGF system. Therefore, again, we cannot understand the reported impacts of the system without some form of mitigation for other areas of the Red River Valley.

We are saddened that the Corps has opted not to extend its public comment period so that we could better understand and comment fully on the potential impacts of the proposed project. The City simply requests that a mitigation plan be a part of the proposed project so that other areas of the valley, including East Grand Forks, are not negatively affected by the project.

The City of East Grand Forks continues to support Fargo-Moorhead in its flood protection efforts with such a mitigation plan in place. The City of East Grand Forks will continue to weigh all of its options, including, but not limited to, a formal protest of the project, if the concerns listed above are not addressed.

If you have any questions, or if additional information is needed, please contact our office.

Sincerely,

Lynn Stauss

Lynn Stauss
Mayor

A PLACE OF EXCELLENCE
CITY OF GRAND FORKS

OFFICE OF MAYOR
MICHAEL R. BROWN

City of Grand Forks

(701) 746-2607
FAX # (701) 787-3773

255 North Fourth Street • P.O. Box 5200 • Grand Forks, ND 58206-5200

August 9, 2010

Mr. Aaron Snyder
Corps of Engineers, Project Manager
190 East 5th St., Suite 401
St. Paul, MN 55101-1638

RE: Comments on Draft Feasibility Report & Metro Environmental Impact Statement

The City of Grand Forks offers the following comments for the EIS:

- Grand Forks supports flood protection as a vital part of community life in the Red River Valley, including the timely completion of a project that helps to provide necessary security for the residents of the Fargo-Moorhead area.
- The latest analysis of the F-M Area Flood Protection Project by the Corps of Engineers indicates downstream impacts to the limits of the study area that is the Thompson Station.
- Although not defined at this time, it is likely that stage increases will occur at the Grand Forks Station.
- The local, state and federal governments have over 400 million dollars invested in the Grand Forks/East Grand Forks flood project that needs to be protected and maintained. Currently the City of Grand Forks has a flood protection system that provides flood protection to approximately a 210-year frequency event. The City desires to maintain this 210-year frequency level of protection.
- Identified downstream impacts need to be clarified and the appropriate mitigation be INCLUDED as part of the project and project development.
- Downstream studies in the Grand Forks area should discuss the impacts of changes in the timing of the crest on the Red River. It should identify how those may relate to the Red Lake River crest and identify if there are increased risks for concurrent crests. Analysis should also be made regarding expected ice conditions and impacts with an accelerated crest.
- A specific study needs to be initiated for the Grand Forks/East Grand Forks flood protection system to identify how best to maintain or increase the current level of protection. The study should include basin-wide storage, levee raises, and diversion alternatives.

Sincerely,

Michael R. Brown, Mayor
City of Grand Forks

Cc: City Council
Mayor Dennis Walaker
Governor John Hoeven
Congressman Earl Pomeroy
Senator Kent Conrad
Senator Byron Dorgan
Todd Sando – State Engineer

City of Halstad

404 5th Avenue East
Halstad, Minnesota 56548

RECEIVED

July 20, 2010

RE: Fargo/Moorhead Red River Diversion Plan

Enclosed you will find two resolutions, one from the City of Halstad and the other from the Halstad Township.

These are resolutions of **non-support** the current Fargo/Moorhead planned diversion. This plan as projected will increase water depths in our communities that will have the following effects:

- Up to seventeen (17) inches of additional water during peak flooding events.
- Increasing the flow of the Red River during what would have been moderate flooding will now causes major flooding problems.
- Highway 75 will be closed sooner and possibly longer with increased levels of water causing more damage to the roadway. When Highway 75 is closed, transportation of goods and services is impaired, school need to be closed, fire and medical services are limited.
- County and township roads will flood more often, causing increased damages with increased costs to repair. Rural roadways that have never flooded before will now become impassable during events.
- The current levy system in Halstad will need additional improvements. We would be looking at increasing the height of highway 75 at the north and south entrances of town. We would need additional pumping on our north levy. We would need to look at increasing the height of the levy and placing a hard surface on the top for safety.
- The rural areas would lose population with buyouts and with the frustration of fighting water year after year. This has a rippling effect to all business and residents of Halstad and Halstad Township.
- Property values will decrease. We are already noticing home sales are difficult with just the planning stage of the diversion receiving so much press. Property taxes will more than likely be increased to offset additional costs of flood protection.
- Talk of a greenway in the valley will decrease the tax base of the area.
- Retention projects that have been talked about will be very difficult to complete with having property owners unwilling to hold additional water, with all the rules and regulations necessary for such projects, and with wildlife organizations fighting such projects. As planned these projects will be a 50/50 cost share which means we spend more local dollars with no gain in reducing current levels, just money spent to offset increased levels of the diversion project.

These are just a **few** of the reasons for why Halstad City and Halstad Township are opposed to having additional water levels on the Red River. We would more than welcome a chance to express these concerns in person at any time.

AN EXCELLENT COMMUNITY IN WHICH TO LIVE AND WORK!

Acting Mayor Shane Carlson
Clerk-Treasurer Ron Gotteberg
Councilmember Renae Horning
Councilmember Tom Maroney

Email halstad@rrv.net
www.halstad.com

CITY OF HALSTAD
RESOLUTION NO.07-19-2009

Ron Gotteberg introduced the following resolution and moved its adoption:

WHEREAS, The United States Army Corps of Engineers, (USACE) has proposed constructing flood water diversion channels around the cities of Fargo, North Dakota and Moorhead Minnesota.

WHEREAS, The proposed diversion channel re-deposits the floodwater back into the Red River in northern Clay County of Minnesota or Northern Cass County of North Dakota.

WHEREAS, The City of Halstad is situated directly north and downstream from the point at which the proposed diversion channels reenter the Red River.

WHEREAS, The proposed flood diversion channels will change the flow regime of the Red River during flood events and is estimated to cause an adverse impact of as much as seventeen inches of additional crest elevation to the City of Halstad.

WHEREAS, Increased flood crest of the magnitude envisioned by the USACE will adversely impact, roads, bridges, utilities, farms, personal property, commerce and public safety to those downstream of the proposed diversion.

WHEREAS, A change in flow regime that results in adverse impacts to the residents of the City of Halstad and others situated downstream from the proposed diversion projects is not acceptable.

NOW THEREFORE, The Halstad City Council Members do hereby go on record of opposing the Fargo/Moorhead diversion project as it is now proposed.

Shane Carlson seconded the motion.

Adopted this 19th Day of July, 2010

Ron Gotteberg, Clerk/Treasurer

HALSTAD TOWNSHIP
RESOLUTION NO. 2010-1

Rodney Olson introduced the following resolution and moved its adoption:

WHEREAS, The United States Army Corps of Engineers, (USACE) has proposed constructing flood water diversion channels around the cities of Fargo, North Dakota and Moorhead, Minnesota.

WHEREAS, The proposed diversion channel re-deposits the floodwater back into the Red River in northern Clay County of Minnesota or northern Cass County of North Dakota.

WHEREAS, Halstad Township is situated directly north and downstream from the point at which the proposed diversion channels reenter the Red River.

WHEREAS, The proposed flood diversion channels will change the flow regime of the Red River during flood events and is estimated to cause an adverse impact of as much as seventeen inches of additional crest elevation to Halstad Township.

WHEREAS, Increased flood crest of the magnitude envisioned by the USACE will adversely impact, roads, bridges, utilities, farms, personal property, commerce and public safety to those downstream of the proposed diversion.

WHEREAS, A change in flow regime that results in adverse impacts to the residents of Halstad Township and others situated downstream from the proposed diversion projects is not acceptable.

NOW THEREFORE, The Halstad Township Board does hereby go on record of opposing the Fargo/Moorhead diversion project as it is now proposed.

Philip Hellerud seconded the motion.

Adopted this 15th day of July, 2010

By Harvey Christianson
Harvey Christianson, Chairman

Attest Gary Shulstad
Gary Shulstad, Clerk

City of HARWOOD "It's All Good!"

P.O. Box 65
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Harwood, ND 58042-0065

Email: auditor@cityofharwood.com
(701) 281-0314 (Phone)
(701) 282-0543 (Fax)
www.cityofharwood.com

August 2, 2010

Aaron Synder
USACE Planner and Project Manager
180 East 5th Street, Suite 700
St. Paul, MN 55101

Subject: Fargo-Moorhead Metro Flood Risk Management Project
Draft Feasibility Report and Environmental Impact Statement (DEIS)

Dear Mr. Synder,

As requested in your June 25th, 2010 letter, the city of Harwood has no comment regarding the referenced project DEIS at this time. Nonetheless, the city of Harwood would like to be on record of being in favor of the concept of a North Dakota Diversion. However, the city would like one of its elected officials to be part of the process to insure that the method of paying for a North Dakota Diversion is fair and equitable to the citizens of Harwood and that the projected downstream effects of a North Dakota diversion are mitigated in a responsible and cost effective manner.

As you are aware, the city of Harwood is involved in flood fighting and experiences flood impacts nearly every spring runoff. (The city experiences flooding from the Sheyenne River, the Red River and overland flooding.) It appears from the project report that a North Dakota diversion provides the most benefit to the city of Harwood; a diversion on the Minnesota side, on the other hand, provides no benefit to the city. Further, residents of the rural areas surrounding the city of Harwood frequent Harwood businesses and participate in community activities. As such, the city can bring a valuable prospective to the diversion discussion process.

Thank you for an opportunity to comment.

Sincerely,

City of Harwood

Bill Rohrich

Bill Rohrich, Mayor

CITY OF HENDRUM

A Small City with Big Dreams

RESOLUTION #2010-08

RESOLUTION OPPOSING THE FM DIVERSION

Council Member Milton Alm introduced the following resolution and moved it's adoption:

WHEREAS, the United States Army Corps of Engineers, (USACE) has proposed constructing flood water diversion channels around the cities of Fargo, ND and Moorhead MN.

WHEREAS, the proposed diversion channel re-deposits the floodwater back into the Red River in northern Clay County of MN or Northern Cass County of ND.

WHEREAS, the City of Hendrum is situated directly north and downstream from the point at which the proposed diversion channels reenter the Red River.

WHEREAS, the proposed flood diversion channels will change the flow regime of the Red River during flood events and is estimated to cause an adverse impact of as much as seventeen inches of additional crest elevation to western Norman County and the City of Hendrum.

WHEREAS, increased flood crest of the magnitude envisioned by the USACE will adversely impact roads, bridges, utilities, farms, personal property, commerce, public safety, and personal well being to those downstream of the proposed diversion.

WHEREAS, a change in flow regime that results in adverse impacts to the City of Hendrum and its residents and or others situated downstream from the proposed diversion projects is not acceptable.

NOW THEREFORE, to preserve the interests of the City of Hendrum and its people, the City of Hendrum Council does hereby go on record as opposing the FM diversion project as it is now proposed.

The motion for adoption of the forgoing resolution was duly seconded by council member Mike Smart and upon vote being taken thereon, M. Alm, C. Johannsen, K. Kjersten, M. Person, and M. Smart voted in favor Thereof; and None voted against the same, whereupon said resolution was declared duly passed and adopted:

Adopted this 12th day of July 2010

Curt Johannsen, Mayor

Seal

Karen E. Sip, Clerk

LINDQUIST&VENNUM PLLP

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August 4, 2010

Mr. Aaron Snyder
USACE Project Manager
190 East 5th Street
Suite 401
St. Paul, MN 55101

VIA CERTIFIED MAIL RRR & EMAIL
(Aaron.M.Snyder@usace.army.mil)

Re: Request for Time Extension on Comments – Draft Feasibility Report and Environmental Impact Statement – Fargo-Moorhead Metropolitan Area Flood Risk Management Report

Dear Mr. Snyder:

We represent the City of Hendrum, Minnesota with respect to the review and comment on the Draft Feasibility Report and Environmental Impact Statement (DEIS) for the Fargo-Moorhead Metropolitan Area Flood Risk Management report. The current comment period expires August 9, 2010.

On August 3, 2010, the US Army Corps of Engineers (USACE) made available to the public a Preliminary Downstream Impact Analysis (PDIA), containing substantial new information on the downstream flood impacts of the proposed project, including impacts to Hendrum.

Based on this PDIA, we hereby request an extension of the comment period for an additional fourteen (14) days from the expiration of the current comment period, until August 23, 2010. Such an extension would be consistent with the USACE's own NEPA regulations on time extensions for comments. 33 CFR Section 230.19(a) provides that "[d]istrict commanders will consider and act on requests for time extensions to review and comment on an EIS *based on timeliness of distribution of the document...*" (italics added).

In the alternative, and in light of the statement in the last paragraph on page 2 of the PDIA that: "[t]he Corps will continue to analyze the impacts downstream of Thompson and will report these findings as they become available...," we would request that the comment period be extended until fourteen (14) days after the date on which all Corps findings and analyses on downstream impacts are completed and made available to the public.

Thank you for your consideration. We look forward to hearing from you soon.

Very truly yours,

LINDQUIST & VENNUM PLLP

Julie M. Duckstad

Julie M. Duckstad

JMD/lng

DOCS-#3299388-v1

---

cc: Diane Ista
Curt Johannsen
Howard Kenison
Thomas Pursell
Jonathan Scoll

City of Hendrum

A Small City with Big Dreams

PO Box 100
308 Main Street East
Hendrum, MN 56550-0100

Telephone: 218-861-6210
Fax: 218-861-6210
e-mail: hendrum@loretel.net

August 9, 2010

US Army Corps of Engineers
C/O Aaron Snyder
St. Paul District
190 Fifth Street East
St. Paul, MN 55101-1638

Dear Aaron Snyder,

The proposed Fargo/Moorhead Diversion, which the Army Corps of Engineers has developed, if built, will be devastating to the community of Hendrum as well as all other communities and citizens living downstream from the proposed diversion.

The diversion is expected to dump anywhere from 8 to 25 inches additional water on communities downstream during a flood event. The excess water, with its increased flow from the FM Diversion, will threaten not only the protective levees of many communities and farms, but will also do excessive damage to roads, bridges and other infrastructure. If the communities and farmsteads can protect themselves from the additional water, they still will have to live with the fact that they will be isolated from emergency services for long periods of time during a flood event. Furthermore, the additional flow of water will be devastating to wildlife and the environment. Erosion will be become a huge issue destroying farmland which is considered by many to be the most productive in the world.

Therefore, the City of Hendrum has passed the enclosed resolution opposing the Fargo/Moorhead Diversion. The residents of Hendrum are not against Fargo/Moorhead receiving flood protection; however, all citizens in the Red River Valley deserve and need flood protection. We feel that retention, detention, and gated storage which is proposed in the "Mike 11 Model" developed by Charlie Anderson of JOR Engineering is a better solution to solving the flooding problems in the Valley. This will protect everyone in the Red River Valley and not just one localized area.

Solving the flooding issues in one localized area and passing the problem on to someone else is not morally correct, nor is it neighborly!

Sincerely,

Curt H. Johannsen

Curt H. Johannsen
Hendrum Mayor

COMMENTS OF

CITY OF HENDRUM, MINNESOTA

on

U.S. Army Corps of Engineers

Fargo-Moorhead Metropolitan Area
Flood Risk Management
Draft Feasibility Report and Environmental Impact Statement
dated as of May, 2010

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Appendix I Executive Summaries of Technical Documents

Appendix II Extract of Minutes of Red River Watershed Management Board, July 14, 2010

Appendix III Comments of Mayors of Cities of Perley and Hendrum, Minnesota

LINDQUIST&VENNUM PLLP

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August 9, 2010 VIA COURIER & U.S. MAIL

Aaron M. Snyder
Project Manager
U.S. Army Corps of Engineers, St. Paul Division
190 East 5th Street, Suite 401
St. Paul, MN 55101

Re: Comments on Fargo-Moorhead Metropolitan Area Flood Risk Management Draft Feasibility Report and Environmental Impact Statement – May 2010

Dear Mr. Snyder:

On behalf of the City of Hendrum, MN ("City"), Lindquist & Vennum PLLP submits the following comments to the Fargo-Moorhead Metropolitan Area Flood Risk Management Draft Feasibility Report and Environmental Impact Statement dated as of May, 2010 ("DEIS") prepared by St. Paul District, U.S. Army Corps of Engineers ("Corps"). These comments are furnished pursuant to the Corps' "Notice of Intent to Prepare a Draft Environmental Impact Statement for a Proposed Flood Risk Management Project on the Red River of the North in Fargo, ND & Moorhead, MN" dated April 22, 2009, and published in the *Federal Register* Volume 74, Number 85, on May 5, 2009, as required by regulations of the President's Council on Environmental Quality ("CEQ") at 40 CFR 1503 et seq. and Corps regulations at 33 CFR 230.19 et seq.

Since the Corps has failed to provide critical technical information in the DEIS, failed to adequately consider a reasonable range of alternatives to, and all environmental effects of, the Preferred Alternative described in the DEIS, among other inadequacies in the DEIS, the City respectfully requests that the Corps prepare a Supplemental Draft EIS that addresses the issues raised in these comments, and, once complete, provide a notice and comment period for the Supplemental Draft EIS.

Further, the Corps made additional downstream flood stage information available to the public on August 3, 2010, a mere six (6) days before the expiration of the DEIS comment period. This information was provided to supplement the DEIS and to extend the downstream study area for environmental impacts. See Section 4.2, below. Because the City, its counsel and experts have had little or no opportunity to fully review and consider this new information, the City also requests a 14 day extension of time to and including either (i) August 23, 2010; or, in the

alternative (ii) 14 days from the date the Corps provides for public review and comment on all information which the Corps states is still missing in the DEIS.

1. In General

These comments address the inadequacies of the DEIS under the National Environmental Policy Act ("NEPA"), including (i) the unduly narrow definition of the "purpose and need" for the Proposed Action, (ii) the inadequate consideration of upstream flood management alternatives and (iii) the incompleteness of data on and analysis of downstream environmental effects, including cumulative effects.

Attached as Appendix I are executive summaries of certain study documents concerning Red River Basin ("RR Basin") flood issues; to avoid undue paper bulk, and improve readability of our comments, we have attached only these summaries. These studies constitute important illustrations of the broader scope of alternatives analysis that is missing from the DEIS. See Sections 3.4 and 3.5 of these comments. The City requests that these studies and reports be considered by the Corps decision-maker in their entirety, and that the full text of these studies and reports, and any other studies, reports or documents referenced in these comments, including their respective appendices, be included in the Corps' administrative record for the final Record of Decision and EIS.

Attached as Appendix II is the text of an extract of the minutes of a Board of Governors meeting of the Red River Water Management Board of June 10, 2010, affirming its policy regarding upstream flood water retention, as evidence of the ongoing study and implementation at the local governmental level of an alternative inadequately considered in the DEIS. See Section 3.5 of these comments.

Attached as Appendix III are comments of the Mayors of Perley and Hendrum, Minnesota, evidencing the concerns of these cities regarding negative economic, social and environmental impacts to them and to their residents from construction of the Preferred Alternative. See Section 4.5(h) of these comments.

2. Unreasonably narrow definition of Purpose and Need of the Proposed Action

The DEIS defines the Purpose and Need of the proposed action ("Proposed Action") as "to reduce flood risk, flood damages and flood protection costs related to the flooding in the Fargo-Moorhead Metropolitan Area." DEIS, Section 2.5. By limiting the Purpose and Need solely to the Fargo-Moorhead Metropolitan Area ("F-M Metro"), the Corps' definition of the project Purpose and Need unreasonably downplays the hydrologically interdependent nature of the RR Basin – upstream and downstream, an interdependence that requires the NEPA analysis to be cast in terms of this basin as a whole. The result is a DEIS with an unduly narrow focus through which both final alternatives and downstream impacts are evaluated.

One result of this narrow focus is inadequate consideration by the DEIS of alternatives involving projects, or project components, upstream of the F-M Metro. Prior studies indicate certain upstream flood management measures may have potential to significantly reduce flood risks across the RR Basin, including the F-M Metro. This is discussed in more detail in Section 3 of

these comments, below. Another result is inadequate analysis of impacts to downstream communities north of the F-M Metro. This is discussed in more detail in Section 4 of these comments, below.

Even assuming that the Purpose and Need is reasonable in light of the proposed project, the implementation of the Corps' Preferred Alternative, the ND 35K diversion channel, will result in construction of a massive project that will render subsequent consideration of other alternatives, such as upstream retention, on any significant scale, largely moot. After spending over $1 billion on the ill conceived Preferred Alternative, it is highly unlikely the Corps or the federal government, would consider studies or funding for such other alternatives.

2.1 *Need for regional, basin-wide purpose and need*

The City believes that a more accurate statement of Purpose and Need would reference a regionally-focused basin-wide set of projects to reduce flood damage at and downstream of the F-M Area through flood flow reductions on both the Red River main stem and tributaries upstream of the F-M Area.

The DEIS expressly acknowledges the basin-wide nature of the problem by stating that DEIS study objectives include "[t]o develop a *regional* system to reduce flood risk." DEIS, Section 1.2.

2.2 *Corps involvement in current basin-wide planning*

A basin-wide approach would not be inconsistent with the Corps' existing policies and efforts in the RR Basin. For example, the Corps is a signatory to a December, 1998, agreement establishing the Red River Basin Flood Damage Reduction Working Group, a non-binding agreement among Minnesota stakeholders in the RR Basin, whose members (the "Flood Damage Reduction Work Group") acknowledge certain goals and principles for flood damage reduction. Among these principles are that "[p]rojects should be consistent with comprehensive watershed management planning," including planning across "***all tributary watersheds***" affected by a project" [emphasis added]. See, in this regard, the comment below regarding the inconsistency of Preferred Alternative with local, regional, and state flood control policies, section 3.5.

Similarly, the Corps is an active participant in the Red River Basin Commission ("RRBC"). The RRBC is an intergovernmental planning group comprised of federal, state and Canadian provincial officials, whose approach to flood control is likewise regionally focused. Thus, the Corps is fully aware of the need for – indeed, participates in -- a basin-wide approach to Red River flooding and its impacts.

3. <u>Failure to adequately consider upstream storage alternatives and to evaluate the Preferred Alternative in light of existing local / regional flood management policies</u>

Even assuming that the formulation of Purpose and Need in the DEIS is proper, the DEIS fails to adequately consider a reasonable range of alternatives to the Preferred Alternative. Under NEPA and CEQ regulations, this consideration must include (i) appropriate initial screening of such alternatives, (ii) in-depth analysis of the environmental impacts of alternatives that survive

screening and (iii) comparison of these impacts to anticipated impacts from the Preferred Alternative. CEQ regulations also require the DEIS to reconcile the Preferred Alternative with existing local or regional flood management policies, as required by NEPA, CEQ regulations thereunder, and Corps NEPA regulations, including the Corps' own regulations, Regulation ER 1105-2-100.

3.1 *The Corps' preliminary screening unreasonably eliminated two forms of upstream storage as feasible alternatives for detailed consideration in the DEIS.*

The Corps' Alternatives Screening Document, December, 2009, prepared as a foundation for its NEPA analysis ("Screening Document"), considered and then eliminated five alternatives as separate ("stand-alone") plans, i.e. plans that would be completely effective by themselves. Among these stand-alone alternatives were two forms of upstream flood storage: distributed storage in flood retention ponds and the "waffle," the use of the existing road network with additional water control structures. Both were eliminated because the Corps believed they would be less physically effective and less cost-effective than the various diversion channel plans, and thus did not meet the purpose and need of the study. Screening Document, Section 2.5.

The Screening Document consideration of these alternatives was inadequate, in light of the substantial evidence, some of which is referred to in Section 3.3 of these comments, below, of their potential feasibility, so that the DEIS, in turn, failed to properly evaluate them , not only as stand-alone alternatives but also, potentially, as components of, or in tandem with, other downstream measures. For this reason, the City believes the Corps' elimination of these alternatives was unreasonable, arbitrary and capricious and violates NEPA and CEQ requirements.

3.2 *The principal study on which the DEIS bases its screening rejection of upstream storage is as-yet incomplete.*

The Corps relies heavily for its elimination of upstream storage alternatives on the "Fargo Moorhead and Upstream Study," a study being jointly carried out by the Corps and by the Cities of Fargo and Moorhead. This study is as yet incomplete, and, according to a Corps web page, will not be completed until December, 2010. See http://www.mvp.usace.army.mil/fl_damage_reduc/default.asp?pageid=1455.

Phase I of this study, completed in June 2005, showed that "distributed flood storage could provide significant economic benefits, but that additional study of environmental benefits [would be] needed to justify a Federal project." DEIS, Section 1.5.2.1. Despite the incomplete status of this study, the Screening Document uses it to screen the upstream storage alternative, as discussed in more detail in Section 3.3 of these comments, below. Screening Document, Section 2.5.7.

To the extent the Corps' analysis rests on partial or incomplete study data, its alternatives analysis must be considered correspondingly incomplete, and as such, inadequate under NEPA.

3.3 *Inadequate basis to eliminate upstream retention pond storage in Screening Document*

The Screening Document, Section 2.5, makes a series of assertions reach its decision to eliminate upstream storage alternatives in the "final round" alternatives analysis in the DEIS itself. These include the following:

- Retention pond flood storage, on a standalone basis, "would provide [only] a moderate level of risk reduction," Screening Document, Section 2.5.8.

  Comment: State, regional and local agencies with flood control responsibility in the RR Basin have determined, on the basis of both technical study and experience with existing facilities in the RR Basin, that upstream flood retention storage may be an effective means of flood flow reduction. See the discussion of studies and reports in Section 3.4 of these comments, below. The assertions in the Screening Document are unsupported by study data or rigorous analysis.

- There is "insufficient national economic interest to support Federal involvement" in flood storage, Screening Document, Section 2.5.2.

  Comment: The absence of a "national economic interest" does not, by itself, justify eliminating an alternative which would resolve the RR Basin flood impacts on a regional basis. Indeed, the national economic interest would seem to require that the Corps consider basin-wide and regional alternatives. Further, NEPA requires consideration of all viable alternatives to the Proposed Action, regardless of local, regional or national interest, implementing agency or funding source.

- Studies show that retention pond storage alone cannot provide an acceptable level of flood protection to the F-M Metro. The Screening Document notes that a recent Fargo-Moorhead and Upstream Study estimates that a system providing 200,000 to 400,000 acre feet of upstream storage would cost between $160 million and $400 million. Stage reductions at Fargo-Moorhead for a hundred-year flood (1% chance) would range from less than 1.6 feet to 4.4 feet. Screening Document, Section 2.5.2.

  Comment: That retention pond storage by itself does not furnish a total solution likewise does not justify its elimination from further detailed study as an effective alternative. Consistent with a basin-wide approach, the Corps' DEIS should have analyzed such storage in conjunction with other measures, as a viable alternative that would meet its Purpose and Need.

- "Large amounts of land" would be needed, and "most of that land would need to be taken out of agricultural production, potentially impacting rural communities. Transportation impacts could result because roads may need to be relocated. * * *". Screening Document, Section 2.5.4.

Comment: No assumed upstream project scale is provided as a benchmark for such assertions; nor is any study or other documentation provided to support them. Potential rural "transportation impacts" are not compared to the massive urban transportation and infrastructure impacts detailed for the Preferred Alternative in the DEIS (See Appendix L, Cost, Project Cost Summary Sheet – ND 35K, p.2, "Relocations").

- A large-scale retention pond project (whose parameters are not defined in the Screening Document) would be "difficult to implement in a reasonable amount of time, less than 10 years." Screening Document, Section 2.5.6.

  Comment: The DEIS provides no foundation for the statement that an adequately-scaled distributed flood retention program could not feasibly be constructed in a decade. The Preferred Alternative is estimated to take 8.5 years to complete. A difference of 1.5 years on a project of this scale is not material and does not justify eliminating a thoroughly-researched, technically credible alternative at the screening stage of the EIS process. See DEIS, Section 3.5.4.2.

- Site acquisition would have "legal issues," (the nature of which are unspecified in the Screening Document). Screening Document, Section 2.5.6.

  Comment: The Screening Document and the DEIS fail to identify the legal issues that would provide a reasonable basis, or any basis, for removing retention pond storage from the alternatives to be considered in the DEIS.

- "Appropriate and economical" retention pond sites are scarce in the watershed upstream of Fargo-Moorhead. Screening Document Section 2.5.6.

  Comment: Neither the Screening Document nor the DEIS provides any factual or technical basis for the assertion that there is a "scarcity" of sites for upstream retention. Information in Technical Paper 11 suggests the very opposite. Twenty six (26) sites are identified in it as viable for retention in the Bois de Sioux watershed, one of which has already been constructed and others are currently under development as does the recently completed study "Application of the Flow Reduction Strategy in the Bois de Sioux Watershed." These twenty-six sites would, cumulatively, provide about half of the upstream storage required to reduce flows by 20% on the Red River at the F-M Metro. Planning is underway to identify sites in the Wild Rice (North Dakota) watershed, which is the other major contributor to flood flows on the Red River at the F-M Metro.

The City believes that the Corps' elimination of upstream flood storage alternatives in the Screening Document was arbitrary and capricious, as was the consequent failure of the Corps to consider any of these alternatives among the range of true alternatives selected for detailed environmental analysis in the DEIS itself.

3.4 *Inadequate consideration in DEIS of upstream retention pond flood storage alternative*

With the foundation for elimination of this alternative thus laid in the Screening Document, the DEIS itself, Section 2.3.4, unreasonably dispatches upstream storage pond retention stating (i) the inability to assume such facilities will be built on a scale sufficient to significantly reduce flood risk; (ii) that USACE (and other) studies as indicating stage reductions at the F-M Metro of only up to 1.6 feet in a 100-year (1% chance) event, and (iii) that "the economic benefits would likely not support federal participation."

As to (i), NEPA does not require statistical certainty for an alternative to be studied in an EIS, rather only that it be a reasonable alternative in light of the Project Purpose and Need. Under NEPA, as an otherwise implementable alternative with potentially lower downstream environmental effects, upstream retention qualifies as such an alternative, not to be discarded on the basis of benefit / cost comparisons alone. As to (ii), the Corps' position is belied by a considerable body of study data to the contrary, some of which is described below and none of which the DEIS cites or discusses. As for reason (iii), the degree of economic benefits, as measured using federal or Corps methodology (e.g., measurement under National Economic Development (NED) criteria using the 1983 principles established by the Water Resources Council methodology, see DEIS, Section 3.7.2.1), while furnishing a basis for selection among *federally* implementable alternatives themselves, is not a NEPA criterion for comparison of federal and otherwise feasible non-federal alternatives.

Significantly, none of the reasons cited in the DEIS for elimination of upstream storage include adverse or beneficial environmental effects. The DEIS contains no discussion of the environmental effects of these alternatives, either singly or in comparison to the Preferred Alternative. NEPA requires that each reasonable alternative be "rigorously" explored and its environmental effects identified and evaluated. CEQ Regulations , 40 CFR Sections 1502.14(a). The environmental effects of the respective alternatives must then be compared, as between the particular alternatives. 40 CFR Section 1502.16.

Several recent studies and reports show that upstream retention and basin wide strategies would be equally effective as the Preferred Alternative, and would have positive environmental effects. The Corps ignored these studies, both in its overall alternatives screening process and in the DEIS discussion of alternatives, DEIS Section 3, including its comparison of alternatives, DEIS Section 3.7.

Among these studies is Technical Paper No. 11, dated May, 2004, by the Technical and Scientific Advisory Committee of the Flood Damage Reduction Work Group ("Technical Paper 11") online at http://www.rrwmb.org/files/FDRW/TP11.pdf, an executive summary of which is included in Appendix I hereto. Technical Paper 11 evaluates and recommends an array of alternatives, including upstream impoundments along with downstream urban measures, such as removal of channel and floodway obstructions, each contributing to flood prevention in its own way, in tandem with others. This paper ranks the Corps' diversion channel Preferred Alternative as medium to low in appropriateness for implementation in F-M Metro portion of the RR Basin. (Table 1, p. 36).

Similarly, the RRBC , a basin-wide planning organization in which the Corps participates, published in January 15, 2010 a "Progress Report to the Minnesota Legislature," executive summary included in Appendix 1 hereto, also available at http://www.redriverbasincommission.org/Long_Term_Flood_Solutions/2-3-2010_MN_Leg_Rpt.pdf ("RRBC Progress Report"). The RRBC Progress Report sets out a detailed flood damage reduction / project identification strategy calling for reduction in Red River and tributary flood flows by a target percentage (currently set at 20 percent), through a mix of RR Basin-wide approaches, including retention dams, wetland creation/ restoration, impoundment, etc.

Among the findings in the Progress Report is an estimate that a million acre-feet of storage would be sufficient to provide basin-wide protection from a flood similar to that of 1997. Using current costs of $1000 per acre-foot, a basin-length project would cost in the range of $1 billion. RR Basin Progress Report, Appendix 4.

The Corps Planning Guidance Notebook ER 1105-2-100, contains, in Appendix H, a "Project Study Issue Checklist" ("Corps Issue Checklist") that includes the following planning checklist item (No. 26): "Was the planning effort *conducted in a systems/ watershed context* and was this reflected in the presentation of the without-project conditions, problem and opportunity statements, and the plan formulation, evaluation and selection?" (Italics added.)

Failure of the DEIS to consider – or even mention – Technical Paper 11, the RR Basin Progress Report, or the substantial technical literature of which these important studies are a part, evidences the Corps' intent to arbitrarily limit consideration of alternatives, to an extent that not only renders the DEIS seriously inadequate under NEPA but also patently nonconforming with the Corps' own regulations and guidance.

3.5 *Failure to evaluate the Proposed Action and the Preferred Alternative in light of existing local / regional flood management policies*

CEQ Regulations require that an EIS "discuss any inconsistency of a proposed action with any approved State or local plan and laws (whether or not federally sanctioned). Where an inconsistency exists, the statement should describe the extent to which the agency would reconcile its proposed action with the plan or law." 40 CFR Section 1506.2.

The DEIS wholly fails to address local plans and policies, including the regional flood reduction policy of the Red River Watershed Management Board (RRWMB), a joint-powers agency comprised of Minnesota watershed districts within the RR Basin. This policy, called the "20% Reduction Policy," developed for the entire RR Basin by the RRBC, centers on the concept of flood flow reduction on the Red River main stem and its tributaries by altering the hydrology of the contributing watersheds on a basin-wide effort. It is described in detail in Appendix 4 to the RRBC Progress Report.

On June 14, 2010, the Board of Managers of the RRWMB formally adopted the 20% Reduction Policy. A copy of the minutes of this Board of Managers meeting is attached as Appendix II hereto. These minutes note, in their words, the Corps' "disagreement" on the benefits of such

policy. That the Corps might disagree with a local policy is not a sufficient reason to ignore the policy in the DEIS or to fail to study the alternatives on which the policy is based.

In this case, the 20% Reduction Policy has been developed by the RRBC and adopted by the RRWMB as a policy direction for itself and its constituent watershed districts. As noted throughout these comments, the Corps' planning approach to flood protection in the F-M Metro, as set forth in the DEIS, materially conflicts with the 20% Reduction Policy. The DEIS fails to squarely address and analyze the conflict of this policy with both the Proposed Action as well as with the Preferred Alternative itself. See also 40 CFR 1502.6(c) (need to discuss possible conflicts between the Preferred Alternative and objectives of Federal, regional, State and local land use plans, policies and controls).

Funding for development of the 20% Reduction Strategy has included $1 million in funding from the North Dakota and Minnesota legislatures ($500,000 from each); to the extent both states have encouraged, and funded this policy development and are receiving progress reports on it, including the RRBC Progress Report, the work of the RRBC and the 20 % Reduction Policy may also be considered policies of the States of Minnesota and North Dakota. Moreover, the State of Minnesota, through its Flood Damage Reduction program administered by the Department of Natural Resources, has invested heavily in storage projects in the Red River Basin. These projects are consistent with the 20% Reduction Strategy.

The Corps Issue Checklist requires response to the following checklist item (No. 28): "Did the planning effort collaborate with other Federal, state, Tribal, and local entities to develop ***solutions that integrate expertise, policies, programs, and projects across public entities***?" (Italics added.) Failure of the DEIS to consider, and either integrate or explicitly justify non-integration of the 20% Reduction Policy, or similar state or regional watershed policies, with the Proposed Action and the with the Preferred Alternative not only contravenes NEPA, as discussed above, but the Corps' own guidance as well.

3.6 *Mischaracterization of research findings on the "waffle" micro storage alternative*

The Screening Document also considers and summarily rejects the "waffle" storage alternative, Section 2.5.2. The Screening Document cites a December, 2007 paper by the Energy and Environmental Research Center (EERC) at the University of North Dakota, for the proposition that "flood stages in Fargo-Moorhead during the 1997 flood (nearly a 1-percent chance flood event) could have been reduced by 3.3 to 4.4 feet if the Waffle Project had been in place" and on this basis states that "this alternative would have a low level of effectiveness." The "waffle" discussion is thus screened out and never carried forward; it goes unmentioned in the DEIS itself.

Both the Screening Document and the DEIS omit mention entirely of a later EERC report, "Cost-Benefit Analysis of the Waffle: Initial Assessment," July, 2008 ("EERC Report), available online at http://ageconsearch.umn.edu/bitstream/42216/2/AAE603.pdf., summarized in an EERC newsletter included in Appendix I. In actuality, this report, and extensive, and long-term, EERC research overall, come to the entirely opposite conclusion.

The EERC Report estimates that had some form of "waffle" been in place upstream in 1997, it would have reduced the crest height at Fargo/ Moorhead by between 3.91 feet to as much as 6.17

feet, depending on the scale on which it were deployed. The EERC Report concludes that "[i]n the case of Fargo/Moorhead, the anticipated crest height reductions appear to be substantial." EERC Report, p. 40. Overall, the analysis concludes that "the Waffle appears to be capable of generating around $200 million to $600 million in net benefits over a 50-year period." EERC Report, p. 56.

Failure to accurately characterize and soundly analyze research studies and data on the "waffle" renders the DEIS' lack of consideration of this alternative incomplete, misleading and in violation of NEPA.

3.7 *Cost-benefit analysis ignores upstream benefits and is an improper means of comparing the merits of upstream storage to the Preferred Alternative*

Section 2.5.10 of the Screening Document states that only preliminary economic benefits of upstream storage were assessed for the F-M Metro and that these results showed that the "National Economic Development" benefits would equal less than one-third of the cost of an effective upstream storage project. Similarly, Section 3.3. of DEIS Appendix C, Economics, concludes that "there is not a practicable amount of upstream storage volume to adequately reduce flood damage at the F-M Metro in an economically feasible manner."

The Corps' limited assessment focused only on the benefits to the F-M Metro and fails to account for the benefits of upstream storage to persons or properties upstream of the F-M Metro. For example, benefit computations in the DEIS include no benefits to upstream farmers from flood water retention.

More importantly for EIS analysis, CEQ regulations, 40 CFR Section 1502.23, provide that "[f]or purposes of complying with [NEPA] the weighing of the merits and drawbacks of various alternatives need not be displayed in a monetary cost-benefit analysis and ***should not be when there are important qualitative considerations***." (emphasis added.) In the present instance, "important qualitative considerations" include the environmentally positive ***or negative*** effects of upstream flood retention, as to which, a purely numerical cost-benefit analysis is not, under the regulation cited, a substitute for comparative analysis of environmental impacts themselves under NEPA.

Stated otherwise, the environmental impacts – positive or negative -- of upstream flood retention may add to, or possibly detract from, the greater cost of installing or operating such retention systems. A decision-maker cannot tell, since no "weighing" of the relative environmental "merits and drawbacks" of upstream storage, in relation to the Preferred Alternative, is undertaken in the DEIS, as NEPA requires.

3.8 *The DEIS should evaluate an alternative comprising a mix of distributed storage and other flood control techniques*

Alternatives incorporating upstream storage as a large – possibly even principal – component of the Proposed Action should have been considered in the DEIS alongside the diversion channel alternatives. To do so is required by NEPA and, as noted above, is supported by considerable technical opinion, some of which is cited here. Without a detailed analysis in the Feasibility

Report and the DEIS of the upstream retention alternative, it is not possible to know whether, as the City believes, upstream retention might potentially eliminate or at minimum scale back the need for, and the size of, the Preferred Alternative and if so, what the environmental impacts, beneficial or detrimental, of such a combination of components might be.

3.9 *Final alternatives considered are only engineering design variations of the same project*

The final six alternative designs evaluated by the Corps in the DEIS are not true alternatives and do not constitute a reasonable range of alternatives within the spirit of NEPA. Rather, they are design iterations of a single engineering solution. While engineering variables like anticipated load or demand, projected capacity and ultimate location might define a normal range of design alternatives in, e.g., an EIS for an Interstate highway project, the region-wide and historical flooding of the Red River Basin demand a much broader and flexible approach to potential solutions and alternatives. The regional nature and greater complexity of the causes of basin-wide flooding require, under NEPA and the Corps own regulations, a correspondingly wider-gauge approach to alternatives analysis than that employed in the DEIS.

The Corps' failure to fully describe and seriously evaluate, as one of the DEIS alternatives, upstream retention measures to reduce flood volume and/ or beneficially alter flood timing in the F-M Metro, and to compare the environmental merits of such measures to the Preferred Alternative, renders the DEIS inadequate, unreasonable, arbitrary and capricious and requires that the Corps prepare a supplemental DEIS for public notice and comment and ultimate consideration by the Corps' decision makers.

4. <u>Inadequate analysis of downstream impacts, including cumulative impacts</u>

4.1 *Data and analysis on immediate downstream impacts is incomplete and too narrow in geographic scope.*

The DEIS expressly admits that analysis of downstream impacts is incomplete: *"[a]dditional analysis will be completed on the downstream impacts. * * * Updated downstream impact information will be fully quantified in the final feasibility report and environmental impact statement."* Section 3.7 and Section 5.2.1.4. [all italics in original]. Downstream impacts from the Preferred Alternative will likely have foreseeable significant adverse effects on the environment. This information is essential to a "reasoned choice among alternatives" and the cost of obtaining the information are not exorbitant. Pursuant to CEQ Regulations the Corps "shall include the information in the environmental impact statement." See Regulations, 40 CFR Section 1502.22(b). The Corps' failure to include the downstream impact information or to explain the basis for the incomplete information violates NEPA and renders the DEIS inadequate.

Equally serious as these "gaps" in its DEIS impacts analysis is the Corps' limitation of the study area downstream only as far as Halstad (approximately ten river miles downstream from the City). DEIS, Section 5.2.1.4. The DEIS indicates that the Corps modeled flood flows only as far upstream as Hickson, MN (river mile 485) and downstream to Halstad (river mile 375). Appendix B, Hydraulics, Section 8.1.1. Given the incomplete nature of the Corps' modeling, it

appears pointless for the City, through its engineering consultant, to attempt evaluation and meaningful comment on, e.g. the Downstream Water Quantity comparisons, Table 32. Therefore, the Corps should prepare a supplemental DEIS that contains all required alternatives and studies of adverse effects.

4.2 *New Corps modeling data released August 3, 2010 shows substantial downstream impacts, contrary to results anticipated in DEIS itself*

On Tuesday, August 03, 2010, the Corps released a document entitled ""Preliminary Downstream Impact Analysis" dated as of "July 2010," ("Preliminary Downstream Analysis") containing analysis of anticipated impacts downstream of the two "final" diversion alternatives considered in the DEIS, the North Dakota 35K and the Minnesota 35K. This information is substantial in nature, and includes, for example, specific information as to structures at risk downstream of the project area in 10 year, 50 and 100 year flood events, as well as flood stage information at a number of cities in this study area, from Georgetown, just downstream of the diversion, to other cities not previously included in the model. In essence, the Corps has extended its impact model further downstream from Halstad, practically to Grand Forks.

This 11th-hour information now shows, for the first time, that flood stages below Halstad, instead of diminishing, remain substantial, because of the shift in timing of flood flow increases from the F-M Metro and the diversion project. This is contrary to the expectation of the DEIS itself that flood stages would be reduced at downstream locations, DEIS Tables 32-34, pp. 147-150.

The study does not as yet extend to Grand Forks, but the Corps notes that it "will continue to analyze the impacts downstream of Thompson and will report these findings as they become available. The Corps will also complete economic and takings analyses for the area downstream of Halstad and eventually Thompson in the future."

This latest data further reinforces the position taken in these comments that both data on downstream flood flows and analysis of the impacts of such increased flows are incomplete and inadequate bases for an informed decision under NEPA and that the Corps should supplement the DEIS and resubmit the Supplemental DEIS for public comment.

4.3 *Mitigation discussion too limited in geographic and economic scope*

As with downstream impacts, the DEIS consideration of downstream mitigation measures is unduly limited in geographic and economic scope. The DEIS limits its consideration of such measures only as far downstream as "Economic Area 2," the Sheyenne River outlet at approximately river mile 427, DEIS, Figure 24, p. 60. No mitigation to areas below "Economic Area 2" is discussed, except for the cursory statement, in DEIS Section 5.2.3.2.1 that "[f]or landowners outside the project area that experience increased flood stages when compared to the current without project condition, further analysis will be undertaken to determine if there has been a taking. For any properties that are deemed to have incurred a taking, compensation would be required."

As a practical matter, "takings" claims (sometimes called "inverse condemnation" claims) initiated by private persons – as opposed to eminent domain proceedings brought by

governmental units – are slow, uncertain and expensive. The promise of the DEIS of an unspecified "analysis" of damage to downstream residents and communities rings hollow.

More broadly, however, mitigation comprises much more than payments for land deemed "taken" for a project. As further discussed under "cumulative impacts," below, the Corps' narrow treatment of downstream economic mitigation is wholly inadequate under NEPA standards.

4.4 *Inadequate treatment of environmental justice*

The DEIS considers environmental justice at Section 5.2.3.3. While it correctly notes that the Corps, as a federal agency, must comply with Title VI of the Civil Rights Act, 42 U.S.C., Sec. 2000 et seq., and Executive Order (EO) 12898, February 11, 1994, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," its consideration of environmental justice ("EJ") is entirely deficient.

CEQ's guidance "Environmental Justice Guidance under the National Environmental Policy Act," online at http://ceq.hss.doe.gov/nepa/regs/ej/justice.pdf ("CEQ NEPA Guidance") calls for environmental justice to be addressed in the EIS scoping phase. An agency "should preliminarily determine whether an area potentially affected by a proposed agency action may include low-income populations, minority populations, or Indian tribes, and seek input accordingly." When, as here, scoping is used, the agency should seek input from such populations "as early in the process as information becomes available." CEQ NEPA Guidance, pp. 10-11. The Scoping Document for the DEIS (September, 2009) includes no scoping of – nor indeed any mention of – EJ.

The DEIS confines its EJ analysis to the project area itself, i.e., portions of Cass County, ND, and Clay County, MN along the route of the Preferred Alternative. See Figures 83-86, DEIS, pp. 239-242. It evaluates previous environmental degradation as well as project-related impacts including residential and business displacement, changes in accessibility and mobility afforded by the project, and noise. DEIS, p. 243. It concludes that none of the proposed diversion channel alignments disproportionately impact only areas with minority or low-income populations in either State, and that "all communities in the project area are expected to experience the beneficial impact of a reduction in future flood events * * *," DEIS Section 5.2.3.3.8.

The Corps was required to scope and include in its DEIS EJ consideration potential project impacts to minority or low income persons and communities area-wide, including not only the F-M Metro but downstream. EJ analysis, under NEPA, must be conducted for the entire "affected environment." Agencies should first "identify a geographic scale for which they will obtain demographic information on the potential impact area," CEQ Guidance, p. 14, following which they should analyze how environmental effects "are distributed within the affected community." Id.

The DEIS assumes, without discussion, that the relevant geographic scale for EJ analysis is the project area. Yet it is clear from the DEIS itself that the Preferred Alternative generates significant benefits and burdens, over a wider geographic area than this Corps-defined project

area. Low income people, e.g., senior citizens, in small communities downstream of the F-M Metro may very likely be disproportionately affected by future flood effects from the Preferred Alternative. The potential for disproportionate impact is real. While median household income reported in the 2000 Census for Cass County, North Dakota and Clay County, Minnesota, cited in the DEIS, Table 42, is $38,147 and $37,889, median household income from the same source for Norman County, Minnesota, not mentioned in the DEIS, is only $32,535.

Since no effort has been made by the Corps to identify an appropriate geographic scale for EJ analysis, the issue has not been addressed in the way NEPA and the EO require. The DEIS must be supplemented to correct this deficiency.

4.5 *Incomplete analysis of cumulative impacts*

Cumulative impacts analysis is a central, and critical, component of NEPA, as recognized by the CEQ, in its guidance document "Considering Cumulative Effects" (January, 1997) ("CEQ CE Guidance"), online at http://ceq.hss.doe.gov/nepa/ccenepa/ccenepa.htm. Incomplete modeling of flood impacts downstream from the study area, for each of the final alternatives, and failure of the DEIS to consider anything beyond possible "taking" of real property, make a meaningful evaluation of cumulative effects on downstream communities impossible. Based on the incomplete information in the DEIS, there is no way for the City, or any other commenter for that matter, to evaluate the effect, over time, of an increased flood stage at or near Hendrum on, for example:

(a) Impacts to agricultural land.

(b) Damage to improvements, including residential and commercial properties.

(c) Additional economic and psychological burden to local residents from increased flood fighting efforts.

(d) Economic damage to residents, including reduced farm or business income.

(e) Increased flood insurance expense.

(f) Increased risk to persons and property resulting from flood-delayed response by law enforcement and other emergency responders, such as fire and ambulance.

(g) Damage to public infrastructure, such as roads, bridges, culverts, levees and utilities, and correspondingly higher fiscal burdens to residents for maintenance, repair or replacement of such infrastructure.

(h) Accelerated migration of rural residents, particularly younger people, to the safety of a Fargo Moorhead metropolitan area protected from floods, an island of privilege surrounded by smaller, unprotected communities. These communities, left with declining and aging populations, and vulnerable to flood, as much or more than they are today, may suffer irreversible decay. NEPA requires analysis of this socioeconomic degeneration. CEQ CE Guidance, Appendix A, Section 11,

"Social Impact Analysis." But the DEIS is silent on it and on this basis alone is inadequate and must be supplemented before it is presented to Corps' final decision maker.

As illustrations of this very real future, in plain language, see the Comments of the Mayors of the Cities of Perley and Hendrum, MN, in Appendix III

Cumulative effects are not limited to effects over time but also includes contemporaneous effects of other projects on the Preferred Alternative. CEQ CE Guidance, Section 2. Nowhere in its cumulative effects analysis, DEIS, Section 5.4, does the Corps consider the cumulative effects of the Preferred Alternative in conjunction with other recent or proposed diversion and levee projects in the RR Basin, whether of the Corps or other units of government. To illustrate: existing flood levees in the F-M Metro have the effect of raising the stage at Hendrum by "X" inches. The Preferred Alternative, as analyzed by the Corps, has, by itself, the effect of raising the stage at Hendrum by "Y" inches, and this "Y" figure is presented in the DEIS. But no data is provided for the cumulative effect of both the Preferred Alternative and the existing F-M Metro levees on flood stage at Hendrum, which would, in reality, equal "X" plus "Y."

Downstream communities, including the City, confront the same risks, and bear the same burdens, as are graphically (and pictorially) depicted for the F-M Metro. See Section 2.3.3 of the DEIS. These downstream communities and people are owed a detailed analysis and explanation of the impacts, including cumulative impacts listed above, under and each of the final alternatives. Without such analysis, the DEIS is inadequate and must be supplemented.

5. Conclusion

Red River flooding has, over the years, generated a wealth of information, project ideas and experience with functioning projects, including retention projects. This knowledge base is now shaping new policies and directions, focused to an increasing degree on flood flow reduction, through, among other solutions, various forms of upstream retention. The body of knowledge, critical to NEPA analysis of a project of this scale, is largely missing from the DEIS. The reader is offered instead a compendious display of technical data which masks the evident disinterest of the Corps in anything other than a diversion channel.

The absence of substantial and significant information regarding the environmental and other impacts of the Preferred Alternative likewise renders the DEIS inadequate on its face and requires that the Corps prepare an updated Supplemental DEIS to include all information on which the Corps based its decision to adopt the Preferred Alternative. The Corps' failure to include critical impact information in the DEIS violates NEPA and its own NEPA regulations, is arbitrary and capricious as well as unreasonable.

The last-minute publication by the Corps on August 3, 2010, six days before the comment deadline, of new flood information showing significantly higher downstream flood stages than anticipated in the DEIS itself, and unaccompanied by any updated interpretive analysis of impacts of such higher stages, requires that a reasonable extension of time be granted for review and comment on this supplemental information. Under the Corps NEPA regulations, 33 CFR Section 230.19(a), the District Commander will consider and act on requests for time extensions

based on, among other factors, the timeliness of distribution of material. We would request the extension of the comment period for 14 days from either (i) August 9, 2010; or (ii) such later date as the Corps considers submission of all information and analysis on downstream impacts to be complete.

The City reserves the right to provide additional comments at such time as any further "update" information is provided by the Corps to the public for comment.

Respectfully Submitted

LINDQUIST & VENNUM PLLP

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Julie M. Duckstad

cc: The Hon. Curt Johannsen, Mayor, City of Hendrum, Minnesota
The Hon. Ann Manley, Mayor, City of Perley, Minnesota
Diane Ista, Manager, Wild Rice Watershed District

APPENDIX I

EXECUTIVE SUMMARIES OF TECHNICAL DOCUMENTS

1. Sandy Van Eck, "Waffle® Final Report Puts Benefits Near 800 Million," University of N. Dakota Energy & Environmental Research Center, "Edge", Newsletter, P. 1 (Jan.-Feb. 2009)

Waffle plan economic benefits for larger communities could exceed $800 million

The Energy & Environmental Research Center (EERC) has announced the release of the final results and conclusions for the Waffle® Flood Mitigation Project, a multiyear effort to evaluate the technical, social, and economic feasibility of a basinwide, distributed water storage strategy. Temporarily storing springtime runoff in existing "depressions" within the basin, primarily ditches and low-lying fields bound by roads, would create a distributed network of channels and control structures for the temporary storage and controlled release of the retained water to reduce peak flood crests.

The results of the project indicate that the Waffle concept is a viable means of preventing damage from large springtime floods.

"This approach is particularly effective as a means of intercepting, controlling, and reducing overland runoff and, as such, offers an excellent augment to conventional flood mitigation efforts," said Senior Research Manager Beth Kurz.

"If the Waffle concept would have been in place in 1997, this would have augmented the dikes in place, and we would not have had a flood," said EERC Director Gerald Groenewold, who worked diligently in 1997 to initiate the Waffle project. "There are two types of dikes: those that have been breached and those that will be. The only way to provide real, economically viable security against flooding in this region is by augmenting the current dike systems."

According to the 523-page report, the estimated flood mitigation benefits of the Waffle approach for large communities up and down the Red River Valley are on the order of hundreds of millions of dollars. Some scenarios show that Waffle implementation would save more than $800 million in flood damage over the next 50 years (this is a net benefit, meaning the costs of implementing the Waffle were already subtracted). The cost of flood-related damage from the 1997 flood, a modestly-sized flood compared to other historically documented floods, topped $2 billion throughout the Red River Valley.

The economic analysis was conducted by agronomists at North Dakota State University in Fargo. The economic evaluation included enrollment costs, landowner payments, infrastructure modifications and installations, maintenance, and administrative overhead for landowners who would participate in the Waffle.

Using hydrologic and hydraulic modeling, the study also shows that, if implemented, the Waffle would reduce peak flooding by as much as 6.2 feet along the Red River during a 1997-type event.

"These results are absolutely tremendous," said Groenewold. "Given the history of severe and very frequent flooding in the region, a basinwide flood mitigation approach like this must be implemented to provide long-term security from floods to safeguard the economic vitality of the

region. The results show that coordinated, basinwide water management is viable and the Waffle is an excellent example of an option available right now for implementation," he said.

The Waffle approach would also provide unquantified benefits to areas with limited or no flood protection measures, such as agricultural lands, farmsteads, smaller communities, and rural infrastructure. It would also reduce soil erosion and increase soil moisture and groundwater recharge during periods of draught.

"A key factor that makes the Waffle approach such an effective flood mitigation measure is its ability to reduce the overall volume of floods. During field trials of the concept, because of evaporation and infiltration into the soil, we saw an average water loss of about 38% of the total storage volume. Rather than allowing that water to rapidly drain and overwhelm nearby streams and rivers, we were able to slow it down and let a portion evaporate and infiltrate," Kurz said. "To achieve all of the benefits the Waffle has to offer, less than 5 percent of the total Red River Basin land area would have to be used for temporary water storage during the spring."

Article online at http://www.undeerc.org/news/pdfs/EERCNewsletter2009JanuaryFebruary.pdf

2. E.A. DeVuyst, D.A. Bangsund, and F.L. Leistritz, "An economic analysis of the Waffle," 64, Journal of Soil and Water Conservation, 7 (JAN/FEB 2009)

The Red River of the North has a long history of flooding. A host of physical characteristics and man-made factors contribute to widespread flooding in the basin. Attempts to mitigate flood damage in the basin have been limited to using dikes/levees and waterways/diversions. Other flood mitigation strategies are insufficient by themselves to make meaningful reductions in flood damages, and spring flooding continues to cause damage. Another option to mitigating flood damages in the Red River basin is the concept of using hundreds or thousands of 'micro-basin' storage areas, called the Waffle, comprised of roads and adjacent lands throughout the region. This study employs net present value analysis to evaluate the economic feasibility of using the Waffle to reduce flood damages in the basin. Net benefits are positive in 130 of the 132 scenarios evaluated. Eighty-five percent of the scenarios resulted in over $300 million in net benefits, and nearly 68% have net benefits in excess of $400 million. The large positive net benefits from the Waffle suggest that policy makers should compare the cost-effectiveness of Waffle-type and structural flood protections. There are likely flood-prone areas that nonstructural flood protection alone or in combination with structural measures will be economically preferred to structural measures alone.

3. Charles L. Anderson, P.E., "Application of the Flow Reduction Strategy in the Bois de Sioux Watershed," Bois de Sioux Watershed District/Red River Basin Commission (June 4, 2010)

The Red River basin is developing a strategy that would reduce flood damages throughout the basin by reducing the flood volume enough to reduce peak flows along the entire length of the River by 20%. This strategy is known as the "Flow Reduction Strategy." Flow would be reduced primarily by storing flood water within the contributing watersheds. The amount of flow reduction required was estimated by the Basin Commission using a Mike 11 hydrodynamic model of the 1997 spring flood. The goal of the study was to identify, if possible, storage sites within the Bois de Sioux Watershed with the cumulative capacity to provide the Bois de Sioux's allocated portion of the required Red River flow reduction.

Storage sites were identified and their impact to the Red River modeled. The identified storage sites, including storage sites in South Dakota, are essentially able to meet Bois de Sioux Watershed's allocated share of the RRBC Flow Reduction Strategy requirements. The most significant difference is related to White Rock Discharges. The RRBC Mike 11 modeling effort assumed a 20% peak flow reduction at White Rock and a 20% reduction in volume. The achieved results at White Rock were a 13% reduction in peak flow and a 16% reduction in volume. The difference in volume reduction is that a large part of the flow reduction, 27,622 ac ft or approximately 30% of the storage allocated to the Traverse Basin, was in breakout flows from the Mustinka to the Rabbit, that occur in the area along the Mustinka River where the river comes down out of the beach ridge and enters the lake plain. Therefore, storage in the Mustinka (Traverse) Basin reduces flows on the Rabbit River.

The hydrographs from HMS for White Rock and the Rabbit River were used as input to the Mike 11 model, to model the affects of the Bois de Sioux Watershed's flow reduction at Breckenridge, Fargo, Halstad, and Grand Forks. The model was run with just the Bois de Sioux reduction and with proposed reductions for each tributary. Bois de Sioux Basin reductions result in 20.8% and 9.3% peak flow reduction on the Red River at Wahpeton and Fargo, respectively, in the model of the 1997 flood. Including reductions in the Mike 11 model from the other Red River Tributaries, the peak flow reduction is 20.9% and 21.8%, respectively, which exceeds the 20% flow reduction goal.

4. Charles L. Anderson, P.E., "Appendix 4—MIKE 11 Mainstem Model: 20 Percent Flow Reductions" Red River Basin Commission Progress Report to the Minnesota Legislature (January 15, 2010)

Flood damage reduction efforts have often focused on individual communities or interests and taken the form of a protection strategy. Commonly implemented protection measures include levees and diversion channels. While these measures are effective, can be implemented in a relatively short time frame and provide a necessary degree of flood damage reduction protection for urban areas and farmsteads, they do little to reduce the overall flood problem. In fact, they simply move excess flood water from one area of the basin to another. This forces basin planners to allocate protection on some basis of need. Determining in essence whether it is ok to protect large communities at the expense of small communities; small communities at the expense of farmsteads; farmsteads at the expense of farmland; and farmland at the expense of natural land (or vice versa). A comprehensive approach that considers flood flow reduction as the primary protection strategy complimented with the levees, floodway improvements, and diversions should be the preferred strategy.

The flow reduction strategy reduces flows on the mainstem by altering the hydrology of the contributing watersheds as a basin wide effort. The benefits of reduced flooding would be distributed along the entire length of the Red River, not just to targeted communities. Equally important, the benefits would extend far upstream into the tributary watersheds to the benefit of agriculture, farmsteads, roads & bridges & other infrastructure, water quality, flow augmentation and the natural environment. Implementing this strategy requires allocating the necessary flow reductions to each contributing watershed.

To assist in the flow reduction allocation process, the Red River Basin Commission developed a Red River Mainstem model. The model was based on Mike 11 software developed by DHI Water and Environment Inc, Denmark. It has been calibrated to simulate the 1997 spring flood. Physical features of the Red River and its flood plain are represented in the model as cross-

section data. Hydrologic inputs are the measured flows from the main tributaries and derived flows from the ungaged tributary areas. This model can now be used to simulate the mainstem response to reduced flows from tributary areas.

As a preliminary exercise, the tributary flows were reduced in the model to meet a peak flow reduction goal of 20% along the entire length of the Red River Mainstem. A factor in selecting 20% reduction as an initial goal was the effect it would have had at Grand Forks in 1997. That amount would have reduced the flood to a level that the (then existing) levees would have been expected to withstand. A 20% peak flow reduction would also reduce 100 year flood peaks along the mainstem to those that now correspond to about a 50 year flood. The modeled results are shown on the attached figures. The flow reduction required from each subwatershed is illustrated as the difference between the existing and altered tributary hydrographs.

Tributary reduction strategies were based on timing, by targeting waters contributing the most to mainstem peaks. Other factors considered include tributary damage reduction and the practicality of achieving specific flow reductions. Tributary peak flow reductions ranged from 0 to 50%. Peak flow reductions on strategic tributaries were about 35%. The combined flow reduction on all tributaries upstream from Emerson totaled 885,000 acre-feet, which is about 13% of the total 1997 flood volume at Emerson. A 35% peak flow reduction on tributaries would roughly correspond to reducing 100 year flood flows to those currently associated with 25 year floods.

The amount of constructed storage required to achieve a 20% peak flow, reduction on the mainstem would likely be greater than 885,000 acre-feet depending on the quality (efficiency) of storage provided. Flow reduction can be achieved by implementing a wide variety of measures including on-channel or off-channel impoundments; culvert sizing or waffle storage; wetland restoration or land use change. Gate controlled flood storage impoundments are the most efficient measure to reduce flood flows. Strategically located and precisely operated, they may have close to 100% efficiency in meeting the flow reduction goal. That is, the amount of constructed storage required to meet the 20% peak flow reduction goal would not be much greater than 885,000 acre-feet. On the other hand, flood specific factors such as variability in runoff will likely leave some constructed storage underutilized. Other measures, such as culvert sizing, provide only short term storage. Short term storage, in the right location, can reduce peak flows, but in the wrong location, it can actually increase peak flows. A mix of measures may be the best approach. The combined efficiency of the mix in meeting the tributary flood flow reduction goal would have to be determined locally.

The modified tributary hydrographs from the 1997 flow reduction model will serve as a starting point for an allocation process. The allocation goal should be to distribute to each watershed a fair share of the responsibility to manage its flood flows and the local benefits that can be realized by doing so. Each watershed would determine, through the use of its own models, what would be required to modify its outflow hydrograph to approximate the flow reduction shown. They would be encouraged to do so in ways that also meet local flood control goals, so the resulting reduced outflow hydrographs may vary more or less from that originally allocated and thus result in more or less benefits on the mainstem. Some watershed areas may be unwilling or unable to meet their allocation goal. Their share may then be reallocated to another area. The model would be used to determine the most effective ways to reallocate tributary flow reductions to achieve the mainstem goal.

Implementing basin wide flood flow reduction will require significant investments over a relatively long time frame. The cost of gate controlled flood storage has recently been about

$1,000 per acre-foot. At that price, 1 million acre-feet of gate controlled storage would cost about $1 billion. The most cost effective projects tend to get constructed first, so it is probable that the costs of later projects will be higher. This, along with inflation, will likely increase the final cost of implementation. Flood flow reduction projects can present great opportunities for multipurpose benefits such as water supply, water quality and other water related natural resources. Including these benefits will add to the overall costs. Those additional costs should not be allocated to flood damage reduction, but they do need to be considered in estimating the total amount of public (local, regional, state & federal) investment and benefit that may be desired. Although the time frame for implementation is highly dependent on the availability of funding, it is also influenced by public acceptance and resolve. Historic construction rates of about 10,000 acre-feet per year have not been particularly difficult to maintain. At that rate it would take 100 years to construct 1,000,000 acre-feet. Given a very high priority of support, it could possibly be accomplished within 25 years.

Unlike localized quick fix strategies, flood flow reduction will provide a foundation for long term resolution of the persistent and widespread flooding problems that plague the entire Red River Basin.

5. Charles Anderson and Al Kean, "Red River Basin Flood Damage Reduction Framework," Technical Paper No. 11, Red River Basin Flood Damage Reduction Work Group Technical and Scientific Advisory Committee (May 2004)

Flooding is a major problem within much of the Red River Basin. This problem is primarily related to geology, topography, weather, and land use. The Flood Damage Reduction Work Group in Minnesota seeks to provide Project Teams, Watershed Districts and others with science-based and consensus-based tools to enable more effective flood damage reduction within the basin.

A fundamental premise of this technical paper is that flood damage reduction (FDR) along the main stem of the Red River and the lower reaches of its major tributaries (glacial lakebed region) is substantially dependent on the types and locations of FDR and related measures implemented upstream. Flooding in the glacial lakebed region of the basin is substantially affected by runoff timing and volume from upstream areas. Runoff timing and volume are, in turn, substantially affected by the topography, soils, precipitation and land use within different regions of the basin, as well as by the types and locations of FDR and natural resource enhancement (NRE) measures that may be implemented. A basin-wide FDR framework will better enable a coordinated approach to integrate various FDR and associated NRE measures that are most effective for achieving the overall goals envisioned by the Red River Basin Mediation Agreement adopted in December 1998.

The goal of this framework is to implement various types of FDR measures individually, or in concert, at locations for which they are best suited to achieve FDR benefits locally and in the watershed, while also contributing to reduction of main stem flooding risk. This framework includes FDR measures that are also NRE measures, and promotes multi-purpose projects.

This technical paper presents critical concepts about runoff timing and volume in relation to flood peaks on the main stem of the Red River, and facts about variations in topography, soils, precipitation and evaporation within the Minnesota portion of the basin, as foundations for defining the expected peak flow reduction effects of implementing various FDR measures within different areas of the basin. Available geologic, topographic, meteorologic and historical flood

data, as well as computed runoff travel times, are used to illustrate these concepts and to define "early", "middle", and "late" runoff areas within the basin relative to the downstream limit of the Red River Basin in Minnesota at the U.S./Canada border.

A wide array of alternative FDR measures are identified, categorized and discussed, including pros, cons, and general recommendations for the best areas in which to implement these measures to optimize overall FDR benefits. A summary table is presented for the identified array of FDR measures with ratings of potential for peak flow reduction on the main stem when these measures are implemented in early, middle, or late runoff areas relative to the main stem.

This technical paper stresses the importance of using multiple types of FDR measures in a strategic manner to achieve local, watershed, and main stem flood damage reduction. It presents a framework for creating policies and trends that will help to achieve basin-wide FDR goals, as well as NRE goals outlined in the Red River Basin Mediation Agreement.

This technical paper includes a multi-measure example of the Red River Basin, utilizing various types of flood volume reduction and temporary storage measures to reduce local, watershed and main stem flood peaks, and to provide NRE benefits. For this example, it is estimated that the collective effects could reduce the 100-year peak flood flow at the U.S./Canada border by approximately 20%.

A spreadsheet method is provided to assess and document the expected peak flow reductions on the Red River main stem at the U.S./Canada border of flood volume reduction and temporary storage measures implemented upstream. This method uses ratios of "implemented storage" (at a project location) to "ideal storage" (effect on main stem peak flood volume and flow) for different types of flood volume reduction and temporary storage measures located in early, middle and late areas relative to the main stem. These effectiveness ratios are based on flood routing and other experience of Technical and Scientific Advisory Committee (TSAC) members, including TSAC Technical Paper No. 10, "Basin Strategy Hydrologic Analysis," and other previous studies. This method could be used to track progress toward achieving long-term FDR and NRE goals.

It is intended that this technical paper be used in conjunction with other TSAC technical papers and the "User's Guide to Natural Resource Efforts in the Red River Basin," published in 2001, to give decision makers additional tools to assess and achieve basin-wide FDR and NRE goals.

APPENDIX II

MINUTES OF RED RIVER WATERSHED MANAGEMENT BOARD, JULY 14, 2010

Project Coordinator Report

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R. Harnack reported that he attended the Long Term Flood Solutions (LTFS) Advisory Committee meeting of the RRBC. Discussions occurred on the storage allocation strategy. Concern regarding disagreement on the benefits of the proposed storage and the requirements to achieve the 20-30% mainstem reduction was addressed. An engineering firm retained by the RRBC has been advocating the U.S. Army Corps of Engineers (USACE) perspective on storage, and not necessarily the adopted policy of the RRBC. The RRWMB representatives on various RRBC committees agreed to monitor this issue during the upcoming months.

Following discussion, the Board of Managers adopted a policy to support efforts to achieve a 20% flow reduction on the mainstem of the Red River of the North. **Motion** by Manager Money to adopt the aforementioned policy to support efforts to achieve a 20% flow reduction on the mainstem of the Red River of the North, **Seconded** by Manager Miller, **Carried**.

APPENDIX III

COMMENTS OF MAYORS OF CITIES OF PERLEY AND HENDRUM, MINNESOTA

CITY OF PERLEY
PO BOX 437
PERLEY, MN 56574
PHONE 218-861-6170

July 23, 2010

Dear Concerned Citizens and Elected Officials

At the City of Perley Council meeting on July 13, 2020 the City fathers adopted the following Resolution to show our support against the F-M Diversion and the terrible impact that this proposal will have on the citizens of Perley and all surrounding communities. This is a small but sincere gesture that we all feel very strongly about. My colleagues feel that this process is futile but with the support of all of the Townships, Cities, and County Commissions I feel someone will have to listen to our cries for help.

Attached you will find a copy of our resolution and a letter of comment to the USACOE.

Sincerely

Ann Manley
Mayor of Perley

Ann Manley
[redacted]

City of Perley
Comment for EIS

I am the Mayor of a small town downstream of the proposed FM diversion. Perley is 23 miles north of Moorhead, located on HWY 75 and within one mile from the Red River of the North. Our community is approximately 100 people of which 50% of the population is retired. We have 17 children in our community. Our sign indicates that we have 124 but we have decreased in population steadily since 2000. Many of our residents where born here and plan to die here. It's the young that move away. The elderly don't want a buy-out, but they are so tired of fighting floods they can't imagine that the community of Fargo and Moorhead would delibertly cause us more problems. Their property values are decreasing and the chance of their children or grandchildren taking over their homes in the event of their death is never going to happen.

This is a farming community. Our whole community owns land or farms land in the Valley. Many work for or retired from the American Crystal Sugar Co. What will happen if the whole Valley becomes a greenway or if all are bought out and forced to leave? These residents are scared to death of the future. What will become of their church, our local businesses, schools, or their homes?

I have been the Mayor since 2004 and I have dealt with 3 major floods in this town that FEMA was a part of. I have seen 78 year old men sandbagging and manning pumps to protect our City. Women in their 80's cooking meals for the National Guard. Opening their homes so the Guard could clean up.
Our major well is located west of our town and took a hit from ice. We were without sufficiant water supply for over two months. We had students from over 100 miles away come to our assistance.
Our infrastructor is in poor shape. Just recently we began construction on our secondary lagoon. This is 1.3 million dollar project. Our community had to take out a loan of 366,000 for our share. This will run over a 40 year period. What happens if our community leaves or is bought out or worse, we just drown? Who will pay this loan off? We are already dropping in numbers.

I don't only worry about Perley, I worry about my sister communities of Hendrum, Georgetown, Kragnes, Halstad, Shelly, Gardner, Grandin, Argusville, Nielsville, Climax, Harwood, Oslo etc.

I know that I am very emotional about my community, It would be easier to just move, but my husband and I bought here to retire and die here. We joined the church and have our lots picked out to be buried on.

I know that we are scheduled for a Levee project. We appreciate the help but this doesn't even take into consideration the diversion impact on our community. We don't need more water to deal with.

I speak for my whole community when I say we are here to stay no matter what our outcome will be. I guess we are old and stubborn.

Respectfully submitted
Ann Manley
Mayor of Perley

City of Hendrum

A Small City with Big Dreams

PO Box 100
308 Main Street East
Hendrum, MN 56550-0100

Telephone: 218-861-6210
Fax: 218-861-6210
e-mail: hendrum@loretel.net

August 4, 2010

To Whom It May Concern:

The leaders of Fargo/Moorhead have asked the Army Core of Engineers to develop a plan for flood protection to alleviate the cities Fargo/Moorhead from flooding from the Red River. The Army Core of Engineers suggests that the best solution for flood control for the cities of Fargo/Moorhead is to construct a diversion channel around the cities. The 36 mile long and ½ mile wide channel will redirect floodwaters, from the Red River, around Fargo/Moorhead on the North Dakota side of the cities and redeposit the water downstream from the cities of Fargo/Moorhead. The proposed channel will carry water at a maximum of 35,000cfs. This is 6,000cfs faster then the water flowed through Fargo/Moorhead during the record flood of 2009, which flowed through the city at 29,000cfs. This increase in speed of the water will cause additional water levels downstream from Fargo/Moorhead during a flood event; therefore, resulting in much more severe flooding for everyone who lives downstream from the cities of Fargo/Moorhead. As a result, throughout the following narrative, I will explain why the construction of the Fargo/Moorhead Diversion will be devastating to all people downstream from the proposed diversion, and will destroy their way of life, communities, and homes, as they now know them.

When the idea of a diversion was first pitched to the Fargo/Moorhead, the Army Core of Engineers had not yet studied downstream impacts; in fact, it wasn't even brought up until downstream people asked about it. Their first response was that they did not expect any negative downstream impacts because when the water from the diversion enters back into the Red River it would spread out rapidly; therefore, not resulting in any major downstream impacts. Many downstream citizens did not believe this idea and pushed for the downstream impacts to be studied.

Once the Core started studying downstream impacts, they found that there would be additional water levels downstream from the diversion. At the time, they claimed that they only studied as far north as Halstad, MN. Their initial findings were that there would be additional water levels, during a flood event on the Red River, for the communities of Georgetown, Perley, Hendrum, and Halstad. Even though the water levels varied for each community, the first over all consensus was that there would be about 2-4 inches additional water during a 100yr flood event for these communities to deal with. Overtime, these reports of additional water went to 6-8 inches, 10 inches, and then 12-17

inches of additional water that these communities would have to deal with during a flood event. Please refer to the Environmental Impact Statement and Feasibility Study for the FM Diversion for the exact numbers.

After much pressure from downstream citizens, the Army Core of Engineers released on August 3rd their finding for downstream communities north of Halstad. They have found that there will be additional levels as far north as Thompson, maybe further north as well, but claim that they have only studied the models this far. Every community further north of Halstad will see higher water levels on the Red River during a flood event. One example is that Climax, MN will receive an additional 25 inches during a major flood event. Unfortunately, the final results still have not been released which is unfair to all people north of Halstad who will not have a chance to comment on the findings before the August 9th deadline.

What do these additional water levels during a flood event mean to the communities and people downstream from the Fargo/Moorhead diversion? To begin with, these communities downstream from Fargo/Moorhead have experienced the same severe, record setting flooding that the FM Metro area has experienced since 1997 and have had to fight just as hard to save their communities and homes as Fargo/Moorhead has had to do. With the difference being that these small communities do not have the resources to fight a major flood like the FM area does. Our populations are getting older and no longer can continue to do what is necessary to fight a flood. For the people living in the small communities downstream from Fargo/Moorhead, they don't have the choice whether or not to volunteer on a daily basis; instead, they must fight the flood everyday or lose their homes or maybe even their lives. People work all hours around the clock filling and throwing sandbags in the rain, snow, and freezing temperatures. Throughout the three week fight of the 2009 flood, as Mayor, I went many nights without receiving sleep, if I did get some sleep, it was only for a few hours. This was true for many people. Citizens have to take time off from work, which they might not get compensated for, school gets interrupted, and businesses lose thousands in dollars because they basically have to shut down during the flood event. Not to mention the clean up afterwards. A community looks like a war zone after fighting a flood and takes several months to get it cleaned up. These floods are not only very hard on people physically, but also emotionally. Many people report suffering from depression after a major flood event; in fact after the flood of 1997, Hendrum lost a resident due to suicide. It gets to a point where people can't handle anymore and move away; thus, resulting in declining populations that eventually will close our schools, churches, businesses, and turn our towns into ghost towns.

These same small communities also do not have the finances to fight a major flood like the Fargo/Moorhead does. The cost of fighting a flood often surpasses or consumes much of the yearly budget for a small town. For example, the record setting 2009 flood cost Hendrum around $200,000 and our yearly budget is only around $330,000. Fortunately, we were re-reimbursed from FEMA for all but a few thousand; however, if that did not happen, it would take us years to pay this off!

In addition, many small communities downstream from Fargo/Moorhead, including farmsteads, simply do not have high enough dikes or levee systems to protect them from these additional water levels. The record setting flood of 2009 came within a few inches

of overtopping Hendrum's ring dike as well as many area farmsteads' ring dikes. Over the last year, Hendrum has worked with the Wild Rice Watershed District to improve our levee system. We have been approved to receive funding from the State of Minnesota, with local contributions as well, to aid us in raising our dike to a 100yr level plus 3 feet of freeboard. However, this increased protection will NOT be enough protection to protect us from the increased water levels that the proposed FM Diversion will dump on us. Hendrum could not have afforded to raise our dike if it wasn't for the state's assistance. If we need to raise it again will we be able to receive assistance from the state again? Eventually, the state of Minnesota is going to get tired of shelling out money for ring dikes and then what will we and other small communities as well as farmers do?

The additional water will also isolate our communities. Many towns will be cut off from the rest of the world for long periods of time. This means no one in and no one out. When I refer to the City of Hendrum as a community, I not only take it to account who lives inside the city limits but also who lives in the rural areas. The people in the rural areas will be cut off from emergency services. If they have a house fire or need medical assistance, these people will be on their own.

The severe flooding events that we have been experiencing also is very hard on the environment and wildlife in the region, and the additional water from the diversion will only make this much worse. Floods cause severe erosion problems in the Red River Valley destroying what some believe to be the most productive farm ground in the world The additional water, along with its increase speed, will only make this much worse destroying our farmer's way of life. As the minerals from our soil wash downstream, they deposit in Lake Winnipeg resulting in a huge algae problem, which is destroying the lake and its fish. However, the Army Core of Engineers does not take damage to farm ground into consideration when determining negative downstream impacts. During a major flood event; wildlife along the Red River, including 1,000 of deer, get displaced and end up dying. Again, this will all be made much worse with the additional water levels that the Army Core of Engineers is proposing that we will receive from the development of a diversion around Fargo/Moorhead.

Residents downstream from Fargo/Moorhead are not against Fargo/Moorhead receiving flood protection; however, we all need flood protection in the Red River Valley. We all are tired of fighting floods! Why can't we work together and find a solution that will benefit the entire Red River Valley and not one localized area? It is not neighborly nor is morally right to protect one area and make flooding that much worse for others. It should not matter what your population is to determine if one receives flood protection. Leaders in Fargo/Moorhead have said that people in small communities should be willing to be "collateral damage" to protect the greater good. I disagree! We all have a right to live in the Red River Valley and succeed economically. Besides that, Fargo/Moorhead cannot survive without its neighbors. Many people who live downstream from the FM area work in the Metro as well as do business there. The businesses in Fargo/Moorhead need us to survive just as much as we need them.

So what is my alternative solution for flood protection for the Fargo/Moorhead area other than building a diversion? For the same amount of money that it will cost to fund the diversion, I believe that one can protect the entire Red River Valley, not just one

localized area, through the construction of a series of retention, detention, and gated storage projects. One example of this is the Mike 11 model developed by Charlie Anderson of JOR Engineering. It consists of building a series of dry or wet dams throughout the entire Red River Valley on the tributaries feeding into the Red River. By holding the water at its source and releasing it though timed intervals, it is believed that the flow on the Red River can be reduced by 20% during a flood event. It has been suggested that if the Mike 11 model were in place during the 1997 flood, the reduced in flow on the Red River would have kept Grand Forks from flooding.

In conclusion, if the Fargo/Moorhead diversion is built, it will negatively change the landscape of the Red River Valley, as we know it forever. A project, that could have such negative effects on the Valley and the people living either upstream or downstream from the diversion, needs to be fully studied carefully with no stone unturned. However, the Army Core of Engineers is rushing this project with unprecedented speed; therefore, not allowing enough time for proper modeling and for comments to be made on the results. A rushed project is a poor product!
Flooding of the Red River negatively affects everyone in the Red River Valley in so many ways; as a result, a solution needs to be found that will benefit everyone in the Valley and not just for one localized are. Especially, when the solution for the one localized area results in more severe flooding for others either upstream or downstream. This is not morally correct nor is it neighborly!

Comments submitted by,

Curt H. Johannsen
Hendrum Mayor

Maggied, Troy MVP

From: Snyder, Aaron M MVP
Sent: Monday, August 16, 2010 11:42 AM
To: Beauchamp, Francis MVP; Maggied, Troy MVP
Cc: Evans, Craig O MVP; Sobiech, Jonathan J MVP
Subject: FW: Comments by US ACE as indicating potential "predetermination" of project alternative
Attachments: atta633c.jpg; atta633d.jpg

FYI - See below.

Aaron M. Snyder
USACE Planner and Project Manager, PMP
Chief, Project Management Branch (PM-B)
651-290-5489
612-518-0355 (Cell)
Aaron.M.Snyder@usace.army.mil

-----Original Message-----
From: Jonathan P. Scoll [mailto:jscoll@lindquist.com]
Sent: Monday, August 09, 2010 6:02 PM
To: Snyder, Aaron M MVP
Cc: Howard Kenison; Julie M. Duckstad; Thomas F. Pursell; Diane Ista; Curt Johannsen
Subject: Comments by US ACE as indicating potential "predetermination" of project alternative

August 9, 2010

Aaron M. Snyder
UASCE St Paul Division
St. Paul, MN

Re: Draft EIS on Fargo Moorhead Flood Control Project Supplemental Comment of City of Hendrum

Dear Mr. Snyder:

A broadcast story on Minnesota Public Radio today, audio available online at http://minnesota.publicradio.org/display/web/2010/08/06/red-river-diversion/ <http://minnesota.publicradio.org/display/web/2010/08/06/red-river-diversion/> quotes a Corps official, Project Manager Craig Evans, as saying:

that "valid concerns will be considered and included in the final project proposal. 'We feel like we have a pretty good plan, so I'm not expecting any drastic changes,' Evans said. 'But we do consider people's views, and if there are things we can improve in the project we're very open to doing that.'

Our client, the City of Hendrum, regards this statement as proof that the Corps has already pre-determined the project alternative, and that it is, and has been, unwilling to consider any feasibile alternatives, or their impacts, as required by NEPA.

Please add this e-mail, and the MPR news story referenced -- full text below -- to our comments submitted last Friday.

Sincerely

Jonathan P. Scoll

Jonathan P. Scoll
Lindquist & Vennum PLLP
Suite 4200 IDS Center
80 South 8th Street
Minneapolis, MN 55402

612-371-3546

Full Text of MPR News Story:

Opposition to Red River diversion project growing

by Dan Gunderson
<http://minnesota.publicradio.org/about/people/mpr_people_display.php?aut_id=25> , Minnesota Public Radio

August 9, 2010

Moorhead, Minn. – A $1.4 billion Red River diversion plan to ease flooding in Fargo-Moorhead is on a fast track, with a schedule that is one of the most aggressive ever undertaken by the U.S. Army Corps of Engineers.

But there is growing opposition to the project, with critics lining up to submit comments to the Corps of Engineers by Monday's deadline.

"For a Corps project with a $1.4 billion pricetag, it sure seems to us like it's moving pretty quick," said Kit Fischer, an outreach coordinator for the National Wildlife Federation. "A lot of us are sort of left scratching our heads, wondering 'how can this thing go through?'"

Fischer said the project should include wetland restoration and upstream water storage to reduce flows on the river.

The National Wildlife Federation also has concerns about how the diversion will affect downstream areas where flooding will worsen because of the diversion. Fischer said other than a 36-mile diversion channel, the Corps of Engineers did not adequately study options.

"There are solutions that will protect Fargo and Moorhead, but also protect downstream impacts and upstream impacts and have a positive impact on wildlife," he said.

Several national and regional environmental groups also are raising questions about the diversion project.

Larger view <http://images.publicradio.org/content/2010/07/08/20100708_river-diversion2_33.jpg>

Map of diversion <http://images.publicradio.org/content/2010/07/08/20100708_river-diversion2_33.jpg>

Henry Van Offelen, a natural resource scientist for the Minnesota Center for Environmental Advocacy, said the Red River has one of the longest stretches without barriers to migrating fish anywhere in the country. He worries the diversion and gate structures built in the river will affect the movement of species like sturgeon and catfish.

But Van Offelen said the greatest concern with the project is that it simply moves the flooding problem downstream.

"We're trying to move water faster downstream to get rid of the problem," he said. "We need to start looking at mitigating the effects downstream, and the environmental effects also."

Van Offelen said increased flows downstream will worsen erosion and damage the river channel and adjacent farmland.

The likely downstream effects of the diversion are causing fear and anger for people living downstream. An analysis released just last week by the Corps of Engineers show the diversion will worsen flooding as far as 50 or 60 miles downstream.

Larger view <http://images.publicradio.org/content/2010/07/08/20100708_river-diversion3_33.jpg>

Flood gates in Fargo-Moorhead
<http://images.publicradio.org/content/2010/07/08/20100708_river-diversion3_33.jpg>

Flood levels downstream will increase by as little as a few inches to as much as two feet after the diversion is built.

Hendrum Mayor Curt Johannsen said the late release of that downstream data gives people little time to prepare comments.

The Corps rejected a request to extend the comment period.

Johannsen said a downstream impact working group he helped create is growing every day, as opposition to the Fargo-Moorhead diversion increases. The group has hired an attorney and an engineer.

A handful of counties and cities have passed resolutions to slow the project and allow more time for study. Johannsen said they want the diversion project to include the cost of mitigating increased flooding downstream.

"If mitigation isn't included with the pricetag of the project, who says we're going to get it?" Johannsen said. "If it's considered an add on, how many years down the road until we get it? The hazard mitigation needs to be included in the funding of the diversion, because I honestly feel if it isn't we won't see it."

Johannsen said he doubts the concerns raised in public comments about the project will derail the diversion from its fast track.

"I personally feel that if they see any comments that get in the way of building their diversion, they're going to throw them out. It's not fair to these people," he said. "They have a right to comment.

"The comment period should be extended until all downstream impacts have been studied, all the way to Lake Winnipeg," Johannsen said.

The Corps of Engineers is required by law to respond to any comments received by the Monday deadline.

Project Manager Craig Evans said valid concerns will be considered and included in the final project proposal.

"We feel like we have a pretty good plan, so I'm not expecting any drastic changes," Evans said. "But we do consider people's views, and if there are things we can improve in the project we're very open to doing that."

The project schedule calls for a final plan to be sent to Congress by the end of the year.

Downstream residents say they are considering all options to slow the project, including legal action.

NOTICES
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CITY OF HILLSBORO, NORTH DAKOTA
RESOLUTION NO. 2010-0816

Commissioner Tibert introduced the following resolution and moved its adoption:

WHEREAS, the United States Army Corps of Engineers, (USACE) has proposed constructing flood water diversion channels around the cities of Fargo, North Dakota and Moorhead, Minnesota.

WHEREAS, the proposed diversion channel re-deposits the floodwater back into the Red River in northern Clay County of Minnesota or Northern Cass County of North Dakota.

WHEREAS, the City of Hillsboro is situated *directly* north and downstream from the point at which the proposed diversion channels reenter the Red River.

WHEREAS, the proposed flood diversion channels will change the flow regime of the Red River during flood events and is estimated to cause an adverse impact of as much as *seventeen inches of additional crest elevation to the City of Halstad.*

WHEREAS, increased flood crest of the magnitude envisioned by the USACE will adversely impact, roads, bridges, utilities, farms, personal property, commerce and public safety to those downstream of the proposed diversion.

WHEREAS, a change in flow regime that results in adverse impacts to the residents of the City of Hillsboro and others situated downstream from the proposed diversion projects is not acceptable.

NOW THEREFORE, the Hillsboro City Commission Members do hereby go on record of opposing the Fargo/Moorhead diversion project as it is now proposed.

Commissioner Sather seconded the motion. On roll call vote, the following Commissioners voted yes: Tibert, Stock, Kaufman, Sather and Forseth. None voted no. Motion carried.

Adopted this 16th Day of August, 2010

Mark Forseth, Commission President

Attest: Lesley Connelly, City Auditor

City of Horace

Box 99
Horace, North Dakota 58047
Phone: 701-282-9727

July 26, 2010

Mr. Aaron Snyder
USACE Planner and Project Manager
180 East 5th Street, Suite 700
St. Paul, MN 55101

RE: DRAFT FEASIBILITY REPORT AND ENVIRONMENTAL IMPACT STATEMENT
[Fargo-Moorhead Metropolitan Area Flood Risk Management]

Dear Project Manager Snyder:

I am writing as the Mayor of Horace, Cass County, North Dakota. A copy of this letter is being sent to the cities of Fargo and Moorhead, as well as the counties of Cass and Clay.

We have received the Draft Feasibility Report and Environmental Impact Statement which identifies the Locally Preferred Plan as being the North Dakota 35K diversion as being the "tentatively selected plan." The City of Horace is not a sponsor, nor was it invited to participate as a voting member in the local group that apparently made such suggestion.

The City of Horace has passed a resolution of vigorous opposition to the North Dakota 35K diversion as it is presently proposed to exist within, and adjacent to, our community.

The actual location of the diversion – in any portion of its presently identified route within the boundaries of the City of Horace, and also, its extra-territorial zoning area(s) – is antagonistic to the long-term interests of the City of Horace, its residents, and area landowners.

The proposed route of any North Dakota diversion [a "36 mile long diversion channel that would start approximately four miles south of the confluence of the Red and Wild Rice Rivers and would re-enter the Red River north of the confluence of the Red and Sheyenne Rivers"; ES-9] should be located further south so as to allow proper development of the entire area, not just the area directly south of Fargo. The City of Horace is also convinced that siting any new North Dakota diversion parallel to the existing Sheyenne River Diversion ["The LPP would incorporate the existing Horace to West Fargo Sheyenne River diversion channel"; ES-9] is an unacceptable siting of the proposed diversion, and may well constitute an unacceptable "taking" of an existing project. The diversion, if built in North Dakota, must be located further west for its entire route so as to eliminate the stifling of growth in Horace and West Fargo, North Dakota.

The City of Horace is located upon the higher ground in this area, and has already taken steps for its flood protection, in conjunction with the City of West Fargo, by participation in the existing diversion of the Sheyenne River. While the funding of the local share may not be of immediate concern to the Army Corp of Engineers, please be advised that the City of Horace will likely oppose any attempt to use special assessment funding for any portion of this project, particularly when an existing project already paid for by special assessments is attempted to be enveloped.

The City of Horace is opposed to the North Dakota East 35,000 cfs diversion channel [with its current siting as a "36 mile long diversion channel that would start approximately four miles south of the confluence of the Red and Wild Rice Rivers and would re-enter the Red River north of the confluence of the Red and Sheyenne Rivers"] and its associated features described in the DRAFT FEASIBILITY REPORT AND ENVIRONMENTAL IMPACT STATEMENT [Fargo-Moorhead Metropolitan Area Flood Risk Management]. Such a siting will have many adverse effects upon the City of Horace, its residents and landowners, and also, many adverse effects upon our neighbors to the north, West Fargo, North Dakota.

We look forward to possible resolution of these concerns, but absent a change in the siting of the diversion channel further west and south, the City of Horace will oppose this project.

If you have any questions concerning this matter, please feel free to contact me at any time.

Very truly yours,

Mayor Shane Walock

JTG:j
cc: Fargo
Moorhead
Cass County, ND
Clay County, MN

July 20, 2010

Mr. Aaron Snyder
Corps of Engineers Planner and Project Manager
U.S. Army Corps of Engineers
190 East Fifth Street, Suite 401
St. Paul, MN 55101-1638

RE: Minnesota Flood Diversion Impact of Buffalo Aquifer

Dear Mr. Snyder:

The draft Feasibility Report and Environmental Impact Statement (EIS) for the proposed Fargo, N.D.-Moorhead, Minn., Metropolitan Area Flood Risk Management Project was released in early June 2010. The 45-day comment period is in effect until July 26, 2010, according to the U.S. Army Corp of Engineers' Web site. In this letter, we are providing official comments regarding concerns about the alignment of the Minnesota diversion option in relation to the Buffalo Aquifer (Aquifer) located in Clay County, Minnesota.

Currently, the North Dakota 35k (ND35k) plan is the locally preferred plan (LPP), while the Minnesota 35k (MN35k) plan is the federally comparable plan (FCP). Moorhead Public Service (MPS) views the ND35k as a better option for ensuring that the Aquifer remains protected. The Aquifer serves approximately 70 percent of the population in Clay County, including the city of Moorhead and the city of Dilworth. The Aquifer is a long-term drought supply for the area and is too valuable of a resource to risk damaging.

The Minnesota flood diversion option may potentially have an impact on static water levels in the Aquifer. This flood diversion option runs parallel with the Aquifer for approximately ten miles. The current proposed alignment for the diversion would be within one-half mile of the estimated west boundary of the Aquifer. In the flood diversion option, the bottom of the diversion ditch could be as deep as 30 feet below the existing land surface. MPS has concerns regarding the potential impacts. At a minimum, there should be 20 feet of solid clay vertical separation between the bottom of the diversion ditch and any sand lenses below it that may be connected to the Aquifer. MPS would defer to local hydrogeologists as to the minimum horizontal separation that would act as a barrier between the diversion and the sands within the Aquifer.

MOORHEAD PUBLIC SERVICE
connecting our community

500 Center Avenue
P.O. Box 779
Moorhead, MN 56561-0779

phone: 218.299.5400
fax: 218.299.5193

www.mpsutility.com
www.gomoorhead.com

The areal extent and boundary of the Aquifer were studied by the U. S. Geological Survey (USGS) during the late 1970s. MPS and other local units of government have used the boundaries and other characteristics of the Aquifer established during this study to develop wellhead protection measures to minimize the impacts of land use above the Aquifer. However, sand and silt lenses do occur outside the boundary of the Aquifer, which were established during the USGS study. These sand lenses may be hydraulically connected to the Aquifer. If the excavation for the diversion channel intersects these sand lenses, there is a real chance that the sand lenses will drain water from the Aquifer into the diversion channel. This would remove water stored in the Aquifer and lower static water levels.

The City of Dilworth has searched for additional sources of water. They had two test wells drilled in the southwest corner of Section 31 of Moland Township. These test wells were drilled less than 2,000 feet from the west boundary of the Aquifer. Sand was encountered at 34 feet in one of the holes and at 45 feet in the other hole. This data indicates the potential for a sand lense that may be connected to the Aquifer. The Moorhead wells located along Highway 10 have sand starting at 36 feet.

MPS began pumping from the Aquifer in 1948. Static water levels in the Aquifer steadily declined in the area of the Moorhead wells. In 1960, Moorhead began using water from the Red River of the North (Red River) as its primary water supply. The Aquifer's static levels began to recover as the result of the reduced pumping from the Aquifer. As Moorhead grew and water demand increased, the static levels in the Aquifer began to decline again. During the drought of 1988-1989, Moorhead decided it must look for additional water supply because the Red River was not a reliable supply during long-term droughts.

MPS began the design of a new water treatment plant in 1990 and made a large capital investment to maximize the use of the Red River. The new facility was completed in early 1995. The new water treatment plant is capable of utilizing a larger percentage of water from the Red River to provide high-quality drinking water for our customers. Moorhead's water supply plan reserved the Aquifer as a resource to be used in the event of contamination of the Red River and for use as water supply during a long-term drought.

Historically, Moorhead used 40 percent of groundwater for its water supply. Since 1995, Moorhead has reduced the percentage of its water supply to 15 percent groundwater. The new water treatment plant's technology allowed Moorhead to reduce its dependence on groundwater by 60 percent. The static water levels in the Aquifer have risen by 15 feet since construction of the new water treatment plant. The static levels in the Aquifer have returned to 1950s level. Since 1995, Moorhead has reduced withdrawals from the Aquifer by a total of 5 billion gallons. This is equivalent to almost two-thirds of the water that Moorhead will need to supplement the Red River during a 1930s-type drought. MPS is concerned that a 30-foot deep diversion adjacent to the Aquifer could deplete 15 feet of water, which would be most, if not all, of the water added during the past 16 years.

Moorhead has invested millions of dollars to protect and reserve the Aquifer as a long-term drought water supply. Moorhead cannot afford to risk lowering the Aquifer and reducing the volume of water in storage by constructing a 30-foot deep diversion in close confluence with such an important water supply. It will take many months to study the potential impacts that a diversion channel would have on the water levels in the Aquifer. This study should take place before a determination is made that the Minnesota flood diversion option is the one that should be used for flood control. Aquifer water users should not be required to risk their water supply.

In closing, it is our desire that the ND35k plan remains the LPP and is the project that is selected for flood control in the Fargo-Moorhead area, as well as ensuring that the Buffalo Aquifer is not damaged by the diversion channel.

If you have any questions, please feel free to contact MPS' Water Division Manager Troy Hall at 218.299.5471 or e-mail thall@mpsutility.com. Thank you.

Sincerely,

Kenneth J. Norman, President
Moorhead Public Service Commission

Les Bakke, Secretary
Moorhead Public Service Commission

Kelli Poehls, Commissioner
Moorhead Public Service Commission

Corinne Stefanson, Commissioner
Moorhead Public Service Commission

Robert Swenson, Commissioner
Moorhead Public Service Commission

F:\A A A\Troy\US Corps of Engineers Diversion Comment Letter - 7 10.doc

EQUAL HOUSING OPPORTUNITY

City of Pembina
152 W. Rolette St.
Pembina, ND 58271
pcityofc2@invisimax.com
701-825-6819

City of Pembina

August 12, 2010

Aaron Snyder
St Paul, Corps of Engineers
180 Fifth St E, Suite 700
St Paul, MN 55101-1678

Dear Mr. Snyder,

The Pembina City Council respectfully requests that you reconsider our resolution to extend the comment period for the Draft Feasibility Report and Environmental Impact Statement for the Fargo-Moorhead Metropolitan Area Flood Risk Management Report.

At this point in time we are uncertain how the proposed diversion will impact our community and surrounding communities, therefore, please reconsider our request for an extension to this time frame.

On behalf of the Pembina City Council

Sincerely,

Nancy Thompson

Nancy Thompson
Pembina City Auditor/Administrator

Enc

http://cityofpembina.org

PEMBINA CITY COUNCIL

RESOLUTION NO. 2010-3

Mayor Hillukka introduced the following resolution and moved its adoption:

WHEREAS, the United States Army Corps of Engineers, (USACE) has determined that impacts are expected north of Grand Forks, ND as a result of construction of the proposed Fargo-Moorhead diversion.

WHEREAS, The USACE has just recently released this information.

WHEREAS, The USACE has not indicated to citizens north of Grand Forks, ND the magnitude of the expected impacts.

WHEREAS, The citizens situated north of Grand Forks, ND are unable to determine their situation as a result of the FM diversion due to lack of information.

WHEREAS, The USACE has set August 9, 2010 as the deadline for public comment on the proposed FM diversion.

WHEREAS, An August 9, 2010 deadline does not provide sufficient time for residents situated north of Grand Forks, ND to determine how the impacts of the proposed FM diversion will affect them and submit comment.

NOW THEREFORE, To preserve the interests of Pembina City and its people, the Pembina City Council do hereby go on record of requesting the USACE to extend the time from of public comment in regard to the proposed FM diversion to accommodate the needs and rights of citizens situated north of Grand Forks, ND

The motion for adoption of the foregoing resolution was made by Feldman, and 2nd by Dorion all present voted aye, nays: none, absent and not voting Wilmer and Burton, whereupon said resolution was declared duly passed and adopted.

Adopted this 10th day of August, 2010

By _____
Warren Hillukka, Mayor
City of Pembina

ATTEST: _____
Nancy Thompson, City Auditor/Adminstrator
City of Pembina

USACE-MVP-0000038009
DEIS Public and Private Comments Received

CITY OF PERLEY
PO BOX 437
PERLEY, MN 56574
PHONE 218-861-6170

July 23, 2010

Dear Concerned Citizens and Elected Officials

At the City of Perley Council meeting on July 13, 2020 the City fathers adopted the following Resolution to show our support against the F-M Diversion and the terrible impact that this proposal will have on the citizens of Perley and all surrounding communities. This is a small but sincere gesture that we all feel very strongly about. My colleagues feel that this process is futile but with the support of all of the Townships, Cities, and County Commissions I feel someone will have to listen to our cries for help.

Attached you will find a copy of our resolution and a letter of comment to the USACOE.

Sincerely,
Ann Manley
Mayor of Perley

Ann Manley

[redacted]

City of Perley
Comment for EIS

I am the Mayor of a small town downstream of the proposed FM diversion. Perley is 23 miles north of Moorhead, located on HWY 75 and within one mile from the Red River of the North. Our community is approximately 100 people of which 50% of the population is retired. We have 17 children in our community. Our sign indicates that we have 124 but we have decreased in population steadily since 2000. Many of our residents where born here and plan to die here.
It's the young that move away. The elderly don't want a buy-out, but they are so tired of fighting floods they can't imagine that the community of Fargo and Moorhead would delibertly cause us more problems. Their property values are decreasing and the chance of their children or grandchildren taking over their homes in the event of their death is never going to happen.

This is a farming community. Our whole community owns land or farms land in the Valley. Many work for or retired from the American Crystal Sugar Co. What will happen if the whole Valley becomes a greenway or if all are bought out and forced to leave? These residents are scared to death of the future. What will become of their church, our local businesses, schools, or their homes?

I have been the Mayor since 2004 and I have dealt with 3 major floods in this town that FEMA was a part of. I have seen 78 year old men sandbagging and manning pumps to protect our City. Women in their 80's cooking meals for the National Guard. Opening their homes so the Guard could clean up.
Our major well is located west of our town and took a hit from ice. We were without sufficiant water supply for over two months. We had students from over 100 miles away come to our assistance.
Our infrastructor is in poor shape. Just recently we began construction on our secondary lagoon. This is 1.3 million dollar project. Our community had to take out a loan of 366,000 for our share. This will run over a 40 year period. What happens if our community leaves or is bought out or worse, we just drown? Who will pay this loan off? We are already dropping in numbers.

I don't only worry about Perley, I worry about my sister communities of Hendrum, Georgetown, Kragnes, Halstad, Shelly, Gardner, Grandin, Argusville, Nielsville, Climax, Harwood, Oslo etc.

I know that I am very emotional about my community, It would be easier to just move, but my husband and I bought here to retire and die here. We joined the church and have our lots picked out to be buried on.

I know that we are scheduled for a Levee project. We appreciate the help but this doesn't even take into consideration the diversion impact on our community. We don't need more water to deal with.

I speak for my whole community when I say we are here to stay no matter what our outcome will be. I guess we are seasoned and maybe a little too stubborn.

Respectfully submitted
Ann Manley
Mayor of Perley

Ann Manley

City of Perley
Resolution of July 13, 2010

Mayor Ann Manley introduced the following resolution and moved it's adoption:

WHEREAS, The United States Army Corps of Engineers, (USACE) has proposed constructing flood water diversion channels around the Cities of Fargo, ND and Moorhead, MN.

WHEREAS, The proposed diversion channel redeposits the floodwater back into the Red River in Northern Clay County of MN or Northern Cass County of ND.

WHEREAS, The City of Perley is situated directly north and downstream from the point at which the proposed diversion channels reenter the Red River.

WHEREAS, The proposed flood diversion channels will change the flow regime of the Red River during flood events and is estimated to cause an adverse impact of as much as seventeen inches of additional crest elevation to western Norman County, and specifically the City of Perley.

WHEREAS, Increased flood crest of this magnitude envisioned by the USACE will adversely impact roads, bridges, utilities, farms, personal property, commerce, public safety, and personal well being to those downstream of the proposed diversion.

WHEREAS, A change in flow regime that results in adverse impact to the City of Perley and its residents and or others situated downstream from the proposed diversion projects is not acceptable.

NOW THEREFORE, To preserve the interests of the City of Perley and its people, the City Council of Perely, MN do hereby go on record of opposing the FM diversion project as it is now proposed.

The motion for adoption of the forgoing resolution was duly seconded by Councilman James Newburgh and upon wote being taken thereon, 4 voted in favor thereof: and 0 voted against the same: whereupon said resolution was declared duly passed and adopted
Adopted this 13 day of July 2010

By Barbara L. Newburgh
Barb Newburgh, City Clerk

LEE TOWNSHIP BOARD
NORMAN COUNTY
PERLEY, MN

RECEIVED
JUL 22 2010

RESOLUTION NO. 124

Supervisor Marvis Thompson introduced the following resolution and moved its adoption:

WHEREAS, The United States Army Corps of Engineers, (USACE) has proposed constructing flood water diversion channels around the cities of Fargo, ND and Moorhead, MN. The proposed diversion channel redeposits the floodwater back into the Red River in northern Clay County of MN or Northern Cass County of ND.

WHEREAS, Norman County is situated directly north and downstream from the point at which the proposed diversion channels reenter the Red River. The proposed flood diversion channels will change the flow regime of the Red River during flood events and is estimated to cause an adverse impact of as much as seventeen inches of additional crest elevation to western Norman County. Increase flood crest of the magnitude envisioned by the USACE will adversely impact roads, bridges, utilities, farms, personal property, commerce, public safety, and personal well being to those downstream of the proposed diversion.

WHEREAS, a change in flow regime that results in adverse impacts to Norman County and its residents and or others situated downstream from the proposed diversion projects is not acceptable.

THEREFORE, to preserve the interest of Norman County and its people, the Lee Township Board does hereby go on record of opposing the FM diversion project as it is now proposed.

The motion for adoption of the forgoing resolution was duly seconded by Supervisor Paul Houglum and upon vote being taken thereon, unanimous voted in favor thereof; and none voted against the same; whereupon said resolution was declared duly passed and adopted.

Adopted this 20th day of July, 2010

By _____
Paul Houglum, Chair

By Merle W. Gullekson
Merle W Gullekson, Clerk

July 21, 2010

Mary Township

Resolution

Mary Township is located in Norman County, MN, from approximately 5 to 11 miles east of Perley, MN. The Wild Rice River flows through the middle of this township; the South Branch of the Wild Rice River also meets the main stem in the center of this township.

The Wild Rice River enters the Red River of the North 2 miles north of Hendrum, MN. If the construction of the Fargo Diversion does indeed add another 17 inches more to the Red River in that particular area, as the USACE has indicated to the public, the potential impact would be terrible. More water would be held back onto the Wild Rice River for a longer period of time, flooding more homes, flooding more roads in the township. This would, no doubt, place an increased burden on the residents and other taxpayers in Mary Township.

NORMAN COUNTY – MARY TOWNSHIP

RESOLUTION NO. _____

Supervisor Blair Tufte introduced the Following resolution and moved it's adoption:

WHEREAS, The United States Army Corps of Engineers, (USACE) has proposed constructing flood water diversion channels around the cities of Fargo, ND, and Moorhead, MN.

WHEREAS, The proposed diversion channel redeposits the floodwater back into the Red River in northern Clay County of MN or Northern Cass County of ND.

WHEREAS, Mary Township is situated on the Wild Rice River upstream of the Red River and downstream from the point at which the proposed diversion channels reenter the Red River.

WHEREAS, The proposed flood diversion channels will change the flow regime of the Red River during flood events and is estimated to cause an adverse impact of as much as seventeen inches of additional crest elevation to western Norman County of MN.

WHEREAS, Increased flood crest of the magnitude envisioned by the USACE will adversely impact roads, bridges, utilities, farms, personal property, commerce, public safety, and personal well-being to those downstream of the proposed diversion.

WHEREAS, A change in flow regime that results in adverse impacts to Mary Township of Norman County in MN and its residents and or others situated downstream from the proposed diversion project is not acceptable.

NOW THEREFORE, To preserve the interests of Mary Township and it's people, the Mary Township Supervisors do hereby go on record of opposing the FM diversion project as it is now proposed.

The motion for adoption of the foregoing resolution was duly seconded by Supervisor Richard Ambuehl and upon vote being taken thereon, 5 voted in favor thereof; and 0 voted against the same: whereupon said resolution was declared duly passed and adopted.

Adopted this 21st day of July, 2010.

By Richard Ambuehl Blair Tufte
Richard Ambuehl, Chairman
Roger Myers, Supervisor Roger Myers
Blair Tufte, Supervisor

Attest Gerald Arends
Gerald Arends, Clerk
Wayne Lee, Treasurer Wayne Lee

RECEIVED
JUL 2010
Division of
Ecological Resources

NORMAN COUNTY – MARY TOWNSHIP

RESOLUTION NO. _____

Supervisor Blair Tufte introduced the Following resolution and moved it's adoption:

WHEREAS, The United States Army Corps of Engineers, (USACE) has proposed constructing flood water diversion channels around the cities of Fargo, ND, and Moorhead, MN.

WHEREAS, The proposed diversion channel redeposits the floodwater back into the Red River in northern Clay County of MN or Northern Cass County of ND.

WHEREAS, Mary Township is situated on the Wild Rice River upstream of the Red River and downstream from the point at which the proposed diversion channels reenter the Red River.

WHEREAS, The proposed flood diversion channels will change the flow regime of the Red River during flood events and is estimated to cause an adverse impact of as much as seventeen inches of additional crest elevation to western Norman County of MN.

WHEREAS, Increased flood crest of the magnitude envisioned by the USACE will adversely impact roads, bridges, utilities, farms, personal property, commerce, public safety, and personal well-being to those downstream of the proposed diversion.

WHEREAS, A change in flow regime that results in adverse impacts to Mary Township of Norman County in MN and its residents and or others situated downstream from the proposed diversion project is not acceptable.

NOW THEREFORE, To preserve the interests of Mary Township and it's people, the Mary Township Supervisors do hereby go on record of opposing the FM diversion project as it is now proposed.

The motion for adoption of the foregoing resolution was duly seconded by Supervisor Richard Ambuehl and upon vote being taken thereon, 5 voted in favor thereof; and 0 voted against the same: whereupon said resolution was declared duly passed and adopted.

Adopted this 21st day of July, 2010.

By Richard Ambuehl Blair Tufte
Richard Ambuehl, Chairman
Roger Myers, Supervisor Roger Myers
Blair Tufte, Supervisor

Attest Gerald Arends
Gerald Arends, Clerk
Wayne Lee, Treasurer Wayne Lee

RECEIVED
JUL 2010
Division of
Ecological Resources

July 21, 2010

Mary Township

Resolution

Mary Township is located in Norman County, MN, from approximately 5 to 11 miles east of Perley, MN. The Wild Rice River flows through the middle of this township; the South Branch of the Wild Rice River also meets the main stem in the center of this township.

The Wild Rice River enters the Red River of the North 2 miles north of Hendrum, MN. If the construction of the Fargo Diversion does indeed add another 17 inches more to the Red River in that particular area, as the USACE has indicated to the public, the potential impact would be terrible. More water would be held back onto the Wild Rice River for a longer period of time, flooding more homes, flooding more roads in the township. This would, no doubt, place an increased burden on the residents and other taxpayers in Mary Township.

Aug 3, 2010

Aaron M. Snyder
USACE Planner and Project Manager
180 East 5th Street, Suite 700
St. Paul, MN 55101

Dear Mr. Snyder,

RE: Fargo/Moorhead Metropolitan Flood Risk Management Project
Draft Feasibility Report and Environmental Impact Statement

I am a supervisor in Warren Township in Cass County, North Dakota. The Warren Township Board of Supervisors would support the proposed diversion project if the project can provide flood control and drainage benefits to Warren Township. However, there are many features of the project that could impact Warren Township that we would like the USACE to address:

- USACE should consider the previously proposed western alignment alternative of the diversion in Warren Township. The western alignment could easily intercept Sheyenne River breakout water flowing north in Drain 21C in Section 23 of Warren Township. This alignment could improve drainage in the township during a summer storm and would minimize diagonal crossings of property and roads that could make future section line bridge crossings expensive and impractical. This western alignment would have less disruption on township roads, especially the road on the border between Warren and Stanley Townships.
- USACE should investigate using Cass County Drain 35 in Normanna Township as a way to collect Sheyenne River breakout water in Drain 14 and deliver that water into the diversion in Section 2 of Normanna Township. A diversion crossing of the Sheyenne in Sec 2 of Normanna Township could pick up Sheyenne breakouts from the south and protect Cass County Hwy 16 which is overtopped and damaged during most Sheyenne River floods.
- Whichever channel alignment is used the channel design should allow for Sheyenne River breakout water that is carried north in Warren Township in Drain 21C and Drain 50 to enter the diversion at the furthest south location possible to eliminate the current situation of the breakout water topping roads all the way north to Interstate 94 on the west side of the river and pooling south of the Drain 50 inlet on the east side of the river.
- USACE should develop a process to regularly communicate with and get input from township officials regarding diversion alignment, road crossings and road realignments, and drainage inlet capacities and location.

Sincerely,

Gary Jochim
Warren Township Supervisor
[redacted]

CASS COUNTY GOVERNMENT

Cass County
Joint Water
Resource
District

Thomas Fischer
Chairman
Fargo, North Dakota

Mark Brodshaug
Manager
Fargo, North Dakota

Rodger Olson
Manager
Leonard, North Dakota

Michael Buringrud
Manager
Gardner, North Dakota

Raymond Wolfer
Manager
Argusville, North Dakota

Carol Harbeke Lewis
Secretary-Treasurer

1201 Main Avenue West
West Fargo, ND 58078-1301

701-298-2381
FAX 701-298-2397
wrd@co.cass.nd.us
casscountygov.com

August 4, 2010

Aaron M. Snyder
USACE Planner and Project Manager
180 East 5th Street, Suite 700
St. Paul, MN 55101

Dear Mr. Snyder:

RE: Fargo-Moorhead Metropolitan Flood Risk Management Project
Proposed channel realignment

The Cass County Joint Water Resource District supports the review of the concerns set out in the enclosed correspondence. Thank you.

Thank you.

Sincerely,

CASS COUNTY JOINT WATER RESOURCE DISTRICT

Thomas L. Fischer
Chairman

CASS COUNTY GOVERNMENT

Rush River Water Resource District

Raymond Wolfer
Manager
Argusville, North Dakota

William A. Hejl
Manager
Amenia, North Dakota

Keith Monson
Manager
Harwood, North Dakota

Carol Harbeke Lewis
Secretary-Treasurer

1201 Main Avenue West
West Fargo, ND 58078-1301

701-298-2381
FAX 701-298-2397
wrd@casscountynd.gov
www.casscountynd.gov

August 2, 2010

(See attached list of recipients.)

Greetings:

RE: Proposed realignment of the Red River Diversion

The Rush River Water Resource District proposes a realignment of the Red River Diversion. The objective of the proposed realignment is to maintain Drain #13 as a legal drain by moving the route 1/2 or 1 mile east. The benefits of this change are as follows:

1) The drainage area of the Red River Diversion would be reduced by approximately 29 square miles;
2) The number of inlets into the project would be reduced by about 4 large inlets and 6 field inlets;
3) The cost of the project would be reduced approximately $30 million, as indicated by the Corps of Engineers;
4) No negative effect on families, as there are no families living in the proposed alignment area; and
5) The change would increase the volume of water by installing a bridge on I-29 for the diversion. In addition, this change would have a positive effect on downstream elevations on the Red River at Georgetown.

Drain #13 was installed over 100 years ago to provide drainage for local farmers. Special assessments were used to build and maintain the drain. The cross-hatched area on the enclosed map represents the drainage area for Drain #13. The map also contains the current diversion proposal and the proposed change explained above.

Also enclosed is a copy of a petition signed by residents and landowners in the affected Drain #13 drainage area. The 50 signatures on this petition represent 95% of the residents living in the drainage area of Drain #13. These residents, along with the affected landowners, are in support of maintaining Drain #13 as a legal drain and excluding it from the Red River Diversion.

The proposed realignment was approved by the Rush River Water Resource District Board at its July 17, 2010, meeting. The Water Resource District would appreciate your review of the proposed realignment and requests that you support the implementation of this plan.

If you have any questions, please feel free to contact us. Thank you.

Sincerely,

RUSH RIVER WATER RESOURCE DISTRICT

Raymond Wolfer
Chairman

Enclosures (2)

List of recipients:

Metro Flood Study Work Group:

- Tim Mahoney
- Brad Wimmer
- Dan Hunt
- Nancy Otto
- Diane Wray-Williams
- Scott Wagner
- Darrell Vanyo
- Kevin Campbell
- Gerald VanAmburg
- Grant Weyland
- Tom Fischer

Cass County Commissioners:

- Robyn Sorum
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- Ken Pawluk
- Scott Wagner

Mark Bittner, Fargo City Engineer
April Walker, Fargo Senior Engineer
Bob Zimmerman, Moorhead City Engineer
Craig Evans, US Army Corps of Engineers Project Manager
Bonnie Johnson, Cass County Administrator
Lance Yohe, Red River Basin Commission Executive Director
Chad Olson, Mayor of Dilworth
Jim Brownlee, West Fargo City Administrator

Petition to Retain Drain 13 As A Legal Drain

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Dennis Kelly	Dennis Kelly			6/19/10
Charles Sorvaag	Charles Sorvaag			6/19/10
ROBERT MALZAHN	Robert Malzahn	[redacted]	[redacted]	6/19/20
HERMAN RABANUS	Herman Rabanus	[redacted]	[redacted]	6/22/10
PERRY RUST	Perry Rust	[redacted]	[redacted]	6-27-10
Karen Kenninger	Karen Kenninger	[redacted]	[redacted]	6-28-10
Rodney Nelson	Rodney Nelson	[redacted]		6-28-10
Tim Springer	[illegible]			6-28-10
[illegible]				6-28-10
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TOM RODEN	[illegible]			6/11/10
Dale Rust	Dale Rust			6/11/10
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James Ulelard	James Ulelard			6-11-10
Russ Rulifson	[illegible]			6-11-10
WAYNE HOGLUND	[illegible]			6-11-10
[illegible]	[illegible]			6-11-10
David Gust	[illegible]			6-11-10
DEAN RUST	[illegible]			6-11-10

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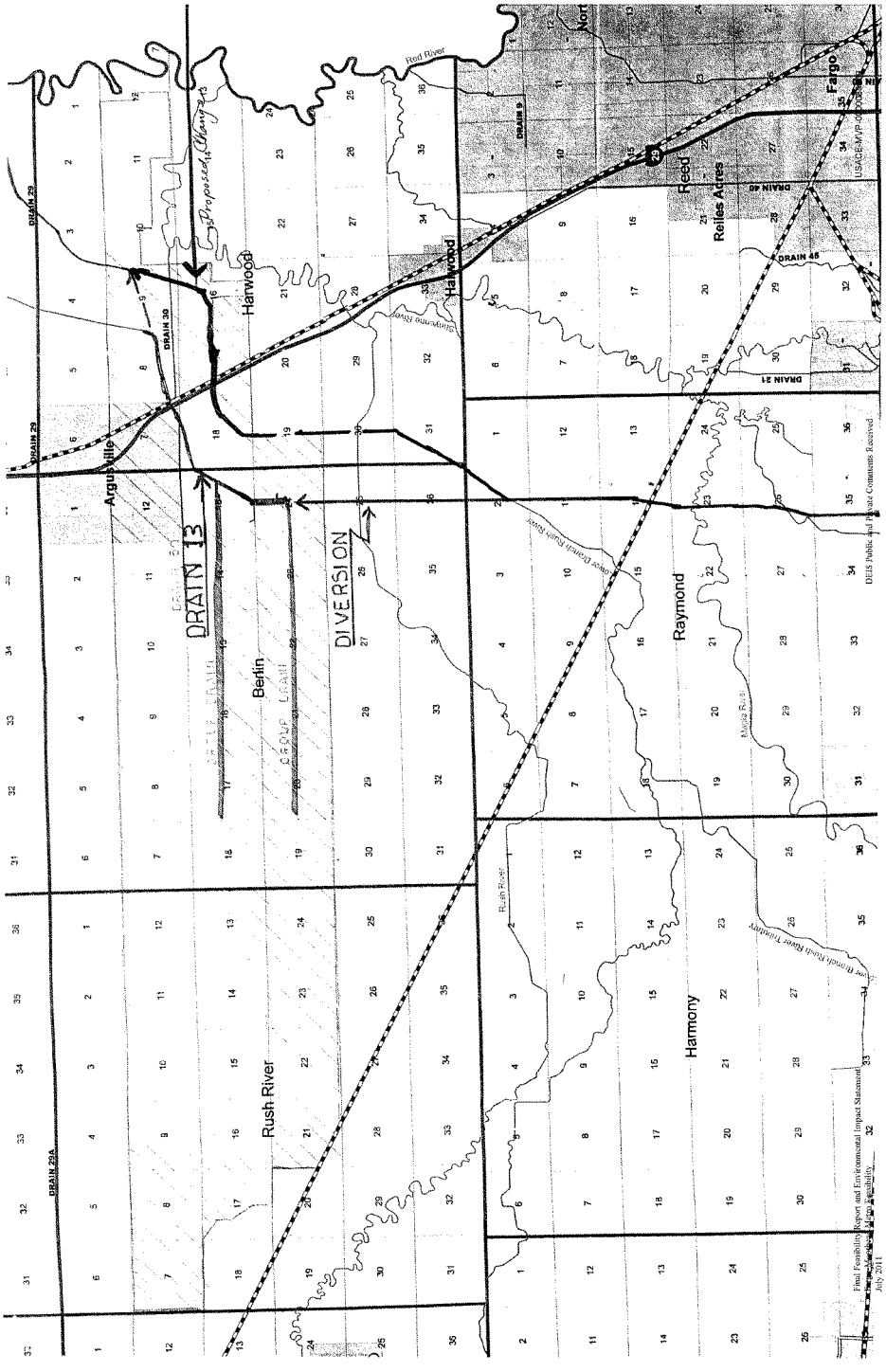
Red River
Fargo
Reed
Reiles Acres
Harwood
Argusville
Berlin
Raymond
Harmony
Rush River
DRAIN 13
DIVERSION
Proposed Changes
DRAIN 29
DRAIN 30
DRAIN 9
DRAIN 40
DRAIN 45
DRAIN 21
DRAIN 29A
Stillwater River
Lower Branch Rush River
Maple River
Rush River
Lower Branch Rush River Tributary
DEIS Public and Private Comments Received
Final Feasibility Report and Environmental Impact Statement
July 2011

CASS COUNTY GOVERNMENT

Cass County
Joint Water
Resource
District

Thomas Fischer
Chairman
Fargo, North Dakota

Mark Brodshaug
Manager
Fargo, North Dakota

Rodger Olson
Manager
Leonard, North Dakota

Michael Buringrud
Manager
Gardner, North Dakota

Raymond Wolfer
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casscountygov.com

August 4, 2010

Aaron M. Snyder
USACE Planner and Project Manager
180 East 5th Street, Suite 700
St. Paul, MN 55101

Dear Mr. Snyder:

RE: Fargo-Moorhead Metropolitan Flood Risk Management Project
Process for commenting on the project alignment

Property owners have contacted the Cass County Joint Water Resource District (WRD) with concerns about having an opportunity to comment on the channel alignment for the Red River Diversion. We would appreciate it if you would outline this process for us so we may properly advise them. The WRD believes property owners need and deserve the right to comment on the project alignment as it changes.

Thank you.

Sincerely,

CASS COUNTY JOINT WATER RESOURCE DISTRICT

Thomas L. Fischer
Chairman

cc: Dean Rust

CASS COUNTY
GOVERNMENT

Cass County
Joint Water
Resource
District

Thomas Fischer
Chairman
Fargo, North Dakota

Mark Brodshaug
Manager
Fargo, North Dakota

Rodger Olson
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August 4, 2010

Aaron M. Snyder
USACE Planner and Project Manager
180 East 5th Street, Suite 700
St. Paul, MN 55101

Dear Mr. Snyder:

RE: Fargo-Moorhead Metropolitan Flood Risk Management Project
Draft Feasibility Report and Environmental Impact Statement

The Cass County Joint Water Resource District (WRD) supports the above referenced project, which is an integral part of permanent flood control for the Fargo-Moorhead metropolitan area. However, the WRD is concerned about the people they serve and downstream impacts. The WRD urges the Corps of Engineers to consider participation in the cost of mitigation in those areas.

Thank you.

Sincerely,

CASS COUNTY JOINT WATER RESOURCE DISTRICT

Thomas L. Fischer
Chairman

Red River Basin Commission

Manitoba • Minnesota • North Dakota • South Dakota
Moorhead Office: 119 5th St. S. • PO Box 66 • Moorhead, MN 56561-0066
Phone 218-291-0422 • FAX 218-291-0438 • staff@redriverbasincommission.org
Winnipeg Office: Suite 206 309 Hargrave Street • Winnipeg, MB R3B 2J8
Phone 204-982-7250 • FAX 204-982-7255 • staff@redriverbasincommission.org
www.redriverbasincommission.org

2009-2010
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Sen. Franken - Valerie Graveseth
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Rep. Peterson - Wally Sparby
Rep. Pomeroy - Joan Carlson
M.P. Toews, P.C.

August 2, 2010

U.S. Army Corps of Engineers
190 E. 5th St., Ste. 401
St. Paul, MN 55101

Dear Mr. Snyder:

Please accept this correspondence for public comment on the Fargo-Moorhead flood risk management project draft EIS and feasibility report. The Red River Basin Commission (RRBC) is an international organization with offices in Moorhead, Minnesota and Winnipeg, Manitoba. We are concerned with water management in this basin from a holistic, basin-wide approach that traverses three states, a province and two countries.

The RRBC Vision is: *a Red River Basin where residents, organizations and governments work together to achieve basin-wide commitment to comprehensive integrated watershed stewardship and management.*

The RRBC Mission is: *to develop a Red River Basin integrated natural resources framework plan; to achieve commitment to implement the framework plan; and to work toward a unified voice for the Red River Basin.*

The Red River Basin Natural Resources Framework Plan (RRB - NRFP) has been developed and at this time over half the basin local units of government have agreed to do their part in helping achieve the goals in the NRFP. The NRFP has 13 basin-wide goals and two of them have direct relevance to the proposed Fargo-Moorhead area diversion project and the draft EIS and feasibility report.

Goal # 1: *Manage natural resources in the Red River Basin by watershed boundaries rather than political boundaries.* This has relevance to the project because flood solutions with watershed and basin-wide focus need to address not only needs of one area of the basin, but other areas as well. We therefore ask that the USACE consider the full impacts of the proposed diversion project on all upstream and downstream interests, so that we move toward a final solution to the Fargo–Moorhead flooding situation that will result in no adverse impacts on others.

Goal # 6: *Reduce the risk of flood damages for people, property and the environment in the mainstem floodplain and in tributary watersheds.* This has relevance to the proposed project because flood solutions need to consider all options in a comprehensive integrated manner to get the greatest benefits for the Fargo-Moorhead area without creating adverse impacts on other areas. We therefore ask that the USACE consider a blending of options that include diversion, levees, and storage for the Fargo – Moorhead area and other flood-prone communities upstream and downstream.

In addition, the RRBC Long Term Flood Solutions (LTFS) Project has revealed that there is strong support for and interest in storage as a primary flood reduction tool throughout the basin. This information was gathered through over 20 public meetings around the basin. In addition the LTFS Project is utilizing a Red River mainstem model developed by RRBC to target mainstem flow reductions to reduce flood damages. Our initial effort at a 20 percent flow reduction at several mainstem locations provides targeted reductions for each sub-watershed to achieve that goal. Modeling of actual storage sites built since 1997, sites in progress, or potential sites will provide information on where actual storage can be achieved to reduce flood damages.

We commend the project's primary objective to remove thousands of people and properties from harm's way of the chronic flooding that has afflicted the Fargo - Moorhead region year after year. Reducing flood damages is one of the important goals in the RRB-NRFP. Reducing flood damages is also critical for the population's safety and quality of life, as well as the economic vitality not only for this immediate region, but for the states of Minnesota, North Dakota, South Dakota, and our respective countries. We urge you to advance such permanent protection for this metropolitan area while mitigating any negative impacts to surrounding communities and residents as identified above.

Please feel free to contact us if you have any questions or we can provide any assistance in this endeavor. Thank you.

Sincerely,

Herm Martens
Chair
Red River Basin Commission

Red River Watershed Management Board

August 6, 2010

Mr. Aaron Snyder
U.S. Army Corps of Engineers
180 East 5th Street
Suite 700
St. Paul, MN 55101

Dear Mr. Snyder:

RE: Review Comments, Draft Feasibility Report and Environmental Impact Statement (EIS), Fargo-Moorhead Metropolitan Area Flood Risk Management

Thank you for the opportunity to review the Draft Feasibility Report and Environmental Impact Statement for Fargo-Moorhead Metropolitan Area Flood Risk Management prepared by the U.S. Army Corps of Engineers (USACE). The Red River Watershed Management Board (RRWMB) offers the following comments on the document in recognition of our shared interest in flood damage reduction within the Red River Basin.

Our primary concern is that a comprehensive evaluation of alternatives be performed that fully assess all downstream impacts so that the greatest common good can be realized from a basin-wide perspective. Toward that end, the following comments focus on areas where we believe a more comprehensive assessment and evaluation are required:

Comment 1: It is stated in Appendix B; page B-12, that an unsteady HEC-RAS model was developed from Hickson to Halstad to assess downstream impacts. The model shows significant peak flood flow increases at Halstad on the order of 20%. Impacts must be quantified further downstream, beyond Halstad, until a point where no increase in stage or discharge exists.

Comment 2: Table 30, page 147, shows a 5.5 inch downstream impact at Halstad for the MN Short 35k alternative, 10% chance event. Table 32, page 155, shows a 24.7 inch impact for the same event for the ND East 35k alternative. This is a 1.6 foot difference for a relatively frequent event, yet the difference is characterized in Section 3.6.7, page 66, as relatively similar when the two alternatives are compared. We disagree.

Comment 3: Impacts of increased flows on completed flood protection measures downstream, such as the levee for the communities of Grand Forks and East Grand Forks, are not discussed. Similarly, potential downstream implications for flood insurance and levee certification requirements are also not addressed.

Comment 4: The impacts of stage and flow increases on private agricultural lands and public infrastructure such as roads and bridges are, in general, insufficiently assessed in the document.

Comment 5: The document does not differentiate between the significantly different impacts that spring and summer flood events have on affected agricultural lands. An assessment of the impacts of each event should be included in a comprehensive evaluation of downstream impacts.

Comment 6: The document does not include evaluations of various multi-faceted alternatives, such as combining upstream storage with flood barriers or other combination approaches.

Unless plans for the proposed diversion project incorporate sufficient measures to mitigate any associated downstream stage and discharge increases, the burden of those impacts will be imposed on others. It is our hope that the project sponsors will recognize their share of responsibility to the basin by adequately assessing the project's storage, stage and discharge impacts and incorporating within the project sufficient measures to mitigate their effects.

Thank you again for considering our comments as you prepare the final Feasibility Report and EIS. We appreciate your efforts and value the opportunity to participate and partner with you and other stakeholders toward our shared interest of flood damage reduction within the Red River Basin.

Sincerely yours,

John Finney
President

c: Minnesota Department of Natural Resources
Red River Basin Flood Damage Reduction Work Group
Red River Basin Commission
Minnesota Red River Basin State and Federal Delegations
Minnesota Association of Watershed Districts
Member Watershed Districts
Metro Flood Study Work Group
Ron Harnack, RRWMB Project Coordinator

P.O. Box 763 • Detroit Lakes, MN 56502-0763
www.rrwmb.org • PH: (218) 844-6166 • FAX: (218) 844-6167

CASS COUNTY GOVERNMENT

Rush River Water Resource District

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Manager
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If you have any questions, please feel free to contact us. Thank you.

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RUSH RIVER WATER RESOURCE DISTRICT

Raymond Wolfer
Chairman

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[illegible]	[illegible]			6-11-10
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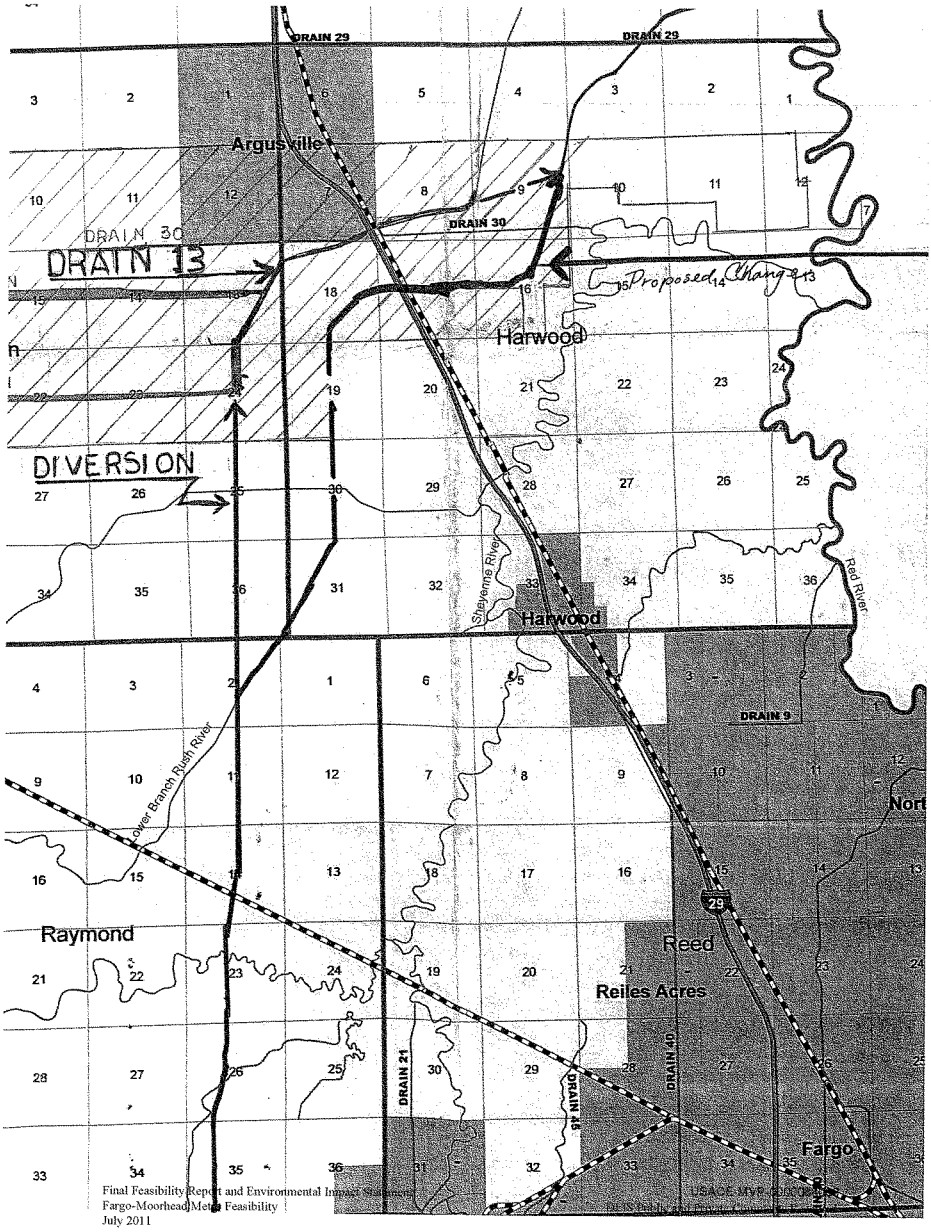
DRAIN 29
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Argusville
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Proposed Change
Harwood
DIVERSION
Shevenne River
Harwood
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DRAIN 9
Lower Branch Rush River
Raymond
Reed
Reiles Acres
DRAIN 21
DRAIN 45
DRAIN 40
Fargo

Two Rivers Watershed District

In Roseau, Kittson, & Marshall Counties

Board of Managers:
Roger Anderson, O'Neil Larson, Richard Novacek, Jim Kukowski, Jon Vold, Mike Ratzlaff, Darrel Johnson
Staff: Dan Money, District Administrator; Matt Thompson, District Technician
410 5th Street S., Suite 112, Hallock, MN 56728 - Phone (218) 843-3333 - Fax (218) 843-2020 - Email: daniel.money@mn.nacdnet.net

August 5, 2010

Aaron Snyder
U.S. Army Corps of Engineers Project Manager
180 East 5th Street, Suite 700
St. Paul, MN 55101

Dear Sir:

The Two Rivers Watershed District is a local unit of government authorized under Minnesota Statute 103D, with jurisdiction in Kittson, Roseau, and Marshall Counties in northwestern Minnesota. Powers of watershed districts under this statute include projects involving flood control, water quality, and water quantity. The Two Rivers Watershed District was established in 1958 and to date has constructed several flood control projects.

As an agency involved with flood control and potentially affected by the proposed Fargo Moorhead diversion, we appreciate the opportunity to provide comment on the Draft Feasibility Report and Environmental Impact Statement. We respectfully offer the following comments:

1. Significant stage increases at several downstream locations as far north as Halstad have been identified. However, numerous locations further downstream to the north of Halstad most certainly will also be impacted. The extent of downstream impacts needs to be quantified all the way to the location on the river where there will be no impacts or where impacts will be negligible. Only when this is done can there be a quantification of the cost versus benefits of the plan.

2. Because downstream areas will have higher stages after the project is constructed, we believe that water retention areas need to be constructed as a part of the project in order to mitigate the increased stages downstream. In other words, it is not acceptable to simply transfer the water that is now stored in the Fargo Moorhead floodplain to areas downstream, thereby increasing the flooding that occurs in downstream areas. The project that is constructed should have no significant impact to downstream or upstream areas. This is a basic water management guideline. The impacts of the project must be mitigated.

3. Project alternatives should be addressed. These can include projects such as impoundments, wetland restorations, or other upstream storage projects. Other types of project alternatives to consider could involve flood barriers alone or in combination with the diversion. Upstream storage options not only will help prevent flooding in the Fargo Moorhead area, it will reduce the size and cost of the proposed diversion, and could possibly provide

other opportunities such as water supply in times of drought.

4. Impacts to public infrastructure such as roads and bridges needs to be quantified. In addition, impacts to agricultural and private lands also should be quantified.

5. The deadline to provide comments as we understand it is August 9, 2010. We do not feel that this is enough time for all agencies and members of the public to review the 280 page document and its appendices, digest the information contained within it, and provide well educated comments. We respectfully request that the time line to provide comments be extended.

In summary, the Two Rivers Watershed District supports a diversion project only if the project includes mitigation for the negative impacts it surely will impose on others. This mitigation should include flood storage and impoundment options, or some combination of structural measures that collectively mitigate the transfer of flood damages to others.

Thank you for the opportunity to provide comment.

Sincerely,

Dan Money

Dan Money
District Administrator

11 5th Ave East · Ada MN 56510 · Phone (218) 784-5501 · Fax (218) 784-2459 · www.wildricewatershed.org

August 2, 2010

Mr. Aaron Snyder
U.S. Army Corps of Engineers
180 E. 5th Street Suite 700
St. Paul, MN 55101

Dear Mr. Snyder:

RE: Review Comments, Draft Feasibility Report and Environmental Impact Statement (EIS), Fargo-Moorhead Metropolitan Area Flood Risk Management

The Wild Rice Watershed District encompasses an area of approximately 2080 square miles. It includes the drainage basin of the Wild Rice River and its South Branch, which is a direct tributary to the Red River of the North in northwestern Minnesota. The District also includes the watershed of the Marsh River and other small contiguous areas directly tributary to the Red River of the North. The Wild Rice Watershed District comprises portions of Norman, Mahnomen, Clay, Clearwater, Becker, and Polk Counties in Minnesota.

The WRWD would like to provide the following comments on the Draft Feasibility Report and Environmental Impact Statement for Fargo-Moorhead Metropolitan Area Flood Risk Management prepared by the U.S. Army Corps of Engineers (USACE). As a member of the Red River Watershed Management Board (RRWMB), many of the comments that we provide are common to the comments provided by the RRWMB.

Comment 1: It is stated in Appendix B; page B-12, that an unsteady HEC-RAS model was developed from Hickson to Halstad to assess downstream impacts. The model shows significant peak flood flow increases at Halstad on the order of 20%. Impacts must be quantified further downstream, beyond Halstad, until a point where no increase in stage or discharge exists.

Comment 2: Table 30, page 147, shows a 5.5 inch downstream impact at Halstad for the MN Short 35k alternative, 10% chance event. Table 32, page 155, shows a 24.7 inch impact for the same event for the ND East 35k alternative. We don't agree that a 1.6 foot difference in flood elevation is negligible

Comment 3: Impacts to downstream flood protection projects (ex. Perley, Hendrum, Halstad, and Shelly, MN agricultural levees, farmstead ring dikes, etc) from potentially increased flows and stages as a result of a change in hydrology and a diversion of flows are not discussed, nor are potential implications involving reduced flood protection, flood insurance map implications for homeowners and/or levee certification and re-certification requirement implications discussed. The above examples of impacts to downstream communities and private lands are consistently not accounted for in the EIS. We believe these are critical assessments that the EIS needs to address.

Comment 4: The impacts of stage and flow increases on private agricultural lands and public infrastructure such as roads and bridges are, in general, insufficiently assessed in the document.

Comment 5: The document does not differentiate between the significantly different impacts that spring and summer flood events have on affected agricultural lands. An assessment of the impacts of each event should be included in a comprehensive evaluation of downstream impacts.

Comment 6: The document does not include evaluations of various multi-faceted alternatives, such as combining upstream storage with flood barriers or other combination approaches. A combination project could reduce or potentially eliminate the downstream impacts.

Unless plans for the proposed diversion project incorporate sufficient measures to mitigate any associated downstream stage and discharge increases, the burden of those impacts will be imposed on others. It is our hope that the project sponsors will recognize their share of responsibility to the basin by adequately assessing the project's storage, stage and discharge impacts and incorporating within the project sufficient measures to mitigate their effects.

The WRWD is a willing and able partner to help the project succeed as it is an important protection measure for the Fargo-Moorhead communities and the residents of the basin. However the WRWD would find it difficult to support a project that passes the flood burden downstream when there are potentially reasonable and practical storage options to eliminate those downstream impacts while providing necessary protection to the Fargo-Moorhead communities. The EIS needs to better assess the integration of flood water storage and to better assess the downstream impacts to public and private infrastructure and downstream communities.

We appreciate the opportunity to provide these comments on the draft EIS. If you have any questions please do not hesitate to contact us.

WILD RICE WATERSHED DISTRICT

Greg Holmvik
Chairman

c: Norman County Commissioners

American Rivers * Coalition for Alternative Wastewater Treatment
Clean Water Network * Colorado Watershed Assembly
Corps Reform Network * Institute for Agriculture and Trade Policy
Minnesota Ornithologists' Union * National Wildlife Federation

August 9, 2010

Aaron Snyder
Corps of Engineers Planner and Project Manager
180 E. Fifth Street, Ste. 700
St. Paul, MN 55101

Re: Comments on Draft Feasibility Report and Environmental Impact Statement on the Fargo-Moorhead Metropolitan Area Flood Risk Management Project on the Red River of the North. These comments are in addition to comments that organizations may be sending individually.

Dear Mr. Snyder:

The Corps of Engineers, in its efforts to identify and implement a solution to flooding of Fargo, ND and Moorhead, MN, has a tremendous opportunity that could change the very direction of water management in the Sheyenne and Red River Valley, and potentially catapult U.S. Water policy out of the 19th century and into the 21st century. By departing from the traditional structural approach diversion canal favored in the draft EIS, and instead fully-evaluating and implementing a more modern restoration solution, such as the Waffle approach developed by the University of North Dakota's Energy Environmental Research Center, the Corps of Engineers can solve the flooding issues in these communities at a fraction of the cost, while generating ancillary social, economic, environmental and public health benefits.

Fargo, North Dakota and Moorhead, Minnesota have always been threatened by flooding from the Red River of the North. In the last two decades, however, floods have become more frequent and more severe because of a combination of a changing climate and the drainage of thousands of wetlands throughout the Red River Basin. The traditional approach of mitigating this flooding recommended in the draft EIS would ditch and move water off the land as fast as possible, only to create more problems down-stream. The DEIS recommends building a 36-mile-long, 100 – 300 ft. wide, $1.4 billion diversion canal around Fargo/Moorhead.

The undersigned organizations have serious concerns about this currently-recommended approach because the diversion canal will change sedimentation in the 5 rivers it would cross, including the North Branch, Rush, Maple, Sheyenne and Wild Rice, adversely affect fish spawning and impact more than 200 acres of wetlands, while only providing an inadequate measure of flood protection for Fargo and Moorhead. All other downstream cities and communities will not receive flood protection, and will likely see more flooding due to increased water flow from the diversion channel.

Rather than mitigating flooding through the construction of yet another traditional, structural approach, the undersigned organizations urge the Corps to fully analyze upper basin storage options, like the Waffle approach. The plan is simple – the Waffle uses micro-basins or preexisting areas, such as depressed agricultural lands bordered by raised roads, for short-term water storage. One square mile, one foot deep, would store more than 200 million gallons of water. The combination of the waffle concept and wetland restoration would provide a long - term, environmentally beneficial flood protection plan. This watershed approach would provide basin-wide flood protection, produce positive environmental benefits, recharge the aquifer, improve water quality, and create recreation opportunities. According to EERC (http://www.undeerc.org/waffle/), not only would such a system reduce the flood crests by as much as seven feet, it would also provide sustaining economic benefits to participating landowners, while also improving water quality and providing fish and wildlife habitat. Wetland restoration will provide important habitat for migratory birds, improve water quality, and increase recreational opportunities.

We therefore urge the Corps, in a Supplemental Draft EIS, to:

- Develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies;
- Develop an alternative that evaluates the use of wetland restoration as a primary tool for flood management - this evaluation should consider various levels of wetland restoration, including restoring 100,000 acres and 250,000 acres;
- Develop an alternative that combines wetland restoration with other water retention strategies, such as the Waffle concept and the other watershed approaches, such as the Red River Basin Commission Flow Reduction Strategy.

Supplementing the DEIS with this information is also required by the National Environmental Policy Act, which requires the Corps to adequately evaluate reasonable alternatives, which include the aforementioned and other non-structural and flood storage project alternatives. *See* 42 U.S.C. § 4332(C) and (E) (federal agencies must "study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves conflicts concerning alternative uses of available resources").

This project, if designed properly, could be the pivotal point in a transition to a real watershed and integrated approach to our water resources challenges. Getting this project right can make the way for other enlightened solutions to the nation's water resource challenges that meet the classic triple bottom line of sustainability: social, economic and environmental performance.

Sincerely,

Shana Udvardy
Director, Flood Management Policy
American Rivers

Natalie Roy
Executive Director
Clean Water Network

Valerie Nelson
Director
Coalition for Alternative Wastewater Treatment

Jeff Crane
Executive Director
Colorado Watershed Assembly

George Sorvalis
Coordinator
Corps Reform Network

Julia Olmstead
Policy Analyst
Institute for Agriculture and Trade Policy

Tom Bell
Minnesota Ornithologists' Union

David Conrad
Senior Water Resources Specialist
National Wildlife Federation

Minnesota Center for
Environmental Advocacy

The legal and scientific voice protecting and defending Minnesota's environment

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Steve Piragis
Irene Qualters

Executive Director
Scott Strand

August 5, 2010

Mr. Terry J. Birkenstock, Chief
Environmental and Economic Analysis
U.S. Army Corps of Engineers
Branch, 190 Fifth Street East
St. Paul, MN 55101–1638
Via U.S. Mail and Fax: 651-290-5258

Re: Request for extended comment period, Fargo Moorhead Flood Risk Management DEIS

Dear Mr. Birkenstock:

I write on behalf of the Minnesota Center for Environmental Advocacy (MCEA) to request that the U.S. Army Corps of Engineers either extend the public comment period for the Fargo-Moorhead Flood Risk Management Draft Feasibility Report and Environmental Impact Statement (EIS) or clarify that it will issue a supplemental or second draft EIS with a subsequent public comment period that allows the public, including MCEA, to interpret, review and comment on new information the Corps has released and intends to release regarding potential downstream impacts of the project.

On May 5, 2009, the U.S. Army Corps of Engineers published notice of its intent to prepare a draft EIS for the proposed Fargo Moorhead Flood Risk Management Project. The notice indicated the Corps would be the lead agency in completing a full EIS as required under NEPA. 74 Fed. Reg. 20684 (May 5, 2009).

The draft EIS and Feasibility Report was issued for public comment beginning June 11, 2010. The original comment period was 45 days, but the Corps granted a 14-day extension and public comments are now due August 9, 2010.

On August 3, 2010, the Corps issued a report providing important new information, including hydrological modeling, on the extent to which the proposed project and alternatives will affect downstream communities, agricultural land, and natural resources. In addition to providing this new data for the more immediate downstream area, the Corps indicated that additional study of downstream impacts was on-going and yet to be completed: "The Corps will

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continue to analyze the impacts downstream of Thompson and will report these findings as they become available. The Corps will also complete economic and takings analyses for the area downstream of Halstad and eventually Thompson in the future."

The Corps' August 3 news release instructed interested parties where on the internet to access the new information -- ftp://ftp.usace.army.mil/pub/mvp/FMM_Downstream/ -- but the public comment period deadline was not amended to allow interested parties the opportunity to review and offer substantive comments on the new information. (It is also not clear whether the new report was made part of the hard copy draft EISs that are available at public libraries.)

The newly reported information is fundamental to an adequate NEPA analysis and feasibility report. The draft EIS and Feasibility Report purports to "describe[] the predicted impacts of the alternatives . . . on relevant environmental resources..." and to "evaluate[] direct, indirect, and cumulative effects, and quantif[y] these effects whenever possible." DEIS, p. 141. Without the information provided August 3 (and the as-yet not disclosed information on impacts further downstream), the Corps cannot predict effects on environmental resources or evaluate the direct, indirect, and cumulative effects of the proposals. This information is required for the Corps' feasibility report, which must "describe, with reasonable certainty, the economic, environmental, and social benefits and detriments of the recommended plan and alternative plans." 33 U.S.C. § 2282. It is likewise essential to the Corps' ability to fulfill NEPA's requirement that is take a "'hard look' at the environmental consequences" of its decision. *Mid States Coalition for Progress v. Surface Transportation Board*, 345 F.3d 520, 533 (8th Cir. 2003).

Because the Corps has supplemented the draft EIS and feasibility report with important information on the extent of additional flooding that will result downstream from the proposed project and alternatives, it should offer the public additional time to consider and evaluate this new information in formulating their comments. Six days is not sufficient. Moreover, MCEA is pleased to see that additional information regarding impacts further downstream is being developed and will be provided later, but notes that the Corps has an obligation to provide for public comment when the completed study is released, either through extension of the existing comment period or by issuance of a supplemental EIS. *See* 40 C.F.R. § 1502.9(c)(1)(ii).

Under the circumstances, the Corps should extend the existing comment period until 45 days following the release of a completed study on downstream impacts or commit to providing a supplemental EIS with a public comment period as required by the NEPA regulations.

I appreciate your consideration of MCEA's concerns and request. Please feel free to contact me if you have any questions.

Sincerely,

Kevin Reuther
Legal Director
cc: Henry VanOffelen

Minnesota Center for Environmental Advocacy
26 East Exchange Street • Suite 206 • Saint Paul, MN 55101-1667 • 651.223.5969

August 9, 2010

Terry Birkenstock
USACE Project Manager
190 East 5th Street
St. Paul, MN 55101

Dear Mr. Birkenstock:

The following are comments from the Minnesota Center for Environmental Advocacy (MCEA) on the Draft Feasibility Report and Environmental Impact Statement for the Fargo-Moorhead Metropolitan Area Flood Risk Management study (DEIS). MCEA has been actively engaged in flood damage reduction and natural resource enhancement projects in the Red River basin for more than 12 years. We were a signatory on the Red River Mediation Agreement, we have been a continuous member of the Flood Damage Reduction Work Force and its Technical and Scientific Advisory Committee, and we have participated in numerous watershed-based project work teams and comprehensive planning processes. As outlined in the comments below, we do not believe the draft report is adequate under the National Environmental Policy Act (NEPA) and we have numerous concerns with the Fargo-Moorhead project ("project").

Planning Objectives:
Four planning objectives were identified in the study.

- Reduce flood risk and flood damages in the Fargo-Moorhead metropolitan area.
- Restore or improve degraded riverine and riparian habitat in and along the Red River of the North, Wild Rice River (North Dakota), Sheyenne River (North Dakota), and Buffalo River (Minnesota) in conjunction with other flood risk management features.
- Provide additional wetland habitat in conjunction with other flood risk management features, and
- Provide recreational opportunities in conjunction with other flood risk management features.

The evaluation of alternatives in the DEIS focused only on the first objective listed. The alternatives selected do not measurably achieve any of the other objectives.

Planning Constraints
Similar to the planning objectives, the following two planning constraints were disregarded in this DEIS.

- Avoid increasing peak Red River flood stages, either upstream or downstream
- Minimize loss of floodplain in accordance with Executive Order 11988, Floodplain management

Related Current Studies:
The DEIS lists the Fargo-Moorhead and Upstream Feasibility Study as a current study; this study's limited scope did not, however, evaluate flood water storage opportunities in the basin such as those on-channel and off-channel flood water detention projects being planned and constructed in Minnesota. These "North Ottawa" type of projects have the potential to store significant quantities of flood water upstream of Fargo-Moorhead and can be planned and designed to also provide considerable natural resource benefits.

Public Concerns:
The public is clearly concerned about the downstream impacts of any proposed project. Addressing these concerns and providing assurances that all downstream impacts will be avoided or mitigated should be included as part of any proposed project alternative. There has not been sufficient time to evaluate the new information USACE provided and we therefore renew our request for an extension of time to comment.

Hydrology:
The DEIS does not explain why this study breaks from traditional flood frequency analysis and uses a "wet" period of record based analysis. It is our understanding that this wet period approach was not used in previous studies of the region such as the Fargo-Moorhead and Upstream Feasibility study. Its use now clearly makes the benefit cost ratios higher and its use may set a precedent for evaluation of future projects. The use of the "wet period" and its potential future application throughout the basin needs further discussion and justification in the report.

While the evidence suggests that all flooding events and major flood events in particular are occurring on a more frequent basis (Figure 7) there is no assessment or analysis presented to describe the root cause or causes of this clear trend. While precipitation patterns since 1990 have contributed to this trend in flood frequency, other factors such as land use and drainage patterns are also likely to have played a role and are also likely to continue to play a role in modifying the hydrology of the basin. The study assesses the effects of the diversion if climatic conditions stay the same (i.e. "what if it stays wet") but makes no predictions about the effectiveness of the diversion if future drainage and land use changes continue, e.g. if subsurface tile is installed on 20, 40, or 60% of the landscape in the next 20 years. The long list of prior reports and existing projects makes it clear that the Corps of Engineers has invested a significant amount of public resources into flood damage reduction in the Red River Basin, yet significant flood damage still occurs. The preferred alternative in this study proposes another $1.4 billion expenditure but there is no discussion of the effects that future land use changes or additional drainage may have on the effectiveness of any proposed alternative. For example, a recent study conducted by the University of Minnesota suggests that tile drainage in the basin could increase water yield by 20% in April and May. This type of information must be considered in this study and avoiding, minimizing, and/or mitigating the results should be included in the evaluation of alternatives.

The proposed alternatives in this study will result in significant downstream stage increases, but there is no mitigation proposed in the DEIS. For more than a hundred years, the primary approach to flood damage reduction in the Red River basin has been to increase conveyance and, in effect, move the problem downstream. The results of modeling of the various diversion alternatives in the DEIS make this fact clear. Increased conveyance around Fargo-Moorhead, and especially, the loss of floodplain storage in the North Dakota options, moves the problem downstream. It is unfortunate that mitigation for these effects is not seriously considered in the DEIS. This simply perpetuates the errors of the past and is not reasonable given our understanding of the impacts of the proposed project. The Council of Environmental Quality (CEQ) guidance titled "NEPA's Forty Most Asked Questions" states that: "All relevant, reasonable, mitigation measures that could improve the project are to be identified, even if they are outside the jurisdiction of the lead agency or the cooperating agencies. Sections 1502.16(h), 1505(c). This will serve to [46FR 18032] alert agencies or officials who can implement these extra measures, and will encourage them to do so."

Alternatives

Again, more consideration needs to be given to upstream storage options. These options would better meet the stated objectives than the current preferred alternative. At a minimum, significant upstream storage similar in nature and scope to the storage that Charlie Anderson has found in the Bois de Sioux watershed to meet a 20% peak flow reduction on the mainstem of the Red River needs to be presented and evaluated in the DEIS. The DEIS should then apply this approach to all tributary watersheds upstream of Fargo-Moorhead.

Environmental Effects

The proposed alternatives are all likely to have significant effects on the geomorphology and sediment dynamics of the Red River. The DEIS needs to more completely assess the effects that this diversion will have on geomorphology and sediment dynamics. Experiences with diversions within the basin (e.g. Cheyenne diversion) make it clear that large changes in sediment dynamics are likely to occur.

The proposed alternatives will have direct wetland impacts and merely stating that "either alternative would include appropriate measures to minimize or mitigate potential losses to wetland areas" does not meet NEPA's adequacy standard. Kicking the can down the road is not sufficient. The DEIS needs to tell us now what will be done to minimize or more specifically to mitigate wetland losses.

The proposed alternatives will have direct impacts on fish passage and connectivity of the Red River and its tributaries. The DEIS does not adequately assess these issues. Further work is needed to describe the effectiveness of proposed fish passage mitigation measures and a more complete picture of what species are going to be affected and when critical passage issues are likely to occur. Minnesota, North Dakota, and local communities have invested a substantial amount of resources into modifying and removing fish passage barriers on the Red River and its tributaries to improve the function of the aquatic system. A new structure on the Red that acts as an effective fish

barrier is a significant step backwards that must be avoided. Impassable structures on the tributaries also will result in lost functions for the aquatic system.

The stream habitat losses evident in the proposed alternatives will have to be mitigated. Similar to wetland impacts, the DEIS needs to tell us now what will be done to minimize or more specifically to mitigate stream habitat losses.

The locally preferred alternative (ND 35K) appears to have the most potential for significant environmental effects. If selected, this plans will limit fish passage and connectivity, have direct wetland and riverine habitat effects, and will increase stage far downstream.

Thank you for the opportunity to submit these comments. We look forward to further review and comment in this process. Please feel free to contact me if you have any questions.

Sincerely,

Henry VanOffelen
Natural Resource Scientist
Minnesota Center for Environmental Advocacy
50785 Bucks Mill Rd.
Detroit Lakes, MN 56501
(218) 849-5270
hvanoffelen@mncenter.org

GEORGETOWN/PERLEY FARMERS ELEVATOR

The Georgetown/Perley Farmers Elevator Board of Directors introduced the following resolution and moved it's adoption:

WHEREAS, The United States Army Corps of Engineers, (USACE) has proposed constructing flood water diversion channels around the cities of Fargo, ND and Moorhead, MN.

WHEREAS, The proposed diversion channel redeposit the floodwater back into the Red River in northern Clay County of MN or Northern Cass County of ND.

WHEREAS, The proposed flood diversion channels will change the flow regime of the Red River during flood events and is estimated to cause an adverse impact of as much as seventeen inches of additional crest elevation to western Norman County.

WHEREAS, Increased flood crest of the magnitude envisioned by the USACE will adversely impact county and township roads as well as state highways, including U.S. highway 75, which would be detrimental to our existence. This will also effect bridges, utilities, farms, personal property, commerce, public safety, and personal well-being to those downstream of the proposed diversion.

WHEREAS, A change in flow regime that results in adverse impacts to Norman County and its residents and or others situated downstream from the proposed diversion projects is not acceptable.

NOW THEREFORE, To preserve the interests of Norman and Clay counties and its people, the Georgetown/Perley Elevator Board of Directors do hereby go on record of opposing the FM diversion project as it is now proposed.

The motion for adoption of the forgoing resolution was unanimous with no Board members voting against: whereupon said resolution was declared duly passed and adopted.

Adopted this 21st day of July, 2010

By _____

Mark Maring, Board President

Attest _____

John David Lee, Board Secretary/Treasurer

[redacted]

[redacted]

August 7, 2010

RE: Fargo, ND /Moorhead, MN Diversion

Dear Corps of Engineers;

We are currently developing a area that could be greatly affected by the rise of the Red River from the effects of the Fargo, ND / Moorhead, MN diversion project.

We would like to request the Corps of Engineers conduct hydrological test in our area to measure the potential impact and come up with a suitable solution.

We look forward to hearing from your office regarding this matter.

Sincerely;

Michael Marcotte
President

FARGO DIVERSION CONCERNS

RIVER LEVEL IMPACT STUDY

Corp of Engineers

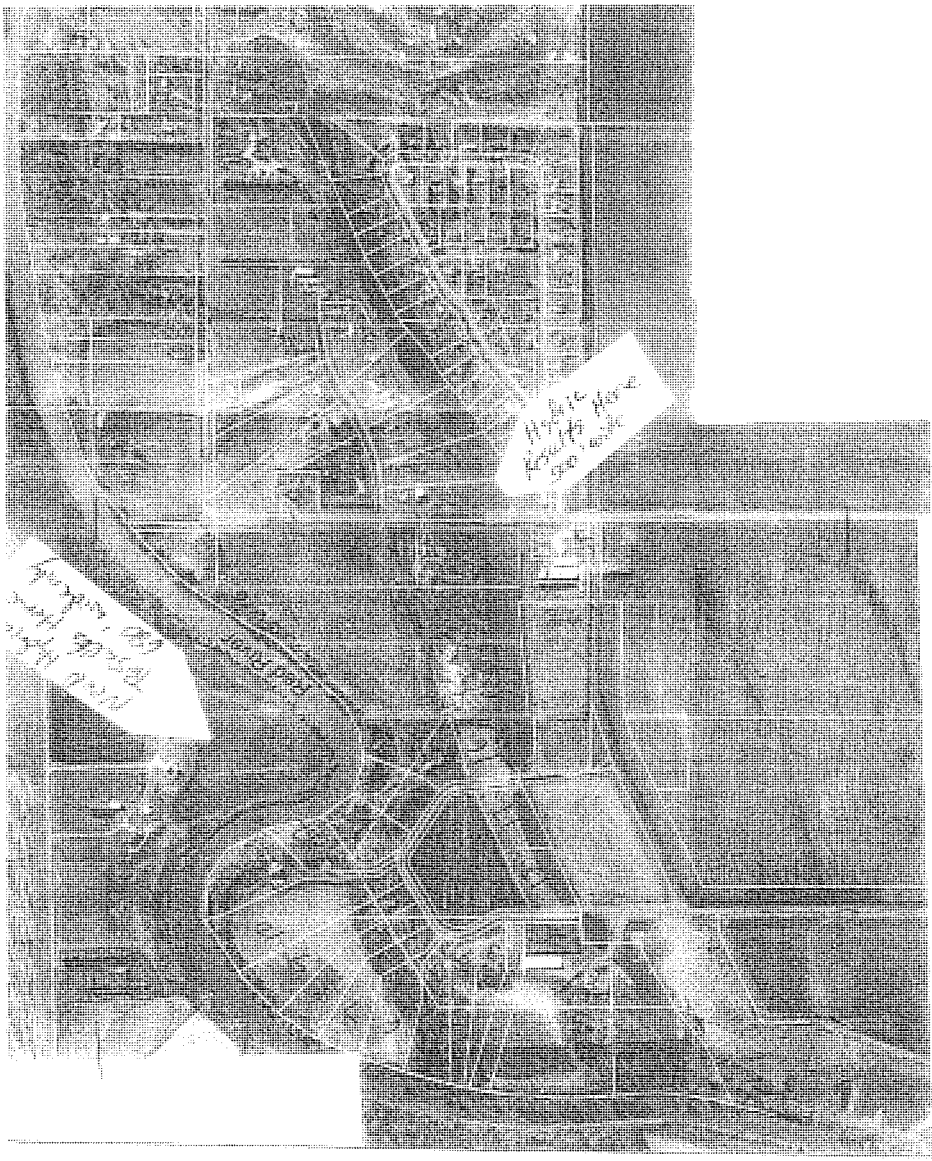
RE: River Impact Study

I live at [redacted] and as a resident of [redacted] which is located I am requesting a Hydrology Test be done here to determine the river level. The river narrows to 680' thus the readings downtown Grand Forks and/or Thompson Bridge impact may not be accurate for our area.

Dated 8/5/10

Sincerely,

Rumlal DuFault



FARGO DIVERSION CONCERNS

RIVER LEVEL IMPACT STUDY

Grand Forks County, Corp of Engineers

RE: River Impact East Lake Estates/Shady Ridge Estates

I live at [redacted] and as a resident of [redacted] which is located just [redacted] I am requesting a Hydrology Test be done here to determine the river level. The river narrows to 680' thus the readings downtown Grand Forks and/or Thompson Bridge impact may not be accurate for our area.

Dated 8-6-10

Sincerely,

Karen Bohnsack

FARGO DIVERSION CONCERNS

RIVER LEVEL IMPACT STUDY

Grand Forks County, Corp of Engineers

RE: River Impact East Lake Estates/Shady Ridge Estates

I live at [redacted] and as a resident of [redacted] which is located just [redacted] I am requesting a Hydrology Test be done here to determine the river level. The river narrows to 680' thus the readings downtown Grand Forks and/or Thompson Bridge impact may not be accurate for our area.

Dated 7 August 2010

Sincerely,

Katherine Campbell

FARGO DIVERSION CONCERNS

RIVER LEVEL IMPACT STUDY

Grand Forks County, Corp of Engineers

RE: River Impact East Lake Estates/Shady Ridge Estates

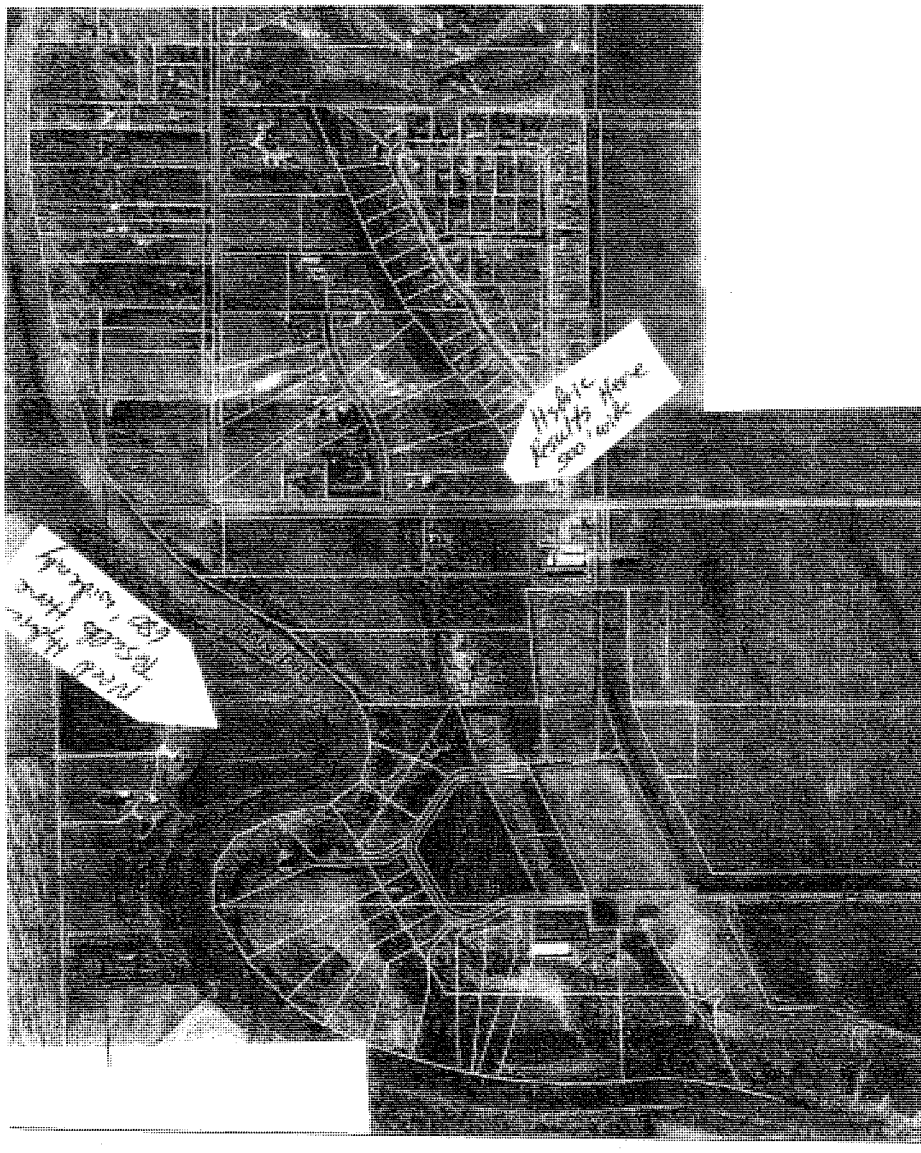
I live at [redacted] and as a resident of [redacted], which is located just [redacted] I am requesting a Hydrology Test be done here to determine the river level. The river narrows to 680' thus the readings downtown Grand Forks and/or Thompson Bridge impact may not be accurate for our area.

Dated 6 August 2010

Sincerely,

James R. Bradshaw

[redacted]



FARGO DIVERSION CONCERNS

RIVER LEVEL IMPACT STUDY

Grand Forks County, Corp of Engineers

RE: River Impact East Lake Estates/Shady Ridge Estates

I live at [redacted] and as a resident of [redacted] which is located just [redacted] I am requesting a Hydrology Test be done here to determine the river level. The river narrows to 680' thus the readings downtown Grand Forks and/or Thompson Bridge impact may not be accurate for our area.

Dated 7 August 2010

Sincerely,

Katherine Campbell

FARGO DIVERSION CONCERNS

RIVER LEVEL IMPACT STUDY

Grand Forks County, Corp of Engineers

RE: River Impact East Lake Estates/Shady Ridge Estates

We ~~I~~ live at [redacted] and as a resident~~s~~ of [redacted] which is located just [redacted] we are ~~I am~~ requesting a Hydrology Test be done here to determine the river level. The river narrows to 680' thus the readings downtown Grand Forks and/or Thompson Bridge impact may not be accurate for our area.

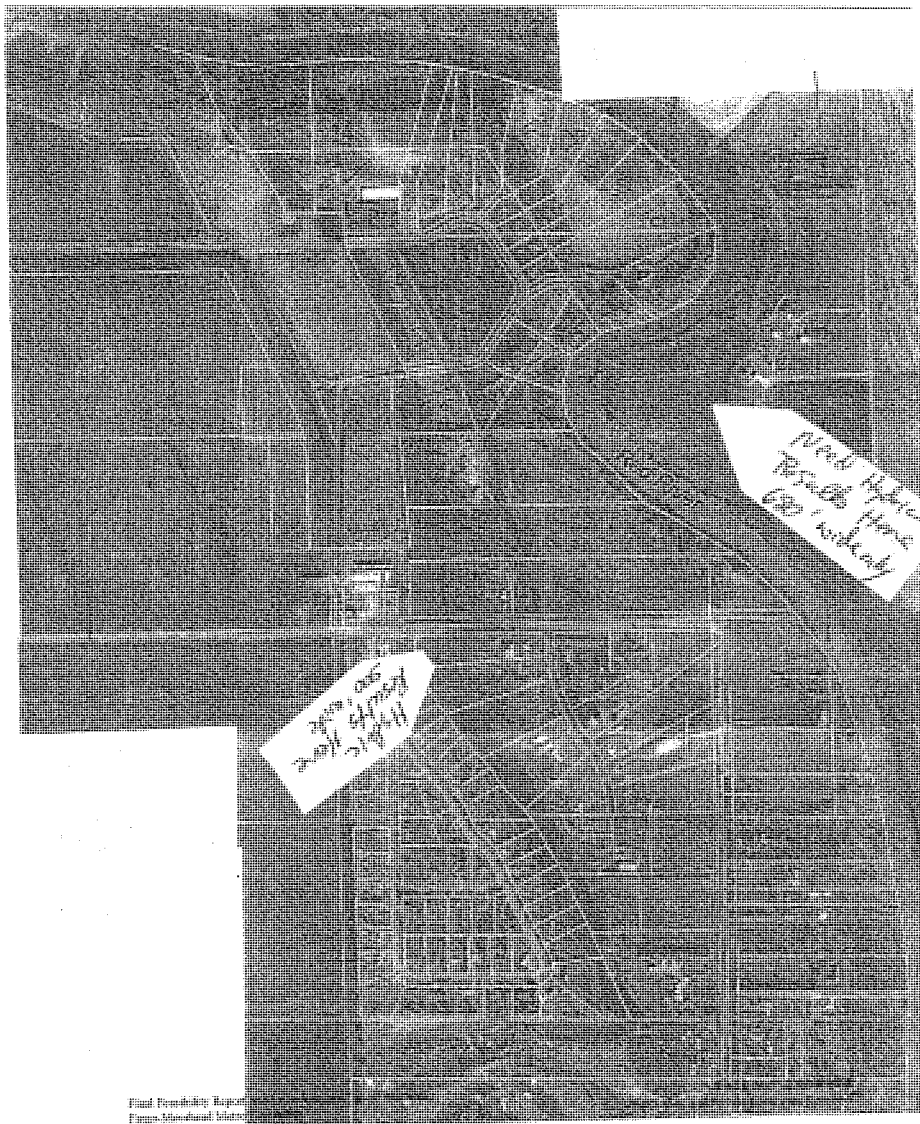
Dated August 6, 2010

Sincerely,

Karen A. Katrinak

Ronald K. Matheney

Karen A. Katrinak and Ronald K. Matheney



Final Feasibility Report
Fargo-Moorhead Interc
July 2011

FARGO DIVERSION CONCERNS

RIVER LEVEL IMPACT STUDY

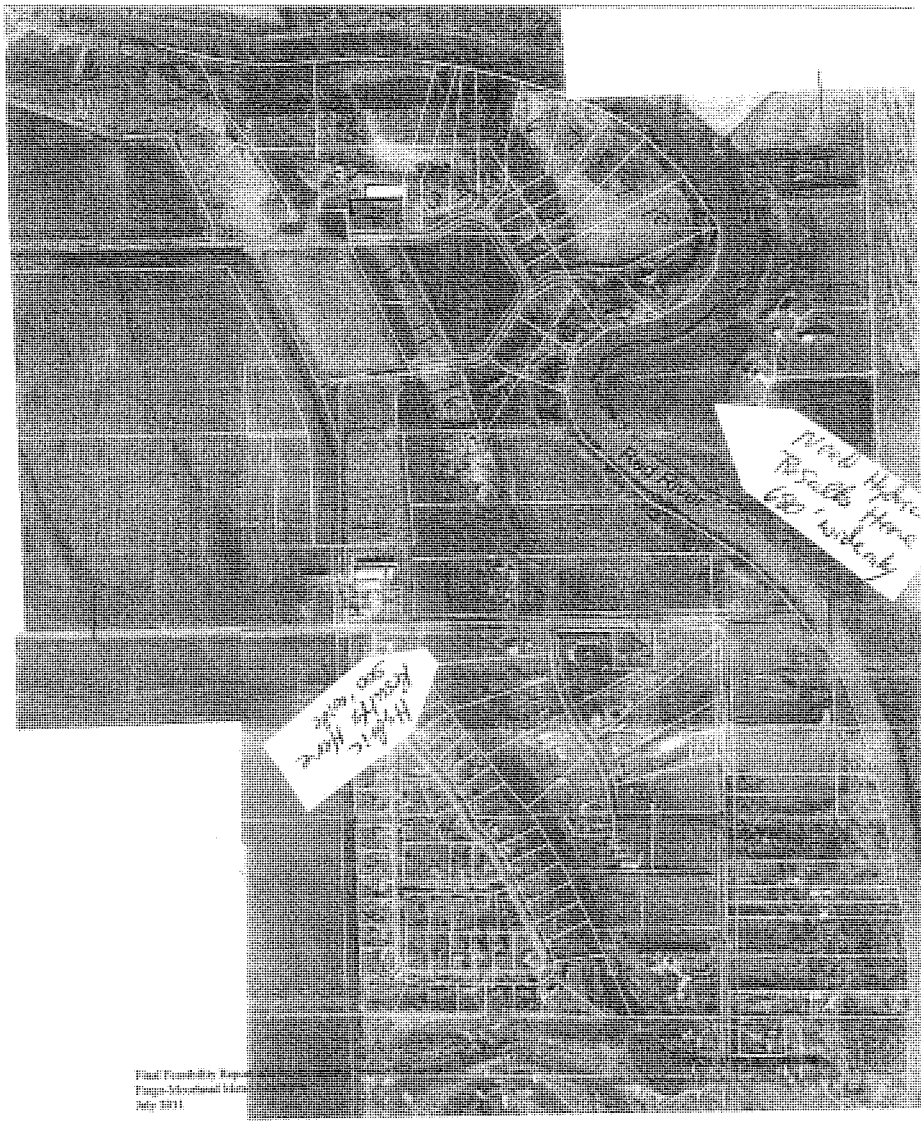
Grand Forks County, Corp of Engineers

RE: River Impact East Lake Estates/Shady Ridge Estates

I live at [redacted] and as a resident of [redacted], which is located just [redacted] I am requesting a Hydrology Test be done here to determine the river level. The river narrows to 680' thus the readings downtown Grand Forks and/or Thompson Bridge impact may not be accurate for our area.

Dated 8-5-10

Sincerely,



Final Feasibility Report
Fargo-Moorhead Metro
July 1991

Maggied, Troy MVP

From: Snyder, Aaron M MVP
Sent: Monday, August 16, 2010 11:13 AM
To: Maggied, Troy MVP; Beauchamp, Francis MVP
Subject: FW: Petition for FM Hydro Diversion Study
Attachments: FM Diverson Study Petition.pdf

Probably already have this. See attached.

Aaron M. Snyder
USACE Planner and Project Manager, PMP
Chief, Project Management Branch (PM-B)
651-290-5489
612-518-0355 (Cell)
Aaron.M.Snyder@usace.army.mil

-----Original Message-----
From: Bill Noyes [mailto[redacted]
Sent: Tuesday, August 10, 2010 2:20 PM
To: Evans, Craig O MVP; Snyder, Aaron M MVP
Subject: Petition for FM Hydro Diversion Study

Mr. Evans and Mr. Snyder;

I am writing and attaching a letter requesting special consideration when performing the Fargo-Moorhead Hydrology Test.

We live in a neighborhood along the Red River located on the outskirts of Grand Forks which may be affected by any diversion.

This neighborhood has a long history of being impacted the Red River Floods.

Consequently, we are concerned if any projects would further increase the river elevations north of the diversion.

Thank you in advance for your assistance in these matters.

Bill

William Noyes, MD
[redacted]

FARGO DIVERSION CONCERNS

RIVER LEVEL IMPACT STUDY

Grand Forks County, Corp of Engineers

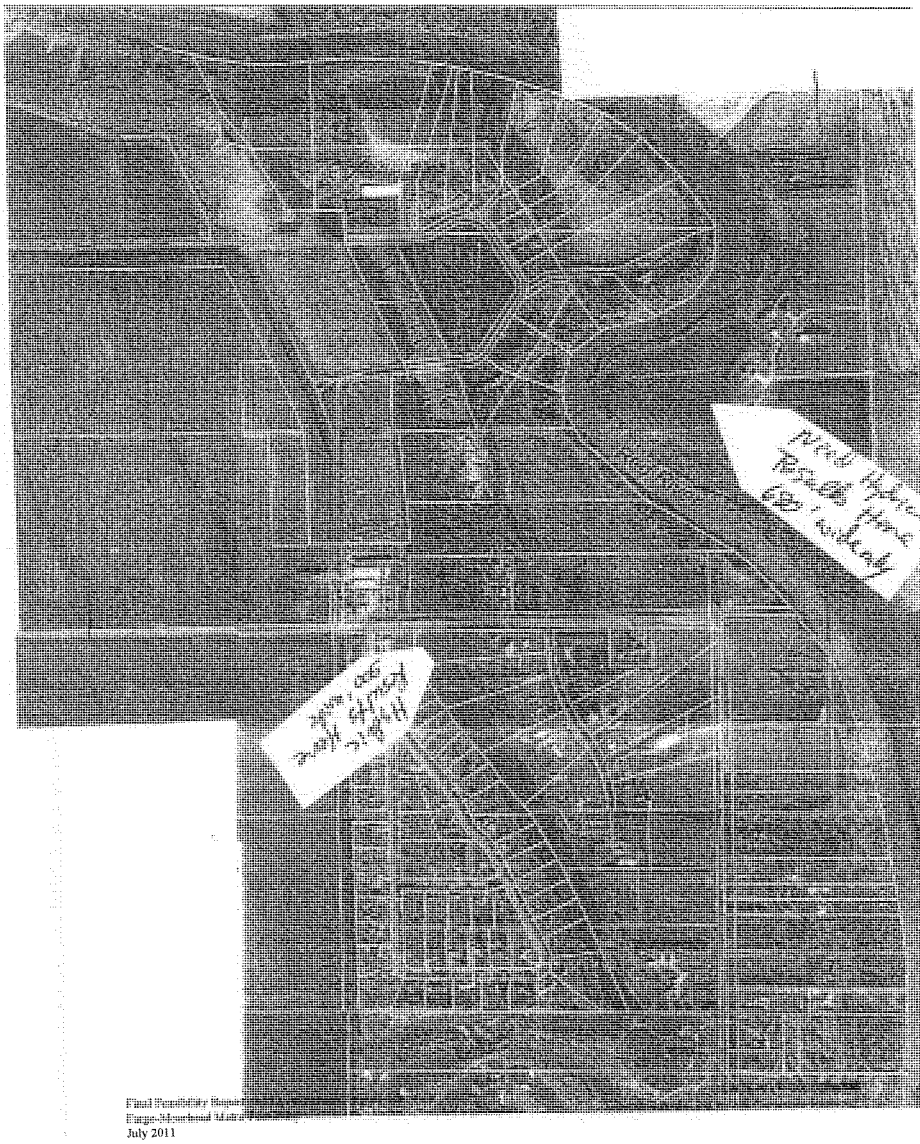
RE: River Impact East Lake Estates/Shady Ridge Estates

I live at [redacted] and as a resident of [redacted] which is located just [redacted] I am requesting a Hydrology Test be done here to determine the river level. The river narrows to 680' thus the readings downtown Grand Forks and/or Thompson Bridge impact may not be accurate for our area.

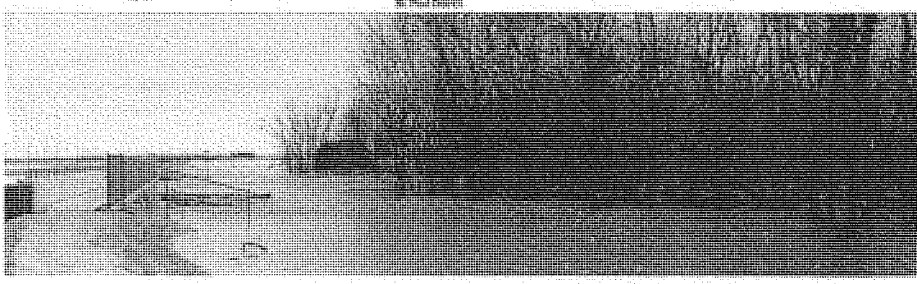
Dated 8-10-10

Sincerely,

William Noyes

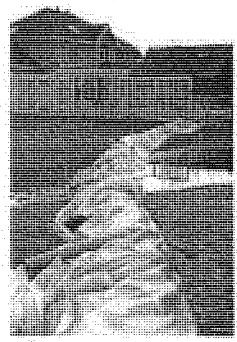


Final Feasibility Report
Fargo-Moorhead Metro
July 2011



Fargo-Moorhead Feasibility Study

- About
- Project Goals
- Project Description
- Upcoming Meetings
- Past Meetings
- Contacts/Comments



Project Managers:
Craig Evans
email: craig.o.evans@usace.army.mil
phone: 651-290-5594, fax: 651-290-5258

Aaron Snyder
email: aaron.m.snyder@usace.army.mil
phone: 651-290-5489, fax: 651-290-5258

Add a Comment to the Draft Feasibility Report and Environmental Impact Statement

website questions: contact grit.may@ndsu.edu

FARGO DIVERSION CONCERNS

RIVER LEVEL IMPACT STUDY

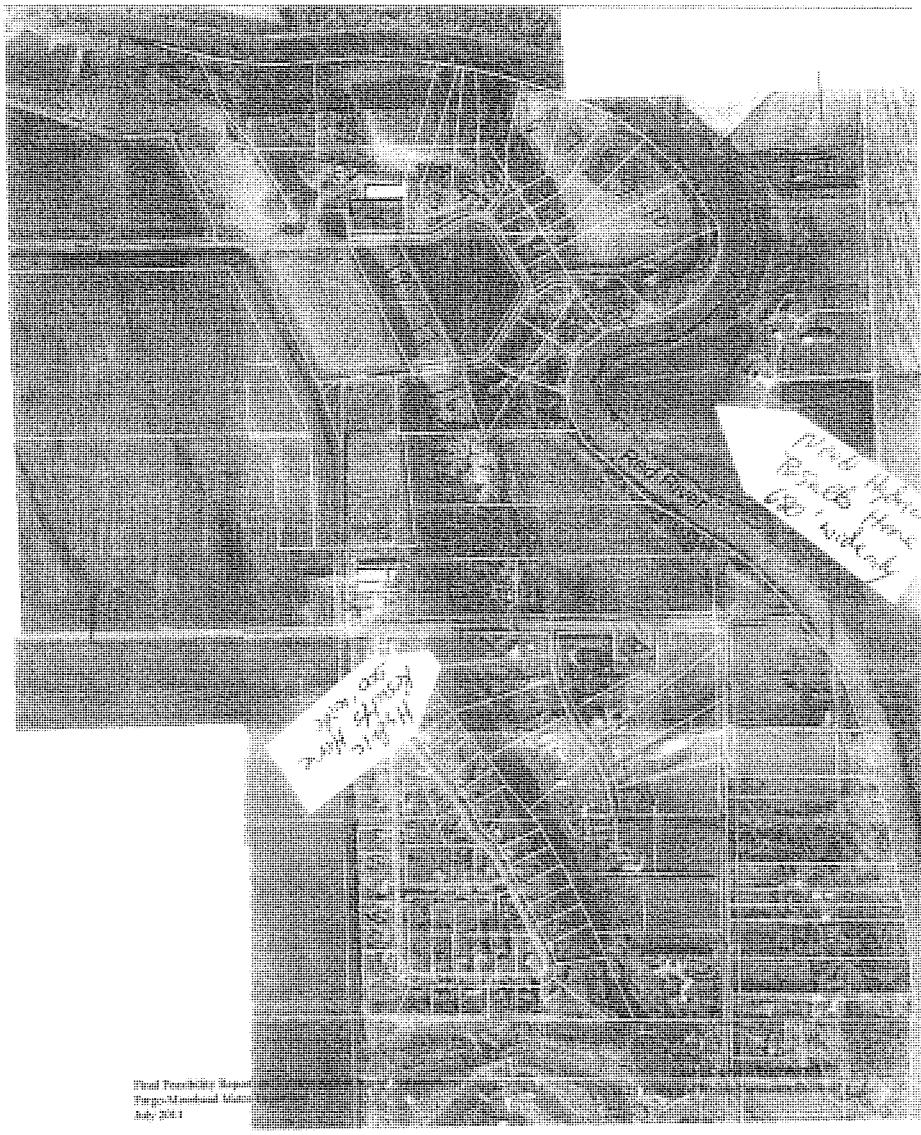
Grand Forks County, Corp of Engineers

RE: River Impact East Lake Estates/Shady Ridge Estates

I live at [redacted] and as a resident of [redacted], which is located just [redacted] I am requesting a Hydrology Test be done here to determine the river level. The river narrows to 680' thus the readings downtown Grand Forks and/or Thompson Bridge impact may not be accurate for our area.

Dated 8 5 10

Sincerely, Michael Pierce



FARGO DIVERSION CONCERNS

RIVER LEVEL IMPACT STUDY

Grand Forks County, Corp of Engineers

RE: River Impact East Lake Estates/Shady Ridge Estates

I live at [redacted] and as a resident of [redacted], which is located just [redacted] I am requesting a Hydrology Test be done here to determine the river level. The river narrows to 680' thus the readings downtown Grand Forks and/or Thompson Bridge impact may not be accurate for our area.

Dated 8-5-10

Sincerely,

Robert J. Rolle

Bonnie Rolle

FARGO DIVERSION CONCERNS

RIVER LEVEL IMPACT STUDY

Grand Forks County, Corp of Engineers

RE: River Impact East Lake Estates/Shady Ridge Estates

I live at [redacted] and as a resident of [redacted], which is located just [redacted] I am requesting a Hydrology Test be done here to determine the river level. The river narrows to 680' thus the readings downtown Grand Forks and/or Thompson Bridge impact may not be accurate for our area.

Dated 8/5/2010

Sincerely,

Michael L. Sailer, CPA

[redacted]

Final Feasibility Report
Fargo-Moorhead Metro
July 2013

FARGO DIVERSION CONCERNS

RIVER LEVEL IMPACT STUDY

Grand Forks County, Corp of Engineers

RE: River Impact East Lake Estates/Shady Ridge Estates

I live at [redacted] and as a resident of [redacted] which is located just [redacted] I am requesting a Hydrology Test be done here to determine the river level. The river narrows to 680' thus the readings downtown Grand Forks and/or Thompson Bridge impact may not be accurate for our area.

Dated 8/5/10.

Sincerely, Mark [illegible]

Need Hydric Results Here 680' widely
Hydric Results Here 500' wide

FARGO DIVERSION CONCERNS

RIVER LEVEL IMPACT STUDY

Grand Forks County, Corp of Engineers

RE: River Impact East Lake Estates/Shady Ridge Estates

I live at [redacted] and as a resident of [redacted], which is located just [redacted] I am requesting a Hydrology Test be done here to determine the river level. The river narrows to 680' thus the readings downtown Grand Forks and/or Thompson Bridge impact may not be accurate for our area.

Dated 8/5/2010

Sincerely,

Roger W Schauer

Janet B. Schauer

Hydric Results Home
680' widely

FARGO DIVERSION CONCERNS

RIVER LEVEL IMPACT STUDY

Grand Forks County, Corp of Engineers

RE: River Impact East Lake Estates/Shady Ridge Estates

I live at [redacted] and as a resident of [redacted] which is located just [redacted] I am requesting a Hydrology Test be done here to determine the river level. The river narrows to 680' thus the readings downtown Grand Forks and/or Thompson Bridge impact may not be accurate for our area.

Dated 8-12-10

Sincerely,

LARRY P. YOUNG

Jonathan P. Scoll

From: [redacted]
Sent: Friday, July 09, 2010 3:33 PM
To: Thomas F. Pursell
Cc: [redacted]; Howard Kenison; Jonathan P. Scoll
Subject: Re: (no subject)

Tom,
I will forward the thoughts I have to Diane, I but wanted to sneak this one in on the top of the pile as I thought it was important.
As we had our conference call, it occurred to me one of the hooks we may have is the fact this project is on an extraordinary fast track. When you mentioned we may want them to switch from their preferred plan to their plan b.....well no. because plan A is a 35K cfs North Dakota diversion. their plan B is a 35Kcfs Minnesota diversion. Then the USACOE always says they have to study the NED plan, the 20Kcfs MN diversion which in thiscase is their plan C. All diversions. The corp has openly admitted many times, this is an unprecedented rush job. They are rushing this to meet a Dec. 2010 deadline for funding. They have said, if not for that, they would not be done by Dec 2011.
My view is a rushed project will lend to a poor product, actually the wrong project.
In actuality, they have been brought to town to build a diversion, period. They say they have studied retention, but we have followed their work quite closely and we see no evidence of more than a minor show of effort towards retention study. They have farmed out some of that to local engineering firms who are licking their chops to pick the low hanging fruit they will pick as they tie into their slice of the diversion pie.
To exemplify how woefully short of detail they have been, when they started the study for the Minnesota side, they forgot to invite a stakeholder to the table.....the city of Dilworth.
Wow. When questioned by people who are affect by this diversion about where and how many bridges there would be for access to farmers fields, they had no clue. When asked if they had built a diversion under a river before, they said the corp has never taken on that huge a project, but the preferred ND plan calls for crossing FIVE rivers.
Yet they can come up with a projected cost? My guess is they are about half of what it will actually cost, and thats in todays dollars, not 2022 dollars when the project is finished.
So I believe part of the EIS should state that this is too rushed, and not all the alternatives have been studied, and Charlie Anderson whom has done a 20% mainstem flow reduction study and modeling can attest to that. I have contacted him and am awaiting his answer.
Thank you for your time.
Terry Guttormson

Jonathan P. Scoll

From: [redacted]
Sent: Wednesday, July 14, 2010 11:38 PM
To: [redacted]
Cc: [redacted]

Subject: (no subject)

I would like to take this opportunity to refute, bullet point by bullet point, the disingenuous comments by the "bully pulpit" Forum, printed in there op ed on Wednesday, July 14, 2010:
First Bullet point:
The Us Army Corp of Engineers have said frequently that they will not approve a project that causes sigificant harm.
The truth:
I have been to almost as many USACOE meetings as has been offered, including the one in Hendrum, MN. They are not vague. They tell us they have been brought to Fargo for one purpose and one purpose only. To build a diversion. Period.
At Hendrum, they listened to 27 commentors on why the diversion is the worst flood damage reduction possible. They ended the night with their comments that they were here to build a diversion. We could try to mitigate the damage brought by it, but there was no money in their budget to help, nor did they know if any money in any program to mitigate the effects down stream. This meeting was not even a "speed bump" for their reason to be in Fargo. And an additional 17 inches upon us, the number they reported lately, is not significant harm?
Second bullet point:
Mayor Walaker said the city has talked about downstream mitigation since the planning began. This nearly brought a tear to my eye.
The truth:
I attended the first offered public meeting about the diversion at Moorhead State (I know, its MN State University, Moorhead, but I attended in the 70's). When it came time for Q & A I asked if there had been a downstream impact study and if so, what were the findings. Craig Evans fielded that question. I hope they taped it. He answered and told the auditorium full to standing room only capacity, that there had been no down stream impact study. Further, he said, the corp felt no need for such a study because once the water hits the mouth of the diversion, it has a tendency to dissipate rapidly. (I'm not kiddint, he actually said that). No one in Fargo, or the corp was even going to offer a look at down stream impacts untill they were forced to do it by public comments. Now, after being forced to do more study on the affects down stream, they say close to 2 feet additional water will hit us when we are already fighting a flood? Is this significant yet?
Nice.
Third bullet point:
Collins Peterson's plan for a million acre feet of storage.
The Truth:
God speed Collin. I hope you can do it. We are counting on you. I know you are a good sincere man and mean what you say. But I have not talked to one person, engineer, attorney, layperson or otherwise, for or against the diversion, for or against retention, that will agree that the aggressive time schedule of 10 years to build above mentioned storage can be met. They say 25 years would be about a 4 times faster than historic construction of such projects. But lets say we get a million acre feet of storage in ten years. Down stream of Fargo, we are supposed to give up the gain that Collins plan achieves for us when the diversion dumps their 2 feet back on us? What

did we gain? Nothing. Why can't we benefit from Collins plan?
Forth Bullet Point:
Down stream cities wont have representation on the joint powers board but *likely* will have representation on the technical advisory board.
The truth:
The three biggest lies ever.
1. The checks in the mail.
2. I'm from the government and I'm here to help you
and
3. You can't be on the joint powers board that decides everything about the diversion but you *likely* will be on the technical advisory committee. And this will save your towns, schools, churches, farms, farmers, farm land and a complete way of life from at least 17 more inches of water we are sending you at a time when you are fighting your flood fight.

The fact is, we have had one of our members of the Down Stream Impact Work Group ask to be on the joint powers board because we are the ones who will suffer the down stream dump of our water. This person was shut our of any joint powers planning. Further, it has been leaked that much of the planning for the joint powers board has been done behind closed doors at a local engineering firm. I don't think they want us there.

There is so manythings wrong with this diversion and the underhanded way it has come about. We could spend less money on retention, detention and gated storage and protect the entire basin. But that doesn't have the low hanging fruit (at this point) that the local engineering firms are grabbing for and pushing for in their UNBIASED reports on why we need the diversion.

Terry Guttormson
Hendrum, MN.

Linda Gavel

From: [redacted]
Sent: Thursday, July 29, 2010 2:17 PM
To: [redacted]
Cc:

Subject: (no subject)

Kevin,
I was not able to meet you in Hendrum today, my apologies. My cell number is [redacted] I live near Hendrum and my home, my farmland, my business will be wiped out by the Fargo Diversion. But so will at least the first four cities of Georgetown, Perely, Hendrum, and Halstad as well as dozens of other farmers and dozens of small businesses.
The city of Hendrum, just prior to all the diversion news, had spent hundreds of thousands developing infrastructure to build a new residential addition to the town. Now, not only can they not sell lots, they cant give them away. People are looking to sell, but cant all because of all the negative news about the diversion and the additional 17 inches of water that the diversion will send our way in a 100 year flood event. Keep in mind, we will be fighting our own 100 year flood event fight as Fargo dumps all their water down stream so they can still golf and use their walking paths. It will kill us down stream.
* Emergency egress for ambulances, rescue squads, and fire trucks will be cut off for weeks.
* Businesses will be cut out of normal commerce for weeks.
* Farmers will be kept from their usual task of spring seeding until too late to try.
* The school district will have to call off school for weeks because of student safety and bus routes will be under water. It will kill off our school
* Farm land will be destroyed as the sheet erosion will be enormous as the diversion will send what amounts to another flooding river on top of us when we are already at high levels.
* The tax base of the western 1/5th of Norman county will dry up.
* Cities, townships, and counties will be bankrupt as the millions of dollars of infrastructure is destroyed by the excess water sent down stream from the diversion.
The United States Army Corp of Engineers makes no bones about the fact that this is not only the biggest project they have taken on but that the diversion is on the fastest track of any project in the corps history. They have estimated they have cut their normal time to study the project by not months, but years. They have no clear picture of how many bridges they are going to end up with crossing the diversion. They have never crossed a river with a diversion before, but in this project they will cross five rivers. SO HOW CAN THEY COME UP WITH A COST OF 1.5 BILLION FOR THE PROJECT?
Fargo went to DC fully expecting to be successful in leap frogging their 1.5 billion dollar project ahead of some 500 other projects that are on the books waiting for 68 billion for needs in other parts of the country, including New Orleans. Thats arrogance at its finest.
In closing, the one point I would like Grand Forks and East Grand Forks to consider.
-All water retention projects have a comulative affect- if we spend the same amount of money in retention projects, gated storage, on and off channel empoundments to slow the excess flood water untill the Red River can handle it, GF and EGF gets an "add on" to their protection,without adding to their dikes. Up stream flow management could increase their protection from 500 years to 700 year protection. AND more importantly the converse is true. All diversion projects dump some else's problem down stream and your 500 year protection could decrease to 200 year protection, and GF and EGF may be forced to add to their walls.
A Fargo Diversion is the wrong way to manage excess flood water for ALL of us down stream, including Grand Forks and East Grand Forks.
It will only cost more in years to come for down stream folks to mitigate their damages.
Terry Guttormson
Hendrum, MN.
ps: you can use this as an interview to your article, a letter to the editor or how ever you wish. But please use the above facts in some form.
contact numbers:
Mayor of Hendrum, Curt Johanason [redacted]
Norman County Commissioner, Steve Jacobson [redacted]
Wild Rice Watershed Manger, Diane Ista [redacted]
Down Stream Impact Work Group, Terry Guttormson [redacted]

Linda Gavel

From: Thomas F. Pursell
Sent: Friday, July 30, 2010 8:34 AM
To: Julie M. Duckstad; Linda Gavel
Subject: FW: (no subject)
Attachments: (no subject)

Another comment.

From: [redacted]
Sent: Thursday, July 29, 2010 5:51 PM
To: Thomas F. Pursell
Subject: Fwd: (no subject)

i dont know if this is anymore comment that you need, but its what i sent to the Grand Forks Herald.
Terry Guttormson

Date: August 2, 2010
To: USACE
From: Diane Ista
Re: Comments to the USACE Fargo-Moorhead Metro Feasibility Report and Environmental Impact Statement

I am a manager on the Minnesota Wild Rice Watershed District (WRWD) board. The WRWD is made up of all or part of 6 counties, namely, Norman, Mahnomen, Clay, Becker, Clearwater and Polk. Parts of our watershed are located on the Red River about 30 miles north of Fargo-Moorhead . The proposed diversion, according to incomplete modeling of the impacts downstream north of Fargo-Moorhead will divert 12-17 inches of flood waters on the communities, residents, businesses, farmland north of the Metro area to the Halstad MN area.. Houston Engineering, Inc. has completed the downstream impacts to the Red River beyond Halstad, but the USACE has not released this information.

The negligible information provided to the public in order for them to make an intelligent decision on a project, which will impact the lives of those downstream for the rest of their lives and for generations to come , is incomprehensible. The time period allowed for the public to read and comprehend 700 pages of the USACE EIS document, which has not been prepared in "layman's terms", as the Supreme Court has stated as a law, cannot be accomplished with the general public's work and family obligations. This arbitrary deadline was put into effect because of Sen. Byron Dorgan's impending retirement from the Senate and Sen. Dorgan's powerful position as chairman of the water resource committee , which would provide the funds for this project. The Metro Group have set a December 31, 2010 deadline in order to present this to the U.S. House and Senate for funding. The USACE has NEVER in their history pushed a project through in this short timeline. Any rushed project results in a poor product. The USACE also has related that they have never worked on a project where they will be intersecting 5 tributaries draining into a river. Their lack of experience and expertise in this complex project is another point as to why the USACE will deliver a poor product under the self imposed time restraints. If the USACE F-M Metro project proves through thorough, scientific , technical and legal research that this is a worthy project for the benefit of all in the Red River Valley, the funding will be there!

As a water manager I am involved with the USACE projects on a regular basis. The usual professional response to the timeline to complete the feasibility study and environmental statement is 2 years. The USACE F-M Metro project timeline is a disaster waiting to happen. The present feasibility and EIS study they have presented for comments is severely lacking in technical research for alternatives to the diversion, which are readily available through the water management groups active in the Red River Valley Basin over the years.

The WRWD Water Management Plan states that any water project must meet the criteria of benefit for all the public in the WRWD. The USACE F-M Diversion is a benefit for a very small percentage of those living in the Red River Valley. This project MUST meet the criteria to fairly benefit all not a few.

Diane Ista

[redacted]

S Johnson Mark
3618 19th Ave. NW
West Fargo, ND 58078

RECEIVED
7/24/11
by

To Whom It May Concern

My name is Sandy Johnson-Mark, my life is in the path of the Fargo-Moorhead Diversion. Thirty-one years ago we built our home by ourselves with five children underfoot.

We planted every tree on the 5.5 Acres. The land was given to us by my father, it's connecte to the land my family has farmed since my great-grand parents came here from Sweden. We are a six generation family connected to this land.

The diversion will go through 5 quarters of it, eliminate my home and one of my brothers farmstead, and put the other brother sitting on the west edge of it, basically putting the farming operation out of business.

For the past 15 years I have worked 7 days a week at North Dakota State Universi as a green house technition in the Ag Dept. to pay for my home which I fought for in a very hasty divorce.

Our story is one of many that will b ruined by the Diversion, whether it's on either side of the Red River or downstream

It needs to be stopped, the people for this Diversion need to realize there are more people in N.D + Mn. than just inside the "Big Ditch." We work and spend our money there as well. We can't do that if we are destroyed or gone. Thank you-

Sandy Mark

USACE/MVP-0000088009
Public and Private Comments Archive

My father's parents purchased our farm in 1933. My father was born and raised on the farm, where my mother and he have resided since they were married. I was born in [redacted] and my sister and I were also raised here.

Yes, I have several childhood memories from the farm, like most people do of their childhood home. Memories of fun times, climbing trees, mud pies, learning to ride bike, holidays with relatives...etc. But more importantly, I have memories of growing up as a farmer's daughter. The values I have been taught and the dedication and hard work my parents instilled in me are incorporated in my daily life. I have grown up respecting nature and my community. I know the value of being dependable worker and the value of family.
Unlike my sister, I have decided not to take on farming as a profession. I have since moved to Fargo where I work and my husband and I raise our three boys. Since my husband also grew up on an agricultural farm in western North Dakota, we have similar values. These are values we are instilling in our children to make them respectful and great citizens of this community.

Everything I am, everything I want my children to be, could not exist if I was not raised on the farm I still call my home. My children, ages [redacted] and [redacted], have more farm tractors as toys then my sister and I had Barbie dolls growing up. They beg to go out to the farm, to ride in the tractors, to watch grandpa work in the shop, to ride in the combine for hours during harvest. If one or more of my children decide they would like to assist their aunt in farming, they deserve the chance. They deserve for the land to be there to farm. They deserve to continue the legacy their great-grandfather started in 1933 when he began the homestead.

There are so many stories like this, of hard working farmers who have given their lives to the land as my parents have done. This way of life for several families in our community will be destroyed. No one has the right to take that away from them, or from my children.

Thank you,
Tami Richards Nester
Fargo, ND (Formerly Argusville, ND)

In 1933, my father and mother, Robert and Agnes Richards, purchased the farm, of which I have resided my entire life. I have two daughters, Sharla and Tami, and three grandsons. As a farmer, I want to pass the farm on to the next generation. My oldest daughter, Sharla, is going to take over our family farm next year, in 2011. But there is no way she will be able to continue farming without the land. My wife, Liz, and I also need not only the land, but our equipment, to continue with our way of life. And with the planned location of the diversion to date, our entire farm is at jeopardy. The diversion will meet back up with the Red River a half mile south of our farm. No amount of ring dikes can protect us.

My grandfather, Rudolf Sebestl, purchased his home farm in 1896 for $2300 and began farming. My grandparents' home farm is across the road, to the north, of our current farmstead. At that time, the bridge connecting North Dakota to Minnesota had just been completed. In fact, my grandfather was the last man to operate the ferry on the Red River prior to the completion of the bridge. After the passing of my mother's brother, my wife and I purchased some of the land that had belonged to my grandfather.

As I mentioned before, the land that I have, I would like to pass on to my children, which, in turn, would be passed on to theirs; however, none of this is possible if the diversion goes through. We are not capable of surviving if we are given more water. Our entire farm, our way of life, will be swallowed up by the Red River. In 2009, our well, which supplies our entire farm with water, was broken due to the amount of overland flooding. If the diversion dumps into our back yard, we will have no choice but to dig a new well. And where shall I send the bill once that is completed? Surely the City of Fargo will pick up the tab. After all, we are told to "trust" them!

There is also proof that many Native Americans lived and camped on the ground surrounding the Red River. The Sioux Tribe is believed to have lived in the area where the Sheyenne River meets the Red. That is only a few miles south of our farmstead. Over the years, we have found numerous hammers, stones, and arrow heads. Several other people along the river have found similar items.

This is a family farm. My father worked his entire life – and died – on this very farm. I was born and raised here, as were my children. There are three generations of family that call this farm home. But it goes back even further. My grandfather, although born in Austria, died on this land. And my mother was born here and died here. This is our family's history. This is who we are. We were born here. We farm here. We live here. And now my daughter wants to have the same opportunity. She wants to farm here. She wants to live here. How can you take that opportunity away from her? How can you look her in the eye and tell her that she doesn't matter, that she doesn't get that chance?

With the proposed sales tax, I have decided to begin removing my business from Fargo and taking it to other cities. Why in God's name would I give money to a city that could care less what happens to me and my family, not to mention all the other affected farms and communities downstream? And with all of this water, there is bound to be needed

repair to the hundreds of bridges and roads necessary to make this work. The county will no doubt have to pay for that. And is that fair to pay again?

And what about the people and communities who live in the western part of North Dakota? It is not their responsibility to pay for this. They are making all the money. They deserve to spend it on what they need. And dumping more water on farms and communities downstream is not what we need.

Thank you,
Charles Richards
Argusville, North Dakota

My mother-in-law, Agnes (Sebestl) Richards, married Robert Richards and they bought the farm I have lived on since I married my husband, Charlie, in 1971. The farm is located on the Red River, across from the old [redacted] which is northwest of [redacted].

Charlie's dad farmed, first with horses, then with tractors. Robert was also one of the first farmers to raise sugarbeets in the Red River Valley. The beets were hoed, harvested, and topped by hand. He was a very hard worker and quite proud of his farming operation. He also raised live stock until they did not have an adequate supply of water. (How quickly we forget there are dry years, too.)

Charlie and his brother, Leonard, both farmed together with their father until his passing in May, 1965. Then Leonard and Charlie took over the family farm, which continued to grow. The two of them farmed together until Leonard's death in 1994. Leonard's sons chose not to farm at that time. Charlie, however, wanted to keep farming and wanted to keep, not only what his parents created, but also his grandparents, going. Both my husband and I worked very hard to get to where we are today. As a family, we have fought together, worked together, and stayed together. We have loved every minute of our life, together on this farm. Sure, there have been trying years, but in the end, we always survive. We have been able to raise our two daughters here, Sharla and Tami. Next year, Sharla is planning to take over our family farm. She has been farming on and off since high school.

I'm writing this to give you a picture because, to be frank, Fargo-Moorhead has no idea the history of our farm, the families, the towns and businesses, the roads, the farmlands, the homes and most importantly, our hearts that will be destroyed. We have been here for many, many years. I continue to get angered because they are building on land that they know will flood, like WalMart, the new high school, houses, churches and other businesses. It's no wonder why the streets flood, basements flood, the dome floods – they build streets and use them as ditches and build roads and use them as dikes. We were here, established first, yet Fargo continues to expand on an area that is a known flood plane with no protection. Yet once it floods, FEMA buys them out. We had to build and pay for our protection.

They always complain about the farmers and the chemicals they are dumping into the Red River. Well, all I have to do is drive around and look at the lawns in Fargo-Moorhead. I guarantee they are being fertilized and sprayed to kill weeds. And how often are they spraying? Not only that, but Fargo-Moorhead dumps their sewage into the river. We see the effects of that. We see plugs and foam floating by our farm on the river. Fargo-Moorhead needs to take a long, hard look in the mirror.

Then they have the audacity to want to put a city tax in place to pay for this diversion. And for what? So we can pay this tax and then take all your water, just dump it on us? They need to put the cart in front of the horse. They should tax the people that are getting the greatest benefit from the diversion and break it down from there – taxing people according to their benefit. There should also be funding in place for the maintenance and

upkeep of the diversion, but also all of the bridges, culverts, and roads. And this funding should be considered for the lifetime of the diversion, not just for the next five, ten, or 15 years. The diversion should never start until they have the money needed from Fargo-Moorhead, secured.

Both in 1997 and 2009, we were stranded out here for a month. We had no way in and no way out. It is our experience that people think it is our own fault that we have to fight a flood. After all, we chose to live here. Well, it wasn't until the "powers-that-be" decided to start moving the natural course of the water that we had a problem. And you know what, we pay taxes, too. When do we get our say? When do people start protecting us?

We have decided to start taking our business outside of Fargo-Moorhead. We recently purchased a vehicle in Grand Forks, ND. And we will continue to do so until this is stopped.

Interesting to note, during all of the floods, the F-M area has relied on the thousands of college students to help with sandbagging. Where, exactly, do you think these individuals have come from? Oh yes, they come from the very rural communities that they are going to destroy with this diversion. Fargo-Moorhead would not be the community it is today if it weren't for the rural communities. We are volunteers in their hospitals, in their schools.

After the flood of 1975, my husband and brother-in-law put up a ring dike around our farm. And since then, we have had to go through thunderstorms, boats, gas pumps and so much more. But we did it, just like everyone before us did. And we paid for it ourselves, and have maintained it ourselves. We lost our driveway in 1997 and 2009. And we repaired it. I truly believe those individuals who are benefiting the most from this diversion should be the ones who are taxed the most, all the way down the line. Those of us outside the diversion, we should not be taxed at all. Why should we be?

There are several suggestions I have that would be much better suited for an entire Red River basin solution:

1) put holding ponds in upstream, the middle, and downstream
2) Fargo-Moorhead needs to stop building in the flood plane. Instead, start building holding ponds on the land. Make them hold some of their own water.
3) Let water out of the dams and keep the levels lower so if we do get a heavy rain, we are able to handle it.
4) Devils Lake was dry at one time. Then, they drained all the small ponds. Now they have a mess and want to dump it on someone else. Make them clean up their own mess.
5) But if the diversion goes through, then I believe those benefiting from the diversion need to be taxed. They also need to pay for the maintenance - indefinitely. And, for those of us losing land, the value of it needs to be valued at a lifetime of profits lost, not just the current, one-year-only value of the land.

I am writing to ask Fargo-Moorhead to truly consider what they are planning to do. This will affect our livelihood in a huge way, and not only because my husband's family purchased this farmstead in 1933. They are destroying all of the memories we have instilled in us. They are destroying our sense of community and working for the greater good. We have both learned, and taught our daughters that through hard work, crop failures, homestead damage, sickness, and even death, you never give up. We always kept working, even when things were not at their best, we never gave up.

So, we will not give up and let the people who are unfamiliar with a farmer's work ethic come and take away our home. If you work as a family, you will succeed. God did not give us this land so we could destroy it. He put us here to protect it so we can feed mankind.

Thank you for your time.

Sincerely,
Elizabeth Richards
Argusville, North Dakota

My name is Sharla Richards. The purpose of this letter is to hopefully convey how this diversion will affect me, not only as a farmer, but as a person.

Where do I even begin? I guess the beginning is always good. In 1933, my grandfather purchased the farm that I have called home for 34 years. He purchased this farm with a dream – one that he and my grandmother raised a family of four on, a farm that he passed down to his sons after his death, a farm that my uncle, until his death in 1994, and my father dreamed they would pass to their children, a farm that my father still farms today. But now, all of that is in jeopardy. As the plan is currently designed, the diversion is set to meet up with the Red River a half mile south of my farm, the farm I hoped to someday leave to my children. But this farm means so much more to me than a paycheck, it is my home.

When I was in college, (I graduated from [redacted] with a degree in [redacted]) one of my assignments for my writing class was to write a paper about my home, what it meant to me. I so struggled with this assignment because my home wasn't about the structure, but my home, to me, was my farm, the land on which my house resided. I had a very difficult time discerning between the two. I couldn't picture one without the other. To me, they are one in the same. For without my farm, I would have no home. I know, people always comment on how wherever your family is, you are home. But to me, that is an impossible task – to see my family any place other than on this very farm. Maybe it is the farmer in me, but it is this very farm that makes up my home.

Growing up, my younger sister and I had an amazing life. We were given the freedom to explore this farm, every inch of it. We would climb trees all summer long. We made mud pies and stayed up until the sun set. We would laugh and dream and share our secrets. Individually, we would come to create our own version of our futures.

I always knew I wanted to farm. From an early age, I begged my dad to let me accompany him to the field. I can remember driving a combine at the age of ten. I can remember digging fields in the summer, after wheat harvest. And even as children, my sister and I spent all day in the combine with my dad. All of our memories of growing up are in that combine. As I got older, I took such pride in knowing that I was farming – that I was helping create a way of life.

I would find ways to leave high school early so I could be out in the field. To me, working in the field meant freedom. It meant connecting with a greater part of myself. Sure, getting out of Advanced Algebra was a short term solution, but the greater goal I envisioned for myself never left my sight. I was born to farm.

Over the years, I have had the privilege to travel, and sometimes live, in various parts of the country. You see, there were moments in my early adult life in which I questioned if farming was truly my dream. I knew I wasn't like other girls. I didn't long to graduate from college and work in the corporate world. But as an impressionable young girl, I thought maybe I could fit in if I took their path. It's not common for young girls to come

back and take over the family farm. And with no brothers, I knew my dad would have no one to leave the farm to. So I wanted to make sure that farming was something I wanted to do, not something I did for my dad. My parents have always been quite frank when it came to my decision. Never once did they make me feel that farming was something I had to do for my father. They truly want me to be happy. But no matter where I went, or where I lived, I always, always missed my home. I always came back. Something always drew me in. I never could put in words what it was, until someone has decided to take it away. Now please don't misinterpret my words. It is not because of the diversion that I have now decided to farm. This realization came to me a few years back. But over the course of the last seven months, I have come to see what, exactly, I stand to lose.

My farm is a beautiful haven on which all of my hopes and dreams are built. It is the place where I seek answers. It is where I look up at the cloudless sky and see the entire universe of stars. It is where I find peace in an otherwise chaotic world. It is where I come after a broken heart. It is where I wonder, with all the openness of the world, what I am going to do next. It is my sanctuary. It is my safe haven. It is my home.

Fall is my absolute favorite time of year. Fall means beautiful foliage. Fall means cool nights with crisp air. It means smelling the dust of combines. It means harvest. Typically, we raise wheat and soybeans. But for many years, we also raised sugarbeets. I love harvest. I love combining the crop. Having watched the crop mature all season, it is ready to be harvested. And with me, I have grown and matured.

Every year, the cycle is the same. And every year, a piece of me grows. And with that growth comes a stronger connection to my farm. Next year, I plan to take over my dad's farm and make it my own. And with that comes all of my hopes and dreams for continuing on with something I could never live without.

Farming isn't just a way to make a living or something I have chosen to do because I can't do anything else. Farming is the only way I know how to live. It is the very reason for my being. It is truly my life. I hope to expand my farm into vegetables. It is my vision to feed people of my community with home-grown, chemical-free vegetables. It is my vision to not only feed the world, but to heal it.

There are many ways to farm, but to me, the only way is to do it with your heart. And how can I be asked to sacrifice my heart? How can I dare leave a place that has provided me with an education never to be found in books? There is no place in the world that I would rather be, and trust me, I have searched. This farm is me. Every time a rain destroys our crops, I realize what it takes to survive. Every year that is filled with a bountiful harvest, I see what it means to be truly grateful. Every flood that surrounds my farm with water makes me see what hard work and tenacity teaches. This farm has taught me respect. It has taught me how to work hard and never, no matter what happens, to give up. It was taught me to see beauty in something so simple as a field of golden wheat on a hot August day. This farm has taught me that a way of life doesn't mean sacrificing your values or who you are. This farm has taught me who I am.

As individuals, we create a family. And as a family, we create a community. And as a community, we create mankind. I ask you, how can my community disregard me, my family, and the many individuals and families that live downstream to separate ourselves from the greater whole. How can one group of individuals completely disregard those that help create their community? My farm has taught me that no matter what, we are in this together. And all I ask is that Fargo-Moorhead stop and think about those of us who truly believe that we are, after all, one.

Thank you very much for your time.

Sincerely,
Sharla Richards
Argusville, North Dakota

Julie M. Duckstad

From: Thomas F. Pursell
Sent: Thursday, July 22, 2010 9:06 AM
To: Jonathan P. Scoll; Julie M. Duckstad
Cc: Linda Gavel
Subject: FW: Fargo-Moorhead Diversion

From: [redacted]
Sent: Thursday, July 22, 2010 1:37 AM
To: Thomas F. Pursell
Subject: Fargo-Moorhead Diversion

To: Lindquist Law Firm
From: Dean A. Rust

I am a landowner in the path of infamous Diversion located four miles west of Harwood ND. Having met along with the Hendrum MN group I will give my opinion on this morally wrong project. It is wrong to permanently take over 6000 acres out of annual crop production. The Diversion of water during major flood events will actually be needed only 2% of the time. Usually around 20-30 days once in every four years on average. The Forum indicated there were 10 such flood occasions in the last 41 years. It is also wrong to ask the Federal Government to fund such an enormous and costly project in these perilous economic times. I have been reading that this project will in itself promote economic good times for the city of Fargo. Those comments truly are wrong. Public announcements broadcast on local TV have indicated that we here in the Red River Valley have not participated in the economic downturn of the Nation. That statement is followed by "Invest In Your Valley". Farm owners and operators bring plenty of business to the two Cities of Fargo and Moorhead. To ask them to invest there most valuable asset to this Diversion is very hard to take. I feel it is wrong to only protect the Two Cities and leave the down stream citizens, towns, and other subdivisions with the extra burden of higher flood levels that this Diversion will cause. The Army Corps of Engineers have conducted a soil boring near my land on the County Right of Way nearly a month ago and now are asking me to allow two more soil core samples. I have to believe this request is not valid. The legal course of action against me and other preliminary costs are being wasted in my opinion. This Diversion is much too distant from the course of the Red River and therefore crosses five other Rivers. Not to mention Interstate 94 & 29, Railroads, Power Lines, Telephone & Fibre Optics, Rural Water Systems, County and Township Roads, and several Legal Drains. The worst of all is the problem of flood water backing up inside the Diversion Protection Area. This project has many more flaws that could make it the folly of the century.

From: National Wildlife Federation on behalf of Guy Bateman
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin
Date: Tuesday, August 03, 2010 6:05:36 PM

Aug 3, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

- develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

- develop an alternative that evaluates using wetland restoration as a primary tool for flood management - this evaluation should consider various levels of wetland restoration, including restoring 100,000 acres and 250,000 acres; and

- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Dr. Guy Bateman
[redacted]

From: National Wildlife Federation on behalf of Richard Berg
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin
Date: Tuesday, August 03, 2010 6:05:35 PM

Aug 3, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

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Sincerely,

Mr. Richard Berg
[redacted]

From: National Wildlife Federation on behalf of Danielle Billington
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin
Date: Tuesday, August 03, 2010 5:35:32 PM

Aug 3, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

- develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

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- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Ms. Danielle Billington
[redacted]

From: National Wildlife Federation on behalf of Dean Borgeson
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin
Date: Tuesday, August 03, 2010 7:35:45 PM

Aug 3, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

- develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

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Sincerely,

Mr. Dean Borgeson
[redacted]

From: National Wildlife Federation on behalf of Alice Bowron
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin
Date: Tuesday, August 03, 2010 6:35:39 PM

Aug 3, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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Sincerely,

Ms. Alice Bowron
[redacted]

From: National Wildlife Federation on behalf of Leslie Brown
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin
Date: Tuesday, August 03, 2010 6:05:38 PM

Aug 3, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

- develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

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- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Mrs. Leslie Brown
[redacted]

From: National Wildlife Federation on behalf of Kathleen Burek
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin
Date: Tuesday, August 03, 2010 5:35:36 PM

Aug 3, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

- develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

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- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

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Sincerely,

Ms. Kathleen Burek
[redacted]

From: National Wildlife Federation on behalf of Robyn Carmichael
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin
Date: Tuesday, August 03, 2010 4:35:25 PM

Aug 3, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

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Sincerely,

Ms. Robyn Carmichael
[redacted]

From: National Wildlife Federation on behalf of Melissa Cathcart
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin
Date: Tuesday, August 03, 2010 8:06:05 PM

Aug 3, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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Sincerely,

Ms. Melissa Cathcart
[redacted]

From: National Wildlife Federation on behalf of Cher Johnson
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin
Date: Tuesday, August 03, 2010 6:05:36 PM

Aug 3, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

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Sincerely,

Ms. Cher Johnson
[redacted]

From: National Wildlife Federation on behalf of Pamela Clinton
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin
Date: Tuesday, August 03, 2010 9:06:22 PM

Aug 3, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

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Sincerely,

Ms. Pamela Clinton
[redacted]

From: National Wildlife Federation on behalf of Richard Cunningham
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin
Date: Tuesday, August 03, 2010 6:36:02 PM

Aug 3, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

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Sincerely,

Mr. Richard Cunningham
[redacted]

From: National Wildlife Federation on behalf of Susan Dzieweczynski
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin
Date: Tuesday, August 03, 2010 7:35:45 PM

Aug 3, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

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Sincerely,

Ms. Susan Dzieweczynski
[redacted]

From: National Wildlife Federation on behalf of Sue Eastling
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin
Date: Tuesday, August 03, 2010 7:05:41 PM

Aug 3, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

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Sincerely,

Mrs. Sue Eastling
[redacted]

From: National Wildlife Federation on behalf of Erica Johnson
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin
Date: Tuesday, August 03, 2010 6:05:35 PM

Aug 3, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

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Sincerely,

Ms. Erica Johnson
[redacted]

From: National Wildlife Federation on behalf of BRANDON Evans
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin
Date: Tuesday, August 03, 2010 6:35:42 PM

Aug 3, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

- develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

- develop an alternative that evaluates using wetland restoration as a primary tool for flood management - this evaluation should consider various levels of wetland restoration, including restoring 100,000 acres and 250,000 acres; and

- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Mr. BRANDON Evans
[redacted]

From: National Wildlife Federation on behalf of dwight fellman
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin
Date: Tuesday, August 03, 2010 6:05:38 PM

Aug 3, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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Sincerely,

Mr. dwight fellman
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Richard Fish [redacted]
Sent: Tuesday, August 03, 2010 6:36 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 3, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

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Sincerely,

Mr. Richard Fish
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Michael Gilgosch [redacted]
Sent: Tuesday, August 03, 2010 6:06 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 3, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

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Sincerely,

Mr. Michael Gilgosch
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Vincent Gormley [redacted]
Sent: Tuesday, August 03, 2010 5:36 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 3, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

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Sincerely,

Mr. Vincent Gormley
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Ron Haglind [redacted]
Sent: Tuesday, August 03, 2010 6:06 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 3, 2010

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Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

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Sincerely,

Mr. Ron Haglind
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Nancy Hale [redacted]
Sent: Tuesday, August 03, 2010 9:06 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 3, 2010

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Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

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Sincerely,

Ms. Nancy Hale
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Nancy Hart
[redacted]
Sent: Tuesday, August 03, 2010 6:06 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 3, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

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Sincerely,

Ms. Nancy Hart
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Cathleen Hauenstein [redacted]
Sent: Tuesday, August 03, 2010 5:36 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 3, 2010

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Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

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Sincerely,

Ms. Cathleen Hauenstein
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Jon Hayenga [redacted]
Sent: Tuesday, August 03, 2010 8:06 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 3, 2010

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Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

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Sincerely,

Mr. Jon Hayenga
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of K Helms [redacted]
Sent: Tuesday, August 03, 2010 9:06 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 3, 2010

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Sincerely,

Ms. K Helms
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Fran Hormel [redacted]
Sent: Tuesday, August 03, 2010 6:36 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 3, 2010

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St. Paul, MN 551011638

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Sincerely,

Ms. Fran Hormel
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of serena howe [redacted]
Sent: Tuesday, August 03, 2010 6:36 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 3, 2010

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Sincerely,

Miss serena howe
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Rose Hughes
[redacted]
Sent: Tuesday, August 03, 2010 5:35 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 3, 2010

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Sincerely,

Ms. Rose Hughes
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Caitilin F. Kane Caitilin F. Kane[redacted]
Sent: Tuesday, August 03, 2010 5:36 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 3, 2010

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Sincerely,

Ms. Caitilin F. Kane Caitilin F. Kane
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Dorothy Karlsen [redacted]
Sent: Tuesday, August 03, 2010 6:36 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 3, 2010

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Sincerely,

Ms. Dorothy Karlsen
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Lubes Khazanovich [redacted]
Sent: Tuesday, August 03, 2010 7:06 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 3, 2010

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St. Paul, MN 551011638

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Sincerely,

Ms. Lubes Khazanovich
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Margaret Klette [redacted]
Sent: Tuesday, August 03, 2010 8:36 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 3, 2010

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Sincerely,

Ms. Margaret Klette
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Karl Knutsen [redacted]
Sent: Tuesday, August 03, 2010 5:36 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 3, 2010

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Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

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Sincerely,

Mr. Karl Knutsen
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Randall Kroening [redacted]
Sent: Tuesday, August 03, 2010 9:06 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 3, 2010

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Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

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Sincerely,

Mr. Randall Kroening
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Laura Kroeten-Bue[redacted]
Sent: Tuesday, August 03, 2010 7:06 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 3, 2010

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Sincerely,

Dr. Laura Kroeten-Bue
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Lewis Kuhlman [redacted]
Sent: Tuesday, August 03, 2010 7:36 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 3, 2010

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Branch, 190 Fifth Street East, Ste. 401
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Sincerely,

Mr. Lewis Kuhlman
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Brian Kummer [redacted]
Sent: Tuesday, August 03, 2010 6:36 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 3, 2010

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Sincerely,

Mr. Brian Kummer
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Louann Lanning [redacted]
Sent: Tuesday, August 03, 2010 9:06 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 3, 2010

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Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Ms. Louann Lanning
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Elaine Leach [redacted]
Sent: Tuesday, August 03, 2010 8:36 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 3, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

- develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

- develop an alternative that evaluates using wetland restoration as a primary tool for flood management - this evaluation should consider various levels of wetland restoration, including restoring 100,000 acres and 250,000 acres; and

- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Dr. Elaine Leach
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Janice Leafer [redacted]
Sent: Tuesday, August 03, 2010 6:06 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 3, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

- develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

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- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Ms. Janice Leafer
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Kathy Lee [redacted]
Sent: Tuesday, August 03, 2010 6:36 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 3, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

- develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

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- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Ms. Kathy Lee
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Joan Leonard [redacted]
Sent: Tuesday, August 03, 2010 8:36 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 3, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

- develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

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Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Mrs. Joan Leonard
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Jan LeVesque
[redacted]
Sent: Tuesday, August 03, 2010 7:06 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 3, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

- develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

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Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Ms. Jan LeVesque
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Crys Lundberg [redacted]
Sent: Tuesday, August 03, 2010 6:06 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 3, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

- develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

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Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Ms. Crys Lundberg
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Hermine Lustig [redacted]
Sent: Tuesday, August 03, 2010 5:35 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 3, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

- develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

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- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Mrs. Hermine Lustig
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Lori Manning [redacted]
Sent: Tuesday, August 03, 2010 9:06 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 3, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Ms. Lori Manning
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Elaine Matthew [redacted]
Sent: Tuesday, August 03, 2010 5:36 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 3, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

- develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

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Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Mrs. Elaine Matthew
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Noelle McCleaf [redacted]
Sent: Tuesday, August 03, 2010 7:06 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 3, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

- develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

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Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Miss Noelle McCleaf
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Carol Mellom [redacted]
Sent: Tuesday, August 03, 2010 8:06 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 3, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Ms. Carol Mellom
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Bill Merrill [redacted]
Sent: Tuesday, August 03, 2010 7:06 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 3, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Mr. Bill Merrill
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Carol Mitchell [redacted]
Sent: Tuesday, August 03, 2010 6:36 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 3, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

- develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

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Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Ms. Carol Mitchell
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Raechel Murphy [redacted]
Sent: Tuesday, August 03, 2010 9:06 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 3, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

- develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

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Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Mrs. Raechel Murphy
[redacted]

Diaz, Jessie C MVP

From: Snyder, Aaron M MVP
Sent: Monday, August 16, 2010 1:37 PM
To: Maggied, Troy MVP; Beauchamp, Francis MVP
Subject: FW: Please develop an alternative for flood control in the Red River basin

FYI - See below.

Aaron M. Snyder
USACE Planner and Project Manager, PMP
Chief, Project Management Branch (PM-B)
651-290-5489
612-518-0355 (Cell)
Aaron.M.Snyder@usace.army.mil

-----Original Message-----
From: National Wildlife Federation [mailto:NationalWildlifeFederation@nwf.org] On Behalf Of Roger Nelson
Sent: Tuesday, August 03, 2010 7:36 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 3, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

Let me say that I endorse the boiler plate message that follows. I also have some personal observations. It appears that the Corps has had a poor reputation for decades in many circles...in that they are engineers and ex army that do the bidding of politicians to expediently solve relatively, narrow, short-term problems while failing to look at the big picture...thus not solving, or creating even greater, long term problems. It's like, "We don't care. The environment is not our problem" Is there any hope? We need a more comprehensive mandate for the Corps: Restore wetlands and natural flood plains on the Mississippi/Missouri...not just keep building dikes higher. Phase out channel and lock and dam maintenance that acommodates barge traffic so that we can get back the quite, deep and clear backwater areas we had prior to the 1950's...when everything was silted in by the sloshing caused by the "draw" of barge screws. Its not a road, a sluice, or a storm drain...it's a river system, dammit! Divert flood water as you must, but while you're at it, why not also provide wildlife habitat, bring back some natural beauty, create green recreational opportunities, and help replenish aquifers.

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

- develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

- develop an alternative that evaluates using wetland restoration as a primary tool for flood management - this evaluation should consider various levels of wetland restoration, including restoring 100,000 acres and 250,000 acres; and

- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Mr. Roger Nelson
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Jan Olsen [redacted]
Sent: Tuesday, August 03, 2010 6:06 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 3, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Ms. Jan Olsen
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Alan Pachter [redacted]
Sent: Tuesday, August 03, 2010 8:36 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 3, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Mr. Alan Pachter
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Meghan Porter [redacted]
Sent: Tuesday, August 03, 2010 7:06 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 3, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

- develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

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Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Mrs. Meghan Porter
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Jennifer Prettyman-Hall[redacted]
Sent: Tuesday, August 03, 2010 7:06 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 3, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Ms. Jennifer Prettyman-Hall
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Karen Raccio [redacted]
Sent: Tuesday, August 03, 2010 8:06 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 3, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Mrs. Karen Raccio
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Marcia Reiter [redacted]
Sent: Tuesday, August 03, 2010 7:06 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 3, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Ms. Marcia Reiter
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Margaret richardson[redacted]
Sent: Tuesday, August 03, 2010 5:36 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 3, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Ms. Margaret richardson
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Juleen Schaefer [redacted]
Sent: Tuesday, August 03, 2010 6:36 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 3, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

- develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

- develop an alternative that evaluates using wetland restoration as a primary tool for flood management - this evaluation should consider various levels of wetland restoration, including restoring 100,000 acres and 250,000 acres; and

- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Ms. Juleen Schaefer
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Jennifer Schally [redacted]
Sent: Tuesday, August 03, 2010 8:06 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 3, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

- develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

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- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Ms. Jennifer Schally
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of bradley schmidt [redacted]
Sent: Tuesday, August 03, 2010 6:06 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 3, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

- develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

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- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Mr. bradley schmidt
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of nan stevenson [redacted]
Sent: Tuesday, August 03, 2010 6:36 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 3, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

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- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Ms. nan stevenson
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Edward Stewart [redacted]
Sent: Tuesday, August 03, 2010 5:36 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 3, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Dr. Edward Stewart
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Theresa Terhark[redacted]
Sent: Tuesday, August 03, 2010 7:36 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 3, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Mrs. Theresa Terhark
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Melissa Thomason [redacted]
Sent: Tuesday, August 03, 2010 6:36 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 3, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Mrs. Melissa Thomason
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Cheryl Tregillis [redacted]
Sent: Tuesday, August 03, 2010 8:36 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 3, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Mrs. Cheryl Tregillis
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Martha Vest [redacted]
Sent: Tuesday, August 03, 2010 5:36 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 3, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Ms. Martha Vest
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of John Viacrucis [redacted]
Sent: Tuesday, August 03, 2010 6:36 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 3, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Thank you for your time and consideration.

Sincerely,

Mr. John Viacrucis
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Judith Webster[redacted]
Sent: Tuesday, August 03, 2010 7:36 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 3, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Mrs. Judith Webster
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Kay Westby [redacted]
Sent: Tuesday, August 03, 2010 5:36 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 3, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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Sincerely,

Ms. Kay Westby
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of gina wiese [redacted]
Sent: Tuesday, August 03, 2010 9:06 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 3, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Ms. gina wiese
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Terry J. Williams [redacted]
Sent: Tuesday, August 03, 2010 7:36 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 3, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Mr. Terry J. Williams
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Charles Wirth [redacted]
Sent: Tuesday, August 03, 2010 5:35 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 3, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Mr. Charles Wirth
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Ann Galbraith Miller [redacted]
Sent: Wednesday, August 04, 2010 9:55 AM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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Sincerely,

Mrs. Ann Galbraith Miller
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Marisol Arita [redacted]
Sent: Wednesday, August 04, 2010 4:20 AM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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Sincerely,

Ms. Marisol Arita
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Anthony Stanton [redacted]
Sent: Wednesday, August 04, 2010 9:50 AM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Mr. Anthony Stanton
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Roger Aus [redacted]
Sent: Wednesday, August 04, 2010 4:20 AM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

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Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Dr. Roger Aus
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Wanda Ballentine [redacted]
Sent: Wednesday, August 04, 2010 4:20 AM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Ms. Wanda Ballentine
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Christine Barnes [redacted]
Sent: Wednesday, August 04, 2010 9:20 AM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Ms. Christine Barnes
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Jerry Bloomer [redacted]
Sent: Wednesday, August 04, 2010 7:49 AM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Mr. Jerry Bloomer
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Elaine Born [redacted]
Sent: Wednesday, August 04, 2010 11:26 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Miss Elaine Born
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Ann K Brady [redacted]
Sent: Wednesday, August 04, 2010 9:20 AM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

- develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

- develop an alternative that evaluates using wetland restoration as a primary tool for flood management - this evaluation should consider various levels of wetland restoration, including restoring 100,000 acres and 250,000 acres; and

- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Ms. Ann K Brady
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Craig Brown [redacted]
Sent: Wednesday, August 04, 2010 7:19 AM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

- develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

- develop an alternative that evaluates using wetland restoration as a primary tool for flood management - this evaluation should consider various levels of wetland restoration, including restoring 100,000 acres and 250,000 acres; and

- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Mr. Craig Brown
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of George Burtness [redacted]
Sent: Wednesday, August 04, 2010 6:49 AM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

- develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

- develop an alternative that evaluates using wetland restoration as a primary tool for flood management - this evaluation should consider various levels of wetland restoration, including restoring 100,000 acres and 250,000 acres; and

- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Mr. George Burtness
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of scott cady [redacted]
Sent: Wednesday, August 04, 2010 4:20 AM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

- develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

- develop an alternative that evaluates using wetland restoration as a primary tool for flood management - this evaluation should consider various levels of wetland restoration, including restoring 100,000 acres and 250,000 acres; and

- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Mr. scott cady
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Bruce D Chambers [redacted]
Sent: Wednesday, August 04, 2010 4:19 AM
To: Snyder, Aaron M MVP
Subject: Please develop a natural alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

- develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

- develop an alternative that evaluates using wetland restoration as a primary tool for flood management - this evaluation should consider various levels of wetland restoration, including restoring 100,000 acres and 250,000 acres; and

- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Mr. Bruce D Chambers
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of gene christenson [redacted]
Sent: Wednesday, August 04, 2010 8:19 AM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

- develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

- develop an alternative that evaluates using wetland restoration as a primary tool for flood management - this evaluation should consider various levels of wetland restoration, including restoring 100,000 acres and 250,000 acres; and

- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Mr. gene christenson
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Joel Clasemann [redacted]
Sent: Wednesday, August 04, 2010 4:19 AM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

- develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

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- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Mr. Joel Clasemann
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Carrie Nelson [redacted]
Sent: Wednesday, August 04, 2010 9:56 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Ms. Carrie Nelson
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Ginamarie Colorio [redacted]
Sent: Wednesday, August 04, 2010 8:49 AM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Mrs. Ginamarie Colorio
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Pat Combs [redacted]
Sent: Wednesday, August 04, 2010 8:19 AM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Ms. Pat Combs
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Beth Cook [redacted]
Sent: Wednesday, August 04, 2010 4:19 AM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Ms. Beth Cook
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Kathy Curtiss [redacted]
Sent: Wednesday, August 04, 2010 8:49 AM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Ms. Kathy Curtiss
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Peggy Detmers [redacted]
Sent: Wednesday, August 04, 2010 4:20 AM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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Sincerely,

Ms. Peggy Detmers
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Bob Douglas [redacted]
Sent: Wednesday, August 04, 2010 9:50 AM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Mr. Bob Douglas
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Kay Drache [redacted]
Sent: Wednesday, August 04, 2010 12:25 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Ms. Kay Drache
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Kari Dyrdahl [redacted]
Sent: Wednesday, August 04, 2010 11:25 AM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Ms. Kari Dyrdahl
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Elisabeth Johnson [redacted]
Sent: Wednesday, August 04, 2010 4:20 AM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

- develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

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Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Dr. Elisabeth Johnson
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Eileen Levin [redacted]
Sent: Wednesday, August 04, 2010 2:55 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

- develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

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- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Ms. Eileen Levin
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Shirley Espeland [redacted]
Sent: Wednesday, August 04, 2010 8:26 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

- develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

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- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Mrs. Shirley Espeland
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Shay Forstrom [redacted]
Sent: Wednesday, August 04, 2010 1:25 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

- develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

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Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Mrs. Shay Forstrom
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Sharon Fortunak[redacted]
Sent: Wednesday, August 04, 2010 8:49 AM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Ms. Sharon Fortunak
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Mari Freeman
[redacted]
Sent: Wednesday, August 04, 2010 10:56 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Ms. Mari Freeman
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Cathy Gagliardi[redacted]
Sent: Wednesday, August 04, 2010 4:19 AM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Mrs. Cathy Gagliardi
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Michelle Gobely [redacted]
Sent: Wednesday, August 04, 2010 10:55 AM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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- develop an alternative that evaluates using wetland restoration as a primary tool for flood management - this evaluation should consider various levels of wetland restoration, including restoring 100,000 acres and 250,000 acres; and

- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Ms. Michelle Gobely
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Cheryl Hagen [redacted]
Sent: Wednesday, August 04, 2010 8:19 AM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

- develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

- develop an alternative that evaluates using wetland restoration as a primary tool for flood management - this evaluation should consider various levels of wetland restoration, including restoring 100,000 acres and 250,000 acres; and

- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Ms. Cheryl Hagen
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Cassandra Hager[redacted]
Sent: Wednesday, August 04, 2010 12:55 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

- develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

- develop an alternative that evaluates using wetland restoration as a primary tool for flood management - this evaluation should consider various levels of wetland restoration, including restoring 100,000 acres and 250,000 acres; and

- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Ms. Cassandra Hager
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Mary Jo Hamann [redacted]
Sent: Wednesday, August 04, 2010 9:50 AM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Ms. Mary Jo Hamann
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of David Hamburger[redacted]
Sent: Wednesday, August 04, 2010 1:25 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

- develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

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- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Mr. David Hamburger
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Lynn Hargreaves [redacted]
Sent: Wednesday, August 04, 2010 4:20 AM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

- develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

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Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Mrs. Lynn Hargreaves
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of DOUGLAS Harkins [redacted]
Sent: Wednesday, August 04, 2010 11:25 AM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

- develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

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Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Mr. DOUGLAS Harkins
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Janice Hayne [redacted]
Sent: Wednesday, August 04, 2010 11:25 AM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Ms. Janice Hayne
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Brian Hemmelman [redacted]
Sent: Wednesday, August 04, 2010 8:49 AM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

- develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

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Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Dr. Brian Hemmelman
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Warren High [redacted]
Sent: Wednesday, August 04, 2010 9:56 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

- develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

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Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Mr. Warren High
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Richard Hjort [redacted]
Sent: Wednesday, August 04, 2010 5:49 AM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

- develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

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Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Mr. Richard Hjort
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Kristy Hovde [redacted]
Sent: Wednesday, August 04, 2010 4:19 AM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Mrs. Kristy Hovde
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Sherina Hume [redacted]
Sent: Wednesday, August 04, 2010 9:56 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Ms. Sherina Hume
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Rollo Hysom
[redacted]
Sent: Wednesday, August 04, 2010 4:19 AM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Mr. Rollo Hysom
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Karen Ihli [redacted]
Sent: Wednesday, August 04, 2010 4:20 AM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Ms. Karen Ihli
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Jean Johnson [redacted]
Sent: Wednesday, August 04, 2010 9:50 AM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Ms. Jean Johnson
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of SANDY KELLER [redacted]
Sent: Wednesday, August 04, 2010 8:19 AM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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Sincerely,

Ms. SANDY KELLER
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Ann Kinney [redacted]
Sent: Wednesday, August 04, 2010 2:25 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Ms. Ann Kinney
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Pamela Kjono [redacted]
Sent: Wednesday, August 04, 2010 7:49 AM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Ms. Pamela Kjono
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Benjamin Krohling [redacted]
Sent: Wednesday, August 04, 2010 11:25 AM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Mr. Benjamin Krohling
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Kim Stanton [redacted]
Sent: Wednesday, August 04, 2010 7:19 AM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Ms. Kim Stanton
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Jennifer Lang [redacted]
Sent: Wednesday, August 04, 2010 4:20 AM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Ms. Jennifer Lang
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Scott Mace [ssmace@earthlink.net]
Sent: Wednesday, August 04, 2010 2:25 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Mr. Scott Mace
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Dawn Mantei [redacted]
Sent: Wednesday, August 04, 2010 4:20 AM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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Sincerely,

Ms. Dawn Mantei
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Harriet McCleary [redacted]
Sent: Wednesday, August 04, 2010 4:19 AM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

- develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

- develop an alternative that evaluates using wetland restoration as a primary tool for flood management - this evaluation should consider various levels of wetland restoration, including restoring 100,000 acres and 250,000 acres; and

- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Dr. Harriet McCleary
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of MARY E MCGILLIGAN [redacted]
Sent: Wednesday, August 04, 2010 11:26 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Ms. MARY E MCGILLIGAN
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Cheryl McKiernan[redacted]
Sent: Wednesday, August 04, 2010 4:19 AM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Mrs. Cheryl McKiernan
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of tina miranda [redacted]
Sent: Wednesday, August 04, 2010 3:25 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Miss tina miranda
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of shari mleczewski [redacted]
Sent: Wednesday, August 04, 2010 4:20 AM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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Sincerely,

Ms. shari mleczewski
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Martha Miller [redacted]
Sent: Wednesday, August 04, 2010 8:49 AM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Ms. Martha Miller
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Sue Morem [redacted]
Sent: Wednesday, August 04, 2010 2:55 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Ms. Sue Morem
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Karl Mueller [redacted]
Sent: Wednesday, August 04, 2010 12:55 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Mr. Karl Mueller
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Adnan Mustafa [redacted]
Sent: Wednesday, August 04, 2010 12:55 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Mr. Adnan Mustafa
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of David Nickel [redacted]
Sent: Wednesday, August 04, 2010 11:25 AM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Mr. David Nickel
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of carolyn novotnyreich[redacted]
Sent: Wednesday, August 04, 2010 4:20 AM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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Sincerely,

Ms. carolyn novotnyreich
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of William Nusbaum [redacted]
Sent: Wednesday, August 04, 2010 9:20 AM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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Sincerely,

Mr. William Nusbaum
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Chris Parker
[redacted]
Sent: Wednesday, August 04, 2010 10:55 AM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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Sincerely,

Mr. Chris Parker
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Susanna Patterson [redacted]
Sent: Wednesday, August 04, 2010 8:19 AM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Ms. Susanna Patterson
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Melodie Paulsen [redacted]
Sent: Wednesday, August 04, 2010 7:49 AM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Ms. Melodie Paulsen
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Betsy Perkins [redacted]
Sent: Wednesday, August 04, 2010 9:26 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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Sincerely,

Ms. Betsy Perkins
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Jeanne Piehl [redacted]
Sent: Wednesday, August 04, 2010 7:49 AM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

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Sincerely,

Mrs. Jeanne Piehl
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Robin Poppe [redacted]
Sent: Wednesday, August 04, 2010 9:20 AM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

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Sincerely,

Ms. Robin Poppe
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Betsey Porter [redacted]
Sent: Wednesday, August 04, 2010 10:55 AM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Miss Betsey Porter
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Barb and Phil Powell[redacted]
Sent: Wednesday, August 04, 2010 4:20 AM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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Sincerely,

Mrs. Barb and Phil Powell
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Linda Ritter [redacted]
Sent: Wednesday, August 04, 2010 9:55 AM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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Sincerely,

Ms. Linda Ritter
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Roberta Nelson [redacted]
Sent: Wednesday, August 04, 2010 4:55 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Mrs. Roberta Nelson
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Shawn Roed [redacted]
Sent: Wednesday, August 04, 2010 8:49 AM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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Sincerely,

Mr. Shawn Roed
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Earl Rosenwinkel [redacted]
Sent: Wednesday, August 04, 2010 1:25 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

- develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

- develop an alternative that evaluates using wetland restoration as a primary tool for flood management - this evaluation should consider various levels of wetland restoration, including restoring 100,000 acres and 250,000 acres; and

- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Dr. Earl Rosenwinkel
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of susan rowe [redacted]
Sent: Wednesday, August 04, 2010 6:49 AM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

- develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

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- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Mrs. susan rowe
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Mike Sackman [redacted]
Sent: Wednesday, August 04, 2010 7:19 AM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Mr. Mike Sackman
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Ed Salter [redacted]
Sent: Wednesday, August 04, 2010 7:49 AM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

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Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Mr. Ed Salter
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Jamie Scheffel [redacted]
Sent: Wednesday, August 04, 2010 9:20 AM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Ms. Jamie Scheffel
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of jim scheidt [redacted]
Sent: Wednesday, August 04, 2010 4:20 AM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Mr. jim scheidt
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Mollie Schierman [redacted]
Sent: Wednesday, August 04, 2010 8:19 AM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Ms. Mollie Schierman
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Sarah Sederstrom [redacted]
Sent: Wednesday, August 04, 2010 2:25 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Ms. Sarah Sederstrom
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Corinne Segal [redacted]
Sent: Wednesday, August 04, 2010 11:55 AM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Ms. Corinne Segal
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of George Shanks [redacted]
Sent: Wednesday, August 04, 2010 7:19 AM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Mr. George Shanks
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Shaun Marie Levin [redacted]
Sent: Wednesday, August 04, 2010 4:20 AM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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Sincerely,

Ms. Shaun Marie Levin
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Mary Smith [redacted]
Sent: Wednesday, August 04, 2010 12:25 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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Sincerely,

Ms. Mary Smith
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of George Sorvalis [redacted]
Sent: Wednesday, August 04, 2010 8:49 AM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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Sincerely,

Mr. George Sorvalis
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Doug Stepanek [redacted]
Sent: Wednesday, August 04, 2010 7:19 AM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

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Sincerely,

Mr. Doug Stepanek
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Denise Sterling [redacted]
Sent: Wednesday, August 04, 2010 6:25 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

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Sincerely,

Ms. Denise Sterling
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Wayne E. Stiefvater [redacted]
Sent: Wednesday, August 04, 2010 4:20 AM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

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Sincerely,

Mr. Wayne E. Stiefvater
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Michael Tezla [redacted]
Sent: Wednesday, August 04, 2010 4:19 AM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

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Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

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Sincerely,

Mr. Michael Tezla
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Terry Johnson [redacted]
Sent: Wednesday, August 04, 2010 11:25 AM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

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Sincerely,

Ms. Terry Johnson
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Steven Usdansky [redacted]
Sent: Wednesday, August 04, 2010 7:19 AM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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Sincerely,

Dr. Steven Usdansky
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Michele Vaillancourt[redacted]
Sent: Wednesday, August 04, 2010 10:55 AM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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Sincerely,

Ms. Michele Vaillancourt
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Dawnielle Voegele [redacted]
Sent: Wednesday, August 04, 2010 4:20 AM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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Sincerely,

Miss Dawnielle Voegele
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Sidney Wechsler [redacted]
Sent: Wednesday, August 04, 2010 9:50 AM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Dr. Sidney Wechsler
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Kimerly Wilcox [redacted]
Sent: Wednesday, August 04, 2010 10:25 AM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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Sincerely,

Dr. Kimerly Wilcox
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Art Wilkinson [redacted]
Sent: Wednesday, August 04, 2010 4:19 AM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

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- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Mr. Art Wilkinson
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of pauline wolf [redacted]
Sent: Wednesday, August 04, 2010 1:55 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

- develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

- develop an alternative that evaluates using wetland restoration as a primary tool for flood management - this evaluation should consider various levels of wetland restoration, including restoring 100,000 acres and 250,000 acres; and

- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Ms. pauline wolf
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Ellen Woodruff [redacted]
Sent: Wednesday, August 04, 2010 4:20 AM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

- develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

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- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Mrs. Ellen Woodruff
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Ran Zirasri [redacted]
Sent: Wednesday, August 04, 2010 11:55 AM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

- develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

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- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Miss Ran Zirasri
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of heidi lynn ahlstrand [redacted]
Sent: Thursday, August 05, 2010 10:57 AM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 5, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

- develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

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- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Ms. heidi lynn ahlstrand
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Mary Ann Dailey [redacted]
Sent: Thursday, August 05, 2010 2:50 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 5, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

- develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

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- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Ms. Mary Ann Dailey
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Deb Ellis [redacted]
Sent: Thursday, August 05, 2010 3:50 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 5, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

- develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

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- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Ms. Deb Ellis
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Robert Fitzgerald [redacted]
Sent: Thursday, August 05, 2010 9:20 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 5, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Mr. Robert Fitzgerald
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Gretchen Goodman [redacted]
Sent: Thursday, August 05, 2010 12:26 AM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 5, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

- develop an integrated, basin-wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

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- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Ms. Gretchen Goodman
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Rebecca Hall [redacted]
Sent: Thursday, August 05, 2010 1:57 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 5, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

- develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

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- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Mrs. Rebecca Hall
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Kirk Johnson
[redacted]
Sent: Thursday, August 05, 2010 11:20 PM
To: Snyder, Aaron M MVP
Subject: alternative for flood control in the Red River basin

Aug 5, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

- develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

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Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Mr. Kirk Johnson
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of clayton knoshaug [redacted]
Sent: Thursday, August 05, 2010 7:26 AM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 5, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

- develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

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- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Mr. clayton knoshaug
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Ed Kouba [redacted]
Sent: Thursday, August 05, 2010 10:20 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 5, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Mr. Ed Kouba
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Justin Maddox [redacted]
Sent: Thursday, August 05, 2010 1:27 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 5, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Mr. Justin Maddox
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of karen merrill [redacted]
Sent: Thursday, August 05, 2010 3:49 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 5, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

- develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

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Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Mrs. karen merrill
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Craig Olawsky [redacted]
Sent: Thursday, August 05, 2010 2:49 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 5, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Mr. Craig Olawsky
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Rose Palm [redacted]
Sent: Thursday, August 05, 2010 1:27 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 5, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Ms. Rose Palm
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Judi Poulson [redacted]
Sent: Thursday, August 05, 2010 5:56 AM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 5, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

- develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

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- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

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Sincerely,

Ms. Judi Poulson
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of carol schaaf [redacted]
Sent: Thursday, August 05, 2010 9:57 AM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 5, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Ms. carol schaaf
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Debra Schmid [redacted]
Sent: Thursday, August 05, 2010 12:27 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 5, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Ms. Debra Schmid
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of maggie shermock [redacted]
Sent: Thursday, August 05, 2010 8:50 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 5, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Ms. maggie shermock
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Kristi Tillery
[redacted]
Sent: Thursday, August 05, 2010 8:26 AM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 5, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Ms. Kristi Tillery
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Josey Warren [redacted]
Sent: Thursday, August 05, 2010 11:27 AM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 5, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

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Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Dr. Josey Warren
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Lynne Banta [redacted]
Sent: Friday, August 06, 2010 2:21 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 6, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

- develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

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Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Ms. Lynne Banta
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Deanna Jessup [redacted]
Sent: Friday, August 06, 2010 7:51 AM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 6, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

- develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

- develop an alternative that evaluates using wetland restoration as a primary tool for flood management - this evaluation should consider various levels of wetland restoration, including restoring 100,000 acres and 250,000 acres; and

- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Ms. Deanna Jessup
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Michael Merenda [redacted]
Sent: Friday, August 06, 2010 10:22 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 6, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

- develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

- develop an alternative that evaluates using wetland restoration as a primary tool for flood management - this evaluation should consider various levels of wetland restoration, including restoring 100,000 acres and 250,000 acres; and

- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Mr. Michael Merenda
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Gary Rehmann [redacted]
Sent: Friday, August 06, 2010 11:52 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 6, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

- develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

- develop an alternative that evaluates using wetland restoration as a primary tool for flood management - this evaluation should consider various levels of wetland restoration, including restoring 100,000 acres and 250,000 acres; and

- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Mr. Gary Rehmann
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Barbara Stamp[redacted]
Sent: Friday, August 06, 2010 2:51 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 6, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

- develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

- develop an alternative that evaluates using wetland restoration as a primary tool for flood management - this evaluation should consider various levels of wetland restoration, including restoring 100,000 acres and 250,000 acres; and

- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Ms. Barbara Stamp
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Janette Yaeger[redacted]
Sent: Friday, August 06, 2010 7:52 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 6, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

- develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

- develop an alternative that evaluates using wetland restoration as a primary tool for flood management - this evaluation should consider various levels of wetland restoration, including restoring 100,000 acres and 250,000 acres; and

- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Ms. Janette Yaeger
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Andrew Cook [redacted]
Sent: Saturday, August 07, 2010 1:54 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 7, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

- develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

- develop an alternative that evaluates using wetland restoration as a primary tool for flood management - this evaluation should consider various levels of wetland restoration, including restoring 100,000 acres and 250,000 acres; and

- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Mr. Andrew Cook
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Peter Glick
[redacted]
Sent: Saturday, August 07, 2010 2:24 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 7, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

- develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

- develop an alternative that evaluates using wetland restoration as a primary tool for flood management - this evaluation should consider various levels of wetland restoration, including restoring 100,000 acres and 250,000 acres; and

- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Mr. Peter Glick
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Julie Nevill [redacted]
Sent: Saturday, August 07, 2010 12:22 AM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 7, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

- develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

- develop an alternative that evaluates using wetland restoration as a primary tool for flood management - this evaluation should consider various levels of wetland restoration, including restoring 100,000 acres and 250,000 acres; and

- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Ms. Julie Nevill
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Mitchel Pilipovic [redacted]
Sent: Saturday, August 07, 2010 4:54 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 7, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

- develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

- develop an alternative that evaluates using wetland restoration as a primary tool for flood management - this evaluation should consider various levels of wetland restoration, including restoring 100,000 acres and 250,000 acres; and

- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Mr. Mitchel Pilipovic
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of James Rickard [redacted]
Sent: Saturday, August 07, 2010 5:53 AM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 7, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

- develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

- develop an alternative that evaluates using wetland restoration as a primary tool for flood management - this evaluation should consider various levels of wetland restoration, including restoring 100,000 acres and 250,000 acres; and

- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Mr. James Rickard
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Gerry Winter [redacted]
Sent: Saturday, August 07, 2010 12:52 AM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 7, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

- develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

- develop an alternative that evaluates using wetland restoration as a primary tool for flood management - this evaluation should consider various levels of wetland restoration, including restoring 100,000 acres and 250,000 acres; and

- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Mr. Gerry Winter
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Shary Bozied [redacted]
Sent: Sunday, August 08, 2010 2:26 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 8, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

- develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

- develop an alternative that evaluates using wetland restoration as a primary tool for flood management - this evaluation should consider various levels of wetland restoration, including restoring 100,000 acres and 250,000 acres; and

- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Ms. Shary Bozied
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Heidi Conrad [redacted]
Sent: Sunday, August 08, 2010 7:26 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 8, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

- develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

- develop an alternative that evaluates using wetland restoration as a primary tool for flood management - this evaluation should consider various levels of wetland restoration, including restoring 100,000 acres and 250,000 acres; and

- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Miss Heidi Conrad
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Joline Gitis [redacted]
Sent: Monday, August 09, 2010 11:26 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 9, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

- develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

- develop an alternative that evaluates using wetland restoration as a primary tool for flood management - this evaluation should consider various levels of wetland restoration, including restoring 100,000 acres and 250,000 acres; and

- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Ms. Joline Gitis
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Stephanie Lof [redacted]
Sent: Tuesday, August 10, 2010 5:58 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 10, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

- develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

- develop an alternative that evaluates using wetland restoration as a primary tool for flood management - this evaluation should consider various levels of wetland restoration, including restoring 100,000 acres and 250,000 acres; and

- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Miss Stephanie Lof
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Ingrid Roed [redacted]
Sent: Tuesday, August 10, 2010 4:27 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 10, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

- develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

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- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Mrs. Ingrid Roed
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Juliann Rule [redacted]
Sent: Tuesday, August 10, 2010 11:57 AM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 10, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

- develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

- develop an alternative that evaluates using wetland restoration as a primary tool for flood management - this evaluation should consider various levels of wetland restoration, including restoring 100,000 acres and 250,000 acres; and

- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Ms. Juliann Rule
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of jeff stromgren [redacted]
Sent: Tuesday, August 10, 2010 10:57 AM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 10, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

- develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

- develop an alternative that evaluates using wetland restoration as a primary tool for flood management - this evaluation should consider various levels of wetland restoration, including restoring 100,000 acres and 250,000 acres; and

- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Mr. jeff stromgren
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of dave councilman [redacted]
Sent: Wednesday, August 11, 2010 10:30 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 11, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

- develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

- develop an alternative that evaluates using wetland restoration as a primary tool for flood management - this evaluation should consider various levels of wetland restoration, including restoring 100,000 acres and 250,000 acres; and

- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Mr. dave councilman
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Karin Cudd [redacted]
Sent: Wednesday, August 11, 2010 7:30 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 11, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

- develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

- develop an alternative that evaluates using wetland restoration as a primary tool for flood management - this evaluation should consider various levels of wetland restoration, including restoring 100,000 acres and 250,000 acres; and

- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Ms. Karin Cudd
[redacted]

Diaz, Jessie C MVP

From: National Wildlife Federation [NationalWildlifeFederation@nwf.org] on behalf of Brenda Nelson [redacted]
Sent: Friday, August 13, 2010 1:28 PM
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin

Aug 13, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

- develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

- develop an alternative that evaluates using wetland restoration as a primary tool for flood management - this evaluation should consider various levels of wetland restoration, including restoring 100,000 acres and 250,000 acres; and

- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Mrs. Brenda Nelson
[redacted]

From: National Wildlife Federation on behalf of Day Breitag
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin
Date: Wednesday, August 04, 2010 9:19:50 AM

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

Haven't we learned yet that channelizing and diversion is not always the answer to flooding, and is more expensive in the long run? Please promote alternatives that utilize the natural flood-control values of wetlands. Specifically, I urge you to:

- develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

- develop an alternative that evaluates using wetland restoration as a primary tool for flood management - this evaluation should consider various levels of wetland restoration, including restoring 100,000 acres and 250,000 acres; and

- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Ms. Day Breitag
[redacted]

From: National Wildlife Federation on behalf of Steve & Lynn Carnes
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin
Date: Wednesday, August 04, 2010 7:19:46 AM

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

- develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

- develop an alternative that evaluates using wetland restoration as a primary tool for flood management - this evaluation should consider various levels of wetland restoration, including restoring 100,000 acres and 250,000 acres; and

- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

The best possible solution will be one that reestablishes the natural ecosystem that was in place before we unbalanced it. I truly appreciate the need to abate the flooding, but I urge you to think creatively to find ways to restore the balance to the benefit of all the creatures that call this area home.

Thank you for caring.

Sincerely,

Mr. Steve & Lynn Carnes
[redacted]

From: National Wildlife Federation on behalf of Kyle R. Crocker
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin
Date: Wednesday, August 04, 2010 10:54:59 AM

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

Industrial agriculture in the upper midwest has already taken an enormous toll on migratory birds.

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

- develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

- develop an alternative that evaluates using wetland restoration as a primary tool for flood management - this evaluation should consider various levels of wetland restoration, including restoring 100,000 acres and 250,000 acres; and

- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Dr. Kyle R. Crocker
[redacted]

From: National Wildlife Federation on behalf of Sandy Dvorsky
To: Snyder, Aaron M MVP
Subject: NEEDED: an less destructive alternative for flood control in the Red River basin
Date: Tuesday, August 03, 2010 5:35:41 PM

Aug 3, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

The proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead would be terribly destructive to the environment. Please reconsider this proposal and evaluate less expensive, longer-term solutions.

Please take the following actions:

- develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

- develop an alternative that evaluates using wetland restoration as a primary tool for flood management - this evaluation should consider various levels of wetland restoration, including restoring 100,000 acres and 250,000 acres; and

- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

Investing huge amounts of money in an environmentally destructive project would be a terrible mistake. The potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems is high...and deserves your full focus and priority. Thank-you.

Sincerely,

Mrs. Sandy Dvorsky
[redacted]

From: National Wildlife Federation on behalf of Diane Fortney
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin
Date: Wednesday, August 04, 2010 4:19:29 AM

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

- develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

- develop an alternative that evaluates using wetland restoration as a primary tool for flood management - this evaluation should consider various levels of wetland restoration, including restoring 100,000 acres and 250,000 acres; and

- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

We know from experience that messing with mother nature by ditch diversions has NOT worked. Don't do it again!

Sincerely,

Mrs. Diane Fortney
[redacted]

From: National Wildlife Federation on behalf of Florence Gleason
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin
Date: Wednesday, August 04, 2010 3:57:57 PM

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

- develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

- develop an alternative that evaluates using wetland restoration as a primary tool for flood management - this evaluation should consider various levels of wetland restoration, including restoring 100,000 acres and 250,000 acres; and

- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

I know that the Corp has great expertise in digging ditches and building dams. I am sure you can also develop the expertise needed to find better solutions to environmental problems.
The people of Minnesota would appreciate it.

Sincerely,

Ms. Florence Gleason
[redacted]

From: National Wildlife Federation on behalf of Barbara Harvey
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin
Date: Tuesday, August 03, 2010 7:05:41 PM

Aug 3, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Historically, past risks of flooding were much lower than they are now until developers and others, including the Army Corps of Engineers, began draining and modifying this once-rich, wildlife-supporting area, eliminating much of the wildlife habitat areas as well as increasing flooding risks due to their destruction of the natural environment which once served to protect the surrounding lands from floods. Your proposed "Big Ditch" will only increase and exacerbate the problem even further, by destroying even more wildlife support and naturally-occurring grasslands and wetlands.

Specifically, I urge you to:

- develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

- develop an alternative that evaluates using wetland restoration as a primary tool for flood management - this evaluation should consider various levels of wetland restoration, including restoring 100,000 acres and 250,000 acres; and

- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Ms. Barbara Harvey
[redacted]

From: National Wildlife Federation on behalf of Lucy Knoll
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin
Date: Wednesday, August 04, 2010 4:19:53 AM

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

You to find an alternative to the proposed $1.4 billion diversion channel to divert the Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

1. develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

-2. develop an alternative that evaluates using wetland restoration as a primary tool for flood management - this evaluation should consider various levels of wetland restoration, including restoring 100,000 acres and 250,000 acres; and

3. develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

Before investing huge amounts of money in this environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Dr. Lucy Knoll
[redacted]

From: National Wildlife Federation on behalf of Corinne Livesay
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin
Date: Wednesday, August 04, 2010 4:20:14 AM

Aug 4, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

- develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

- develop an alternative that evaluates using wetland restoration as a primary tool for flood management - this evaluation should consider various levels of wetland restoration, including restoring 100,000 acres and 250,000 acres; and

- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems. WE MUST CONSIDER WILDLIFE AS IMPORTANT AS OURSELVES.

Sincerely,

Mrs. Corinne Livesay
[redacted]

From: National Wildlife Federation on behalf of Linda Peck
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin
Date: Saturday, August 07, 2010 1:24:37 PM

Aug 7, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

Now is the time to find alternatives to the proposed $1.4 billion diversion channel which will divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

- develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

- develop an alternative that evaluates using wetland restoration as a primary tool for flood management - this evaluation should consider various levels of wetland restoration, including restoring 100,000 acres and 250,000 acres; and

- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Mrs. Linda Peck
[redacted]

From: National Wildlife Federation on behalf of LaNelle Schaffhauser
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin
Date: Thursday, August 05, 2010 7:26:34 AM

Aug 5, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

Growing up in WestFargo, ND I have experienced flooding first hand and understand the complications of finding a solution but building a channel is one that has to many negative effects for everyone.

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

- develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

- develop an alternative that evaluates using wetland restoration as a primary tool for flood management - this evaluation should consider various levels of wetland restoration, including restoring 100,000 acres and 250,000 acres; and

- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Mrs. LaNelle Schaffhauser
[redacted]

From: National Wildlife Federation on behalf of Roslyn Abramovitch Smith
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin
Date: Thursday, August 05, 2010 10:26:58 AM

Aug 5, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

- develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

- develop an alternative that evaluates using wetland restoration as a primary tool for flood management - this evaluation should consider various levels of wetland restoration, including restoring 100,000 acres and 250,000 acres; and

- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

NOTE: I live in this area of concern and hope a positive solution can be determined for both humans and all migratory birds!!

Sincerely,

Mrs. Roslyn Abramovitch Smith
[redacted]

From: National Wildlife Federation on behalf of patricia thomas
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin
Date: Friday, August 06, 2010 10:51:39 AM

Aug 6, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

- develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

- develop an alternative that evaluates using wetland restoration as a primary tool for flood management - this evaluation should consider various levels of wetland restoration, including restoring 100,000 acres and 250,000 acres; and

- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

Before investing huge amounts of money in an environmentally destructive project, PLEASE fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

You are in a position of power to affect good change. We can no longer abuse our land and water. Please, please act in the right way. Thank you for reading this and following your heart.

Sincerely,

Dr. patricia thomas
[redacted]

From: National Wildlife Federation on behalf of Dolores Vinson
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin
Date: Wednesday, August 11, 2010 3:59:41 PM

Aug 11, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

We have done this before remember and it caused terrible consequences I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

- develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

- develop an alternative that evaluates using wetland restoration as a primary tool for flood management - this evaluation should consider various levels of wetland restoration, including restoring 100,000 acres and 250,000 acres; and

- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Ms. Dolores Vinson
[redacted]

From: National Wildlife Federation on behalf of Laurie Walters
To: Snyder, Aaron M MVP
Subject: Please develop an alternative for flood control in the Red River basin
Date: Tuesday, August 03, 2010 6:05:37 PM

Aug 3, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

Please consider alternatives presented by the NWF. The environment is being destroyed in so many areas by accidents and events that are out of our control. In this case, it is possible to choose an environmentally responsible option.

I urge you to find an alternative to the proposed $1.4 billion diversion channel to divert Red River flows around Fargo and Moorhead, by evaluating less expensive, longer-term solutions. Specifically, I urge you to:

- develop an integrated, basin wide evaluation of flood damage reduction and better water management strategies before committing more than one billion dollars to the construction of "The Big Ditch";

- develop an alternative that evaluates using wetland restoration as a primary tool for flood management - this evaluation should consider various levels of wetland restoration, including restoring 100,000 acres and 250,000 acres; and

- develop an alternative that combines wetland restoration with other water retention strategies, including the "Waffle"® proposal and the Red River Basin Commission Flow Reduction Strategy.

Before investing huge amounts of money in an environmentally destructive project, I urge you to fully address the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Ms. Laurie Walters
[redacted]

Concerned Citizens of the Wild Rice Watershed District

P.O. Box 135, Ada Post Office Lower Level
Ada, MN 56510
Phone: 218-784-3900 Fax: 218-784-2013 Email: ccwrwd@loretel.net

To: US Army Corps of Engineers Headquarters St. Paul District
From: CCWRWD
Date: 07-29-2010

Subject: Norman County Board of Commissioners Resolution # CR-07-06-10-3

The Concerned Citizens at their July 28, 2010, board meeting have gone on record to fully support Norman County Board of Commissioners Resolution # CR-07-06-10-3. Please see attached copy of said resolution.

Curt Jacobson, Chairman

Curt Jacobson

Concerned Citizens of the Wild Rice Watershed District

CWRWD Board members:
(LISTED)

Curt Jacobson, Chairman

Perry Ellingson, Secretary-Treasurer

Dave Haugo, Director

Sam Larson, Director

Paul Houglum, Director

Terry Guttormson, Director

Bruce Tufte, Director

CCWRWD is a committee of AAPC Inc.

NORMAN COUNTY BOARD OF COMMISSIONERS

RESOLUTION NO. CRA-06-10-3

Commissioner Jacobson introduced the following resolution and moved it's adoption:

WHEREAS, The United States Army Corps of Engineers, (USACE) has proposed constructing flood water diversion channels around the cities of Fargo,ND and Moorhead MN.

WHEREAS, The proposed diversion channel redeposits the floodwater back into the Red River in northern Clay County of MN or Northern Cass County of ND.

WHEREAS, Norman County is situated directly north and downstream from the point at which the proposed diversion channels reenter the Red River.

WHEREAS, The proposed flood diversion channels will change the flow regime of the Red River during flood events and is estimated to cause an adverse impact of as much as seventeen inches of additional crest elevation to western Norman County.

WHEREAS, Increased flood crest of the magnitude envisioned by the USACE will adversely impact roads, bridges, utilities, farms, personal property, commerce, public safety, and personal well being to those downstream of the proposed diversion.

WHEREAS, A change in flow regime that results in adverse impacts to Norman County and its residents and or others situated downstream from the proposed diversion projects is not acceptable.

NOW THEREFORE, To preserve the interests of Norman County and its people, the Norman County Board of Commissioners do hereby go on record of opposing the FM diversion project as it is now proposed.

The motion for adoption of the forgoing resolution was duly seconded by commissioner Olson and upon vote being taken thereon, All voted in favor thereof: and None voted against the same: whereupon said resolution was declared duly passed and adopted

Adopted this 6 day of July, 2010

By: Lee Ann Hall
Lee Ann Hall, Chair

Attest: Richard Munter
Richard Munter, Auditor Treasurer

Concerned Citizens of the Wild Rice Watershed District

P.O. Box 135, Ada Post Office Lower Level
Ada, MN 56510
Phone: 218-784-3900 Fax: 218-784-2013 Email: ccwrwd@loretel.net

Board member Perry Ellingson introduced the following resolution and moved its adoption:

The United States Army Corps of Engineers, (USACE) has determined that impacts are expected north of Halstad, MN as a result of construction of the proposed Fargo Moorhead diversion.

The USACE has just recently released this information.

The USACE has not indicated to the citizens north of Halstad the magnitude of the expected impacts.

The citizens situated north of Halstad, MN are unable to determine their situation as a result of impacts of the FM diversion due to lack of information.

The USACE has set August 9th, 2010 as the deadline for public comment on the proposed FM diversion.

An August 9th, 2010 deadline does not provide sufficient time for residents situated north of Halstad to determine how the impacts of the proposed FM diversion will affect them and to submit comment.

To preserve the interests of Norman County and its people, the CCWRWD Board of Directors do hereby go on record of requesting the USACE to extend the time frame of public comment in regard to the proposed FM diversion to accommodate the needs and rights of citizens situated north of Halstad, MN

The motion for adoption for the forgoing resolution was duly seconded by board member Paul Houglum, and upon vote being taken thereon, 7 voted in favor thereof: and 0 voted against the same: whereupon said resolution was declared duly passed and adopted.

Adopted this 28th day of July, 2010

By Curt Jacobson
Curt Jacobson, Chairman

CCWRWD is a committee of AAPC, Inc.

4 August 2010

Aaron Snyder
Corps of Engineers Planner and Project Manager
190 E. 5th St., Ste. 401
St. Paul, MN 55101-1638

Dear Mr. Snyder:

This letter communicates concerns of members of the Willow Creek Homeowners Association as to plans presented by the Corps in its *Draft Feasibility Report and Environmental Impact Statement Fargo-Moorhead Metropolitan Area Flood Risk Management May 2010.*

Figure 3 of the report, "LPP Diversion Alignment," depicts the route of the proposed diversion. According to this plan, it would join the Sheyenne diversion at a point not far north of Horace and follow it to a point just south of I-94. There it would swing west of the Sheyenne diversion, thence north to cross I-94 in the area of interchange 342. This plan presents serious problems for our neighborhood, as well as all the homes and farms in the area.

1. The report does not address how the project will deal with break-out water that comes out of the Sheyenne River at just about the point where the proposed Red River diversion crosses the Sheyenne. Currently, such break-out water, after leaving the Sheyenne, is held to the west of the Sheyenne diversion; the Sheyenne diversion prevents it from following its natural drainage back to the river. Consequently, homes and farms are flooded for extended periods. The proposed Red River diversion, it appears, will only exacerbate this problem; moreover, it will bring the problem closer, and likely into, the concentration of residences in our neighborhood.

2. Drainage and flood problems in our neighborhood will become much more severe if the proposed Red River diversion is built, because the new diversion will block the egress of water north. The water that currently pools up on the west side of the Sheyenne diversion eventually flows north; it crosses I-94 when it reaches an elevation of 904 feet. The place where it crosses to move north is precisely the place where the new Red River diversion would cross I-94. This situation means that currently, flood levels in our neighborhood are essentially capped at 904 feet. With the new construction, they would go to 906 feet, a crucial and catastrophic difference.

cont.

3. Representatives of the Corps have stated at local hearings that there will be no mitigation actions or funding for localities adversely affected - that is, flooded - due to its construction of the Red River diversion. This leaves our neighborhood with the prospect of recurrent flooding induced by construction of the new diversion, with no assistance to deal with it.

4. The proposed Red River diversion appears to threaten the continued operation of interstate exchange 342. This will adversely affect all properties in the locality.

If the proposed diversion is to be built, there are alternatives for routing that would alleviate the severe problems inflicted by the current plan. For reasons unknown, the Corps has rejected a plan to route the diversion somewhat to the west of the projected route. Even if, however, the construction adhered generally to the current proposal, there are ways in which the impacts on properties in the neighborhood might be lessened.

For instance, there is no stated reason why the proposed diversion would have to depart from the Sheyenne diversion at the point where proposed and swing west, thereby stopping the northern egress of flood waters from our neighborhood. It appears that the Red River diversion might just as well follow the Sheyenne diversion across the interstate and north.

Finally, we feel it necessary to call into question the wisdom of any plan that routes a Red River diversion along the channel of the present Sheyenne diversion. There is an alarming likelihood that before construction of the Red River diversion, or worse yet, during its construction, water from the Devils Lake basin will break into the Sheyenne River drainage. Uncontrolled flows of Devils Lake water will require continuous use of the Sheyenne diversion to handle the flow. Thus construction of the Red River diversion would be disrupted, perhaps prevented. Such a contingency, increasingly likely, is not accounted for in Corps proposals, and presents the whole project with an alarming scenario.

Sincerely,

Ann Hopp, President
Willow Creek Homeowners Association
3846 Willow Rd
West Fargo, ND 58078-6700

MARK BRODSHAUG

July 27, 2010 [redacted]

Aaron M. Snyder
USACE Planner and Project Manager
180 East 5th Street, Suite 700
St. Paul, MN 55101

Dear Mr. Snyder,

I own and operate a grain farm along the route of the proposed diversion in North Dakota and serve on the Cass County Joint Water Resource District board. I support the project because I recognize the huge benefits that the proposed diversion could bring to the region. However, farmers along the route of the project, in addition to the loss of part of their farming operation, could potentially have other unnecessary negative impacts on their farms. I am writing to state my support of the project and to comment on the Draft Feasibility Report and Environmental Impact Statement.

Section 5.2 of the EIS details the project's effects on significant resources which includes socioeconomic resources. Section 5.2.3.1.9 specifically talks about existing and potential land use and impacts upon the primary current land use of farming. This section ends with the sentence "Mitigation measures would be incorporated into the final design to minimize impacts to farmland." I would like to outline several suggestions for the USACE that could minimize the negative impacts to farming from the proposed diversion and have a mitigating positive impact to remaining farmland:

- Utilize North-South or East-West alignments of the channel as much as possible to minimize diagonal crossings of farmland. Triangular shaped pieces are inefficient to farm with large equipment and waste inputs because of overlap of seed, fertilizer, and herbicides.
- Design and build the channel to carry 100 year flood flows with the surface elevation inside the channel below the outside ground elevation where possible to ensure positive drainage from surrounding farm land under most conditions.
- Design and build drainage channels outside of the spoil banks to ensure surface water can get to the diversion inlets.
- Design and build gravel roads along the diversion between bridge crossings to allow movement of local traffic and farm equipment.
- Design and build tile drainage inlets into the diversion at the locations of the surface drainage inlets to allow for development of gravity tile drainage systems into the diversion over time.
- Allow landowners to retain ownership of land not needed for the flood control or recreation parts of the project. Perhaps most of the spoil area could just have a construction easement rather than outright purchase and allow the landowners to retain ownership and use of the land after the spoil is leveled.
- USACE should get input from local farmers and township officials regarding diversion alignment, spoil location, and drainage inlet locations.

Sincerely,

Mark Brodshaug

[redacted]

Maggied, Troy MVP

From: Snyder, Aaron M MVP
Sent: Monday, August 16, 2010 1:40 PM
To: Beauchamp, Francis MVP; Maggied, Troy MVP
Subject: FW: The BIG DITCH is a bad idea for so many reasons

FYI - See below.

Aaron M. Snyder
USACE Planner and Project Manager, PMP
Chief, Project Management Branch (PM-B)
651-290-5489
612-518-0355 (Cell)
Aaron.M.Snyder@usace.army.mil

-----Original Message-----
From: National Wildlife Federation [mailto:NationalWildlifeFederation@nwf.org] On Behalf Of Carolyn C
Sent: Tuesday, August 03, 2010 5:36 PM
To: Snyder, Aaron M MVP
Subject: The BIG DITCH is a bad idea for so many reasons

Aug 3, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

Really? Have we learned nothing from the many environmental disasters of late, like KATRINA for example, on how important it is to preserve wetlands?

Do we have to wreck the environment more for another stupid quick fix?

Honestly, you need to come up with something better than this big ditch!

Wetlands are a great tool for flood management. And what about the "Waffle" proposal? The Red River Basin Commission Flow Reduction Strategy?

The big ditch is such a poorly thought out solution. You can do better!!!

Sincerely,

Ms. Carolyn C
[redacted]

Maggied, Troy MVP

From: Snyder, Aaron M MVP
Sent: Monday, August 16, 2010 1:25 PM
To: Beauchamp, Francis MVP; Maggied, Troy MVP
Subject: FW: Flood control in the Red River basin

FYI - See below.

Aaron M. Snyder
USACE Planner and Project Manager, PMP
Chief, Project Management Branch (PM-B)
651-290-5489
612-518-0355 (Cell)
Aaron.M.Snyder@usace.army.mil

-----Original Message-----
From: National Wildlife Federation [mailto:NationalWildlifeFederation@nwf.org] On Behalf Of Karen Erickstad
Sent: Thursday, August 05, 2010 1:56 AM
To: Snyder, Aaron M MVP
Subject: Flood control in the Red River basin

Aug 5, 2010

Aaron Snyder
Branch, 190 Fifth Street East, Ste. 401
St. Paul, MN 551011638

Dear Snyder,

As a North Dakota native, current Moorhead resident, and advocate of the environment and its wildlife I strongly urge you to find an alternative to the channel proposed for diverting the Red River around Fargo-Moorhead. Please consider less expensive, longer-term solutions that are less harmful to the natural landscape. Instead of spending more than one billion dollars to construct what is simple a gigantic ditch, I urge you to:

- develop an integrated, basin-wide evaluation of flood damage reduction

- design better water management strategies

- develop an alternative plan that utilizes wetland restoration as a primary tool for flood management **This would be a "win-win"
solution it would control flooding and restore precious wetlands that have been lost due to development along the Red River**

Rather than investing vast sums of money in an environmentally destructive project that will destroy the natural landscape and thereby the natural habitats of a variety of plant and animal species, please evaluate the potential for flood damage reduction through strategic water storage in the form of wetland restoration, waffling, and other water retention systems.

Sincerely,

Miss Karen Erickstad
[redacted]

US Army Corps of Engineers
Headquarters
St. Paul District
190 fifth street east
St. Paul, MN. 55101-1638

Dear Sirs,

This letter is in reference to the proposed Red River Diversion being studied and planned by the United States Army Corp of Engineers around the Fargo-Moorhead area.

Recently, local FM area officials were in Washington, D.C. testifying in favor of building the diversion as well as lobbying for federal financing. It was reported in the local news media that those lobbying for the diversion were reported as testifying that everyone was in favor and on board with the building of the FM area diversion. This is blatantly not true.

There was no representation from downstream interests:
* Hundreds of people owning thousands of acres of the most productive land in world were not allowed to be in attendance to tell how their property will be ruined for ever as the excess water will erode and destroy land and keep farmers out of the fields for weeks, possibly months making timely planting impossible.
* Thousands of small town residences were not invited to tell how even just the talk of the FM diversion has already had a negative affect on their home values,
-that they feel their homes soon will be unsalable if they are not already, how their towns will be cut off from commerce for 6 weeks of more because of the added water
-how they may lose their entire town to the excess water being dumped on them when they are already fighting high water
-how they will lose their small business' how they will lose their churches because of people leaving and no new families looking to relocate there as they used too to raise their kids in a small town atmosphere.
-and how they will be cut off from emergency services for weeks on end.
* The local school district was not allowed to be in attendance to testify how more water equates to unsafe conditions for the children and more days of no school due to high flood waters. Further putting pressure on enrollment and ever falling state aid.
* Downstream counties were not allowed to be in attendance to tell how they cant afford the added loss of infrastructure as the diversion will ruin more roads, bridge, culverts, and the like.
* Down stream townships were not invited to tell how they cant afford the similar damage the counties will be experiencing.
* People who are in Northwestern Clay County and Northeastern Cass County were not invited and feel totally unrepresented as none of their issues were brought forward.
* Grand Forks, ND and East Grand Forks, MN were not allowed to speak of the concerns that the FM diversion allows less freeboard of their recent flood prevention efforts.
* Experts on retention, detention, gated storage to slow water (water that causes the flooding) and other such less expensive measures that can benefit the entire Red River Valley were not allowed to be in attendance.

These are some but not all the reasons hundreds, if not thousands of people down stream feel left out, run over, and that the group that testified in Washington, D.C. were very disingenuons when they testified that "everyone" was in favor of the FM diversion, whether it be built in North Dakota or Minnesota.

Recently, Norman County unanimously passed a resolution against the proposed FM diversion. Soon many small towns, townships, EDA's, and a school district have indicated to me, they will pass similar resolutions.

I attended the first meeting offered about the diversion. I asked if there was a down stream impact study done and if so, what did it reveal. Craig Evans answered and told the crowd there was no such study done, nor did he see the need for one because as the water hits the mouth of the diversion , it has a tendency to disperse rapidly and he and the corp saw no reason to do a study. (I would like to request a copy of the tape of that meeting) since then your position has morphed to 17 inches. I don't believe you have hit the number it will reach yet. Have you taken into affect what the man made or nature made release of Devils Lake water will do to the area down stream of the Sheyenne? Probably another 17 inches of more. Have you studied what these two events will do to the Grand Forks and East Grand Forks flood prevention measures? Please, make this part of your study down stream.

Its unconscionable to me how a government agency, such as the USACE can build a 2 billion-dollar project that will ruin hundreds of thousands of dollars of donwstream infrastructure, commerce, farmland and homes. It surreal to me how you can be commissioned to ruin peoples homes, business, farms, and way of life. Especially when retention, gated storage, etc has not been fully implemented. This diversion is the biggest waist of taxpayer money in history.

I am an affected downstream landowner, taxpayer, member of Long Term Flood Solutions Committee of the Red River Basin Commission, member of the Concerned Citizens of the Wild Rice Watershed, as well as just a very concerned citizen of this community of which this diversion will kill.

Sincerely,

Terry Guttormson

[redacted]

July 12, 2010

Aaron M. Snyder
USACE, St. Paul District
180 5th St. E. Suite 700
St. Paul, MN 55101-1678

Dear Aaron,
I e-mailed the enclosed request for an extension to you and it seems the e-mail address I used is undeliverable.

We would greatly appreciate an extension to the end of September if possible. The short comment time, even with the two week extension is not acceptable. The USACE 1.5 billion diversion will be life changing for all of us downstream and I hope we will be shown respect for the overwhelming concerns we have. Any project this huge and with the possible ramifications to the downstream should without question allow adequate time for comments considering the changes that will be ours downstream in the future.

Congratulations on your prestigious new job. It does give me more respect for the decision making of the USACE as they chose well in appointing you for the position!

I would appreciate an e-mail of who we can now contact concerning the USACE Fargo-Moorhead Protection Project. Should we be contacting Craig Evans? We know for sure we will never have anyone who was more respectful then you to answer our e-mails in a timely manner and with good information.

Respectfully,

Diane J. Ista

[redacted]

August 2, 2010

Aaron Snyder, USACE Planner and Project Manager
180 East 5th Street, Suite 700
St Paul, MN 55101

Subject: Review of the Draft Feasibility Report and Environmental Impact Statement for Fargo-Moorhead Metropolitan Area Flood Risk Management.

Dear Mr. Snyder,

I have reviewed your subject Draft Feasibility Report and Environmental Impact Statement. Although now residing in Colorado, I am a native of the Red River Valley area and own interest in family farmland in the Hendrum-Perley area that will be impacted by the proposed Fargo-Moorhead Diversion, if constructed.

In the short time frame allowed for review, I submit the following concerns and comments:

1. The report states that downstream water quantity with a diversion will cause flood stage depth increases of 2 feet or more at the Halstad Gage, 16.7 inches near Hendrum and 10.9" at Perley. **How will the downstream impacts with increased depths of water be mitigated?**

2. I question the accuracy of the areas shown in red on Figs 39 and 41, (pages 158 & 160) that delineates additional flood area with the diversion project and existing for 50 and 100 yr events. Along the east side between Hendrum and Perley, virtually no additional flood area appears shown with stage increases of 6.8" at Hendrum and 3" at Perley for a 2 percent (50 yr) chance event. Likewise for stage increases of 10.4" at Hendrum and 5.4" at Perley for a 1 percent (100 yr) chance event, virtually no additional flood area appears shown. **What detail ground surface topography is currently available that will accurately delineate the extent of the additional flood area**

3. The report does not list downstream impacts north of Halstad, MN. **When will that area be studied and the impacts reported?**

4.Under discussion of Alternatives Considered, the Report and EIS appears much too brief on studies for a Flood Storage alternative. I only find mention of it in a short paragraph in Attachment 2, (page 12) which states in part *"Through modeling the Corps determined that the storage alternative would have low effectiveness in larger flood events, but may be helpful in small flood events"*. It would seem that this Report and EIS should have contained a much greater amount of information on what studies or models have been performed for flood storage, particularly as to where and how many tributaries and drainages; location, number, and sizes of storage reservoirs; methods of storage; storage costs vs. diversion costs, etc. **Considering that the downstream folks favor flood storage as a better alternative than a diversion, why is there not more detailed information on storage or retention alternatives?**

5. It is interesting to note that your Report and EIS cites the Final Environmental Impact Statement for the Red River Valley Water Supply Project (page 7) published by the Bureau of Reclamation, December 21, 2007. The executive summary of that report states: "*The Red River Valley faces a potential water supply crisis. Most of the people living in the Red River Valley rely on the drought-prone Red River of the North and its tributaries as their primary or sole source of water. For this reason the Project (Red River Valley Water Supply Project) is being proposed.*" **In view of that finding, why would the Army Corps of Engineers and the leaders of Fargo-Moorhead be planning a diversion project instead of water storage or retention projects? In my opinion, the proposed Fargo-Moorhead Diversion Project does not provide a solution that will help to solve <u>both floods and droughts</u>.**

Sincerely,

James H. Jacobson

James H. Jacobson, PE
[redacted]

Mailing Address:
[redacted]

FARGO DIVERSION PLAN--OBJECTIONS, REPRESENTATIONS ETC

US Army Corps of Engineers
ATTN: Aaron Snyder
190 5th St. East (PM-A)
St. Paul, MN 55101

July 14 , 2010

Aaron Snyder:

At the meeting held June 16, 2010, at Hedrum MN, I gave you some documents in regards to the above issue. I wish herein to point what and the why for those documents.

Fargo represents the diversion is in the best interest of the public. This is false. Fargo has a consistent practice of acting in an arbitrary, unreasonable, and illegal manner. Examples:

City of Fargo, Cass County v. Harwood Township, 256 N.W. 2d 694 (1977), the State Supreme Court held that [Fargo/Cass County] had no more right than any other corporation to condemn property.

Litten v. City of Fargo, 294 N. W. 2d 628 (1980), the State Supreme Court held that [Fargo] a home rule city does not have the authority to select any form of government it may desire.

Wild Rice River Estates v. City of Fargo, 705 N. W. 2d 850 (2005) Fargo was accused of "tortious interference with contract" and bad faith "to prevent construction on Wild Rice's previously platted real property during unsuccessful attempt to secure Federal funding to purchase Wild Rice's real property at a lower price (a price without need for compensation for new construction).

Sauby v. City of Fargo, 747 N. W. 2d 65, (2008) the Supreme Court [in answer to a certified question from the U.S. District Court], held that [Fargo] could not impose penalties, for non-criminal traffic offenses, that exceeded state statutory limits on penalties for equivalent offenses. Based on that decision, the U.S. District Court ordered the City of Fargo to refund million(s) of dollars illegally collected.

State of South Dakota v Ubbelohde, [US Army Corps of District Engineer, Omaha District] 330 F. 3d 1014 (8th Cir. 2003). The Court noted that the government [US Army Corps] "must represent the interests of all of its citizens". ***Id.*** page 1025. The Fargo Diversion plan does not do that. As the Plan represents, it actually doesn't even represent the interest of those it is proposed to represent. E.g., the diversion will not eliminate flood risk. The city will continue to have to use "emergency flood measures" .

As I pointed out, deepening the Red River channel is an option that will benefit all

citizens. I also informed you of the Colorado River project, where the federal government deepened that River. The case was **State of Arizona v. State of California**, 283 U. S. 423, 51 S. Ct. 522 (1931) [Boulder Canyon Project Act-43 U.S. C. A. sections 617-617t-42 Stat. 171]. I note that the "navigability of river" and the Cities proposal of diversion, could raise an issue. ***Cf.*** **Bonelli Cattle Co. v. State of Arizona**, 414 U. S. 313, 94 S. Ct. 517 (1973) [Federal Government, which holds a paramount navigable servitude in the river, determined that it was too wide and shallow to permit navigation and therefore the river needed to be deepened].
The deepening of the Red River, would serve legitimate State interest, provide better and more effective flood protection to all of its citizens [North Dakota and Minnesota]. The Red River simply is not large enough to handle the waters of all the rivers, streams, creeks and ditches that drain into it.

I am unsure whether the proposed plan, or the Corps, takes into consideration of other factors, as presented at the Hedrum meeting, e.g., that the various water districts are implementing new and larger retention facilities along the various tributaries that empty into the Red River. With them in place, it becomes questionable, that a diversion would be anything more than a waste of tax payer money. Is this wet cycle at or nearing its end? Would the Red River even flood again? Neither the Corps can predict it would, with these retention facilities in place.
Fargo, could still erect dikes and levees, whether permanent or temporary, to protect it from flooding at a far less costs. It is disputed it would cost as much as you represented to me in view of the emergency temporary dikes cost in 2009, were supposed to be 30 million.

The Plan represents that they [Fargo] has experienced flooding every year since 1993.

This in essence, admits to poor leadership, poor management, poor judgment, poor planning and poor engineering. Fargo, has continued to build in the Red River flood plain, without implementing any form of preventative flood control measures.

Fargo has known from the beginning that the Red River floods, yet fails to take affirmative permanent protective action.

In 2009, they represented it cost 30 million dollars to erect temporary dikes. If they would have built permanent dikes, since being flooded in 1993, they probably wouldn't even have costs 30 million. Now they estimate 196 million annually for flood damage. See Feasibility Study.
If this matter is taken to Federal Court, those figures will be challenged, they are most likely false and/or misleading. ***See*** cases cited above, involving the City of Fargo actions.

In sum, the Diversion Plan should be scrapped. Either deepen the Red River, to serve all citizens interest, or do nothing. Fargo has a more economical solution. Permanent dikes and levees. They've already wasted millions and millions of tax payer dollars, through their poor judgment, etc.

While I also take note to the many landowner objections, Fargo/Moorhead is not the cause of their flooding problems. By the same token, the Diversion Plan is not the solution to anyone's flood related problem It merely shifts an even greater flood problem upon those already affected by flooding, at the same time, not providing permanent flood protection for those it is alleged to be protecting. In essence, a waste of tax payer money. It will be challenged also, under the North Dakota Constitution. Said Constitution prohibits "special privileges" not accorded to all of its citizens equally. All towns, cities, citizens, would be entitled to "a diversion" to control flooding on their property.

The Diversion Plan, is simply a mentality thing. Similar to the case **State of South Dakota v. Ubbelohde**, cited above. Only looking out for their own selfish interests.

The Flooding problem is a combination of several factors. 1st the United States Government; 2nd the various water districts; 3rd, the people and finally 4th, mother nature.

The US Government, I believe it was in the 1970's, the government got the farmers to "drain their wet-lands" farm that land. This started the problem. The Water districts, continues to build large drainage ditches to "get the water off the land so it can be farmed". The people don't want any water to be allowed to stand on their land, so they either dig ditches, or tile the land, as a result it all winds up in the various rivers at the wrong time. Then of course, Mother Nature has the final say, How much! When! And the Where! We can't control that.

The Red River is simply not large enough to handle all of the water coming into it at the same time. Deepening it will alleviate the problem more adequately than diverting it, ever will. It will also provide navigation, serve the citizens interest equally and with the undertakings of the various water districts, of building water retention ponds, may eliminate any major flooding for anyone, except in times of severe rainfall. Similar to what happened in Nashville, Tennessee, receiving 13 inches in a short period of time.

I should note here, under federal law, once a river has been found to be [or have been] navigability, it always remains that way. **United States v. Appalachian Electric Power**, 311 U. S. 377, 61 S. Ct. 291 1940); **State of Arizona av. State of California**, 283 U. S. 423, 51 S. Ct. 522 (1931).

I believe the Corps should scrap the diversion plan(s) and implement a deepening of the Red River plan, to serve all citizens equally.

As I also informed you, a Federal Class action will be undertaken, by the taxpayers, to stop this diversion plan. The above Federal Court cases, will be some of the cases relied upon to do that.

Thank you! If you wish to contact me, call me at [redacted]

La Verne Koenig
[redacted]
[redacted]

Maggied, Troy MVP

From: Snyder, Aaron M MVP
Sent: Monday, August 16, 2010 1:22 PM
To: Maggied, Troy MVP; Beauchamp, Francis MVP
Subject: FW: North Dakota Diversion Project

FYI - See below.

Aaron M. Snyder
USACE Planner and Project Manager, PMP
Chief, Project Management Branch (PM-B)
651-290-5489
612-518-0355 (Cell)
Aaron.M.Snyder@usace.army.mil

-----Original Message-----
From: Glen Libbrecht [redacted]
Sent: Thursday, August 05, 2010 12:00 PM
To: Snyder, Aaron M MVP
Subject: North Dakota Diversion Project

As a landowner and farmer of rural West Fargo, I am very concerned about the proposed Red River diversion project. Some of my concerns include the overall project cost and cost overrun, local effects in my local farm community, economic cost to local governments and local business due to loss of revenue, and a lack of willingness to explore other options fully. First let me begin with a concern that is on everyone's mind; the cost.

It seems local city leaders want a North Dakota diversion at considerable more cost than a Minnesota diversion or any other alternatives. Many of these costs are associated with complicated issues that are full of unknowns. The North Dakota diversion has more rivers to cross and more environmental issues than a Minnesota diversion. These environmental issues include fish migration and shifting soil. If a Minnesota diversion will provide protection at much less cost for the community, why choose a North Dakota diversion? Why should the people of Fargo and Moorhead pay more to get the same level of protection? The larger proposed Minnesota diversion that the US Army Corps of Engineers favors is cheaper and will provide a better cost/benefit ratio for Fargo/Moorhead. Having attended several meetings, I have seen the budget numbers changed to favor a North Dakota diversion. Is the US Army Corps trying to please local officials who want a North Dakota diversion? I know Minnesota landowners and rural residents don't want this project on their side either. However, Minnesota residents are not already burdened by a different diversion project.

I have had experience with a diversion project since the early 1990's. I am still seeing the affects it has on my land more than a decade later. The Sheyenne diversion, when full, has caused water to pond in the spring on land I farm, delaying planting and drowning crops during high rainfall events in the summer. In addition to delayed planting, water standing on fields takes a toll on nutrients such as nitrogen, causing loss in fertility. These fields have to be replenished with fertilizer to bring them back to previous levels. Last year several of my neighbors were not able to get a crop planted in multiple wet fields due to water standing on land because it was unable to drain into the Sheyenne diversion. His land never flooded prior to the Sheyenne diversion project. There are no guarantees that the

proposed diversion project will mitigate any of these problems or not make any of them worse. It is easy to say that the water levels outside the diversion won't get any higher, and then amend that statement down the road. This diversion project will adversely affect more than just me or my neighbors. The negative effects of a North Dakota diversion will extend beyond my local farming community to the local city and government communities as well.

I am concerned that the US Army Corps of Engineers has not taken into consideration all of the negative economic factors and has focused too much energy on trying to come up with economic benefits. Depreciation of land values outside any diversion project is a concern for landowners. It should also be a concern for local governments. Area townships and county revenues will be reduced significantly due to the loss of thousands of taxable acres. Local communities will also lose business revenue due to the loss of farm income on those thousands of acres. This affects banks, retailers, seed companies, car and equipment dealerships and many others local businesses. This effect will be a permanent loss year after year, as compared to the few days every few years that businesses have to close their doors due to flood concerns. There are other alternatives possible that should be explored to help mitigate these negative consequences.

Local leaders should spend more time looking at other options for the FM area's flood protection. Instead of taking more than 5,000 acres of irreplaceable farmland for a diversion, Fargo can continue to build flood walls and/or levees through town as they are doing now. Relocating residents and businesses that have built too close to the river is wiser than taking our valuable farmland, which cannot be picked up and moved elsewhere. Grand Forks' model is a successful solution at a fraction of the cost. Also, retention of water upstream of Fargo has been talked about as was dry dams on the Red River tributaries. Why have local officials deemed these unacceptable? It seems to me like the local city leaders have rushed to set in stone that a diversion is their only option with total disregard for anyone else's property or livelihoods. Some members of the local commissions don't like the idea of flood walls or levees through Fargo because their backyard views of the river would be spoiled. Do you think we want to look at a mound of dirt either? There are other options out there that could help everyone and should include more than just Fargo/Moorhead.

After voicing my concerns about the proposed North Dakota diversion, I hope you can see my point of view and take time to truly consider some of the concerns I have. There are other better options for the FM area's flood protection. A North Dakota diversion of the Red River is not the right choice.

--
Glen Libbrecht

RECEIVED
JUL 2010
Division of
Ecological Resources

July 21, 2010

To Whom It May Concern:

I, Wayne Lee, am opposed to the Fargo Diversion Project. My personal feeling is that it does not provide any solutions if water is pushed onto someone else.

The USACE has not completed studies on what the downstream effect would be in areas north of Fargo.

I reside along the Wild Rice River in rural Perley, MN. If, during major flood events, the Red River does indeed rise an extra 17 inches or more at Hendrum, MN, it could hold more water back onto the Wild Rice and flood an increased number of homes and businesses than it already does now. Our county roads are flooded and destroyed to the extent that many have become impassable. If we have any extra water held back because the Red River is almost 2 feet higher, the damage costs and FEMA requests for assistance will only go higher.

Wayne Lee

[redacted]

July 14, 2010

US Army Corps of Engineers
Headquarters
St. Paul District
190 Fifth Street East
St. Paul, MN 55101-1638

RECEIVED
JUL 19 2010

Dear Sirs,

I am writing this letter to you today to express some of my concerns with the proposed FM diversion being considered here in the Red River Valley.

I'm a lifelong resident of Norman and Clay counties of Minnesota. I grew up on a farm between Felton and Borup. Over the years we had our share of flooding events. Living with high water for a couple of weeks a year was just a way of life. We were able to handle our "fair share" of whatever waters were headed our way. In 1997, my home in Ada was severely damaged by the spring flood. I had my home inundated by flood waters that threatened to wash away the city of Ada. The emotional toll on family and friends is something I'll never forget.

Now, almost 14 years later we are again worrying and wondering what the future will hold for our small communities. I manage the Perley Community Co-op in Perley, MN. Every year we are putting our lives on hold for what seems like months at a time. The last 2 flood events in 2009 and again in 2010 were the toughest on us. We have had temporary dikes built and have had permanent dikes installed on our properties. The look of defeat on the residents north of the FM area in these times is truly disheartening. Now, as we have come to the finish line on the FM diversion, we are once again faced with the promise of even higher water north of Fargo-Moorhead. We hear from different sources that the impact to us will be in the 11" to 17" range. We cannot

handle one more inch of water, let alone the threat of over a foot more of water headed our way.

Our business has suffered because of the flooding. In 2009 our temporary dikes did not get taken down until the first week of June. When you consider they were up for approximately 2 months and that we were basically shut off from the rest of the country, we lost a lot of business. Our sales at our store went from 35,000 gallons a month, down to next to nothing. About the only fuel we sold was for generators that our people had to use because we were without power. Now with the threat of even higher water, how can we possibly protect ourselves? We all realize that something has to be done, but to compound the water trouble by funneling more than our "fair share" onto us is just not right.

The communities of Kragnes, Georgetown, Perley, Hendrum, and Halstad are great places to live and work. Putting more water on us would kill these smaller communities. We need to address other issues such as water retention up and down the valley. We feel these are issues that need addressing. Our schools, businesses, and livelihoods depend on a practical solution to these problems.

Yours truly,

Craig Renfrew
Manager, Perley Comm. Co-op

August 3, 2010

US Army Corps of Engineers
Attention: A. Snyder
190 5th St. East (PM-A)
St. Paul, MN 55101

Dear Mr. Snyder,

I'm writing in regards to the alignment of the proposed Fargo Red River Diversion in the area between Interstate Highway 94 south to Horace. After viewing multiple diversion proposals, the Eastern most route, along the existing diversion, seems like the best option for flood control, without distorting the project goals.

The main goal the Diversion project is to provide flood control for the cities of Fargo and Moorhead. The idea of providing West Fargo and Horace with many more additional sections of land by moving further west is strictly a land grab by these cities and a windfall for the property owners to the east of the diversion. The Mayor of West Fargo is on record saying this would be great, not for himself, but for his great grandchildren possibly 50 or more years from now. This is not the basis of need, but strictly of Want. He admits it would be far into the future before West Fargo or Horace would need or could afford any additional development to the west, in this proposed area. The cities of Horace and West Fargo asking for the new diversion to be as far west as possible is just politicians doing their jobs hoping to make themselves look better. It is absolutely not necessary for a successful project.

The new channel should be incorporated into the existing Sheyenne diversion with the basis being, the corridor is already established and some property and easements are already in place. It would not cut Mapleton Township in two, or disrupt a whole new set of landowners. If the new diversion is moved further west, it will also put land that has not had flooding problems before at new risk to backup flooding. The proposed western routes are not necessary for the new diversion; they are only wants, not needs.

The Corp of Engineers should not support the alignment in this area to be moved west on the basis of political wants by local politicians and officials for the sake of future development and growth. This is not flood control, it's hijacking true and honest flood control with future development. To the people that have the authority on the alignment, please remember that just because you can, does not make it right, necessary, or legal to take property for future growth and development.

Your consideration of this matter would be greatly appreciated.

Thank you,

John W. Rutten

John W. Rutten

[redacted]

July 22, 2010

RECEIVED
JUL 2010

To Whom It May Concern:

As a homeowner and landowner in North Dakota along the Elm River, close to the Red River, downstream from Fargo, I am opposed to the Fargo Diversion plan as it is written.

The roads in Elm River Township go under water now in a flood event. Another 17 inches or more of water will only increase the depth of the existing water and the length of time the roads are flooded. This will present a greater hazard to the public as they travel these roads. It will also present a financial burden on the local townships and counties; and potentially taxpayers nationwide if FEMA ends up coming in with assistance.

Taxpayer dollars would be better spent holding water back in key areas, as opposed to pushing more water at a faster pace onto individuals who are already inundated.

I repeat; I am opposed to the Fargo Diversion project. It is an irresponsible use of taxpayer dollars.

Harley Scholl

Harley Scholl [redacted]

USACE-MVP-0000088039
DEIS Public and Private Comments Received

Cf: DE
Original: PM-B

United States Department of the Interior

BUREAU OF RECLAMATION
Great Plains Region
P.O. Box 36900
Billings, Montana 59107-6900

TAKE PRIDE® IN AMERICA

IN REPLY REFER TO:

GP-1000
PRJ-1.10

AUG 2 3 2010

Colonel Michael J. Price
U.S. Army Corps of Engineers
St. Paul District
190 5th St. E.
Saint Paul, MN 55101

Dear Colonel Price:

Enclosed is a letter from Mr. Douglas H. and Mrs. Margaret Sillers regarding a North Dakota diversion for the Red River. The White House forwarded this letter to the Bureau of Reclamation for response. However, Reclamation believes that the U. S. Army Corps of Engineers (Corps) is the appropriate entity to respond to flood control concerns in the Fargo, North Dakota, and Moorehead, Minnesota area.

As authorized by Congress, Reclamation recently completed an environmental document for a proposed project called the Red River Valley Water Supply project that, if constructed, would supply water to meet water quality and quantity needs of the Red River Valley. However, this proposed project would not address the Sillers' flood control concerns. Enclosed for your reference is the letter Reclamation sent to the Sillers explaining the transfer of their letter to the Corps for response.

Thank you very much for your attention to this matter. If you have any questions, please call me at 406-247-7600.

Sincerely,

Michael J. Ryan
Regional Director

Enclosures – 2

cc: See next page.

cc: Mr. Aaron Snyder
U.S. Army Corps of Engineers
St. Paul District
190 5th St. E.
Saint Paul, MN 55101

March 10, 2010

The Honorable Barrack Obama
President of the United States
The White House
Washington, D.C. 20500

Dear President Obama:

We are writing to ask that you consider supporting a North Dakota diversion for the Red River as a solution for the flooding problem in the Fargo, North Dakota and Moorhead, Minnesota area. While it is critically important that some kind of long-term flood protection be developed, the final decision must be one that is the best for all concerned.

Rationale for placing the diversion in North Dakota include:

1. Long-term, the North Dakota diversion will be less expensive.
2. The Minnesota diversion could damage the Buffalo River aquifer, which is the back-up water supply for this area.
3. The North Dakota diversion will offer protection to a larger area in northern Cass County, North Dakota, as well as to additional acres in the southern part of the county. The Minnesota diversion does not protect those areas.
4. A North Dakota diversion will improve the drainage for thousands of acres in North Dakota and will make those acres more productive.
5. North Dakota derives about 90% of the benefit from either diversion, since Minnesota does not have the same risk for flooding, because of its higher elevation, and because of the drainage and the building removal issues that have been addressed in the past.

Margaret and I have a very long history with the Red River Valley. We have farmed here for over 65 years. We are concerned about the risk that a Minnesota diversion places on the rich farm land of the entire valley and on the economy of this area. As a past Minnesota Legislator, I am also very aware of how important it is to consider flood protection, not only for Fargo-Moorhead, but for all of the farms and communities along the Red River. It is our hope that those involved with the decision-making, at every level, will take the time to understand the rationale for building the diversion in North Dakota, be sensitive to flood problems in the entire Red River Valley and make the best decision for today and for future generations.

Sincerely,

Margaret Sillers + Douglas Sillers

Margaret and Douglas H. Sillers

[redacted]

Douglas & Margaret Sillers
[redacted]

FARGO ND 580
15 MAR 2010 PM 1 L

The Honorable Barrack Obama
President of the United States
1600 Pennsylvania Ave.
Washington, D.C. 20500

20500+0001

✓#144

SG
MAR 22 2010

United States Department of the Interior
BUREAU OF RECLAMATION
Great Plains Region
P.O. Box 36900
Billings, Montana 59107-6900

TAKE PRIDE IN AMERICA

IN REPLY REFER TO:
GP-1000
PRJ-1.10

AUG 24 2010

Mr. and Mrs. Douglas H. and Margaret Sillers
5555 45th Street S.
Moorehead, MN 56560

Dear Mr. and Mrs. Sillers:

Thank you for your letter on March 10, 2010, concerning the North Dakota diversion for the Red River. The White House forwarded your letter to the Bureau of Reclamation. As authorized by Congress, Reclamation recently completed an environmental document for a proposed project called the Red River Valley Water Supply Project that, if constructed, would supply water to meet water quality and quantity needs of the Red River Valley. However, this proposed project would not address flood control concerns.

We will be forwarding your letter to the U.S. Army Corps of Engineers (Corps) in St. Paul, Minnesota. The Corps has the authority to respond to flood control concerns in the Red River Valley and the Corps' office in St. Paul has a flood control program for the Red River Valley which it actively manages.

Sincerely,

Michael J. Ryan
Regional Director

cc: U.S. Army Corps of Engineers
St. Paul District
190 5th St. E.
Saint Paul, MN 55101

STRAND FARMS

August 3, 2010

US Army Corps of Engineers
Headquarters
St. Paul District
190 Fifth Street East
St. Paul, MN 55101-1638

RE: Opposition to Fargo-Moorhead Red River Diversion channel

Dear US Army Corps of Engineers,

We as residents, property and landowners, and taxpaying citizens of Norman County are adamantly opposed to the proposed Locally Preferred Plan of the ND 35K diversion channel set forth by The United States Army Corps of Engineers. Recently released, was the information that the diversion of flood waters around the cities of Fargo and Moorhead and channeling it back into the Red River in northern Clay County of MN or northern Cass County of ND, is estimated to cause as much as seventeen inches of additional crest elevation to western Norman County.

An increased flood crest of this magnitude in addition to the predicted prolonged duration of the crest would be detrimental to our farming business. We would have 1250 acres of farmland that would be affected. The flood waters not only erode the valuable top soil and bring in undesirable weeds and diseases, but the prolonged high water levels also delay spring planting which results in lower yields and our ability to continue farming and make a profit.

We currently have a dike protecting our farmstead including our home, shop, and grain bins, but with the increased water inundated on us because of the Fargo-Moorhead Diversion, our current dike would be inadequate and the county roads and MN State Highway 75 would be closed for an extended period of time preventing access to our farm and the ability to operate our business including transporting products to market.

We are not opposed to flood protection for the cities of Fargo and Moorhead but it should not come at the expense of individuals and communities downstream. The LPP of the ND 35 K diversion channel would have a huge adverse impact on our communities, businesses, schools, farms and roads. The new information about the increased crests downstream is an example that more studying needs to be done about this proposal, and that the August 9th deadline for public comment on the Feasibility Report/Environmental Impact Statement should be extended.

Thank you for your consideration of our concerns and assistance in seeking a solution which benefits everyone.

Sincerely,

Thomas L Strand
Christine M Strand

Thomas and Christine Strand

[redacted]

May 4, 2010

Aaron Snyder
United States Army Corps of Engineers
Suite 401
190 5th St E
St. Paul, MN 55101

Dear Sir:

SUBJECT: REALIGNMENT OF FARGO DIVERSION

After I reviewed the proposed diversion channel, I found out that by changing the route 1 mile east or ½ mile east you could reduce the drainage area by about 29 sq. miles and reduce the number of inlets into the diversion by about 4 large inlets and about 6 field inlets. This change would not affect any families. There are no families living in the proposed change areas. This change would have a positive effect on downstream elevations on the Red River at Georgetown. The cost benefit for this proposal is very positive.

By using Drain 13 for the diversion, this would destroy the intent of the drain. This drain has worked very well for over 100 years. Farmers paid taxes to develop and maintain this drain and are not happy to have it taken over for another purpose. See attached map of drainage area for Drain 13. This map contains the current diversion proposal and the proposed change explained above.

I have 42 years of experience working for the NRCS (Natural Resource Conservation Services) designing and staking field drainage, working with water resource districts, surveying for design and construction of legal drains. I also have experience with construction inspection of erosion control structures. I have lived in Berlin township for the last 42 years.

I expect to receive a return message from you regarding this issue. I feel it would be appropriate to set up a meeting with yourself and the individuals affected by Drain 13. I'd like to thank you in advance for your attention regarding this matter.

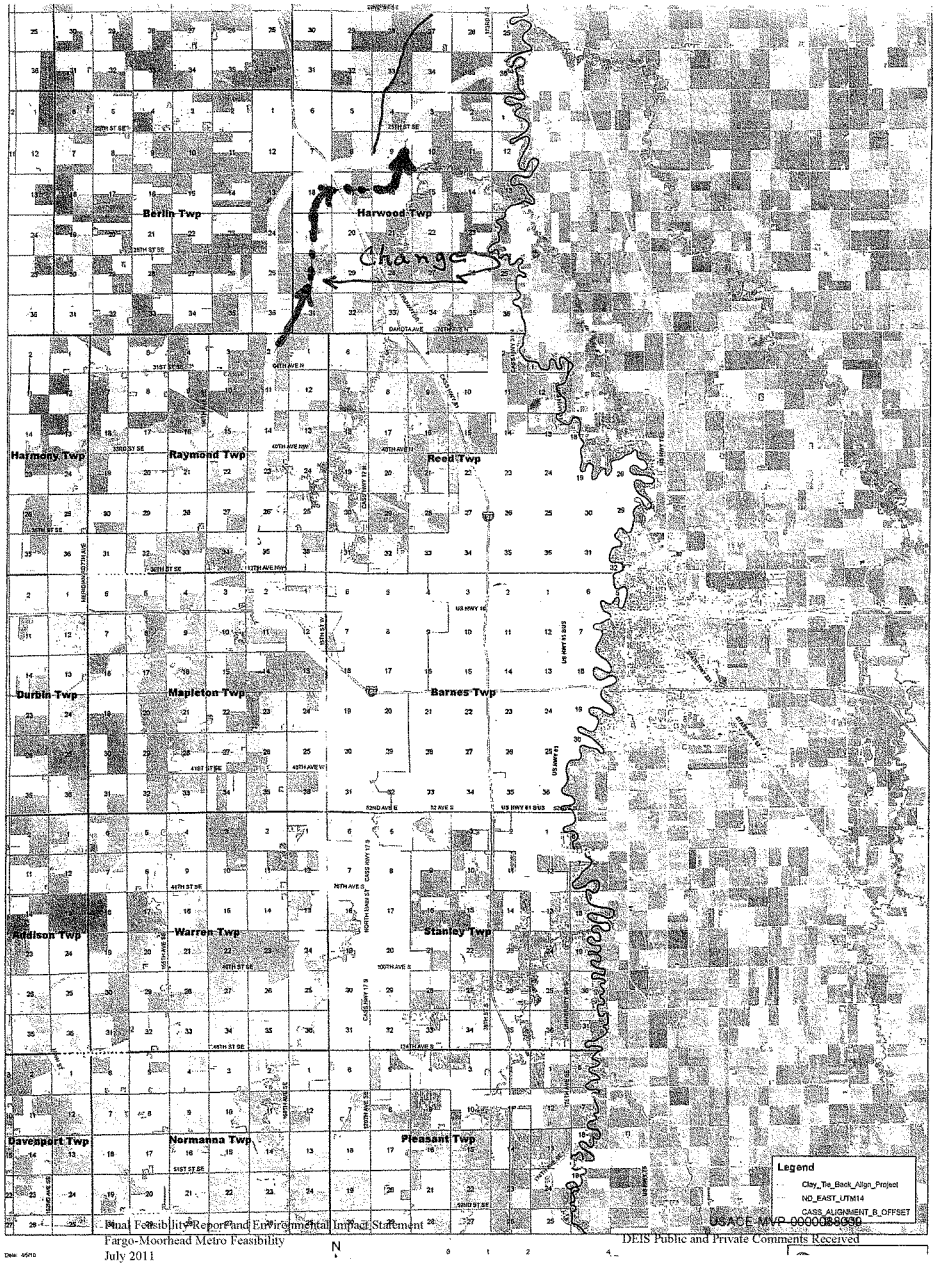
Sincerely,

Ray Wolfer

Ray Wolfer
[redacted]

cc: Craig Evans
United States Army Corps of Engineers
Suite 401
190 5th St E
St. Paul, MN 55101

Called on May 6 2010 @ 12:45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Mapleton Twp
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Warren Twp
Stanley Twp
Davenport Twp
Normanna Twp
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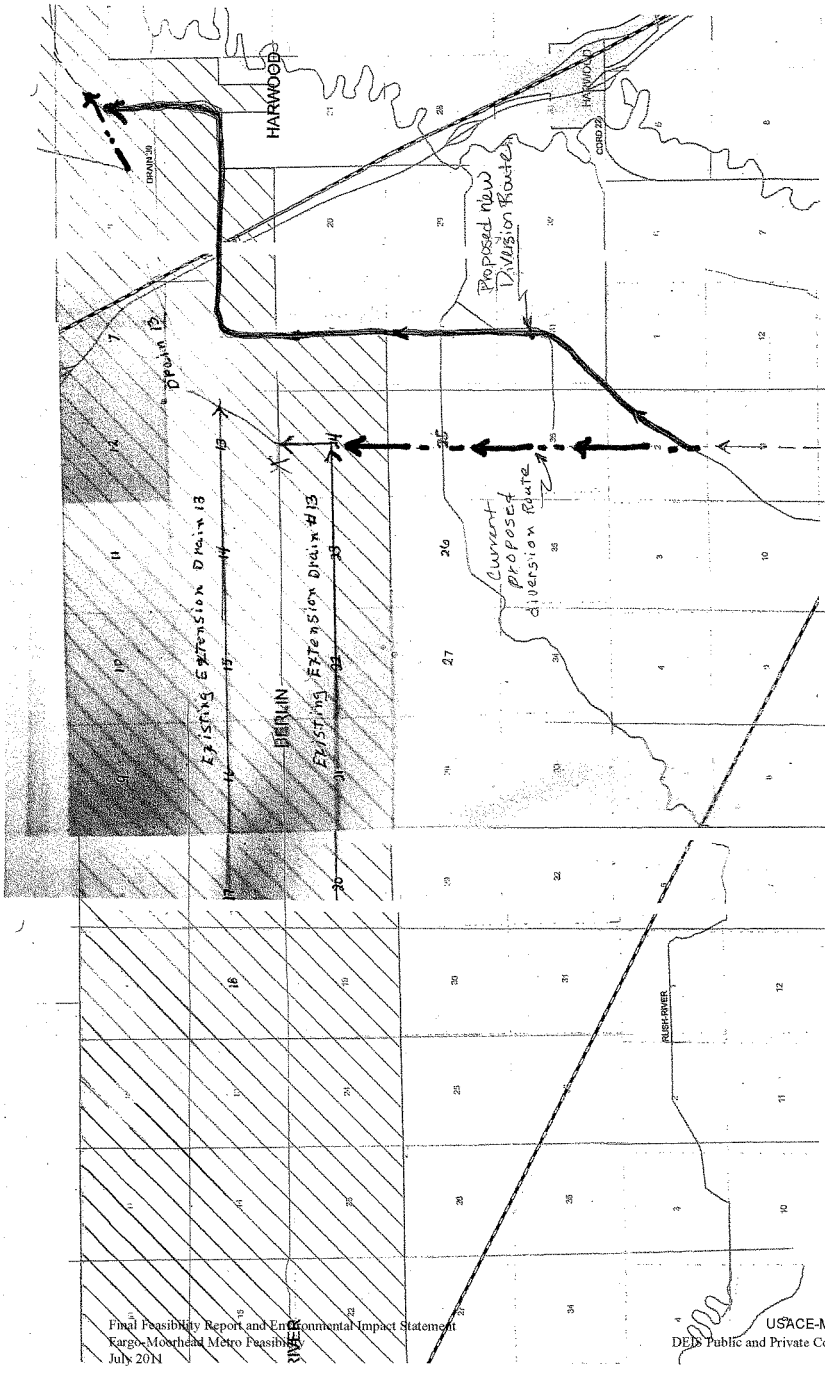
USACE-MVP-0000088030



USACE-MVP-0000088009
DEIS Public and Private Comments Received

July 8, 2010

Aaron Snyder
United States Army Corps of Engineers
Suite 401
190 5th St E
St. Paul, MN 55101

Dear Aaron Snyder,

SUBJECT: SIGNED PETITION TO MAINTAIN DRAIN 13 AS A LEGAL DRAIN

I have enclosed a copy of a petition signed by residents and landowners affected by Drain 13. The 50 signatures on this petition represent 95% of the residents living near Drain 13. These residents, along with affected landowners, are in support of maintaining Drain 13 as a legal drain. This petition is in response to the question you raised regarding support of the changes outlined in my letter sent May 2, 2010.

I would request that you enter the May 2, 2010 letter, including the proposed realignment document attached to the letter, along with this letter and signed petition as comments to the Environmental Impact Statement (EIS).

Thank you for your attention to this matter. If you have any questions or concerns, I may be contacted at [redacted] or [redacted]

Sincerely,

Raymond Wolfer

Raymond Wolfer

cc: Craig Evans
United States Army Corps of Engineers
Suite 401
190 5th St E
St. Paul, MN 55101

[redacted]

COPY

Petition to Retain Drain 13 As A Legal Drain

Petition summary and background	The plans for the ND diversion is to use drain 13 as part of the diversion.
Action petitioned for	We, the undersigned, are concerned citizens who urge our leaders to act now to retain drain 13 as a legal drain removing it from the plan to use drain 13 as part of the diversion.

Printed Name	Signature	Address	Phone	Date
DENNIS RUST	Dennis Rust	[redacted]	[redacted]	6-11-10
Larry Wipers	Larry Wipers			6-11-10
Tom Roden	Tom Roden			6/11/10
Dale Rust	Dale Rust			6/11/10
Keith Monson	Keith Monson			6/11/10
Karl Langseth	Karl Langseth			6-11-10
James Ulland	James Ulland			6-11-10
Russ Ruliffson	Russ Ruliffson			6-11-10
WAYNE HOGLUND Wayne Hoglund	Wayne Hoglund			6-11-10
Bruce Johnson	Bruce Johnson			6-11-10
David Gust	David Gust			6-11-10
DEANRUST Dean A Rust	Dean A Rust			6-11-10

USACE-MVP-00000286309
DEIS Public and Private Comments Received

COPY

Petition to Retain Drain 13 As A Legal Drain

Petition summary and background	The plans for the ND diversion is to use drain 13 as part of the diversion.
Action petitioned for	We, the undersigned, are concerned citizens who urge our leaders to act now to retain drain 13 as a legal drain removing it from the plan to use drain 13 as part of the diversion.

Printed Name	Signature	Address	Phone	Date
RAY Wolfer	Ray Wolfer	[redacted]	[redacted]	6/11/10
Dennis Kelly	Dennis Kelly			6/19/10
Charles Soroany	Charles Soroany			6/19/10
ROBERT MAIZAHN	Robert Maiz			6/19/20
HERMAN RABANUS	Herman Rabanus			6/22/10
PERRY RUST	Perry R			6-27-10
Karen Kenninger	Karen Kenninger			6-28-10
Rodney Nelson	Rodney Nelson			6-28-10
Tim Springer	[illegible]			6-28-10
[illegible]				6-28-10
Bette Krabbenhoft	Bette Krabbenhoft			6/29/10
JF KRABBENHOFT	JF Krabbenhoft			6-30-10
Nathan Ekstrom	[illegible]			6-30-10

COPY

Petition to Retain Drain 13 As A Legal Drain

Petition summary and background	The plans for the ND diversion is to use drain 13 as part of the diversion.
Action petitioned for	We, the undersigned, are concerned citizens who urge our leaders to act now to retain drain 13 as a legal drain removing it from the plan to use drain 13 as part of the diversion.

Printed Name	Signature	Address	Phone	Date
Richard L York	Richard L York	[redacted]	[redacted]	6-11/2010
Laura Eberhardt	Laura Eberhardt			6/12/10
L Hayley Pearson				6-12/10
John McConnell	John McConnell			6-12-10
Carol Nilles	Carol Nilles			6-12-10
Ken Cramer	[illegible]			6-12-10
Glen Hagemeister	Glen Hagemeister			6-13-10
Larry Gangnes	Larry Gangnes			6-13-10
DuWayne Nitschke	[illegible]			6-14-10
DALLAS LEHMAN	Dallas Lehman			6-23 10
KENT SMITH	Kent Smith			6-14-10
Donald Cramer	DONALD CRAMER			6-15-10

COPY

Petition to Retain Drain 13 As A Legal Drain

Petition summary and background	The plans for the ND diversion is to use drain 13 as part of the diversion.
Action petitioned for	We, the undersigned, are concerned citizens who urge our leaders to act now to retain drain 13 as a legal drain removing it from the plan to use drain 13 as part of the diversion.

Printed Name	Signature	Address	Phone	Date
Dan Zimmerman	Dan Zimmerman	[redacted]	[redacted]	6-15-10
Jay Zimmerman	[illegible]	[redacted]	[redacted]	6-15-10
Gene Cederberg	Gene Cederberg	[redacted]	[redacted]	6-23-10
MARK ERICKSON	Mark Erickson	[redacted]	[redacted]	6-23-10
Judy Erickson	Judy Erickson	[redacted]	[redacted]	6-23-10
Robert Eriksen	Robert Eriksen	[redacted]	[redacted]	6-23-10
Randal J Mayer	Randal J Mayer	[redacted]	[redacted]	6-26-10
Scott Verwest	Scott Verwest	[redacted]	[redacted]	6/26/10
Mark Reisenauer	Mark Reisenauer	[redacted]	[redacted]	6-26-2010
Charles Jones	Charles Jones	[redacted]	[redacted]	6-27-2010
Jared McKinnon	Jared McKinnon	[redacted]	[redacted]	6-28-2010
Carl R. Peterson	Carl R. Peterson	[redacted]	[redacted]	6-29-2010

August 8, 2010

Aaron Snyder
United States Army Corps of Engineers
Suite 401
190 5th St E
St. Paul, MN 55101

Dear Sir:

SUBJECT: STRUCTURES DIVERTING SHEYENNE AND MAPLE RIVERS

The structures that will be used to divert the waters from the Sheyenne and Maples Rivers into the Fargo Diversion have not been proven in temperatures that could reach 40 degrees below zero. If these structures do not operate properly, severe flooding could occur in areas that previously were not impacted by flooding. This could impact residents and result in structure and property damage.

The threat of upstream flooding from the Fargo Diversion on the two south branches of the Rush Rivers and the Rush River have not been recognized by the Corps. This is of great concern for the residents of this area.

Please address these concerns and include as comments to the Environmental Impact Statement (EIS).

Sincerely,

Raymond Wolfer

Raymond Wolfer
[redacted]

100601_Kathy Sullivan – While a permanent solution is the best option its important to inform the public of the many products on the market that can help them now. We have sold our WIPP Flood Barriers (www.wippsystem.com) to some residents already and have a GSA contract in place as well

100603_Michelle McGowan – Dear Mr. Snyder, I am writing in hopes that you will have some time to meet with me. I am a Fargo resident and a college graduate that has survived through many overwhelming water situations in this area. I have created a power point presentation as well have done extension research on the possibilities of the water solution. Please feel free to email me or call me at your earliest convenience, I am the Secretary/Treasurer of my district and am also very concerned about the issue. Thank you for your time; as I look forward to hearing from you Sincerely, Michelle M

100610_Matt Chambers – It is distracting that most of the maps are at slightly different scales and positions. Maps are useful for making side-by-side comparisons (or back and forth in a PDF). Similar maps could have easily been aligned and scaled appropriately to make study and analysis of the PDF easier.

100611_Scott Beaton – Why do you now list wildlife habitat, and wetlands development as one of the goals of the diversion project, along with recreation and repairing the riparian habitat along different rivers? This has nothing to do with flood control and looks like a way to buff up your plan to help make your case better for congress.

100706_Tom and Rachelle Schmitz - We are looking into possibly buying a property in Christine, ND. The address is [redacted]. We want to know if any new diverson plans will affect that area as far as flooding, dike structures, etc.

100707_Jeffrey R. Davis (BIA) – I have no comments to add to the Draft Feasibility Report and Environmental Impact Statement (DEIS) for the Fargo-Moorhead Metropolitan Flood Risk Management project.

100709_James Jacobson – Question- Do the 10yr, 50yr and 100yr flood areas as delineated on Figs 37, 39 and 41 include a similar yr type flood event also occurring at the same time on the MN Wild Rice, Buffalo and other tributaries of the Red River? I would like a copy of this subject feasibility study for the Fargo/Moorhead Diversion. Thank you.

100723_Ron Gotteberg – As a resident of Halstad, MN I would like to express my concerns of what effects the currently planned Fargo/Moorhead Red River Diversion will have on our communities. Additional protection and in writing agreements have to be in place with the downstream communities prior to any approval of a diversion. ? I could give us up to seventeen (17) inches of additional water during peak flooding events. ? It will increasing the flow of the Red River during what would have been moderate flooding and will now causes major flooding problems. ? Highway 75 will be closed sooner and possibly longer with increased levels of water causing more damage to the roadway. When Highway 75 is closed, transportation of goods and services is impaired, school need to be closed, fire and medical services are limited. ? County and township roads will flood more often, causing increased damages with increased costs to repair. Rural roadways that have never flooded before will now become impassable during events. ? The current levy system in Halstad will need additional improvements. We would be looking at increasing the height of highway 75 at the north and south entrances of town. We would

need additional pumping on our north levy. We would need to look at increasing the height of the levy and placing a hard surface on the top for safety. ? The rural areas would lose population with buyouts and with the frustration of fighting water year after year. This has a rippling effect to all business and residents of Halstad and Halstad Township. ? Property values will decrease. We are already noticing home sales are difficult with just the planning stage of the diversion receiving so much press. Property taxes will more than likely be increased to offset additional costs of flood protection. ? Talk of a greenway in the valley will decrease the tax base of the area. ? Retention projects that have been talked about will be very difficult to complete with having property owners unwilling to hold additional water, with all the rules and regulations necessary for such projects, and with wildlife organizations fighting such projects. As planned these projects will be a 50/50 cost share which means we spend more local dollars with no gain in reducing current levels, just money spent to offset increased levels of the diversion project

100723_Terry Guttormson – A rushed project will yield a poor product. I agree; Fargo needs flood protection. But so does the downstream communities. There are downstream areas that are being studied today, that most likely will not have an impact statement to even review before the deadline for open comment closes August 9, 2010. Retention, detention, gated storage, timed releases to lower peak flows, flow reduction models that are now available, flood walls and levies were not given anywhere near the same attention the big flush diversion has been given.
This diversion project is wrong for all the right reasons. When the diversion is built and in operation, water will hit the downstream schools, towns, townships, farms, farmsteads, farmers, and business at a time when they are already fighting high water. It will come earlier and stay longer, contrary to the modeling, which in this case does not transfer from the lab to the field. Citizens in the downstream area in their rural homes as well as entire towns will be cut off of emergency egress and emergency vehicles such as fire and ambulance travel will be impossible lending to high risk of human life.

There are alternatives to the diversion. None have been studied to the extent the diversion has been studied. If the same amount of money was spent on basin wide retention, the entire basin could benefit, including Fargo. Unlike the narrow scope of flood fighting remedy the Fargo diversion offers, a basin wide retention solution could be taxed on millions of acres and thousand more homes. There is a 20% main stem flow reduction study which in this case means 20% flow reduction on the Red River. To get to that level of reduction, the tributaries have to average approximately 35% flow reduction which not only Fargo Moorhead huge benefits, but also all the towns up and down the river from the Fargo Moorhead are, including the cities of Grand Forks, ND and East Grand Forks, MN. The author of the above mentioned flow reduction study stated that the 20% flow reduction could be pushed to as much as 30% t0 50%. Those benefits to the entire basin would be huge. Not just Fargo, but the entire basin would benefit.

Also, Fargo has in the works, plans to get water from out west, piped in from as far as the Missouri River for water needs for future growth. Why not set up a two part plan. Retain the water, not get rid of it forever with a multibillion dollar diversion. Then recharge aquifers with the retained water. Also, isn't there room for power generation from these dams that would be needed for retention? Shouldn't we explore all the above options, take our time to build a multi faceted plan to save our entire basin, save water for future growth, and possible generate some green power as well as spend less federal dollars? A rushed project will yield a poor product. Hendrum, MN

100723_Ron Gotteberg –Below is a resolution passed by the Halstad City Council. CITY OF HALSTAD RESOLUTION NO.07-19-2009 WHEREAS, The United States Army Corps of Engineers, (USACE) has

proposed constructing flood water diversion channels around the cities of Fargo, North Dakota and Moorhead Minnesota. WHEREAS, The proposed diversion channel re-deposits the floodwater back into the Red River in northern Clay County of Minnesota or Northern Cass County of North Dakota. WHEREAS, The City of Halstad is situated directly north and downstream from the point at which the proposed diversion channels reenter the Red River. WHEREAS, The proposed flood diversion channels will change the flow regime of the Red River during flood events and is estimated to cause an adverse impact of as much as seventeen inches of additional crest elevation to the City of Halstad. WHEREAS, Increased flood crest of the magnitude envisioned by the USACE will adversely impact, roads, bridges, utilities, farms, personal property, commerce and public safety to those downstream of the proposed diversion. WHEREAS, A change in flow regime that results in adverse impacts to the residents of the City of Halstad and others situated downstream from the proposed diversion projects is not acceptable. NOW THEREFORE, The Halstad City Council Members do hereby go on record of opposing the Fargo/Moorhead diversion project as it is now proposed.

100724_Paul Baukol – I am against the Fargo Moorhead Diversion Plan. I live in Hendrum, MN and this diversion will have a substantial negative impact on me, my town and all of the other affected communities downstream of the diversion. The plan has no requirement to mitigate increased crests downstream. The only remaining work or efforts defined in the plan for downstream areas is that more will be done to "Quantify downstream impacts." The study of downstream impacts is also incomplete at this stage. Downstream effects have only been projected to Halstad, MN. The reason for this is that the study has been hastily performed with new data. My concerns regarding current projected increases are that they are incomplete and quite possibly wrong due to the fact that this project has been pushed through to its current stage on incomplete analysis that has not had proper time for review. In my view, this is an incomplete plan that is being pushed forward without full consideration of how it will affect other communities, families and businesses. Flood protection for Fargo Moorhead should not come at the expense of downstream communities. At its best the Fargo Moorhead Diversion will be a hardship that downstream communities will have to bear, at its worst it will be the end of those communities.

100726_Troy Hall – I have a letter in electronic PDF form signed by my utility commission. Since this site does not appear to allow upload of electronic files, I will email it directly to Mr. Aaron Snyder. Our comments are regarding the potential impacts of a Minnesota diversion option on the Buffalo Aquifer in Clay County.

100726_Ollen Church – I am Superintendent of the Norman County West Schools. Our school district has students that live south of Georgetown all the way north to Neilsville. The flooding issue gets to be an annual event for our school district. The Moorhead/Fargo Diversion, the way it is currently proposed, will only get the water to us quicker. With the water from the Wild Rice and the Marsh Rivers joining the water from the Red, we are going to end up being the retention area that is so badly needed. You add the fact that with the increased water we will get, more of our roads will be under water, and make our job of getting our kids to school, that much more difficult. We are not opposed to the Moorhead/Fargo Diversion, as long as some type of retention is in place.

100728_Bob Pickle – I attended our recent Halstad Township Board meeting (Norman County) where a resolution was voted opposing the diversion as it is now planned. I support that resolution. Plans should be laid before the diversion goes forward to ensure that water levels are not increased downstream. I am interested in knowing whether potential water from the flooding at Devils Lake has been taken into account at all in the plans for a diversion around Fargo, or whether only more typical sources of water in

the Red River have been taken into account. The main body of the Draft Feasibility Report and Environmental Impact Statement makes no mention of water from Devils Lake.

100728_Wayne M. Hoglund – All the talk of the proposed Fargo Diversion ditch is very upsetting to me and my family. If this Fargo Diversion gets built I will have to give up part of two quarters of land that has been in the family for a long time. I do not feel it is right to have to sell it by the acre to make the land inside of the diversion saleable by the square foot. The Fargo Diversion will also take about 300 acres of land that I rent. My income from that land totally disappears forever. My day to day operations are going to also be negatively affected. Moving large farm machinery around this big ditch and having to cross long bridges to get where my cut up fields are located, will be costly and dangerous. I am told that drainage on the west side will not be negatively affected. This is the same thing people on the west side of the Sheyenne Diversion were told, yet after 17 years they still are having big problems. The downstream effects of the Fargo Diversion also are concerning me. If the people of Fargo were told that they could have up to two more feet of water coming at them without any solid plans to deal with the extra water, how anxious would Fargo be to go along with that project? I believe that is just plain morally wrong! It is my hope that people that have been supporting this Fargo Diversion would slow down and look at the negative effects and find solutions before we spend almost one and a half billion dollars on this project. It is my view that water retention, along with dikes and levees similar to the Grand Forks flood project, would be much less expensive and affect less people, except maybe people that made the poor decision to build in flood prone areas. Sincerely, Wayne M. Hoglund Landowner

100803_Tom Linnertz – Fargo, as any other community, must be responsible for the results of its actions. The plans being proposed indicate they will cause what I perceive as severe consequences for people and communities downstream. It is only reasonable and ethical to expect that as a part of this action Fargo will be held responsible monetarily for flood protection of those who will be harmed by the actions of Fargo and the Corps. A real and legal means to do this must be a part of this plan. It must be action not promises. Personally I will benefit from the ND diversion, I am in favor of the same; but [I'm not in favor] if proper just & fair compensation and protection for those outside the diversion is not a REAL part of the plan. Passing the problem to those downstream is not a solution.

100804_Anonymous – As a farmer that farms land just west of the proposed diversion as well as farming five quarters of land where the diversion will dump its water near Georgetown, I will be affected in many ways. The proposed route indicates it will incorporate into the design, legal drain 13. I complete oppose the taking of a drain that benefits a large agricultural watershed. Drain 31 has been in place for over 100 year that was paid for by tax assessments from farmers and landowners. To blatantly take the drain and use it for other purposes other than the initial intended purpose causes much uncertainty of water dynamics. No study of the entire watershed affects of using drain 13 has been presented to the public. Access will be diminished greatly by the building of the proposed Fargo Diversion. Bridges will be long and very difficult to transport our agricultural equipment across without the inevitable traffic jam half way across. We will lose a lot of rural access by dead end road and our rural township, already poorly maintained by few taxpayer dollars, will lose more tax base. Rural businesses in and around the path of the diversion, will lose access during the building of it and certainly suffer economic impact. We constantly see this with road construction projects. Agricultural land that will have the diversion water dumped on it will take longer to drain in any event that allows water to flow thru the proposed diversion. This land will flood. The area where the diversion will dump already has many legal drains that run through it and terminate at the Red River. In farming lost planting time causes yield losses. Flooding events occurring after planting cause crops to die. Farmers use crop insurance to ease their risk with regard to natural events, but in this case, if farm land that is repeatedly flooded and loss claims made

over several years, it is entirely possible that Federal Crop Insurance may deem the land uninsurable and not allow the farmer to purchase crop insurance. Should this happen, the value of the land will diminish even more. Federal Crop loss claims do occur frequently there now. In this scenario it is as possible to have the land uninsurable to happen as a 500 year flood. Downstream communities will be affected greatly. A newly released report (August 3) indicates it. Now the public comment period should be extended even longer due to the impact much further downstream. The proposed Fargo Diversion is a big mistake.

100804_Kevin Reitmeier – I own and live on a small farmstead along the red river just a few miles north of the climax area. My property ends in the red river on the west side and is separated from the highway on the east by a small creek that is also a shortcut for the Red River during higher water levels. During the past few years the flooding has been a serious concern, in the flood of 2009 my wife and I even sandbagged to ensure the safety of our home. I feel lucky to say that the river crested a few feet away from our sandbag dike. I must state that I am very much in favor of the FM area having a flood protection system, but I am very concerned with the well-being of my own home and fear that the implementation of certain proposed plans may change my home from a relatively flood safe category to a most likely in danger of flooding category. I wonder if this does become the case will there be a process in place for homeowners in my situation to have flood protection made for them as well? My fear is that people in my situation will be forgotten when calculating the expenses of this diversion project.

100805_Anonymous – The public comment period should be extended until the full impact statements are released.

100805_Glen Libbrecht – As a landowner and farmer of rural West Fargo, I am very concerned about the proposed Red River diversion project. Some of my concerns include the overall project cost and cost overrun, local effects in my local farm community, economic cost to local governments and local business due to loss of revenue, and a lack of willingness to explore other options fully. First let me begin with a concern that is on everyone's mind; the cost. It seems local city leaders want a North Dakota diversion at considerable more cost than a Minnesota diversion or any other alternatives. Many of these costs are associated with complicated issues that are full of unknowns. The North Dakota diversion has more rivers to cross and more environmental issues than a Minnesota diversion. These environmental issues include fish migration and shifting soil. If a Minnesota diversion will provide protection at much less cost for the community, why choose a North Dakota diversion? Why should the people of Fargo and Moorhead pay more to get the same level of protection? The larger proposed Minnesota diversion that the US Army Corps of Engineers favors is cheaper and will provide a better cost/benefit ratio for Fargo/Moorhead. Having attended several meetings, I have seen the budget numbers changed to favor a North Dakota diversion. Is the US Army Corps trying to please local officials who want a North Dakota diversion? I know Minnesota landowners and rural residents don't want this project on their side either. However, Minnesota residents are not already burdened by a different diversion project. I have had experience with a diversion project since the early 1990's. I am still seeing the affects it has on my land more than a decade later. The Sheyenne diversion, when full, has caused water to pond in the spring on land I farm, delaying planting and drowning crops during high rainfall events in the summer. In addition to delayed planting, water standing on fields takes a toll on nutrients such as nitrogen, causing loss in fertility. These fields have to be replenished with fertilizer to bring them back to previous levels. Last year several of my neighbors were not able to get a crop planted in multiple wet fields due to water standing on land because it was unable to drain into the Sheyenne diversion. His land never flooded prior to the Sheyenne diversion project. There are no guarantees that the proposed

diversion project will mitigate any of these problems or not make any of them worse. It is easy to say that the water levels outside the diversion won't get any higher, and then amend that statement down the road. This diversion project will adversely affect more than just me or my neighbors. The negative effects of a North Dakota diversion will extend beyond my local farming community to the local city and government communities as well. I am concerned that the US Army Corps of Engineers has not taken into consideration all of the negative economic factors and has focused too much energy on trying to come up with economic benefits. Depreciation of land values outside any diversion project is a concern for landowners. It should also be a concern for local governments. Area townships and county revenues will be reduced significantly due to the loss of thousands of taxable acres. Local communities will also lose business revenue due to the loss of farm income on those thousands of acres. This affects banks, retailers, seed companies, car and equipment dealerships and many others local businesses. This effect will be a permanent loss year after year, as compared to the few days every few years that businesses have to close their doors due to flood concerns. There are other alternatives possible that should be explored to help mitigate these negative consequences. Local leaders should spend more time looking at other options for the FM area's flood protection. Instead of taking more than 5,000 acres of irreplaceable farmland for a diversion, Fargo can continue to build flood walls and/or levees through town as they are doing now. Relocating residents and businesses that have built too close to the river is wiser than taking our valuable farmland, which cannot be picked up and moved elsewhere. Grand Forks' model is a successful solution at a fraction of the cost. Also, retention of water upstream of Fargo has been talked about as was dry dams on the Red River tributaries. Why have local officials deemed these unacceptable? It seems to me like the local city leaders have rushed to set in stone that a diversion is their only option with total disregard for anyone else's property or livelihoods. Some members of the local commissions don't like the idea of flood walls or levees through Fargo because their backyard views of the river would be spoiled. Do you think we want to look at a mound of dirt either? There are other options out there that could help everyone and should include more than just Fargo/Moorhead. After voicing my concerns about the proposed North Dakota diversion, I hope you can see my point of view and take time to truly consider some of the concerns I have. There are other better options for the FM area's flood protection. A North Dakota diversion of the Red River is not the right choice

100806_Kelli Poehls, PA Coordinator for COC Fargo-Moorhead – Please accept the following comment from the Chamber of Commerce of Fargo Moorhead, in support of the flood control project currently under review. The Chamber of Commerce of Fargo Moorhead supports building a 35K CFS diversion project that maximizes state and federal funding. The Chamber supports including mitigations of downstream impact, where an how cost-effective and feasible. The Chamber of Commerce of Fargo Moorhead is a bi-state, regional federation of nearly 1,900 private, public and non-profit sectors. Our mission is unifying and advancing business and community interests in our region. Kelli Poehls Public Affairs Coordinator Fargo Moorhead Chamber of Commerce 218.359.0511 (p) | 218.233.1200 (f)

100806_Grand Forks County Commission – Diane Knauf, Commission Chair 151 S. 4th St. P.O. Box 5294 Grand Forks, ND 58206 Phone Number: (701) 787-5671 Fax:(701) 780-8212 E-mail: dknauf@gra.midco.net To Whom It May Concern: This letter is written to you on behalf of the Grand Forks County Commission. On August 6, 2010 a motion was passed requesting the United States Army Corps of Engineers (USACE) to consider the following comments on the Fargo-Moorhead Flood Diversion proposal. The County Commission acknowledges and supports the need for the Fargo-Moorhead metropolitan area to protect itself from Red River flooding events. However, the comment timeline is preventing us from receiving all of the information necessary to form a position on mitigation for downstream impacts. Grand Forks County is requesting spatial GIS data showing the impacts of the increased crest predictions for the 100 year flood event in Grand Forks County. Specifically, a product

we could compare to FEMA's digital Flood Insurance Rate Map (FIRM). This would enable us to analyze potential impacts in more detail rather than only having information at gauging station locations. We would also like you to comment on how the increased crest numbers would affect the newly adopted FIRM map. Without this information we are unable to comment on mitigation for downstream impacts and are unable to inform the citizens of Grand Forks County how the proposed diversion would affect rural residences, agricultural property, and County infrastructure. Flood protection is critical for the entire Red River Valley. In turn, one project should not have disproportional negative impacts on others downstream. Significant private and public funding has been spent in Grand Forks County for flood protection. We only wish to protect our past investment and maintain our current level of protection. The Grand Forks County Commission is respectfully requesting the above information to analyze the real downstream impacts of a diversion, inform the residents of our County, and then provide our final input to the USACE. Thank you for your time and consideration. Sincerely, Diane Knauf Grand Forks County Commission Chair

100806_Lane Magnuson - Grand Forks County County Commision Diane Knauf, Commission Chair 151 S. 4th St. P.O. Box 5294 Grand Forks, ND 58206 Phone Number: (701) 787-5671 Fax:(701) 780-8212 E-mail: dknauf@gra.midco.net To Whom It May Concern: This letter is written to you on behalf of the Grand Forks County Commission. On August 6, 2010 a motion was passed requesting the United States Army Corps of Engineers (USACE) to consider the following comments on the Fargo-Moorhead Flood Diversion proposal. The County Commission acknowledges and supports the need for the Fargo-Moorhead metropolitan area to protect itself from Red River flooding events. However, the comment timeline is preventing us from receiving all of the information necessary to form a position on mitigation for downstream impacts. Grand Forks County is requesting spatial GIS data showing the impacts of the increased crest predictions for the 100 year flood event in Grand Forks County. Specifically, a product we could compare to FEMA?s digital Flood Insurance Rate Map (FIRM). This would enable us to analyze potential impacts in more detail rather than only having information at gauging station locations. We would also like you to comment on how the increased crest numbers would affect the newly adopted FIRM map. Without this information we are unable to comment on mitigation for downstream impacts and are unable to inform the citizens of Grand Forks County how the proposed diversion would affect rural residences, agricultural property, and County infrastructure. Flood protection is critical for the entire Red River Valley. In turn, one project should not have disproportional negative impacts on others downstream. Significant private and public funding has been spent in Grand Forks County for flood protection. We only wish to protect our past investment and maintain our current level of protection. The Grand Forks County Commission is respectfully requesting the above information to analyze the real downstream impacts of a diversion, inform the resident?s of our County, and then provide our final input to the USACE. Thank you for your time and consideration. Sincerely, Diane Knauf Grand Forks County Commission Chair

100807_Nancy Yon – To whom it may concern, I understand that comments need to be given to the Army Corps by Monday August 6, 2010. With the little information that has been provided thus far with respect to what impact the diversion will have, it is hard to know how to respond. What I do know is that my home is located ? of a mile North of the Thompson bridge, right on the red river, in Grand Forks County. My husband and I live there with our three young boys, ages 7, 6, and 3. We love our home and have enjoyed raising our children in the Thompson community. When I hear that the diversion could increase water levels by 20 inches, it is hard not to be fearful of what would happen to our home. I object to the diversion without being provided further information and I object to the very short period of time we have been given to respond with comments. We should be able to provide an educated opinion, based on all information. It makes me wonder: why the rush? Please contact me if you have any

questions about my comments above. My number at work is [redacted]. Yours sincerely, Nancy Yon Grand Forks County Assistant State's Attorney Grand Forks County resident

100806_Richard Betting – NEPA Review From what I have read recently about downstream impacts from the Red River Diversion project around Fargo/Moorhead individuals and cities will have to deal with from seven inches to more than a foot and a half of water more than they would have before the diversion project. My question is has the Corps taken into consideration the water that will be added by what is being added to the Sheyenne River from Devils Lake? Right now the Devils Lake outlet is pumping at 250 cfs and plans to for up to seven months per year, April to November. Some have suggested operating the outlet year around. In addition to the current outlet, the North Dakota congressional delegation is planning to add more water to the Sheyenne from Devils Lake, either through the East End Outlet or more from the West End Outlet. Some have suggested as much as 1000 cfs from the West. Another question concerns water quality, of course. The water in Devils Lake will degrade the Sheyenne River and water from Stump Lake will be even worse. How will water of that quality affect downstream residents, owners and users? If the Devils Lake water were not enough, has the Corps taken into consideration the addition of water through the Sheyenne bringing water from the Missouri to supply the Red River Valley Water Supply Project? Of course, that should only run when there is a drought, but what if the Red River Valley is dry and Devils Lake is still wet? Then what? How can such a project be considered without taking into consideration these possible additions?

100807_William & Mary Lisburg – The proposed route of the diversion will directly and adversely impact our farming operation and home. Two thirds of the land that we farm under the proposed route will be taken. Since the land the diversion is projected to go through is rented, we would not receive any compensation for this loss. It would put us out of business. The remaining land will be on the wrong side of the diversion. The result will be a loss in value of the property. It is possible we might not even be able to sell it if need be. Not only will it affect our present way of life but also our retirement years. It would destroy our township roads and bridges so our access route to town would be difficult and lengthy. It would be a hardship especially in the case of fire or other emergency. We just put in a ring dike around our farm home because of flooding brought on by the West Fargo diversion. We are concerned that our ring dike will not be adequate because of the proposed Fargo diversion. When the West Fargo diversion went in they said there would not be any over flow, but there have been times it has. We were never compensated for our loss of crops, i.e. income. We can't get any answers on how high the water will be on the west side of the proposed diversion so we are very concerned with the over flow impact. This diversion is being rushed through. The total impact is not known and has caused us emotional distress and anxiety before it has even begun.

100807_Anonymous – I am opposed to the diversion route to the west Side of West Fargo. The West Fargo Diversion has been a absolute success, I have the Sheyenne River in my backyard. 1. I am concerned about the impact on the WF diversion and the levels of the Sheyenne River such a diversion intercepting would have. 2. Increasing the flow will undoubtedly impact our neighbors to the north. Solutions: 1. Control the release of water into the Wild Rice and Red River by means of gates in their tributaries which collect the runoff. 2. Possibly look at diverting the Wild Rice into the Sheyenne downstream (west of I29). Restrict the flow into the Red River.

100807_Warren Strandell – This project is being pushed way too fast... and too hard. Downstream from Fargo-Moorhead shouldn't become the NEXT big flood problem. A question: Why is the Fargo-Moorhead project being designed for a 500-year flood when the Grand Forks-East Grand Forks flood protection system was designed for a 300-year flood? As a Polk County Commissioner I know that you

don't put a 48-inch culvert in the upper reaches of a ditch and a 30-inch culvert downstream. This rationale makes no sense to me.

100807_Paul. F. Biggs – I'm a 73 year old long time resident (35yrs.) residing at [redacted]. My home stayed completely dry in the flood of 97. I had approximately 6 inches of water to go before filling the lower level. According to what's forecast for a future level at Thompson my home would have been filled to the upper floors joists. I find that's unconscionable on the part of the Core of Engineers or the city of Fargo to pass that water volume downstream in order to save their own butts and or property. It should be held where it falls and released in a controlled manner as far a possible. Dikes and controlled release yes. Diversion No!

100807_Karl Langseth – The proposed Fargo diversion project is, by the Army Corps Of Engineers St. Paul office statement, the biggest project that office has ever attempted. I would venture to guess that it is also the least planned, least studied, and most quickly pushed through project in the entire ACOE history. DOWNSTREAM IMPACTS; Downstream impacts have, at public meetings, been said to be negligible. I cannot see where, by the Corps numbers, a 24.7" rise in water depth during a 10 year flood event is a negligible issue downstream from the diversion. The lives, livelihoods, and property values of numerous towns and farmers and their farmsteads is put at substantial risk with that kind of increase. I have seen nothing of the study that the Corps said was to be done on what additional depths would constitute a taking. Has that been done? The original impact study stopped at Halstad, MN. On Aug. 4, 2010 the new study about impacts further north was released. During a 50 year event a 29.4" rise in Climax, MN; 20.9" rise in Thompson, ND; as of yet unknown effects to Grand Forks, ND. How much rise in depth does it take for the Corps to say that this project is causing harm? Is the Corps willing to potentially put one of their $400 million projects just completed within Grand Forks and East Grand Forks for flood protection, in jeopardy to get this project pushed through? RURAL INFRASTRUCTURE; Nowhere in the feasibility study do I see rural infrastructure concerns addressed. Adding frequency and depth of water to the rural road system downstream and west could be catastrophic. In the cover letter to the feasibility study it is mentioned that in 2009 there were over 1000 damage sites to township roads in Cass County. I would agree with that. The township in which I reside had 36 of them. Not 1 of these sites would have been inside of and protected by this project. I fear that we would have had a greater number of sites in my township if this had been in place. Does the infrastructure outside of Fargo count for nothing and not deserve a study to determine affects upon it? Emergency travel within all affected townships whether be it from roads dead ending at the diversion, or roads flooded because of additional water being pushed on them will be adversely affected. PRESERVATION OF LAND AND HERITAGE FARMS; Property forcibly taken to construct this project will destroy farms and farm sites that have taken generations to build. The project will take over 6500 acres. People forced to sell will be paid basically the price established between a willing buyer and willing seller. The problem is most of these people will not be willing sellers and will have to buy land back to replace what was taken. Farm land is not like a house, there are always local houses for sale. In my search of the 3 largest local land brokering companies, the local newspapers, and the internet, as of 7-28-10 I can find under 1500 acres for sale in all of Cass County. This project will have the affect of artificially raising the value of any future sales substantially. That is a simple supply- demand equation. I would dare say it will be impossible for these people to make themselves whole again. There is no way for someone who loses a farm site that has been in the family for over 100 years to ever make themselves whole. ANNUAL NEGATIVE ECONOMIC IMPACTS; Negative economic impacts will occur from this project every year whether it ever sees a drop of protective water or not. Taking 6500 acres which will not need seed, fertilizer, chemical or machines to work upon them combined with the potential yearly profit upon those acres it is very easy to come up with a $20 million negative impact every year. Add that to a possible $5million negative for affected

downstream acres that suffer loss due to late planting or not planting because of additional waters being forced upon them. It becomes very easily foreseen a $25 million negative yearly impact. This will be borne basically by small rural towns and businesses. ADDITIONAL CONCERNS; West side drainage into the diversion has not been studied since the soils were found to be unstable and the depth of the project was altered to be 3 - 5 feet shallower than originally planned. The area cannot afford to have this project negatively affect West side drainage into it or take over legal established drains (Drain 13) that have been built and maintained by assessments on farmland to control drainage in defined watershed areas. It is unacceptable to have this drain taken over and potentially become non functional for its original purpose. West side drainage into the channel needs to be assured. With the soils in the area, if you dig a hole in this country it fills with water. A study of what impact a 30' deep, 36 mile long hole dug into the ground will have on the subsoil moisture and potential aquifer depletions is needed.

100808_Del Schnabel – Given the same drop in elevation, one would think the deeper the water, the faster the flow. The faster the flow, the more erosion to roads, fields, dikes, etc. Simply expressing downstream impact in how many additional inches of water is not telling the whole story. You may build a protective dike high enough, but can it withstand the additional pressure and erosion? Downstream impact should also report the additional potential of ice damage due to the crest coming higher and sooner than it would be without the diversion. It is logical to assume the sooner you get the crest, the more ice will be present and consequently the more ice damage will occur. Due to the above, it is logical to assume that damage to infrastructure - roads, power lines, phone and data cables, bridges, etc. - would be far more extensive than the expression of additional inches is telling us. The ever-changing downstream impact reports of the Fargo diversion are woefully inadequate and misleading. Are these assumptions correct? Please provide us with information pertaining to the above downstream impact concerns.

100808_Harold Brattland – The EIS may seem complete for the area of the diversion, however the effects of the project are to be literally projected to the remainder of the Red River channel,and the farms, the townships, the counties, the cities, and the economies of those areas including real estate tax bases. In effect, this EIS is ignoring the value and impacts to the region along the Red River north of the diversion construction. I grew up on the Red River between Perley and Hendrum, MN, and still am part owner of lands that was settled by my Great Grandfather. They endured the 1897 flood directly, but with changes to drainage in the basin over the last thirty years all three farmsteads along the river have been abandoned. The future holds little possibility of being able to once again placing a resident household on our land. Further, it would be foolish trying to have animals using grazing land next to the river that sustained my ancestors enterprise. And now we are told that the diversion will make floods worse by another foot or two feet!! Items of concern: 1- The design criterion for an engineering project of this scope must include a do-no-further-harm policy. I am also an old engineer that can-not understand engineers designing a flood project that MAKES FLOODS WORSE FOR EVERYONE DOWNSTREAM EXCEPT A FEW IN THE FARGO-MOORHEAD FLOOD PLAIN! THE DESIGN MUST BE CHANGED SO THAT DOWN STREAM EFFECTS ARE NEUTRAL TO DOWNSTREAM AREAS. 2- The inclusion of downstream effects in the design is needed to obtain the accurate total cost of this endeavor. A systems approach to the whole Red River Basin is needed otherwise one project will be followed by a series of additional projects to correct damage county by county, city by city, township by township, farmstead by farmstead, to the Canada border. 3- The total economic damage done by increased flooding is not included in the EIS. It seems that the idea is that it is only farm land and what could possibly hurt to have little water for a few days. In reality, there is considerable damage because it is sometimes weeks instead of days where the region is held hostage, roads are closed, working people are prevented from working, time-sensitive work can not be done, land is damaged with debris in

addition to erosion of vital rich topsoil which is a cost rarely included in the impact statement. In conclusion, there is much that is good and factual included in the EIS, however, without an accounting of the real impacts to the downstream effects on land and infrastructure, it must be rejected and sent back for expansion and rework.

100808_Anonymous – If my neighbor and I were both fighting a tremendous flood, and I alleviate some of my problems by digging a ditch from my property to his making his situation worse, two things will happen. First the sheriff will come to see me and then he would probably sue me for additional damages. It is not legal and not morally right to harm some people to help others. A diversion does not solve a flooding problem, it just moves it. The recent downstream impact numbers that were released proves severe damages and additional hardship for all of who liove north of Fargo-Moorhead. Will the impact eventually prove to threaten what Grand Forks / EGF has accomplished to lessen their flooding problems? Nothing should move forward until the impact all the way to Winnipeg is done and concrete plans are in place to totally mitigate any and all downstream impacts. Fargo-Moorhead is important to this region and needs long term flood protection. But my home and family are as equally important in my eyes.

100808_Russel & Marilyn Nelson – The diversion will harm our property. We live 2 1/2 miles south of the Thompson Bridge. In the 1997 flood we had water 8 feet deep in our barn. In 2009 the water was 4 feet deep in the barn. In 2010 the water came within an inch of covering the floor. We are VERY concerned about the impact of the Fargo/Moorhead diversion.

100808_Keith Monson – To Whom it may concern, My name is Keith Monson. My wife Jann and I live [redacted] along the Sheyenne river on [redacted]. WE LIVE INSIDE THE PROPOSED NEW DIVERSION and we are against this diversion project. The reason we are against it is because of the many unanswered questions. 1. How can you possibly mitigate the amount of water that the new Corp numbers say will be put on the downstream residents all the way to Grand Forks, and maybe beyond, who knows? 2. How can 6500 hundred acres of farm land be replaced to the farmers and at what cost and where will this land be found. 3. How can you justify taking 6500 hundred acres out of the tax base. 4. Who is and at what cost is going to maintain the project forever including the 800-1000 foot bridges (only on county roads). In our opinion this entire project is being rammed thru at a much too fast pace mainly for political reasons. We do not feel that this area can ever be flood proof. Face it, we live in the bottom of a big lake. We think that protecting the city to a safe level can be done with a retaining structures and much less expensive retention projects. I don't think the people of Fargo understand the horrible scar that this project will put on the landscape forever.

100808_Kevin Heidn – I hope this not too late, I am also sending to international water institute. Why I am opposed to the proposed Fargo Diversion. It will take away the place where my son learned how to hunt. He shot his first deer there, I was so proud. This is special place to wildlife deer, fox, coyotes, pheasants and all sorts of small animals a special place. The Native Americans must have thought this was a special place for all the artifacts we have found over the years until we realized we should just leave them were they were left. We've kept the fact of all the artifacts secret because we didn't want people out there looking around, but now we can't anymore. If this project goes through my son will never have the opportunity to show his children this special place. How can you put a value on this, how can you replace this? When you farm you learn to love and respect the land. All land has unique features; these things can never be replaced. The loose of land will greatly affect our farming operation; this will take away approximately 25 % of the land Our Family owns. How would you feel if someone would take away 25 % of you and your families earning potential for generations? Our operation will be

changed forever. Fargo has flooded for years and the city has never been lost. They put up dikes and keep the city safe and then take the dikes down. Why not leave the dikes up? Where is the common sense in that? Where are the numbers from your study showing dikes won't work? Or don't you want them to work? You talk about green space along the proposed channel. Why not keep the green space along the river where it belongs? You know that a river is the lowest part of a drainage system, there shouldn't be houses there. Where are your numbers showing the loss of income to all the farmers along the proposed path, forever? The loss to the seed dealer, the elevator, the machinery dealer, the furniture store, the car dealer, etc. when farmers have a good year, everybody has a good year. Do your numbers show the loss of tens of millions of dollars every year! We have a moral objection to taking one's own problem and passing it on to someone else. Example the Sheyenne Diversion! The poor people living on the north end (downstream) will suffer as a result of this. If this project has so much merit why not add downstream flood mitigation to it? Is funding going to be there to finish the project or will it be another Garrison Diversion? I believe a basin wide solution is needed and should be considered before a 36 mile long scare on the face of the earth is constructed . Kevin Heiden, [redacted]

100809_David Gust – I am deeply concerned about the proposed Fargo Diversion. There seems to be a rush forward without thorough review. Comment period is being cut off August 9th and the design is not final, the route is not final, and all of the effects downstream have not been calculated. There seems to be political pressure to get this project funded before Senator Byron Dorgan leaves office. This is not going through the Corp of Engineer's normal procedures. The result is a lack of concrete information about all aspects of the diversion. The Corp claims 195 million in yearly benefits yet I can't find where Fargo has spent 195 million total to fight floods. The Corp claims 13.8 million in yearly recreation benefit yet it doesn't calculate economic loss of taking 6500 acres of prime Red River Valley farmland out of production. The Metro Flood Study Work Group claims they are "concerned" about downstream impacts. They claim 50 million dollars will mitigate all impacts. Representative Colin Peterson of Minnesota says it will take 500 million to a billion dollars to counter the impacts of the Fargo diversion. None of these proposed solutions have even started the study phase. There is no funding in place and no guarantee projects could be completed before the diversion goes into operation. Impacts of up to two feet should be considered a "taking". Yet this term seems to be subjective and the USACE seems to be interpreting data to benefit the project. This project is moving forward at a break neck speed simply for political expediency. This does not properly serve our region or our country. Therefore I respectfully submit my opposition to the Fargo Diversion project. David Gust [redacted]

100809_Anonymous – More impact studies need to be done to determine the TOTAL downstream impact from the F-M Diversion. Downstream impacts need to be mitigated befor proceeding with the project. Climax residents were told, in April and May, that the impact of the diversion would be in the areas of 3", but recent news releases put that number at almost 2.5 feet. Are the recent projections correct? The Sand Hill River in Climax is also impacted by a large ditch that brings water in from the east, and backwater from the Red River, compounding our flooding. This project needs to SLOW down and the timeline for public comment advertised better and extended.

100809_Steve Jacobson – July 27,2010 US Army Corps of Engineers Headquarters St. Paul District 190 Fifth Street East St. Paul, MN 55101-1638 Subject: Farmland erosion issues as related to flooding of the Red River of the North. Sheet erosion of agricultural land has become a common occurrence in the Red River basin as a result of flooding. Sheet erosion removes the top several inches of top soil and redeposits it downstream This has resulted in adverse impacts of reduced crop production capacity, lost revenue to landowners and growers, and thereby reducing the economic vitality of communities. The

proposed Fargo Moorhead diversion is estimated to cause as much as seventeen inches of additional flood crest elevations in areas downstream of the proposed diversion. I assume this additional crest elevation, due to the Fargo-Moorhead diversion, will exacerbate the sheet erosion problem and it's associated costs. I ask that the USACE determine and quantify the costs of increased flood crest elevations due to the proposed FM diversion, in regard to farmland sheet erosion. This should be done at various crest elevations, before and after the proposed diversion, at locations downstream of the proposed diversion. Farmland sheet erosion, as a consequence of flooding, has been overlooked by many. This issue may be the the largest, in terms of cost to communities and our environment, impact of the proposed FM diversion. I look forward to your reply. Steve Jacobson [redacted] CC: MN State and Federal elected officials MN DNR MN Pollution Control MN Center for Environmental Advocacy Red River Basin Commission Red River Watershed Management Dist.

100809_Nicholas Snavely – Due to the recent findings of additional downstream impacts caused by the proposed ditch diversion around the Fargo-Moorhead area, it is imperative that the money that was proposed to be used for a ditch diversion around these towns instead be used to restore drained wetlands in neighboring ditched and drained tiled farm fields within the Red River watershed, as well as utilizing managed drainage systems in existing tile lines during the peak flooding season. This would provide the additional benefit of much needed wildlife habitat in the area and a true solution to the problem of excess water flow from upland areas surrounding the area that once had a much greater water storage capacity before ditching and tile lines were installed in agricultural fields, thus preventing the flash flooding we currently see today. Ditch diversions should be eliminated as valid alternatives, as they will likely result in pushing flooding and negative economic impacts downstream. The Wetland Restoration Alternative within the Red River watershed would have the least ecological impacts when compared to the MN 35K or ND 35K Diversion Channel Alternatives. This EIS should consider the Wetland Restoration Alternative as a valid alternative and reject diversion ditching as valid alternatives. Work towards restoring the over 95 percent of lost wetlands in the area should be a main alternative to installing a diversion ditch around these towns. This would meet the purpose and need of reducing flood risk, flood damages and flood protection costs related to the flooding in the Fargo-Moorhead Metropolitan Area. As stated in the EIS, ?The Red River basin lies within the Prairie Pothole Region, which has been dramatically affected by drainage and tillage predominantly related to this region's urban development and agriculture-based economy. According to the 1997 Minnesota Wetlands Conservation Plan, over 95 percent of the native wetlands in the Minnesota portion of the Fargo-Moorhead and upstream sub-basin have been lost. The North Dakota portion of the study area has also experienced a similar amount of lost wetlands. The resulting habitat loss has caused a dramatic decline in wetland-dependent wildlife populations. Because the Red River basin lies within a major waterfowl and shorebird migration route, the loss of permanent and seasonal wetlands has had a measurable adverse impact on migratory success.? ?Wetland restoration provides flood storage, improves water quality, and increases wildlife and recreation opportunities.? Wetland impacts in the EIS should be based on all wetlands that historically existed in the area, not on just those existing today. As previous ditch diversions and river dredging projects done by the U.S. Army Corps of Engineers in the past have shown us, it is in our best economic and environmental interest to restore wetlands that once existed in a watershed to deal with long term flooding issues, not installing ditch diversions.

100809_Two Rivers Watershed District - August 5, 2010 Aaron Snyder U.S. Army Corps of Engineers Project Manager 180 East 5th Street, Suite 700 St. Paul, MN 55101 Dear Sir: The Two Rivers Watershed District is a local unit of government authorized under Minnesota Statute 103D, with jurisdiction in Kittson, Roseau, and Marshall Counties in northwestern Minnesota. Powers of watershed districts under this statute include projects involving flood control, water quality, and water quantity. The Two Rivers

Watershed District was established in 1958 and to date has constructed several flood control projects. As an agency involved with flood control and potentially affected by the proposed Fargo Moorhead diversion, we appreciate the opportunity to provide comment on the Draft Feasibility Report and Environmental Impact Statement. We respectfully offer the following comments: 1. Significant stage increases at several downstream locations as far north as Halstad have been identified. However, numerous locations further downstream to the north of Halstad most certainly will also be impacted. The extent of downstream impacts needs to be quantified all the way to the location on the river where there will be no impacts or where impacts will be negligible. Only when this is done can there be a quantification of the cost versus benefits of the plan. 2. Because downstream areas will have higher stages after the project is constructed, we believe that water retention areas need to be constructed as a part of the project in order to mitigate the increased stages downstream. In other words, it is not acceptable to simply transfer the water that is now stored in the Fargo Moorhead floodplain to areas downstream, thereby increasing the flooding that occurs in downstream areas. The project that is constructed should have no significant impact to downstream or upstream areas. This is a basic water management guideline. The impacts of the project must be mitigated. 3. Project alternatives should be addressed. These can include projects such as impoundments, wetland restorations, or other upstream storage projects. Other types of project alternatives to consider could involve flood barriers alone or in combination with the diversion. Upstream storage options not only will help prevent flooding in the Fargo Moorhead area, it will reduce the size and cost of the proposed diversion, and could possibly provide other opportunities such as water supply in times of drought. 4. Impacts to public infrastructure such as roads and bridges needs to be quantified. In addition, impacts to agricultural and private lands also should be quantified. 5. The deadline to provide comments as we understand it is August 9, 2010. We do not feel that this is enough time for all agencies and members of the public to review the 280 page document and its appendices, digest the information contained within it, and provide well educated comments. We respectfully request that the time line to provide comments be extended. In summary, the Two Rivers Watershed District supports a diversion project only if the project includes mitigation for the negative impacts it surely will impose on others. This mitigation should include flood storage and impoundment options, or some combination of structural measures that collectively mitigate the transfer of flood damages to others. Thank you for the opportunity to provide comment. Sincerely, Dan Money District Administrator

100809_Anonymous – The proposed Fargo Diversion will remove many acres of fertile Red River Valley farm land. The intended path of this proposed diversion needs to be studied more as farmers are always uncovering Native American artifacts. This area of land was considered important to native people for hundreds of years. Thousands of acres of historical land containing information of past cultures will be lost for the proposed diversion.

100809_Tom Beaton – We are affected by your proposed diversion by loosing our farmstead It consists of our house, a heated shop, 2 large storage buildings, 2 grain bins, and another smaller storage shed. We also have a 7 row shelter belt, plus an additional 2 rows of Colorado spruce and Norway pines as a secondary tree planting. How do we or you plan to put a market value on the place that we do all of our farming operation out of? I'm 61 yrs. old and don't want to start a new building site to keep our operation going. There are no other farmsteads to buy in our area. How far do we plan to have to move? We will also loose the township road to the east to a main paved road. NOW WE ARE 5 MINUTES FROM A FIRE STATION, AFTER THAT IT WOULD BE 20 MINUTES. We would affected greatly. We would also loose 450 acres of rented farmland to the diversion. That would mean about a 20% lose of our income. That would be a significent amount to loose each year to pay our bills. Why can't Fargo put up flood walls like the city of Grand Forks did? They have about 10-15 feet more water going through their city

than Fargo does and have no problem with them Fargo is spending $24 million this year for projects that protect them to 44 ft. why spend $1.4 billion for a diversion that takes about 7000 acres of farmland from us farmers. That equeates to millions of lost income to area farmers. Alot of that money is spent in Fargo for our neccesities. To sum this upWE DO NOT WANT THE FARGO DIVERSION TO COME OUT TO THE RURAL AREA. iT IS NOT OUR PROBLEM OUT HERE. kEEP IT IN FARGO!!!!!!!!!

100809_Dale Rust – Flood control is what it is called but the Fargo diversion does not solve anything. It makes it worse. Fargo has the problem and to solve it they want to push it somewhere else and make it a bigger problem. First of all the project is way to big. The nation, Minnesota, North Dakota and the people in Cass county can not affort a project this size. This will be a unknown expense for eternity. Projects this size normally takes years to plan but this one for some reason has to to be done before we even know what it will cost. 1.5 billion is a number were are told. I would like to see a itemized list of where this number came from. Who is going to pay for all the roads that will be washed out. Who is going to pay me for my economic engine that will be affected? Who is going to pay for my lost crops? They also want to tie into Drain 13. We have been paying for this drain for years and now Fargo is just going to take it. Who is going to pay for all the bridges when they need to be replaced. I would guess this would be the landowners. This project is way to big. It benefits the people who knew when they built their homes that they were in flood plane. "Love your neighbors as you love yourself," Do unto others as you would like them to do to you". I am having a hard time living by this fundamental law of the Bible when my neighbor doesn't care about me.

100809_Allen Grasser-Grand Forks City Engineer – The City of Grand Forks offers the following comments for the EIS: ?? Grand Forks supports flood protection as a vital part of community life in the Red River Valley, including the timely completion of a project that helps to provide necessary security for the residents of the Fargo-Moorhead area. ?? The latest analysis of the F-M Area Flood Protection Project by the Corps of Engineers indicates downstream impacts to the limits of the study area that is the Thompson Station. ?? Although not defined at this time, it is likely that stage increases will occur at the Grand Forks Station. ?? The local, state and federal governments have over 400 million dollars invested in the Grand Forks/East Grand Forks flood project that needs to be protected and maintained. Currently the City of Grand Forks has a flood protection system that provides flood protection to approximately a 210-year frequency event. The City desires to maintain this 210-year frequency level of protection. ?? Identified downstream impacts need to be clarified and the appropriate mitigation be INCLUDED as part of the project and project development. ?? Downstream studies in the Grand Forks area should discuss the impacts of changes in the timing of the crest on the Red River. It should identify how those may relate to the Red Lake River crest and identify if there are increased risks for concurrent crests. Analysis should also be made regarding expected ice conditions and impacts with an accelerated crest. ?? A specific study needs to be initiated for the Grand Forks/East Grand Forks flood protection system to identify how best to maintain or increase the current level of protection. The study should include basin-wide storage, levee raises, and diversion alternatives.

100809_John Schmalenberg – We believe that Moorhead and Fargo need flood protection. The City of East Grand Forks and Grand Forks have just completed their Corp projects resulting from the devastation that occurred in 1997, so we are not insensitive to the community needs. However, we were always told, that any stage increase on the 100 year flood greater than six inches needed to be mitigated. There has been, as far as I know, no mitigation plans initiated for any of the downstream cities and the downstream stage increases have not all been modeled. I believe that the comment period should at least be left open until additional downstream modeling has been completed.

100809_Dennis J. Novacek – I am writing in opposition of the proposed Red River diversion project. I manage an agricultural based Cooperative with locactions in Harwood, west Fargo and Kindred North Daktoa. Over the last ten years our Cooprative has invested more than 16 million dollars in brick and mortar assets to gear up our faclities to handle grains, fertilizer, seed and herbicides in an efficient manor that puts this cooperative in a position to pay the best price possiable for producers grain production and offer the most competitive price on crop inputs. These investments were made, and our business model is structured, based on the number of acres farmed within our trade territory. The proposed diversion is slated to reduce the amount of agricultural land available for production, in the heart of our trade territiory, by some 6,500 acres. This reduction of critical acres would be very devastating to our Coopetatives ability to continue to offer competitive prices on grain production and Ag supplies. The proposed diversion would also split areas of land, resulting in addtitional expeses to traveltime and man hours for our spreaders and sprayers to get from one side of the diversion to the other. Based off 6,500 acres being taken out of production, I can project that our annual sales of farm inputs would be reduced by more than a million dollars. Our bushel handle of grain would drop by over 600,000 bushels per year. If you take into consideration the amount of land that would be covered with water for an extended time frame on the unprotected side of the diversion, one could estimate the amount of land taken out of production for any given year to be three to four times the 6,500 acres consumed by the channel itself. It is rather easy to calculate the negative economic devastation that the proposed diversion would have on our Coopertive and the investments made to provide a competitive market for grain production and sales of goods and services to our producers. But there are many other businesses that would be also negatively affected by these productive acres being taken out of production as well. There have been millions of dollars spent and more allocated to be spent on property buy outs along the Red River. I would think the responsible thing to do would be to follow through with those dollars invested in flood control and control the water at the river with flood walls as have been erected in Grand Forks. Respectfully; Dennis J Novacek [redacted]

100809_Stuart Johnson – I am writing to you in regards to the Fargo Diversion which will have a devastating impact to me and my family members. I have not had one good night sleep since learning of this plan which means my family hasn't either. We learned it will sacrifice almost everything that our family and four generations have worked for. Two farms completely gone and another under water and 80% of the land totally changed, millions of adult trees uprooted, wetlands carefully preserved over four generations will be wiped out, mature habitat for hundreds of different wildlife species completely removed, Indian relic searching ground never to be explored again and needless to say some of the best farmland in the world never to produce for the hungry again. With the world growing at an estimated 85 million mouths to feed every year we should be studying ways to utilize this water to increase food production instead of flooding our neighbors on the wrong side of the diversion taking even more land out of production. We have never farmed land more than two miles away in our lives - can you guarantee this to continue? Hundreds of extra hours per year spent on roads around the diversion costing tens of thousands of dollars in productivity and machinery costs per year - who pays for this? I have a relationship with this land that cannot be duplicated anywhere else with any amount of time or money spent. Our livelihood will be completely turned upside down as well as our piece of mind. One of my biggest concerns is what will happen to the aquifers. Clean drinking water is the most priceless asset we have. With my water table so close to ground level we could pollute our ground waters forever. Who would start a project of this magnitude without a long-term study on the effects of clean water which will have more of an effect on the population growth than a diversion with so many hidden costs. The rule of unintended consequences will forever change this area of the country. No young farm family will ever be able to compete and start their dream of land ownership, the great American dream I might

add, because a handful of landowners inside the diversion will trade for all the land up and down the valley for generations to come. This cannot be allowed to happen.

100809_Phil Gerla – Downstream effects of the diversion plan are critical and involve hundreds of homes and other structures, along with thousands of acres of farmland. The EIS was submitted incomplete because some of these most important data were not available until the end of July. I, and no one else, have had sufficient time to review and check the work before the end of the comment period. The comment period, therefore needs to be reopened and extended. 2. The EIS does not address problems with the current local, state, and federal regulations related to land drainage in the Red River basin. To keep up with our current wet cycle and to mitigate local flooding, ditches continue to be cleaned and improved at a rapid pace. Small culverts are being replaced by large culverts, regardless of downstream consequences. New ditches above Fargo continue to be proposed and installed. For example, a nine-mile drainage ditch through the Sheyenne sand hills is proposed as a way to mitigate a high water table in McLeod, North Dakota (population 28). Excavation on this ditch has begun. How will this, along with literally tens of thousands of other cleanouts, field scrapes, and other new ditches affect the model results and performance of the diversion? More importantly, how will downstream locations be influenced by continued expansion of drainage in the mid- to upper parts of the watershed, when combined with the diversion? 3. Recently, the conveyance of water from the Devils Lake basin was increased five-fold to 250 cfs. This is a small amount, but has the prediction of an increasingly elevated Devils Lake been included in the model and assessment? This possible continued rise in lake level will effectively decrease the storage in Ashtabula Reservoir, thereby increasing the height of the downstream flood peak. What happens downstream if Devils Lake continues to rise as it has for the last 15 years and the natural outlet is re-established? 4. Even a simple task such as carefully sizing culverts throughout the Red River basin above Fargo could help meter water and control the downstream flood peak. Has this been explored and investigated? Have the culverts even been mapped? Future conditions that consider drainage regulation and climate variability MUST be included in the model assumptions and results. Obviously, we cannot see into the future, but the uncertainty of the diversion performance and downstream effects must be reported before a risk assessment can be completed. In conclusion, the EIS as it stands is not acceptable. It was hastily written and incomplete when submitted for public comment. Phil Gerla, PhD Associate Professor of Geology and Geological Engineering University of North Dakota Grand Forks

100809_Ericka Schmidt on behalf of Henry VanOffelen and Minnesota Center for Environmental Advocacy (MCEA) - August 9, 2010 Terry Birkenstock USACE Project Manager 190 East 5th Street St. Paul, MN 55101 Dear Mr. Birkenstock: The following are comments from the Minnesota Center for Environmental Advocacy (MCEA) on the Draft Feasibility Report and Environmental Impact Statement for the Fargo-Moorhead Metropolitan Area Flood Risk Management study (DEIS). MCEA has been actively engaged in flood damage reduction and natural resource enhancement projects in the Red River basin for more than 12 years. We were a signatory on the Red River Mediation Agreement, we have been a continuous member of the Flood Damage Reduction Work Force and its Technical and Scientific Advisory Committee, and we have participated in numerous watershed-based project work teams and comprehensive planning processes. As outlined in the comments below, we do not believe the draft report is adequate under the National Environmental Policy Act (NEPA) and we have numerous concerns with the Fargo-Moorhead project (?project?). Planning Objectives: Four planning objectives were identified in the study. ? Reduce flood risk and flood damages in the Fargo-Moorhead metropolitan area. ? Restore or improve degraded riverine and riparian habitat in and along the Red River of the North, Wild Rice River (North Dakota), Sheyenne River (North Dakota), and Buffalo River (Minnesota) in conjunction with other flood risk management features. ? Provide additional wetland habitat in

conjunction with other flood risk management features, and ? Provide recreational opportunities in conjunction with other flood risk management features. The evaluation of alternatives in the DEIS focused only on the first objective listed. The alternatives selected do not measurably achieve any of the other objectives. Planning Constraints Similar to the planning objectives, the following two planning constraints were disregarded in this DEIS. ? Avoid increasing peak Red River flood stages, either upstream or downstream ? Minimize loss of floodplain in accordance with Executive Order 11988, Floodplain management Related Current Studies: The DEIS lists the Fargo-Moorhead and Upstream Feasibility Study as a current study; this study?s limited scope did not, however, evaluate flood water storage opportunities in the basin such as those on-channel and off-channel flood water detention projects being planned and constructed in Minnesota. These ?North Ottawa? type of projects have the potential to store significant quantities of flood water upstream of Fargo-Moorhead and can be planned and designed to also provide considerable natural resource benefits. Public Concerns: The public is clearly concerned about the downstream impacts of any proposed project. Addressing these concerns and providing assurances that all downstream impacts will be avoided or mitigated should be included as part of any proposed project alternative. There has not been sufficient time to evaluate the new information USACE provided and we therefore renew our request for an extension of time to comment. Hydrology: The DEIS does not explain why this study breaks from traditional flood frequency analysis and uses a ?wet? period of record based analysis. It is our understanding that this wet period approach was not used in previous studies of the region such as the Fargo-Moorhead and Upstream Feasibility study. Its use now clearly makes the benefit cost ratios higher and its use may set a precedent for evaluation of future projects. The use of the ?wet period? and its potential future application throughout the basin needs further discussion and justification in the report. While the evidence suggests that all flooding events and major flood events in particular are occurring on a more frequent basis (Figure 7) there is no assessment or analysis presented to describe the root cause or causes of this clear trend. While precipitation patterns since 1990 have contributed to this trend in flood frequency, other factors such as land use and drainage patterns are also likely to have played a role and are also likely to continue to play a role in modifying the hydrology of the basin. The study assesses the effects of the diversion if climatic conditions stay the same (i.e. ?what if it stays wet?) but makes no predictions about the effectiveness of the diversion if future drainage and land use changes continue, e.g. if subsurface tile is installed on 20, 40, or 60% of the landscape in the next 20 years. The long list of prior reports and existing projects makes it clear that the Corps of Engineers has invested a significant amount of public resources into flood damage reduction in the Red River Basin, yet significant flood damage still occurs. The preferred alternative in this study proposes another $1.4 billion expenditure but there is no discussion of the effects that future land use changes or additional drainage may have on the effectiveness of any proposed alternative. For example, a recent study conducted by the University of Minnesota suggests that tile drainage in the basin could increase water yield by 20% in April and May. This type of information must be considered in this study and avoiding, minimizing, and/or mitigating the results should be included in the evaluation of alternatives. The proposed alternatives in this study will result in significant downstream stage increases, but there is no mitigation proposed in the DEIS. For more than a hundred years, the primary approach to flood damage reduction in the Red River basin has been to increase conveyance and, in effect, move the problem downstream. The results of modeling of the various diversion alternatives in the DEIS make this fact clear. Increased conveyance around Fargo-Moorhead, and especially, the loss of floodplain storage in the North Dakota options, moves the problem downstream. It is unfortunate that mitigation for these effects is not seriously considered in the DEIS. This simply perpetuates the errors of the past and is not reasonable given our understanding of the impacts of the proposed project. The Council of Environmental Quality (CEQ) guidance titled ?NEPA?s Forty Most Asked Questions? states that: ?All relevant, reasonable, mitigation measures that could improve the project are to be identified, even if they are outside the jurisdiction of the lead

agency or the cooperating agencies. Sections 1502.16(h), 1505(c). This will serve to [46FR 18032] alert agencies or officials who can implement these extra measures, and will encourage them to do so.? Alternatives Again, more consideration needs to be given to upstream storage options. These options would better meet the stated objectives than the current preferred alternative. At a minimum, significant upstream storage similar in nature and scope to the storage that Charlie Anderson has found in the Bois de Sioux watershed to meet a 20% peak flow reduction on the mainstem of the Red River needs to be presented and evaluated in the DEIS. The DEIS should then apply this approach to all tributary watersheds upstream of Fargo-Moorhead. Environmental Effects The proposed alternatives are all likely to have significant effects on the geomorphology and sediment dynamics of the Red River. The DEIS needs to more completely assess the effects that this diversion will have on geomorphology and sediment dynamics. Experiences with diversions within the basin (e.g. Cheyenne diversion) make it clear that large changes in sediment dynamics are likely to occur. The proposed alternatives will have direct wetland impacts and merely stating that ?either alternative would include appropriate measures to minimize or mitigate potential losses to wetland areas? does not meet NEPA?s adequacy standard. Kicking the can down the road is not sufficient. The DEIS needs to tell us now what will be done to minimize or more specifically to mitigate wetland losses. The proposed alternatives will have direct impacts on fish passage and connectivity of the Red River and its tributaries. The DEIS does not adequately assess these issues. Further work is needed to describe the effectiveness of proposed fish passage mitigation measures and a more complete picture of what species are going to be affected and when critical passage issues are likely to occur. Minnesota, North Dakota, and local communities have invested a substantial amount of resources into modifying and removing fish passage barriers on the Red River and its tributaries to improve the function of the aquatic system. A new structure on the Red that acts as an effective fish barrier is a significant step backwards that must be avoided. Impassable structures on the tributaries also will result in lost functions for the aquatic system. The stream habitat losses evident in the proposed alternatives will have to be mitigated. Similar to wetland impacts, the DEIS needs to tell us now what will be done to minimize or more specifically to mitigate stream habitat losses. The locally preferred alternative (ND 35K) appears to have the most potential for significant environmental effects. If selected, this plans will limit fish passage and connectivity, have direct wetland and riverine habitat effects, and will increase stage far downstream. Thank you for the opportunity to submit these comments. We look forward to further review and comment in this process. Please feel free to contact me if you have any questions. Sincerely, Henry VanOffelen Natural Resource Scientist Minnesota Center for Environmental Advocacy 50785 Bucks Mill Rd. Detroit Lakes, MN 56501 (218) 849-5270 hvanoffelen@mncenter.org

100809_Ron Bergan – 8-9-10 I have spent a lot of time studying the diversion starting with the 2009 flood. I went along with the engineers on the bus trip to Winnipeg, attended most of the meetings and talked to many local officials, engineers, and planners who are knowledgeable about and or working on flood protection. Some of the earlier information that was generated can be seen on FMfloodcontrol.com. The diversion on the ND side is the correct answer to FM flood problems but here are some improvements that should be made to the proposed diversion: ? Move the inlet south of Oxbow. Calculations show that if head is increased by four feet (four miles to the south) the bottom width of the channel can be reduced by 12?. A line drawn from this point to the point of crossing the Sheyenne shows the length of the diversion to be approximately the same. This could be a $50 million reduction, not an increase in cost. This may protect more total dollars of property values than the current downstream concerns. Not flooding Oxbow would also make it easier to allow backup onto farm land instead of sending the water faster through the diversion and flooding the downstream areas. ? Reduce the size of the diversion at the outlet from the approximately 50,000 cfs to 35,000 cfs and also reduce the size along the route as appropriate. A 15,000 cfs reduction at the peak flow of the diversion

could reduce and possibly eliminate the downstream concerns and would allow for a significant cost reduction. ? Improve farm drainage around the diversion by putting teeth (many openings) in the outside spoil bank like Winnipeg did when they improved and expanded their diversion. This allows the water to easily flow into the diversion providing farm drainage in flood years up to maybe the 100 year level and for 100 plus year events more backup onto farm land than the current design. This area would be flooded in most floods anyway. A large drainage ditch (which the diversion is) will move any water from the west side and the Red River out real fast until the Red River and the outlet are at the same level. The farmers? belief that the current design will hold water in many areas and take many days to drain their land is correct I believe. In a large rain event their crop may be killed by only a couple days of standing water which could easily be drained if the diversion allowed easy flow into it through the outside bank. ? Incorporate the optimized route that Moore Engineering uses for their NW mini diversion which reduced the length by approximately 2 ? miles (study paid for by Fargo this year). This also removed one bridge and could reduce the cost by $50 mm. It would use a little less land and may reduce the downstream effects slightly. This mini diversion was to have been included with a MN diversion to benefit the NW (Harwood) area. ? Incorporate the Winnipeg construction methods: Include winter dirt moving as they did in Winnipeg and Wahpeton ? substantial cost reduction and it shortens the time to complete the project. Do not save the black dirt. Seed directly on top of clay and spoil banks. Use mix of grasses for a hay crop and cover. Rent the land for haying and have the farmer maintain it ? lower cost to seed and maintain. There is no need to compact the spoil pile. The downstream people should be like FM and Winnipeg and be concerned about the possibility of ten feet above the largest flood we have ever seen - 40? to 50?, the approximate 700 year flood level. In Canada most of the cities and farms from the border to Winnipeg are protected by a ring dike. I believe the Corps reported at the first meeting on methods they studied for FM flood protection that water retention would not work. I believe in very large floods (over 100 year level) that retention does not work and may increase the peak flow. It does work for smaller floods. Ron Bergan [redacted]

100809_Anonymous – The proposed Fargo Diversion path in its big wide sweeping design clearly will be challenged by the North Dakota Eminete Domain laws. 32-15-01 item 4 of the Law states "Notwithstanding any other provision of law, a public use or a public purpose does not include public benefits of economic development, including an increase in tax base, tax revenues, employment, or general economic health." The City of Fargo has seen that the design be pushed west to allow future growth. The current design path would clearly allow future growth....the "including an increase in tax base...."

100809_Thomas France - August 9, 2010 VIA U.S. MAIL AND E-MAIL (aaron.m.snyder@usace.army.mil) Mr. Aaron Snyder Corps of Engineers Planner and Project Manager 180 E. Fifth Street East, Ste. 700 St. Paul, MN 55101?1638 Re: Comments on Draft Feasibility Report and Environmental Impact Statement on the Fargo-Moorhead Metropolitan Area Flood Risk Management Project on the Red River of the North Dear Mr. Snyder: On behalf of the National Wildlife Federation, we offer these comments on the Draft Feasibility Report and Environmental Impact Statement (DEIS) on the Fargo-Moorhead Metropolitan Area Risk Management Flood Project on the Red River of the North. The National Wildlife Federation recognizes the need for additional flood control for the Fargo- Moorhead area. Unfortunately, we cannot support moving forward with the U.S. Army Corps of Engineers? (?the Corps?) preferred alternative in the DEIS, a massive and expensive diversion channel that will cause unacceptable environmental impacts and put downstream communities and landscapes at additional flood risk. We are exceedingly disappointed that the Corps has proposed building ?The Big Ditch? without a basin-wide analysis of how flood risk can best be managed and without more thoroughly considering other structural and non-structural alternatives that would not only reduce flood risk, but

also provide additional environmental and economic benefits. From our analysis, it seems clear that a combination of wetland restoration and farm field storage projects could provide effective flood control and also provide significant benefits to fish and wildlife resources, water quality, and local economies. We understand the Corps may not have the capacity or the desire to actually move forward with these greener alternatives. Nonetheless, to bring forward a proposal that is so expensive that it may never be funded and so controversial that it may never be built, does no good service to the people of Fargo-Moorhead. In contrast to the divisive ditching project proposed by the Corps, wetland restoration and farm field water storage would be broadly supported by a diverse public that includes farmers, conservationists, and those concerned with economically responsible public works projects. We urge the Corps to enlist other partners, such as the Natural Resource Conservation Service, the U.S. Fish and Wildlife Service (USFWS), and state and local agencies, and to move forward with a supplemental environmental impact statement that includes a basin-wide assessment and that evaluates a full array of water management alternatives. A. Introduction Human activities and alterations in, and around, the Red River Basin (RRB) have led to significant environmental changes throughout the watersheds, including the metropolitan areas of Fargo, North Dakota and Moorhead, Minnesota and their surrounding rural and agricultural communities. Fargo-Moorhead has always been threatened by flooding from the Red River of the North. In the last two decades, however, floods have become more frequent and more severe because thousands of wetlands throughout the RRB have been drained and converted into farmland. Prairie wetlands that once soaked up thousands of acre feet of water have been ditched and drained, increasing both the amount of spring melt water and the rate at which it enters the Red River. North Dakota and Minnesota have lost several hundred thousand acres of wetlands since the establishment of agricultural communities beginning in the 1800s, and North Dakota?s wetlands continue to be drained at a rate of 20,000 acres per year. Climate change has also led to earlier and more abundant springtime runoff into the RRB and will continue to do so for the unforeseeable future. As both flood peaks and floods have increased, so too has the cost of fighting floods. The communities of Fargo and Moorhead now spend more than $195 million annually for flood damages. In response to the threat of more severe and more frequent flooding, the Corps has evaluated a limited number of engineering alternatives to reduce the threat of flooding in the Fargo-Moorhead area. Based on this evaluation, the Corps now proposes to build a 36-mile-long diversion channel around the Fargo-Moorhead area. The Corps? preferred diversion channel alternative will cover 9,382 acres, and will impact 137 acres of forest habitat, 226 acres either directly or indirectly of wetlands, and 39 acres of riverine aquatic habitat. The diversion channel will span between 100 and 300 feet in width. The projected cost of the diversion channel construction is $1.4 billion, although some believe this estimate understates the cost of the project. The Corps? DEIS fails to factor into its cost estimations the expense of potential downstream mitigation that may also be needed, as well as maintenance and operation costs in the future. The National Wildlife Federation strongly opposes the Corps? proposed diversion channel, and disagrees with many assessments made in the DEIS. Not only will the project be a massive federal and state expenditure, but also does not even guarantee to solve the RRB?s current catastrophic flooding problems. Furthermore, the diversion channel will offer no ecological benefits, and will almost certainly have large negative impacts on the region?s fish and wildlife and their habitats. B. The DEIS fails to adequately address the negative consequences of the Red River diversion channel options. In the DEIS, the Corps has evaluated eight different diversion channel alternatives, including the MN20k, MN25k, MN30k, MN35k, MN40k, MN45k, ND30k, and the ND35k. The ND35k was chosen as the Corps? Locally Preferred Plan (LPP), the MN40k was chosen as the National Economic Development plan (NED), and the MN35k was chosen as the Federally Comparable Plan (FCP). Under NEPA, it is ?mandate[d] that federal agencies take a hard look at the environmental consequences of a major federal action before taking that action.? Mid States Coalition for Progress v. Surface Transp. Bd., 345 F.3d 520, 533 (8th Cir.2003). Listed below are several potentially damaging effects of the Corps? LPP, which seriously call

into question the thoroughness of the Corps? DEIS. 1. Most damaging and expensive plan The proposed LPP will result in greater ecological impacts than both the FCP and the NED. More tributaries and roughly 120 more acres of wetlands, forests, aquatic riverine, and fish tributaries and passages will be affected from the LPP than the FCP. The LPP will have a greater impact on wildlife and fisheries than the FCP and the NED. Under the Fish and Wildlife Coordination Act (16 U.S.C. 661 et seq.), the U.S. Fish and Wildlife Service (USFWS) is authorized to provide recommendations to the Corps on federally funded water development projects. For the reasons listed above, the USFWS has recommended the FCP alternative rather than the LPP. The comparable costs (in millions) of the LPP, FCP, and NED are $1,462, $1,236, and $1,367, respectively. (DEIS-ES-11). The Corps selected the LPP primarily because of political considerations. The primary impetus for the construction of the massive diversion channel being proposed has come from the North Dakota congressional delegation and the City of Fargo. Because of lukewarm support for the project by Moorhead and other Minnesota political entities, North Dakota supporters pressured the Corps and the Assistant Secretary for Civil Works to accept the LPP alternative. The result is that the DEIS has identified a preferred alternative that is the most ecologically harmful and the most expensive, the 36-mile North Dakota LPP. 2. More flooding downstream The DEIS states that downstream effects of the diversion channel on social resources could be significant, but it fails to adequately measure these impacts. The Red River is more than 500 miles long, with Fargo and Moorhead being located very near its point of origin at the Bois de Sioux River. Downstream effects of a large diversion channel could impact virtually hundreds of river miles. For the ND35k plan (LPP), the Corps only analyzed 43.5 river miles downstream. The Red River flows northward and eventually empties into Lake Winnipeg near Manitoba, Canada. The river?s northward flow creates an increased possibility of ice downstream. Large pieces of ice in the Red River create an even greater risk of springtime flooding downstream of Fargo-Moorhead, making this region particularly sensitive to springtime runoff. Furthermore, the Fargo-Moorhead diversion channel will also increase water levels downstream because more natural floodplain storage will have been eliminated. In all flooding scenarios mentioned in section 5.2.1.4.1 (10-percent, 2-percent, and 1-percent chance), it was determined that more acreage would be impacted than the amount of acreage that is currently being impacted. (DEIS-153). In July 2010, the Corps issued a Preliminary Downstream Impact Analysis that also demonstrated that that both the LPP and the FCP would cause more flooding downstream. The DEIS needs to provide supporting information that even more homes downstream of Fargo-Moorhead will not be lost due to the increased water levels from the diversion, and that costs of flood control and repairs for flood damage would not actually increase as a result of the diversion channel. 3. Changes in sediment distribution Section 5.2.1.3 states that ?the proposed diversion structures should not lead to an appreciable change in suspended sediment concentrations along the project area,? but the DEIS fails to give any concrete sedimentation data. The Corps? diversion channel will substantially affect sedimentation in the Red River and other connected tributaries. Sedimentation is a major problem in many rivers and lakes, which can cause a reduction in storage capacity that can lead to flooding. A build up of sediment can also lead to many aquatic changes that could have negative impacts on aquatic life. As a result, fish may begin avoiding areas of heavy sedimentation, ultimately changing their migratory patterns, wintering grounds, nursery areas, or spawning habitat. Valuable fish spawning areas could be covered in silt, and the sediment increase could lead to adult and juvenile fish mortality if their gills become filled with sediment. Fish foraging success will decline, which could also lead to mortality, especially in younger fish, and adult fish could be kept from spawning due to malnutrition. Therefore, sedimentation impacts and sedimentation mitigation costs must be included in the final EIS. 4. Destruction of wetlands The diversion channel will affect more than 200 acres of wetlands. The Corps has suggested that any wetland taken away or adversely affected by the diversion channel will be replaced with new wetlands within the diversion channel in a low flow channel. The DEIS describes the low flow channel as ?a channel that is typically in the center of a larger channel which is sized to handle

small flows from drains, ditches or groundwater.? It will be approximately 10 feet wide and 3 feet deep. (DEIS-166). The National Wildlife Federation challenges the feasibility of the Corps? solution of simply ?replacing? wetlands by simulating wetland conditions on the bottom of the diversion channel in a low flow channel. A strip of wetlands 10 feet wide does not provide the security and benefits that larger blocks of wetlands provide. The DEIS does not address how these wetlands will be comparable to the previously existing wetlands that were affected by the diversion and does not describe the diversion channel wetlands? functions for surrounding wildlife. In addition, many problems can arise with a low flow channel. The channel will need frequent maintenance and modifications to ensure that it is effective, and it can be very easily damaged in severe situations such as flooding or drought. Section 5.2.1.6.3 of the DEIS states that ?wetlands near [the Lower Rush River and the Rush River] could be impacted by not getting the same recharge from overland flooding that they have received in the past,? but there is nothing further discussing how those negative impacts will be mitigated and what mitigation efforts will cost. The final EIS must include projected mitigation costs for additional wetlands that might be impaired such as those near the Lower Rush and Rush rivers. The Corps must also include in its final EIS exactly what function the low flow channel will serve and how it is guaranteed to adequately compensate for existing wetlands adversely affected by the diversion channel. 5. Diversion will affect multiple tributaries and potentially harm their fish and wildlife The North Dakota diversion would cross five tributaries: Wild Rice River, Sheyenne River, Maple River, Lower Rush River, and Rush River. (DEIS-ES-15). In addition, the DEIS states that ?[t]he channels of the Lower Rush and Rush Rivers between the diversion channel and downstream to their confluences with the Sheyenne River will be abandoned?? (DEIS-166). On page 15 of their Draft Feasibility Report and EIS, the USFWS states that nesting birds, mammals, and mussel species could be displaced or killed during the project?s construction, and nesting birds? eggs could be abandoned or crushed. The USFWS states on page 14 of their Draft Feasibility Report and EIS that ?construction and excavation within the riverine aquatic habitats could kill adult or juvenile fish,? and some fish mortality is unavoidable. The USFWS also states that the additional sediment load, deposition, and accumulation into the Red River could alter aquatic and riverine habitat. The DEIS indicates that fish could use the diversion channel, but the diversion channel will not contain any meaningful fisheries. The DEIS continues on to state that fish ending up in the diversion channel without their natural habitat will not be a significant issue during the operation of the diversion channel. (DEIS-ES-14). Fish caught in the diversion channel during flooding, however, will be forced to use concrete fish ramps for passage. It is not known at this point whether certain sensitive fish species, such as the Lake Sturgeon, will be successful at using artificial passages. The DEIS also does not address how changing the velocity of water within the diversion might affect certain fish species. The velocity of the water within the diversion and downstream of the diversion could be too strong and prevent certain species and juvenile fish from traveling upstream. The diversion channel will create numerous problems for multiple tributaries and wildlife and aquatic species. The final EIS must address the negative impacts to all tributaries and the specific adversities facing wildlife and aquatic life. A plan to mitigate these adversities must be identified and mitigation costs must be included in the final EIS. C. The DEIS failed to analyze flood mitigation in the entire Red River Basin. In a letter dated June 22, 2009 (attached), we urged the Corps to look for a flood mitigation plan that would alleviate flooding basin-wide rather than just the areas of Fargo and Moorhead. The limited study area of only Fargo-Moorhead does not allow the Corps to accurately evaluate the causes of increased flooding in the RRB or the full range of alternative remedies. In particular, the study would have needed to include the area above or upstream from Fargo-Moorhead. The entire Flood Risk Management study has been flawed from the beginning because the RRB was not analyzed in its totality. According to the National Weather Service, the Red River of the North has exceeded the flood stage of 18 feet in 47 of the past 108 years, and every year from 1993 through 2010. (DEIS-5). The increased flooding over the past century has been a direct consequence of wetland loss in the interest of agricultural development. Studies have demonstrated

that wetland drainage in the RRB has significantly increased both the timing and size of Red River floods and also that wetland drainage continues to affect thousands of acres annually. Wetland restoration throughout the RRB would help offset these destructive land use practices that are so costly in terms of water quality, wildlife and flood costs. Several studies have demonstrated the effectiveness and feasibility of restoring wetlands or using upland depressions to temporarily store water during a flood event. The restoration of wetlands can significantly reduce flood frequency and severity while also providing vital ecosystem benefits. A possibility for wetland restoration lies in the Prairie Pothole Region?s wetlands of the northern Great Plains, which span more than a 300,000-square-mile area. Almost since farming began in this region in the mid 1800s, wetland drainage has been employed to facilitate agricultural activities. According to the 1997 Minnesota Wetlands Conservation Plan, more than 95% of the native wetlands in the Minnesota portion of the RRB and upstream sub-basin have been lost. The cumulative impacts of this wetland drainage have been significant with more than 50% of the region?s wetlands having been drained with more than 90% in some watershed basins. Wetlands in the Devils Lake basin of North Dakota have the potential to store approximately 72% of the total runoff volume from a 2-year frequency runoff event and 41% of a 100-year frequency runoff event. Restoring drained and farmed wetlands could increase the water retention capacity in the Prairie Pothole Region of Minnesota ?by up to 63%.? Furthermore, potholes are natural filters for nutrients such as sediments containing nitrogen and phosphorous, therefore, improving water quality. We recommended to the Corps in our June 22, 2009 letter that they explore and analyze this reasonable and logical alternative, however, the Corps? DEIS failed to do so. Grasslands or grazing lands span approximately 600 million acres of the United States. Grasslands have proven to be a major source of watershed filtration, ground water recharge, and carbon sequestration. Grasslands have excellent potential to markedly improve water and air quality. Proper management of existing grasslands can enhance the land?s ability to better reduce erosion and flooding by slowing and more evenly distributing surface waters. Grasslands also help the percolation of precipitation creating recharged groundwater aquifers. Conservation of grasslands can occur on private and public lands, and wildlife populations thrive with the availability of these habitats. Through cooperative efforts with agencies such as the Bureau of Land Management (BLM) and the Natural Resources Conservation Service (NRCS), private landowners can learn to maintain their property as grasslands in a manner that is most effective in preventing soil erosion and flooding in the Red River basin. Again, the Corps failed to explore this economically feasible and ecologically friendly alternative in its DEIS. Based on this information, the Corps should enlarge its study area to include all upstream river basins above Fargo-Moorhead. As a result, the Corps will necessarily have to evaluate the impacts of flood crests, flood frequencies and flood severity of wetland drainage. It is only then that the Corps can adequately evaluate the benefits of wetland and grassland restoration in terms of reducing these flood impacts. D. The DEIS failed to adequately evaluate reasonable non-structural and flood storage alternatives. Without the Corps? study of the entire RRB, it would be impossible to fully and accurately evaluate non-structural alternatives at scale because the study did not identify an analysis of an area that was properly scaled. The study only included Fargo-Moorhead, and for that area only, the DEIS identifies several measures retained for possible inclusion as features of the alternative plans. Those measures include: non-structural measures, flood storage, and wetland and grassland restoration. The DEI5 provides an extensive analysis of a non-structural measure contained in Appendix P, which illustrates a very invasive and tedious process of raising and flood-proofing individual homes at a significant cost. However, all other measures, including wetland restoration, grassland restoration, and flood storage are dismissed as stand-alone plans with less than a page of justification in the DEI5. 1. The Corps must evaluate the Waffle Project. The Energy & Environmental Research Center (EERC) of the University of North Dakota began conducting a four-year study on flood prevention in the wake of the devastating 1997 flood in the RRB. The goal of the study, beginning in 2002, was to see how a process referred to as the Waffle Project (?the Waffle?) could mitigate the effects of mild to severe springtime

flooding in the population center of Fargo-Moorhead, in addition to the surrounding areas of North Dakota, South Dakota and Minnesota. The Waffle uses micro-basins or preexisting areas, such as depressed agricultural lands bordered by raised roads, for short-term water storage. Agricultural areas make up approximately 74% of the land area in the RRB, making potentially 36,000 square miles of the RRB available for the Waffle Project. The study randomly selected 3,732 sections of land to use in evaluating water storage potential, and multiple scenarios were used due to non-uniformity of Waffle sizes. The sections showed that their storage volume estimate was 583,400 acre-feet, which includes a reduction for the freeboard between the stored water surface and the lowest point on the surrounding roads and a reduction to account for natural water storage. The most significant impact shown in the study was a 7-foot decrease in the water level of the Red River in the Fargo-Moorhead area during floods. The study showed that the Waffle can successfully slow and significantly reduce the drainage of excess runoff before it enters water tributaries, most notably, the Red River of the North. a. Costs associated with the Waffle Costs associated with the Waffle were projected for a 50-year period. The Waffle would first involve finding landowners willing to enroll in the program, and then implementing the project by modifying existing culverts and installing new culverts and other water control mechanisms. There would also be costs associated with landowner payments and maintenance, and administrative overhead. Adjustments to cost projections were made for probability of flood occurrence, expected damage to residential and commercial properties and public infrastructure, current economic conditions and value of real property, changes in flood protection, and future population changes. Waffle sizes were also divided into three categories: maximum, moderate and minimum, with costs projected as baseline, optimistic and pessimistic on full-scale and half-scale hypothetical models. Below are the results of this cost analysis. Present Value of Projected Costs of the Waffle, 2006 through 2055 Scale & Acreage Est. Baseline Optimistic Pessimistic Full-Scale Minimum $207,931,000 $155,739,000 $287,326,000 Moderate $362,191,000 $269,537,000 $494,872,000 Maximum $543,040,000 $402,721,000 $738,602,000 Half-Scale Minimum $107,964,000 $80,915,000 $149,494,000 Moderate $184,797,000 $137,578,000 $252,897,000 Maximum $275,505,000 $204,386,000 $375,132,000 The cost analysis table above illustrates that a plan for significant flood reduction on a full-scale effort can be implemented for between $156 and $739 million during the next 50 years. This is a stark contrast from the Corps? $1.4 billion diversion channel, a price tag that only includes construction cost, and not operations and maintenance costs. The above table and the Waffle study?s flood reduction results flatly contradict the Corps? conclusion that flood storage is cost prohibitive and less effective than a 36-mile diversion channel. The Waffle study suggests that significantly less storage than that determined by the Corps is needed to achieve a substantial flood level reduction. The numbers that the Corps lists in Section 3.4.6.2 of the DEIS were derived from a very preliminary modeling effort conducted through the Fargo-Moorhead Upstream Feasibility Study, which did not actually look at specific storage options in each of the tributaries of the Red River. Instead, the Corps estimated what the tributary flow reduction would be based on general assumptions. There is no rational explanation supporting the Corps? conclusion that doubling the storage volume from 200,000 acre-feet to 400,000 acre-feet only achieved another 0.2-feet stage reduction at Fargo. b. Economic benefits from the Waffle The Waffle Project studies show that net benefits of the Waffle could be significant over the next 50 years, with benefits being positive in 106 of the 108 scenarios that were evaluated. More than 85% of the scenarios indicated benefits in excess of $300 million, and more than half of the scenarios had benefits in excess of $500 million. Some scenarios showed economic benefits of up to $700 million. 2. The Corps must evaluate other flow reduction strategies. Similar to the EERC?s Waffle, the Red River Basin Commission (RRBC) also created a strategy that would decrease flood levels in the RRB. They simulated 1997 flood conditions (9.25? of precipitation) and found that their storage areas could reduce flood levels in the Red River up to 20% in some areas. They found that the most significant reduction was a 20% peak flow reduction and 20% volume reduction at White Rock, South

Dakota. The study demonstrates that storage areas built in river basins are 80% effective, and if all of the tributary basins upstream of the Red River do their share in flood storage, effects on Red River flood reduction can be substantial. There was no formal cost-benefit analysis done for this study. However, preliminary estimates showed that upstream storage competes very favorably with the Corps? diversion channel option because of the ratio based on the Fargo-Moorhead area damages alone. There would also be more widespread flood control benefits, in addition to a great potential for natural resource benefits under this program. 3. The Corps must evaluate an alternative that combines wetland and grassland restoration and other flow reduction strategies. It is clear that the optimal strategy for minimizing flood risk, while also improving water quality and fish and wildlife habitat in the RRB, would involve a combination of wetland restoration and utilizing farm fields for temporary storage. The Corps, working with state fish and wildlife agencies and other federal agencies including the USFWS and the Natural Resources Conservation Service, should develop an alternative or alternatives that combine these approaches. The National Wildlife Federation urges the Corps to formulate an alternative that would include 500,000 acre-feet of storage through wetland and grassland restoration and an additional 500,000 acre-feet of storage through temporary storage utilizing farm fields. In evaluating such an alternative, the Corps should consider the following costs and benefits. ? Flood control benefits ? Water quality benefits ? Fishery benefits ? Benefits to upland and migratory birds ? Recreational benefits, including increased hunting and fishing opportunities. E. Wetland and grassland restoration, combined with flood storage, will have many positive impacts. A successful and long-term flood protection plan results when flood storage concepts, such as those developed by EERC and RRBC, are implemented in conjunction with grassland and wetland restoration. 1. Protects more than just two cities The Corps? diversion channel will only provide significant flood protection for two major metropolitan areas, Fargo and Moorhead. All other downstream cities and communities will not receive the benefited flood protection, and will likely see more flooding due to increased water flow from the diversion channel. Should wetland and grassland restoration strategies be implemented along with flood-water-storage projects, not only will Fargo-Moorhead see decreased flooding, but downstream cities and communities will also experience flood relief. Flooding is also likely to be decreased upstream from Fargo and Moorhead, which only adds to the overall benefit of wetland and grassland restoration and flood storage efforts. Programs such as EERC?s Waffle Project, RRBC?s Flow Reduction Strategy, and concepts created by numerous other agencies and organizations, including Wetland Reserve Program and USFWS, provide ample data and opportunity to implement wetland and grassland restoration and flood storage as viable alternatives for flood prevention downstream. 2. Creates and enhances wildlife habitat and recreation, while also mitigating affects of climate change Increasing wetland habitat will provide stability to migrating and nesting bird habitats, as well as numerous other species of wildlife. This in turn creates opportunities for hunting, fishing, bird watching, hiking and other recreation. Wetlands also play an important role in filtering polluted water and recharging the aquifer into both nearby ground and surface waters, greatly improving water quality. Grasslands further reduce the runoff of water and sediment, creating a more stable water level and providing an area to host a diverse community of native grasses, sedges, rushes and other submersed vegetation. Wetlands play at least two critical roles in mitigating the effects of climate change, ?one in the management of greenhouse gasses (especially carbon dioxide) and the other in physically buffering climate change impacts.? Wetlands International, a global organization that works to sustain and restore wetlands, states that ?inland wetlands in arid regions can play a very cost-effective role in attenuating the impacts of extreme weather events such as the impacts of extremes in precipitation and increases in evaporation due to higher temperatures.? Wetlands serve to recharge ground and surface waters, meaning that while they prevent flooding in wet times, they serve to replenish and retain adequate water supplies and stream flow during drier periods. The benefits of wetland and grassland restoration are numerous. Wetlands and grasslands provide various ecosystem services to farmers and communities, recreational opportunities, global warming

mitigation, and most importantly, flood control. One study concluded that, ?wetlands on [USDA] program lands [in the PPR] have significant potential to intercept and store precipitation that otherwise might contribute to downstream flooding.? Additionally, the conversion of cultivated cropland to grassland cover as part of conservation programs results in a reduction in surface runoff and, ultimately, reduces the rate at which a basin refills and overflows. 3. Economic benefit to farmers The preferred diversion plan (LPP) would eliminate approximately 5,400 acres of farmland from operation. (DEIS-ES-15). On the other hand, the Waffle or Flow Reduction Strategy would only ?borrow? or ?rent? land from willing landowners in the event of flooding. Even if the land was used to store water, it would be done early enough in the spring so that the landowner would still be able to farm their crop in most years. Therefore, the payment from these flood storage programs would be a bonus above and beyond the farmer?s "normal" agricultural income. 4. Set precedence for other green flood control solutions As human activity continues to escalate and their harmful affects become increasingly evident through climate change, environmentally friendly alternatives will only gain in popularity. The states of North Dakota and Minnesota have a unique opportunity to show the rest of the nation a more natural and cost effective method of flood control. The precedent could be set for more ecologically favorable flood mitigation efforts rather than more expensive, concrete and environmentally damaging solutions. There has already been an international trend to move toward nonstructural flood control methods, and it is in our nation?s best interest to closely follow in the same direction. F. Conclusion The U.S. Army Corps of Engineers is planning a 36-mile-long diversion channel around Fargo that will cost North Dakota and the Federal government $1.4 billion to construct. The projected $1.4 billion cost does not even include mitigation and maintenance expenses in the years after construction of the diversion channel has been completed. During this country?s time of economic uncertainty, the Corps? project seems not only irrational and impractical, but also downright irresponsible when other green options to restore wetlands and grasslands along with creating flood storage have proven to be just as effective and a far less expensive means of flood mitigation. The Corps? colossal and esthetically displeasing diversion channel will be not only a massive state and federal expenditure, but also an ecological nightmare with resounding affects for centuries. If cities and communities within the Red River Basin do not want to face even bigger and more expensive problems combined with wildlife habitat destruction and decline a decade from now, the Corps must seriously reconsider their chosen diversion channel alternative. Much of the Red River Basin flooding has been a direct result of wetland and grassland elimination during the past century for the sake of agricultural development. However, even though agricultural land is largely to blame for the present-day flooding predicament, it can now be used as temporary flood storage that would prevent dangerous flood levels. Grasslands and wetlands not only have remarkable abilities to store excess water runoff, but they are also attractive and provide much needed wildlife habitat in a region of the country that continues to have rapid human population increases. In its DEIS, however, the Corps all but completely ignores these environmentally friendly alternatives. In recent case law, it is determined that ?[w]hile the EIS need not be exhaustive, the existence of a viable but unexamined alternative renders an [EIS] inadequate.? Friends of the Boundary Waters Wilderness v. Dombeck, 164 F.3d 1115, 1128 (8th Cir. 1999). There is no doubt that the Corps? DEIS leaves many alternatives largely unexamined. We strongly urge the Corps to fully address and consider the use of non-structural techniques for flood control. It is irresponsible for the Corps not to consider more reasonable, but similarly effective solutions that do not have the long-term effects on the tributaries and streams of the Red River. The National Wildlife Federation sincerely thanks you for considering these comments on the Draft Feasibility Report and Environmental Impact Statement on the Fargo-Moorhead Metropolitan Area Flood Risk Management Project on the Red River of the North. Please do not hesitate to contact us if you have questions or would like additional information. Thomas France, Regional Executive Director National Wildlife Federation Chris Hesla, Executive Director South Dakota Wildlife Federation Cc; Senator Byron Dorgan Senator Kent Conrad Congressman Earl Pomeroy Senator Amy Klobuchar Senator

Al Franken Congressman Collin Peterson Senator Tim Johnson Senator John Thune Congresswoman Stephanie Herseth Sandlin

100809_Anonymous – It is interesting that the Corps did not calculate the stage increase to Grand Forks. While the City is protected as are some other communities upstream (and downstream), the stage increase will decrease the freeboard. The cost to restore/ mitigate this damage of 1- 1 1/2 feet would be substantial ($10's M.). I will be paying my last flood assessment shortly and do not expect my investment to be damaged by the F-M project. While I fully support the project, it must be built without damae to others. Reading the Sunday Herald, the paper quoted Mike Lesher, a COE hydraulic engineer, as stating the GF/EGF project design increased the river stage 1.6" immediately downstream from Grand Forks. This is a stage-design that would be reasonable. It is interesting that one hears about the "waffle plan". What would happen if the State decided to restrict the flows in legal drains entering the Red and secondary streams till a period after the crest had passed.

100809_Les Staples – Far too many questions remain for this diversion project to be advanced. The economic and cultural impacts of taking ten sections of Cass County farmland out of production have barely been addressed. The proposed compensation to landowners has never been clearly stated. Downstream residents have been given a bagful of promises, but no real plan as to mitigation of the sizable impact this diversion would have. The Draft Feasibility Report seems short on facts, long on conjecture. $195 million estimated annual flood cost for the metro area? Fargo and Moorhead haven't spent half that much combined in the past 14 years that includes the 1997, 2009, and 2010 flood events. These figures coming from a proposed project that six months ago couldn't generate a **1**.0 benefit/cost ratio? This project should be put on a much slower track.

100819_Julie Letourneau – I am extremely upset with the recent set-back regarding a possible delay regarding the Fargo-Moorhead diversion feasibility study due to public comments received. I have lived in the community my entire life and can not believe that a long-term solution has taken this long to possibly happen. Due to the extreme increase of flooding in the area it is unfair for outlying towns and farmers to reject and condemn a project that is so very needed to protect the cities and livelihood of the Fargo-Moorhead area. We may have a wet cycle to deal with however we also have to acknowledge the drainage of farmer's fields and natural wetlands as a primary contributor to the spring water problems we are faced with. This field drainage system has drastically increased over the years as a common practice and in turn has increased the spring flooding issues as well. I also feel that the Lake Traverse outlet and the Breckenridge flood control project only contributes to the problem. The City of Grand Forks received their floodwall project with no objections from other cities, it is unfortunate they had to receive the severe damage and loss in order to solve their issues. I also believe the Grand Forks project impacts our increase in water being held back and staying in the Fargo-Moorhead area for a longer amount of time. My family suffered and survived the 2009 Record Flood. We lost our home and experienced a very difficult past 2 years to recover, relocate and move on with our lives. Unless someone actually experiences the impact flooding has on so many individuals lives, work, school,transporation issues they can not fully understand how extrememly important a long-term solution must be completed for the increased flooding we are forced to deal with.

Appendix S
Draft Environmental Impact Statement Public and Private Summarized Comments and Corps Responses

Fargo-Moorhead Metropolitan Area Flood Risk Management

Final Feasibility Report and Environmental Impact Statement

July 2011

US Army Corps of Engineers ®

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Appendix S
Draft Environmental Impact Statement Public and Private Summarized Comments and Corps Responses

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1.0 Public Comments on DEIS/Feasibility Report

1.1 Comments and Responses

The Draft Environmental Impact Statement (DEIS) and Feasibility Report was published in the Federal Register for a 45 day public review period on June 11, 2010. The review period closed on August 9, 2010 after being extended by 14 days. The review period generated a number of questions and comments on the DEIS and Feasibility Report and covered a wide range of topics. These comments are provided in Appendix R. To best manage the responses to these comments, the Corps has captured the intent of the various comments by subject matter and then provided a single response when this summarized comment was similar to other comments. The comments have been separated into these categories:

A. Plan Formulation Alternatives
B. EIS Process and Schedule
C. Impacts
D. Modeling Technical
E. Page Specific Comments
F. Coordination of Permits
G. Project Management
H. Miscellaneous

All comments have been reviewed by the Corps. Many comments are unique and many are reiterated in comments by multiple individuals. In an attempt to respond to each comment, all comments have been condensed, paraphrased and repeated only once. These comments appear in the subsequent sections and are categorized as they relate to the planning process. Many of the responses provide a general overview and then direct the reader to the location within the Supplement Draft Feasibility Report and Environmental Impact Statement where more detailed information can be found. The Supplement Draft Feasibility Report and Environmental Impact Statement is referred to as the SDEIS throughout this Appendix.

2.0 Comment Category A: Plan Formulation Alternatives

A-1 Scope of Study – Basin-wide versus Metro Area
Some comments questioned the scope of the study and the focus on the Fargo-Moorhead Metro area instead of a basin-wide study. These comments stressed that flood risk management solutions should be developed from a basin-wide perspective, so as to find a full range of alternatives (including upstream storage), and impacts to areas outside the metro would be fully considered. In order to formulate a full array of alternatives and evaluate all of their effects, it is necessary to utilize a basin-wide study area.

Response:
The problems and opportunities identified in section 2.4 of the SDEIS pertain to the Fargo-Moorhead Metro area. Planning efforts should and do consider a full array of possible solutions and evaluate effects of reasonable alternatives. The significant amount of existing flood risk in the metro warrants evaluating measures that chiefly benefit the metro. Therefore, the planning objectives of this study are to reduce flood risk in the metro, and to improve environmental quality, wetland habitat and recreation in conjunction with reducing flood risk, with the constraint of avoiding increasing peak flood stages upstream or downstream of the metro. While alternatives were considered from a basin-wide perspective, and the effects of those alternatives were evaluated basin-wide, those alternatives were formulated with the objective of addressing flood risk in the metro area. For a discussion of the study area see sections 1.3 and 4.1 of the SDEIS. For a discussion of problems and opportunities and objectives and constraints see sections 2.4 through 2.7 of the SDEIS.

A-2 Storage Alternatives – Stand Alone and in Combination
Many comments asked the Corps to consider storage as a flood risk management alternative, either on its own or in combination with other flood risk management measures. Storage refers to any number of measures intended to store flows (discharge) during flood events in order to reduce the peak discharge of the event. Examples of storage measures include retention, detention, reducing drainage (i.e. farm fields), wet dams, dry dams, etc. These comments generally took the following form:

> The Corps has failed to consider storage alternatives; the Corps has not given equal consideration to storage alternatives; why has the Corps not given consideration to storage alternatives; the Corps does not want to implement storage alternatives; etc.

Response:
The study team has found that storage alternatives, either as stand-alone measures or in combination with others, do not effectively or efficiently address the flood risk in the Fargo-Moorhead Metro area. Storage alternatives have the potential to produce stage reductions over a large area, and would likely have substantial cumulative benefits. However, storage alternatives do not substantially reduce flood risk in the Fargo-Moorhead Metro area. Furthermore, flood storage would need to be implemented in many small increments, over an extended period of time. The study team has found that other alternatives, such as diversion channels, are more

efficient (provide more benefits at less cost) and more effective (reduce flood risk to a greater degree) than storage. While giving full and equal consideration to storage alternatives, the study team has not recommended they be carried forward due to their relative inefficiency and ineffectiveness, and their difficulty in implementing on a large scale. For further discussion of storage alternatives, refer to sections 8.4.2 and 8.4.3 of Appendix O of the SDEIS. The tentatively selected plan (LPP) does include approximately 200,000 acre-feet of staging and storage upstream of the diversion channel inlet to nearly eliminate downstream impacts.

A-3 Wetlands/Grasslands – Stand Alone and in Combination
Many comments asked the Corps to consider wetlands and grassland restoration as a flood risk management and ecosystem restoration alternatives, either on their own or in combination with other flood risk management measures. Many of these comments cited the draining of wetlands for agricultural use as a chief source of increasing flood trends. Wetland and grassland restoration measures provide flood storage, wildlife habitat, and improve water and air quality.

Response:
Opportunities for wetland and grassland restoration do exist in the Red River Basin. Wetland and grassland restoration could have substantial cumulative benefits basin-wide, both in terms of flood risk and environmental quality. While these measures are effective basin-wide, they are not effective in reducing flood risk in the Metro area. Sections 8.4.2 and 8.4.3 of Appendix O of the SDEIS contain more information on wetlands and grassland restoration measures.

A-4 Storage and Wetlands/Grasslands Restoration Alternatives Improve Environmental Quality
Many comments asked the Corps to consider the environmental quality improvements that could be provided by storage and wetlands/grasslands restoration alternatives. Wetlands and grasslands provide habitat for migratory birds, fish, and other wildlife; they improve water quality and decrease storm water runoff; and they contain a variety of native plant vegetation. In addition, wetlands play a role in water supply as they recharge ground and surface waters. Storage and wetlands/grasslands restoration alternatives could provide opportunities to improve environmental quality.

Response:
Section 8.4.3 of Appendix O of the SDEIS considers flood storage alternatives. Flood storage opportunities and wetland and grassland restoration opportunities do exist, and with the right operational scheme, storage impoundments could improve environmental quality. Flood storage alternatives could be effective basin-wide and produce cumulative benefits basin-wide. However, these measures are not the most effective or efficient measures to reduce flood risk to Fargo-Moorhead. Any combination of flood storage systems is costly and relatively ineffective at addressing the flooding problems in Fargo-Moorhead.

A-5 Multi-faceted Alternatives & Combiuation of Alternatives
Some comments raised questions about combining measures into more complex alternatives. These comments asked the Corps to look at combined alternatives such as blended diversions,

levees, and storage impoundments. The comments suggested that a more complex and comprehensive alternative might be found by evaluating various measures combined.

Response:
Section 8.4.3 of Appendix O of the SDEIS addresses the array of all measures and combinations of measures. This section of the appendix describes how alternatives and combined alternatives are evaluated, compared and screened. Some measures from Phase 3 were re-visited and some new measures were introduced; all measures and combinations of measures were considered.

A-6 Consideration of Floodwall and Levee Alternatives
Some comments asked about floodwall and levee alternatives and questioned if floodwalls and levees received the same consideration as other alternatives. Some asked if the diversion alternative received more time and attention than floodwall and levee alternatives.

Response:
Levees and floodwalls were considered as alternatives in Phase 2; section 5.1.2 of Appendix O of the SDEIS outlines the array of measures and alternatives that were evaluated, compared, and screened in Phase 2. The largest levee plan could only be certified up to the 1-percent chance event. This was an intolerable level of remaining risk and the levee alternative was dropped from consideration. Floodwalls were also screened out during Phase 2 because of geotechnical constraints to designing and constructing floodwalls and because floodwalls did not provide the same level of risk reduction as other alternatives.

A-7 Planning Objectives and Constraints
Some comments asked how the Corps addressed the study objectives and constraints. The study identifies the following planning objectives: to reduce flood risk in the Fargo-Moorhead metro area, and to improve environmental quality, wetland habitat and recreation in conjunction with reducing flood risk. A study constraint was identified as avoiding increasing peak flood stages upstream or downstream of the metro. Comments asked why the objectives are not all achieved to the same degree and constraints are not avoided to same degree.

Response:
The planning objectives are broad statements that address the specified problems and opportunities in the study area; objectives are not specific measures. Throughout the planning process, a variety of specific flood risk management measures and combinations of measures are evaluated, compared and screened. The range of alternatives considered includes measures that could achieve one or more of the planning objectives; however, not all measures are justified or feasible and not all of the measures adequately address the identified problems. Any recommended alternative must effectively and efficiently address the problem of flooding in the Fargo-Moorhead Metro area; the alternative that best addresses the problem may not achieve all objectives to the same degree. Section 7.5.3 of Appendix O of the SDEIS describes how alternatives are compared according to screening criteria to determine the degree to which each alternative meets the planning objectives. The storage and staging upstream of the diversion is incorporated to avoid the constraint of increasing peak flows downstream of the Fargo-Moorhead Metro Area.

A-8 Waffle Project and Other Storage Alternatives
Some comments asked whether the Corps had sufficiently evaluated all water storage alternatives, including the "Waffle Project" and the "Mike 11 Model." The "Waffle" concept is a basin-wide model that utilizes upstream water storage areas in existing depressions in the watershed. The existing network of roads contains the depressions or storage areas.

Response:
The "Waffle" concept was specifically explored as a water storage alternative (SDEIS, Appendix O, Section 8.4). On a basin-wide scale, the "Waffle" could produce flood stage reductions over a large area, and cumulative benefits to the basin. However, the "Waffle" would not substantially reduce flood risk to the Fargo-Moorhead area. In addition, the "Waffle" would be costly to implement and could likely not be implemented in a period of less than 10 years. Like other storage alternatives considered, the study team determined that the "Waffle" approach was relatively ineffective and inefficient. Other alternatives were found to be more effective at reducing flood risk in Fargo-Moorhead and more efficient in that they could be implemented for a lower cost. A flood storage system does provide some level of flood risk reduction, particularly for the smaller, more frequent flood events; however, the level of risk that remains for the larger, less frequent flood events is not a tolerable level of risk. Flood storage alternatives, including the "Waffle Project," do not effectively address the identified problem of flooding in the Metro area.

A-9 Flood Storage Alternatives Provide Opportunities for Water Supply
Some comments noted that historically drought and water supply have been issues of concern in the Red River Basin. The comments asked the Corps if upstream storage areas could provide other opportunities such as water supply in times of drought.

Response:
The problem identified in this study is flooding in the Fargo-Moorhead Metro Area; any recommended alternative must effectively and efficiently address this problem. Although upstream flood storage alternatives may provide opportunities for water supply, these alternatives are not effective at substantially reducing the level of flood risk in Fargo-Moorhead. Because these alternatives do not effectively address the main problem identified in this study, they were screened out as stand-alone alternatives (SDEIS, Appendix O, Section 5.1 and Section 8.4).

A-10 Revise Operating Plans of Upstream Dams
Some comments asked the Corps if existing dams in the area could be used to reduce flood risk. For example; "Let water out of the dams and keep the levels lower so if we do get a heavy rain, we are able to handle it."

Response:
Many dams in the basin are operated for flood damage reduction, but dams are not always located in an area where all snowmelt or rainfall can be captured. Dams in the basin are operated according to specific operating plans to optimize the performance of the individual dam. Many

dams in the basin do provide flood water storage and reduce the flows downstream and provide risk reduction benefits.

A-11 Consider Land Use Changes
Some comments questioned how future changes might influence the effectiveness of the alternatives considered. Future changes in land use or additional tile drainage in the basin may impact the effectiveness of the recommended plan. These potential land use changes must be considered and any impacts theses changes may have on the proposed alternative must be evaluated.

Response:
Forecasting future conditions with and without the proposed project is an important step in the Corps iterative planning process (SDEIS, Appendix O, Section 1.3). Expert opinion, modeling, and key assumptions are used to forecast future conditions and potential changes in the study area (SDEIS, Appendix O, Section 4.3). Future conditions were revisited in Phase 2 (SDEIS, Appendix O, Section 6.3) and in Phase 4 (SDEIS, Appendix O, Section 8.3). Potential changes in hydraulics and hydrology were considered, among other factors. Land use changes on a basin-wide scale may have a cumulative effect on flood stages; however, the impacts to Fargo-Moorhead would not be substantial.

A-12 Diversion Size and Alignment
Some comments asked the Corps to consider alternative sizes for the diversion and/or shifting the diversion alignment. Some suggested consideration of smaller diversions with flows reduced to 15,000 cubic feet per second. Others suggested shifting the alignment further west or further south.

Response:
Multiple sizes for the diversion were considered and each of these alternatives was evaluated, compared, and screened according to the required criteria. The final array of diversion combinations can be found in SDEIS, Appendix O, Section 8.4.3.8. The array of alternatives includes consideration of multiple diversion sizes and alignments.

A-13 Non-structural Alternatives – Stand Alone and In Combination
Some comments asked if the Corps had adequately considered non-structural alternatives. Non-structural measures do not modify flood behavior. Non-structural measures include flood proofing, or measures that are applied to a structure and/or its contents that prevent or provide resistance to damage from flooding. Such measures include buying and relocating flood-prone structures, wet and dry flood proofing, elevating structures, flood warning systems, and flood insurances.

Response:
Several nonstructural measures were considered in Phase 2, including relocation, flood proofing, elevating structures, flood warning systems, and flood insurance (SDEIS, Appendix O, Section 5.1.2). As with all alternatives, these were evaluated, compared and screened against specific criteria. Stand-alone nonstructural alternatives were not found to be effective at substantially

reducing flood damages in Fargo-Moorhead, and these alternatives were not found to be cost effective. As such, non-structural measures were screened from consideration as stand-alone alternatives. Non-structural measures were revisited in Phase 4 in combination with other measures and Table 18 in Appendix O of the SDEIS illustrates the final array of combinations. Nonstructural measures are included in combination with the alternatives.

A-14 North Dakota versus Minnesota Diversion
Some comments asked why the North Dakota diversion was recommended since it is more expensive than the Minnesota diversion.

Response:
In the evaluation of project alternatives, ER 1105-2-100 requires the Corps to identify the plan that maximizes net national economic development (NED) benefits. The NED plan would be the most cost-effective solution from the federal perspective. In the Fargo-Moorhead Metro feasibility study, the Minnesota 40K short diversion was the NED plan. ER 1105-2-100 requires the Corps to recommend the NED plan unless there are "overriding reasons for selecting another plan based upon other Federal, State, local and international concerns." The non-federal sponsors preferred a North Dakota diversion alignment that would provide benefits to a greater number of people and reduce risk not only from the Red and Wild Rice rivers, but also from the Sheyenne, Maple, Rush and Lower Rush rivers. The North Dakota alignment benefits more people near the confluence of the Wild Rice and Red rivers and northwest of Fargo, North Dakota, than the NED plan does. Based on these considerations, the Assistant Secretary of the Army for Civil Works approved the North Dakota alignment as a locally preferred plan (LPP). The non-federal sponsors are responsible for additional costs associated with the LPP. For additional information see section 3.14.2 Cost Apportionment.

A-15 Benefit/Cost Information
Some comments addressed the benefit/cost analysis and specifically asked how the benefits and costs are calculated and where the data come from. Some comments asked how and why these figures have changed over the course of the study. Other comments questioned the truthfulness of the analysis, given that the estimates have changed dramatically.

Response:
All benefit-cost data presented are based on the latest and best modeling and are honest representations of said modeling. Refinement of modeling has been an ongoing process and therefore benefit-cost data have changed. A number of major changes in the analysis were made, including updated hydrology, that led to dramatic changes in the benefit analysis. The uncertainties inherent in all modeling efforts are made explicit in the benefit-cost analyses. All benefit-cost analyses are documented in the SDEIS and specifically in Appendix C (Economics) and Appendix L (Cost).

A-16 Level of Risk Reduction
Some comments asked how the level of flood risk reduction for the project was determined. One comment asked this question: "Why is the Fargo-Moorhead project being designed for a 500-

year flood when the Grand Forks-East Grand Forks flood protection system was designed for a 300-year flood?"

Response:
The level of risk reduction targeted in this project guided by a goal set by the non-federal sponsors' Work Group. The Metro Flood Study Work Group (MFSWG) established the goal of a stage of 36 feet at the Fargo gage during a 0.2-percent chance event, or the 500-year event. The assurance of a stage of 36 feet is not achieved at the 0.2 percent event with the Locally Preferred Plan, or the Federally Comparable Plan; the MFSWG has approved of the diversion channel alternatives providing a level of protection lower than the original goal. See section 7.4 of Appendix O of the SDEIS for more details.

A-17 Non-Structural Measures and Flood Storage
How are the terms "non-structural measures" and "flood storage" defined?

Response:
Many comments used the term non-structural measure to refer to wetlands/grasslands restoration measures or flood storage measures, or any measures that reduce runoff. The Corps definition of a non-structural measure is one that reduces the adverse affects of flooding without modifying flood behavior. These include buyouts, elevation of structures, structure flood-proofing, and others. Any measure that reduces runoff by definition changes flood behavior. For the purposes of this report, measures that modify flood behavior are considered structural measures, while measures that do not are non-structural. Comments A-2, A-3, A-4, A-8, A-9, and A-10 address concerns about measures that reduce runoff. Comment A-13 addresses concerns about non-structural measures.

A-18 Solution to Red River Basin Flooding Problems
The project does not even guarantee to solve the Red River Basins catastrophic flooding problems.

Response:
There is no measure that can guarantee to solve flooding problems; however, existing data and hydraulic modeling indicate that the proposed project would substantially reduce flood risk in the Fargo-Moorhead Metro Area. Even with the flood risk reduction project in place, there will always be residual risk to surrounding communities that can be further reduced through zoning, building codes, insurance and evacuation.

3.0 Comment Category B: EIS Process and Schedule

B-1 Process for commenting on DEIS
Several comments inquired about the correct process for commenting on the Draft Environmental Impact Statement (DEIS)

Response:
Comments can be submitted through the website www.waterinstitute.org/feasibility/index.htm, via postal mail at U.S. Army Corps of Engineers, St. Paul District, Attn. Aaron M. Snyder, 180 East Fifth Street, Suite 700, St Paul MN 55101-1678.

B-2 Coordination
Some comments asked the Corps to enlist other partners including Natural Resource Conservation Service (NRCS), the U.S. Fish and Wildlife Service (USFWS), and state and local agencies.

Response:
The Corps has been coordinating with the NRCS, USFWS, and state and local agencies from the beginning of this planning process. A list of all participating entities is included in Chapter 6 of the SDEIS.

B-3 Request for Supplemental Draft EIS
Some comments requested that the Corps prepare a Supplemental Draft EIS that addresses the issues raised in comments, and, once complete, provide a notice and comment period for the Supplemental Draft EIS.

Response:
In response to comments and to more fully study upstream and downstream impacts, the Corps has made the decision to prepare a Supplemental DEIS. The notice of intent to prepare a Supplemental DEIS was published on December 27, 2010. The Supplemental DEIS is being made available for public comment.

B-4 Request for Extension
Some comments asked the Corps to extend the comment period on the DEIS until 45 days following the release of a completed study on downstream impacts.

Response:
Although the Corps did not extend the comment period on the DEIS beyond August 9, 2010, it did decide to extend the feasibility study and prepare a Supplemental DEIS. The Supplemental DEIS is being made available for public comment.

4.0 Comment Category C: Impacts

C-1 Induced Growth
The DEIS did not include the environmental impacts of induced growth from changes to the regulatory floodplain. The environmental analysis needs to look at the indirect impacts of the project such as inducing development in the former 100-year floodplain. The main areas of indirect impacts are wetland losses, loss of flood storage areas, and loss of riparian habitat. Ironically, the diversion channels will also increase development in the floodplain, increasing the area that may need to be protected during major flood events.

Response:
The future without project condition indicates that Fargo will continue to grow at a rapid rate. There will be no impacts based on induced growth because the area will grow with or without the project.

C-2 Public Safety
Citizens that live in rural areas as well as entire towns downstream of the project will be cut off of emergency egress and emergency vehicles such as fire and ambulance. Travel will be impossible during large events lending to high risk of loss of human life.

Response:
Emergency access during floods is an existing problem in the study area. The Minnesota 35K diversion (FCP) and North Dakota 35K diversion (ND35K) would increase the frequency of flooding downstream to varying degrees depending upon location. Increased loss of emergency egress would occur infrequently for relatively short periods of time. The tentatively selected plan (North Dakota diversion with upstream staging, or LPP) would have minimal impacts to downstream flood stages, but could have impacts to emergency access upstream. All diversion plans would significantly improve public safety in the Fargo-Moorhead region by reducing the risk to several major medical facilities in the benefitted area and by improving emergency vehicle travel throughout the project area.

C-3 Farm Equipment Access
Having to travel longer distances between fields as well as having to drive large farm equipment across bridges for field access is costly and dangerous.

Response:
There will be bridges placed at a minimum every three miles to get around the diversion channel. Standard safety rules, laws and regulations for highway travel with heavy equipment will have to be complied with. The environmental consequences of the diversion channel alternatives are discussed in more detail in Chapter 5 of the SDEIS.

C-4 Safety for Recreational Users
Section 5.2.3.1.5 of the DEIS titled 'Public Health and Safety' should include a description of safety and operational measures proposed to ensure the safety of recreational users on the Red River and its tributaries.

Response:
The structure on the Red River will be treated as if it were a bridge for the majority of the time and recreational boats will be able to pass underneath it as they please. While the project is in operation recreational boaters will not be allowed to pass underneath the structure or to go within a to-be-determined distance of the structure for safety reasons. Appropriate signage and educational information regarding the Red River and its tributaries will be available to the public as the project moves forward.

C-5 Catastrophic Failure Risk
The SDEIS should include an analysis of control structure catastrophic failure risk and provide loss of life estimates in the event of catastrophic failure.

Response:
An analysis of the potential for loss of life due to flooding for existing conditions was completed January 5th, 2009 and included in the SDEIS in Appendix D Other Social Effects. An analysis that will look at catastrophic failure of the tentatively selected plan (LPP) will be done and included in the Final Environmental Impact Statement.

C-6 Mitigating for Downstream Impacts
The SDEIS must include mitigation for damages caused downstream and the estimated cost for addressing the downstream stage and flow increased regardless of Corps authority to fund such mitigation actions. The Council of Environmental Quality (CEQ) guidance titled NEPAs Forty Most Asked Questions states that: All relevant, reasonable, mitigation measures that could improve the project are to be identified, even if they are outside the jurisdiction of the lead agency or the cooperating agencies. Sections 1502.16(h), 1505(c). This will serve to alert agencies or officials who can implement these extra measures, and will encourage them to do so.

Response:
The SDEIS documents the economic value of downstream impacts and reflects them in the benefits and costs of the diversion channel alternatives. The study includes an analysis of non-structural measures that could be economically justified as part of the project. The study also includes an analysis to identify any impacts that rise to the level of a taking of property under the Fifth Amendment of the U.S. Constitution. The report identifies several measures that could be implemented by others to mitigate downstream and/or upstream impacts, including flood easements, farmstead ring levees, community levees, buyouts/relocations, and other non-structural measures. Existing federal, state and local programs are available to assist in implementing such measures. Several of the affected communities are independently pursuing levee projects as a result of the 2009 flood.

C-7 Extent of the Downstream Impacts
The extent of downstream impacts needs to be quantified all the way to the location on the river where there will be no impacts or where impacts will be negligible. Only when this is done can there be a quantification of the cost verses the benefits.

Response:
The SDEIS documents the full extent of the impacted area.

C-8 Cost of Mitigation for Downstream Impacts
The Corps should consider participation in the cost of mitigation for the downstream impacts caused by the project, including maintenance and operation costs in the future. How will these downstream impacts be mitigated? Any stage increase on the 100 year flood greater than six inches needs to be mitigated.

Response:
Corps policy only allows federal participation in measures that are economically justified or to address impacts that rise to the level of a taking of property under the Fifth Amendment of the U.S. Constitution. The non-federal sponsors may mitigate for additional impacts. Operation and Maintenance of the project is a requirement of the non-federal sponsors.

C-9 Flood Protection for Individual Homeowners
Will there be a process in place to provide flood protection options for homeowners who are situated outside of the protected area, but will be impacted by more water as a result of the project?

Response:
Corps policy only allows federal participation in measures that are economically justified or to address impacts that rise to the level of a taking of property under the Fifth Amendment of the U.S. Constitution. The study includes an analysis of non-structural measures that could be economically justified as part of the project and an analysis to identify any impacts that rise to the level of a Constitutional taking of property. The report identifies several measures that could be implemented by others to mitigate downstream and/or upstream impacts, including flood easements, farmstead ring levees, community levees, buyouts/relocations, and other non-structural measures. Existing federal, state and local programs are available to assist in implementing such measures.

C-10 Takings Analysis
The final EIS should include a description of the takings analysis and be explicit as to why the project does or does not result in a taking. Inclusion of the taking analysis as an appendix would be useful.

Response:
The takings analysis is prepared by our attorneys to advise the decision-makers, and is protected by attorney client privilege. Therefore it will not be included as an appendix. The Corps will

provide a summary of the results of the takings analysis and a description of the methodology used when analyzing Fifth Amendment takings.

C-11 Compensation for Rented Land
The proposed route of the diversion will directly and adversely impact farming operations and homes. Large tracts of farm land will be taken as part of the project; since land that we farm is rented we will not be compensated for this. It would put us out of business.

Response:
There are programs to assist when the acquisition of land for a project adversely affects businesses. In certain circumstances, farmers and other business owners can qualify for business relocation benefits. Consult with a relocation advisor to determine whether your business qualifies for benefits under Public Law 91-646.

C-12 Farm Land Fragmenting
Our remaining land will be on the wrong side of the diversion. The result will be a loss in value of the property. It is possible we might not even be able to sell it if need be. Not only will it affect our present way of life but also our retirement years.

Response:
The Fifth Amendment prohibits the acquisition of property by a governmental unit for a public use without just compensation. Just compensation is defined as the market value of a property as established by an impartial appraisal. Frequently, the government will purchase a portion of a property instead of the entire tract. When this happens, the market appraisal will establish the market value of the entire tract before the acquisition occurred and the market value of the portion of the property that is retained by the property owner (the remainder). The compensation that the property owner receives will be calculated by subtracting the value of the remainder from the value of the entire property before the acquisition occurred. In this way property owners are compensated for any decrease in the value of the remainder caused by the government's acquisition.

C-13 Township Roads and Bridges
The diversion channel will destroy our township roads and bridges so our access route to town would be difficult and lengthy. Bridges will be long and very difficult to transport our agricultural equipment across without the inevitable traffic jam half way across. We will lose a lot of rural access by dead end roads and our rural township, already poorly maintained by few taxpayer dollars, will lose more tax base. Rural businesses in and around the path of the diversion, will lose access during the building of it and certainly suffer economic impact. We constantly see this with road construction projects.

Response:
Bridges will be placed along the diversion channel every three miles. More information on the impacts of these bridges and a map detailing the location of the bridges can be found in section 5.2.3.1.4 of the SDEIS.

C-14 Loss of Long Term Earning Potential
The loss of land will greatly impact farming operations, it will take away a percentage of land from individual farmers ranging from 1 to 100 percent, in doing this it will take away long term earning potential from the farmers.

Response:
Generally speaking the value of land acquired is the fair market value of the property. The fair market value includes many aspects of the property in question. Earning potential is one of those aspects to be addressed in developing a fair market value. Regardless of the value determined, Public Law 91-646 outlines the requirements that must be followed to ensure a homeowner/landowner is compensated justly.

C-15 Loss of Farmstead
How do you plan to put a market value on farmsteads when the entire farm operation is run out of it?

Response:
Generally speaking the value of land acquired is the fair market value of the property. The fair market value includes many aspects of the property in question. Earning potential is one of those aspects to be address in developing a fair market value. Regardless of the value determined, Public Law 91-646 outlines the requirements that must be followed to ensure a homeowner/landowner is compensated justly. There are programs to assist when the acquisition of land for a project adversely affects a business. In certain circumstances, farmers and other business owners can qualify for business relocation benefits. Consult with a relocation advisor to determine whether your business qualifies for benefits under Public Law 91-646.

C-16 Extra Cost for Longer Commutes to Farmland
We have never farmed land more than two miles away in our lives; can you guarantee this to continue? Hundreds of extra hours per year will be spent on roads around the diversion costing tens of thousands of dollars in productivity and machinery costs per year. Who pays for this?

Response:
Any acquisition of land will include surveying, appraisals, and negotiations. Just compensation will be provided for all private property taken for the project. A full market analysis will be conducted on each parcel of land to determine a fair market value. This market value will be the amount to acquire the property. Other relocation costs and expenses will be included on a case-by-case basis. Diversion crossings and transportation impacts are discussed in the SDEIS as well as Appendix C (Economics).

C-17 Impacts to Aquifers
One of my biggest concerns is what will happen to the aquifers. Clean drinking water is the most priceless asset we have. With my water table so close to ground level we could pollute our ground waters forever.

Response:
The soils in the area are typically tight glacial clays. These types of soils are not conducive to transmitting large quantities of water especially over the relatively short timeframe that any proposed diversion would be filled for a high water event. For these reasons it is anticipated that there would be little to no impact to water quality in the aquifers from the diversion channel alternatives.

C-18 Eminent Domain
The proposed Fargo Diversion path in its big wide sweeping design clearly will be challenged by the North Dakota Eminent Domain laws. 32-15-01 item 4 of the Law states "Notwithstanding any other provision of law, a public use or a public purpose does not include public benefits of economic development, including an increase in tax base, tax revenues, employment, or general economic health." The City of Fargo has seen that the design be pushed west to allow future growth. The current design path would clearly allow future growth....the "including an increase in tax base...."

Response:
As non-federal sponsors, the cities of Fargo and Moorhead are responsible for acquiring the real estate necessary for the project. The non-federal sponsors will comply with all applicable state and federal laws when conducting real estate acquisitions, including the North Dakota eminent domain statute cited in the comment. The public purpose justifying the use of eminent domain is flood protection for the cities of Fargo and Moorhead, not an increase in the tax base of either city.

C-19 Defining Downstream Impacts
Downstream impacts have not been fully defined and they need to be able to show the timing, quantity, length of impacts before the project can move forward.

Response:
The project impacts have been defined in Chapter 5 of the SDEIS and summarized in Chapter 3. Detailed impact information can be found in Appendix B Hydraulics.

C-20 Consequences of Downstream Impacts
The project's downstream or upstream impacts will not come without consequences; there could be the loss of homes, increased repair costs to existing and future development, impacts to farmers and their crops, emergency and regular access issues, increased costs of flood insurance, additional damages to public infrastructure, increased flood fighting costs, natural resources impacts, along with other economic and social impacts (environmental justice and socioeconomic degeneration).

Response:
It is acknowledged that any project impacts will have consequences. The economic consequences have been identified in the SDEIS in Chapter 3 along with Appendix C - Economics. Social impacts from increased stages are included in Appendix D - Other Social

Effects. Impacts that have not been specifically identified or discussed are considered to be relatively minor and not significant.

C-21 Project Impacts versus Without Project with Emergency Levees
What will the impacts be with the project compared to when Fargo-Moorhead constructs emergency levees?

Response:
The project impacts have been analyzed based on no emergency measures being in place for any communities. However, in the DEIS released to the public on June 1, 2010 tables in Chapter 5 indicated the difference between with and without emergency protection for select reaches, these tables are include here for reference (Table S-1 and Table S-2).

Table S-1: Minnesota Short 35K – 10 percent chance event

Minnesota Short 35K – 10-percent chance event		
Location	Difference in inches between with Project and Existing with No Emergency Protection in Place	Difference in inches between with Project and Existing with Full Emergency Protection in Place
Halstad Gage	5.5	6
Near Hendrum	4	4.3
Perley	3.4	3.7
Georgetown	2.7	3
Minnesota Short 35K - 2-percent chance event		
Halstad Gage	1.3	1.1
Near Hendrum	4.3	3.5
Perley	2.6	1.9
Georgetown	2.1	1.3
Minnesota Short 35K - 1-percent chance event		
Halstad Gage	4.6	3.7
Near Hendrum	9.4	6.8
Perley	6	4.2
Georgetown	7.7	5.3

Table S-2: North Dakota East 35K – 10 percent chance event

North Dakota East 35K - 10-percent chance event		
Location	Difference in inches between with Project and Existing with No Emergency Protection in Place	Difference in inches between with Project and Existing with Full Emergency Protection in Place
Halstad Gage	24.7	25.2
Hendrum	16.7	17
Perley	10.9	11.3
Georgetown	7.1	7.3
North Dakota East 35K - 2-percent chance event		
Halstad Gage	2.3	2
Near Hendrum	6.8	6
Perley	3	2.3
Georgetown	1.8	1.1
North Dakota East 35K - 1-percent chance event		
Halstad Gage	5.3	4.4
Near Hendrum	10.4	7.9
Perley	5.4	3.6
Georgetown	7.6	5.2

C-22 Review for Each Impacted Site
There should be a review of each impacted site individually.

Response:
As part of the takings analysis that has been conducted as part of this study each impacted structure has been considered. The takings analysis will be updated as needed.

C-23 Future Floodplain Development
How will indirect support of floodplain development be minimized in the future?

Response:
Floodplain development is regulated by local units of government and if they are participants in the National Flood Insurance Program (NFIP) restrictions are placed on local development in the floodplain. Local governments are responsible for floodplain zoning and would likely leave some restrictions in place. For the LPP the staging area and Storage Area 1 will include fee acquisitions and the purchase of flowage easements which will not allow for future development in at least parts of those areas.

C-24 Ditching is the Problem
Ditching in the basin is the problem, what will happen in the future when more ditches are in place?

Response:
It is believed that ditching may contribute to smaller summer flood events; however it is unlikely that they play a significant role during large spring flood events. It is unlikely that drain improvements in the future would play a significant role in increases in flooding, as many areas are currently well ditched today.

C-25 Impacts to Natural Resources Downstream
Impacts to natural resources downstream of the diversion channel need to be addressed and identified.

Response:
Impacts to the natural resources for the entire area of impacts are described in Chapter 5 of the SDEIS.

C-26 Peak Stages
The EIS must explain how plans that will result in downstream stage increase are consistent with the identified planning constraints (specifically, 'avoid increasing peak stages').

Response:
Section 3 of the SDEIS and Appendix O - Plan Formulation discuss compliance with the planning constraints. It is acknowledged that it is not possible to develop a large scale regional flood risk management project without causing impacts.

C-27 Environmental Justice
The Corps' consideration of environmental justice is entirely deficient. It includes no scoping of, nor indeed any mention of, environmental justice (EJ). The DEIS assumes, without discussion, that the relevant geographic scale for EJ analysis is the project area. The DEIS must be supplemented to correct this deficiency.

Response:
An Environmental Justice analysis has been completed for this project. The geographic scale of the EJ section ranges from Abercrombie north to the Canadian border. The section discussing EJ can be found in Chapter 5 of the SDEIS.

C-28 Flood Insurance
What will the implication for flood insurance be as a result of this project?

Response:
Flood insurance rates may be updated based on the updated hydrology and hydraulics developed as part of this study. These updates will be coordinated with FEMA and the FEMA will decide how to use the updated hydrology and hydraulics. Generally speaking the Fargo-Moorhead Metro communities will see a reduction in their flood risk, and some properties outside of the metro may see some increase in their flood risk.

C-29 Ice Impacts to Downstream Flooding
Downstream impact should also report the additional potential of ice damage due to the crest coming higher and sooner than it would be without the diversion. It is logical to assume the sooner you get the crest, the more ice will be present and consequently the more ice damage will occur. Due to the above, it is logical to assume that damage to infrastructure - roads, power lines, phone and data cables, bridges, etc. - would be far more extensive than the expression of additional inches is telling us.

Response:
The Corps is conducting a study of ice impacts being led by an expert with the U.S. Army's Cold Regions Research and Engineering Laboratory (CRREL). This and other ice-related issues will be addressed through this study effort. Preliminary, if not final, results will be provided in the Final EIS.

C-30 Impacts to Existing Downstream Flood Protection Projects
The EIS needs to address impacts to downstream flood protection projects from potentially increased flows and stages, potential implications involving reduced flood protection, flood insurance map implications for homeowners and/or levee certification and re-certification requirement implications. One comment asked if additional state funding would be made available to raise the height of state funded levee projects.

Response:
Downstream impacts, including interactions with existing projects and conditions, have been identified in Chapter 5 of the SDEIS and in Appendix B - Hydraulics. Economic costs of the impacts are identified in Chapter 3 of the SDEIS and in Appendix C – Economics. The availability of additional state assistance would depend on the state's policies and procedures for funding flood damage reduction projects.

C-31 Regulations Related to Land Drainage
The EIS does not address problems with the current local, state, and federal regulations related to land drainage in the Red River basin. To keep up with our current wet cycle and to mitigate local flooding, ditches continue to be cleaned and improved at a rapid pace. Small culverts are being replaced by large culverts, regardless of downstream consequences. New ditches above Fargo continue to be proposed and installed. For example, a nine-mile drainage ditch through the Sheyenne sand hills is proposed as a way to mitigate a high water table in McLeod, North Dakota (population 28). Excavation on this ditch has begun. How will this, along with literally tens of thousands of other cleanouts, field scrapes, and other new ditches affect the model results and performance of the diversion? More importantly, how will downstream locations be influenced by continued expansion of drainage in the mid- to upper parts of the watershed, when combined with the diversion?

Response:
Drainage is generally a local development issue and regulated at the local level, unless it impacts waters of the United Sates and is under the jurisdiction of the Corps of Engineers. It is generally believed that ditching may contribute to smaller summer flood events, however it is unlikely that they play a significant role during large spring flood events. It is unlikely that drain improvements in the future would play a significant role in increases in flooding, as many areas are currently well drained today.

C-32 Increase in Base Flood Elevation
Section 3 of EO 11988 requires (1) an evaluation of alternatives that would not result in increases in the Base Flood Elevation (BFE), with an explanation of why they are not feasible and (2) certification that no structures are located in areas that would be impacted by the increased BFEs. These requirements may implicate additional alternatives, modifications to the alternatives, and may affect the NED, RED, and OSE accounts in your analysis. FEMA encouraged the Corps to revise the DEIS to take into account these elements and provide FEMA an opportunity to review the revised version before it becomes final.

Response:
Chapter 3 of the SDEIS and Appendix O - Plan Formulation address compliance with Executive Order 11988. The Corps will continue to work with FEMA on the upstream and downstream impacts of the project.

C-33 Floodplain Development
The EIS can be improved by identifying the measures that would minimize the adverse impacts from the proposed floodplain modification. The document can be improved by identifying measures to reduce the alternatives' indirect support of future development in the floodplain.

Response:
Chapter 3 of the SDEIS and Appendix O - Plan Formulation address compliance with Executive Order 11988. Floodplain development is regulated by local units of government and if they are participants in the National Flood Insurance Program (NFIP) restrictions are placed on local development in the floodplain. For the LPP the staging area and Storage Area 1 will include buyouts of properties and the purchase of flowage easements which will not allow for future development in those areas.

C-34 Socioeconomic degeneration
Several comments mentioned the issue of socioeconomic degeneration. This project may cause accelerated migration of rural residents to the safety of FMM. NEPA requires analysis of this socioeconomic degeneration. Aspects of socioeconomic degeneration include people moving away, impacts on local businesses, and impacts on property values. The project will impose hardship on some communities. The DEIS is silent on socioeconomic degeneration and on this basis alone is inadequate and must be supplemented before it is presented to the Corps' final decision maker.

Response:
The issue of socioeconomic degeneration is discussed in the SDEIS in section 5.2.3.1.7 and in section 5.2.3.2.1. This is also addressed in Appendix D of the report.

C-35 Impacts to Caledonia N.D.
The unincorporated town of Caledonia may have some project related impacts, have they been looked at?

Response:
The town of Caledonia has been inventoried and it has been considered in the downstream impacts analysis. More information on the downstream impacts analysis and impacts at the Goose River, where Caledonia is located, can be found in the SDEIS, Chapter 3, Section 3.8.4.2. Structures in Caledonia were accounted for in downstream economic analysis in Appendix C.

C-36 Downstream Towns Do Not Support this Plan
Downstream towns, townships, and counties downstream towns have spoke out against a project that would put more water onto their towns.

Response:
Noted.

C-37 Change in Alignment
We would support a slight change in the alignment that would reduce the amount of farmsteads that would need to be moved.

Response:
The Corps will consider slight alignment shifts where practical to reduce impacts to individuals.

C-38 Shift Alignment Further South and West
The proposed ND 35K route should be located further south so as to allow proper development of the entire area. It should also be located further west for its entire route so as to eliminate stifling of growth in Horace and West Fargo, ND.

Response:
The objective of the Fargo-Moorhead Metro project is to reduce overall flood risk to existing development in the metropolitan area, including the city of Horace. Federal projects must comply with federal regulations and policies. Executive Order (EO) 11988 Floodplain Management states a goal to "avoid direct or indirect support of floodplain development wherever there is a practicable alternative." If avoiding the floodplain altogether is not practicable, EO 11988 requires federal agencies to "minimize potential harm to or within the floodplain." On the west edge of the metro area, there is considerable development as far south as Horace east of the existing Sheyenne Diversion, so we chose to follow the existing diversion as much as possible and pass south of Horace. This alignment substantially reduces the risk of flooding in Horace from the Sheyenne, Wild Rice and Red rivers while minimizing the loss of floodplain in the area. The project would not prevent development east of Horace, west of the diversion or south of the diversion west of County Road 17. The North Dakota West alignment between Horace and West Fargo, ND is discussed in section 3.7.3.

C-39 Impacts to Rural Public Infrastructure
Impacts to rural public infrastructure need to be quantified. This includes impacts to roads, highways, bridges, state campgrounds, and other public infrastructure. In addition, impacts to agricultural and private lands also should be quantified. Highway 75 and other rural roadways will be closed sooner and possibly longer with increased levels of water causing more damage to the roadway. When roads are closed, transportation of goods and services is impaired, schools need to be closed, and fire and medical services are limited. Existing levee systems will need additional improvements.

Response:
Impacts to downstream and upstream infrastructure are addressed in the main report. More information on the impacts to bridges and other infrastructure along with a map detailing the location of bridges can be found in section 5.2.3.1.4 of the SDEIS. Sections 3.8.3 and 3.8.4 of Appendix C of the SDEIS contains additional details about impacts to rural and public infrastructure.

C-40 West Side Drainage
The diversion channel must not affect drainage of agricultural land and legal drains.

Response:
The diversion channel, regardless of its location in either North Dakota or Minnesota, will be designed to minimize impacts to local drainage. Where the channel intersects existing legal drains, the channel will be designed to accept flow from the drain. In areas between drains, ditches adjacent to the channel will be used to convey drainage to a place where it can enter the diversion channel. Section 3.7.2 of the SDEIS includes a figure depicting the channel profile, this chart indicates when flows in the diversion are below ground flows will enter the diversion. If flows in the diversion are above ground flows from local drainage will not enter the diversion. Drainage in the summer will likely not be impacted as summer flood events are significantly smaller than spring flood events.

C-41 Maintain Drain 13
The Rush River Water Resource District proposed a realignment of the Red River Diversion to maintain Drain #13 as a legal drain by moving the route ½ mile or 1 mile east. The District submitted a petition signed by 50 residents and landowners, representing 95% of the residents living in the drainage area of Drain #13. The proposed realignment was approved by the Rush River Water Resource District Board at its July 17, 2010 meeting and the board requests that the Corps support implementation of the plan.

Response:
The proposed North Dakota diversion alignment has been shifted to maintain Drain #13 and to avoid a farmstead in the area northwest of Harwood, ND.

C-42 Farmland Policy Protection Act (FPPA)
Because this project will impact agricultural lands, it is a requirement that a Farmland Policy Protection Act (FPPA) site assessment be appropriately filed. Should the alternatives be modified to impact additional farmland, the FPPA review should be reinitiated.

Response:
As a result of slight modifications to the project an updated Farmland Conversion Impact Rating has been requested by the Corps and received from NRCS. If there are more modifications to the projects impacts this will be updated again. The AD 1006 can be found in Appendix F of the SDEIS.

C-43 Suggestions to Minimize Impacts to Farmers
- Utilize north-south or east-west alignments as much as possible to minimize diagonal crossings of farmlands
- Design and build the channel to carry 100yr flood flows with surface elevation below outside ground elevation when possible to ensure positive drainage from surrounding farmland

- Design and build drainage channels outside of spoil banks to ensure surface water can get to the diversion inlets
- Design and build gravel roads along diversion between bridge crossings to allow for local traffic and farm equipment
- Design and build tile drainage inlets into the diversion to allow for development of gravity tile drainage systems into diversion over time
- Allow landowners to retain ownership of land not needed for the project
- Corps should get input from local farmers and township officials regarding diversion alignment spoil location and drainage inlet locations.

Response:
The Corps will work with the local farmers during future phases of the project to ensure that impacts are as minimal as possible and consideration will be given to all of the issues raised above.

C-44 Spring versus Summer Flooding Impacts to Farmland
No differentiation between the significantly different impacts that spring and summer flood events have on affected agricultural lands. An assessment of the impacts of each event should be included in a comprehensive evaluation of downstream impacts.

Response:
Based on the current operating plan where the diversion will go into operation when the flow reaches 9,600 cfs, the diversion would have operated four times during the summer months; the maximum discharges were 13,200, 9,810, 13,500, and 10,600 cfs in 1975, 2005, 2007 and 2009 respectively. For comparison the maximum discharges were 29,100 cfs and 21,100 cfs during the spring floods of 2009 and 2010, respectively. As the data indicates, there is a much higher probability of a spring event but also the possibility of a summer event. Events in the spring time will have minimum impact since the water will recede in time for farmers to be able to get their crops in the field to take advantage of a full growing season, whereas summer impacts could completely wipe out the crop for the season. Every effort will be made to not operate the project during summer events, so the expectation is that there will be no impact unless faced with an extremely rare event. If the project is not operated during the summer months, no staging will be required and without staging there are no impacts; as such, there are no project impacts in the summer when the project is not operated.

C-45 Increased Flooding on Farmland
Farmland downstream of the diversion channel outlet will flood more frequently with project in place, this farmland already has many legal drains that run through it and terminate at the Red River. This flooding could result in delays in planting causing loss of yields. Flooding events occurring after planting could cause crops to die. Farmers use crop insurance to ease their risk with regard to natural events, with more frequent flooding by this project would cause an increase in claims over several years, it is possible that Federal Crop Insurance may deem the

land uninsurable and prevent farmers from purchasing crop insurance, reducing the value of the land.

Response:
The design of the project will be to keep increased flooding to a minimum in duration and frequency. Very few parcels will have large impacts for a sustained duration. For impacts that rise to the level of a taking under the Fifth Amendment of the U.S. Constitution, the landowner will be entitled to just compensation.

C-46 Replacing Farmland
How can 6500 acres of farmland be replaced, at what cost and where will this land be found? This project will raise the value of any farmland for sale within the area.

Response:
The value of farmland along the project will be determined by market values, there is no current evidence that values will increase as a result of the project.

C-47 Cultural Resources
The proposed Fargo Diversion will impact thousands of acres of historical land containing information of past cultures. Native American artifacts are uncovered all of the time by farmers in this region.

Response:
A Phase I cultural resources survey of the proposed diversion alignments and tieback levees on both the North Dakota and Minnesota sides of the Red River is currently underway. If changes are made to these alignments, any new areas will also be surveyed. A Phase I survey consisted of a walkover of the project area by archeologists to identify and record any surface-visible prehistoric and historic archeological sites. Subsurface testing during the survey involves small hand-dug shovel holes or soil auger holes to identify shallowly buried prehistoric archeological sites and soil cores to identify more deeply buried sites. The purpose of this survey is to locate and record both prehistoric and historic archeological sites and any standing structures over 50 years old. The next step will be to do testing and archival research for any archeological sites found in the selected alignment to determine if they are eligible for inclusion on the National Register of Historic Places. Archival research and interviews on the history of any 50 year old or older structures, including farmsteads, will be conducted to determine if they meet any of the eligibility criteria for listing on the National Register (i.e., the site/building is associated with significant historic events; is associated with important persons; has a distinctive type, period or method of construction, is the work of a master architect, possesses high artistic values, or represents a significant and distinguishable entity whose components may lack individual distinction; and/or has the potential to provide information important to history or prehistory). Finally, any archeological sites and architectural structures listed on or determined eligible to the National Register which will be impacted by the diversion construction will have to have those impacts mitigated prior to diversion or tieback levee construction in that area. Mitigation for eligible or listed prehistoric or historic archeological sites generally consists of data recovery excavation of a portion of the site. Mitigation for historic architectural sites generally consists of

large-format photography and measured drawings of any buildings and structures, a scaled planview map of a farmstead layout, and a written history of the site. Native American tribes with historic ties to the Red River Valley are also being consulted regarding locations in the project area which are important to them either currently or historically.

C-48 LPP is More Environmentally Damaging and Expensive
The proposed LPP will result in greater ecological impacts than both the FCP and the NED. More tributaries and roughly 120 more acres of wetlands, forests, aquatic riverine, and fish tributaries and passages will be affected from the LPP than the FCP. The LPP will have a greater impact on wildlife and fisheries than the FCP and the NED. The comparable costs (in millions) of the LPP, FCP, and NED are $1,462, $1,236, and $1,367, respectively. The Corps selected the LPP primarily because of political considerations. The primary impetus for the construction of the massive diversion channel being proposed has come from the North Dakota congressional delegation and the City of Fargo. Because of lukewarm support for the project by Moorhead and other Minnesota political entities, North Dakota supporters pressured the Corps and the Assistant Secretary for Civil Works to accept the LPP alternative. The result is that the DEIS has identified a preferred alternative that is the most ecologically harmful and the most expensive, the 36-mile North Dakota LPP.

Response:
The costs of the LPP and FCP are described in Chapters 3 and 5 of the SDEIS. The primary planning objective is to reduce flood risk to the entire Fargo-Moorhead Metro area. The LPP reduces flood risk to a larger geographic area and a greater number of people than the FCP.

C-49 Fish and Wildlife Service Coordination Act
Under the Fish and Wildlife Coordination Act (16 U.S.C. 661 et seq.), the U.S. Fish and Wildlife Service (USFWS) is authorized to provide recommendations to the Corps on federally funded water development projects. The USFWS has recommended the FCP alternative rather than the LPP.

Response:
The Fish and Wildlife Service has been involved in the process from the very beginning of the planning process; they have provided a Fish and Wildlife Service Coordination Act draft report in which they have made recommendations for this project. Each of those recommendations is addressed in the SDEIS. The Fish and Wildlife Service Coordination Act report can be found in Attachment 3 of the SDEIS.

C-50 Transfer of Invasive Species
The DEIS does not discuss the potential for invasive species transport during construction or how the operation of the project may potentially be affected. Given the recent discovery of zebra mussels in the Red River, maintenance associated with removal from infrastructure (to ensure smooth operation) can be costly and should be included in the analysis provided by the EIS.

Response:
The diversion channel alternatives would not be expected to speed the spread of any invasive species over existing conditions. Invasive species, such as zebra mussels, would not be expected to affect the operation of the project.

C-51 Rare Species
In the interests of providing a quantitative comprehensive analysis, the EIS must describe whether key habitats and species of greatest conservation need are present in the project area and whether they will be affected by the project. The EIS should document the known presence of lake sturgeon in the Red River basin.

Response:
Section 4.2.1.9 of the SDEIS provides a Red River basin fish species list. This list is taken from primary scientific literature (a 2005 symposium of the American Fisheries Society, *45:293-321*), which was written by a MNDNR biologist who has participated in agency coordination for this project. This table (pg 314 in Aadland 2005) states that lake sturgeon have been extirpated from the Red River basin. However, Aadland (2005) also recounts the history of lake sturgeon in the basin, including efforts to reintroduce the species. This recount is included in section 4.2.1.9.1 of the SDEIS, including reference to stocking numbers since 1997. We believe this information taken from primary literature, written by a MNDNR biologists on our coordination team, accurately conveys the status of lake sturgeon in the basin. Information identifying other state and federal listed species is documented in the SDEIS in Chapter 4 and 5.

C-52 Geomorphic Impacts Mitigation
It is encouraged that the Corps uses the Emergency Watershed Projection Program administered by NRCS or acquisition of riparian corridors to mitigate for geomorphic impacts caused by the project.

Response:
Coordination with NRCS has been ongoing discussing potential riparian areas where the landowners would be interested in having riparian habitat restored as mitigation for the Fargo Moorhead Metro project. Areas have been identified along the Maple, Wild Rice and other tributaries in the project area to look at in further detail.

C-53 Drayton Dam for Mitigation
Drayton Dam is the dam that has the highest priority for fish passage, and should be considered before other dams for mitigation for fish passage for this project.

Response:
Corps agrees that Drayton Dam is a higher priority; by providing for fish passage at Drayton Dam we are reconnecting several hundred miles of Red River.

C-54 Wetland Mitigation
There is concern that wetland mitigation within the bottom of the diversion channel may not restore form and function that is lost by the wetlands impacted by project.

Response:
An analysis was completed to describe the form and function of the wetlands to be lost; this information will be used when designing the wetland types for the bottom of the diversion channel. An adaptive management and monitoring plan has been developed to ensure that proper form and function is achieved with the new wetlands. The types of wetlands lost are mostly farmed wetland with very poor function ratings. The wetlands created on the bottom of the diversion channel will easily exceed the functions provided by the existing farmed wetlands, particularly given that the amount of acreage available on the bottom of the diversion channel greatly exceeds that lost.

C-55 Mitigation for Riparian Forests
It is desired that all mitigation lands be acquired in fee so that the land can be made available to the public for use after the mitigation is complete.

Response:
This is being considered as an option; in order for this to occur there would have to be a willing property manager of this land other than the Corps.

C-56 Mitigation and Monitoring
The mitigation and monitoring plans for the project are largely undefined. Draft mitigation and monitoring plans(s) should be included in the FEIS identifying which measures are required, who will be implementing and funding the measures and identifying the criteria that will be used to determine success. Further, a monitoring and adaptive management program should be created to ensure mitigation measures are implemented effectively. Public participation and accountability should be included as part of these plans.

Response:
A mitigation and adaptive management section has been written and coordinated with the partners and is included as Attachment 6 in the SDEIS.

C-57 Mitigation for Less than Significant Impacts
The EIS must explicitly state why it is not feasible to provide mitigation for what Corps feels are less than significant impacts (i.e fish passage, Red River and tributary geomorphology, and downstream stage increases).

Response:
Significant impacts have been identified and addressed within the SDEIS. Fish passage may be significant for the LPP diversion alternative, and mitigation would be provided. For other resource categories the Corps of Engineers has determined that impacts are not significant. Thus, further mitigation is not required (Reference: Implementation guidance for Section 2036(a) of the Water Resources Development Act 2007 – Mitigation for Fish and Wildlife and Wetlands Losses, 31 Aug 2009). The SDEIS includes greater detail on quantification of impacts and subsequent mitigation needs for impacts to be considered potentially significant.

C-58 Mitigation Measures Must Ensure No Loss of Habitat Function
The EIS must demonstrate that proposed mitigation measures ensure no loss of habitat function or values. Replacement of habitat, as a mitigation method, can replace lost functions and values. The success of habitat restoration or creation in replacing function and value can be estimated with the Habitat Evaluation Procedure (HEP), Habitat Equivalency Analysis (HEA) or other methods.

Response:
An adaptive management and mitigation plan has been included which provides habitat values for lost habitat in greater detail; this section can be found as Attachment 6 in the SDEIS.

C-59 Adaptive Management
It is unknown whether or not the project will function as modeled after it is built. There has to be monitoring in place to ensure that the project indeed function as modeled to ensure that adequate mitigation was used to offset the impacts. If there are inadequacies and there are actually more impacts than described during the study phase where will the funding come from to mitigate for these greater impacts? There needs to be a commitment from the sponsors in the form of financial assurance and agreement to undertake future mitigation as necessary.

Response:
Mitigation measures outlined in the Final EIS would be implemented concurrently with the flood risk management project. This would use federal funding and be cost-shared with the non-federal sponsors. Pre-project habitat monitoring would be accomplished with a combination of federal and sponsor funds. Post-project habitat monitoring, as outlined in the Final EIS, will be the responsibility of the non-federal sponsors as a part of the operation and maintenance plan for the project. Pre- and post-project monitoring will be central parts to the adaptive management plan to help verify whether or not mitigation measures are off-setting project impacts. Should significant remaining impacts be identified in the future, the sponsors would then pursue funding options for additional mitigation. This could be local, state or federal funding. However, no guarantee can be made at this time that additional federal funding will be provided should future impacts be identified.

C-60 Water Quality
Identify and protect water well locations during construction of the diversion channel. Drinking water supply wells should be identified and measures should be in-place during and after construction to monitor ground water levels. The Corps should have a contingency plan to protect water wells in case of spills or unintended contaminant releases. Surface water should be diverted away from well casings during construction.

Response:
All water well locations have been identified from the Minnesota Department of Health (MDH) or North Dakota State Water Commission websites. Any wells within the proposed diversion footprints will be abandoned per Minnesota or North Dakota state guidelines. As part of the design process the Corps is currently undertaking a study to better define aerial extent and determine phreatic surface of aquifers along the alignments. The final design will incorporate

any feasible measures to mitigate or eliminate impacts to the groundwater table. If necessary, long term monitoring of regional aquifers likely would be the responsibility of the non-federal sponsors as part of Operation and Maintenance. All Corps construction contracts have spill prevention/control plans. The Corps agrees that surface water must be diverted from well casings during construction.

C-61 Contaminated Water from Devils Lake
The water in Devils Lake will degrade the Sheyenne River and water from Stump Lake will be even worse. How will water of that quality affect downstream residents, owners and users?

Response:
The impacts that this water will have on downstream residents, owners and users would not change with or without the Fargo-Moorhead Metro project.

C-62 Proper Construction Methods
Construction best management practices should be taken to minimize impacts including: measures to minimize fugitive dust emissions; care to be taken near any water of the State (stream beds, banks, replacement and revegetation); permits required to discharge storm water runoff in projects disturbing ≥1 acre; and noise should be controlled through the use of recommended mufflers and schedule. Any fill material placed below the high water mark must be free of top solids, decomposable materials and persistent synthetic organic compounds (in toxic concentrations).

Response:
Best management practices will be used during construction to prevent erosion of exposed surfaces, to minimize dust emissions, and to avoid unnecessary impacts to waters. NPDES and Stormwater permits will be required before doing any work. Clean fill material will be used for the project, both below and above the high water mark.

C-63 Sedimentation
All of the proposed alternatives will have a significant effect on the geomorphology, sedimentation and sediment dynamics of the Red River. The diversion channel will substantially affect sedimentation in the Red River and tributaries. Experiences with the Sheyenne Diversion channel make it clear that large changes in sediment dynamics are likely to occur. Sedimentation can reduce storage capacity that leads to flooding. Sedimentation can also have negative impacts on aquatic life that can lead to fish mortality and changes in behavior. The Draft EIS needs to completely assess the geomorphology and sediment dynamics using concrete sediment data to evaluate sedimentation impacts and include sedimentation mitigation costs.

Response:
The SDEIS includes the USGS report "Sediment Concentrations, Loads, and Particle Size Distributions in the Red River of the North and Selected Tributaries near Fargo, North Dakota during the 2010 Spring High-Flow Event." In addition, Appendix F of the "Red River Diversion, Fargo-Moorhead Metro Flood Risk Management Project, Feasibility Study, Phase 4" prepared by the consulting team (Moore Engineering, Inc., Houston Engineering, Inc., Barr

Engineering, Co., and HDR Engineering, Inc.) includes a full exhibit presenting and interpreting this USGS 2010 dataset as well as other sediment/geomorphology datasets available for the study area, upon which an evaluation of the potential impacts on the sediment transport characteristics and geomorphology of the rivers that could be anticipated as a result of the proposed project will be made. The USGS 2010 dataset combined with the Geomorphology Study by West Consultants (2001) clearly show that the Horace-West Fargo diversion has not resulted in large changes on the sediment dynamics of the Sheyenne River; the Horace West Fargo diversion provides an example of the potential maximum impacts that can be expected from the diversion channel alternatives.

C-64 Erosion and Sedimentation Impacts
The Corps must determine and quantify the cost and impacts of erosion and sedimentation, including sheet erosion on agricultural lands, for various crest elevations downstream of the proposed diversion channel that are caused by the diversion channel.

Response:
The LPP will result in minor increased water surface crest elevations downstream of the diversion. However, staging upstream of the diversion is part of the LPP in the Phase 4 feasibility design. Appendix F of the "Red River Diversion, Fargo-Moorhead Metro Flood Risk Management Project, Feasibility Study, Phase 4" prepared by the consulting team (Moore Engineering, Inc., Houston Engineering, Inc., Barr Engineering, Co., and HDR Engineering, Inc.) includes a full exhibit presenting the evaluation of potential impacts on the sediment transport characteristics and geomorphology of the rivers due to this staging upstream. The ND35K and the FCP would result in increased water surface elevations downstream of the diversion. These increased water surface elevations would have not resulted in noticeable impacts on erosion and sedimentation because (1) the increases mostly occur during large infrequent flood events, not during bankfull conditions when there is no need to operate the project control structures; (2) the increases are on top of water surface elevations that under existing conditions already extent over a very wide floodplain, with relatively low flow velocities, which will not be significantly affected by the project; and (3) the predominant form of sediment transport in the Red River of the North is in suspension, with most of the suspended sediment consisting of clays and silts that interact very little with the channel bed.

C-65 Distribution of Suspended Sediments
There is no data to support the assumption that there will be a uniform distribution of suspended sediment concentration throughout the water column. Particle size analysis of the total sediment load of the Red River should be included in the final EIS. Without this information, mitigation must be included for impacts to the Red River.

Response:
The SDEIS includes the USGS report "Sediment Concentrations, Loads, and Particle Size Distributions in the Red River of the North and Selected Tributaries near Fargo, North Dakota during the 2010 Spring High-Flow Event." This report presents measurements of sediment particle sizes through the water column, which demonstrate the validity of the assumption of uniform distribution (even during very large floods, which is precisely when the diversion would

be in operation). This report also presents measurements of particle size gradation for bed sediment, bedload sediment and suspended sediment during the pass of a large flood hydrograph in the Red River of the North and the North Dakota tributaries.

C-66 Sedimentation and Aquatic Impacts
The EIS should also discuss whether sedimentation and impacts to aquatic habitat associated with reduced flows from the confluences of the Rush and Lower Rush Rivers to the diversion channel outlet are anticipated. Also, potential geomorphic impacts to Wolverton Creek and necessary mitigation of impacts must be included in the final EIS.

Response:
Additional information was added to the SDEIS to further address potential geomorphic effects, including potential effects to Wolverton Creek. Appendix F of the "Red River Diversion, Fargo-Moorhead Metro Flood Risk Management Project, Feasibility Study, Phase 4" prepared by the consulting team (Moore Engineering, Inc., Houston Engineering, Inc., Barr Engineering, Co., and HDR Engineering, Inc.) includes a full exhibit presenting additional information on potential impacts on sediment transport characteristics and geomorphology.

C-67 Secondary Wetland Impacts
The Corps' suggestion of mitigating for wetlands by designing the bottom of the diversion channel as a wetland is not enough. There are not enough acres in the bottom of the diversion to satisfy the necessary mitigation for this project. The DEIS does not address how these wetlands will be comparable to the previously existing wetlands that were affected by the diversion and does not describe the diversion channel wetlands' functions for surrounding wildlife. How will secondary wetland impacts be mitigated?

Response:
A detailed wetland analysis has been done for the LPP, FCP and ND35K. A summary of this analysis can be found in the SDEIS Chapter 5, and the more detailed analysis is located in Appendix F. As part of this analysis, wetlands were delineated and a function analysis was done using the Minnesota Routine Assessment Method (MnRAM) as recommended by the Fish and Wildlife Service for each wetland type. This analysis identified wetland functions, including functions for wildlife. Using this information the Corps is confident that mitigation within the diversion channel bottom would more than adequately mitigate for the loss of wetlands. This mitigation not only includes the 10 foot wide low flow channel but also includes the entire 250 foot bottom width of the diversion channel and an undetermined distance up the side slope of the channel. Wetland features will be included during the design of the diversion channel to ensure that different wetland functions are being incorporated into the plan.

An adaptive management and mitigation plan has also been included (Attachment 6 of the SDEIS). This plan discusses the wetland mitigation, costs, and monitoring that will be conducted post project to ensure the success of the mitigation.

C-68 Fish Passage
Fish passage channel at the Wild Rice River appears to only allow fish to enter the diversion channel and not directly back into the Wild Rice River. Fish passage will be severely limited during any event greater than a 5-year event under this scenario.

Response:
Additional design information is provided in the SDEIS. We will continue to coordinate the design of fish passage channels with the agency team. The design information addressing this can be found in Section F2.2.5 of Appendix F of Attachment 5 of the SDEIS.

C-69 Adverse Impacts to Fish and Wildlife
The diversion channel will create numerous problems for multiple tributaries and wildlife and aquatic species. The final EIS must address the negative impacts to all tributaries and the specific adversities facing wildlife and aquatic life. A plan to mitigate these adversities must be identified and mitigation costs must be included in the final EIS.

Response:
The adverse impacts to fish and wildlife due to the project were addressed in Chapter 5 of the DEIS. This discussion was carried forward into the SDEIS in Chapter 5. A mitigation plan, including costs, was described in the draft report, and is provided in Attachment 6 of the SDEIS.

C-70 Fish Passage Mitigation
The proposed alternatives will have direct impacts on fish passage and connectivity of the Red River and its tributaries. The DEIS does not adequately assess these issues. Further work is needed to describe the effectiveness of proposed fish passage mitigation measures and a more complete picture of what species are going to be affected and when critical passage issues are likely to occur. Minnesota, North Dakota, and local communities have invested a substantial amount of resources into modifying and removing fish passage barriers on the Red River and its tributaries to improve the function of the aquatic system. A new structure on the Red that acts as an effective fish barrier is a significant step backwards that must be avoided. Impassable structures on the tributaries also will result in lost functions for the aquatic system. The stream habitat losses evident in the proposed alternatives will have to be mitigated. The DNR does not concur with Corps conclusions regarding fish passage and believes mitigation is necessary.

Response:
The SDEIS reconsiders potential impacts to fish passage and connectivity based on comments on the DEIS, as well as altered designs and operations. After further consideration, impacts would again be expected to be less than significant for the FCP and ND35K. However, impacts would be potentially significant for the LPP. Additional fish passage channels, as well as mitigation (fish passage at Drayton Dam) is included for the LPP to offset potential impacts that could arise from partially reduced connectivity.

C-71 Woody Debris
The EIS must acknowledge that woody debris is an important component of many river systems providing fish habitat and channel stability. Increased grubbing and clearing at the structures may reduce habitat for both aquatic and terrestrial organism. The Department does not support wholesale removal of woody debris immediately adjacent to the rivers, despite acknowledging that the woody debris may increase maintenance.

Response:
Clearing of woody vegetation adjacent to structures may be necessary to ensure structural integrity. Similarly, woody debris that accumulates at structures may need to be removed if they threaten the integrity of the structures. Removal of woody vegetation and debris at structures will be minimized to the extent practicable. Woody debris is acknowledged as being of value to certain fish and wildlife species in Appendix F of the SDEIS.

C-72 Indirect Impacts
Indirect impacts are likely, and increased drainage is likely in the form of tile or surface drains. This may impact wetlands very near the project area. How will these indirect impacts be addressed?

Response:
A detailed wetland analysis has been done for the LPP, FCP and ND35K. A summary of this analysis can be found in Chapter 5, and the more detailed analysis is located in the SDEIS, Appendix F. Direct and indirect impacts to wetlands will be mitigated and wetland functions have been incorporated into the design plan. Attachment 6 of the SDEIS contains an adaptive management and mitigation plan. This plan discusses the wetland mitigation, costs, and monitoring that will be conducted post project to ensure the success of the mitigation.

C-73 Compensatory Mitigation
Compensatory mitigation must meet the requirements of Section 404 of the Clean Water Act and, in the case of the Minnesota alternatives, the requirements of the Minnesota Wetland Conservation Act (WCA).

Response:
Compensatory mitigation in accordance with section 404 of the Clean Water Act is planned and recommended in Attachment 6 of the SDEIS.

C-74 USDA Program Benefits
The project sponsors are not USDA program benefit recipients, thus the wetland conservation (swampbuster) provisions of the 1985 Food Security Act, as amended, are not applicable. However, if actions from by a non-USDA participant may jeopardize owners/operators from USDA eligibility, the landowner/operator should contact the county Farm Service Agency (FSA) to apply for a third party exemption.

Response:
Noted.

C-75 Culvert Mapping
Have culverts been mapped?

Response:
Culvert locations are summarized in Section 5.2.1.7 of the SDEIS. Culverts are also addressed in Appendix F of the SDEIS.

C-76 Expert Opinion Elicitation
The DEIS mentions that flooding from Fargo has increased over recent decades, but results from the Expert Opinion Elicitation on pg 85 states that 1 percent flows decrease from the present to the year 2060. Aren't these statements contradictory?

Response:
The flood history of the Red River Basin show that flood flows have been larger and more frequent in recent decades compared to previous decades. Records from approximately 1940 to present are markedly "wetter" that the decades prior to 1940. The statement that flows will decrease between present and fifty years from now reflects the uncertainty in the causes of the "wet" period. These statements are not contradictory, but the practical implication is that the "wet" cycle is at its peak and flows will begin to decrease in the future. The assumption that the Basin would transition out of the "wet" cycle over the next fifty years was made in order to account for uncertainty in the hydrology and to take a conservative approach for economic analysis.

C-77 Indirect and Ongoing Economic Impacts
Have all indirect economic impacts been accounted for? Loss of farmland will result in additional losses to regional businesses such as seed dealers, grain elevator, fertilizer sales, and more. These economic impacts will occur annually, the losses will be ongoing. Taking 6500 acres out of the tax base will have negative impacts. The cumulative indirect and ongoing economic impacts will be devastating.

Response:
Not all economic impacts are fully known. The study team has attempted to address all major economic impacts that would affect decision making at the local and federal level. All known economic impacts are discussed in Appendix C (Economics), Appendix D (Other Social Effects), and in section 5.2.3 of the SDEIS.

C-78 Velocity Gradients for Fish Communities
Department requests that, after construction, actual velocities be collected at various river stages to assure velocity gradients are available to the fish communities.

Response:
Concur. Velocity gradients will be monitored following project construction.

C-79 Update Table
An updated table similar to that used in Appendix F should be included in Section 4.2.1.14.4 of the EIS. Section 6.2.10 must provide determination of all state and federally listed species.

Response:
An updated table is included in the SDEIS Appendix F, and Chapter 4 references those tables. Chapter 5 provides determinations for all federally listed species and state listed species that have a moderate chance of occurring within the study area.

C-80 Stormwater Pollution Prevention Plan
In order to minimize erosion and sedimentation caused by construction activities, a Stormwater Pollution Prevention Plan must be developed that addresses utilization of appropriate water quality Best Management Practices.

Response:
As stated in Section 3.14.4 Permits of the SDEIS, the construction contractors will be responsible for acquiring the National Pollutant Discharge Elimination System (NPDES) permit from the Minnesota Pollution Control Agency and the North Dakota Department of Health. The construction contractors are required to prepare the Stormwater Pollution Prevention Plan as part of this process.

C-81 Ecological Benefits to Fish and Wildlife
The diversion channel will offer no ecological benefits and will almost certainly have large negative impacts on the region's fish and wildlife and their habitats.

Response:
The diversion channel will be designed with a low flow channel that will pass all flows from the Rush River and the Lower Rush River to the Red River. This low flow channel will be designed with sinuosity that will provide some habitat for the aquatic species that exist within the Rush and Lower Rush Rivers. The channel would be planted with native wetland species on the bottom and the fringe of the side slopes of the channel, with the remainder of the side slopes being planted as a prairie swale type community. Appropriate native seed mixes may be those developed for ditch/swales, sedge/wet meadow or wetland fringe. A buffer strip of 50 to several hundred feet on either side of the diversion channel up to the embankment top would help limit encroachment from agricultural activities and would provide filtering of surface runoff into the diversion channel wetlands.

C-82 Rush River and Lower Rush River wetland impacts
The DEIS states that "wetlands near [the Lower Rush River and the Rush River] could be impacted". There is no further discussion of how the negative impacts will be mitigated. The Corps must include in its final EIS exactly what function the low flow channel will serve and how it is guaranteed to adequately compensate for existing wetlands adversely affected by the diversion channel.

Response:
A detailed wetlands discussion is included in the SDEIS Chapter 5 and Attachment 6. These discussions include a wetland delineation that analyzes all wetlands to be impacted by project features, provides a functional assessment of the impacted wetlands and discusses mitigation necessary to offset these impacts.

As part of the assessment of impacts to aquatic resources and based on recommendations from the interagency team, the Minnesota Routine Assessment Methodology for Evaluating Wetland Functions (MnRAM Version 3.3) was used to assess the functions of wetlands within the diversion channel corridors. Due to the similarity of the identified wetlands, functionality was not assessed on every area determined to be wetland. Instead, at least one randomly-chosen area representative of each type of wetland found within the diversion channel alignments was assessed for typical functionality. The types of wetlands found within the diversion channel corridors, in accordance with Eggers & Reed are farmed seasonally flooded basin (PEMAF is the corresponding Cowardin classification), fresh wet meadow (PEMB), shallow marsh (PEMC), floodplain forest (PFO1A) and shallow open water (PUBH). Floodplain forest wetlands were assessed separately in Section 2.3. Overall the function assessment of wetlands indicated poor wetland function. Therefore the mitigation plan presented will provide improved wetland function.

C-83 Concurrent Crests
The report should identify how crests may relate to the Red Lake River crest and identify if there are increased risks for concurrent crests.

Response:
Unsteady flow modeling does indicate an increased risk of having coincident crests at the mouth of the Red Lake River. The revised Locally Preferred Plan (LPP) involves upstream staging to minimize downstream stage impacts caused by changes in flood crest timing caused by the diversion channel. The impacts for the Federally Comparable Plan (FCP) and the LPP are provided in Attachment 5, Appendix C, Section 3.0 and Exhibits 1-4.

C-84 Flood Insurance Rate Map (FIRM)
How will the increased crest numbers affect the newly adopted Flood Insurance Rate Map?

Response:
The Corps used information up to the 2009 flood in the analysis contained in the feasibility report. The Corps will be coordinating the updated information with other Federal agencies, including FEMA, and those agencies would decide how to use that information.

5.0 Comment Category D: Modeling Technical

D-1 Hydrology
The hydrology needs to be finalized and clearly summarized. All analyses (stage, environmental, etc.) must be based on the final hydrology and presented clearly.

Response:
The SDEIS includes updated appendices on the hydrology (Appendix A), hydraulics (Appendix B), and impact analyses (SDEIS Main Report, Chapter 5).

D-2 Timing of tributary flows
The timing of tributary flows in relation to peak flows on the Red River must be fully explained.

Response:
For the synthetic events (10-, 2-, 1-, and 0.2-percent chance events) tributary flood hydrographs from 2006 were used to estimate tributary flow contributions and timing. Four historic events were also evaluated to assess the effect of different timing scenarios. This is explained in more detail in Attachment 5, Appendix B, Part B, Section B4.4 of the SDEIS. The results of these analyses are presented in Attachment 5, Appendix C, Section 3.0 and Exhibits 1-4.

D-3 Drainage and Flooding outside protected area
How will the proposed North Dakota diversion affect drainage and flooding outside the protected area along the Sheyenne/Drain 14/Maple/Rush corridor?

Response:
The goal is to not cause any additional flooding from the Sheyenne, Maple, and Rush rivers, Drain 14, or local flows that will be affected by the LPP or ND35K. For many areas flooding will be reduced since the design water surface profile in the LPP diversion will be lower than it is in the existing Horace to West Fargo and West Fargo diversions, but to preserve existing floodplains the inlets to the diversion will not be designed to reduce flooding for the 1-percent chance and less frequent peak flows from the Sheyenne, Maple, and Rush rivers, Drain 14, or local drainage areas (for these events the goal is to maintain the existing condition). The current design presented in the SDEIS does not completely meet the goals stated above, and does have areas where flooding is worse than the existing condition. Resolving the issue of increased flood stages will be relatively easy in some areas and more of a challenge in others. Details regarding drainage along the Sheyenne/Drain 14/Maple/Rush corridor can be found in Attachment 5, Appendix C (Section C.2.10, Section 2.16.8, and Exhibit 3 figures), and in Attachment 5, Appendix F (Section F2.2 and Exhibit F).

D-4 Operation of I-94 Interchange 342
How will the project affect the operation of I-94 Interchange 342?

Response:
Long term impacts to I-94 Interchange 342 are not anticipated with the diversion plan; however there will be impacts during construction of the project. The impacts to I-94 Interchange 342

will be during the construction of the new bridges over the diversion and would take two construction seasons to complete. The crossovers and one direction of the interstate would be completed the first construction season. The remaining direction and clean up the right-of-way, seeding, etc. would be completed during the second construction season.

D-5 Devils Lake Effect
How do the current and potential outflows from Devils Lake affect the proposed diversion project?

Response:
The diversion channel alternatives have been designed such that existing draining conditions will not be made worse due to the project. Details remain to be designed, but the modeling done to date indicates that inlets into the new diversion can be designed such that flood stages will be no higher than they would be without the diversion. Additional ditches will be needed in some areas to make sure that overland flow makes it to the diversion without causing flood stages to be higher than the existing condition. Current and potential outflows from Devils Lake are a concern regardless of the diversion project. Given the travel time of a sudden release from Devils Lake or from Baldhill Dam, it is unlikely that peak flow conditions on the Sheyenne River will coincide with peak flows in the diversion, but the increase in flow would require changes to the inlet designs. Exactly what needs to be modified to address potential increased flows from Devils Lake outflow will be studied as the project moves forward.

D-6 Ice
The effect of ice and debris on project operation and performance must be considered as part of the project.

Response:
The effect of ice on project operation and performance is being studied by the Ice Engineering Group at the Corps' Cold Regions Research and Engineering Laboratory (CRREL). The effort includes study of ice at the gated structures, ice in the diversion channel, and the effect of lower flows on ice in the protected area. The effort also includes the study of similar flood risk management projects under ice conditions (e.g. Winnipeg diversion). This and other ice-related issues will be addressed through this study effort. Preliminary, if not final, results will be provided in the Final EIS.

D-7 Saving the Town of Oxbow
Locating the diversion inlet south of Oxbow would save the town of Oxbow and reduce the cost of the project.

Response:
Section 3.7.4 of the SDEIS and Appendix O contain information on locating the diversion inlet south of Oxbow. In sum, moving the inlet south of Oxbow would cost an additional $35 million and have additional environmental and floodplain impacts.

D-8 Sizing of the Diversion Channel
The size of the diversion can be reduced by backing up more water.

Response:
The size of the diversion has been reduced due to staging water upstream of the diversion. The amount of staging must be balanced with downstream impacts, cost, and environmental concerns. The staging of water and the size of the diversion are discussed in Section 3.3 and Section 4.0 of Attachment 5. Details of the analyses involved are provided in Appendix C and Appendix F of Attachment 5.

D-9 Modify the Alignment
Modifications to the alignment would reduce costs and potentially reduce downstream impacts.

Response:
The alignment has been adjusted somewhat to address cost and environmental concerns. Additional modeling performed since the DEIS demonstrates that downstream impacts are not very sensitive to alignment modifications, as stated in Attachment 5, Appendix C, Section C2.5.

D-10 Reducing Cost
Costs could be reduced by moving dirt in the winter, by seeding directly on top of the spoil banks without regard to saving black dirt, and renting the spoil banks for haying.

Response:
Cost reduction measures have been looked at throughout this planning process and will continue to be looked at; however, the smaller picture cost saving measures will be left until after the SDEIS is complete.

D-11 Consider Extremely Large Flood Events
The project should consider the possibility of an extremely large flood event.

Response:
To prevent overtopping of the tie-back levees for an extremely large flood event, flow will be directed west into the Sheyenne River basin for events less frequent than the 0.2-percent chance event. For an event approximately two times larger than the 0.2-percent chance event (approximately the Standard Project Flood (SPF) at Fargo), the maximum staging elevation is 925.2, which sends water over a levee set at elevation 923.0 along Cass County Road 17. The current report indicates that this will be 1.8 feet below the top of the tie-back levees protecting Fargo-Moorhead; the cost estimates have been adjusted to allow for an increase in freeboard from 1.8 to 3.0 feet. Extreme flood events will be studied in further detail as the study proceeds.

D-12 Non-traditional hydrologic analysis
Non-traditional hydrologic analysis methods must be fully explained, justified, and used consistently.

Response:
A summary of the hydrologic analyses carried out in support of the Fargo-Moorhead Feasibility Study is provided as Appendix A of the SDEIS. Appendix A is composed of 7 parts. The Appendix includes an executive summary that provides an overview of the hydrological analysis carried out and describes where within the Appendix certain aspects of analysis can be found. Each portion of the appendix also includes a preface describing what information is contained in that particular part of Appendix A.

A panel of experts was convened for an Expert Opinion Elicitation (EOE) in order to address non-homogeneity within the observed hydroclimatic data within the basin. EOE panel members recommended splitting the hydrologic record into a wet period and a dry period. This recommendation was approved by the USACE Hydrology Review Committee and was adopted for analysis. The rational for doing this can be found in Appendix A-1.

A statistical test (known as the Pettitt test), was used to determine the break point between the wet and dry periods. The procedure involves performing a non-parametric hypothesis test on the difference between sample means for streamflow data in order to identify the break point. An explanation of how the Pettitt Test was applied to streamflow data collected at Fargo, ND can be found in Appendix A-1c on page 5. The results of the Pettitt test for the Fargo streamflow record are shown in Figure 3 of Appendix A-1c. The results support using year 1941 as the break point between the dry and wet periods. The resulting discharge-frequency curves for the full period-of-record for unregulated flows and the wet and dry periods are shown in Figure 4 on page 9 of Appendix A-1c.

The wet period (year 0) hydrology was used consistently in the analysis and design for all aspects of the diversion channel alternatives. The appropriate flood frequency description for any future year is a combination of the dry and wet frequency curves that respects the likelihood of each condition. The year 0 (100% wet) hydrology, year 25 (80% wet, 20% dry) hydrology and year 50 (65% wet, 35% dry) hydrology was used in the economic analysis of the alternatives. Explanation describing how the flow-frequency curves were combined in order to be more representative of future conditions can be found on page 25 of Appendix A-1c. The year 25 and 50 hydrology scenarios were used in the economic analysis to incorporate the possibility that the current wet trend could become dryer in the future. The year 0 hydrology was used to assess environmental and social impacts due to the diversion channel alternatives including downstream impacts. Analysis of the traditional full period-of-record hydrology is shown Appendix A-1a, but the period of record analysis described in Appendix A-1a was not adopted for either design or economics and is presented for information only.

D-13 Storage Volume
There is no rational explanation supporting the Corps' conclusion that doubling the storage volume from 200,000 acre-feet to 400,000 acre-feet only achieved another 0.2-feet reduction at Fargo.

Response:
The analysis completed in the Fargo-Moorhead and Upstream study in 2005 was very conceptual and considered a range of hypothetical storage volumes between 200,000 and 400,000 acre-feet distributed throughout the watershed upstream of Fargo and Moorhead. No site-specific models were created. Professional judgment was used to estimate the effects this storage would have on the Red River hydrograph based on a variety of assumptions. The conclusion was that a very large storage volume (between 200,000 and 400,000 acre-feet) would have a relatively small impact on flood stages at Fargo and Moorhead. More information on how the storage volume was calculated can be found in the "Fargo-Moorhead and Upstream Feasibility Study Phase 1 Summary" dated September 9, 2005.

6.0 Comment Category E: Page Specific Comments

E-1 Dry Cycles
Some comments asked about the dry cycles, specifically one comment asked the following: "The DFEIS mentions that flooding from Fargo has increased over recent decades, but results from the Expert Opinion Elicitation on pg 85 states that 1 percent flows decrease from the present to the year 2060. Aren't these statements contradictory?"

Response:
The Expert Opinion Elicitation results were that the Red River at Fargo has had wet and dry periods over the last several hundred years and that there is currently a wet period. The experts concluded that a dry period could reoccur. Paleohydrology analysis showed the basin has been wet about 65% of the time period and dry 35%. The project hydrology assumes that in 50 years there is a 65% chance of there being a wet period and 35% chance of dry. For 25 years out it is assumed there is an 80% chance of wet and 20% chance of dry. Thus the various frequency flood flows decrease over the next 50 years.

E-2 Downstream Mitigation
Potential economic impact and mitigation issues are not included for increased flood stages downstream. Also, Appendix B Sec. B.8.1.3 states that more detailed downstream impacts are provided in Appendices D and E, but a search of those appendices did not provide that information.

Response:
The SDEIS Appendix B Section B.8.1.3 refers to Appendices D and E of Appendix B, not Appendices D and E of the SDEIS. Section 3.8.3.4.2 and Chapter 5 discuss the impacts both upstream and downstream, the downstream impacts have been minimized by the upstream impacts and mitigation is included for the upstream staging and storage areas as indicated in Section 3.13 of the SDEIS and Appendix G, Real Estate. The economic impact of the remaining up and downstream impacts is included in the economics analysis, Appendix C, and Section 3.8.2.2 of the SDEIS where they are identified as "induced damages" in the table.

E-3 Accuracy of Downstream Impact Maps
A comment about the downstream maps asked the following: "I question the accuracy of the areas shown in red on Figs 39 and 41, (pages 158 & 160) that delineate additional flood area with the diversion project and existing for 50 and 100 year events. What detail of ground surface topography is currently available that will accurately delineate the extent of the additional flood area?"

Response:
The 2008 Red River Mapping Initiative LIDAR was used for these figures. The accuracy of this data is plus or minus 6 inches.

E-4 Citations
Final EIS list of citations should include USGS 2009b reference (pg. 127), USGS 2009a reference (pg. 128 & 129), and references for pg. 127 surviving "whooping crane" comment and pg. 127 surviving "gray wolves" comment.

Response:
Concur and have included the citations in the SDEIS.

7.0 Comment Category F: Coordination of Permits

F-1 Required Permits for the Project
Any construction that impacts highway right-of-ways will require coordination with DOT DE to obtain appropriate permits and risk management documents. A construction permit and Sovereign land permits would be required from the ND Office of State Engineers.

Response:
The Corps, the non-federal sponsors, or the construction contractors will obtain all applicable construction permits, Sovereign land permits and applicable permits from the DOT to address impacts to highway right-of-ways. Coordination with appropriate agencies is ongoing and will continue as impacts are identified and clearly laid out during design.

F-2 Clean Water Act (CWA) 404(b)(1)
The information provided in the Clean Water Act (CWA) 404(b)(1) analysis does not fully support the conclusion that the ND 35K alternative (the tentatively selected preferred alternative) is the least environmentally damaging practicable alternative (LEDPA). This alternative impacts substantially more wetlands and riparian areas than the MN 35K alternative.

Response:
As described in the Clean Water Act (CWA) 404(b)(1) analysis, the MN35K plan (the FCP) is not a practicable alternative to the LPP (or the ND35K plan). During the course of the planning process, it became evident that local stakeholders strongly desired measures to reduce flood risk for the entire Metropolitan area, including the Red River of the North, as well as the Sheyenne, Wild Rice (ND), Maple, Rush, and Lower Rush rivers. For the DEIS, the non-federal sponsors identified the ND35K plan as a locally preferred plan (LPP) that would reduce flood risk for the both the Red and the five tributaries. In order to minimize downstream impacts, a revised LPP plan was developed with a nearly identical alignment; however, this revised plan incorporated upstream storage and a staging area that nearly eliminates downstream impacts. The revised LPP is the plan that, in the opinion of the non-federal sponsors, best meets the needs of the local community. The LPP provides flood stage reductions to a greater geographic area and for approximately 6,250 additional citizens than does the FCP. It achieves this result by reducing flood risk from the Sheyenne River and its tributaries in addition to the Wild Rice (ND) and Red rivers. This added level of risk reduction is not available from the FCP; the FCP is not a practicable alternative to achieve the overall project purpose of reducing flood risk from both the Red River and the five North Dakota tributaries.

F-3 EPA Recommendations
The CWA 404(b)(1) analysis needs to be revised to include a complete description of the decision process which resulted in identification of the tentatively preferred alternative, ND 35K. This documentation should include descriptions of the alternatives analyses, practicability determinations, and consideration of local preferences for both the ND 35K and MN 35K diversion channel alternatives.

Response:
To address the concern that the CWA 404(b)(1) document does not include sufficient information to fully support the conclusion that the tentatively selected plan is the least environmentally damaging practicable alternative (LEDPA), additional information on the planning process has been incorporated into the CWA 404(b)(1) document. In order to facilitate agency and public review of the CWA 404(b)(1) document, the Corps elected not to incorporate lengthy redundant discussions from the Feasibility/EIS document and instead specifically reference sections of the Feasibility/EIS document for the reader to consult for additional information.

F-4 Minnesota State EIS Process
Section 3.12.4 titled 'Permits' should include the need for a state EIS. It is imperative that the federal and state EIS provide the safety information mentioned as well as adequate information to inform the state permitting process. At a minimum, this information must include that described as required in a 'Preliminary Report' under Division of Waters Rules 6115.0410 Sub. 3. A Dam Safety Permit from the DNR Division of Waters will also be required.

Response:
The Corps recognizes the need for a Minnesota State EIS for this project and has been coordinating with the Minnesota Department of Natural Resources and project sponsors for the development of this EIS. There have been meetings to discuss the project details, scoping of the project, and timing to start the state process. The intended plan is to initiate the process when the Final EIS is released to the public.

8.0 Comment Category G: Project Management

G-1 Project Cost Sharing and Operation and Maintenance
Those benefitting from the diversion need to be taxed. They also need to pay for the maintenance – indefinitely. Who, and at what cost, is going to maintain the project forever including the required bridges over the diversion channel?

Response:
The non-federal sponsors must enter into a Project Partnership Agreement with the Corps of Engineers to construct the Project. This agreement sets the required cost sharing of the Project between the non-federal sponsors and the federal government and requires that the non-federal sponsors be solely responsible for the Operation and Maintenance of the Project. The sponsors are responsible for financing their local share and operation and maintenance costs. It is currently anticipated that the non-federal sponsors will be the cities of Fargo and Moorhead. Mitigation required during project construction will be cost-shared. Mitigation required after the project is constructed and being operated and maintained by the non-federal sponsors will be the responsibility of the non-federal sponsors.

G-2 Participation in the Process
The city of Harwood would like to be on record of being in favor of the concept of a North Dakota Diversion. However, the city would like one of its elected officials to be part of the process to insure that the method of paying for a North Dakota Diversion is fair and equitable to the citizens of Harwood and that the projected downstream effects of a North Dakota diversion are mitigated in a responsible and cost effective manner.

Response:
The non-federal sponsors, currently anticipated to be the cities of Fargo and Moorhead, are responsible for financing their local share of the study and future construction of the Project. Stakeholders may be involved in the process by attending public meetings and submitting their comments during the SDEIS comment review period. The downstream impacts have been nearly eliminated with the current LPP that stages and stores water upstream.

G-3 Policy
The city of East Grand Forks recently submitted a project to the Corps for review and was told that the project could not raise the floodway elevation by more than 0.01 of one foot. Therefore, the City cannot understand how the Corps can propose a project that raises the City's flood profiles by over one foot without a proposed mitigation plan. During the design of our project the City understood that it could not negatively impact areas upstream or downstream of its project and a detailed study was undertaken to determine the impacts of the GF/EGF system. Therefore, the City cannot understand the reported impacts of the system without some form of mitigation for other areas of the Red River Valley.

Response:
The downstream impacts have been nearly eliminated with the current plan that stages and stores water upstream. Upstream and downstream effects of the tentatively selected plan (LPP) are included in section 3.8.3.4.2 Upstream and Downstream Effects. Corps policy only allows federal participation in measures that are economically justified or to address impacts that rise to the level of a taking of property under the Fifth Amendment of the U.S. Constitution. The non-federal sponsors have indicated that they will mitigate for upstream effects. Recommended mitigation of these effects are included in section 3.13.1.

G-4 Future Funding
In order to ensure funding for future modification of the project or additional mitigation to offset unidentified impacts, a commenter urged the local sponsors and the Corps to develop a trust fund or other mechanism to account for this work.

Response:
The suggestion is noted. The Corps will apply standard federal cost-sharing and budgeting rules in accordance with applicable law and policy.

9.0 Comment Category H: Miscellaneous

H-1 Various Communities and Agencies Oppose the Diversion
Lee Township, Norman County, Mary Township, Georgetown/Perley Farmer's Elevator, City of Perley, Concerned citizens of Wild Rice Watershed District, Traill County, Halstad Township, and City of Halstad go on record of opposing the Fargo Moorhead diversion project as it is now proposed. The National Wildlife Federation opposes the Corps' proposed diversion channel.

Response:
Noted

H-2 FEMA Requests
The information that FEMA will request for conditional approval required per 44 CFR 65.12(a) is (1) documentation of the legal notice to all impacted property owners, within and outside the community, explaining the impact of the proposed action on their property, (2) Concurrence of the CEO of all communities impacted by the proposed action, (3) a request for revision of the BFE determination, and (4) a request for floodway revision.

Response:
The Corps is continuing coordination with FEMA on implementation of the project and their requirements.

H-3 Readability
It is distracting that most of the maps are at slightly different scales and positions. Maps are useful for making side-by-side comparisons.

Response:
Map sizing is specific to topic sizes will vary for readability.

H-4 Concerns With DEIS
Some comments described overall concerns with the DEIS. Specific comments are listed below:

- The draft report is inadequate under the National Environmental Policy Act (NEPA.
- The EIS as it stands is not acceptable. It was hastily written and incomplete.
- The Diversion is the least planned, least studied, and most quickly pushed through project in the entire ACOE history.
- The Draft Feasibility Report seems short on facts, long on conjecture.
- The Corps ignores environmentally friendly alternatives in the DEIS. In recent case law, it is determined that "[w]hile the EIS need not be exhaustive, the existence of a viable but unexamined alternative renders an [EIS] inadequate." Friends of the Boundary Waters Wilderness v. Dombeck, 164 F.3d 1115, 1128 (8th Cir. 1999).

Response: Many changes have been made in the SDEIS. Many additional analyses have been performed and their results have been incorporated into the SDEIS. The Corps considered a range of alternatives as described in Appendix O of the SDEIS. Alternatives that provide

environmental benefits, such as wetlands and grassland restoration, were evaluated. Sections 8.4.2 and 8.4.3 of Appendix O contain more information on wetlands and grassland restoration measures

H-5 Community supports FMM diversion
The Chamber of Commerce of Fargo Moorhead supports building a 35K CFS diversion project that maximizes state and federal funding.

Response:
Noted

H-6 Recommend MN 35K
The U.S. Department of the Interior recommends that the MN 35K Diversion Channel Alternative be the selected alternative.

Response:
Noted

H-7 Public Participation
The public must be allowed to attend and voice opinions at all meetings and hearing pertaining to the proposed project.

Response:
There have been many public meetings open to all members of the public. Corps technical staff is available for questions and answers at these meetings. Additional public meetings will be scheduled for late spring/early summer 2011. The most up to date information regarding public meetings and participation is available online here: www.internationalwaterinstitute.org/feasibility.

H-8 Page Specific Comments

The North Dakota State Water Commission submitted comments for specific sections of the report. The comments are listed below:

- 1.5.2 – There are several non-federal studies ongoing in the watershed upstream of the study area, including flood storage on the Wild Rice River, Sheyenne River, Maple and Rush rivers.
- 1.5.3 – Other projects upstream of the study area that deserve mention include:
    - Three dams constructed on the upper portion of the Wild Rice River
    - Dead Colt Creek Dam on a tributary of the Sheyenne
    - The T-180 dam on a tributary of the Maple
    - Three dams on tributaries of the Maple River
    - Erie Dam located on the upper portion of the Rush River
    - Three dams located on Elm River

- 1.5.3.10 – It is stated that the Maple River Dam was proposed with 35,000 acre-feet of flood storage. It does not say that it was constructed to provide 60,000 acre-feet of storage
- 4.2.1.9.1 – There are channel weirs on the Maple and Wild Rice Rivers. There is also another channel weir located upstream of Mapleton.

Response:
The information provided has been incorporated into Chapters 1 and 4 of the SDEIS.

H-9 Request for Devils Lake Study
Some comments requested additional studies to better understand Devils Lake. Specifically the Corps received a comment requesting that impacts from the Devils Lake discharge be studied downstream of the Sheyenne and Fargo Diversion and a request that the Corps study the impacts of the release of Devils Lake and Diversion water to the Grand Forks and East Grand Forks flood risk management project.

Response:
The Corps is currently working on a number of efforts regarding Devils Lake and possible impacts of a natural overflow event. These efforts are beyond the scope of this study. However, it should be noted that due to the distance from Devils Lake to Grand Forks and East Grand Forks there would likely be little or no impact to the flood risk management project for those communities.

H-10 Request for Documents
Request that the full text of all studies, reports or documents referenced in the public comments, including their respective appendices, be included in the Corps' administrative record for the final Record of Decision and EIS and requests that these studies and reports be considered by the Corps decision-maker in their entirety.

Response:
All comments that have been received are documented in Appendix R and are part of the SDEIS. Any references to studies, reports, or documents are included in those and are part of the record; however, full text of those documents will not be printed.

H-11 Request for GIS Data
The Corps received a request for spatial GIS data showing the impacts of the increased crest predictions for the 100 year flood event in Grand Forks County. Specifically, a map that could be compared to FEMA's digital Flood Insurance Rate Map (FIRM) was requested.

Response:
This information will be provided as requested and can be found in Chapter 5 of the SDEIS.

FOR CONTINUATION OF HOUSE DOCUMENT 112-130

FEASIBILITY REPORT AND ENVIRONMENTAL IMPACT STATEMENT: FARGO-MOORHEAD METROPOLITAN AREA FLOOD RISK MANAGEMENT, JULY 2011

SEE PART 7