

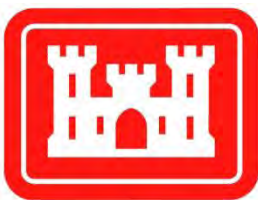
Appendix Q

Public Involvement and Coordination

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
190 Fifth Street East, Suite 401
St. Paul, Minnesota 55101-1638

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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, 2010; 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 Evans
Project Manager

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.

A handwritten signature in black ink, reading "Craig Q Evans", is positioned above the printed name and title.

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.

A handwritten signature in black ink, reading "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

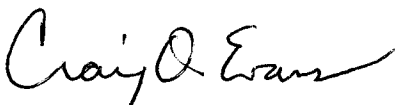
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Thank you in advance for your assistance.


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

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.

A handwritten signature of Craig Evans in black ink, written in a cursive style.

Craig Evans
Project Manager

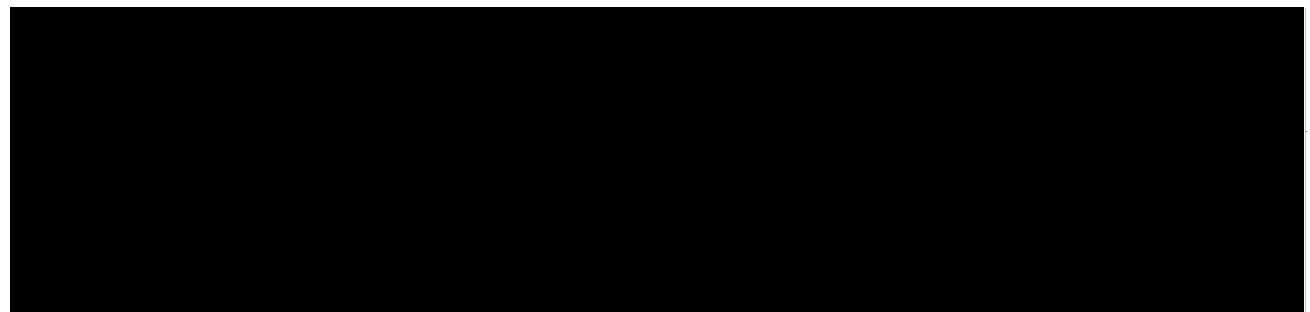
Identical letters to:

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
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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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Sincerely,

A handwritten signature in black ink, appearing to read "Judith L. A. DesHarnais".

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.

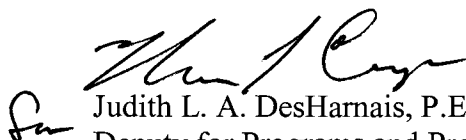
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Sincerely,

A handwritten signature in black ink, appearing to read "Judith L. A. DesHarnais".

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.

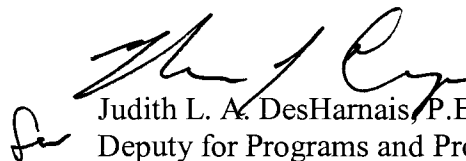
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If your agency is interested in being a Cooperating Agency, please provide a point of contact by August 14, 2009. We will then initiate the development of a Cooperating Agency Agreement for your review and comment.

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,


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.

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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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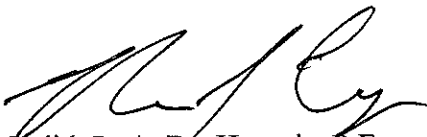
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Sincerely,


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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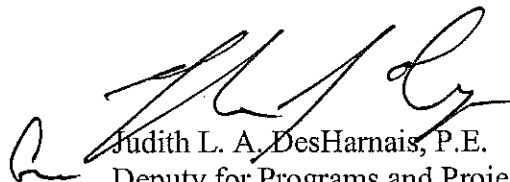
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Sincerely,



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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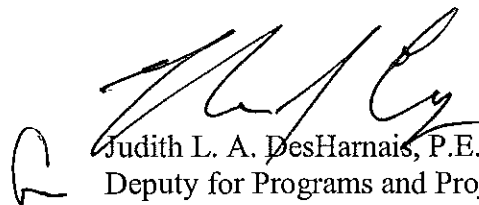
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Sincerely,



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

Copy furnished:
Mr. Bob Bezek
Natural Resources 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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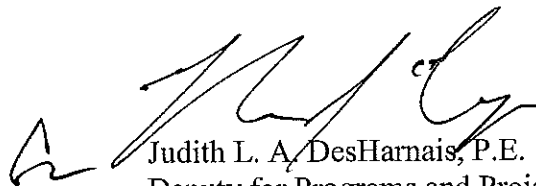
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Sincerely,



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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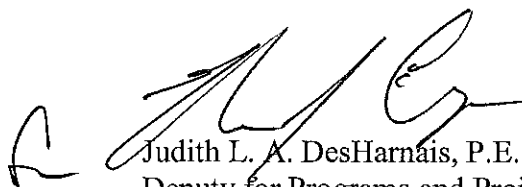
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Sincerely,

A handwritten signature in black ink, appearing to read 'J. DesHarnais', is written over the printed name.

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



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY

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

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.

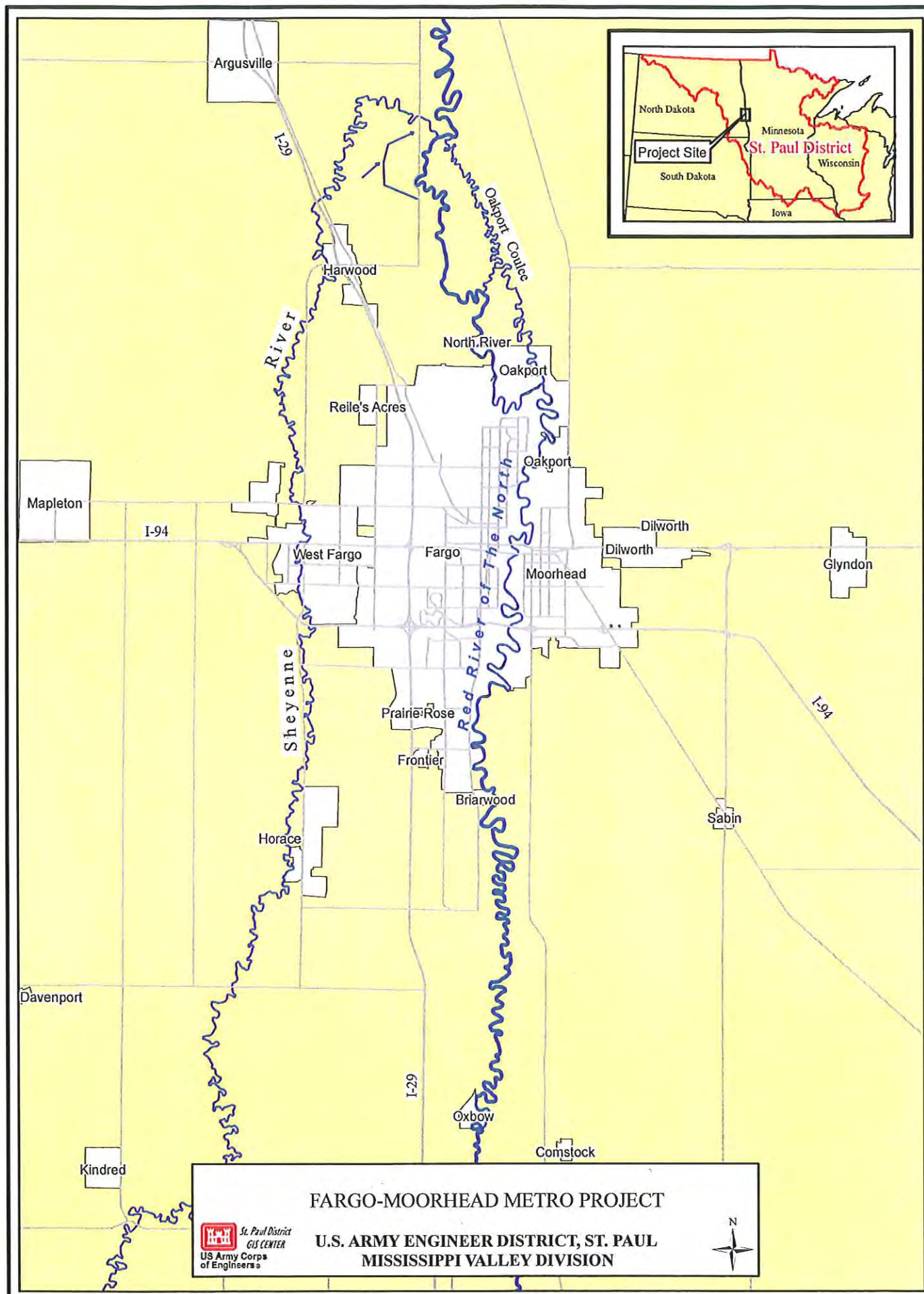
Please review the above and provide your comments on the Fargo-Moorhead Metro Flood Risk Management Project as soon as practicable. If you have any questions, please contact Corps archeologist Virginia Gnabasik at (651) 290-5262 or by email at virginia.r.gnabasik@usace.army.mil.

Sincerely,

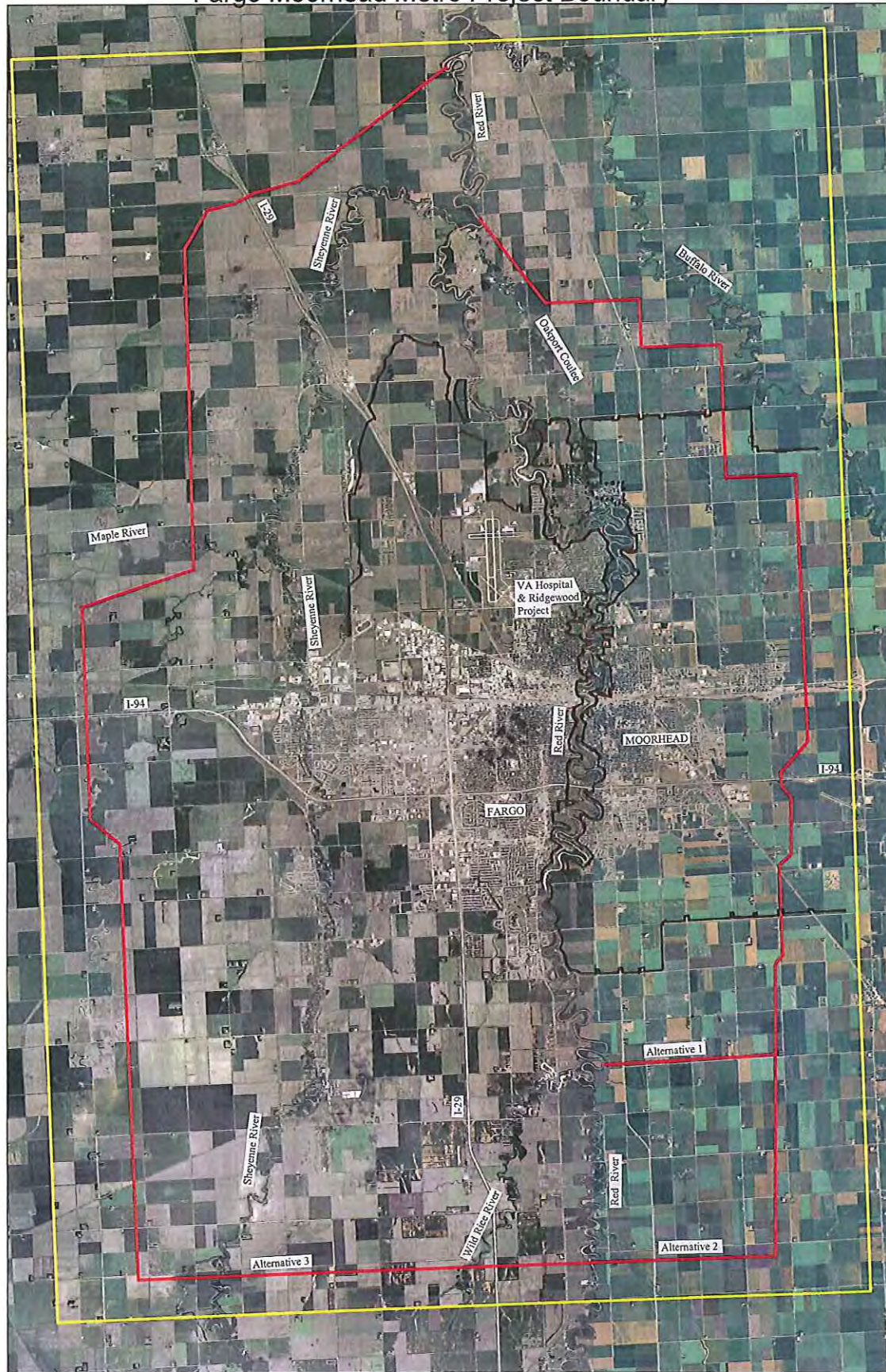


Terry J. Birkenstock
Chief, Environmental and Economic
Analysis Branch

2 Enclosures



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

Proposed levees/floodwalls

Levees proposed by others



Leech Lake Band of Ojibwe



District I Representative
Robbie Howe

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

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.

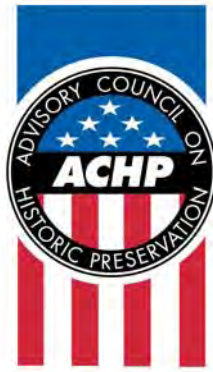
Please note: The above determination does not "exempt" future projects from Section 106 review. In the event of any other tribe notifying us of concerns for a specific project, we may re-enter into the consultation process.

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
gilemon@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

**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.fmloodcontrol.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

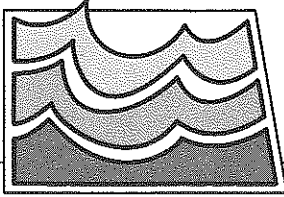
Dave Mathson, Chairman

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.

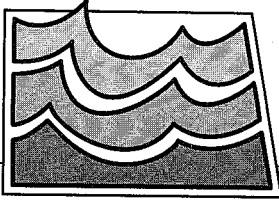
Once again, Fargo and Moorhead were fortunate enough to escape a record flood event this past spring. But who knows how many more times those communities can pull off the seemingly impossible. For that reason, I support your commitment to this process, and I applaud your expedited approach, as time is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



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>

dpm *[signature]*
pm-A

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



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



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.Bezeke@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,

A handwritten signature in dark ink, appearing to read 'Randall Doneen', with a horizontal line extending to the right.

Randall Doneen
Environmental Review Planning Director



Minnesota Pollution Control Agency

520 Lafayette Road North | St. Paul, MN 55155-4194 | 651-296-6300 | 800-675-3843 | 651-282-5332 TTY | www.pca.state.mn.us

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).

St. Paul | Brainerd | Detroit Lakes | Duluth | Mankato | Marshall | Rochester | Willmar | Printed on 100% post-consumer recycled paper

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

John Hoeven
Governor of North Dakota

North Dakota
State Historical Board

Chester E. Nelson, Jr.
Bismarck - President

Gerold Gerntholz
Valley City - Vice President

Richard Kloubec
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


Douglass Prchal
Director
Parks and Recreation
Department

Francis Ziegler
Director
Department of Transportation

Merlan E. Paaverud, Jr.
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

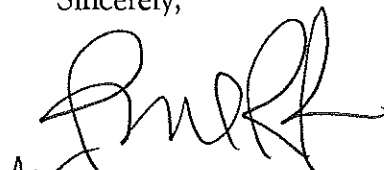
Dear Judith:

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

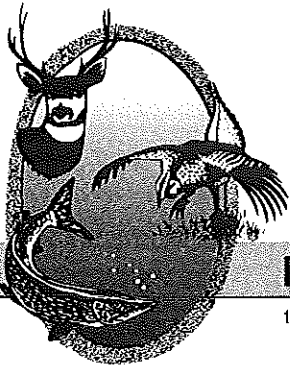
The State Historical Society of North Dakota and State Historic Preservation
Office (North Dakota) will be a cooperating agency for this project. Paul R.
Picha is the contact. As consultation progresses, we wish to be kept abreast of
discussions that relate to this issue. The level and scope of identification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



"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

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.

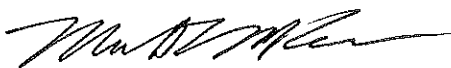
From the diagrams provided showing the alternative diversion channel alignments, a couple of significant river systems will be intersected by the channel in North Dakota. If an alternative is selected in which these rivers are impacted, it will be important to design the project to maintain the hydrology 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,

Supervisor: William Lisburg,

Supervisor: Dean Kraft

Clerk/Treasurer: Bruce Bollinger

Norman County Board of Commissioners

PHONE-784-2101----

ADA, MINNESOTA 56510

218-784-5473

www.co.norman.mn.us

November 3, 2009

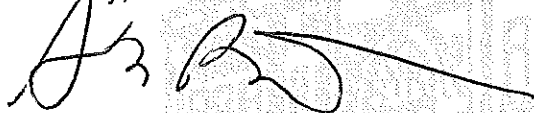
Aaron Snyder
US Army Corps of Engineers
190 5th St E, Suite 401
St. Paul MN 55101-1638

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 1 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



NATIONAL WILDLIFE FEDERATION®

Northern Rockies and Prairies Regional Center

240 N Higgins, #2 ♦ Missoula, MT 59802 ♦ Tel: 406-721-6705 ♦ Fax: 406-721-6714 ♦
www.nwf.org

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."

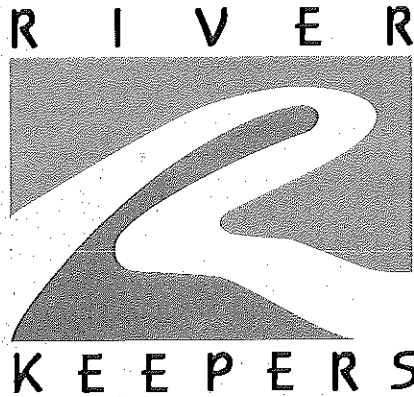
We appreciate the attention the Corps has given to this important aspect of floodplain management. See page 16-17 of scoping document. However, the Corps' cursory dismissal of upstream flood storage is insufficient to fulfill the obligations of the Corps under NEPA and executive mandates. Additionally, 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.



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."

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

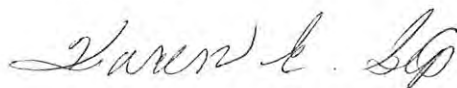
RE: Resolution Requesting Downstream Impact Study of the Red River

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, 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

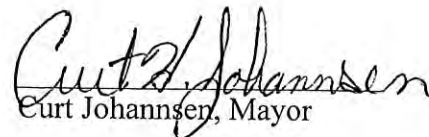
NOW THEREFORE BE IT RESOLVED, the City of Hendrum does hereby request that the US Army Corps of Engineers conduct a study as soon as possible to determine the downstream impacts of the proposed diversions, its effect on cities, farms, road, bridges, utilities and population of Norman County, and make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

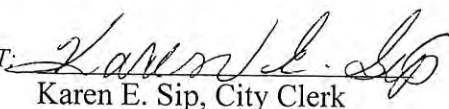
Voting Aye: Alm, Johannsen, Kjersten, Person and Smart.

Voting Nay: None

Absent: None


Curt Johannsen, Mayor

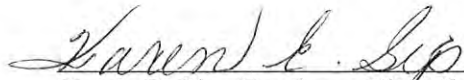
Seal

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, 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

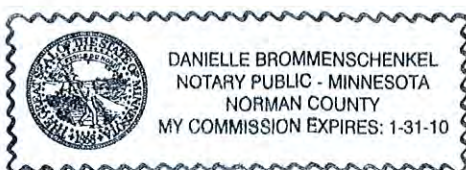
NOW THEREFORE BE IT RESOLVED, the Hendrum Township does hereby request that the US Army Corps of Engineers conduct a study as soon as possible to determine the downstream impacts of the proposed diversions, its effect on cities, farms, road, bridges, utilities and population of Norman County, and make 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
Voting Nay: vote
Absent: Glenn Little

Danielle Brommenschkel
clerk

Seal



ATTEST: [Signature]

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

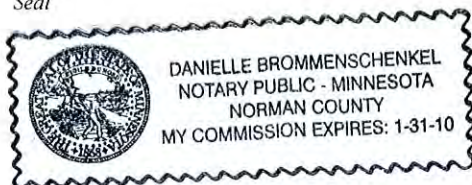
NOW THEREFORE BE IT RESOLVED, the Norman Co West School District does hereby request that the US Army Corps of Engineers conduct a study as soon as possible to determine the downstream impacts of the proposed diversions, its effect on cities, farms, road, bridges, utilities and population of Norman County,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

On a motion by Ann Tommerck, 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
Voting Nay: Vote
Absent: None

Danielle Brommenschkel
clerk

Seal



ATTEST: [Signature]



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.hardeggen@dhs.gov.

Sincerely,

Steven E. Hardeggen
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.

www.dnr.state.mn.us

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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 breach 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 is 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 detriment 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

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 than 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

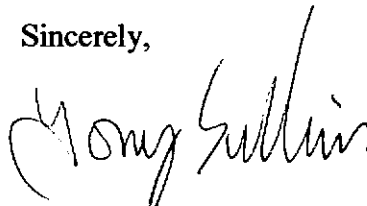
Per the Corps request I have outlined Service funded projects within the Red River Basin.

- 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
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

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

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



Timothy J. Keane

BDM/TJK/ts

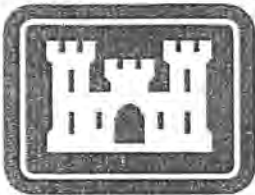
c: Minnesota Governor Tim Pawlenty
North Dakota Governor John Hoeven
Mayor and City Council, City of Dilworth
Ken Parke, Administrator, City of Dilworth
U.S. Senator Amy Klobuchar
U.S. Senator Al Franken
Congressman Collin Peterson
State Senator Keith Langseth
State Representative Paul Marquart
Craig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

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
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Minnesota Department of Natural Resources



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March 16, 2010

Col. Jon Christenson
US Army Corps of Engineers
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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 known 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, and 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.

Minnesota Department of Natural Resources

500 Lafayette Road • St. Paul, MN • 55155-40



July 19, 2010

Terry Birkenstock
U.S. Army Corps of Engineers, St. Paul District
190 Fifth Street East, Ste. 401
St. Paul, MN 55101

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

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,

Fargo-Moorhead Flood Risk Management Project

July 19, 2010

Page 1

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Final Feasibility Report and Environmental Impact Statement
Fargo-Moorhead Metro Feasibility
July 2011

Q - 89 USACE-MVP-0000088007
Public Involvement and Coordination

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

A handwritten signature in blue ink, appearing to read 'Randall Doneen', with a horizontal line extending to the right.

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 17 2010

REPLY TO
ATTENTION OF

Regional Planning and Environment Division North
Environmental and GIS Branch

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

mailed to Tom on 17 June
routed to Snyder & Wilgus 17 June 10

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 authorize 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,

A handwritten signature in black ink, appearing to read "Terry J. Birkenstock", written in a cursive style.

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

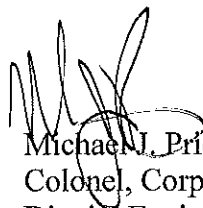
Dear Mayor Walaker:

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 L. 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:

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

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220 East Rosser Avenue, Room 228
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Honorable Amy Klobuchar
United States Senate
302 Hart Senate Office Building
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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
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714 Lake Avenue, Suite 107
Detroit Lakes, Minnesota 56501

Mr. Kevin Campbell
Cass 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

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 V. 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:

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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. 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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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:

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:

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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

<u>TRIBAL CHAIRPERSON</u>	<u>Cf. to THPO or Cultural POC</u>
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:

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Michael A. Price
Colonel, Corps of Engineers
District Engineer

3 Enclosures

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3. ND diversion alignment

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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:

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District Engineer

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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:

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Sincerely,



Michael J. Price
Colonel Corps of Engineers
District Engineer

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3. ND diversion alignment

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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.

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

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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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.

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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. 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.

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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. 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.

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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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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. 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

CLAY COUNTY BOARD OF COMMISSIONERS

BY: _____ Date: _____
Kevin Campbell, Chairman

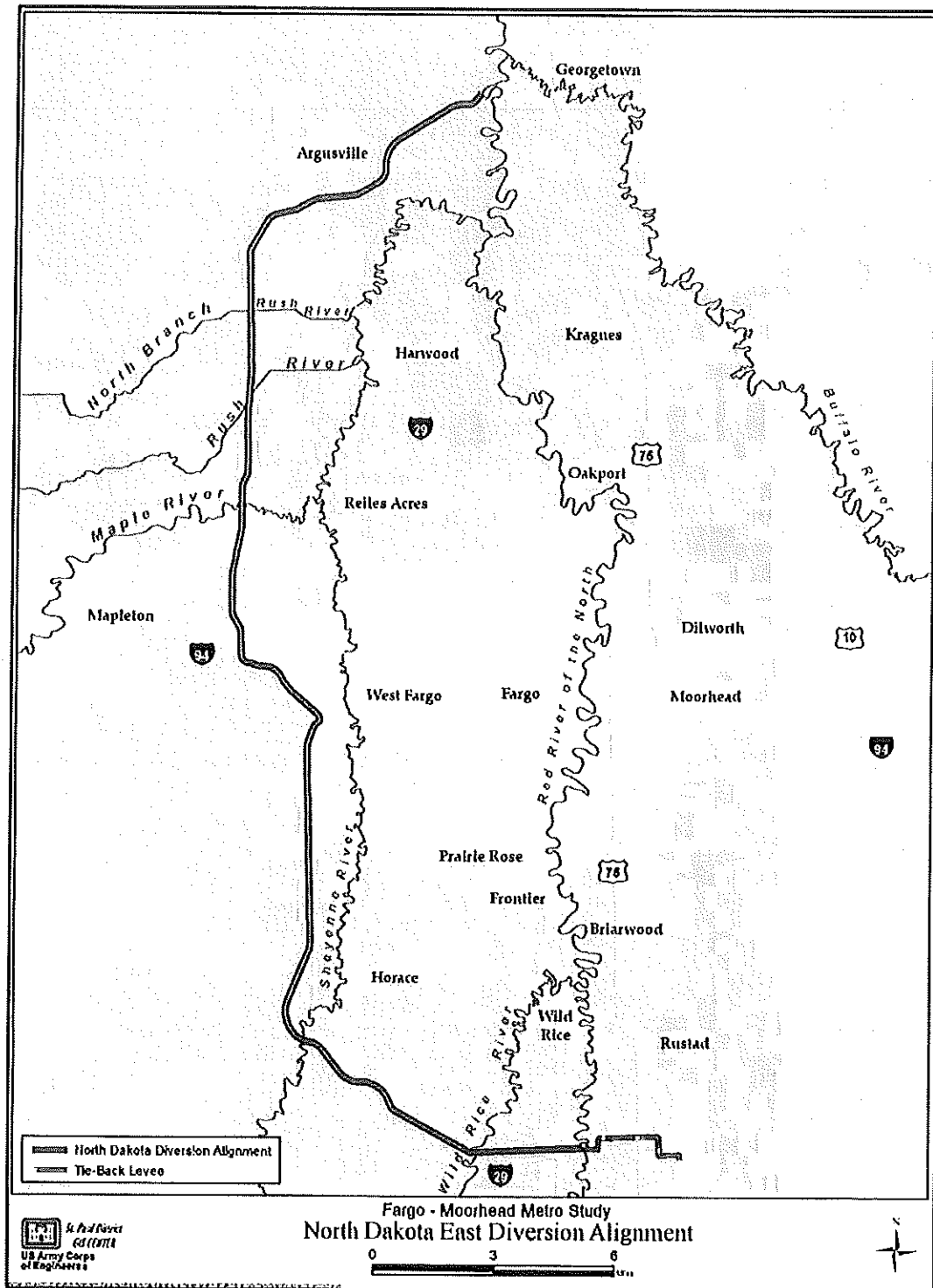


Figure 1. North Dakota diversion alignment.

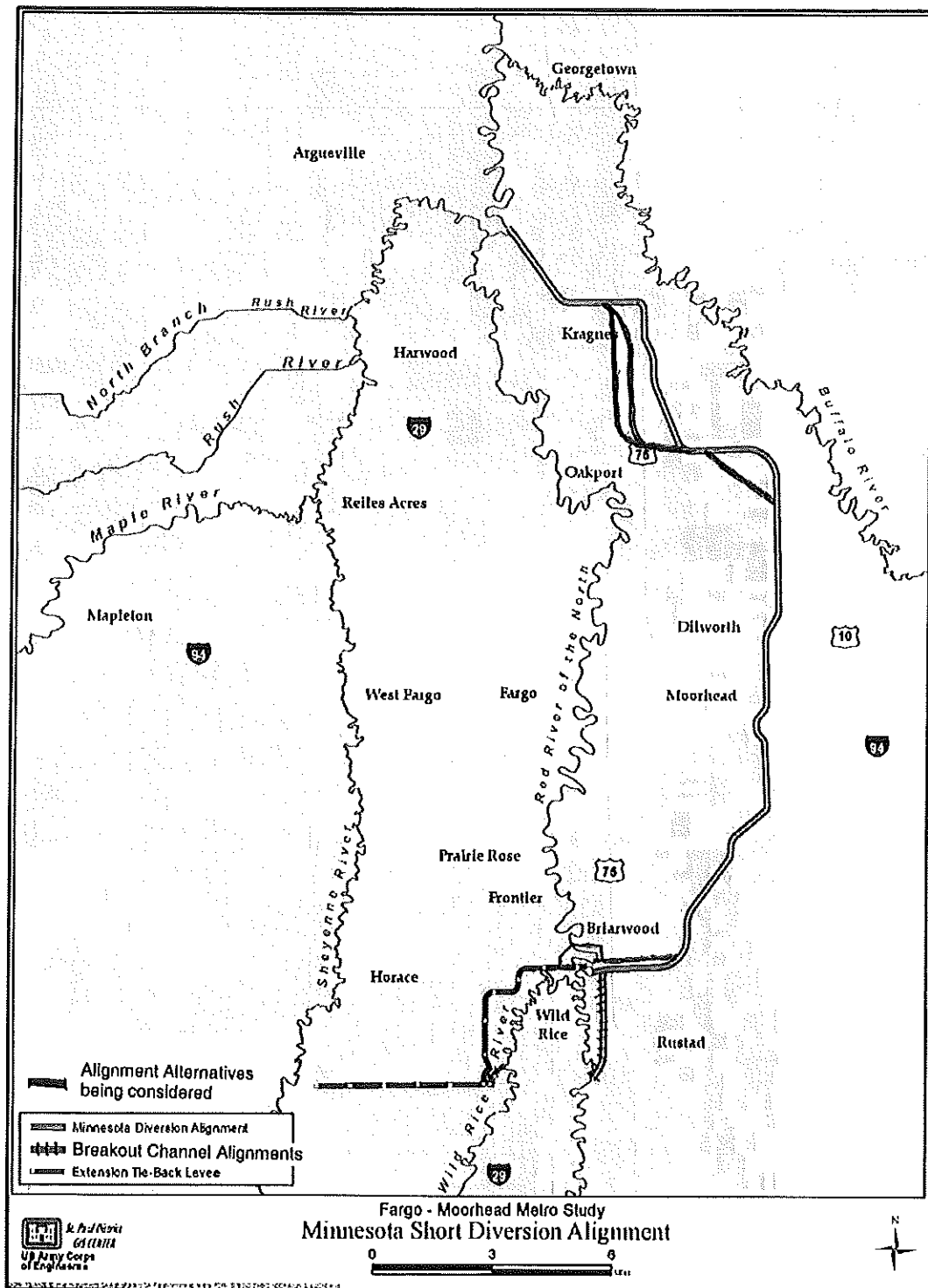
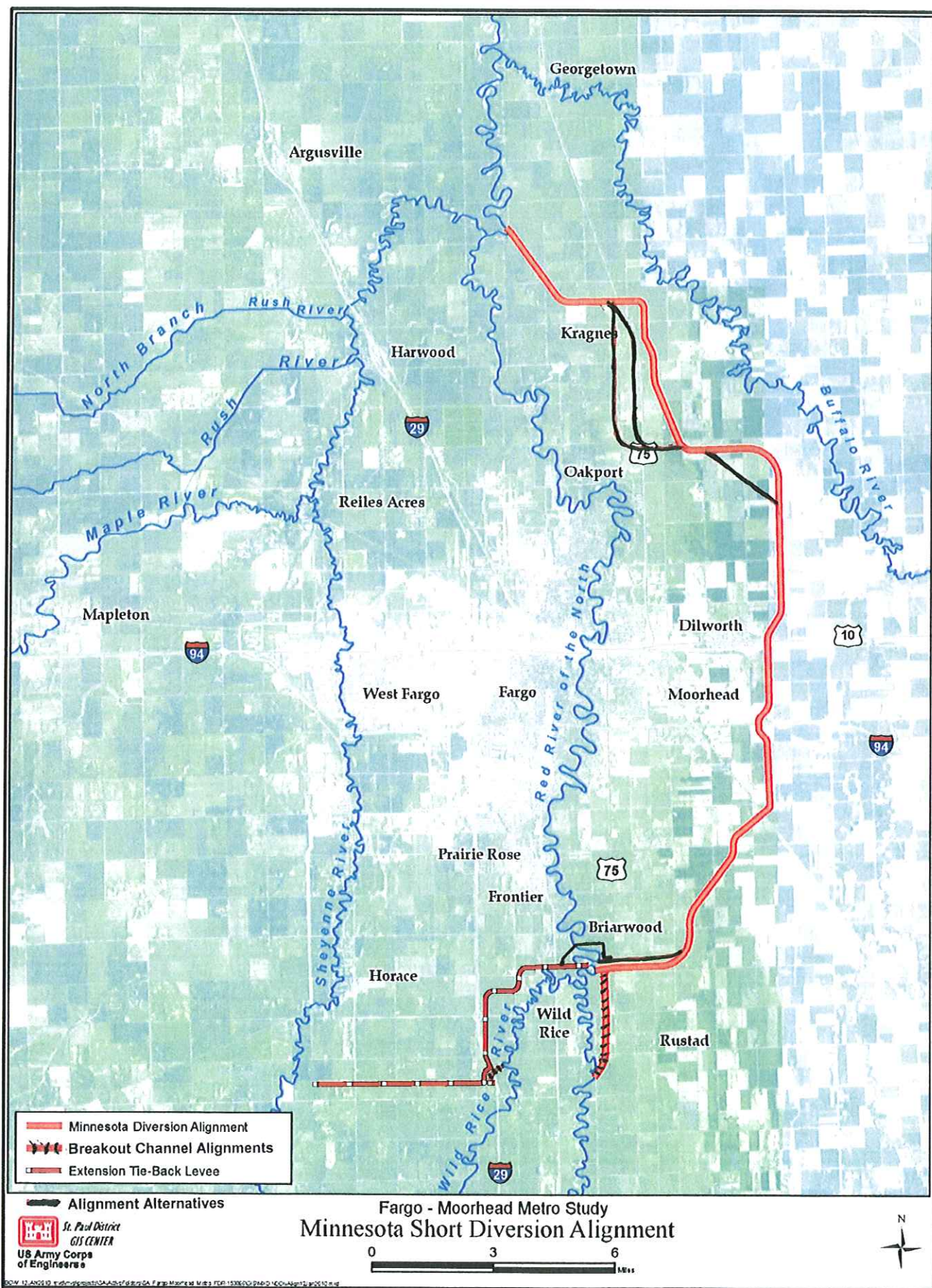
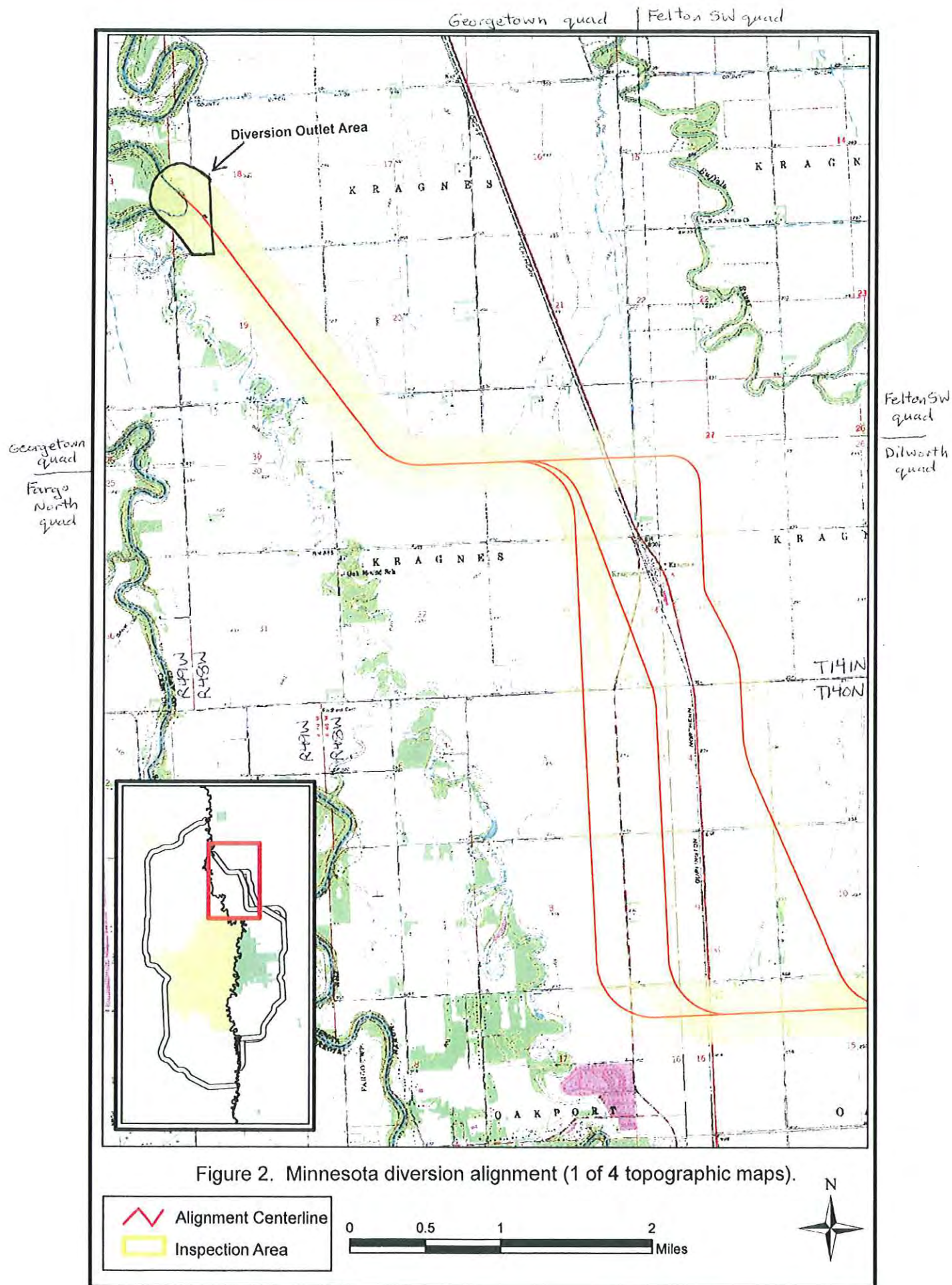
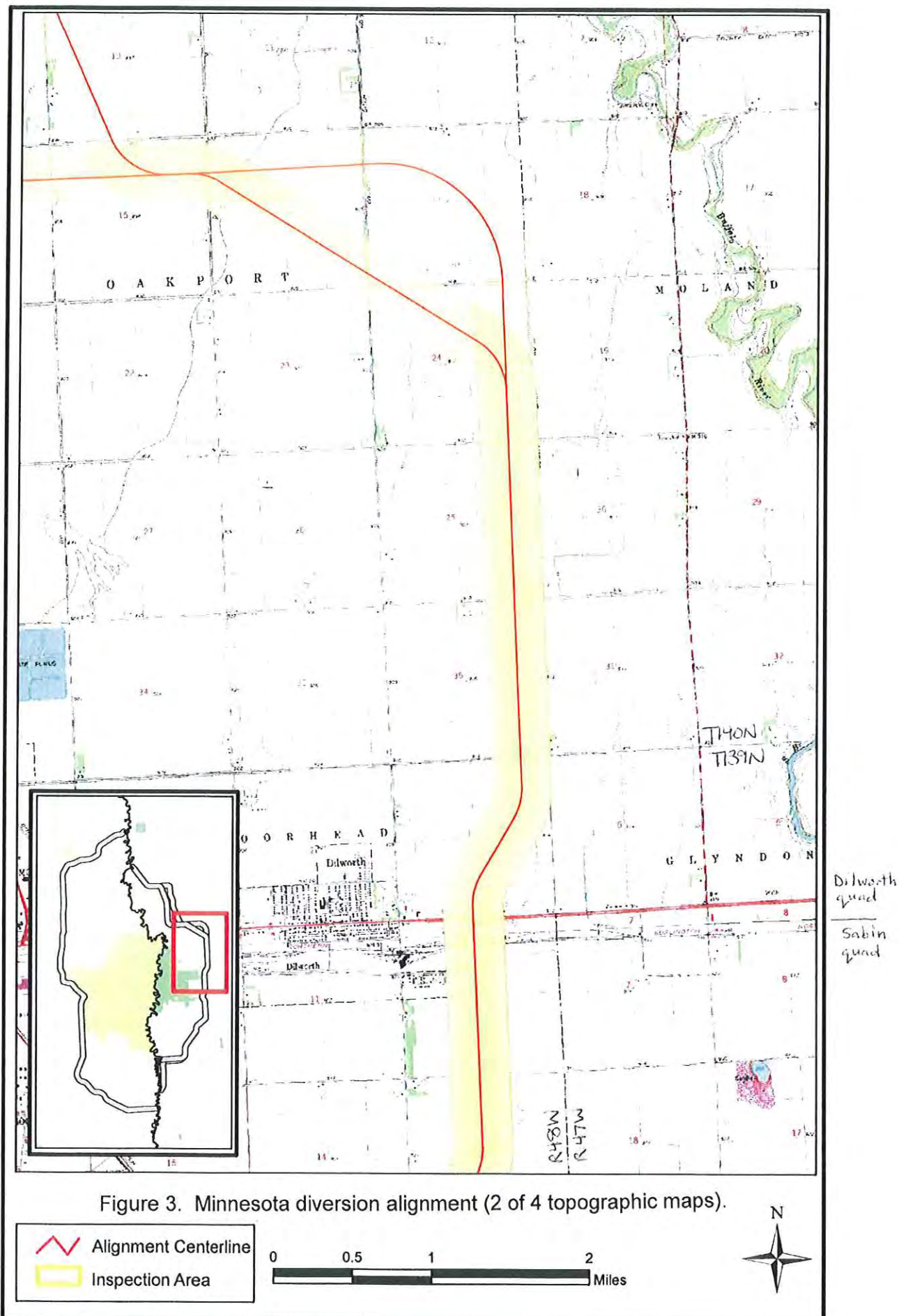


Figure 2. Minnesota diversion alignment.







Fargo South quad | Sabin quad

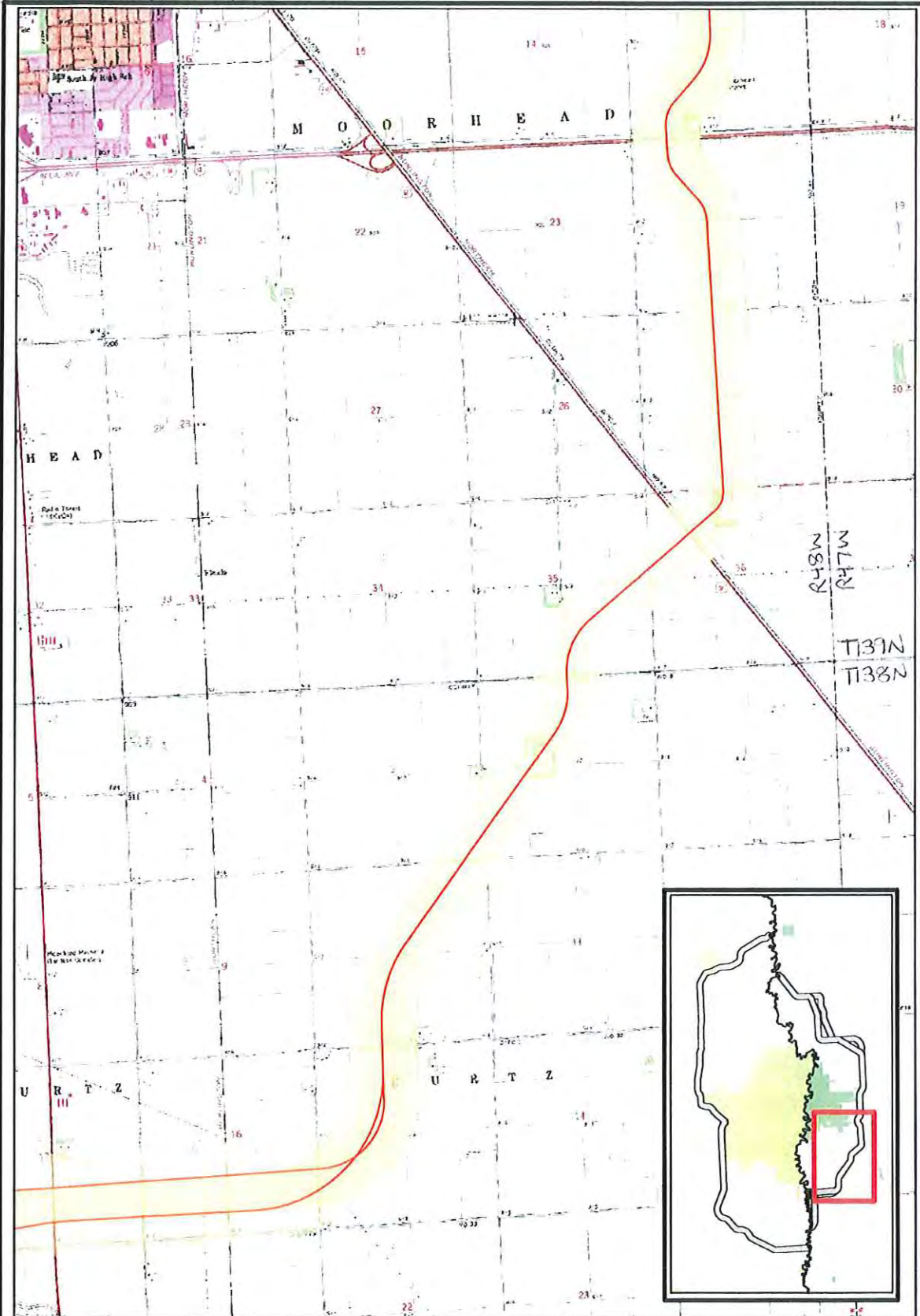
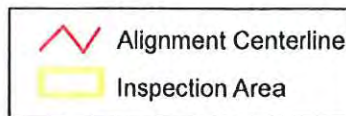
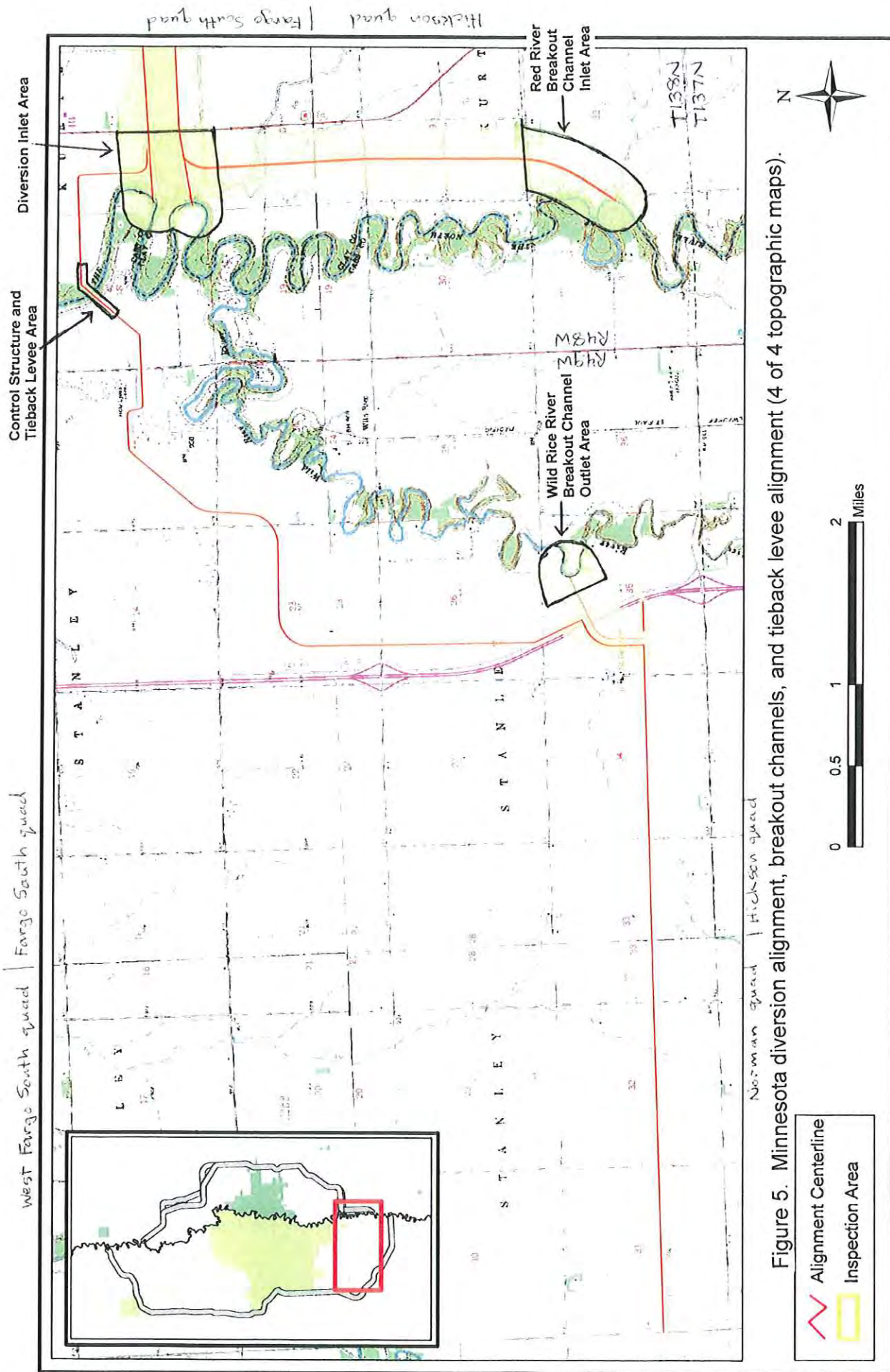


Figure 4. Minnesota diversion alignment (3 of 4 topographic maps).





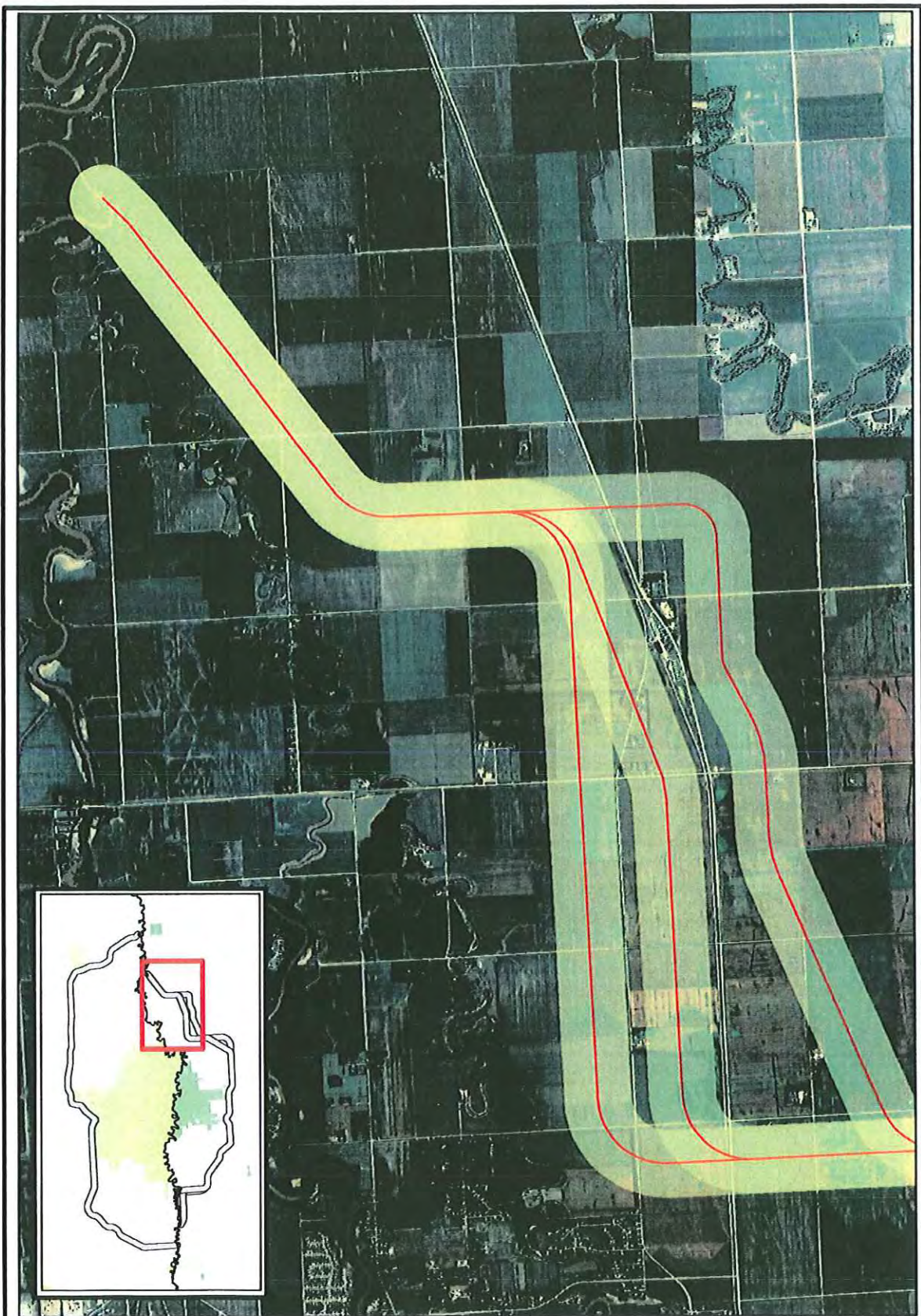
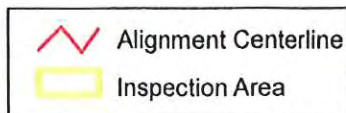


Figure 6. Minnesota diversion alignment (1 of 4 air photos).



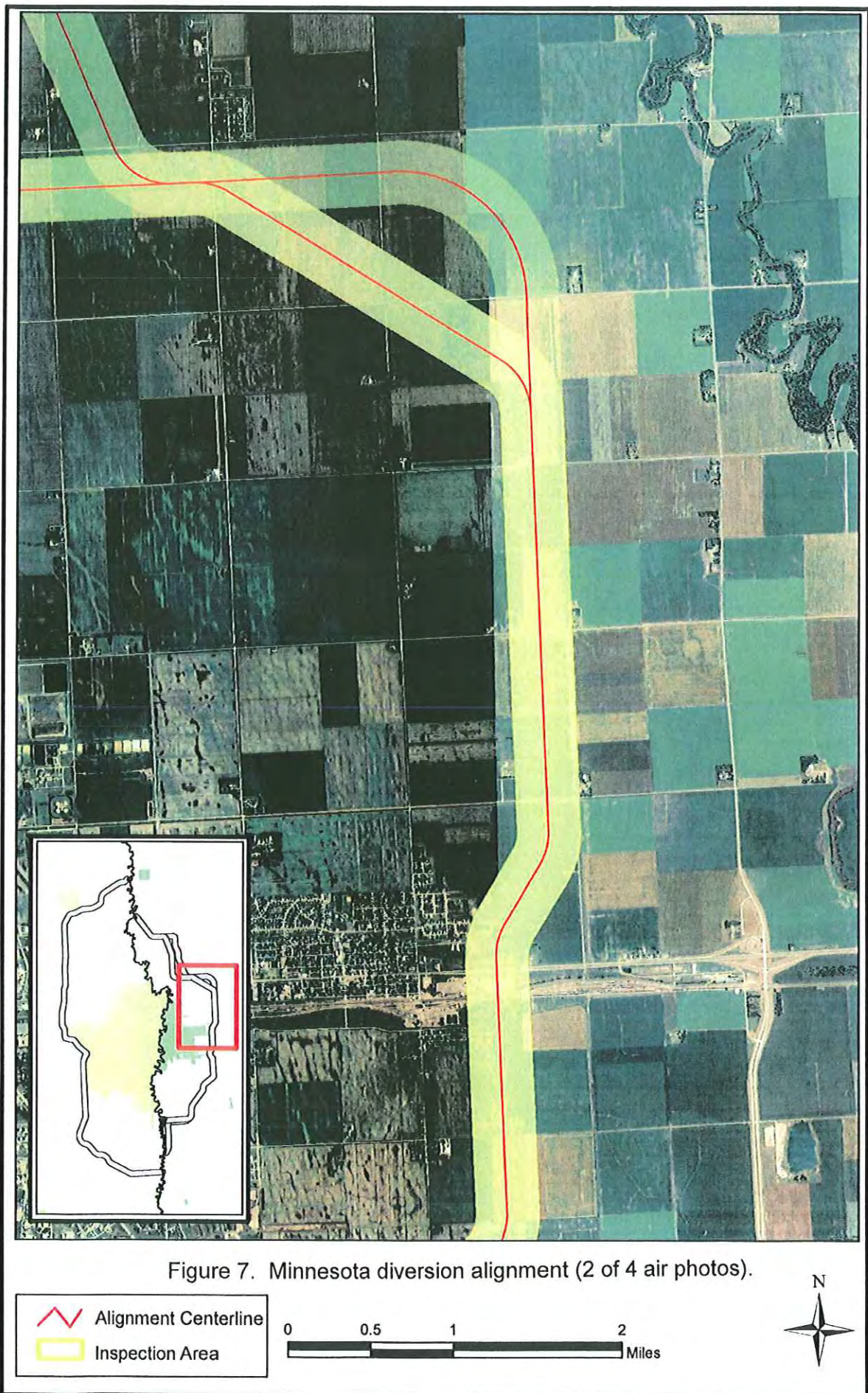
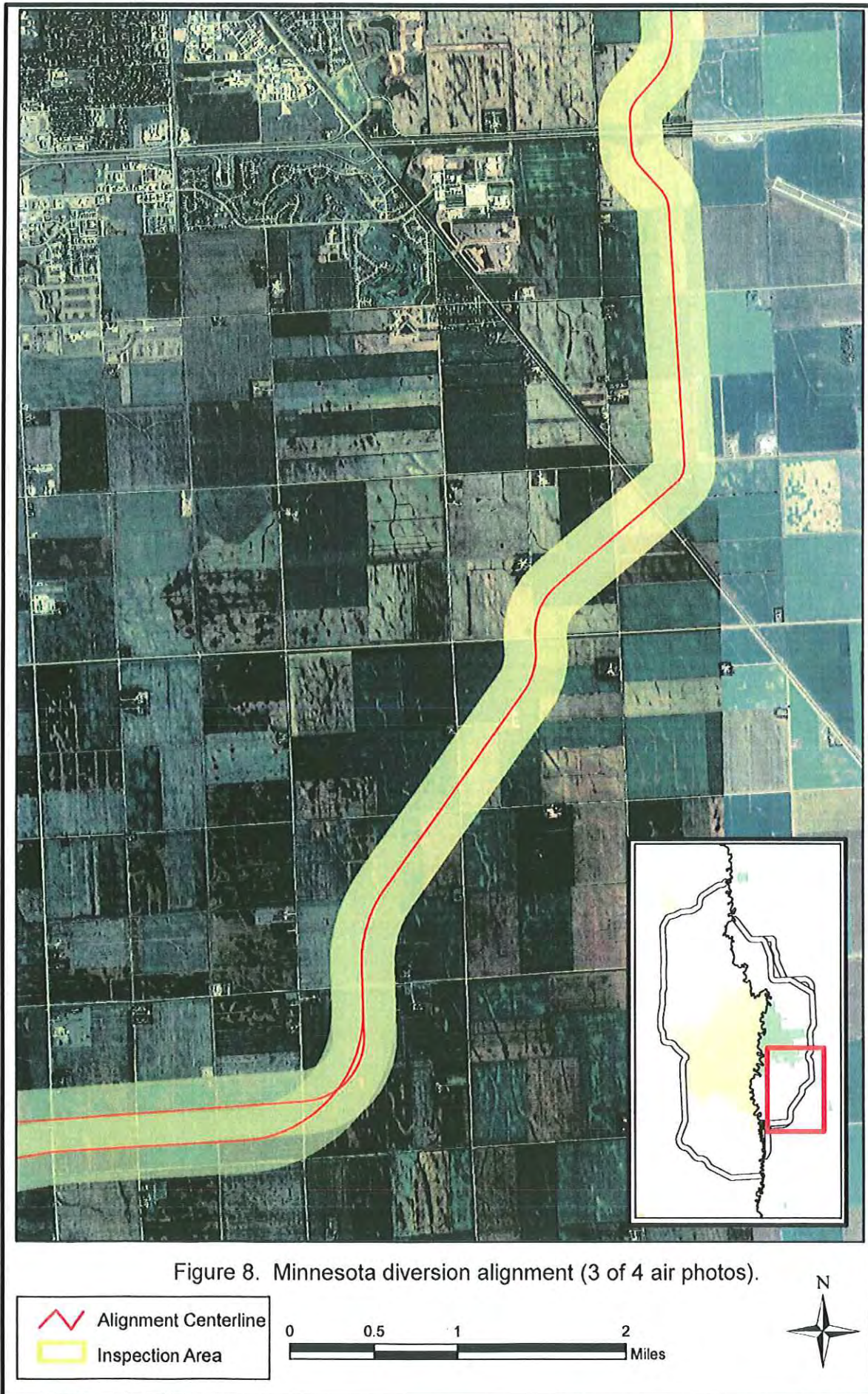


Figure 7. Minnesota diversion alignment (2 of 4 air photos).



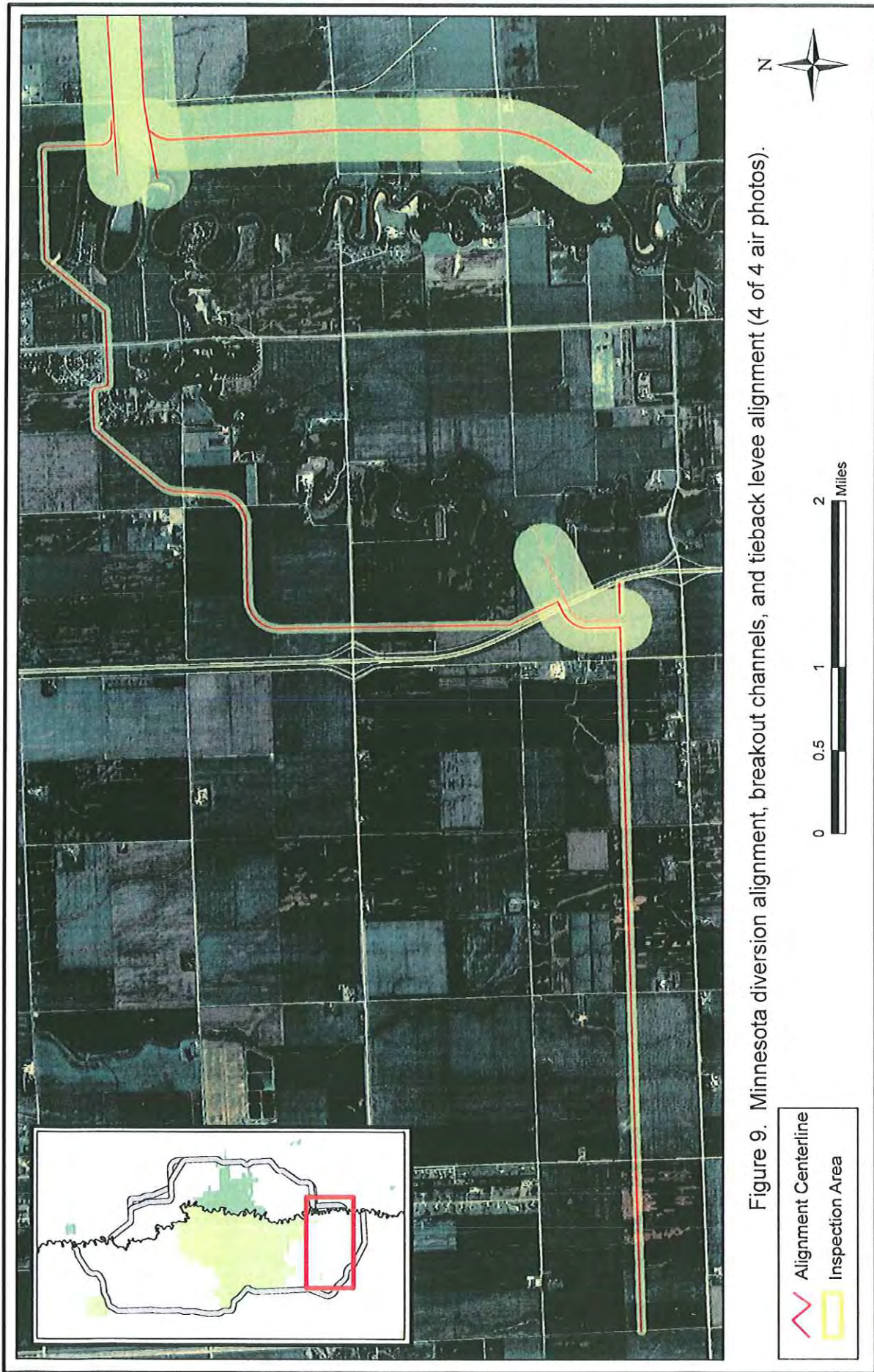


Figure 9. Minnesota diversion alignment, breakout channels, and tieback levee alignment (4 of 4 air photos).

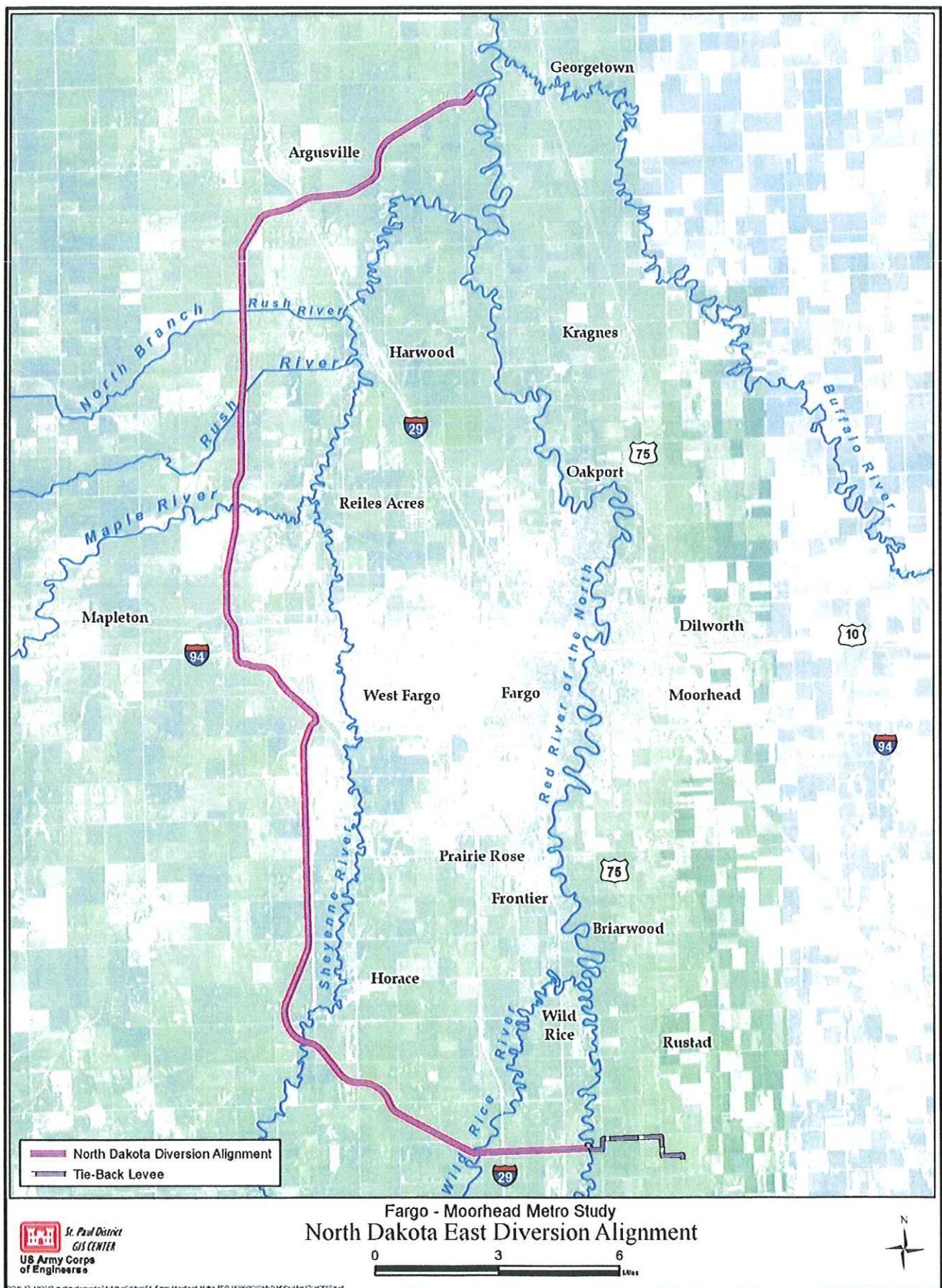
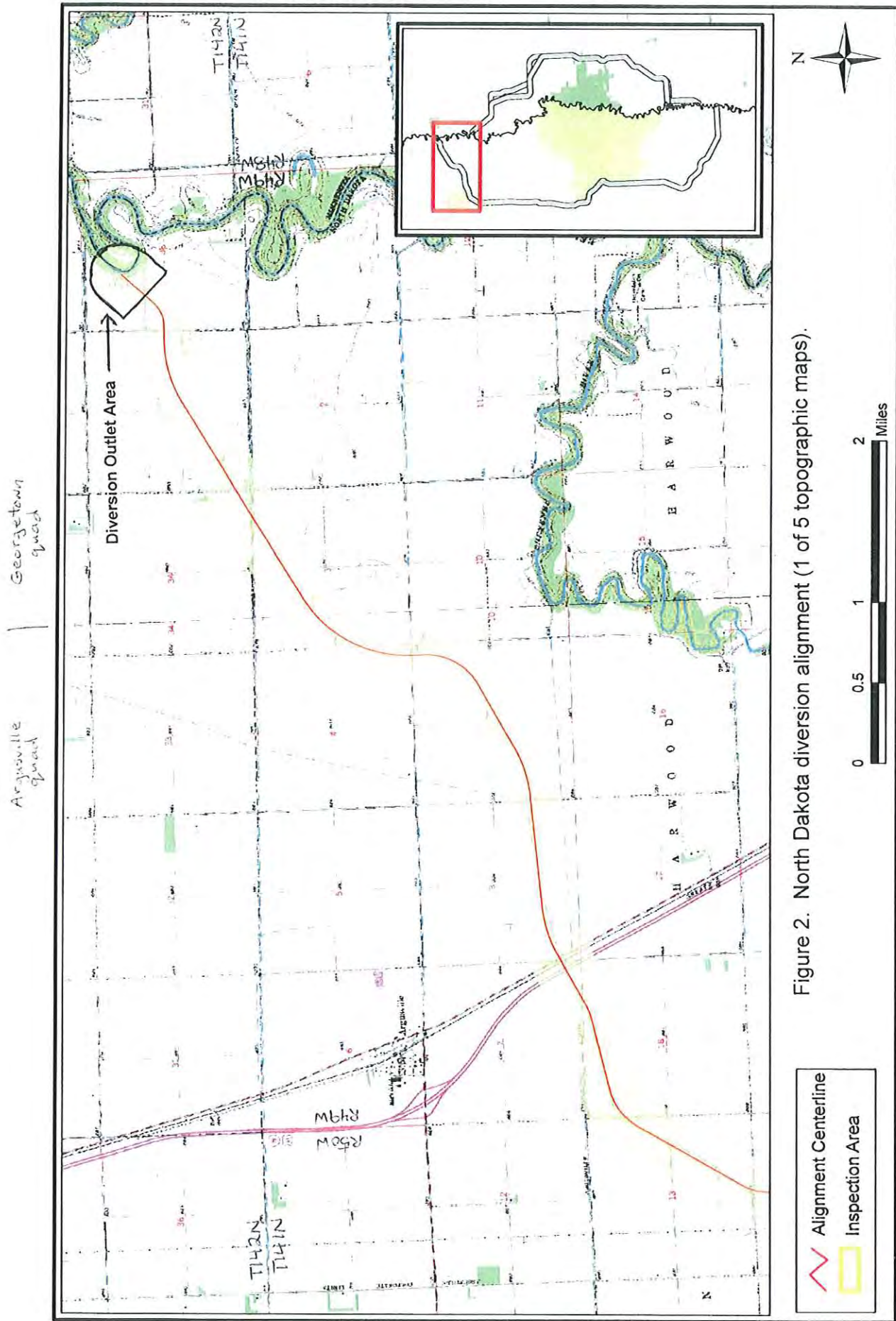


Figure 1. North Dakota Diversion Alignment and associated tieback levee.



Arthur SE
quad
Mapleton
quad

Argusville
quad

West
Fargo
South
quad

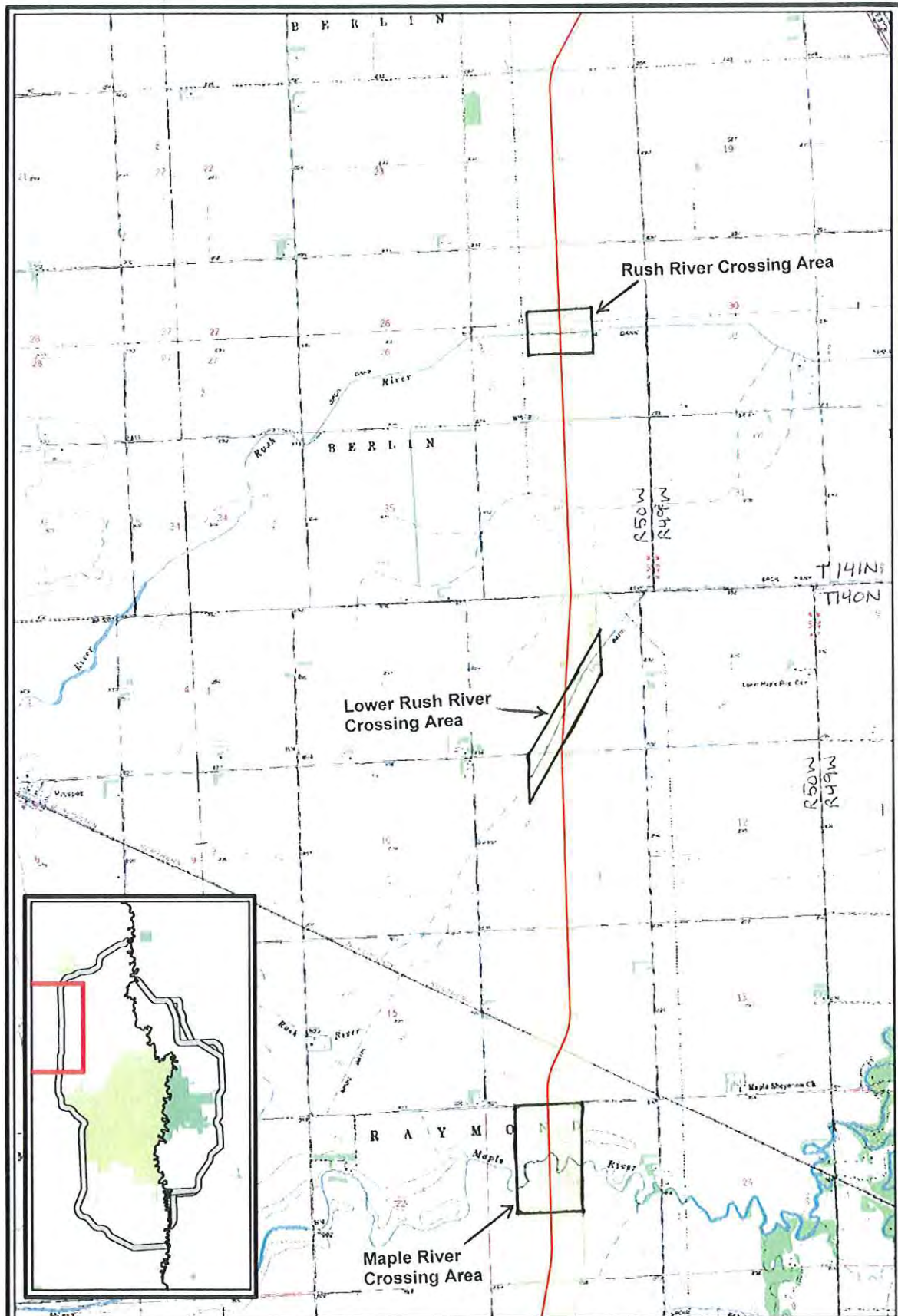
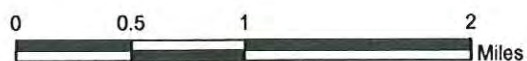
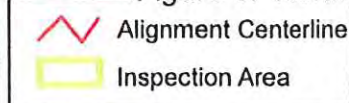
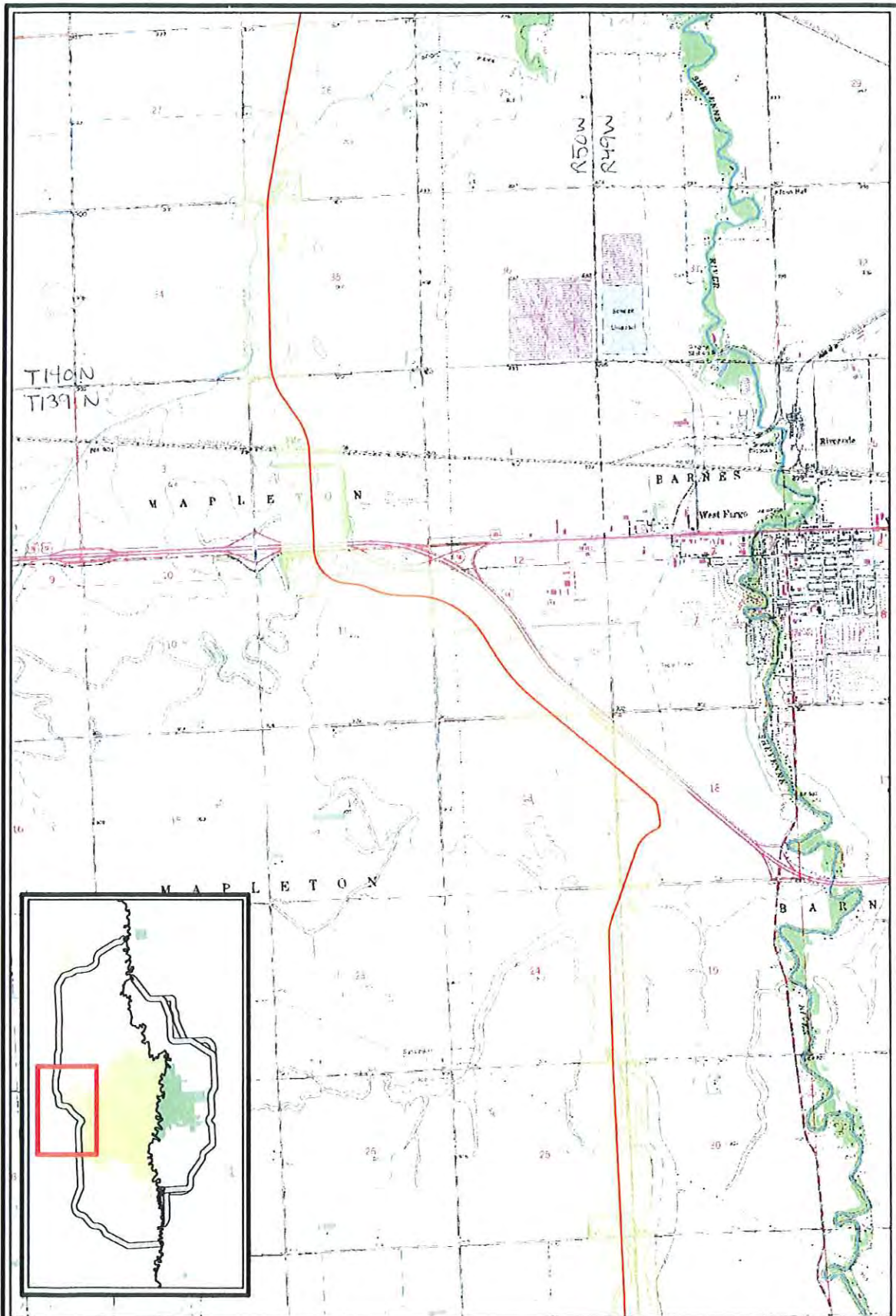


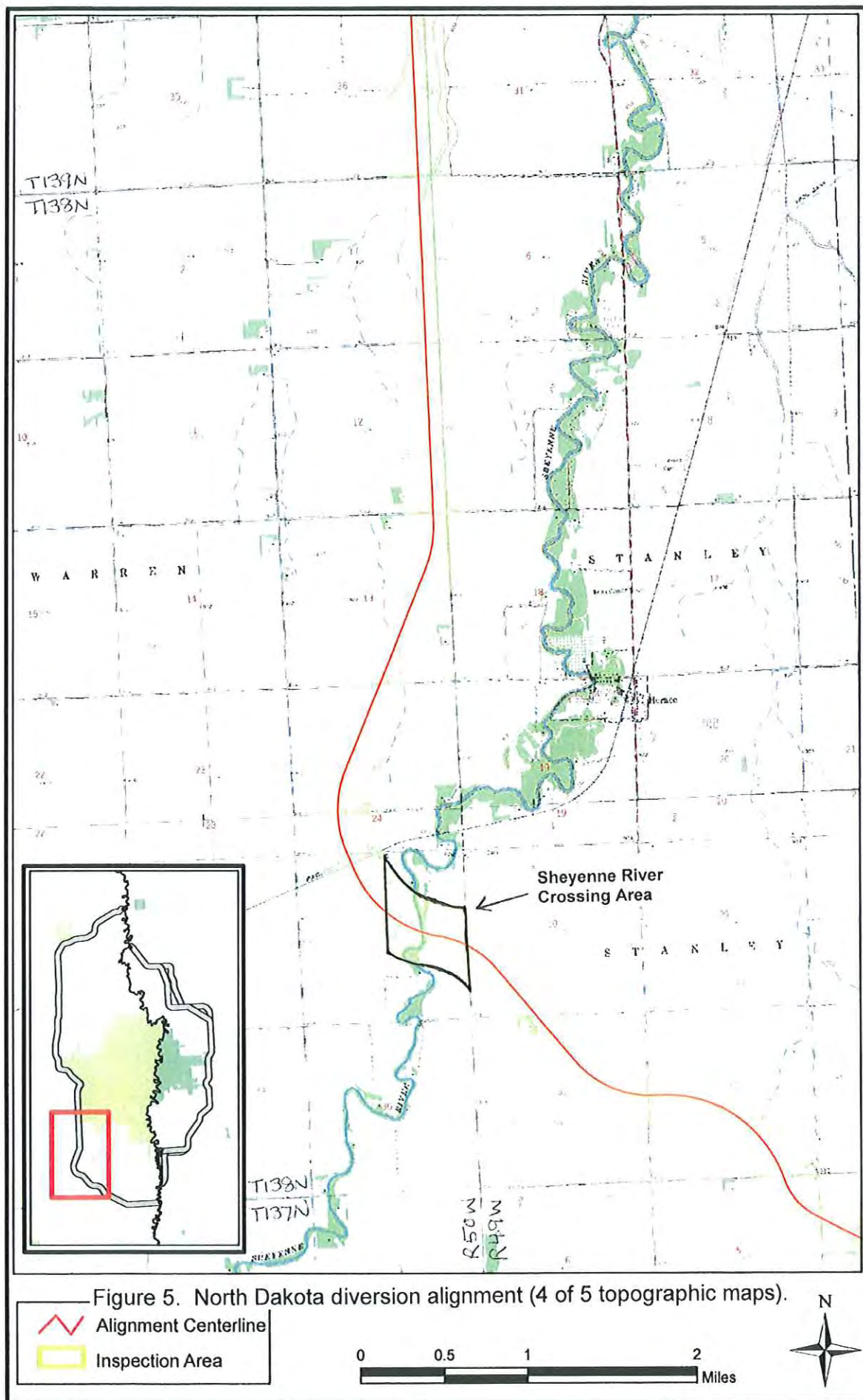
Figure 3. North Dakota diversion alignment (2 of 5 topographic maps).





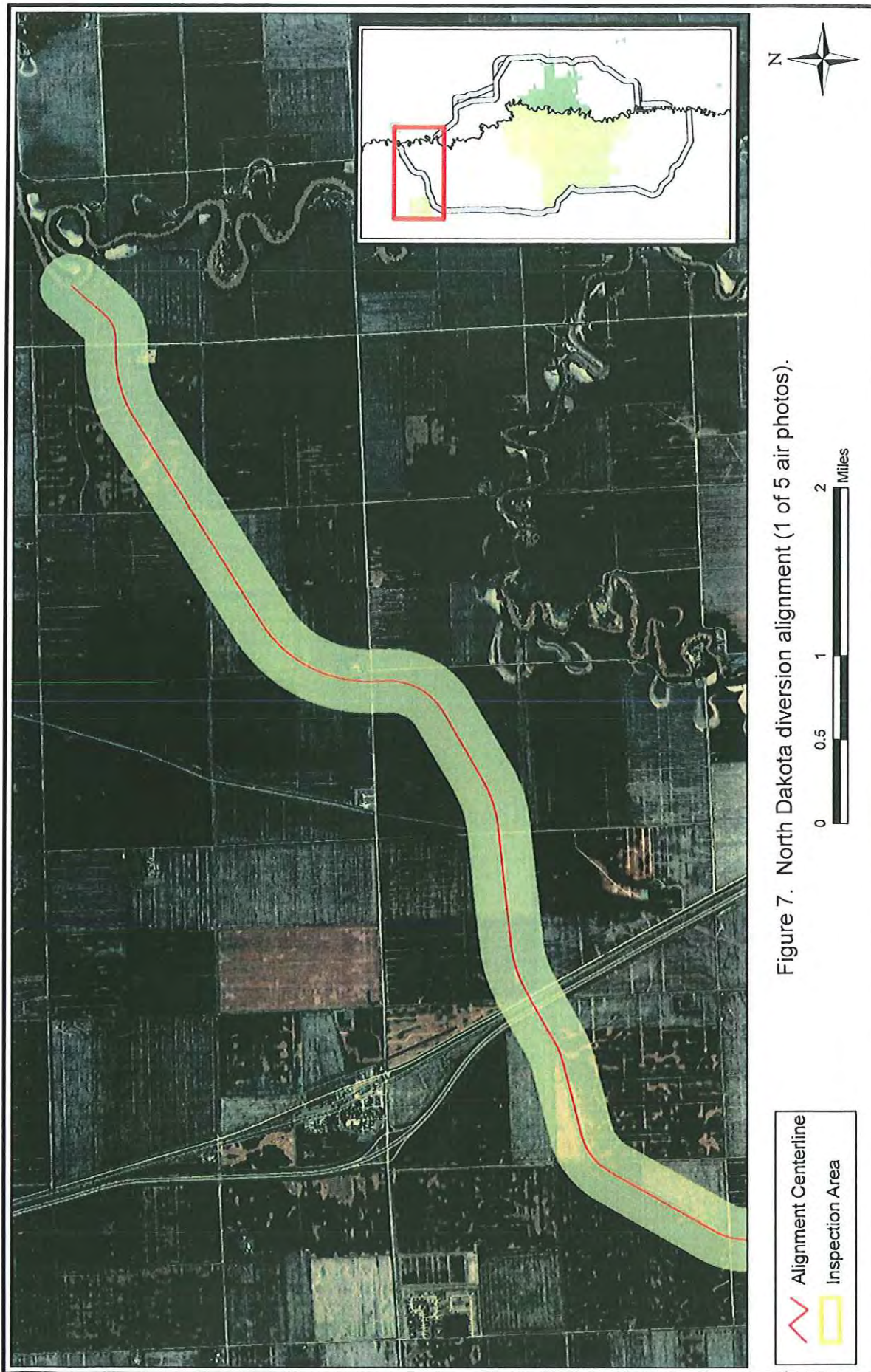
West
Fargo
North
quadrant

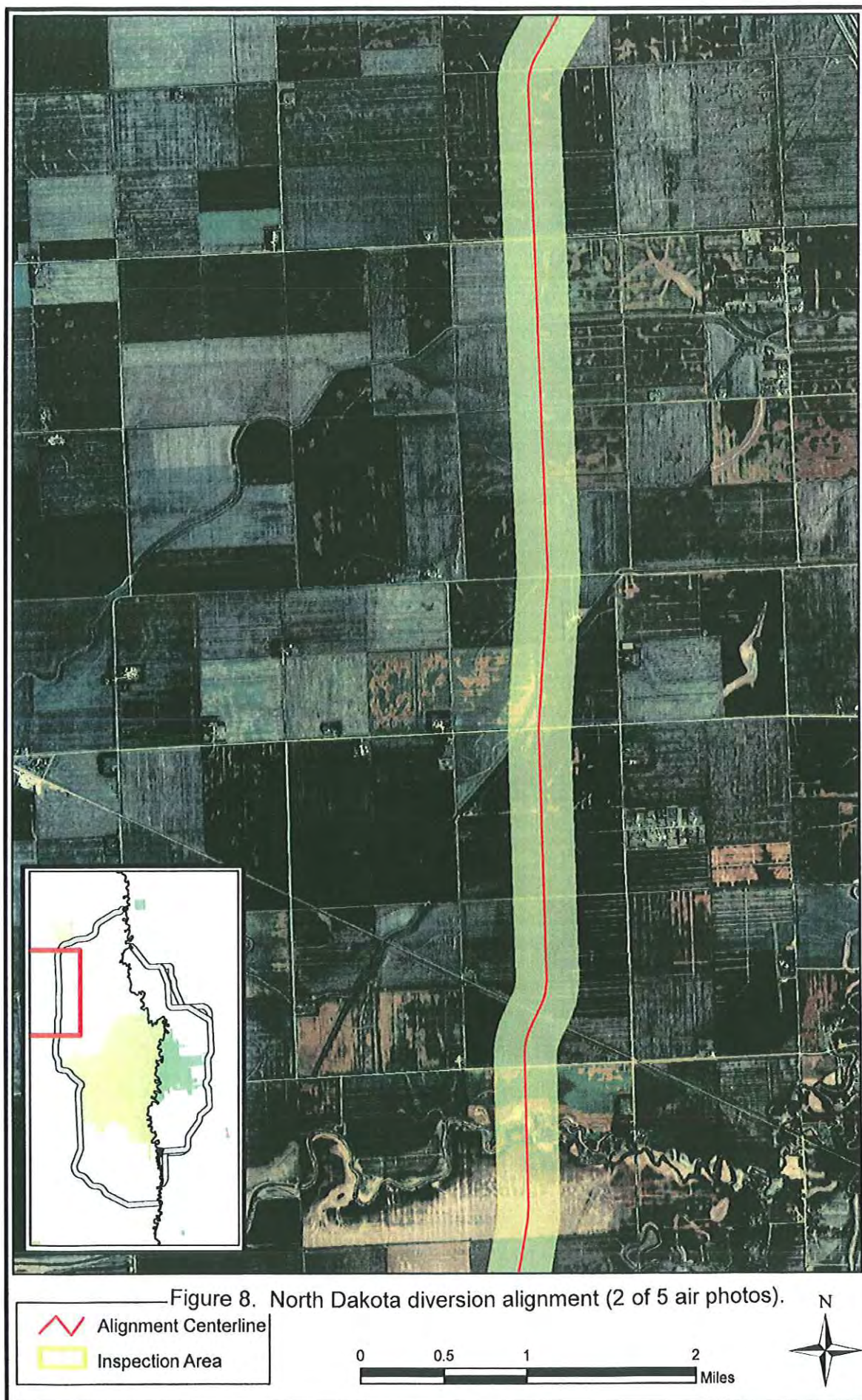
West
Fargo
South
quadrant

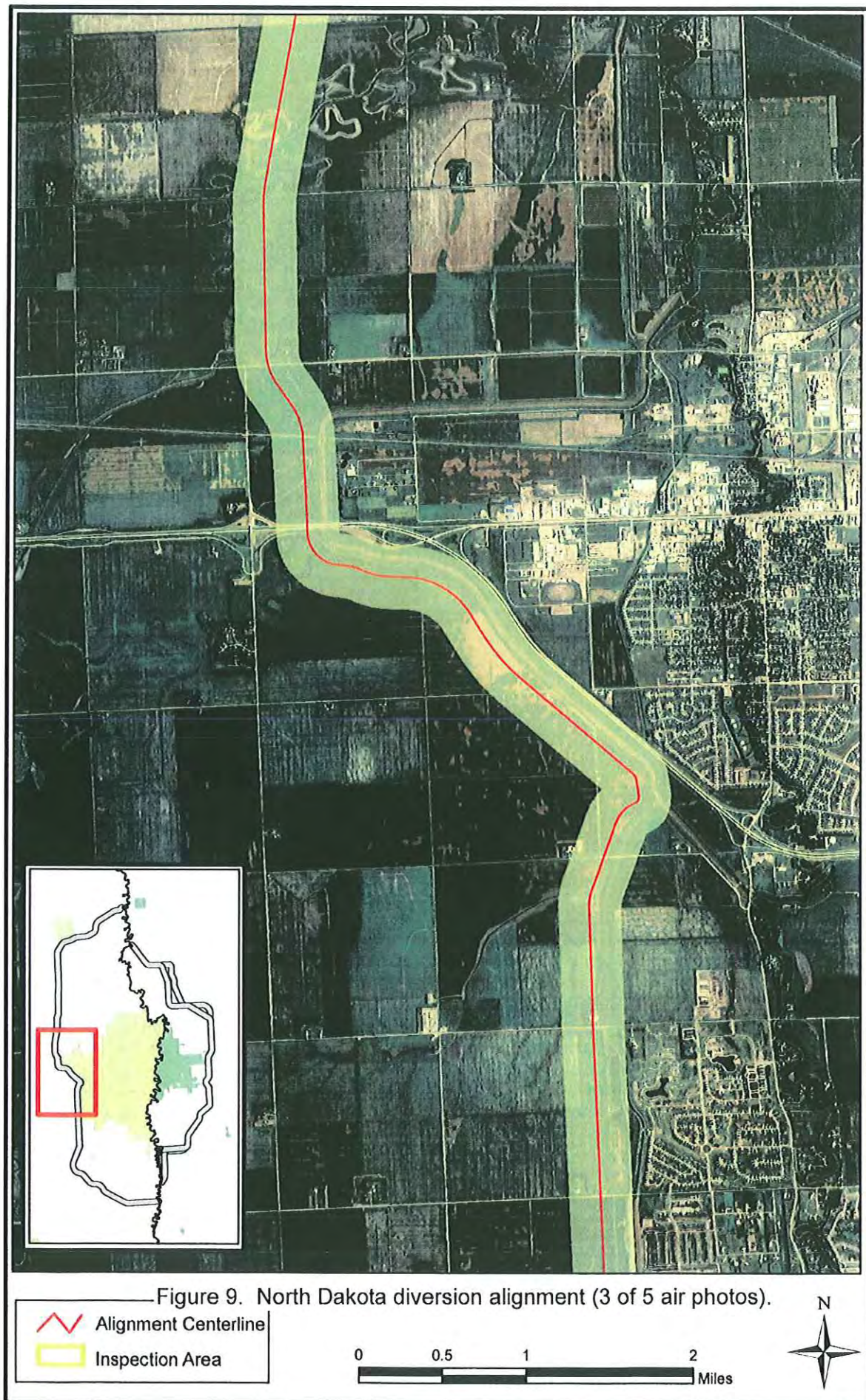


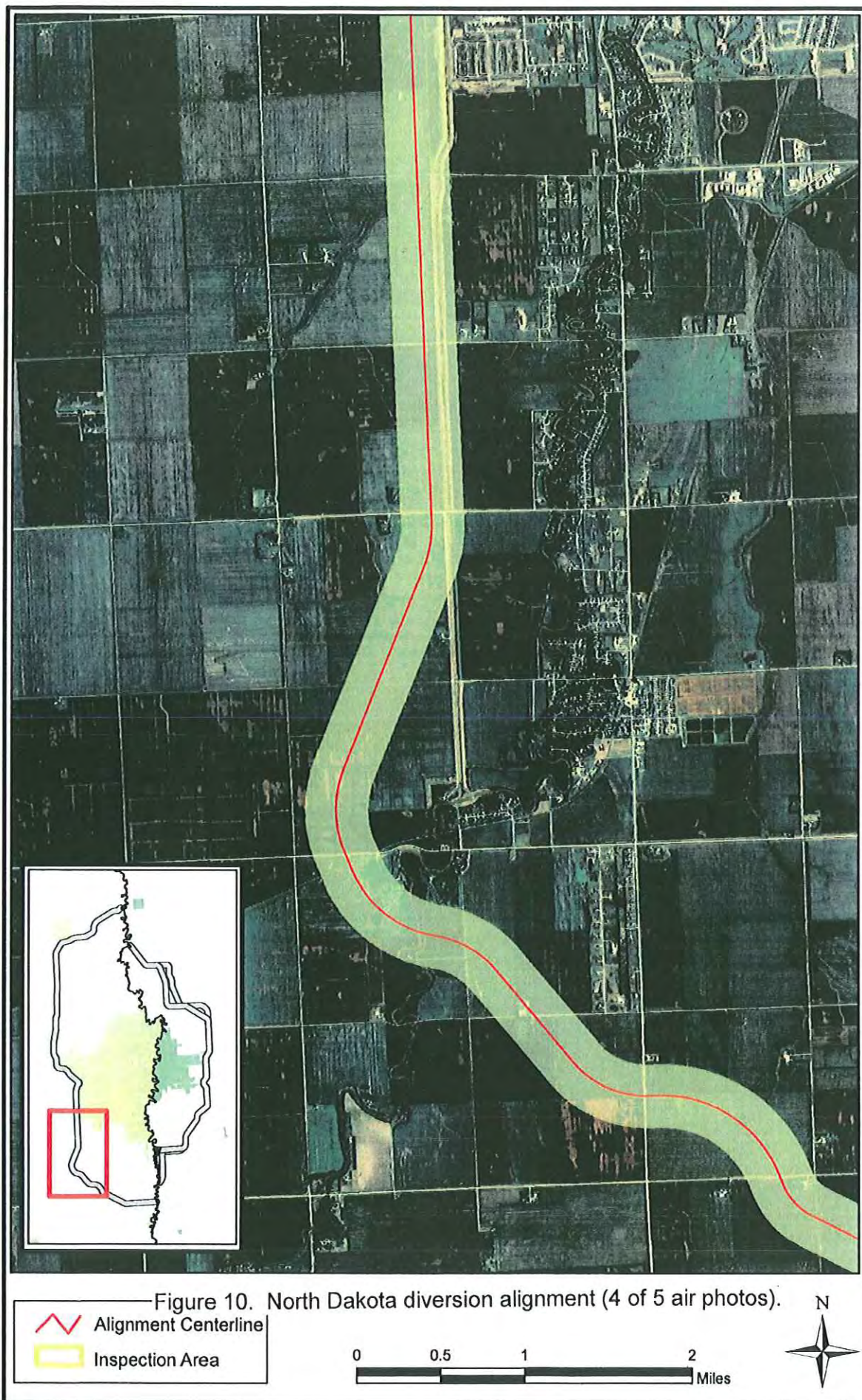
West
Fargo
South
quad

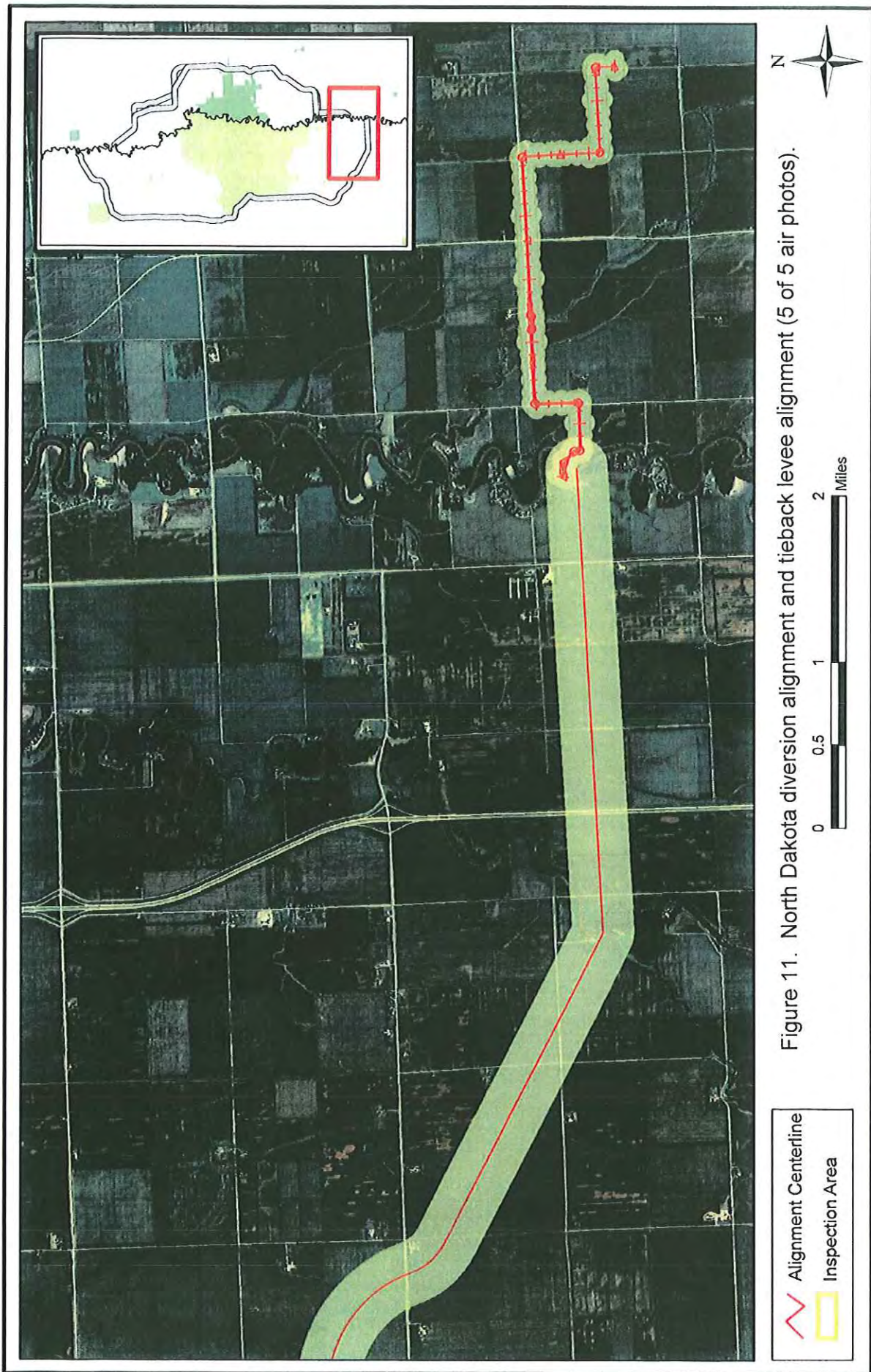
Norman
quad













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 07 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,

A handwritten signature in black ink, appearing to read "M. J. Price", is written over the printed name.

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,

A handwritten signature in black ink, appearing to read "Brett Coleman", is written over a horizontal line.

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,

A handwritten signature in black ink, appearing to read "Brett Coleman".

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,

A handwritten signature in black ink, appearing to read "Brett Coleman", is written over a horizontal line.

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

Honorable 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,

A handwritten signature in black ink, appearing to read 'M. J. Price', with a stylized flourish at the end.

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.

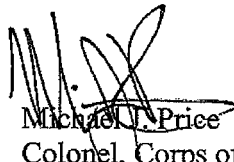
- The district will schedule face-to-face meetings with each tribal nation that expresses an interest in the project and wants to discuss the project in detail. Meetings could be held at each tribe's office or a location of its choosing.
- The district will set up and conduct a teleconference with tribes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



REPLY TO
ATTENTION OF

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

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



REPLY TO
ATTENTION OF

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

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



REPLY TO
ATTENTION OF

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

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,

A handwritten signature in black ink, appearing to read "Brett Coleman", is written over a horizontal line.

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.

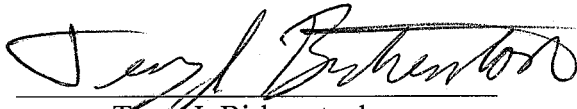
SUPPLEMENTAL INFORMATION: Fargo, North Dakota, and Moorhead, Minnesota, are on the west and east banks, respectively, of the Red River of the North approximately 150 miles south of the Canada/United States border. In addition to the Red River, the Wild Rice, Sheyenne, Maple, Rush and Lower Rush Rivers 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 public 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

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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-

www.dnr.state.mn.us

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Final Feasibility Report and Environmental Impact Statement
Fargo-Moorhead Metro Feasibility
July 2011

Q - 2011 USACE-MVP-0000088007
Public Involvement and Coordination

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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WEST FARGO COMPREHENSIVE PLAN

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 within 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.

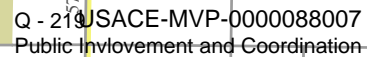


Table 1

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.

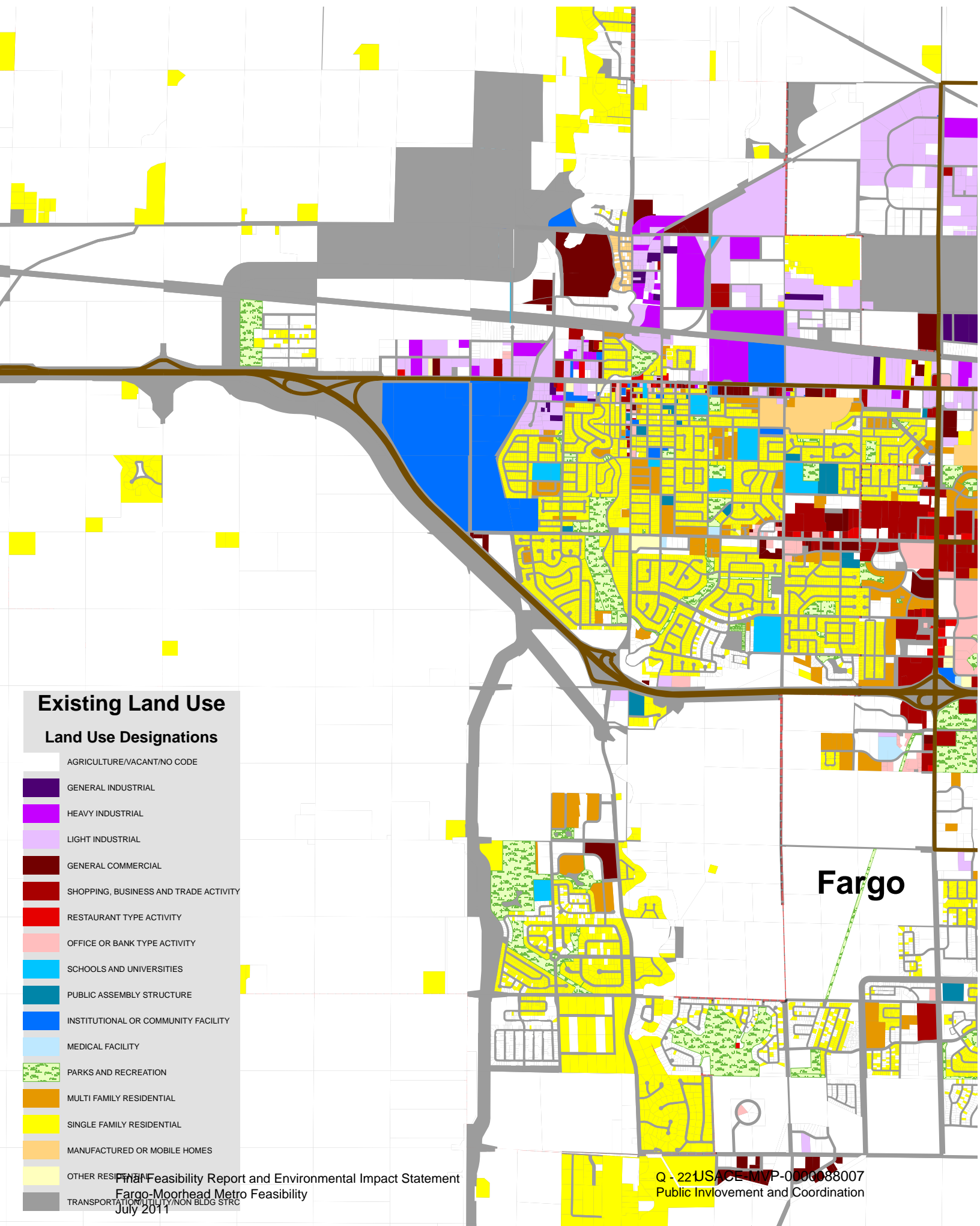
West Fargo Land Use

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



Existing Land Use

Land Use Designations

AGRICULTURE/VACANT/NO CODE

GENERAL INDUSTRIAL

HEAVY INDUSTRIAL

LIGHT INDUSTRIAL

GENERAL COMMERCIAL

SHOPPING, BUSINESS AND TRADE ACTIVITY

RESTAURANT TYPE ACTIVITY

OFFICE OR BANK TYPE ACTIVITY

SCHOOLS AND UNIVERSITIES

PUBLIC ASSEMBLY STRUCTURE

INSTITUTIONAL OR COMMUNITY FACILITY

MEDICAL FACILITY

PARKS AND RECREATION

MULTI FAMILY RESIDENTIAL

SINGLE FAMILY RESIDENTIAL

MANUFACTURED OR MOBILE HOMES

OTHER RESIDENTIAL

TRANSPORTATION/UTILITY/NON BLDG STRC

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)

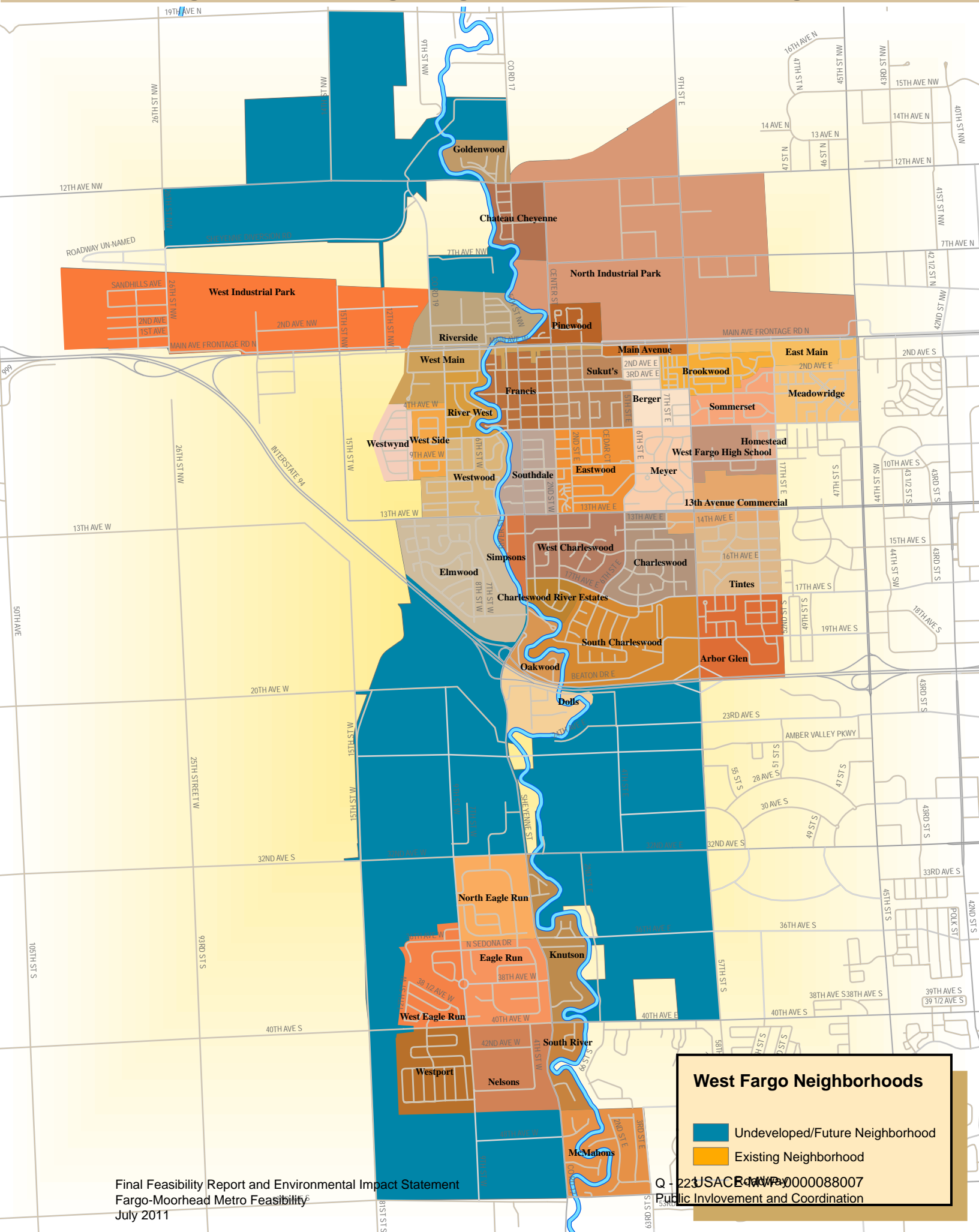
Platted Land Use	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Single Family and Twin homes	26.5	19.8	68.3	15.8	233.7	167	268	136.8	150.4	70.1	51.6
Multiple Family	0	0	0	14	41.1	0	63.1	49.8	131.9	0	0
Commercial/Retail	0	54.3	0	17.5	6.4	0	0	0	33	25.4	36.5
Heavy Commercial/Industrial	27.8	62.7	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

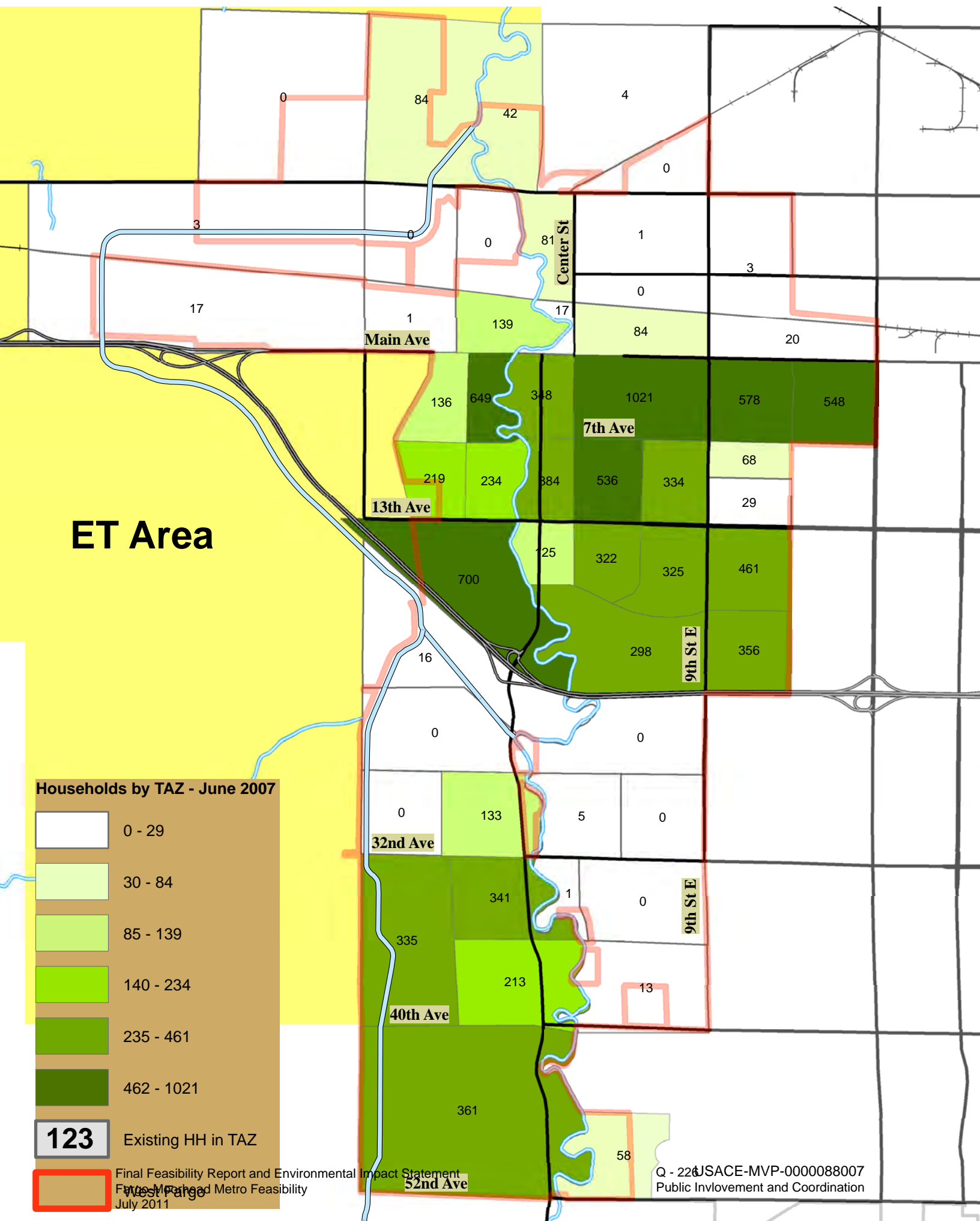
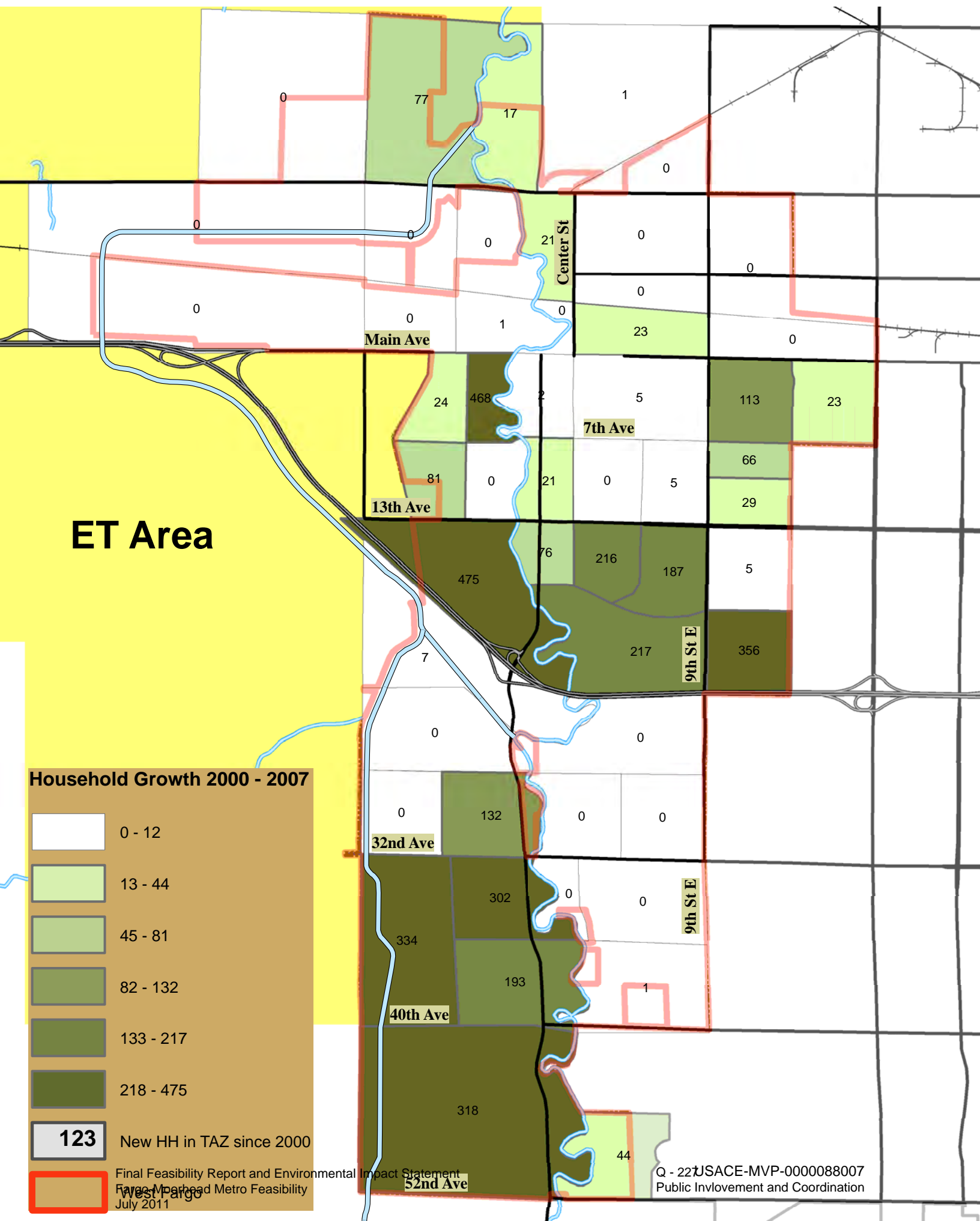


Figure 5: West Fargo Household Growth (2000-2007)



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

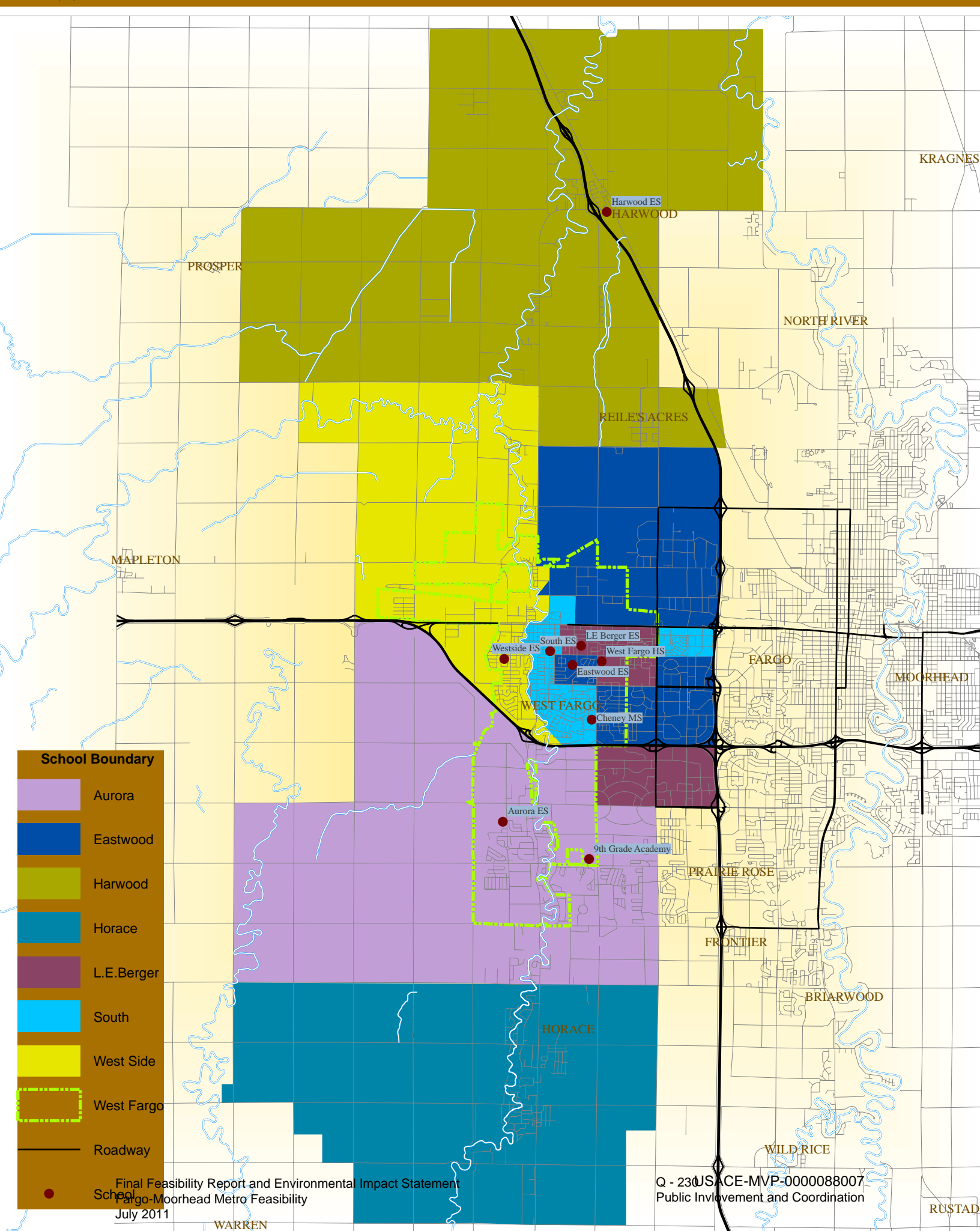


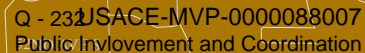
Table 10

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 District 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.

N
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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.

TRANSPORTATION

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.

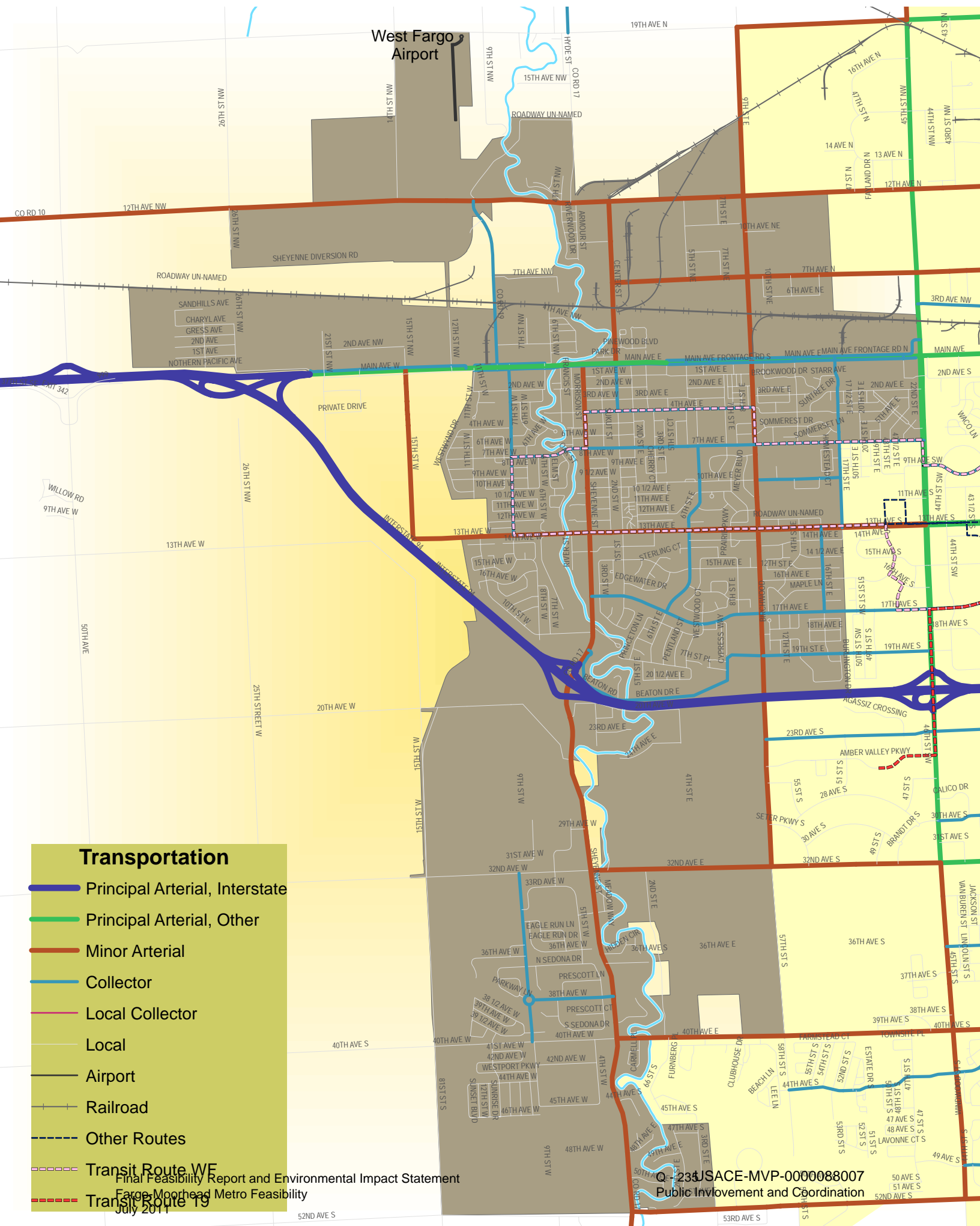
Table 12

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



Transportation

- Principal Arterial, Interstate
- Principal Arterial, Other
- Minor Arterial
- Collector
- Local Collector
- Local
- Airport
- Railroad
- Other Routes
- - - Transit Route WF
- - - Transit Route 19

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 Policies which will be discussed in Chapter 7.

COMMUNITY GROWTH

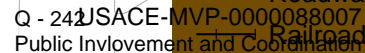
There is a mix of ideas on exactly how big West Fargo should be as a community. West Fargo will develop into a community of roughly 42,000 once it has filled in the flood protected areas south of I-94.

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.



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 known 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 back 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 understood 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 these 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 within 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 within 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 pursue 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 within 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.

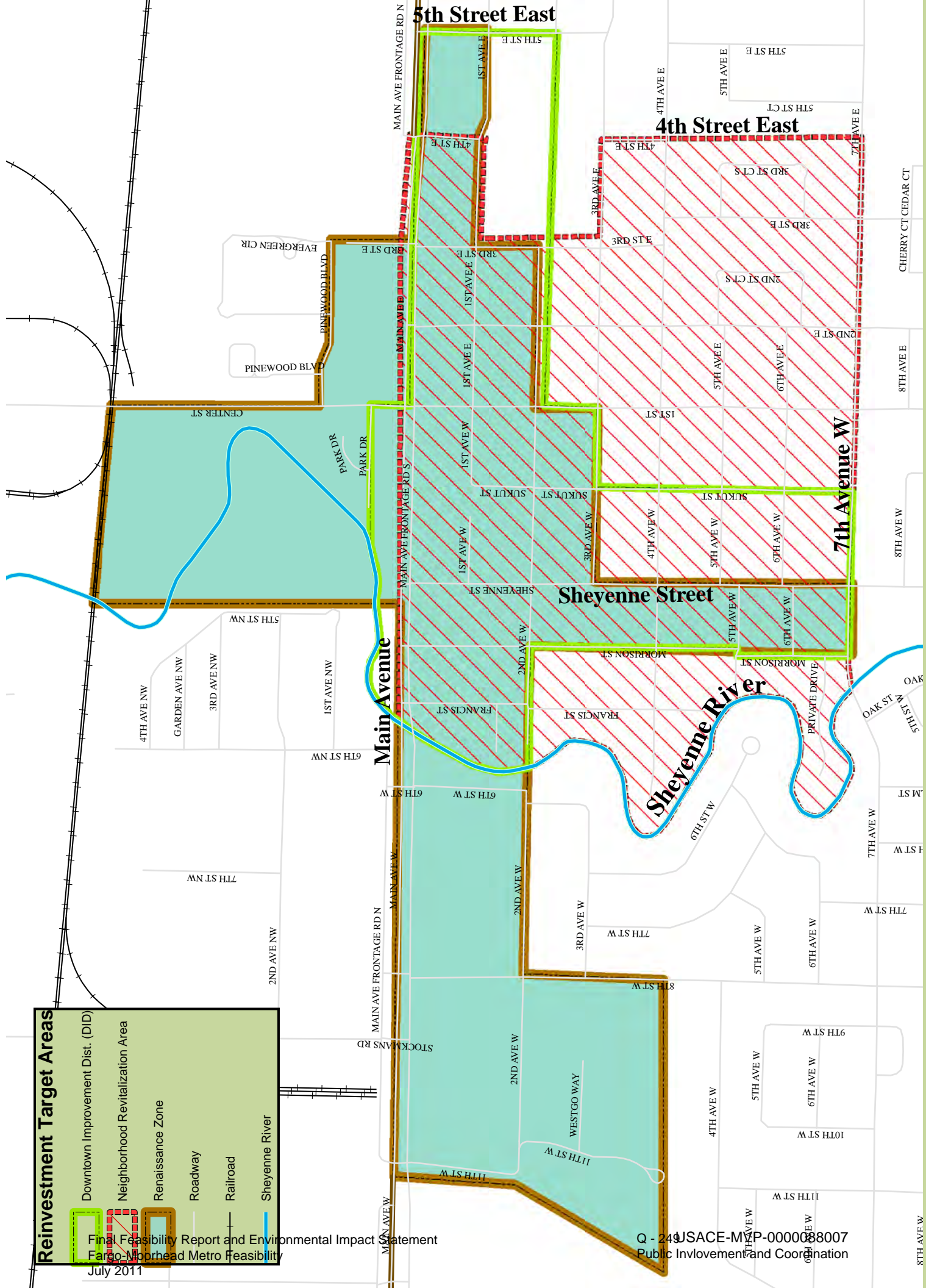


Figure 10 - Community Reinvestment and Rebirth

Reinvestment Target Areas

- Downtown Improvement Dist. (DID)
- Neighborhood Revitalization Area
- Renaissance Zone
- Roadway
- Railroad
- Sheyenne River



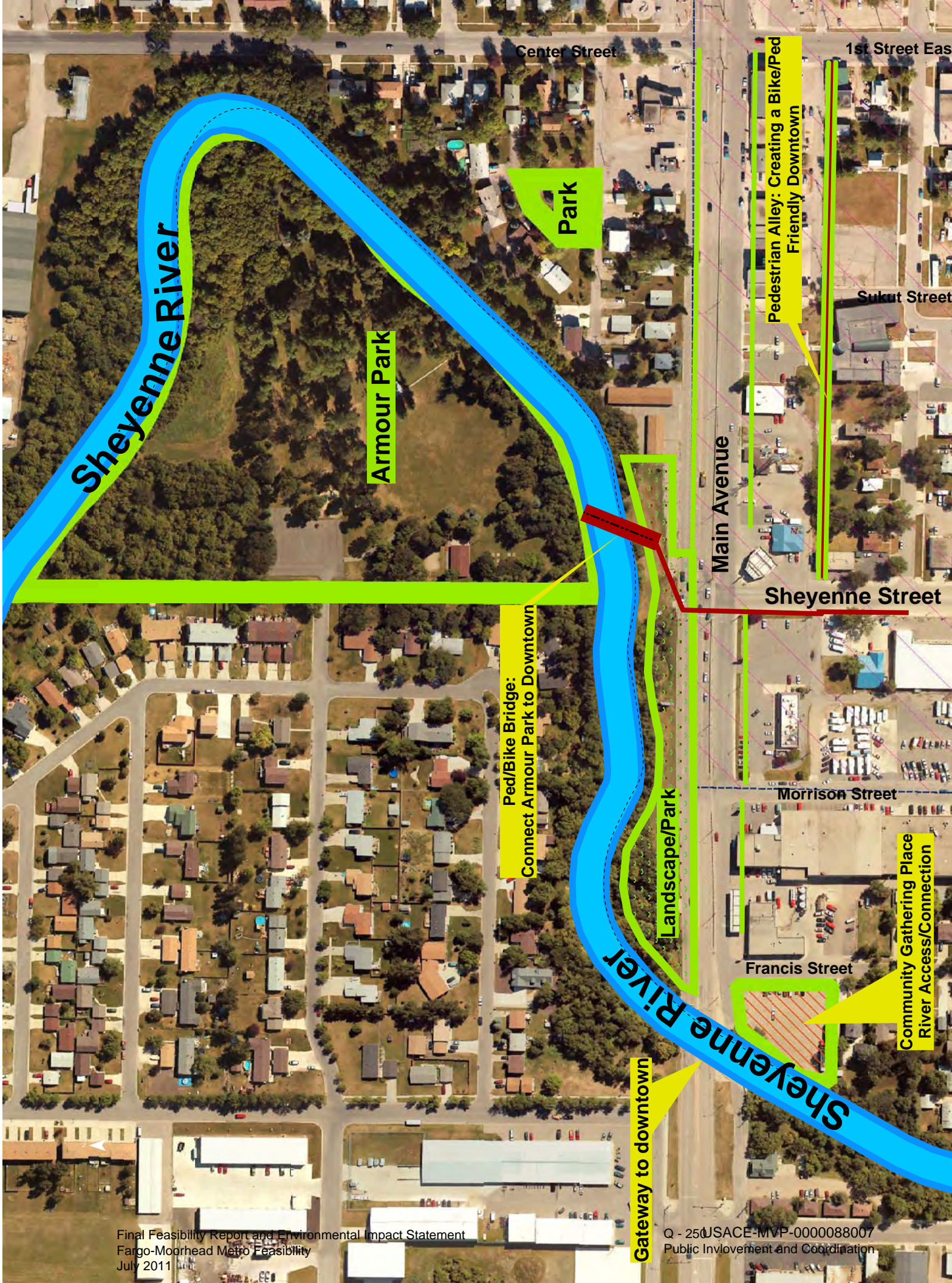


Figure 11: Downtown Crossroads

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 long 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.

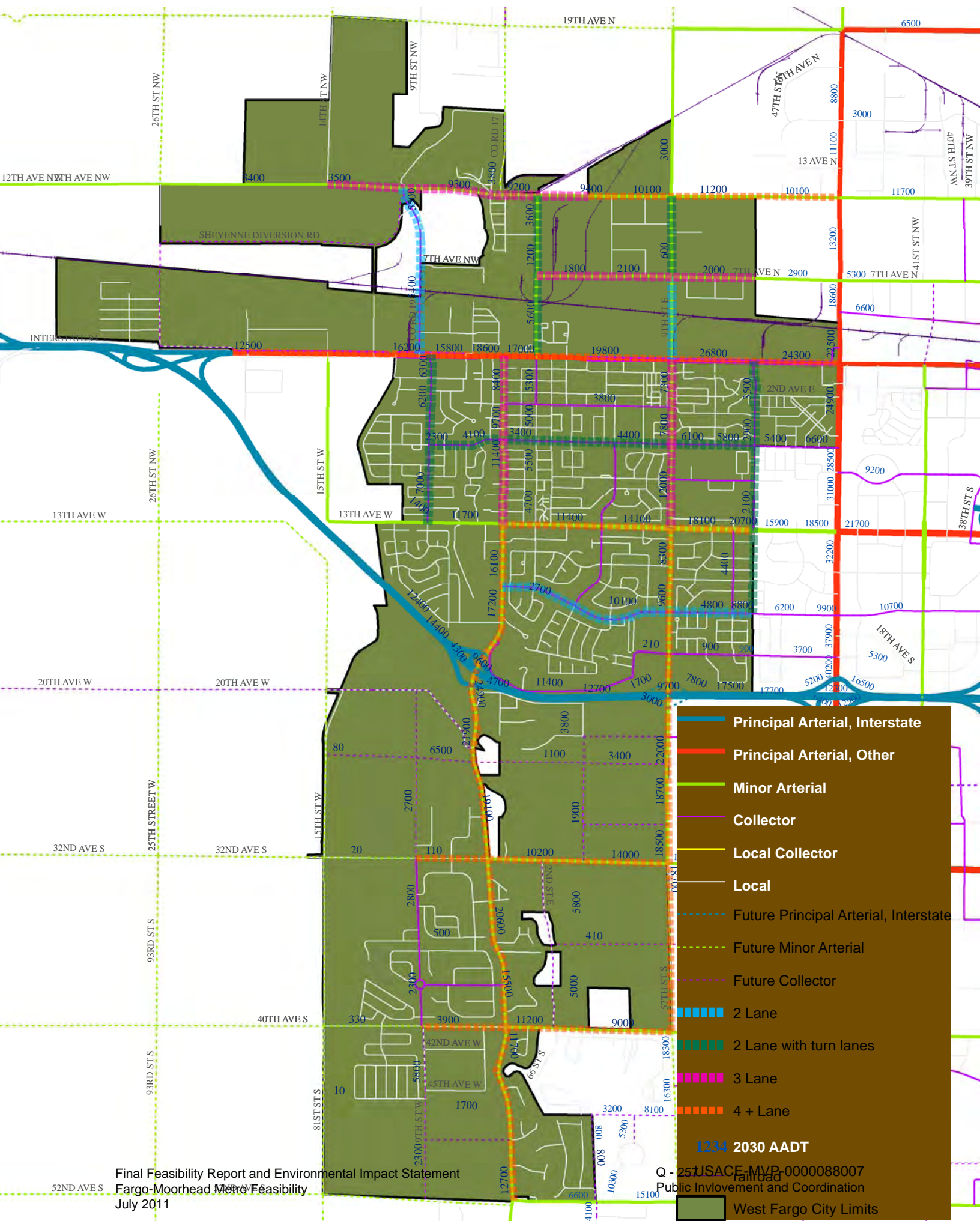
The volumes used for the analysis were those depicted in Figure 13. The intent of the corridor analysis is to provide West Fargo with an understanding as to the operational needs on several of its major corridors. The analysis done as part of the comprehensive plan can be used to develop more detailed 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 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 8 th Street W from Main Ave to 13 th Ave
Reconstruct 6 th Street E from 13 th Avenue to 10 th Avenue
Replace bridge on County Road 19 (Stockman's Road) at Drain 21
Reconstruct 40 th Avenue from 9 th Street E to 9 th Street W
Reconstruct 12 th Avenue N from County Road 17 Street to Eastern City Limit
Reconstruct Center St from Main Avenue to 12 th Ave N (including RR underpass)
Reconstruct 9th Street E from Main Avenue to 12th Avenue N
Widen 7 th Avenue W from Sheyenne Street to 8 th Street W
Reconstruct I-94 Interchange at Sheyenne Street (If lane capacity is needed)
Reconstruct 7 th Avenue E from 9 th Street to 45 th 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 within 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.

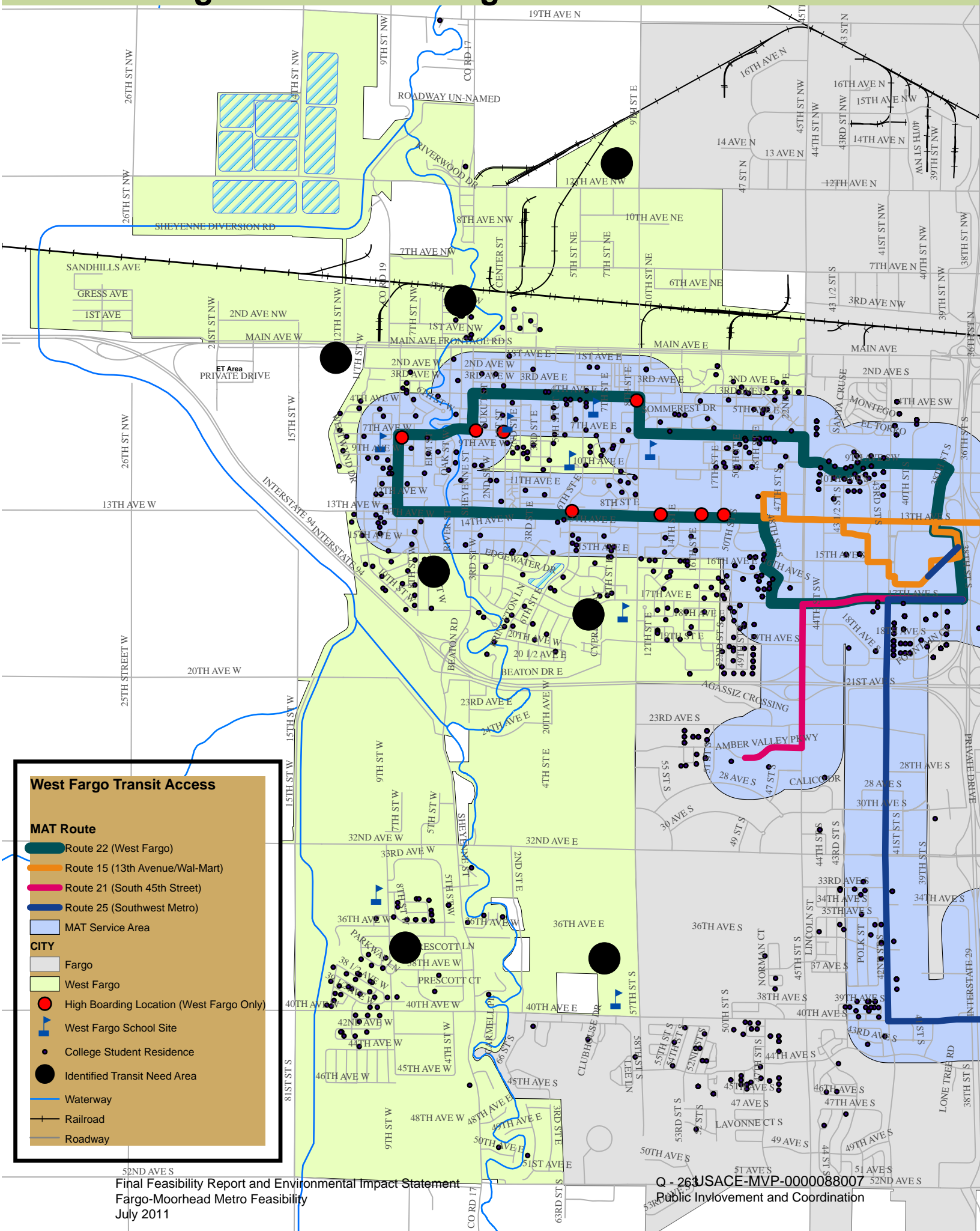
Transit use in West Fargo is growing as fast as any other geographic segment of the metro area. The fastest growing ridership demographic on MAT is college students. Figure 14 demonstrates existing metro area college students who reside in West Fargo. Through the U Pass program all college students in 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



West Fargo Transit Access

MAT Route

- Route 22 (West Fargo)
- Route 15 (13th Avenue/Wal-Mart)
- Route 21 (South 45th Street)
- Route 25 (Southwest Metro)
- MAT Service Area

CITY

- Fargo
- West Fargo
- High Boarding Location (West Fargo Only)
- West Fargo School Site
- College Student Residence
- Identified Transit Need Area
- Waterway
- Railroad
- Roadway

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

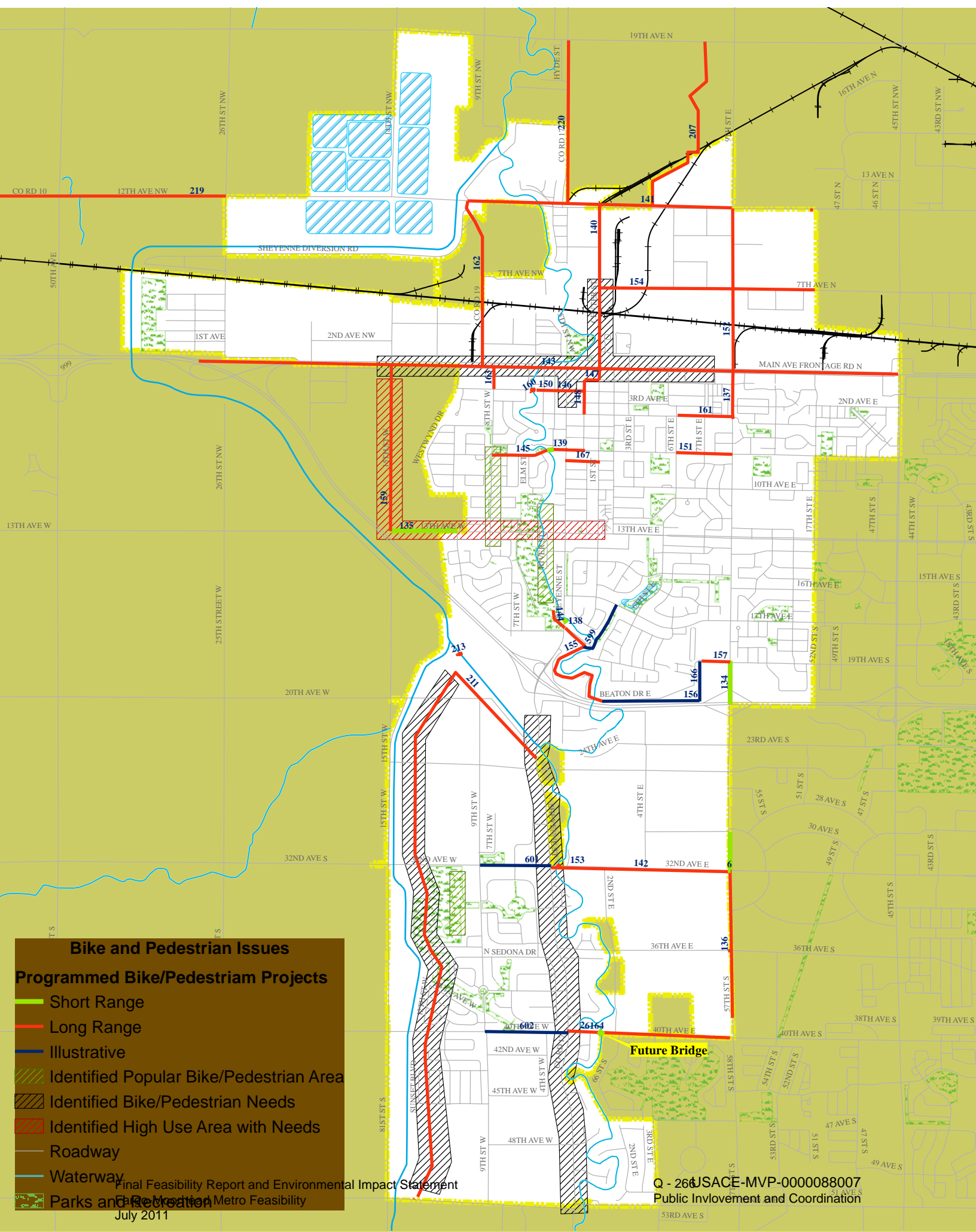


Figure 15a: West Fargo Bicycle and Pedestrian Facility Improvements*

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 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 Sheyenne 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 Metropolitan 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 patterns;
- 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.



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 within 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 County 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. Travel 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

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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 to 12th 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 within 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 platted 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 owned 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.

(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.

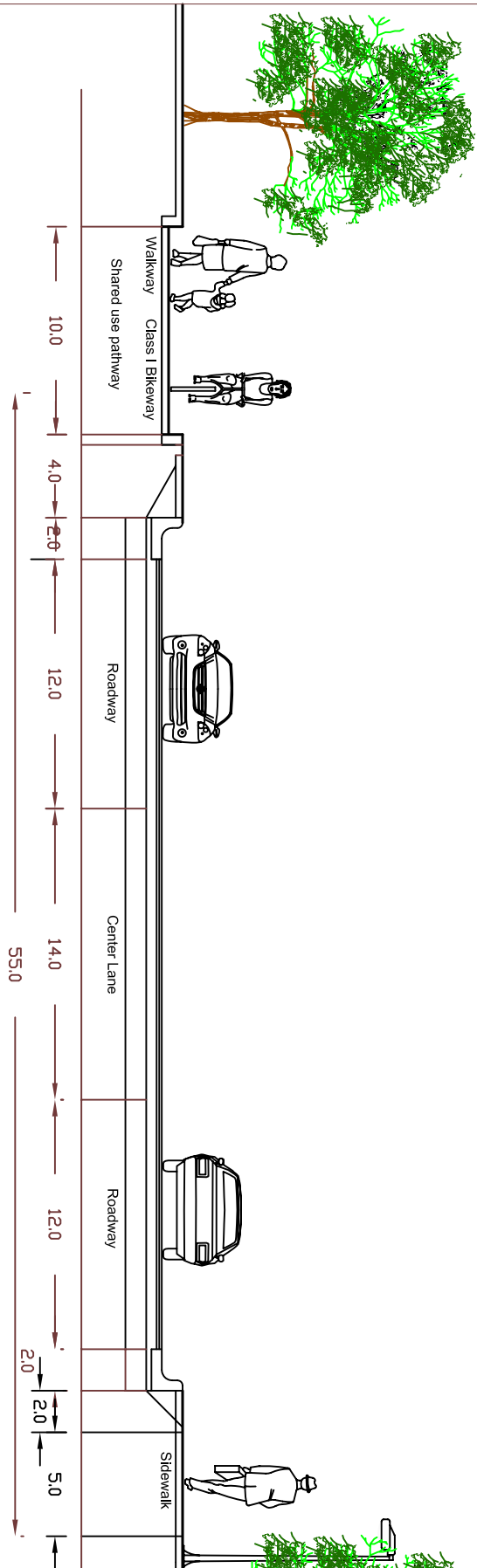
To the west of 9th Street the 12th Avenue corridor changes slightly. The section of 12th Avenue west of 9th Street is more fully developed, and no new access anticipated. The only exception is the continuing build up of manufacturing capacity at the Integrity Windows Plant, which will likely impact operations 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 or 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.

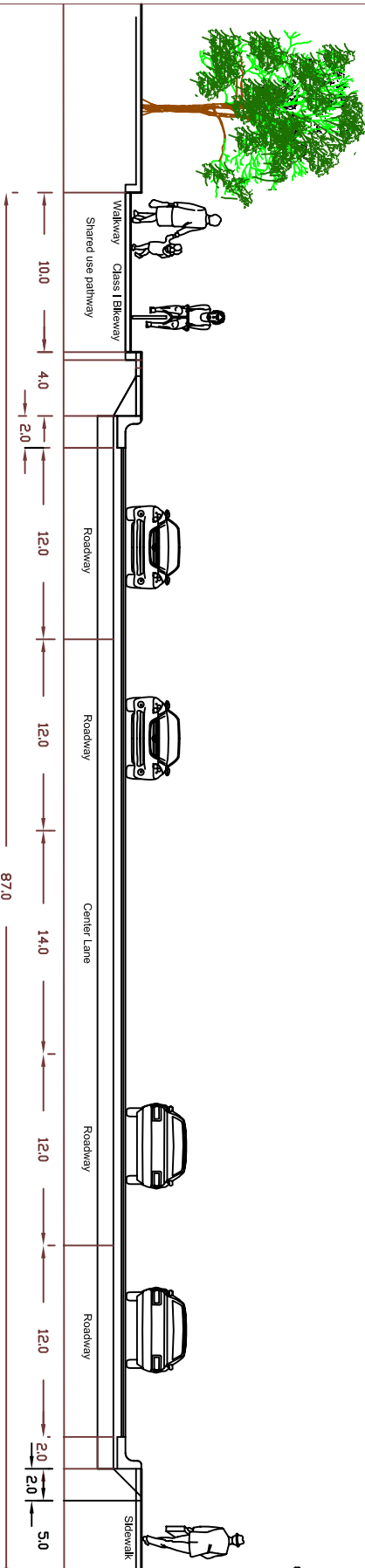
A westbound right turn lane/bay should be considered on 12th Avenue at CR 17. Consideration should be given to allowing for a right turn lane/bay into the Goldenwood subdivision at 4th Street NW. An eastbound left turn lane on 12th Avenue at CR 17 will emerge as part of the three lane reconstruction, 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.

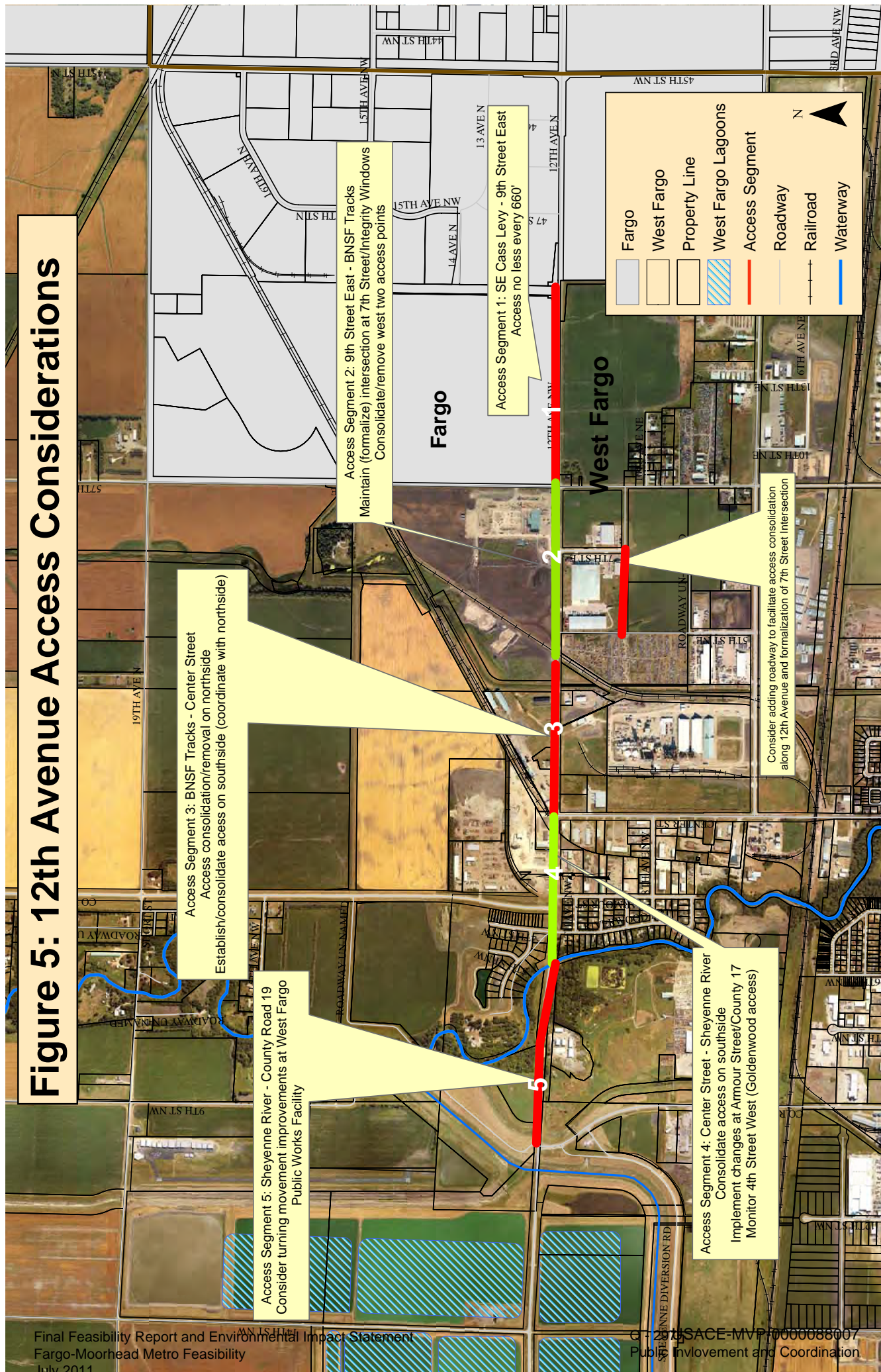


12th Avenue N: Three Lane Typical Section



12th Avenue N: Five Lane Typical Section

Figure 5: 12th Avenue Access Considerations



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 loose 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.

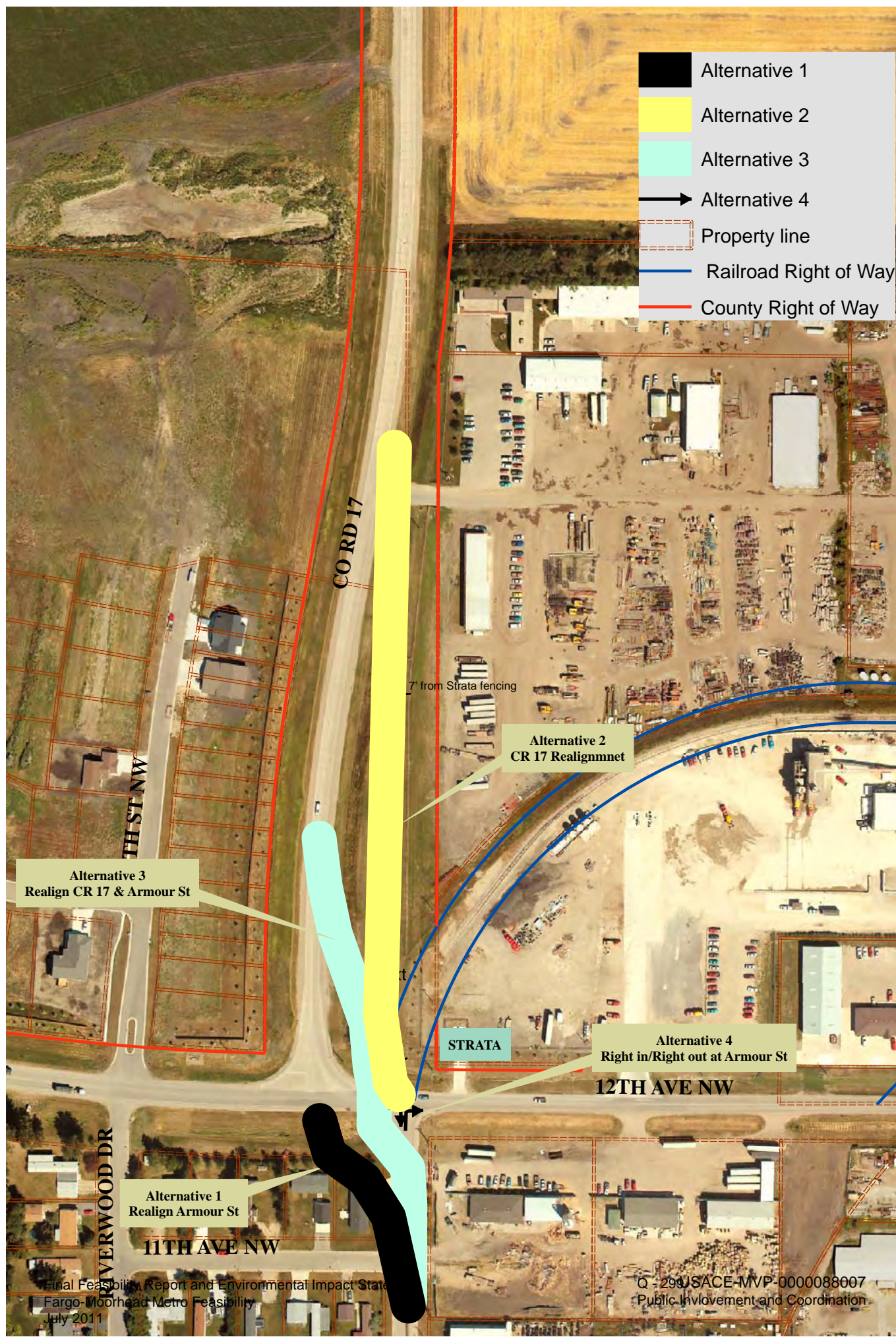
COUNTY 17/ARMOUR STREET REALIGNMENT

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 devices 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 Armour 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 bridge 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 where 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.



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Attorneys at Law

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Fargo, ND 58107-0110

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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

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.

David T. DeMars

**IF PROBLEMS OCCUR OR YOU DO NOT RECEIVE ALL PAGES ABOVE
PLEASE CALL (701) 293-5592**

Joseph A. Turman

Katrina A. Turman Lang

City of Oxbow

January 26, 2011

Jim Nyhof, Mayor
Greg Anderson, City Council
Ardin Breimeier, City Council
Bill Kuzas, City Council
Frank Pearson, City Council
Pam Twedt, Auditor

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.

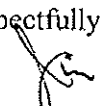
The result may mean the removal of another 30+ homes from the City and the destruction of the golf course. The City was a community of approximately 120 homes prior to the recent flood years. That number has now been reduced to approximately 110 homes. With this project the potential additional erosion 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 Dalrymple
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

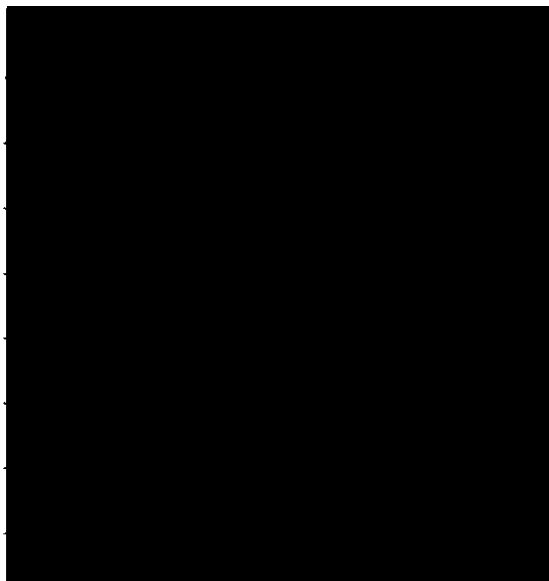
The following signatories, all residents of the City of Oxbow, affix their name in support of Oxbow Resolution #2011-01:

Name: <u>Charles Wilsa</u>	Address: <u>[REDACTED]</u>
Name: <u>[REDACTED]</u>	Address: <u>[REDACTED]</u>
Name: <u>[REDACTED]</u>	Address: <u>[REDACTED]</u>
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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: <u>Larry W. Bakke</u>	Address: _____
Name: <u>Paul Benson</u>	Address: _____
Name: <u>E. J. Carlson</u>	Address: _____
Name: <u>Mike Stree</u>	Address: _____
Name: <u>Robert Stree</u>	Address: _____
Name: <u>Barry Stree</u>	Address: _____
Name: <u>Barry Stree</u>	Address: _____
Name: <u>Mark D. Anderson</u>	Address: _____
Name: <u>Jeff Kruger</u>	Address: _____
Name: <u>W. E. Hall</u>	Address: _____
Name: <u>Rick Jensen</u>	Address: _____
Name: <u>Gonda Davis</u>	Address: _____
Name: <u>Sandi C. Patry</u>	Address: _____
Name: <u>Darryl D. Liab</u>	Address: _____
Name: <u>Jim Talle</u>	Address: _____
Name: <u>Robert Jensen</u>	Address: _____
Name: <u>Don Tvedt</u>	Address: _____
Name: <u>Cynthia Tvedt</u>	Address: _____
Name: <u>Gina Brubaker</u>	Address: _____
Name: <u>Debra Brakke</u>	Address: _____
Name: <u>David H. Hauge</u>	Address: _____
Name: <u>[REDACTED]</u>	Address: _____
Name: _____	Address: _____

The following signatories, all residents of the City of Oxbow, affix their name in support of Oxbow Resolution #2011-01:

Name: *James Hubert* Address: 

Name: *Kim Hollar* Address: 

Name: *Heidi Knaack* Address: 

Name: *Brian J. Martin* Address: 

Name: *John B. Bann* Address: 

Name: *Debra Menze* Address: 

Name: *Kristen Wild* Address: 

Name: *Shirley* Address: 

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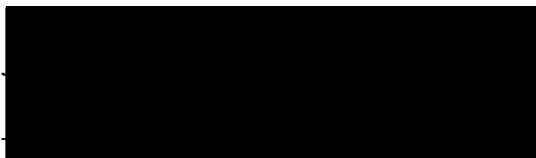
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Oxbow Resolution #2011/01:

Name: William PodolakAddress: Name: Brenda PodolakAddress: 

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Name: Kelly McCracken

Address:

Name: Phyllis M. Henry

Address:

Name: Paul Pearson

Address:

Name: Sam Gault

Address:

Name: [Signature]

Address:

Name: Devin Zirk

Address:

Name: Keri Meyer

Address:

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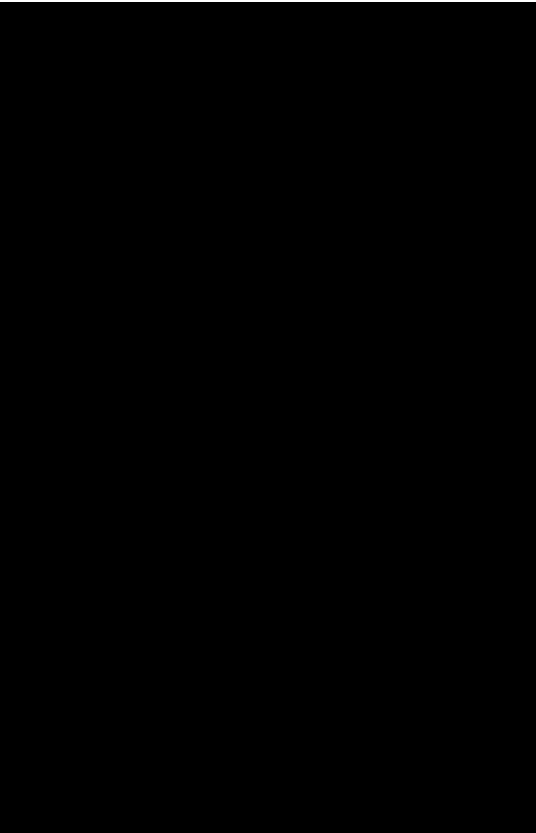
Name: Kristina Mattson

Address: 

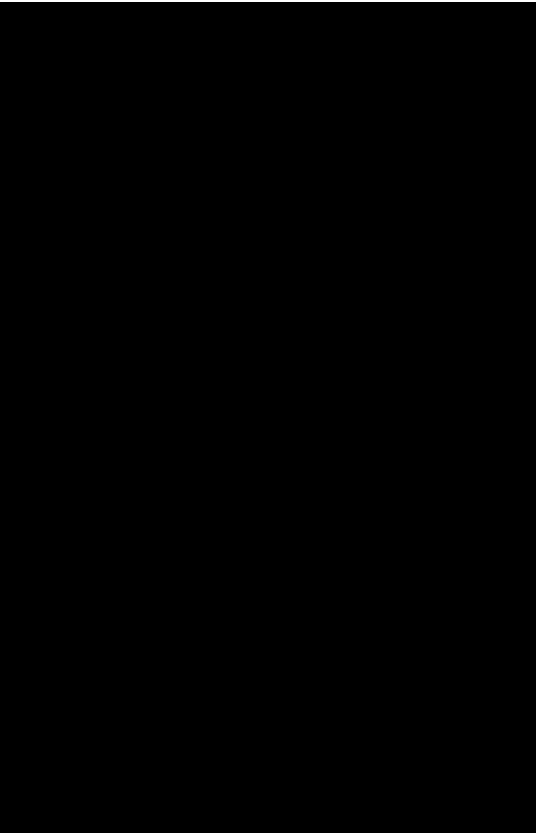
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Name: John Pjorn 202

Address: 

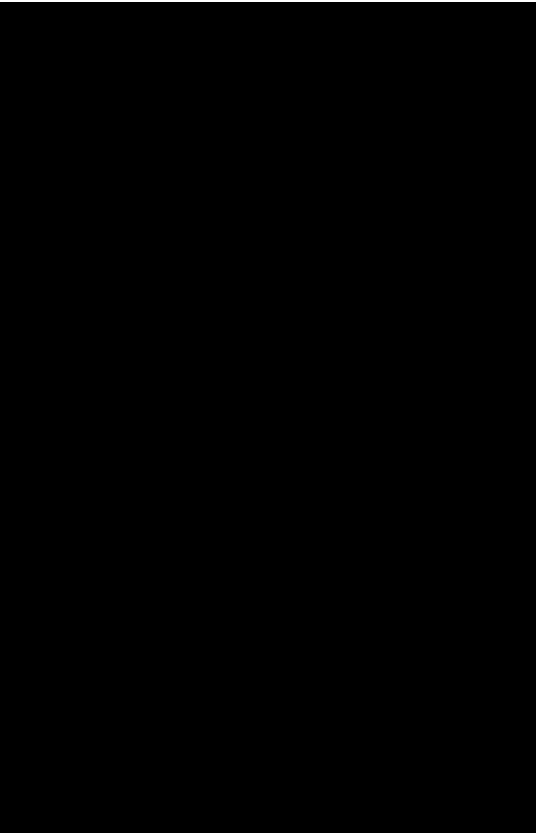
Name: Mike Keizer

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Name: Bill Kuyar

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Name: Joe Pearson

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Name: Shah Pearson

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Name: Tamara

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Name: Mike Warner

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Name: Joanne Werner

Address: 

Name: Chris Holland

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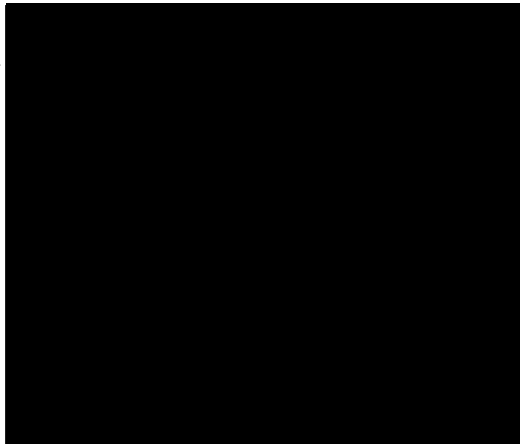
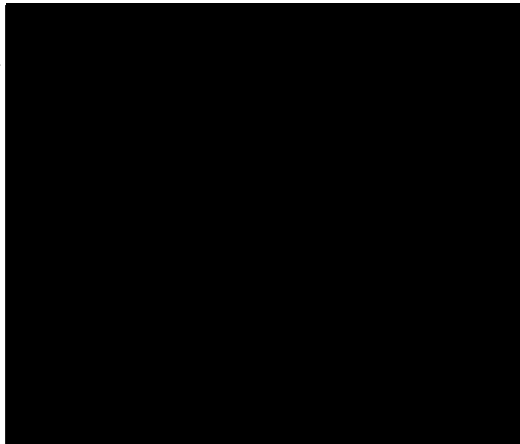
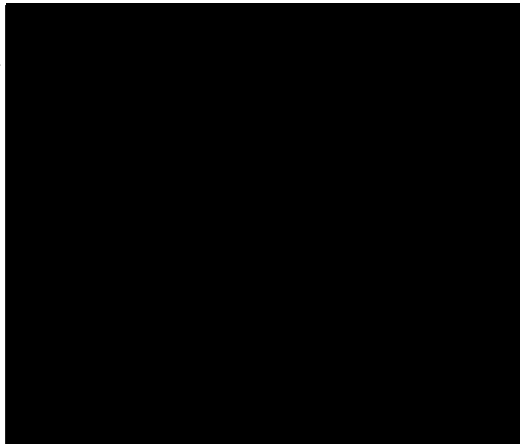
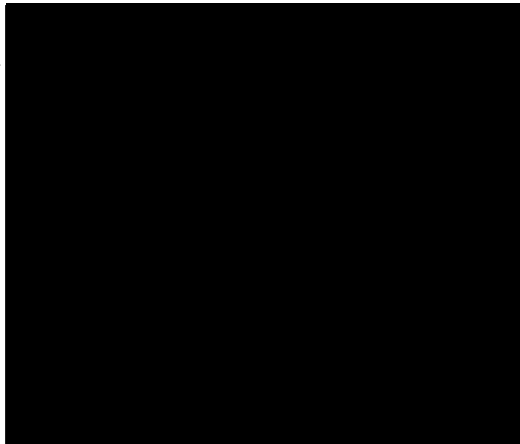
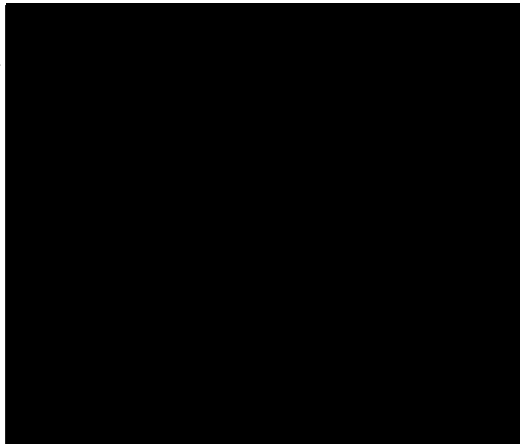
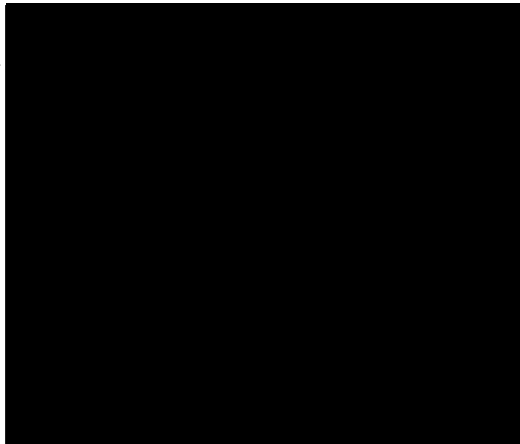
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The following signatories, all residents of the City of Oxbow, affix their name in support of Oxbow Resolution #2011-01:

Name: <u>George R Sailley</u>	Address: 
Name: <u>Dorothy M. Sailley</u>	Address: 
Name: <u>Donald A. Sailley</u>	Address: 
Name: <u>Jeff M. Sailley</u>	Address: 
Name: <u>Cheryl A. Sailley</u>	Address: 
Name: <u>Jim A. Sailley</u>	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 Samayoa Address: _____

Name: Jon Vikander Address: _____

Name: Dana/Krista Greening Address: _____

Name: [Signature] Address: _____

Name: [Signature] Address: _____

Name: [Signature] Address: _____

Name: [Signature] Address: _____

Name: Brenda Carlson Address: _____

Name: Deb/Randy Schmitt Address: _____

Name: [Signature] 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: Wayne D. Zimmerman Address: 

Name: [Signature] Address: 

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January 24, 2011

Board of County Commissioners

VIA FEDEX

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

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.

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
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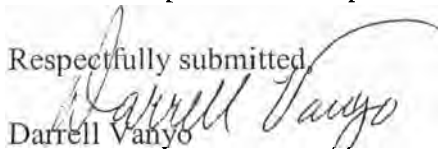
The County understands the Corps is concerned that it must comply with Executive Order 11988. However, the County is concerned that the Corps' preference for the eastern alternative is premature and elevates avoidance of possible floodplains development over protection of human safety, existing residential 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

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.

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 their 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




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-  New West Easement
-  East Easement
-  Shared Area



FM Metro Flood Control Project
Project Coordinators

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HoustonEngineering Inc.

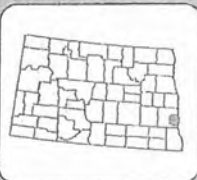
Appendix B

Project Habitat Maps



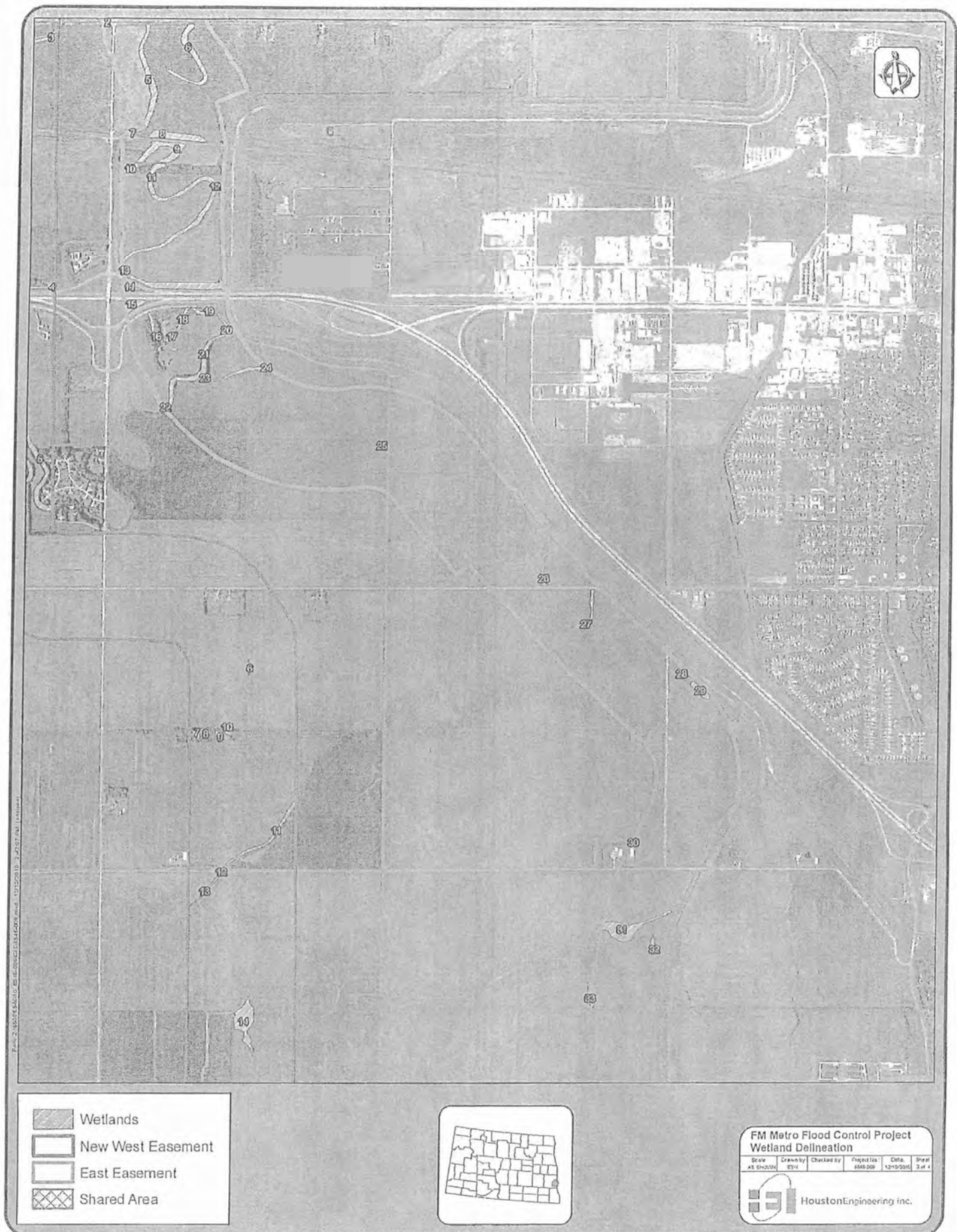
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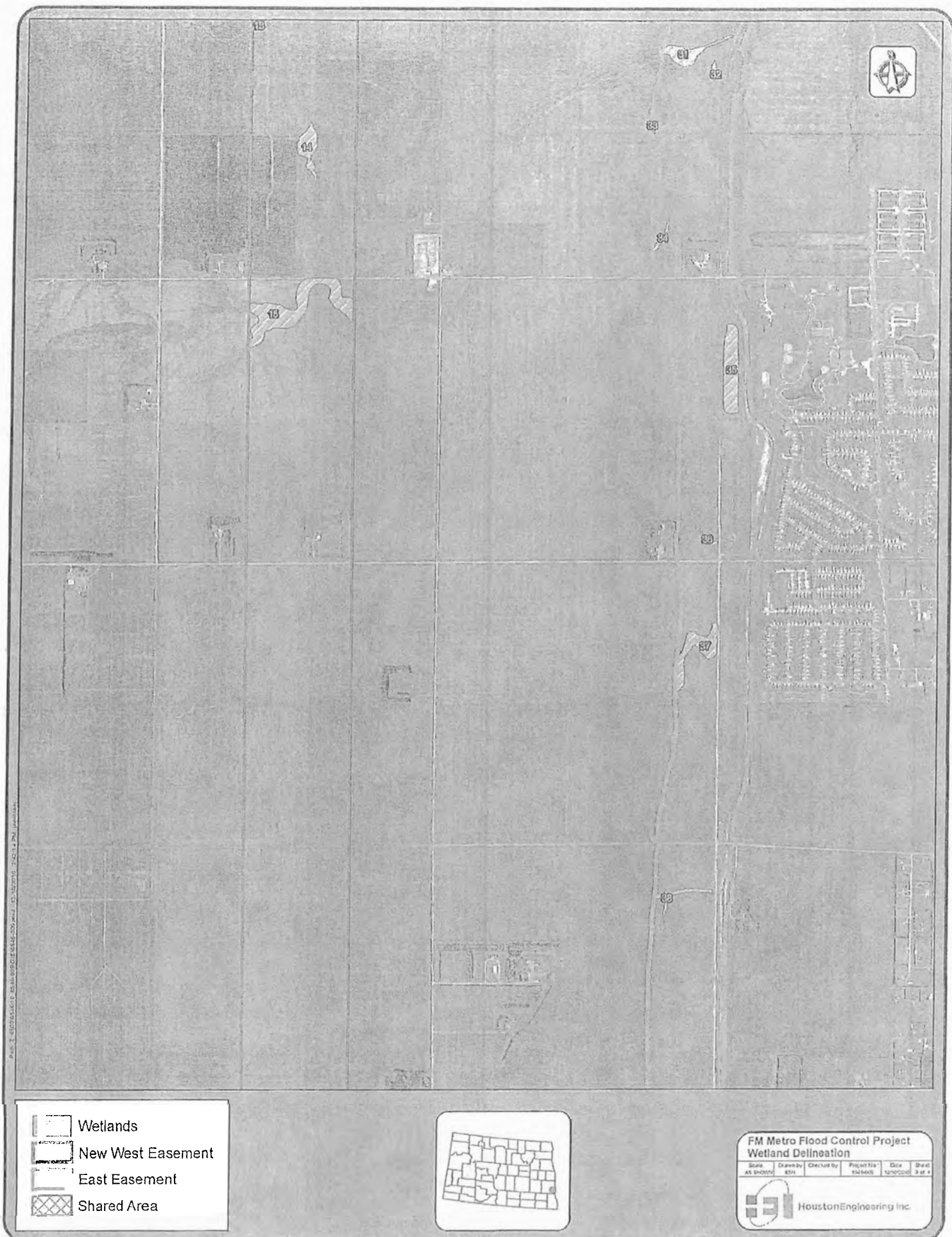
	Wetlands
	New West Easement
	East Easement
	Shared Area



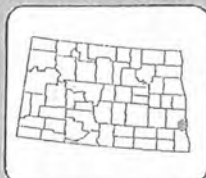
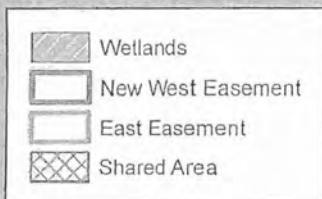
FM Metro Flood Control Project Wetland Delineation				
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FM Metro Flood Control Project
Wetland Delineation

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 Houston Engineering Inc.



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New West Easement

East Easement

Shared Area

Grasslands

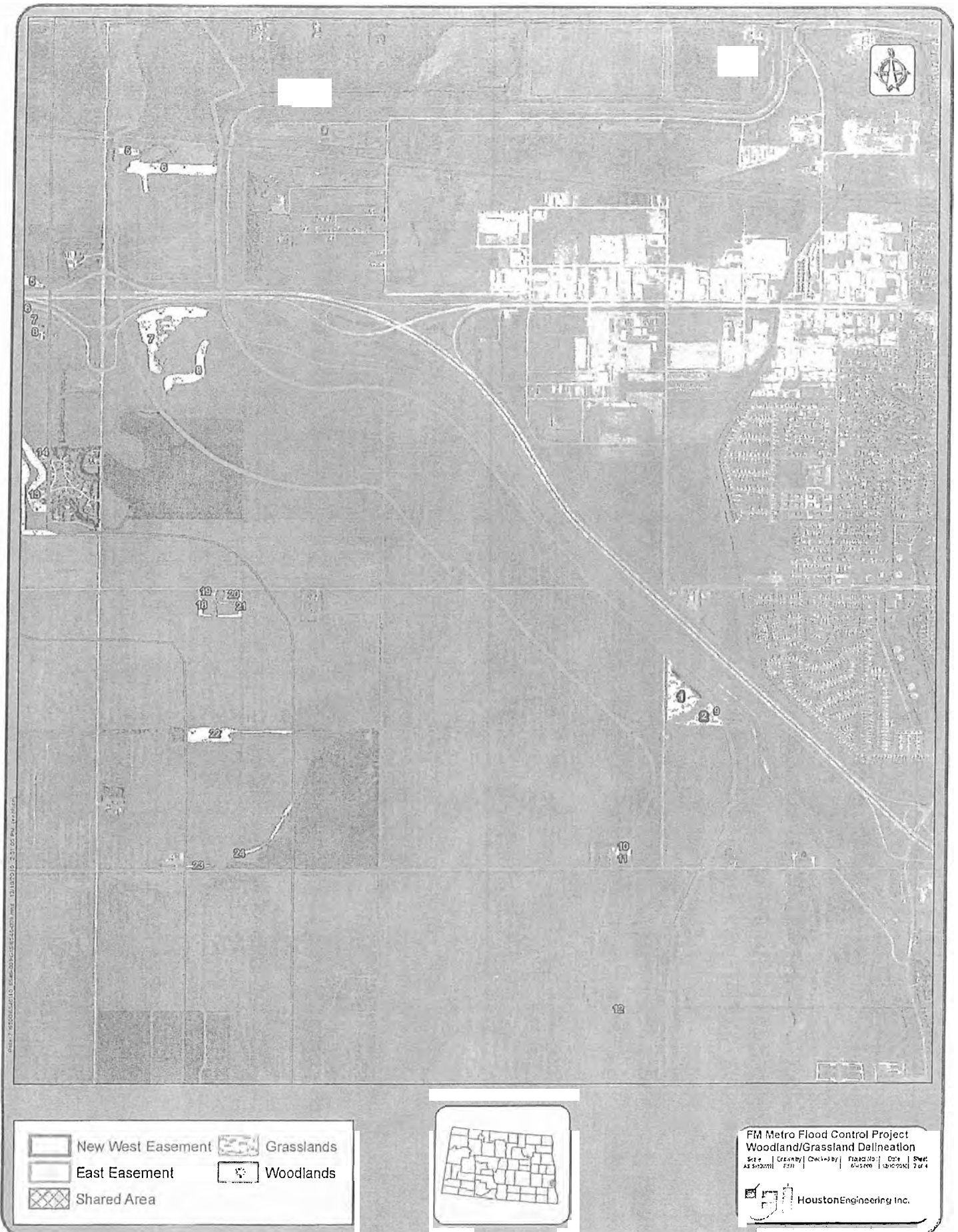
Woodlands

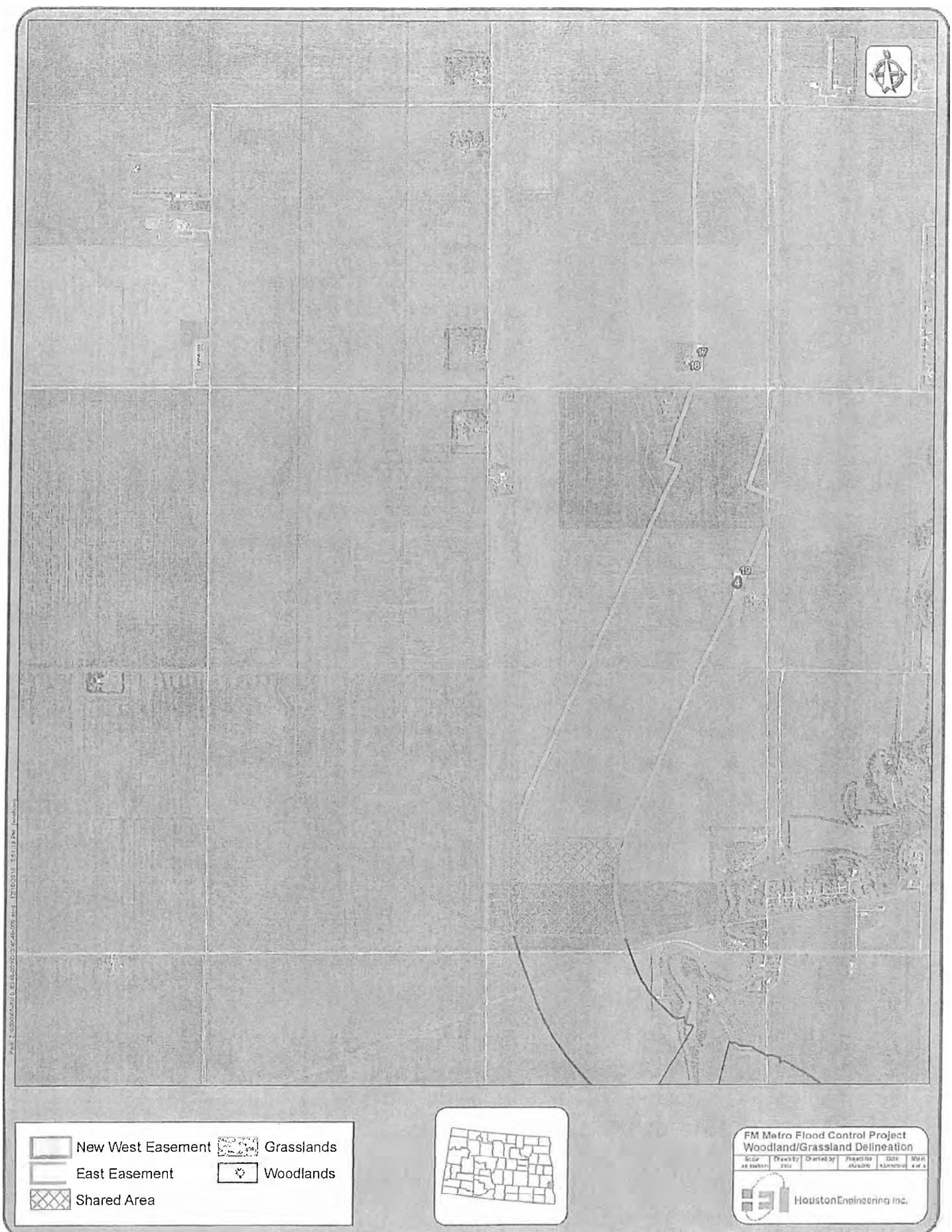


FM Metro Flood Control Project
Woodland/Grassland Delineation






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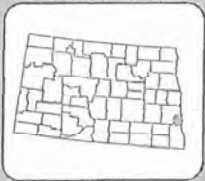
Houston Engineering Inc.






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	New West Easement		Grasslands
	East Easement		Woodlands
	Shared Area		



FM Metro Flood Control Project					
Woodland/Grassland Delineation					
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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

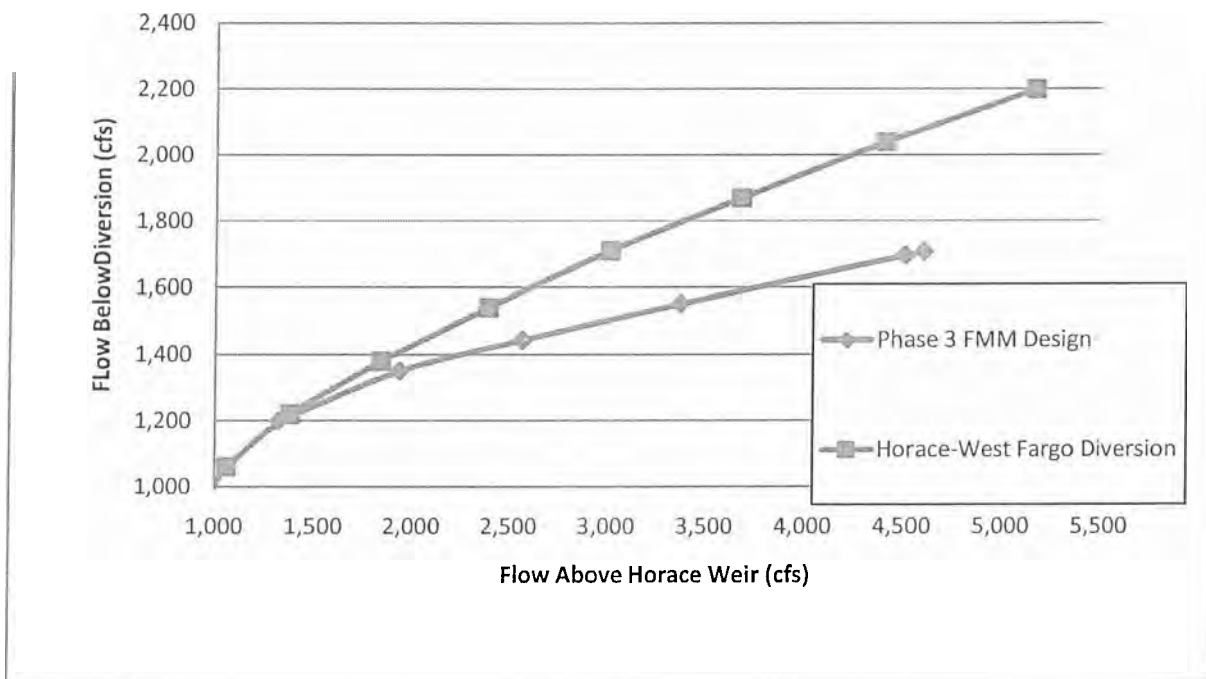
LPP West Corridor - Wooded Habitat		
Id	Type	Acres
1	2	0.5
2	2	0.7
3	1	1.1
4	1	1.9
5	1	2.3
6	1	0.1
7	1	0.2
8	1	0.1
9	2	0.3
10	2	0.1
11	2	0.2
12	2	0.2
13	2	13.6
14	1	0.8
15	1	1.3
16	1	0.3
17	1	3.7
18	1	0.9
19	1	0.1
20	1	0.1
21	1	1.9
22	1	6.6
23	1	0.4
24	1	1.7
25	1	6.8
26	1	1.5
	total	47.2

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.

Sheyenne River From Horace to West Fargo



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

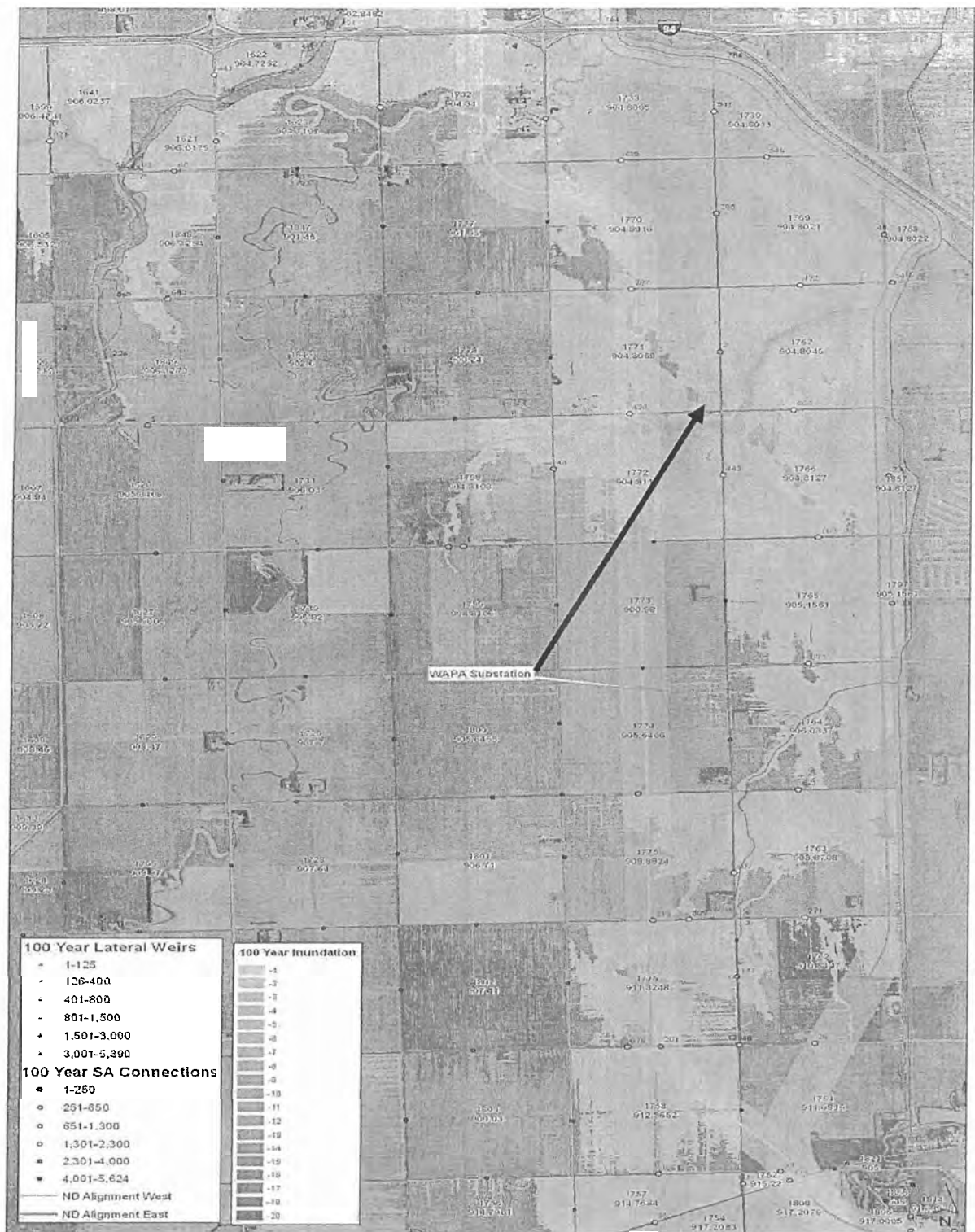
- Report created in 2007 included discussion of land use restrictions west of the diversion and future annexation of the area west of the diversion to accommodate future growth.
- Portions of Section 12, Warren Township west of the existing diversion are within Horace City Limits

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

Heather Worden
Commission Assistant

Box 2806
211 Ninth Street South
Fargo, North Dakota 58108

701-241-5609
Fax 701-241-5728
www.casscountynynd.gov

Final Feasibility Report and Environmental Impact Statement
Fargo-Moorhead Metro Feasibility
July 2011

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:

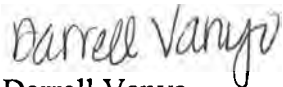
- In addition, the western alignment would provide protection for a number of other rural homes and farmsteads that would *not* receive protection from the eastern alignment and would clearly benefit the Cities of West Fargo and Horace. Further, the western alignment would disrupt fewer homes along the 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.

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
Chairman, Cass County Board of Commissioners



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.



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 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,

A handwritten signature in cursive script, appearing to read "Evald John Carlson, Jr.", written in dark ink.

Evald John Carlson, Jr.

Patrick Reinke

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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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,



Patrick A Reinke



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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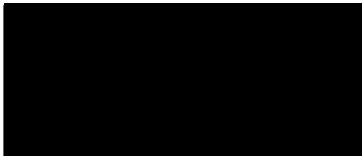
We would appreciate the opportunity to voice our concerns, to get answers and to be assured that due diligence has been done to determine the "right" solution for the Red River basin community. At this point, the only thing that is clear is that both the Corps and the Metro Flood Study Work Group are allowing timelines and deadlines to overly influence and override sound judgment and decision making.

I would appreciate hearing from you on this matter.

Sincerely,



Darcy Kruger



Jeffrey J. Anderson



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.

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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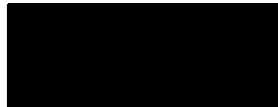
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I would appreciate hearing from you on this matter.

Sincerely,

A handwritten signature in cursive script, reading "Jeffrey J. Anderson", with a long horizontal flourish extending to the right.

Jeffrey J. Anderson



Mike Rufer

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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I would appreciate hearing from you on this matter.

Sincerely,



Mike Rufer

Richard A. Menze

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



Ronda Menze

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,

A handwritten signature in cursive script that reads "Ronda Menze".

Ronda Menze



Sarah Mattson



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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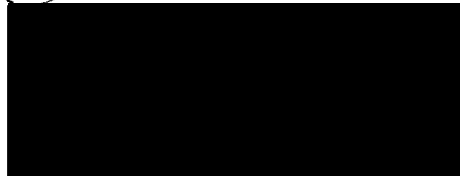
We would appreciate the opportunity to voice our concerns, to get answers and to be assured that due diligence has been done to determine the “right” solution for the Red River basin community. At this point, the only thing that is clear is that both the Corps and the Metro Flood Study Work Group are allowing timelines and deadlines to overly influence and override sound judgment and decision making.

I would appreciate hearing from you on this matter.

Sincerely,



Sarah Mattson



Kathleen Lingen

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:

- 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,

Kathleen Lingen

Kathleen Lingen

Curt Lingen

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.

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,


Curt Lingen

Ryan Henke

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").

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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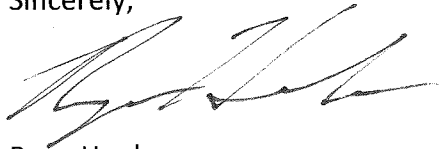
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We would appreciate the opportunity to voice our concerns, to get answers and to be assured that due diligence has been done to determine the "right" solution for the Red River basin

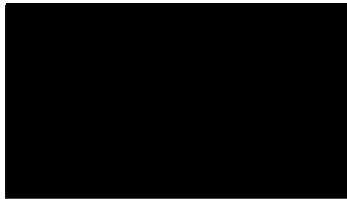
community. At this point, the only thing that is clear is that both the Corps and the Metro Flood Study Work Group are allowing timelines and deadlines to overly influence and override sound judgment and decision making.

I would appreciate hearing from you on this matter.

Sincerely,

A handwritten signature in black ink, appearing to read "Ryan Henke", written in a cursive style.

Ryan Henke



Tami Henke


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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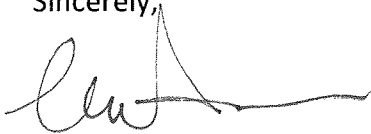
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community. At this point, the only thing that is clear is that both the Corps and the Metro Flood Study Work Group are allowing timelines and deadlines to overly influence and override sound judgment and decision making.

I would appreciate hearing from you on this matter.

Sincerely,

A handwritten signature in black ink, appearing to read 'Tami Henke', with a long horizontal flourish extending to the right.

Tami Henke



Joe Lingen

January 24, 2011

Charles Fritz
International Water Institute
NDSU Dept 9030
PO Box 6050
Fargo, ND 58108-6050

Dear Mr. Fritz:

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.

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I would appreciate hearing from you on this matter.
Sincerely,

Joe Lingen

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.

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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.

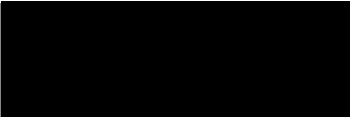
I would appreciate hearing from you on this matter.

Sincerely,

A handwritten signature in black ink, appearing to read 'Erick Kuntz', with a large, stylized flourish at the end.

Erick Kuntz

[Redacted]
[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.

I am asking for your involvement in ensuring the rush to maintain a timeline of December 31, 2011 does not overshadow the imperative of due diligence. At this time it is not clear:

1. What the environmental impacts of this new decision (south side retention) will be. The studies have not been done.
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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,

A handwritten signature in black ink, appearing to read 'James Hohertz', with a stylized, cursive script.

James Hohertz



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,

A handwritten signature in cursive script that reads "Linda Hohertz". The signature is fluid and includes a small flourish at the end.

Linda Hohertz

Mark and Twyla Anderson

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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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 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





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, Presiden
Mike Saewert, V. Presiden
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



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

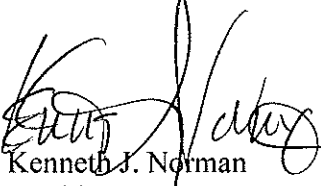
Aaron Snyder
December 14, 2010
Page 2

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,

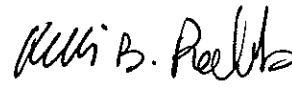
MOORHEAD PUBLIC SERVICE COMMISSION



Kenneth J. Norman
President




Les Bakke
Secretary



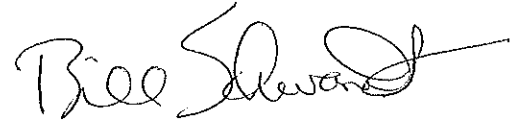
Kelli Poehls
Commissioner



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,

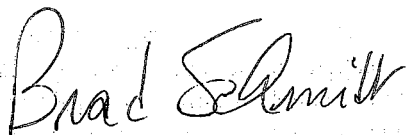
I am writing on behalf of Cass County Electric Cooperative Inc. (CCEC) to urge the Army Corps of Engineers to retain the original western alignment for the proposed flood diversion channel near West Fargo, North Dakota. The eastern alignment announced in mid-November 2010 would seriously jeopardize a 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,



Bradley J. Schmidt, PE
Sr. VP Transmission & Distribution Services

+100 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,

A handwritten signature in black ink, appearing to read "Brett Coleman", followed by a long horizontal line.

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 55101-1878

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,

A handwritten signature in black ink, appearing to read 'A. Snyder', with a stylized flourish at the end.

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,

A handwritten signature in cursive script that reads "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
Page 2

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.

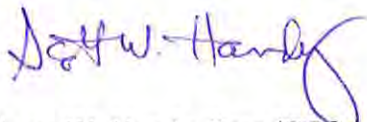
Second, the proposed elevated roadway system to retain access to the station during flood events will remain an additional on-going expense of higher costs to the local taxpayers due to the elevated nature of the roadway. Again, this is a completely unnecessary expense borne by the taxpayers.

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 through 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,

A handwritten signature in black ink, appearing to read "Brett Coleman", with a long horizontal flourish extending to the right.

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,

A handwritten signature in black ink, appearing to read "Terry J. Birkenstock", is written over a horizontal line.

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

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 Guleson 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 Snyder 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 Snyder, 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



**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

News Release

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.

-30-





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**



4



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 & Kragens, MN
- ✓ South: Hickson, ND
- ✓ East: Dilworth, MN
- ✓ West: West Fargo, ND



7







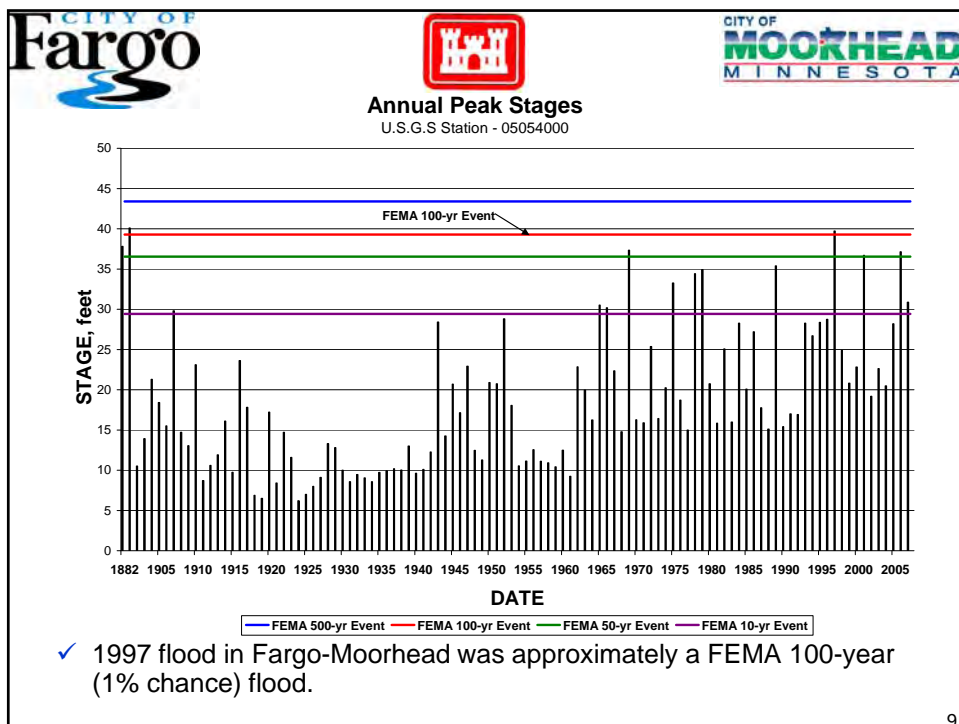
BACKGROUND INFORMATION


- ✓ Very successful flood-fights
- ✓ FALSE sense of security.



An Emergency Levee Protects the City at Second Street during the 2001 flood.

8




CITY OF Fargo  **CITY OF MOORHEAD MINNESOTA**

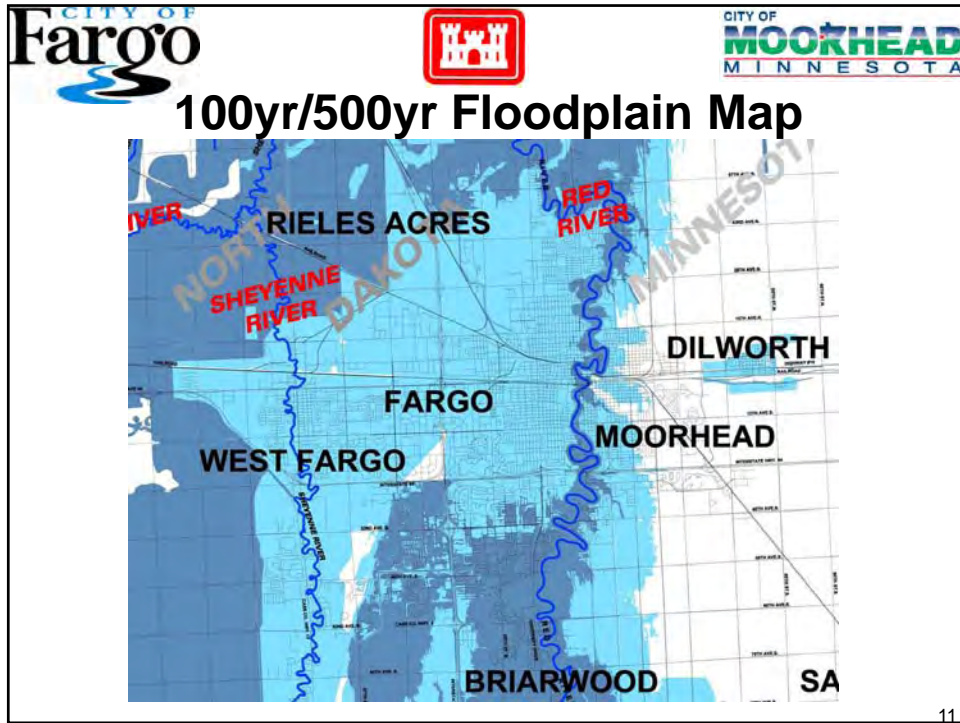
BACKGROUND INFORMATION

*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**

BACKGROUND INFORMATION

- ✓ Rain events cause flooding, too:
 - ✓ 7-inch rain June 20, 2000
 - ✓ Flood insurance can help mitigate that risk.

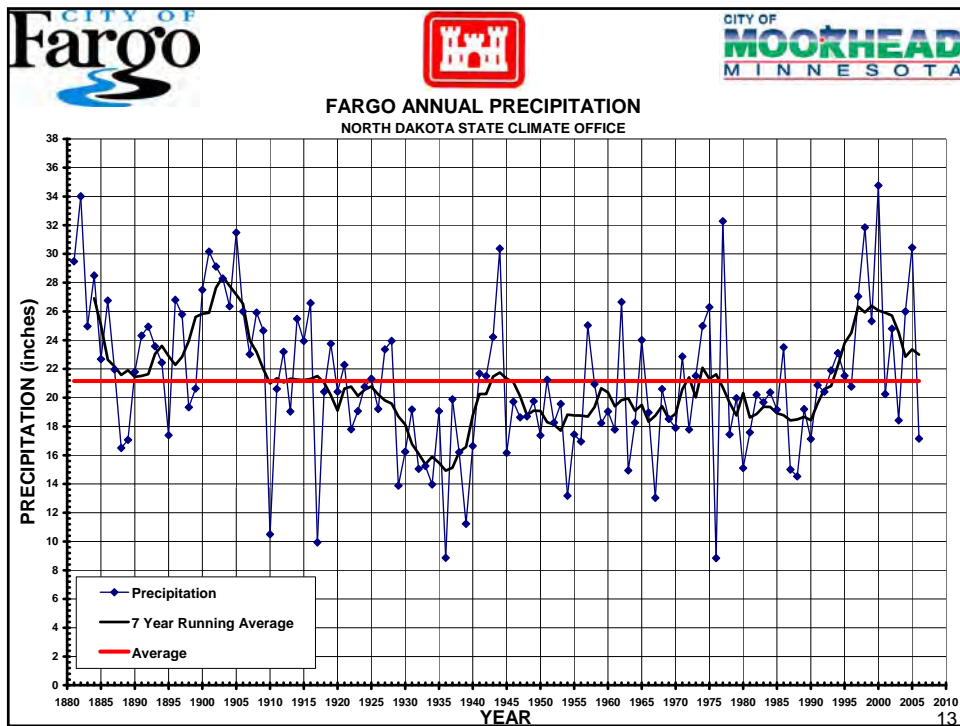


2nd St. North, Fargo



12th Ave. Toll Bridge

12



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.

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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

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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

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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

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QUESTIONS or COMMENTS?

- ✓ Please come to the podium so everyone can hear.

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**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 Leshner, 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 Leshner, 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.



**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 at 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



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www.mvp.usace.army.mil

Public Affairs

Public Notice

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.



News Release

**US Army Corps
of Engineers®**

St. Paul District

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Public Affairs

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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.





INTRODUCTIONS

- ✓ City of Fargo
- ✓ City of Moorhead
- ✓ Corps of Engineers Team Members

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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

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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

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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 & Kragens, MN
 - ✓ South: Oxbow, ND
 - ✓ East: Dilworth, MN
 - ✓ West: West Fargo, ND



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Risk

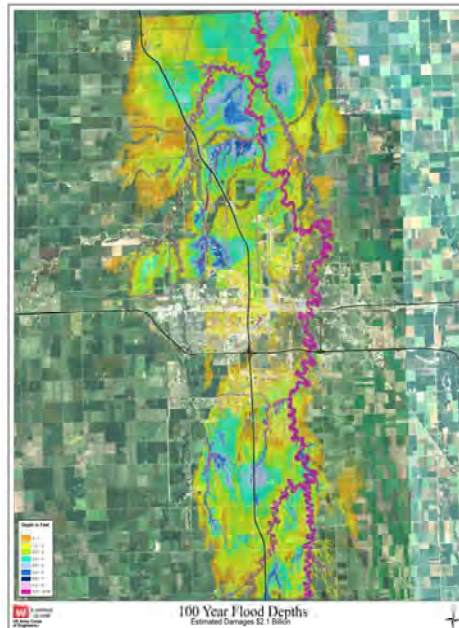
- ✓ The 2009 flood was approximately a 125 year flood event.
- ✓ Successful flood fights lead to a false sense of security.
- ✓ It would be very difficult to fight floods larger than the 2009 flood.
- ✓ Failure of emergency levees would be catastrophic.



Building of 2nd St. Levee for 2009
Fargo-Moorhead Flood

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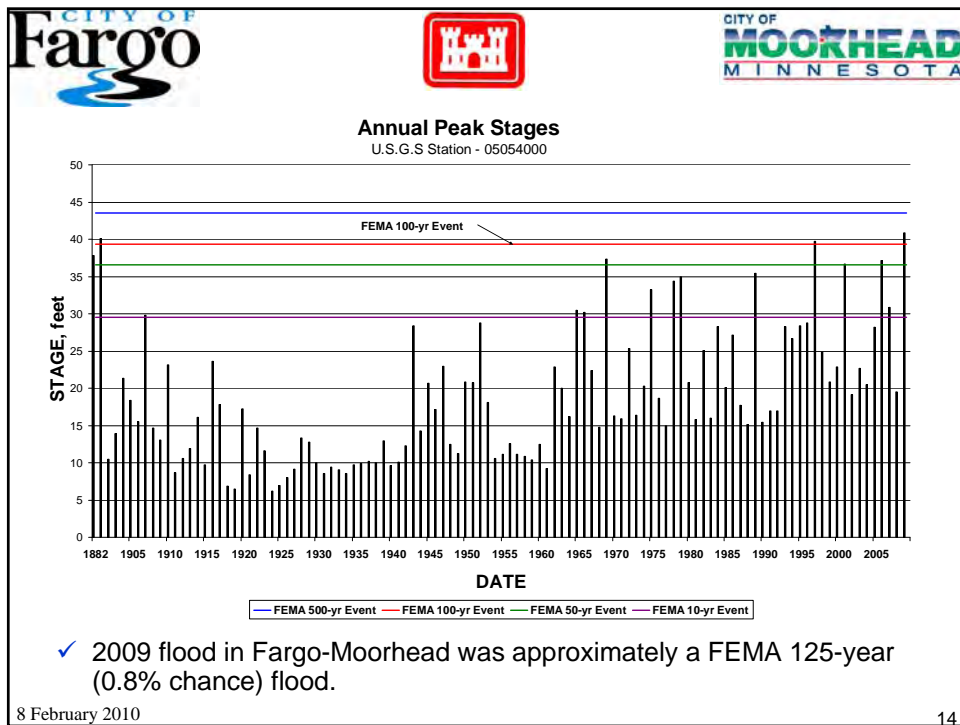
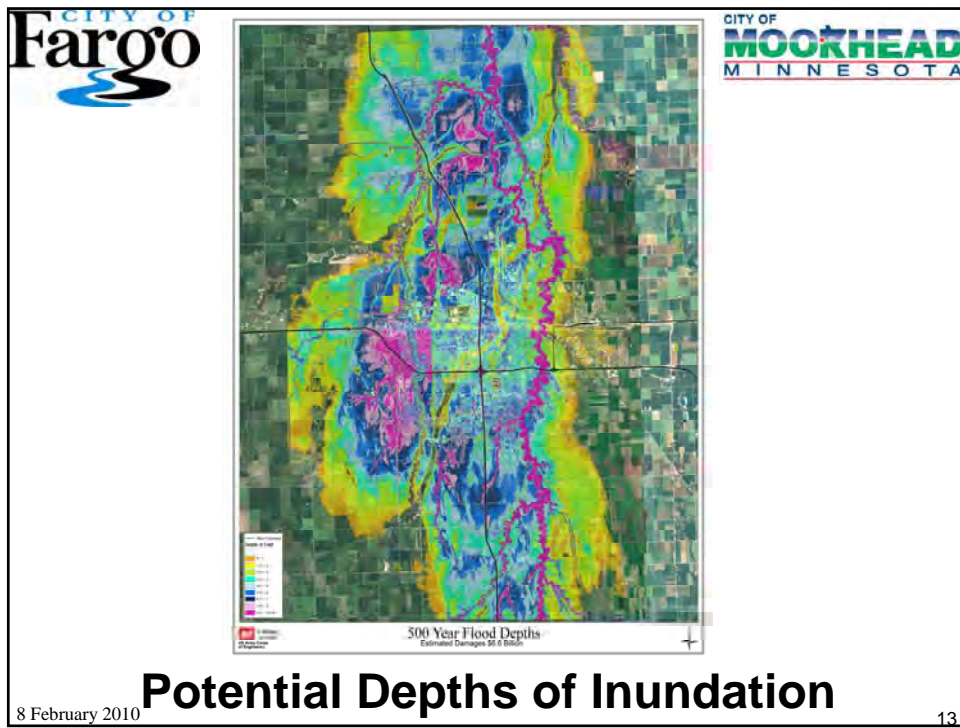
11



Potential Depths of Inundation

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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.*

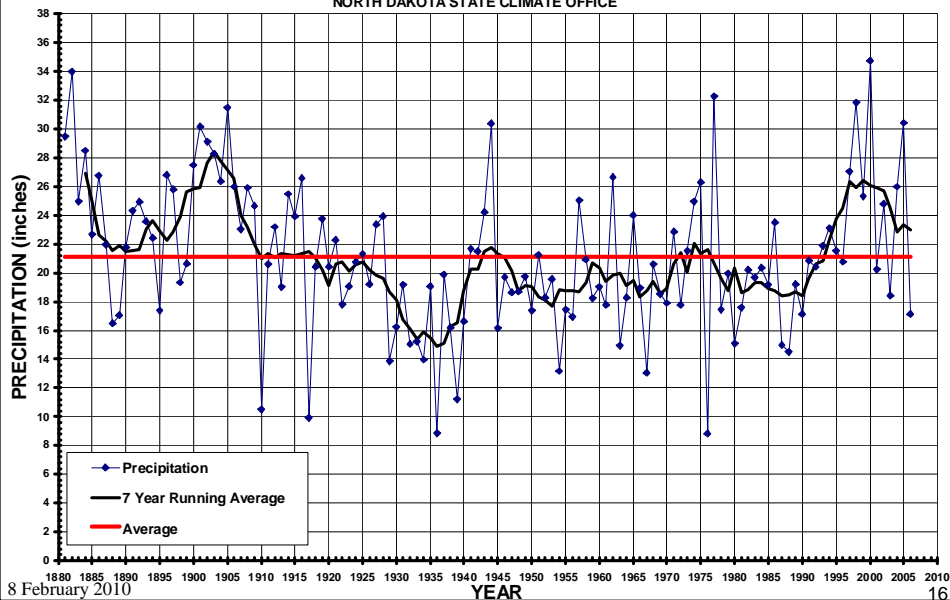


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FARGO ANNUAL PRECIPITATION NORTH DAKOTA STATE CLIMATE OFFICE



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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.



Levee at Grand Forks, ND

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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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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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QUESTIONS or COMMENTS?

- ✓ Please come to the podium so everyone can hear.

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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.



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:

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 Kragens, 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: Identify 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>

Primary Contacts on the Study:

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The City of Moorhead

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Presentation 5:

May 20, 2009










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
2



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

8 February 2010

3



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.

8 February 2010

4



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.

8 February 2010

5



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.

8 February 2010

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

8 February 2010

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STUDY AREA

- ✓ Fargo-Moorhead metropolitan & surrounding area

- ✓ North: Harwood, ND & Kragens, MN
- ✓ South: Oxbow, ND
- ✓ East: Dilworth, MN
- ✓ West: West Fargo, ND



8 February 2010

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Risk

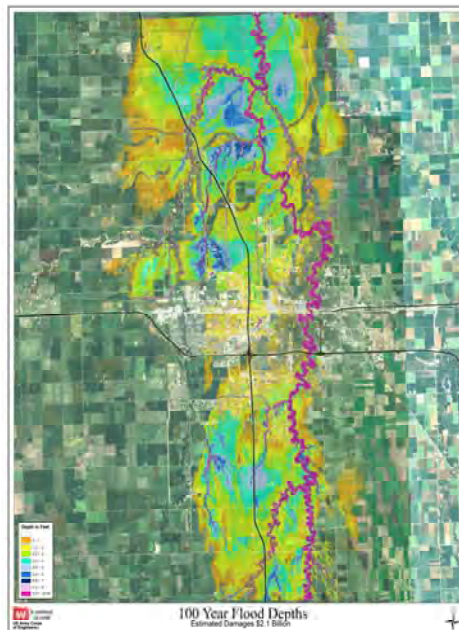
- ✓ The 2009 flood was approximately a 125 year flood event.
- ✓ Successful flood fights lead to a false sense of security.
- ✓ It would be very difficult to fight floods larger than the 2009 flood.
- ✓ Failure of emergency levees would be catastrophic.



Building of 2nd St. Levee for 2009
Fargo-Moorhead Flood

8 February 2010

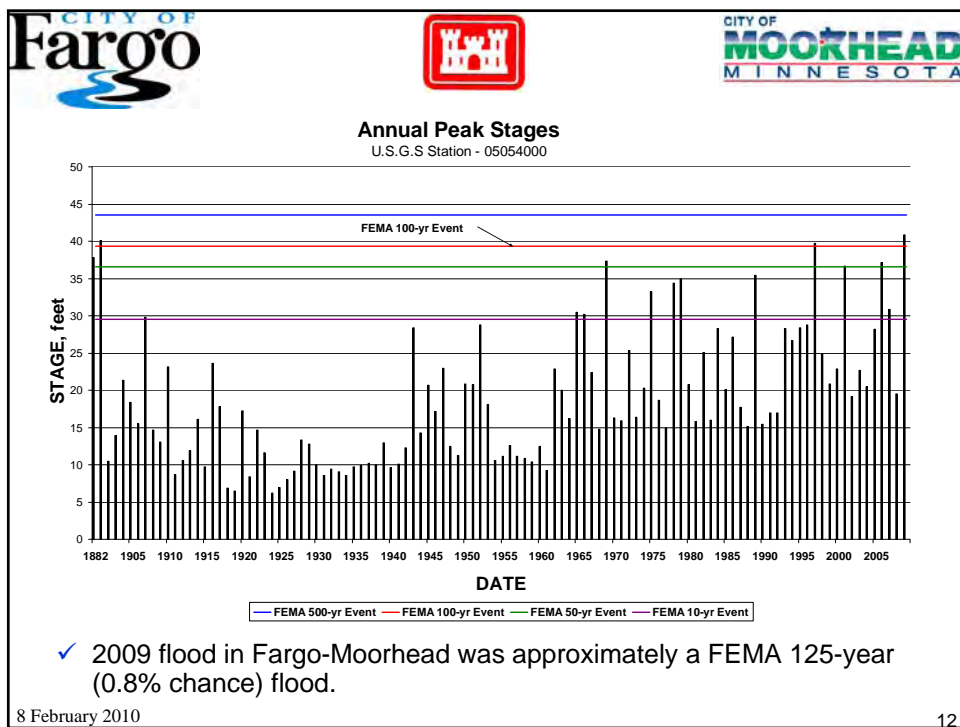
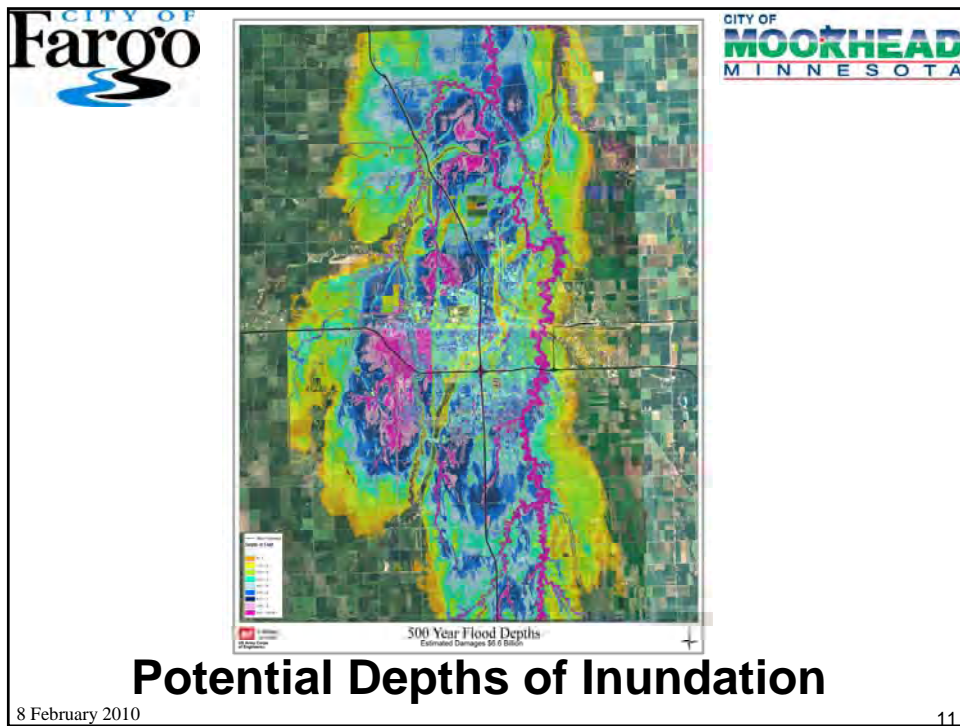
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Potential Depths of Inundation

8 February 2010

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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.*

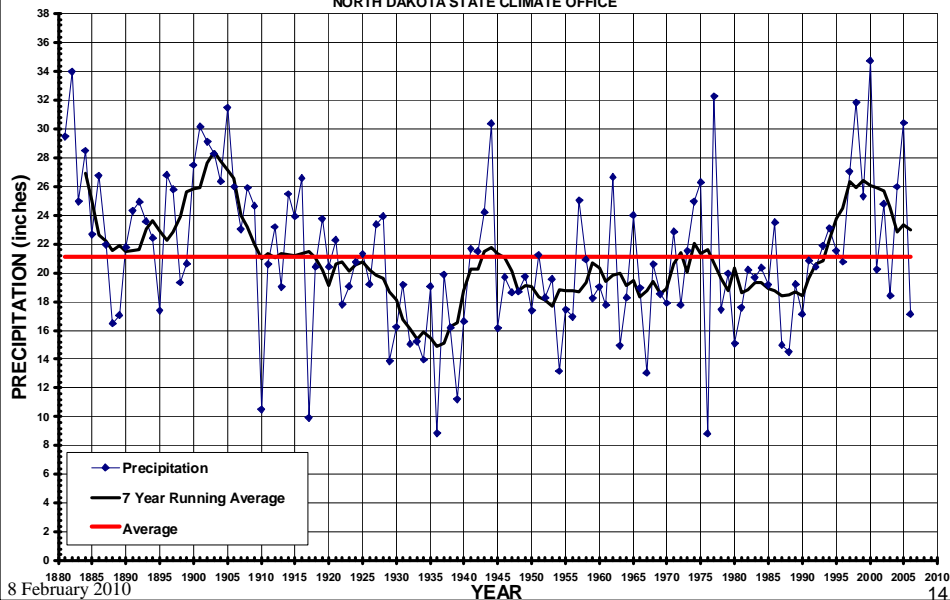


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FARGO ANNUAL PRECIPITATION NORTH DAKOTA STATE CLIMATE OFFICE



8 February 2010

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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

8 February 2010

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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.



Levee at Grand Forks, ND

8 February 2010

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Other Projects

- ✓ Fargo-Ridgewood
- ✓ Oakport
- ✓ Fargo Southside Flood Control



Oakport Area - 2009

8 February 2010

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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

8 February 2010

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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

8 February 2010

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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

8 February 2010

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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.

8 February 2010

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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

8 February 2010

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Contact Information

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8 February 2010

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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









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
- ✓ Construction costs are shared 65% fed, 35% non-fed

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

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Risk

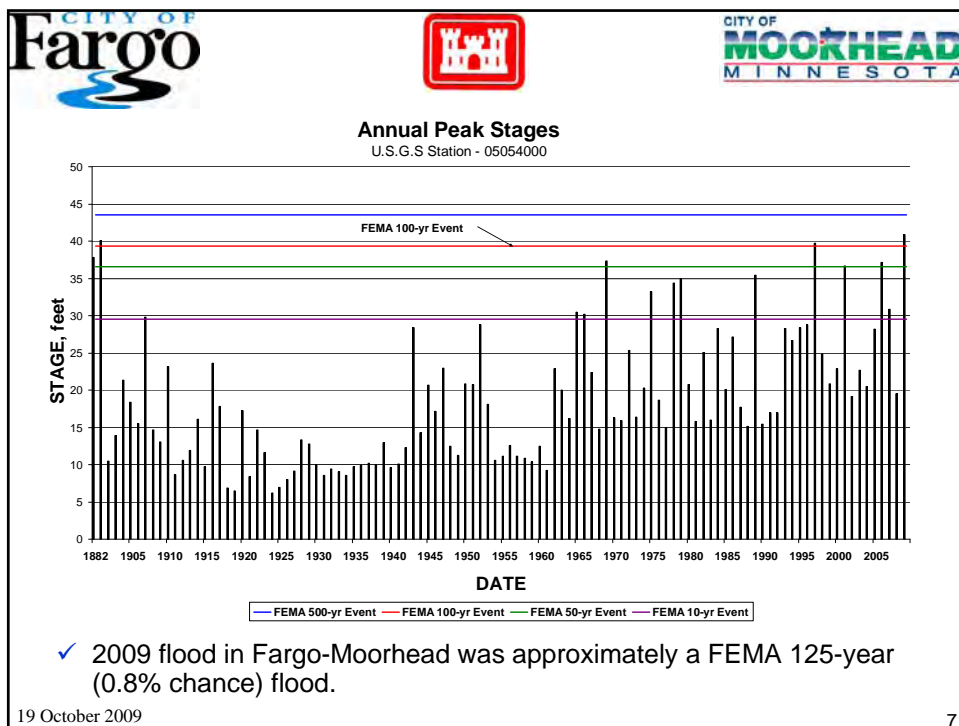
- ✓ The 2009 flood was approximately a 125 year flood event.
- ✓ Successful flood fights lead to a false sense of security.
- ✓ It would be very difficult to fight floods larger than the 2009 flood.
- ✓ Failure of emergency levees would be catastrophic.





Building of 2nd St. Levee for 2009 Fargo-Moorhead Flood


19 October 2009

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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



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
 - ✓ Cutoff channels (to short-cut existing meanders)
 - ✓ Flattening the slopes on river bank
 - ✓ Dredge river deeper and wider
 - ✓ Replacing bridges



19 October 2009
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Alternatives


- ✓ Flood barriers
 - ✓ Levees
 - ✓ Floodwalls
 - ✓ Invisible floodwalls
 - ✓ Gate closures
 - ✓ Pump stations
- ✓ Flood storage
 - ✓ Large dams upstream
 - ✓ Distributed storage
 - ✓ Controlled field runoff
 - ✓ Storage ponds, also used for water conservation




Floodwall at Grand Forks

19 October 2009
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Initial Screening Criteria


- ✓ **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

19 October 2009

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Initial Screening Results

- ✓ No Action: Continue Emergency Measures
- ✓ Diversion Channels
 - ✓ Minnesota
 - ✓ North Dakota
- ✓ Levees

19 October 2009

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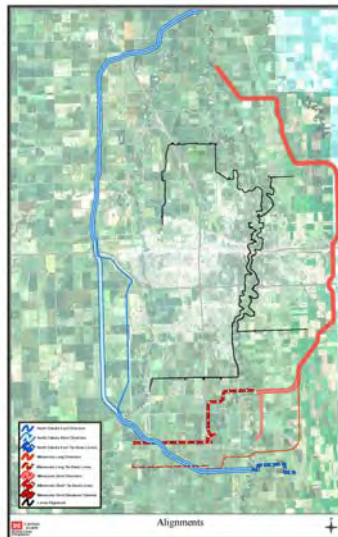
Detailed Analysis

✓ Completed Detailed Analysis

- ✓ MN Diversions
 - ✓ 6 separate plans (2 alignments & 3 capacities: 25,000, 35,000, and 45,000 cfs)
- ✓ ND Diversions
 - ✓ 3 separate plans (ND West 35,000 & 45,000 and ND East 35,000 cfs capacity)
- ✓ Levee Alternative
 - ✓ 2 separate plans [2% chance (50-year) and 1% chance (100-year)]
- ✓ Non-Structural Alternatives
 - ✓ 3 separate plans (100, 200, and 500-year)

19 October 2009

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19 October 2009

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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

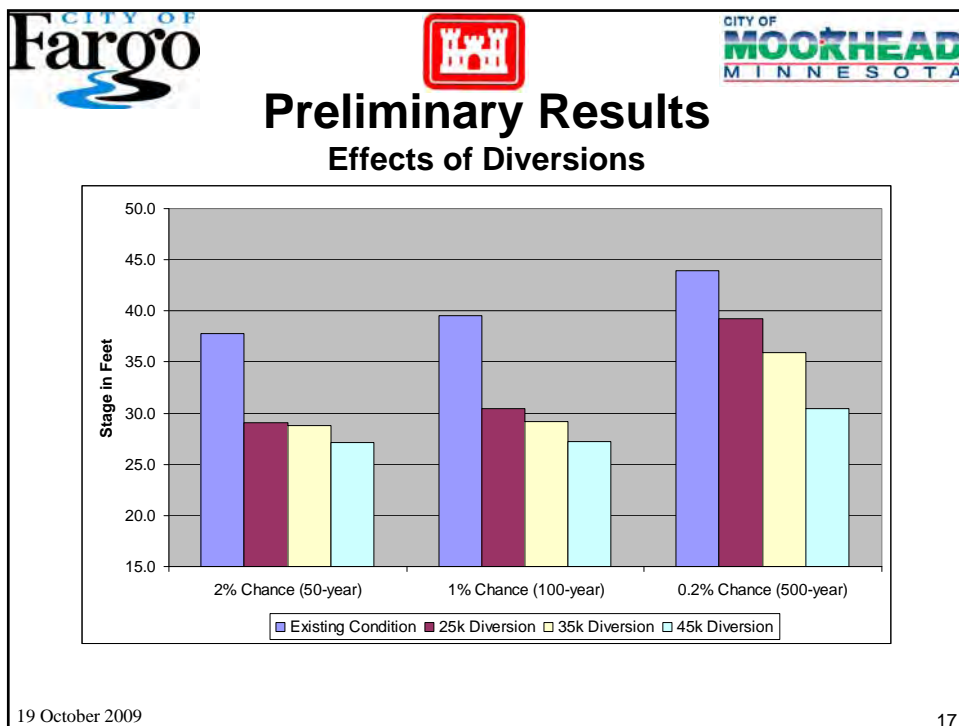
Effects of Diversions

	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

19 October 2009




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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
 - ✓ 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
 - ✓ Depending on extra benefits decide with sponsors on path forward
 - ✓ **Levee Alignments**
 - ✓ Develop additional levee profiles – 1.5% chance (75-year)

19 October 2009
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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

19 October 2009
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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

19 October 2009

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Contact Information

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19 October 2009

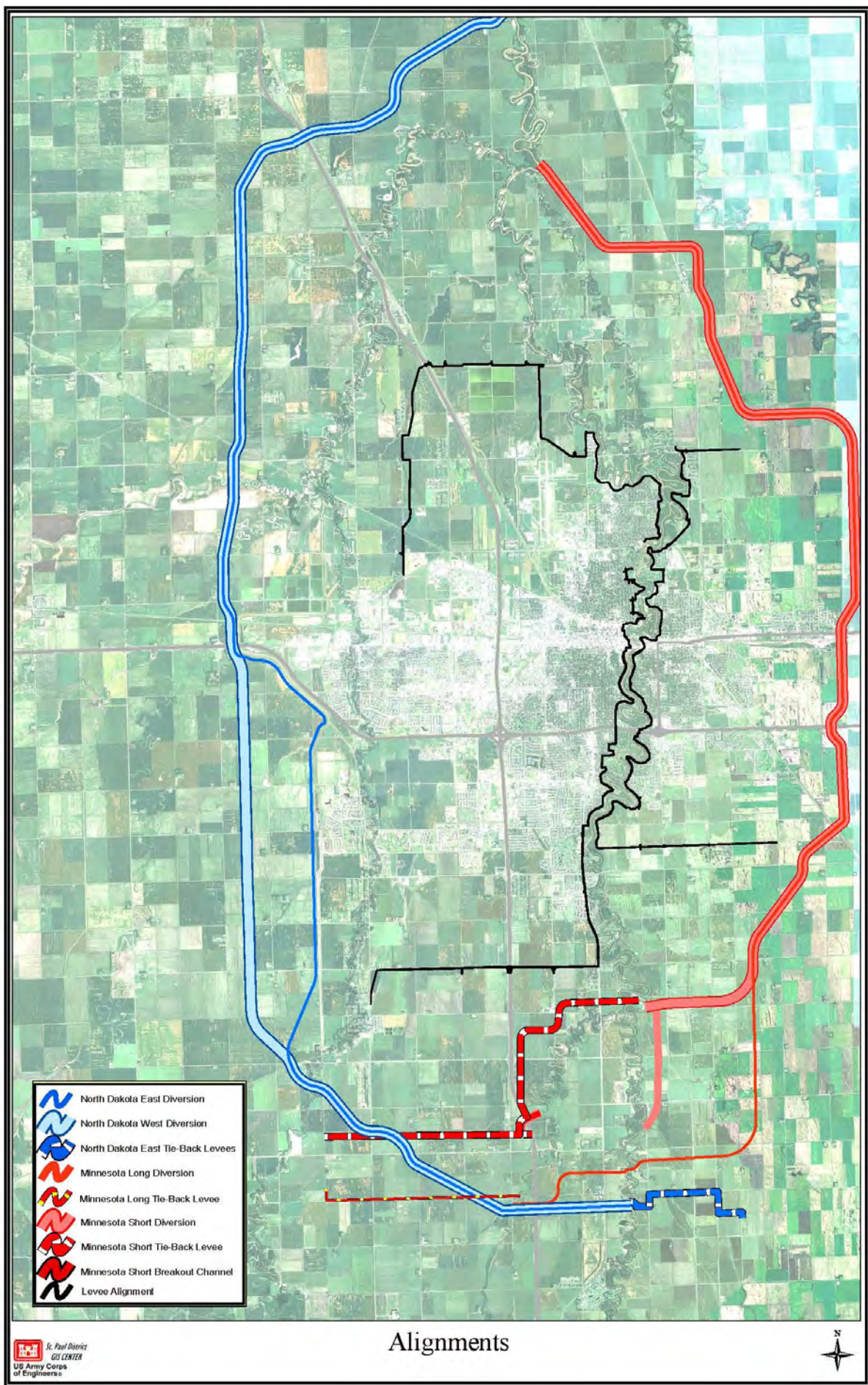
22

**Fargo-Moorhead Metro Feasibility Study
Initial Screening Results, October 2009
Screened Alternatives Ranked by Net Benefits**

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* In millions of dollars

Note: Expected average annual damages without a project are \$73.7 million.



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

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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 options before 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.

-30-





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

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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 want public participation in the process



Fargo-Moorhead Flood 2009

20-21 October 2009

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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 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
- ✓ Construction costs are shared 65% fed, 35% non-fed

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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

20-21 October 2009

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Study Area

- ✓ Fargo-Moorhead metropolitan & surrounding area
 - ✓ North: Harwood, ND & Kragens, 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.



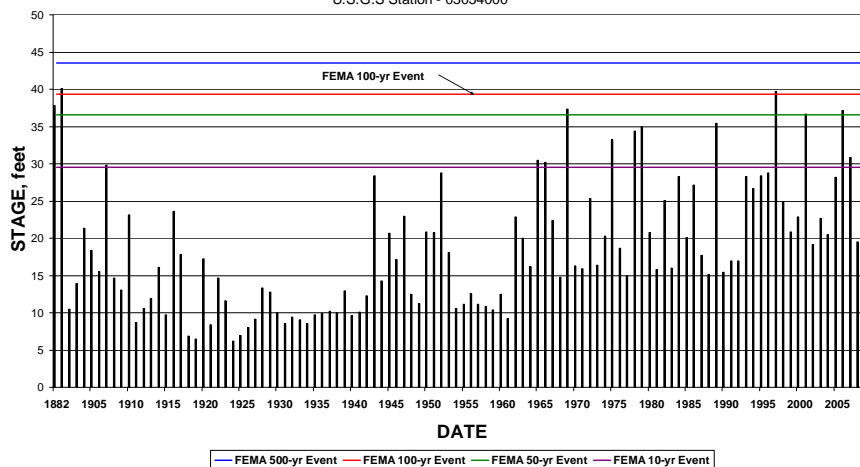
Building of 2nd St. Levee for 2009
Fargo-Moorhead Flood

20-21 October 2009

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Annual Peak Stages

U.S.G.S Station - 05054000



- ✓ 2009 flood in Fargo-Moorhead was approximately a FEMA 125-year (0.8% chance) flood.

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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



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Alternatives

- ✓ Increase conveyance
 - ✓ Diversion channels around the study area
 - ✓ In Minnesota
 - ✓ In North Dakota
 - ✓ Underground tunnels
 - ✓ Interstate 29 viaduct
 - ✓ 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



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Alternatives

- ✓ Flood barriers
 - ✓ Levees
 - ✓ Floodwalls
 - ✓ Invisible floodwalls
 - ✓ Gate closures
 - ✓ Pump stations
- ✓ Flood storage
 - ✓ Large dams upstream
 - ✓ Distributed storage
 - ✓ Controlled field runoff
 - ✓ Storage ponds, also used for water conservation



Floodwall at Grand Forks

20-21 October 2009

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Initial Screening Criteria

- ✓ **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

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Initial Screening Results

- ✓ No Action: Continue Emergency Measures
- ✓ Diversion Channels
 - ✓ Minnesota
 - ✓ North Dakota
- ✓ Levees



20-21 October 2009

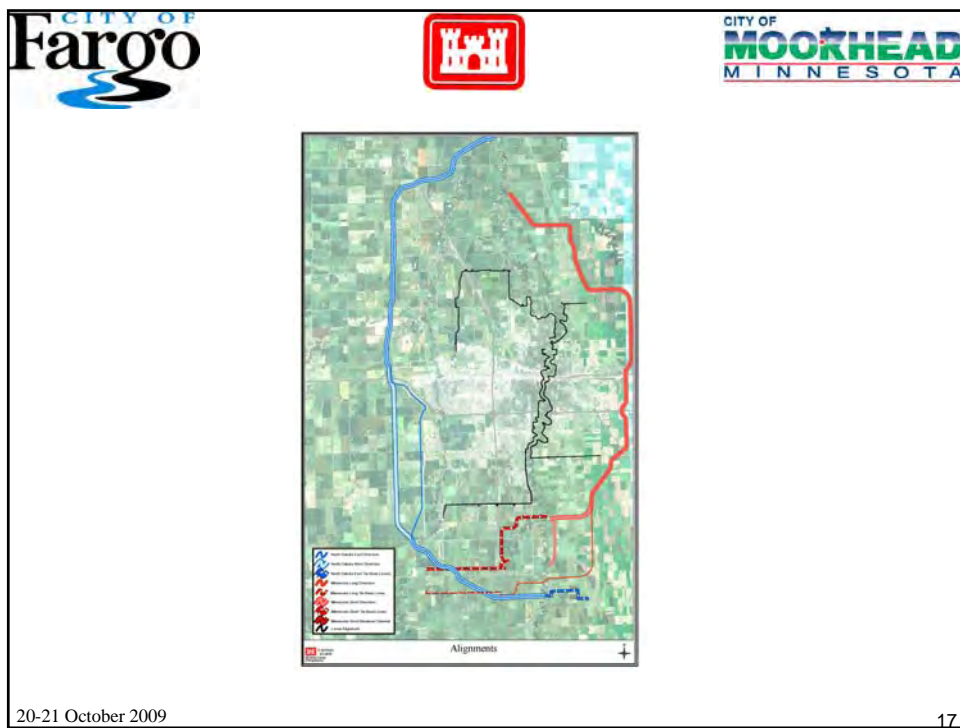
15


Detailed Analysis


- ✓ **Completed Detailed Analysis**
 - ✓ MN Diversions
 - ✓ 6 separate plans (2 alignments & 3 capacities: 25,000, 35,000, and 45,000 cfs)
 - ✓ ND Diversions
 - ✓ 3 separate plans (ND West 35,000 & 45,000 and ND East 35,000 cfs capacity)
 - ✓ Levee Alternative
 - ✓ 2 separate plans [2% chance (50-year) and 1% chance (100-year)]
 - ✓ Non-Structural Alternatives
 - ✓ 3 separate plans (100, 200, and 500-year)


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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

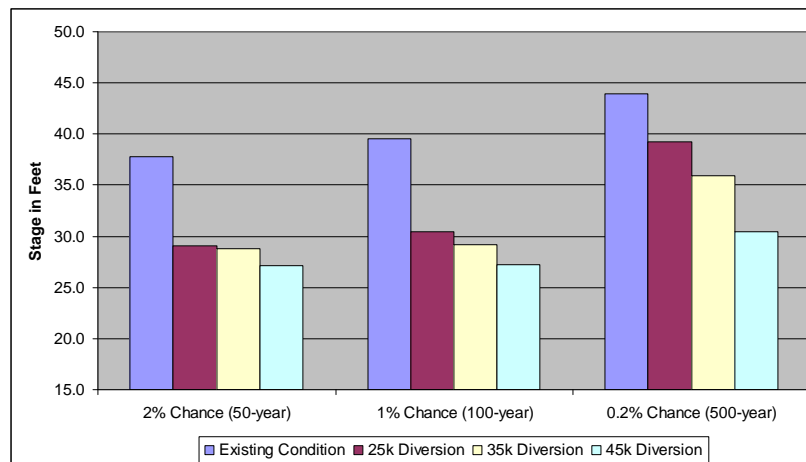
Stage	Impacts
27	Fargo Elm Street closed
30	Fargo 2nd Street Dike installed
31	Moorhead 1st Ave. North closed
32	First homes in Moorhead threatened
35	First homes in Fargo threatened
40.8	2009 Flood Record Stage

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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

20-21 October 2009

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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**

20-21 October 2009

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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
- ✓ **Mail:**

USACE, St. Paul District
190 5th St. E.
Suite 401
St. Paul, MN 55104

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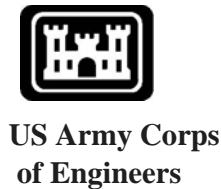


QUESTIONS or COMMENTS?

- ✓ Please come to the podium so everyone can hear.

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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: Continue Emergency Measures**, (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
<i>Levee 1% chance (100-year)</i>	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
<i>MN Short Diversion 25K</i>	962,000	11,025	1.22
<i>MN Short Diversion 35K</i>	1,092,000	9,424	1.17
<i>MN Short Diversion 45K</i>	1,264,000	2,501	1.04
<i>ND East Diversion 35K</i>	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:

The City of Fargo

April Walker

awalker@cityoffargo.com

The City of Moorhead

Bob Zimmerman

Bob.Zimmerman@ci.moorhead.mn.us

The Army Corps of Engineers

Aaron Snyder

Aaron.M.Snyder@usace.army.mil

Craig Evans

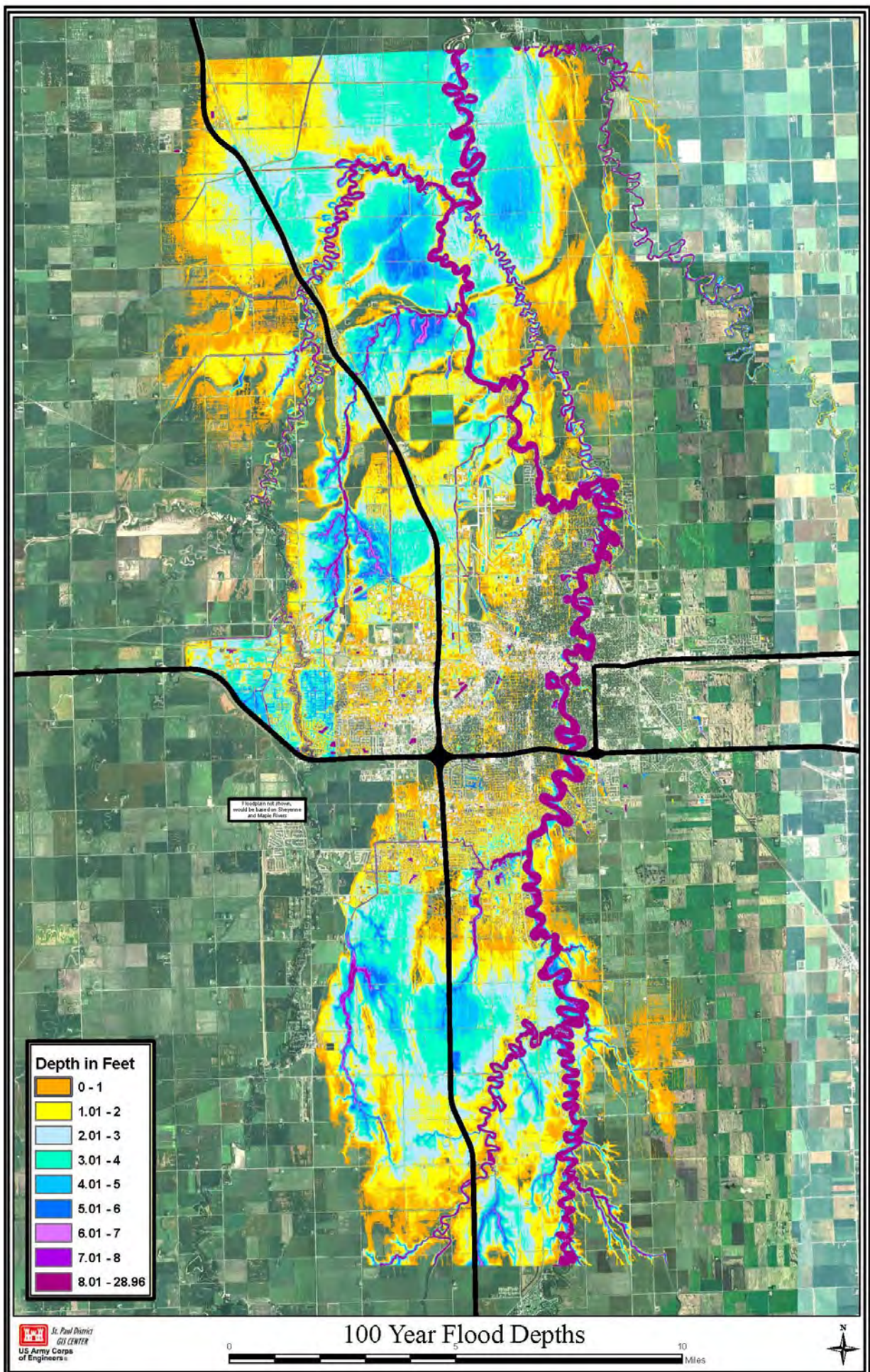
[Crieg.O.Evans@usace.army.mil](mailto:Craig.O.Evans@usace.army.mil)

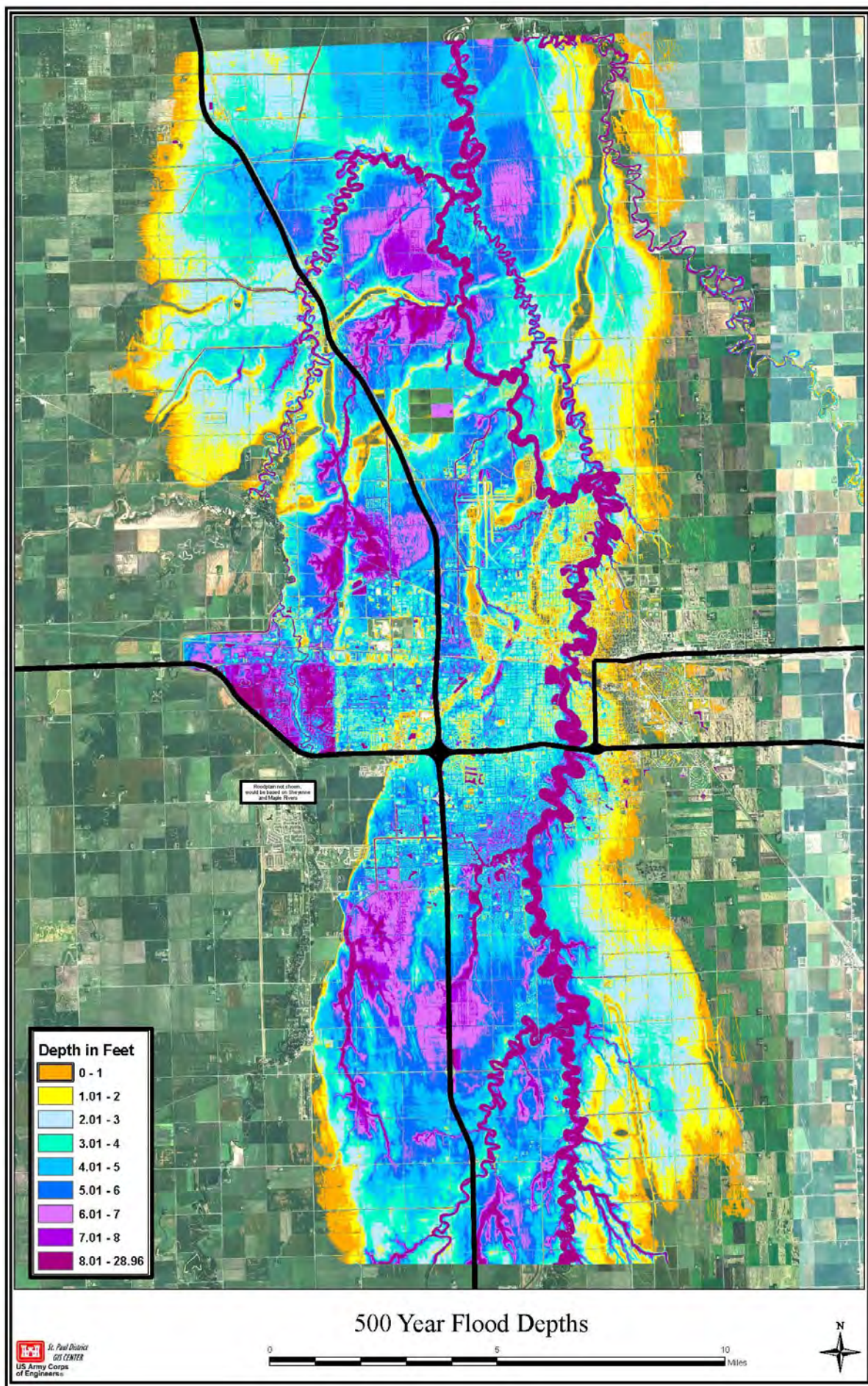
U.S. Army Corps of Engineers

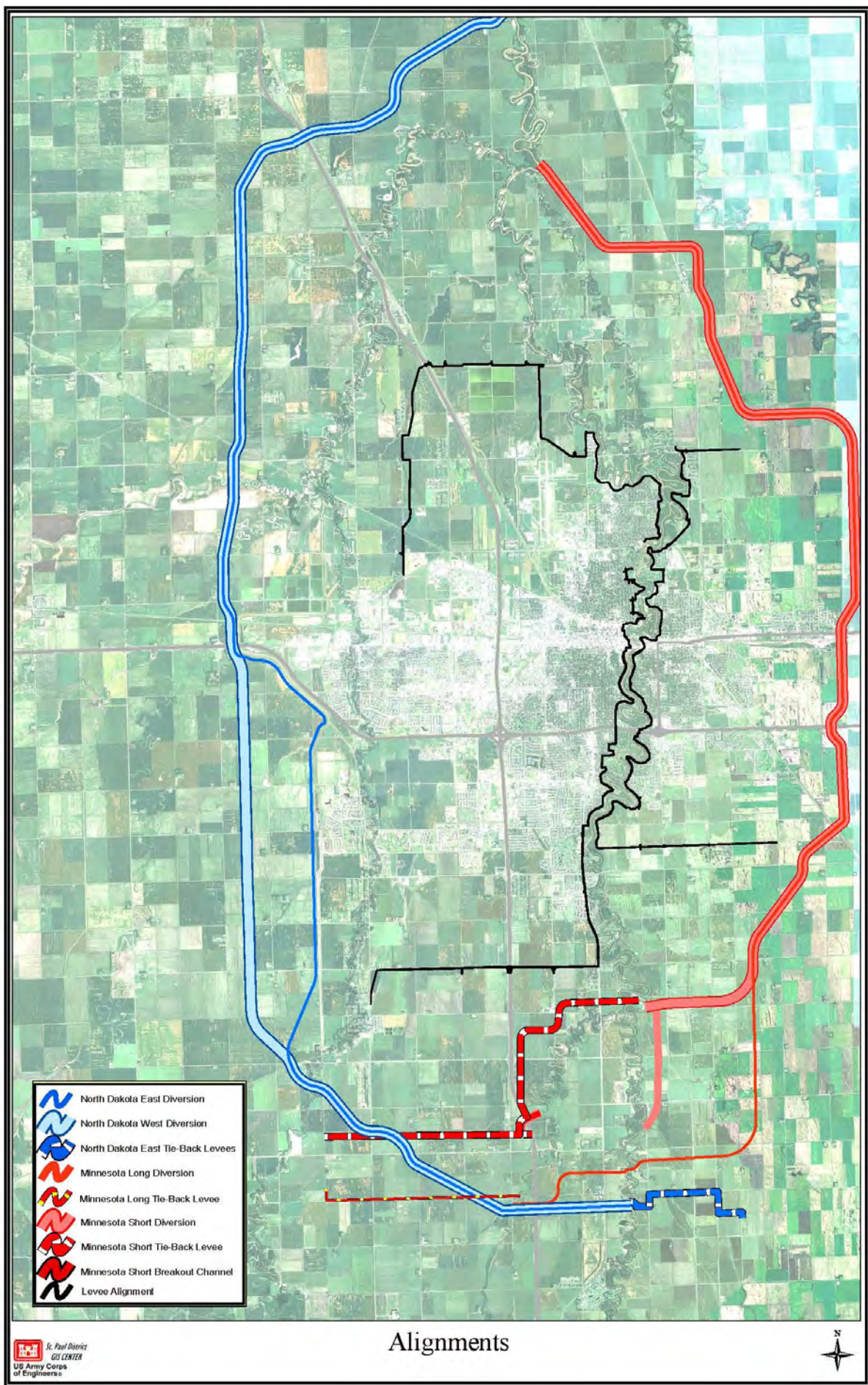
Suite 401 (PM-A)

190 5th Street East

St. Paul, MN 55101







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)
- Flattening the slopes on river bank
- Dredge river deeper and wider
- 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



Presentation 9:

November 24, 2009





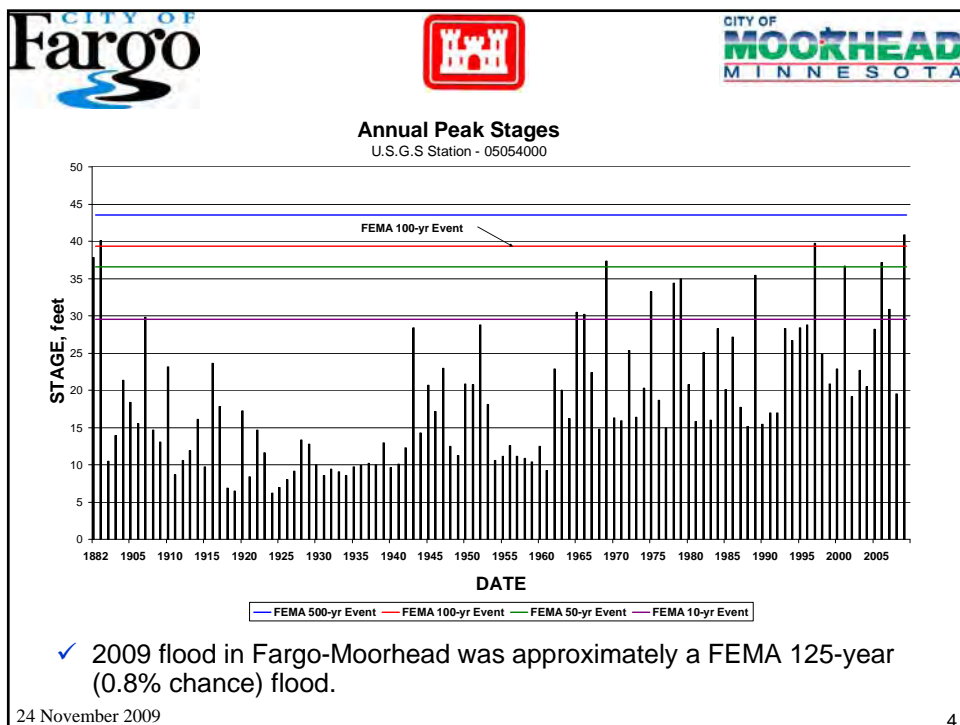
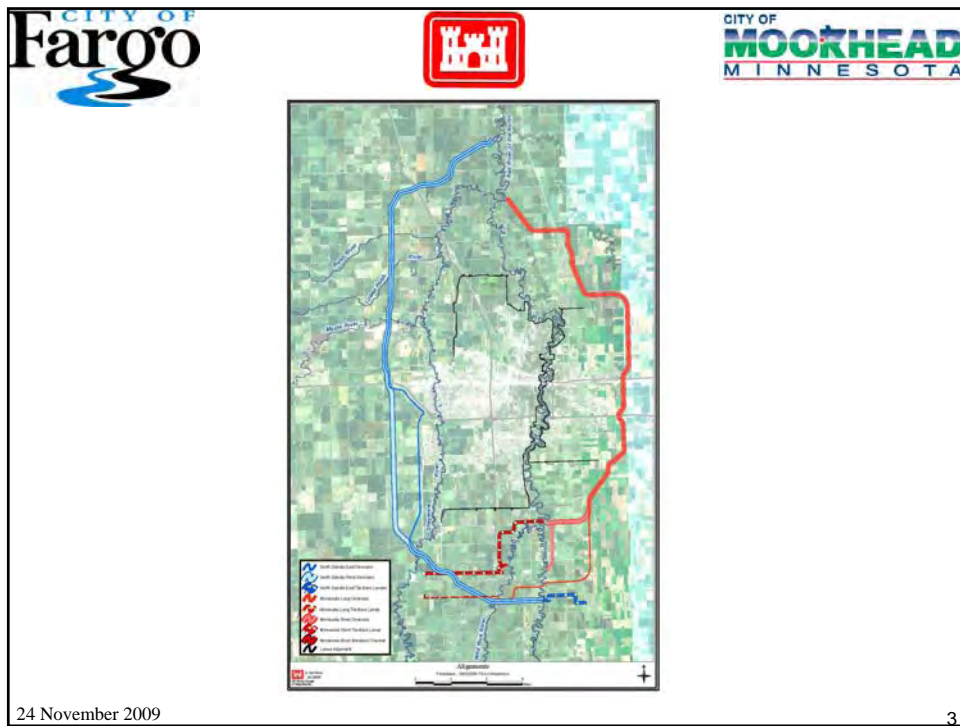
Initial Screening Results

- ✓ No Action: Continue Emergency Measures
- ✓ Diversion Channels
 - ✓ Minnesota
 - ✓ North Dakota
- ✓ Levees



24 November 2009

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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

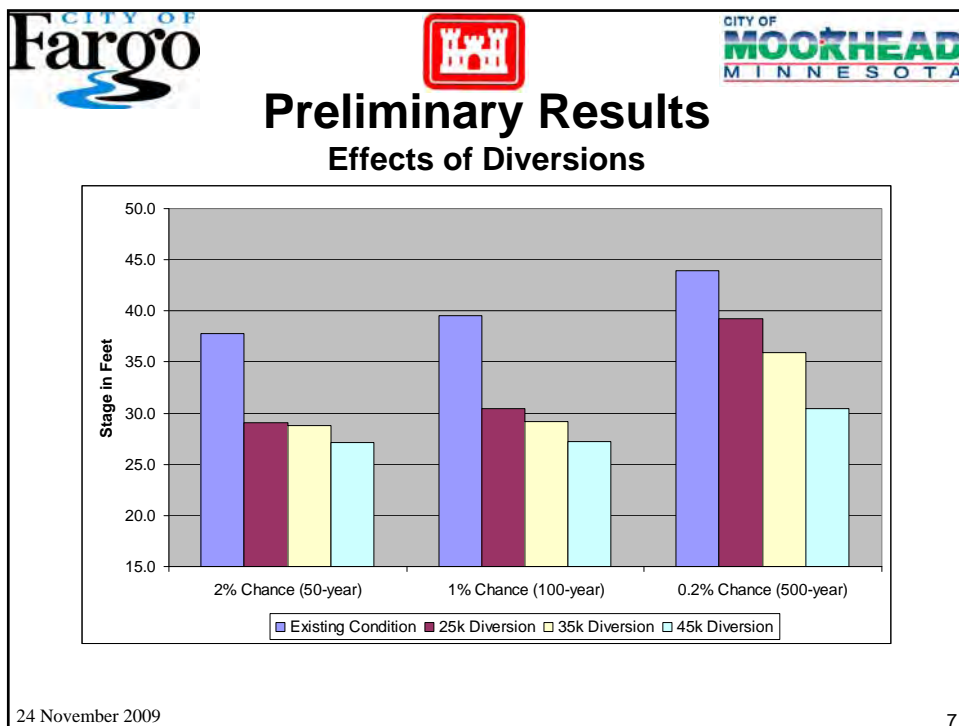
Effects of Diversions




	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
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

24 November 2009

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Fargo-Moorhead Metro Feasibility Study

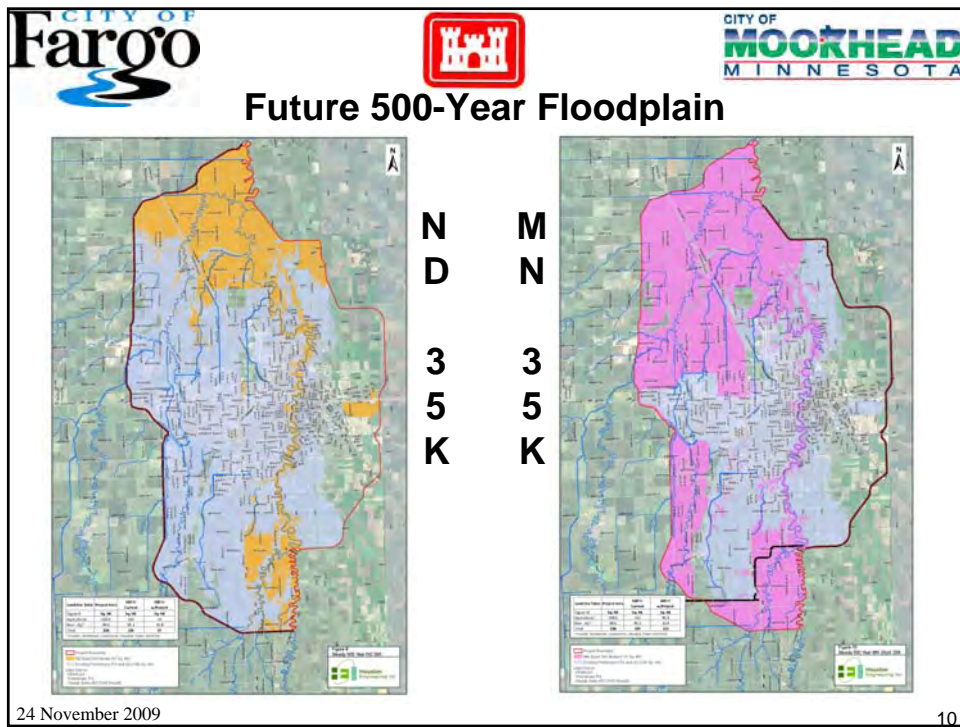
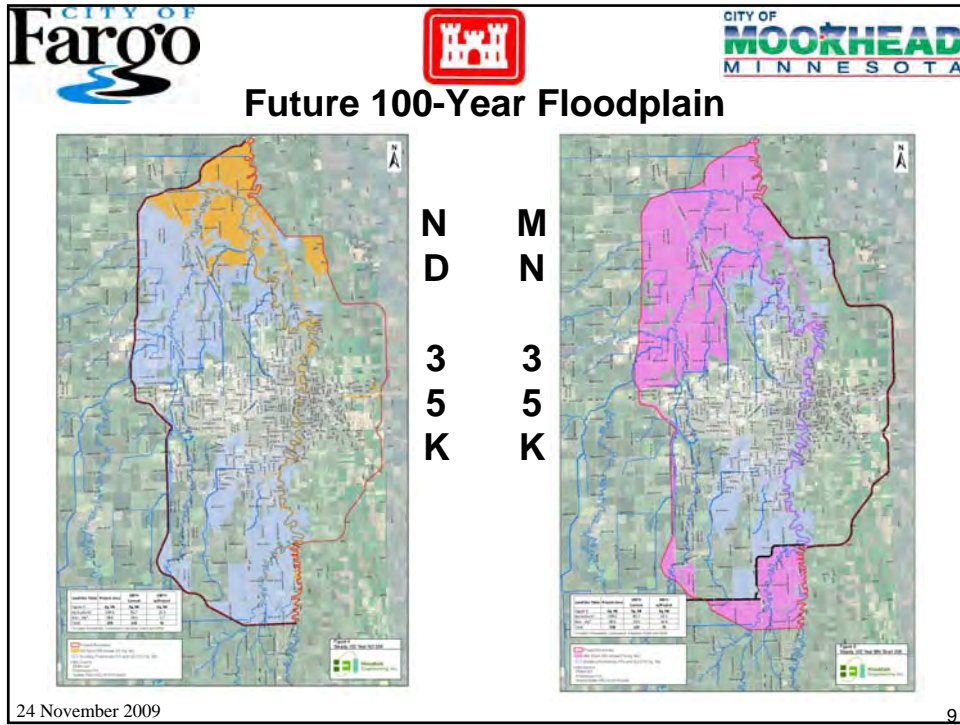
Stage Reductions

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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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)

24 November 2009

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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

24 November 2009

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Contact Information

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651-290-5489

Craig O. Evans

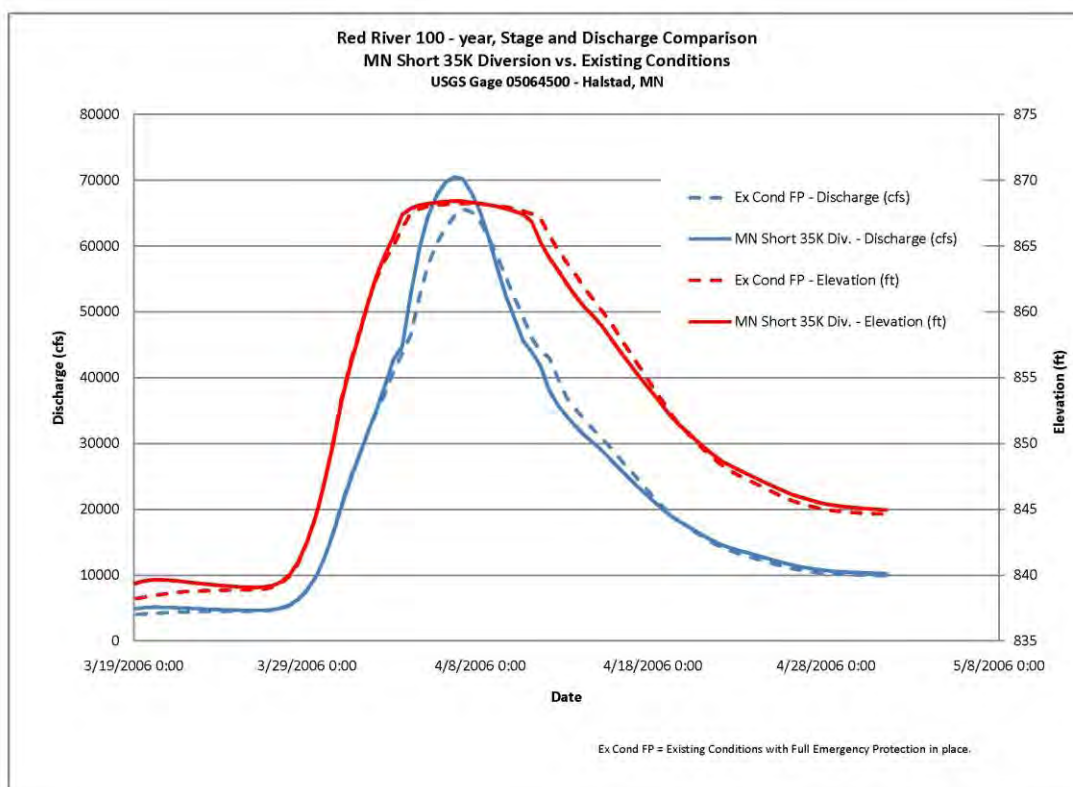
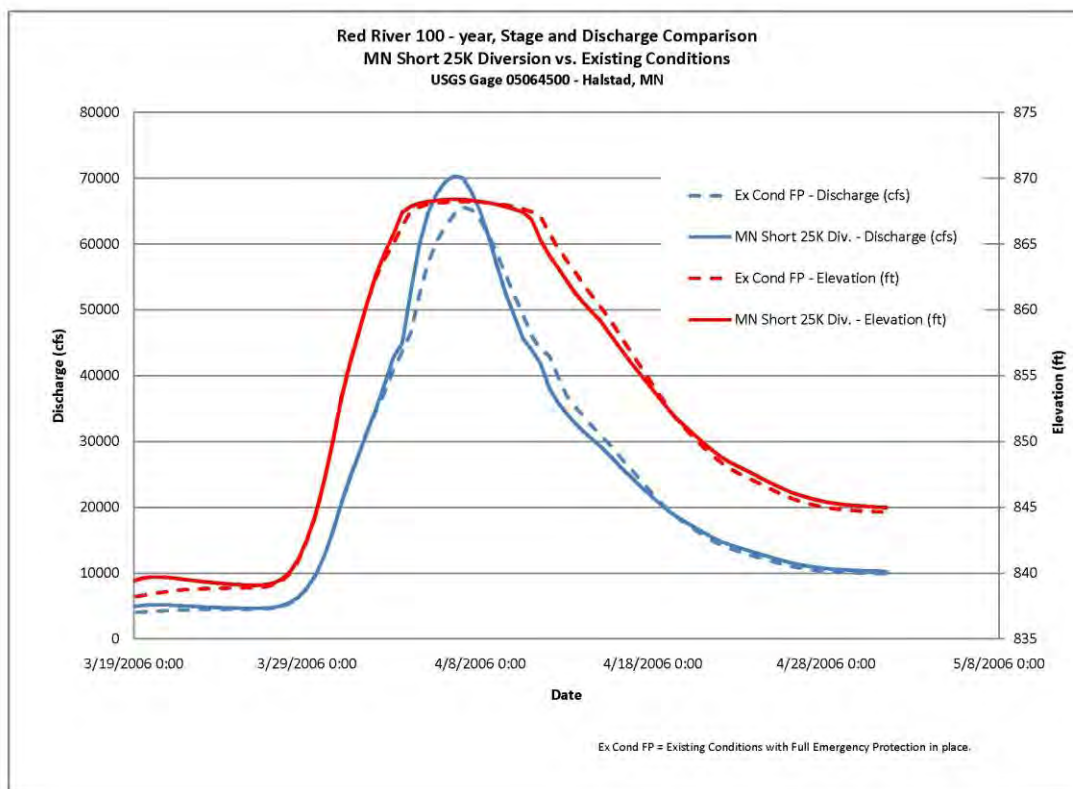
Senior Project Manager/Planner, Regional Technical Specialist
St. Paul District, U.S. Army Corps of Engineers

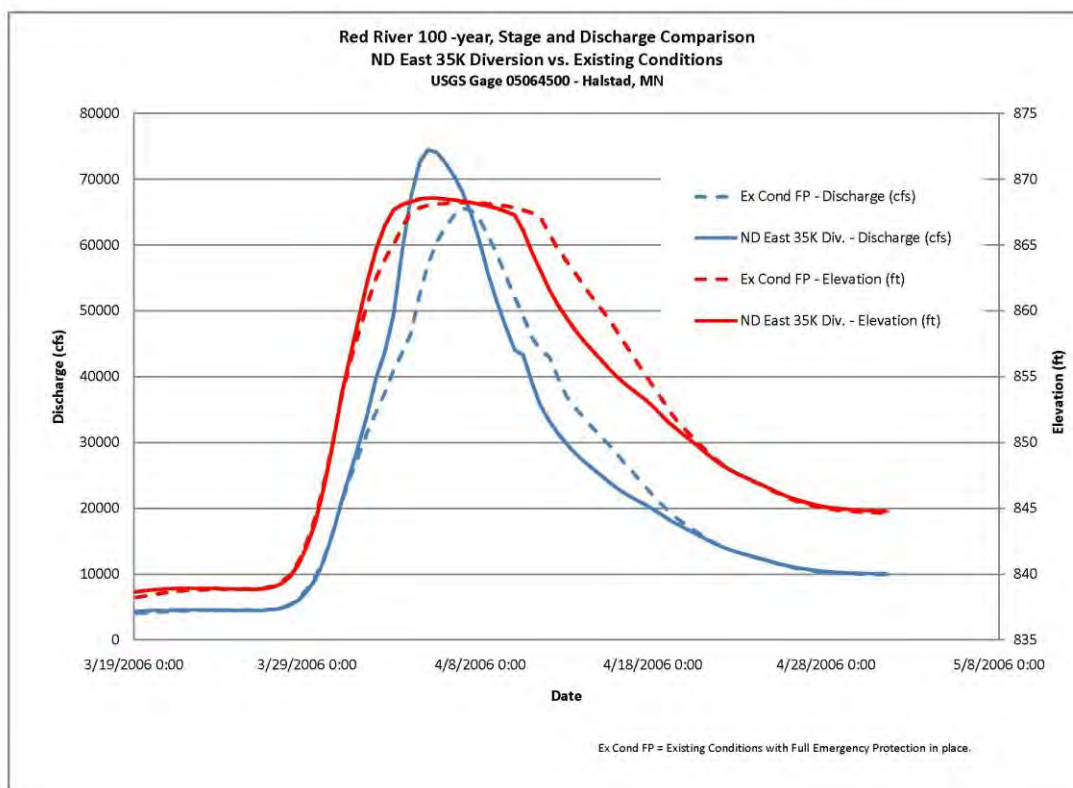
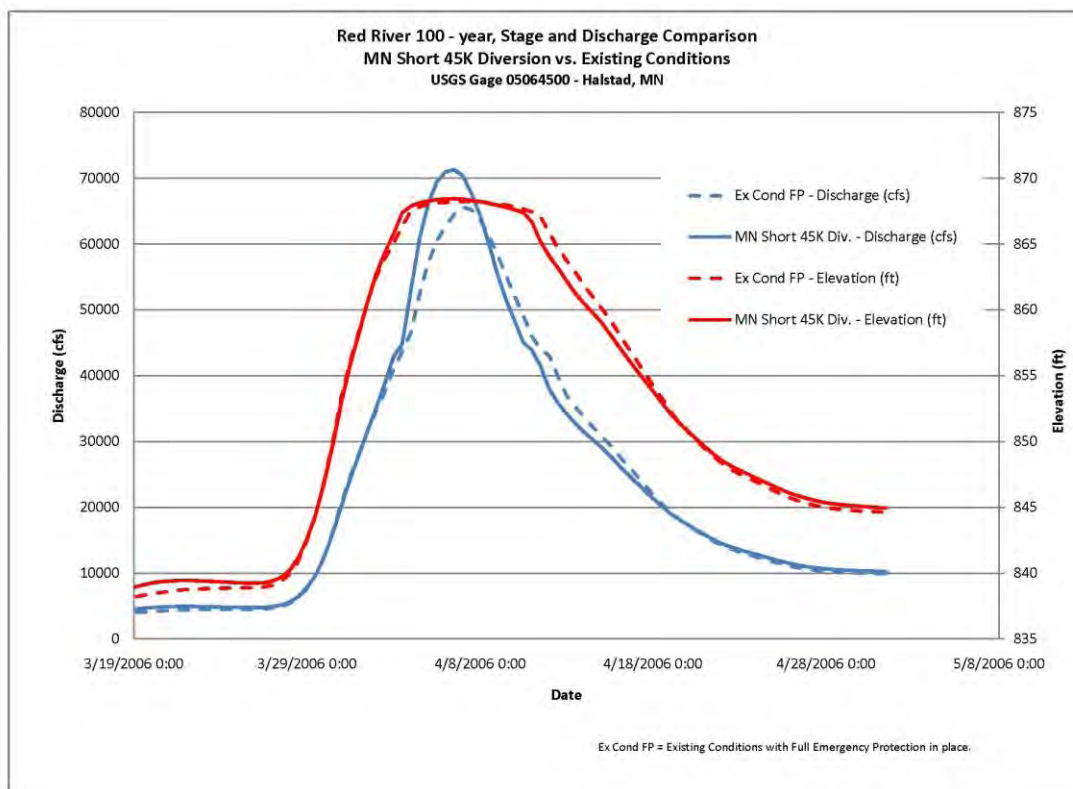
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24 November 2009

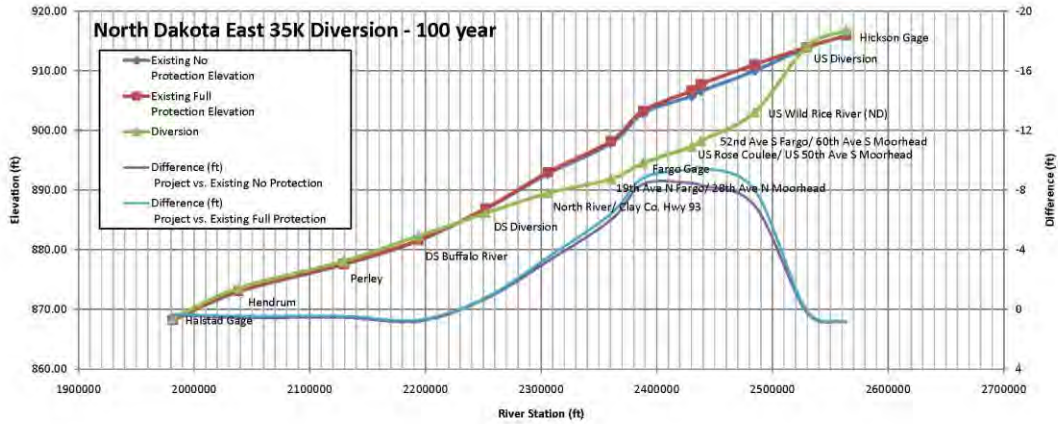
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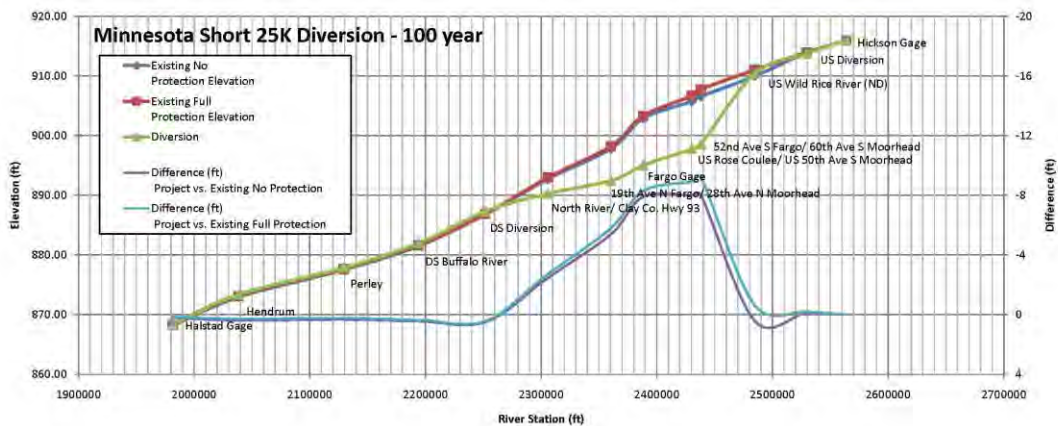
North Dakota East 35K Diversion - 100 year							11/23/2009
Location	Station	Existing No Protection Elevation	Existing Full Protection Elevation	ND 35K East Diversion Elevation	Difference (ft) Project vs. Existing No Protection	Difference (ft) Project vs. Existing Full Protection	
Halstad Gage	1981580	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



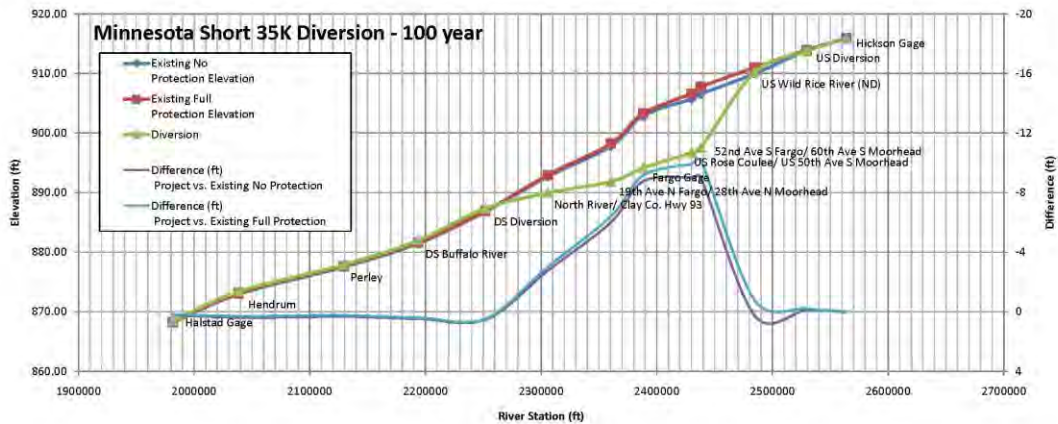
Minnesota Short 25K with Extention - 100 year							11/23/2009
Location	Station	Existing No Protection Elevation	Existing Full Protection Elevation	MN Short 25K Diversion Elevation	Difference (ft) Project vs. Existing No Protection	Difference (ft) Project vs. Existing Full Protection	
Halstad Gage	1981580	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



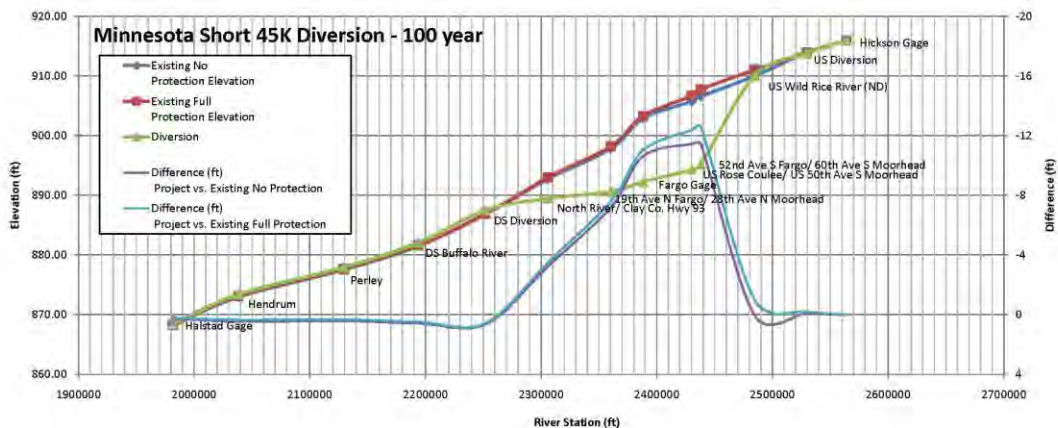
Minnesota Short 35K with Extention - 100 year							11/23/2009
Location	Station	Existing No Protection Elevation	Existing Full Protection Elevation	MN short 35K Diversion Elevation	Difference (ft) Project vs. Existing No Protection	Difference (ft) Project vs. Existing Full Protection	
Halstad Gage	1981580	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	

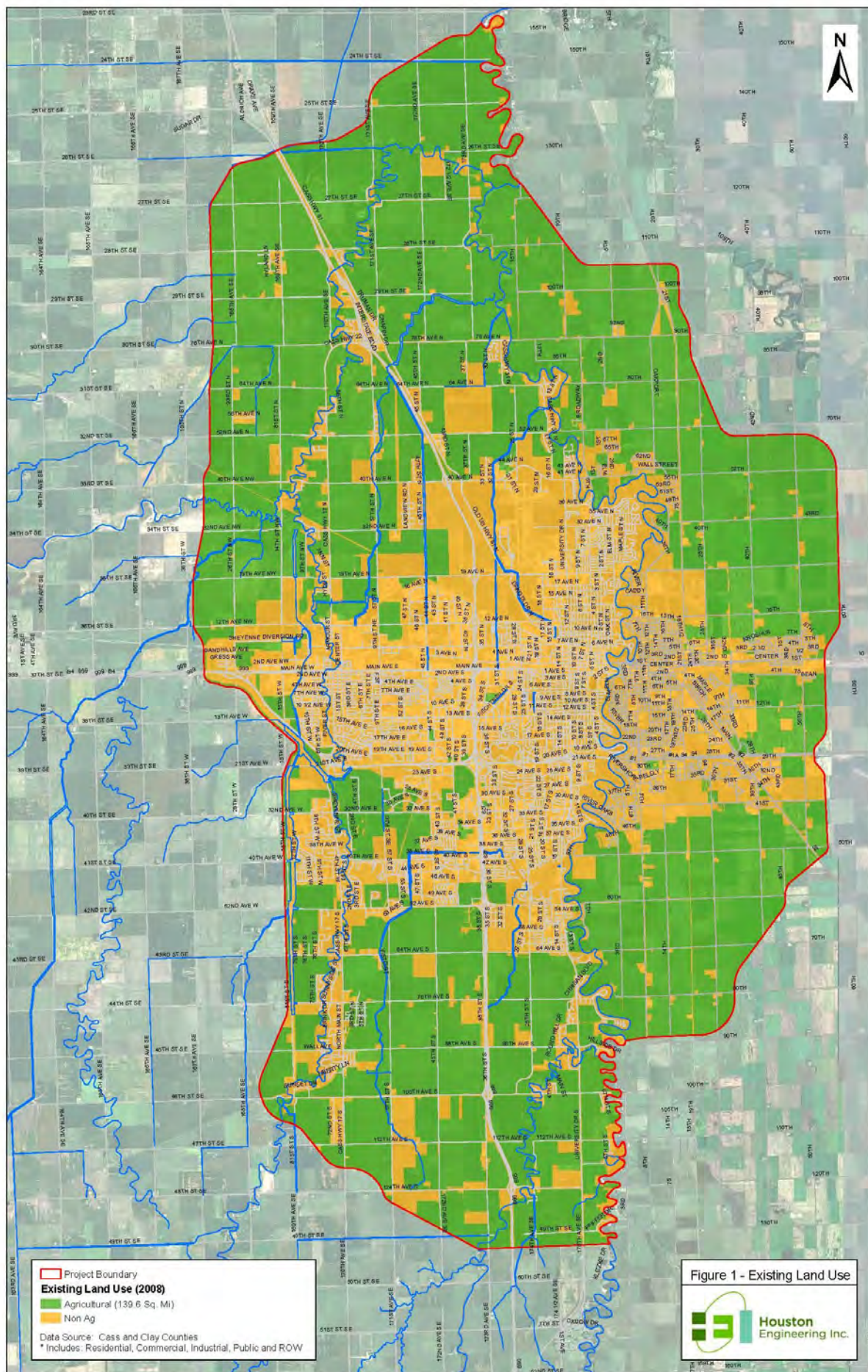
* Flood stage at USGS Gaging Station 05054000, Fargo, ND

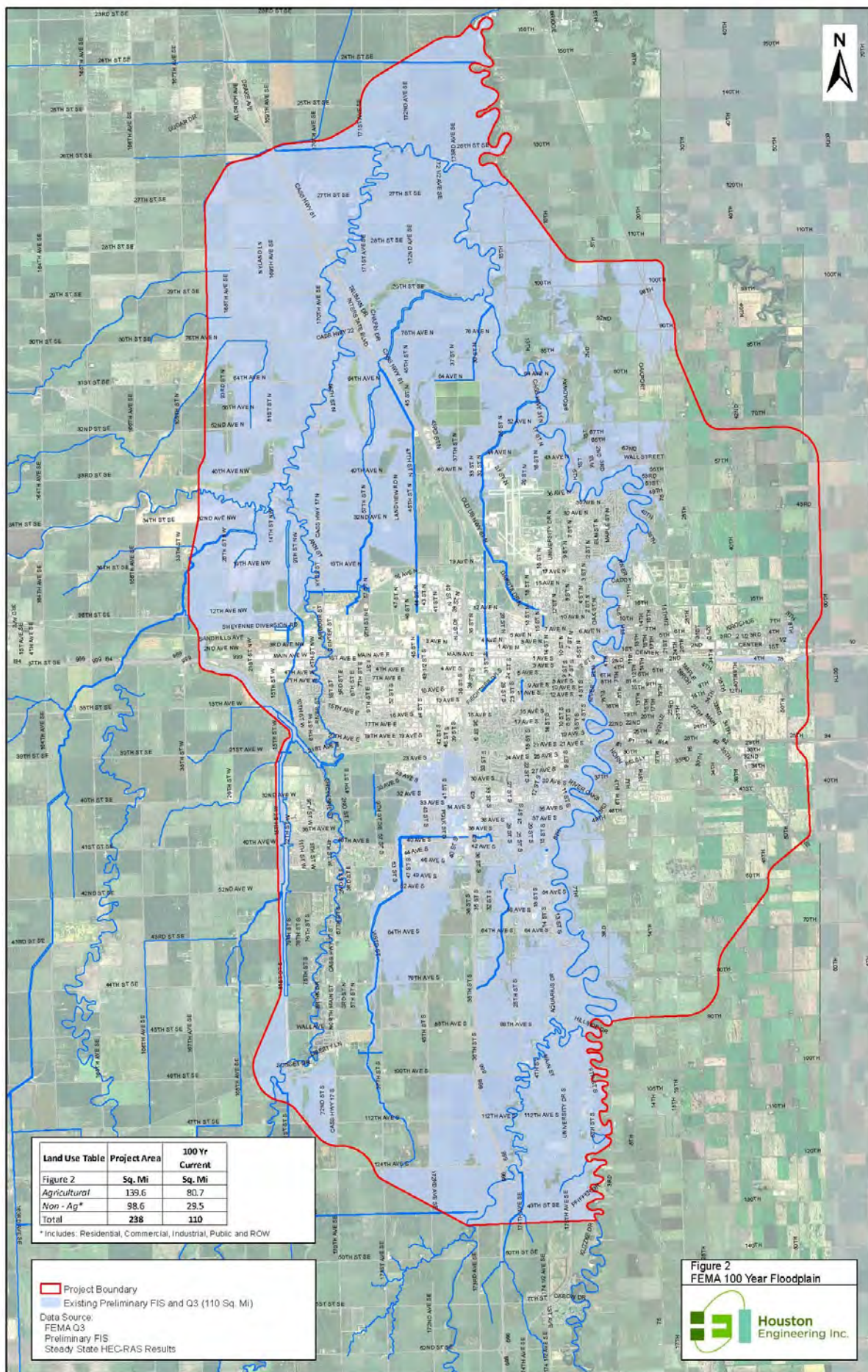


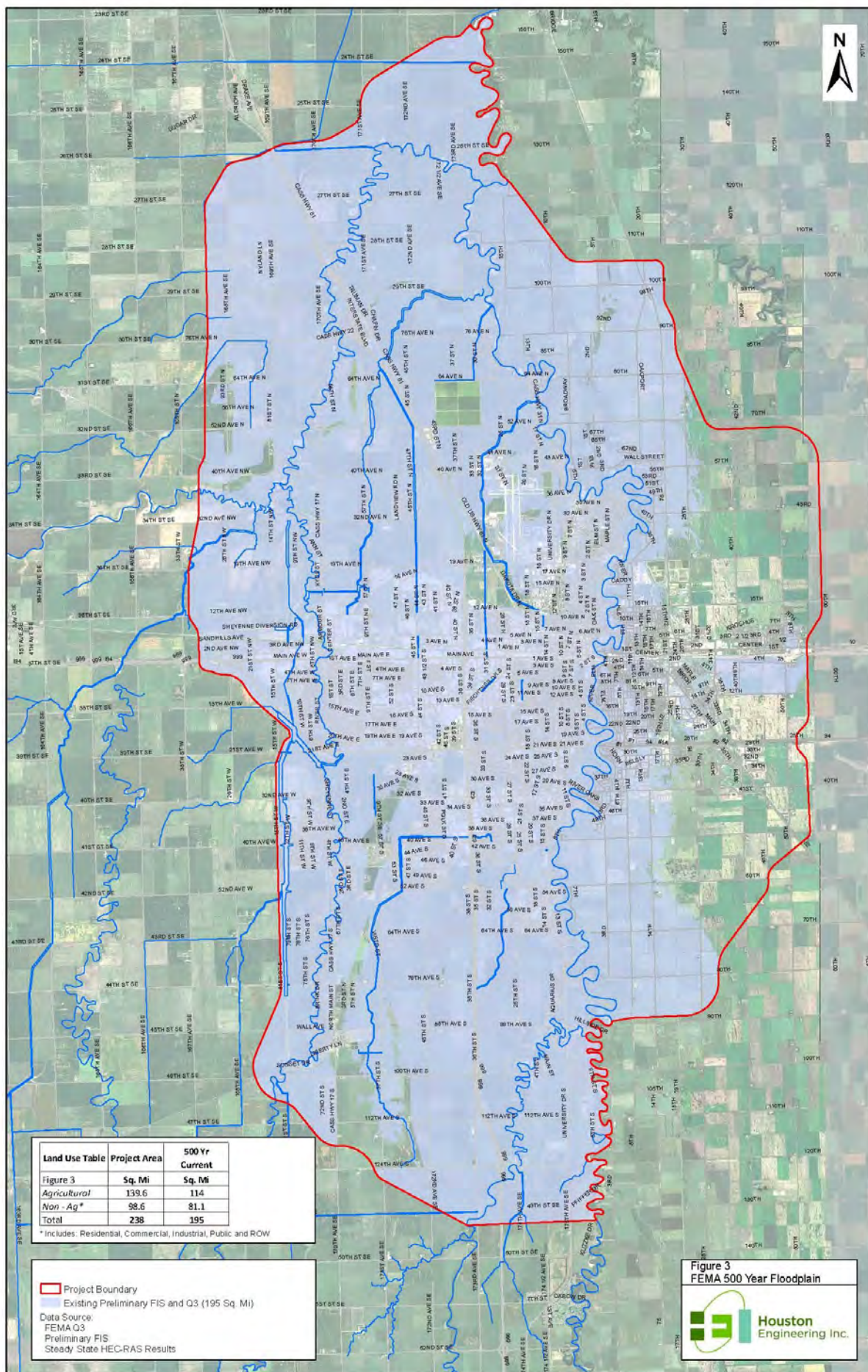
Minnesota Short 45K with Extention - 100 year							11/23/2009
Location	Station	Existing No Protection Elevation	Existing Full Protection Elevation	MN Short 45K Diversion Elevation	Difference (ft) Project vs. Existing No Protection	Difference (ft) Project vs. Existing Full Protection	
Halstad Gage	1981580	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	

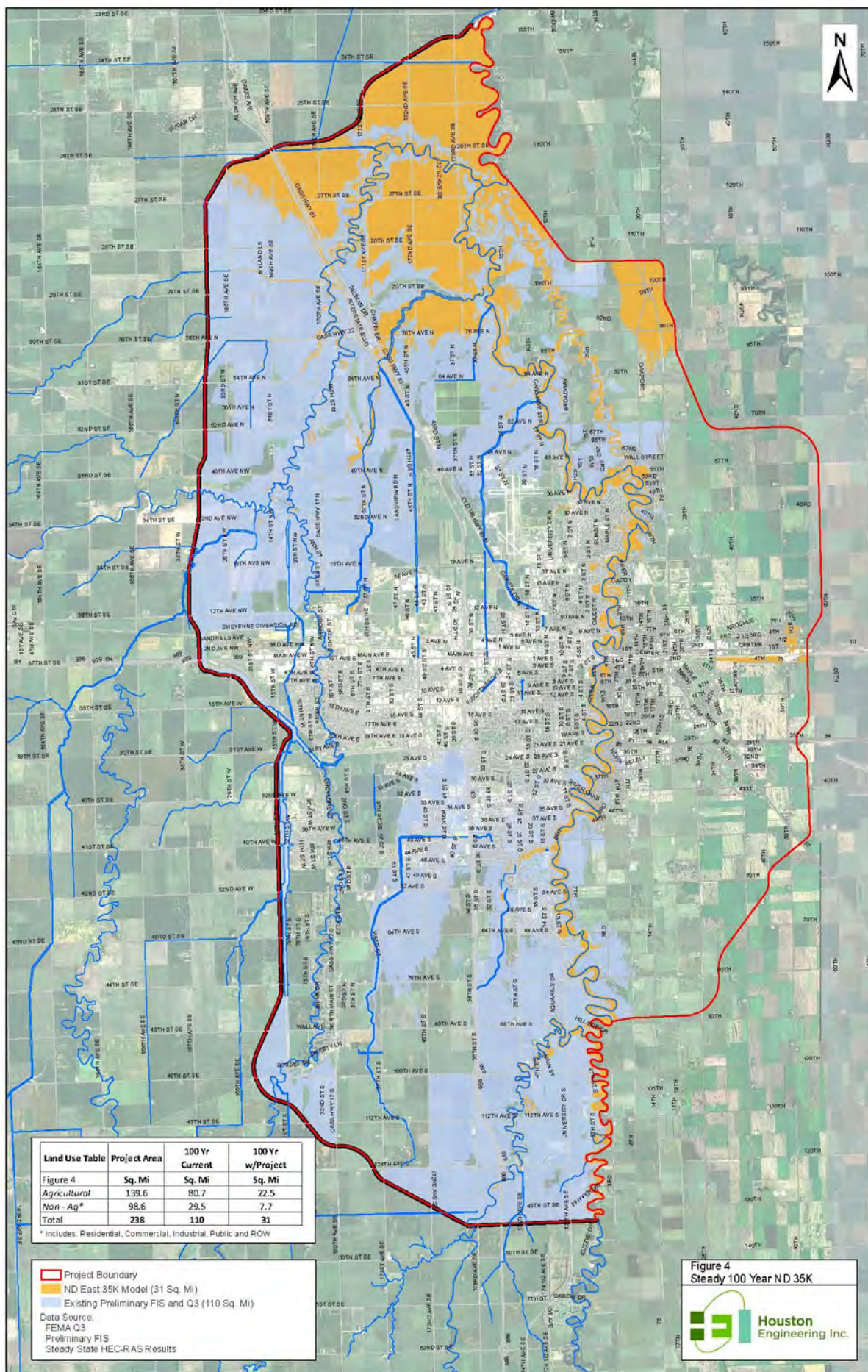
* Flood stage at USGS Gaging Station 05054000, Fargo, ND

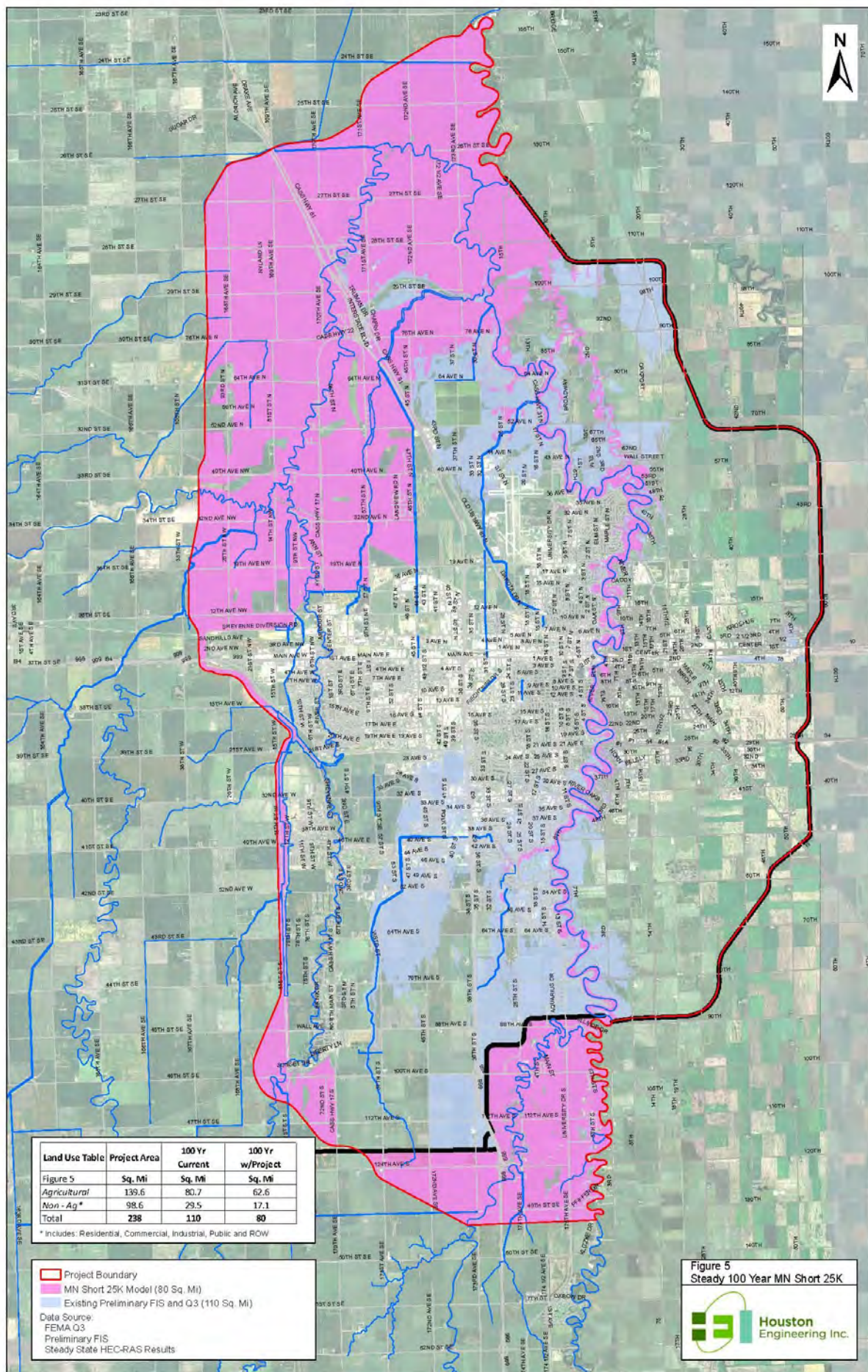


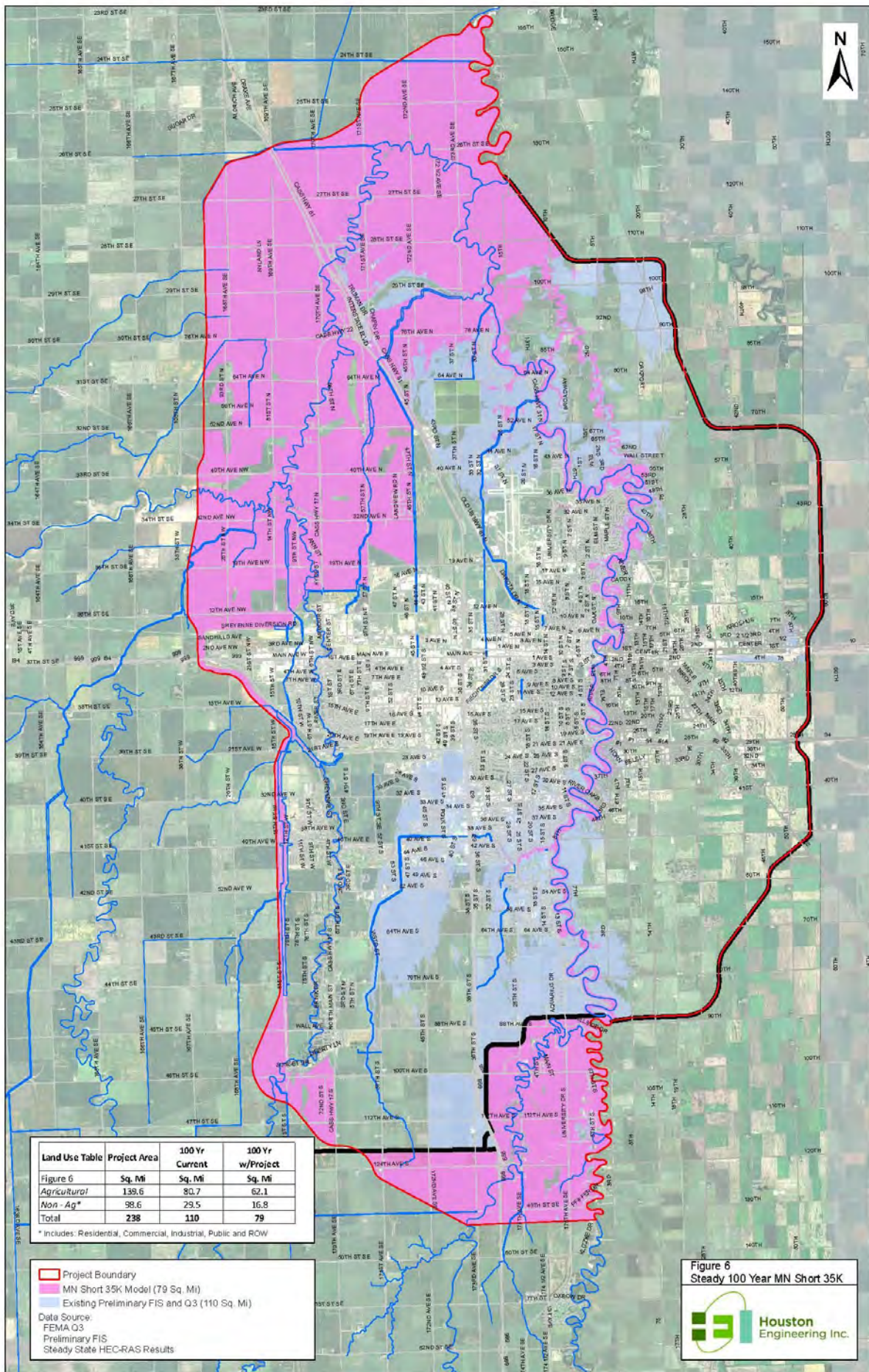


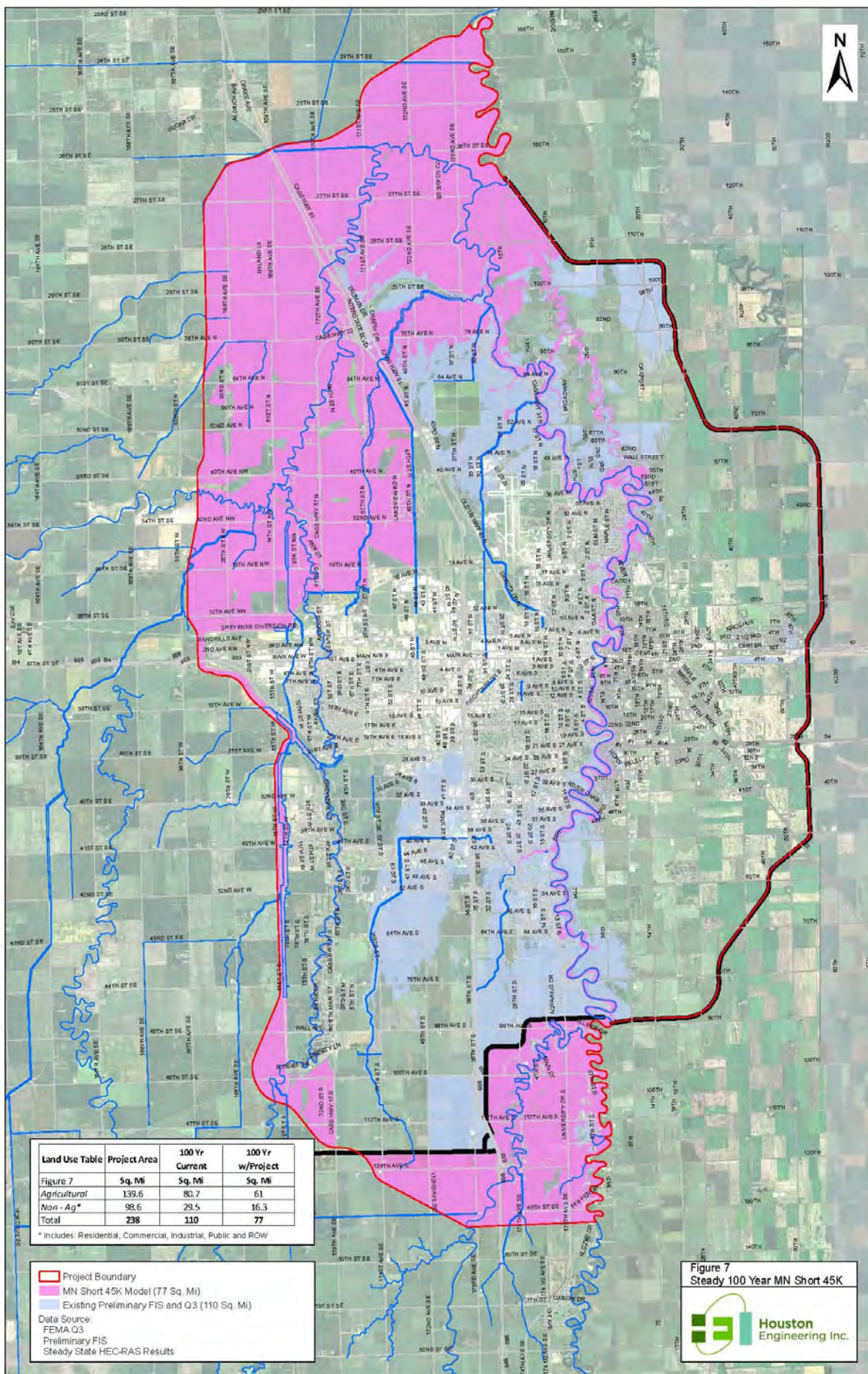


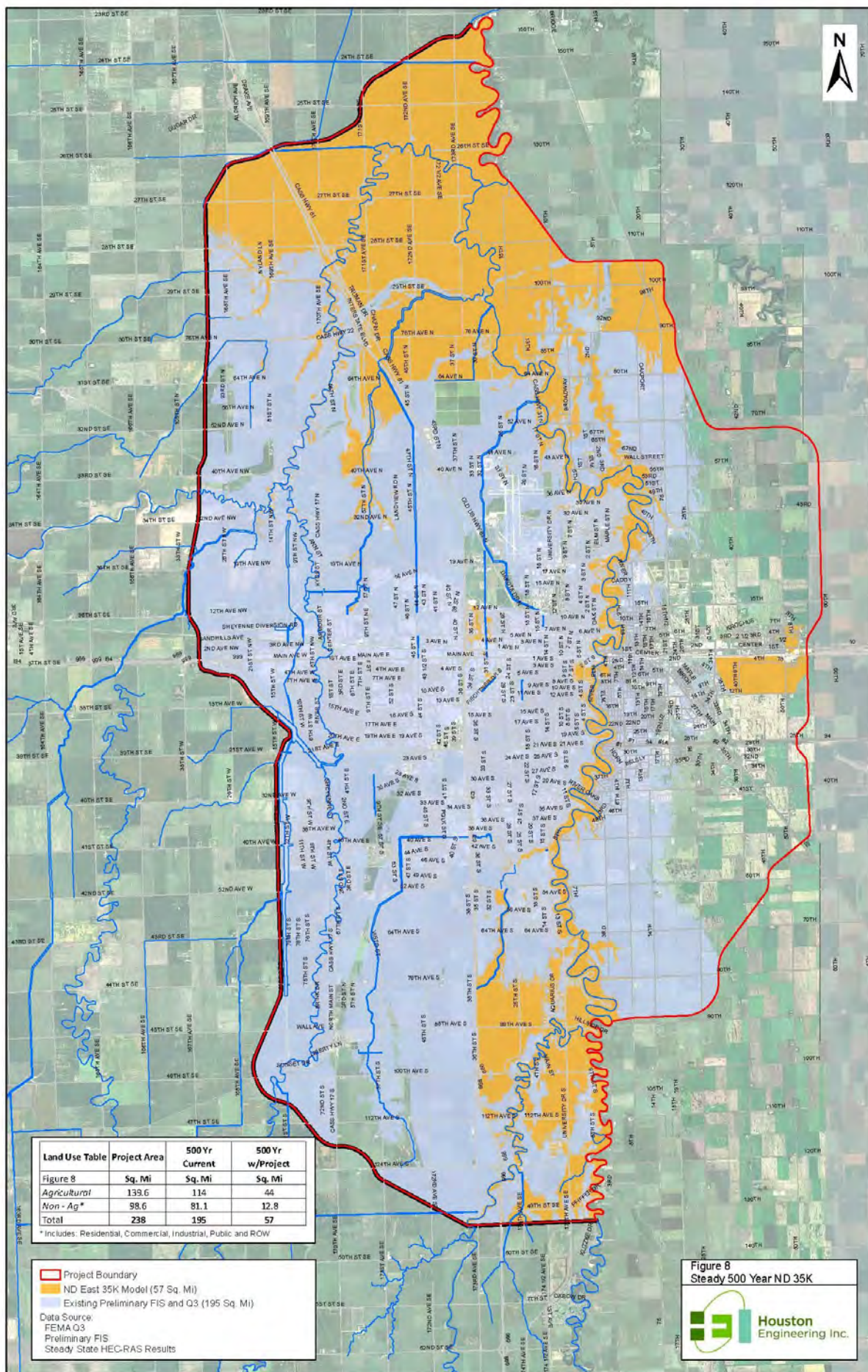


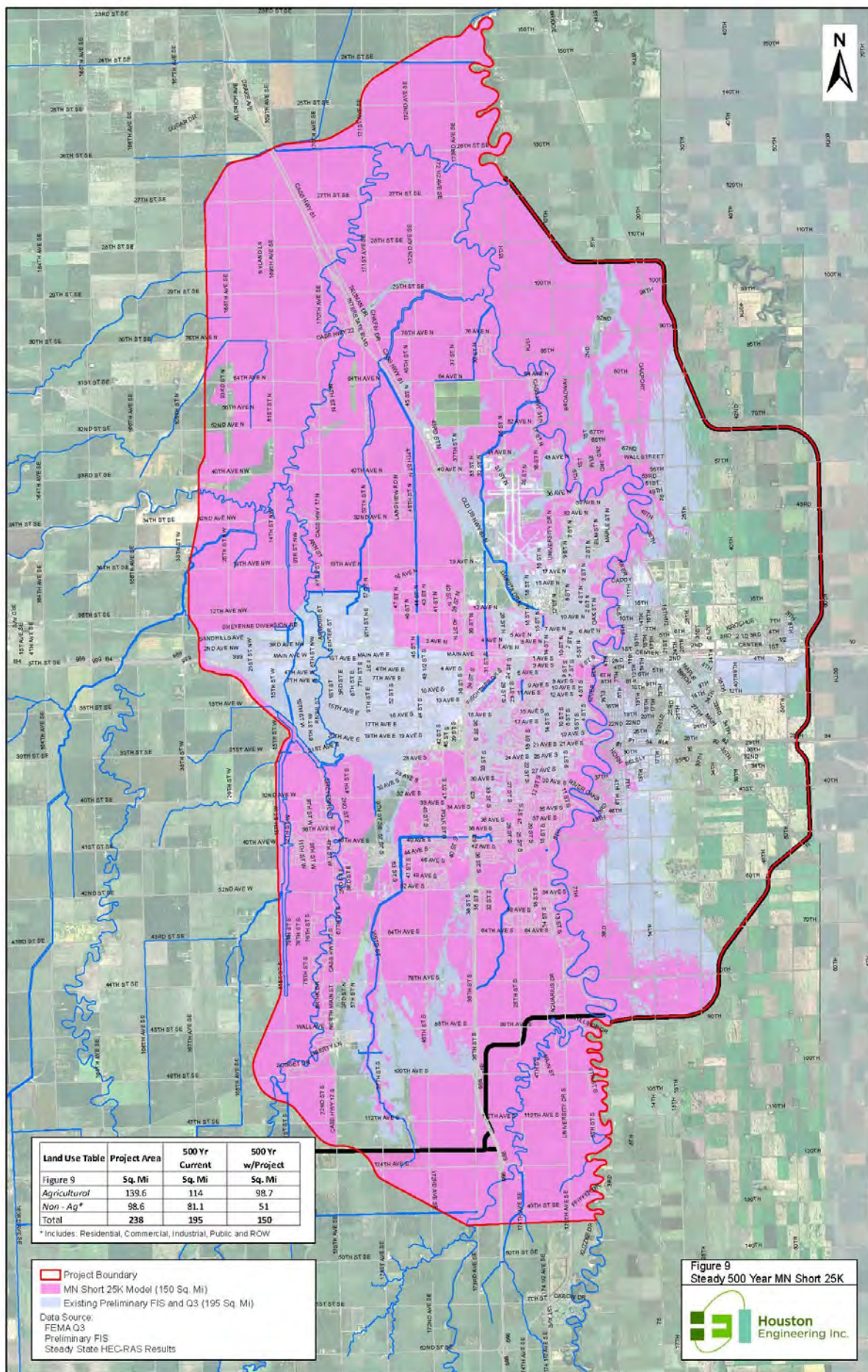


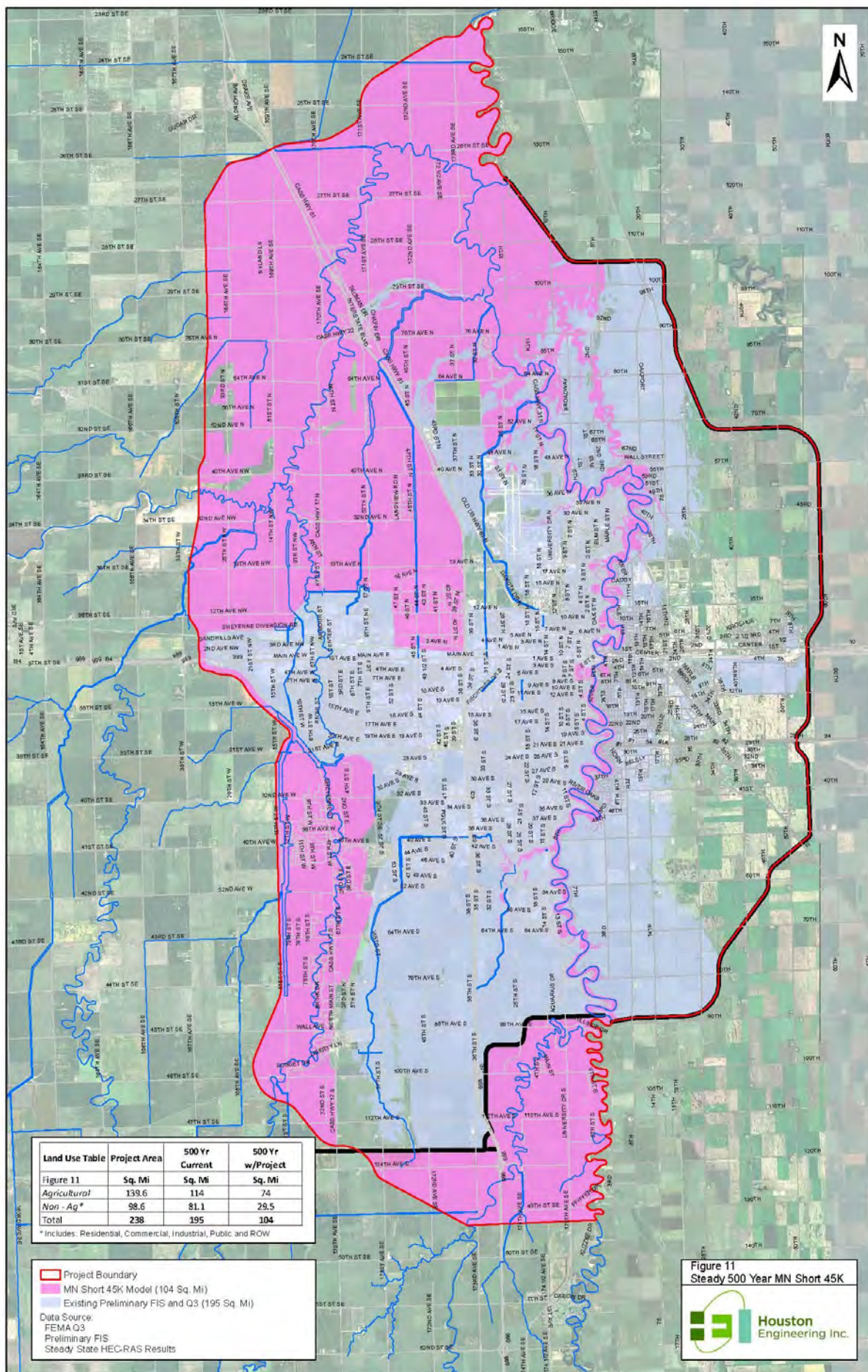


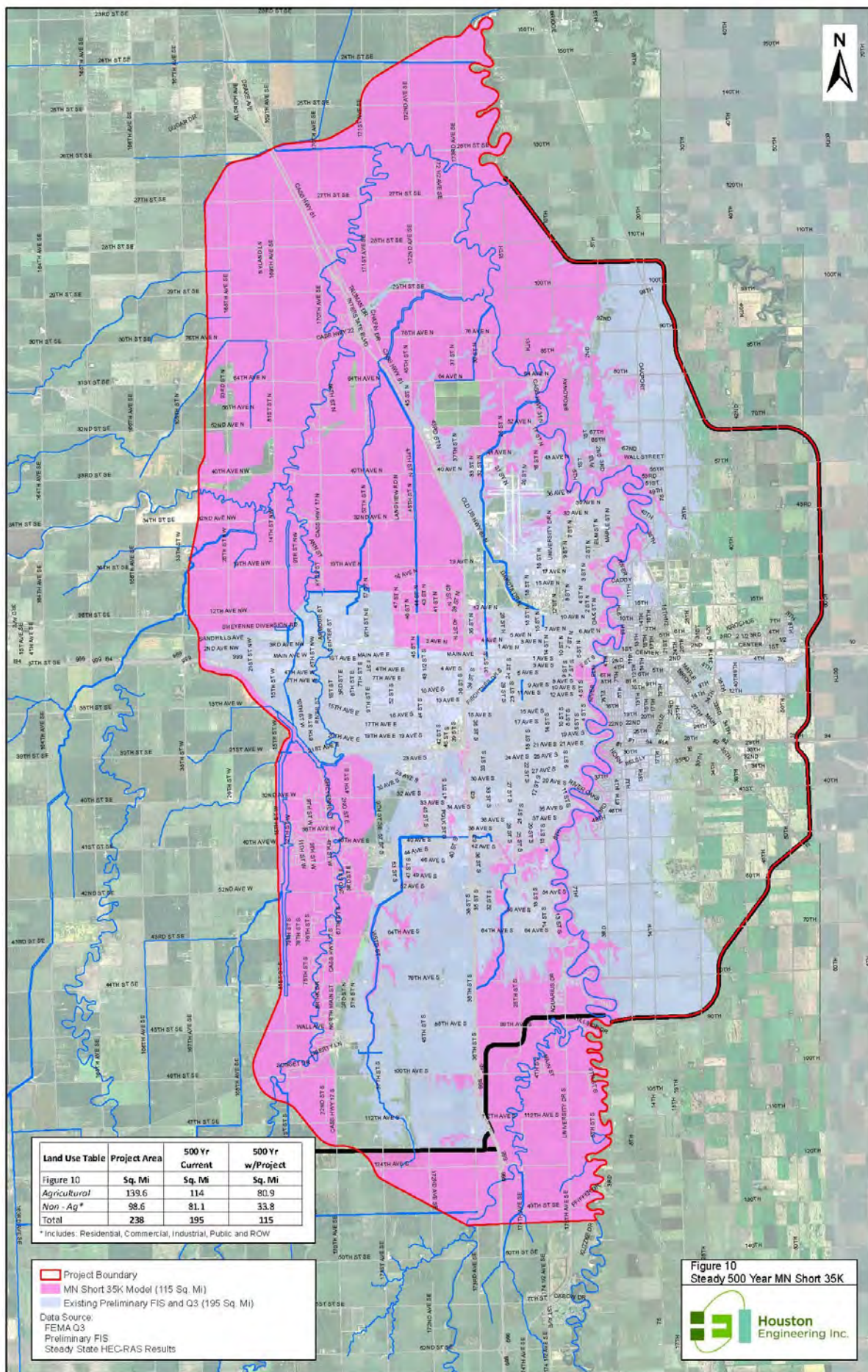












Presentation 10:

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.

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Fargo-Moorhead Metropolitan Feasibility Study

Presentation for Community Leaders

Feb. 1, 2010



US Army Corps of Engineers
BUILDING STRONG®



Presentation Overview:

- ✓ Background
- ✓ Risk
- ✓ Alternatives
- ✓ Benefit-Cost Ratios
- ✓ Downstream Impacts
- ✓ Expectations of Local Decision Makers
- ✓ Recommended Path Forward
- ✓ Schedule

1 February 2010

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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

1 February 2010

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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

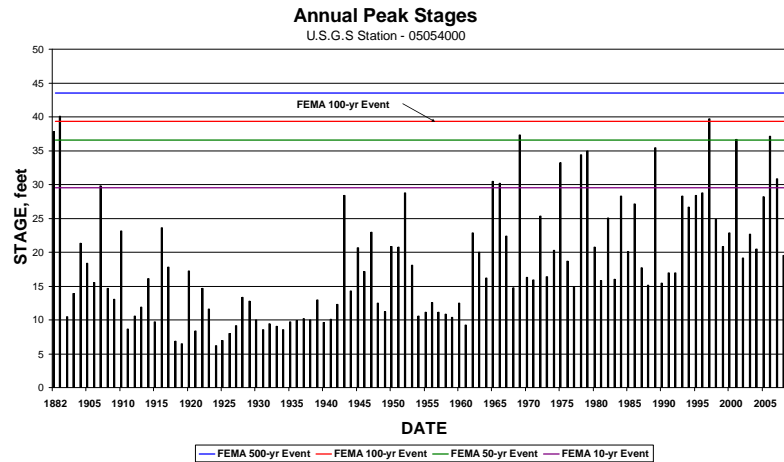
Potential Loss of Life:

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



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

Cost and schedule risk assessment:

- | | |
|---|--|
| <ul style="list-style-type: none"> ✓ Minnesota alignment: <ol style="list-style-type: none"> 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 | <ul style="list-style-type: none"> ✓ North Dakota Alignment: <ol style="list-style-type: none"> 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**



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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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

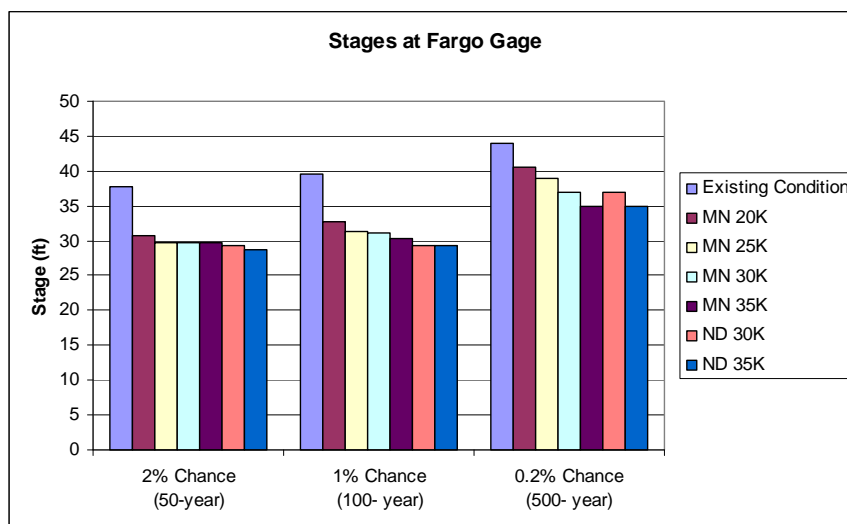
Stage	Impacts
27	Fargo Elm Street closed
30	Fargo 2nd Street Dike installed
31	Moorhead 1st Ave. North closed
32	First homes in Moorhead threatened
35	First homes in Fargo threatened
40.8	2009 Flood Record Stage

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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

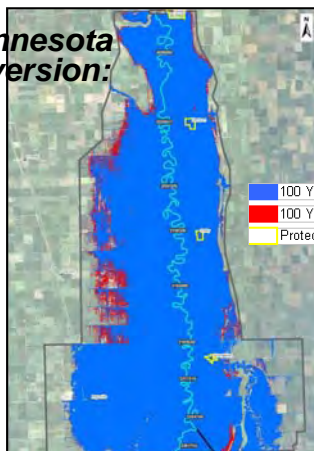
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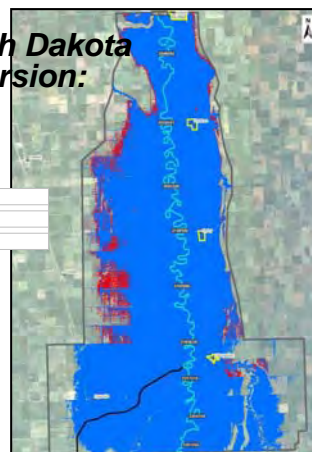
Downstream effects:

Based on 35K diversions and 100-year event

Minnesota Diversion:



North Dakota Diversion:

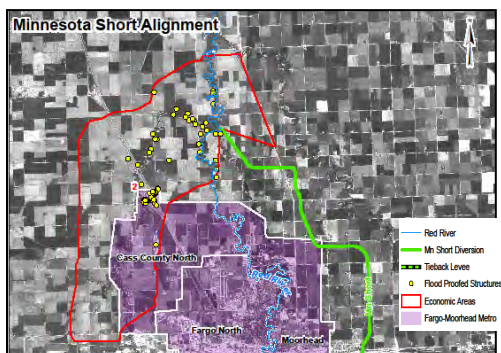


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Non-Structural Recommendations:

- ✓ 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



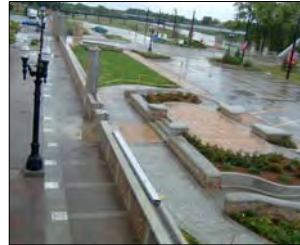
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Recreation:

- ✓ 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:

- ✓ 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)



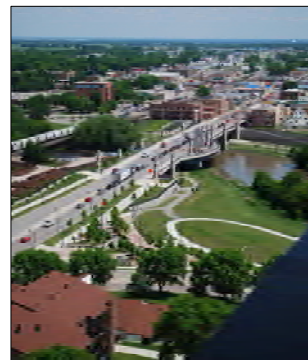
Red River of the North

1 February 2010

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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

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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

1 February 2010

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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

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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

1 February 2010

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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

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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.

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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

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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



US Army Corps of Engineers
BUILDING STRONG®



Presentation Overview:

- ✓ Background
- ✓ Risk
- ✓ Alternatives
- ✓ Benefit-Cost Ratios
- ✓ Downstream Impacts
- ✓ Expectations of Local Decision Makers
- ✓ Recommended Path Forward
- ✓ Schedule

1 February 2010

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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

1 February 2010

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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

1 February 2010

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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

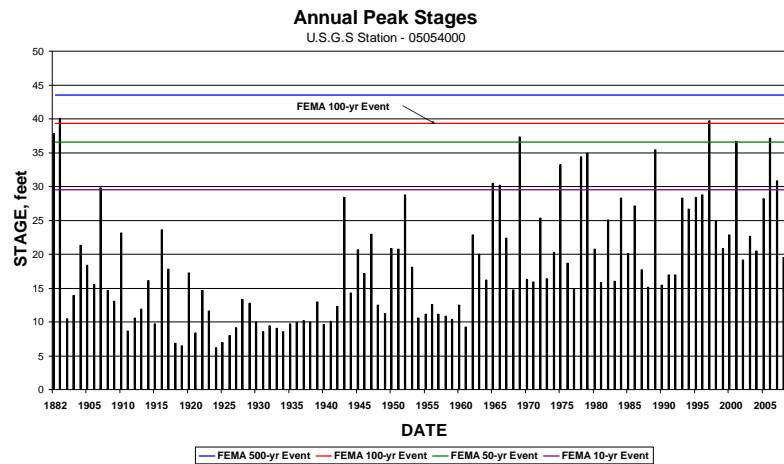
Potential Loss of Life:

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



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

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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:

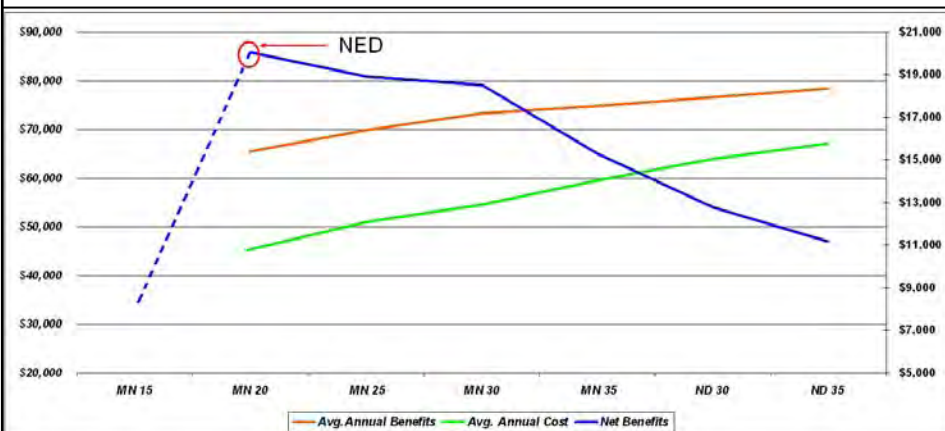
- ✓ Minnesota alignment:
 - ✓ Concerns with Dilworth rail yard
- ✓ North Dakota alignment:
 - ✓ Unplanned work – additional project features
 - ✓ Control and diversion of water during construction
 - ✓ Natural resources issues

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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:

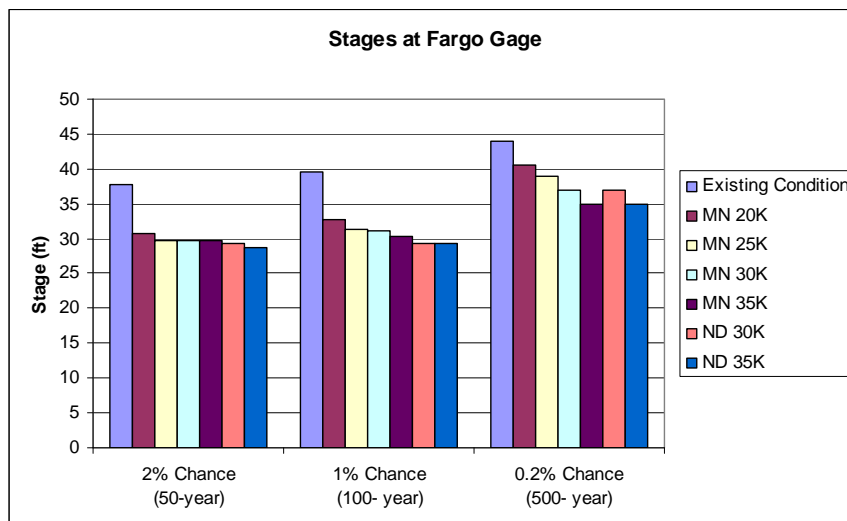
	Stage at Fargo Gage (ft)		
	2% Chance (50-year)	1% Chance (100- year)	0.2% Chance (500- year)
Existing Condition	37.8	39.5	43.9
MN Alignment			
20K	30.8	32.8	40.6
25K	29.8	31.4	38.9
30K	29.8	31.1	36.9
35K	29.8	30.3	34.9
ND Alignment			
30K	29.3	29.4	37.0
35K	28.8	29.3	34.9

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

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Effectiveness of Diversions:



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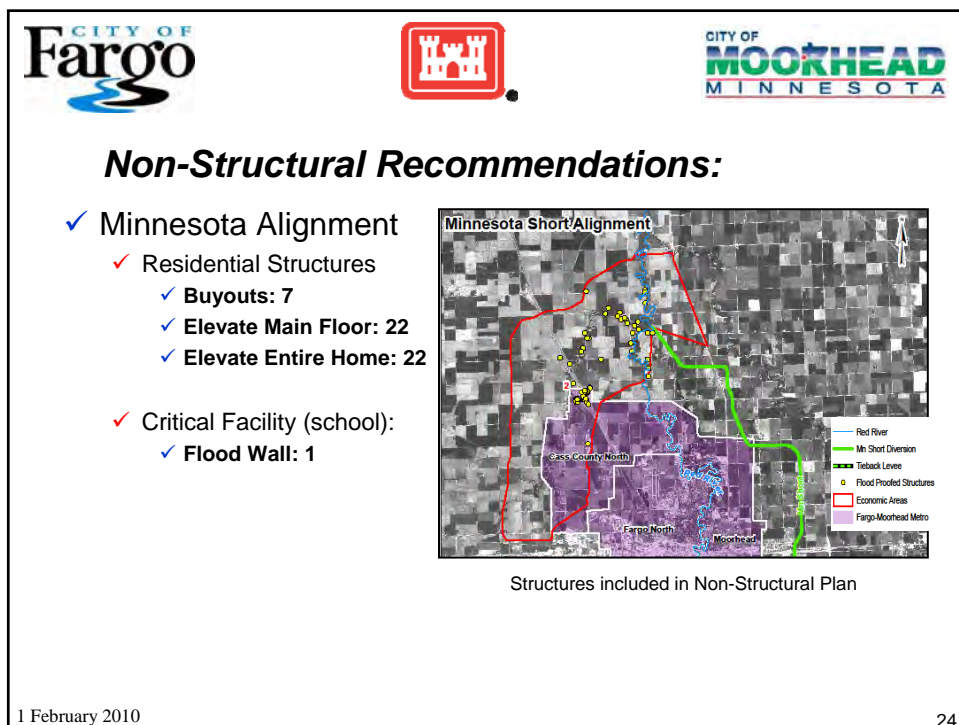
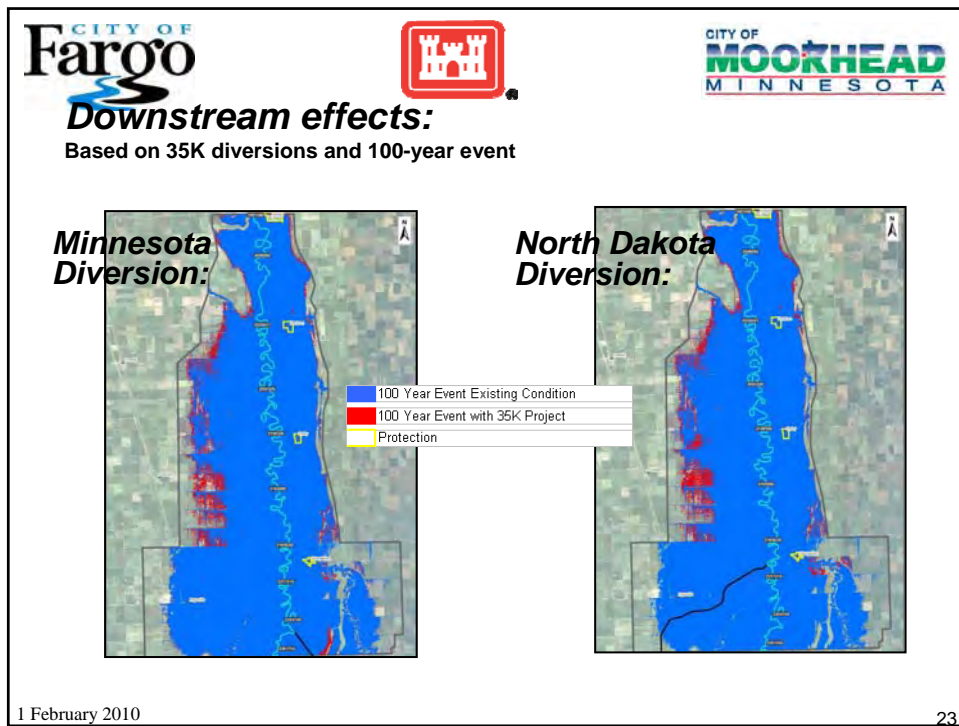
Downstream Effects:

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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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



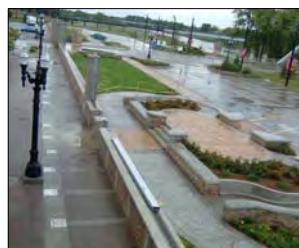
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Recreation:

- ✓ 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:

- ✓ 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)



Red River of the North

1 February 2010

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Local Decisions:

- ✓ Is there a Locally Preferred Plan?
 - ✓ Location: North Dakota or Minnesota?
 - ✓ Capacity: 35,000 cfs?
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- ✓ Decision will affect ability to meet schedule



Main Street Bridge

1 February 2010

29



Recommended Path Forward:

- ✓ Develop Additional Plans:
 - ✓ Minnesota 15,000 and 10,000 cfs
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 - ✓ 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

1 February 2010

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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
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 - ✓ Public Meetings in May/June
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F-M Metro Study Timeline:

- ✓ Feb 2010: Identify unofficial tentatively selected plan
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- ✓ Mail:
 - USACE, St. Paul District
 - 190 5th St. E.
 - Suite 401
 - St. Paul, MN 55104

1 February 2010

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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

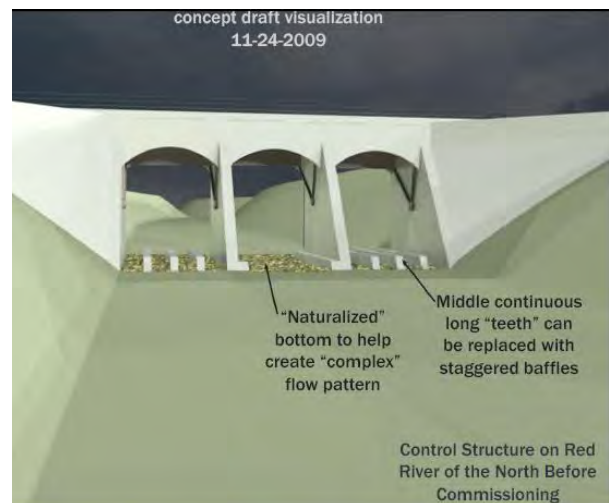
complete the study by December 2010. From June 2009 through October 2009, the study team performed cursory technical analysis of all proposed measures. The team also developed screening criteria to be used in selecting a plan. Using the preliminary technical information, the team applied professional 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.

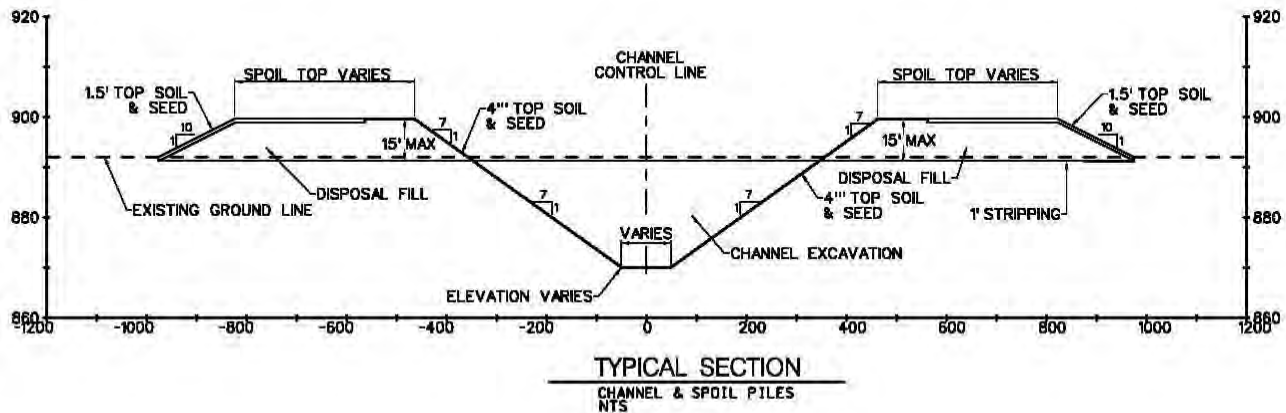
A diversion channel would reduce flood stages by limiting the amount of water that could flow in the natural river channel through town. A gated structure on the Red River would be operated during floods larger than the 20 percent chance event (5-year flood).

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.



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 increase 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:

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

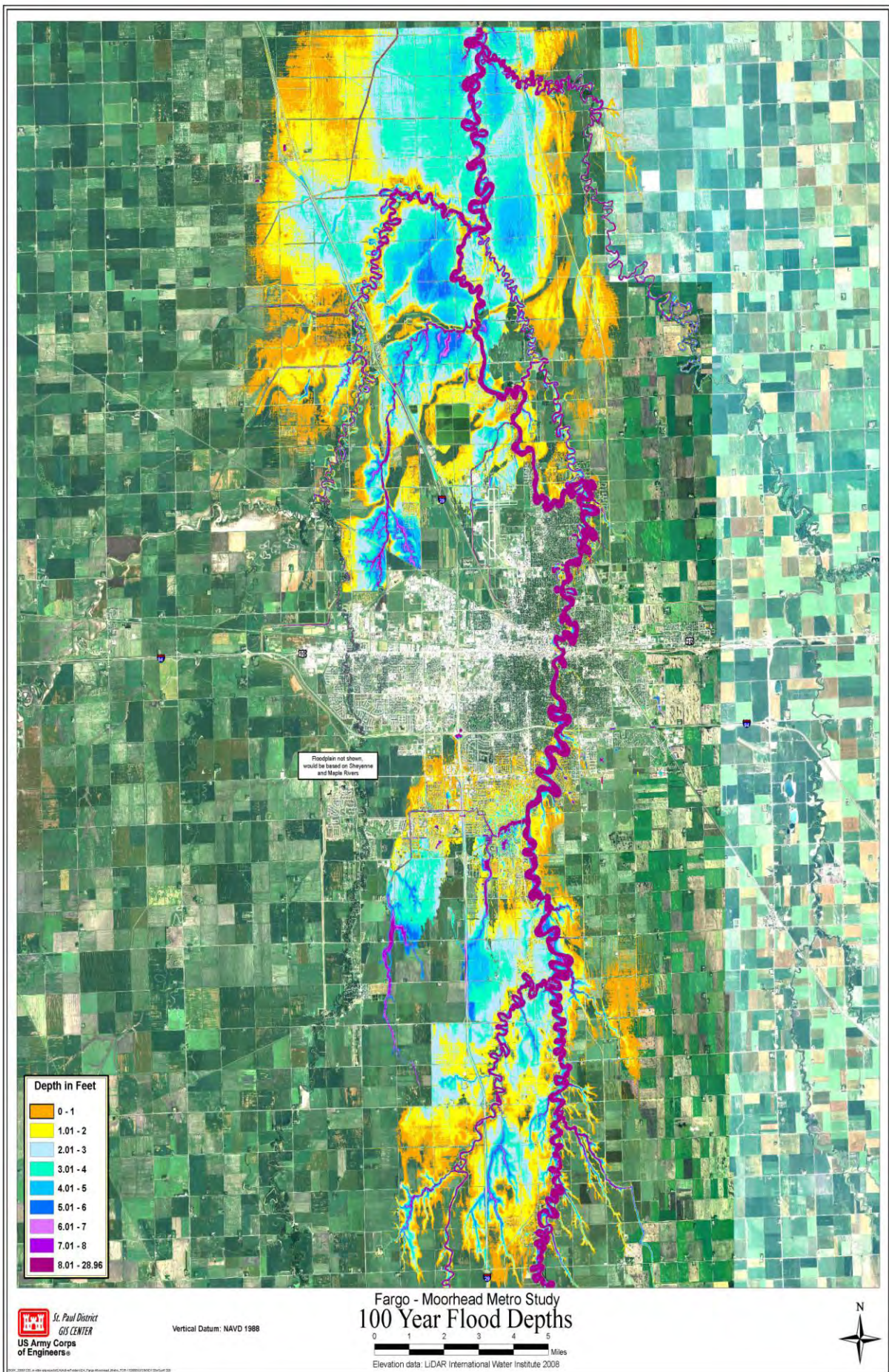
190 5th Street East, Suite 401 (PD-F)
St. Paul, MN 55101

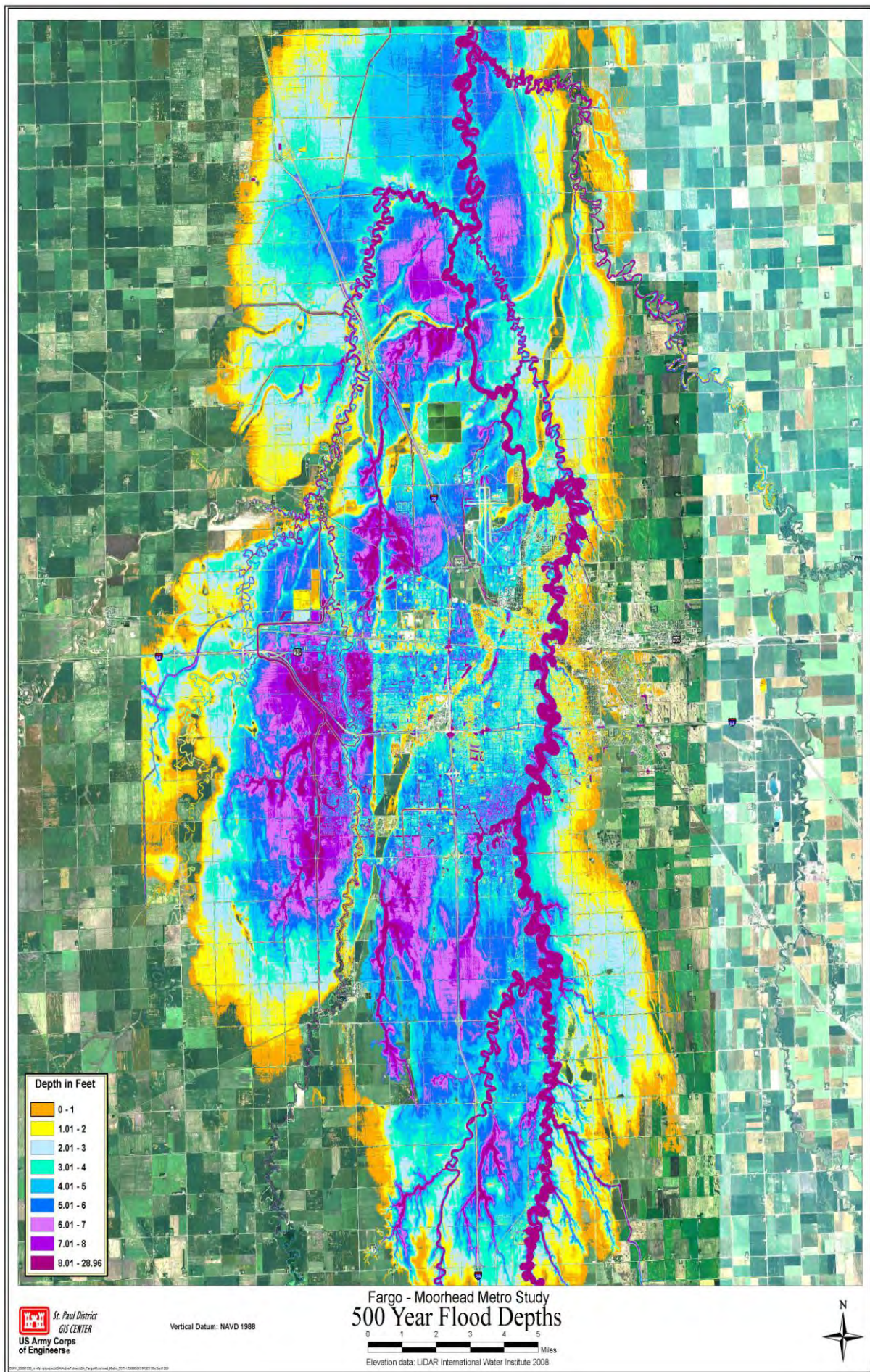
Aaron Snyder

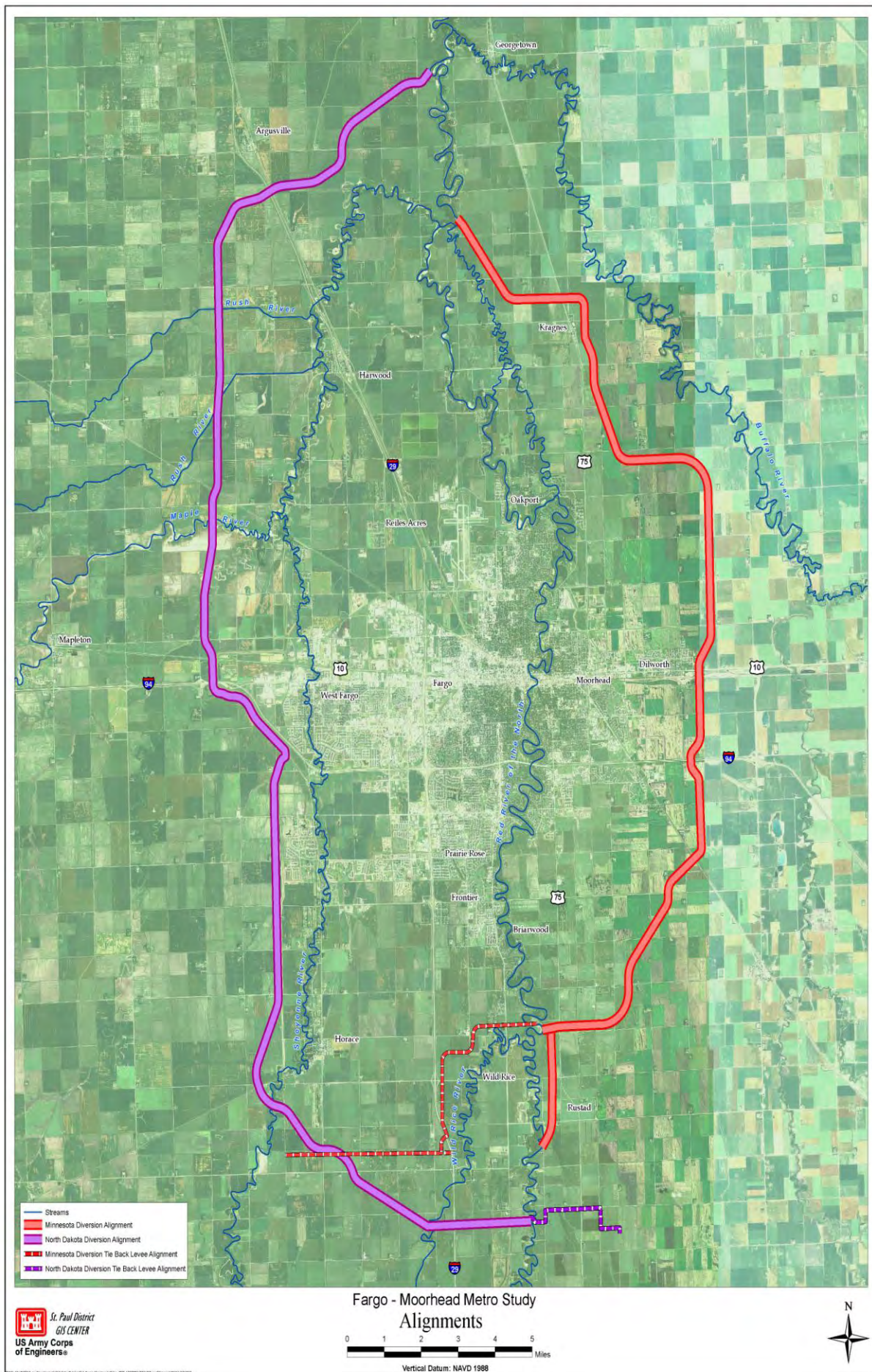
Aaron.M.Snyder@usace.army.mil

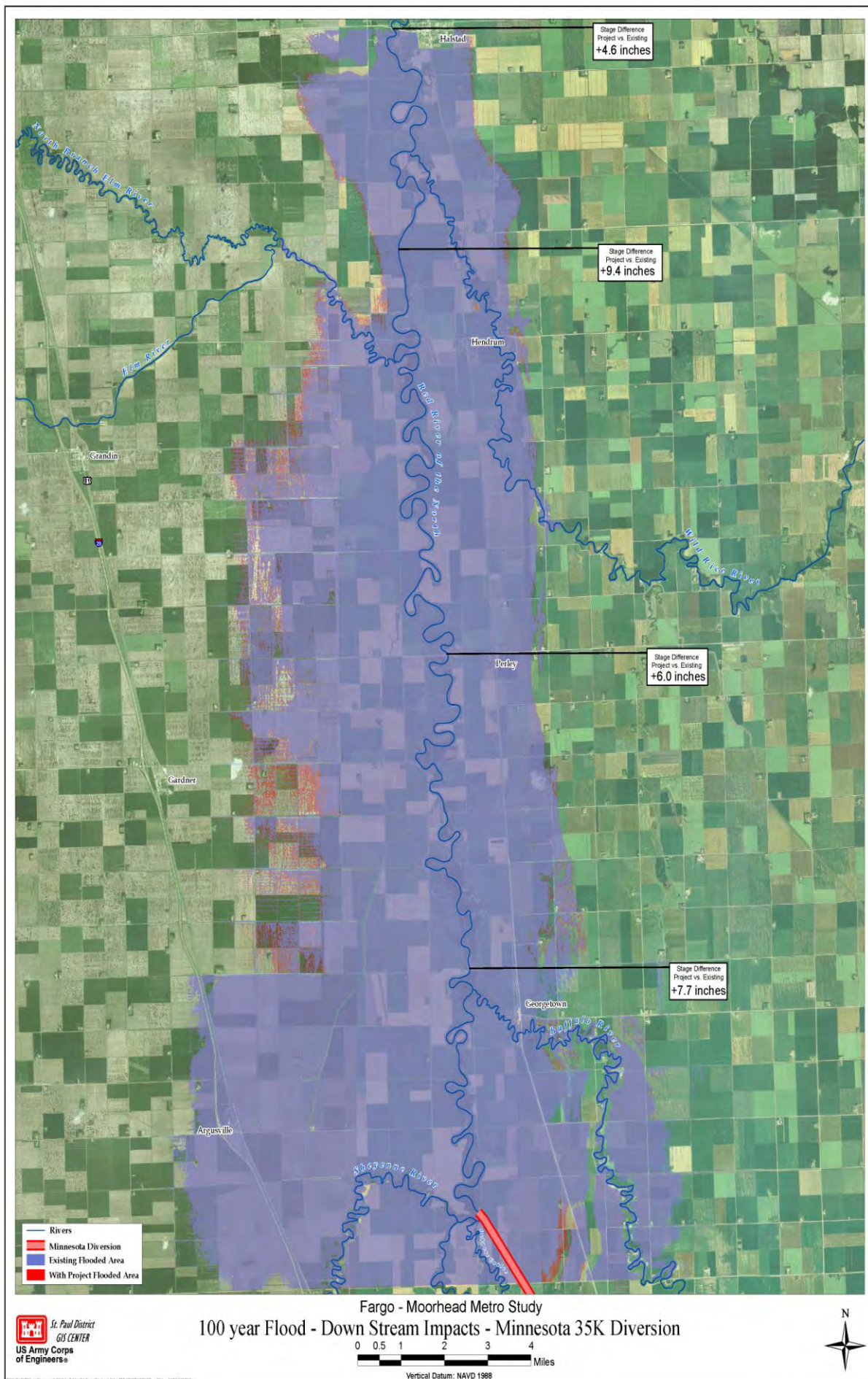
Craig Evans

Craig.O.Evans@usace.army.mil









Presentation 13:

February 4, 2010

Fargo-Moorhead Metropolitan Feasibility Study

Presentation for the FMM Work Group

Feb. 04, 2010



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?



Local Decisions:

- ✓ 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)



Red River of the North

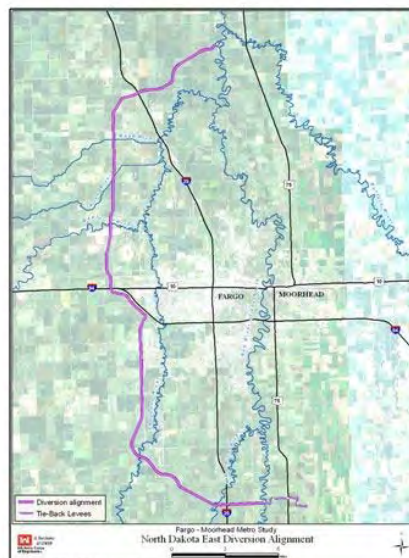
1 February 2010

3



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



1 February 2010

4

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



1 February 2010

5

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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6



Cost and schedule risk assessment:

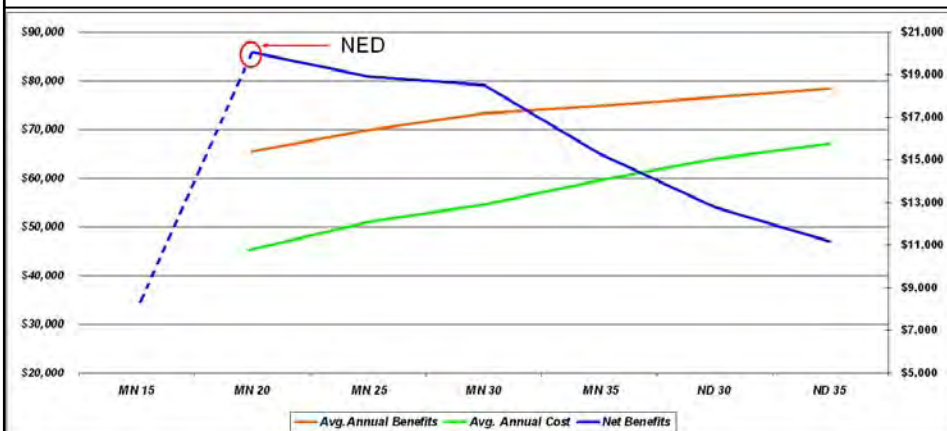
- ✓ Minnesota alignment:
 - ✓ Concerns with Dilworth rail yard
- ✓ North Dakota alignment:
 - ✓ Unplanned work – additional project features
 - ✓ Control and diversion of water during construction
 - ✓ Natural resources issues

1 February 2010

7



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

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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

10

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

1 February 2010

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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

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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

1 February 2010

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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

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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

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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

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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

1 February 2010

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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

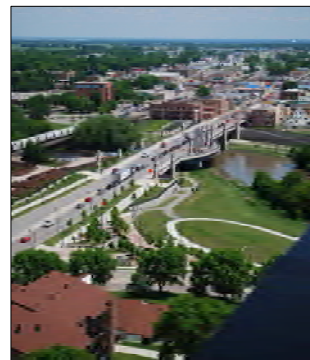
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Local Decisions:

- ✓ 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

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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

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

- 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.



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

13 May 2010

1



	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

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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>

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NEWS RELEASE

U.S. ARMY CORPS OF ENGINEERS

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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/>

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Fargo-Moorhead Metropolitan Feasibility Study

Presentation for the Public

June 9-10, 2010



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



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



Purpose and Scope:

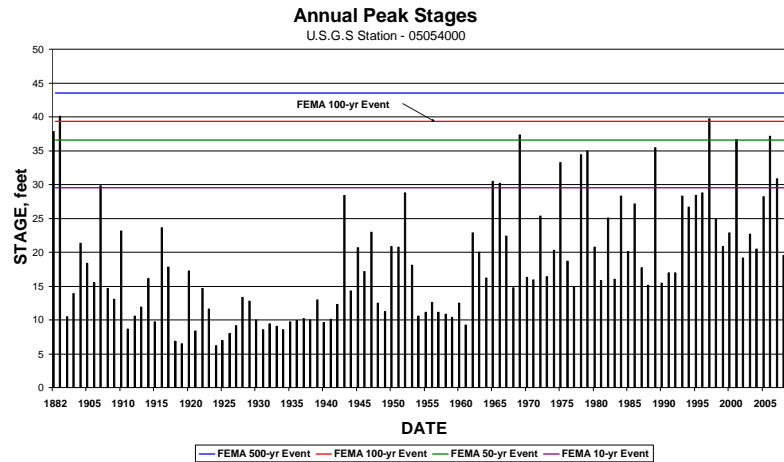
- ✓ Reduce flood risk and flood damages in the Fargo-Moorhead metropolitan area.
- ✓ Restore or improve degraded riverine and riparian habitat in and along the Red River of the North, Wild Rice River (North Dakota), Sheyenne River (North Dakota), and Buffalo River (Minnesota) in conjunction with other 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.

9-10 June 2010

4



Existing Conditions



*Hydrologic record shows two periods: wet and dry

9-10 June 2010

5



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



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



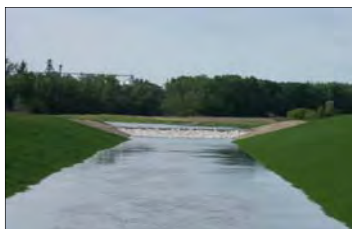
9-10 June 2010

7



Screening Results:

- ✓ Diversion channels with tie back levees
 - ✓ Minnesota
 - ✓ North Dakota



9-10 June 2010

8



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



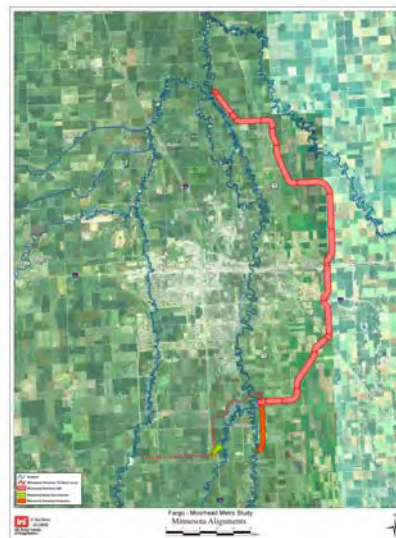
9-10 June 2010

9



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



9-10 June 2010

10

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

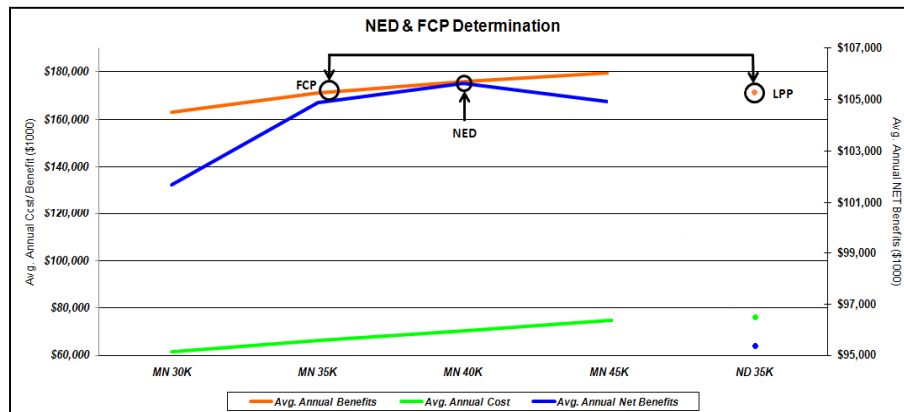
2. Estimate based on linear extrapolation

Expected average annual damages without a project are \$195.9 million.

9-10 June 2010

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National Economic Development (NED) Locally Preferred Plan (LPP) Federally Comparable Plan (FCP):



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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



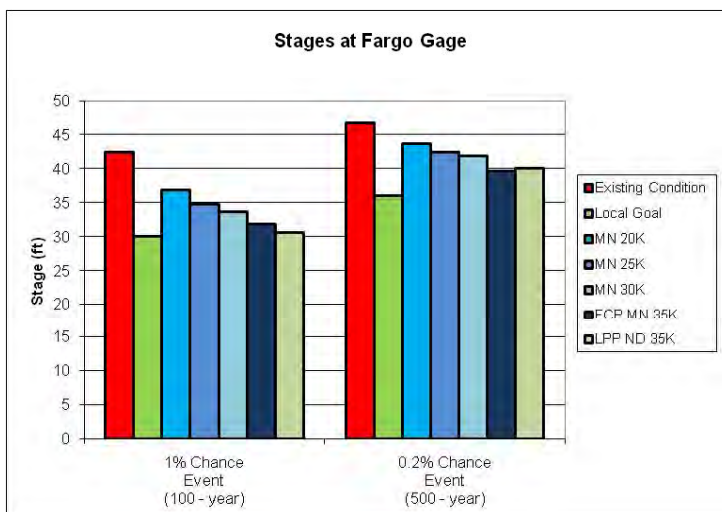
Fargo, N.D., March 26, 2009

Stage	Impacts
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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Effectiveness of Diversions:



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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.

9-10 June 2010

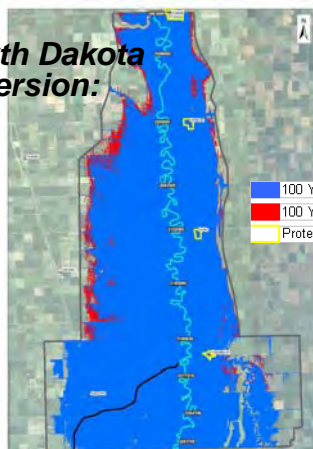
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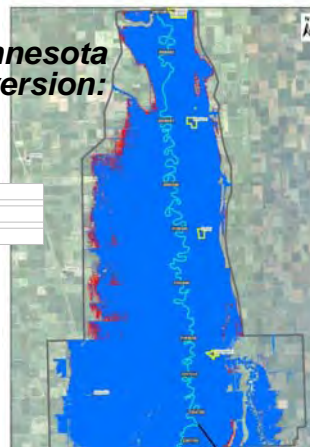
Downstream effects:

Based on 35K diversions and 100-year event

**North Dakota
Diversion:**



**Minnesota
Diversion:**



100 Year Event Existing Condition
100 Year Event with 35K Project
Protection

9-10 June 2010

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Project Impacts (ND 35k):

- ✓ **Wetlands** - 33 acres direct impacts and 193 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.

9-10 June 2010

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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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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

9-10 June 2010

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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.					

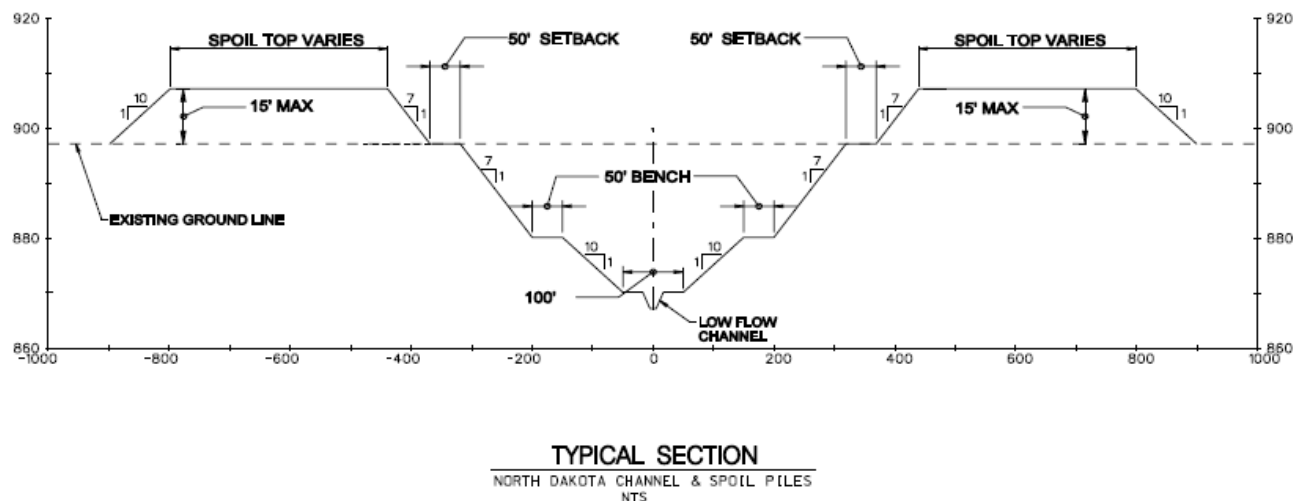
The Corps identified the North Dakota 35,000 cfs diversion channel as the locally preferred and tentatively selected plan in its integrated draft Feasibility Report and Environmental Impact Statement. The Corps will accept public comments in accordance with NEPA for a period of 45 days following official 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.



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

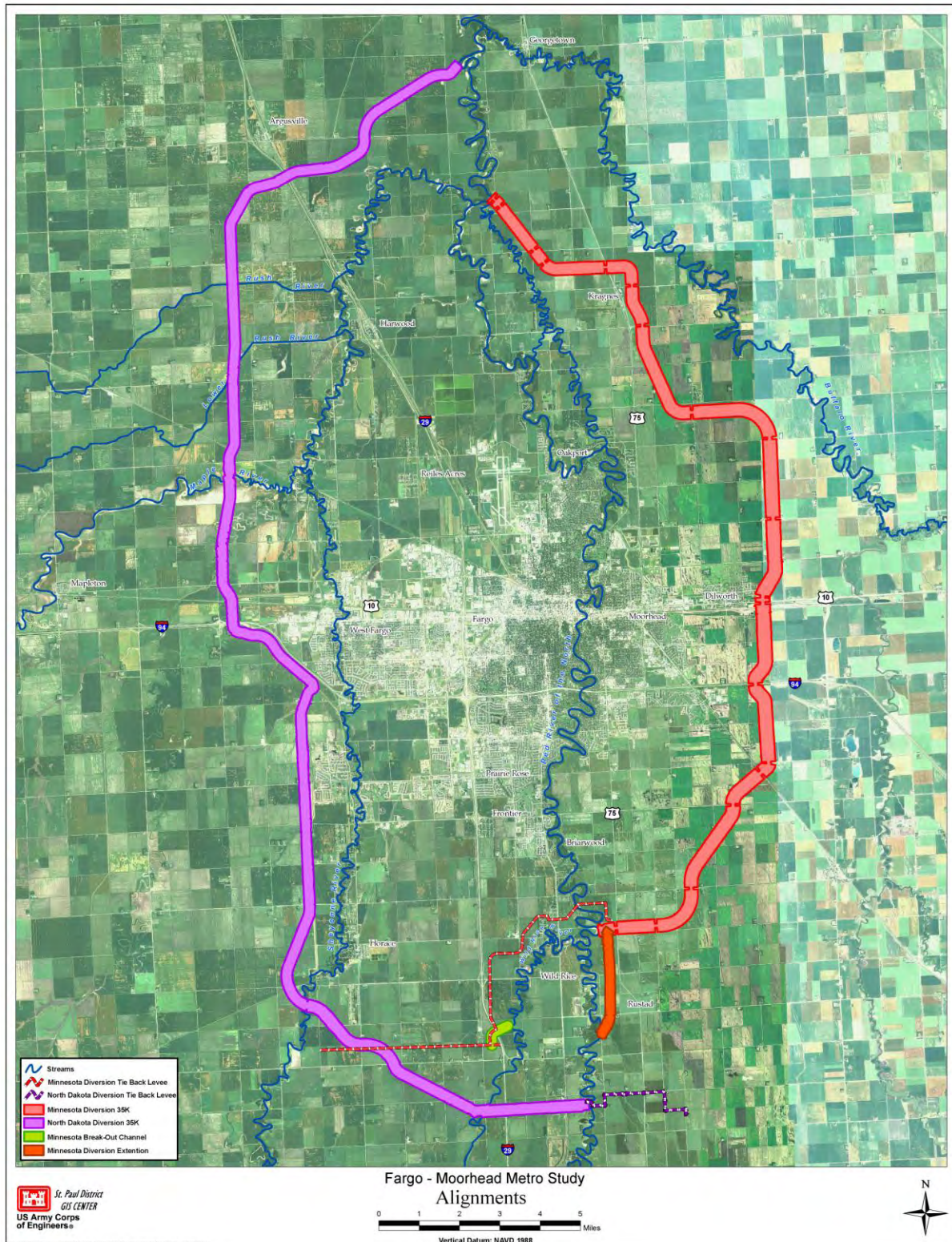
U.S. Army Corps of Engineers

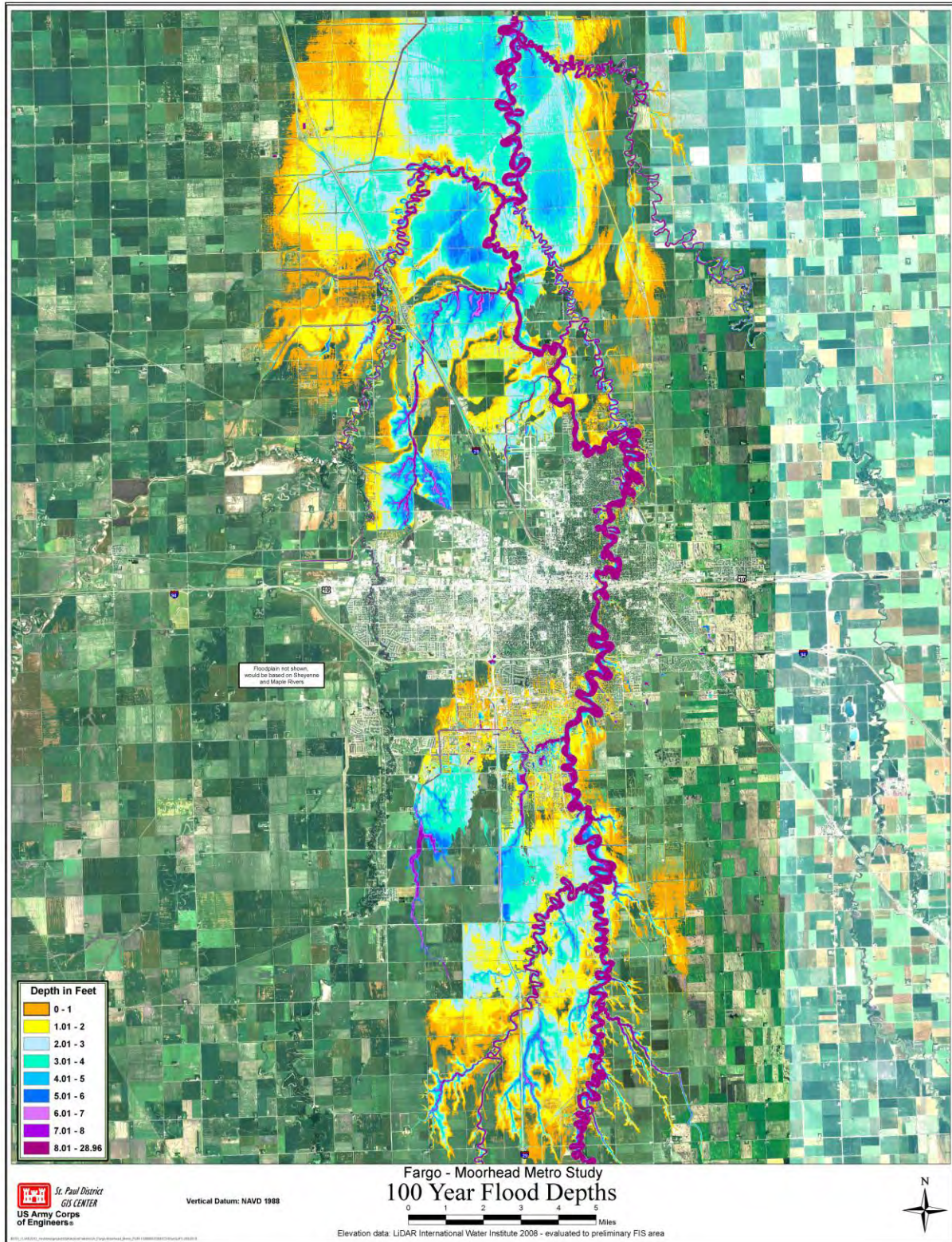
190 5th Street East, Suite 401 (PM-A)
 St. Paul, MN 55101

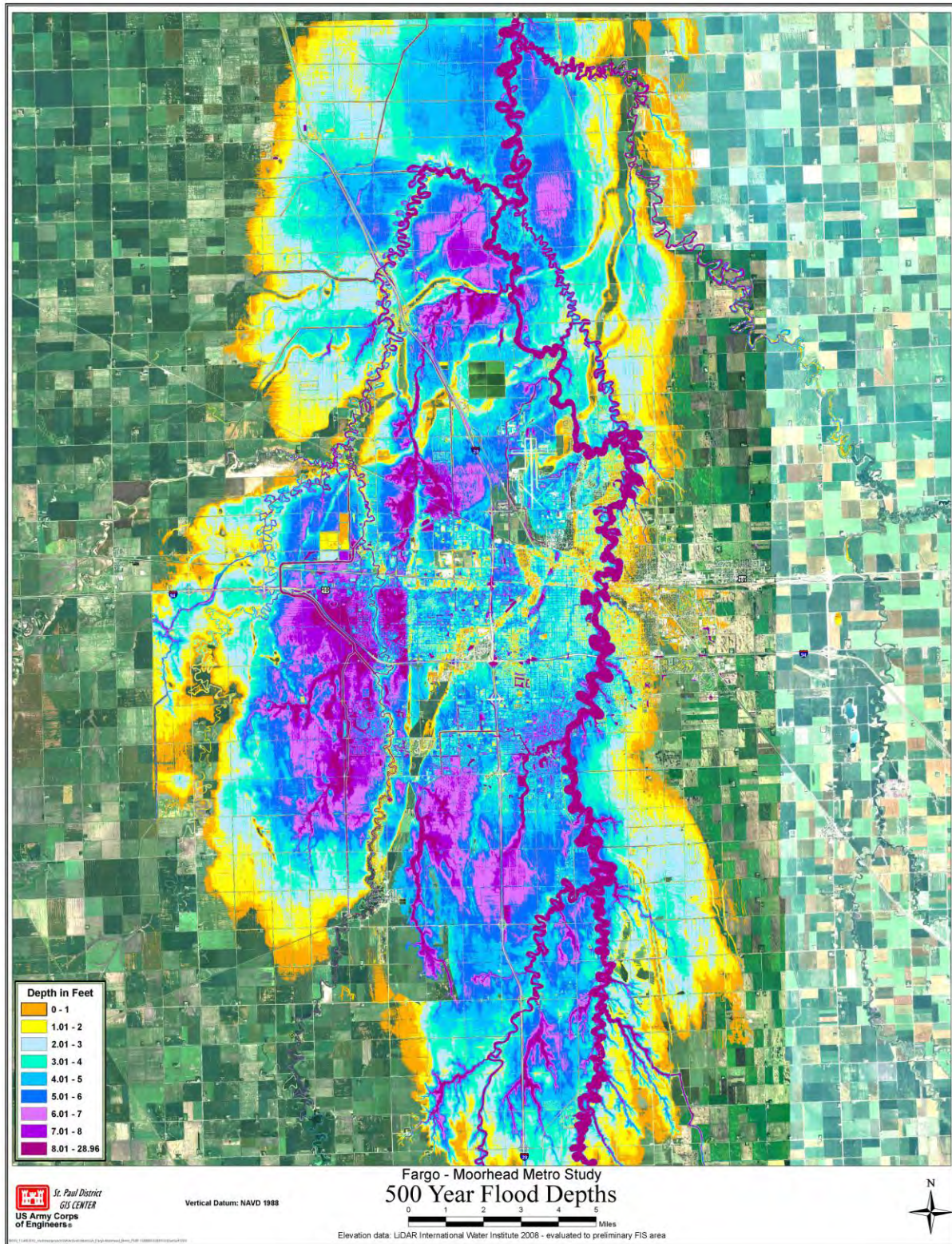
The City of Moorhead

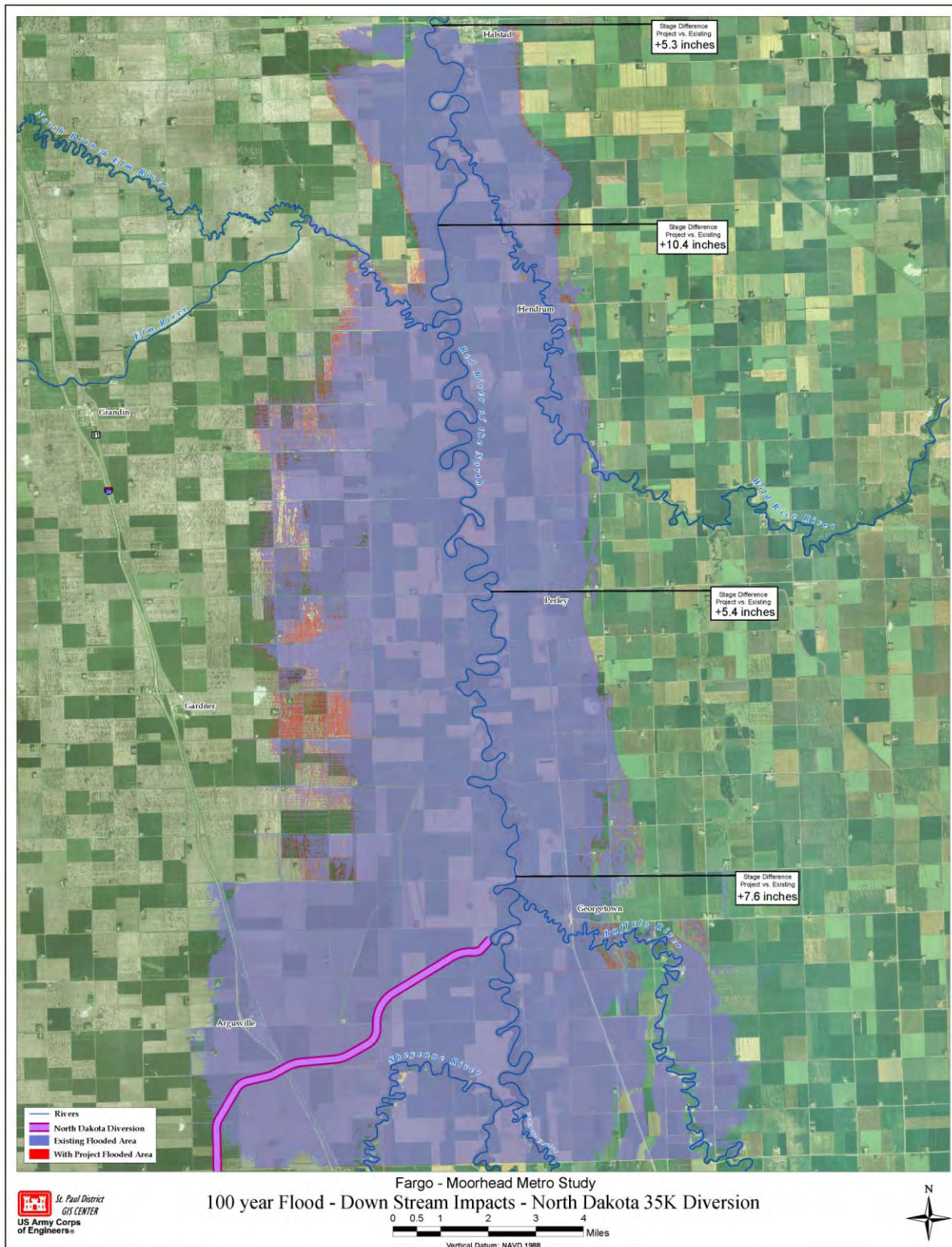
Bob Zimmerman
Bob.Zimmerman@ci.moorhead.mn.us

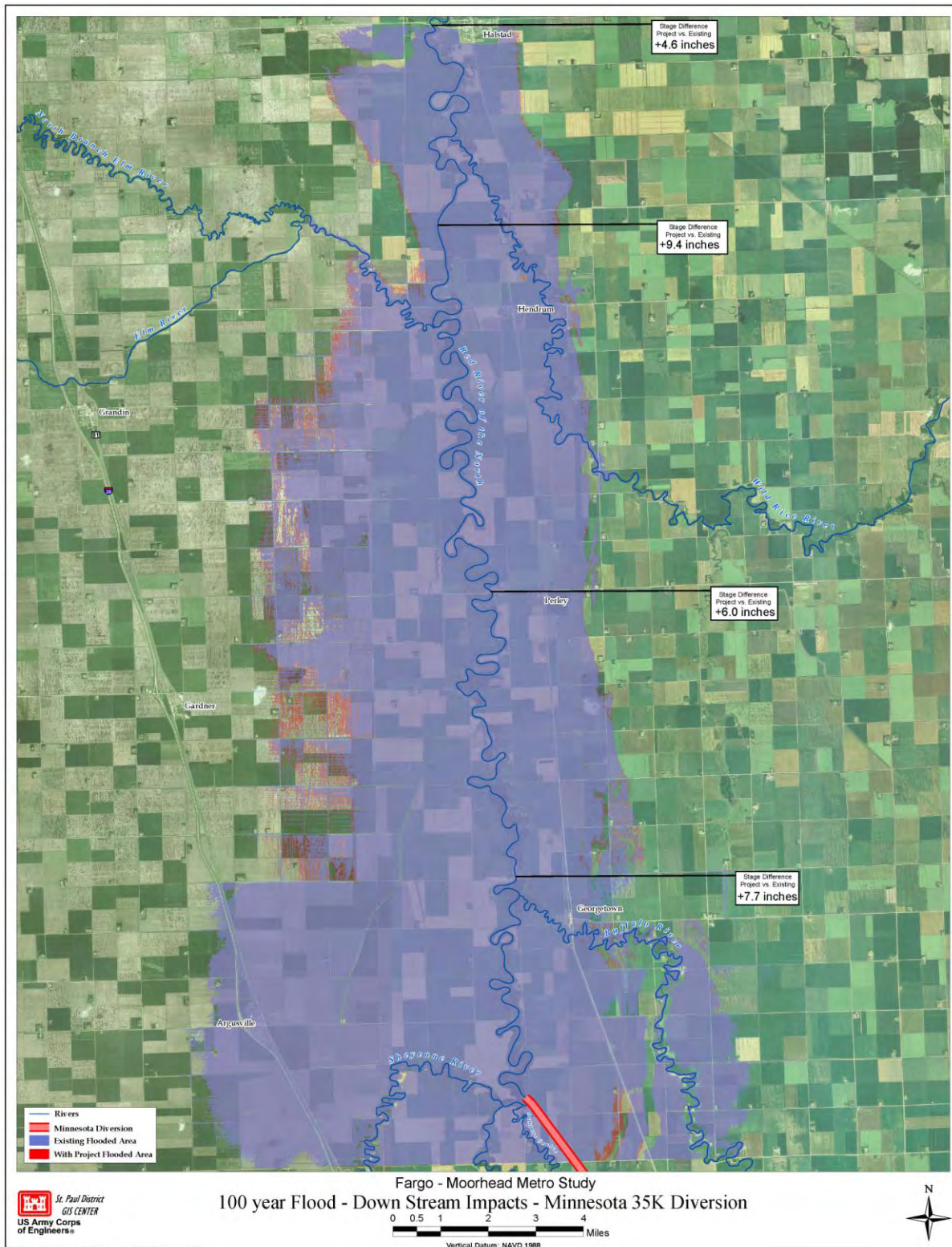
Aaron Snyder
Aaron.M.Snyder@usace.army.mil











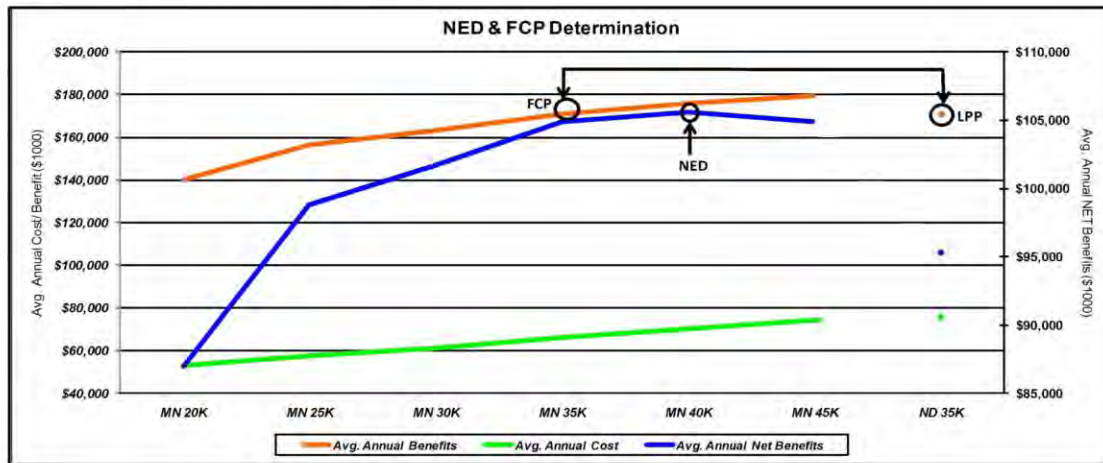
Screened Alternatives Ranked by Net Benefits with Cost and Schedule Risk Assessment

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
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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)		Stage	Impacts
	1% Chance (100- year)	0.2% Chance (500- year)		
Existing Condition	42.4	46.7	27	Fargo Elm Street Closed
Work Group Goal	30	36	30	Fargo 2nd Stredd Dike Installed
35K ND Diversion Channel	30.6	40.0	31	Moorhead 1st Ave. N Closed
35K MN Diversion Channel	31.9	39.6	32	First Homes in Moorhead Threatened
40K Diversion Channels	31.9	37.6	35	First Homes in Fargo Threatened
45K Diversion Channels	31.9	35.3	40.8	2009 Flood Record Stage



US Army Corps of Engineers
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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



US Army Corps of Engineers
BUILDING STRONG®



Presentation Overview:

- ✓ Why We are Here
- ✓ Purpose and Scope
- ✓ Alternatives Considered
- ✓ Screening Results
- ✓ Impacts
- ✓ Tentatively Selected Plan
- ✓ Schedule
- ✓ Real Estate Information

14-15 June 2010

2



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



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

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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



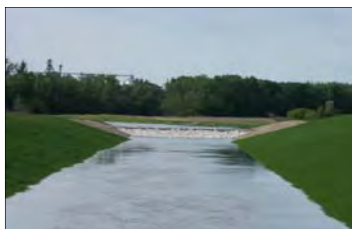
14-15 June 2010

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Screening Results:

- ✓ Diversion channels with tie back levees
 - ✓ Minnesota
 - ✓ North Dakota



14-15 June 2010

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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



14-15 June 2010

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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



14-15 June 2010

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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

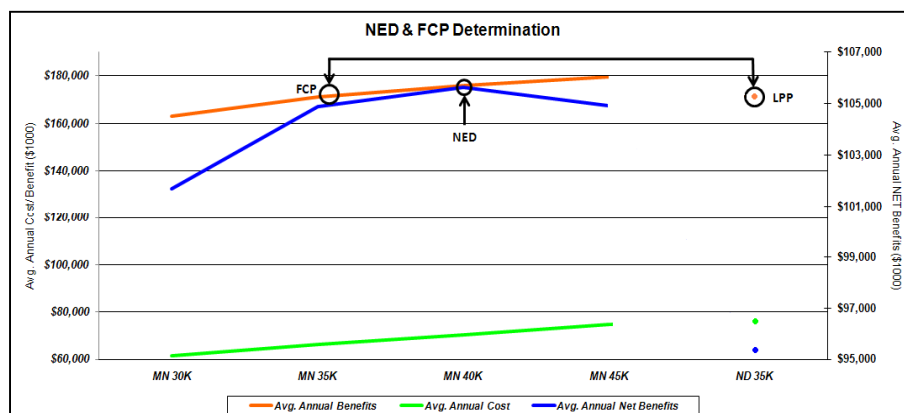
Expected average annual damages without a project are \$195.9 million.

14-15 June 2010

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National Economic Development (NED) Locally Preferred Plan (LPP) Federally Comparable Plan (FCP):



14-15 June 2010

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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



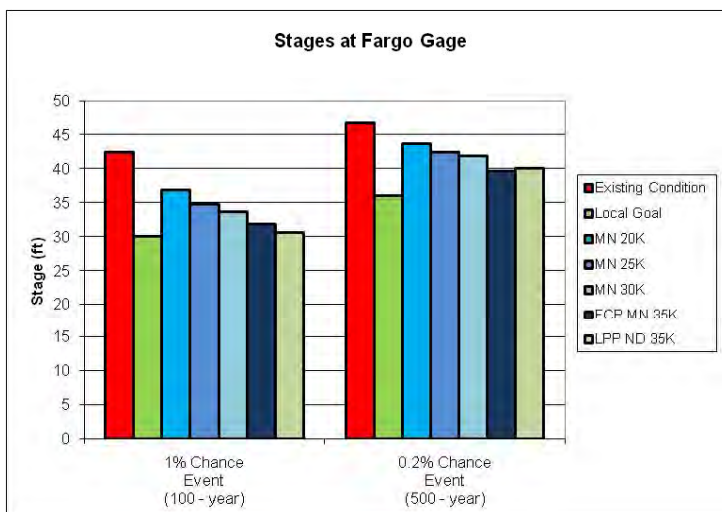
Fargo, N.D., March 26, 2009

Stage	Impacts
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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Effectiveness of Diversions:



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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.

14-15 June 2010

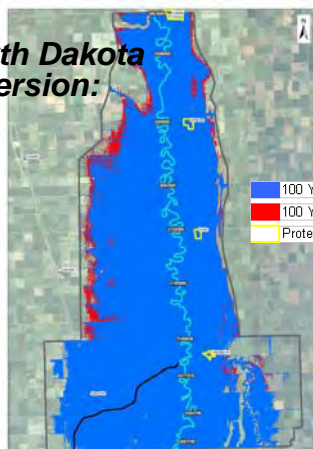
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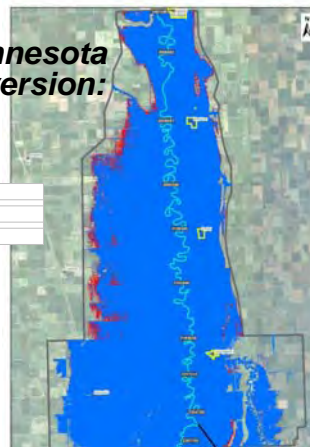
Downstream effects:

Based on 35K diversions and 100-year event

North Dakota Diversion:



Minnesota Diversion:



100 Year Event Existing Condition
100 Year Event with 35K Project
Protection

14-15 June 2010

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Project Impacts (ND 35k):

- ✓ **Wetlands** - 33 acres direct impacts and 193 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.

14-15 June 2010

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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

14-15 June 2010

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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)			

14-15 June 2010

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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

14-15 June 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

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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

14-15 June 2010

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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

14-15 June 2010

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Federal Real Estate Land Acquisition Procedures

**John Albrecht
Chief RE-PA
651-290-5399**



✓ 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**



- ✓ **JUST COMPENSATION**

- ✓ Approved appraisal
- ✓ Conform with "Uniform Act"

- ✓ www.fhwa.dot.gov/realestate

14-15 June 2010

27



- ✓ **FINAL DESIGN**

- ✓ Project Maps
- ✓ Survey
- ✓ Ownership Determined
- ✓ Interest Needed

14-15 June 2010

28



- ✓ **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

14-15 June 2010

30



- ✓ **WRITTEN OFFER**
- ✓ Just Compensation
- ✓ Time to Consider Offer
- ✓ Other Relevant Information
- ✓ Negotiations

14-15 June 2010

31



- ✓ **PARTIAL ACQUISITIONS**
- ✓ Easements
- ✓ Value of Acquisitions
- ✓ Damages
- ✓ Uneconomic Remnant

14-15 June 2010

32



- ✓ **SETTLEMENT**
- ✓ Negotiations
- ✓ Counter-Offers/Proposals
- ✓ Mediations
- ✓ Condemnations Proceeding

14-15 June 2010

33



- ✓ **PAYMENT**
- ✓ Value of Property
- ✓ Transfer Title/Grant Easement
- ✓ Title Search
- ✓ Incidental Expenses

14-15 June 2010

34



- ✓ **POSSESSION**
- ✓ Payment must be paid
 - ✓ Fair Market Value, or
 - ✓ Court Award
- ✓ **RESIDENTIAL BUYOUTs**
 - ✓ Notice to Occupants
 - ✓ 90 days
 - ✓ Comparable Replacement

14-15 June 2010


35




- ✓ **CONDEMNATION**
- ✓ Eminent Domain
- ✓ State Court
- ✓ Board of Commissioners/Viewers
- ✓ www.fhwa.dot.gov/realestate

14-15 June 2010

36




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

BUILDING STRONG

Slide 3




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St. Paul District, Mississippi River Division




- **FINAL DESIGN**
- Project Maps
- Survey
- Ownership Determined
- Interest Needed

BUILDING STRONG

Slide 4



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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Slide 6



US Army Corps of Engineers


St. Paul District, Mississippi River Division



- **WRITTEN OFFER**
- Just Compensation
- Time to Consider Offer
- Other Relevant Information
- Negotiations


BUILDING STRONG

Slide 7



US Army Corps of Engineers


St. Paul District, Mississippi River Division



- **PARTIAL ACQUISITIONS**
- Easements
- Value of Acquisitions
- Damages
- Uneconomic Remnant


BUILDING STRONG

Slide 8



US Army Corps of Engineers


St. Paul District, Mississippi River Division



- **SETTLEMENT**
- Negotiations
- Counter-Offer/Proposals
- Mediations
- Condemnations Proceeding


BUILDING STRONG

Slide 9



US Army Corps of Engineers


St. Paul District, Mississippi River Division




- **PAYMENT**
- Value of Property
- Transfer Title/Grant Easement
- Title Search
- Incidental Expenses

BUILDING STRONG

Slide 10




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

BUILDING STRONG_{SM}

Slide 11



US Army Corps of Engineers
St. Paul District, Mississippi River Division



- **CONDEMNATION**
- Eminent Domain
- State Court
- Board of Commissioners/Viewers
- www.fhwa.dot.gov/realestate

BUILDING STRONG_{SM}

Slide 12



**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.					

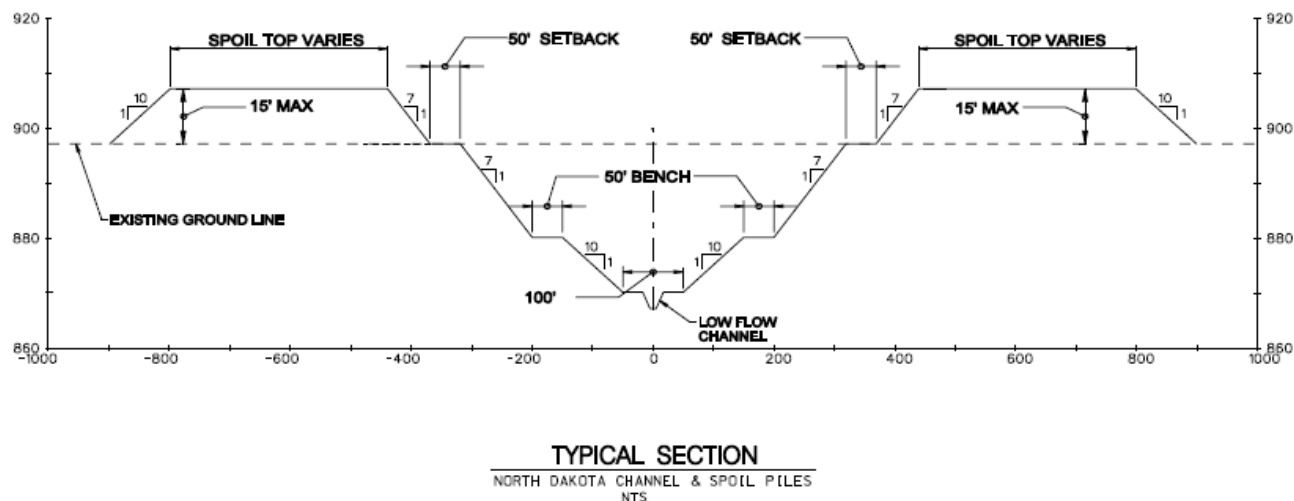
The Corps identified the North Dakota 35,000 cfs diversion channel as the locally preferred and tentatively selected plan in its integrated draft Feasibility Report and Environmental Impact Statement. The Corps will accept public comments in accordance with NEPA for a period of 45 days following official 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.



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

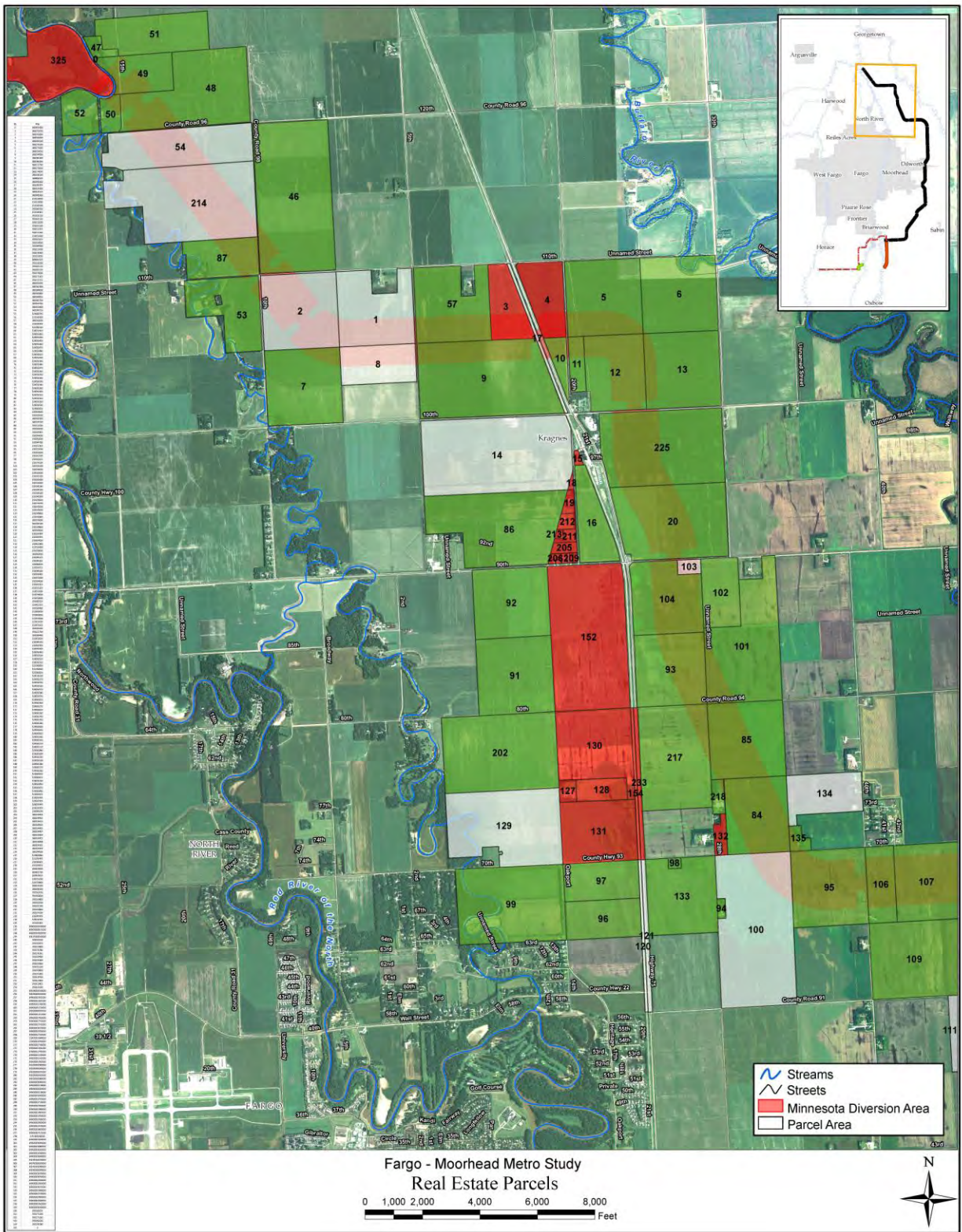
U.S. Army Corps of Engineers

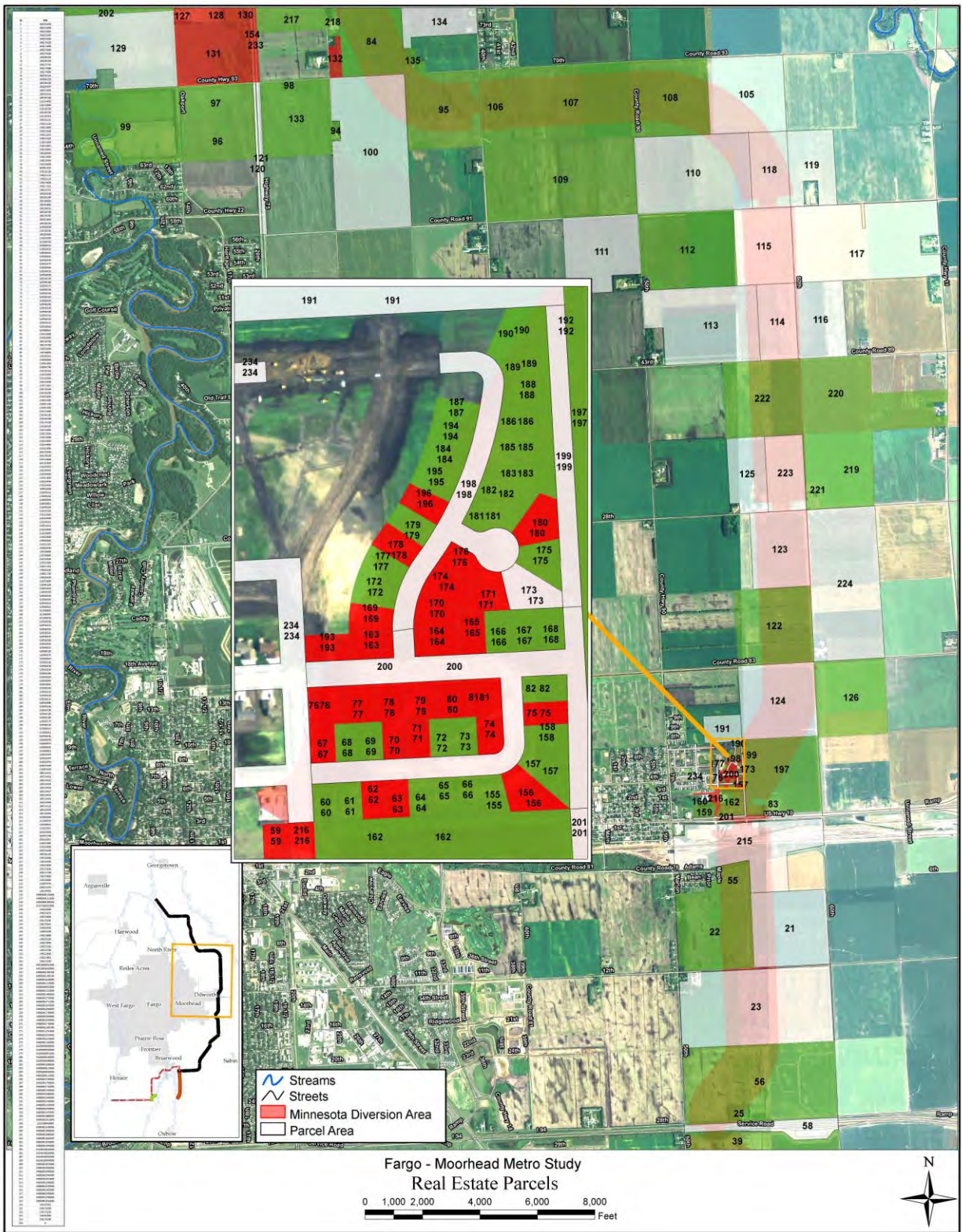
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 St. Paul, MN 55101

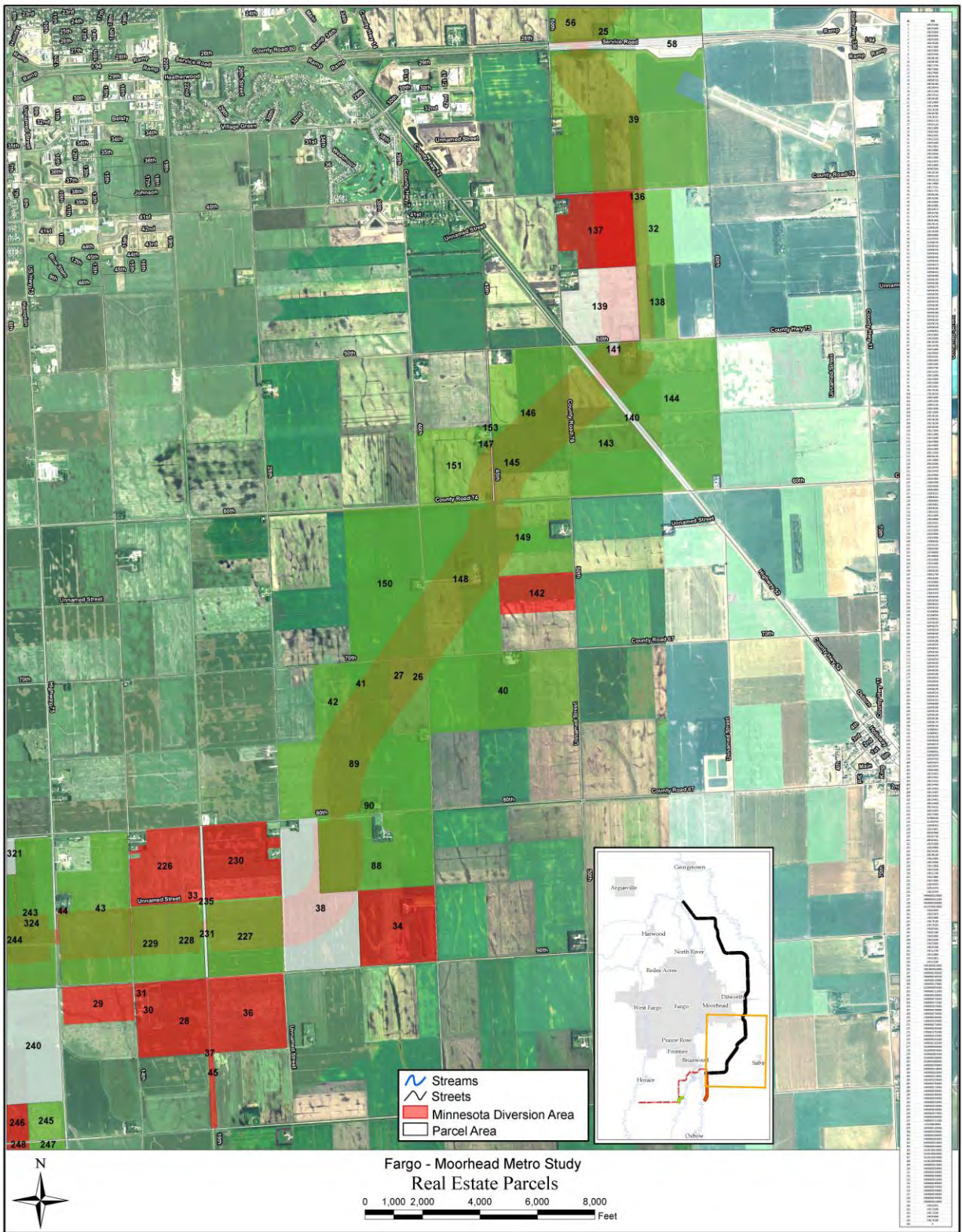
The City of Moorhead

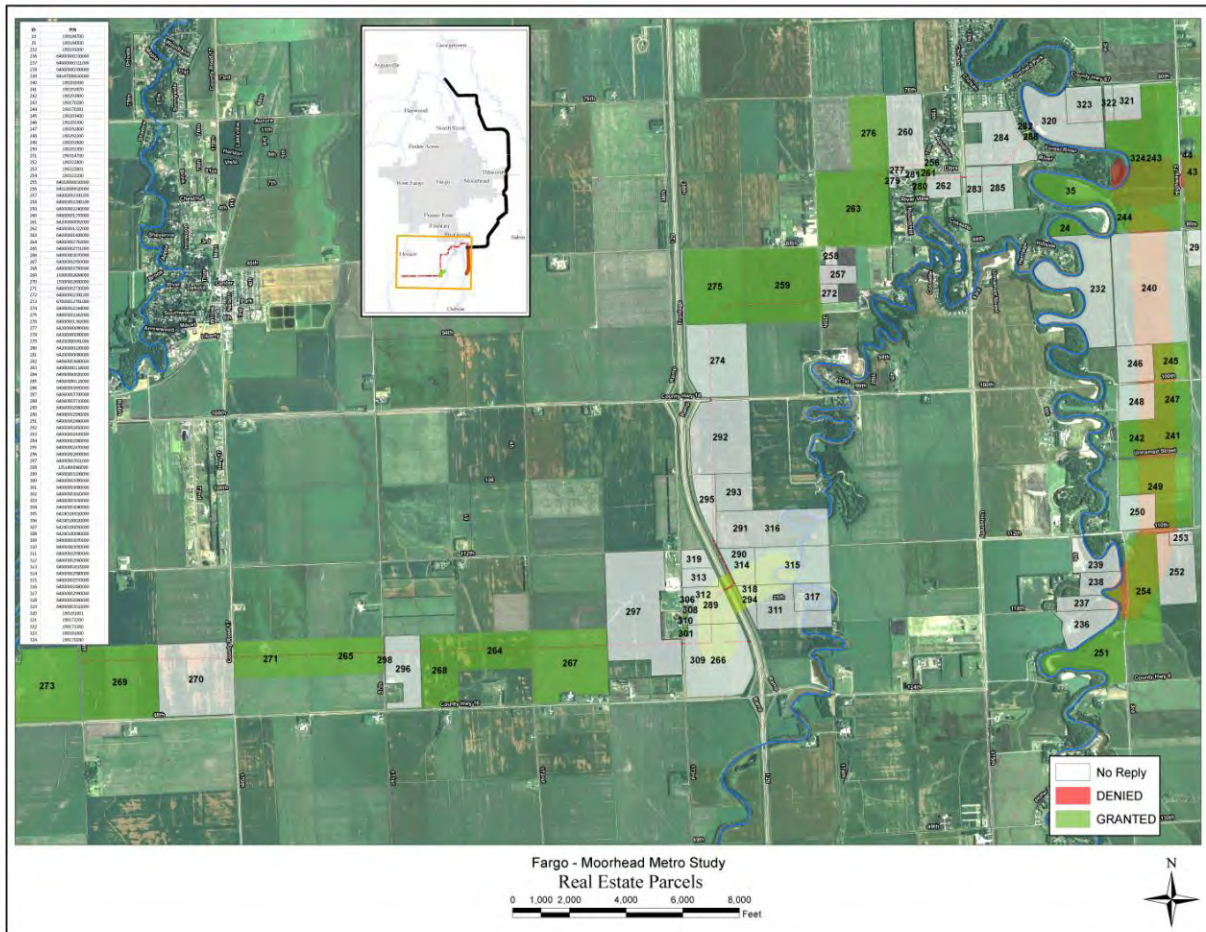
Bob Zimmerman
Bob.Zimmerman@ci.moorhead.mn.us

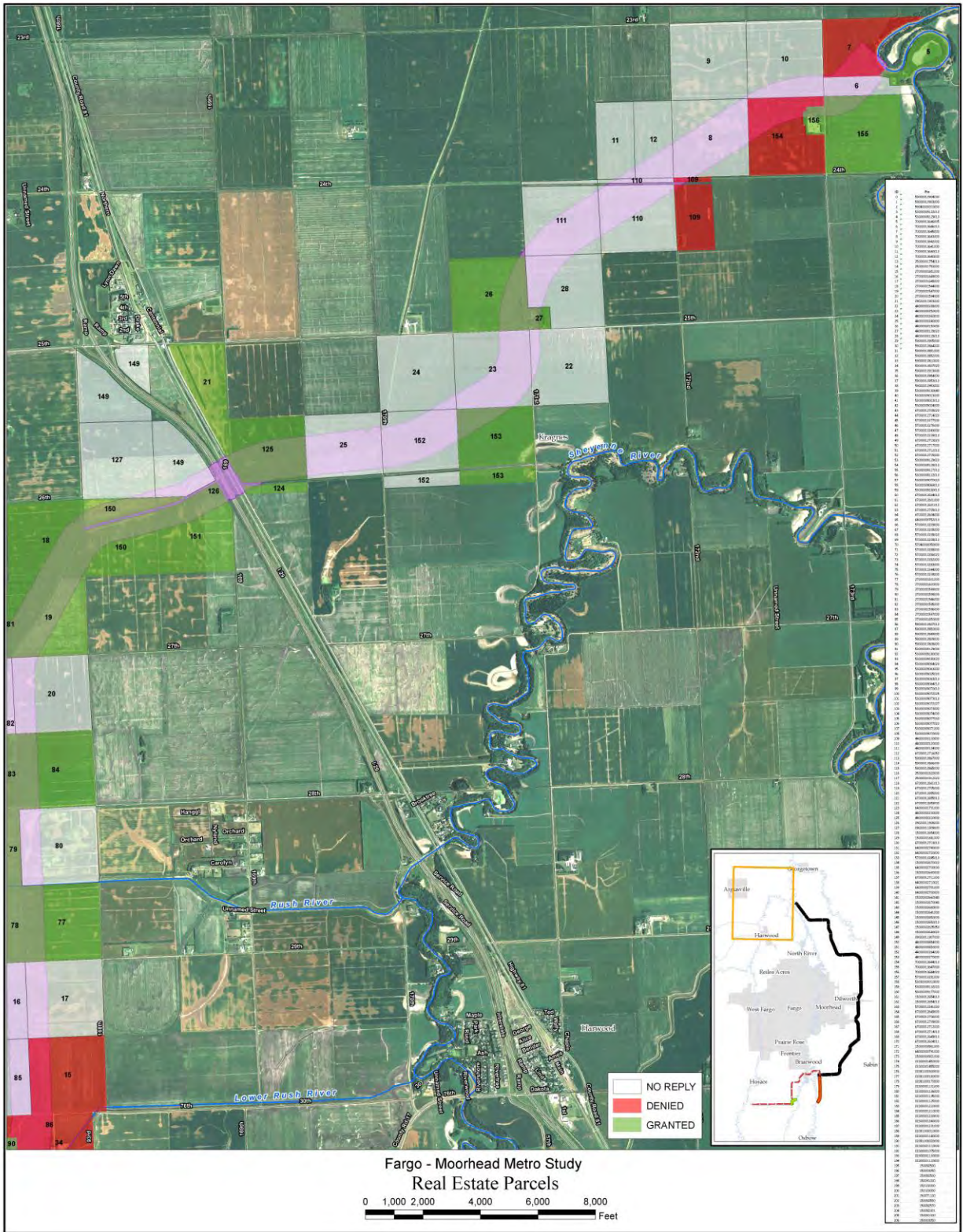
Aaron Snyder
Aaron.M.Snyder@usace.army.mil

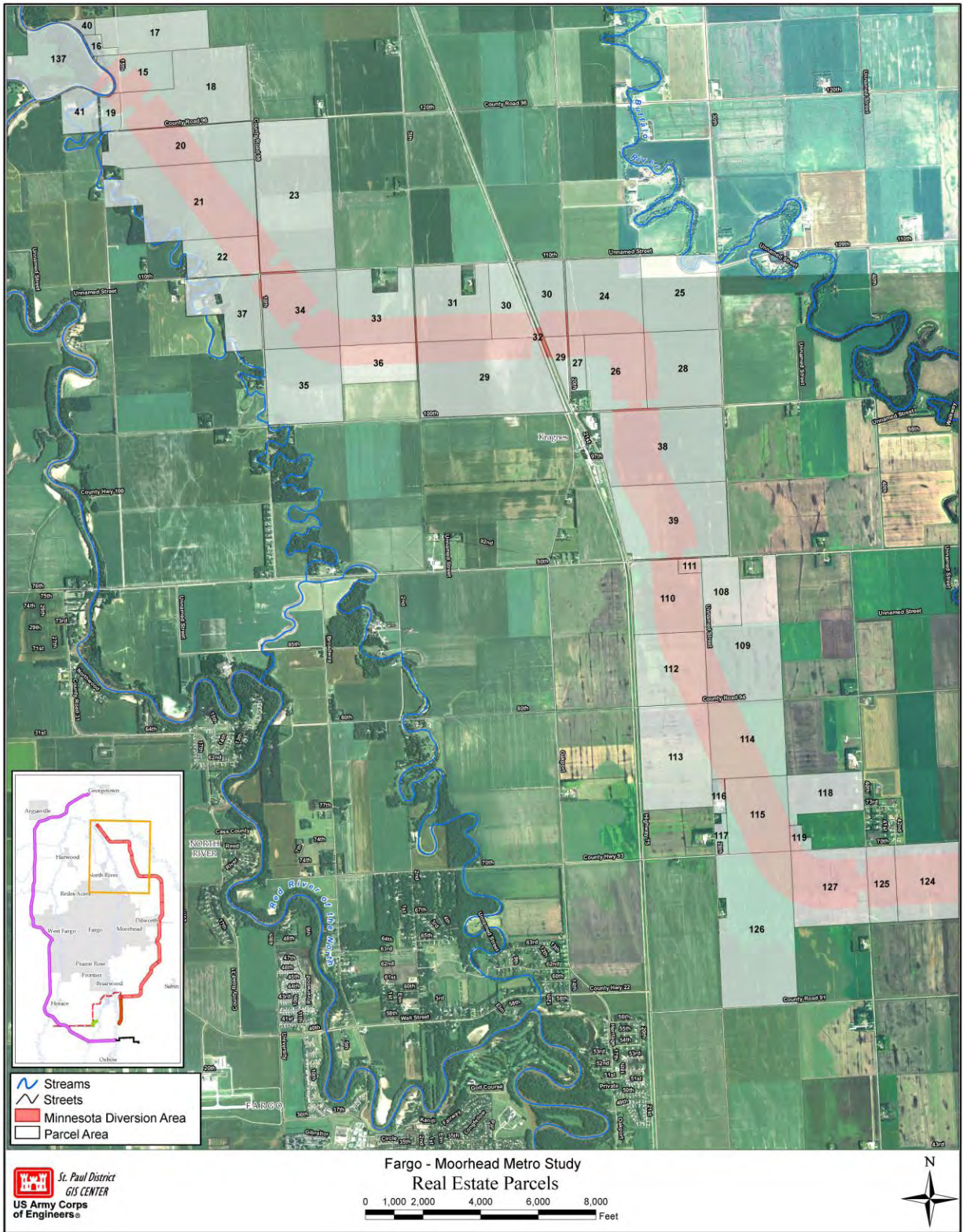


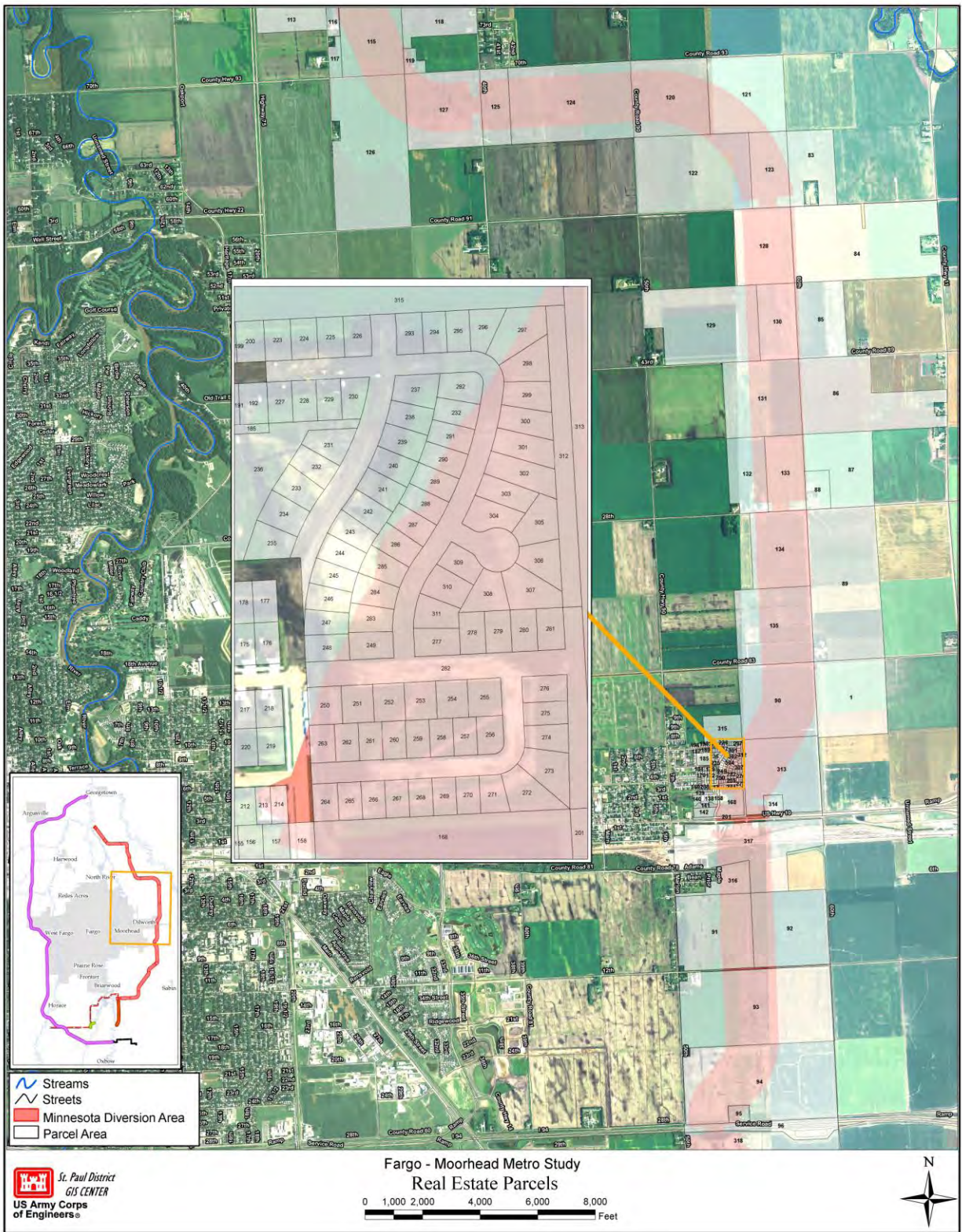


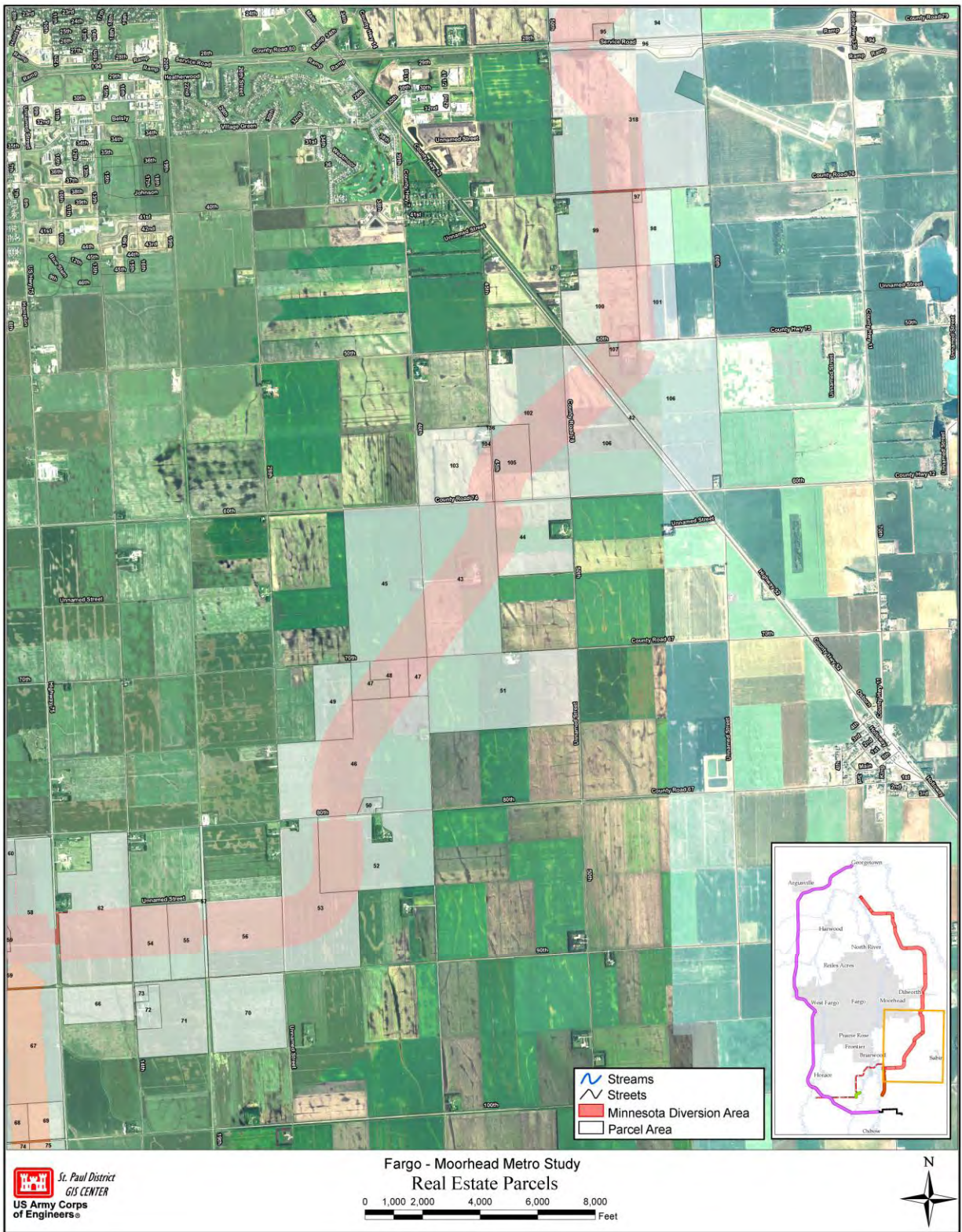


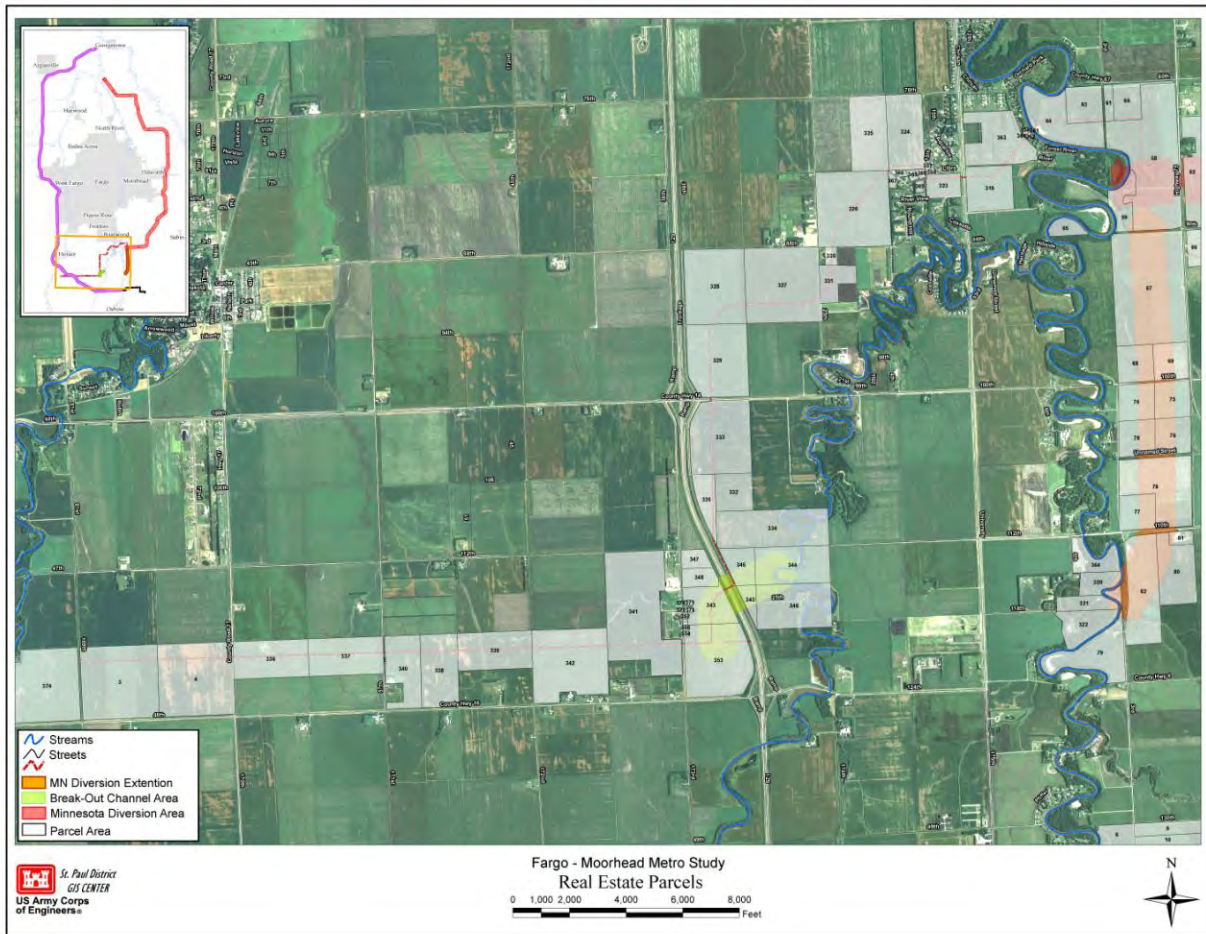


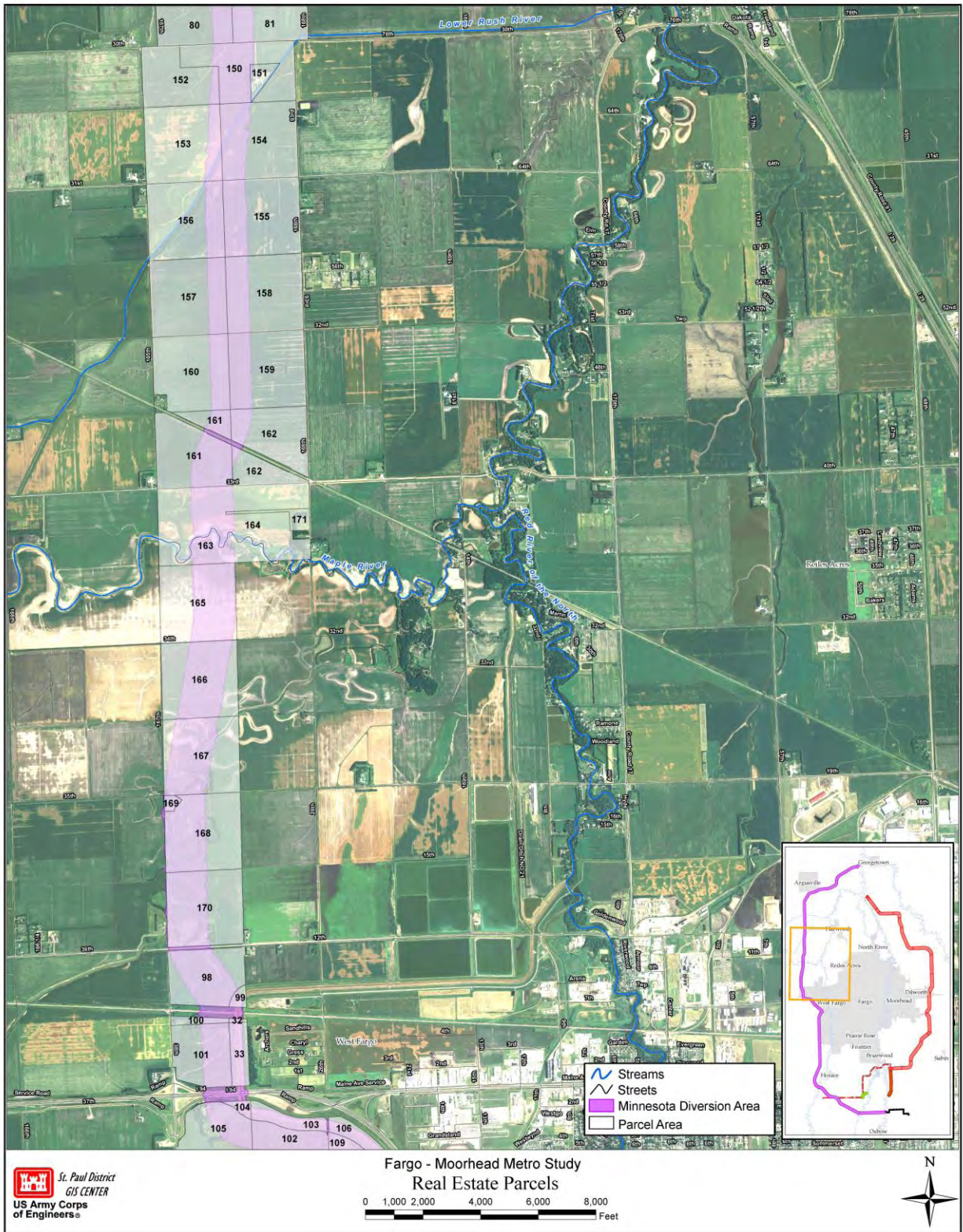


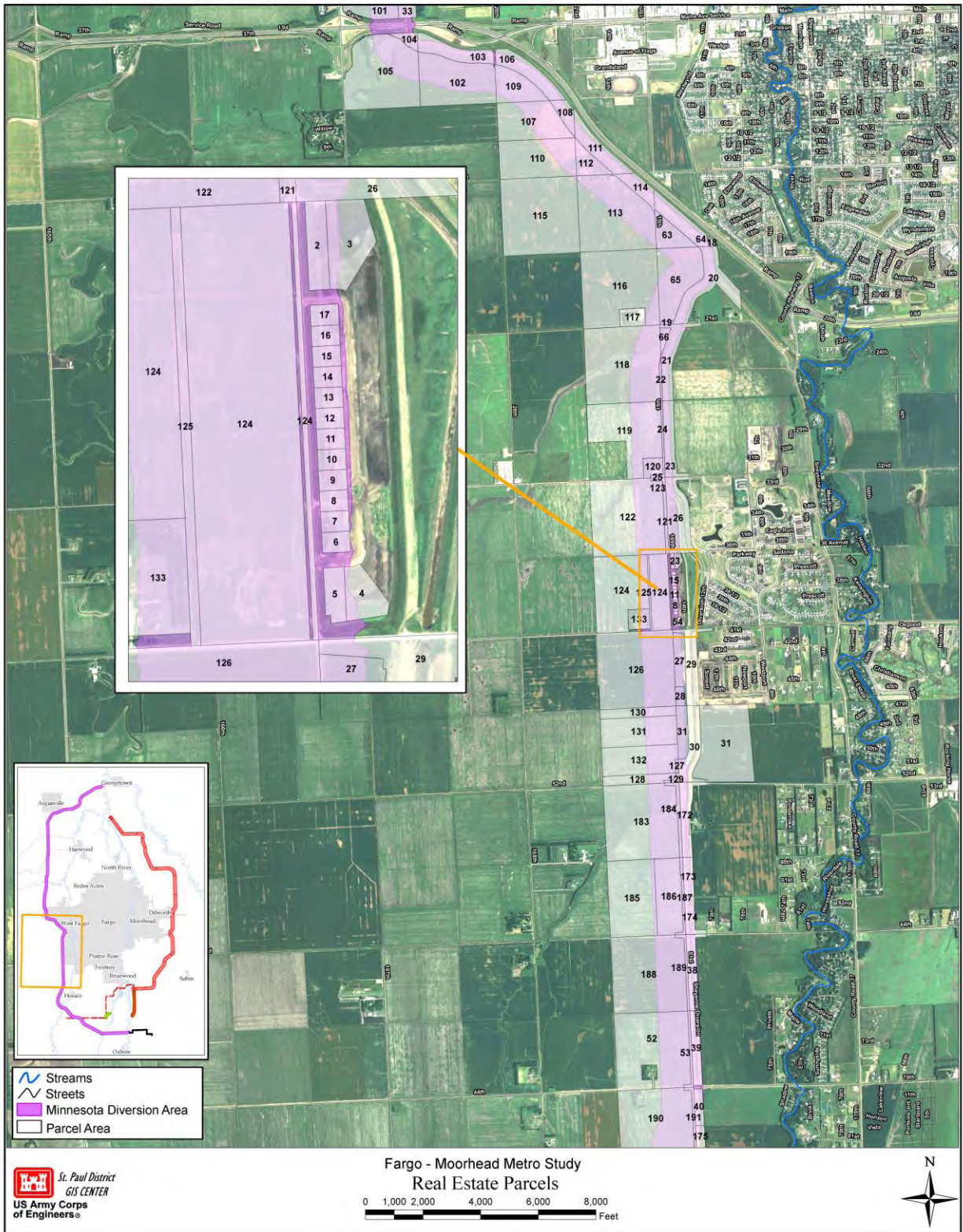


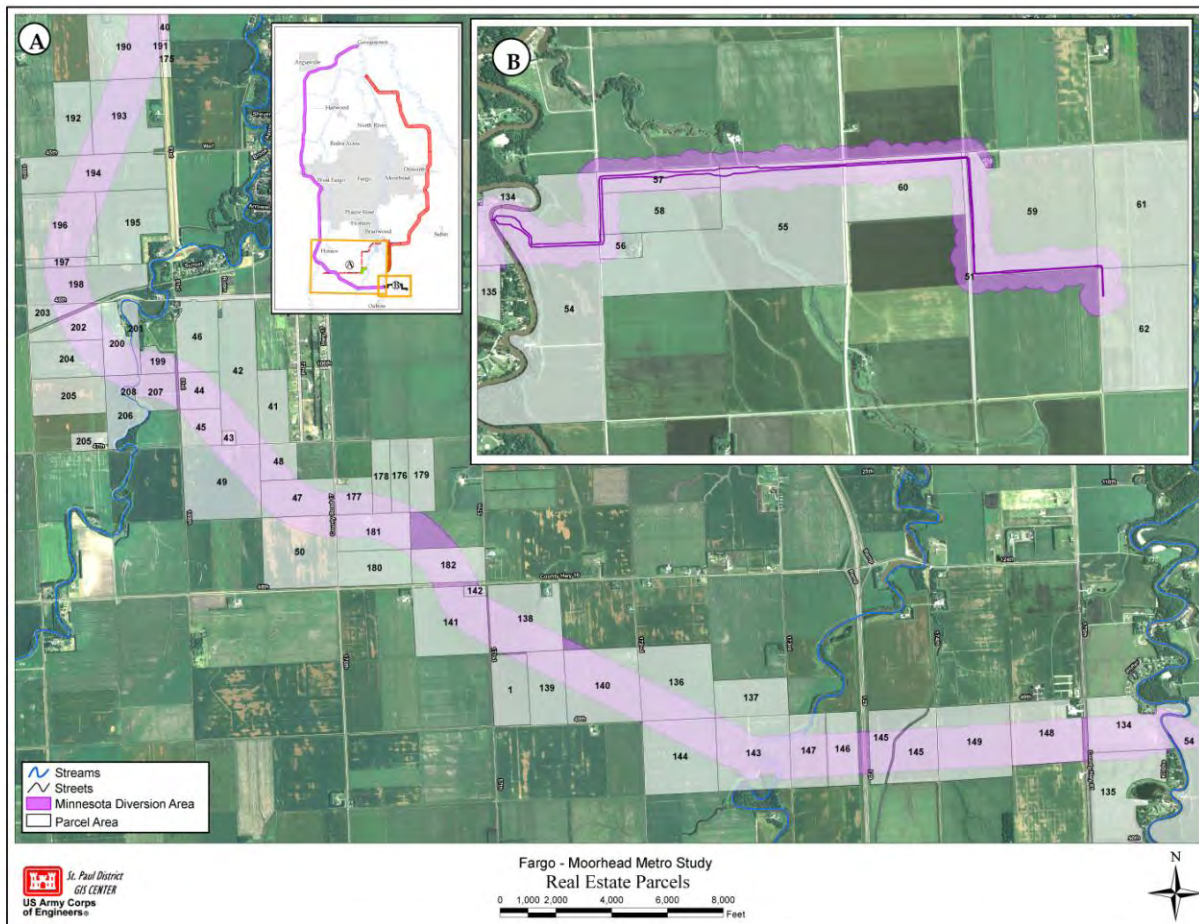






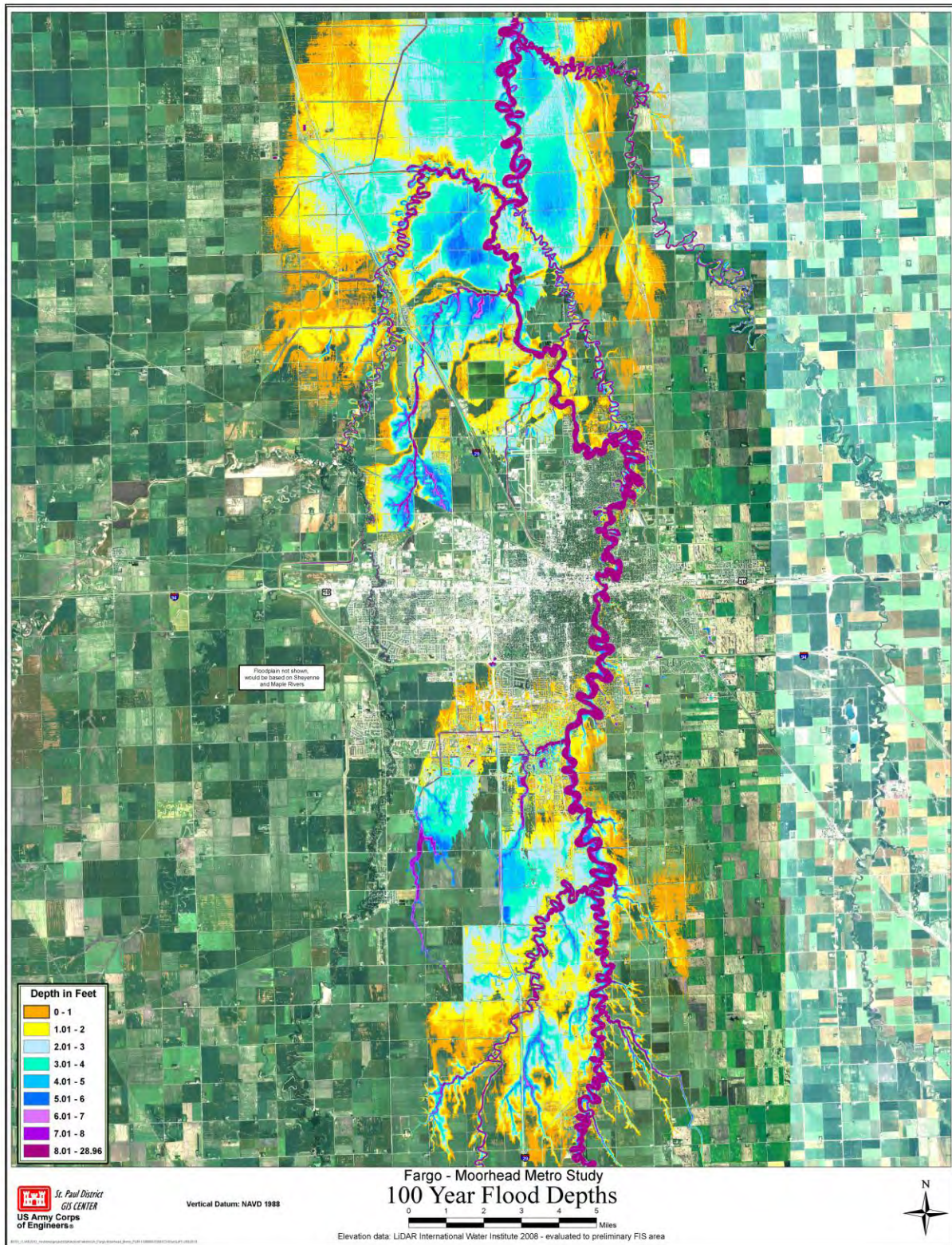


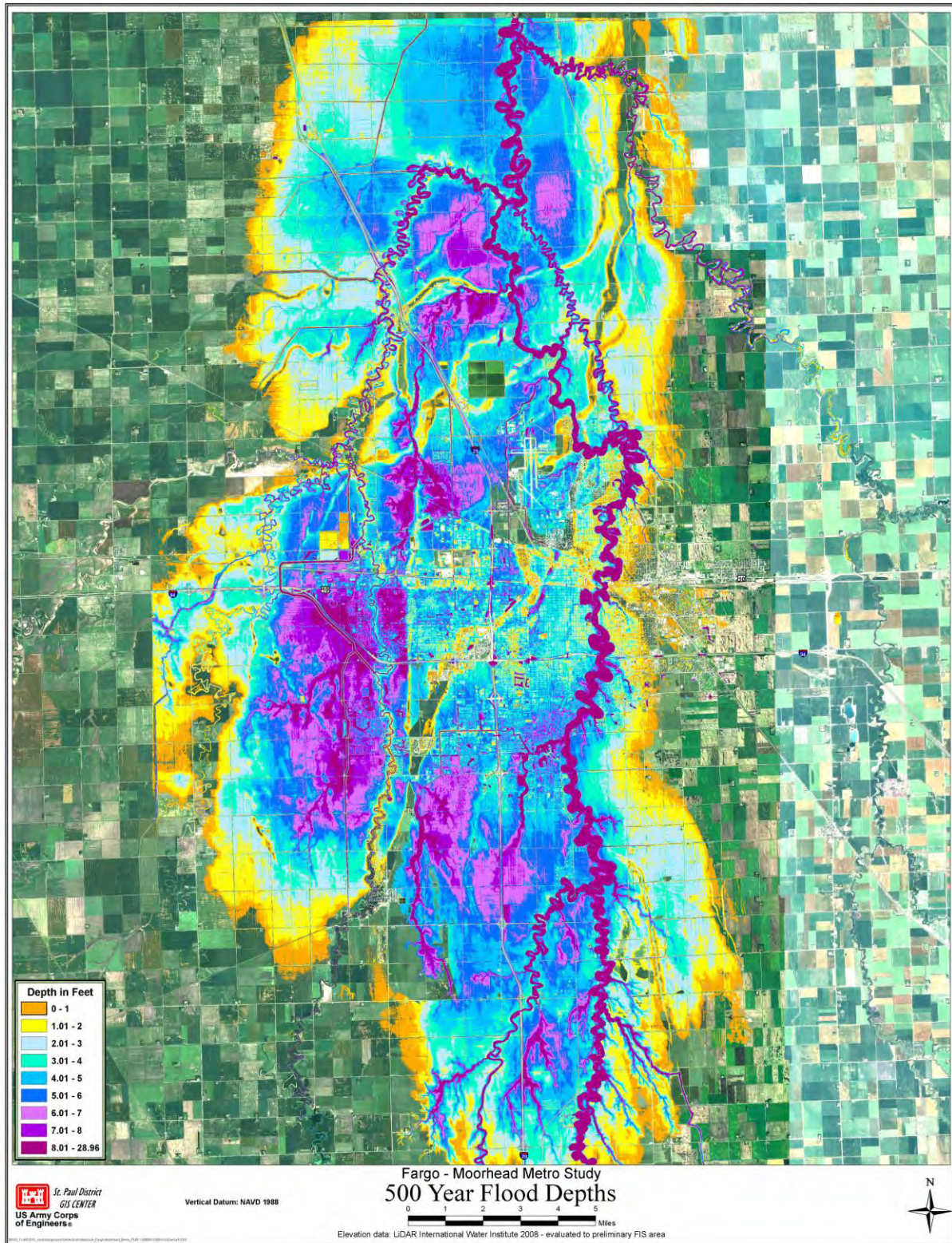


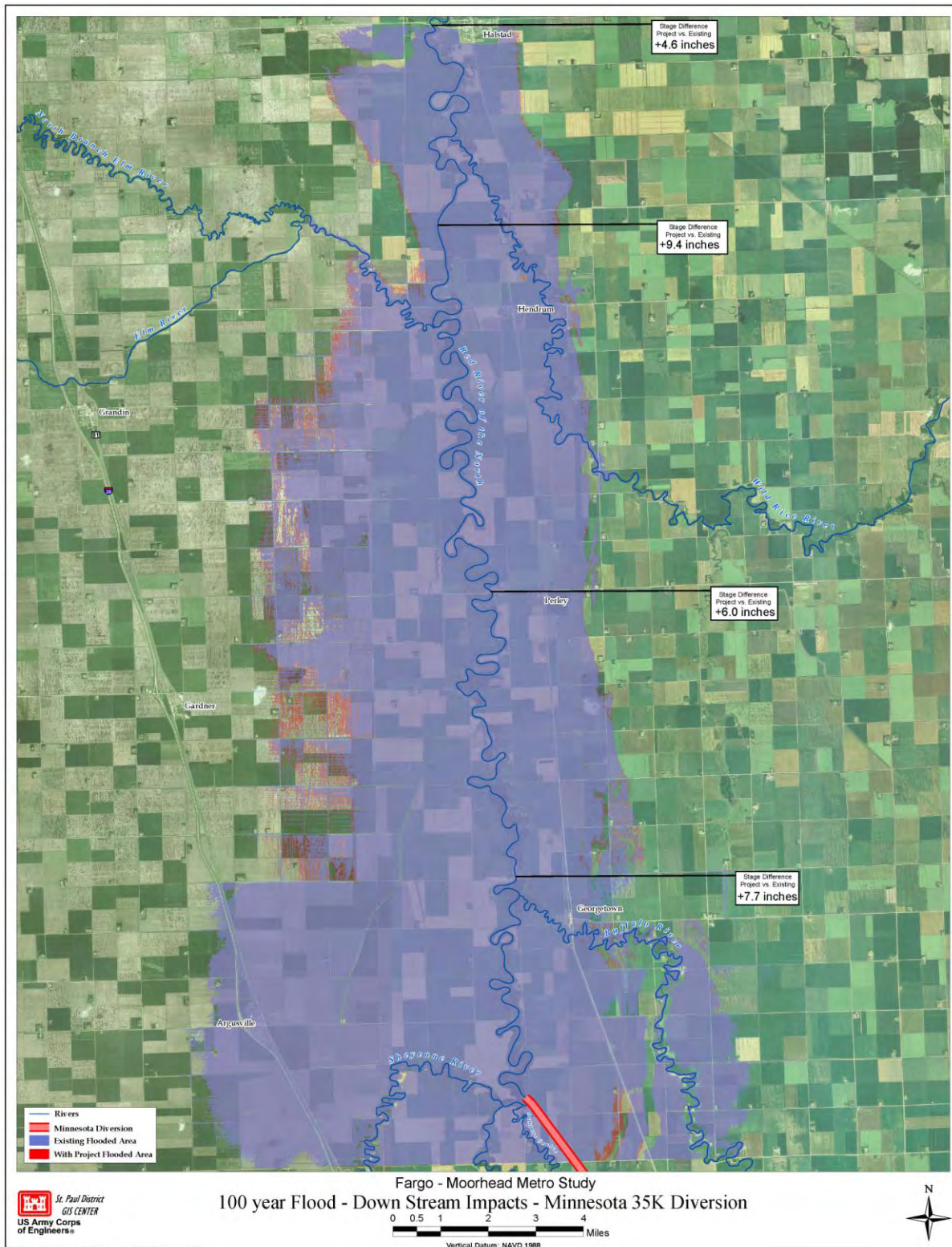


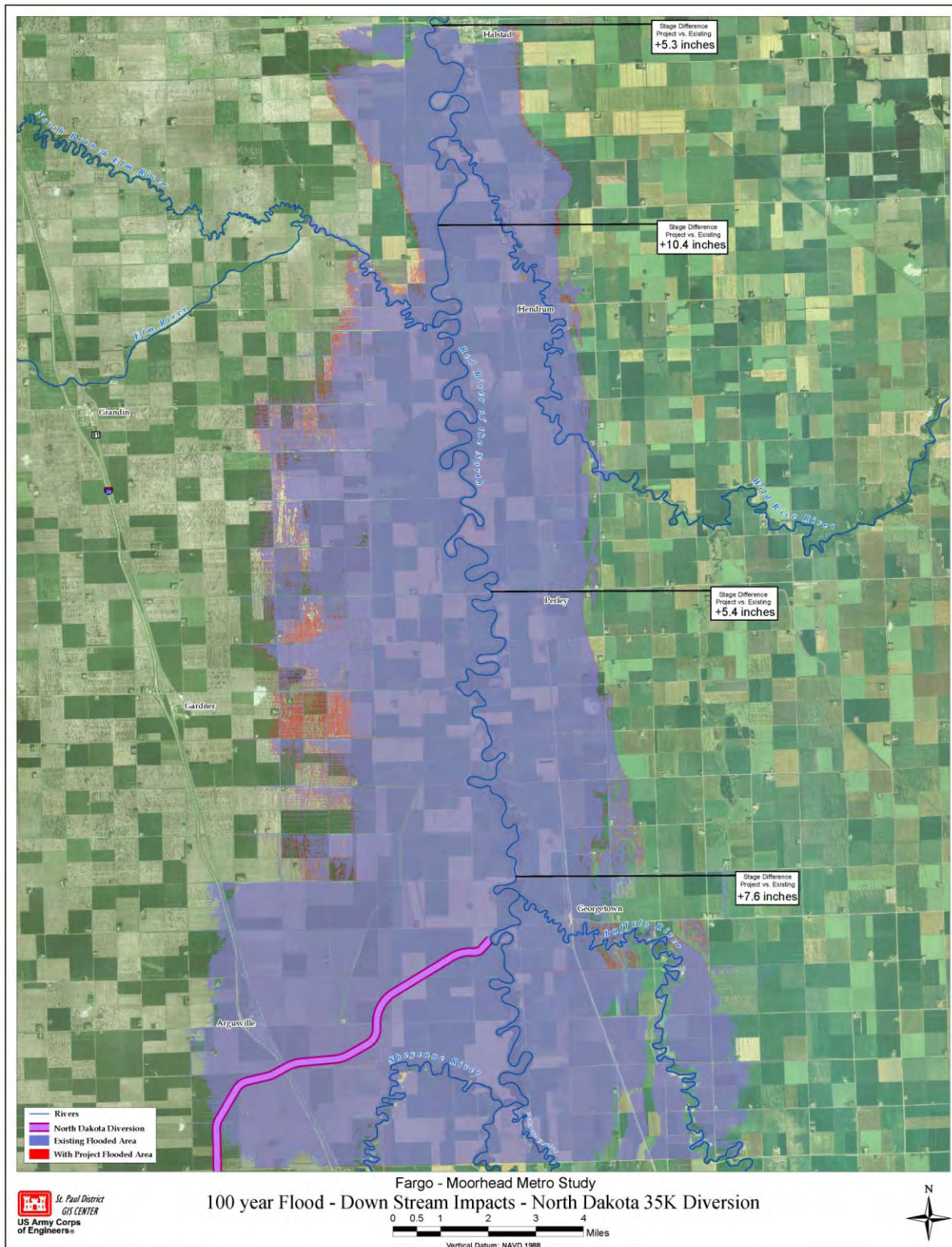
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Public Involvement and Coordination

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2	02081000010000	DIFFERDING, SCOTT	106	53000009069010	SE CASS WATER RESOURCE DISTRICT,	210	70000013640010	OHNSTAD, WAYNE & GARY			
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4	02081000017000	LARSON, MARK T & AMY	108	53000009070010	SE CASS WATER RESOURCE DISTRICT,	212	70000013642000	GAHAGEN, CHRISTOPHER C, ETAL			
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9	02081000220000	NORTH CENTRAL DAKOTA INVESTMENTS,	113	53000009073000	BREIMER PROPERTIES,	217	70000013646005	JOHNSON, VAUGHN & SHIRLEY			
10	02081000230000	NORTH CENTRAL DAKOTA INVESTMENTS,	114	53000009073010	SE CASS WATER RESOURCE DISTRICT,	218	70000013646010	OHNSTAD, WAYNE & GARY			
11	02081000240000	NORTH CENTRAL DAKOTA INVESTMENTS,	115	53000009074000	BREIMER PROPERTIES LP,	219	70000013647000	RADEBAUGH, DAVID W & EMILY			
12	02081000250000	NORTH CENTRAL DAKOTA INVESTMENTS,	116	53000009077020	COSTER REAL ESTATE TRUST, CHARLES F, ETAL	220	DEEDED ROW				
13	02081000260000	NORTH CENTRAL DAKOTA INVESTMENTS,	117	53000009077030	BEATON, THOMAS W & TERRI D						
14	02081000270000	NORTH CENTRAL DAKOTA INVESTMENTS,	118	53000009122010	LOBERG, NANCY						
15	02081000280000	NORTH CENTRAL DAKOTA INVESTMENTS,	119	53000009127010	HOUKUM, DAVID						
16	02081000290000	NORTH CENTRAL DAKOTA INVESTMENTS,	120	53000009128010	GOKEY, FRANK G & MARY J						
17	02081000300000	NORTH CENTRAL DAKOTA INVESTMENTS,	121	53000009129010	SE CASS WATER RESOURCE DISTRICT,						
18	02300001075000	SE CASS WATER RESOURCE DISTRICT,	122	53000009129020	THUNBERG, ALLEN L & BARBARA J						
19	02300001101000	SOUTHEAST CASS WATER RESOURCE DIST,	123	53000009129030	SOUTHEAST CASS WATER RESOURCE DIST,						
20	02300001110000	SE CASS WATER RESOURCE DISTRICT,	124	53000009132010							
21	02300001120000	SE CASS WATER RESOURCE DISTRICT,	125	53000009132020	COSSETTE, BRUCE R						
22	02300001125000	SOUTHEAST CASS WATER RESOURCE DIST,	126	53000009177000	MARTIN, JAMES & MARLYS						
23	02300001130000	SE CASS WATER RESOURCE DISTRICT,	127	53000009180001	SE CASS WATER RESOURCE DISTRICT,						
24	02300001135000	SOUTHEAST CASS WATER RESOURCE DIST,	128	53000009180010	BAKKEN, CATHERINE						
25	02300001136000	SOUTHEAST CASS WATER RESOURCE DIST,	129	53000009180011	SE CASS WATER RESOURCE DISTRICT,						
26	02300001140000	SE CASS WATER RESOURCE DISTRICT,	130	53000009180020	THOMPSON, JOAN						
27	02300001211000	LESETH, JOHN K & ELSINE M	131	53000009180030	THOMPSON, JOAN						
28	02300001220000	LESETH PROPERTIES,	132	53000009180040	FURNBERG, CATHERINE						
29	02300001230000	SE CASS WATER RESOURCE DISTRICT,	133	53030000010000	MCDUGALL, TOM & CHRIS						
30	02300001231000	SE CASS WATER RESOURCE DISTRICT,	134	570000010208000	OFFUTT, KAREN G						
31	02300001240000	MARTIN, MARLYS R	135	570000010209000	OFFUTT, KAREN						
32	02300001450000	SE CASS WATER RESOURCE DISTRICT,	136	570000010238000	BRODSHAUG, ORTEN B & SANDRA A						
33	02300001455000	SE CASS WATER RESOURCE DISTRICT,	137	570000010239010	NELSON, DORIS						
34	09020011903000	WILLIAMS, FRED JOHN	138	570000010241030	DUBORD, ERNEST & DOROTHY						
35	09020011907000	SLINGSBY, ALLAN, ETAL	139	570000010243000	BRODSHAUG, ORTEN B						
36	09020011908000	SCHLANER PROPERTIES LLP,	140	570000010244000	BRODSHAUG, ORTEN B & SANDRA A						
37	09020011909000	SLINGSBY, ALLAN M, ETAL	141	570000010245000	OFFUTT, KAREN						
38	150000000921000	SE CASS WATER RESOURCE DISTRICT,	142	570000010245010	LOFFELMACHER, JOHN						
39	150000000961000	SE CASS WATER RESOURCE DISTRICT,	143	570000010276000	BRODSHAUG, ORTEN B & SANDRA A						
40	15000001481000	SE CASS WATER RESOURCE DISTRICT,	144	570000010277000	BRODSHAUG, ORTEN B & SANDRA A						
41	15000002635050	ZABEL, DAVE & LORI L	145	570000010281000	GIBSON TRUST, MAURENE H						
42	15000002640020	HOLMEN, EILEEN & LEANNE K	146	570000010282000	GIBSON TRUST, MAURENE H						
43	15000002641000	ANDERSON, VERDEN O	147	570000010283000	BRADKE, MICHAEL D & LAURIE S						
44	15000002650000	SMITH LIVING TRUST, J MARIE	148	570000010286020	BRANDT, KAREN G, ETAL						
45	15000002650010	SMITH LIVING TRUST, J MARIE	149	570000010288000	CLEMEDTSON FARM LIMITED PARTNERSHIP,						
46	15000002660040	SMITH LIVING TRUST, J MARIE	150	590000010807010	KROGH LIFE ESTATE, CLARENCE & DORIS, ETAL						
47	15000002670020	SALVAGEAU LIFE ESTATE, MARCELLIN & BARBARA	151	590000010807020	KROGH LIFE ESTATE, CLARENCE & DORIS						
48	15000002670040	SALVAGEAU LIFE ESTATE, MARCELLIN, ETAL	152	590000010808000	WILLIAMS, KATHLEEN						
49	15000002680000	JOHNSON, MARTIN G	153	590000010809000	RUST, DEAN A & GWENDOLYN						
50	15000002690000	COSSETTE, ANGELA R	154	590000010810000	KROGH, DORIS, LE						
51	15000002700000	BURLINGTON NORTHERN SANTA FE	155	590000010849000	DIEKHAGER, WAYNE A, ETAL						
52	150000012654003	LESETH FAMILY LTD PARTNERSHIP,	156	590000010850000	RUST, WICKI						
53	150000012654010	SE CASS WATER RESOURCE DISTRICT,	157	590000010851000	HOGGLUND, WAYNE & BEVERLY						
54	150071100	LARRY DAHLSTROM	158	590000010852000	CUMMINGS, SHERRY F, ETAL						
55	150081000	JUDITH CROWELL & KATH NICHOLS	159	590000010864000	RECHTSCHAFFEN, KAREN CULBERG T						
56	150082301	DAVID A & LINDA D WAGENMANN	160	590000010865000	HOGGLUND, WAYNE M						
57	150082550	NEVA J PAULSON	161	590000010866000	JOHNSON, STUART W						
58	150082570	CLAY & PAULA HESTDALEN	162	590000010867000	FITTERER, ERVIN J & MILDRED L						
59	150091000	USA BRANDT	163	590000010903000	HEIDEN FAMILY LLP,						
60	150092500	CLIFFORD J & BARBARA WALSTAD	164	590000010904030	HENKE, GERALD L, ETAL						
61	150102000	GAIL M LEIKAS	165	590000010905000	HEIDEN FAMILY LLP,						
62	150103000	PEGGY A REZAK	166	590000010919000	JOHNSON, STUART & LAURIE L						
63	25000001753000	ND STATE HIGHWAY DEPT,	167	590000010920000	JOHNSON, JEAN H						
64	25000001754010	SE CASS WATER RESOURCE DISTRICT,	168	590000010953000	JOHNSON, STUART W & LAURIE L						
65	25000001820000	BEATON, MICHAEL L, ETAL	169	590000010953010	MARK, SANDRA F						
66	25000001912020	LOBERG, NANCY, ETAL	170	590000010954000	AKASON, THOMAS & MARILYN						
67	27000001544000	PETERSON, CARL R & JULIE K	171	590400000100000	GUST, DAVID R & PATSY G						
68	27000001546000	LIFFRIG FAMILY INVESTMENTS,	172	640000000751010	SE CASS WATER RESOURCE DISTRICT,						
69	27000001547000	LIFFRIG FAMILY INVESTMENTS,	173	640000000752010	SE CASS WATER RESOURCE DISTRICT,						
70	27000001594000	BRAND PARTNERSHIP, JEFFREY E & BRUCE P	174	640000000791000	SE CASS WATER RESOURCE DISTRICT,						
71	27000001595000	RABANUS, RICHARD	175	64000001731000	SE CASS WATER RESOURCE DISTRICT,						
72	27000001596000	OLSON LIVING TRUST, RUTH B, ETAL	176	64000002700000	KVANDE, DIANE, ETAL						
73	27000001597000	OLSON LIVING TRUST, RUTH B, ETAL	177	64000002700030	BRUNEL SISTERS PARTNERSHIP,						
74	27000001598000	WILLIAMS FARMS,	178	64000002701000	RHEAULT, MICHAEL, ETAL						
75	27000001599000	LEMKE, MURIEL, LE	179	64000002710021	RHEAULT, JAYME						
76	27000001600000	RUST, IRENE, LE	180	64000002720000	DVAL, DONALD J, ETAL						
77	27000001601000	RUST, IRENE, LE	181	64000002730000	SALVAGEAU, TERRY & KRISTIE						
78	27000001648000	JOHNSON, ALDEN J	182	64000002740000	DUBORD, ERNEST						
79	27000001649000	MONSON, JOYCE	183	670000012601000	BRODSHAUG, MARK D & LUANN M						
80	27000001650000	TOUSSAINT, ARMOND F & ARDIS Y, LE	184	670000012601010	SE CASS WATER RESOURCE DISTRICT,						
81	27000001651000	KROGH, DORIS, LE	185	670000012604000	BRODSHAUG, MARK D & LUANN M						
82	440000000100000	HEIDEN, KEVIN L & PAMELA S	186	670000012604010	THUE LIVING TRUST, BRUCE C, ETAL						
83	440000000120000	LARSON, EDGAR WILLIAM	187	670000012604011	SE CASS WATER RESOURCE DISTRICT,						
84	440000000124000	DIEKRAGER, WAYNE & MARION	188	670000012649000	LEAN, EARLE J						
85	440000000128010	DIEKRAGER, WAYNE & MARION	189	670000012649010	SE CASS WATER RESOURCE DISTRICT,						
86	440000000128020	ANDERS, MERLE L	190	670000012655000	BRACKEN, HARVEY						
87	440000000150000	FERCHO FAMILY FARMS LLP,	191	670000012655010	SE CASS WATER RESOURCE DISTRICT,						
88	440000000120000	LEMKE, MURIEL H, ETAL	192	670000012659000	BRODSHAUG, MARK & LUANN						
89	440000000230000	SCHLANER PROPERTIES LLP,	193	670000012661013	BRODSHAUG, MARK & LUANN						
90	440000000240000	SIMONSON TRUST, RUTH, ETAL	194	670000012705000	SAMUELSON, EDWARD						
91	440000000250000	RED RIVER TRUST, , ETAL	195	670000012706000	SAMUELSON, EDWARD O						
92	440000000260000	RED RIVER TRUST, , ETAL	196	670000012708010	FUXA TRUST, STANLEY J & BEA						
93	440000000264000	RED RIVER TRUST, , ETAL	197	670000012708020	VOGT, BRUCE W & LYNETTE R						
94	440000000270000	RED RIVER TRUST, , ETAL	198	670000012709000	HATLESTAD, KENNETH						
95	440000000288000	LARSON, WILLIAM HENRY J	199	670000012711000	SMITH, J MARIE, TRUS						
96	440000000650000	SCHLANER PROPERTIES LLP,	200	670000012712000	FOSSE, MICHAEL						
97	440000000654000	SCHLANER PROPERTIES LLP,	201	670000012712010	KNUTSON, JEFFREY I & JOANNE J						
98	53000009023000	CROWN POINTE PROPERTIES LLP,	202	670000012714010	COMPSON, TERRY L, ETAL						
99	53000009023010	SE CASS WATER RESOURCE DISTRICT,	203	670000012714020	COMPSON, KAY L, ETAL						
100	53000009024000	REDINGTON, BRUCE L & JANET M	204	670000012715000	HATLESTAD, KENNETH W						
101	53000009025000	MARTIN CREDIT SHELTER TRUST, ALLEN P, ETAL	205	670000012716050	BUSTER FARMS LLP,						
102	53000009063000	LIBBRECHT, KENNETH	206	670000012717000	LARSON, JON D & JULIE B						
103	53000009063010	SE CASS WATER RESOURCE DISTRICT,	207	670000012719010	ADAMS, MARY K						
104	53000009064010	SE CASS WATER RESOURCE DISTRICT,	208	670000012719020	DELANEY, DAVID T & ANNETTE R						









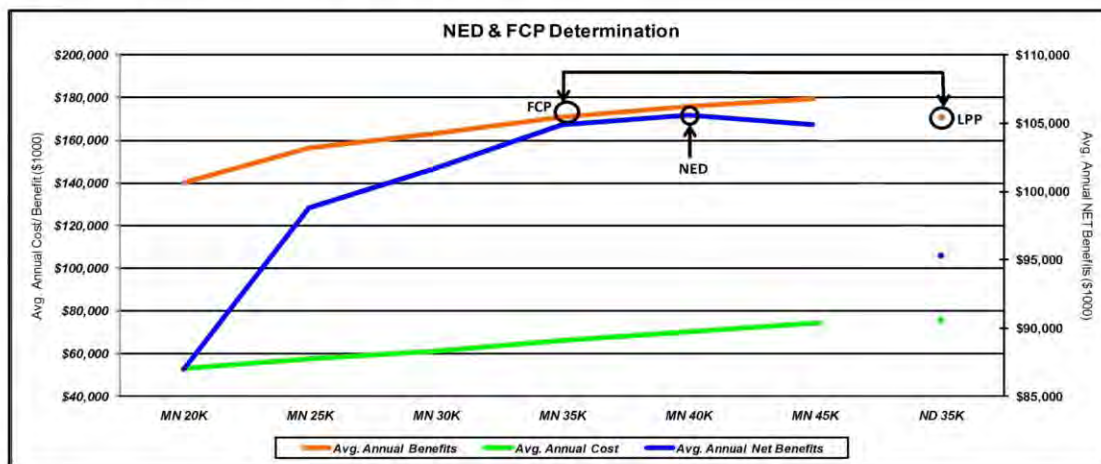
Screened Alternatives Ranked by Net Benefits with Cost and Schedule Risk Assessment

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)		Stage	Impacts
	1% Chance (100- year)	0.2% Chance (500- year)		
Existing Condition	42.4	46.7	27	Fargo Elm Street Closed
Work Group Goal	30	36	30	Fargo 2nd Stredd Dike Installed
35K ND Diversion Channel	30.6	40.0	31	Moorhead 1st Ave. N Closed
35K MN Diversion Channel	31.9	39.6	32	First Homes in Moorhead Threatened
40K Diversion Channels	31.9	37.6	35	First Homes in Fargo Threatened
45K Diversion Channels	31.9	35.3	40.8	2009 Flood Record Stage



US Army Corps of Engineers
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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.

-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 downstream stakeholders

June 16, 2010



US Army Corps of Engineers
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Presentation Overview:

- ✓ Why We are Here
- ✓ Purpose and Scope
- ✓ Alternatives Considered
- ✓ Screening Results
- ✓ Tentatively Selected Plan
- ✓ Downstream Impacts
- ✓ Schedule

9-10 June 2010

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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:

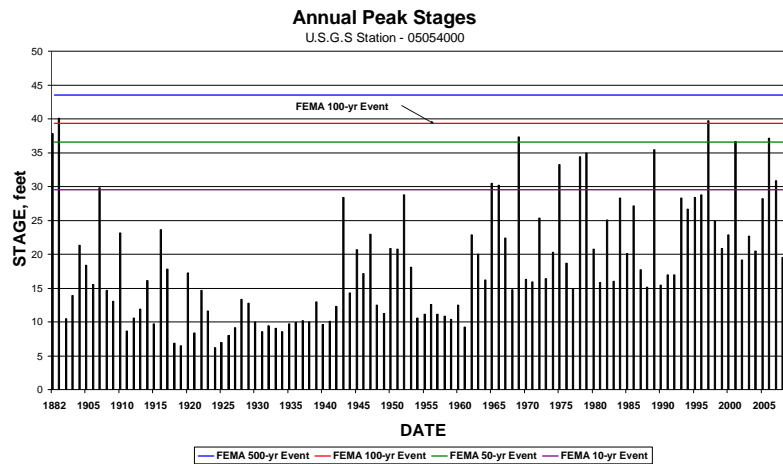
- ✓ Reduce flood risk and flood damages in the Fargo-Moorhead metropolitan area.
- ✓ Restore or improve degraded riverine and riparian habitat in and along the Red River of the North, Wild Rice River (North Dakota), Sheyenne River (North Dakota), and Buffalo River (Minnesota) in conjunction with other 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	\$886
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
40.8	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.

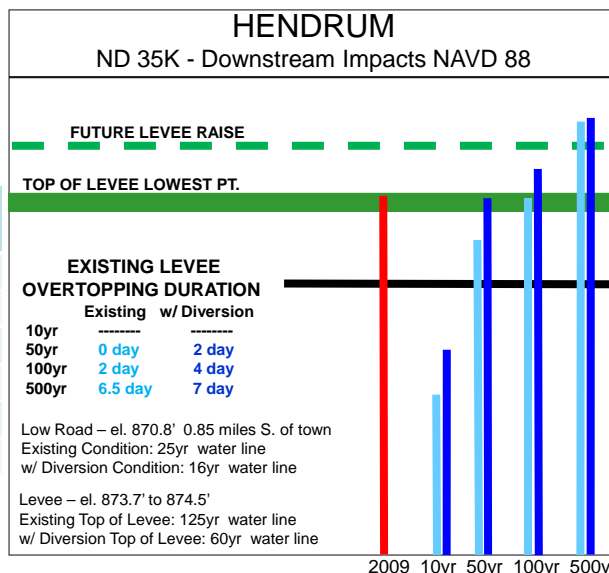
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HWY 75
 LEVEE
 EXISTING CONDITION
 w/ DIVERSION CONDITION

	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'		



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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

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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

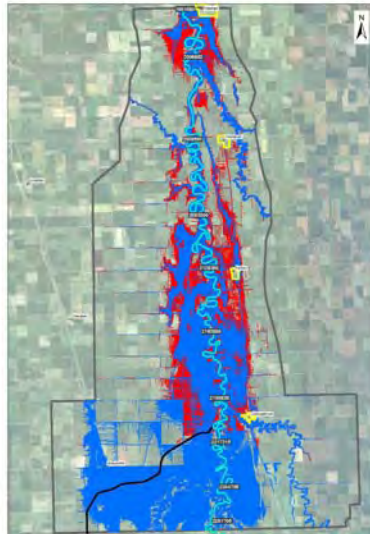
9-10 June 2010

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Downstream effects:

Based on ND35K diversion and 10-year event



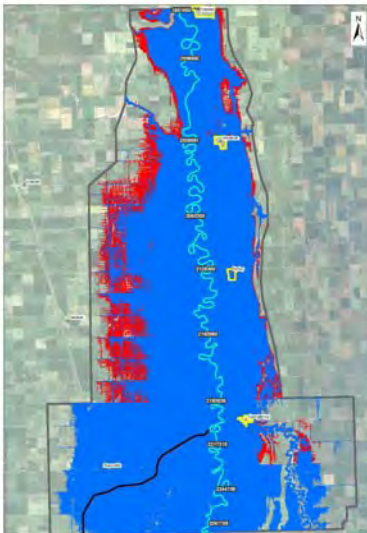
9-10 June 2010

15



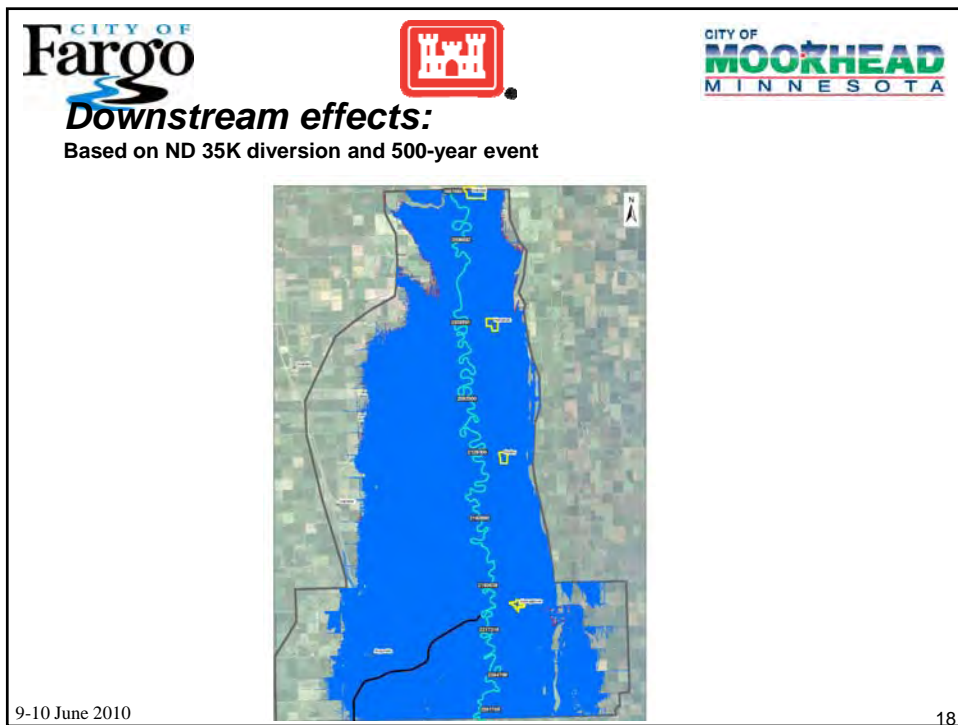
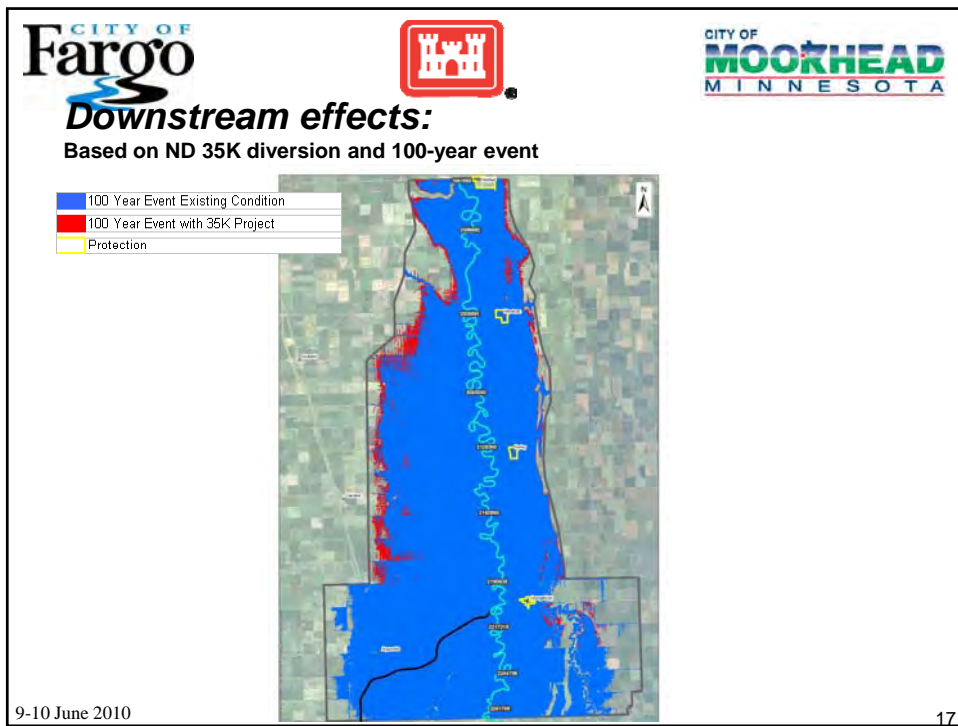
Downstream effects:

Based on ND 35K diversion and 50-year event



9-10 June 2010

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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

9-10 June 2010

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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

9-10 June 2010

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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

9-10 June 2010

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Community Flood Protection Project Improvements

U.S. Army Corps of Engineers (USACE) Downstream Communities Meeting

June 16, 2010



Background

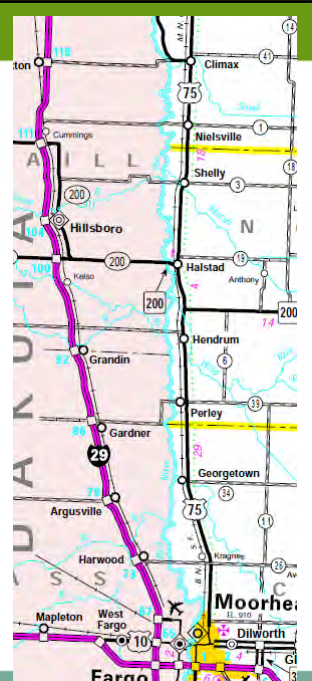
- Initiated by the BRRWD, WRWD, and SHWD – Spring 2009
- General Project Steps:
 - Phase 1 - Conceptual Designs developed by City/WSD
 - Landowner Meeting(s)
 - Community Meeting (s)
 - City Petition to WSD for Project Development
 - Phase 2 – Project Planning
 - Engineer’s Report Developed
 - Appraiser’s 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

Hendrum – Preliminary Plan



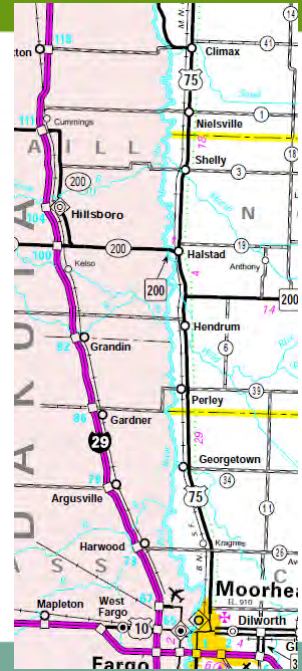
Project Funding

- 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

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



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
- 60 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
 - 60 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

- 60 percent cost sharing of eligible items

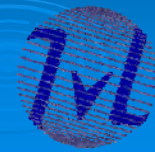


North Dakota Water Resource Districts

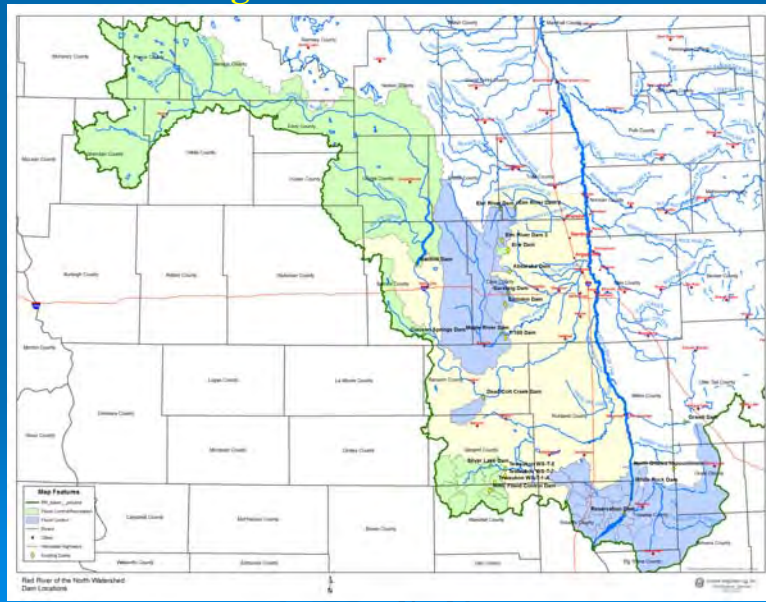
North Dakota & Border Water Flood Storage Projects Above Red River at Halstad, MN

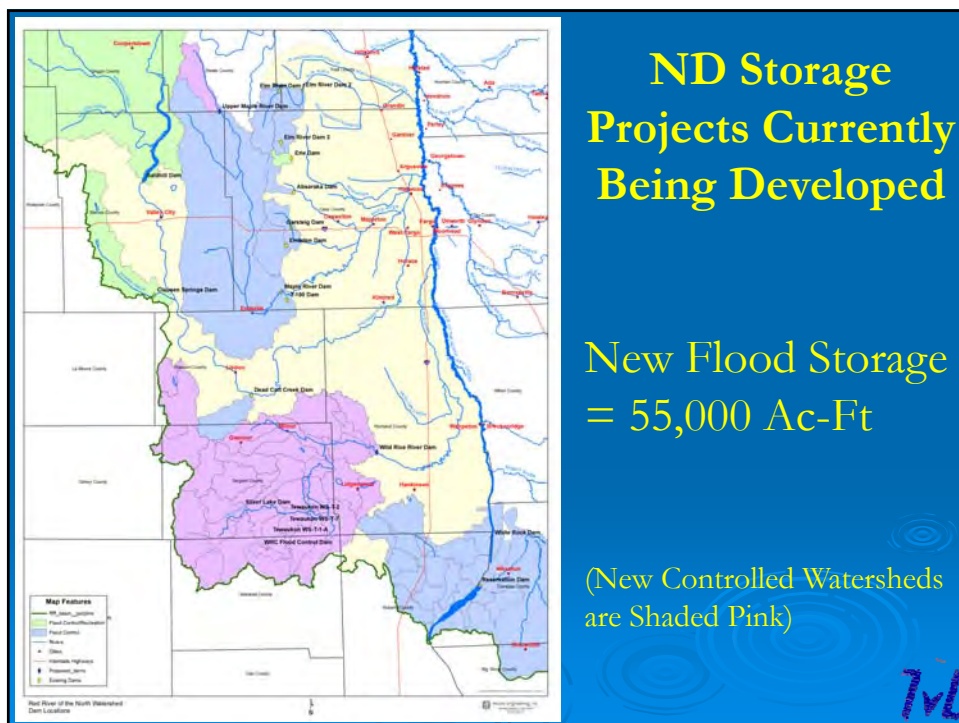
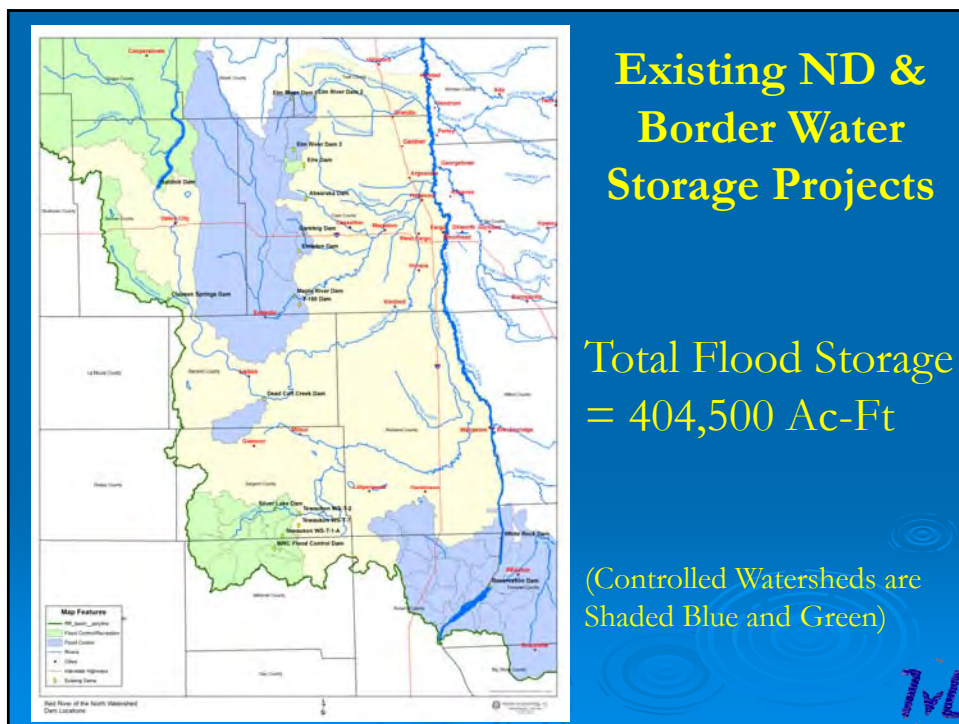
June 16, 2010

Presentation by:
Southeast Cass Water Resource District
& Moore Engineering, Inc.



Red River Basin Above Halstad, MN Including White Rock Dam Watershed







**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.					

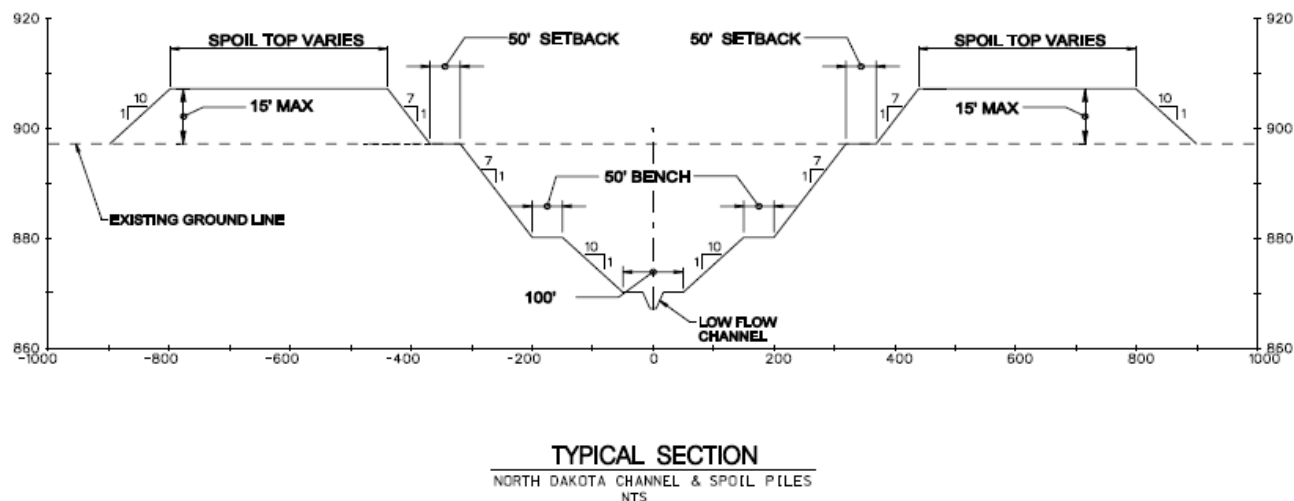
The Corps identified the North Dakota 35,000 cfs diversion channel as the locally preferred and tentatively selected plan in its integrated draft Feasibility Report and Environmental Impact Statement. The Corps will accept public comments in accordance with NEPA for a period of 45 days following official 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.



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

U.S. Army Corps of Engineers

190 5th Street East, Suite 401 (PM-A)
 St. Paul, MN 55101

The City of Moorhead

Bob Zimmerman
Bob.Zimmerman@ci.moorhead.mn.us

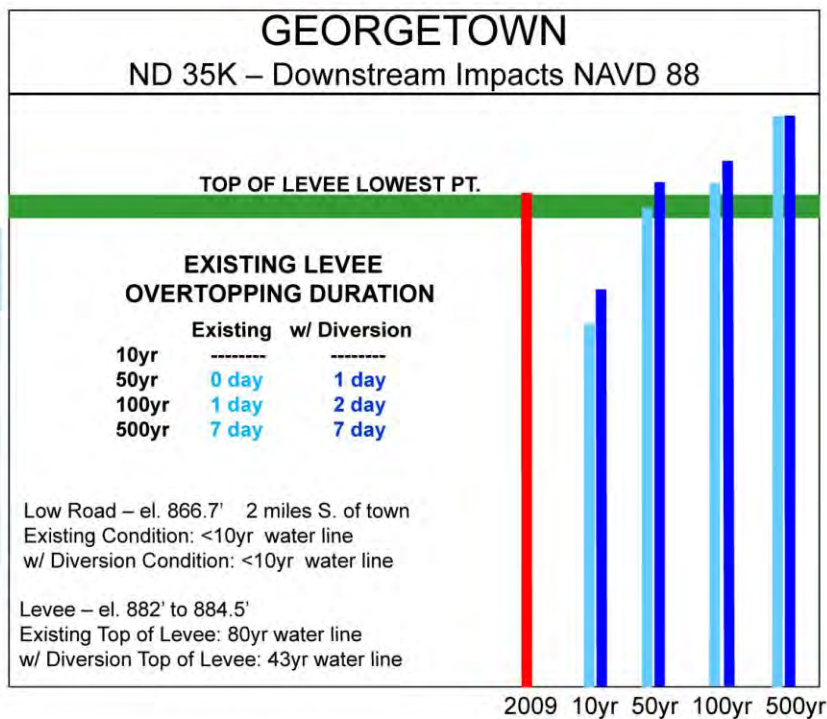
Aaron Snyder
Aaron.M.Snyder@usace.army.mil



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'

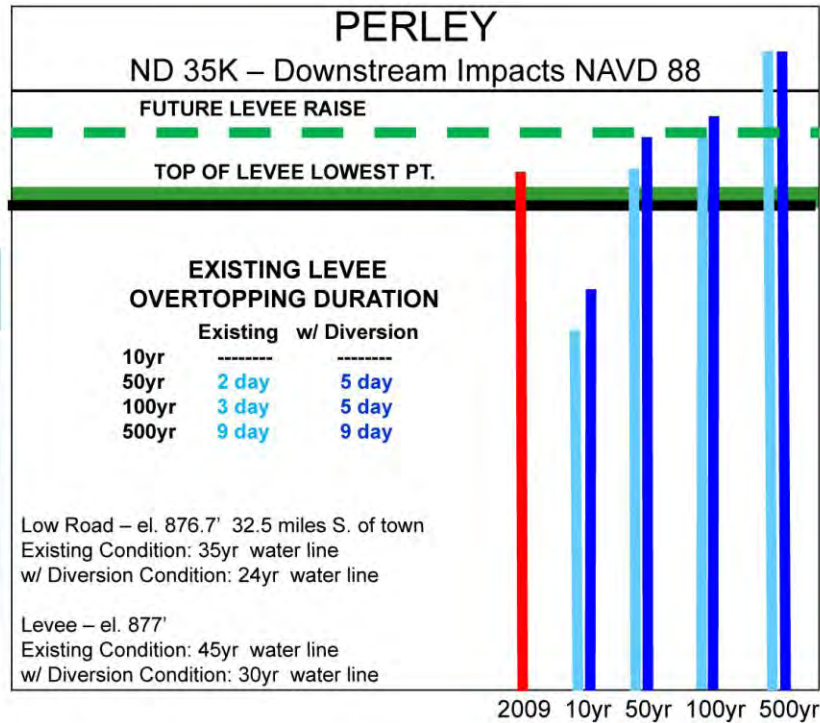


16 June 2010



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'		

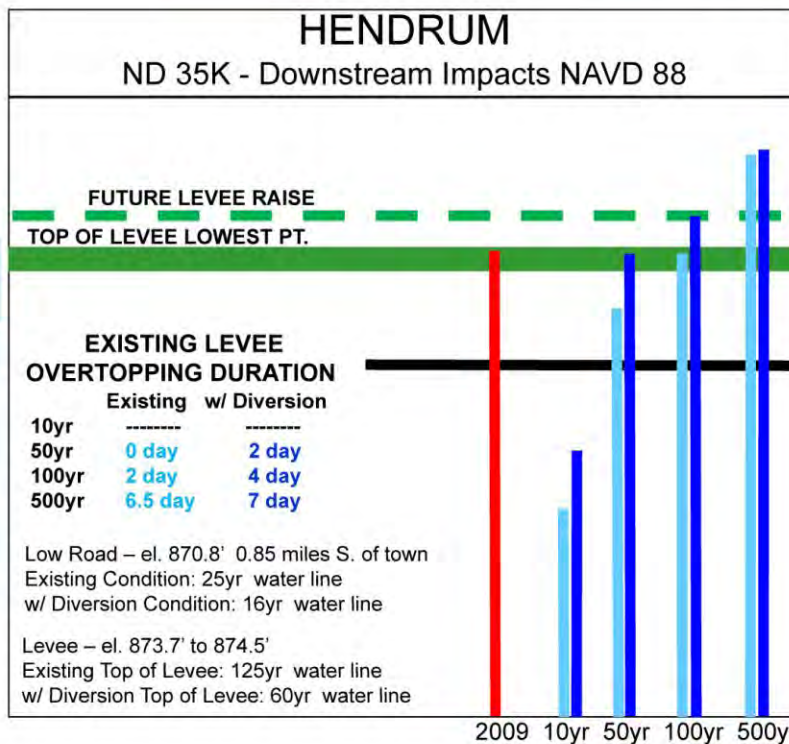


16 June 2010



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'		

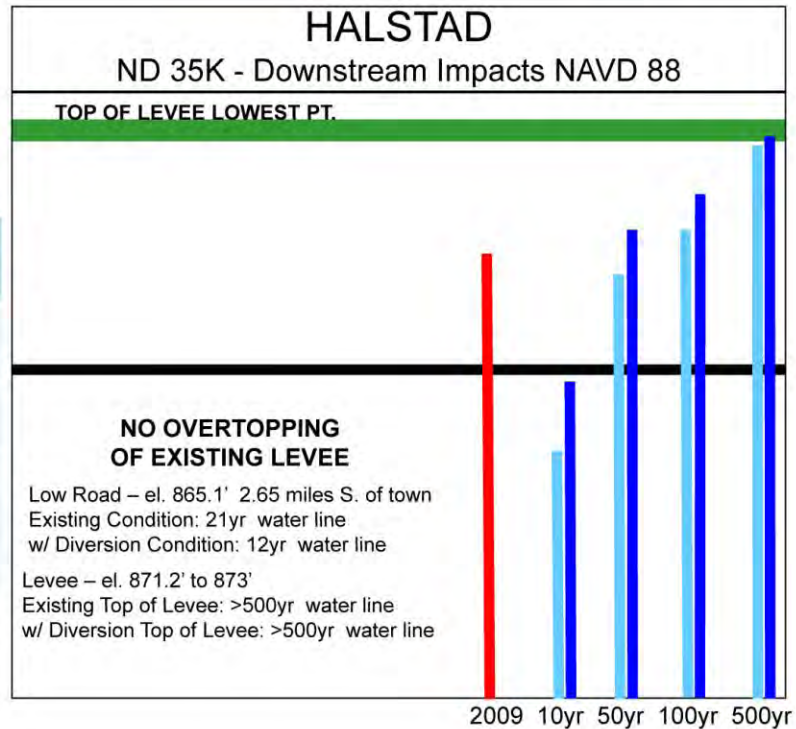


16 June 2010

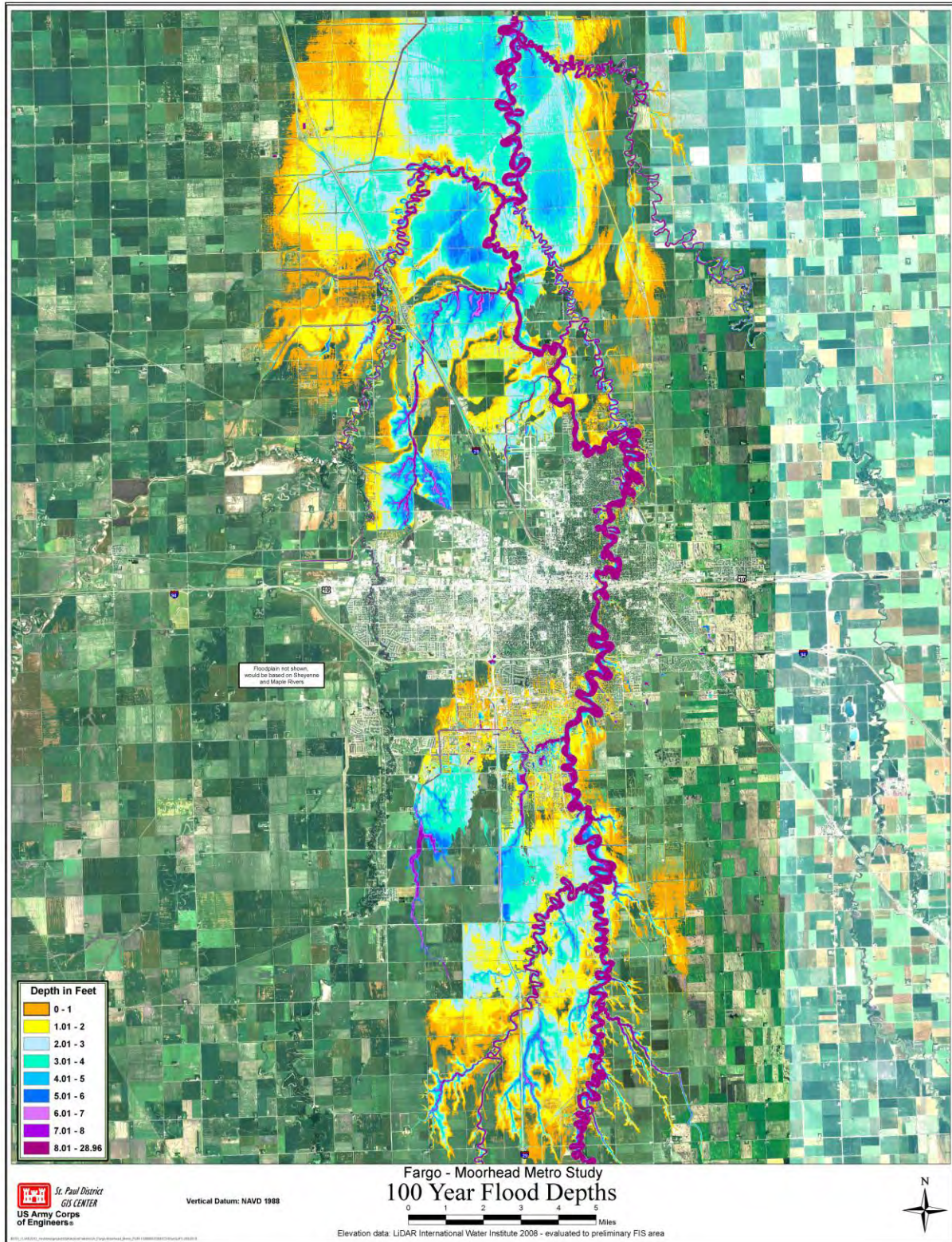


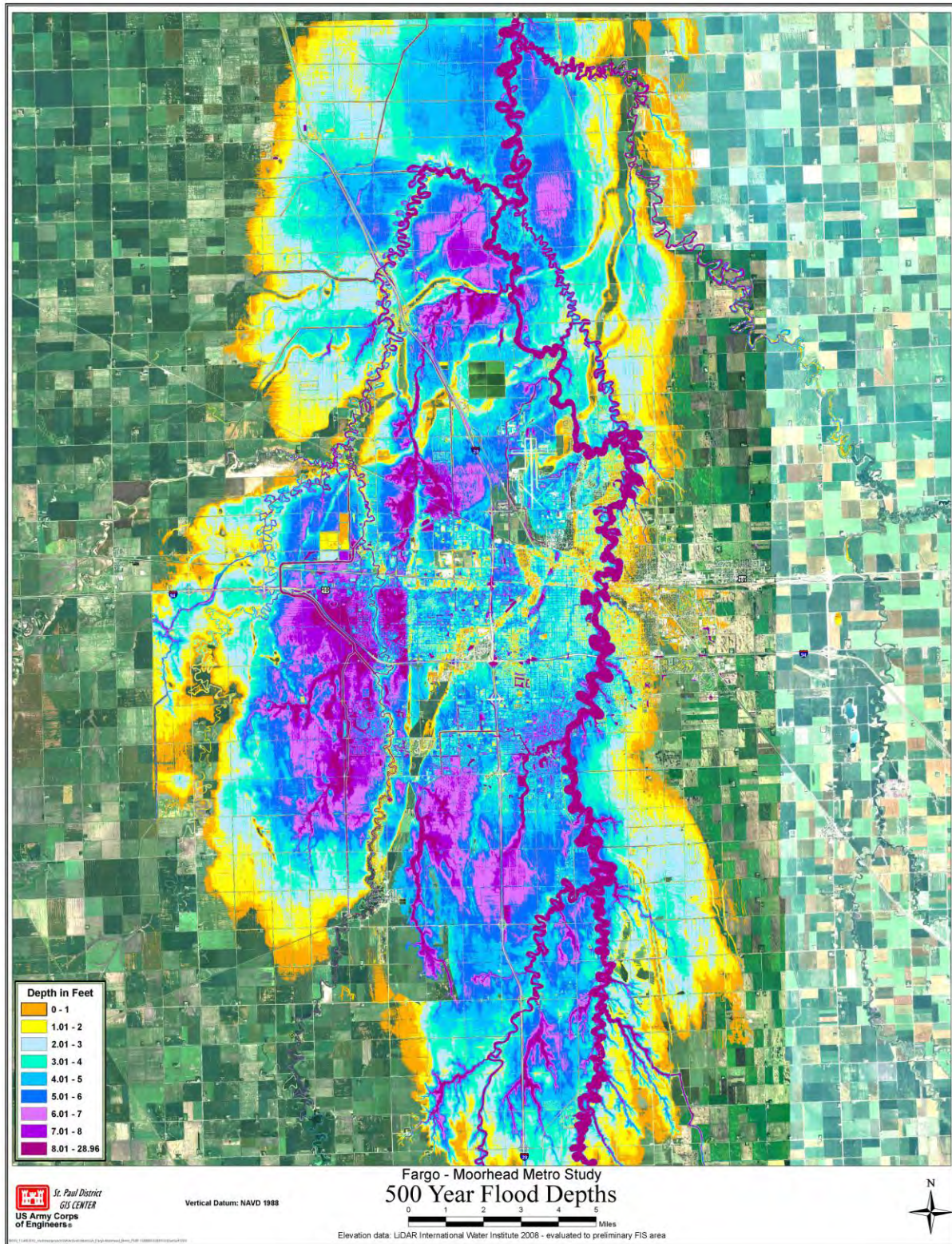
HWY 75
 LEVEE
 EXISTING CONDITION
 w/ DIVERSION CONDITION

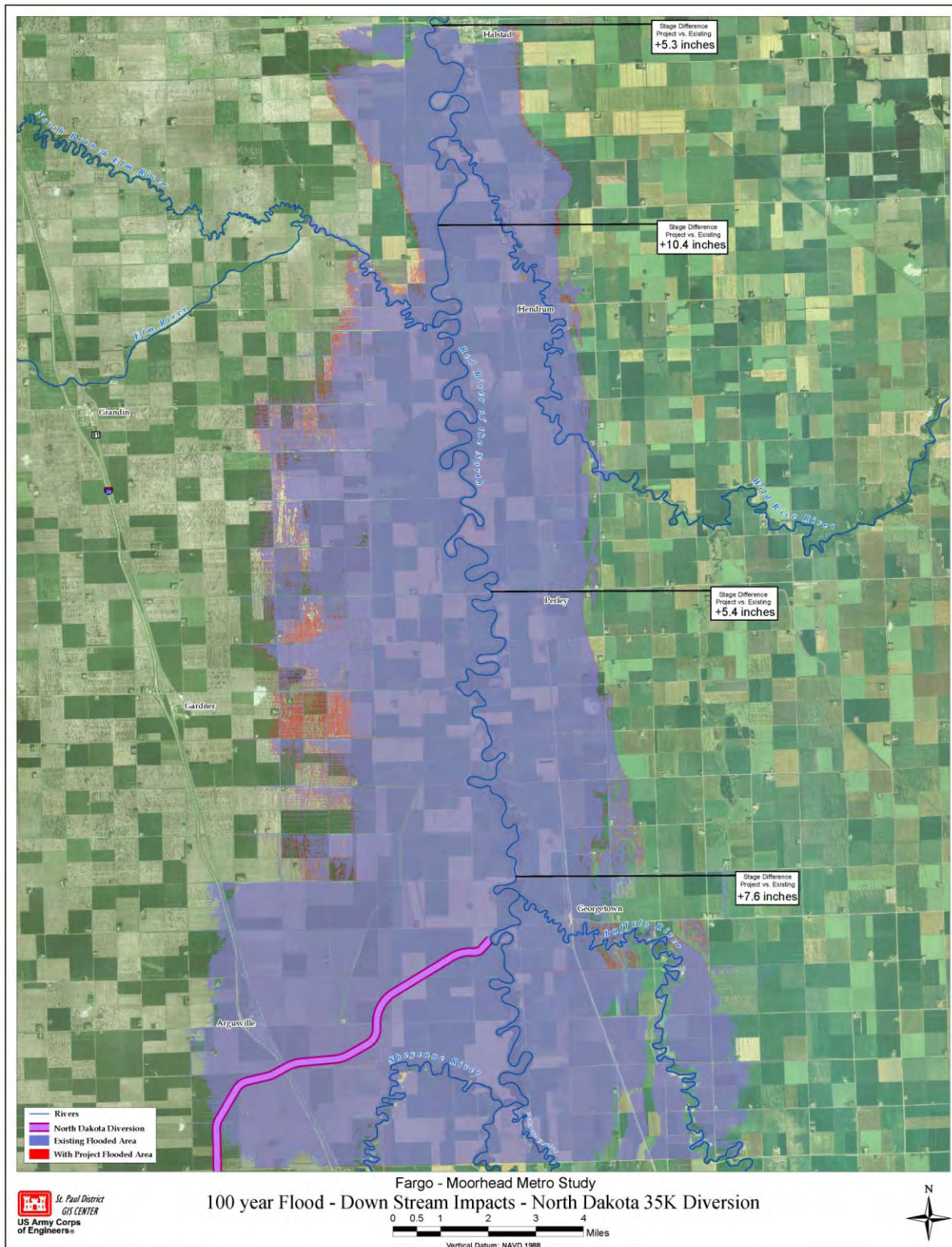
	Existing Elev.	w/ Diversion Elev.
10 yr	863'	864.7'
50 yr	867.4'	868.6'
100 yr	868.6'	869.5'
500 yr	870.7'	870.9'
2009	867.99'	
NGVD 29 = NAVD 88 - 1.09'		

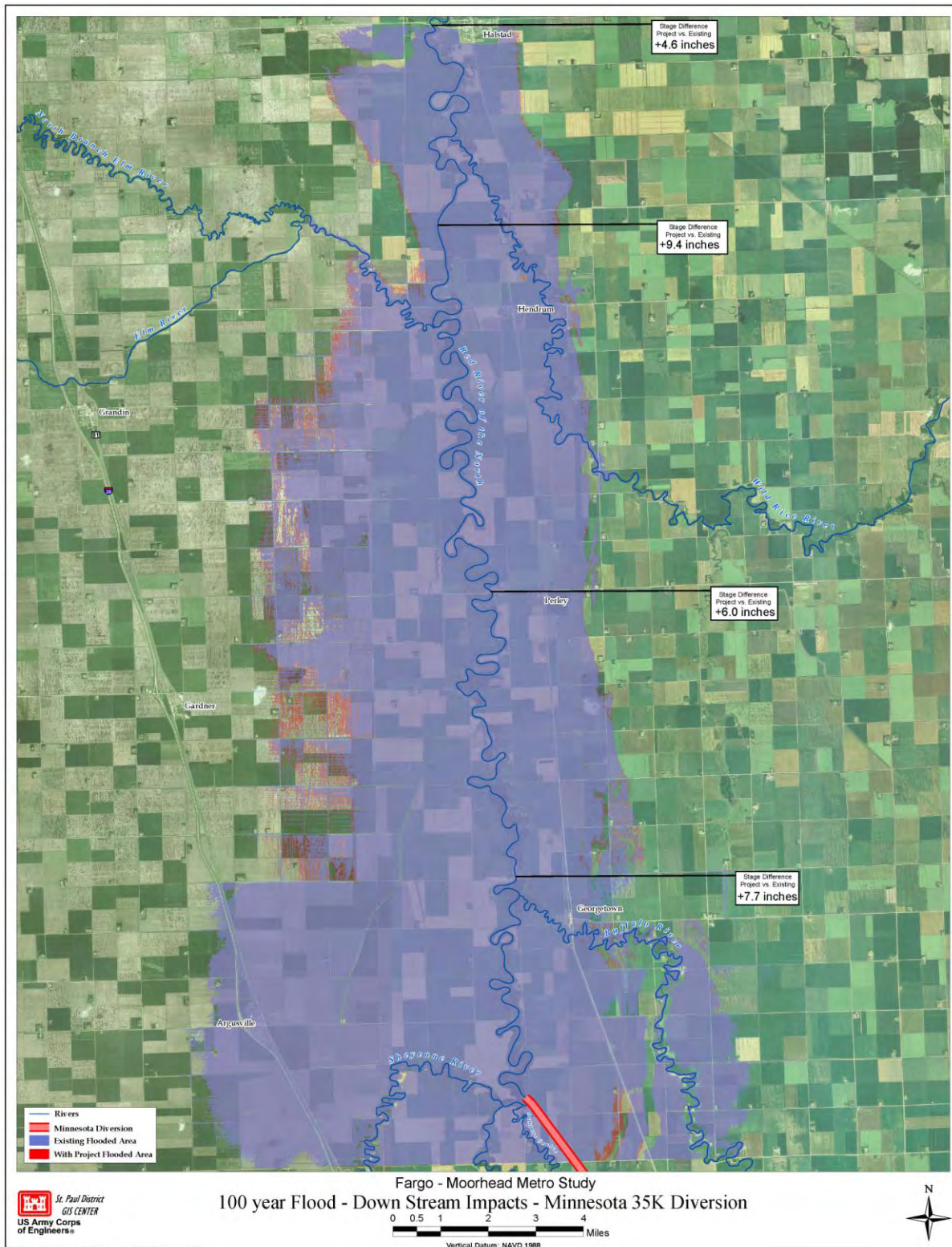


16 June 2010









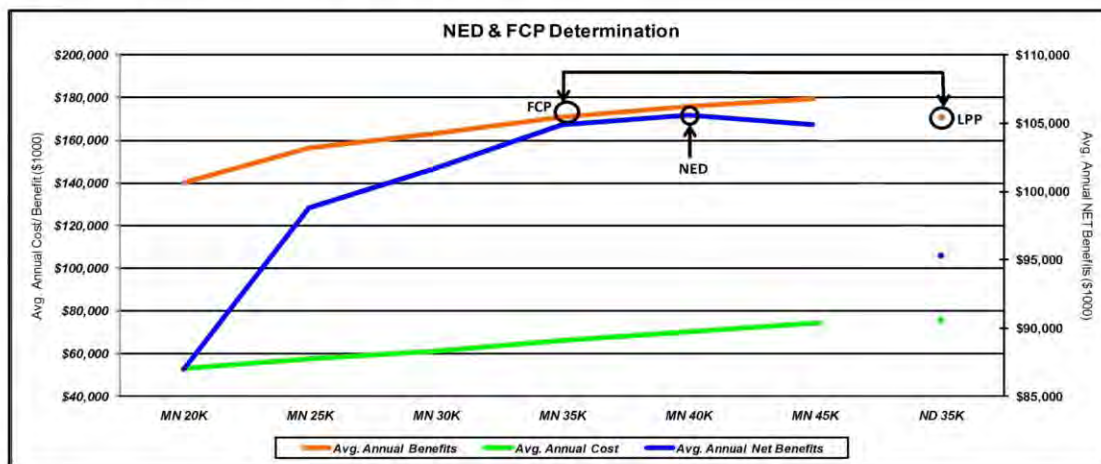
Screened Alternatives Ranked by Net Benefits with Cost and Schedule Risk Assessment

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)		Stage	Impacts
	1% Chance (100- year)	0.2% Chance (500- year)		
Existing Condition	42.4	46.7	27	Fargo Elm Street Closed
Work Group Goal	30	36	30	Fargo 2nd Stredd Dike Installed
35K ND Diversion Channel	30.6	40.0	31	Moorhead 1st Ave. N Closed
35K MN Diversion Channel	31.9	39.6	32	First Homes in Moorhead Threatened
40K Diversion Channels	31.9	37.6	35	First Homes in Fargo Threatened
45K Diversion Channels	31.9	35.3	40.8	2009 Flood Record Stage



US Army Corps of Engineers
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Presentation 20:

August 5, 2010



NEWS RELEASE

U.S. ARMY CORPS OF ENGINEERS

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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.

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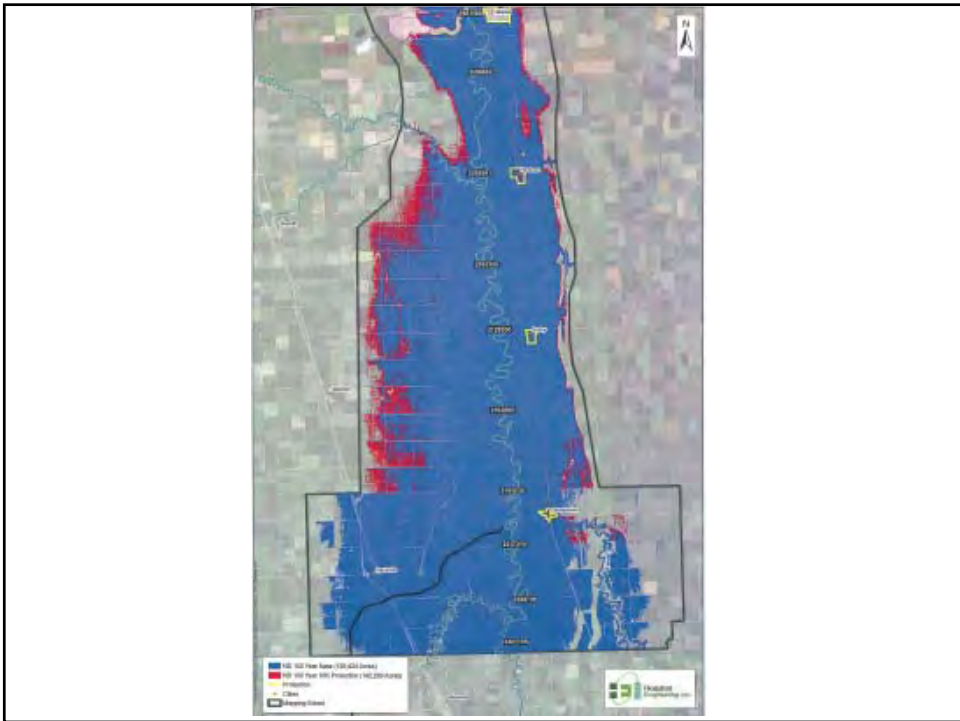
Web site: <http://www.mvp.usace.army.mil/>

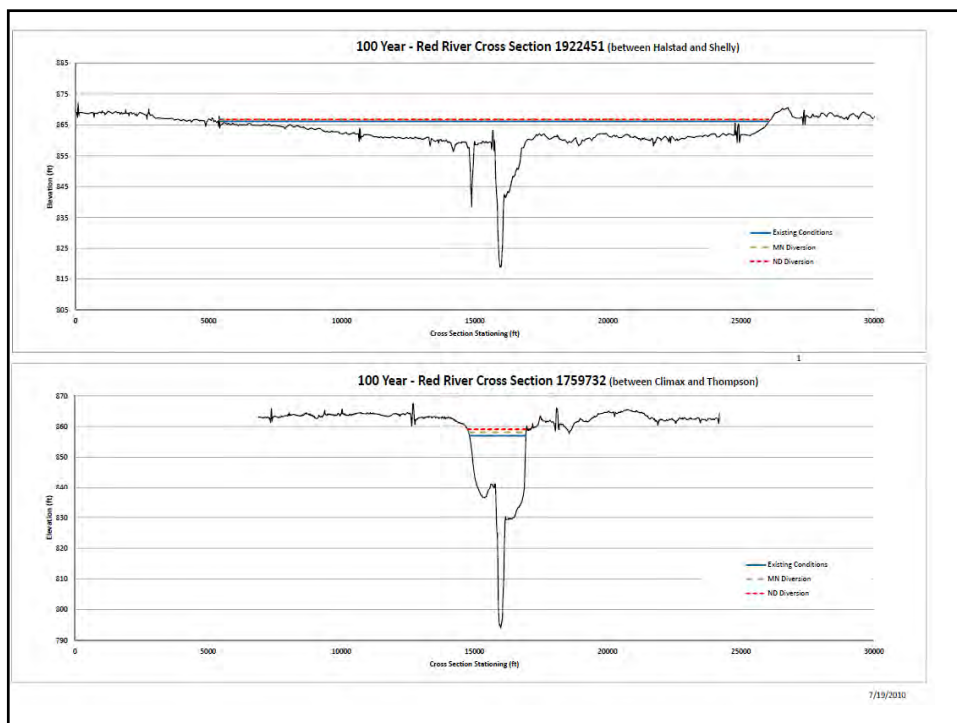
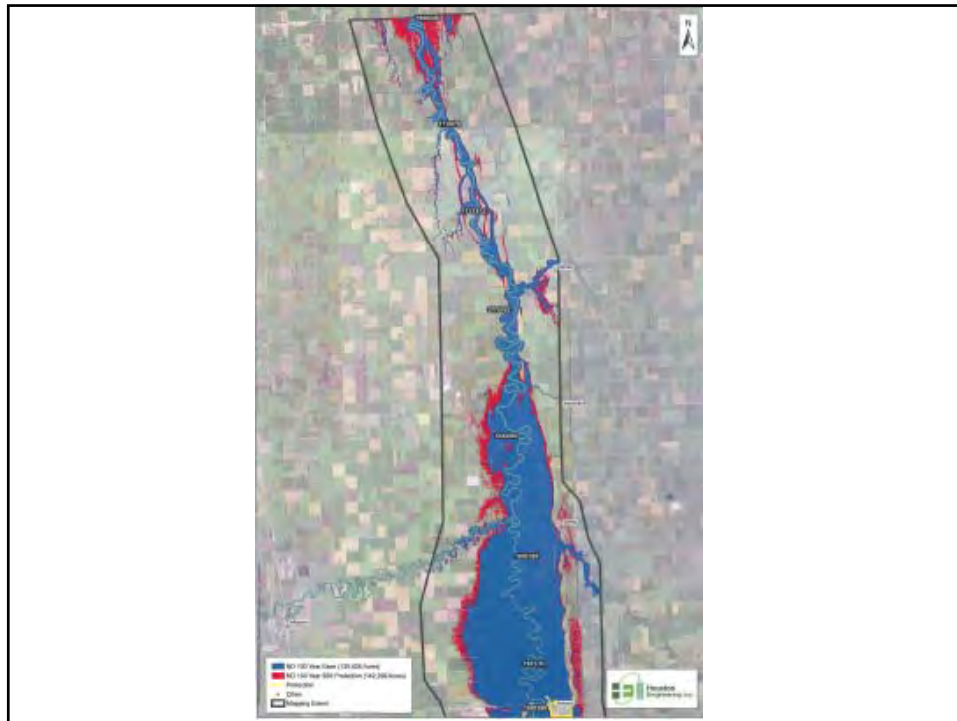
Facebook: <http://www.facebook.com/pages/Saint-Paul-MN/US-Army-Corps-of-Engineers-St-Paul-District/215829254962?ref=ts>

Flickr: <http://www.flickr.com/photos/usace-stpaul/>

YouTube: <http://www.youtube.com/usacemvppao>

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





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.

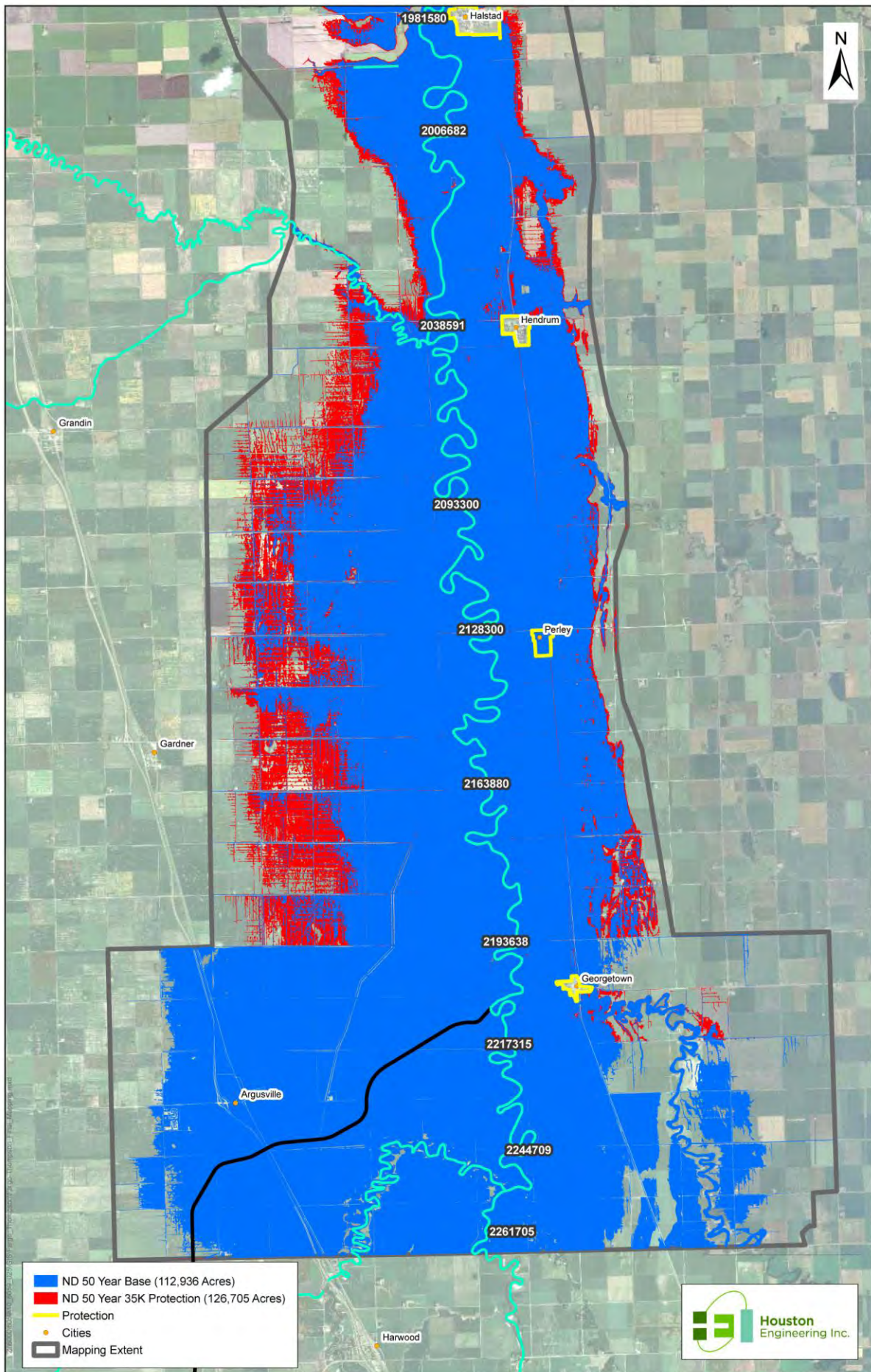
The following tables correspond to the attached maps. These reflect the additional stage increase at each station. The station numbers below correspond to points on the attached maps. The stations show the distance in feet along the centerline of the river starting at the north and progressing southward.

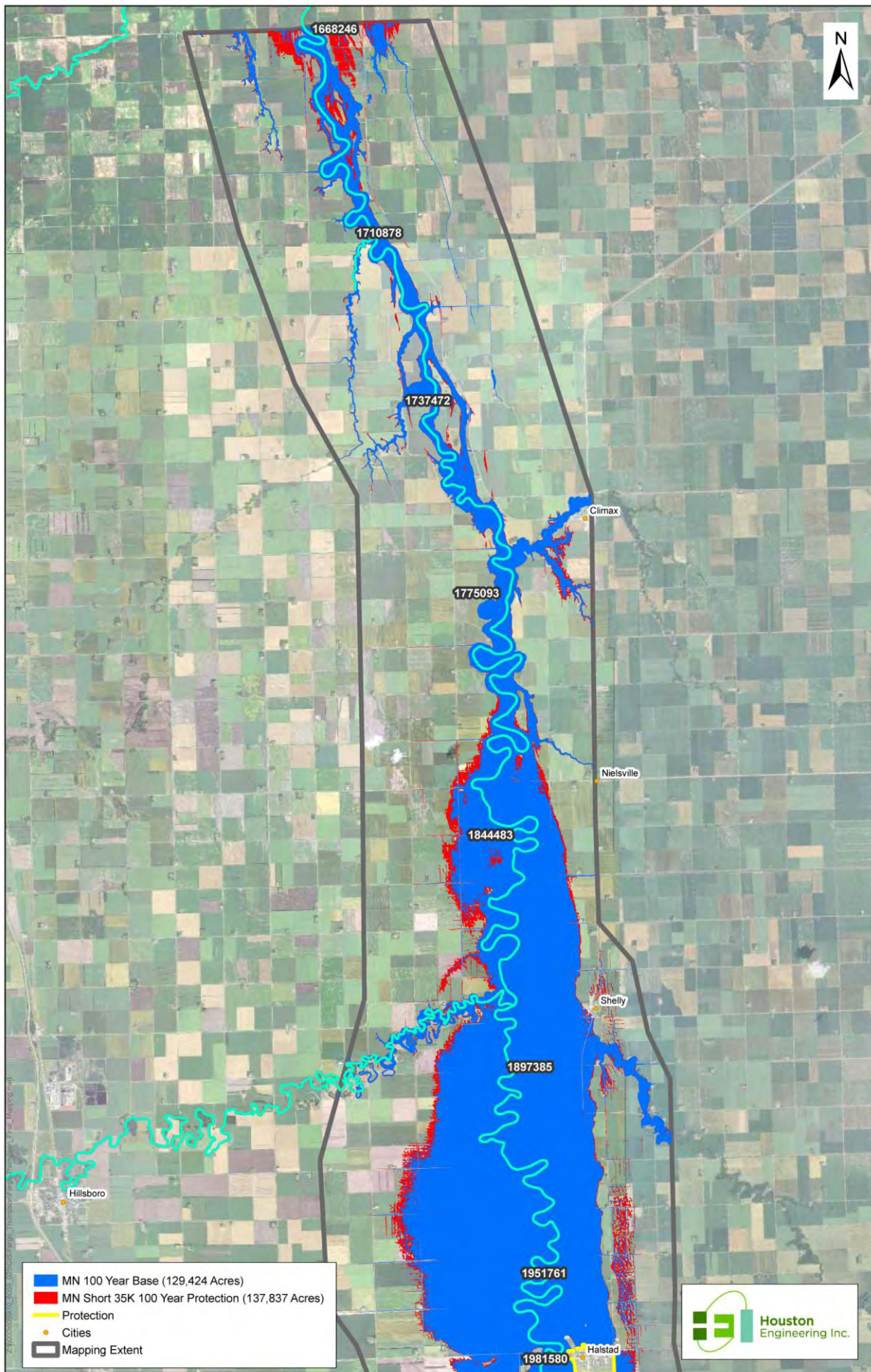
The Corps will continue to analyze the impacts downstream of Thompson and will report these findings as they become available. The Corps will also complete economic and takings analyses for the area downstream of Halstad and eventually Thompson in the future.

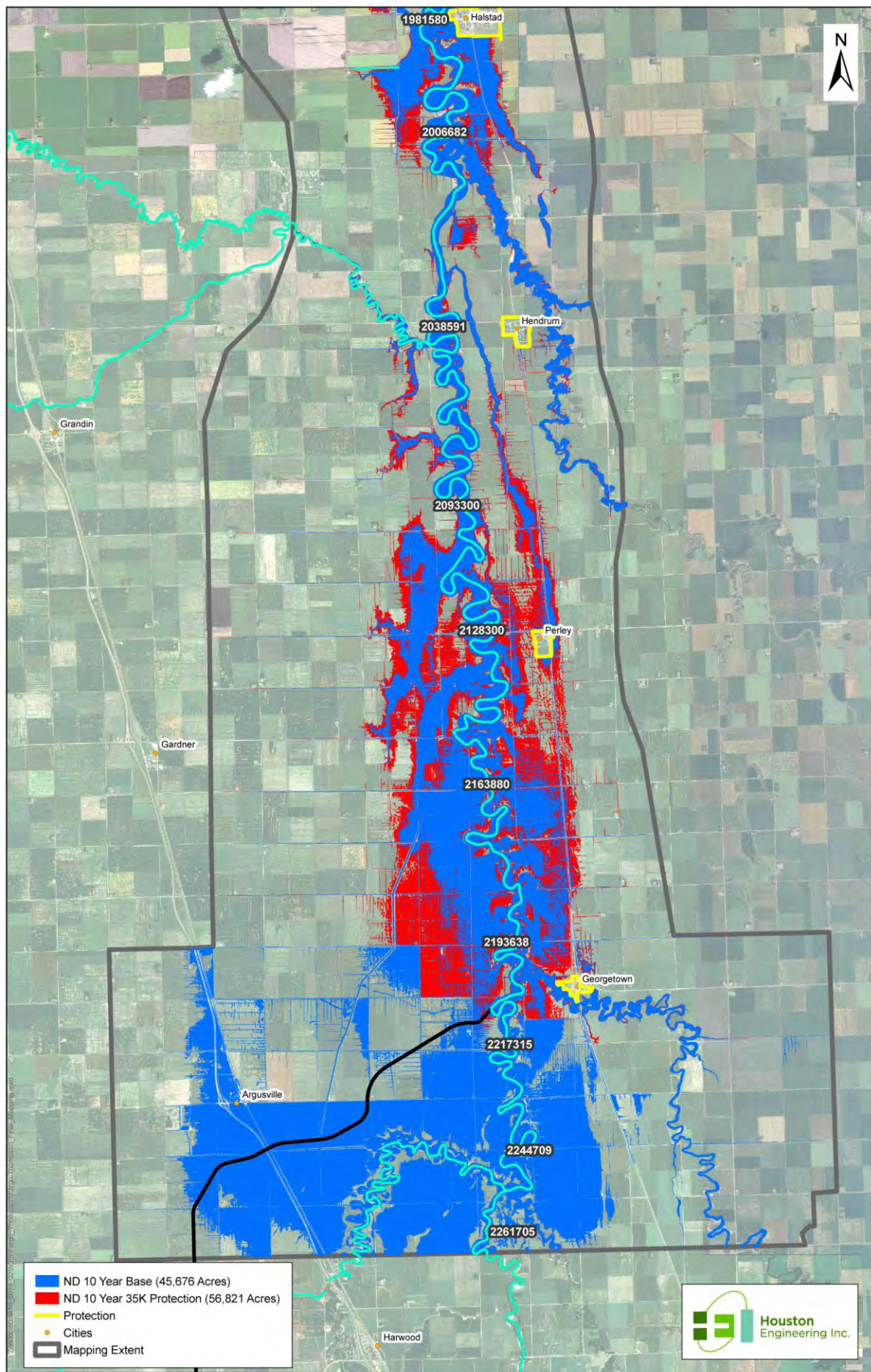
10-Year Event (10% Chance)			
Location	Station	Stage increase (inches)	
		Minnesota 35K	North Dakota 35K
Thompson	1667665	3.2	12.2
Hwy 25/Co.Rd 221	1719816	3.6	13.3
ND Peak	1745606		13.9
Climax	1763746	3.6	13.6
Marsh River	1864960	3.4	11.9
Shelly	1890722	3.6	12.0
MN Peak	1891054	4.0	
Co. Rd. 139	1951761	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

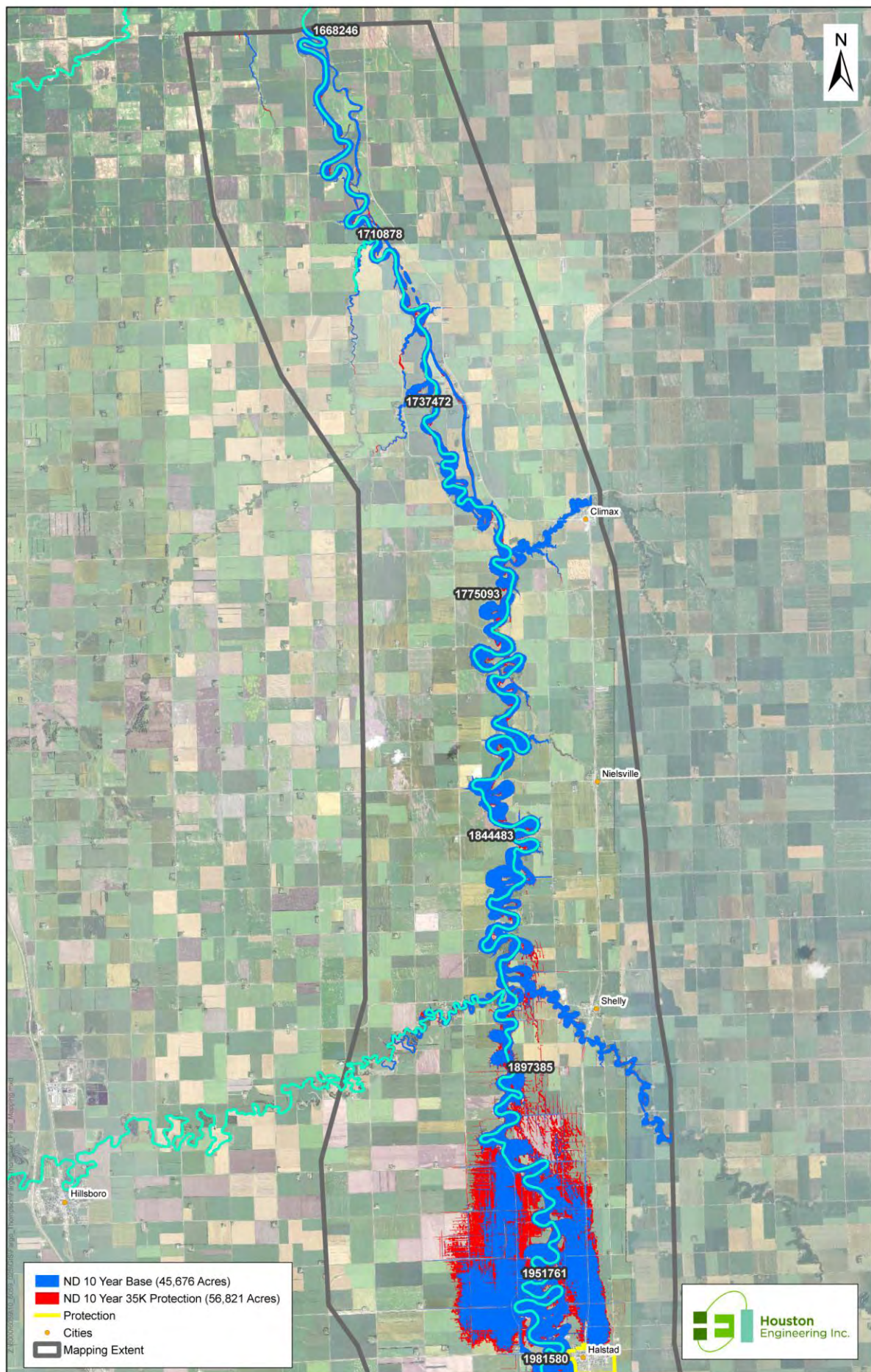
50-Year Event (2% Chance)			
Location	Station	Stage increase (inches)	
		Minnesota 35K	North Dakota 35K
Thompson	1667665	9.0	20.9
Hwy 25/Co.Rd 221	1719816	11.8	26.9
Peak	1763493	13.2	29.4
Climax	1763746	13.1	29.3
Marsh River	1864960	10.0	22.2
Shelly	1890722	8.0	17.3
Co. Rd. 139	1951761	5.0	10.0
Halstad Gage	1981580	5.5	10.3
Hendrum	2038359	9.2	15.1
Perley	2129181	6.6	9.4
Georgetown	2193941	4.9	8.0

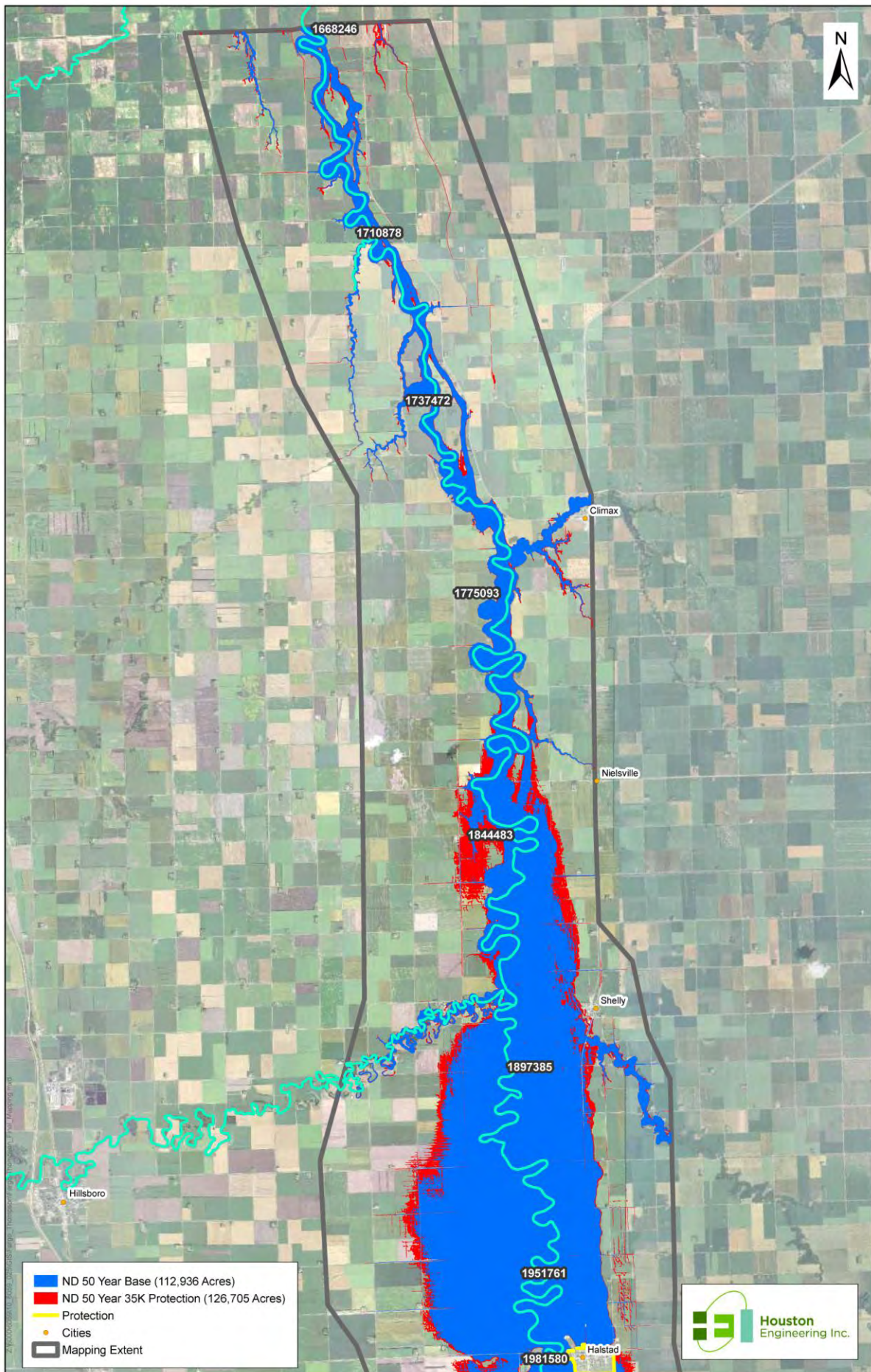
100-Year Event (1% Chance)			
Location	Station	Stage increase (inches)	
		Minnesota 35K	North Dakota 35K
Thompson	1667665	9.4	15.8
Hwy 25/Co.Rd 221	1719816	13.0	23.6
Peak	1759732	14.0	
Peak	1762993		25.4
Climax	1763746	13.8	25.3
Marsh River	1864960	10.7	19.4
Shelly	1890722	8.6	15.1
Co. Rd. 139	1951761	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

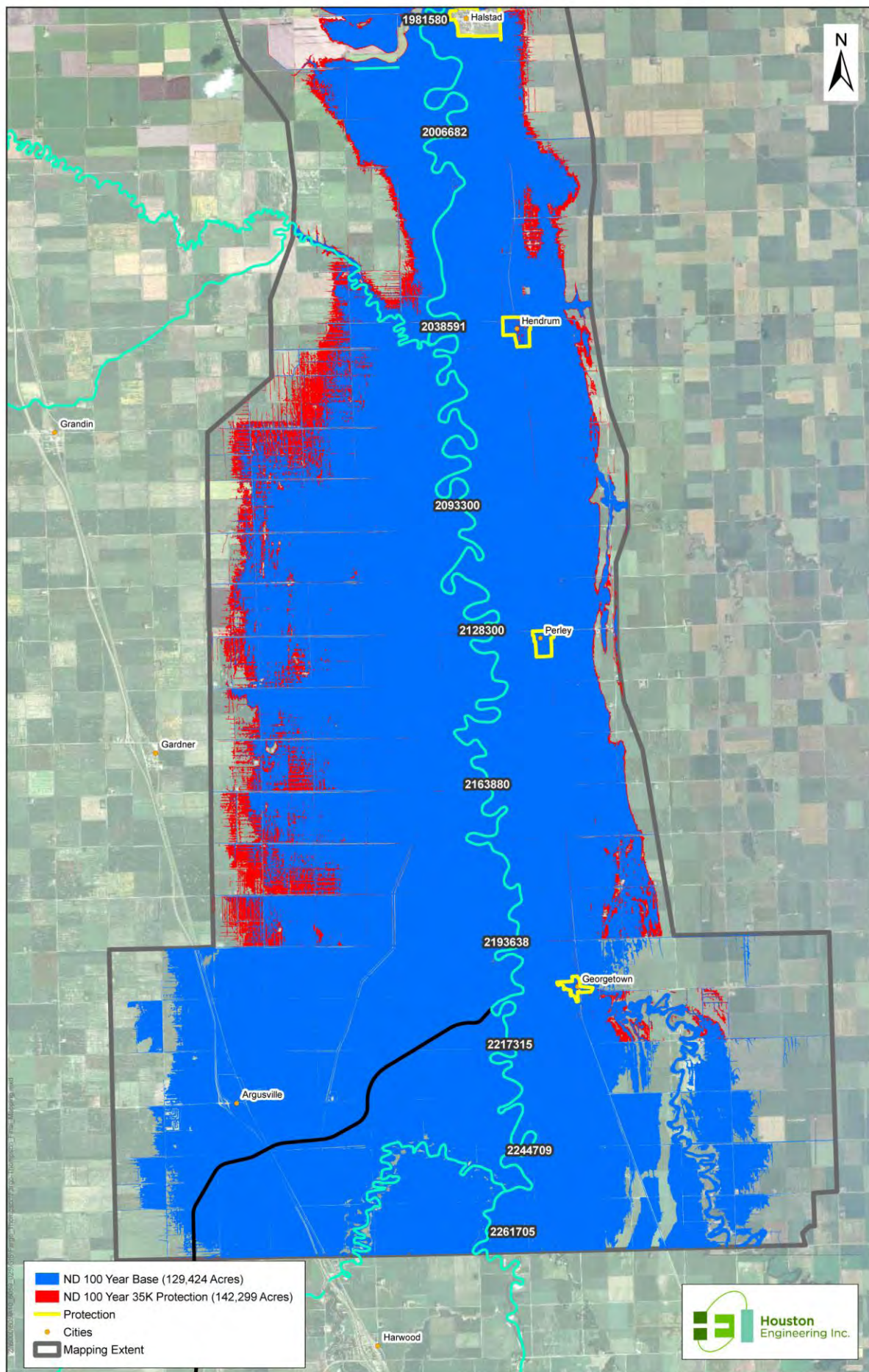


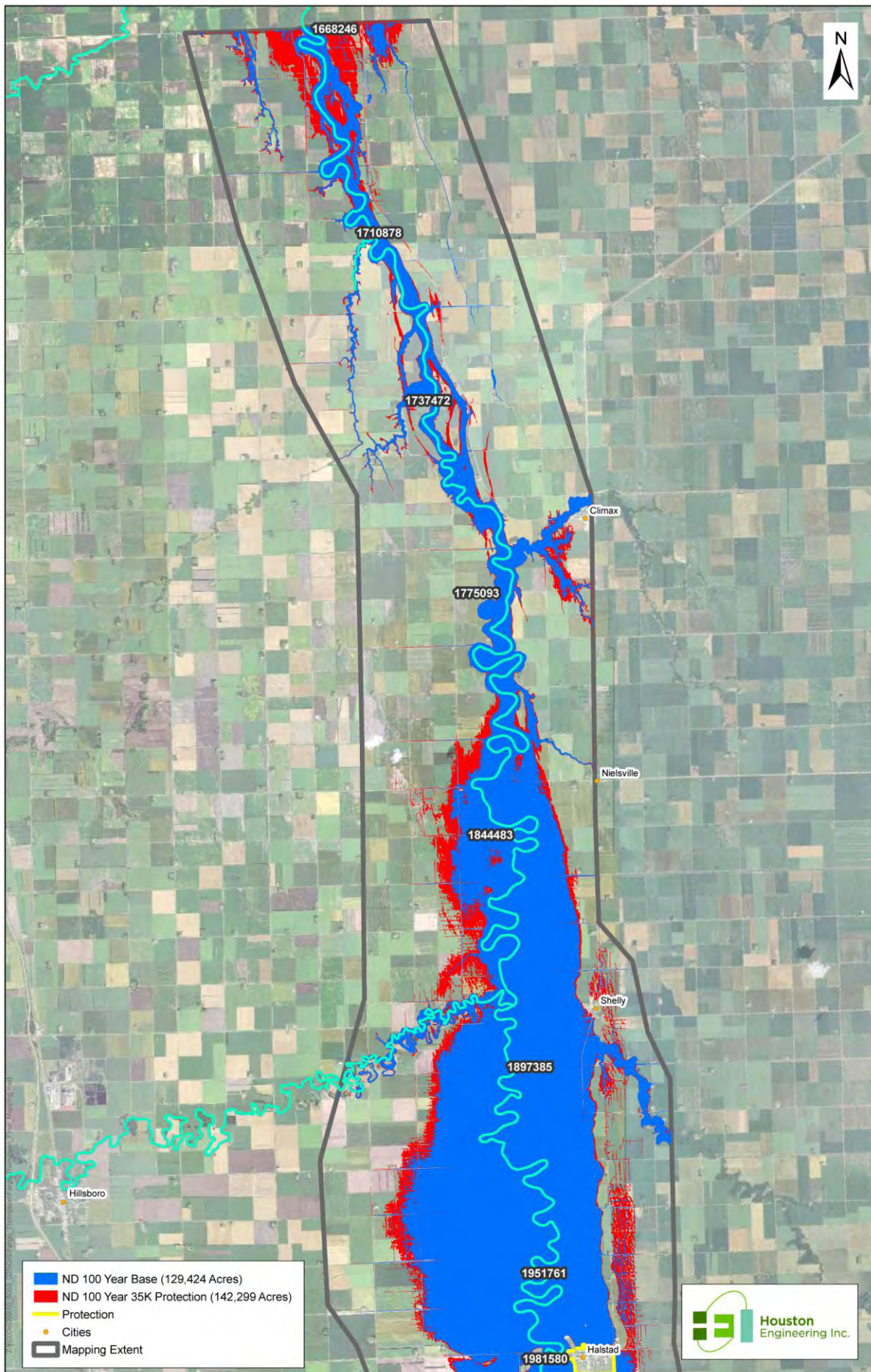


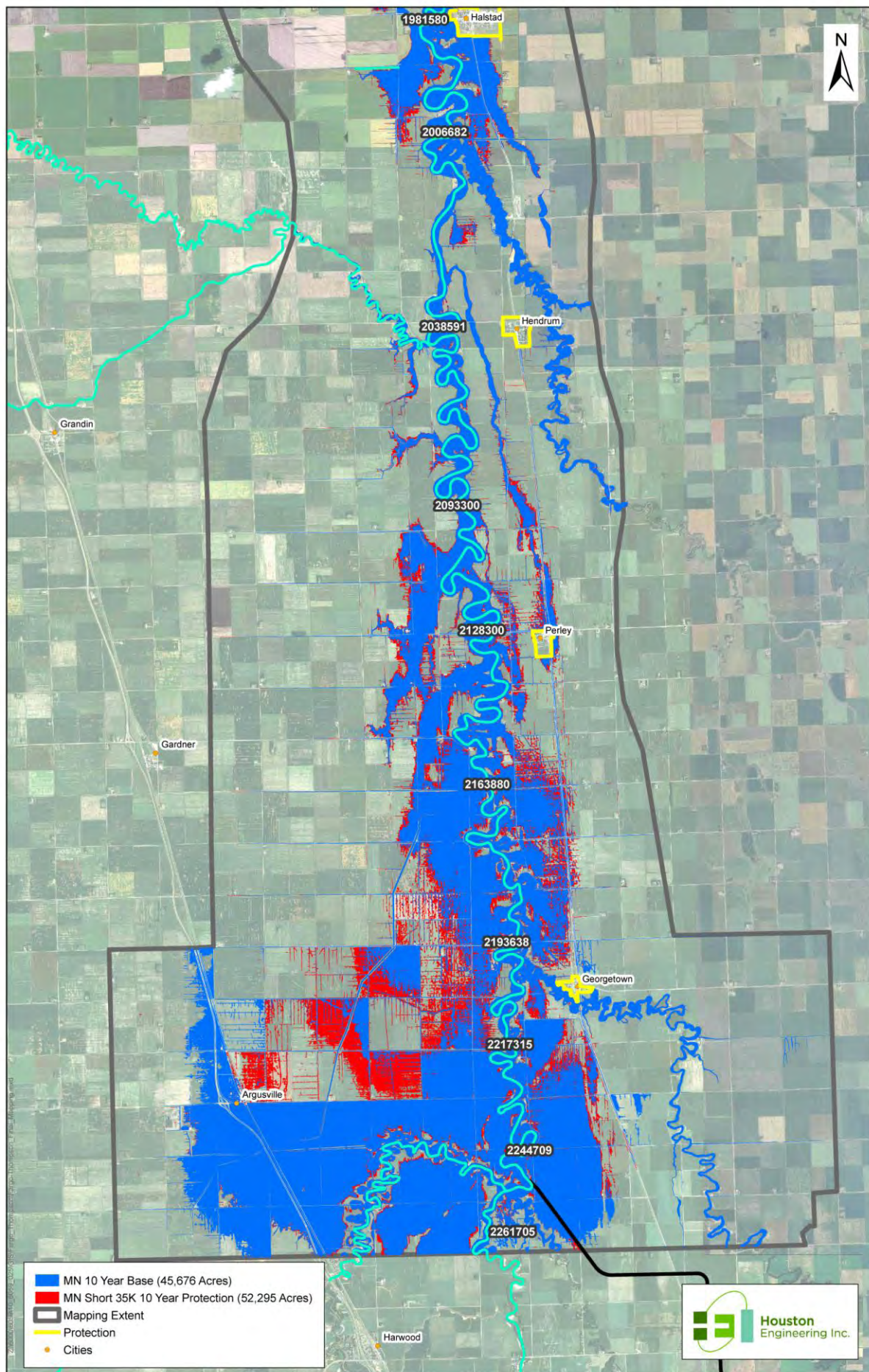


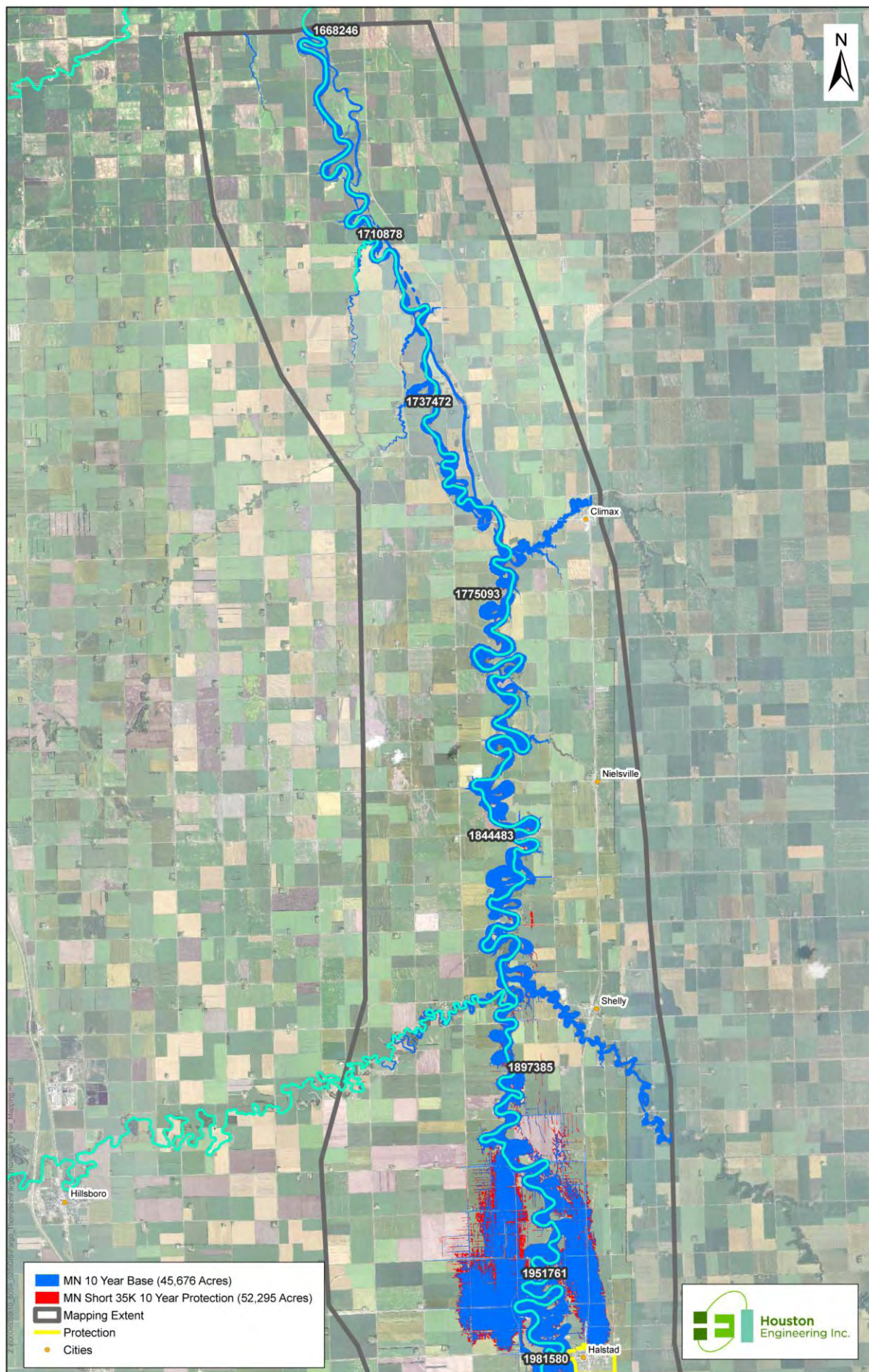


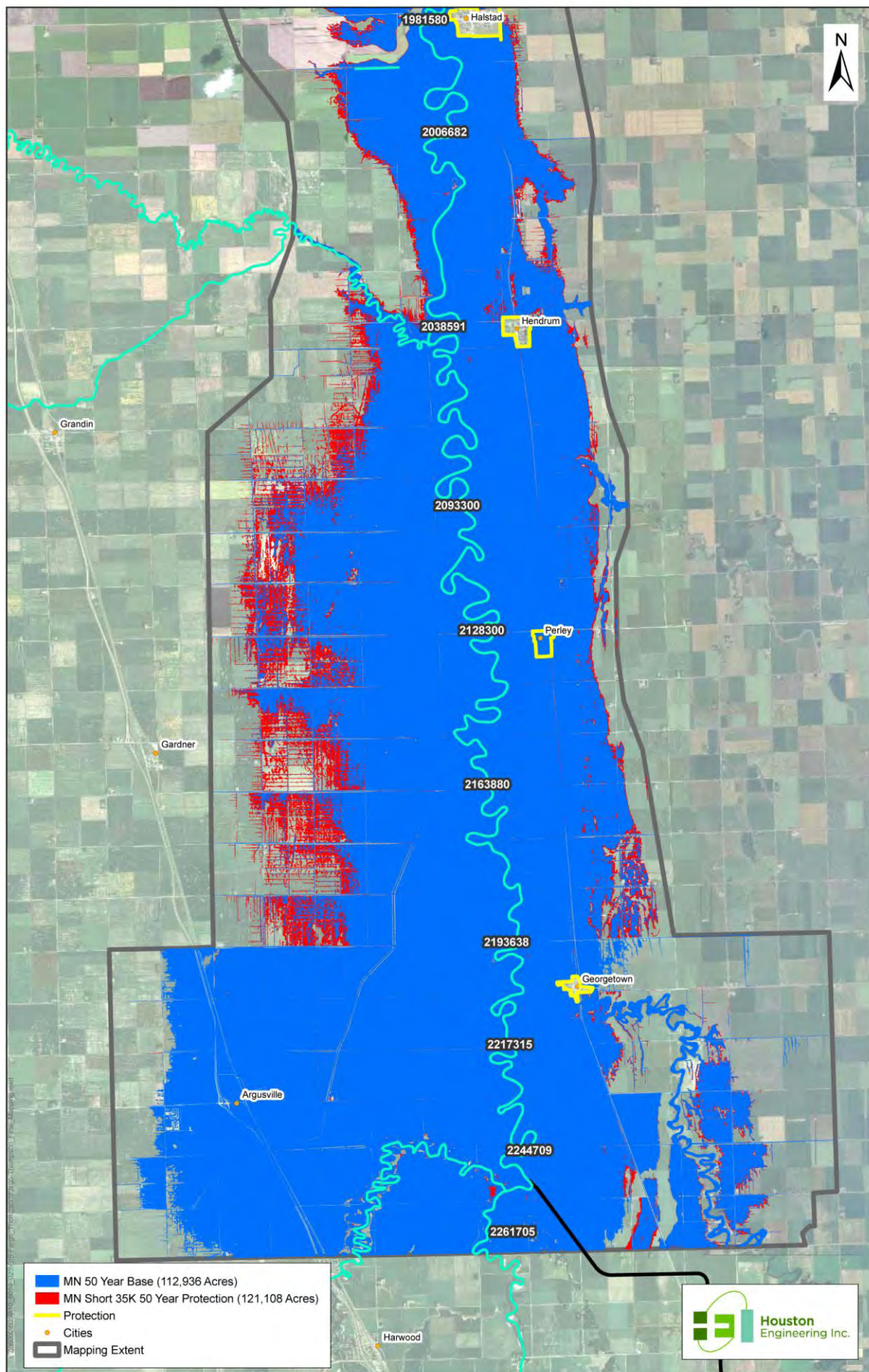


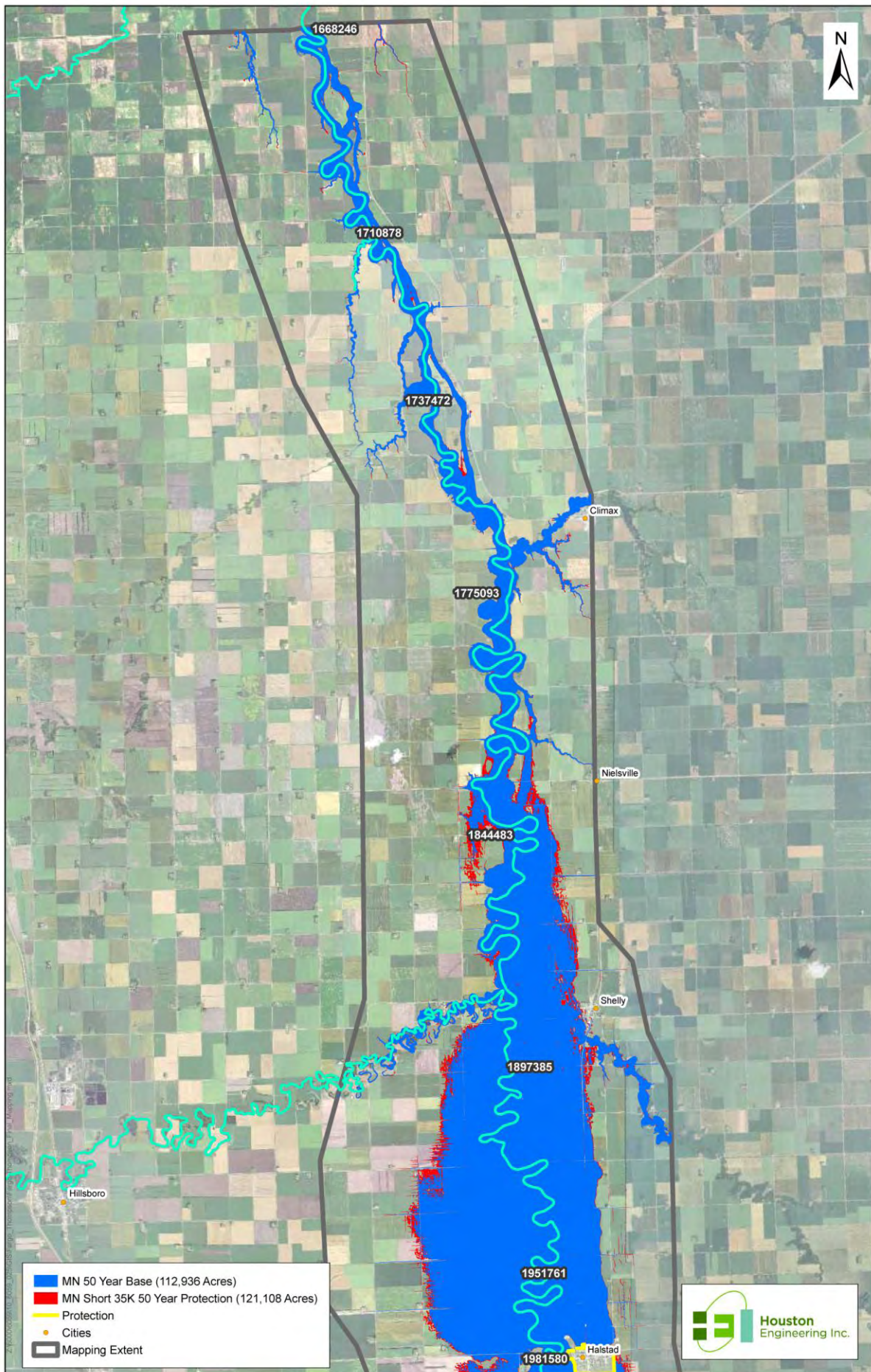


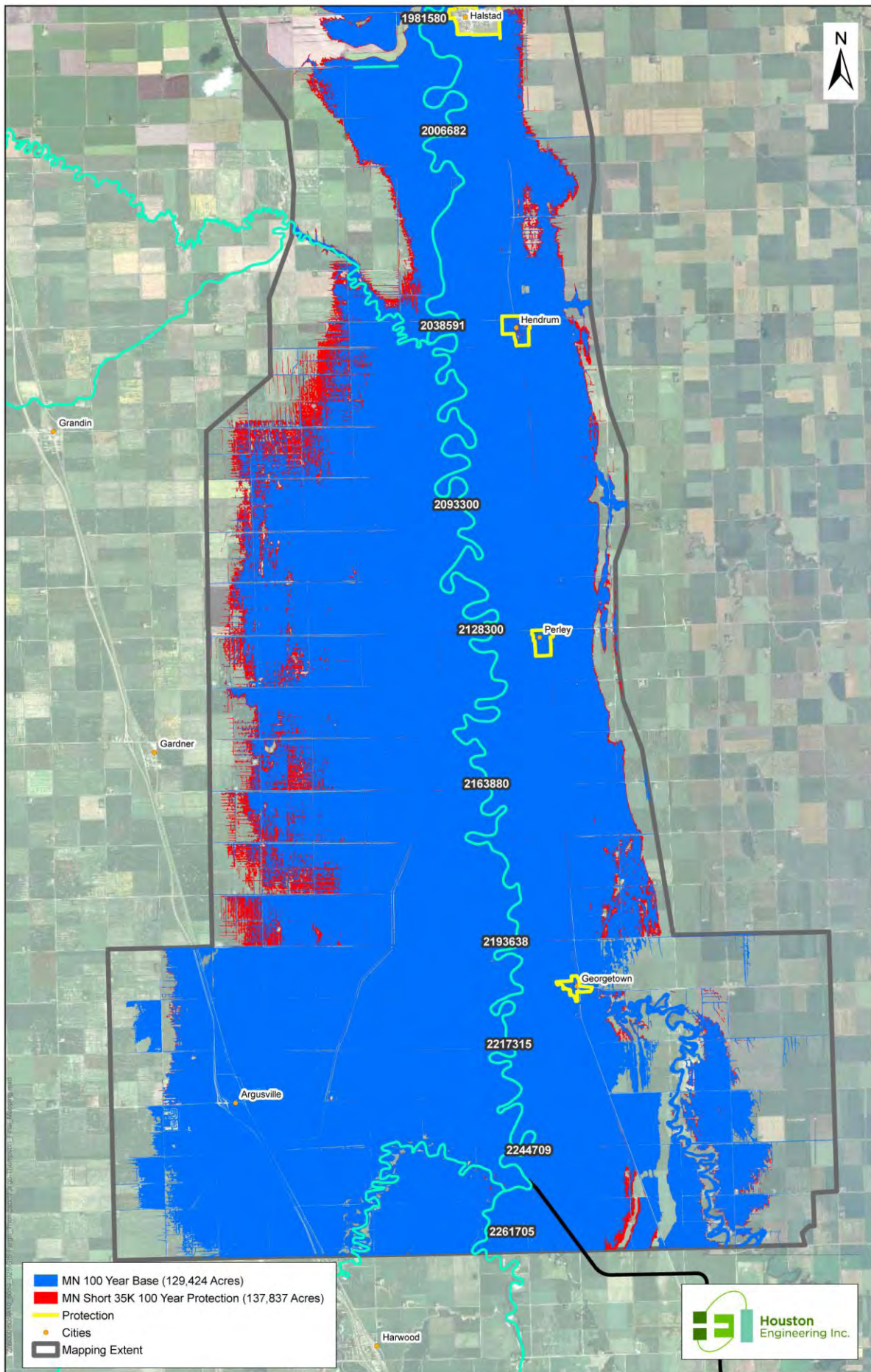












Presentation 21:

November 18, 2010

Fargo-Moorhead Metropolitan Feasibility Study

***Presentation for FMM Work Group
November 18, 2010***



**US Army Corps of Engineers
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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



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



Current Analysis

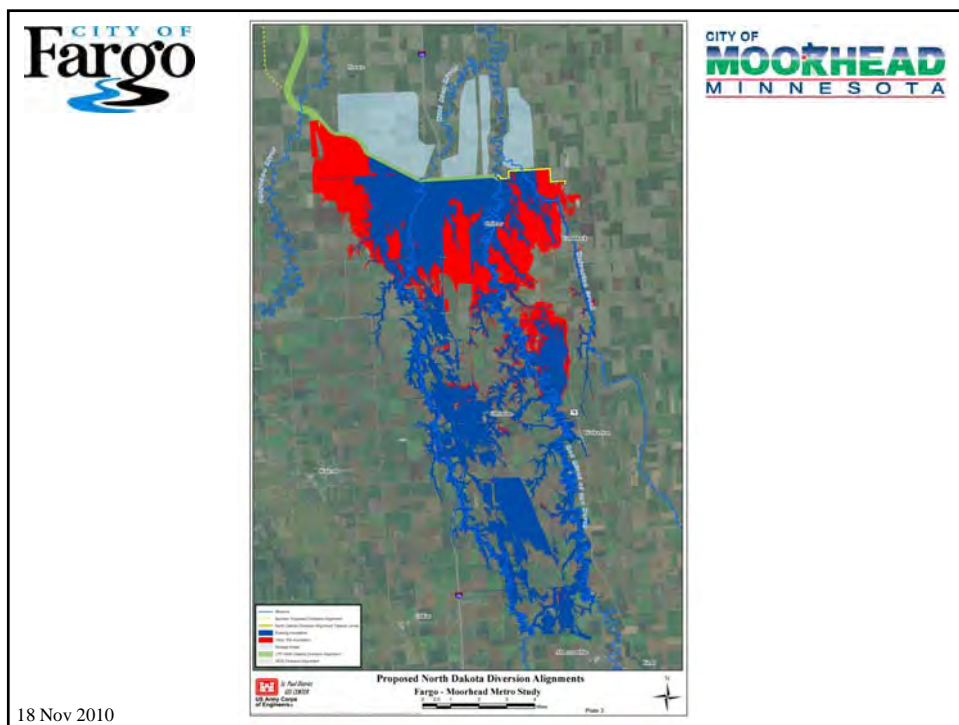
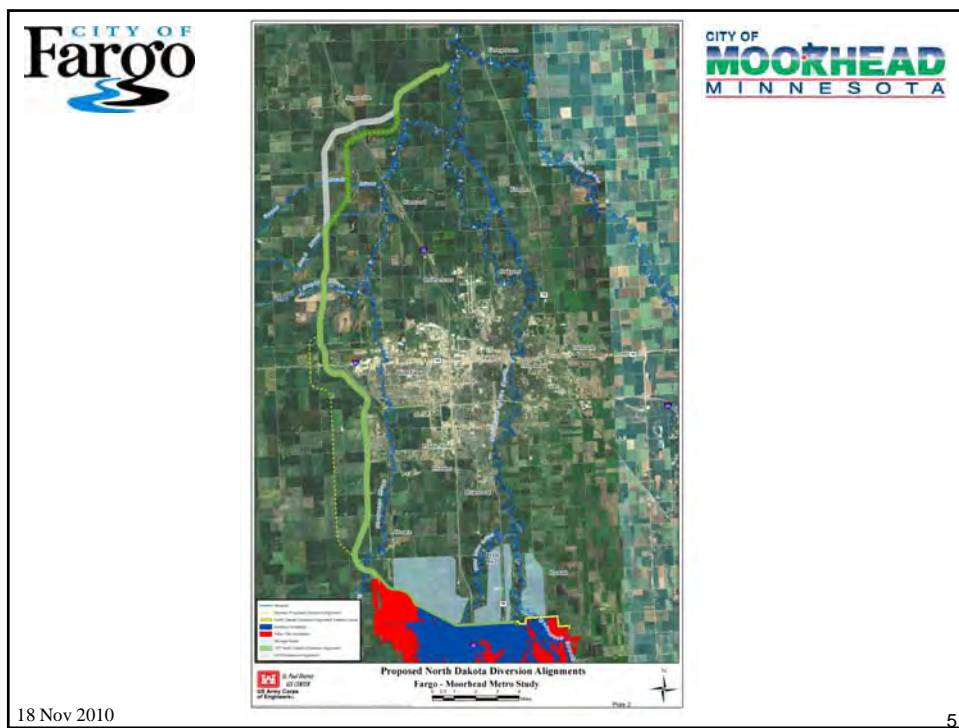
- ✓ Additional hydraulic modeling completed
 - ✓ Model reviewed by others
- ✓ Looking at concepts to reduce downstream impacts
 - ✓ Storage cells along diversion
 - ✓ Upstream staging



Fargo-Moorhead Flood 2009

18 Nov 2010

4





**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



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***



**US Army Corps of Engineers
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Brief Project History

- ✓ From the Draft EIS
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 - ✓ Minnesota
 - ✓ North Dakota
 - ✓ The different alignments were compared at various flow volumes
 - ✓ The Locally Preferred Plan (LPP) is ND 35K.
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09 Dec 2010

2



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 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



Current Analysis

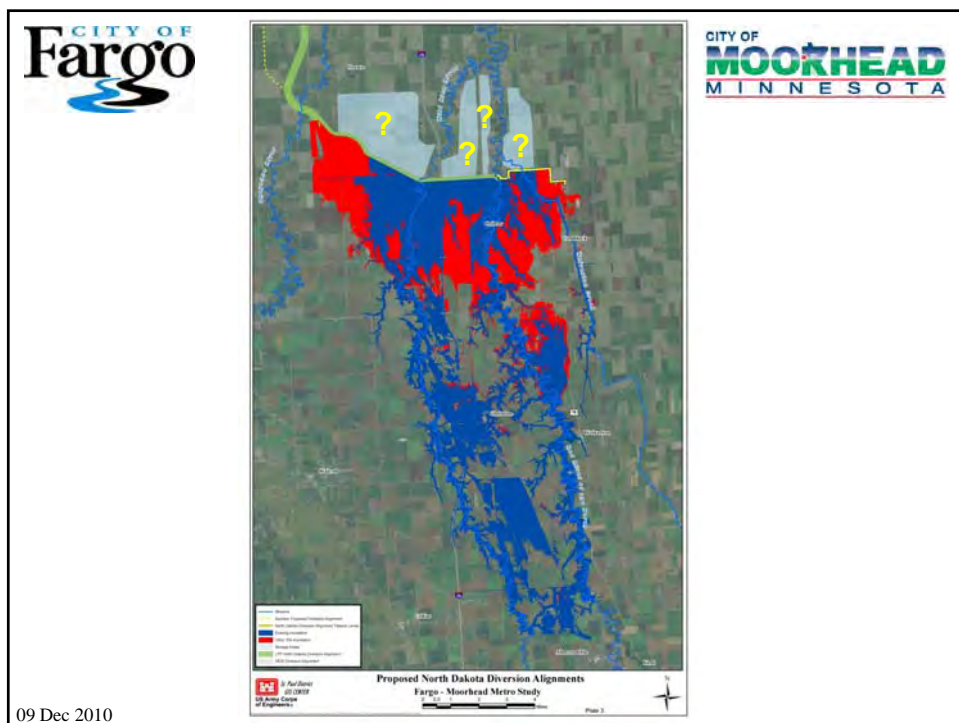
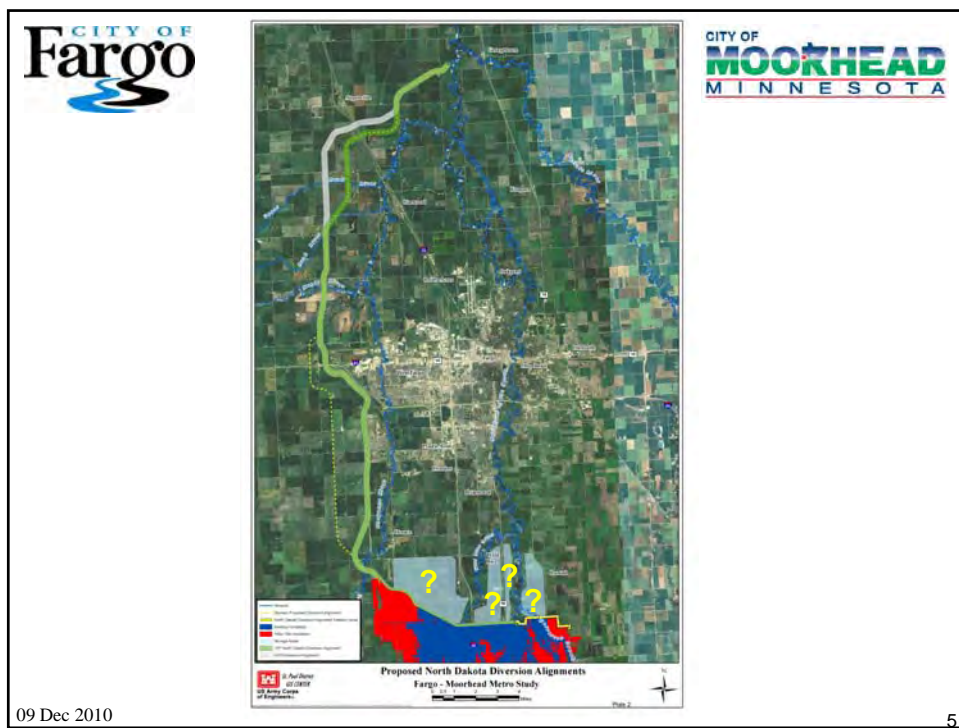
- ✓ Provide Information to Public
 - ✓ Potential upstream storage areas and impacts
 - ✓ Ensure distribution of information prior to supplemental draft report
- ✓ Additional hydraulic modeling completed
 - ✓ Model reviewed by others
- ✓ Looking at concepts to reduce downstream impacts
 - ✓ Storage cells along diversion
 - ✓ Upstream staging



Fargo-Moorhead Flood 2009

09 Dec 2010

4





**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**

09 Dec 2010

7



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.



09 Dec 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

09 Dec 2010

9



F-M Metro Study Timeline:

- ✓ 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

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***



**US Army Corps of Engineers
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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



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



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



Draft EIS Comments related to E.O. 11988

✓ FEMA –

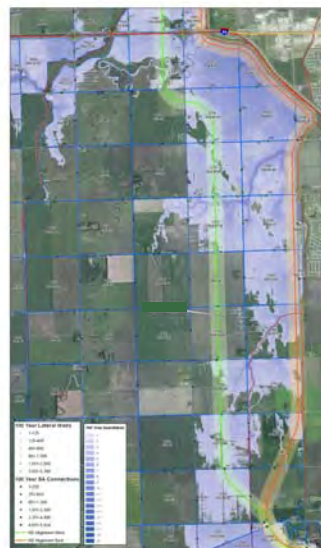
“...the documents can be improved by identifying measures to reduce the alternatives’ indirect support of future development in the floodplain...Section 10 of USACE Regulation No. 1165-2-26 (March 30, 1984)...“consideration shall be given to deletion of separable segments of a plan when such segments 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



Sheyenne River Floodplain



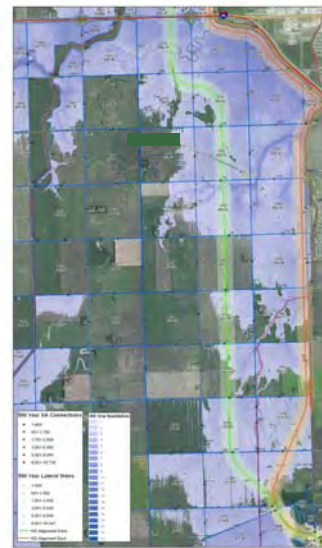
1% Chance
event

904.8'

0.2% Chance
Event

905.5'

WAPA
Substation
907-909'



1

6



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



Local Information provided



13 Jan 2011

8



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



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



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



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
- ✓ 1 Aug 11 Division Engineer's Transmittal
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19 Jan 2011

12



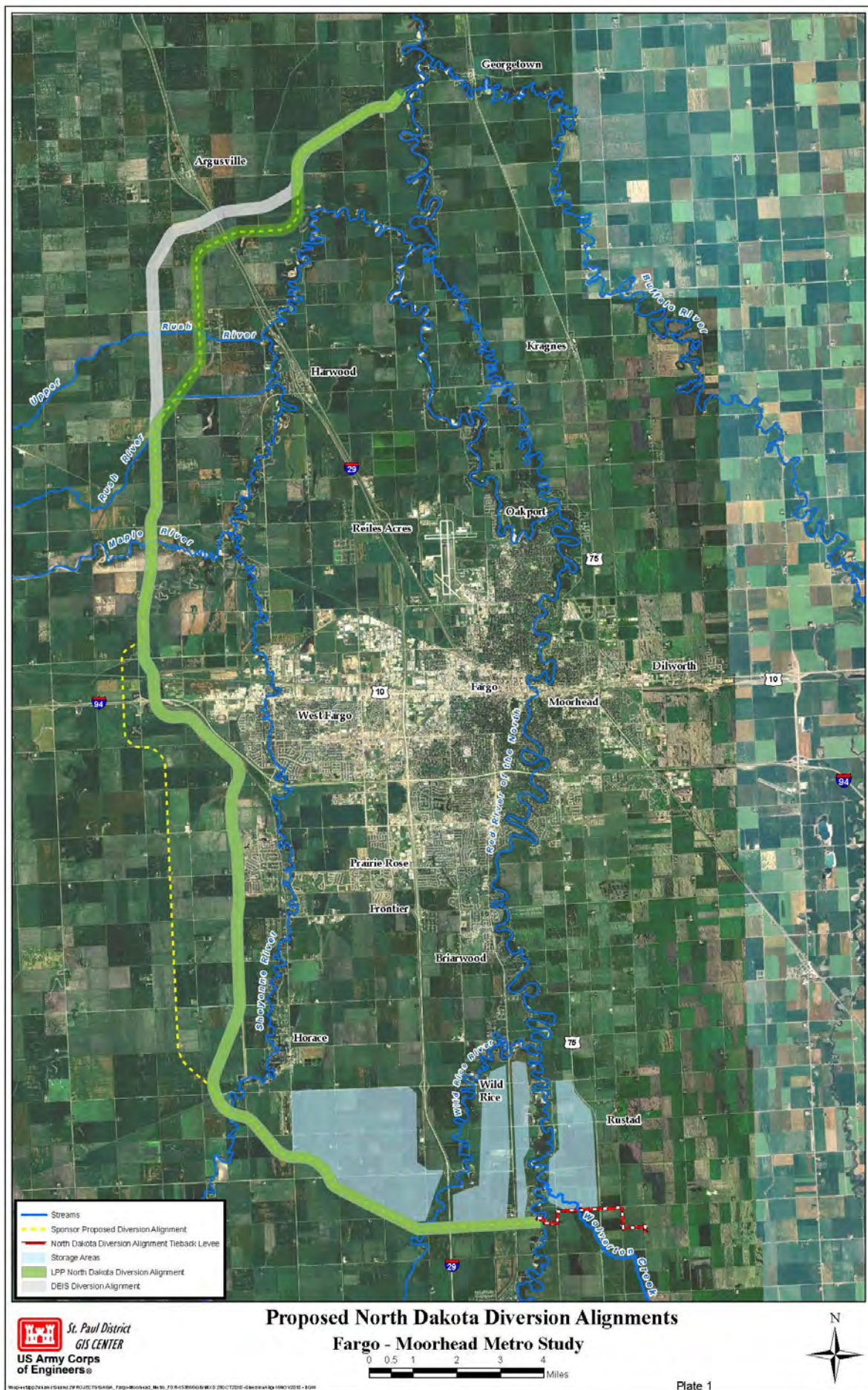
F-M Metro Information



<http://www.internationalwaterinstitute.org/feasibility/index.htm>

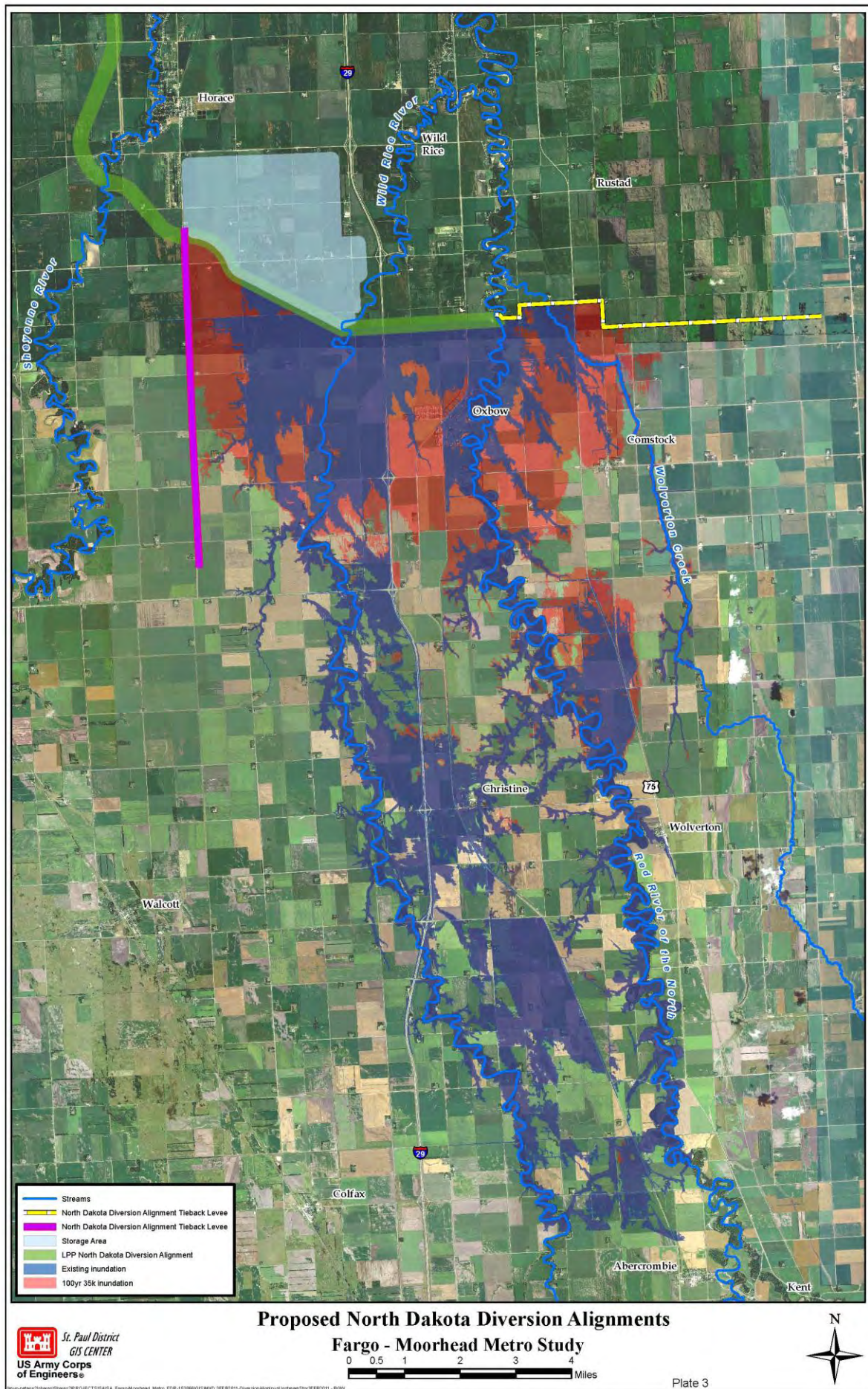
13 Jan 2011

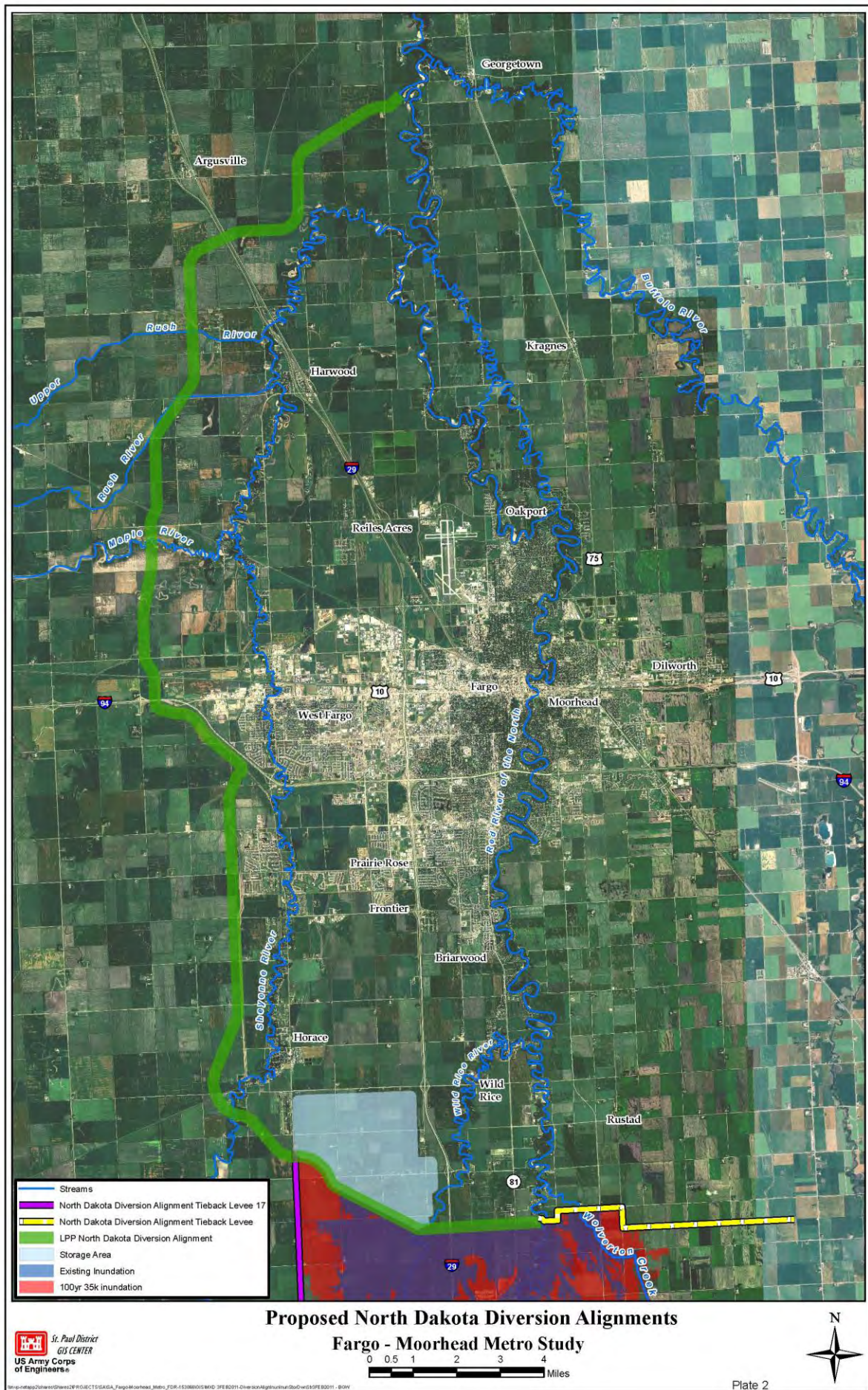
13



Presentation 25:

February 24, 2011





Presentation 26:

March 30, 2011

Fargo-Moorhead Metropolitan Feasibility Study

Public Meetings, March 30-31, 2011



**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



Presentation Overview:

- ✓ Existing conditions
- ✓ Planning process, decisions and alternatives considered
- ✓ Revised diversion plan
- ✓ Path forward
- ✓ Local actions required
- ✓ Schedule

March 2011

3



Existing Conditions: 1% and .2% Chance



March 2011

4



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



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

6

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



Aerial photo of Baldhill Dam and Lake Ashtabula, looking north.

March 2011

7

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



Existing Conditions: 1% and .2% Chance

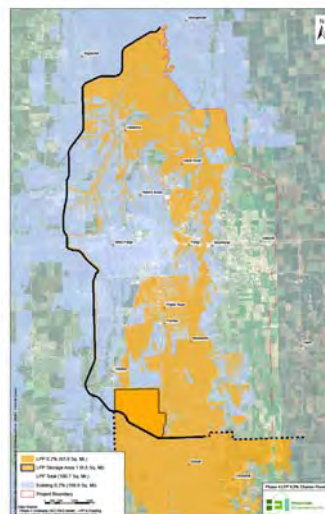
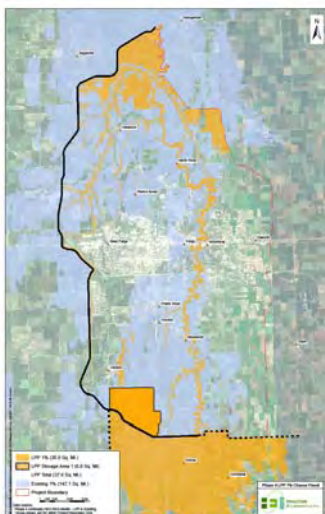


March 2011

9



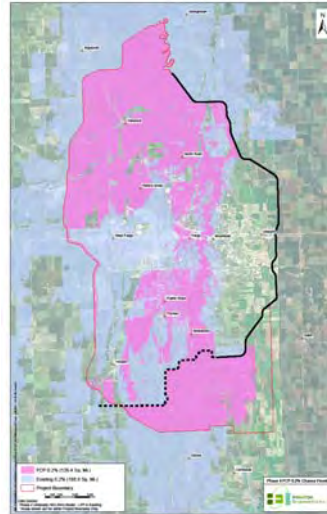
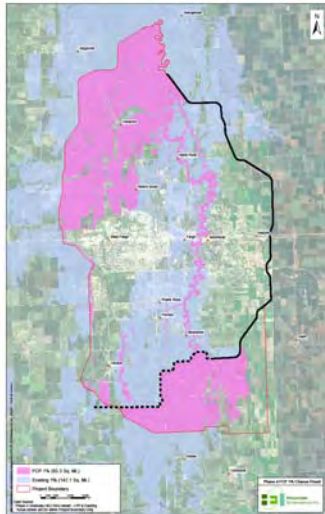
With- LPP Conditions: 1% and .2% Chance



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

March 2011

12



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

March 2011

13

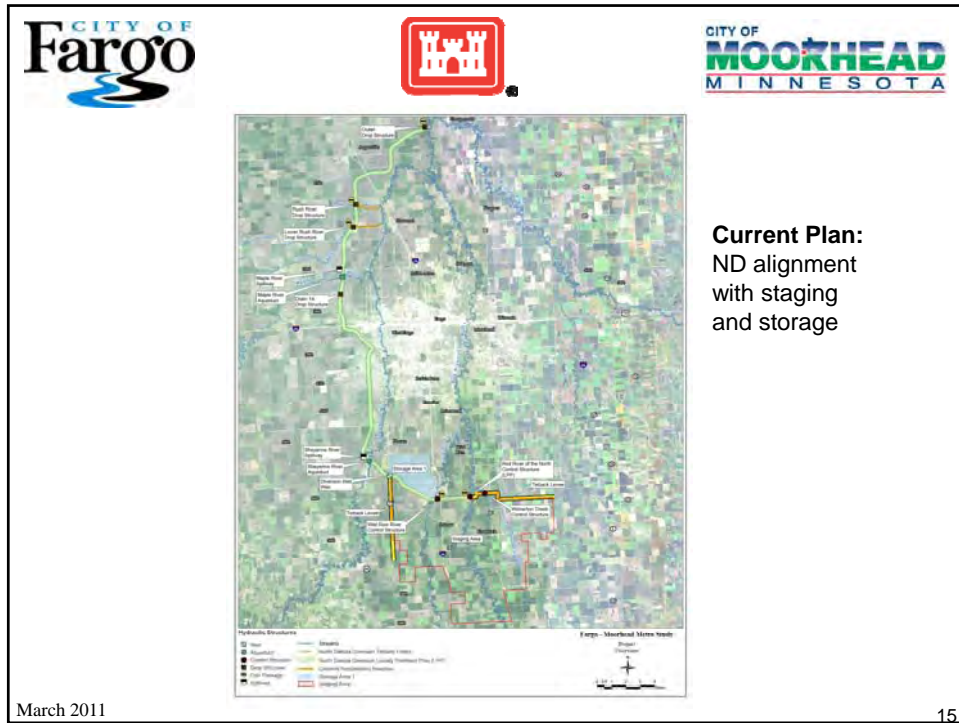



Analysis since September 2010:


- ✓ 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









Upstream Staging – LPP:

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

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

March 2011
16



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

March 2011

17



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	--	--	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	--

March 2011

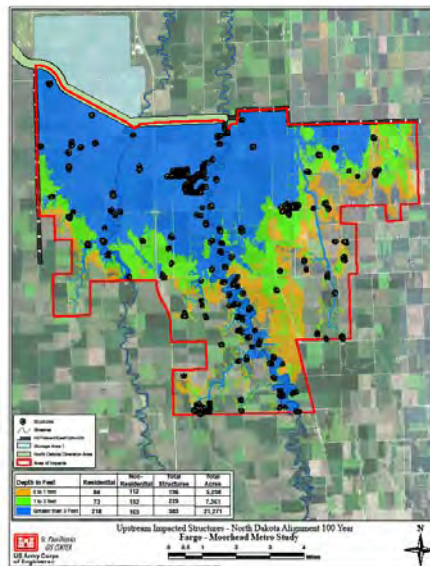
18

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

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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.

March 2011

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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.

March 2011

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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

March 2011

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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

March 2011

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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

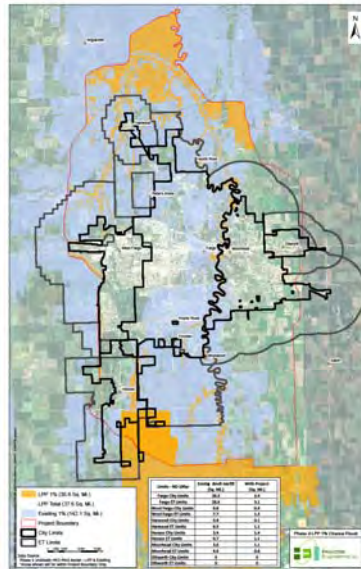
March 2011

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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

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LPP Variations Considered:

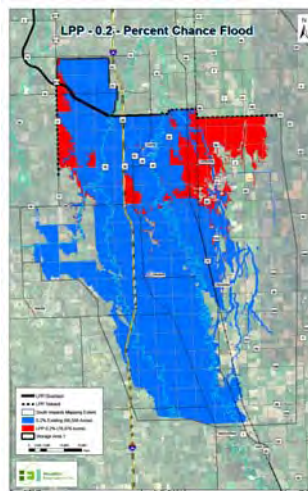
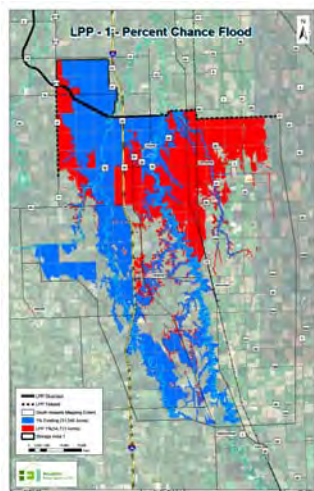
- ✓ 6 Variations were considered:
 - ✓ No storage/more storage
 - ✓ No staging/more staging
 - ✓ Allow additional downstream stage increases
 - ✓ Shift alignment south of Oxbow
- ✓ No great cost differences
- ✓ All variations have impacts and tradeoffs

March 2011

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Upstream Impacts, LPP:

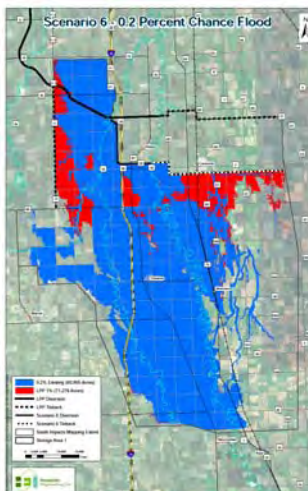
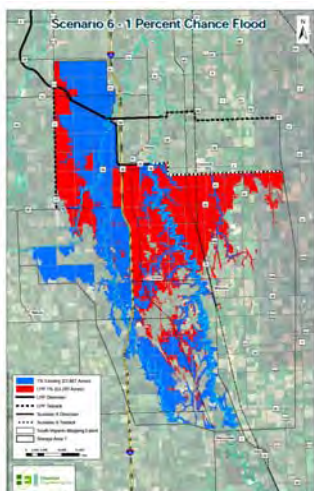


March 2011

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Upstream Impacts, Alignment South of Oxbow:



March 2011

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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

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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

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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

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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 /Jun 11 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*

March 2011

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F-M Metro Information



<http://www.internationalwaterinstitute.org/feasibility/index.htm>

March 2011

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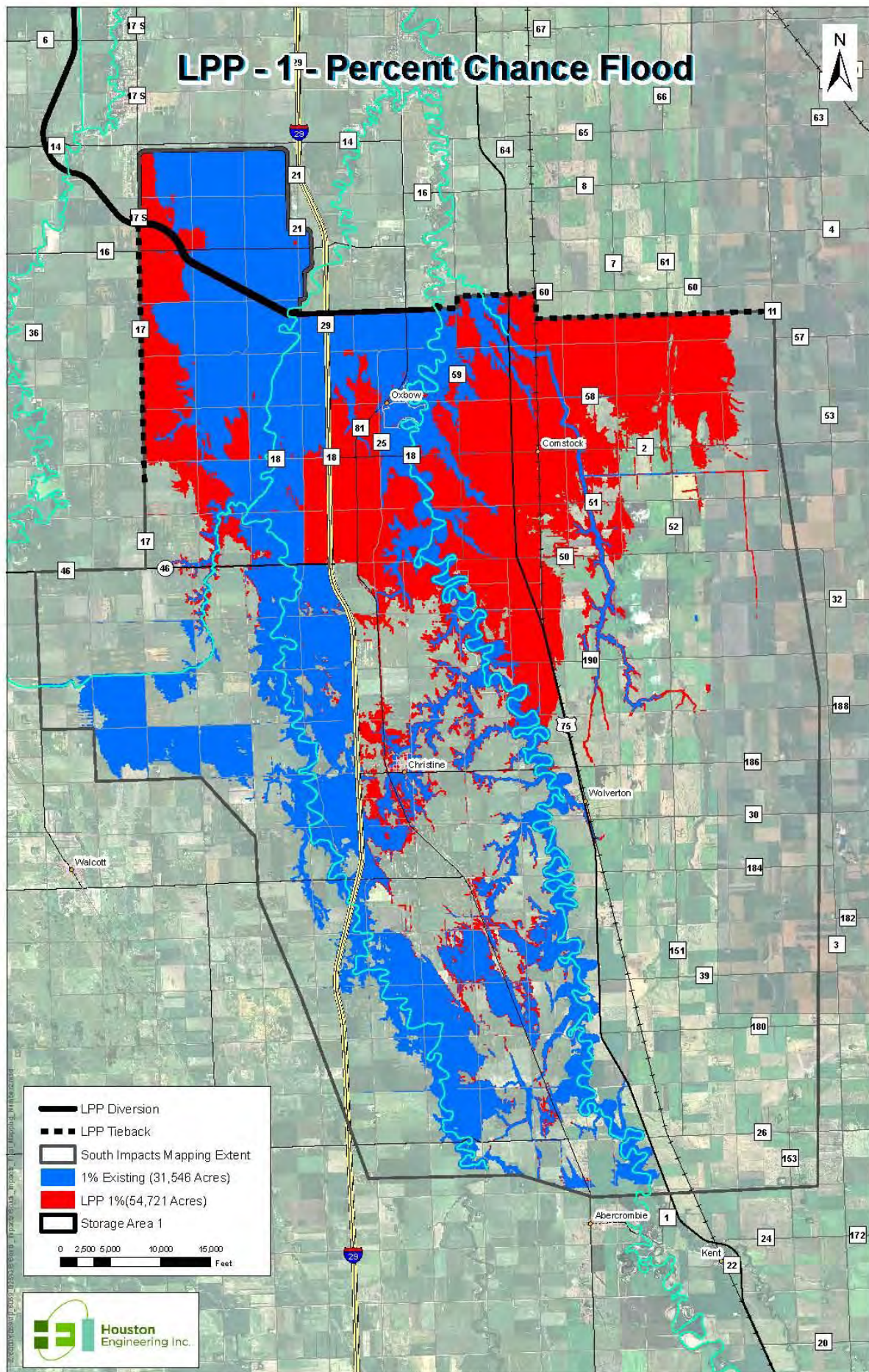


Figure C-E4-67

Appendix C - Exhibit 4

February 28, 2011

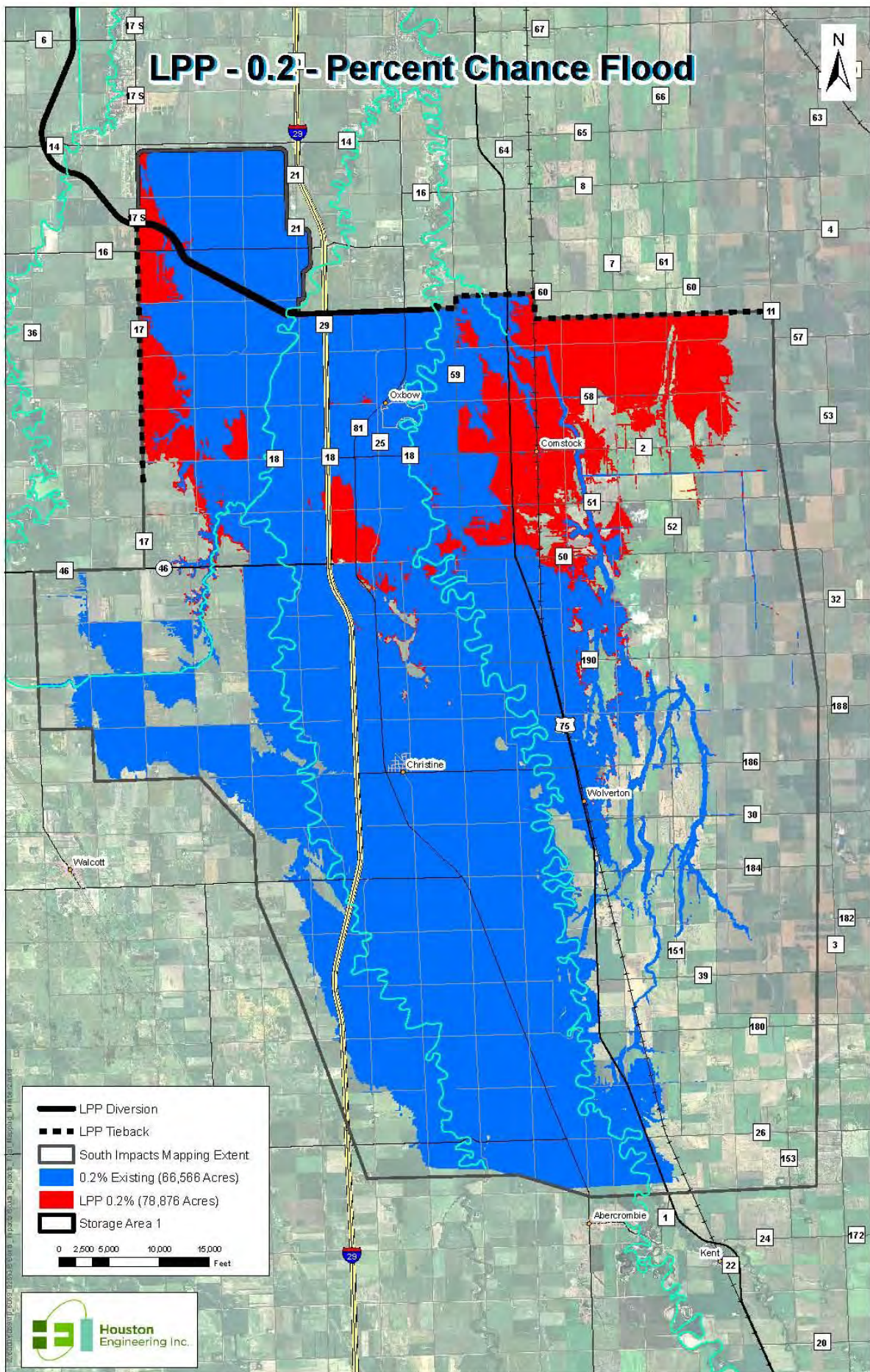
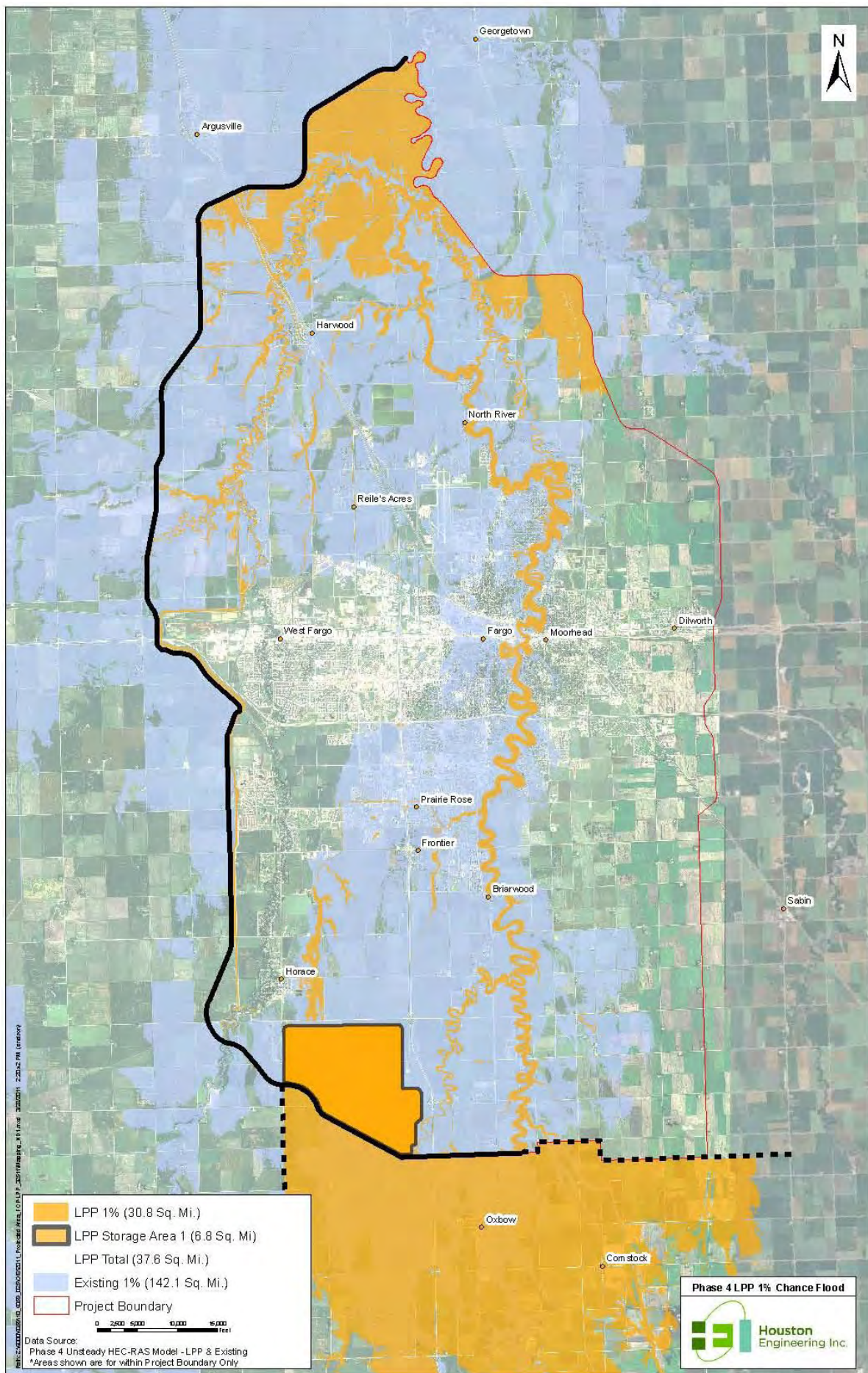
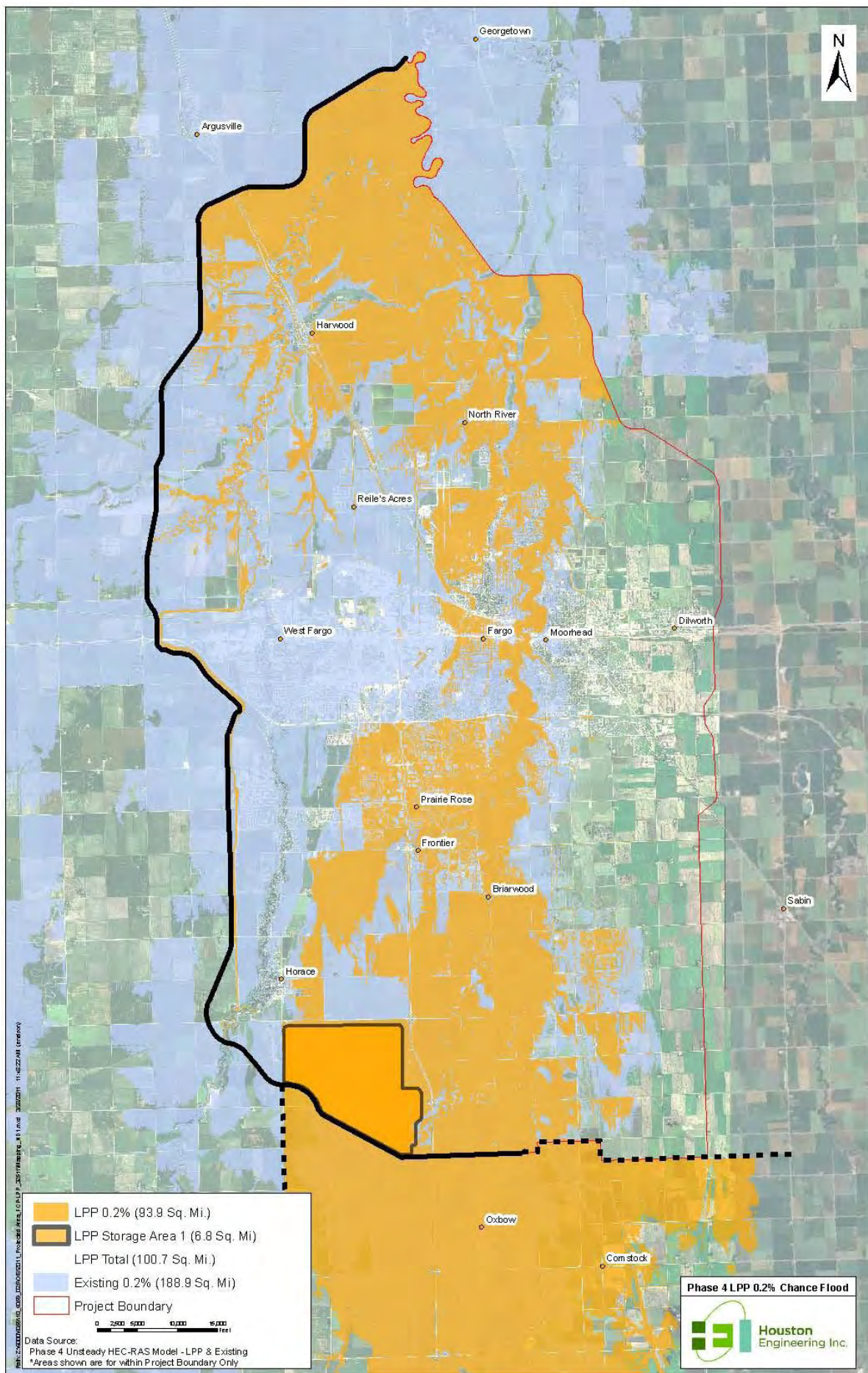


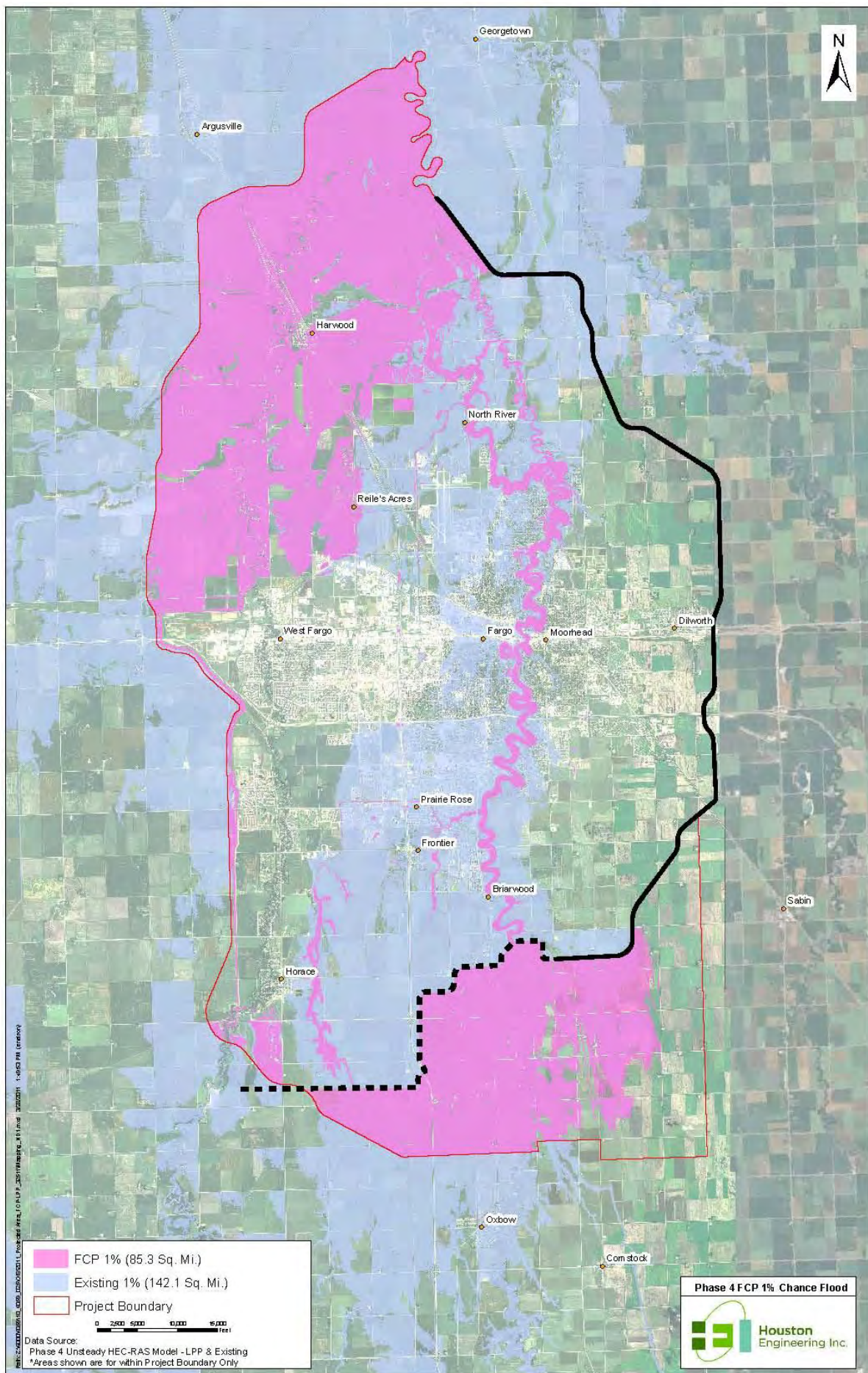
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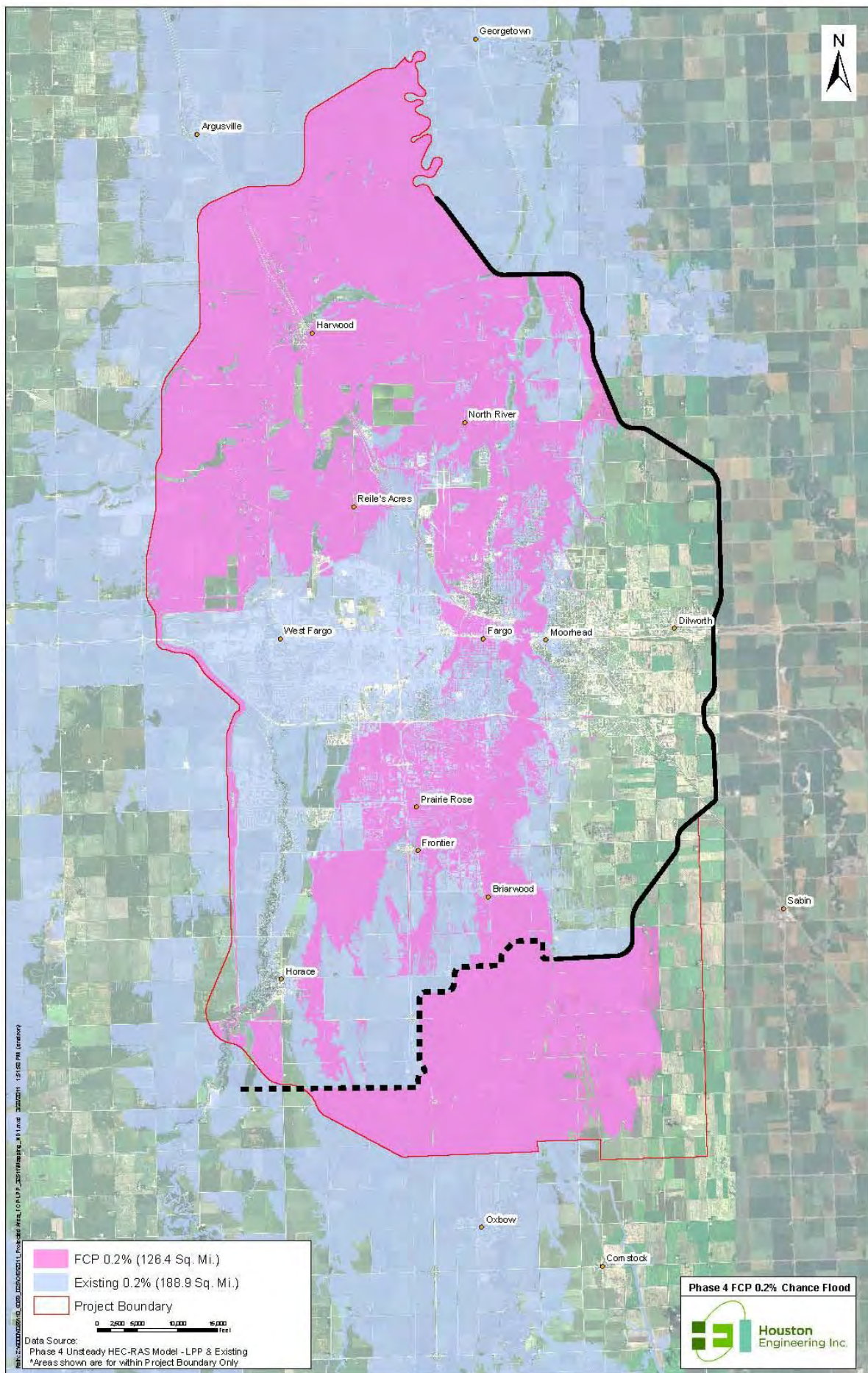
Appendix C - Exhibit 4

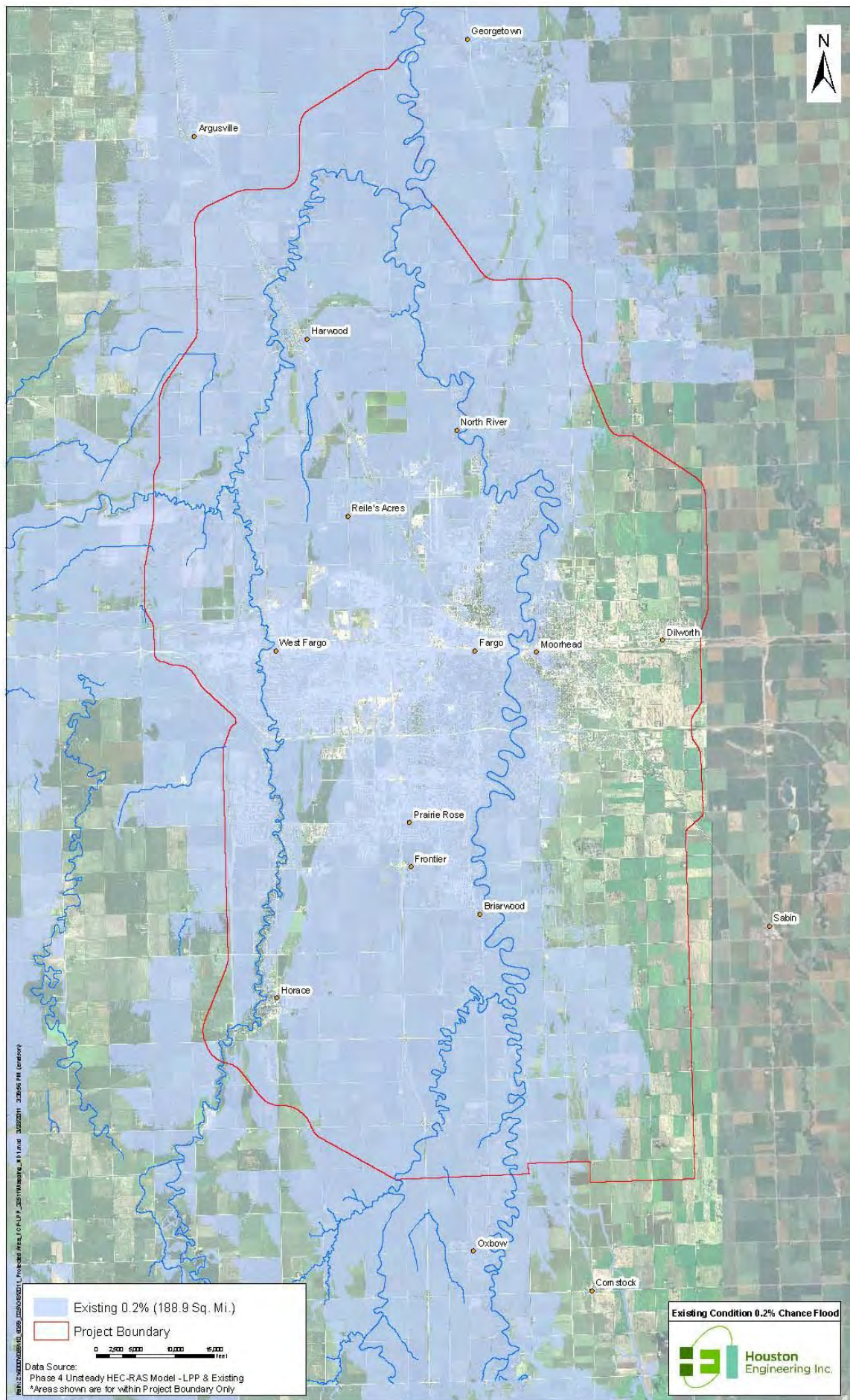
February 28, 2011

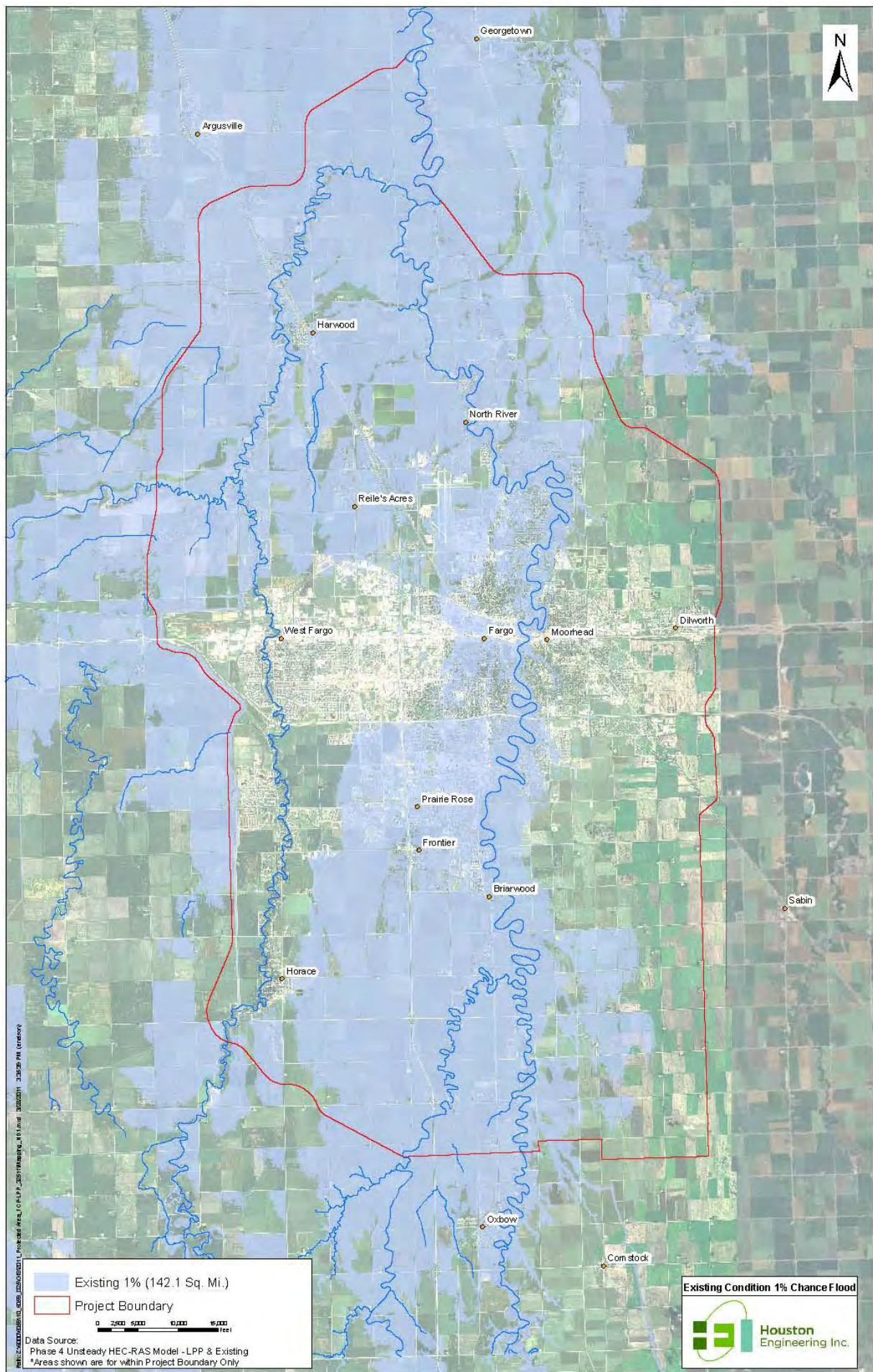


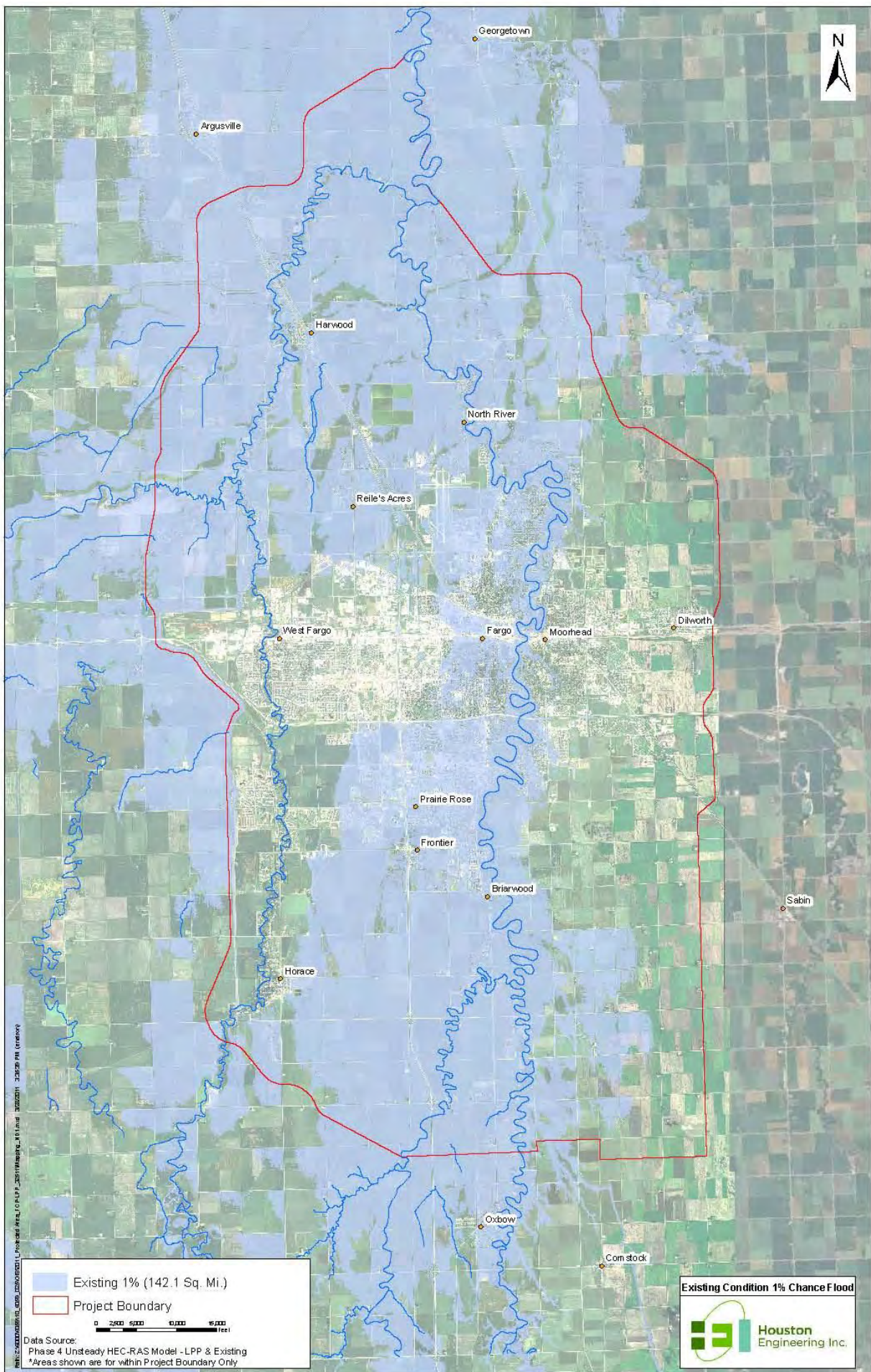


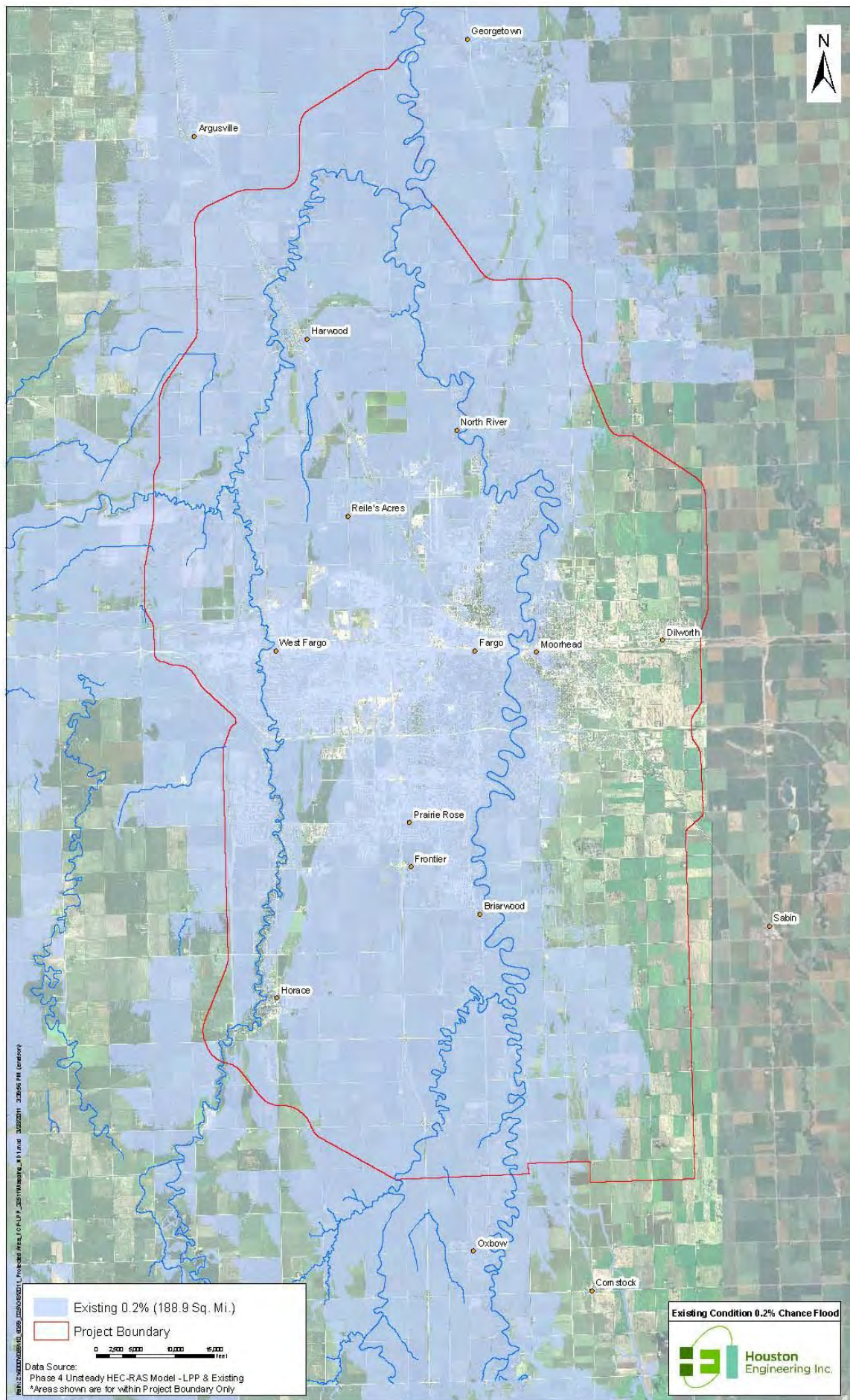


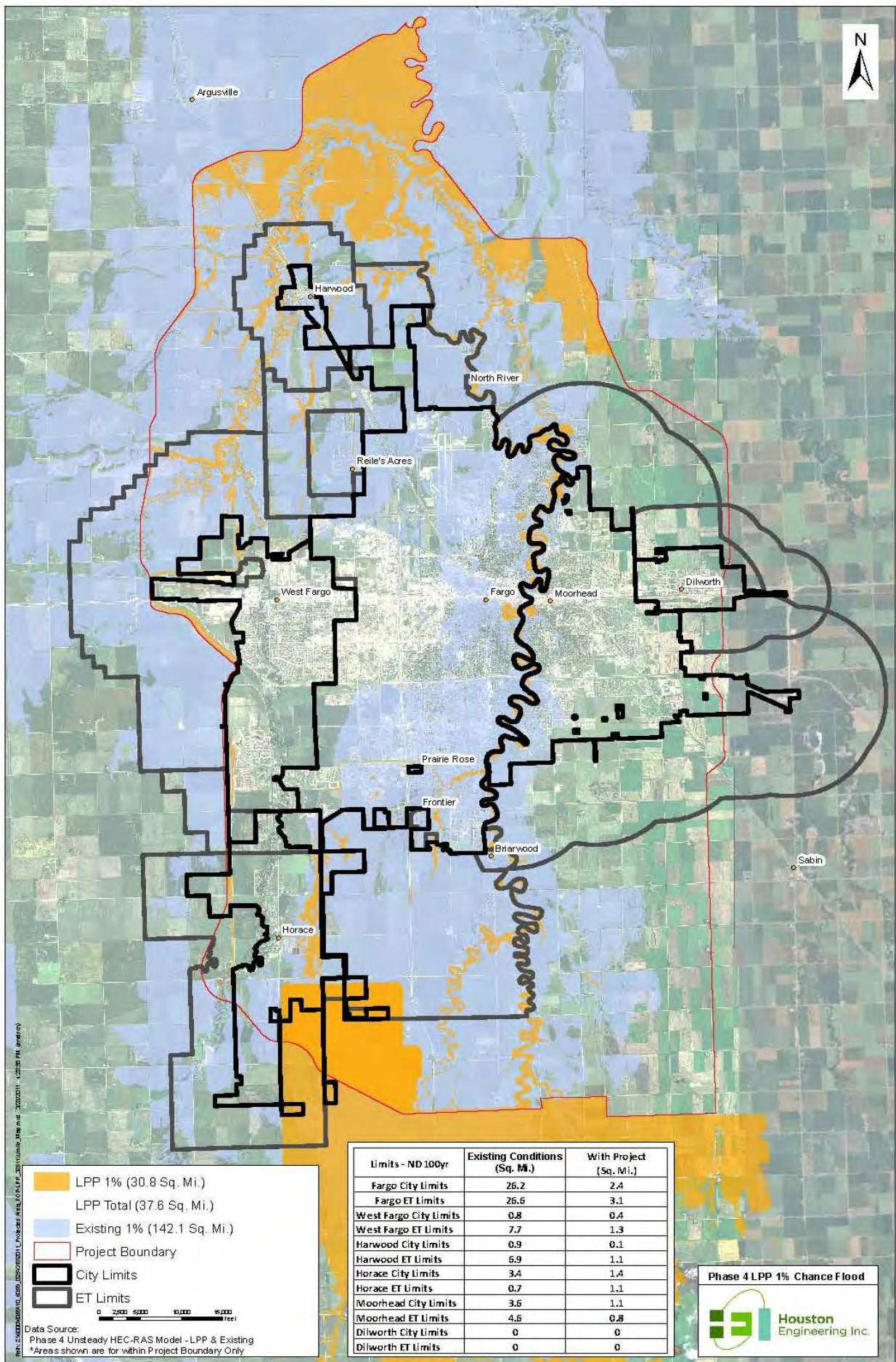


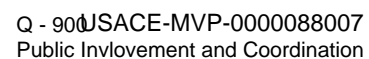


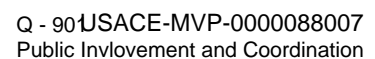


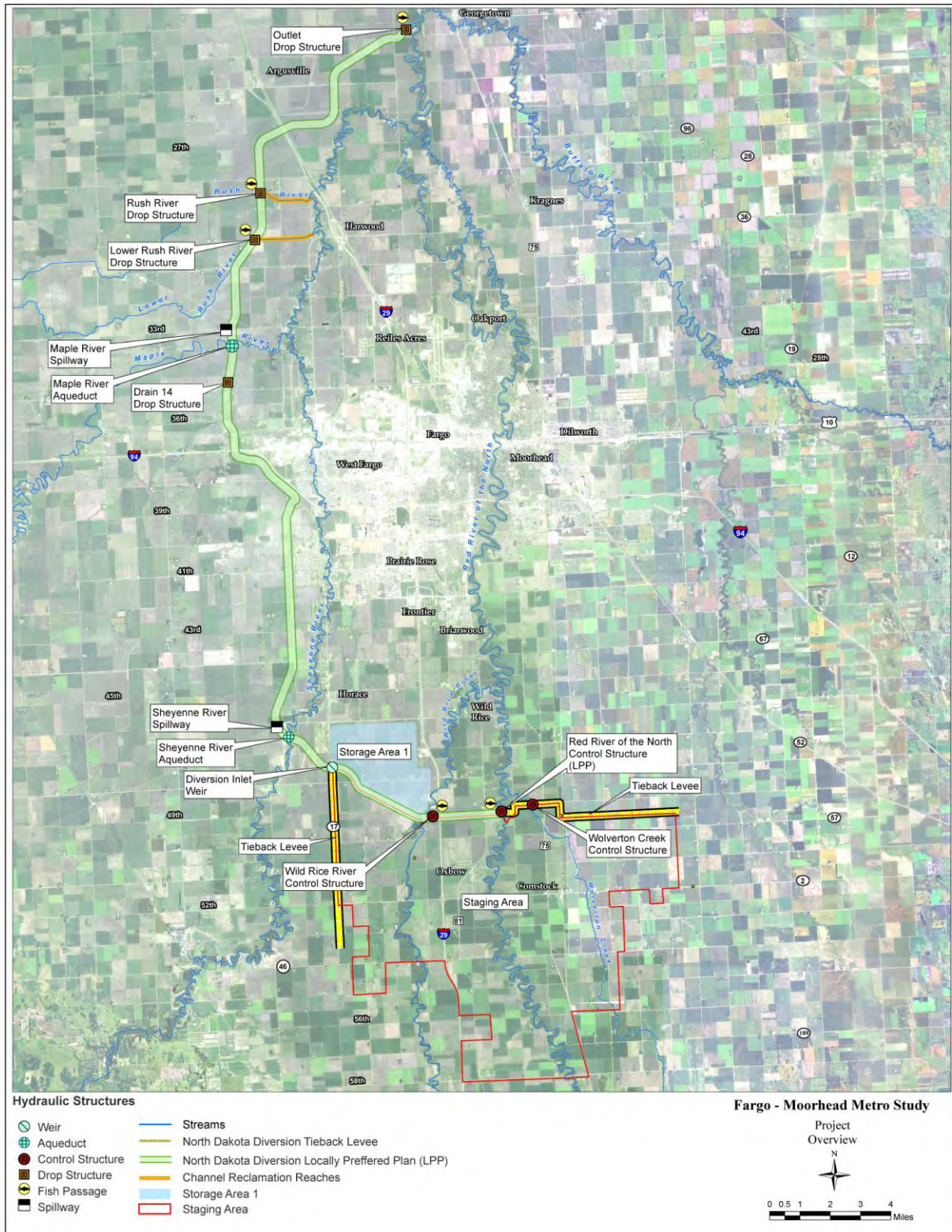


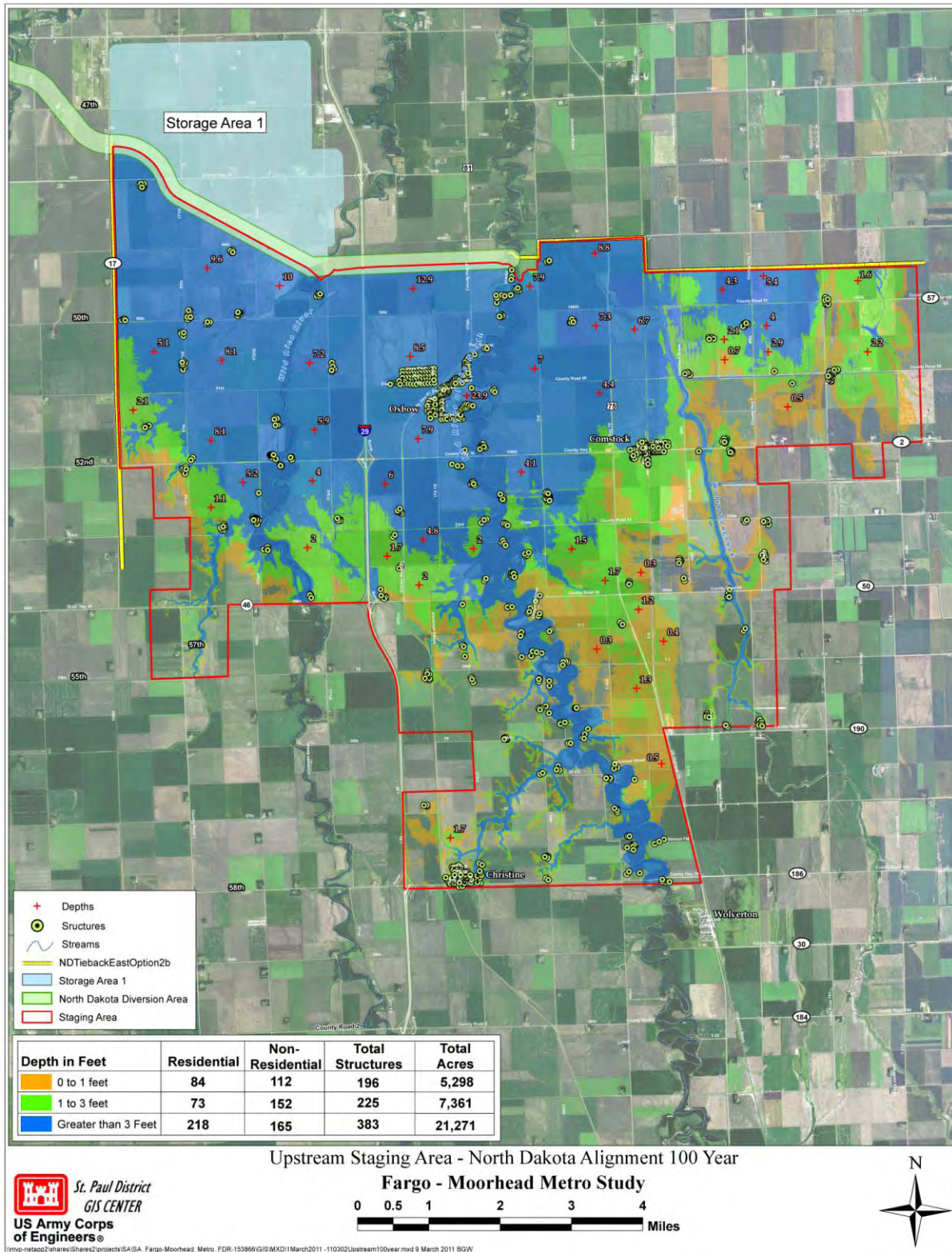


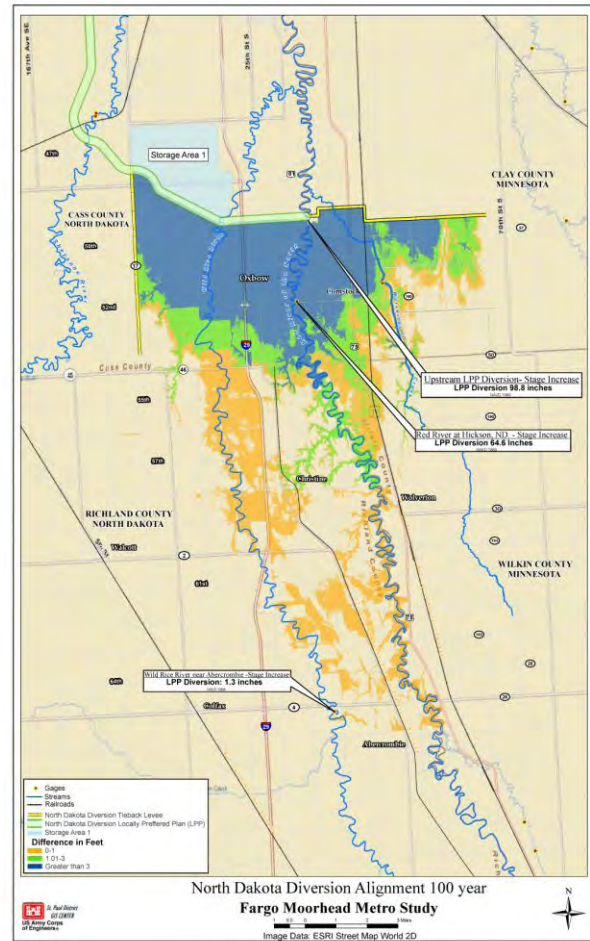
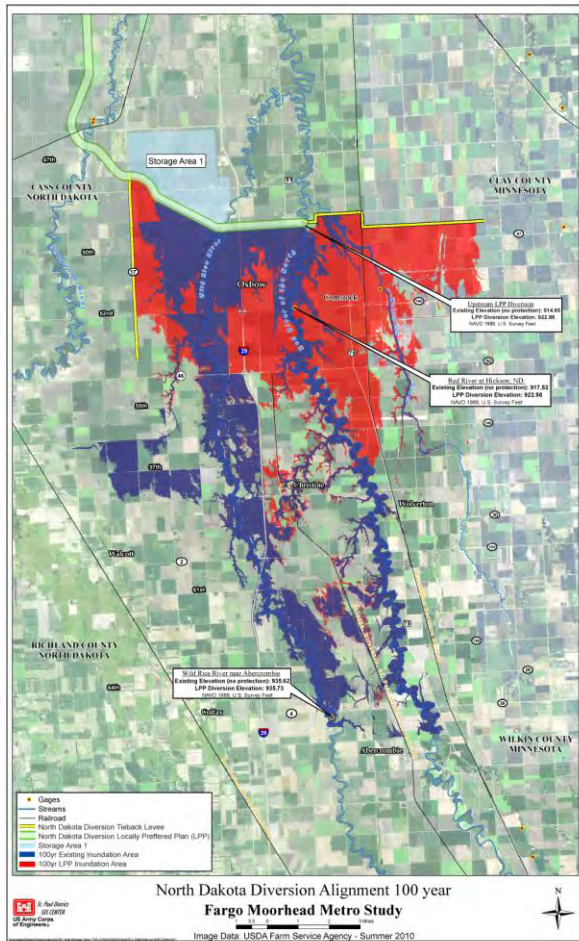












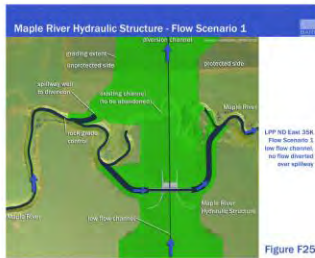


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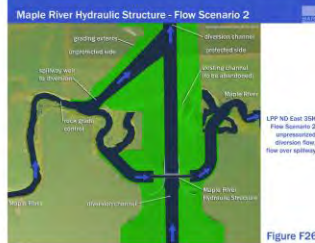


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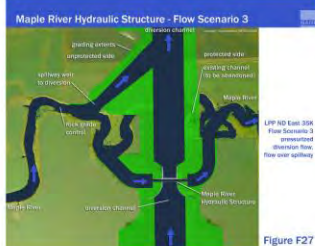


Figure F27



Figure F33

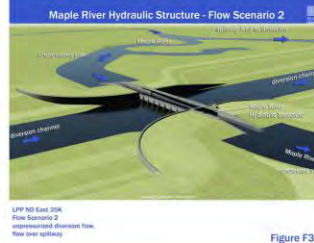


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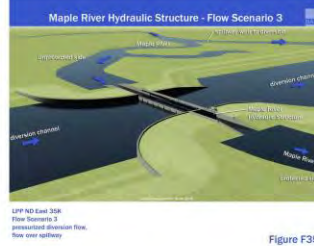


Figure F35



Figure F41

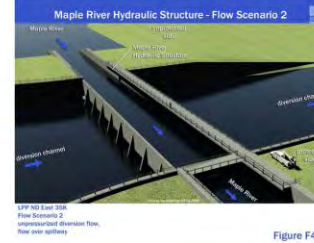


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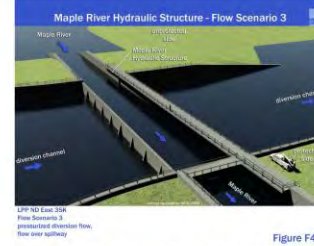


Figure F43

Concept Visualizations by Burt Engineering Company - Draft 9/13/2010



Figure F04



Figure F08

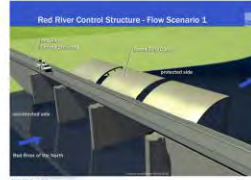


Figure F19



Figure F16



Figure F05

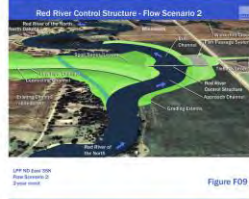


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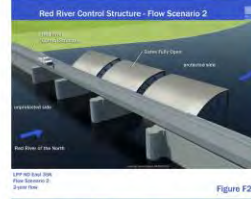


Figure F20



Figure F17



Figure F06



Figure F10



Figure F21



Figure F18



Figure F07



Figure F11



Figure F22

Concept Visualizations by Rian Engineering Company - Draft 9/1/2010

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

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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 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.

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



**US Army Corps of Engineers
BUILDING STRONG®**



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



Presentation Overview:

- ✓ Existing conditions
- ✓ Planning process, decisions and alternatives considered
- ✓ Revised diversion plan
- ✓ Path forward
- ✓ Local actions required
- ✓ Schedule

March 2011

3



Existing Conditions: 1% and .2% Chance



March 2011

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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.



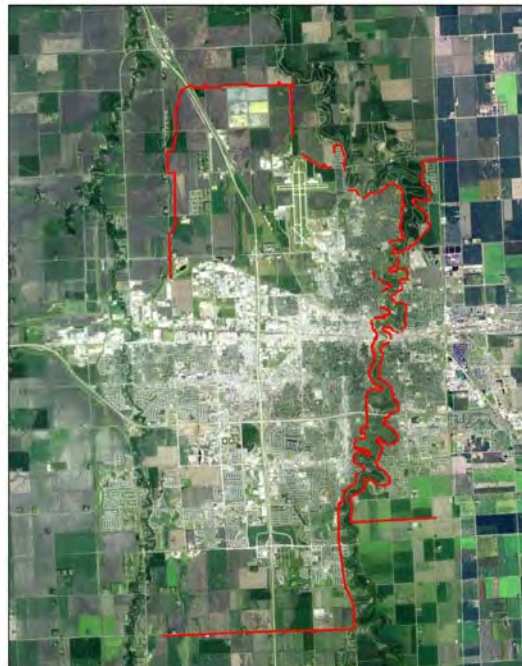
March 2011

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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



March 2011

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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



Aerial photo of Baldhill Dam and Lake Ashtabula, looking north.

March 2011

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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

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Existing Conditions: 1% and .2% Chance

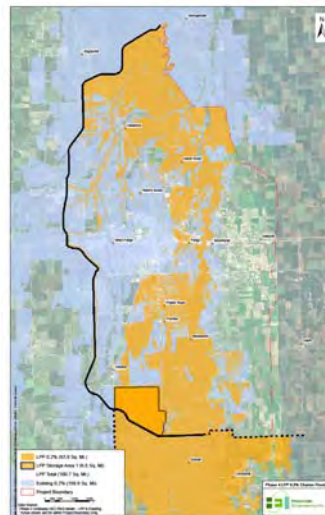
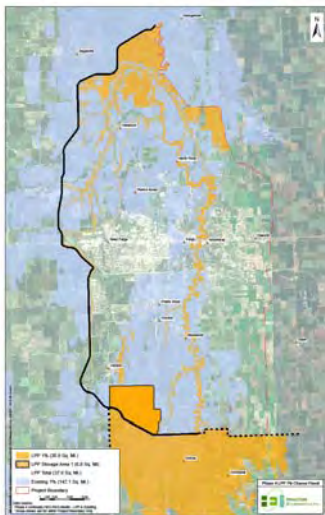


March 2011

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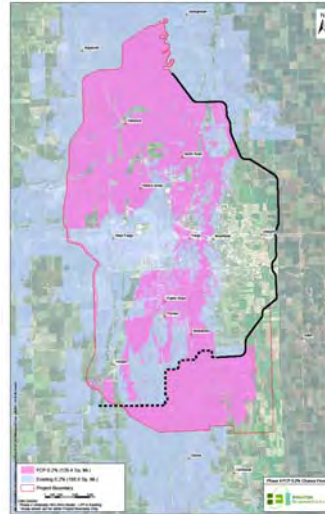
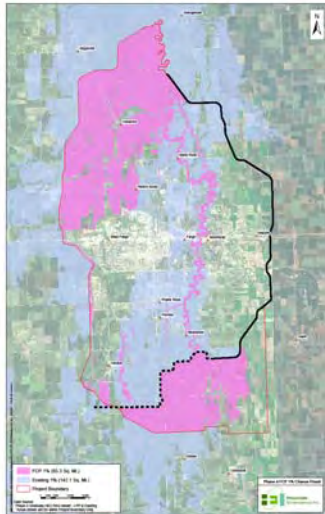
With- LPP Conditions: 1% and .2% Chance



March 2011

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With-FCP Conditions: 1% and .2% Chance



March 2011

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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

March 2011

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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

March 2011

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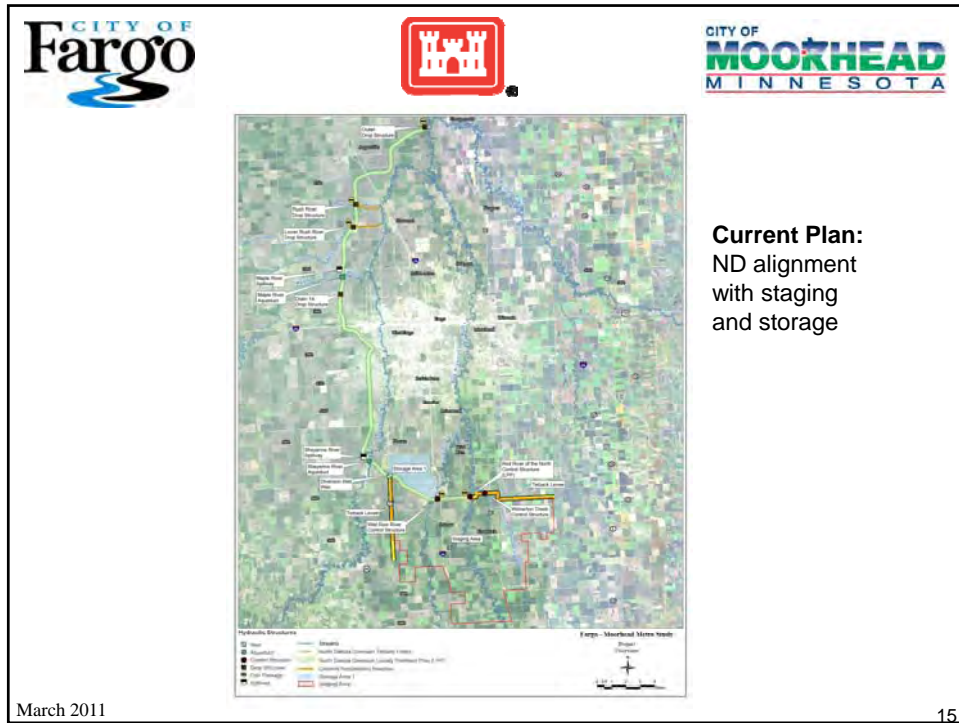



Analysis since September 2010:


- ✓ 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

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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

March 2011
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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

March 2011

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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	--	--	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	--

March 2011

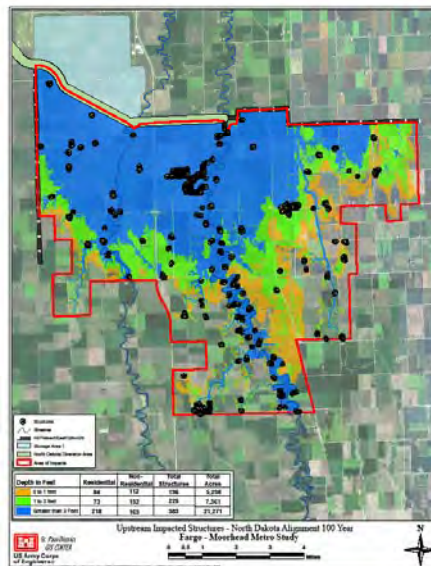
18

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	LPP	FCP	Difference
	(Flood Risk Management Only)	(Flood Risk Management Only)	(Flood Risk Management Only)	(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

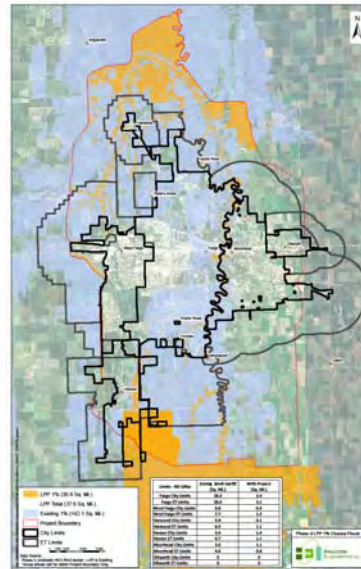
March 2011

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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

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LPP Variations Considered:

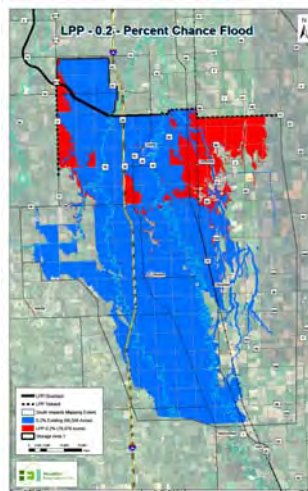
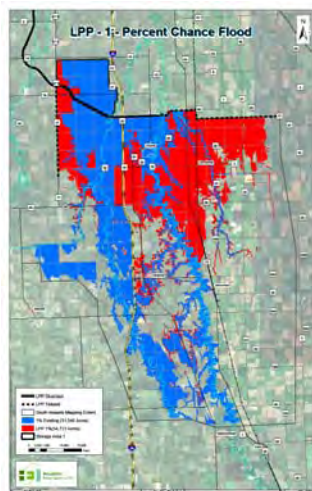
- ✓ 6 Variations were considered:
 - ✓ No storage/more storage
 - ✓ No staging/more staging
 - ✓ Allow additional downstream stage increases
 - ✓ Shift alignment south of Oxbow
- ✓ No great cost differences
- ✓ All variations have impacts and tradeoffs

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Upstream Impacts, LPP:

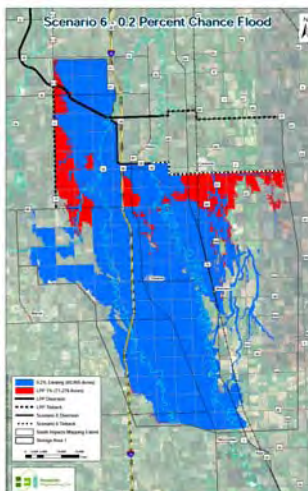
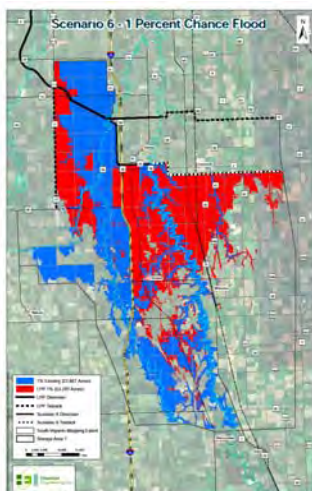


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Upstream Impacts, Alignment South of Oxbow:



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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 /Jun 11 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*

March 2011

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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.

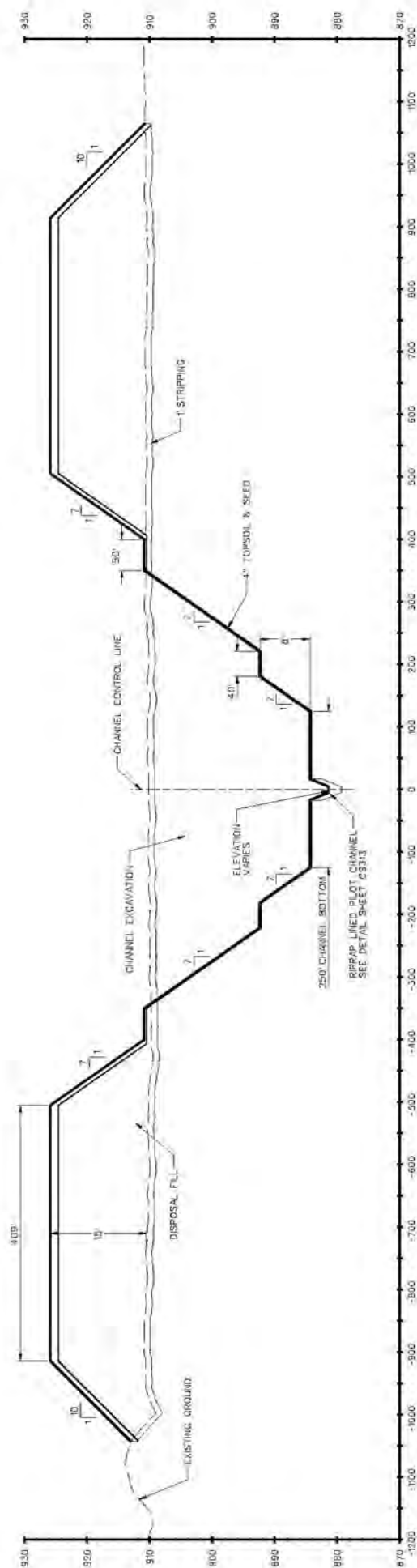
Effects of the plan:

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	FCP	Difference
	(Flood Risk Management Only)	(Flood Risk Management Only)	(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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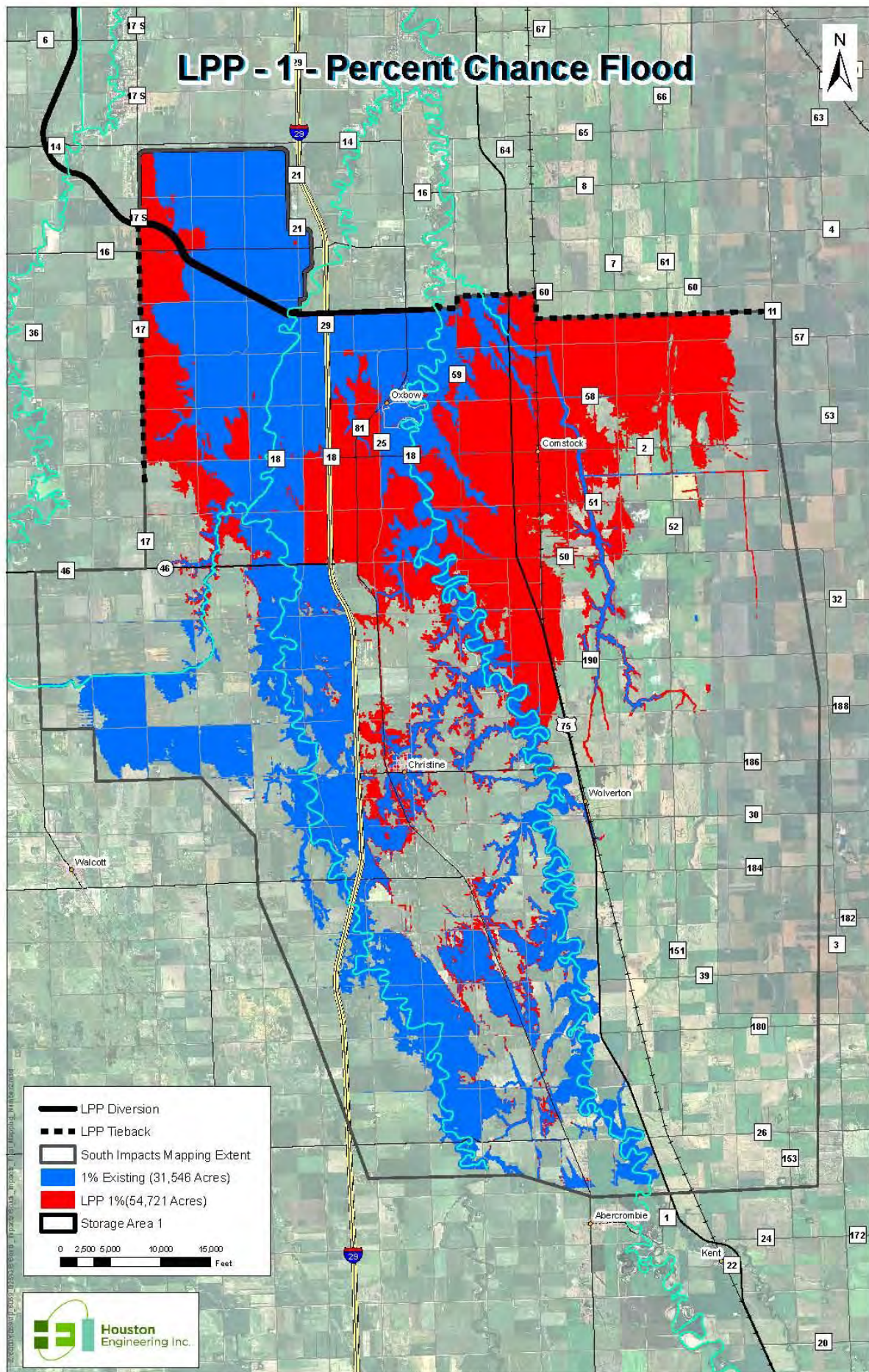


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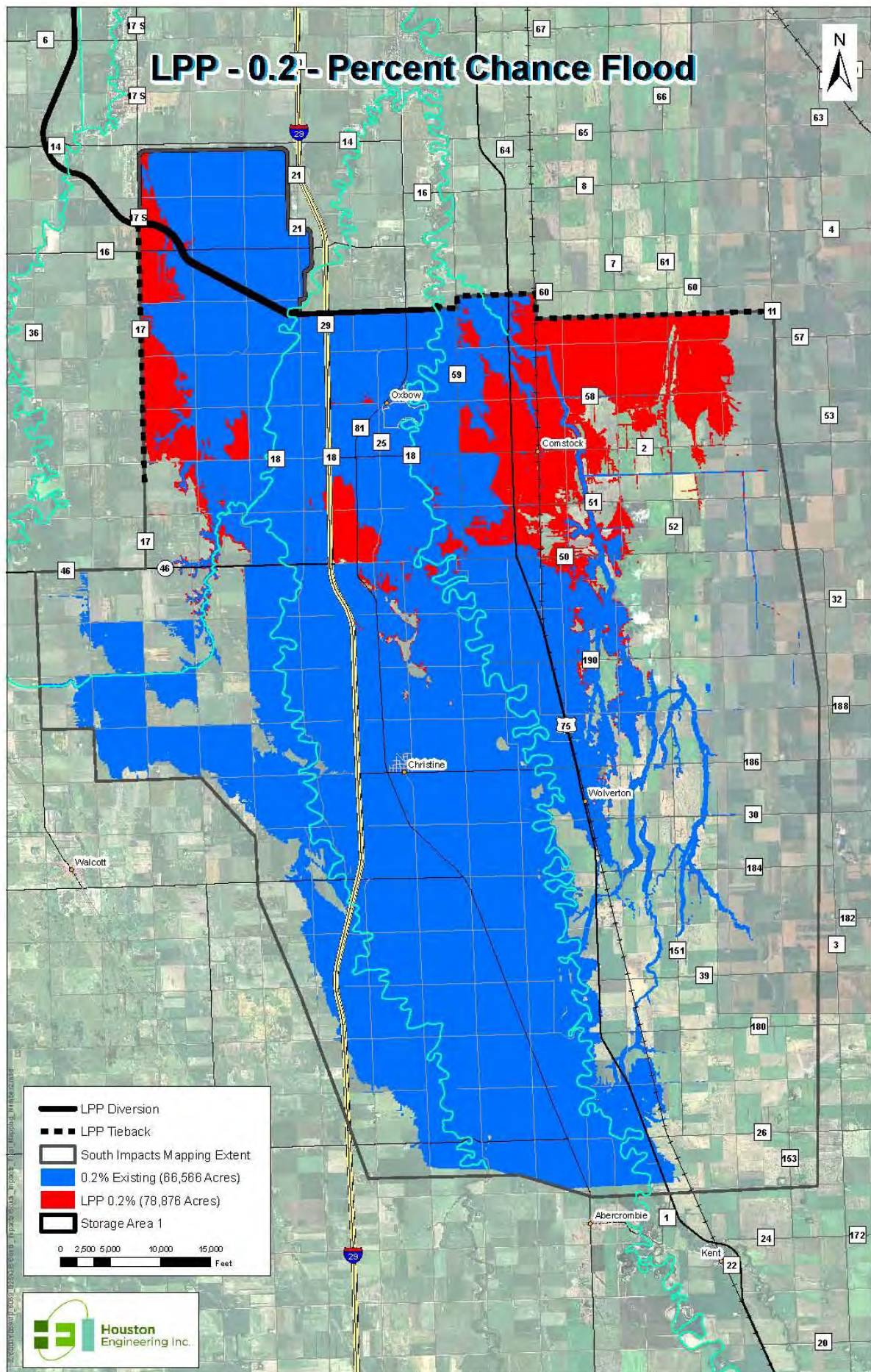
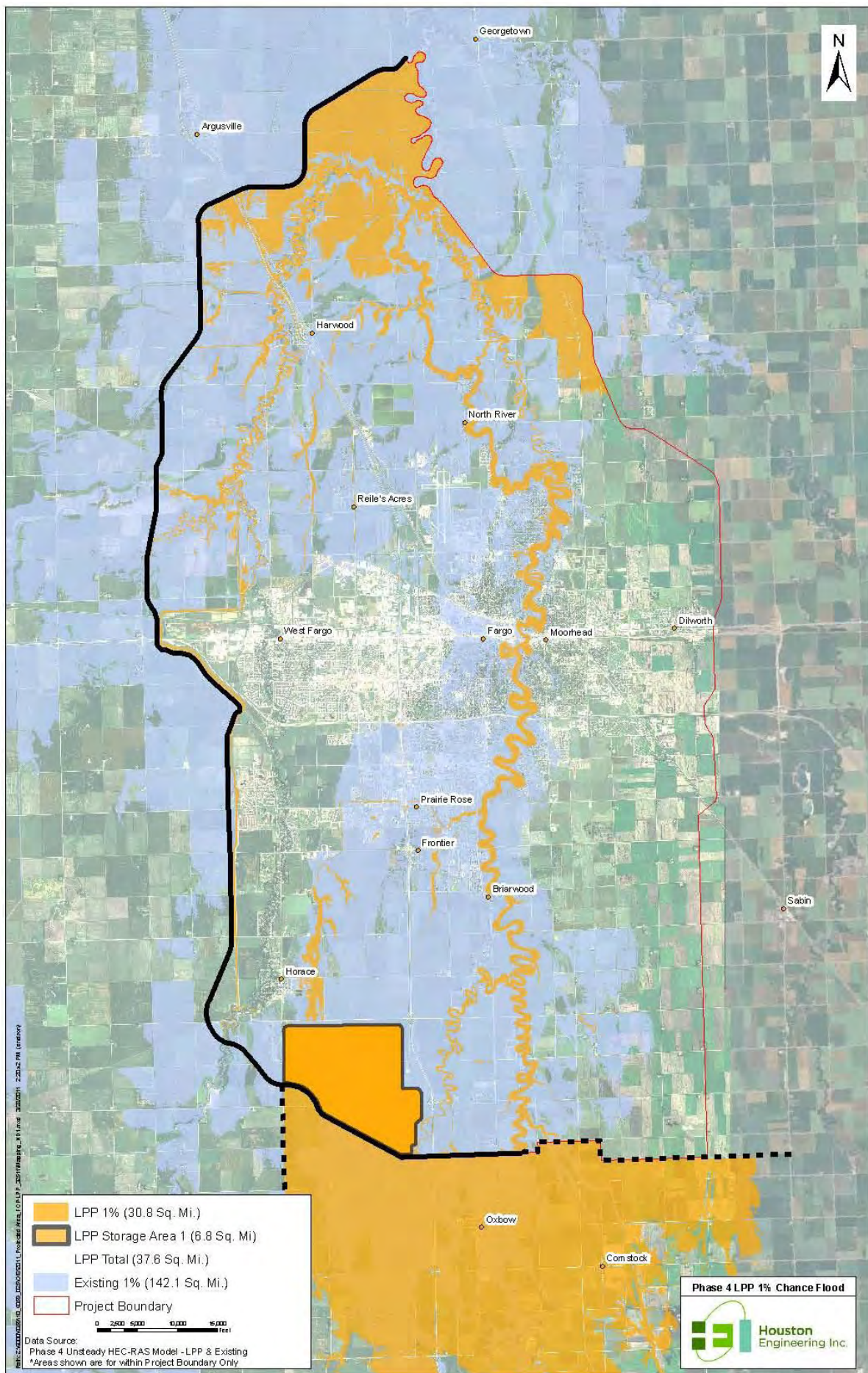
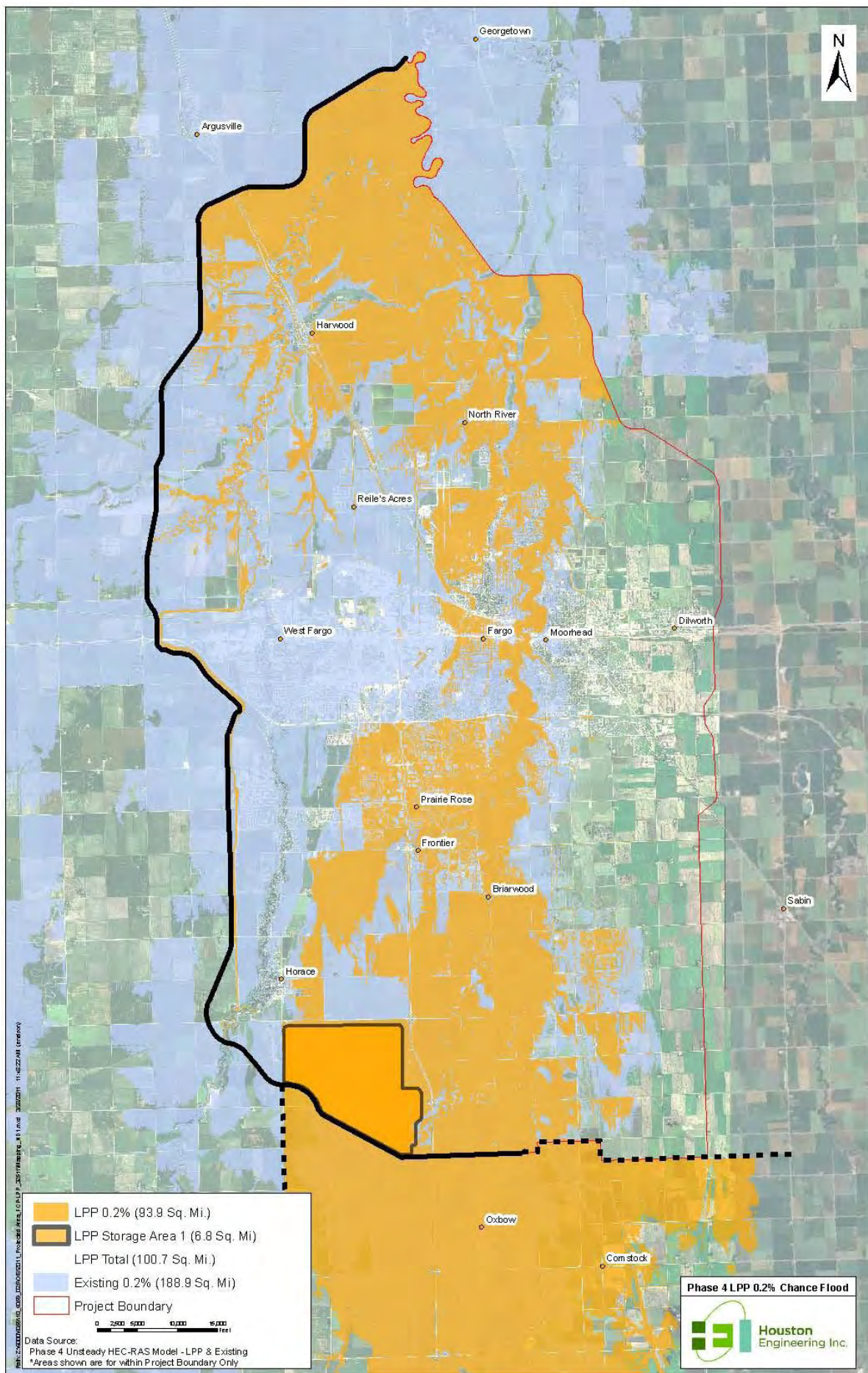


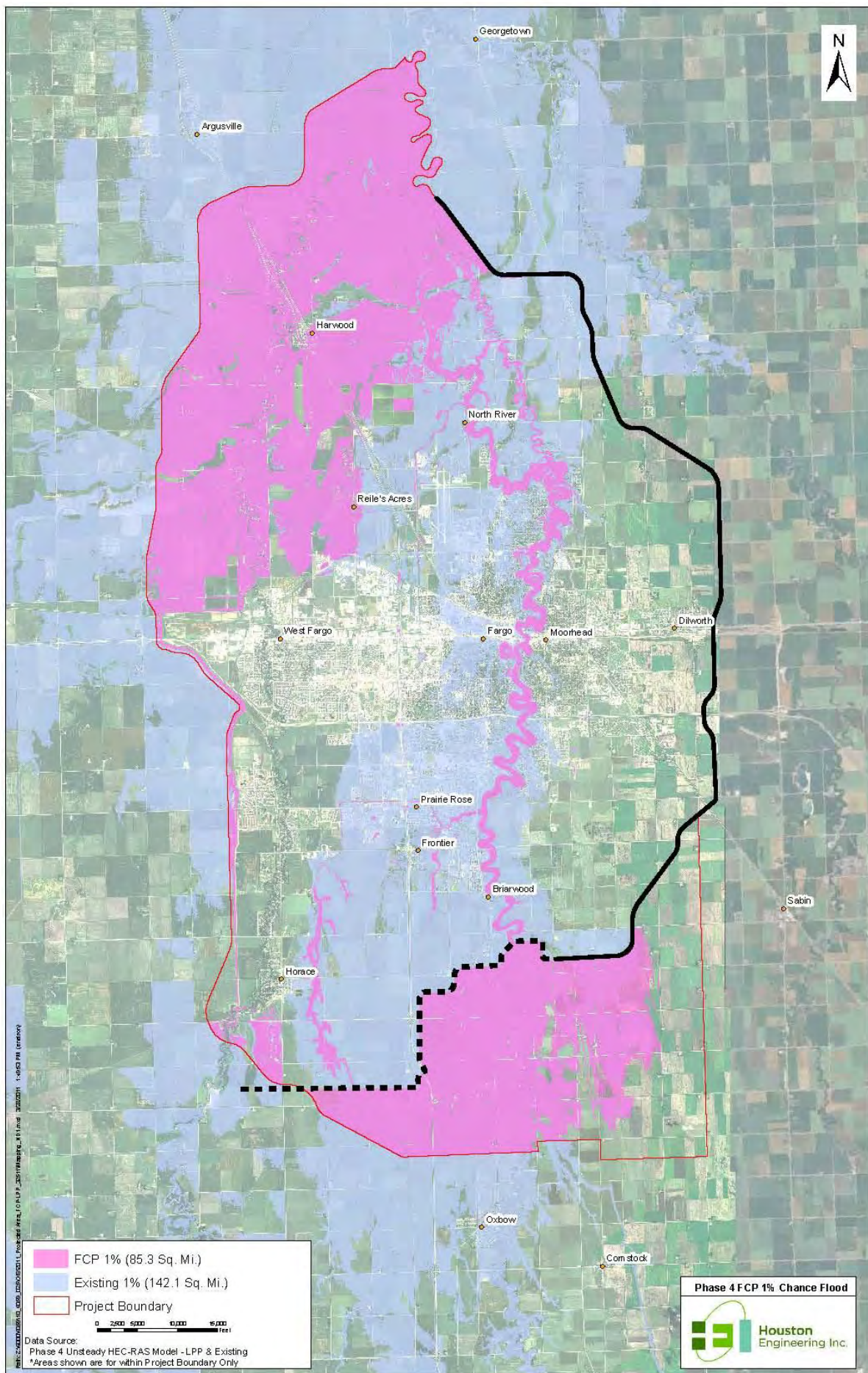
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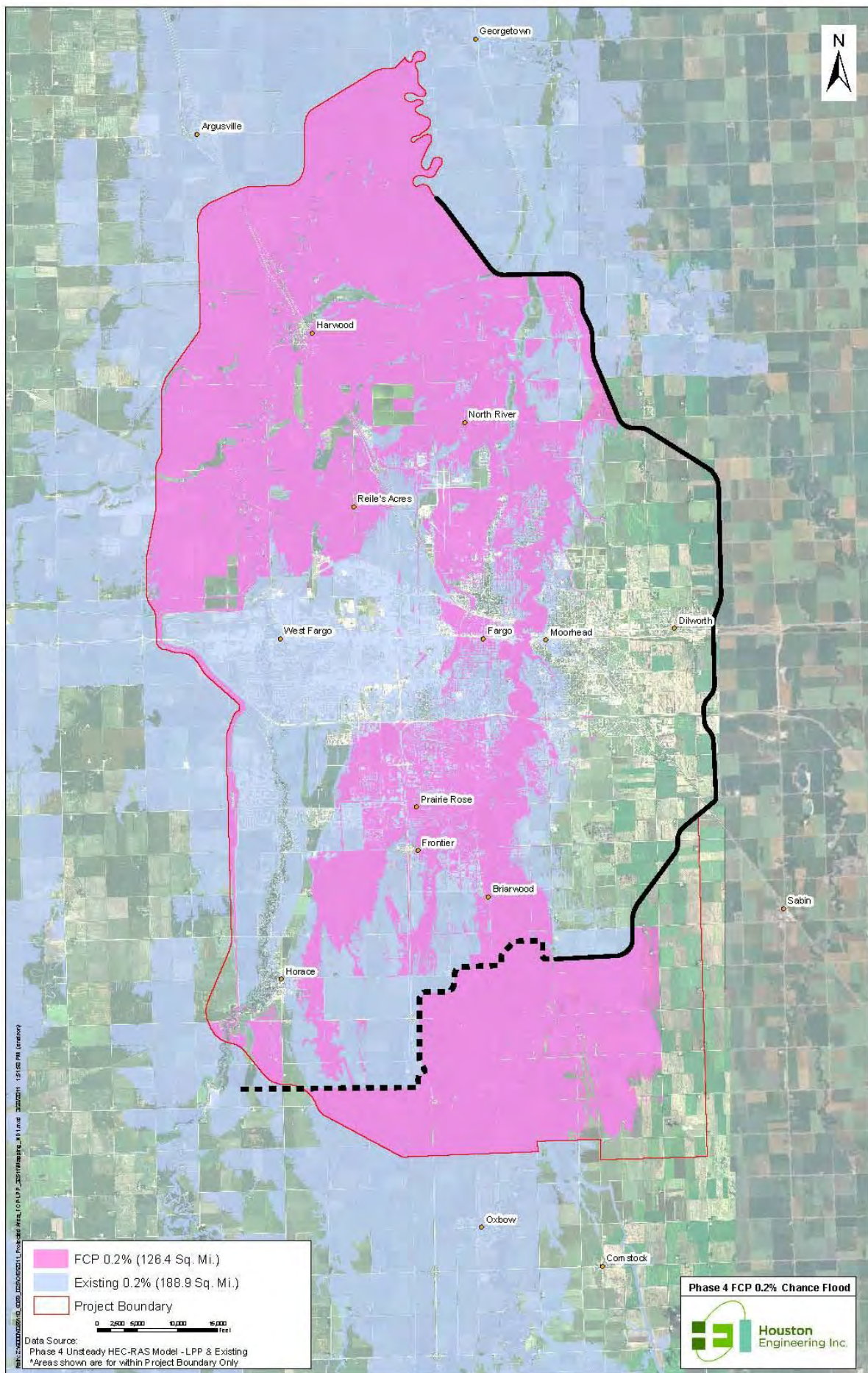
Appendix C - Exhibit 4

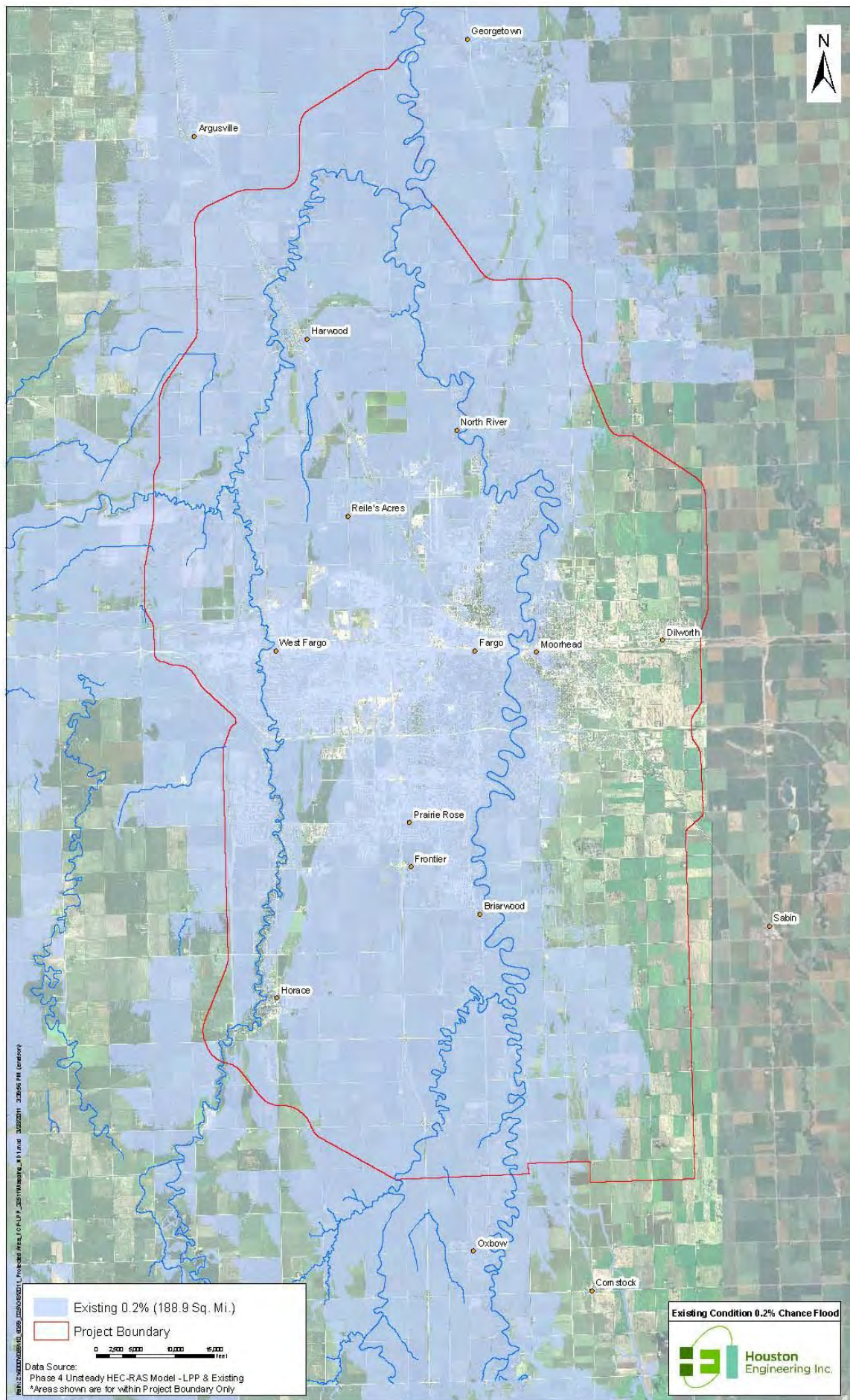
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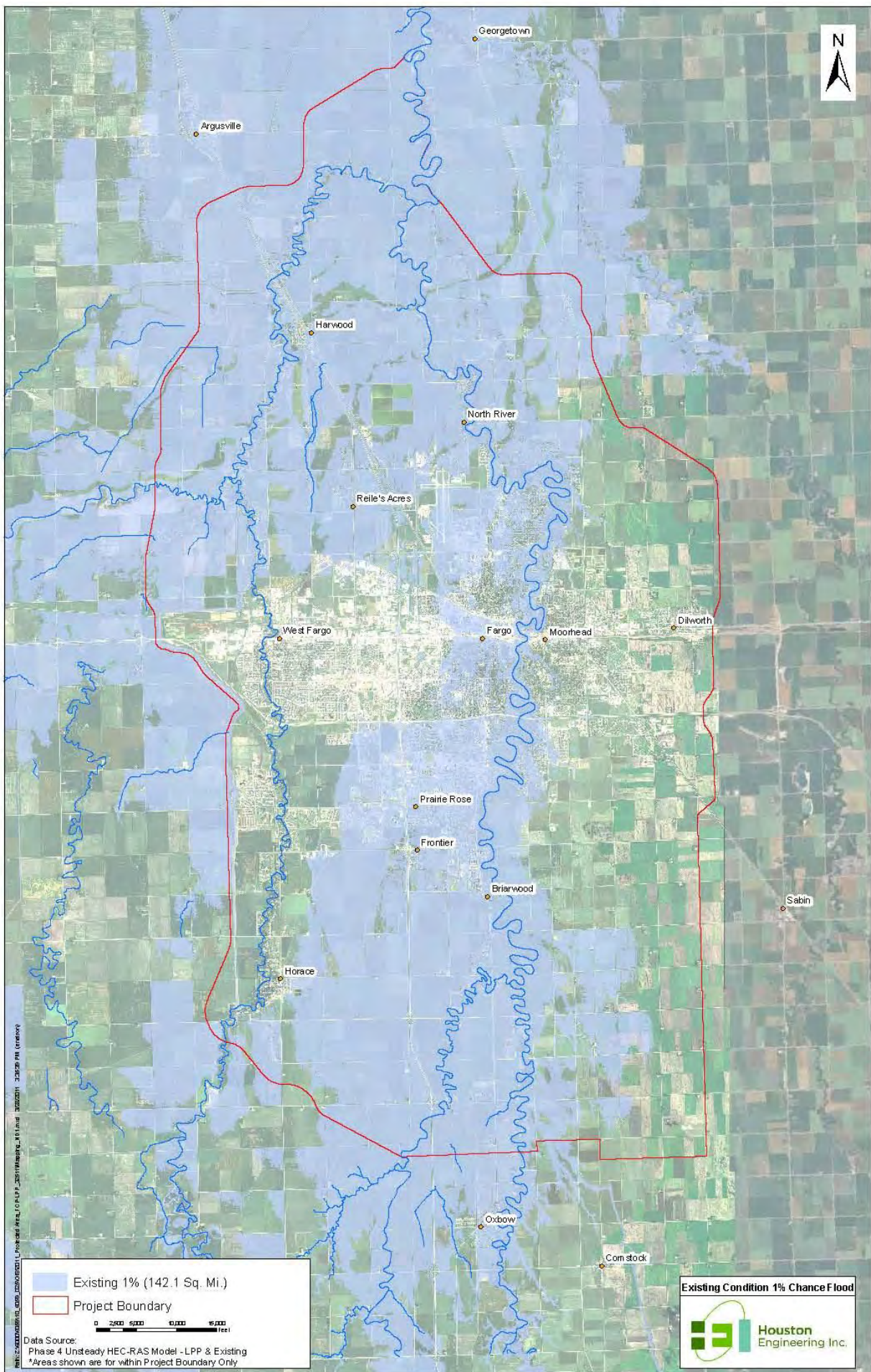


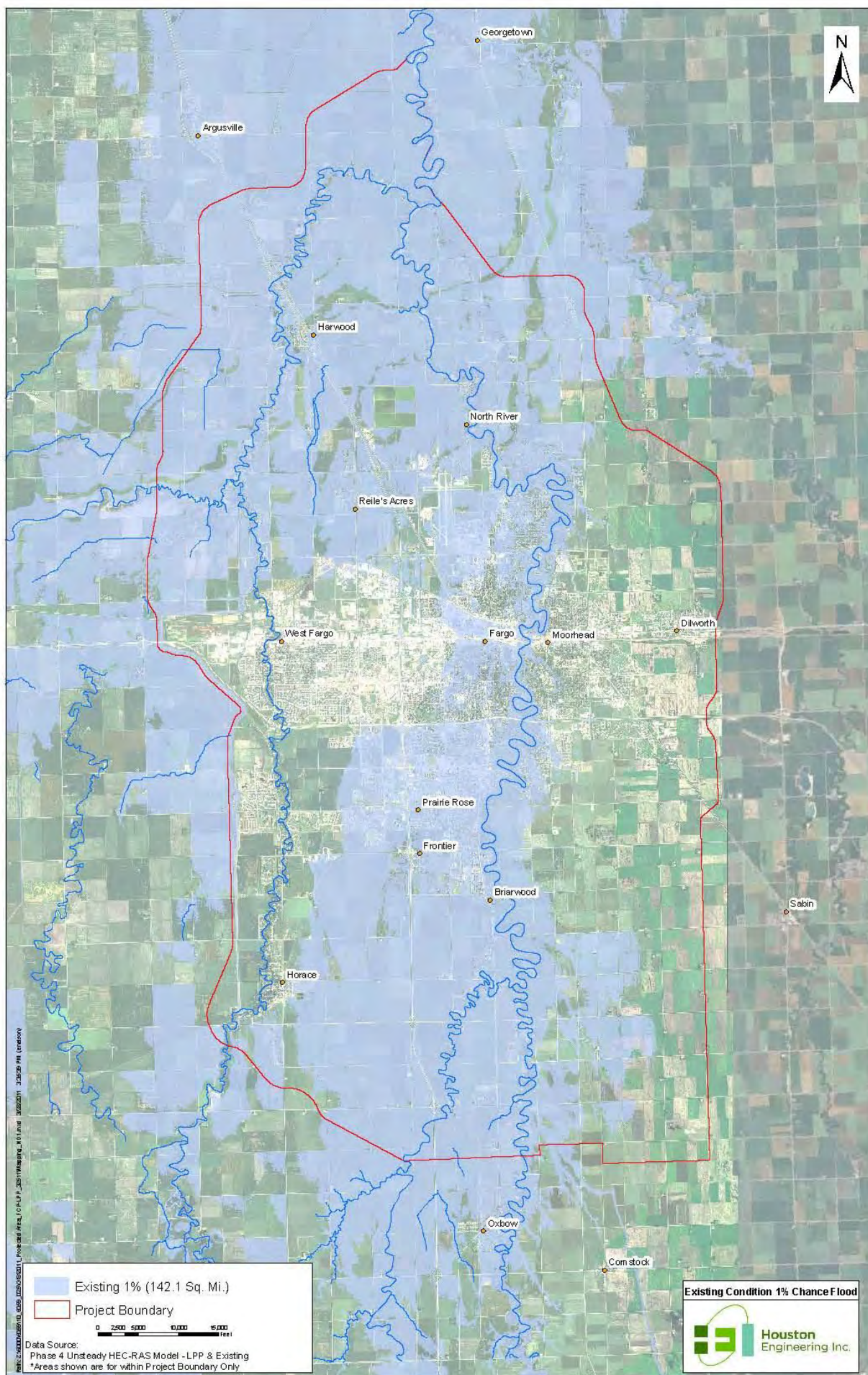


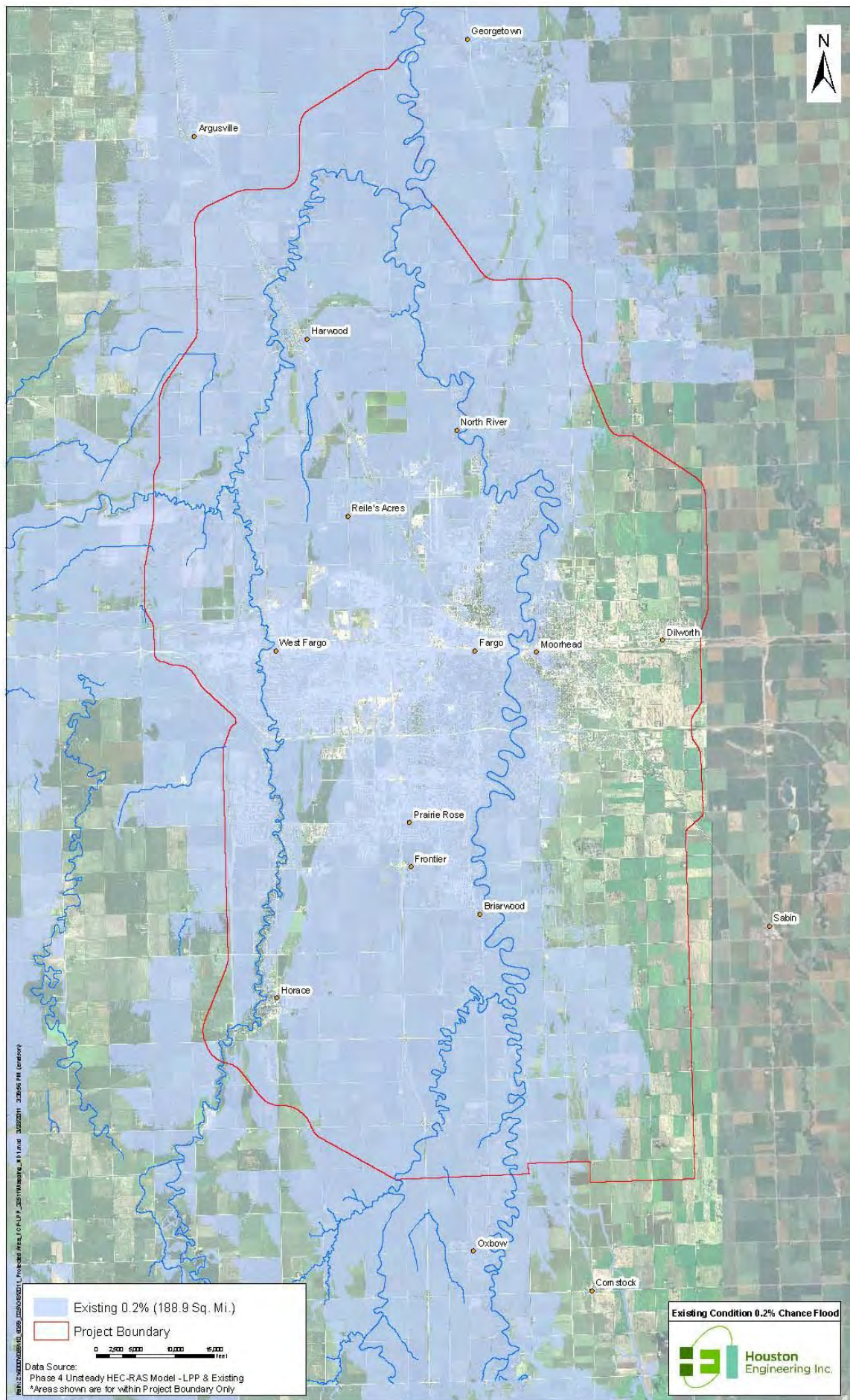


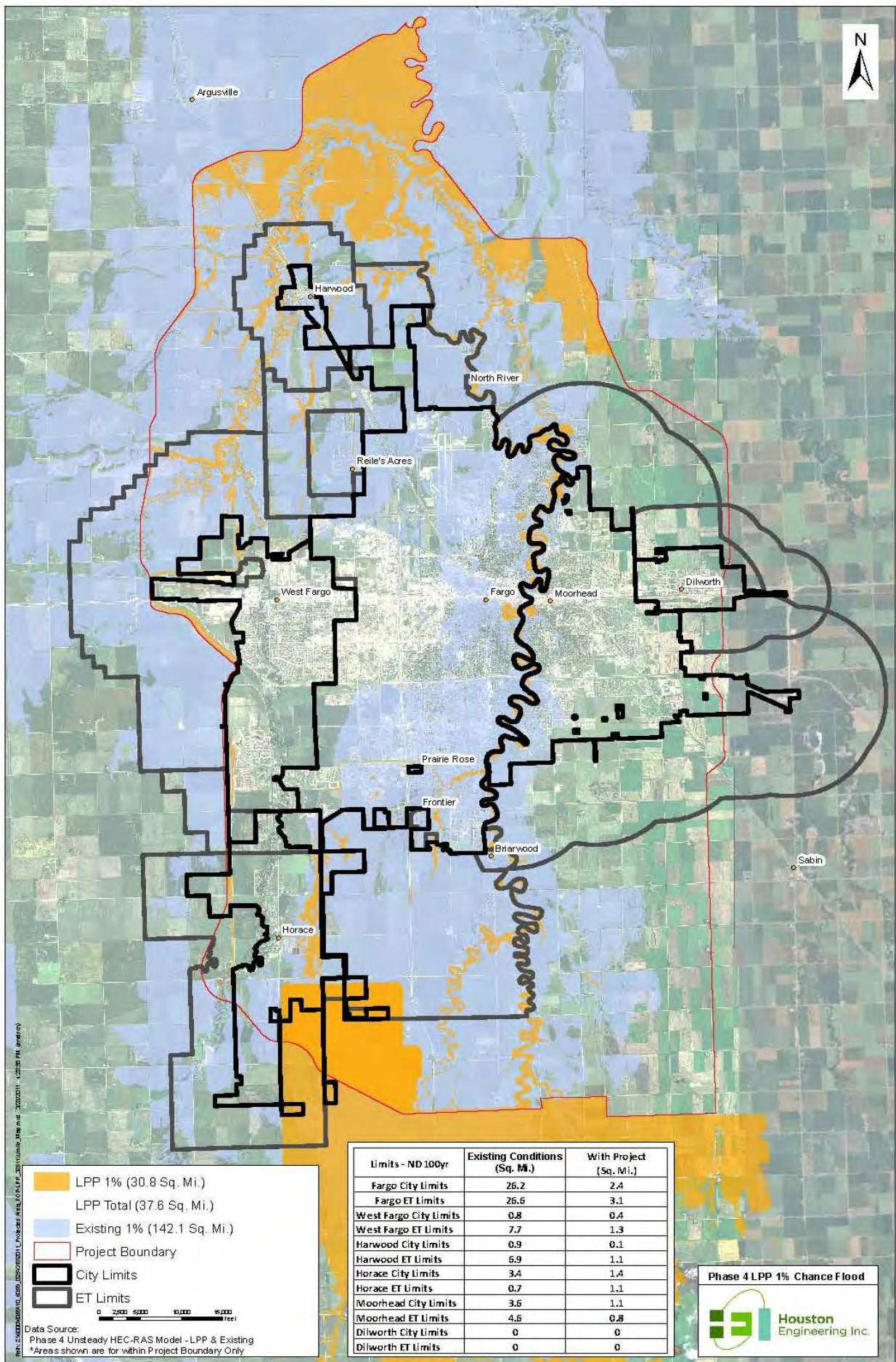


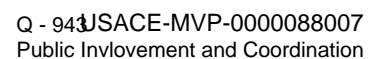


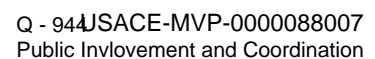


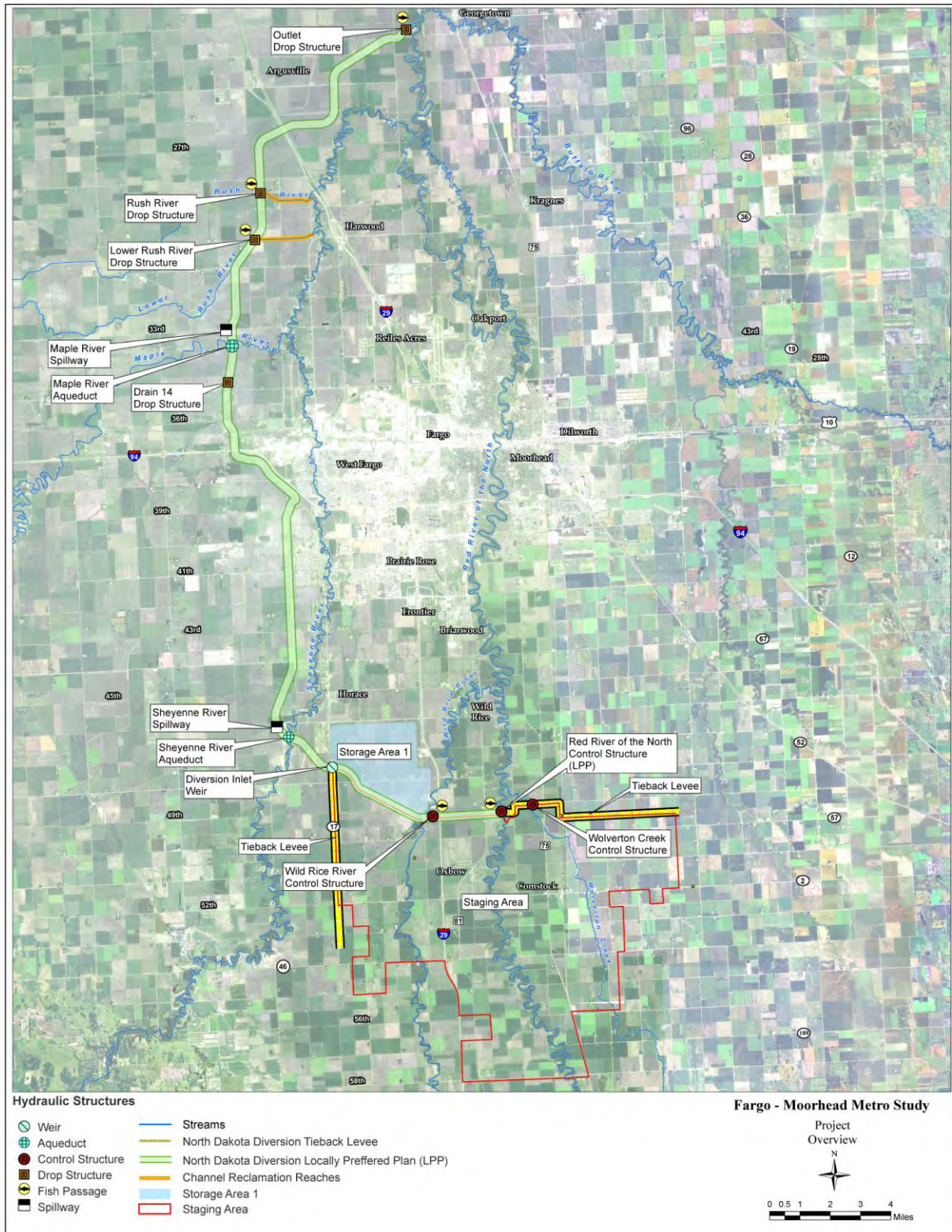


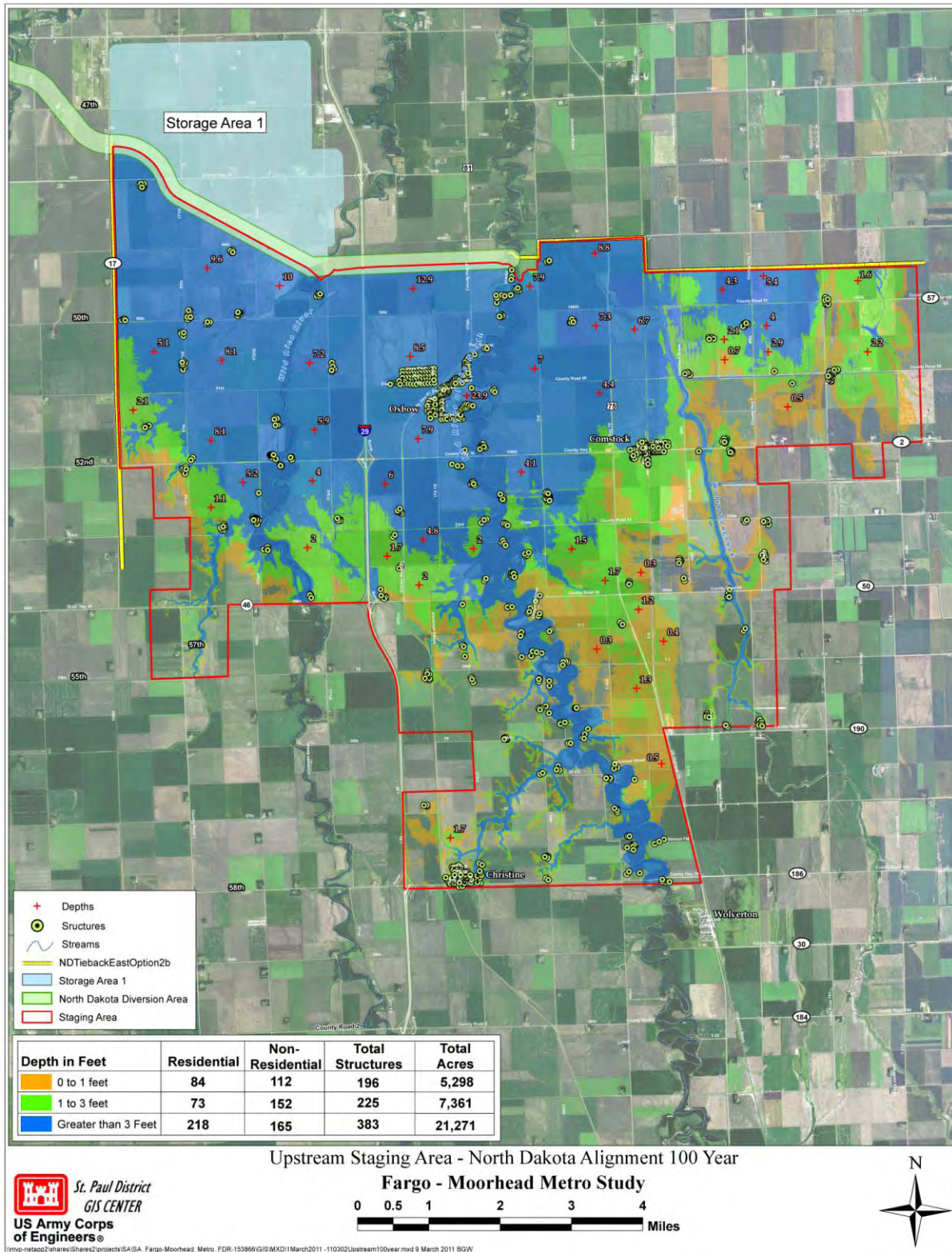


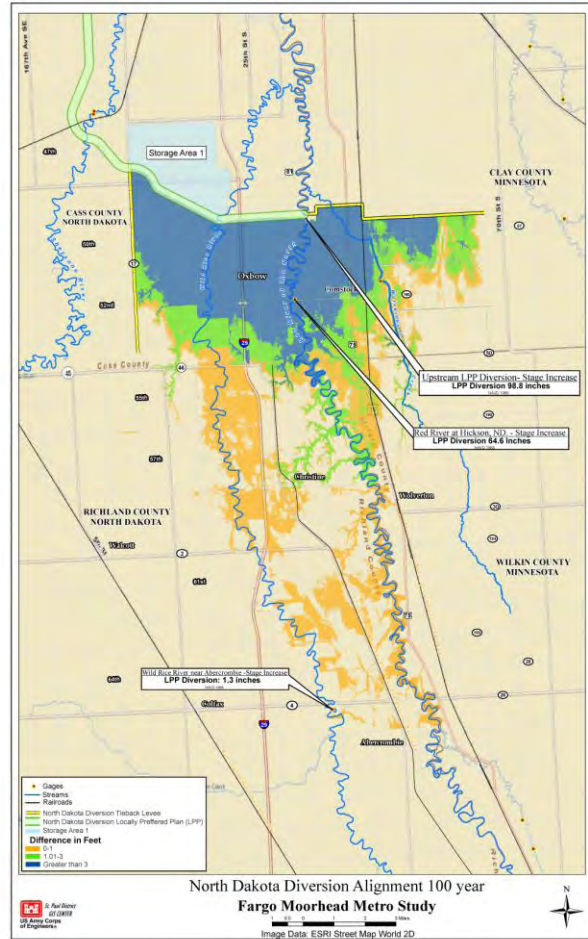
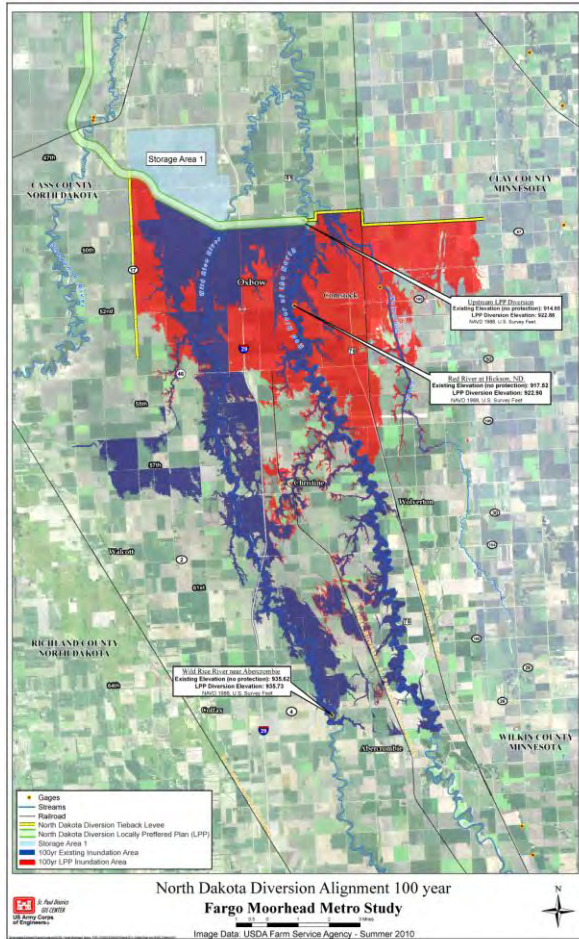












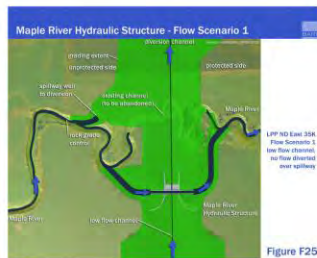


Figure F25

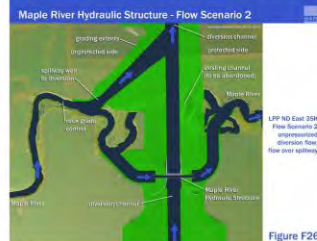


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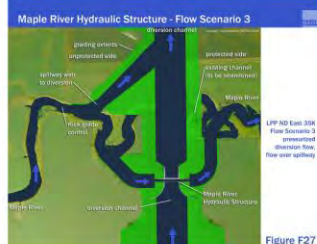


Figure F27



Figure F33

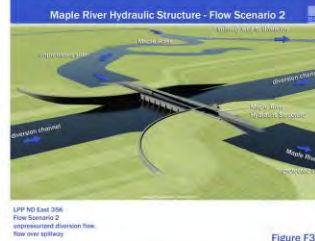


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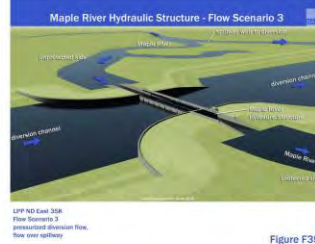


Figure F35



Figure F41

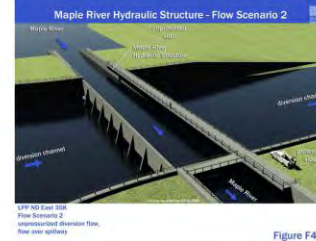


Figure F42



Figure F43

Concept Visualizations by Barr Engineering Company - Draft 9/13/2010



Figure F04



Figure F08

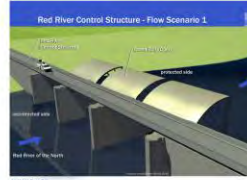


Figure F19



Figure F16



Figure F05

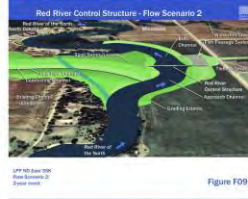


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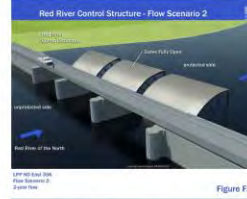


Figure F20



Figure F17

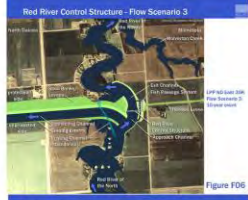


Figure F06



Figure F10



Figure F21

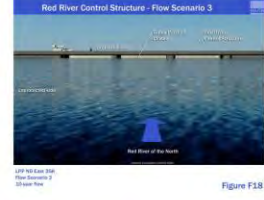


Figure F18



Figure F07



Figure F11



Figure F22

Concept Visualizations by Rain Engineering Company - Draft 9/1/2010

Presentation 29:

April 1, 2011

Work Group Handout

April 1, 2011

Item	LPP	FCP	Difference
	(Flood Risk Management Only)	(Flood Risk Management Only)	(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.

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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>

Fargo-Moorhead Metropolitan Feasibility Study

Public Meetings, May 23-26, 2011



**US Army Corps of Engineers
BUILDING STRONG®**



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



Presentation Overview:

- ✓ Existing conditions
- ✓ Selection of Diversion Plan
- ✓ Current Diversion Plan
- ✓ Impacts
- ✓ Project Operation
- ✓ Project Benefits
- ✓ Schedule
- ✓ How to comment

May 2011

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Existing Conditions: 1% and 0.2% Chance



May 2011

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Alternatives Considered:

- ✓ Non-structural
- ✓ Levees/floodwalls
- ✓ Upper basin storage
- ✓ Retention/controlled field runoff
- ✓ Diversion channels
- ✓ Combinations



May 2011

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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

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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



Aerial photo of Baldhill Dam and Lake Ashtabula, looking north.

May 2011

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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



May 2011

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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 Zagal
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

May 2011

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Existing Conditions: 1% and 0.2% Chance

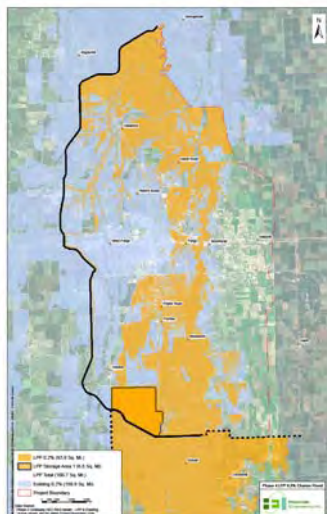
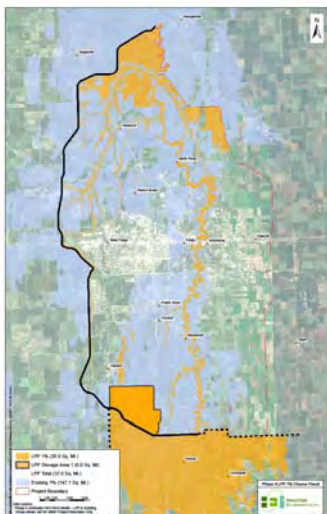


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With- LPP Conditions: 1% and 0.2% Chance

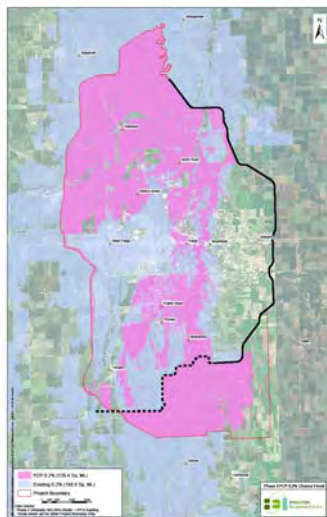
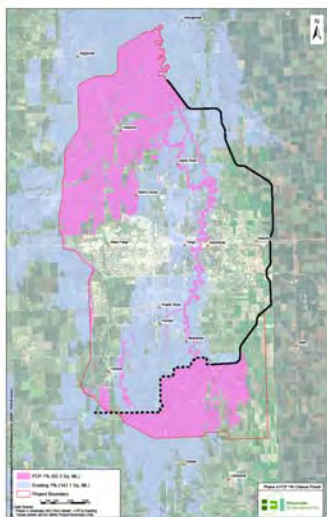


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With-FCP Conditions: 1% and 0.2% Chance



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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

May 2011

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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

May 2011

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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

May 2011

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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

May 2011

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Project Impacts:

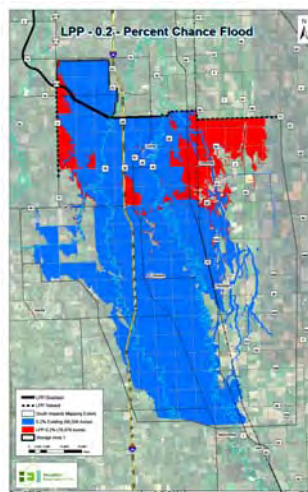
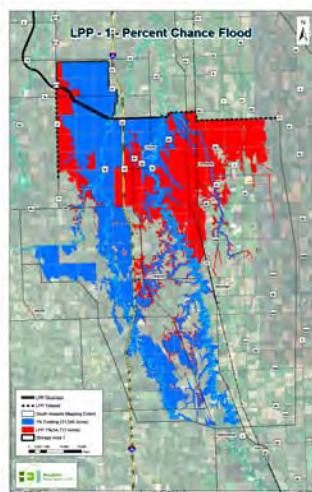
- ✓ **Wetlands** – 1,161 acres of direct impacts
- ✓ **Groundwater** – Slightly lowered water table near channel
- ✓ **Aquifers** – Small potential to influence aquifers
- ✓ **Erosion and Sedimentation** – No significant impacts
- ✓ **Connectivity** – Impacts negated due to minimization and mitigation
- ✓ **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:

Location	50 Year (2009) (Upstream)			100 Year (Upstream)		
	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:

Location	Difference (ft) Project vs. Existing, No Protection		
	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	5.8	--
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	--
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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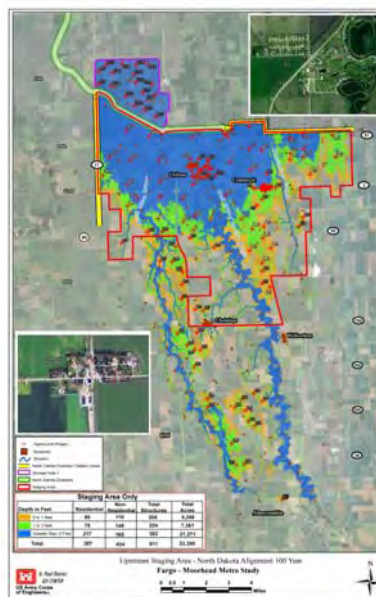


LPP Upstream Staging:

✓ Estimated cost 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

May 2011

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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

May 2011

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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

May 2011

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Project Operation:

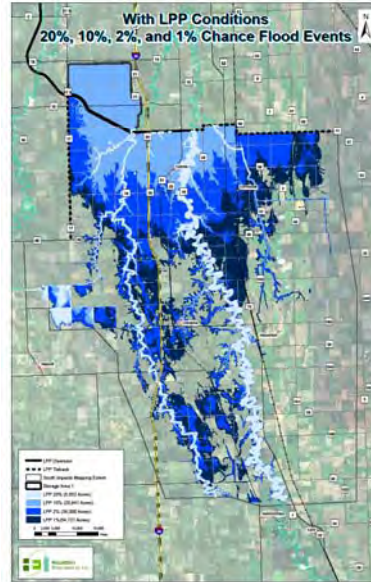
- ✓ Operation, staging and storage could begin when peak flow in the Red River is forecasted to exceed 9,600 cfs at Fargo (2-5 yr event)
- ✓ Would have operated 21 out of 109 years of record
- ✓ Summer operation: Might have operated 4 times during period of record (1975, 2005, 2007, 2009)
- ✓ Detailed Operation Plan will be developed during design and optimized after project completed
 - ✓ Likely have separate operating plans for Spring and Summer
 - ✓ Minimize summer operation

May 2011

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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



May 2011

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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

May 2011

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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

May 2011

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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*

May 2011

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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>

May 2011

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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 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 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.

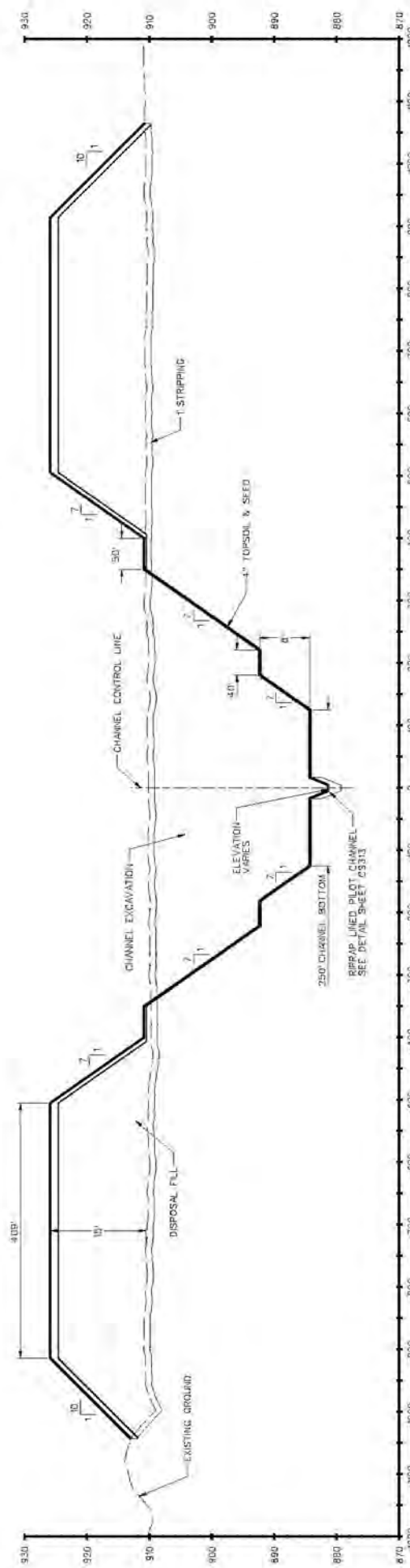
The LPP has a capacity of approximately 20,000 cfs in combination with a flood water storage area and upstream staging. Upstream staging means temporarily increasing flood stages immediately upstream of the control structures and diversion channel inlet in a "staging area" in order to change the timing 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:

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 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	FCP	Difference
	(Flood Risk Management Only)	(Flood Risk Management Only)	(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/>

Primary Study Contacts:**The City of Fargo**

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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.

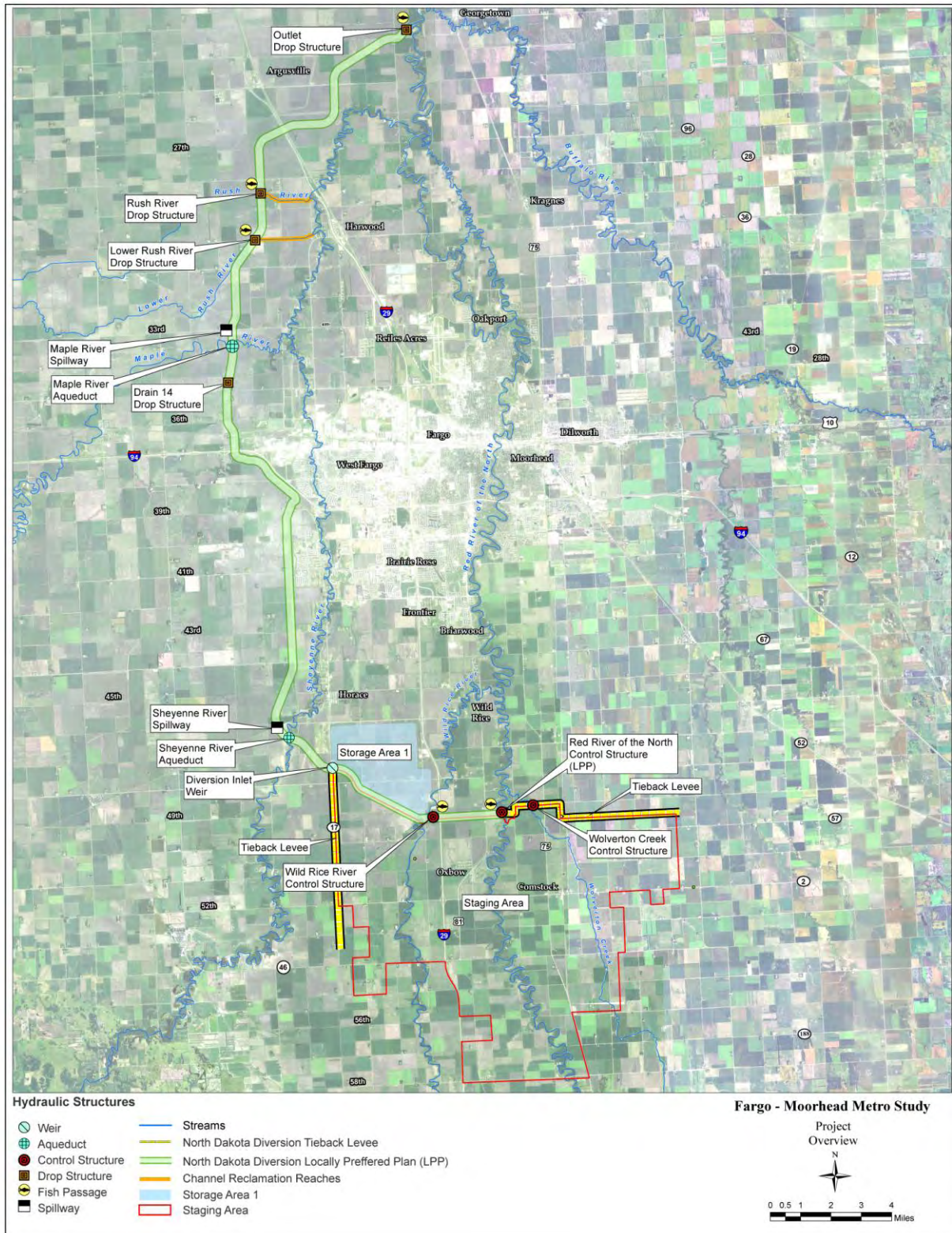
Q10: Is it true that the Fargo-Moorhead Metro area will be protected to a 500-year level when other communities in the basin have less protection?

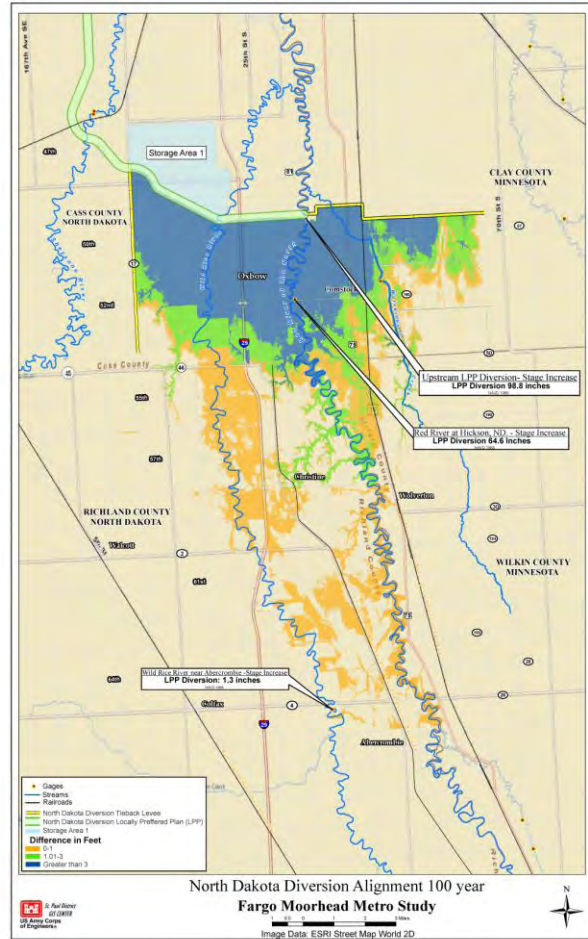
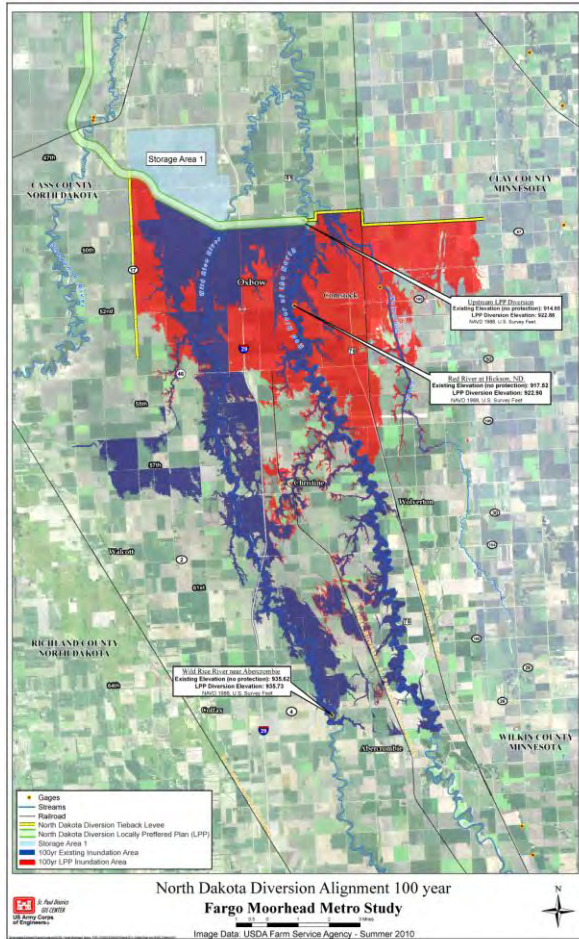
A10: The diversion project will significantly reduce flood damages in the benefitted area by reducing the frequency of high flows in the natural river channels through town. For floods up to a 100-year event, only minimal emergency efforts would be required within the benefitted area. A 500-year flood 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.





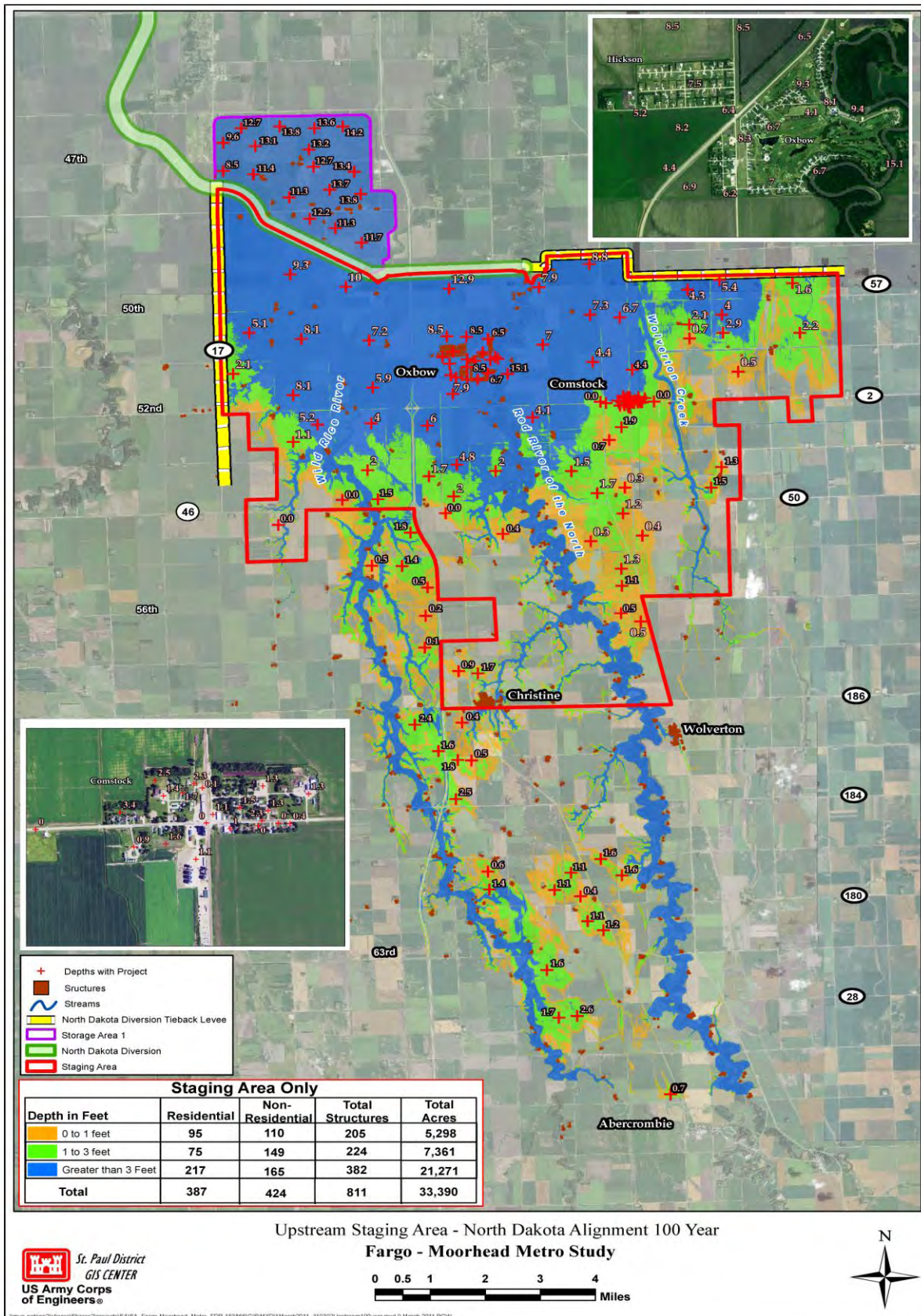




Figure F04



Figure F08

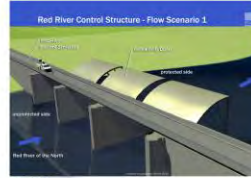


Figure F19



Figure F16



Figure F05



Figure F09

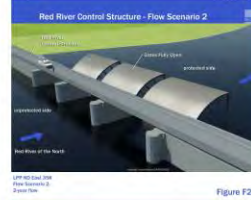


Figure F20

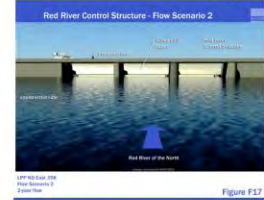


Figure F17

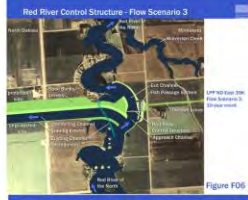


Figure F06



Figure F10



Figure F21



Figure F18



Figure F07



Figure F11



Figure F22

Concept Visualizations by B&E Engineering Company - Draft 9/17/2010

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

CLEAN WATER ACT SECTION 404(b)(1) EVALUATION

PUBLIC HEARING

FARGO-MOORHEAD METROPOLITAN AREA FLOOD RISK MANAGEMENT

June 1, 2011

Location:
Centennial Hall
Fargo, North Dakota

Reporter: Carolyn Taylor Pekas, RPR

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.

CATS Court Reporting Service, Inc.

P.O. Box 886 Fargo, ND 58107-0886 (701) 280-9204

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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REPORTER'S CERTIFICATE

I, Carolyn Taylor Pekas, a general shorthand reporter, P.O. Box 886, Fargo, North Dakota, do hereby certify that the foregoing thirty-two (32) pages of typewritten material constitute a full, true and correct transcript of my original stenotype notes, as they purport to contain, of the transcript of proceedings reported by me at the time and place hereinbefore mentioned.

Carolyn Taylor Pekas
P.O. Box 886
Fargo, North Dakota 58107

Dated this 6th day of June, 2011.

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Final Feasibility Report and Environmental Impact Statement

Q - 10125ACE-MVP-0000088007

Fargo-Moorhead Metro Feasibility

Public Involvement and Coordination

July 2011

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