

**FLOOD DIVERSION BOARD OF AUTHORITY**

**Thursday, March 12, 2015**

**3:30 PM**

Fargo City Commission Room

Fargo City Hall

200 3<sup>rd</sup> Street North

1. Call to order
2. Approve minutes from previous meeting Item 2. Action
3. Approve order of agenda Action
4. Management Information
  - a. PMC report
  - b. Corps of Engineers report
5. Administrative/Legal Information/action
  - a. Lawsuit update
6. Technical Information/action
  - a. Task Orders/Authority Work Directives Summary Item 6a.
    - i. HMG Task Order No. 9 Amendment 13
    - ii. HMG Task Order No. 13 Amendment 9
  - b. Buffalo-Red River Watershed cost share request Item 6b. for retention project funding Information
7. Public Outreach Information
  - a. Committee report
  - b. Business Leaders Task Force update
8. Land Management Information/action
  - a. Committee report
  - b. CCJWRD update
9. Finance Information/action
  - a. Committee report
  - b. Voucher approval Item 9b.
10. Other Business
11. Next Meeting – April 9, 2015
12. Adjournment

cc: Local Media

**FLOOD DIVERSION BOARD OF AUTHORITY  
FEBRUARY 5, 2015—3:30 PM**

Item 2.

**1. MEETING TO ORDER**

A meeting of the Flood Diversion Board of Authority was held Thursday, February 5, 2015, at 3:30 PM in the Fargo City Commission Room with the following members present: Cass County Commission representative Darrell Vanyo; Cass County Commissioner Chad M. Peterson; West Fargo City Commissioner Mike Thorstad; Fargo City Mayor Tim Mahoney; Fargo City Commissioner Mike Williams; Fargo City Commissioner Melissa Sobolik; Cass County Joint Water Resource District Manager Rodger Olson; Clay County Commissioner Kevin Campbell; and Moorhead City Council Member Nancy Otto. Also present was ex-officio member Gerald Van Amburg, Buffalo-Red River Watershed District.

Staff members and others present: Cass County Administrator Keith Berndt; Fargo City Administrator Pat Zavoral; Moorhead City Manager Michael Redlinger; Clay County Administrator Brian Berg; Cass County Engineer Jason Benson; Bob Zimmerman, Moorhead City Engineer; Fargo City Director of Engineering Mark Bittner; Fargo City Engineer April Walker; Bruce Spiller, CH2MHill; Mark Nisbet, Chamber of Commerce Business Leaders Task Force; Aaron Snyder, Branch Chief for Project Management & Development, Corps of Engineers; Brett Coleman, Project Manager, Corps of Engineers; and Terry Williams, Project Manager, Corps of Engineers.

**2. MINUTES APPROVED**

*MOTION, passed*

**Mr. Mahoney moved and Ms. Otto seconded to approve minutes from the January 8, 2015, meeting as presented. Motion carried.**

**3. AGENDA ORDER**

*MOTION, passed*

**Mr. Mahoney moved and Mr. Thorstad seconded to approve the order of the agenda with the addition of an update from the Red River Basin Commission under “Other Business”. Motion carried.**

**4. MANAGEMENT UPDATE**

*Program management consultant (PMC) report*

Bruce Spiller provided an update on activities over the last month including work on the in-town levees, including completion of the sheet piling on the 2<sup>nd</sup> Street North pump station and 4<sup>th</sup> Street pump station; OHB levee and pump design work; Minnesota Environmental Impact Statement (EIS) work products; continued work on land acquisition activities and policies; and cultural surveys and right-of-entry work on impacted cemeteries.

Mr. Spiller said the date has been changed for the public release of the draft MN EIS from May 28, 2015, to August 13, 2015.

*Corps of Engineers report*

Brett Coleman provided an update of activities by Corps of Engineers staff including work on the operation plan and adaptive management plan; updates to the Maple River aqueduct physical model; continued coordination with the Minnesota DNR to provide

information needed for the EIS process; continued work on the cemetery mitigation plan; participation in weekly OHB levee coordination meetings; in-town levee design and construction support; work on the alternative resourcing and delivery plan for expedited implementation of the project; and soil boring work along the diversion channel alignment.

## 5. ADMINISTRATIVE/LEGAL UPDATE

### Lawsuit update

Attorney Erik Johnson provided an update regarding lawsuits filed by the Richland-Wilkin Joint Powers Authority. He said this month is the deadline for all parties to exchange their briefings with the court. He said a hearing will be scheduled around the end of March.

## 6. TECHNICAL UPDATE

### Task Orders and Authority Work Directives

Mr. Spiller discussed two Task Orders with Houston Moore Group (HMG), one Task Order with URS Corporation, and one Authority Work Directive with HMG totaling \$841,130 as follows:

- Task Order No. 8 Amendment 9 with HMG—Work-in-Kind for additional support for the MN EIS information request and Maple River to diversion inlet modeling for \$97,000;
- Task Order No. 13 Amendment 8 with HMG—levee and design support for 2<sup>nd</sup> Street and downtown levee work, 2<sup>nd</sup> Street pedestrian crossing evaluation, and Mickelson Levee extension design for \$450,000;
- Task Order No. 1 Amendment 2 with URS Corporation—cultural resources investigations for additional work on the in-town levees and field investigations for nine staging cemeteries for \$244,130;
- AWD-00047 with HMG—EI Zagal Phase 2 levee design for \$50,000.

Mr. Spiller said Fargo will pay for the costs associated with the 2<sup>nd</sup> Street pedestrian crossing evaluation.

### ***MOTION, passed***

**Mr. Mahoney moved and Mr. Thorstad seconded to approve three Task Orders and one Authority Work Directive totaling \$841,130. On roll call vote, the motion carried unanimously.**

## 7. PUBLIC OUTREACH UPDATE

### Committee report

Rodger Olson said the Public Outreach Committee met February 4<sup>th</sup> and discussed several items including attendance at the Red River Basin Commission conference in Winnipeg and North Dakota Rural Water Expo in Bismarck; monitoring of several diversion-related bills in the North Dakota legislature, including SB 2020, which includes \$69 million for the diversion project; and e-newsletter and diversion website updates.

### Business Leaders Task Force

Mark Nisbet said February 12<sup>th</sup> is “Chamber Day” at the North Dakota State Capitol, and so far 90 people will be attending the event in Bismarck. The Chamber of Commerce has arranged for buses to transport task force members and other officials to visit with state legislators regarding the project.

## 8. LAND MANAGEMENT UPDATE

### Committee report

Mr. Mahoney said the Land Management Committee met earlier this afternoon. He said a few of the items discussed were land acquisitions, the staging area and mitigation work in Oxbow, and the cemetery study.

### CCJWRD update

Mark Brodshaug provided an update on land acquisitions completed through January 31, 2015. He reviewed a handout with information on completed acquisitions, budget figures, and completed negotiations. He said appraisals continue for the remaining properties associated with the OHB levee and in-town levees. He said the purchase of the Oxbow Country Club is complete, and the old clubhouse will be used while the new facility is under construction.

## 9. FINANCE UPDATE

### Committee report

Michael Montplaisir, Cass County Auditor, said \$92 million has been spent so far on the diversion project. The State Water Commission has paid \$10 million with the remaining costs split with Cass County paying 45%, Fargo paying 45% and 10% allocated to Minnesota.

The Finance Committee met on February 4<sup>th</sup> and discussed the following items:

### Finance Committee Membership

Mr. Montplaisir said the committee discussed the addition of a Cass County Commissioner to its membership since Darrell Vanyo is no longer a commissioner but still serves on the committee. Mr. Montplaisir said this will help to keep the Cass County Commission informed of committee activities. Diversion board members agreed the representative should be appointed by the Cass County Commission.

### ***MOTION, passed***

**Mr. Olson moved and Mr. Williams seconded to direct the Cass County Commission to appoint a Commissioner to the Flood Diversion Finance Committee. Motion carried.**

### Special Assessment District Update

Rocky Schneider from AE2S said the CCJWRD met this morning and approved all the information necessary to send out ballots to vote on the creation of a special assessment district. He said ballots will be mailed March 6<sup>th</sup> and will be due back to the CCJWRD Office by the end of April. There will be public meetings held on March 10<sup>th</sup>, March 17<sup>th</sup> and March 24<sup>th</sup> with a public hearing on March 31<sup>st</sup> at the Fargo Dome. The three other meetings will be held at locations in West Fargo, South Fargo, and Harwood.

### Task Order No. 5 Amendment 1 – CH2MHill Contract

Mr. Montplaisir said the committee approved an amendment to the current task order with CH2MHill to extend their contract for one year at the existing rate of \$310,000 per month. Keith Berndt, Cass County Administrator, outlined the technical, legislative, project implementation, and public outreach support that CH2MHill and sub-consultant AE2S are providing to the Flood Diversion Board of Authority.

***MOTION, passed***

**Mr. Mahoney moved and Ms. Otto seconded to approve Task Order No. 5 Amendment 1 for a contract extension with CH2MHill for program management consulting services through February 26, 2016. On roll call vote, the motion carried unanimously.**

***Voucher approval***

The bills for the month are for legal services with Erik Johnson & Associates, Ltd. and Dorsey & Whitney LLP; and government relations services with Fredrikson & Byron, P.A.

***MOTION, passed***

**Mr. Mahoney moved and Mr. Olson seconded to approve the vouchers in the amount of \$117,897.63 for January, 2015. On roll call vote, the motion carried unanimously.**

**10. OTHER BUSINESS**

Jeff Lewis, Executive Director of the Red River Basin Commission, distributed a progress report on long-term flood solutions for the basin. He said the report is to help residents, community leaders, water managers, and policy makers understand the overall risk of flood damages and potential benefits that are possible to make the basin less susceptible to future flooding.

**11. NEXT MEETING DATE**

The next meeting will be held on Thursday, March 12, 2015, at 3:30 PM.

**12. ADJOURNMENT*****MOTION, passed***

**On motion by Mr. Mahoney, seconded by Mr. Williams, and all voting in favor, the meeting was adjourned at 4:18 PM.**

# Task Order Summary

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Date: March 12, 2015

Task Order Summary	Budget Estimate (\$)
<b>HMG Task Order No. 9-Amendment 13</b> <b>Hydrology And Hydraulic Modeling</b>	90,000
<ul style="list-style-type: none"> <li>• Provide additional HEC-RAS modeling and recalibration of model to account for additional identified culverts</li> <li>• Provide support for NDSU Agricultural Impacts Study for areas with impacts 1-ft or greater</li> </ul>	
<b>HMG Task Order No. 13-Amendment 9</b> <b>Levee Design and Design Support</b>	190,000
<ul style="list-style-type: none"> <li>• Provide El Zagal Phase 2 Levee Design – Includes incorporation of AWD-00047 (\$50,000)</li> </ul>	
<b>Total</b>	<b>280,000</b>

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3/6/2015

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## **TASK ORDER SUMMARY**

**Houston-Moore Group, LLC (HMG)**  
**Task Order No. 9, Amendment 13**  
**Hydrology And Hydraulic Modeling**

**Add \$ 90,000**

### ***Subtask 2.N: Staging Area Culvert and Bridge Survey***

#### ***Description:***

Provide additional HEC-RAS modeling and recalibration of model to account for the additional identified culverts in the HEC-RAS model.

#### ***Background:***

The addition of the identified culverts in the HEC-RAS model created flow changes that required additional HEC-RAS modeling and recalibration of the model.

Cost = \$ 53,000

### ***Subtask 2.O: NDSU Agricultural Impacts Study Support***

#### ***Description:***

Provide modeling and mapping support services for the NDSU agriculture impacts study for areas with impacts of 1-ft and greater. Include coordination with NDSU on data needs, provide tabular and mapped data for the 10-, 25-, 50-, 100-, and 500-year floods and extended duration hypothetical floods.

#### ***Background:***

Modeling, mapping, and data is needed to support the NDSU agriculture impacts study for areas with impacts of 1-ft and greater.

Cost = \$ 37,000

#### ***Recommendation:***

PMC recommends authorization for Task Order No. 9, Amendment 12 for \$ 90,000.

**Houston-Moore Group, LLC (HMG)**  
**Task Order No. 13, Amendment 9**  
**Levee Design and Design Support**

**Add \$ 190,000**

***Subtask 2.B.i.6: El Zagal Phase 2 Levee Design***

***Description:***

Incorporate AWD-00047 (\$50,000) and complete the detailed design of the El Zagal Phase 2 Levee. Work includes required surveying, permit list, removals and demolition support, geotechnical and hydraulic analyses, internal flood control and pumping, levee systems, roadway revisions, public and private utility relocations, landscaping, drawings and specifications, internal QA/QC, design documentation, operation and maintenance plan, and project management and coordination.

***Background:***

The El Zagal Phase 2 Levee is a component of In-Town levees that was conceptually evaluated as part of the July 16, 2012 report entitled "Final Technical Memorandum, AWD-00002 – Flows Through Flood Damage Reduction Area" and includes an extension of recently completed El Zagal Phase 1 Levee to the south to tie into high ground.

Cost = \$ 190,000

***Recommendation:***

PMC recommends authorization for Task Order No. 13, Amendment 9 for \$ 190,000.

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Houston-Moore Group, LLC

# Task Order No. 9, Amendment ~~13~~<sup>2</sup>

## Hydrology And Hydraulic Modeling

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In accordance with Paragraph 1.01 of the Agreement between Fargo-Moorhead Flood Diversion Authority ("Owner") and Houston-Moore Group, LLC (HMG) ("Engineer") for Professional Services – Task Order Edition, dated March 8, 2012 ("Agreement"), Owner and Engineer agree as follows:

The parties agree that in the event of a conflict between prior versions of this Task Order No. 9 and this Amendment, the terms and conditions in this Amendment shall prevail, provided however, nothing herein shall preclude ENGINEER from invoicing for work authorized under prior versions of this Task Order and performed prior to effective date of this Amendment, even to the extent such prior work was revised by this Amendment. All other terms and conditions shall remain the same and are hereby ratified and affirmed by the parties.

### 1. Specific Project Data

- A. Title: HYDROLOGY AND HYDRAULIC MODELING
- B. Description: Provide hydrology and hydrologic modeling services in order to advance design components of the Diversion Channel. Specific modeling subtasks include: modeling of Diversion inlets to determine design flows, modeling to evaluate hydraulic impacts of various Diversion Channel sizes, extending model geometry of the Rush and Lower Rush Rivers, providing technical assistance and support for the physical modeling of the Maple and Sheyenne River aqueduct structures, and on-call services as requested.

### 2. Services of Engineer

#### A. HMS DIVERSION INLET MODELING:

The objective of this subtask is to develop an HMS model for each Diversion inlet subbasin using synthetic rainfall events, and to obtain parameters for an estimate of discharge-frequency using a methodology coordinated with the U.S. Army Corps of Engineers.

- I. Discharge frequency curve at Amenia.
- II. Adopted discharge frequencies at the inlet location after the initial HMS simulations.

#### Scope:

- I. Model Diversion inlet inflows for 1.3-, 1.5-, and 2-yr rain events. Inlets to be modeled are:
  - 1. Diversion Inlet
  - 2. Local Drain 1
  - 3. Drain 50
  - 4. Drain 21C
  - 5. Local Drain 2
  - 6. Local Drain 3
  - 7. Local Drain 4
  - 8. Drain 14 (new location)
  - 9. Original Drain 14
  - 10. Local Drain 5
  - 11. Maple River
  - 12. Lower Rush River

13. Local Drain 6
14. Rush River
15. Drain 30
16. Drain 29
17. Drain 13

- II. Calibrate model to match each subbasin's adopted discharge-frequency to obtain HMS hydrographs for each inlet to the Diversion.
- III. Obtain the following parameters: Clark's Tc, R, R/(Tc+R), CN, slopes, and drainage area. Parameters to be used to estimate Diversion inlet discharge-frequency using the NRCS method for small subbasins, as per the ND Hydrology Guide.

Deliverables:

- I. HMS hydrographs at each inlet to the Diversion in a separate DSSVue file.
  - II. List of parameters used or determined such as: precipitation, Clark's Tc, R, R/(Tc+R), CN, slopes, and drainage area.
  - III. Schematic showing drainage area for each inlet, with the Diversion alignment.
  - IV. Brief report describing method, assumptions, parameters used, maps, and results.
- B. UPDATES TO THE RUSH/LOWER RUSH:

The objective of this subtask is to produce working HEC-RAS models using updated HEC-HMS hydrology for local peak flows in the Rush and Lower Rush areas for use in project design.

Scope:

- I. Red River Peak Flood - Modified Rush River hydrographs from the existing conditions model will be input into the Phase 6 LPP model, which initially will be conducted for the 100-year flood event.
- II. Rush River and Red River Peak Flood - The updated hydrographs from the HEC-HMS models developed for existing conditions will be run for the Red River Peak 10 and 100-year flood events in the Phase 6 LPP model.
- III. RAS Mapper will be used to map the floodplain outside of the diversion channel for the peak tributary event on the Rush and Lower Rush Rivers.

Deliverables: Updated existing conditions and with-project HEC-RAS unsteady models.

C. EVALUATION OF CHANNEL SIZE:

The objective of this subtask is to evaluate various Diversion Channel width sizes to determine hydraulic impacts based on channel size.

Scope for Diversion Channel from the Outlet to the Maple River:

- I. Evaluate alternatives using the criteria below to assess the size of the Diversion Channel and conduct a Screening Analysis using the HEC-RAS steady state software with the objective of determining the most favorable alternatives:
  1. Bottom width of the main Diversion Channel.
  2. Channel bottom elevation of the Diversion Channel.
  3. Considerations of the water surface profile in the Diversion Channel with respect to existing ground elevations.
  4. Modification of the Hydraulic Structure at the Maple River.

5. Other criteria can be applied at a later time if it is determined that optimizing the Diversion Channel is justified with this initial evaluation.
  6. The 100 and 500-year events for the Red River peak flood event will be analyzed.
  7. Peak discharge values from the current Phase 6 unsteady model will be used, which is also being applied to the bridge analysis (MFR-001) currently being updated by the USACE.
- II. Conduct an Impact Analysis using the HEC-RAS unsteady state software for the most favorable alternatives identified in Task 1.
    1. The 100 and 500-year events for the Red River peak flood event will be analyzed using the latest Phase 6 unsteady flow model.
    2. River impacts will focus only on the Red River upstream, downstream, and throughout Fargo-Moorhead. Impacts will be compared to those determined in Phase 4 and Phase 5, which may require that the gate operations may be modified to obtain similar impacts.
    3. Additional impacts can be further evaluated at a later time if it is determined that optimizing the Diversion Channel is justified with this initial evaluation.
  - III. Develop a preliminary cost estimate for the most favorable alternative identified for optimizing the Diversion Channel.
    1. Quantify the cost savings based on unit-cost savings using the Feasibility Study unit prices, focusing primarily on costs associated with earth work and at the Maple River Hydraulic Structure.
    2. Additional cost detail can be further evaluated at a later time if it is determined that optimizing the Diversion Channel is justified with this initial evaluation.
  - IV. Prepare a Technical Memorandum (TM) summarizing whether the size of the Diversion Channel warrants additional and more detailed study.
  - V. Evaluate the Diversion Channel upstream of the Maple River to determine the most cost effective channel size. Work includes:
    1. Develop the existing ground profiles along the right and left banks of the Diversion Channel upstream of the Maple River aqueduct.
    2. Update the 1% and 0.2% chance flood event profiles in the Diversion. Determine the minimum bottom width such that the 1% chance flood event is generally below existing ground. Conduct sensitivity analysis to evaluate water surface profiles and comparing to the original bridge MFR flows and Phase 7.1 flows.
    3. Calculate flood inundation flow rates at the Red and Wild Rice River control structures to establish an extreme event flow rate in the Diversion Channel.
    4. Evaluation project operations during extreme events, and determine how diversion channel size upstream of the Maple River aqueduct affects the Inflow Design Flood (IDF) event and the corresponding staging area.
    5. Provide opinion of optimal channel width based on capital, operational, and maintenance costs along with project operation goals.

Deliverables:

- I. Draft report.
- II. Final report.

D. EXTEND RAS GEOMETRY OF THE RUSH/LOWER RUSH

The objective of this subtask is to account for break-out flows between the Rush and Lower Rush Rivers by extending the RAS model geometry of the Rush and Lower Rush Rivers upstream to the beach ridge of Glacial Lake Agassiz.

Scope:

- I. Extend existing conditions Rush River HEC-RAS model approximately 10 miles upstream from Amenia and add model detail between the Rush and Lower Rush Rivers to incorporate breakout discharges.

Deliverables:

- I. Updated existing conditions and with-project HEC-RAS unsteady models.

E. PHYSICAL MODELING ASSISTANCE:

Provide ongoing assistance to the Diversion Authority during the transition for Feasibility Study to Preliminary Engineering and Design (PED) in support of the Maple and Sheyenne River aqueduct structures.

Scope:

- I. Participate in USACE design team meetings, Local Sponsor/Local Consultants Technical Team (LSLCTT) meetings, and workshops as requested.
- II. Provide technical assistance for physical modeling of hydraulic structures.
- III. Provide hydrology information, as requested, to USACE.
- IV. Provide additional assistance as requested.

Deliverables: Meeting minutes.

F. ON-CALL SERVICES:

Respond to requests for services from PMC for tasks not identified to date. Requests will be provided by PMC in writing. Work will not be performed by Engineer without authorization by PMC or Owner.

Deliverables: On-call service deliverables as requested.

- I. EXTREME RAINFALL EVENTS – Complete the work originally authorized in AWD-00016 and deliver the final report. The scope of work specified in AWD-00016 was:
  1. Develop a Technical Memorandum (TM) that determines whether or not a meander belt width of 200 feet is sufficient to allow establish a low-flow channel that is in dynamic equilibrium, and if so, provide sufficient information and criteria for others to design the four (4) low-flow channel reaches:
    - a. Diversion Outlet to Lower Rush
    - b. Lower Rush to Drain 14
    - c. Drain 14 to Drain 21C
    - d. Drain 21C to Diversion Inlet

The focus of this meander belt width analysis is on the reach Diversion Outlet to Lower Rush. Meander belt width for other reaches will be confirmed in subsequent analyses.

The Final Feasibility Report includes a grade control feature across the entire width of the main section of the diversion channel every 5,000 feet along the length of the diversion. The use of grade control to set some constraints on the low-flow channel migration rates within the meander belt width should be considered as part of this study. The distance between grade control features can be modified if warranted. Discuss, and if appropriate, recommend other methods to limit meander belt width.

The following data will be provided by the Diversion Authority at the commencement of the work effort:

- a. Soil test data to include Atterberg limits and gradations, boring log plates, boring location diagrams, and boring profile plates
- b. Sediment grain size distribution and sediment transport (both as bedload and in suspension) data that has been collected recently by the US Geological Survey and West Consultants, including low and high flow events, for streams near the proposed diversion, including the Rush, Lower Rush, Maple and Sheyenne rivers
- c. Current, and if available, also historical cross sections for streams near the proposed diversion, including the Rush, Lower Rush, Maple and Sheyenne rivers
- d. Required diversion profile information along the centerline of the diversion
- e. Typical cross-sections for the low-flow channel and main section of the diversion channel for the four reaches referred to above (i.e., 1) Mouth to Lower Rush, 2) Lower Rush to Drain 14, 3) Drain 14 to Drain 21C, and 4) Drain 21C to Diversion Inlet)
- f. Current, and if available, also historical general slope and sinuosity information for streams near the proposed diversion, including the Rush, Lower Rush, Maple and Sheyenne rivers
- g. Current, and if available, also historical digitized information (GIS format) on planform alignments for streams near the proposed diversion, including the Rush, Lower Rush, Maple and Sheyenne rivers
- h. Stage (water depth)-discharge, flow velocity-discharge, discharge-duration and discharge-frequency information for the four reaches referred to above (i.e., 1) Mouth to Lower Rush, 2) Lower Rush to Drain 14, 3) Drain 14 to Drain 21C, and 4) Drain 21C to Diversion Inlet)
- i. Typical flood hydrographs for the four reaches referred to above (i.e., 1) Mouth to Lower Rush, 2) Lower Rush to Drain 14, 3) Drain 14 to Drain 21C, and 4) Drain 21C to Diversion Inlet)
- j. Compilation of frequency and duration of operation, typical cross sections, slopes, erosion protection measures, and sedimentation records for the two existing diversions on the Sheyenne River (Horace to West Fargo, and West Fargo)

Deliverables:

1. Prepare a first Draft Technical Memorandum to include:
    - Outline approach for meander belt width analysis
    - Brief literature review on constructed meandering channels
    - Preliminary summary of data available
    - Initial thoughts on feasibility of meander belt width concept
  2. Prepare a second Draft Technical Memorandum to include:
    - Description of approach for meander belt width analysis
    - Processing of data for input in meander belt width analysis
    - Meander belt width analysis
    - Stabilization alternatives, including grade-control measures, non-structural measures (e.g., vegetation), widening of main diversion channel in certain reaches, among other considerations, to ensure low-flow channel migration occurs within prescribed meander belt width
    - Determination of need for rock toe protection along the entire length of the inner diversion toe to prevent erosion
    - Suggestions for future field investigations
    - Recommended design criteria for Final Design
  3. Consult with Professor Gary Parker (University of Illinois at Urbana-Champaign) during development of the meander belt width analysis and recommendations.
  4. Develop a brief, graphics-rich, PowerPoint presentation of the background and results. This presentation must be suitable for a non-technical audience.
  5. Determine timing of tributary contributions to the low flow channel by reviewing and comparing the Phase 1 HEC-HMS model results for the Rush and Lower Rush Rivers, and Drains 14 and 21C for the 2-year and 5-year 24-hour rainfall events. Compare model results to low flow channel hydrology developed by USACE.
  6. Prepare a Technical Memorandum presenting summarizing results.
- II. EXTREME EVENT EVALUATIONS
1. Evaluate the following for extreme (103,000 cfs and Probable Maximum Flood [PMF]) events
    - a. Adequacy of aqueduct openings
    - b. Lowering the left EMB to reduce the amount of flow in the Diversion Channel
    - c. Head differential across raised road in the staging area
    - d. For VE-13 Option D, sloping the Diversion Channel from the Wild Rice River toward the Diversion Inlet

III. TRIBUTARY PEAK MODEL RUNS TO SUPPORT THE MAPLE RIVER AQUEDUCT PHYSICAL MODEL

Background: To provide 10-, 50-, 100-, and 500-year tributary peak hydrographs in the current version of the unsteady RAS model to obtain the best available tributary peak flow information for the Maple River physical modeling effort. These updated tributary peak model runs will aid in the effort of determining the flow combinations to be modeled during maple River physical modeling effort.

Scope: Perform model runs for the 10-, 50-, 100-, and 500-year tributary peak hydrographs to support the USACE's physical and numeric modeling of the Maple River Aqueduct Structure. Provide modeling results to USACE.

#### IV. ADDITIONAL ASSISTANCE FOR THE MAPLE RIVER AQUEDUCT PHYSICAL MODEL

Scope: Additional assistance includes participating in bi-weekly conference calls, providing additional technical information and support from Feasibility Study team to USACE's physical modeling team, and attending a four-day value-based design charrette.

#### V. UNSTEADY HEC-RAS MODELING OF EXISTING PMF INFLOWS

Background: The existing Probably Maximum Flood (PMF) was developed almost 30 years ago (1984) and is based on simple hydrologic routing that likely does not account for the full effects of floodplain storage and cross-basin flow that occurs upstream of Fargo-Moorhead. USACE has updated the unsteady HEC-RAS model upstream of the unsteady HEC-RAS model currently being used for the FMMFRM project so that it has the extents and connections necessary to model the PMF event. The portion of the FMMFRM unsteady HEC-RAS model from Abercrombie, ND (the upstream extents of the unsteady HEC-RAS model being used for the FMMFRM study) through Fargo-Moorhead has been added to the upstream model to create the unsteady HEC-RAS model required for this PMF analysis. To avoid confusion, the unsteady HEC-RAS model being used for the PMF analysis will be referred to as the "Upstream" model, while the unsteady HEC-RAS model generally being used for most of the FMMFRM study will be referred to as the "FMMFRM" model.

To get an idea of how much the PMF might change, the Corps and the Project Sponsor previously decided that it would be useful to investigate routing the existing PMF inflows using the Upstream model. The Corps has set up the Upstream model with the proper inflows.

Scope:

- a) Perform a technical review of the model
- b) Address the instability issues related to running the model with very large inflows
- c) Produce final model runs using the 1984 hydrology that provide the PMF at the Fargo gage.

Deliverables:

- a) Draft unsteady HEC-RAS models.
- b) Draft technical memorandum (hard copy and electronic).
- c) Final unsteady HEC-RAS input and output files for the PMF event.
- d) Final technical memorandum.

Phase 2 - Numerical Modeling Scope:

- a) Set Up Unsteady HEC-RAS Model for New PMF Inflows  
USACE has developed a number of new inflow locations for the unsteady HEC-RAS model that are associated with HMS output hydrographs. These inflow locations have been provided separately in an HEC-RAS unsteady flow data file. Develop a draft unsteady HEC-RAS model with updated inflow locations. If requested, modify names of certain reaches and storage areas to be consistent with the final unsteady HEC-RAS model used for the PMF flow routing.

Deliverables:

- i. Draft unsteady HEC-RAS model with updated inflow locations.

b) Unsteady HEC-RAS Modeling of New PMF Inflows

Using the updated unsteady HEC-RAS model with the updated inflow locations, model two sets of hydrographs representing two different runoff scenarios. USACE will provide the two sets of inflow hydrographs. Evaluate the inflow locations and the magnitude and shape of the hydrographs for reasonableness and model stability. Modify as required, in consultation with USACE, to allow the model to run successfully.

Once any model instabilities have been addressed and the model runs are complete, evaluate, in consultation with USACE, the hydrographs at the Fargo gage location to determine whether additional sets of hydrographs representing other runoff scenarios are required to determine the PMF at the Fargo gage location (to be performed under subtask c).

Deliverables:

- i. Preliminary unsteady HEC-RAS models.
- ii. Draft Technical Memorandum. Prepare a Technical Memorandum that summarizes the work effort and the resulting hydrograph at the Fargo gage location.

c) Additional Unsteady HEC-RAS Modeling of New PMF Inflows (if authorized).

If additional sets of hydrographs need to be developed to determine the PMF at the Fargo gage location, as determined in subtask b, USACE will provide one to four additional sets of hydrographs to be modeled with HEC-RAS. Prepare update of draft Technical Memorandum prepared in subtask b.

Deliverables:

- i. Preliminary unsteady HEC-RAS.
- ii. Second draft Technical Memorandum.

d) Final Technical Memorandum.

Upon review of the model results and draft Technical Memorandum by USACE, finalize the HEC-RAS models and prepare a Final Technical Memorandum, addressing comments provided by USACE.

Deliverables:

- i. Final unsteady HEC-RAS input and output files for the PMF event.
- ii. Final Technical Memorandum.

VI. UPDATE HEC-RAS MODEL

- a) Update the HEC-RAS model geometry for the revised western alignment from the Maple River to the Sheyenne River and the proposed upstream staging area ring levees.
- b) Provide on-going hydrology and hydraulic modeling services as requested in order to keep HEC-RAS model consistent with project features.

VII. CONNECTING CHANNEL AND 20-YEAR EXISTING CONDITIONS

Scope:

- a) Connecting Channel Geometry: Update the HEC-RAS model geometry to incorporate the geometry of the connecting channel between the Wild Rice and Red Rivers. Complete the 10-yr, 20-yr, and 50-yr model runs to determine the



proper model modifications and to determine the impacts of the updated geometry. If the modifications affect the 50-yr model results, complete the 100-yr, 500-yr, SPF, and PMF model runs to determine the impact of the updated geometry. If the modifications do not affect the 50-yr model results, the updated 100-yr, 500-yr, SPF, and PMF model runs will be made under a future authorization. Develop flooded outline polygons and depth grids for the 10-yr, 20-yr, 50-yr, 100-yr, 500-yr, SPF, and PMF events.

- b) 20-year Existing Conditions Modeling: Develop 20-year Existing Conditions models and provide floodplain mapping for the Staging Area.

Deliverables:

- a) Preliminary unsteady HEC-RAS models.
- b) Final unsteady HEC-RAS input and output files.
- c) 20-year existing conditions model results.

#### VIII. MAPLE RIVER AQUEDUCT FLOW ANALYSIS

- a) Conduct modeling of Maple River flows across the proposed Maple River Aqueduct and into the Risk Reduction Area.
  - i. Use the latest HEC-RAS model for the FMMFRM Project and the best available topographic data.
  - ii. The study area is the area within the Risk Reduction Area that is affected by the flow coming across the Maple River Aqueduct.
  - iii. Account for coincident flows on the Sheyenne River and other local drains and ditches.
  - iv. Select Maple River design flows such that insurable structures in the Risk Reduction Area, and within the expected future 1% Maple River floodplain, are minimally affected by the Maple River design flows and the coincident flows on the Sheyenne River and the other local drains and ditches in the Risk Reduction Area.
- b) Establish Maple River design flows across the Maple River Aqueduct for the 1% and 0.2% flood events.
- c) Recommend a maximum Maple River flow across the Maple River Aqueduct for the Standard Project Flood (SPF) event.

Deliverables:

- a) Preliminary unsteady HEC-RAS models.
- b) Final unsteady HEC-RAS input and output files.
- c) 20-year existing conditions model results.
- d) Final Technical Memorandum.

#### IX. UPDATE HEC-RAS MODELS – MAPLE RIVER AQUEDUCT AND REACH 6 BRIDGE

- a) Modify the unsteady-flow HEC-RAS model to reflect the lateral structure and spillway changes recommended by the Maple River aqueduct study team.
- b) Update the flow profile information (1% and 0.2% chance events, and 103,000 cfs event) needed for the bridge design effort, using the current Phase 7 unsteady-flow HEC-RAS model as the source of the geometry for the steady-flow HEC-RAS model. Continue to use the bridge design criteria provided in MFR-005 (General Bridge Re-Assessment for the Diversion from Inlet to Outlet) to determine the low-chord elevation and hydraulic opening of bridges in the Diversion Channel.
- c) Update the HEC-RAS model geometry: (i) to be consistent with survey and topography dates collected, (ii) to reflect proposed changes to the Maple River natural channel, (iii) to reflect the proposed revised location of the spillway into the

diversion channel; perform QA/QC of model changes; and evaluate revised model performance for various flood events using the HEC-RAS unsteady flow model.

Deliverables:

- a) Draft Technical Memorandum.
- b) Final Technical Memorandum.

#### X. WATER MONITORING GAGE SURVEYING

- a) Prepare and provide maps and coordinates of installation locations for 10 HOBO gages to USGS installation teams.
- b) After HOBO gages are installed, survey the elevations of the installed gages and provide survey data to USGS.

Deliverables:

- a) Maps and coordinates of installation locations for 10 HOBO gages.
- b) Surveyed elevations of 10 HOBO gages.

#### XI. HEC-RAS MODELS - MAPLE RIVER AQUEDUCT

- a. Provide modeling services to add detail associated with updating HEC-RAS model geometry to be consistent with 2014 changes made on the Maple River aqueduct physical model. Incorporate HEC-RAS cross sections from JV where applicable, combine detailed USACE river survey data into HEC-RAS cross sections, and modify adjacent lateral structures and storage areas.
- b. Coordinate with USACE to update model geometry for the relocated Maple River channel. The geometry will have a bank-full wetted area consistent with the natural Maple River channel in the vicinity of the proposed aqueduct.
- c. Modify model geometry so the spillway enters the diversion at a 90 degree angle as a lateral structure. Update the width and the upstream weir elevation of the spillway such that a target 3000 cfs flows through the aqueduct for the 1% event on the Maple River with the water surface elevation just upstream of the spillway being as close as possible to the existing-condition water surface elevation. Include additional coordination with USACE.
- d. Conduct sensitivity model runs associated with the aqueduct, spillway, and EMB gap for various flood events. Evaluate impacts for 1% chance flood event elevations in the floodplain upstream of the spillway and assess how the project will operate for the SPF event. Determine the proper size and elevation of the EMB gap.
- e. Provide QA/QC of modeling.

Deliverables:

- a. Updated models.

#### G. BASIN-WIDE RETENTION SUPPORT

- I. Objective: Assist Owner in supporting retention projects by others in the region.
- II. Background: The Diversion Board has authorized up to \$25 million for Basin-wide Retention Projects that are compatible with, and provide benefits for, the Diversion Project. An initial study is underway by the Red River Basin Commission (RRBC).

This subtask is not creditable by USACE.

- III. Scope:
  - a. Assist Owner with developing a method of evaluating existing, planned, or potential regional retention projects' potential benefits to the Diversion Project. Scope to include up to two (2) site evaluations.
  - b. Provide technical assistance to the RRBC in its study "Halstad Upstream Retention (HUR) Modeling – Phase 1".
- IV. Deliverables
  - a. As requested.

#### H. PHASING PLAN INTERIM MODELING

- I. Objective: Incorporate the Phase 1 and Phase 2 project features into the hydraulic model, evaluate project benefits, and determine interim measures needed for a phased project.
- II. Background: The original project execution plan assumed unconstrained funding, an approximate 8 year project schedule, and project design and construction starting on the downstream (north) end of the project and progressing sequentially upstream. Currently, it is anticipated that Federal funding will be constrained and, therefore, a phased plan was developed to allow the project to proceed with limited Federal funding and provide benefits as early as practical. This results in a three phased project. Phase 1 includes the Diversion Channel from the Outlet to downstream of the Maple River and associated bridges, in-town levees, and the Oxbow-Hickson-Bakke area levee. Phase 2 includes the Red River and Wild Rice River control structures, the Staging Area embankment, overflow embankment, tie-back levee, the Diversion Inlet structure, staging area land, associated bridges and transportation improvements, and associated mitigation projects. Phase 3 includes the Diversion Channel from the Maple River to the Diversion Inlet structure, associated bridges, the Maple River Aqueduct, the Sheyenne River Aqueduct, and associated mitigation projects.

There may be a lag of several years between completion of Phases 1 and 2, and the completion of Phase 3, and, therefore, modeling and evaluation is needed to 1) determine project benefits and 2) the need for and extent of temporary measures between phases of the project.
- III. Scope: Perform 100-year and 500-year modeling evaluations of Phase 1 and Phase 2 project components, quantify interim benefits, and determine what interim measures are needed until completion of Phase 3.
- IV. Deliverables:
  - a. Draft Technical Memorandum.
  - b. Final Technical Memorandum.

#### I. PHASE 7.1 MODEL UPDATE

- I. Task 1 - Update the Red River peak flow model geometry. Complete modeling for the Red River peak flood events, including the 10-, 2-, 1-, 0.2-percent chance events and the 103kcfs and PMF flood events for both existing conditions and with-project conditions. Geometry updates include:
  - a. Update storage connections for the existing and with-project model in the area west of the diversion between the Maple River and the Sheyenne River to better reflect floodplain impacts and diversion side inlet sizing.

- b. Revise the Wild Rice River Control Structure and embankment alignment (combine bridges).
  - c. Analyze the removal of the connecting channel between the Wild Rice River and Red River. Replace with storage areas.
  - d. Analyze Hwy 81/Hwy 75/Red River Control Structure Bridge/Culvert Sensitivity at the tie back levee.
  - e. Change the channel size from the Wild Rice River to the Diversion Inlet based on cross section volume of the southern embankment.
  - f. Account for staging area levees including the proposed Oxbow/Hickson/Bakke and Comstock levees.
  - g. Verify the eastern staging area tieback is modeled as being used in storage. Add detail to check if culverts are adequate to convey water west to the Red River Control Structure.
  - h. Revise Maple River south bank near the Maple River Aqueduct. Set elevation to 901.0.
  - i. Investigate diversion gate operations for events larger than the 0.2% chance event.
  - j. Update the Drain 14 inlet at the diversion.
  - k. Extend the Red River model from Grand Forks, ND to Drayton, ND.
- II. Task 2 – Update tributary peak flow models with geometry developed in Task 1. Complete modeling for the 10-, 2-, 1-, 0.2-percent chance flood events for both existing conditions and with-project conditions.
- III. Task 3 - Conduct a higher volume sensitivity analysis using the Red River peak flow geometry from Task 1 and the high volume hydrology developed as part of the Phase 5 unsteady modeling effort. Complete evaluations for the 1- and 0.2-percent chance flood events for both existing conditions and with-project conditions. The main objective of this task is to determine how the diversion system would operate with higher volumes and if the higher volumes would affect the staging area elevation. No mapping is required; however, calculate impacts and compare to Phase 7.0. For comparison purposes, match Phase 7.1 downstream impacts, flows through town, and diversion flows to the targeted values from Phase 7.0. The variable parameter will be the staging area elevation. Prepare a technical memorandum to summarize the sensitivity analysis.
- IV. Task 4 – QA/QC of Phase 7.1 modeling.
- V. Task 5 – Complete additional modeling and mapping tasks as part of the Phase 7.0 modeling effort. These items include details such as:
- a. Update geometry to include the City of Fargo Comprehensive Flood Protection Plan.
  - b. Additional mapping for existing and project conditions.
  - c. Development of Tributary Peak models.
  - d. Add detail to Interstate 94 near the Red River and also to Drain 27 area.
  - e. Update weir coefficients, culverts, initial elevations, and cross section duplication.
  - f. Diversion centerline alignment rectification due to Microstation and GIS formats.
  - g. Add Excavated Material Berms into project geometry.
  - h. Add designed bridges for Reaches 1 through 5 into the geometry.

- i. Update HEC-RAS unsteady flow model geometry to reflect most current layout of the Maple River Aqueduct and Spillway being used by the physical modeling team. The Maple River overbank berms near the structure will also be updated. Using the latest project designs, update the layouts and inlet structure geometry for the Rush and Lower Rush Rivers, as well as Drain 30.
  - a. Update HEC-RAS unsteady flow existing conditions and project conditions for the 10-, 50-, 100-, and 500-year Red River peak events. No diversion gate optimizations will be conducted, as this will be completed as part of the Phase 8 model updates.
  - b. Update HEC-RAS unsteady flow existing conditions and project conditions for the 10-, 50-, 100-, and 500-year Tributary peak events. No diversion gate optimizations will be conducted, as this will be completed as part of the Phase 8 model updates.

VI. Deliverables:

- a. Updated phase 7.1 model for the Red River peak flood events, including the 10-, 2-, 1-, 0.2-percent chance events and the 103kcfs and PMF flood events for both existing conditions and with-project conditions.
- b. Updated phase 7.1 tributary peak flow models with geometry developed in Task 1, for the 10-, 2-, 1-, 0.2-percent chance flood events for both existing conditions and with-project conditions.
- c. Higher volume sensitivity analysis:
- d. Updated phase 7.0 model.

J. UPDATE PMF WITH REVISED DISTRIBUTION OF SNOWMELT RUNOFF:

I. Background:

- a. Initial results from the current PMF study for the USGS Gage at Fargo, ND indicate that the peak flow is about 25% higher than what was determined during the 1985 study. Comparisons with the 1985 study indicate that the Wild Rice, North Dakota basin requires further investigation. Contributing drainage area for the PMF also requires further investigation. Two HMS model runs (two storm centerings) are available from the USACE St. Paul District for each of the eight sub-basins that are included in the PMF study. The HMS models that were used in the initial PMF work were modified from the Phase 1 HMS final product by peaking unit hydrograph parameters for each subbasin, re-incorporating the entire drainage area, and extending several storage outflow relationships that were exceeded with the magnitude of discharges generated from the PMF simulations.
- b. It has been proposed that GIS can be used in conjunction with the HMS models to better estimate the amount of runoff occurring during a PMF event. The GIS/HMS effort would determine areas that contribute runoff, areas that do not contribute runoff, and areas that partially contribute runoff for the events investigated.

II. Scope:

- a. Discuss the GIS/HMS effort with USACE before proceeding with this work.
- b. Update the USACA-provided HMS model runs in conjunction with the GIS/HMS-based runoff-determination effort. Determine the order of HMS model simulations and account for the breakout flows between the various models. Coordinate between the HMS model simulations and RES-SIM with USACE. Save Reservoir inflows for Traverse and Orwell in DSS and submit to USACE for simulation. Forward the regulated flow DSS records for inclusion into the RAS Model.

- c. Upon completion of the update to the Wild Rice River basin HMS model by USACE, perform final model runs. Perform work that can be accomplished in advance to prepare for the final HMS models runs.
- d. Use the HMS results as input for an updated unsteady HEC-RAS model run for each storm centering. Complete the existing scope of work (Subtask F.V) for the PMF study using the updated unsteady HEC-RAS model runs.
- e. Prepare a report section documenting the GIS/HMS-based runoff-determination effort and comparing the 1985 PMF study to this current study, including input assumptions. Incorporate this draft report section into the overall current PMF study report.
- f. Conduct model runs as requested by USACE to support close out of comments from ITR. Assume 6 additional sensitivity runs will be made as identified in the reviewer comments.
- g. Provide map making and figure revisions for final report. Assume two iterations of revisions will be made to maps currently in report and two additional maps to be made to satisfy the review comments.
- h. Support report documentation as requested by USACE lead. Assume that USACE will finalize the draft report and HMG will provide supplemental information.

### III. Deliverables

- a. Updated runoff grids resulting from the GIS/HMS-based runoff-determination effort.
- b. Draft report with maps.
- c. Updated HMS models (16 models: 2 storms centering for 8 sub-basins.)
- d. Updated unsteady HEC-RAS models (2 models, one for each storm centering).

## K. PHASE 8 MODEL UPDATE

### I. Background:

- a. The Phase 8 modeling will incorporate higher volume hydrology developed by the USACE. It will also include the development of the 20-year event model and investigate additional model updates in the staging area based on culvert connections, connecting channel investigations, and tieback embankment alignment adjustments. The downstream model limit will be Drayton, ND.
- b. The most recent independent QA/QC review of the FM Diversion project unsteady HEC-RAS model occurred during the Phase 4 modeling (February 28, 2011). Subsequent model updates included peer reviews by modelers, but did not include a full independent review.

### II. Scope:

- a. Update geometry in the upstream staging area based on culvert details and the local drainage plan (currently under development).
- b. Update synthetic model hydrology for the 10, 50-, 100-, and 500-year flood events and develop new 20-year hydrology using new higher volume hydrographs developed by the USACE for the peak Red River flood event. Local inflow development will utilize the Phase 1 HEC-HMS models.
- c. Update the existing conditions tributary peak unsteady model using updated hydrology developed by the USACE for the 10-, 50-, 100-, and 500-year flood events and new 20-year hydrology.

- d. Conduct QA/QC review of the Phase 8 Existing conditions models for the RRN and tributary peak conditions.
- e. Conduct with-project modeling for the 10-, 20-, 50-, 100-, and 500-year events for the RRN peak flood event.
- f. Conduct with-project modeling for the 10-, 20-, 50-, 100-, and 500-year events for the tributary peak flood events.
- g. Conduct QA/QC of the Phase 8 with-project model runs.
- h. Prepare floodplain mapping for the 10-, 20-, 50-, 100-, and 500-year events for existing conditions and with-project for both the RRN and tributary peak flood events.
- i. Prepare draft and final Technical Memorandums summarizing Phase 8 modeling results.
- j. Conduct an independent QA/QC review of the unsteady HEC-RAS model.
  - i. Part 1 – Conduct an independent QA/QC review of the Phase 7.1 unsteady HEC-RAS model geometry and general assumptions. Include a kick-off review meeting, a review of the technical memorandums and previous District Quality Control (DQC) and Agency Technical Review (ATR) reviews developed for the model updates subsequent to Phase 4, and a review of geometry files through Phase 7.1 of the model. Commence review following completion of the Phase 7.1 update.
  - ii. Upon completion of the Phase 7.1 model review, provide recommendations for additional QC review of the Phase 8 model updates.
  - iii. Document the review findings and recommendations in Technical Memorandum.
  - iv. Document the review findings and recommendations in Technical Memorandum.
- k. Incorporate geometry and general assumptions QA/QC recommendations into the HEC-RAS model
  - i. Review all comments and discuss with USACE and review team, and determine which model recommendations should be incorporated into the HEC-RAS model.
  - ii. Make revisions in HEC-RAS Model Geometry for Red (from Enloe to Perley), Wild Rice, Sheyenne and Maple Rivers: Update model to HEC-RAS 5.0, convert horizontal projection to Albers Equal Area. Update bridge modeling approaches, ineffective flow limits, bank stations, blocked obstructions, roughness parameters, river junction cross-section geometry, address ineffective flow at bridges and two inconsistencies between EX and WP models. Verify volume continuity.
  - iii. Re-calibrate model using 2006, 2009, 2010, 2011 historic events (adjust parameters).
- l. Provide additional assistance to USACE for the Hickson Hydrology Update. These modeling tasks include assessing modeling parameters, development of a baseline storage-discharge relationships, comparison modeling downstream of the Otter Tail Diversion, historic flow record checks, and revise model calculation at bridges and inline structures.

III. Deliverables:

- a. Updated phase 8 model for the Red River peak flood events, including the 10-, 20-, 50-, 100-, and 500-year events for both existing conditions and with-project conditions.
- b. Updated phase 8 models for the tributary peak flood events, including the 10-, 20-, 50-, 100-, and 500-year events for both existing conditions and with-project conditions.
- c. Floodplain maps for the 10-, 20-, 50-, 100-, and 500-year events for existing conditions and with-project for both the RRN and tributary peak flood events.
- d. Draft and Final Phase 8 Technical Memorandum.
- e. Draft and Final QA/QC Technical Memorandum, Kick-off meeting minutes, and Quality Review Form (QRF) summarizing review comments for the Phase 7.1 QC review.

L. UPDATE THE BALANCED HYDROGRAPHS AT HICKSON, ND

I. Background:

- a. The USACE, St. Paul District, requested assistance to update the Red River of the North (RRN) balanced hydrographs at the USGS gage at Hickson, ND. This effort is required prior to starting the Phase 8 model update, and involves working with both the hydrologic (HEC-ResSIM) and hydraulic (unsteady HEC-RAS) routing models to determine the proper unregulated inflow hydrographs and hydrologic modeling parameters such that similar results are obtained from the two methods.

II. Scope:

- a. Hydrologic Model Development: Use the unsteady HEC-RAS model to determine peak flows at Hickson and Abercrombie ND and identify breakout flow locations.
- b. Initial Storage Outflow Curve Development: Develop storage outflow curves for the hydrologic model reaches determined in above task, and identify bankfull discharges for each routing reach.
- c. Quality Control Check on Unregulated Record Generated by Hydrologic Model: Run five test historic, unregulated events through the unsteady HEC-RAS model to check the validity of the unregulated record being developed by the hydrologic modeler.
- d. Routed Synthetic-Event Unregulated Hydrographs and Report: Using information developed in previous tasks, provide the resulting unregulated hydrographs at Fargo, ND and Wahpeton, ND, which are produced in concert with the 10-yr, 50-yr, 100-yr, 200-yr, 500-yr synthetic events at Hickson, ND.
- e. Fine Tune the Regulated Synthetic Event Analysis: Run the five HEC-RAS models (10-yr, 50-yr, 100-yr, 200-yr, 500-yr synthetic events) for regulated conditions using the outflow hydrographs from the reservoirs developed by USACE using the hydrologic model.
- f. Final Technical Memorandum: Develop an overall Technical Memorandum summarizing the work accomplished for Tasks 1-5.

III. Deliverables:

- a. Breakout Flow and Hydrologic Routing Reach Report
- b. Upstream Input Test Hydrographs and Routed Test Hydrographs at Critical Locations



- c. Storage Outflow Curves and bankfull discharges for each routing reach
- d. Routed Historic Hydrographs
- e. Routed Synthetic-Event Regulated Hydrographs and Report
- f. Final Technical Memorandum

#### M. EASTERN STAGING AREA EVALUATION

- I. Background: Hydraulic modeling (Phase 7 HEC-RAS) and design performed in support of the September, 2013 Supplemental Environmental Assessment for the Fargo-Moorhead Metropolitan Area Flood Risk Management Project did not include the area east of Clay County Highway 7 (40th St. S.) and south of the Embankment in the staging area for the FM Diversion. Additional design and modeling in support of the Local Drainage Plan for the staging area has since shown that there may need to be a connection to this area to pass local drainage that could potentially bring this area into the staging area.
- II. Scope:
  - a. Provide preliminary design for two (2) Eastern Staging Area alternatives. This includes civil and hydraulic design in support of the two Alternatives.
    - i. Alternative 1 includes turning the embankment south near Clay County Highway 7 and extending it to high ground to prevent the staging area from extending into the Eastern area.
    - ii. Alternative 2 includes keeping the current embankment alignment, but including a penetration through the embankment to pass local drainage for the Eastern area north into the Flood Damage Reduction area along its current drainage path.
  - b. Prepare Opinions of Probable Cost for the two Eastern Staging Area alternatives.
  - c. Prepare a summary memorandum outlining the results of the Eastern Staging Area Evaluation.
- III. Deliverables:
  - a. Draft and Final Technical Memorandum.

#### N. STAGING AREA CULVERT AND BRIDGE SURVEY

- I. Background: USACE requested detailed survey information on culverts and bridges in the Staging Area so that this information can be added to the Hydrology and Hydraulic (H&H) models and used to:
  - a. Better determine project impacts at the fringe areas of the Staging Area.
  - b. Better assess impacts to road and duration of flooding in the Staging Area during Project operation.
- II. Scope:
  - a. Define the survey area.
  - b. Gather existing information on culverts and bridges in the survey area and develop a survey plan.
  - c. Survey culverts, and bridges in the survey area. Information collected to include, but not limited to: culvert diameter, material type, up and downstream inverts, types of end section, and number of culverts; bridge pier and abutment size, shape, and clear space between piers and abutments.

d. Incorporate survey information into the H&H models.

d-e. Recalibrate H&H models to account for the additional culverts identified in the HEC-RAS model.

III. Deliverables:

a. Electronic survey files

b. Maps

c. Table of data collected for each culvert and bridge surveyed

d. Updated H&H model

O. NORTH DAKOTA STATE UNIVERSITY (NDSU) AGRICULTURAL IMPACTS STUDY SUPPORT

I. Background: Modeling, mapping, and data is needed to support the NDSU agriculture impacts study for areas with impacts of 1-foot and greater.

II. Scope:

a. Coordinate and meet with NDSU staff on data needs.

b. Provide tabular and mapped data for the 10-, 25-, 50-, 100-, and 500-year floods and extended duration hypothetical floods.

III. Deliverables:

a. Maps for the 10-, 25-, 50-, 100-, and 500-year floods and extended duration hypothetical floods

b. Table of data collected for agriculture impacts surveyed

3. Owner's Responsibilities

Owner shall have those responsibilities set forth in Article 2 and in Exhibit B.

4. Times for Rendering Services

<u>Subtask</u>	<u>Start Time</u>	<u>Completion Time</u>
A. HMS Diversion Inlet Model	April 1, 2012	July 31, 2012
B. Updates to Rush/Lower Rush	March 8, 2012	May 31, 2012
C. Evaluation of channel size	March 8, 2012	September 30, 2015
D. Extend RAS geometry of Rush/Lower Rush	March 8, 2012	May 31, 2012
E. Physical Modeling Assistance	April 26, 2012	September 30, 2015
F. On-Call Services	June 14, 2012	September 30, 2015
F.I Extreme Rainfall Events	September 13, 2012	November 30, 2012
F.II. Extreme Event Evaluations	September 13, 2012	November 30, 2012
F.III. Tributary Peak HEC-RAS Model Runs	September 14, 2012	December 31, 2012
F.IV. Additional Assistance for the Maple River Aqueduct Physical Model	September 14, 2012	September 30, 2015
F.V. Unsteady HEC-RAS Modeling of Existing PMF Inflows	November 8, 2012	January 31, 2013

<u>Subtask</u>	<u>Start Time</u>	<u>Completion Time</u>
F.V. Phase 2 Numerical Modeling	February 14, 2013	September 30, 2013
F.VI. Update HEC-RAS Model	December 13, 2012	January 31, 2014
F.VII. Connecting Channel and 20-year Existing Conditions	December 18, 2012	September 30, 2013
F.VIII. Maple River Aqueduct Flow Analysis	March 14, 2013	September 30, 2013
F.IX. Update HEC-RAS Models – Maple River Aqueduct & Reach 6 Bridge	April 18, 2013	September 30, 2015
F.X. Water Monitoring Gage Survey	April 9, 2013	May 31, 2013
F.XI. HEC-RAS Models - Maple River Aqueduct	December 11, 2014	March 31, 2015
G. Basin-Wide Retention Support	December 13, 2012	September 30, 2015
H. Phasing Plan Interim Modeling	April 24, 2013	September 30, 2015
I. Phase 7.1 Model Update	July 11, 2013	April 30, 2014
J. Update PMF Study with Revised Distribution of Snowmelt Runoff	July 11, 2013	December 31, 2013
K. Phase 8 Model Update	September 12, 2013	September 30, 2015
L. Update the Balanced Hydrographs at Hickson, ND	October 10, 2013	September 30, 2014
M. Eastern Staging Area Evaluation	October 9, 2014	March 31, 2015
N. Staging Area Culvert and Bridge Survey	October 30, 2014	March 31, 2015
<u>O. NDSU Agricultural Impacts Study Support</u>	<u>March 12, 2015</u>	<u>September 30, 2015</u>

5. Payments to Engineer

A. Owner shall pay Engineer for services rendered as follows:

- I. Compensation for services in accordance with the Standard Hourly Rates shown in Appendix 2 of Exhibit C of the Agreement.
- II. The total compensation for services identified under the Task Order is not-to-exceed the amount as defined in the table below.
- III. Estimated budget for Subtask F. On-Call Services, and G. Basin-Wide Retention Support, is based on an allowance.
  1. Engineer will notify Owner when eighty percent (80%) of the budget on Subtask F. On-Call Services, and G. Basin-Wide Retention Support, is expended.
  2. Engineer will prepare and submit an amendment for additional compensation when ninety percent (90%) of budget on Subtask F. On-Call Services, and G. Basin-Wide Retention Support, is expended.
  3. Engineer will not perform work beyond one hundred percent (100%) of the budget for Subtask F. On-Call Services, and G. Basin-Wide Retention Support, without Owner's authorization by an amendment to this Task Order.

Subtask	Current Budget (\$)	Change (\$)	Revised Budget (\$)
A. HMS Diversion Inlet Modeling	22,121	0	22,121
B. Updates to Rush/Lower Rush	16,401	0	16,401
C. Evaluation of Channel Size	137,605	0	137,605
D. Extend RAS Geometry of Rush/Lower Rush	17,714	0	17,714
E. Physical Modeling Assistance	10,500	0	10,500
F. ON-CALL SERVICES (ALLOWANCE)	44,900	0	44,900
F.I. Extreme Rainfall Events	7,500	0	7,500
F.II. Extreme Event Evaluations	26,600	0	26,600
F.III Tributary Peak Model Runs to Support the Maple River Aqueduct Physical Model	20,000	0	20,000
F.IV Additional Assistance for the Maple River Aqueduct Physical Model	104,000	0	104,000
F.V Unsteady HEC-RAS Modeling of Existing PMF Inflows	50,000	0	50,000
F.V Phase 2 Numeric Modeling	60,000	0	60,000
F.VI Update HEC-RAS Model	36,000	0	36,000
F.VII Connecting Channel and 20-year Existing Conditions	9,000	0	9,000
F.VIII Maple River Aqueduct Flow Analysis	15,000	0	15,000
F.IX Update HEC-RAS Models – Maple River Aqueduct & Reach 6 Bridge	40,000	0	40,000
F.X Water Monitoring Gage Survey	5,000	0	5,000
F.XI. HEC-RAS Models - Maple River Aqueduct	<del>25,000</del>	<del>25,000</del>	25,000
G. Basin-Wide Retention Support	55,000	0	55,000
H. Phasing Plan Interim Modeling	90,000	0	90,000
I. Phase 7.1 Model Update	165,000	0	165,000
J. Update PMF Study with Revised Distribution of Snowmelt Runoff	<del>116,000</del> 80,000	<del>36,000</del>	116,000
K. Phase 8 Model Update	<del>532,000</del> 594,000	<del>-62,000</del>	532,000
L. Update the Balanced Hydrographs at Hickson, ND	<del>167,000</del> 105,000	<del>62,000</del>	167,000
M. Eastern Staging Area Evaluation	<del>32,000</del>	<del>32,000</del>	32,000
N. Staging Area Culvert and Bridge	<del>100,000</del>	<del>100,000</del> 53,000	<del>153,000</del> 100,000

Subtask	Current Budget (\$)	Change (\$)	Revised Budget (\$)
Survey			
<u>O. NDSU Agricultural Impacts Study Support</u>	<u>0</u>	<u>37,000</u>	<u>37,000</u>
<b>TOTAL</b>	<b><u>1,904,341,711,34</u> <u>±</u></b>	<b><u>90,000</u><del>193,000</del></b>	<b><u>1,994,341,904,34</u> <u>±</u></b>

B. The terms of payment are set forth in Article 4 of the Agreement and in Exhibit C.

6. Consultants: None
7. Other Modifications to Agreement: None
8. Attachments: None
9. Documents Incorporated By Reference:
  - A. AWD-00043 REV-0, Eastern Staging Area Evaluation, dated October 9, 2014.
  - B. AWD-00044 REV-0, Staging Area Culvert Surveying, dated October 30, 2014.

DRAFT  
 3/6/2015

10. Terms and Conditions: Execution of this Task Order by Owner and Engineer shall make it subject to the terms and conditions of the Agreement (as modified above), which Agreement is incorporated by this reference. Engineer is authorized to begin performance upon its receipt of a copy of this Task Order signed by Owner.

The Effective Date of this Task Order is June 14, 2012.

ENGINEER:

**Houston-Moore Group, LLC**

OWNER:

**Fargo-Moorhead Metro Diversion Authority**

\_\_\_\_\_  
Signature Date  
**Jeffry J. Volk**  
\_\_\_\_\_  
Name

\_\_\_\_\_  
**President**  
\_\_\_\_\_  
Title

DESIGNATED REPRESENTATIVE FOR  
TASK ORDER:

\_\_\_\_\_  
**C. Gregg Thielman**  
\_\_\_\_\_  
Name

\_\_\_\_\_  
**Sr. Project Manager**  
\_\_\_\_\_  
Title

\_\_\_\_\_  
**925 10<sup>th</sup> Avenue East**  
**West Fargo, ND 58078**  
\_\_\_\_\_  
Address

\_\_\_\_\_  
[cgthielman@houstoneng.com](mailto:cgthielman@houstoneng.com)  
\_\_\_\_\_  
E-Mail Address

\_\_\_\_\_  
**(701) 237-5065**  
\_\_\_\_\_  
Phone

\_\_\_\_\_  
Fax

\_\_\_\_\_  
Signature Date  
**Darrell Vanyo**  
\_\_\_\_\_  
Name

\_\_\_\_\_  
**Chairman, Flood Diversion Board of Authority**  
\_\_\_\_\_  
Title

DESIGNATED REPRESENTATIVE FOR  
TASK ORDER:

\_\_\_\_\_  
**Keith Berndt**  
\_\_\_\_\_  
Name

\_\_\_\_\_  
**Cass County Administrator**  
\_\_\_\_\_  
Title

\_\_\_\_\_  
**211 9th Street South, PO Box 2806**  
**Fargo, ND 58108-2806**  
\_\_\_\_\_  
Address

\_\_\_\_\_  
[berndtk@casscountynd.gov](mailto:berndtk@casscountynd.gov)  
\_\_\_\_\_  
E-Mail Address

\_\_\_\_\_  
**(701) 241-5720**  
\_\_\_\_\_  
Phone

\_\_\_\_\_  
**(701) 297-6020**  
\_\_\_\_\_  
Fax

Houston-Moore Group, LLC

# Task Order No. 13, Amendment 98

## Levee Design and Design Support

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In accordance with Paragraph 1.01 of the Agreement between **Fargo-Moorhead Flood Diversion Authority** ("Owner") and **Houston-Moore Group, LLC** (HMG) ("Engineer") for Professional Services – Task Order Edition, dated March 8, 2012 ("Agreement"), Owner and Engineer agree as follows:

The parties agree that in the event of a conflict between prior versions of this Task Order No. 13 and this Amendment, the terms and conditions in this Amendment shall prevail, provided however, nothing herein shall preclude ENGINEER from invoicing for work authorized under prior versions of this Task Order and performed prior to effective date of this Amendment, even to the extent such prior work was revised by this Amendment. All other terms and conditions shall remain the same and are hereby ratified and affirmed by the parties.

### 1. Specific Project Data

- A. Title: **Levee Design and Design Support**
- B. Description: As part of Work-in-Kind (WIK), provide assistance to USACE, in design and design support activities, for design of levees along the Red River to support increased flow through the protected area and for levees in the upstream staging area. Provide Lands, Easements, Rights-of-Way, Relocations, and Disposal areas (LERRDs) assistance to Owner to support the levee designs.
- C. Background:
  - i. Red River Levees: At the November 8, 2012 Diversion Board meeting, the Board requested the US Army Corps of Engineers (USACE) add levees along the Red River to allow increased flow through the protected area. This task order allows HMG to provide design and design support to USACE for these Red River levees.
    1. Phase 1 – Screening of alternatives and selecting final alignment scope to include: Development of Alternatives, Public Involvement, Surveying, Geotechnical Exploration and Testing, Preliminary Geotechnical Analysis, Preliminary Hydrologic and Hydraulic Analysis, Preliminary Internal Flood Control Analysis, Preliminary Utility Investigation, Preliminary Levee and Structural Design, Transportation Evaluation, Preliminary Environmental Studies, Preliminary Report and Drawings, and Project Management.
    2. Phase 2 – Detailed Plans and Specifications: Based on the alternative selected in Phase 1, conduct a Value Engineering (VE) evaluation of the proposed project and prepare plans and specifications for 65 and 95 percent submittals, and prepare a cost estimate based on the 95 percent design submittal. Notice To Proceed (NTP) will be subject to the completion and signing of the USACE Supplemental Environmental Assessment (EA).
  - ii. Upstream Staging Area Levees/Ring Dikes: At the November 8, 2012 Diversion Board meeting, the Board passed AWD-00020 Recommended Board of Authority Position for Post-Feasibility Alternatives Analysis VE-13A vs. VE-13C, which authorized HMG to begin conceptual design and site investigations of potential levees for the Oxbow.

## 2. Services of Engineer

### A. General

- i. Red River Levees. Prepare Preliminary Design Report (PDR) and drawings for the construction of levees through town. The work will be done in 2 phases: Phase 1 will include screening of alternatives, preliminary design, and selecting final alignments. Phase 2 will include detailed plans and specifications.
- ii. Support for Upstream Stage Area Levees. Provide, as requested, assistance to USACE for design of ring levees and non-structural improvements in the Upstream Staging Area.
  1. Provide detailed designs for four of the Oxbow/Hickson/Bakke ring levee Work Packages (WP-43A, WP-43C, WP-43D, and WP-43E).

### B. Scope of Work

- i. Red River Levees – Work will be done in 2 phases:
  1. Phase 1 - Screening of Alternatives, Selection of Alignment, and Preliminary Design for the area in Fargo, ND along the Red River between the existing railroad embankment near 5<sup>th</sup> Avenue North and the north end of the existing 4<sup>th</sup> Street levee (near 2<sup>nd</sup> Street South). Work will include:
    - a. Development of Alternatives – Develop up to three (3) protection alignment concepts and conceptual level cost estimates. Participate in an alignment selection meeting.
    - b. Public involvement – Meet with affected property owners (5 anticipated), participate in two (2) public meetings, and respond to calls after public meetings. Prepare visualizations of alignment alternatives(s).
    - c. Surveying – Conduct topographic survey of project corridor including elevations, utilities, landscaping, buildings, and streets.
    - d. Geotechnical Exploration and Testing – Determine location of borings, right-of-entry requests, conduct borings, field and laboratory testing, to determine surface and subsurface geological conditions.
    - e. Preliminary Geotechnical Analysis – Conduct preliminary stability analysis on alignment alternatives and report of findings.
    - f. Preliminary Hydrologic and Hydraulic Analysis - Conduct HEC-RAS modeling to complete preliminary evaluation of Red River stage impacts due to proposed project.
    - g. Preliminary Internal Flood Control Analysis – Conduct SWMM model update for existing conditions and proposed conditions with project (including consideration of interior ponding), review of historical precipitation and stream flow, simulation of low river gravity outlet condition, simulation of high river pumped outlet condition, and determine preliminary pump sizing and additional internal storage needs.
    - h. Preliminary Utility Investigation – Determine preliminary utility relocation requirements, conduct utility coordination meeting, and document utility relocation requirements and issues.



- i. Preliminary Levee Design Structural Design – Develop preliminary design of levee protection system, preliminary estimate of embankment and borrow requirements, and prepare a narrative of design criteria.
  - j. Preliminary Structural Design – Develop preliminary design for proposed floodwalls and closures, pump stations, and miscellaneous drainage structures. Prepare a narrative with descriptions of features, design considerations, and criteria assumptions.
  - k. Transportation Evaluation – Develop initial evaluation of transportation impacts, and participate in two (2) coordination meetings with City of Fargo staff and two (2) coordination meetings with railroad staff. Develop up to five (5) alternatives for the 2<sup>nd</sup> Street road alignment to accommodate flood protection alternatives.
  - l. Preliminary Environmental Studies – Complete Phase 1 Environmental Site Assessment report for six (6) properties.
  - m. Preliminary Design Report and Drawings – Prepare Preliminary Design Report (PDR) with cost estimates and preliminary project plans for selected alignment. Prepare artists renderings of selected plan.
  - n. Project Management – Document coordination and review, schedule and resource management, budgeting, and project team coordination.
  - o. Landscape Architecture/Master Planning- Provide landscape architecture and master planning services for the Red River Levees.
    - i. Provide landscape architecture services for the 2<sup>nd</sup> St. Corridor from NP Ave. to 4<sup>th</sup> Ave. Coordinate with the city of Fargo City Hall Project throughout the design phase of the City Hall Project.
    - ii. Provide master planning services from Mickelson to the 4<sup>th</sup> St. Levee.
2. Phase 2 – Detailed Plans and Specifications: Complete detailed project engineering and design and provide plans and technical specifications (Division 2 and higher) for the selected alternative from Phase 1. Include required surveying, environmental studies, permitting, removals and demolition, geotechnical and hydraulic analyses, internal flood control and pumping, levee systems, floodwalls, closures, traffic evaluations, road realignments and signal changes, public and private utility relocations, landscaping, drawings and specifications, internal QA/QC, design documentation, operation and maintenance plan, and project management and coordination. Major milestone deliverables include:
- a. 65 Percent Design Submittal – evaluate and incorporate accepted VE proposals into the design documents, advance the detailed design to 65 percent and submit the design report, plans and specifications for review by the Diversion Authority, PMC, USACE Consistency, Agency Technical Review (ATR) and USACE Independent External Peer Review (IEPR) review teams.
  - b. 95 Percent Design Submittal – evaluate and incorporate 65 percent review comments into the design documents, advance the detailed design to 95 percent and submit the design report, plans and

specifications for review by the Diversion Authority, PMC, and USACE Consistency and ATR review teams.

- c. Cost Estimate – prepare a cost estimate for the project based on the 95 percent submittal documents.
- d. Operation and Maintenance Plan – prepare draft O&M Plan for review by the Diversion Authority, PMC, and USACE. Incorporate review comments and prepare final O&M Plan.
- e. Bid Document Development – incorporate 95 percent review comments into the design documents and assist the PMC with development of bid documents.
- f. Additional design work to accommodate requested project changes:
  - i. Increase 2<sup>nd</sup> Street N pump station size and pumping capacity to 75,000 gpm and add formed pump suction inlets.
  - ii. Coordinate electrical design for connection to new back-up power generator on New City Hall site.
  - iii. Add forty feet of floodwall to the pump station construction package.
  - iv. Use USACE specifications in lieu of City of Fargo Specifications for the pump station.
  - v. Coordinate pump station and floodwall architectural and design and aesthetics with the New City Hall project.
  - vi. Provide Computational Fluid Dynamics (CFD) modeling for the pump station wetwell and pump inlet design.
  - vii. Phase I ESAs were conducted for the Case Plaza and City Hall parking lot sites in 2013 as part of the preliminary design of WP-42 (In Town Levees). The Phase I ESA recommended additional Phase II ESA testing of the soils and groundwater on these sites.
    - 1. Provide up to nine (9) borings at the Case Plaza and City Hall parking lot sites, survey boring locations, and provide the following sampling and testing services: boring logs by a field geologist, continuous soil sampling to the groundwater table, soil head space analysis for volatile organic compounds (VOCs), groundwater sampling, laboratory testing and analysis of samples for the presence of contaminants, and a report of the findings.
    - 2. Deliverables include draft and final Phase II ESA Reports for Case Plaza and City Hall parking lot properties, and laboratory test results.
  - viii. A 2<sup>nd</sup> St N Pedestrian Overpass between the City Hall project and the Red River at 2<sup>nd</sup> Avenue N is desired and is integral to the 2<sup>nd</sup> St N floodwall design. Provide the following conceptual design services:

1. Prepare for and attend four (4) coordination meetings and Commission meeting.
  2. Develop bridge design concepts for prefabricated and pre-stressed options, at-grade crossing concepts, and coordination with landscape design.
  3. Prepare visualizations and graphics for City Commission Meeting.
  4. Provide a summary report.
3. Value Engineering Study (VES)
- a. Facilitate a VES in accordance with USACE guidelines (up to 3 days) with staff from the Diversion Authority, Program Management Consultant (PMC), and USACE. Prepare and distribute materials and documents, facilitate the workshop, and prepare a VES report.
4. 4<sup>th</sup> Street Levee Pump Station Replacement
- a. Background: At the November 8, 2012 Diversion Board meeting, the Board requested the USACE add levees long the Red River to allow increased flow through the protected area. To allow 35 feet through town, the 4<sup>th</sup> Street levee requires certification. In order to meet certification criteria, the stormwater pump stations on the north end of the levee must be replaced.
  - b. Detailed Plans and Specifications: Provide design services and prepare detailed plans as described below.
    - i. Complete detailed project engineering and design and provide plans and technical specifications (Division 2 and higher) for the 4<sup>th</sup> Street Levee Pump Station. Include required surveying, Section 408 permit (if required), removals and demolition, geotechnical and hydraulic analyses, internal flood control and pumping, levee systems, closures, traffic evaluations, service road realignments, public and private utility relocations, landscaping, drawings and specifications, internal QA/QC, design documentation, operation and maintenance plan, and project management and coordination. Major milestone deliverables include:
      1. 35 Percent Design Submittal – prepare preliminary design submittal and submit the design report and preliminary plans for review by the Owner, PMC, and USACE Consistency and ATR review teams.
      2. 95 Percent Design Submittal – evaluate and incorporate 35 percent review comments into the design documents, advance the detailed design to 95 percent and submit the design report, plans and specifications for review by the Owner, PMC, and USACE Consistency and ATR review teams.
      3. Pre-Purchase Specifications - prepare up to 3 pre-purchase specifications, if requested, for:
        - a. Gates

- b. Pumps
        - c. Electrical Panels
      - 4. Cost Estimate – prepare a cost estimate for the project based on the 35 percent and 95 percent submittal documents.
      - 5. Operation and Maintenance Plan – prepare draft O&M Plan for review by the Owner, PMC, and USACE. Incorporate review comments and prepare final O&M Plan.
      - 6. Bid Document Development – incorporate 95 percent review comments into the design documents and assist the PMC with development of bid documents.
    - c. Additional design work to accommodate requested project changes:
      - i. Increase capacity of the back-up power generator to accommodate power for adjacent sanitary sewer lift station.
      - ii. Modify the pump station and generator building design including: addition/modification of transoms and lintels, lower pump station slab, deletion of fuel storage, addition of louvers, removal of windows and parapets, and modification of brick veneer.
    - d. Deliverables:
      - i. Detailed Plans and Specifications
        - 1. 35 Percent Design Submittal
        - 2. 95 Percent Design Submittal
      - ii. Pre-Purchase Specifications
      - iii. 35 Percent Cost Estimate
      - iv. 95 Percent Cost Estimate
      - v. Operation and Maintenance Plan
        - 1. Draft Plan
        - 2. Final Plan
    - e. Work not included in this Scope of Services:
      - i. Environmental permitting
      - ii. Utility Relocation Agreements
      - iii. ROW Acquisition including Appraisals, Title Searches, Title Opinions, Deeds
      - iv. Bid documents and bidding services
  - 5. Mickelson Levee Extension
    - a. Background: The Mickelson Levee Extension is a component of In-Town levees that was conceptually evaluated as part of the July 16, 2012 report entitled “*Final Technical Memorandum, AWD-00002 – Flows Through Flood Damage Reduction Area*” and includes an extension of the existing Mickelson levee to the south to tie into high ground.

- b. Detailed Plans and Specifications: Provide design services and prepare detailed plans as described below.
- i. Complete detailed project engineering and design and provide plans and technical specifications (Division 2 and higher) for the Mickelson Levee Extension. Include required surveying, Section 408 permit (if required), removals and demolition, geotechnical and hydraulic analyses, internal flood control and pumping, levee systems, public and private utility relocations, landscaping, drawings and specifications, internal QA/QC, design documentation, operation and maintenance plan, and project management and coordination. Major milestone deliverables include:
    1. 35 Percent Design Submittal – prepare preliminary design submittal and submit the design report and preliminary plans for review by the Owner, PMC, and USACE Consistency and ATR review teams.
    2. 65 Percent Design Submittal – evaluate and incorporate 35 percent review comments into the design documents, advance the detailed design to 65 percent and submit the design report, plans and specifications for review by the Owner, PMC, and USACE Consistency and ATR review teams.
    3. 95 Percent Design Submittal – evaluate and incorporate 65 percent review comments into the design documents, advance the detailed design to 95 percent and submit the design report, plans and specifications for review by the Owner, PMC, and USACE Consistency and ATR review teams.
    4. Cost Estimate – prepare a cost estimate for the project based on the 65 percent and 95 percent submittal documents.
    5. Operation and Maintenance Plan – prepare draft O&M Plan for review by the Owner, PMC, and USACE. Incorporate review comments and prepare final O&M Plan.
    6. Bid Document Development – incorporate 95 percent review comments into the design documents and assist the PMC with development of bid documents.
- c. Additional design work to accommodate requested project changes:
- ii. None.
- d. Deliverables:
- iii. Detailed Plans and Specifications
    1. 35 Percent Design Submittal
    2. 65 Percent Design Submittal
    3. 95 Percent Design Submittal

- iv. 65 Percent Cost Estimate
- v. 95 Percent Cost Estimate
- vi. Operation and Maintenance Plan

6. El Zagal Phase 2 Levee Design

a. Background: The El Zagal Phase 2 Levee is a component of In-Town levees that was conceptually evaluated as part of the July 16, 2012 report entitled “Final Technical Memorandum, AWD-00002 – Flows Through Flood Damage Reduction Area” and includes an extension of recently completed El Zagal Phase 1 Levee to the south to tie into high ground.

b. Detailed Plans and Specifications: Provide design services and prepare detailed plans as described below.

i. Complete detailed project engineering and design and provide plans and technical specifications (Division 2 and higher) for the El Zagal Phase 2 Levee. Include required surveying, removals and demolition, geotechnical and hydraulic analyses, internal flood control and pumping, levee systems, roadway revisions, public and private utility relocations, landscaping, drawings and specifications, internal QA/QC, design documentation, operation and maintenance plan, and project management and coordination. Major milestone deliverables include:

1. 65 Percent Design Submittal – advance the detailed design to 65 percent and submit the design report, plans and specifications for review by the Owner, PMC, and USACE Consistency and ATR review teams.
2. 95 Percent Design Submittal – evaluate and incorporate 65 percent review comments into the design documents, advance the detailed design to 95 percent and submit the design report, plans and specifications for review by the Owner, PMC, and USACE Consistency and ATR review teams.
3. Cost Estimate – prepare a cost estimate for the project based on the 95 percent submittal documents.
4. Operation and Maintenance Plan – prepare draft O&M Plan for review by the Owner, PMC, and USACE. Incorporate review comments and prepare final O&M Plan.
5. Bid Document Development – incorporate 95 percent review comments into the design documents and assist the PMC with development of bid documents.

c. Additional design work to accommodate requested project changes:

i. None.

d. Deliverables:

i. Detailed Plans and Specifications

- [ii. 65 Percent Design Submittal](#)
- [iii. 95 Percent Design Submittal](#)
- [iv. 95 Percent Cost Estimate](#)
- [v. Bid Documents](#)
- [vi. Operation and Maintenance Plan](#)

ii. Upstream Staging Area Ring Levees:

1. Provide support as defined below and as requested in writing. Types of requests may include:
  - a. Respond to information requests by affected residences and develop information for presentations or public meetings.
  - b. Conduct a geotechnical site visit(s) of the levee site(s) to observe surface features and, if requested, conduct subsurface investigations.
  - c. Determine existing utilities and utility relocation requirements.
  - d. Begin conceptual design of the levees and/or floodwalls and floodgates, interior layout (which may include street layout, storm water sewer, storage, and lift station sizing, house relocation planning, and golf course layout), and external infrastructure (road raises for egress).
2. Oxbow/Hickson/Bakke – Ring Levee Evaluation:
  - a. Prepare a proposed ring levee system to reduce flood risk to Oxbow/Hickson/Bakke, ND during operation of the Diversion Project and staging of water. Show the location of a potential ring levee, develop height required for ring levee, and evaluate access during periods of Diversion operation.
  - b. The ring levee will impact the golf course and clubhouse. Provide conceptual design services for re-design of the golf course and clubhouse.
    - i. Provide an updated conceptual design of golf course and clubhouse based on update levee alignment to accommodate a total of 80 replacement residential lots.
  - c. Initial Survey and Geotechnical Activities for Levee Design:
    - i. Work with USACE to develop a geotechnical investigation plan for the alternative Levee alignments for approval.
    - ii. Stake the location of approved borings and record the coordinates and elevations of the borings.
    - iii. Conduct laboratory testing on boring samples provide by the USACE for the OHB ring levee alternative alignments and Wild Rice River mirco-siting evaluation. Laboratory testing to include the following: Atterburg Limits, Water Content, Hydrometer and Sieve analysis, Proctor Density, Triaxial Compression-unconsolidated/undrained, Triaxial Compression-consolidated/undrained, Torsional Ring Shear, Consolidation Reporting P-e, and TWT Extrusion and Description. Approximately 580 laboratory tests are planned.

- iv. Obtain and comply with right of entry (ROE) and right of way (ROE) requirements for each property entered.

The construction of the Oxbow/Hickson/Bakke (O/H/B) ring levee and associated work is phased. The work has been divided into five (5) Work Packages, which include: three (3) levee design packages, an interior drainage and road raise package, and a demolition and utility relocations package. One of the levee design packages (WP-43B) will be completed by the USACE. The remaining 4 design packages (WP-43A, WP-43C, WP-43D and WP-43E) will be completed in this scope of work. See Figure 1, attached.

Assumptions for WP-43A, WP-43C, WP-43D and WP-43E include:

- No additional surveys required (included in WP- 43B).
- Soil exploration, laboratory testing, and instrumentation costs included under WP-43B. Geotechnical design of the levee is required. Groundwater evaluation is required to determine impacts to existing septic systems, sewer systems and basements.
- No staging area water hydrologic and hydraulic (H&H) modeling required (included in WP- 43B). H&H for local drainage and interior drainage is required.
- Include design of levee, vegetation free zone, and ditching (input from WP-43B and WP-43D). CR-81 road raise will be in WP-43D. Retention basin/pump station design will be in WP-43D. Utility relocation design and demolition design will be in WP-43E.
- Coordination between designers for WP-43B, WP-43C, WP-43D, and WP-43E is required, along with review of design submittals from WP-43B.
- Develop design, plans, ROW drawings, technical specs, Design Documentation Report (DDR), cost estimate, and engineering considerations.
- Preliminary Engineering Report (PER) -35% review includes internal review, Sponsor review, and USACE Consistency and ATR review.
- Draft Technical Report (DTR) -65% review includes internal review, Sponsor review, USACE Consistency, ATR, and USACE IEPR. IEPR will be accomplished by the Natural Resources Conservation Service (NRCS)
- Final Technical Report (FTR) -95% review includes internal review, Sponsor review, and USACE ATR.
- Final Technical Certification (Bid Documents). Provide final documents for closeout of remaining comments and technical signoff. There will not be a review associated with this submittal.
- Bid set will include final Plans and Specifications.
- Assume limited work effort during the bid period consisting of: responding to bidders' questions and preparing amendments.
- Provide final contract award CD of all work items.
- Weekly coordination meetings will be held and will include: tech lead, geotech, cost/specs, and H&H designers. Assume the meetings for



WP-43A and WP-43C, WP-43D, and WP-43E will be combined into one weekly meeting.

- Provide right of way drawings for the WP-43B portion of the levee.
- d. WP-43A – Levee Section from Riverbend Road to CR81 (southeast): Design approximately 7,300 lineal feet (lf) of levee, interior buffer zone, and interior drainage swale (if required – based on interior drainage developed in WP-43D), including geotechnical design, civil design, permitting, cost estimates, and preparation of drawings and technical specifications; coordinate design of interior levee buffer zone (drainage swale, snow drop area, and tree screen) and recreational features with O/H/B community and developer/golf course designer; determine affect of levee and exterior impounded water on existing septic systems, sewer systems, and basements. Coordinate with design of Retention Basin (WP-43D). Coordinate with design of road raise of CR-81 (design WP-43D). To be constructed with interior drainage stormwater pump station (WP-43D).
  - i. Deliverables:
    1. 35 Percent Design Submittal – prepare preliminary design submittal and submit the design report and preliminary plans for review by the Diversion Authority, PMC, and USACE Consistency and ATR review teams.
    2. 65 Percent Design Submittal – evaluate and incorporate accepted VE proposals into the design documents, advance the detailed design to 65 percent and submit the design report, plans and specifications for review by the Diversion Authority, PMC, and USACE Consistency, ATR & IEPR review teams.
    3. 95 Percent Design Submittal – evaluate and incorporate 65 percent review comments into the design documents, advance the detailed design to 95 percent and submit the design report, plans and specifications for review by the Diversion Authority, PMC, and USACE Consistency, ATR & IEPR review teams.
    4. Cost Estimate – prepare cost estimates for the project based on the 35 percent and 95 percent submittal documents.
    5. Bid Document Development – incorporate 95 percent review comments into the design documents and assist the PMC with development of bid documents.
- e. WP-43C - Levee Section from CR-81 (northeast) to Riverbend Road: Design approximately 5,000 lf of levee, including geotechnical design, civil design, permitting, cost estimates, and preparation of drawings and technical specifications; coordinate design of interior levee drainage with interior drainage design as part of WP-43D; coordinate

design of interior levee slope and recreational features with O/H/B community and golf course designer. Removal/demolition of existing structures and utility cut, cap and removal will be designed under WP-43E.

i. Deliverables:

1. 35 Percent Design Submittal – prepare preliminary design submittal and submit the design report and preliminary plans for review by the Diversion Authority, PMC, and USACE Consistency and ATR review teams.
  2. 65 Percent Design Submittal – evaluate and incorporate accepted VE proposals into the design documents, advance the detailed design to 65 percent and submit the design report, plans and specifications for review by the Diversion Authority, PMC, and USACE Consistency, ATR and IEPR review teams.
  3. 95 Percent Design Submittal – evaluate and incorporate 65 percent review comments into the design documents, advance the detailed design to 95 percent and submit the design report, plans and specifications for review by the Diversion Authority, PMC, and USACE Consistency and ATR review teams.
  4. Cost Estimate – prepare cost estimates for the project based on the 35 percent and 95 percent submittal documents.
  5. Bid Document Development – incorporate 95 percent review comments into the design documents and assist the PMC with development of bid documents.
- f. WP-43D –Interior Drainage and CR-81 Road Raises: Design interior drainage system for the O/H/B communities, including both new drainage infrastructure and required rehabilitation or upgrades to existing drainage infrastructure; design stormwater retention pond and new stormwater pump station, including surveying, H&H to determine ditch cross sections and slopes, culvert sizes and slopes, geotechnical, structural, electrical, architectural, civil, permitting, cost estimates, and preparation of drawings and technical specifications. Design road raises of CR-81, including geotechnical, geology, civil, cost estimates, and preparation of drawings and technical specifications, coordinate with levee design teams.

i. Deliverables:

1. 35 Percent Design Submittal – prepare preliminary design submittal and submit the design report and preliminary plans for review by the Diversion Authority, PMC, and USACE Consistency and ATR review teams.
2. 65 Percent Design Submittal – evaluate and incorporate accepted VE proposals into the design documents, advance the detailed design to 65 percent and submit the design report, plans and specifications for review by the Diversion Authority, PMC, and USACE Consistency, ATR and IEPR review teams.
3. 95 Percent Design Submittal – evaluate and incorporate 65 percent review comments into the design documents, advance the detailed design to 95 percent and submit the design report, plans and specifications for review by the Diversion Authority, PMC, and USACE Consistency and ATR review teams.
4. Cost Estimate – prepare cost estimates for the project based on the 35 percent and 95 percent submittal documents.
5. Operation and Maintenance Plan – prepare draft O&M Plan for review by Diversion Authority, PMC, and USACE. Incorporate review comments and prepare final O&M Plan.
6. Bid Document Development – incorporate 95 percent review comments into the design documents and assist the PMC with development of bid documents.
7. Provide a separate bid package for the pump station and gatewell pre-consolidation construction package.
8. Provide an above ground building for the stormwater pump station.

- g. WP-43E – Demolition and Utility Relocations: Develop demolition plan for WP-43C Levee area (CR-81 (northeast) to Riverbend Road, including utility identification, identification of structures to be sold or demolished in place, environmental Phase 1, permitting, and required remediation. Design utilities to be cut, capped, and removed, and utilities to be relocated (coordinate with developer of new City of Oxbow infrastructure), including cost estimates, and drawings and technical specifications. Review adequacy of existing wastewater pump station and forcemain for the 38 additional residential units.

i. Deliverables:

1. 35 Percent Design Submittal – prepare preliminary design submittal and submit the design report and

preliminary plans for review by the Diversion Authority, PMC, and USACE Consistency and ATR review teams.

2. 65 Percent Design Submittal – evaluate and incorporate accepted VE proposals into the design documents, advance the detailed design to 65 percent and submit the design report, plans and specifications for review by the Diversion Authority, PMC, and USACE Consistency, ATR and IEPR review teams.
  3. 95 Percent Design Submittal – evaluate and incorporate 65 percent review comments into the design documents, advance the detailed design to 95 percent and submit the design report, plans and specifications for review by the Diversion Authority, PMC, and USACE Consistency and ATR review teams.
  4. Cost Estimate – prepare cost estimates for the project based on the 35 percent and 95 percent submittal documents.
  5. Bid Document Development – incorporate 95 percent review comments into the design documents and assist the PMC with development of bid documents.
- h. VES or Value Based Design Charrette (VBDC) – facilitate a VES or VBDC in accordance with USACE guidelines (up to 3 days) with staff from the Diversion Authority, PMC, and USACE. Prepare and distribute materials and documents, facilitate the workshop, and prepare a VES report.
- i. Coordinate and lead VES or VBDC of the five (5) O/H/B levee design packages (WP-43A through WP-43E).
- i. O/H/B Ring Levee Design Modification - 100-year Elevation
- Provide the following design services to provide a modified levee design for WP-43C and WP-43D to protect to the without project 100-year event elevation. Work tasks include:
- i. Update interior flood control model based on 100-year levee earthwork quantities.
  - ii. Update WP-43D plans to include 100-year levee design.
  - iii. Update WP-43C plans to include 100-yr levee design.
  - iv. Calculate earthwork balance for 100-year levee design.
  - v. Update stormwater pond designs for 100-year levee earthwork quantities.
  - vi. Provide roadway replacement plans and traffic control for gravity drain construction area on Cass County Highway 81.

- vii. Update pump station design based on 100-yr levee scenario. Includes reconfiguration of pump station elevation as well as general civil for access, etc.
  - viii. Update DDRs for WP-43C and WP-43D, including interior flood control, to include 100-year levee design documentation.
  - ix. Provide QA/QC review of design modifications.
3. Comstock – Ring Levee Evaluation:
- a. Prepare a proposed ring levee system to reduce flood risk to Comstock, MN during operation of the Diversion Project and staging of water. Show the location of a potential ring levee, develop height required for ring levee, and evaluate access during periods of Diversion operation.
4. Christine – Ring Levee Evaluation:
- a. Prepare a proposed ring levee system to reduce flood risk to Christine, ND during operation of the Diversion Project and staging of water. Show the location of a potential ring levee, develop height required for ring levee, and evaluate access during periods of Diversion operation.
5. Wolverton – Ring Levee Evaluation:
- a. Prepare a proposed ring levee system to reduce flood risk to Wolverton, MN during operation of the Diversion Project and staging of water. Show the location of a potential ring levee, develop height required for ring levee, and evaluate access during periods of Diversion operation.
6. Staging Area – Non-Structural Improvement Evaluation:
- a. Identify individual residential properties within the staging area and evaluate the potential benefit from non-structural improvements to reduce flood risk to residential structures during operation of the Diversion Project and staging of water. Show the location of potential improvements and evaluate access during periods of Diversion operation.
    - i. Provide mapping of residential structures and farmsteads impacted by the Staging Area for the 100-year event, and include estimated depth of impact for the structures with and without the project.
    - ii. Where technically feasible, provide concept for non-structural improvements and estimate cost of improvements.
    - iii. Develop database of impacted properties that includes relevant project information (such as depth of impact with and without project, etc.)
    - iv. Assist in preparation, provide meeting materials, and attend one-on-one meetings with impacted landowners.
7. Assist with preparation of materials for public meetings.

- iii. Provide land surveying services for In Town Levee and OHB Ring Levee projects. The surveying is required to create Right of Way descriptions and certificates of survey for 34 partial takes for the OHB Ring Levee and 17 certificates for the In Town Levee project.
  - 1. Provide real estate drawings for the El Zagal project per USACE requirements.
- iv. Deliverables
  - 1. Red River Levees – Phase 1
    - a. Project Schedule with milestone dates for key activities and monthly updates
    - b. Monthly Progress Reports and meeting minutes
    - c. Alignment selection TM
    - d. Geotechnical TM, including:
      - Geotechnical field and laboratory findings
      - Geotechnical stability analysis
      - Survey data
      - Geotechnical field logs
    - e. Hydrologic and Hydraulic analysis TM
    - f. Transportation TM
    - g. Phase 1 Environmental Site Assessment reports
    - h. Preliminary Design Report, including:
      - Preliminary pump sizing and storage needs
      - Utility relocation requirements and issues
      - Preliminary Levee design
      - Preliminary Structural design
      - Cost Estimate
      - Preliminary Drawings
    - i. Landscape concepts and plans for the 2<sup>nd</sup> St. Corridor from NP Ave. to 4<sup>th</sup> Ave.
    - j. Master Plan from Mickelson to 4<sup>th</sup> St. Levee.
  - 2. Red River Levees - Phase 2
    - a. 65 Percent Design Submittal
    - b. 95 Percent Design Submittal
    - c. Cost Estimates
    - d. Operation and Maintenance Plan
      - i. Draft Plan
      - ii. Final Plan
  - 3. Red River Levees – VES reports
  - 4. Support for Upstream Staging Area Levees
    - a. Oxbow/Hickson/Bakke TM
    - b. WP-43A
      - i. 35 Percent Design Submittal
      - ii. 65 Percent Design Submittal
      - iii. 95 Percent Design Submittal
      - iv. Cost Estimates
    - c. WP-43C
      - i. 35 Percent Design Submittal
      - ii. 65 Percent Design Submittal
      - iii. 95 Percent Design Submittal

- iv. Cost Estimates
  - d. WP-43D
    - i. 35 Percent Design Submittal
    - ii. 65 Percent Design Submittal
    - iii. 95 Percent Design Submittal
    - iv. Cost Estimates
    - v. Operation and Maintenance Plan
      - 1. Draft Plan
      - 2. Final Plan
  - e. WP-43E
    - i. 35 Percent Design Submittal
    - ii. 65 Percent Design Submittal
    - iii. 95 Percent Design Submittal
    - iv. Cost Estimates
  - f. VES or VBDC reports
  - g. Comstock TM
  - h. Christine TM
  - i. Wolverton TM
  - j. Staging Area Non-Structural Improvements TM
  - v. Work not included in this Scope of Services
    - 1. Environmental permitting
    - 2. Utility Relocation Agreements
    - 3. ROW Acquisition including Appraisals, Title Searches, Title Opinions, Deeds
    - 4. Bid documents and bidding services
3. Owner's Responsibilities  
Owner shall have those responsibilities set forth in Article 2 and in Exhibit B.
4. Times for Rendering Services

<u>Subtask</u>	<u>Start Time</u>	<u>Completion Time</u>
2.B.i Red River Levees – Phase 1	November 8, 2012	September 30, 2013
2.B.ii Upstream Staging Area Ring Levees	November 8, 2012	September 30, 2013
Amendment 1 all work	December 13, 2012	September 30, 2013
2.B.ii.2.d WP-43A Bid Documents	August 8, 2013	May 4, 2014
Amendment 2 other work	August 8, 2013	May 31, 2015
Amendment 3 all work	November 14, 2013	September 30, 2014
Amendment 4 all work	February 13, 2014	September 30, 2014
Amendment 5 all work	May 8, 2014	September 30, 2014
Amendment 6 all work	August 14, 2014	September 30, 2015
Amendment 7 all work	October 9, 2014	September 30, 2015
Amendment 8 all work	February 5, 2015	March 31, 2016
<u>Amendment 9 all work</u>	<u>March 12, 2015</u>	<u>March 31, 2016</u>

5. Payments to Engineer
- A. Owner shall pay Engineer for services rendered as follows:
    - i. Compensation for services shall be on a Time and Material basis in accordance with the Standard Hourly Rates shown in Appendix 2 of Exhibit C of the Agreement.

- ii. The total compensation for services identified under the Task Order for Subtasks 2.B.i through 2.B.iii is not-to-exceed amount as defined in the table below.
- iii. Estimated budget for Subtask 2.B.ii, Upstream Staging Area Levees/Ring Dikes, is based on an allowance.
  - 1. Engineer will notify Owner when eighty percent (80%) of the budget on Subtask 2.B.ii, Upstream Staging Area Levees/Ring Dikes, is expended.
  - 2. Engineer will prepare and submit an amendment for additional compensation when ninety percent (90%) of budget on Subtask 2.B.ii, Upstream Staging Area Levees/Ring Dikes, is expended.
  - 3. Engineer will not perform work beyond one hundred percent (100%) of the budget for Subtask 2.B.ii, Upstream Staging Area Levees/Ring Dikes, without Owner's authorization by an amendment to this Task Order.

Subtask	Current Budget (\$)	Change (\$)	Revised Budget (\$)
2.B.i.1 Red River Levees – Phase 1 Design	490,000	0	490,000
2.B.i.1.o.i Landscape Architecture/Master Planning - 2nd St. Corridor from NP Ave. to 4th Ave.	35,000	0	35,000
2.B.i.1.o.ii Master Planning Services - Mickelson to the 4th St. Levee	100,000	0	100,000
2.B.i.2 Red River Levees – Phase 2 Design	<del>2,462,000</del> 2,340,000	<del>122,000</del>	2,462,000
2.B.i.3 Red River Levees – VES	30,000	0	30,000
2.B.i.4 4 <sup>th</sup> Street Levee Pump Station Replacement	600,000	0	600,000
2.B.i.5 Michelson Levee Extension	<del>328,000</del>	<del>328,000</del>	328,000
<u>2.B.i.6 El Zagal Phase 2 Levee Design</u>	<u>0</u>	<u>190,000</u>	<u>190,000</u>
2.B.ii Upstream Staging Area Ring Levees (Allowance)	440,000	0	440,000
2.B.ii.2.d WP-43A Design	275,000	0	275,000
2.B.ii.2.e WP-43C Design	190,000	0	190,000
2.B.ii.2.f WP-43D Design	1,162,000	0	1,162,000
2.B.ii.2.g WP-43E Design	260,000	0	260,000
2.B.ii.2.h O/H/B Ring Levee – VES	30,000	0	30,000
2.B.ii.2.h i. O/H/B Ring Levee Design Modification - 100-Year Elevation	110,000	0	110,000
2.B.iii Right of Way Surveying	57,000	0	57,000
<b>TOTAL</b>	<del>6,569,000</del> 6,119,000	<del>190,000</del> 450,000	<del>6,759,000</del> 6,569,000

B. The terms of payment are set forth in Article 4 of the Agreement and in Exhibit C.



- 6. Consultants:
  - a. Braun Intertec Corporation
  - b. Northern Technologies, Inc.
  - c. Robert Trent Jones II, LLC
- 7. Other Modifications to Agreement: None
- 8. Attachments: None

9. Documents Incorporated By Reference:

A. AWD-00045, REV-0, WP - 42F.1 Phase II Environmental Site Assessment (ESA), dated December 11, 2014.

A-B. AWD-00047, REV-0, El Zagal Phase 2 Levee Design, dated February 5, 2015.

9-10. Terms and Conditions: Execution of this Task Order by Owner and Engineer shall make it subject to the terms and conditions of the Agreement (as modified above), which Agreement is incorporated by this reference. Engineer is authorized to begin performance upon its receipt of a copy of this Task Order signed by Owner.

The Effective Date of this Task Order is November 8, 2012.

ENGINEER:

**Houston-Moore Group, LLC**

\_\_\_\_\_  
Signature

**Jeffry J. Volk**

\_\_\_\_\_  
Name

**President**

\_\_\_\_\_  
Title

DESIGNATED REPRESENTATIVE FOR TASK ORDER:

**C. Gregg Thielman**

\_\_\_\_\_  
Name

**Sr. Project Manager**

\_\_\_\_\_  
Title

**925 10<sup>th</sup> Avenue East  
West Fargo, ND 58078**

\_\_\_\_\_  
Address

[cgthielman@houstoneng.com](mailto:cgthielman@houstoneng.com)

\_\_\_\_\_  
E-Mail Address

**(701) 237-5065**

\_\_\_\_\_  
Phone

OWNER:

**Fargo-Moorhead Metro Diversion Authority**

\_\_\_\_\_  
Signature

**Darrell Vanyo**

\_\_\_\_\_  
Name

**Chairman, Flood Diversion Board of Authority**

\_\_\_\_\_  
Title

DESIGNATED REPRESENTATIVE FOR TASK ORDER:

**Keith Berndt**

\_\_\_\_\_  
Name

**Cass County Administrator**

\_\_\_\_\_  
Title

**211 9th Street South  
PO Box 2806  
Fargo, ND 58108-2806**

\_\_\_\_\_  
Address

[berndtk@casscountynd.gov](mailto:berndtk@casscountynd.gov)

\_\_\_\_\_  
E-Mail Address

**(701) 241-5720**

\_\_\_\_\_  
Phone

DRAFT  
3/6/2015

**Worden, Heather**

---

**From:** Berndt, Keith  
**Sent:** Thursday, March 05, 2015 10:22 AM  
**To:** Worden, Heather  
**Subject:** FW: FMDA Retention Funding Application - BRRWD Stony Creek Phase I  
**Attachments:** Stony Creek Detention - Phase I Application (3-12-2015).pdf

**From:** Zach Herrmann [mailto:zherrmann@houstoneng.com]  
**Sent:** Thursday, March 5, 2015 8:52 AM  
**To:** Berndt, Keith  
**Cc:** Bruce Albright; Erik Jones  
**Subject:** FMDA Retention Funding Application - BRRWD Stony Creek Phase I


Hi Keith,

On behalf of the BRRWD, I've been instructed to submit the attached application for Phase I Retention funding of the BRRWD Stony Creek Project. The application follows the Draft cost share recommendations provided by the RRBC in February, 2014.

Please let us know if you need anything else.

Thanks,

**Zach Herrmann**  
Civil Engineer  
Houston Engineering, Inc.  
O 701.237.5065 | D 701.499.2054 | F 701.237.5101

 1401 21<sup>st</sup> Ave N. • Fargo, ND • 58102

[www.houstoneng.com](http://www.houstoneng.com)



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**Fargo-Moorhead Diversion Authority**

**Detention Funding**

**Phase I Submittal**

Instructions:

- 1) Complete and provide *Phase I FMDA Funding Allocation Worksheet* based on conceptual assumptions for dam or impoundment operation to determine maximum FMDA Funding.
- 2) Provide supporting documentation detailing the development of the overall concept.
- 3) Fill out this Application Form.
- 4) Provide map illustrating the proposed dam or impoundment location and drainage area.
- 5) Provide models used to complete the *Phase I FMDA Funding Allocation Worksheet*.

Application Date: 3/12/15

Project Name: Stony Creek FDR and Restoration Project

Project Location: *(Provide Location Map)*

HUC12 Watershed Code: 090201060523 State: Minnesota

County: Clay Legal Description: Sec 32 T138 R46, Sec 4 T137 R46

Project Sponsor: Buffalo-Red River Watershed District

Mailing Address: PO Box 341 Barnesville, MN 56514

Phone No: (218) 354-7710 E-Mail: brrwd@bvillemn.net

Authorized Agent: Houston Engineering, Inc.

Mailing Address: 1401 21<sup>st</sup> Ave N Fargo, ND 58102

Phone No: (701) 237-5065 E-Mail: eiones@houstoneng.com

**CONCEPT BACKGROUND**

- 1) Describe the general project purpose:

The purpose of this project is to address Flood Damage Reduction (FDR) goals and provide Natural Resource Enhancement (NRE) in the 36 sq. mile watershed upstream of the site along Stony Creek and evaluate the potential for a regional retention project that would address FDR goals on Stony Creek as well as downstream. Project is envisioned to include regional retention (6,650 acre-feet is currently under consideration), channel restoration, and buffer expansion along waterways in the project area. Water quality and improved aquatic and terrestrial habitat improvements would be a secondary purpose that would be expected from the project.

- 2) Is proposed concept identified in Comprehensive Detention Plans (ND) or Expanded Distributed Detention Strategies (MN)?

Yes  No

If Yes, indicate the *Report Name* and *Storage Site ID* as defined in the Detention Plan/Strategy:

Report Name: Buffalo-Red River Watershed District Expanded Distributed Detention Strategy

Storage Site ID: Stony Creek Off-Channel

- 3) Is proposed concept included other Local, Regional, or State Water Plans?

Yes  No

If yes, indicate which Plan(s) below:

Buffalo-Red River Watershed District Revised Watershed Management Plan.

Buffalo River Watershed Restoration and Protection Strategy

- 4) Have impacted landowners been made aware of the proposed concept?

Yes  No      If yes, indicate any potential issues as concept develops:

The Watershed District has communicated with a number of landowners in the project area. The Watershed District invited all affected landowners to a meeting to be held 2/13/15.

**CONCEPT TECHNICAL/MODELING INFORMATION**

- 1) Drainage Area: 36.2 Mi<sup>2</sup> (As determined from Standardized Modeling Approach contributing areas)
- 2) Maximum Gated Storage Capacity: 6,646 Acre-Feet 3.44 Inches
- 3) Maximum Un-gated Storage Capacity: 3,940 Acre-Feet 2.04 Inches
- 4) Maximum Pool Depth: 17 Feet
- 5) Maximum Gated Pool Inundation Area: 1,267 Acres
- 6) Maximum Un-gated Pool Inundation Area: 1,369 Acres
- 7) Red River Mainstem Analysis Results:

Gated Storage Utilized: 6,506 Acre-Feet 3.37 Inches

Un-gated Storage Utilized: 0 Acre-Feet 0.00 Inches

Impacted area at peak pool elevation: 1,264 Acres

Describe the operational assumptions used to determine Red River impacts.

Gated storage operated using "fill and spill" methods.

- 8) Are copies of the models used to complete the *Phase I Estimated FMDA Funding Allocation Worksheet* included?

Yes  No (Due to file size, available as requested).

Explain naming conventions used for the proposed impoundments within the model:

HEC-HMS Storage node ID: StonyA Storage Site, StonyB Storage Site

**FUNDING INFORMATION**

- 1) Total Estimated Eligible FMDA Funding Amount: \$ 1,749,600
  
- 2) Total Requested Phase I Submittal Advancement Amount: \$ 87,480  
*(Not to exceed 5% of item No. 1 above)*
  
- 3) Indicate Anticipated Funding Sources:

<b>FUNDING SOURCE</b>	<b>ANTICIPATED FUNDS AVAILABLE</b>
<b>Federal</b>	30%
<b>State</b>	33%
<b>Regional/Joint Boards</b>	0%
<b>Local</b>	10%
<b>Other</b>	10%
<b>FMDA Amount</b>	17%
<b>Total</b>	100%

- 4) Describe any potential issues or complications that may arise based on previously completed analysis on the proposed concept?

The proposed site is still in the planning phase with many unknown variables. It is anticipated the proposed planning will resolve these issues. Potential problems include:

- Local Acceptance
  
- Technical Feasibility
  
- Environmental Impacts

**PHASE I**  
**ESTIMATED FMDA FUNDING**  
**ALLOCATION WORKSHEET**

Project Name:	Stony Creek FDR and Restoration Project
Project Sponsor:	Buffalo - Red River Watershed District
Date:	3/12/2015

**Instructions:**

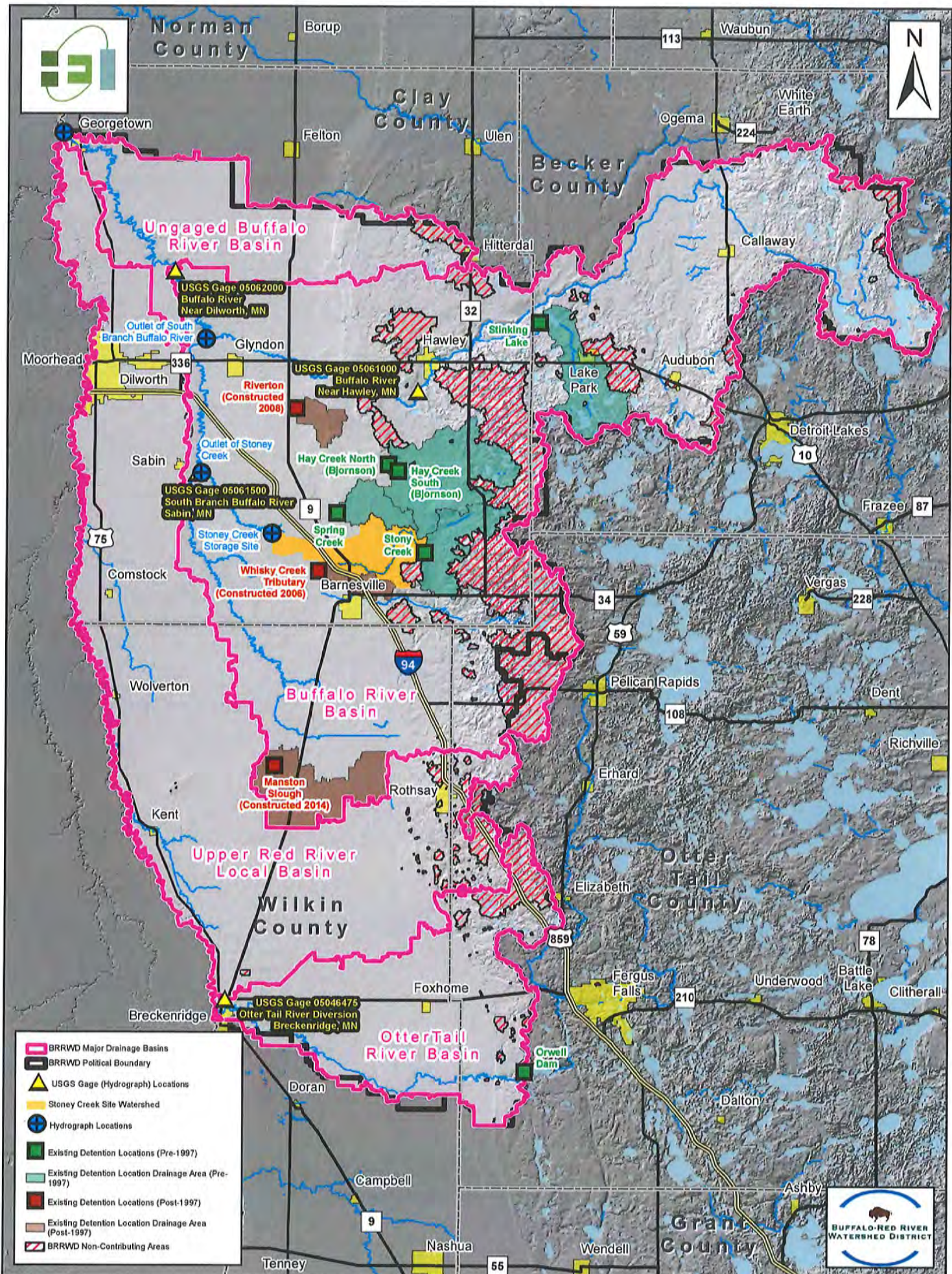
1. Populate *Project Name* , *Project Sponsor* , and *Date* fields above.
2. Model the dam or impoundment to determine Red River mainstem impacts.
3. Use Step 2 results to determine the 8-day volume reduction (Acre-Feet) at USGS Gage No. 05064500 (Red River at Halstad, MN) based on ±4 Days from the present day (2013) peak discharge. Populate volume in [2] below.
4. Use Step 2 results to determine the 8-day volume reduction (Acre-Feet) at USGS Gage No. 05054000 (Red River at Fargo, ND) based on ±4 Days from the present day (2013) peak discharge. Populate volume in [3] below.
6. [6] indicates maximum potential FMDA Funding available for eligible Phase I activities.

<b>Fargo-Moorhead Diversion Authority Funding</b>	
FMDA Funding Rate (8-Day Volume Removal)	\$ 400 Per Ac-Ft [1]

<b>Proposed Project Information</b>	
<b>Proposed Impoundment Funded 8-Day Runoff Volume Removed</b>	
USGS Gage No. 05064500 (Red River at Halstad, MN)	4,374 Ac-Ft [2]
USGS Gage No. 05054000 (Red River at Fargo, ND)	0 Ac-Ft [3]
Total	4,374 Ac-Ft [4] = [2] + [3]

Maximum Eligible FMDA Funds	\$ 1,749,600 [5] = [1] × [4]
Max. Eligible FMDA Advancement Available for Phase I Activities	\$ 87,480 [6] [5] × 5%



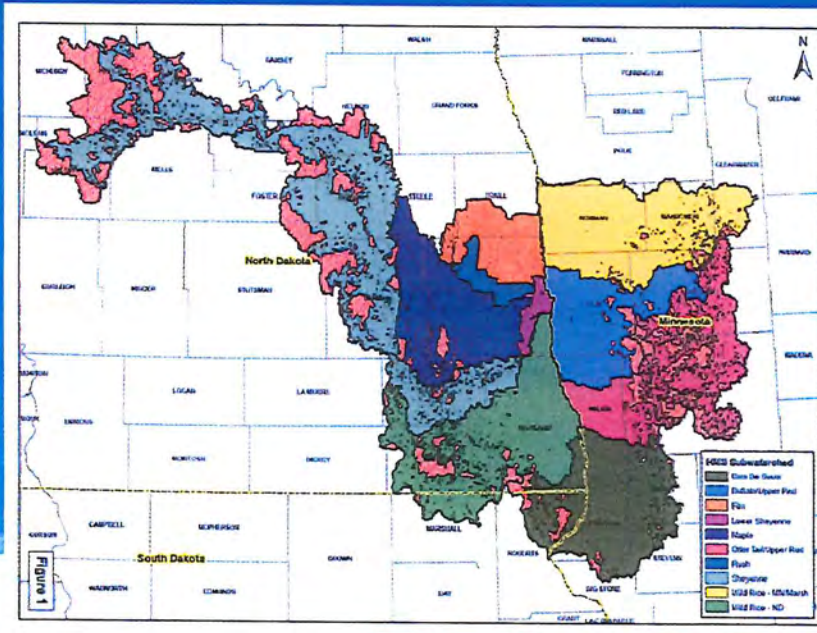


- BRRWD Major Drainage Basins
- BRRWD Political Boundary
- USGS Gage (Hydrograph) Locations
- Stoney Creek Site Watershed
- Hydrograph Locations
- Existing Detention Locations (Pre-1997)
- Existing Detention Location Drainage Area (Pre-1997)
- Existing Detention Locations (Post-1997)
- Existing Detention Location Drainage Area (Post-1997)
- BRRWD Non-Contributing Areas



# Red River Basin Commission Halstad Upstream Retention Study

Fargo-Moorhead Diversion Authority Meeting  
February 13, 2014



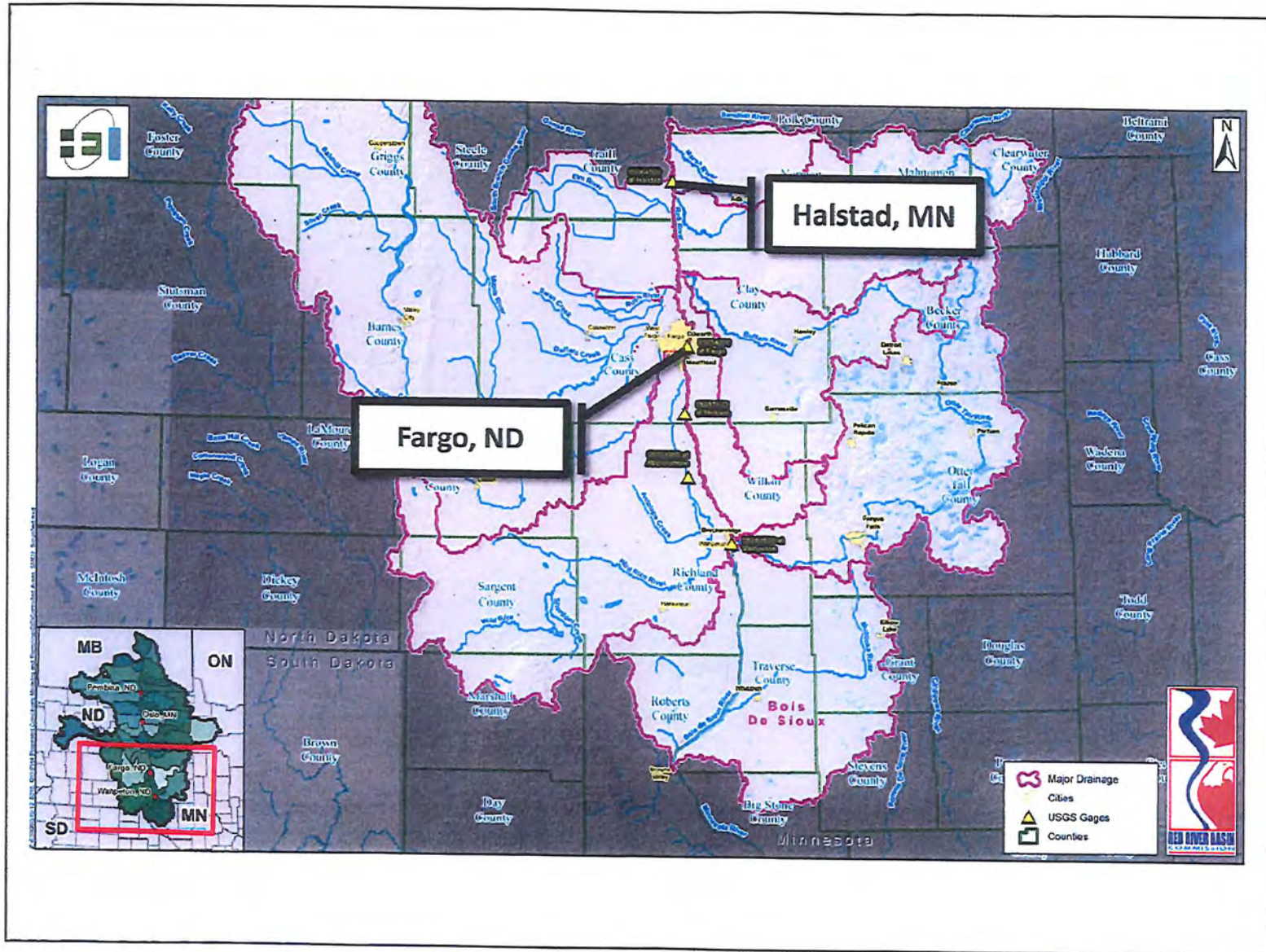
## Agenda

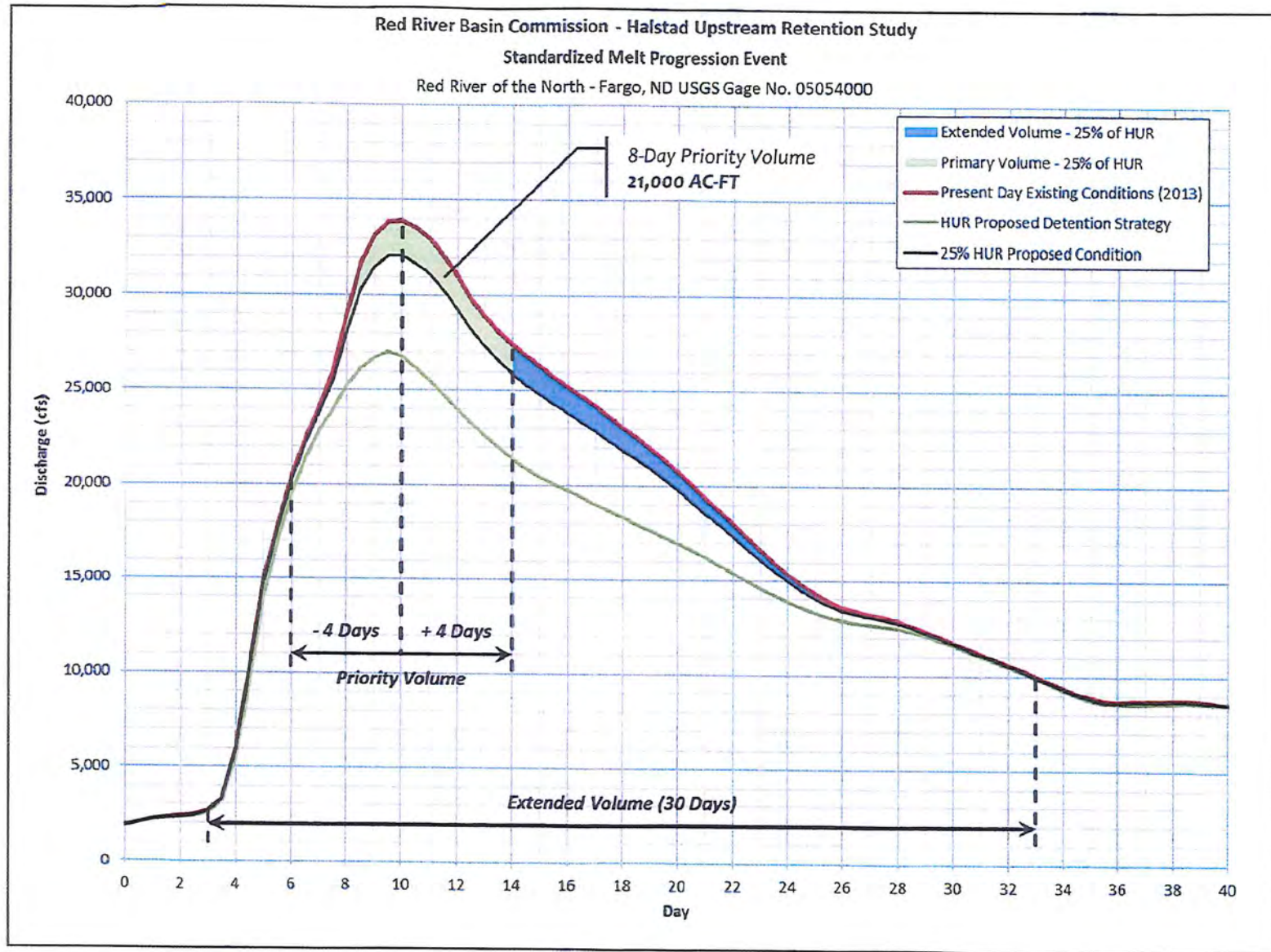
### **Report Status**

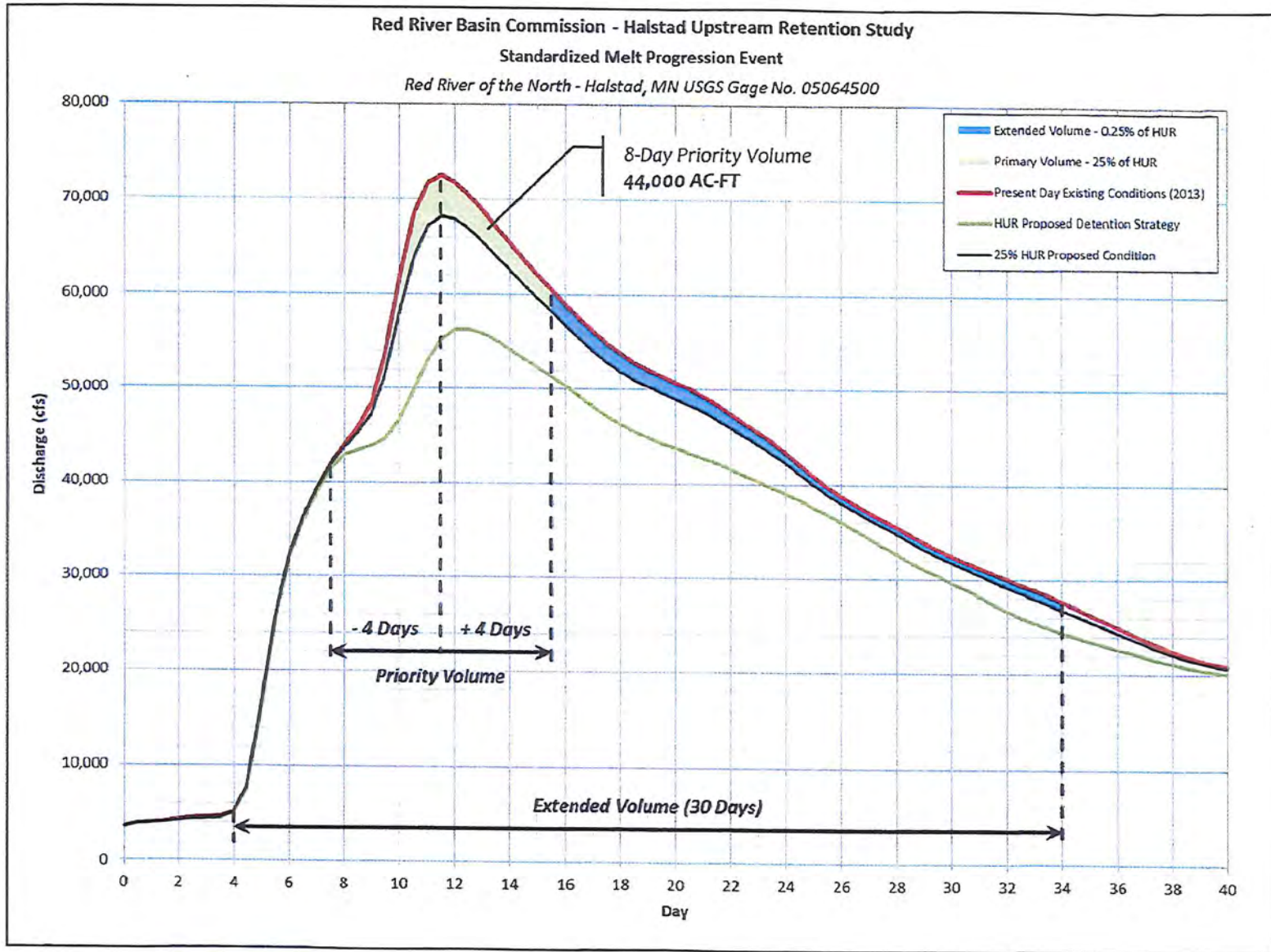
- RRBC Technical Modeling Team Review \_\_\_\_\_ *Underway*
- Peer Review \_\_\_\_\_ *Underway*
- Finalize Report \_\_\_\_\_ *TBD Pending Reviews*
- Present Methods and Results \_\_\_\_\_ *RRBC Conference*

### **DRAFT - Funding Policy Considerations**

- Performance Based Level of Funding Determination
- Three Phased Submittal
- Example Project
- Additional Considerations







## Level of Funding – Performance Based

8-day Priority Volume at Halstad, MN	44,000 Acre-Feet
8-day Priority Volume at Fargo, ND	21,000 Acre-Feet
Total	65,000 Acre-Feet

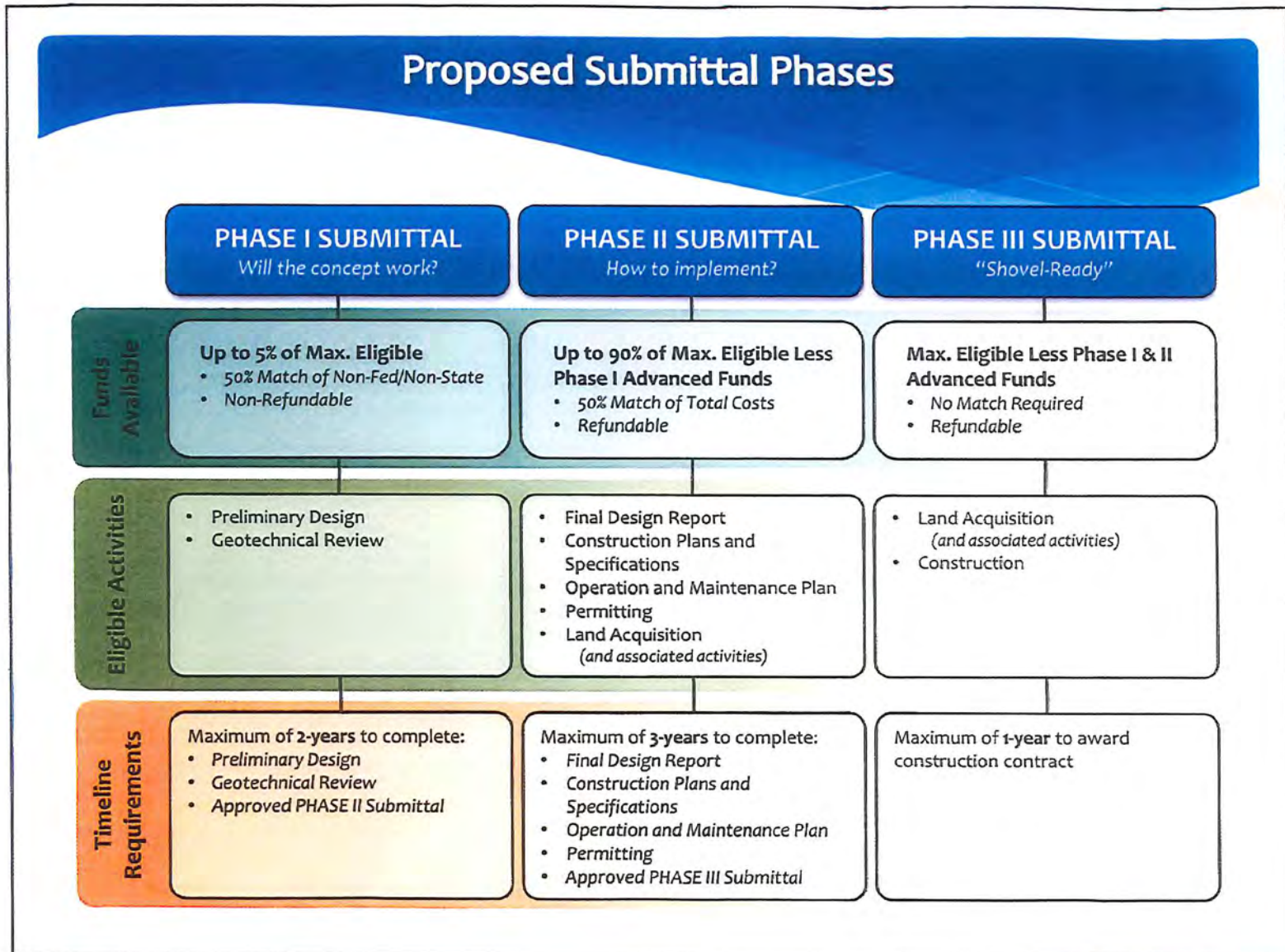
  

$\frac{\text{FMDA } \$24.5 \text{ Million}}{65,000 \text{ Acre-Feet}}$	<p><b>~ \$400 per Acre-foot removed from 8-day Priority</b></p>
--	---

**Project Sponsor Steps:**

1. Run Models with Proposed Impoundment
2. Determine combined 8-day Priority Volume Removal at Fargo, ND and Halstad, MN
3. Multiply combined 8-day Priority Volume Removal by \$400 to determine Max. Eligible FMDA Funding Commitment





## For Example...

### Proposed Impoundment:

11,000 Acre-Feet Total Storage (At Site)

#### *Red River Impact Analysis:*

8-day Priority Volume at Halstad, MN	1,500 Acre-Feet
8-day Priority Volume at Fargo, ND	3,500 Acre-Feet
Total	5,000 Acre-Feet

5,000 Acre-Feet × \$400 / Priority Volume = **\$2.0 Million FMDA Funding**

Phase I Submittal Max. Eligible:	\$2.0 Mil. × 5%	=	\$100,000
Phase II Submittal Max. Eligible:	\$2.0 Mil. × 90%	=	\$1.8 Million*
Phase III Submittal Max. Eligible:		=	Remaining Funds

*\*Less any funds from Phase I*

## Additional Considerations

- **Qualifying Applicants:**
  - Watershed Districts (WD)
  - Water Resource Districts (WRD)
  - Joint Powers Authorities with membership from one or more WD or WRD
  
- **Quarterly progress reports to the FMDA required by project sponsor**
  
- **How is storage released?** *(Potential to prolong downstream flooding)*
  - Ungated vs. Gated
  - Duration Gated Volume is held
  
- **8-Day Priority Volume?**
  - How does it relate to other floods?
  
- **Application technical review process?**



*Erik R. Johnson & Associates, Ltd*  
*Attorneys at Law*

*Erik R. Johnson - Nancy J. Morris - Jason T. Loos*  
*505 Broadway - Suite 206*  
*Fargo, ND 58102*  
*(701) 280-1901*

Invoice #
2227-

*Invoice*

City of Fargo -- Auditor's Office  
Attn: Kent Costin  
200 North 3rd Street  
Fargo, ND 58102

Date	1/25/2015
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Description	Qty	Rate	Amount
RE: METRO FLOOD PROJECT -- General legal matters	9	204.00	1,836.00
Erik Johnson--Jan 1 thru 25th, 2015--itemization attached			
Nancy J Morris--Jan 1 thru 25th, 2015--itemization attached	18.8	178.50	3,355.80
<i>We appreciate your business.</i>		<b>TOTAL: \$5,191.80</b>	

January 25, 2015

**Client: City of Fargo**  
**Job: Metro Flood - General Legal**

Atty	DATE	DESCRIPTION	TIME
E	1/6/2015	Administrative advisory meeting	0.7
E	1/6/2015	Review MN DNR report and conference call with Dorsey	0.8
E	1/8/2015	Communication re: record requests and prepare for Diversion Authority meeting	0.7
E	1/8/2015	Attend Diversion Authority meeting	1.3
E	1/14/2015	Communication regarding records matter; conference call and followup research	2.6
E	1/15/2015	Collect and review joint powers agreement between Water District, Cass county and city of Fargo; review fiscal agent policy and agreement for city of Fargo relative to question of approvals by county	1
E	1/16/2015	Conference with Cant regarding fiscal agent situation; call to Mike M.	0.6
E	1/22/2015	Call from Drysdale	0.1
E	1/22/2015	Read Drysdale's draft brief	0.8
E	1/23/2015	Telephone conference with Eric Dodds and communication with Cattanach and Drysdale	0.4
<b>Total Time - ERJ</b>			<b>9.00</b>
<b>Hourly Rate - ERJ \$</b>			<b>204.00</b>
<b>Total Fees - ERJ \$</b>			<b>1836.00</b>
N	1/6/2015	Administrative Advisory Meeting	1.2
N	1/8/2015	Diversion meeting	1.5
N	1/9/2015	Discuss Notice of Damage Claim to construction w/ Nathan re: El Zagal	0.6
N	1/13/2015	Correspondence re: potential damage claim; Phone call w/ Kent & Jamie re: SWC reimbursement request status presentation	2
N	1/14/2015	Bismarck for SWC Meeting	10
N	1/15/2015	Draft SWC MOU	1
N	1/20/2015	State Water Commission MOU continued draft; Revise correspondence re: Notice to Contractor	1.6
N	1/22/2015	State Water Commission MOU; Draft MOU & correspondence re: accounting & terms	2.5
<b>Total Time - NJM</b>			<b>18.80</b>
<b>Hourly Rate - NJM \$</b>			<b>178.50</b>
<b>Total Fees - NJM \$</b>			<b>3355.80</b>

*Erik R. Johnson & Associates, Ltd*  
*Attorneys at Law*

*Erik R. Johnson - Nancy J. Morris - Jason T. Loos*

*505 Broadway - Suite 206*

*Fargo, ND 58102*

*(701) 280-1901*

Invoice #

2228-

*Invoice*

City of Fargo -- Auditor's Office

Attn: Kent Costin

200 North 3rd Street

Fargo, ND 58102

Date

1/25/2015

Description	Qty	Rate	Amount
RE: METRO FLOOD PROJECT -- LEERDS	5.4	204.00	1,101.60
Erik Johnson--Jan 1 thru 25th, 2015--itemization attached			
Nancy J Morris--Jan 1 thru 25th, 2015--itemization attached	20.7	178.50	3,694.95
<i>We appreciate your business.</i>			<b>TOTAL: \$4,796.55</b>

January 25, 2015

**Client: City of Fargo**  
**Job: Metro Flood - LEERDS**

Atty	DATE	DESCRIPTION	TIME
E	1/2/2015	Revise mortgage and contact Spiller re: funding account for Oxbow and telephone conference with David H. and Sean F.	1.7
E	1/5/2015	Telephone conference with Bruce Spiller and email	0.1
E	1/6/2015	Conference with Spiller and call to Hauff	0.5
E	1/6/2015	Telephone conference with David Hauff	0.1
E	1/7/2015	Finalize Oxbow CC documents and circulate for signature	1.4
E	1/8/2015	Confer with Bruce Spiller re: legal description on Oxbow CC project	0.4
E	1/14/2015	Emails and conference call regarding Oxbow CC status	0.7
E	1/15/2015	Call to Montplaisir	0.1
E	1/15/2015	Telephone call with David and Lukas Andrud	0.4
<b>Total Time - ERJ</b>			<b>5.4</b>
<b>Hourly Rate \$</b>			<b>204.00</b>
<b>Total Fees - ERJ \$</b>			<b>1101.60</b>
N	1/2/2015	Discussion re: El Zagal offer status; Review draft appraisal	0.8
N	1/5/2015	Zagal Shrine & Fargo Public Health correspondence & review; phone call w/ Greg Thielman & April	2.2
N	1/6/2015	El Zagal damage claim; review & revise Contract & Notice; Phone call w/ Chris McShane re: acquisitions & negotiations	1.6
N	1/7/2015	ROW Amps Training; Feder acquisition correspondence re: authority to negotiate; phone call w/ Shawn Bondly & Chris McShane; meeting w/ Erik	2.5
N	1/8/2015	Correspondence re: Feder acquisition; Land Management Meeting; Park East correspondence w/ Jo Grondahl	2.2
N	1/9/2015	Correspondence re: Feder	0.4
N	1/12/2015	Park District Easements re: legals, phone call w/ Greg Selbo; Land Acquisition conference call; In town levee expanded discussion; Phone call w/ Greg, review Fargo Public School file; Correspondence re: Fargo Public Schools taking	4.6
N	1/13/2015	Review file materials for Brodshaug, phone call re: acquisition; Fargo Public Schools phone call re: status of acquisition; Review release terms re: Feder, correspond w/ Chris McShane	3.2
N	1/15/2015	Correspondence re: Park East resident	0.2
N	1/19/2015	Review release for Feder & correspond re: acquisition	0.8
N	1/21/2015	El Zagal letter re: foundation damage, revise correspondence w/ Nathan; Correspondence re: Insurance on property purchased	1
N	1/23/2015	Meeting re: High Rise	1.2
<b>Total Time</b>			<b>20.70</b>

January 25, 2015

**Client: City of Fargo**  
**Job: Metro Flood - LEERDS**

Atty	DATE	DESCRIPTION	TIME
		Hourly Rate \$	178.50
		Total Fees - NJM \$	3694.95





MINNEAPOLIS OFFICE  
612-340-2600

(Tax Identification No. 41-0223337)

STATEMENT OF ACCOUNT FOR PROFESSIONAL SERVICES

Fargo-Moorhead Flood Diversion Bd of Authority  
c/o Erik R. Johnson & Associates, Ltd.  
Attn: Erik Johnson  
505 Broadway, Suite 206  
Fargo, ND 58102

February 20, 2015  
Invoice No. 1999909

2-23-15

Client-Matter No.: 491379-00001  
Red River Diversion Project

For Legal Services Rendered Through January 31, 2015

INVOICE TOTAL

Total For Current Legal Fees	\$115,434.75
Total For Current Disbursements and Service Charges	\$1,670.45
<b>Total For Current Invoice</b>	<b>\$117,105.20</b>

A/C: 790-7930-429-33-25  
PJ: V00101

For your convenience, please remit payment to the address below or we offer the option of remitting payment electronically by wire transfer. If you have any questions regarding this information, please contact the lawyer you are working with on this project or Dorsey's Accounts Receivable Department at 1-800-861-0760. Thank you.

Mailing Instructions:  
Dorsey & Whitney LLP  
P.O. Box 1080  
Minneapolis, MN 55480-1680

Wire Instructions:  
U.S. Bank National Association  
800 Nicollet Mall  
Minneapolis, MN 55402

ABA Routing Number: 091000022  
Account Number: 1602-3010-8500  
Swift Code: USBKUS44IMT

Please make reference to the invoice number

Service charges are based on rates established by Dorsey & Whitney. A schedule of those rates has been provided and is available upon request. Disbursements and service charges, which either have not been received or processed, will appear on a later statement.

ALL INVOICES ARE DUE 30 DAYS FROM DATE OF INVOICE UNLESS OTHERWISE EXPRESSLY AGREED BY DORSEY & WHITNEY



Office of the City Attorney

City Attorney  
Erik R. Johnson

Assistant City Attorneys  
Nancy J. Morris  
Jason T. Loos

February 26, 2015

Kent Costin  
Finance Director  
City of Fargo  
200 North Third Street  
Fargo, ND 58102

**Re: Red River Diversion Project**

Dear Kent:

I am enclosing a Summary Invoice dated February 20, 2015 from the Dorsey & Whitney Firm in Minneapolis for their professional services rendered through January 31, 2015 on the Red River Diversion Project. If you have any questions, please feel free to contact me. Please remit payment directly to Dorsey Whitney.

Sincerely,

A handwritten signature in black ink, appearing to be "Erik R. Johnson", written over a horizontal line.

Erik R. Johnson

ERJ/jmf  
Enclosure  
cc: Pat Zavoral



*Erik R. Johnson & Associates, Ltd*  
*Attorneys at Law*

*Erik R. Johnson - Nancy J. Morris - Jason T. Loos*  
*505 Broadway - Suite 206*  
*Fargo, ND 58102*  
*(701) 280-1901*

Invoice #
2243-

*Invoice*

City of Fargo -- Auditor's Office  
Attn: Kent Costin  
200 North 3rd Street  
Fargo, ND 58102

Date	2/25/2015
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Description	Qty	Rate	Amount
Metro Flood Project (General legal matters): Erik Johnson-Jan 26 thru Feb 25, 2015: Itemization enclosed	22.05	204.00	4,498.20
Nancy J Morris-Jan 26 thru Feb 25, 2015: Itemization enclosed	9.1	178.50	1,624.35

*We appreciate your business.*

**TOTAL: \$6,122.55**

**Client: City of Fargo**  
**Job: Metro Flood - General Legal**

Atty	DATE	DESCRIPTION	TIME
E	1/29/2015	Review Rousaki's draft proposal and telephone conference with paul Tietz	1.4
E	1/30/2015	Communication re: OHB/Oxbow	0.50
E	1/30/2015	Conference with Pat Zavoral and Keith and telephone conference with Shockley	1
E	2/2/2015	Review PPA draft and conference call with Paul and Tom Waters re: PPA; email re: record request - Eric and Rocky	1
E	2/3/2015	Administrative advisory meeting	1.5
E	2/3/2015	Conference call with Cattanach and Drysdale; review Drysdale brief	1
E	2/4/2015	Review JPA	0.5
E	2/5/2015	Attend meeting and general city matters	1.75
E	2/6/2015	Attend legislative strategy discussion	2
E	2/6/2015	Attend PPA coordination session	1.5
E	2/6/2015	Attend General Weir meeting	0.5
E	2/11/2015	Telephone call with Bob and Mike and others re: meeting issues; telephone call with others re: meeting issues and communication with Bob and Maike; telephone call with Tami	1.3
E	2/12/2015	Emails with Cattanach	0.5
E	2/21/2015	Work on open record request challenge	0.4
E	2/24/2015	Conference call and call with Tami and Bob and Mike	1.5
E	2/24/2015	Work on open record request	1
E	2/25/2015	Cattanach and Drysdale; communications with Cattanach and Drysdale; work on record request response	3.7
E	2/25/2015	Finalize open record response	1
<b>Total Time - ERJ</b>			<b>22.05</b>
<b>Hourly Rate - ERJ \$</b>			<b>204.00</b>
<b>Total Fees - ERJ \$</b>			<b>4498.20</b>
N	1/28/2015	Review correspondence re: Bakke Eminent Domain; Correspond w/ J. Glanzmeier; Phone call w/ Erik	1.2
N	2/1/2015	Correspondence re: Open records response & litigation review	0.6
N	2/3/2015	Administrative meeting	1.5
N	2/5/2015	Diversion Authority Meeting	1.4
N	2/10/2015	Research contractor succession correspondence	2.9
N	2/19/2015	Administrative meeting	1.5
<b>Total Time - NJM</b>			<b>9.10</b>
<b>Hourly Rate - NJM \$</b>			<b>178.50</b>
<b>Total Fees - NJM \$</b>			<b>1624.35</b>

*Erik R. Johnson & Associates, Ltd*  
*Attorneys at Law*

*Erik R. Johnson - Nancy J. Morris - Jason T. Loos*

*505 Broadway - Suite 206*

*Fargo, ND 58102*

*(701) 280-1901*

Invoice #

2242-

## *Invoice*

City of Fargo -- Auditor's Office  
Attn: Kent Costin  
200 North 3rd Street  
Fargo, ND 58102

Date

2/25/2015

Description	Qty	Rate	Amount
Metro Flood Project (LEERDS matters): Erik Johnson-Jan 26 thru Feb 25, 2015: Itemization enclosed	1.3	204.00	265.20
Nancy J Morris-Jan 26 thru Feb 25, 2015: Itemization enclosed	21.5	178.50	3,837.75
02/10/2015: Fleet Street Courier, Inc. ~ Deliver Abstract for Oxbow		6.50	6.50

*We appreciate your business.*

**TOTAL: \$4,109.45**

**Client: City of Fargo**  
**Job: Metro Flood - LEERDS**

Atty	DATE	DESCRIPTION	TIME
E	1/28/2015	Staff discussion of MOU with Oxbow city and SWC reimbursement re: city replacement lots, etc.	0.8
E	2/9/2015	Conference with Pat Zavoral and Kevin Hall re: Howard Johnson Inn property	0.5
<b>Total Time - ERJ</b>			1.3
<b>Hourly Rate \$</b>			204.00
<b>Total Fees - ERJ \$</b>			265.20
N	1/26/2015	Land Management Meeting & In-Town Acquisitions; Conference calls; Correspondence re: revised legal descriptions for 2nd Street levee	3
N	1/27/2015	Correspond w/ Chris McShane re: Feder; review correspondence re: acquisitions & status; Correspondence re: El Zagal Townhomes	0.6
N	1/28/2015	Review Correspondence w/ Brenda & correspondence re: Volk deed; Phone call w/ Aubrey Zuger; review correspondence	1.2
N	1/29/2015	Phone call w/ Erik re: Bakke drainage; Correspondence re: Broadshaug & Mathison; 2nd Street Dike easement; Phone call re: acquisitions & correspond by phone conference	2.8
N	1/30/2015	Meeting w/ April re: Bakke drainage	0.5
N	2/1/2015	Correspondence re: property acquisition for Mickelson; Correspond w/ Chris McShane re: acquisition	0.7
N	2/2/2015	Phone call re: Bakke drainage & improvements; Review correspondence re: Brodshaug	1.1
N	2/3/2015	Correspondence re: Acquisitions; Phone call w/ Aubrey Zuger re: property acquisition in Mickelson area; Review correspondence; Phone call w/ Chris McShane re: offers & status	2.4
N	2/4/2015	El Zagal Townhome communications, correspond w/ Chris McShane & NDIRF; Meeting w/ Erik re: Park East	1.1
N	2/5/2015	Phone call w/ Chris McShane, correspondence re: Broadshaug, et al	0.6
N	2/9/2015	In-town levee coordination; Phone call w/ April re: downtown acquisitions	1.5
N	2/13/2015	Meeting re: in-town properties; Correspondence re: insurance requirements & occupancy	1.8
N	2/17/2015	Conference re: In-town levees	1.5
N	2/18/2015	Hardship meeting	1.7
N	2/23/2015	In-town levee expansion meeting	1
<b>Total Time</b>			21.50
<b>Hourly Rate \$</b>			178.50
<b>Total Fees - NJM \$</b>			3837.75

FM Diversion Authority  
Fiscal Accountability Report Design Phase (Fund 790)  
As of 2/28/2015

Item 9b.

	2011	2012	2013	2014	2015	Cumulative Totals
<b>Revenues</b>						
City of Fargo	443,138	7,652,681	7,072,961	18,662,632	2,970,956	36,802,368
Cass County	443,138	7,652,681	7,072,961	18,662,632	2,970,956	36,802,368
State Water Commission	-	-	3,782,215	599,427	5,420,122	9,801,765
Other Agencies	98,475	1,700,595	1,571,769	4,147,252	660,213	8,178,303
Lease/Rental Payments	-	-	17,358	154,180	3,796	175,334
Asset Sales	-	-	-	616,774	-	616,774
Miscellaneous	-	-	1,705	626	-	2,331
<b>Total Revenues</b>	<b>984,750</b>	<b>17,005,957</b>	<b>19,518,970</b>	<b>42,843,523</b>	<b>12,026,044</b>	<b>92,379,244</b>

<b>Expenditures</b>						
7905 Army Corp Payments	-	-	875,000	1,050,000	-	1,925,000
7910 WIK - Administration	107,301	331,321	77,614	161,406	15,587	693,228
7915 WIK - Project Design	149,632	5,366,147	3,220,859	8,034,769	57,696	16,829,104
7920 WIK - Project Management	679,037	7,223,650	4,695,477	3,395,861	317,083	16,311,109
7925 WIK - Recreation	-	163,223	-	-	-	163,223
7930 LERRDS - North Dakota	48,664	3,843,620	2,763,404	16,859,517	11,635,296	35,150,501
7931 LERRDS - Minnesota	-	27,996	289,387	13,068	-	330,450
7940 WIK Mitigation - North Dakota	-	-	-	587,180	-	587,180
7941 WIK Mitigation - Minnesota	-	-	-	-	-	-
7950 Construction - North Dakota	-	-	-	1,738,638	-	1,738,638
7951 Construction - Minnesota	-	-	-	-	-	-
7952 Construction - O/H/B	-	-	-	11,282,504	-	11,282,504
7955 Construction Management	-	-	-	402,718	381	403,099
7990 Project Financing	-	50,000	70,000	216,376	-	336,376
7995 Project Eligible - Off Formula Costs	-	-	-	-	-	-
7999 Non Federal Participating Costs	116	-	-	-	-	116
0000 Advance to City of Oxbow	-	-	7,527,231	630	-	7,527,861
<b>Total Expenditures</b>	<b>984,750</b>	<b>17,005,957</b>	<b>19,518,970</b>	<b>43,742,667</b>	<b>12,026,044</b>	<b>93,278,388</b>

FM Diversion Authority  
 FY 2015 Summary Budget Report ( In Thousands)  
 Period 14, 2014 and February 2015

	FY 2015 Approved Budget	Current Month	Fiscal Year To Date	% Expended	Outstanding Encumbrances	Remaining Budget Balance
<b>Revenue Sources</b>						
City of Fargo	59,040	361	8,731			50,309
Cass County	59,040	361	8,731			50,309
State of ND - 50% Match	57,200	-	7,585			49,615
State of ND - 100% Match	35,800	470	1,119			34,681
State of Minnesota	-	-	-			-
Other Agencies	13,120	80	1,940			11,180
Financing Proceeds	-	-	-			-
Sale of Assets	-	-	-			-
Property Income	-	4	16			(16)
Miscellaneous	-	-	-			-
<b>Total Revenue Sources</b>	<b>224,200</b>	<b>1,277</b>	<b>28,121</b>			<b>196,079</b>
<b>Funds Appropriated</b>						
Army Corp Local Share	525	-	-		525	-
Management Oversight	7,200	22	1,850	26%	6,631	(1,281)
Technical Activities	16,575	58	2,043	12%	6,250	8,282
Land Acquisitions	106,700	1,197	17,411	16%	30,451	58,838
Construction	91,300	-	7,066	8%	26,286	57,948
Mitigation	-	-	-		-	-
Other Costs	1,900	-	115	6%	350	1,435
<b>Total Appropriations</b>	<b>224,200</b>	<b>1,277</b>	<b>28,485</b>	<b>13%</b>	<b>70,493</b>	<b>125,222</b>



**FM Diversion Authority  
Summary of Cash Disbursements  
February 2015**

Account Number	Check Date	Check Number	Vendor Name	Transaction Amount	Description 1	Project Number	Project Description
790-7910-429.33-20	2/25/2015	JB02150009	CITY OF FARGO	920.00	CHARGE FOR COF TIME - 02/15	V00102	General & Admin. WIK
<b>Total WIK - General &amp; Admin. - Accounting Services</b>				<b>920.00</b>			
790-7910-429.33-25	2/18/2015	256339	OXBOW, CITY OF	18.00	OHNSTAD TWICHELL 10/31/14	V02407	OXBOW MOU-LEGAL SERVICES
	2/18/2015	256339	OXBOW, CITY OF	2,665.80	OHNSTAD TWICHELL 10/31/14	V02407	OXBOW MOU-LEGAL SERVICES
	2/18/2015	256339	OXBOW, CITY OF	112.00	OHNSTAD TWICHELL	V02407	OXBOW MOU-LEGAL SERVICES
	2/18/2015	256339	OXBOW, CITY OF	56.00	OHNSTAD TWICHELL 11/10/14	V02407	OXBOW MOU-LEGAL SERVICES
	2/18/2015	256339	OXBOW, CITY OF	80.00	OHNSTAD TWICHELL 11/6/14	V02407	OXBOW MOU-LEGAL SERVICES
	2/18/2015	256339	OXBOW, CITY OF	42.00	OHNSTAD TWICHELL 11/28/14	V02407	OXBOW MOU-LEGAL SERVICES
	2/18/2015	256339	OXBOW, CITY OF	42.00	OHNSTAD TWICHELL 11/28/14	V02407	OXBOW MOU-LEGAL SERVICES
	2/12/2015	256073	ERIK R JOHNSON & ASSOCIATES	7,612.60	METRO FLOOD PROJECT	V00102	General & Admin. WIK
<b>Total WIK - General &amp; Admin. - Legal Services</b>				<b>10,628.40</b>			
790-7910-429.38-68	2/12/2015	256091	FREDRIKSON & BYRON, PA	3,000.00	GOVT RELATIONS LOB 30321	V00102	General & Admin. WIK
<b>Total WIK - General &amp; Admin. - Lobbyist</b>				<b>3,000.00</b>			
790-7910-429.38-99	2/23/2015		NORTH DAKOTA TELEPHONE CO	238.20	NOV 2014	V00102	General & Admin. WIK
<b>Total WIK - General &amp; Admin. - Other Services</b>				<b>238.20</b>			
790-7915-429.33-05	2/18/2015	256339	OXBOW, CITY OF	6,127.80	OHB LEVEE THRU 1/29/15	V02401	OXBOW MOU-PROJ MGMT ADMIN
	2/18/2015	256339	OXBOW, CITY OF	6,449.65	OHB LEVEE THRU 1/29/15	V02402	OXBOW MOU-PRELIM ENGINRNG
	2/12/2015	256219	URS CORPORATION	45,118.66	12/6/14-1/16/15	V01003	CULTURAL RESOURCES INVEST
<b>Total WIK - Project Design - Engineering Services</b>				<b>57,696.11</b>			
790-7920-429.33-79	2/18/2015	256339	OXBOW, CITY OF	7,083.33	FMDA-OXBOW MOU PAUL BREEN	V02410	OXBOW MOU - PROJ MGMT JDA
<b>Total WIK Construction Mgmt. - Construction Management</b>				<b>7,083.33</b>			
790-7930-429.33-25	2/12/2015	256067	DORSEY & WHITNEY LLP	101,258.53	SVCS THRU 12/31/14	V00101	Dorsey Whitney Legal
	2/12/2015	256073	ERIK R JOHNSON & ASSOCIATES	6,026.50	METRO FLOOD LEERDS	V00103	General & Admin. LERRDS
<b>Total LERRDS - North Dakota - Legal Services</b>				<b>107,285.03</b>			
790-7930-429.33-32	2/18/2015	256339	OXBOW, CITY OF	840.00	BORDER APPRAISALS	V02412	OXBOW MOU - APPRAISALS
	2/18/2015	256339	OXBOW, CITY OF	2,640.00	BORDER APPRAISALS	V02412	OXBOW MOU - APPRAISALS
<b>Total LERRDS - North Dakota - Appraisal Services</b>				<b>3,480.00</b>			
790-7930-429.67-11	2/24/2015	WIRE	CASS COUNTY JOINT WRD	42,008.47	ELSETH RELOCATION PAYMENT	V01703	ND LAND PURCH - IN TOWN
	2/24/2015	WIRE	CASS COUNTY JOINT WRD	3,990.00	BERKENPAS-ADVANCE RELOCTN	V01703	ND LAND PURCH - IN TOWN
	2/24/2015	WIRE	CASS COUNTY JOINT WRD	39,073.94	KRCHNAVY-ADVANCE RELOCTN	V01703	ND LAND PURCH - IN TOWN
	2/24/2015	WIRE	CASS COUNTY JOINT WRD	69,712.90	RAU - ADVANCED RELOCATION	V01703	ND LAND PURCH - IN TOWN
	2/24/2015	WIRE	CASS COUNTY JOINT WRD	19,313.00	INGEBRIGSTON-ADCANCE RLCT	V02411	OXBOW MOU-RESIDENT RLCTN

**FM Diversion Authority  
Summary of Cash Disbursements  
February 2015**

Account Number	Check Date	Check Number	Vendor Name	Transaction Amount	Description 1	Project Number	Project Description
<b>Total LERRDS - North Dakota - Relocation Assistance - Residential Buildings</b>				<b>174,098.31</b>			
790-7930-429.71-30	2/24/2015	WIRE	CASS COUNTY JOINT WRD	230,196.41	HOME BUYOUT - STEWART	V01703	ND LAND PURCH - IN TOWN
	2/24/2015	WIRE	CASS COUNTY JOINT WRD	309,899.68	HOME BUYOUT - RAU	V01703	ND LAND PURCH - IN TOWN
	2/24/2015	WIRE	CASS COUNTY JOINT WRD	310,888.51	HOME BUYOUT - NYHOF	V01701	ND LAND PURCH-OUT OF TOWN
<b>Total LERRDS - North Dakota - Land Purchases</b>				<b>850,984.60</b>			
790-7955-429.33-06	2/12/2015	256214	TERRACON CONSULTING ENGINEERS	381.26	SOIL/ASH ANALYSIS	V02802	WP-42 MATERIALS TESTING
<b>Total Construction Management - Quality Testing</b>				<b>381.26</b>			
<b>Total Disbursed for Period</b>				<b>1,215,795.24</b>			

**FM Diversion Authority  
Summary of Cash Disbursements  
Period 14, 2014**

Account Number	Check Date	Check Number	Vendor Name	Transaction Amount	Description 1	Project Number	Project Description
790-7930-429.80-17	2/4/2015	255864	CASS COUNTY TREASURER	54,427.55	2014 PROP TAXES	V01701	ND LAND PURCH-OUT OF TOWN
	2/4/2015	255864	CASS COUNTY TREASURER	6,445.80	2014 PROP TAXES	V01702	ND LAND PURCHASE-HARDSHIP
<b>Total LERRDS - North Dakota - Property Tax - FMDA</b>				<b>60,873.35</b>			
<b>Total Disbursed for Period</b>				<b>60,873.35</b>			

**FM Diversion Authority  
Cumulative Vendor Payments Since Inception  
As of February 28, 2015**

<b>Vendor Name</b>	<b>Approved Contract/Invoice Amount</b>	<b>Liquidated</b>	<b>Outstanding Encumbrance</b>	<b>Purpose</b>
CASS COUNTY JOINT WATER RESOUR	\$ 58,411,991.46	\$ 29,845,991.64	\$ 28,565,999.82	Land Purchases, O/H/B Ring Levee, DPAC, & ROE
HOUSTON-MOORE GROUP LLC	25,424,077.45	16,515,378.04	8,908,699.41	Engineering Services
CH2M HILL ENGINEERS INC	17,860,819.01	13,830,819.01	4,030,000.00	Project Management
INDUSTRIAL CONTRACT SERVICES I	17,361,616.35	185,209.00	17,176,407.35	4th St Pump Station and 2nd Street Floodwall
OXBOW, CITY OF	13,582,824.09	11,522,323.26	2,060,500.83	City of Oxbow - MOU
INDUSTRIAL BUILDERS INC	8,203,317.00	1,337,260.00	6,866,057.00	2nd St North Pump Station Project
COMMERCIAL TITLE LLC	3,869,541.00	3,869,541.00	-	Oxbow MOU - Advance for Land Purchase
TITLE COMPANY	3,641,500.00	3,641,500.00	-	Oxbow MOU - Advance for Land Purchase
ARMY CORP OF ENGINEERS	2,450,000.00	1,925,000.00	525,000.00	Local Share
MINNESOTA DNR	2,188,007.43	1,292,414.71	895,592.72	EIS Scoping
URS CORPORATION	1,745,618.42	1,126,360.82	619,257.60	Engineering Services
KENNELLY & OKEEFFE	1,729,310.56	1,729,310.56	-	Home Buyouts
DORSEY & WHITNEY LLP	1,686,091.48	1,686,091.48	-	Legal Services
MOORE ENGINEERING INC	662,468.17	662,468.17	-	Engineering Services
DUCKS UNLIMITED	587,180.00	587,180.00	-	Wetland Mitigation Credits
HOUSTON ENGINEERING INC	576,669.57	576,669.57	-	Engineering Services
RED RIVER BASIN COMMISSION	500,000.00	447,747.40	52,252.60	Engineering Services
NORTHERN TITLE CO	484,016.00	484,016.00	-	Land Purchases
ERNST & YOUNG	350,000.00	-	350,000.00	Financial Advisor
CITY OF FARGO	288,381.66	288,381.66	-	Digital Imagery Project & Accounting Services
ERIK R JOHNSON & ASSOCIATES	263,212.56	253,224.21	9,988.35	Legal Services
CASS COUNTY TREASURER	242,998.81	242,998.81	-	Property Tax
ROBERT TRENT JONES	200,000.00	200,000.00	-	Oxbow MOU - Golf Course Consulting Agreement
US GEOLOGICAL SURVEY	151,520.00	46,920.00	104,600.00	Stage Gages & Water Level Discharge Collection
PFM PUBLIC FINANCIAL MANAGEMEN	146,460.00	146,460.00	-	Financial Advisor
ENVENTIS	115,685.62	115,685.62	-	Utility Relocation
702 COMMUNICATIONS	100,483.18	100,483.18	-	Utility Relocation
PROSOURCE TECHNOLOGIES, INC	100,000.00	8,324.94	91,675.06	Engineering Services

**FM Diversion Authority  
Cumulative Vendor Payments Since Inception  
As of February 28, 2015**

<b>Vendor Name</b>	<b>Approved Contract/Invoice Amount</b>	<b>Liquidated</b>	<b>Outstanding Encumbrance</b>	<b>Purpose</b>
ULTEIG ENGINEERS INC	100,000.00	-	100,000.00	Engineering Services
BRAUN INTERTEC CORP	90,210.00	77,629.00	12,581.00	Quality Testing
EL ZAGAL TEMPLE HOLDING CO	68,040.72	68,040.72	-	Easement Purchase for El Zagal Levee
GRAY PANNELL & WOODWARD LLP	66,300.68	66,300.68	-	Legal Services
NDSU BUSINESS OFFICE-BOX 6050	64,495.00	-	64,495.00	Ag Risk Study Services
OHNSTAD TWICHELL PC	60,309.16	60,309.16	-	ROE and Bonding Legal Fees
US BANK	59,020.65	59,020.65	-	Loan Advance Debt Service Payments
IN SITU ENGINEERING	54,800.00	47,973.00	6,827.00	Quality Testing
ADVANCED ENGINEERING INC	50,000.00	50,000.00	-	Public Outreach
TERRACON CONSULTING ENGINEERS	50,000.00	381.26	49,618.74	Materials Testing
GEOKON INC	33,815.36	33,815.36	-	Vibrating Wire Piezometer Equipment
COLDWELL BANKER	33,066.02	33,066.02	-	Property Management Services
NIXON PEABODY LLC	30,000.00	30,000.00	-	Legal Services
INNOVATIVE ABSTRACT & TITLE CO	15,921.53	15,921.53	-	Oxbow MOU - Advance for Land Purchase
MOORHEAD, CITY OF	15,062.90	15,062.90	-	ROE Legal Fees
WARNER & CO	14,925.00	14,925.00	-	General Liability Insurance
BRIGGS & MORGAN PA	12,727.56	12,727.56	-	Legal Services
FREDRIKSON & BYRON, PA	9,000.00	6,000.00	3,000.00	Lobbying Services
MCKINZIE METRO APPRAISAL	3,200.00	3,200.00	-	Appraisal Services
FORUM COMMUNICATIONS (LEGALS)	2,224.20	2,224.20	-	Advertising Services
DAWSON INSURANCE AGENCY	1,867.81	1,867.81	-	Property Insurance - Home Buyouts
FORUM COMMUNICATIONS (ADVERT)	1,743.77	1,743.77	-	Advertising Services
NORTH DAKOTA TELEPHONE CO	1,566.40	1,566.40	-	Communication
CLAY COUNTY AUDITOR	1,550.00	1,550.00	-	Property Tax
SEIGEL COMMUNICATIONS SERVICE	1,490.00	1,490.00	-	Public Outreach
RED RIVER TITLE SERVICES INC	1,305.00	1,305.00	-	Abstract Updates
HUBER, STEVE	1,056.43	1,056.43	-	Home Buyouts
TRIO ENVIRONMENTAL CONSULTING	747.60	747.60	-	Asbestos and LBP Testing - Home Buyouts
RED RIVER VALLEY COOPERATIVE A	536.96	536.96	-	Electricity - Home Buyouts

**FM Diversion Authority  
 Cumulative Vendor Payments Since Inception  
 As of February 28, 2015**

Vendor Name	Approved Contract/Invoice Amount	Liquidated	Outstanding Encumbrance	Purpose
FERRELLGAS	496.00	496.00	-	Propane - Home Buyouts
BROKERAGE PRINTING	473.33	473.33	-	Custom Printed Forms
KOCHMANN, CARTER	315.00	315.00	-	Lawn Mowing Services
GALLAGHER BENEFIT SERVICES INC	250.00	250.00	-	Job Description Review
DONS PLUMBING	240.00	240.00	-	Winterize - Home Buyouts
CURTS LOCK & KEY SERVICE INC	138.10	138.10	-	Service Call - Home Buyouts
GOOGLE LOVEINTHEOVEN	116.00	116.00	-	Meeting Incidentals
FEDERAL EXPRESS CORPORATION	71.89	71.89	-	Postage
CASS COUNTY RECORDER	68.00	68.00	-	Oxbow MOU - Advance for Land Purchase
<b>GRAND TOTAL</b>	<b>\$ 163,770,940.89</b>	<b>\$ 93,278,388.41</b>	<b>\$ 70,492,552.48</b>	

**FM Diversion Authority  
In-Town Levee Work  
as of February 28, 2015**

<b>Vcode #</b>	<b>Vendor Name</b>	<b>Descriptions</b>	<b>Contract Amount</b>	<b>Amount Paid</b>
V02801	Industrial Builders	2nd Street North Pump Station - Work Package 42.A2	\$ 8,203,317.00	\$ 1,337,260.00
V02802	Terracon Consulting	WP-42 (In Town Levees) Materials Testing	50,000.00	381.26
V02803	Enventis	Relocation of fiber optic along 2nd Street North - WP-42A.2	115,685.62	115,685.62
V02804	702 Communications	Relocation of fiber optic along 2nd Street North	100,483.18	100,483.18
V02805	ICS	4th St Pump Station & Gatewell and 2nd St Floodwall S - WP-42A.1/A.3	17,361,616.35	185,209.00
V02806	HMG	Services During Construction - Work Package 42	1,550,000.00	-
V02807	CCJWRD	In-Town Levee Work	469,747.10	469,747.10
V01703	Various	In-Town Property Purchases	11,375,797.62	1,117,174.82
			<u>\$ 39,226,646.87</u>	<u>\$ 3,325,940.98</u>

**FM Diversion Authority  
Lands Expense - Life To Date  
As of February 28, 2015**

Property Address	Purchase Date	Purchase Price	Appraisal	Abstract	Tax Payment	Relocation Assistance	Property Management Expense	Property Management Income	Sale Proceeds	Total
<b>Home Buyouts - Fargo</b>										
1322 Elm St N, Fargo ND	11/19/2014	347,270.27	-	-	-	48,990.90	1,501.88	-	-	397,763.05
1341 N Oak St, Fargo ND	1/29/2015	309,899.68	-	-	-	69,712.90	-	-	-	379,612.58
1326 Elm St N, Fargo ND	12/23/2014	230,196.41	-	-	-	-	-	-	-	230,196.41
1330 Elm St N, Fargo ND	-	-	-	-	-	39,073.94	-	-	-	39,073.94
Park East Apartments - 1 2nd St S Fargo, ND	-	-	-	-	-	3,990.00	-	-	-	3,990.00
<b>Home Buyouts - Moorhead</b>										
387 170th Ave SW, Moorhead MN	11/1/2013	281,554.91	-	255.00	1,550.00	-	2,247.01	-	(8,440.00)	277,166.92
<b>Home Buyouts - Oxbow</b>										
105 Oxbow Drive, Oxbow ND	11/28/2012	216,401.85	-	250.00	4,993.72	-	13,695.77	(18,680.72)	(181,249.54)	35,411.08
744 Riverbend, Oxbow ND	12/3/2012	343,658.30	-	170.00	10,599.10	-	19,499.48	(34,617.16)	-	339,309.72
121 Oxbow Drive, Oxbow ND	7/31/2013	375,581.20	3,200.00	-	1,581.52	-	19,519.02	-	(186,918.33)	212,963.41
333 Schnell Drive, Oxbow ND	9/20/2013	104,087.79	-	-	2,781.89	-	2,039.75	-	-	108,909.43
346 Schnell Dr, Oxbow ND	2/13/2014	512,970.73	-	-	3,143.13	-	10,059.99	(15,000.00)	-	511,173.85
345 Schnell Dr, Oxbow ND	10/24/2014	478,702.98	-	-	-	-	-	-	-	478,702.98
708 River Bend Rd, Oxbow ND	1/29/2015	310,888.51	-	-	-	-	-	-	-	310,888.51
<b>Easements - Fargo</b>										
Part of Lot 5 El Zagal Park, Fargo ND	10/9/2014	68,040.72	-	-	-	-	-	-	-	68,040.72
<b>Easements - Oxbow</b>										
Oxbow Parcel 57-0000-10356-070 - Pearson	10/13/2014	55,500.00	-	-	-	-	-	-	-	55,500.00
<b>Farmland Purchases</b>										
SE 1/4 11-140-50 (Raymond Twp) - Ueland	1/20/2014	959,840.00	-	-	-	-	-	(13,543.73)	-	946,296.27
2 Tracts in the E 1/2-2-137-49 - Sorby/Maier	1/24/2014	1,636,230.00	-	-	-	-	-	(28,882.99)	-	1,607,347.01
3 Tracts NW1/4 1-140-50, NW1/4 11-140-50, & S1/2 25-141-50 - Rust	2/18/2014	3,458,980.70	-	-	-	-	-	(59,830.86)	-	3,399,149.84
11-140-50 NE1/4 (Raymond Twp) - Diekrager	4/15/2014	991,128.19	-	-	-	-	-	(15,654.86)	-	975,473.33
NW 1/4 36-141-50 - Monson	5/7/2014	943,560.05	-	-	-	-	-	(14,909.20)	-	928,650.85
SW 1/4-11-140-50 - Hogle	7/21/2014	989,706.03	-	-	-	-	-	(3,725.49)	-	985,980.54
NW 1/4 14-140-50 - Hogle	10/23/2014	948,782.22	-	-	-	-	-	(1,376.19)	-	947,406.03
SW 1/4 2-140-50 - Rust	10/29/2014	955,901.00	-	-	-	-	-	-	-	955,901.00
Fercho Family Farms, Oxbow ND	-	312,130.00	-	-	-	-	-	-	-	312,130.00
W 1/2 SE 1/4 SW 1/4 & SW 1/4 SW 1/4 2-137-49 - Gorder	5/13/2014	321,386.00	-	-	-	-	-	(1,822.72)	-	319,563.28
<b>Land Purchases</b>										
Hayden Heights Land, West Fargo ND	10/12/2012	484,016.00	-	-	219,899.45	-	-	-	(240,166.11)	463,749.34
<b>Total</b>		15,636,413.54	3,200.00	675.00	244,548.81	161,767.74	68,562.90	(208,043.92)	(616,773.98)	15,290,350.09



FM Diversion Authority  
 State Water Commission Funds Reimbursement Worksheet  
 Fargo Flood Control Project Costs

Time Period for This Request: February 1, 2015 - February 28, 2015

Drawdown Request No: 11	
Requested Amount:	\$ 470,398
Total Funds Expended This Period:	\$ 470,398
Total Funds Requested at 100% Match	470,398
<b>Total Funds Requested:</b>	<b>\$ 470,398</b>

<b>STATE AID SUMMARY:</b>	
Summary of State Funds Appropriated	
Appropriations from 2009 Legislative Session	\$ 45,000,000
Appropriations from 2011 Legislative Session	30,000,000
Appropriations from 2013 Legislative Session	100,000,000
<b>Total State Funds Appropriated</b>	<b>\$ 175,000,000</b>
Less: Payment #1 through #35 - City of Fargo	(55,510,209)
Less: Payment #1 - Cass County	(136,039)
Less: Payment #1 - FM Diversion Authority	(18,600)
Less: Payment #2 - FM Diversion Authority - REVISED	(782,908)
Less: Payment #3 - FM Diversion Authority - REVISED	(293,590)
Less: Payment #4 - FM Diversion Authority - REVISED	(2,905)
Less: Payment #5 - FM Diversion Authority - REVISED	-
Less: Payment #6 - FM Diversion Authority - REVISED	(238,241)
Less: Payment #7 - FM Diversion Authority	(1,206,310)
Less: Payment #8 - FM Diversion Authority	(1,153,978)
Less: Payment #9 - FM Diversion Authority	(4,949,724)
Less: Payment #10 - FM Diversion Authority	(685,111)
Less: Payment #11 - FM Diversion Authority	(470,398)
<b>Total Funds Reimbursed</b>	<b>\$ (65,448,013)</b>
<b>Total State Fund Balances Remaining</b>	<b>\$ 109,551,987</b>

<b>LOCAL MATCHING FUNDS SUMMARY:</b>	
Matching Funds Expended To Date - City of Fargo	\$ 47,629,069
Matching Funds Expended To Date - Cass County	291,500
Matching Funds Expended To Date - FM Diversion Authority	1,288,428
<b>Total Matching Funds Expended To Date</b>	<b>\$ 49,208,997</b>
Less: Match Used on Payment #1 through #35 - City of Fargo	(41,506,620)
Less: Match used on Payment #1 - Cass County	(136,039)
Less: Match Used on Payment #1 - FM Diversion Authority	(18,600)
Less: Match Used on Payment #2 - FM Diversion Authority	(66,888)
Less: Match Used on Payment #6 - FM Diversion Authority	(238,241)
Less: Match Used on Payment #8 - FM Diversion Authority	(410,015)
Less: Match Used on Payment #11 - FM Diversion Authority	(470,398)
<b>Balance of Local Matching Funds Available</b>	<b>\$ 6,362,196</b>



**US Army Corps  
of Engineers**  
St. Paul District

# Monthly Update

March 12, 2015

Since the last Diversion Authority meeting, the following project-related activities were worked on.

1. Continued coordination and supply of requested data to the MN DNR in support of their EIS process.
2. Maple River Physical Model work nearing completion and preliminary design of the Aqueduct Structure and associated diversion channel.
3. Continued support of In-Town Levees design and construction.
4. Continuing work on the Cemetery Mitigation Plan. Provided information to ND Legislators.
5. Holding Oxbow/Hickson/Bakke (OHB) Levee coordination meetings.
6. Continuing development of Alternate Resourcing and Delivery plan for expedited implementation of the FMM Project.
7. Continuing work on optimizing the channel and low flow channel between the Maple River and the Diversion Inlet Structure.
8. Geotechnical borings continue to be taken along the Southern Embankment alignment.
9. Major General Wehr, Commander of Miss. River Valley Division, visited the area on February 6<sup>th</sup>.



**Corps, Sponsor, and Congressional Meeting**

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**Public Outreach Committee Report  
For Diversion Authority – March 12, 2015**

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- Community Outreach
  - The Outreach Team hosted a booth at the ND Rural Water Expo in Bismarck in Bismarck in February.
  - The Outreach Team has been working closely with area organizations that have flood protection as a top priority to provide information on the project and its funding needs as those organizations speak with legislators in North Dakota and Minnesota.
- North Dakota Legislature
  - The Committee is keeping tabs on several Diversion related bills in the North Dakota legislature, including Senate Bill 2020, which has passed the Senate. The bill includes \$69 million for the Diversion Project and reaffirms the State's commitment to \$450 million in total.
- Buffalo-Red River Watershed District Communications
  - The BRRWD is currently considering the 2015 Diversion Authority budget. Representatives from Moorhead, Clay County, Cass County, Cass County Joint Water Resources, and the Diversion Authority were in attendance and spoke at a recent meeting where the budget was discussed. The District is scheduled to discuss the budget again on March 23.
  - Clay County and the Mayor of Moorhead have sent letters in regards to the Diversion Authority Budget to the District and other entities. Those letters are enclosed in this report as an FYI.
- E-Newsletter and FMDiversion.com
  - FMDiversion.com has added a website link associated with the special assessment district. [fmdiversion.com/assessment](http://fmdiversion.com/assessment). An abundance of information on the assessment district can be found there. Videos of the public meetings that are being held can also be viewed there. Traffic has been increasing significantly on the site since the ballots were mailed Tuesday.

**COUNTY COMMISSIONERS**

District 1 - WAYNE INGERSOLL, Moorhead  
District 2 - FRANK GROSS, Dilworth  
District 3 - JENNY MONGEAU, Moorhead  
District 4 - KEVIN CAMPBELL, Moorhead  
District 5 - GRANT WEYLAND, Moorhead  
Office Telephone: (218) 299-5002  
Fax: (218) 299-5195



March 11, 2015

John Lindquist, Chair  
Otter Tail County Commission  
29807 147th St  
Dalton, MN 56324

Dear Chair Lindquist and Otter Tail County Commissioners,

This letter is in regards to our joint efforts to alleviate flooding and to manage the water resources for our two counties as members of the Buffalo-Red River Watershed District (BRRWD). This letter is being sent to you because of an alleged disparaging comment made by the representative of Otter Tail County which needs to be addressed.

Since 2009, Clay County has been an active participant in a regional flood protection plan as one of the six member entities of the Fargo-Moorhead Diversion Authority, of which the BRRWD is also a member. Part of our responsibility as one of the member entities is to play a part in the development and approval of an annual budget that represents the interests of all entities. Clay County has a position on the Diversion Authority's Finance Committee that developed this budget in depth. In addition to the approval by the County's representative on the Diversion Authority, the Clay County Board voted to approve the budget in December, 2014. While the budget includes priorities from all six entities, the North Dakota entities are providing 100 percent of the funding.

At the BRRWD meeting in January, when the budget was discussed, the Manager from Otter Tail County, Peter Fjestad, said he was directed by the Otter Tail County Board to "stick it to Fargo" if he got the opportunity.

I am writing to you now because I want to make it clear that while we understand Mr. Fjestad's intent, in reality, his action reflects negatively on Clay County and we are extremely disappointed that this is how Otter Tail County would choose to operate as a partner in the BRRWD.

Flooding is a horrible thing to happen to a community. We have experienced it and many of our residents had their lives altered forever. We need to prevent another major flood in Clay County. After years of effort, our flood protection project has received congressional authorization and now the Minnesota Department of Natural Resources (DNR) is conducting its final review. This budget includes money for the DNR to hopefully finish its Environmental Impact Statement. We need this budget for our State to complete its work and provide feedback on the Diversion project.

Clay County and Otter Tail County agreed to be partners in the mission of the BRRWD. In doing so, we have agreed to support each other's efforts to alleviate flooding and manage the water resources of the District. Please help us realize flood protection for Clay County.

Sincerely,

Grant Weyland  
Clay County Commission, Chair

## COUNTY COMMISSIONERS

District 1 - WAYNE INGERSOLL, Moorhead  
District 2 - FRANK GROSS, Dilworth  
District 3 - JENNY MONGEAU, Moorhead  
District 4 - KEVIN CAMPBELL, Moorhead  
District 5 - GRANT WEYLAND, Moorhead  
Office Telephone: (218) 299-5002  
Fax: (218) 299-5195



March 10, 2015

Dear Buffalo-Red River Watershed District Managers:

Thank you for your continued service as Managers of the Buffalo-Red River Watershed District (BRRWD). Clay County appreciates your work to alleviate flooding and manage the water resources of the District. Currently before you is an issue of critical importance to Clay County and that is the purpose for this letter. On March 10, 2015 the Clay County Commission directed me to send this letter on behalf of the County to ask for your support in approval of the Fargo-Moorhead Diversion Authority 2015 budget.

Clay County has been an active participant in the development of this regional flood protection project. Dating back to 2009 when Clay County was one of the original members of the Metro Flood Management Committee, we have been at the table and have approved of each action along the way. This approval extended to the approval of the Joint Powers Agreements (JPA) that both Clay County and the BRRWD belong. Part of our responsibility is to play a part in the development and approval of a budget that represents the interests of all entities in the JPA. Clay County has a position on the Diversion Authority's Finance Committee that developed this budget. In addition to the approval by the County's representative on the Diversion Authority, the County Board voted to approve the budget in December, 2014.

This year's budget is especially important because the Minnesota Department of Natural Resources draft Environmental Impact Statement is due out later this year. This budget provides the money they need to complete their work.

Clay County is a supporter of the Diversion Project, but that support comes with the understanding that there are areas of Clay and Wilkin County where impacts from the project need to be addressed. It's our job to make sure these impacts are addressed.

This budget includes priorities important to Clay County and the BRRWD. Some priorities include obtaining answers to questions regarding efforts to mitigate impacts on cemeteries, organic and conventional farm producers, homes, and farmsteads. These are in addition to our top priority, for the State of Minnesota to finish its review of the project, all without obligating any Minnesota dollars.

We share the mission of the BRRWD in wanting to alleviate flooding and manage the water resources of the District. This mission requires funding to assist our State to finish its environmental review. Let us all stand together to move the process forward, enabling better flood protection and answers to unanswered questions.

Sincerely,

Grant Weyland  
Clay County Commission, Chair



VIA E-MAIL & U.S. MAIL

February 23, 2015

Mr. Gerald Van Amburg, Chairman  
Buffalo-Red River Watershed District Board of Managers  
1303 4th Ave. NE  
PO Box 341  
Barnesville, MN 56514

Email: [vanambur@cord.edu](mailto:vanambur@cord.edu)

Mr. Van Amburg:

As Mayor of Moorhead, I want to provide you with some information and thoughts as you consider the proposed fiscal year 2015 budget for the Fargo-Moorhead Diversion Authority. I was happy that our City Engineer, Dr. Bob Zimmerman, and our City Manager, Michael Redlinger, were able to attend your February 9<sup>th</sup> meeting and were provided time to update the Board on our City's current flood protection efforts.

As you know, in addition to the tremendous amount of flood mitigation work we have completed along the river, the City has also been working on a permanent, regional flood protection solution since 2008 with our partners in the area – including the Buffalo-Red River Watershed District. The initial federal study was a \$22M effort, after which Moorhead became one of the federal sponsors for the Diversion Project.

This federal study was a comprehensive review of all alternatives possible, but was also conducted from a federal perspective. One key aspect of study that still needs to be completed is our State's Environmental Impact Statement (EIS), which could not start until the federal study was complete. The Minnesota Department of Natural Resources (DNR) Draft EIS is expected to be released in August 2015. Like you, I want to know what our State has to say about the project and our joint efforts to date.

I want to bring the State's EIS specifically to your attention because, to me, supporting our State's process is our responsibility as one of the local Minnesota entities involved. Moorhead approved the FY15 Diversion Authority budget in part because it provides significant funding to the Department of Natural Resources to complete their environmental review. Without the necessary funding in place, this important piece of work may not get completed – delaying its findings and our efforts to try make the project as workable as possible for all of Minnesota's interests.

The FY15 Diversion Authority budget is large, and includes more than just the significant dollars for the DNR EIS study, and I understand that. We must also fully weigh and consider the other efforts underway

Mr. Gerald Van Amburg

February 23, 2015

Page 2

that are funded by this budget. We should be mindful that there are six entities involved in the budgeting process with six different sets of priorities, and I believe we should be respectful of the priorities of all the partners so that we in turn receive the support we need to complete the Minnesota EIS.

Fortunately for our constituents, this budget and the priorities of all six entities are currently being funded by North Dakota taxpayers. In passing this budget, the DNR's EIS will be closer to completion and work on mitigating the impacts from the Diversion Project will advance.

This last point is significant, because whether the EIS gets completed this year or not, we are already seeing the impacts from the Diversion Project. This budget goes a long way to continue to mitigate many of those impacts, and I know this is as important to your body as it is to the Moorhead City Council.

Below is a brief summary of some of the key mitigation and project refinement items that are currently underway and would be funded with this budget:

- **Agricultural Impacts**

The Diversion Authority is currently working with NDSU to analyze and quantify the impacts to agricultural production. There is also discussion about expanding this effort. The results of this work are needed in order to better understand and mitigate against the impacts experienced by Minnesota and North Dakota landowners alike. This would be funded with this budget.

- **Organic Farming**

The issue of organic farming is something that is unique and of great importance to Minnesota as we look to how best to mitigate the impacts from the staging of water associated with the Diversion Project. Mitigation efforts initiated by organic farmers themselves are currently underway. Further work on this effort, and possibly an early mitigation option for organic farmers, are included in this budget.

- **Hardships**

The Diversion Authority has a program in place to provide an early buyout option for impacted property owners who may be in a situation where a medical condition is forcing them to make real estate decisions on their home. This has been funded by North Dakota entities, but the group is chaired by a Minnesotan and has provided timely mitigation for the Minnesotans who have applied.

- **Flood Protection for Downtown Fargo**

We are one metro community, and we must work together. The City of Fargo, to date, has had to spend as much money and has had to remove as many homes as the City of Moorhead has, but their efforts require more as nature places our City at an elevation advantage. This budget, funded by North Dakota entities, would provide for construction of important aspects of the federal project that calls for internal flood protection through downtown Fargo.

Mr. Gerald Van Amburg  
February 23, 2015  
Page 3

- **Cemeteries**

This is a complex issue that needs to be resolved. The report which will provide options for mitigation is due out this year and work on that effort is included in this budget.

- **Oxbow-Hickson-Bakke Ring Levee**

This is a controversial aspect, of which I am no doubt you are aware of, but in the end this is an effort to mitigate against the impacts from both flooding and from the Diversion Project. The current plan for the ring levee itself will provide the same level of protection that entities within our State has provided to communities up and down the Minnesota side of the Red River. This is also a project that is being undertaken by your group's counterpart in North Dakota and is being funded with sales tax dollars that those citizens imposed on themselves. Due to its dual purpose as an aspect of the federal project, it is also included in this year's budget.

The Diversion Project is a large effort with a lot of moving parts, driven by the priorities of all six entities. To me, what is important is that we are continuing our efforts to gather sound data in order to make the best decisions based upon facts and in the interim doing what we can for those whose lives and businesses are being impacted. This is why I support the study efforts underway and the approval of this budget. Without the results of these efforts, especially the Minnesota EIS study, we will not have the complete picture to make sound decisions for the future.

Sincerely,



Del Rae Williams  
Mayor



# Land Management Summary

March 12, 2015

## Acquisitions Completed Through February 28, 2015

Property Type	Complete	
	Properties	Acreage
Single-Family Residential	12	29
<i>Subset: Medical Hardship</i>	5	27
Agricultural	18	1,975
Commercial	1	160
Multi-Family Residential	--	--
Public	3	3
Other	--	--

## Acquisition Budget Through February 28, 2015

Fiscal Year	No. Properties Acquired	Lands Budget (\$000)	Lands Expenses (\$000)	Outstanding Encumbrances (\$000)	Remaining Budget (\$000)
FY13	9	\$28,000	\$1,628		n/a
FY14	20	\$37,700	\$20,006		n/a
FY15	9	\$106,700	\$17,411	\$30,451	\$58,838

## Other News for month of February/March:

- The CH2M HILL / AE2S team has actively engaged with the residential property owners in Oxbow to present initial purchase offers and negotiate the replacement housing process. In February, 7 offers were presented to Oxbow area residents.
- One Opportunistic Farmland purchase was completed, One Opportunistic Farmland had a purchase agreement signed, and a third Opportunistic Farmland property has verbally agreed to an offer, pending final purchase agreement.
- Received approval from USACE on two (2) In-Town, eleven (11) OHB, and one (1) agricultural appraisal this month.
- HMG submitted two (2) new appraisals for In-Town residential properties to USACE for review.
- ProSource has four (4) appraisals with USACE for review.
- Ulteig has eight (8) appraisals with USACE for review.
- Appraisals continue for properties for the remaining Oxbow Ring Levee and In-Town Levee properties.
- Purchases closed on one (1) residential property In-Town.
- The Purchase Agreement has been signed for the acquisition of Park East.
- Approximately 40% of the units in Park East are vacant or have made plans to vacate.

## Land Management Summary

March 12, 2015

### Appraisals Complete or In Negotiation (sorted by closing date)

Street Address	USACE Orig ID No.	Type	Activity <sup>1</sup>	Land Acq Firm/ Appraiser	Est. Closing Date
1333 Oak Street, Fargo	9204	Residential	Closed	HMG/Britton	
Agricultural property 103ac – S2, T140, R50	0884	Agricultural	Closed	Direct negotiations	
17495 52nd St SE, Hickson	1989	Residential	Purchase Agreement Signed	ProSource/Hraba	
1330 Elm Street, Fargo	9203	Residential	Purchase Agreement Signed	HMG/Britton	April, 2015
748 Riverbend Rd	9591	Residential	Purchase Agreement Signed	ProSource/Hraba	June 30, 2015
752 Riverbend Road	9592	Residential	Purchase Agreement Signed	ProSource/Hraba	June 30, 2015
350 Schnell Drive	9649	Residential	Purchase Agreement Signed	ProSource/Hraba	
349 Schnell Drive	9664	Residential	Purchase Agreement Signed	ProSource/Hraba	June 30, 2015
353 Schnell Drive	9665	Residential	Purchase Agreement Signed	ProSource/Hraba	June 30, 2015
357 Schnell Drive	9666	Residential	Purchase Agreement Signed	ProSource/Hraba	June 30, 2015
361 Schnell Drive	9667	Residential	Purchase Agreement Signed	ProSource/Hraba	June 30, 2015
Park East Apartments, LLC	9782	Commercial	Purchase Agreement Signed	HMG/Britton	
Agricultural property 49.5ac – S13, T137, R49	1931, 1936	Agricultural	In Condemnation	Ulteig/Bock	
Agricultural property 75ac – S2, T141, R49	0530	Agricultural	In Negotiations	Direct negotiations	
Agricultural property 157ac – S10, T141, R49; S10, T141, R49	0547, 0548	Agricultural	In Negotiation	Ulteig/Bock	
Agricultural property 45ac – S25, T138, R50	1201	Agricultural	In Negotiation	Direct negotiations	
Agricultural property 214ac – S13, T137, R49; S14, T137, R49	1930, 1940, 1941	Agricultural	In Negotiation	Ulteig/Bock	
Agricultural property 266ac – S23, T137, R49; S24, T137, R49	1975, 1985	Agricultural	In Negotiation	Ulteig/Bock	
Agricultural property 140ac – S23, T137, R49; S24, T137, R49	1979, 1987	Agricultural	In Negotiation	Ulteig/Bock	
5302 174 ½ Ave SE	1898	Residential	In Negotiation	HMG/Britton	
5059 Makenzie Cir, Horace (owner of 3 other parcels)	2150, 9669, 9672	Residential	In Negotiation	ProSource/Hraba	

# Land Management Summary

March 12, 2015

Street Address	USACE Orig ID No.	Type	Activity <sup>1</sup>	Land Acq Firm/ Appraiser	Est.Closing Date
18 North Terrace	9166	Residential	In Negotiation	HMG/Britton	
1318 Elm Street, Fargo	9200	Residential	In Negotiation	HMG/Britton	
829 Riverbend Road	9505	Residential	In Negotiation	ProSource/Hraba	
821 Riverbend Road	9506	Residential	In Negotiation	ProSource/Hraba	
813 Riverbend Road	9508	Residential	In Negotiation	ProSource/Hraba	
805 Riverbend Road	9510	Residential	In Negotiation	ProSource/Hraba	
810 Riverbend Road	9595	Residential	In Negotiation	ProSource/Hraba	
816 Riverbend Road	9596	Residential	In Negotiation	ProSource/Hraba	
828 Riverbend Road	9599	Residential	In Negotiation	ProSource/Hraba	
840 Riverbend Road	9600	Residential	In Negotiation	ProSource/Hraba	
844 Riverbend Road	9601	Residential	In Negotiation	ProSource/Hraba	
326 Schnell Drive	9641	Residential	In Negotiation	ProSource/Hraba	
328 Schnell Drive	9642	Residential	In Negotiation	ProSource/Hraba	
330 Schnell Drive	9643	Vacant Lot	In Negotiation	ProSource/Hraba	
332 Schnell Drive	9644	Residential	In Negotiation	ProSource/Hraba	
334 Schnell Drive	9645	Residential	In Negotiation	ProSource/Hraba	
338 Schnell Drive	9647	Residential	In Negotiation	ProSource/Hraba	
313 Schnell Drive	9655	Residential	In Negotiation	ProSource/Hraba	
317 Schnell Drive	9656	Residential	In Negotiation	ProSource/Hraba	
321 Schnell Drive	9657	Residential	In Negotiation	ProSource/Hraba	
329 Schnell Drive	9659	Residential	In Negotiation	ProSource/Hraba	
337 Schnell Drive	9661	Residential	In Negotiation	ProSource/Hraba	
Case Plaza LLC	9770	Commercial	In Negotiation	HMG/Britton	
Feder Realty Co.	9776	Commercial	In Negotiation	HMG/Britton	
City of Fargo - School District 1	9777	Commercial	In Negotiation	HMG/Britton	
BNSF	9259, 9779, 9780	Commercial	In Negotiation	HMG/Britton	
Agricultural Property 320ac – S28, T137, R48; S37, T137, R48	1790,1811	Agricultural	Appraisal in Review	Crown/Berg	
843 Riverbend Road	9502	Residential	Appraisal in Review	ProSource/McKinzie	

# Land Management Summary

March 12, 2015

Street Address	USACE Orig ID No.	Type	Activity <sup>1</sup>	Land Acq Firm/ Appraiser	Est. Closing Date
839 Riverbend Road	9503	Residential	Appraisal in Review	ProSource/McKinzie	
809 Riverbend Road	9509	Vacant Lot	Appraisal in Review	Ulteig/Bock	
856 Riverbend Road (owner at 852 Riverbend)	9604	Vacant Lot	Appraisal in Review	Ulteig/Bock	
860 Riverbend Road (owner at 852 Riverbend)	9605	Vacant Lot	Appraisal in Review	Ulteig/Bock	
864 Riverbend Road (owner at 852 Riverbend)	9606	Vacant Lot	Appraisal in Review	Ulteig/Bock	
477 Oxbow Drive	9614	Vacant Lot	Appraisal in Review	Ulteig/Bock	
354 Schnell Drive	9650	Vacant Lot	Appraisal in Review	Ulteig/Bock	
358 Schnell Drive	9651	Vacant Lot	Appraisal in Review	Ulteig/Bock	
325 Schnell Drive	9658	Residential	Appraisal in Review	ProSource/McKinzie	
341 Schnell Drive	9662	Residential	Appraisal in Review	ProSource/McKinzie	
365 Schnell Drive	9668	Vacant Lot	Appraisal in Review	Ulteig/Bock	
Northland Hospitality, LLC	9785	Commercial	Appraisal in Review	HMG/Britton	

<sup>1</sup> Activity sequence: 1) Appraisal in Review; 2) In Negotiation; 3) Purchase Agreement Signed, 4) Closed

## Appraisals in Progress (sorted by Activity, then Original ID Number)

Street Address	USACE Orig ID No.	Type	Activity <sup>1</sup>	Land Acq Firm/ Appraiser
16678 3 <sup>rd</sup> St S	1802	Residential	Appraisal In Review	HMG/Britton
16 North Terrace	9167	Residential	Appraisal Initiated	HMG/Britton
12 North Terrace	9168	Residential	Appraisal Initiated	HMG/Britton
24 North Terrace	9195	Residential	Appraisal Initiated	HMG/Britton
26 North Terrace	9196	Residential	Appraisal Initiated	HMG/Britton
724 North River Road	9197	Residential	Appraisal Initiated	HMG/Britton
Professional Associates LLC	9213	Commercial	Appraisal Initiated	HMG/Britton
Mid America Steel	9215, 9216, 9217, 9218, 9783	Commercial	Appraisal Initiated	HMG/Britton
833 Riverbend Road	9504	Residential	Appraisal Initiated	ProSource/McKinzie

# Land Management Summary

March 12, 2015

Street Address	USACE Orig ID No.	Type	Activity <sup>1</sup>	Land Acq Firm/ Appraiser
817 Riverbend Road	9507	Residential	Appraisal Initiated	ProSource/McKinzie
749 Riverbend Road	9511	Residential	Appraisal Initiated	ProSource/McKinzie
724 Riverbend Road	9587	Residential	Appraisal Initiated	ProSource/McKinzie
808 Riverbend Road (2 parcels at this address)	9593, 9594	Residential	Appraisal Initiated	ProSource/McKinzie
848 Riverbend Road	9602	Residential	Appraisal Initiated	ProSource/McKinzie
852 Riverbend Road (owner of 3 other parcels)	9603	Residential	Appraisal Initiated	ProSource/McKinzie
872 Riverbend Road	9607	Vacant Lot	Appraisal Initiated	Ulteig/Bock
869 Riverbend Road	9608	Vacant Lot	Appraisal Initiated	Ulteig/Bock
873 Riverbend Road	9609	Vacant Lot	Appraisal Initiated	Ulteig/Bock
473 Oxbow Drive	9615	Vacant Lot	Appraisal Initiated	Ulteig/Bock
469 Oxbow Drive	9616	Vacant Lot	Appraisal Initiated	Ulteig/Bock
465 Oxbow Drive	9617	Vacant Lot	Appraisal Initiated	Ulteig/Bock
461 Oxbow Drive	9618	Vacant Lot	Appraisal Initiated	Ulteig/Bock
457 Oxbow Drive	9619	Vacant Lot	Appraisal Initiated	Ulteig/Bock
455 Oxbow Drive	9620	Vacant Lot	Appraisal Initiated	Ulteig/Bock
425 Oxbow Drive	9628	Vacant Lot	Appraisal Initiated	Ulteig/Bock
309 Schnell Drive (owner of 2 other parcels)	9654	Residential	Appraisal Initiated	ProSource/McKinzie
Rural address (owner at 5059 Makenzie?)	9670, 9671	Residential	Appraisal Initiated	Ulteig/Bock
City of Fargo	9768	Commercial	Appraisal Initiated	HMG/Britton
City of Fargo - Housing Authority	9769	Commercial	Appraisal Initiated	HMG/Britton
City of Fargo	9772	Commercial	Appraisal Initiated	HMG/Britton

<sup>1</sup> Activity stages: 1) Owner notified; 2) Appraisal Initiated

## Easements in Progress on Publicly Owned Parcels (sorted by Activity, then Original ID Number)

Street Address	USACE Orig ID No.	Type	Activity <sup>1</sup>
City of Fargo - Park District	9212, 9771, 9781, 9784	Commercial	Easement in Process
Oxbow Job Development Authority <i>Permanent easement</i>	9581	Residential	Easement Identified

<sup>1</sup> Activity stages: 1) Easement Identified; 2) Easement in Process; 3) Easement Secured

<sup>2</sup> These Publicly Owned Parcels have entered into a MOU with the DA, therefore not requiring the parcels go through the appraisal process.



**LAND ACQUISITION DIRECTIVE**

**LAD00012**

**REV-0**

**DATE INITIATED:** 3/12/2015

**TO:** Cass County Joint Water Resource Districts (CCJWRD)

**OWNER:** Metro Flood Diversion Authority

**WORK PACKAGE:** WP-38 Upstream Staging Area **ACQUISITION TYPE:** Fee Title  
Land

**BACKGROUND:**

In December 2014, a letter was sent to all property owners in the Staging Area offering the opportunity for an early acquisition for those interested in moving to Oxbow. A copy of the letter is attached to this LAD. Oxbow has a limited number of lots available for sale in the new development and as part of the mitigation efforts for those impacted by the project, lots were to be reserved for sale to the impacted land owners both in Oxbow and the North Dakota side of the Staging Area. Based on the response from this initial inquiry letter, three parties identified definite interest in moving into Oxbow. This LAD is for the acquisition of these three properties as identified below and in the attached map.

**PARCELS:**

- OIN#9383: Parcel ID# 57-0500-00030-000: Owner – Holck
- OIN#9403 Parcel ID# 57-0340-00010-000: Owner – Campbell, David & Shannon
- OIN#9411 Parcel ID# 57-0340-00020-000 – Campbell, Roger & Melissa

**SCHEDULE:**

Parcels to be acquired by Fall, 2015

**ATTACHMENTS (List Supporting Documents):**

1. Exhibit Map
2. Letter to ND Staging Area Residents (sample)

**Recommended by:** CH2M HILL  
 Program Management Consultant

Bruce Spiller  
 Name

PMC Project Manager  
 Title

\_\_\_\_\_  
 Signature

\_\_\_\_\_  
 Date

**Directed by:** Diversion Authority  
 Owner

Mike Montplaisir  
 Name

Diversion Finance Chair  
 Title

\_\_\_\_\_  
 Signature

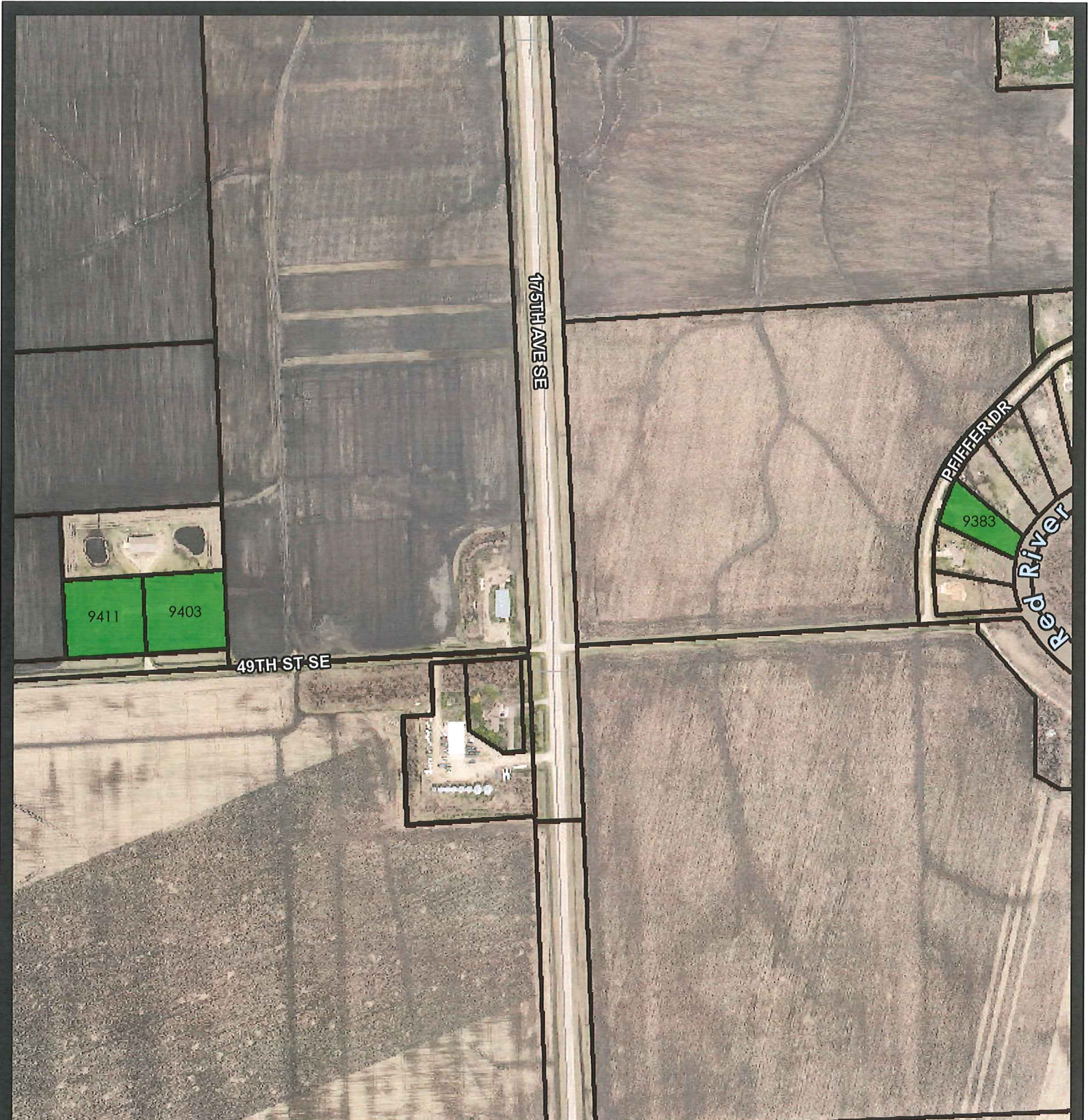
\_\_\_\_\_  
 Date

**Copies:**

- Mark Brodshaug/CCJWRD
- Sean M. Fredricks/OHNSTAD TWICHELL, P.C.
- Christopher M. McShane/OHNSTAD TWICHELL, P.C.
- Lukas D. Andrud/OHNSTAD TWICHELL, P.C.
- Dirk Draper/CH2M HILL
- Eric Dodds/AE2S

**Finance Staff:**

- Mike Montplaisir, Diversion Finance Chair
- Kent Costin, Director of Finance
- Jamie Bullock, Grants Accountant



**CURRENT ACQUISITION STATUS**

- IMPACTED PARCEL
- APPRAISAL IN REVIEW
- IN NEGOTIATION
- PURCHASE AGREEMENT SIGNED
- ACQUIRED

**WORK PACKAGE ASSIGNMENT**

Subject Properties

WP	OIN#	PIN#	LAND OWNER	PROPERTY ADDRESS	ACREAGE
38	9383	57-0500-00030-000	JEREMY D HOLCK	17556 PFIFFER DR	1.17
38	9403	57-0340-00010-000	DAVID & SHANNON CAMPBELL	17471 49 ST SE	2.45
38	9411	57-0340-00020-000	ROGER S & MELISSA K CAMPBELL	17465 49 ST SE	2.44

Any reliance upon this map is at user's own risk. AE2S or The Diversion Authority does not warrant the map or its features are either spatially or temporally accurate or fit for a particular use.



DATE INITIATED: 2/25/2015





November 14, 2014

Cass County  
Joint Water  
Resource  
District

[REDACTED]  
[REDACTED]  
[REDACTED]

Dear Mr. and Mrs. Duval:

RE: Metro Flood Diversion Project  
Residential homes in the North Dakota staging area

Mark Brodshaug  
Chairman  
Fargo, North Dakota

Rodger Olson  
Manager  
Leonard, North Dakota

Dan Jacobson  
Manager  
West Fargo, North Dakota

Michael Buringrud  
Manager  
Gardner, North Dakota

Raymond Wolfer  
Manager  
Argusville, North Dakota

You are being contacted because you live on or own property that will ultimately be required for the Metro Flood Diversion Project (Project). We are contacting you because there is an opportunity to consider early purchase of your property on a voluntary basis, if you are interested.

The Diversion Authority recently passed its fiscal year 2015 budget. The budget includes limited funding for voluntary early acquisition of properties with residential structures within the staging area of the Project. This funding allows early buyouts for those interested in relocating to a newly developed lot within the Oxbow-Hickson-Bakke Ring Levee. It also eliminates the need to wait for a buyout associated with the federally authorized Project, in accordance with the federal acquisition requirements.

The acquisition of residences within the staging area is not federally required until the Project is near operational, which is likely six plus years in the future. This voluntary early acquisition program provides the opportunity for those interested to be able to proceed with the acquisition process on an expedited basis. If acquired, property owners would have the full suite of relocation benefits that will be offered to you under the federal acquisition process.

For additional information, or if you are interested in being are part of this program, please contact Carol Harbeke Lewis at (701) 298-2381.

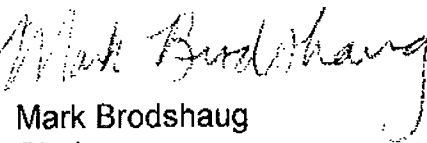
Carol Harbeke Lewis  
Secretary-Treasurer

Sincerely,

CASS COUNTY JOINT WATER RESOURCE DISTRICT

1201 Main Avenue West  
West Fargo, ND 58078-1301

701-298-2381  
FAX 701-298-2397  
[wrj@co.cass.nd.us](mailto:wrj@co.cass.nd.us)  
[casscountygov.com](http://casscountygov.com)

  
Mark Brodshaug  
Chairman

**FM Diversion Authority**  
**Fiscal Accountability Report Design Phase (Fund 790)**  
**As of 2/28/2015**

	2011	2012	2013	2014	2015	Cumulative Totals
<b>Revenues</b>						
City of Fargo	443,138	7,652,681	7,072,961	18,662,632	2,970,956	36,802,368
Cass County	443,138	7,652,681	7,072,961	18,662,632	2,970,956	36,802,368
State Water Commission	-	-	3,782,215	599,427	5,420,122	9,801,765
Other Agencies	98,475	1,700,595	1,571,769	4,147,252	660,213	8,178,303
Lease/Rental Payments	-	-	17,358	154,180	3,796	175,334
Asset Sales	-	-	-	616,774	-	616,774
Miscellaneous	-	-	1,705	626	-	2,331
<b>Total Revenues</b>	<b>984,750</b>	<b>17,005,957</b>	<b>19,518,970</b>	<b>42,843,523</b>	<b>12,026,044</b>	<b>92,379,244</b>

FM Diversion Authority  
 Fiscal Accountability Report Design Phase (Fund 790)  
 As of 2/28/2015

	2011	2012	2013	2014	2015	Cumulative Totals
<b>Expenditures</b>						
7905 Army Corp Payments	-	-	875,000	1,050,000	-	1,925,000
7910 WIK - Administration	107,301	331,321	77,614	161,406	15,587	693,228
7915 WIK - Project Design	149,632	5,366,147	3,220,859	8,034,769	57,696	16,829,104
7920 WIK - Project Management	679,037	7,223,650	4,695,477	3,395,861	317,083	16,311,109
7925 WIK - Recreation	-	163,223	-	-	-	163,223
7930 LERRDS - North Dakota	48,664	3,843,620	2,763,404	16,859,517	11,635,296	35,150,501
7931 LERRDS - Minnesota	-	27,996	289,387	13,068	-	330,450
7940 WIK Mitigation - North Dakota	-	-	-	587,180	-	587,180
7941 WIK Mitigation - Minnesota	-	-	-	-	-	-
7950 Construction - North Dakota	-	-	-	1,738,638	-	1,738,638
7951 Construction - Minnesota	-	-	-	-	-	-
7952 Construction - O/H/B	-	-	-	11,282,504	-	11,282,504
7955 Construction Management	-	-	-	402,718	381	403,099
7990 Project Financing	-	50,000	70,000	216,376	-	336,376
7995 Project Eligible - Off Formula Costs	-	-	-	-	-	-
7999 Non Federal Participating Costs	116	-	-	-	-	116
0000 Advance to City of Oxbow	-	-	7,527,231	630	-	7,527,861
					-	
<b>Total Expenditures</b>	<b>984,750</b>	<b>17,005,957</b>	<b>19,518,970</b>	<b>43,742,667</b>	<b>12,026,044</b>	<b>93,278,388</b>

	FY 2015 Approved Budget	Current Month	Fiscal Year To Date	% Expended	Outstanding Encumbrances	Remaining Budget Balance
<b>Revenue Sources</b>						
City of Fargo	59,040	361	8,731			50,309
Cass County	59,040	361	8,731			50,309
State of ND - 50% Match	57,200	-	7,585			49,615
State of ND - 100% Match	35,800	470	1,119			34,681
State of Minnesota	-	-	-			-
Other Agencies	13,120	80	1,940			11,180
Financing Proceeds	-	-	-			-
Sale of Assets	-	-	-			-
Property Income	-	4	16			(16)
Miscellaneous	-	-	-			-
<b>Total Revenue Sources</b>	<b>224,200</b>	<b>1,277</b>	<b>28,121</b>			<b>196,079</b>
<b>Funds Appropriated</b>						
Army Corp Local Share	525	-	-		525	-
Management Oversight	7,200	22	1,850	26%	6,631	(1,281)
Technical Activities	16,575	58	2,043	12%	6,250	8,282
Land Acquisitions	106,700	1,197	17,411	16%	30,451	58,838
Construction	91,300	-	7,066	8%	26,286	57,948
Mitigation	-	-	-		-	-
Other Costs	1,900	-	115	6%	350	1,435
<b>Total Appropriations</b>	<b>224,200</b>	<b>1,277</b>	<b>28,485</b>	<b>13%</b>	<b>70,493</b>	<b>125,222</b>

STATE AID SUMMARY:			
Summary of State Funds Appropriated			
	Appropriations from 2009 Legislative Session		\$ 45,000,000
	Appropriations from 2011 Legislative Session		30,000,000
	Appropriations from 2013 Legislative Session		100,000,000
Total State Funds Appropriated			\$ 175,000,000
	Less: Payment #1 through #35 - City of Fargo		\$ (55,510,209)
	Less Payment #1 - Cass County		(136,039)
	Less Payment #1 - FM Diversion Authority		(18,600)
	Less Payment #2 - FM Diversion Authority - REVISED		(782,908)
	Less Payment #3 - FM Diversion Authority - REVISED		(293,590)
	Less Payment #4 - FM Diversion Authority - REVISED		(2,905)
	Less Payment #5 - FM Diversion Authority - REVISED		-
	Less Payment #6 - FM Diversion Authority - REVISED		(238,241)
	Less Payment #7 - FM Diversion Authority		(1,206,310)
	Less Payment #8 - FM Diversion Authority		(1,153,978)
	Less Payment #9 - FM Diversion Authority		(4,949,724)
	Less Payment #10 - FM Diversion Authority		(685,111)
	Less Payment #11 - FM Diversion Authority		(470,398)
Total Funds Reimbursed			\$ (65,448,013)
Total State Fund Balances Remaining			\$ 109,551,987

**FM Diversion Authority  
In-Town Levee Work  
as of February 28, 2015**

<b>Vcode #</b>	<b>Vendor Name</b>	<b>Descriptions</b>	<b>Contract Amount</b>	<b>Amount Paid</b>
V02801	Industrial Builders	2nd Street North Pump Station - Work Package 42.A2	\$ 8,203,317.00	\$ 1,337,260.00
V02802	Terracon Consulting	WP-42 (In Town Levees) Materials Testing	50,000.00	381.26
V02803	Enventis	Relocation of fiber optic along 2nd Street North - WP-42A.2	115,685.62	115,685.62
V02804	702 Communications	Relocation of fiber optic along 2nd Street North	100,483.18	100,483.18
V02805	ICS	4th St Pump Station & Gatewell and 2nd St Floodwall S - WP-42A.1/A.3	17,361,616.35	185,209.00
V02806	HMG	Services During Construction - Work Package 42	1,550,000.00	-
V02807	CCJWRD	In-Town Levee Work	469,747.10	469,747.10
V01703	Various	In-Town Property Purchases	11,375,797.62	1,117,174.82
			<u>\$ 39,226,646.87</u>	<u>\$ 3,325,940.98</u>

FM Diversion Authority  
Loan Funds  
Through March 6, 2015

Draw Downs	
8/4/2014	60,200.00
8/25/2014	20,000,000.00
12/23/2014	<u>25,000,000.00</u>
Total Draw Downs	<u>45,060,200.00</u>
Interest Income	<u>2,514.27</u>
Expenditures	
421-4005-465 Engineering	20,515,468.93
421-4005-465 Bank Charges	173.25
421-4005-465 Buyouts	<u>7,933,386.20</u>
Total	<u>28,449,028.38</u>
Fund Balance	<u><u>16,613,685.89</u></u>
Balance Avail to Draw Down	<u>4,939,800.00</u>
Total Available From the Loan	<u><u>21,553,485.89</u></u>

# U.S. Bank Loan Funds

- 2<sup>nd</sup> Phase of U.S. Bank Loan
  - The first of the two \$50 million loans was taken out by Cass County last July
  - The agreement called on the City of Fargo to take out the 2<sup>nd</sup> phase loan for \$50 million
    - Due to the projected project costs, in particular the land purchases in Oxbow, City of Fargo and opportunistic land purchases the Finance Committee recommended that we work with U.S. Bank to start the process on the second loan to have it in place within a few months.



# Special Assessments

- The Finance Committee discussed the intergovernmental agreements that will need to be in place when the Cass County Joint Water Resource District issues debt for the Diversion Authority
  - John Shockley, bond council for the CCJWRD, discussed several questions that we will need to answer relating to the city and county sales taxes used to pay for the special assessments
    - Some of the questions deal with the city and county dedication of sales taxes to pay the special assessment bonds, what happens if there is inadequate sales tax revenue, plans for future sales tax extension or sunset of the tax.
    - Mr. Shockley, Kent Costin and myself will start meeting on Tuesday to work through the questions so the necessary intergovernmental agreements can be drafted

# HMG Rate Schedule

- Reviewed the proposed HMG Rate Schedule to go into effect on April 1<sup>st</sup>
  - Recommended that Keith Berndt obtain more information on the proposed increases and bring it back at the next meeting.

# U.S. Army Corps Funding Request

- The Finance Committee received a funding request from the Corps for work in FY 2015 and FY 2016
  - Request is for \$1.8 million for contract work
    - Geomorphology, Fish Monitoring, Cultural Resources for Reach 1, and Soil Boring
      - The Finance Committee recommended \$900,000 for the Cultural Resources work at this time
  - Request also is for \$3 million for Corps work
    - Support OHB, support In-Town levies, support MN DNR EIS, support from Corps Real Estate, Staging Mitigation Team, Design work on Diversion Inlet, Reviews and other Support tasks
      - The Finance Committee did not take any action on the this part of their request.

# Stoney Creek FDR and Restoration Project

- We received the first funding request for Detention Funding for the Stoney Creek FDR and Restoration Project from the Buffalo-Red Watershed District.
  - The Finance Committee made a motion to refer the request to the Technical Committee for their review and recommendation.

# Land Acquisition Directive

- The Finance Committee approved a Land Acquisition Directive LAD00012 for the three properties in the Staging Area on the North Dakota side – these are potentially home owners who may wish to relocate within the City of Oxbow.
  - This will start the appraisal process on these three properties.

## Finance Committee Bills for March 2015

Erik R. Johnson & Associates, Ltd	Metro Flood Project - General legal matters	\$5,191.80
Erik R. Johnson & Associates, Ltd	Metro Flood Project - LEERDS	\$4,796.55
Dorsey & Whitney LLP	Legal Services Rendered through Jan 31, 2015	\$117,105.20
Erik R. Johnson & Associates, Ltd	Metro Flood Project - General legal matters	\$6,122.55
Erik R. Johnson & Associates, Ltd	Metro Flood Project - LEERDS	\$4,109.45
<b>Total Bills Received in February</b>		<b>\$137,325.55</b>