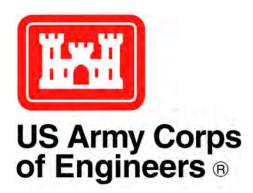
Appendix L Cost Engineering

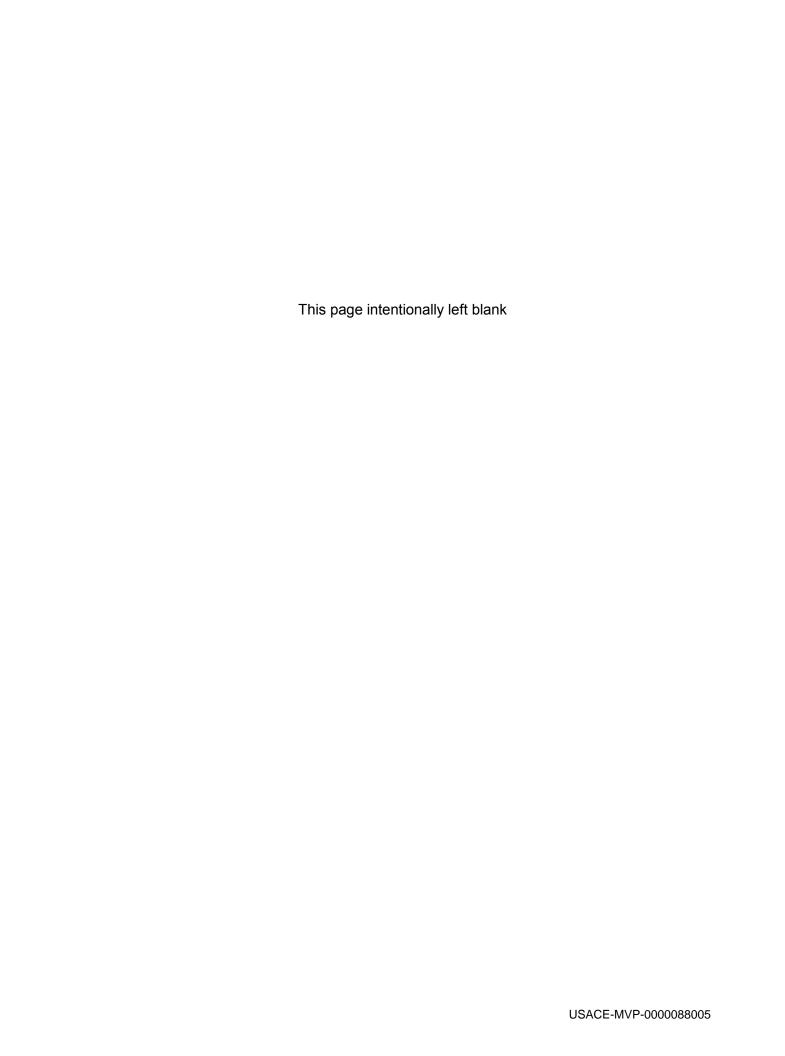
Fargo-Moorhead Metropolitan Area Flood Risk Management

Final Feasibility Report and Environmental Impact Statement

July 2011



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



APPENDIX L FARGO-MOORHEAD METRO FEASIBILITY STUDY COST ENGINEERING

L1.0 INTRODUCTION

This appendix contains a summary of the detailed Phase 4 cost estimates prepared for the Final Fargo-Moorhead Metro Feasibility Study for the Flood Risk Management Report on the Red River of the North (RRN) in the cities of Fargo, ND, Moorhead, MN and the surrounding Metro area. Input for the cost estimates was obtained primarily from the Project Delivery Team (PDT) consisting of the St Paul District, US Army Corps of Engineers (USACE), the City of Fargo, North Dakota, the City of Moorhead, Minnesota, the team of consulting engineering firms lead by Moore Engineering of West Fargo, ND, and the Resource Agencies (in particular the Minnesota Department of Natural Resources, the North Dakota Fish and Game Department, and the US Fish and Wildlife Service) during several meetings with the design team. Guidance for the preparation of the estimates was obtained from ER 1110-2-1150, Engineering and Design for Civil Works Projects and ER 1110-2-1302, Civil Works Cost Engineering. The estimates were prepared using Micro-Computer Aided Cost Estimating System (MCACES), MII, version 3.01.

Cost estimates were conducted for the two different Phase 4 diversion channel alternatives, one is located in Minnesota around the city of Moorhead, MN, known as the Federal Comparable Plan (FCP) and the other alternative is the Local Sponsor's selected Locally Preferred Plan (LPP) located in North Dakota around the city of Fargo, ND with upstream storage. For a discussion of how the FCP is related to the National Economic Development (NED) plan, see the main feasibility report write-up.

A cost estimate summary for a third diversion channel alternative in North Dakota known as the ND35K Phase 3, which did not have any upstream storage but had significant downstream impacts, is included for reference only. Work on the ND35K Phase 3 estimate was halted when downstream impacts stretched all the way to the Canadian border and still had not reached a point of zero impacts. The ND35K Phase 3 cost estimate, while not finalized, was developed to the same comprehensive level of work as the LPP ND Phase 4 cost estimate.

Cost estimate calculations for this Feasibility Estimate of the Fargo-Moorhead Metro Flood Risk Management Feasibility Study, Phase 4 have been prepared and completed for the two diversion channel alignments using the approved Corps of Engineers Micro-Computer Aided Cost Estimating System (MCACES) MII, ver. 3.01, cost estimating program. The designs have been carried out to a feasibility level using general hydrologic, hydraulic, environmental, geotechnical and structural considerations.

The cost estimates discussed here are for the construction costs of the proposed diversion channel excavation, hydraulic structures, tie-back levees, roadway bridges, railroad bridges, utility relocations, mitigation efforts and recreational features for inclusion in the overall feasibility level cost estimates. Dimensions shown on the drawings and the quantities are at a feasibility level.

L2.0 PRICE LEVEL

Project costs are presented in August 2010 dollars and all project costs have been indexed to October 2011 price levels. Labor rates for the estimates have been adjusted from the local Davis-Bacon wage determinations to account for a competitive labor market and for the likelihood of large contracts attracting a regional and/or national workforce. After analyzing local, regional and Twin Cities wage determinations, labor rates for skilled workers, such as equipment operators, use a Twin Cities Davis-Bacon wage rate (Hennepin County) for work in both MN and ND. The skilled workers wage rates include a \$7.50/hour subsistence or per diem allowance to account for needing to attract a workforce from a larger pool than from the local area. For basic common laborers, enough of a local workforce should be available that the estimates apply a Cass County, ND Davis-Bacon wage rates for work in North Dakota and a Clay County, MN wage rate for work in Minnesota. The work schedule is assumed to be 10 hour shifts including overtime for over 8 hours per shift.

Equipment rates used for the work are from the 2009 Region 4 Equipment rates in EP-1110-1-8 Construction Equipment Ownership and Operating Expense Schedule.

The estimates use the 2008 MII English Cost Book.

The costs in the FCP MN Plan and the LPP ND Plan estimates are considered fair and reasonable to a prudent and capable contractor and include overhead and profit.

L3.0 ESTIMATE STRUCTURE

The cost estimates for both the FCP MN Plan and the LPP ND Plan have been estimated jointly by the St Paul District Corps of Engineers (USACE-MVP) and by the Consultant Team.

The St Paul District completed the portions of the cost estimates in this Appendix L for constructing the following project features in the Total Project Cost Summary (TPCS) according to the Civil Works – Work Breakdown Structure:

- 01 Lands and Damages. Includes the real estate acquisition of project lands, easements and right-of-ways.
- 02 Relocations Utility Relocations. Includes the cost for the relocation of utility lines that will be impacted by the project.
- 06 Fish and Wildlife Features. Includes the estimated cost for Environmental Mitigation features associated with project impacts caused by the proposed diversion channel.
- 11 Levees, Floodwalls and Flood Proofing Non-Structural Flood Proofing. Provides cost estimates for non-structural flood proofing alternatives as developed by the members of the Corps of Engineers National Nonstructural/Flood Proofing Committee (NFPC) with the Omaha District Corps of Engineers.
- 14 Recreation Facilities. Includes costs for recreational features such as trails, trail facilities and recreational landscaping.

- 30 Planning, Engineering and Design (PED). Provides the estimated engineering design costs based on a percentage of the construction cost features.
- 31 Construction Management (CM). Provides the estimated Construction Management or Supervision and Administration costs based on a percentage of the construction cost features.

Contingencies are added to the cost estimates in the TPCS based on the results of the Cost and Schedule Risk Analysis. Escalation factors to the Effective Price Level Date and the Fully Funded Project Estimate Amount to the end of construction have also been included as part of the TPCS.

Appendix L has limited discussion for the parts of the jointly estimated costs provided by the Consultant Team for the features list below. For a more in-depth discussion of these features, refer to the Appendix G of Attachment 5 of this Feasibility Report.

- 02 Relocations Roadway Bridges. Includes the costs for roadway bridges and road raises constructed as result of the proposed diversion channel.
- 08 Roads, Railroads and Bridges. Provides estimated costs associated with constructing railroad bridges and track raises over the proposed diversion channel and the relocation of a railroad yard impacted by the project.
- 09 Channels and Canals. Includes estimated costs to excavate the proposed diversion channel and to construct the inlet and outlet control structure on the Red River of the North (RRN) and the other required hydraulic structures on the tributaries that the diversion channel intersects with.
- 11 Levees, Floodwalls and Flood Proofing Levees. Includes the estimated costs for the tie-back levees and the containment levees for the Floodwater Storage Area 1 of the LPP ND Plan.

The general format of the cost estimate and key assumptions were formulated to reflect the Civil Works Breakdown Structure (CWBS) to the extent possible for this feasibility level of design. Key assumptions for the process of estimating the construction costs of the proposed diversion channel alternative components are as follows:

- Work analyses were performed on the major cost items based on the feasibility level of design.
- Lesser cost items (lump sum user costs) were allocated an assumed percentage of Labor, Material and Equipment, where possible.
- Price levels for materials were based on quotes from suppliers, conversations
 with contractors, costs from similar projects, historical cost data, published
 aggregate cost data and other sources appropriate for a feasibility level estimate.
- Digital 3-D grading models for the volume of each type of excavation were calculated based on the stratigraphic profiles developed, which were based on a number of soil borings performed by the Corps of Engineers.
- Cost estimates for the hydraulic structures were developed using quantity calculations based primarily on the hydraulic structure drawings and engineering quantity calculations.
- Direct costs for major work features were determined.

 Indirect costs were calculated as percentages, applied to either direct costs or as running total percentages.

L4.0 01 – LANDS AND DAMAGES

The cost estimate for Lands and Damages is based on the estimated acres impacted by the project footprints at a unit cost per acre and by the number of property sites impacted at a unit cost per structure. The estimated costs, before contingencies, were provided by the St Paul District Real Estate Division for the real estate easements and ROW required plus the estimated administrative costs. See Appendix G – Real Estate for more detailed information regarding the development of the cost for Lands and Damages.

L5.0 02 – RELOCATIONS

This section summarizes cost estimate information related to relocating utilities, transportation bridges, and road raises as a result of the Feasibility Study Project.

L5.1 Utility Relocations

Multiple utilities will be impacted by the excavation of the proposed diversion channel for either the FCP diversion alternative in Minnesota or the LPP diversion alternative in North Dakota. A list of the known utilities was assembled by the PDT and costs were developed by contacting the utilities to provide an estimate of the relocation costs and the methods involved to relocate the utility. Many of the utilities indicated that the preferred method to relocate would be to bore under the proposed diversion channel location. Some utilities indicated they would hang a conduit under one of the proposed bridges if it was located along the utility alignment. For the high voltage electric overhead power lines it was assumed that new towers would have to be relocated on each side of the proposed diversion channel to span it. It is possible that existing high voltage overhead power line towers may be outside of the proposed diversion channel footprint and not be impacted, but until a final alignment is laid out, it was assumed that the towers would have to be relocated.

L5.2 Road Bridges and Road Raises

Bridge costs for roadways and road raises were developed by the Consultant Team for each feasibility alternative using historical bridge cost data indicating that costs are in the range of \$105/SF to \$125/SF. Conversations with contractors indicate that a cost (before contingency) of \$120/SF is in the upper range of typical road bridge costs. A preliminary review by the Office of Bridges and Structures at the Minnesota Department of Transportation (MnDOT) agreed with the methodology used for the estimated cost of bridges exhibited in a feasibility level estimate. Further discussion on the roadway bridges can be found in Appendix G of Attachment 5.

L6.0 06 - FISH AND WILDLIFE FACILITIES

An estimated cost for Environmental Mitigation features associated with the proposed diversion channel is based on preliminary discussions with the resource agencies for the expected environmental impacts, mitigation planning and adaptive implementation, all of which are intended to ensure adverse effects from the project are off-set with environmental mitigation features. Given the limitations of the project schedule, specific environmental mitigation sites have not been finalized. Candidate environmental mitigation sites have been preliminarily identified and additional specific sites will be pursued in the months ahead during detail design. Until specific sites are finalized, costs are based on typical values of impacted environmental mitigation features from other projects of a similar nature. See Appendix F – Environmental, for more detailed information regarding the development of the mitigation features and costs.

L7.0 08 - RAILROAD BRIDGES

Comprehensive feasibility level railroad bridge costs were developed for the FCP diversion alternative in Minnesota and for the LPP diversion alternative in North Dakota by the BNSF Railroad's consulting engineering firm of TKDA. The cost estimates for the railroad bridges includes appropriate track raises and shoo-fly costs. For the FCP diversion alternative in Minnesota, the cost information includes relocating the Dilworth railroad yard that is impacted by the diversion channel alignment. The railroad yard would be shifted to the east and most likely be relocated to the south side of the BNSF mainline tracks. Railroad signal system estimated costs were supplied by the BNSF Railroad. Additional discussion on the railroad bridges can be found in Appendix G of Attachment 5.

L8.0 09 - DIVERSION CHANNEL COST CONSIDERATIONS

L8.1 Diversion Channel Excavation

The cost estimate information related to constructing the diversion channel was completed by the Consultant Team and a more detailed discussion of the estimate assumptions, unit costs, quantities, excavation productivity rates, crew sizes, material hauling, disposal spoil areas and project costs can be found in Appendix G of Attachment 5.

L8.2 Hydraulic Structures

The cost estimate information related to constructing the hydraulic structures was completed by the Consultant Team and a more detailed discussion can be found in Appendix G of Attachment 5. Detailed assumptions, unit costs, quantities, material prices, pile and foundation design, loading condition, hydraulic gates, erosion control, fish passage considerations and project costs are included in the discussion. Considerations specific to each individual hydraulic structure can also be found in Appendix G of Attachment 5.

For additional discussion on the purpose and operation of the hydraulic structures, see also Appendix B – Hydraulic Engineering.

L9.0 11 - LEVEES AND FLOODPROOFING

L9.1 Levees

The levees associated with the proposed project are for tie-back levees on the upstream part of the project to keep flows contained in the diversion channel and to contain water within Storage Area 1. The same crews that are developed for the diversion channel earthwork are used for tie-back levees. However, additional crews are included to compact levee material. Additional information is included in the Consultant Appendix G of Attachment 5.

L9.2 Non-Structural Flood Proofing Assessment

A non-structural flood proofing analysis was performed and for the FCP Minnesota diversion alternatives plan there was an economic area tentatively deemed to have a feasible benefit cost ratio. Members of the Corps of Engineers National Nonstructural/Flood Proofing Committee (NFPC) in the Omaha District, Corps of Engineers, developed the Non-Structural Assessment, Appendix P, which details the analysis of existing conditions, evaluation, comparison, screening, costs and selection of the alternative non-structural flood proofing plan. There was not a non-structural flood proofing plan deemed feasible for the North Dakota diversion alternative. See Appendix P – Non-Structural, for the detailed information regarding the non-structural flood proofing assessment.

L10.0 14 - RECREATIONAL FEATURES

Project recreation features will provide four-season amenities for the community and its visitors and will enhance the recreational opportunities of the region by also utilizing the diversion channel and adjoining material spoil piles areas as recreational project features. Recreational features associated with the diversion alternatives include multipurpose trails, parking areas and trailhead facilities at a conceptual level of design and costs. General features to be included as part of a recreational plan, have been assigned costs without site specific design or information. It is assumed that general grading for the trails, parking areas and facilities would be accomplished during the excavation of the diversion channel or the construction of the levees. Costs for the approximate miles and types of trails, number of public use facilities and amenities were estimated for the project based on its size and expected use. See Appendix M – Recreation & Aesthetics, for more detailed information regarding the features of the recreational plan.

L11.0 CONTRACTOR AND INDIRECT COST CONSIDERATIONS

The cost estimate assumes the work is performed by a prime general contractor performing management duties, and a layer of discipline-specific subcontractors performing work tasks, which often occurs on large, complex projects. The estimates are divided into \$200M/year funding scenarios based on the Draft Phasing Project Schedule as developed by HDR Engineering for the Corps of Engineers in June 2010. A brief discussion of the different indirect cost assumptions is presented here with a more detailed discussion presented in the Consultant Appendix G, Exhibit K of Attachment 5.

L11.1 Prime Contractor

The Prime Contractor Job Office Overhead (JOOH) is assumed to be 5% of construction costs. This percentage assumes the prime contractor functions as a management company in this estimate and only handles things like the field office administration and quality control (QC) and does not incur significant costs to manage the fleet of construction equipment (rather, this cost is incurred by the subcontractors). JOOH, sometimes referred to as Field Office Overhead, are those costs incurred at the project site specifically as a result of the costs encountered at a particular project site to carry out and manage the day to day operations.

The Home Office Overhead (HOOH) are those cost incurred by the Prime Contractor for the overall business management of its main office expenses and was set at 5% of the construction costs. The typical estimated costs associated with HOOH are for the contractor's main office building, furniture and equipment, equipment yard, management and staff, office utilities, corporate vehicles, business insurance and taxes.

The profit for the Prime Contractor was calculated to be 9% of the construction costs as determined by using the weighted guidelines method in ETL 1110-2-573. See Appendix G in Attachment 5 for calculations related to develop the profit rate.

Performance and Payment Bonding is required on all Government contracts and for the Prime Contractor it has been assumed to be 1% of the construction costs.

L11.2 Subcontractor

JOOH rates for the subcontractors vary dependent on the job specialty performed by each of them. The earthwork subcontractor JOOH is assumed to be 7% of the construction costs since the Prime Contractor is assumed to handle the items mentioned above like the field office administration and QC. Other subcontractor specialties vary up to 10% of construction costs for JOOH.

Mobilization and Demobilization is included as a separate markup from JOOH for subcontractors and is assumed to be 5% of construction costs. Mob/demob typically covers items the contractor requires to transfer equipment to the construction site, unload and get it ready, field office set-up and winter and seasonal preparation costs.

HOOH for the subcontractors is assumed to be 5% of construction costs to cover the subcontractor's business management and main office expenses. The HOOH for the subcontractors is in addition to that considered for the Prime Contractor.

Profit for the subcontractors varies from 5% to 9% of the construction costs.

L12.0 30 - PLANNING, ENGINEERING & DESIGN

The Planning, Engineering & Design (PED) costs are determined as a percentage of the estimated construction costs. For this feasibility level estimate, a percentage of 15% of the estimated construction costs was used. This percentage has been typically used in the District for Feasibility estimates of PED. The final configurations and designs for the

hydraulic structures on the Red River of the North and the tributary structures will require physical model studies, which are assumed to be included in the PED.

L13.0 31 - CONSTRUCTION MANAGEMENT

The Construction Management costs are determined as a percentage of the estimated construction costs. For this feasibility level estimate, a percentage of 7% of the estimated construction costs was used. This percentage has been typically used in the District for large civil works construction projects in the past.

L14.0 CONTINGENCY

Current Headquarters USACE guidance requires a formal analysis on all projects where the projected cost exceeds \$40 million. The initial Cost and Schedule Risk Analysis (CSRA) meeting was held the beginning of January 2010 to determine the preliminary risk registers and was attended by the Project Delivery Team members from the Corps of Engineers, representatives from the local sponsors of the cities of Fargo and Moorhead and the key members of the consulting engineering firms engaged in the development of the feasibility study. The meeting was facilitated by a member of the Corps of Engineers Cost Engineering Center Directory of Expertise, Walla Walla (Cost Engineering Dx). The preliminary risk register indicates the perceived risks and the perceived impacts to the project. Cost and Schedule Risk Analysis models were developed for each alternative to determine an initial contingency level for the Alternative Formulation Briefing (AFB) phase, which at that stage of the draft feasibility study process really was best suited to pin-point areas of concern to mitigate and manage efforts to reduce the cost and schedule risks (contingencies) for the Final Feasibility Study Report.

The final CSRA was coordinated with the Cost Engineering Dx based on the Phase 4 Feasibility Study Cost Estimate to determine the appropriate amount of contingencies to be utilized in the project cost estimates. Based on the results of the CSRA analysis, the Cost Engineering Dx recommended that for the both the FCP and the LPP, a contingency level of 26% should be used in the cost estimates. The *Project Cost and Schedule Risk Analysis Report* for the Minnesota Option and the North Dakota Option are both presented in Appendix N.

Contingencies used are intended to identify an estimated construction cost amount that is not likely to be exceeded, given the current project scope. The CSRA contingency developed for this project is not a means of adding costs to the project for possible schedule slippage or future cost growth, or to cover items that are not specifically being considered in the current scope.

Unknowns that have been identified that could affect project costs and designs could affect design assumptions, pending a detailed design, include the following:

- actual structure site selection and topography;
- unanticipated construction phasing requirements;
- variation in estimated quantities;

- uncertain seasonal flood prevention requirements associated with operating construction sites near the Red River of the North and its tributaries; currently it is assumed that a minimum protection level will be required in the construction plans for the contractor to provide;
- minor operational appurtenances, safety requirements and permanent signage or lighting for hydraulic structures;
- development of detailed operational and maintenance procedures;
- dewatering and control of water uncertainties;
- seasonal working condition uncertainties and extended schedule;
- potential fluctuations in labor costs;
- unanticipated utilities at hydraulic structure locations, including communications utilities or unmarked or abandoned utilities;
- future design refinement resulting from further hydraulic modeling;
- unanticipated fluctuations in fuel costs and material costs;
- construction contracting structure (i.e. single, multiple, joint ventures, etc.);
- unexpected geotechnical or groundwater issues;
- unexpected hazardous waste;
- threat of lawsuits;
- new design requirements resulting from permitting;
- unexpected presence of historic sites, archaeological sites, endangered species or wetlands;
- delays in property, utility and easement acquisition;
- requirements from drinking water supply protection measures;
- unexpected contaminated soils;
- unexpected seismic considerations;
- subsurface drain tile flows and abandonment/rerouting measures;
- investigation into geomorphology and sediment delivery;
- requirements resulting from unsteady flow modeling;
- further investigation of ice behavior;
- unanticipated local, regional, national or global economic conditions;
- additional information resulting from investigations of allowable pile capacity design criteria, such as pile driving tests
- further investigation of ecological impacts and required mitigation
- changes to contractor assumptions;

L15.0 PROJECT SCHEDULE

Project schedules included in this appendix were initially developed by HDR Engineering for the Corps of Engineers in June 2010 and were updated in July 2011 for the final report. The schedule for the FCP alternative in Minnesota shows a 7.5 year scenario to construct the project from the downstream end to the upstream end which would require an approximate annual funding level of \$170M. The LPP alternative in North Dakota shows an 8.5 year scenario to construct the project from the downstream to the upstream end that would require an approximate annual funding level of \$233M.

An additional schedule for the LPP 8.5 year scenario, not shown in this report, was also developed with construction starting at the upstream end of the diversion channel through Storage Area 1 and then completing the rest of the diversion from the

downstream end, upstream to meet at Storage Area 1. This scenario was developed at the request of the local sponsor to investigate if project benefits could possibly be realized earlier during construction. A separate cost estimate was not prepared, but the schedule assumed the cost information elements would be the same as the LPP downstream to upstream scenario.

L16.0 OPERATIONS, MAINTENANCE, REPAIR, REPLACEMENT AND REHABILITATION (OMRR&R)

A detailed OMRR&R cost estimate for this project has been prepared and is attached to this appendix. The estimate is to account for future project costs to operate and maintain project features and to recognize costs for the repair, replacement and rehabilitation that will be required in the future to maintain the diversion channel flood reduction project.

L17.0 FINAL FEASIBILITY ESTIMATE

The Final Feasibility Estimates as presented in the Total Project Cost Summary (TPCS) for the Fargo-Moorhead Metro Feasibility Study have been reviewed by the Cost Engineering Dx during the Agency Technical Review (ATR) and have been certified to meet the regulations in accordance with ER 1110-2-1150 Engineering and Design for Civil Work and with ER 110-2-1302 Civil Works Cost Engineering. The final feasibility estimated costs for the project report are:

FCP

FY2012 Price Level: \$1,236,700,000 Fully Funded Amount: \$1,363,631,000

LPP

FY2012 Price Level: \$1,781,347,000 Fully Funded Amount: \$2,007,791,000 PROJECT:

Fargo-Moorhead Metro Feasibility Study

LOCATION: Fargo, ND & Moorhead, MN

This Estimate reflects the scope and schedule in report;

Final Fargo-Moorhead Metro Feasibility Report and Environmental Impact Statement

DISTRICT: St Paul District - MVP

PREPARED: 4/28/2011

POC: CHIEF, COST ENGINEERING, James D Sentz, PE, CCE

							gram Year (E		2012					
						Ef	fective Price		The second second		ILLY FUN	IDED PROJECT	ESTIMATE	
WBS	0.141				BASE COST	1			FIRST COST	Spent Thru:				
	Civil Works	COST	CNTG	CNTG	TOTAL	ESC	COST	CNTG	TOTAL	1-Oct-2011		COST	CNTG	FULL
NUMBER	Feature & Sub-Feature Description	(\$K)	(\$K)	(%)	(\$K)_	_(%)	(\$K)	(\$K)	(\$K)	_(\$K)		(\$K)	(\$K)	(\$K)
A	В	C	D	E	F	G	H	1	J	K	L	M	N	0
02	RELOCATIONS	\$84,956	\$22,089	26%	\$107,045	2.5%	\$87,071	\$22,638	\$109,709			\$94,141	\$24,477	\$118.61
06	FISH & WILDLIFE FACILITIES	\$19,424	\$5,050	26%	\$24,474	2.4%	\$19,884	\$5,170	\$25,053			\$21,531	\$5.598	\$27.12
08	ROADS, RAILROADS & BRIDGES	\$127,294	\$33,097	26%	\$160,391	2,5%	\$130,463	\$33,920	\$164,383			\$140,281	\$36,473	\$176,75
09	CHANNELS & CANALS	\$469,948	\$122,187	26%	\$592,135	2.0%	\$479,473	\$124.663	\$604,135			\$526,920	\$136,999	\$663,92
11	LEVEES, FLOODWALLS & FLOODPROOFING	\$19,634	\$5,105	26%	\$24,739	2.4%	\$20,101	\$5,226	\$25,328	1		\$21,917	\$5,698	\$27,61
14	RECREATION FACILITIES	\$19,969	\$5,192	26%	\$25,160	2.7%	\$20,512	\$5,333	\$25,845			\$22,406	\$5,826	\$28,23
	CONSTRUCTION ESTIMATE TOTALS:	\$741,225	\$192,719		\$933,944	2.2%	\$757,502	\$196,951	\$954,453			\$827,197	\$215,071	\$1,042,26
01	LANDS AND DAMAGES	\$57,007	\$14,822	26%	\$71,829	2.5%	\$58,426	\$15,191	\$73,617			\$61,913	\$16,097	\$78,01
30	PLANNING, ENGINEERING & DESIGN	\$111,186	\$28,908	26%	\$140,094	1.5%	\$112,896	\$29,353	\$142,249			\$129,268	\$33,610	\$162,87
31	CONSTRUCTION MANAGEMENT	\$51,886	\$13,490	26%	\$65,376	1.5%	\$52,684	\$13,698	\$66,382			\$63,869	\$16,606	\$80,47
,	PROJECT COST TOTALS:	\$961,305	\$249,939	26%	\$1,211,244	2.1%	\$981,508	\$255,192	\$1,236,700	-		\$1,082,247	\$281,384	\$1,363,63

CHIEF, COST ENGINEERING, James D Sentz, PE, CCE

PROJECT CO- MANAGERS, Brett R Coleman & Terryl L Williams

CHIEF, REAL ESTATE, John P Albrecht

ESTIMATED FEDERAL COST (1): ESTIMATED NON-FEDERAL COST:

64.6% \$881,140 35.4% \$482,491

ESTIMATED TOTAL PROJECT COST:

\$1,363,631

O&M OUTSIDE OF TOTAL PROJECT COST:

⁽¹⁾ Estimated Federal Cost is limited to 65% of the Fully Funded Cost without Recreation plus 50% of the Recreation costs.

PREPARED: 4/28/2011

**** TOTAL PROJECT COST SUMMARY **** FCP MN Phase 4

**** CONTRACT COST SUMMARY **** **REACH 1 - 2013**

PROJECT: Fargo-Moorhead Metro Feasibility Study

LOCATION: Fargo, ND & Moorhead. MN

This Estimate reflects the scope and schedule in report;

DISTRICT: St Paul District - MVP POC: CHIEF, COST ENGINEERING, James D Sentz, PE, CCE

	Estimate Prepared: Effective Price Level:		R	ISK BASED			ram Year (B ective Price L		2012 1 OCT 11	F	ULLY FUND	ED PROJECT	ESTIMATE	
WBS	Civil Works	COST	CNTG	CNTG	TOTAL	ESC	COST	CNTG	TOTAL	Mid-Point	ESC	COST	CNTG	FULL
NUMBER	Feature & Sub-Feature Description	(\$K)	_(\$K)_	_(%)_	(\$K)	(%)	(\$K)	_(\$K)_	(\$K)	Date	(%)	(\$K)	(\$K)	(\$K)
A	B	<u>(ψι)</u>	<u>(ψιν)</u> D	<u>(70)</u>	<u>(ψιλ)</u> F	G (70)	<u>(ψιν)</u> H	<u>(ψιτ)</u>	<u>(ψ(ζ)</u> J	P	<u></u>	<u>(ψιν)</u> Μ	N	<u>(ψ()</u>
	REACH 1 - 2013		_	_	-			-			_		••	-
02	RELOCATIONS	\$6,870	\$1,786	26%	\$8,657	2.5%	\$7,041	\$1,831	\$8,872	2013Q4	2.8%	\$7,237	\$1,882	\$9,118
06	FISH & WILDLIFE FACILITIES	\$3,237	\$842	26%	\$4,079	2.4%	\$3,314	\$862	\$4,176	2014Q2	3.7%	\$3,436	\$893	\$4,329
08	ROADS, RAILROADS & BRIDGES	\$15,382	\$3,999	26%	\$19,381	2.5%	\$15,764	\$4,099	\$19,863	2014Q2	3.7%	\$16,344	\$4,249	\$20,593
09	CHANNELS & CANALS	\$12,283	\$3,194	26%	\$15,476	2.0%	\$12,532	\$3,258	\$15,790	2014Q2	3.7%	\$12,992	\$3,378	\$16,370
11	LEVEES, FLOODWALLS & FLOODPROOFING	\$5,491	\$1,428	26%	\$6,919	2.4%	\$5,622	\$1,462	\$7,083	2014Q2	3.7%	\$5,828	\$1,515	\$7,344
14	RECREATION FACILITIES	\$3,328	\$865	26%	\$4,193	2.7%	\$3,419	\$889	\$4,307	2014Q4	4.6%	\$3,574	\$929	\$4,504
		****	****		, ,		*-,	*	, , , , ,			*-,-	•	
	CONSTRUCTION ESTIMATE TOTALS:		\$12,114	26%	\$58,705	-	\$47,692	\$12,400	\$60,092		-	 \$49,411	\$12,847	\$62,258
		* -,	* '		, ,		, ,	, ,	***,***			* -,	, , , , , ,	
01	LANDS AND DAMAGES	\$9,501	\$2,470	26%	\$11,972	2.5%	\$9,738	\$2,532	\$12,269	2013Q1	1.5%	\$9,888	\$2,571	\$12,459
30	PLANNING, ENGINEERING & DESIGN													
1.0%	6 Project Management	\$466	\$121	26%	\$587	1.5%	\$473	\$123	\$596	2012Q3	1.0%	\$478	\$124	\$602
2.0%	6 Planning & Environmental Compliance	\$932	\$242	26%	\$1,174	1.5%	\$946	\$246	\$1,192	2012Q3	1.0%	\$956	\$248	\$1,204
8.0%	Engineering & Design	\$3,727	\$969	26%	\$4,696	1.5%	\$3,784	\$984	\$4,768	2012Q3	1.0%	\$3,821	\$994	\$4,815
1.0%	Engineering Tech Review ITR & VE	\$466	\$121	26%	\$587	1.5%	\$473	\$123	\$596	2012Q3	1.0%	\$478	\$124	\$602
1.0%	Contracting & Reprographics	\$466	\$121	26%	\$587	1.5%	\$473	\$123	\$596	2012Q3	1.0%	\$478	\$124	\$602
1.0%	Engineering During Construction	\$466	\$121	26%	\$587	1.5%	\$473	\$123	\$596	2014Q2	7.7%	\$509	\$132	\$642
1.0%	6 Planning During Construction	\$466	\$121	26%	\$587	1.5%	\$473	\$123	\$596	2014Q2	7.7%	\$509	\$132	\$642
	Project Operations			26%										
31	CONSTRUCTION MANAGEMENT													
7.0%	Construction Management	\$3,261	\$848	26%	\$4,109	1.5%	\$3,311	\$861	\$4,172	2014Q2	7.7%	\$3,565	\$927	\$4,492
	Project Operation:			26%										
	Project Management			26%										
	CONTRACT COST TOTALS:	\$66,342	\$17,249		\$83,592	-	\$67,837	\$17,638	\$85,475		-	\$70,093	\$18,224	\$88,318

**** CONTRACT COST SUMMARY ****

PROJECT: Fargo-Moorhead Metro Feasibility Study

LOCATION: Fargo, ND & Moorhead. MN

This Estimate reflects the scope and schedule in report;

REACH 2 - 2014

DISTRICT: St Paul District - MVP

STRICT: St Paul District - MVP PREPARED: 4/28/2011
POC: CHIEF, COST ENGINEERING, James D Sentz, PE, CCE

	Estimate Prepared: Effective Price Level:						ram Year (Bective Price L		2012 1 OCT 11	FI	JLLY FUND	ED PROJECT	ESTIMATE	
WBS	Civil Works	COST	CNTG	CNTG	TOTAL	ESC	COST	CNTG	TOTAL	Mid-Point	ESC	COST	CNTG	FULL
<u>IUMBER</u>	Feature & Sub-Feature Description	(\$K)	(\$K)	(%)	(\$K)	(%)	(\$K)	(\$K)	(\$K)	<u>Date</u>	(%)	(\$K)	(\$K)	(\$K)
Α	B REACH 2 - 2014	С	D	E	F	G	Н	1	J	P	L	М	N	0
02	RELOCATIONS	\$11.894	\$3,092	26%	\$14,987	2.5%	\$12,190	\$3.169	\$15,360	2014Q4	4.6%	\$12,746	\$3,314	\$16.060
06	FISH & WILDLIFE FACILITIES	\$3,237	\$842	26%	\$4,079	2.4%	\$3,314	\$862	\$4,176	2014Q4 2015Q2	5.4%	\$3,494	\$908	\$4,403
08	ROADS, RAILROADS & BRIDGES	\$0	\$0	26%	\$0	2.5%	\$3,314	\$002	\$0	2015Q2 2015Q2	5.4%	\$0,494	\$700	\$4,400
09	CHANNELS & CANALS	\$35,208	\$9,154	26%	\$44,361	2.0%	\$35,921	\$9,339	\$45,261	2015Q2 2015Q2	5.4%	\$37,874	\$9,847	\$47,722
11	LEVEES, FLOODWALLS & FLOODPROOFING	φ35,206	φ9,134	26%	φ44,301	2.0%	φ33,921	φ9,339	φ43,201	2015Q2	5.476	φ31,014	\$7,047	\$47,722
14	RECREATION FACILITIES	\$3,328	\$865	26%	\$4,193	2.7%	\$3,419	\$889	\$4,307	2015Q4	6.3%	\$3,635	\$945	\$4,580
14	REGREATION FACILITIES	φ3,326	φουσ	20 /6	φ4,193	2.170	φ3,419	φοοσ	\$4,307	2015Q4	0.3%	φ3,033	Φ94 5	\$4,560
	CONSTRUCTION ESTIMATE TOTALS:	\$53,667	\$13,953	26%	\$67,621	-	\$54,844	\$14,259	\$69,103		-	\$57,750	\$15,015	\$72,764
01	LANDS AND DAMAGES	\$9,501	\$2,470	26%	\$11,972	2.5%	\$9,738	\$2,532	\$12,269	2014Q1	3.2%	\$10,053	\$2,614	\$12,666
30	PLANNING, ENGINEERING & DESIGN													
1.0%	Project Management	\$537	\$140	26%	\$677	1.5%	\$545	\$142	\$687	2013Q3	4.3%	\$569	\$148	\$717
2.0%	Planning & Environmental Compliance	\$1,073	\$279	26%	\$1,352	1.5%	\$1,089	\$283	\$1,373	2013Q3	4.3%	\$1,136	\$295	\$1,432
8.0%	Engineering & Design	\$4,293	\$1,116	26%	\$5,409	1.5%	\$4,359	\$1,133	\$5,492	2013Q3	4.3%	\$4,546	\$1,182	\$5,728
1.0%	Engineering Tech Review ITR & VE	\$537	\$140	26%	\$677	1.5%	\$545	\$142	\$687	2013Q3	4.3%	\$569	\$148	\$717
1.0%	Contracting & Reprographics	\$537	\$140	26%	\$677	1.5%	\$545	\$142	\$687	2013Q3	4.3%	\$569	\$148	\$717
1.0%	Engineering During Construction	\$537	\$140	26%	\$677	1.5%	\$545	\$142	\$687	2015Q2	12.1%	\$611	\$159	\$770
1.0%	Planning During Construction	\$537	\$140	26%	\$677	1.5%	\$545	\$142	\$687	2015Q2	12.1%	\$611	\$159	\$770
	Project Operations			26%										
31	CONSTRUCTION MANAGEMENT													
7.0%	Construction Management	\$3,757	\$977	26%	\$4,734	1.5%	\$3,815	\$992	\$4,807	2015Q2	12.1%	\$4,275	\$1,112	\$5,387
	Project Operation:			26%										
	Project Management			26%										
	CONTRACT COST TOTALS:	\$74,976	\$19,494		\$94,470	-	\$76,571	\$19,908	\$96,480		-	\$80,688	\$20,979	\$101,667

**** CONTRACT COST SUMMARY ****

PROJECT: Fargo-Moorhead Metro Feasibility Study
LOCATION: Fargo, ND & Moorhead. MN
This Estimate reflects the scope and schedule in report;

REACH 3 - 2015

Final Fargo-Moorhead Metro Feasibility Report and Environmental Impact Statement

DISTRICT: St Paul District - MVP POC: CHIEF, COST ENGINEERING, James D Sentz, PE, CCE

PREPARED: 4/28/2011

	Estimate Prepared: Effective Price Level:						ram Year (B ective Price L		2012 1 OCT 11	F	ULLY FUNDI	ED PROJECT	ESTIMATE	
WBS NUMBER A	Civil Works Feature & Sub-Feature Description B REACH 3 - 2015	COST (\$K) C	CNTG _(\$K) 	CNTG _(%) <i>E</i>	TOTAL _(\$K) 	ESC (%) G	COST _(\$K) <i>H</i>	CNTG _(\$K) _/	TOTAL _(\$K)_ 	Mid-Point <u>Date</u> <i>P</i>	ESC (%) <i>L</i>	COST (\$K) M	CNTG _(\$K)_ N	FULL (\$K) O
02 06 08	RELOCATIONS FISH & WILDLIFE FACILITIES ROADS, RAILROADS & BRIDGES	\$19,103 \$3,237 \$83,787	\$4,967 \$842 \$21,785	26% 26% 26%	\$24,070 \$4,079 \$105,572	2.5% 2.4% 2.5%	\$19,579 \$3,314 \$85,873	\$5,090 \$862 \$22,327	\$24,669 \$4,176 \$108,199	2015Q4 2016Q2 2016Q2	6.3% 7.2% 7.2%	\$20,819 \$3,554 \$92,082	\$5,413 \$924 \$23,941	\$26,232 \$4,477 \$116,023
09 11 14	CHANNELS & CANALS LEVEES, FLOODWALLS & FLOODPROOFING RECREATION FACILITIES	\$103,556 \$3,328	\$26,925 \$865	26% 26% 26%	\$130,480 \$4,193	2.0%	\$105,655 \$3,419	\$27,470 \$889	\$133,125 \$4,307	2016Q2 2016Q4	7.2% 8.1%	\$113,294 \$3,697	\$29,456 \$961	\$142,751 \$4,658
	CONSTRUCTION ESTIMATE TOTALS:	\$213,012	\$55,383	26%	\$268,395		\$217,838	\$56,638	\$274,476		-	\$233,445	\$60,696	\$294,141
01	LANDS AND DAMAGES	\$9,501	\$2,470	26%	\$11,972	2.5%	\$9,738	\$2,532	\$12,269	2015Q1	5.0%	\$10,223	\$2,658	\$12,882
30	PLANNING, ENGINEERING & DESIGN	¢2.420	\$554	26%	\$2.604	1.5%	\$2,163	\$562	¢2.725	2014Q3	8.8%	\$2,352	\$612	\$2,964
1.0%	, ,	\$2,130	\$1.108	26%	\$2,684 \$5,368	1.5%	\$4,326	\$562 \$1,125	\$2,725	2014Q3 2014Q3	8.8% 8.8%	\$2,352 \$4,705	\$612 \$1,223	\$2,964 \$5,928
2.0% 8.0%		\$4,260 \$17,041	\$4,431	26% 26%	\$5,368	1.5%	\$4,326 \$17.303	\$4,499	\$5,450 \$21,802	2014Q3 2014Q3	8.8% 8.8%	\$4,705 \$18.820	\$1,223 \$4.893	\$5,928 \$23,714
1.0%	Engineering & Design Engineering Tech Review ITR & VE	\$2,130	\$554	26%	\$2,684	1.5%	\$2,163	\$562	\$2,725	2014Q3 2014Q3	8.8%	\$2,352	\$4,693 \$612	\$2,714
1.0%	0 0	\$2,130	\$554	26%	\$2,684	1.5%	\$2,163	\$562	\$2,725	2014Q3	8.8%	\$2,352	\$612	\$2,964
1.0%	Engineering During Construction	\$2,130	\$554	26%	\$2,684	1.5%	\$2,163	\$562	\$2,725	2016Q2	16.6%	\$2,521	\$655	\$3,176
1.0%		\$2,130	\$554	26% 26%	\$2,684	1.5%	\$2,163	\$562	\$2,725	2016Q2	16.6%	\$2,521	\$655	\$3,176
31	CONSTRUCTION MANAGEMENT	044.044	40.077	000/	040.700	4.50/	045.440	#0.000	040.077	004000	40.00/	#17.040	44.500	* 22.224
7.0%	Construction Management Project Operation: Project Management	\$14,911	\$3,877	26% 26% 26%	\$18,788	1.5%	\$15,140	\$3,936	\$19,077	2016Q2	16.6%	\$17,648	\$4,588	\$22,236
	CONTRACT COST TOTALS:	\$269,375	\$70,037	-	\$339,412		\$275,159	\$71,541	\$346,700		-	\$296,941	\$77,205	\$374,145

**** CONTRACT COST SUMMARY ****
REACH 4 - 2016

PROJECT: Fargo-Moorhead Metro Feasibility Study

LOCATION: Fargo, ND & Moorhead. MN
This Estimate reflects the scope and schedule in report;

Final Fargo-Moorhead Metro Feasibility Report and Environmental Impact Statement

DISTRICT: St Paul District - MVP PREPARED: 4/28/2011
POC: CHIEF, COST ENGINEERING, James D Sentz, PE, CCE

	Estimate Prepared: Effective Price Level:						ram Year (B ective Price L		2012 1 OCT 11	F	ULLY FUND	ED PROJECT	ESTIMATE	
WBS	Civil Works	COST	CNTG	CNTG	TOTAL	ESC	COST	CNTG	TOTAL	Mid-Point	ESC	COST	CNTG	FULL
NUMBER A	Feature & Sub-Feature Description B	(\$K) C	(\$K) D	<u>(%)</u> <i>E</i>	_(\$K) F	<u>(%)</u> G	(\$K) H	(\$K)	(\$K) 	<u>Date</u>	<u>(%)</u> /	(\$K) M	(\$K) N	(\$K) O
A	REACH 4 - 2016	C	D	_	-	"	п	,	,		L	IVI	N	U
02	RELOCATIONS	\$16,638	\$4,326	26%	\$20,964	2.5%	\$17.052	\$4,434	\$21,486	2016Q4	8.1%	\$18,441	\$4.795	\$23,236
06	FISH & WILDLIFE FACILITIES	\$3,237	\$842	26%	\$4,079	2.4%	\$3,314	\$862	\$4,176	2017Q2	9.1%	\$3,617	\$940	\$4,558
08	ROADS, RAILROADS & BRIDGES	\$18,436	\$4,793	26%	\$23,229	2.5%	\$18,895	\$4,913	\$23,807	2017Q2	9.1%	\$20,623	\$5,362	\$25,985
09	CHANNELS & CANALS	\$77,076	\$20,040	26%	\$97,115	2.0%	\$78,638	\$20,446	\$99,084	2017Q2	9.1%	\$85,831	\$22,316	\$108,147
11	LEVEES, FLOODWALLS & FLOODPROOFING	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	* -,	26%	, ,		* -,	,	***,**			*,		
14	RECREATION FACILITIES	\$3,328	\$865	26%	\$4,193	2.7%	\$3,419	\$889	\$4,307	2017Q4	10.1%	\$3,765	\$979	\$4,744
	CONSTRUCTION ESTIMATE TOTALS:	\$118,715	\$30,866	26%	\$149,581		\$121,317	\$31,543	\$152,860		-	\$132,277	\$34,392	\$166,669
01	LANDS AND DAMAGES	\$9,501	\$2,470	26%	\$11,972	2.5%	\$9,738	\$2,532	\$12,269	2016Q1	6.8%	\$10,397	\$2,703	\$13,100
30	PLANNING, ENGINEERING & DESIGN													
1.0%	,	\$1,187	\$309	26%	\$1,496	1.5%	\$1,205	\$313	\$1,519	2015Q3	13.2%	\$1,364	\$355	\$1,719
2.0%	9	\$2,374	\$617	26%	\$2,991	1.5%	\$2,411	\$627	\$3,037	2015Q3	13.2%	\$2,728	\$709	\$3,438
8.0%	Engineering & Design	\$9,497	\$2,469	26%	\$11,966	1.5%	\$9,643	\$2,507	\$12,150	2015Q3	13.2%	\$10,915	\$2,838	\$13,753
1.0%	9 11 9 11 1	\$1,187	\$309	26%	\$1,496	1.5%	\$1,205	\$313	\$1,519	2015Q3	13.2%	\$1,364	\$355	\$1,719
1.0%	3 . 3 .	\$1,187	\$309	26%	\$1,496	1.5%	\$1,205	\$313	\$1,519	2015Q3	13.2%	\$1,364	\$355	\$1,719
1.0%	5 5 5	\$1,187	\$309	26%	\$1,496	1.5%	\$1,205	\$313	\$1,519	2017Q2	21.1%	\$1,459	\$379	\$1,838
1.0%	3 2 3 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	\$1,187	\$309	26%	\$1,496	1.5%	\$1,205	\$313	\$1,519	2017Q2	21.1%	\$1,459	\$379	\$1,838
	Project Operations			26%										
31	CONSTRUCTION MANAGEMENT													
7.0%	Construction Management	\$8,310	\$2,161	26%	\$10,471	1.5%	\$8,438	\$2,194	\$10,632	2017Q2	21.1%	\$10,214	\$2,656	\$12,870
	Project Operation:			26%										
	Project Management			26%										
	CONTRACT COST TOTALS:	\$154,333	\$40,126	-	\$194,459		\$157,573	\$40,969	\$198,542		-	\$173,543	\$45,121	\$218,664

**** CONTRACT COST SUMMARY ****

PROJECT: Fargo-Moorhead Metro Feasibility Study

LOCATION: Fargo, ND & Moorhead. MN

This Estimate reflects the scope and schedule in report;

REACH 5 - 2017

DISTRICT: St Paul District - MVP

PREPARED: 4/28/2011

POC: CHIEF, COST ENGINEERING, James D Sentz, PE, CCE

	Estimate Prepared: Effective Price Level:						gram Year (B ective Price I		2012 1 OCT 11	F	ULLY FUNDI	ED PROJECT	ESTIMATE	
WBS <u>NUMBER</u> A	Civil Works Feature & Sub-Feature Description B	COST (\$K)	CNTG _(\$K)	CNTG _(%) <i>E</i>	TOTAL _(\$K)	ESC _(%)	COST (\$K)	CNTG _(\$K)	TOTAL _(\$K)	Mid-Point Date	ESC (%)	COST (\$K) M	CNTG (\$K) N	FULL (\$K)
A	REACH 5 - 2017	C	D	_	<i>r</i>	G	п	,	J		L	IVI	N	U
02	RELOCATIONS	\$4,434	\$1,153	26%	\$5,586	2.5%	\$4,544	\$1,181	\$5,725	2017Q4	10.1%	\$5,004	\$1,301	\$6,305
06	FISH & WILDLIFE FACILITIES	\$3,237	\$842	26%	\$4,079	2.4%	\$3,314	\$862	\$4,176	2018Q2	11.1%	\$3,682	\$957	\$4,640
08	ROADS, RAILROADS & BRIDGES	**,	• •	26%	* ,		* - / -	***	, ,			*-/		
09	CHANNELS & CANALS	\$105,318	\$27.383	26%	\$132,701	2.0%	\$107.452	\$27,938	\$135,390	2018Q2	11.1%	\$119,393	\$31.042	\$150.435
11	LEVEES, FLOODWALLS & FLOODPROOFING	\$14,143	\$3,677	26%	\$17,820	2.4%	\$14,480	\$3,765	\$18,244	2018Q2	11.1%	\$16,089	\$4,183	\$20,272
14	RECREATION FACILITIES	\$3,328	\$865	26%	\$4,193	2.7%	\$3,419	\$889	\$4,307	2018Q4	12.1%	\$3,833	\$997	\$4,829
	CONSTRUCTION ESTIMATE TOTALS:	\$130,460	\$33,920	26%	\$164,380		\$133,209	\$34,634	\$167,843		-	\$148,001	\$38,480	\$186,481
01	LANDS AND DAMAGES	\$9,501	\$2,470	26%	\$11,972	2.5%	\$9,738	\$2,532	\$12,269	2017Q1	8.7%	\$10,580	\$2,751	\$13,331
30	PLANNING, ENGINEERING & DESIGN	\$4.205	\$339	200/	C4 C44	1.5%	#4.205	© 245	¢4.070	204002	17.7%	\$1,559	\$405	\$1,965
1.0% 2.0%		\$1,305 \$2.609	\$339 \$678	26% 26%	\$1,644 \$3,287	1.5%	\$1,325 \$2,649	\$345 \$689	\$1,670 \$3,338	2016Q3 2016Q3	17.7%	\$3,118	\$405 \$811	\$1,965
2.0% 8.0%		\$2,609 \$10,437	\$678 \$2.714	26% 26%	\$3,287	1.5%	\$2,649 \$10,597	\$2,755	\$3,338 \$13,353	2016Q3 2016Q3	17.7%	\$3,118 \$12.472	\$3,243	\$3,928 \$15,714
1.0%	0 0	\$1,305	\$339	26%	\$1,644	1.5%	\$1,325	\$345	\$1,670	2016Q3 2016Q3	17.7%	\$1,559	\$3,243 \$405	\$13,714
1.0%	0 0	\$1,305	\$339	26%	\$1,644	1.5%	\$1,325	\$345	\$1,670	2016Q3	17.7%	\$1,559	\$405	\$1,965
1.0%	0 1 0 1	\$1,305	\$339	26%	\$1,644	1.5%	\$1,325	\$345	\$1,670	2018Q2	25.5%	\$1,664	\$433	\$2,096
1.0%		\$1,305	\$339	26%	\$1.644	1.5%	\$1,325	\$345	\$1,670	2018Q2	25.5%	\$1.664	\$433	\$2.096
	Project Operations	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	,	26%	, ,		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	• • •	,,,			• ,	,	
31	CONSTRUCTION MANAGEMENT													
7.0%		\$9.132	\$2,374	26%	\$11.506	1.5%	\$9.272	\$2,411	\$11.683	2018Q2	25.5%	\$11.641	\$3.027	\$14.668
	Project Operation:			26%										
	Project Management			26%										
	CONTRACT COST TOTALS:	\$168,664	\$43,853	-	\$212,517		\$172,091	\$44,744	\$216,834		-	\$193,817	\$50,392	\$244,210

**** CONTRACT COST SUMMARY **** **REACH 6 - 2018**

PROJECT: Fargo-Moorhead Metro Feasibility Study
LOCATION: Fargo, ND & Moorhead. MN
This Estimate reflects the scope and schedule in report; Final Fargo-Moorhead Metro Feasibility Report and Environmental Impact Statement DISTRICT: St Paul District - MVP

PREPARED: 4/28/2011

POC: CHIEF, COST ENGINEERING, James D Sentz, PE, CCE

	Estimate Prepared: Effective Price Level:	•					gram Year (B ective Price L		2012 1 OCT 11	F	ULLY FUND	ED PROJECT	ESTIMATE	
WBS	Civil Works	COST	CNTG	CNTG	TOTAL	ESC	COST	CNTG	TOTAL	Mid-Point	ESC	COST	CNTG	FULL
NUMBER	Feature & Sub-Feature Description	_(\$K)	_(\$K)	<u>(%)</u>	(\$K)	<u>(%)</u>	(\$K)	(\$K)	(\$K)	<u>Date</u>	<u>(%)</u>	(\$K)	(\$K)	<u>(\$K)</u>
Α	B REACH 6 - 2018	С	D	E	F	G	Н	1	J	P	L	М	N	0
02	RELOCATIONS	\$26,017	\$6,764	26%	\$32,781	2.5%	\$26,664	\$6,933	\$33,597	2018Q4	12.1%	\$29,894	\$7,772	\$37,666
06	FISH & WILDLIFE FACILITIES	\$3,237	\$842	26%	\$4,079	2.4%	\$3,314	\$862	\$4,176	2019Q2	13.1%	\$3,748	\$975	\$4,723
08	ROADS, RAILROADS & BRIDGES	\$9,690	\$2,519	26%	\$12,209	2.5%	\$9,931	\$2,582	\$12,513	2019Q2	13.1%	\$11,233	\$2,921	\$14,153
09	CHANNELS & CANALS	\$136,508	\$35,492	26%	\$172,000	2.0%	\$139,275	\$36,211	\$175,486	2019Q2	13.1%	\$157,536	\$40,959	\$198,496
11	LEVEES, FLOODWALLS & FLOODPROOFING	\$100,000	400, 102	26%	ψ ב ,000	2.070	ψ.σσ, <u>Σ</u> .σ	Ψου,Σ	\$110,100	20.002	101170	ψ.σ.,σσσ	410 /707	\$170 ₁ 170
14	RECREATION FACILITIES	\$3,328	\$865	26%	\$4,193	2.7%	\$3,419	\$889	\$4,307	2019Q4	14.1%	\$3,902	\$1,014	\$4,916
	CONSTRUCTION ESTIMATE TOTALS:	\$178,780	\$46,483	26%	\$225,263		\$182,602	\$47,477	\$230,079		-	\$206,313	\$53,641	\$259,955
01	LANDS AND DAMAGES	\$9,501	\$2,470	26%	\$11,972	2.5%	\$9,738	\$2,532	\$12,269	2018Q1	10.6%	\$10,771	\$2,800	\$13,571
30	PLANNING, ENGINEERING & DESIGN Project Management	\$1,788	\$465	26%	\$2,253	1.5%	\$1,815	\$472	\$2,288	2017Q3	22.2%	\$2,218	\$577	\$2,795
2.0%		\$3,576	\$930	26%	\$4,506	1.5%	\$3,631	\$944	\$4,575	2017Q3 2017Q3	22.2%	\$4,436	\$1,153	\$5,590
8.0%		\$3,376 \$14,302	\$3.719	26%	\$18,021	1.5%	\$14,522	\$3,776	\$18,298	2017Q3 2017Q3	22.2%	\$17,743	\$4,613	\$22,356
1.0%	9 - 1 - 9 - 1 - 9	\$1,788	\$465	26%	\$2,253	1.5%	\$1,815	\$472	\$2,288	2017Q3 2017Q3	22.2%	\$2,218	\$577	\$2,795
1.0%	0 0	\$1,788	\$465	26%	\$2,253	1.5%	\$1,815	\$472	\$2,288	2017Q3	22.2%	\$2,218	\$577	\$2,795
1.0%	3 1 3 1	\$1,788	\$465	26%	\$2,253	1.5%	\$1,815	\$472	\$2,288	2019Q2	30.0%	\$2,361	\$614	\$2,975
1.0%	0 0	\$1,788	\$465	26%	\$2,253	1.5%	\$1,815	\$472	\$2,288	2019Q2	30.0%	\$2,361	\$614	\$2,975
	Project Operations	• ,		26%	, , , ,		, ,		, , , ,			. ,		
31	CONSTRUCTION MANAGEMENT													
7.0%	Construction Management	\$12,515	\$3,254	26%	\$15,769	1.5%	\$12,707	\$3,304	\$16,011	2019Q2	30.0%	\$16,525	\$4,297	\$20,822
	Project Operation:			26%										
	Project Management			26%										
	CONTRACT COST TOTALS:	\$227,614	\$59,180	-	\$286,794		\$232,278	\$60,392	\$292,670		-	\$267,165	\$69,463	\$336,627

Life Cycle Rate of Return 50 Years

4.375%

Date Prepared: 28-Apr-2011

	FARGO-MOORHEAD METRO	FEASIBILITY	REPOR	RT	O&M and	d MAJO	R REPLACEMENT	COSTS	EQUIVALEN ANNUAL O8 REPLACEM	M / MAJOR ENT VALUE	
CODE	ITEM DESCRIPTION	ESTIMATED O&M CYCLE	QUANTITY FACTOR	PROJECT QUANTITY	O&M QUANTITY	UNIT	PROJECT UNIT PRICE	O&M AMOUNT	PRESENT VALUE \$71,566,798	ANNUAL COST \$3,548,079	COMMENTS Percentage of Construction 0.38%
									ψ/ 1,300,7 90	ψ5,540,079	referringe of construction 0.50%
)	PERIODIC INSPECTIONS Periodic Inspections										
	1 st 5 years	1 Year	1.00	1	1	JOB	\$50,000	\$50,000	220,266	10,920	
	Year 7. 9 and 11	2 Years	1.00	1	1	JOB	\$40,000	\$40,000	81,823	,	Cost of periodics decreases after the 1st 5 years.
	Every 5 years beginning year 15	5 Years	1.00	1	1	JOB	\$30,000	\$30,000	67,119	3,328	cost of periodico deoredoco aner the fot o years.
	Routine Annual Inspections	1 Year	1.00	1	1	JOB	\$10,000	\$10,000	201,706	10,000	
	Total Inspections	1 1001	1.00	•	•	UOD	ψ10,000	Ψ10,000	570,913	28,304	
2	RELOCATIONS ROADS										
	Interstate 29 (NB-South)	10 Years	0.10	1.0	0.10	LS	\$2,479,200.00	\$247,920	409,323	20,293	
	Interstate 29 (SB-South)	10 Years	0.10	1.0	0.10	LS	\$2,303,600.00	\$230,360	380,331	18,856	
	State Highway 75 (South)	10 Years	0.10	1.0	0.10	LS	\$4,627,800.00	\$462,780	764,063	37,880	
	110th Avenue S	10 Years	0.10	1.0	0.10	LS	\$2,303,600.00	\$230,360	380,331	18,856	
	80th Avenue S	10 Years	0.10	1.0	0.10	LS	\$3,718,800.00	\$371,880	613,984	30,440	
	60th Avenue S	10 Years	0.10	1.0	0.10	LS	\$3,605,200.00	\$360,520	595,229	29,510	
	CSAH 52	10 Years	0.10	1.0	0.10	LS	\$3,687,800.00	\$368,780	608,866	30,186	
	50th Avenue S	10 Years	0.10	1.0	0.10	LS	\$3,646,500.00	\$364,650	602,047	29,848	
	Interstate 94 (EB)	10 Years	0.10	1.0	0.10	LS	\$4,948,100.00	\$494,810	816.945	40,502	
	Interstate 94 (WB)	10 Years	0.10	1.0	0.10	LS	\$4,948,100.00	\$494,810	816,945	40,502	
	US Highway 10 (EB)	10 Years	0.10	1.0	0.10	LS	\$5,113,400.00	\$511,340	844,237	41,855	
	US Highway 10 (WB)	10 Years	0.10	1.0	0.10	LS	\$5,113,400.00	\$511,340	844,237	41,855	
	28th Avenue N	10 Years	0.10	1.0	0.10	LS	\$4,101,000.00	\$410.100	677,087	33,568	
	57th Avenue N	10 Years	0.10	1.0	0.10	LS	\$3,491,500.00	\$349,150	576,456	28,579	
	CR 14	10 Years	0.10	1.0	0.10	LS	\$3,388,200.00	\$338,820	559,401	27,734	
	90th Avenue N	10 Years	0.10	1.0	0.10	LS	\$3,408,900.00	\$340,890	562,819	27,903	
	100th Avenue N	10 Years	0.10	1.0		LS		\$351,220	579,874	,	
		10 Years	0.10	1.0	0.10 0.10	LS	\$3,512,200.00 \$4.844.800.00	\$484.480	799.890	28,749 39.656	
	State Highway 75 (North)						* /- /	,	,	,	
	110th Avenue NW	10 Years	0.10	1.0	0.10	LS	\$3,450,200.00	\$345,020	569,638	28,241	
	15 Street NW	10 Years	0.10	1.0	0.10	LS	\$3,346,900.00	\$334,690	552,583	27,395	
6	FISH AND WILDLIFE FACILITIES Aquatic Footprint Maintenance	10 Years	0.01	3.6	0.04	LS	\$742,650.00	\$26,364	43,528	2,158	
	Fish PassageOperation	10 Years	0.01	1.0	0.04	LS	\$0.00	\$20,304	43,326	2,136	
	Wetlands Footprint Maintenance	10 Years	0.01	905.0	9.05	LS	\$14,000.00		209,185	10,371	
	Riparian Forest Footprint Maintenance	10 Years	0.01	905.0 89.0	0.89	LS	\$14,000.00	\$8,678	14,327	710	
	Adaptive Management	10 Years 10 Years	1.00	89.0 1.0	1.00	LS	\$9,750.00 \$5,100,000.00		8,420,243	417.452	
	миариче манадентени	io rears	1.00	1.0	1.00	LO	φο, 100,000.00	φο, 100,000	0,420,243	417,452	
	DAIL DOAD BRIDGE										
3	RAILROAD BRIDGE	40.37	0.10	4.5	0.10		0.4.40.2.20.2.	0440.05	=		
	RR Bridge 1 BNSF P-Line Subdivision	10 Years	0.10	1.0	0.10	LS	\$4,400,000.00		726,452	36,015	
	RR Bridge 2 BNSF Mainline	10 Years	0.10	1.0	0.10	LS	\$18,435,900.00		3,043,819	150,904	
	RR Bridge 3 OTVR	10 Years	0.10	1.0	0.10	LS	\$4,462,700.00	\$446,270	736,804	36,529	
	RR Bridge 4 BNSF Moorhead Subdivision	10 Years	0.10	1.0	0.10	LS	\$4,469,000.00	\$446,900	737,844	36,580	

Life Cycle Rate of Return 50 Years

4.375%

Date Prepared: 28-Apr-2011

	FARGO-MOORHEAD METRO F	EASIBILITY	/ REPOR	RT	O&M and	MAJOI	R REPLACEMENT	COSTS	EQUIVALEN ANNUAL O& REPLACEMI	M / MAJOR		
ODE	ITEM DESCRIPTION	ESTIMATED O&M CYCLE	QUANTITY FACTOR	PROJECT QUANTITY	O&M QUANTITY	UNIT	PROJECT UNIT	O&M	PRESENT VALUE	ANNUAL COST	COMMENTS	
		O&M CYCLE	FACTOR	QUANTITY	QUANTITY		PRICE	AMOUNT	\$71,566,798	\$3,548,079	Percentage of Construction	0.38%
	CHANNELS & CANALS											
	CHANNELS											
	DIVERSION CHANNEL EXCAVATION & SPOIL I	BERMS										
	REACH 1 - 2013											
	Channel Slope Maintenance - Type 1	10 Years	0.05	727,151.0	36357.55	LS	\$3.50	\$127,251	210,096	10,416		
	Excavate Sediment from Channel - Type 2	10 Years	0.05	338,286.0	16914.30	LS	\$3.95	\$66,811	110,308	5,469		
	Channel Slope Maintenance - Type 3	10 Years	0.05	0.0	0.00	LS	\$0.00	\$0				
	Excavate Sediment from Channel - Type 4	10 Years	0.10	0.0	0.00	LS	\$0.00	\$0				
	Repair Riprap Channel Bank Protection	10 Years	0.05	13,410.0	670.50	LS	\$122.11	\$81,875	,	6,702		
	Repair Low Flow Channel Riprap Protection	5 Years	0.05	629.0	31.45	LS	\$106.39	\$3,346		613		
	Channel Topsoil Maintenance	10 Years	0.10	51,762.0	5176.20	LS	\$1.91	\$9,887	16,323	809		
	Spoil Berm Topsoil Maintenance	25 Years	0.05	278,571.0	13928.55	LS	\$1.84	\$25,629	,	585		
	Turf Maintenance / Replacement	10 Years	0.05	198.0	9.90	LS	\$4,260.00	\$42,174	69,630	3,452		000 /
	Mowing	1 Year	2.00	198.0	396.00	ACRE	\$20.00	\$7,920	159,751	7,920	2 mowings per year @	\$20 / acre
	REACH 2 - 2014											
	Channel Slope Maintenance - Type 1	10 Years	0.05	2,017,993.0	100899.65	LS	\$3.50	\$353,149	583,059	28,906		
	Excavate Sediment from Channel - Type 2	10 Years	0.05	2,369,143.0	118457.15	LS	\$3.95	\$467,906	772,525	38,300		
	Channel Slope Maintenance - Type 3	10 Years	0.05	0.0	0.00	LS	\$0.00	\$0				
	Excavate Sediment from Channel - Type 4	10 Years	0.10	0.0	0.00	LS	\$0.00	\$0				
	Repair Riprap Channel Bank Protection	10 Years	0.05	34,222.0	1711.10	LS	\$122.11	\$208,942	344,970	17,103		
	Repair Low Flow Channel Riprap Protection	5 Years	0.05	1,605.0	80.25	LS	\$106.39	\$8,538	31,558	1,565		
	Channel Topsoil Maintenance	10 Years	0.10	161,259.0	16125.90	LS	\$1.91	\$30,800	50,852	2,521		
	Spoil Berm Topsoil Maintenance	25 Years	0.05	945,023.0	47251.15	LS	\$1.84	\$86,942	40,026	1,984		
	Turf Maintenance / Replacement	10 Years	0.05	669.0	33.45	LS	\$4,260.00	\$142,497	235,267	11,664		
	Mowing	1 Year	2.00	669.0	1,338.00	ACRE	\$20.00	\$26,760	539,765	26,760	2 mowings per year @	\$20 / acre
	REACH 3 - 2015											
	Channel Slope Maintenance - Type 1	10 Years	0.05	3,755,851.0	187792.55	LS	\$3.50	\$657,274	1,085,178	53,800		
	Channel Slope Maintenance - Type 2	10 Years	0.05	11.119.325.0		LS		\$2,196,067	3,625,768	179,755		
	Channel Slope Maintenance - Type 3	10 Years	0.05	0.0	0.00	LS	\$0.00	\$0	, ,	,,,,,		
	Excavate Sediment from Channel - Type 4	10 Years	0.10	1,404,324.0	140432.40	LS	\$6.70	\$940.897		77.016		
	Repair Riprap Channel Bank Protection	10 Years	0.05	57,363.0	2868.15	LS	\$122.11	\$350,230	,,	28,667		
	Repair Low Flow Channel Riprap Protection	5 Years	0.05	2,691.0	134.55	LS	\$106.39	\$14,315	,	2,623		
	Channel Topsoil Maintenance	10 Years	0.10	321,616.0	32161.60	LS	\$1.91	\$61,429		5,028		
	Spoil Berm Topsoil Maintenance	25 Years	0.10	2,209,112.0	110455.60	LS	\$1.84	\$203,238	,	4,639		
	Turf Maintenance / Replacement	10 Years	0.05	1,541.0	77.05	LS	\$4,260.00	\$328,233		26,867		
	Mowing	1 Year	2.00	1,541.0	3,082.00	ACRE	\$20.00	\$61,640		61,640	2 mowings per year @	\$20 / acre

Life Cycle 50 Rate of Return 4.375%

50 Years

Date Prepared: 28-Apr-2011

	FARGO-MOORHEAD METRO F	EASIBILITY	REPOR	RT	O&M and	d MAJOF	R REPLACEMENT	COSTS	EQUIVALENT ANNUAL O& REPLACEME	M / MAJOR ENT VALUE		
CODE	ITEM DESCRIPTION	ESTIMATED O&M CYCLE	QUANTITY FACTOR	PROJECT QUANTITY	O&M QUANTITY	UNIT	PROJECT UNIT	O&M AMOUNT	PRESENT VALUE	ANNUAL COST	COMMENTS	
					40				\$71,566,798	\$3,548,079	Percentage of Construction	0.38%
9	REACH 4 - 2016											
	Channel Slope Maintenance - Type 1	10 Years	0.05	2,600,814.0	130040.70	LS	\$3.50	\$455,142	751,453	37,255		
	Channel Slope Maintenance - Type 2	10 Years	0.05	6,511,502.0	325575.10	LS	\$3.95	\$1,286,022	2,123,258	105,265		
	Channel Slope Maintenance - Type 3	10 Years	0.05	795,024.0	39751.20	LS	\$5.21	\$207,104	341,934	16,952		
	Excavate Sediment from Channel - Type 4	10 Years	0.10	1,861,980.0	186198.00	LS	\$6.70	\$1,247,527	2,059,701	102,114		
	Repair Riprap Channel Bank Protection	10 Years	0.05	28,664.0	1433.20	LS	\$122.11	\$175,008	288,943	14,325		
	Repair Low Flow Channel Riprap Protection	5 Years	0.05	1,345.0	67.25	LS	\$106.39		,	1,311		
	Channel Topsoil Maintenance	10 Years	0.10	207,663.0	20766.30	LS	\$1.91	\$39,664	65,486	3,247		
	Spoil Berm Topsoil Maintenance	25 Years	0.05	1,288,260.0	64413.00	LS	\$1.84			2,705		
	Turf Maintenance / Replacement	10 Years	0.05	913.0	45.65	LS	\$4,260.00			15,918		
	Mowing	1 Year	2.00	913.0	1,826.00	ACRE	\$20.00		,	36,520		\$20 / acre
	REACH 5 - 2017											
	Channel Slope Maintenance - Type 1	10 Years	0.05	2,144,380.0	107219.00	LS	\$3.50	\$375,267	619,575	30,717		
	Channel Slope Maintenance - Type 2	10 Years	0.05	3,635,924.0	181796.20	LS	\$3.95	\$718,095	1,185,595	58,778		
	Channel Slope Maintenance - Type 3	10 Years	0.05	147,721.0	7386.05	LS	\$5.21	\$38,481	63,534	3,150		
	Excavate Sediment from Channel - Type 4	10 Years	0.10	623,200.0	62320.00	LS	\$6.70	\$417,544	689,377	34,177		
	Repair Riprap Channel Bank Protection	10 Years	0.05	20,533.0	1026.65	LS	\$122.11	\$125,364	206,980	10,261		
	Repair Low Flow Channel Riprap Protection	5 Years	0.05	963.0	48.15	LS	\$106.39	\$5,123	18,935	939		
	Channel Topsoil Maintenance	10 Years	0.10	129,444.0	12944.40	LS	\$1.91	\$24,724	40,820	2,024		
	Spoil Berm Topsoil Maintenance	25 Years	0.05	871,562.0	43578.10	LS	\$1.84	\$80,184	36,915	1,830		
	Turf Maintenance / Replacement	10 Years	0.05	611.0	30.55	LS	\$4,260.00	\$130,143		10,653		
	Mowing	1 Year	2.00	611.0	1,222.00	ACRE	\$20.00		,	24,440		\$20 / acre
	REACH 6 - 2018											
	Channel Slope Maintenance - Type 1	10 Years	0.05	6,984,125.0	349206.25	LS	\$3.50	\$1,222,222	2,017,922	100,043		
	Channel Slope Maintenance - Type 2	10 Years	0.05	5,599,732.0	279986.60	LS		\$1,105,947	1,825,950	90,525		
	Channel Slope Maintenance - Type 3	10 Years	0.05	5,336,045.0	266802.25	LS	\$5.21	\$1,390,040	2,294,994	113,779		
	Excavate Sediment from Channel - Type 4	10 Years	0.10	2,246,186.0	224618.60	LS	\$6.70	\$1,504,945	2,484,706	123,185		
	Repair Riprap Channel Bank Protection	10 Years	0.05	84,858.0	4242.90	LS	\$122.11	\$518,101	855,398	42,408		
	Repair Low Flow Channel Riprap Protection	5 Years	0.05	3,981.0	199.05	LS	\$106.39	\$21,177	78,275	3,881		
	Channel Topsoil Maintenance	10 Years	0.10	1.0	0.10	LS	\$2,788,300.00	\$278,830	460,356	22,823		
	Spoil Berm Topsoil Maintenance	25 Years	0.05	2,905,687.0	145284.35	LS	\$1.84	\$267,323	123,069	6,101		
	Turf Maintenance / Replacement	10 Years	0.05	2,033.0	101.65	LS	\$4,260.00	\$433,029	714,943	35,445		
	Mowing	1 Year	2.00	2,033.0	4,066.00	ACRE	\$20.00	\$81,320	1,640,271	81,320	2 mowings per year @	\$20 / acre

Life Cycle Rate of Return 50 Years

4.375%

Date Prepared: 28-Apr-2011

	FARGO-MOORHEAD METRO FE	EASIBILIT	Y REPOR	RT	O&M an	d MAJO	R REPLACEMENT	COSTS	EQUIVALEN ANNUAL O& REPLACEMI	M / MAJOR ENT VALUE		
CODE	ITEM DESCRIPTION	ESTIMATEI O&M CYCL		PROJECT QUANTITY	O&M QUANTITY	UNIT	PROJECT UNIT PRICE	O&M AMOUNT	PRESENT VALUE \$71,566,798	ANNUAL COST \$3,548,079	COMMENTS Percentage of Construction	0.38%
	RED RIVER INLET CONTROL STRUCTURE											
	RRN GATED INLET CONTROL STRUCTURE Gated Structure											
	Concrete - Major Rehab	50 Years	0.50	1.0	0.50	LS	\$3,900,300.00	\$1,950,150	229,215	11,364		
	Gates and Bulkheads - Major Rehab	50 Years	0.50	1.0	0.50	LS	\$5,638,400.00	\$2,819,200	331,361	16,428		
	Gates and Bulkheads - Annual O & M	1 Year	1.00	1	1	LS	\$30,000	\$30,000	605,117	30,000		
	Wingwalls - Concrete - Major Rehab	50 Years	0.50	1.0	0.50	LS	\$5,644,700.00	\$2,822,350	331,731	16,446		
	Repair Riprap Erosion Protection	10 Years	0.05	1.0	0.05	LS	\$2,788,300.00	\$139,415	230,178	11,412		
	Fish Passage System Miantenance	10 Years	0.05	1.0	0.05	LS	\$5,487,200.00	\$274,360	452,976	22,457		
	Mech, Elect, SCADA, Ice Control & Misc. Items RRN INLET WEIR TO DIVERSION	1 Year	0.02	1.0	0.02	LS	\$5,677,500.00	\$113,550	2,290,369	113,550	Annual O&M costs =	2.0% of construction
	Repair Riprap Erosion Protection	10 Years	0.05	1.0	0.05	LS	\$4,522,000.00	\$226,100	373,297	18,507		
	SCADA	1 Year	0.02	1.0	0.02	LS	\$77,700.00	\$1,554	31,345	1,554	Annual O&M costs =	2.0% of construction
	RRN INLET WEIR TO EXTENSION CHANNEL											
	Repair Riprap Erosion Protection	10 Years	0.05	1.0	0.05	LS	\$1,884,100.00	\$94,205	155,535	7,711		
	SCADA	1 Year	0.02	1.0	0.02	LS	\$77,700.00	\$1,554	31,345	1,554	Annual O&M costs =	2.0% of construction
	RED RIVER DIVERSION CHANNEL DROP S	TRUCTURE										
	Repair Riprap Erosion Protection	10 Years	0.05	1.0	0.05	LS	\$1,730,300.00	\$86,515	142,839	7,082		
	RED RIVER OUTLET CONTROL STRUCTUR	?F										
	Repair Riprap Erosion Protection	10 Years	0.05	9,722.0	486.10	LS	\$146.41	\$71,170	117,503	5,825		
	SCADA	1 Year	0.03	1.0	0.02	LS	\$15,200.00	\$304	,	304	Appual O&M costs =	2.0% of construction
	SCADA	i reai	0.02	1.0	0.02	LS	\$15,200.00	φ304	0,132	304	Allitudi Odivi costs =	2.0% Of Construction
	SMALL DRAINS	10 Years	0.05	3.0	0.15	LS	\$261,800.00	\$39,270	64,836	3,214		
	SIDE CHANNEL INLET MANHOLES - 72-INCH	10 Years	0.05	7.0	0.35	LS	\$454,400.00	\$159,040	262,579	13,018		
	SIDE CHANNEL INLET MH - TWIN 72-INCH	10 Years	0.05	11.0	0.55	LS	\$825,100.00	\$453,805	749,245	37,145		
	DIVERSION LANDSCAPE PLANTINGS											
	Main Diversion Channel Plantings	10 Years	0.01	24.6	0.25	LS	\$30,000.00	\$7,380		604		
	Extension Diversion Channel Plantings	10 Years	0.01	3.0	0.03	LS	\$30,000.00	\$900	1,486	74		
	LEVEES, FLOODWALLS & FLOODPROOFING LEVEES											
	TIE-BACK LEVEES						.					
	Levee Embankment Maintenance	10 Years	0.05	575,000.0	28750.00	LS	\$17.17			40,406		
	Levee Topsoil Maintenance	10 Years	0.05	165,000.0	8250.00	LS	\$11.55	\$95,288		7,800		
	Levee Turf Maintenance / Replacement	10 Years	0.05	170.0	8.50	LS	\$4,217.00			2,934	4	COO /
	Mowing	1 Year	4.00	170.0	680.00	ACRE ACRE		\$13,600		13,600	4 mowings per year @	\$20 / acre
	Fertilizing & Weed Control	1 Year	1.00	170.0	170.00	ACRE	\$250.00	\$42,500	857,250	42,500		
	Floodwall Concrete - Major Rehab	50 Years	0.50	1.0	0.50	LS	\$1,016,200.00	\$508,100	59,721	2,961		
	NON-STRUCTURAL FLOODPROOFING							,	,	,		
	Floodwall											
	Concrete - Major Rehab	50 Years	0.50	1.0	0.50	LS	\$348,000.00	\$174,000	20,451	1,014	LICACE MACE	00000000
	•						- 21	. ,	-, -:	,	USACE-MVP-	UUUUU88UU5

Life Cycle
Rate of Return 4.

50 Years Date Prepared: 28-Apr-2011 4.375%

FARGO-MOORHEAD METRO FEASIBILITY REPORT AND ENVIRONMENTAL IMPACT STATEMENT CHANNEL DIVERSION - FCP MN Phase 4

	FARGO-MOORHEAD METRO FE	ASIBILITY	REPOR	lT.	O&M and	MAJOF	R REPLACEMENT	COSTS	EQUIVALENT ANNUAL O& REPLACEM	M / MAJOR		
CODE	ITEM DESCRIPTION	ESTIMATED O&M CYCLE	QUANTITY FACTOR	PROJECT QUANTITY	O&M QUANTITY	UNIT	PROJECT UNIT PRICE	O&M AMOUNT	PRESENT VALUE \$71,566,798	COST	COMMENTS Percentage of Construction	0.38%

14	RECREATIONAL FACILITIES										
	Multi-Purpose Trails	20	Years	0.05	30.0	1.50	MI	\$270,000.00	\$405,000	263,826	13,080
	Soft Trails	10	Years	0.05	18.0	0.90	MI	\$105,400.00	\$94,860	156,617	7,765
	Trail River Crossing	20	Years	0.05	2.0	0.10	EA	\$2,850,000.00	\$285,000	185,656	9,204
	Trailhead Facilities	20	Years	0.05	3.0	0.15	EA	\$152,600.00	\$22,890	14,911	739
	Parking Facilities										
	Car Parking Lots	10	Years	0.10	3.0	0.30	EA	\$88,100.00	\$26,430	43,637	2,163
	Car/Trailer Park Lots	10	Years	0.10	2.0	0.20	EA	\$193,100.00	\$38,620	63,763	3,161
	Interpretive Siganage	5	Years	0.10	1.0	0.10	LS	\$33,100.00	\$3,310	12,235	607
	Landscaping	25	Years	0.05	100.0	5.00	ACRE	\$31,300.00	\$156,500	72,049	3,572

Total O&M \$71,566,798 \$3,548,079

PREPARED: 4/28/2011

PROJECT: LOCATION:

WBS

NUMBER

A

02

06

08

09

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14

01

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Fargo-Moorhead Metro Feasibility Study

Fargo, ND & Moorhead, MN This Estimate reflects the scope and schedule in report;

RELOCATIONS

FISH & WILDLIFE FACILITIES

CHANNELS & CANALS

LANDS AND DAMAGES

RECREATION FACILITIES

ROADS, RAILROADS & BRIDGES

PLANNING, ENGINEERING & DESIGN

CONSTRUCTION MANAGEMENT

LEVEES, FLOODWALLS & FLOODPROOFING

CONSTRUCTION ESTIMATE TOTALS:

Civil Works

Feature & Sub-Feature Description

Final Fargo-Moorhead Metro Feasibility Report and Environmental Impact Statement

TOTAL

(\$K)

F

\$84,491

26% \$1,744,174

1.5%

2.1%

\$68,087

\$17,703

\$1,413,768 \$367,580 \$1,781,347

\$85,790

Program Year (Budget EC): 2012 Effective Price Level Date: 1 OCT 11 FULLY FUNDED PROJECT ESTIMATE BASE COST FIRST COST Spent Thru: ESC CNTG TOTAL 1-Oct-2011 COST COST CNTG FULL (%) (\$K) (\$K) (\$K) (\$K) (\$K) (\$K) (\$K) J G H K M N 0 \$150,544 2.5% \$122,453 \$154,291 \$31,838 \$137,127 \$172,779 \$35,653 \$60,555 2.4% \$49,196 \$12,791 \$61,987 \$54,244 \$14,103 \$68,347 2.5% \$58,587 \$47,655 \$12,390 \$60,045 \$51,605 \$13,417 \$65,023 \$768,209 2.0% \$622,046 \$161,732 \$783,778 \$693,331 \$180,266 \$873,597 \$140,100 2,4% \$113,837 \$29,598 \$143,435 \$131,521 \$34,196 \$165,717 \$29,011 2.7% \$23,650 \$6,149 \$29,800 \$26,308 \$6,840 \$33,148 \$1,207,005 2.2% \$978,838 \$254,498 \$1,233,336 \$1,094,136 \$284,475 \$1,378,611 \$271,612 2.5% \$220,930 \$57,442 \$278,372 \$238.338 \$61,968 \$300,306 \$181,066 1.5% \$145,913 \$37,937 \$183,850 \$175,332 \$45,586 \$220,919

DISTRICT: St Paul District - MVP

POC: CHIEF, COST ENGINEERING, James D Sentz, PE, CCE

CHIEF, COST ENGINEERING, James D Sentz, PE, CCE

PROJECT CO-MANAGERS, Brett R Coleman & Terryl L Williams

CHIEF, REAL ESTATE, John P Albrecht

COST

(\$K)

C

\$119,480

\$48,059

\$46,498

\$609,689

\$111,191

\$23,024

\$957,941

\$215,565

\$143,703

\$67,056

PROJECT COST TOTALS: \$1,384,265 \$359,909

CNTG

(\$K)

D

\$31,065

\$12,495

\$12,089

\$158,519

\$28,910

\$5,986

\$249,065

\$56,047

\$37,363

\$17,435

CNTG

(%)

E

26%

26%

26%

26%

26%

26%

26%

26%

26%

ESTIMATED FEDERAL COST (1): ESTIMATED NON-FEDERAL COST:

44.0% \$884,272 \$1,123,519 56.0%

\$22,277

ESTIMATED TOTAL PROJECT COST:

\$2,007,791

\$107,956

\$2,007,791

(1) Estimated Federal Cost is limited to 65% of the FCP MN Phase 4 Fully Funded Cost without Recreation costs plus 50% of the LPP ND Phase 4 Recreation costs

\$85,679

\$1,593,485 \$414,306

O&M OUTSIDE OF TOTAL PROJECT COST:

POC: CHIEF, COST ENGINEERING, James D Sentz, PE, CCE

**** TOTAL PROJECT COST SUMMARY **** LPP North Dakota Phase 4

**** CONTRACT COST SUMMARY ****

PROJECT: Fargo-Moorhead Metro Feasibility Study

LOCATION: Fargo, ND & Moorhead. MN

This Estimate reflects the scope and schedule in report;

REACH 1 - 2013

DISTRICT: St Paul District - MVP PREPARED: 4/28/2011

	Estimate Prepared: Effective Price Level:						ogram Year (B ffective Price L		2012 1 OCT 11	F	ULLY FUND	ED PROJECT	ESTIMATE	
			RI	SK BASED										
WBS	Civil Works	COST	CNTG	CNTG	TOTAL	ESC	COST	CNTG	TOTAL	Mid-Point	ESC	COST	CNTG	FULL
NUMBER	Feature & Sub-Feature Description	(\$K)	(\$K)	(%)	(\$K)	(%)	(\$K)	(\$K)	(\$K)	<u>Date</u>	(%)	(\$K)	(\$K)	(\$K)
Α	В	С	D	E	F	G	Н	1	J	P	L	М	N	0
	REACH 1 - 2013													
02	RELOCATIONS	\$3,259	\$847	26%	\$4,106	2.5%	\$3,340	\$868	\$4,208	2013Q4	2.8%	\$3,432	\$892	\$4,325
06	FISH & WILDLIFE FACILITIES	\$6,007	\$1,562	26%	\$7,569	2.4%	\$6,150	\$1,599	\$7,748	2014Q2	3.7%	\$6,375	\$1,658	\$8,033
08	ROADS, RAILROADS & BRIDGES			26%										
09	CHANNELS & CANALS	\$24,015	\$6,244	26%	\$30,259	2.0%	\$24,502	\$6,370	\$30,872	2014Q2	3.7%	\$25,402	\$6,605	\$32,007
11	LEVEES, FLOODWALLS & FLOODPROOFING			26%										
14	RECREATION FACILITIES	\$2,878	\$748	26%	\$3,626	2.7%	\$2,956	\$769	\$3,725	2014Q4	4.6%	\$3,091	\$804	\$3,895
	-					_					_			
	CONSTRUCTION ESTIMATE TOTALS:	\$36,159	\$9,401	26%	\$45,560		\$36,947	\$9,606	\$46,554			\$38,301	\$9,958	\$48,259
01	LANDS AND DAMAGES	\$26,946	\$7,006	26%	\$33,951	2.5%	\$27,616	\$7,180	\$34,796	2013Q1	1.5%	\$28,043	\$7,291	\$35,334
30	PLANNING, ENGINEERING & DESIGN													
1.0%	Project Management	\$362	\$94	26%	\$456	1.5%	\$368	\$96	\$463	2012Q3	1.0%	\$371	\$97	\$468
2.0%	,	\$723	\$188	26%	\$911	1.5%	\$734	\$191	\$925	2012Q3	1.0%	\$741	\$193	\$934
8.0%	·	\$2.893	\$752	26%	\$3,645	1.5%	\$2,937	\$764	\$3,701	2012Q3	1.0%	\$2,966	\$771	\$3,737
1.0%		\$362	\$94	26%	\$456	1.5%	\$368	\$96	\$463	2012Q3	1.0%	\$371	\$97	\$468
1.0%	5 5	\$362	\$94	26%	\$456	1.5%	\$368	\$96	\$463	2012Q3	1.0%	\$371	\$97	\$468
1.0%		\$362	\$94	26%	\$456	1.5%	\$368	\$96	\$463	2014Q2	7.7%	\$396	\$103	\$499
1.0%		\$362	\$94	26%	\$456	1.5%	\$368	\$96	\$463	2014Q2	7.7%	\$396	\$103	\$499
1.070	Project Operations	Ψ302	ΨΟΨ	26%	Ψ-30	1.570	ΨΟΟΟ	Ψ30	Ψ-03	201702	7.770	ΨΟΟΟ	Ψ103	ΨΤ//
	1 Toject Operations			2070										
31	CONSTRUCTION MANAGEMENT													
7.0%		\$2,531	\$658	26%	\$3,189	1.5%	\$2,570	\$668	\$3,238	2014Q2	7.7%	\$2,767	\$719	\$3,486
1.070	Project Operation:	- ,-5.	+130	26%	\$2,.00		- ,	+130	\$2,230		70	- -,- 3 .	****	72,.00
	Project Management			26%										
	. 10,000 managomone			2070										
	CONTRACT COST TOTALS:	\$71.062	\$18,476	_	\$89,538	_	\$72,643	\$18,887	\$91,530		_	\$74,724	\$19,428	\$94,152
	55	ψ,σσ2	Ψ.0,0		455,500	1	ψ. Ξ,σ το	ψ.0,001	ψο.,σσο	1		Ψ,. Δ.1	J. 7, 1.20	÷ , , , , 32

**** CONTRACT COST SUMMARY ****

PROJECT: Fargo-Moorhead Metro Feasibility Study

LOCATION: Fargo, ND & Moorhead. MN

This Estimate reflects the scope and schedule in report;

REACH 2 - 2014

DISTRICT: St Paul District - MVP

PREPARED: 4/28/2011

POC: CHIEF, COST ENGINEERING, James D Sentz, PE, CCE

	Estimate Prepared: Effective Price Level:						ogram Year (Bi ffective Price L		2012 1 OCT 11	F	ULLY FUND	ED PROJECT	ESTIMATE	
WBS NUMBER	Civil Works Feature & Sub-Feature Description	COST (\$K)	CNTG (\$K)	CNTG (%)	TOTAL _(\$K)_	ESC (%)	COST (\$K)	CNTG _(\$K)_	TOTAL (\$K)	Mid-Point Date	ESC (%)	COST (\$K)	CNTG (\$K)	FULL (\$K)
A	B	C	D	E	F	G	H	<u> </u>	J	P	L	M	N	0
	REACH 2 - 2014													
02	RELOCATIONS	\$4,288	\$1,115	26%	\$5,403	2.5%	\$4,395	\$1,143	\$5,537	2014Q4	4.6%	\$4,595	\$1,195	\$5,790
06	FISH & WILDLIFE FACILITIES	\$6,007	\$1,562	26%	\$7,569	2.4%	\$6,150	\$1,599	\$7,748	2015Q2	5.4%	\$6,484	\$1,686	\$8,170
08	ROADS, RAILROADS & BRIDGES	\$7,868	\$2,046	26%	\$9,913	2.5%	\$8,063	\$2,096	\$10,160	2015Q2	5.4%	\$8,502	\$2,210	\$10,712
09	CHANNELS & CANALS	\$50,130	\$13,034	26%	\$63,164	2.0%	\$51,146	\$13,298	\$64,444	2015Q2	5.4%	\$53,928	\$14,021	\$67,949
11	LEVEES, FLOODWALLS & FLOODPROOFING			26%										
14	RECREATION FACILITIES	\$2,878	\$748	26%	\$3,626	2.7%	\$2,956	\$769	\$3,725	2015Q4	6.3%	\$3,144	\$817	\$3,961
	CONSTRUCTION ESTIMATE TOTALS:	\$71,171	\$18,504	26%	\$89,676	-	\$72,710	\$18,905	\$91,615		-	\$76,652	\$19,929	\$96,581
					. ,		. ,		. ,			. ,		
01	LANDS AND DAMAGES	\$26,946	\$7,006	26%	\$33,951	2.5%	\$27,616	\$7,180	\$34,796	2014Q1	3.2%	\$28,509	\$7,412	\$35,922
30	PLANNING, ENGINEERING & DESIGN													
1.0%	Project Management	\$712	\$185	26%	\$897	1.5%	\$723	\$188	\$911	2013Q3	4.3%	\$754	\$196	\$950
2.0%	Planning & Environmental Compliance	\$1,423	\$370	26%	\$1,793	1.5%	\$1,445	\$376	\$1,821	2013Q3	4.3%	\$1,507	\$392	\$1,899
8.0%	Engineering & Design	\$5,694	\$1,480	26%	\$7,174	1.5%	\$5,782	\$1,503	\$7,285	2013Q3	4.3%	\$6,030	\$1,568	\$7,598
1.0%	Engineering Tech Review ITR & VE	\$712	\$185	26%	\$897	1.5%	\$723	\$188	\$911	2013Q3	4.3%	\$754	\$196	\$950
1.0%	Contracting & Reprographics	\$712	\$185	26%	\$897	1.5%	\$723	\$188	\$911	2013Q3	4.3%	\$754	\$196	\$950
1.0%	Engineering During Construction	\$712	\$185	26%	\$897	1.5%	\$723	\$188	\$911	2015Q2	12.1%	\$810	\$211	\$1,021
1.0%	Planning During Construction	\$712	\$185	26%	\$897	1.5%	\$723	\$188	\$911	2015Q2	12.1%	\$810	\$211	\$1,021
	Project Operations			26%										
31	CONSTRUCTION MANAGEMENT													
7.0%	Construction Management	\$4,982	\$1,295	26%	\$6,277	1.5%	\$5,059	\$1,315	\$6,374	2015Q2	12.1%	\$5,669	\$1,474	\$7,143
	Project Operation:			26%										
	Project Management			26%										
	CONTRACT COST TOTALS:	\$113,776	\$29,582	_	\$143,357	_	\$116,226	\$30,219	\$146,445		_	\$122,250	\$31,785	\$154,034

**** CONTRACT COST SUMMARY ****

Final Fargo-Moorhead Metro Feasibility Report and Environmental Impact Statement

PROJECT: Fargo-Moorhead Metro Feasibility Study

LOCATION: Fargo, ND & Moorhead. MN

This Estimate reflects the scope and schedule in report;

REACH 3 - 2015

DISTRICT: St Paul District - MVP

PREPARED: 4/28/2011

POC: CHIEF, COST ENGINEERING, James D Sentz, PE, CCE

	CONTRACT COST TOTALS:	\$119,245	\$31,004	_	\$150,249	_	\$121,913	\$31,697	\$153,610		_	\$130,792	\$34,006	\$164,79
	Project Management			26%										
	Project Operation:			26%										
7.0%		\$5,296	\$1,377	26%	\$6,673	1.5%	\$5,377	\$1,398	\$6,776	2016Q2	16.6%	\$6,268	\$1,630	\$7,89
31	CONSTRUCTION MANAGEMENT													
	Project Operations			26%										
1.0%	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	\$757	\$197	26%	\$954	1.5%	\$769	\$200	\$968	2016Q2	16.6%	\$896	\$233	\$1,1
1.0%	0 0 0	\$757	\$197	26%	\$954	1.5%	\$769	\$200	\$968	2016Q2	16.6%	\$896	\$233	\$1,1
1.0%	0 1 0 1	\$757	\$197	26%	\$954	1.5%	\$769	\$200	\$968	2014Q3	8.8%	\$836	\$217	\$1,0
1.0%	3 - 3 - 3	\$757	\$197	26%	\$954	1.5%	\$769	\$200	\$968	2014Q3	8.8%	\$836	\$217	\$1,0
8.0%	Engineering & Design	\$6,052	\$1,574	26%	\$7,626	1.5%	\$6,145	\$1,598	\$7,743	2014Q3	8.8%	\$6,684	\$1,738	\$8,
2.0%	Planning & Environmental Compliance	\$1,513	\$393	26%	\$1,906	1.5%	\$1,536	\$399	\$1,936	2014Q3	8.8%	\$1,671	\$434	\$2,
1.0%	Project Management	\$757	\$197	26%	\$954	1.5%	\$769	\$200	\$968	2014Q3	8.8%	\$836	\$217	\$1,0
30	PLANNING, ENGINEERING & DESIGN													
01		Ψ20,540	ψ1,000	2070	φοσ,σσ1	2.070	ΨΣ7,010	ψ1,100	ψο 4,7 σσ	201001	0.070	Ψ20,001	Ψ7,550	\$30,0
01	LANDS AND DAMAGES	\$26,946	\$7,006	26%	\$33,951	2.5%	\$27.616	\$7.180	\$34,796	2015Q1	5.0%	\$28,994	\$7.538	\$36.5
	CONSTRUCTION ESTIMATE TOTALS:	\$75,653	\$19,670	26%	\$95,323	-	\$77,394	\$20,123	\$97,517		-	\$82,875	\$21,548	\$104,4
14	RECREATION FACILITIES	\$2,878	\$748	26%	\$3,626	2.7%	\$2,956	\$769	\$3,725	2016Q4	8.1%	\$3,197	\$831	\$4,0
11	LEVEES, FLOODWALLS & FLOODPROOFING			26%										
09	CHANNELS & CANALS	\$30,525	\$7,937	26%	\$38,462	2.0%	\$31,144	\$8,097	\$39,241	2016Q2	7.2%	\$33,396	\$8,683	\$42,
80	ROADS, RAILROADS & BRIDGES	\$20,743	\$5,393	26%	\$26,136	2.5%	\$21,259	\$5,527	\$26,786	2016Q2	7.2%	\$22,796	\$5,927	\$28,
06	FISH & WILDLIFE FACILITIES	\$6,007	\$1,562	26%	\$7,569	2.4%	\$6,150	\$1,599	\$7,748	2016Q2	7.2%	\$6,594	\$1,714	\$8,
02	RELOCATIONS	\$15,500	\$4,030	26%	\$19,530	2.5%	\$15,886	\$4,130	\$20,016	2015Q4	6.3%	\$16,892	\$4,392	\$21,
	REACH 3 - 2015													
Α	В	C	D	E	F	G	Н	1	J	P	L	M	N	0
MBER	Feature & Sub-Feature Description	_(\$K)	(\$K)	(%)	(\$K)	_(%)_	(\$K)	(\$K)	(\$K)	<u>Date</u>	(%)	(\$K)	(\$K)	(\$K)
VBS	Civil Works	COST	CNTG	CNTG	TOTAL	ESC	COST	CNTG	TOTAL	Mid-Point	ESC	COST	CNTG	FULL
	Effective Price Level:	1 OCT 2010				E	ffective Price L	evel Date:	1 OCT 11	F	ULLY FUND	ED PROJECT	ESTIMATE	
	Estimate Prepared:	1-Aug-2010				PIC	gram Year (B	uagel EC).	2012					

**** CONTRACT COST SUMMARY ****
REACH 4 - 2016

PROJECT: Fargo-Moorhead Metro Feasibility Study

LOCATION: Fargo, ND & Moorhead. MN
This Estimate reflects the scope and schedule in report;

Final Fargo-Moorhead Metro Feasibility Report and Environmental Impact Statement

DISTRICT: St Paul District - MVP PREPARED: 4/28/2011
POC: CHIEF, COST ENGINEERING, James D Sentz, PE, CCE

			Estimate Prepared: 1-Aug-2010 Effective Price Level: 1 OCT 2010							F	ULLY FUNDI	ED PROJECT	ESTIMATE	
WBS NUMBER	Civil Works Feature & Sub-Feature Description	COST _(\$K)	CNTG (\$K)	CNTG _(%)_	TOTAL _(\$K)_	ESC (%)	COST (\$K)	CNTG (\$K)	TOTAL _(\$K)_	Mid-Point <u>Date</u>	ESC (%)	COST (\$K)	CNTG (\$K)	FULL (\$K)
Α	B REACH 4 - 2016	С	D	E	F	G	Н	I	J	P	L	М	N	0
02	RELOCATIONS	\$16,770	\$4,360	26%	\$21,131	2.5%	\$17,188	\$4,469	\$21,656	2016Q4	8.1%	\$18,587	\$4,833	\$23,420
06	FISH & WILDLIFE FACILITIES	\$6,007	\$1,562	26%	\$7,569	2.4%	\$6,150	\$1,599	\$7,748	2017Q2	9.1%	\$6,712	\$1,745	\$8,457
08	ROADS, RAILROADS & BRIDGES	\$10,548	\$2,743	26%	\$13,291	2.5%	\$10,811	\$2,811	\$13,622	2017Q2	9.1%	\$11,800	\$3,068	\$14,868
09	CHANNELS & CANALS	\$108,550	\$28,223	26%	\$136,773	2.0%	\$110,750	\$28,795	\$139,545	2017Q2	9.1%	\$120,880	\$31,429	\$152,309
11	LEVEES, FLOODWALLS & FLOODPROOFING	*,	* -,	26%	,, -		, ,, ,,	* -,	*/-			* -,		
14	RECREATION FACILITIES	\$2,878	\$748	26%	\$3,626	2.7%	\$2,956	\$769	\$3,725	2017Q4	10.1%	\$3,256	\$847	\$4,102
	CONSTRUCTION ESTIMATE TOTALS:	\$144,754	\$37,636	26%	\$182,390	_	\$147,854	\$38,442	\$186,297		-	\$161,235	\$41,921	\$203,156
01	LANDS AND DAMAGES	\$26,946	\$7,006	26%	\$33,951	2.5%	\$27,616	\$7,180	\$34,796	2016Q1	6.8%	\$29,487	\$7,667	\$37,153
30	PLANNING, ENGINEERING & DESIGN													
1.0%	Project Management	\$1,448	\$376	26%	\$1,824	1.5%	\$1,470	\$382	\$1,853	2015Q3	13.2%	\$1,664	\$433	\$2,097
2.0%	Planning & Environmental Compliance	\$2,895	\$753	26%	\$3,648	1.5%	\$2,940	\$764	\$3,704	2015Q3	13.2%	\$3,327	\$865	\$4,192
8.0%	3 3 3	\$11,580	\$3,011	26%	\$14,591	1.5%	\$11,758	\$3,057	\$14,815	2015Q3	13.2%	\$13,309	\$3,460	\$16,769
1.0%	0 0	\$1,448	\$376	26%	\$1,824	1.5%	\$1,470	\$382	\$1,853	2015Q3	13.2%	\$1,664	\$433	\$2,097
1.0%	0 1 0 1	\$1,448	\$376	26%	\$1,824	1.5%	\$1,470	\$382	\$1,853	2015Q3	13.2%	\$1,664	\$433	\$2,097
1.0%	3 3	\$1,448	\$376	26%	\$1,824	1.5%	\$1,470	\$382	\$1,853	2017Q2	21.1%	\$1,780	\$463	\$2,243
1.0%	Planning During Construction Project Operations	\$1,448	\$376	26% 26%	\$1,824	1.5%	\$1,470	\$382	\$1,853	2017Q2	21.1%	\$1,780	\$463	\$2,243
31	CONSTRUCTION MANAGEMENT													
7.0%	Construction Management	\$10,133	\$2,635	26%	\$12,768	1.5%	\$10,289	\$2,675	\$12,964	2017Q2	21.1%	\$12,455	\$3,238	\$15,693
	Project Operation:			26%										
	Project Management			26%										

**** CONTRACT COST SUMMARY ****

PROJECT: Fargo-Moorhead Metro Feasibility Study

LOCATION: Fargo, ND & Moorhead. MN

This Estimate reflects the scope and schedule in report;

REACH 5 - 2017

Final Fargo-Moorhead Metro Feasibility Report and Environmental Impact Statement

DISTRICT: St Paul District - MVP PREPARED: 4/28/2011 POC: CHIEF, COST ENGINEERING, James D Sentz, PE, CCE

	Estimate Prepared: Effective Price Level:						ogram Year (B ffective Price L		2012 1 OCT 11	F	FULLY FUND	ED PROJECT	ESTIMATE	
WBS	Civil Works	COST	CNTG	CNTG	TOTAL	ESC	COST	CNTG	TOTAL	Mid-Point	ESC	COST	CNTG	FULL
NUMBER	Feature & Sub-Feature Description	(\$K)	(\$K)	(%)	_(\$K)_	(%)	(\$K)	(\$K)	(\$K)	<u>Date</u>	(%)	(\$K)	(\$K)	(\$K)
Α	B B	С	D	E	F	G	Н	I	J	P	L	М	N	0
00	REACH 5 - 2017	04.400	04.404	000/	#5.007	0.50/	04.537	04.400	05.707	004704	40.40/	05.044	04.044	A / 054
02	RELOCATIONS	\$4,466	\$1,161	26%	\$5,627	2.5%	\$4,577	\$1,190	\$5,767	2017Q4	10.1%	\$5,041	\$1,311	\$6,351
06	FISH & WILDLIFE FACILITIES	\$6,007	\$1,562	26%	\$7,569	2.4%	\$6,150	\$1,599	\$7,748	2018Q2	11.1%	\$6,833	\$1,777	\$8,609
80	ROADS, RAILROADS & BRIDGES			26%										
09	CHANNELS & CANALS	\$58,912	\$15,317	26%	\$74,229	2.0%	\$60,106	\$15,628	\$75,734	2018Q2	11.1%	\$66,785	\$17,364	\$84,149
11	LEVEES, FLOODWALLS & FLOODPROOFING	•••	A= 40	26%		. =0/	***	4=00	40		40.404	****	****	*****
14	RECREATION FACILITIES	\$2,878	\$748	26%	\$3,626	2.7%	\$2,956	\$769	\$3,725	2018Q4	12.1%	\$3,314	\$862	\$4,176
	CONSTRUCTION ESTIMATE TOTALS:	\$72,263	\$18,788	26%	\$91,052	-	\$73,789	\$19,185	\$92,974		-	\$81,973	\$21,313	\$103,286
01	LANDS AND DAMAGES	\$26,946	\$7,006	26%	\$33,951	2.5%	\$27,616	\$7,180	\$34,796	2017Q1	8.7%	\$30,006	\$7,802	\$37,808
30	PLANNING, ENGINEERING & DESIGN													
1.0%	Project Management	\$723	\$188	26%	\$911	1.5%	\$734	\$191	\$925	2016Q3	17.7%	\$864	\$225	\$1,089
2.0%	Planning & Environmental Compliance	\$1,445	\$376	26%	\$1,821	1.5%	\$1,467	\$381	\$1,849	2016Q3	17.7%	\$1,727	\$449	\$2,176
8.0%	Engineering & Design	\$5,781	\$1,503	26%	\$7,284	1.5%	\$5,870	\$1,526	\$7,396	2016Q3	17.7%	\$6,908	\$1,796	\$8,704
1.0%	Engineering Tech Review ITR & VE	\$723	\$188	26%	\$911	1.5%	\$734	\$191	\$925	2016Q3	17.7%	\$864	\$225	\$1,089
1.0%	Contracting & Reprographics	\$723	\$188	26%	\$911	1.5%	\$734	\$191	\$925	2016Q3	17.7%	\$864	\$225	\$1,089
1.0%	Engineering During Construction	\$723	\$188	26%	\$911	1.5%	\$734	\$191	\$925	2018Q2	25.5%	\$922	\$240	\$1,161
1.0%	Planning During Construction	\$723	\$188	26%	\$911	1.5%	\$734	\$191	\$925	2018Q2	25.5%	\$922	\$240	\$1,161
	Project Operations			26%										
31	CONSTRUCTION MANAGEMENT													
7.0%	Construction Management	\$5,058	\$1,315	26%	\$6,373	1.5%	\$5,136	\$1,335	\$6,471	2018Q2	25.5%	\$6,448	\$1,676	\$8,124
	Project Operation:			26%										
	Project Management			26%										
	CONTRACT COST TOTALS:	\$115,108	\$29,928	-	\$145,036	_	\$117,549	\$30,563	\$148,111		_	\$131,497	\$34,189	\$165,686

**** CONTRACT COST SUMMARY ****

PROJECT: Fargo-Moorhead Metro Feasibility Study

LOCATION: Fargo, ND & Moorhead. MN

This Estimate reflects the scope and schedule in report;

REACH 6 - 2018

DISTRICT: St Paul District - MVP

PREPARED: 4/28/2011

POC: CHIEF, COST ENGINEERING, James D Sentz, PE, CCE

	Estimate Prepared: Effective Price Level:						ogram Year (B ffective Price L		2012 1 OCT 11	F	ULLY FUNDI	ED PROJECT	ESTIMATE	
WBS NUMBER	Civil Works Feature & Sub-Feature Description	COST (\$K)	CNTG (\$K)	CNTG _(%)_	TOTAL (\$K)	ESC (%)	COST _(\$K)_	CNTG (\$K)	TOTAL _(\$K)_	Mid-Point <u>Date</u>	ESC _(%)_	COST (\$K)	CNTG _(\$K)_	FULL _(\$K)_
Α	В	С	D	E	F	G	Н	1	J	P	L	М	N	0
	REACH 6 - 2018													
	RELOCATIONS	\$18,595	\$4,835	26%	\$23,429	2.5%	\$19,057	\$4,955	\$24,012	2018Q4	12.1%	\$21,366	\$5,555	\$26,921
06	FISH & WILDLIFE FACILITIES	\$6,007	\$1,562	26%	\$7,569	2.4%	\$6,150	\$1,599	\$7,748	2019Q2	13.1%	\$6,956	\$1,809	\$8,764
08	ROADS, RAILROADS & BRIDGES	\$7,339	\$1,908	26%	\$9,247	2.5%	\$7,522	\$1,956	\$9,477	2019Q2	13.1%	\$8,508	\$2,212	\$10,720
09	CHANNELS & CANALS	\$235,434	\$61,213	26%	\$296,647	2.0%	\$240,206	\$62,454	\$302,659	2019Q2	13.1%	\$271,701	\$70,642	\$342,344
11	LEVEES, FLOODWALLS & FLOODPROOFING	\$6,802	\$1,768	26%	\$8,570	2.4%	\$6,964	\$1,811	\$8,774	2019Q2	13.1%	\$7,877	\$2,048	\$9,925
14	RECREATION FACILITIES	\$2,878	\$748	26%	\$3,626	2.7%	\$2,956	\$769	\$3,725	2019Q4	14.1%	\$3,374	\$877	\$4,251
	CONSTRUCTION ESTIMATE TOTALS:	\$277,055	\$72,034	26%	\$349,089	-	\$282,854	\$73,542	\$356,396		_	\$319,781	\$83,143	\$402,924
01	LANDS AND DAMAGES	\$26,946	\$7,006	26%	\$33,951	2.5%	\$27,616	\$7,180	\$34,796	2018Q1	10.6%	\$30,546	\$7,942	\$38,488
30 1.0% 2.0% 8.0% 1.0% 1.0%	PLANNING, ENGINEERING & DESIGN Project Management Planning & Environmental Compliance Engineering & Design Engineering Tech Review ITR & VE Contracting & Reprographics Engineering During Construction	\$2,771 \$5,541 \$22,164 \$2,771 \$2,771	\$720 \$1,441 \$5,763 \$720 \$720 \$720	26% 26% 26% 26% 26% 26%	\$3,491 \$6,982 \$27,927 \$3,491 \$3,491	1.5% 1.5% 1.5% 1.5% 1.5%	\$2,814 \$5,626 \$22,505 \$2,814 \$2,814 \$2,814	\$732 \$1,463 \$5,851 \$732 \$732 \$732	\$3,545 \$7,089 \$28,356 \$3,545 \$3,545	2017Q3 2017Q3 2017Q3 2017Q3 2017Q3 2018Q2	22.2% 22.2% 22.2% 22.2% 22.2% 25.5%	\$3,438 \$6,874 \$27,496 \$3,438 \$3,438 \$3,532	\$894 \$1,787 \$7,149 \$894 \$894	\$4,331 \$8,661 \$34,645 \$4,331 \$4,331
1.0%	Planning During Construction Project Operations	\$2,771	\$720	26% 26%	\$3,491	1.5%	\$2,814	\$732	\$3,545	2018Q2	25.5%	\$3,532	\$918	\$4,451
31	CONSTRUCTION MANAGEMENT													
7.0%	Construction Management Project Operation: Project Management	\$19,394	\$5,042	26% 26% 26%	\$24,436	1.5%	\$19,692	\$5,120	\$24,812	2018Q2	25.5%	\$24,724	\$6,428	\$31,152
	CONTRACT COST TOTALS:	\$364,954	\$94,888	-	\$459,843	-	\$372,362	\$96,814	\$469,176		_	\$426,799	\$110,968	\$537,767

**** CONTRACT COST SUMMARY ****

PROJECT: Fargo-Moorhead Metro Feasibility Study

LOCATION: Fargo, ND & Moorhead. MN

This Estimate reflects the scope and schedule in report;

REACH 7 - 2019

Final Fargo-Moorhead Metro Feasibility Report and Environmental Impact Statement

DISTRICT: St Paul District - MVP PREPARED: 4/28/2011 POC: CHIEF, COST ENGINEERING, James D Sentz, PE, CCE

	Estimate Prepared: Effective Price Level:			ogram Year (B ffective Price I		2012 1 OCT 11	F	FULLY FUND	ED PROJECT	ESTIMATE				
WBS <u>NUMBER</u> A	Civil Works Feature & Sub-Feature Description B	COST _(\$K) 	CNTG _(\$K) 	CNTG _(%)_ <i>E</i>	TOTAL _(\$K) <i>F</i>	ESC (%) G	COST (\$K) <i>H</i>	CNTG _(\$K)/	TOTAL _(\$K) 	Mid-Point <u>Date</u> <i>P</i>	ESC (%) <i>L</i>	COST (\$K) M	CNTG _(\$K)	FULL _(\$K)
02 06 08	REACH 7 - 2019 RELOCATIONS FISH & WILDLIFE FACILITIES ROADS, RAILROADS & BRIDGES	\$8,911 \$6,007	\$2,317 \$1,562	26% 26% 26%	\$11,227 \$7,569	2.5% 2.4%	\$9,132 \$6,150	\$2,374 \$1,599	\$11,507 \$7,748	2019Q4 2020Q2	14.1% 15.1%	\$10,423 \$7,081	\$2,710 \$1,841	\$13,133 \$8,922
09 11 14	CHANNELS & CANALS LEVEES, FLOODWALLS & FLOODPROOFING RECREATION FACILITIES	\$42,301 \$76,992 \$2,878	\$10,998 \$20,018 \$748	26% 26% 26%	\$53,299 \$97,010 \$3,626	2.0% 2.4% 2.7%	\$43,158 \$78,825 \$2,956	\$11,221 \$20,494 \$769	\$54,379 \$99,319 \$3,725	2020Q2 2020Q2 2020Q4	15.1% 15.1% 16.2%	\$49,695 \$90,766 \$3,435	\$12,921 \$23,599 \$893	\$62,616 \$114,365 \$4,328
	CONSTRUCTION ESTIMATE TOTALS:	\$137,089	\$35,643	26%	\$172,732	-	\$140,221	\$36,457	\$176,678		-	\$161,400	\$41,964	\$203,363
01	LANDS AND DAMAGES	\$26,946	\$7,006	26%	\$33,951	2.5%	\$27,616	\$7,180	\$34,796	2019Q1	12.6%	\$31,096	\$8,085	\$39,181
30	PLANNING, ENGINEERING & DESIGN	64.074	#250	000/	¢4.707	4.50/	64 200	#200	04.754	204202	00.70/	Φ4. 7 00	\$450	¢2.222
1.0% 2.0%	,	\$1,371 \$2,742	\$356 \$713	26% 26%	\$1,727 \$3,455	1.5% 1.5%	\$1,392 \$2.784	\$362 \$724	\$1,754 \$3,508	2018Q3 2018Q3	26.7% 26.7%	\$1,763 \$3,527	\$458 \$917	\$2,222 \$4,444
2.0% 8.0%	•	\$2,742 \$10.967	\$2.851	26%	\$3, 4 55 \$13,818	1.5%	\$2,704 \$11.136	\$2,895	\$14,031	2018Q3 2018Q3	26.7%	\$3,52 <i>1</i> \$14.106	\$3.668	\$4,444 \$17,773
1.0%	0 0 0	\$1,371	\$356	26%	\$1,727	1.5%	\$1,392	\$362	\$1,754	2018Q3 2018Q3	26.7%	\$1,763	\$458	\$2,222
1.0%	0 0	\$1,371	\$356	26%	\$1,727	1.5%	\$1,392	\$362	\$1,754	2018Q3	26.7%	\$1,763	\$458	\$2,222
1.0%	0 . 0 .	\$1,371	\$356	26%	\$1,727	1.5%	\$1,392	\$362	\$1,754	2020Q2	34.6%	\$1,874	\$487	\$2,362
1.0%	5 5	\$1,371	\$356	26% 26%	\$1,727	1.5%	\$1,392	\$362	\$1,754	2020Q2	34.6%	\$1,874	\$487	\$2,362
31	CONSTRUCTION MANAGEMENT													
7.0%	Construction Management Project Operation: Project Management	\$9,596	\$2,495	26% 26% 26%	\$12,091	1.5%	\$9,744	\$2,533	\$12,277	2020Q2	34.6%	\$13,118	\$3,411	\$16,529
	CONTRACT COST TOTALS:	\$194,194	\$50,491	-	\$244,685	-	\$198,461	\$51,600	\$250,060		-	\$232,286	\$60,394	\$292,680

**** CONTRACT COST SUMMARY ****

PROJECT: Fargo-Moorhead Metro Feasibility Study

LOCATION: Fargo, ND & Moorhead. MN

This Estimate reflects the scope and schedule in report;

REACH 8 - 2020

DISTRICT: St Paul District - MVP

PREPARED: 4/28/2011

POC: CHIEF, COST ENGINEERING, James D Sentz, PE, CCE

	Estimate Prepared: Effective Price Level:						ogram Year (Bi ffective Price L		2012 1 OCT 11	F	ULLY FUND	ED PROJECT	ESTIMATE	
WBS <u>NUMBER</u> A	Civil Works <u>Feature & Sub-Feature Description</u> <i>B</i>	COST (\$K) C	CNTG (\$K) D	CNTG _(%)_ <i>E</i>	TOTAL _(\$K)_ F	ESC (%) G	COST (\$K) <i>H</i>	CNTG _(\$K)/	TOTAL _(\$K) 	Mid-Point <u>Date</u> P	ESC (%) <i>L</i>	COST (\$K) M	CNTG (\$K) N	FULL (\$K) O
02 06 08	REACH 8 - 2020 RELOCATIONS FISH & WILDLIFE FACILITIES ROADS. RAILROADS & BRIDGES	\$47,692 \$6,007	\$12,400 \$1,562	26% \$ 26% \$ 26% \$	7,569	2.5% 2.4%	\$48,879 \$6,150	\$12,709 \$1,599	\$61,588 \$7,748	2020Q4 2021Q2	16.2% 17.2%	\$56,790 \$7,208	\$14,766 \$1,874	\$71,556 \$9,083
09 11 14	CHANNELS & CANALS LEVEES, FLOODWALLS & FLOODPROOFING RECREATION FACILITIES	\$59,822 \$27,397 \$2,878	\$15,554 \$7,123 \$748	26% \$ 26% \$ 26% \$	75,376 34,520	2.0% 2.4% 2.7%	\$61,034 \$28,049 \$2,956	\$15,869 \$7,293 \$769	\$76,903 \$35,341 \$3,725	2021Q2 2021Q2 2021Q4	17.2% 17.2% 18.3%	\$71,544 \$32,879 \$3,497	\$18,602 \$8,549 \$909	\$90,146 \$41,427 \$4,406
	CONSTRUCTION ESTIMATE TOTALS:	\$143,796	\$37,387	26%	181,183	-	\$147,068	\$38,238	\$185,306		-	\$171,919	\$44,699	\$216,618
01	LANDS AND DAMAGES	\$26,946	\$7,006	26% \$	33,951	2.5%	\$27,616	\$7,180	\$34,796	2020Q1	14.6%	\$31,656	\$8,231	\$39,886
30	PLANNING, ENGINEERING & DESIGN													
1.0%	,	\$1,438	\$374	26%	1,812	1.5%	\$1,460	\$380	\$1,840	2019Q3	31.2%	\$1,916	\$498	\$2,414
2.0%	•	\$2,876	\$748	26%	3,624	1.5%	\$2,920	\$759	\$3,679	2019Q3	31.2%	\$3,831	\$996	\$4,827
8.0%	0 0	\$11,504	\$2,991	26%	14,495	1.5%	\$11,681	\$3,037	\$14,718	2019Q3	31.2%	\$15,324	\$3,984	\$19,309
1.0%	8 8	\$1,438	\$374	26%	1,812	1.5%	\$1,460	\$380	\$1,840	2019Q3	31.2%	\$1,916	\$498	\$2,414
1.0%	3 - 1 - 3 - 1	\$1,438	\$374	26%	1,812	1.5%	\$1,460	\$380	\$1,840	2019Q3	31.2%	\$1,916	\$498	\$2,414
1.0%	3 1 3 1 3 1 1 1 1 1 1	\$1,438	\$374	26%	1,812	1.5%	\$1,460	\$380	\$1,840	2021Q2	39.2%	\$2,033	\$529	\$2,561
1.0%	Planning During Construction Project Operations	\$1,438	\$374	26% 26%	1,812	1.5%	\$1,460	\$380	\$1,840	2021Q2	39.2%	\$2,033	\$529	\$2,561
31	CONSTRUCTION MANAGEMENT													
7.0%	Construction Management	\$10,066	\$2,617	26%	12,683	1.5%	\$10,221	\$2,657	\$12,878	2021Q2	39.2%	\$14,230	\$3,700	\$17,930
	Project Operation:			26%										
	Project Management			26%										
	CONTRACT COST TOTALS:	\$202,378	\$52,618		254,996	_	\$206,807	\$53,770	\$260,576		_	\$246,773	\$64,161	\$310,934

Life Cycle Rate of Return 50 Years

4.375%

Date Prepared: 28-Apr-2011

	FARGO-MOORHEAD METRO	FEASIBILIT	Y REPOR	RT	O&M an	ıd MAJO	R REPLACEMENT	COSTS	EQUIVALENT ANNUAL O& REPLACEME	M / MAJOR NT VALUE	
CODE	ITEM DESCRIPTION	ESTIMATED O&M CYCLE	QUANTITY FACTOR	PROJECT QUANTITY	O&M QUANTITY	UNIT	UNIT PRICE	AMOUNT	PRESENT VALUE	ANNUAL COST	COMMENTS
					40				\$73,241,069	\$3,631,084	Percentage of Construction 0.31%
00	PERIODIC INSPECTIONS Periodic Inspections										
	1 st 5 years	1 Year	1.00	1	1	JOB	\$50,000	\$50,000	220,266	10,920	
	Year 7, 9 and 11	2 Years	1.00	1	1	JOB	\$40,000	\$40,000	81,823		Cost of periodics decreases after the 1st 5 years.
	Every 5 years beginning year 15	5 Years	1.00	1	1	JOB	\$30,000	\$30,000	67,119	3,328	
	Routine Annual Inspections Total Inspections	1 Year	1.00	1	1	JOB	\$10,000	\$10,000	201,706 570,913	10,000 28,304	
02	RELOCATIONS ROADS										
	County Hwy 81 (South)	10 Years	0.10	1.0	0.10	LS	\$3,670,000.00	\$367,000	605,927	30,040	
	Interstate 29 (NB-South)	10 Years	0.10	1.0	0.10	LS	\$3,660,000.00	\$366,000	604,276	29,958	
	Interstate 29 (SB-South)	10 Years	0.10	1.0	0.10	LS	\$3,650,000.00	\$365,000	602,625	29,876	
	48th Street SE	10 Years	0.10	1.0	0.10	LS	\$2,500,000.00	\$250,000	412,757	20,463	
	170th Avenue SE	10 Years	0.10	1.0	0.10	LS	\$2,750,000.00	\$275,000	454,033	22,510	
	46th Street SE	10 Years	0.10	1.0	0.10	LS	\$3,280,000.00	\$328,000	541,537	26,848	
	44th Street SE	10 Years	0.10	1.0	0.10	LS	\$3,010,000.00	\$301,000	496,959	24,638	
	41st Street SE	10 Years	0.10	1.0	0.10	LS	\$3,530,000.00	\$353,000	582,813	28,894	
	Interstate 94 (EB)	10 Years	0.10	1.0	0.10	LS	\$3,690,000.00	\$369,000	609,229	30,204	
	Interstate 94 (WB)	10 Years	0.10	1.0	0.10	LS	\$3,690,000.00	\$369,000	609,229	30,204	
	36th Street SE 33rd Street SE	10 Years 10 Years	0.10 0.10	1.0 1.0	0.10	LS LS	\$3,310,000.00	\$331,000	546,490 587,766	27,093 29,140	
	31st Street SE	10 Years	0.10	1.0	0.10 0.10	LS	\$3,560,000.00 \$2,890,000.00	\$356,000 \$289,000	477,147	29,140	
	28th Street SE	10 Years	0.10	1.0	0.10	LS	\$2,890,000.00	\$284,000	468.892	23,246	
	Interstate 29 (SB-North)	10 Years	0.10	1.0	0.10	LS	\$3.720.000.00	\$372.000	614.182	30.449	
	Interstate 29 (NB-North)	10 Years	0.10	1.0	0.10	LS	\$3,730,000.00	\$373,000	615,833	30,531	
	County Hwy 81 (North)	10 Years	0.10	1.0	0.10	LS	\$3,360,000.00	\$336,000	554,745	27,503	
	25th Street SE	10 Years	0.10	1.0	0.10	LS	\$2,900,000.00	\$290,000	478,798	23,737	
	173rd Avenue SE	10 Years	0.10	1.0	0.10	LS	\$2,880,000.00	\$288,000	475,496	23,574	
06	FISH AND WILDLIFE FACILITIES Aquatic Footprint Maintenance	10 Years	0.01	1.0	0.01	MI	\$2.518.200.00	\$25.182	41.576	2.061	
	Fish PassageOperation	10 Years	0.01	1.0	0.01	LS	\$25,350,000.00	\$253,500	418,536	20,750	
	Wetlands Footprint Maintenance	10 Years	0.01	998.0	9.98	ACRE		\$137,225	226,562	11,232	
	Riparian Forest Footprint Maintenance	10 Years	0.01	199.0	1.99	ACRE	\$11,550.00	\$22,985	37,948	1,881	
	Adaptive Management	10 Years	1.00	1.0	1.00	LS	\$6,440,000.00	\$6,440,000	10,632,620	527,135	
08	RAILROAD BRIDGES										
	RR Bridge 1 BSNF Hillsboro Subdivision	10 Years	0.10	1.0	0.10	LS	\$3,463,100.00	\$346,310	571,767	28,347	
	RR Bridge 2 BNSF Prosper Subdivision	10 Years	0.10	1.0	0.10	LS	\$3,728,200.00	\$372,820	615,536	30,517	
	RR Bridge 3 BNSF KO Subdivision	10 Years	0.10	1.0	0.10	LS	\$6,607,700.00	\$660,770	1,090,950	54,086	
	RR Bridge 4 RRVW 4th Subdivision	10 Years	0.10	1.0	0.10	LS	\$3,987,300.00	\$398,730	658,314	32,637	

OPERATION, MAINTENANCE, REPAIR, REPLACEMENT AND REHABILITATION Life Cycle 50 Years Date Prepared: 28-Apr-2011 Rate of Return 4.375% FARGO-MOORHEAD METRO FEASIBILITY REPORT AND ENVIRONMENTAL IMPACT STATEMENT CHANNEL DIVERSION - LLP ND Phase 4 **EQUIVALENT AVERAGE** FARGO-MOORHEAD METRO FEASIBILITY REPORT O&M and MAJOR REPLACEMENT COSTS ANNUAL O&M / MAJOR REPLACEMENT VALUE PRESENT COMMENTS ANNUAL **PROJECT** ESTIMATED QUANTITY O&M CODE ITEM DESCRIPTION UNIT UNIT PRICE AMOUNT VALUE COST O&M CYCLE FACTOR QUANTITY QUANTITY \$73.241.069 \$3,631,084 Percentage of Construction 0.31% **CHANNELS & CANALS CHANNELS DIVERSION CHANNEL EXCAVATION & SPOIL BERMS** REACH 1 CY 0.05 34.231.0 1.712.0 \$3.40 \$5.821 9.610 476 Channel Slope Maintenance - Type 1 10 Years 68,334.0 6,833.0 CY \$3.83 2.142 Excavate Sediment from Channel - Type 2 10 Years 0.10 \$26,170 43.208 Repair Riprap Channel Bank Protection 10 Years 0.05 815.0 41.0 CY \$119.90 \$4,916 8,116 402 Repair Low Flow Channel Riprap Protection 5 Years 0.05 38.0 2.0 CY \$104.42 \$209 772 38 Channel Topsoil Maintenance 10 Years 0.10 2,702.0 270.0 CY \$1.86 \$502 829 41 931.0 CY 38 Spoil Berm Topsoil Maintenance 25 0.05 18,620.0 \$1.78 \$1,657 763 Years Turf Maintenance / Replacement 0.05 ACRE 6.862 340 10 Years 13.0 1.0 \$4,156.00 \$4,156 2.00 13.0 26.00 ACRE \$20.00 \$520 520 Mowing 1 Year 10.489 2 mowings per year @ \$20 / acre REACH 2 0.05 8,092.0 CY \$3.40 \$27,513 45.424 2.252 Channel Slope Maintenance - Type 1 10 Years 161,848.0 Channel Slope Maintenance - Type 2 10 Years 0.05 192,083.0 9,604.0 CY \$3.83 \$36,783 60,730 3,011 20,420.0 Excavate Sediment from Channel - Type 3 10 Years 0.10 204,197.0 CY \$5.03 \$102,713 169,581 8,407 Repair Riprap Channel Bank Protection 10 Years 0.05 3,096.0 155.0 CY \$119.91 \$18,586 30,686 1,521 Repair Low Flow Channel Riprap Protection 5 Years 0.05 145.0 7.0 CY \$104.47 \$731 2.703 134 Channel Topsoil Maintenance 10 Years 0.10 12.824.0 1.282.0 CY \$1.86 \$2.385 3.937 195 0.05 CY Spoil Berm Topsoil Maintenance 25 80.881.0 4,044.0 \$1.78 \$7.198 3.314 164 Years ACRE 58.0 1.021 Turf Maintenance / Replacement 10 Years 0.05 3.0 \$4,156.00 \$12,468 20.585 ACRE \$2,320 2.00 58.0 116.00 \$20.00 46,796 2,320 Mowing Year 2 mowings per year @ \$20 / acre **REACH 3** Channel Slope Maintenance - Type 1 10 Years 0.05 1,042,050.0 52,103.0 CY \$3.40 \$177,150 292,480 14,500 Channel Slope Maintenance - Type 2 Years 0.05 1.638.021.0 81.901.0 CY \$3.83 \$313,681 517,896 25.676 10 Channel Slope Maintenance - Type 3 10 Years 0.05 1.473.360.0 73.668.0 CY \$5.03 \$370.550 611.788 30.331 Excavate Sediment from Channel - Type 4 27.490.0 2.749.0 CY \$6.47 \$17,786 29.365 10 Years 0.10 1.456 Repair Riprap Channel Bank Protection 10 Years 0.05 21,511.0 1,076.0 CY \$119.91 \$129.023 213.021 10,561 Repair Low Flow Channel Riprap Protection CY \$104.46 5 Years 0.05 1.009.0 50.0 \$5,223 19.305 957 CY 10 0.10 89,967.0 8,997.0 \$1.86 \$16,734 27,629 Channel Topsoil Maintenance Years 1,370 CY Spoil Berm Topsoil Maintenance 25 Years 0.05 664,769.0 33,238.0 \$1.78 \$59,164 27,237 1,350 Turf Maintenance / Replacement 10 Years 0.05 467.0 23.0 ACRE \$4,156.00 \$95,588 157,818 7,824 ACRE 376,786 Mowing Year 2.00 467.0 934.00 \$20.00 \$18,680 18,680 2 mowings per year @ \$20 / acre **REACH 4** 0.05 155.566.0 CY \$3.40 \$528.924 873.269 43.294 Channel Slope Maintenance - Type 1 10 Years 3.111.316.0 Channel Slope Maintenance - Type 2 194.939.0 CY \$3.83 \$746,616 1.232.685 61,113 10 Years 0.05 3.898.771.0 CY 2,334,775 Channel Slope Maintenance - Type 3 10 0.05 5,622,796.0 281,140.0 \$5.03 \$1,414,134 115,752 Years 297,680 Excavate Sediment from Channel - Type 4 10 Years 0.10 278,668.0 27,867.0 CY \$6.47 \$180,299 14,758 Repair Riprap Channel Bank Protection 10 Years 0.05 83,111.0 4,156.0 CY \$119.91 \$498,346 822,783 40,791 Repair Low Flow Channel Riprap Protection 5 Years 0.05 3,899.0 195.0 CY \$104.46 \$20,370 75,291 3,733 Channel Topsoil Maintenance 311,941.0 31,194.0 CY \$1.86 \$58,021 95,794 4,749 10 Years 0.10

\$20 / acre

2 mowings per year @

\$1.78

\$20.00

\$4,156.00

\$238.559

\$386,508

\$74,200

109.827

638.136

1,496,657

5.445

31.637

74,200

CY

ACRE

ACRE

Spoil Berm Topsoil Maintenance

Turf Maintenance / Replacement

Mowing

25

10 Years

Years

Year

0.05

0.05

2.00

2.680.432.0

1.855.0

1,855.0

134.022.0

93.0

3,710.00

Life Cycle

Rate of Return

50 Years

4.375%

Date Prepared: 28-Apr-2011

	FARGO-MOORHEAD METRO	FEASIBILIT	Y REPOR	RT	O&M ar	nd MAJOF	R REPLACEMENT	COSTS	EQUIVALENT ANNUAL O& REPLACEME	M / MAJOR ENT VALUE		
CODE	ITEM DESCRIPTION	ESTIMATED O&M CYCLE	QUANTITY FACTOR	PROJECT QUANTITY	O&M QUANTITY	UNIT	UNIT PRICE	AMOUNT	PRESENT VALUE	ANNUAL COST	COMMENTS	
		O&M CYCLE	FACTOR	QUANTITY	QUANTITY				\$73,241,069	\$3,631,084	Percentage of Construction	0.31%
09	REACH 5											
03	Channel Slope Maintenance - Type 1	10 Years	0.05	881,257.0	44.063.0	CY	\$3.40	\$149,814	247,347	12,263		
	Channel Slope Maintenance - Type 2	10 Years	0.05	1,406,889.0	70,344.0	CY	\$3.83	\$269,418	444,816	22,053		
	Excavate Sediment from Channel - Type 3	10 Years	0.10	575.447.0	57.545.0	CY	\$5.03	\$289.451	477.892	23.693		
	Repair Riprap Channel Bank Protection	10 Years	0.05	22,978.0	1,149.0	CY	\$119.91	\$137,777	227,473	11,277		
	Repair Low Flow Channel Riprap Protection	5 Years	0.05	1.078.0	54.0	CY	\$104.46	\$5.641	20,850	1,034		
	Channel Topsoil Maintenance	10 Years	0.10	75.899.0	7.590.0	CY	\$1.86	\$14.117	23,308	1,156		
	Spoil Berm Topsoil Maintenance	25 Years	0.05	759.026.0	37.951.0	CY	\$1.78	\$67.553	31,100	1,542		
	Turf Maintenance / Replacement	10 Years	0.05	517.0	26.0	ACRE	\$4,156.00	\$108,056	178,403	8,845		
	Mowing	1 Year	2.00	517.0	1,034.00	ACRE	\$20.00	\$20,680	417,128	20,680		\$20 / acre
	Mowing	i rear	2.00	317.0	1,034.00	ACKE	\$20.00	φ20,000	417,120	20,000	2 mowings per year @	φ20 / dole
	REACH 6											
	Channel Slope Maintenance - Type 1	10 Years	0.05	5,204,698.0	260,235.0	CY	\$3.40	\$884,799	1,460,828	72,424		
	Channel Slope Maintenance - Type 2	10 Years	0.05	5,405,183.0	270,259.0	CY	\$3.83	\$1,035,092	1,708,966	84,726		
	Channel Slope Maintenance - Type 3	10 Years	0.05	9,514,452.0	475,723.0	CY	\$5.03	\$2,392,887	3,950,723	195,866		
	Excavate Sediment from Channel - Type 4	10 Years	0.10	3,521,106.0	352,111.0	CY	\$6.47	\$2,278,158	3,761,303	186,475		
	Repair Riprap Channel Bank Protection	10 Years	0.05	110,081.0	5,504.0	CY	\$119.91	\$659,985	1,089,653	54,022		
	Repair Low Flow Channel Riprap Protection	5 Years	0.05	5,164.0	258.0	CY	\$104.46	\$26,951	99,616	4,939		
	Channel Topsoil Maintenance	10 Years	0.10	486,703.0	48,670.0	CY	\$1.86	\$90,526	149,461	7,410		
	Spoil Berm Topsoil Maintenance	25 Years	0.05	3,461,308.0	173,065.0	CY	\$1.78	\$308,056	141,821	7,031		
	Turf Maintenance / Replacement	10 Years	0.05	2,468.0	123.0	ACRE	\$4,156.00	\$511,188	843,986	41,842		
	Mowing	1 Year	2.00	2,468.0	4,936.00	ACRE	\$20.00	\$98,720	1,991,239	98,720	2 mowings per year @	\$20 / acre
	REACH 7											
	Channel Slope Maintenance - Type 1	10 Years	0.05	538.568.0	26.928.0	CY	\$3.40	\$91,555	151,160	7,494		
	Channel Slope Maintenance - Type 2	10 Years	0.05	256,705.0	12,835.0	CY	\$3.83	\$49,158	81,161	4,024		
	Excavate Sediment from Channel - Type 3	10 Years	0.10	290,406.0	29,041.0	CY	\$5.03	\$146,076	241,176	11,957		
	Repair Riprap Channel Bank Protection	10 Years	0.05	23,874.0	1,194.0	CY	\$119.91	\$143,173	236,382	11,719		
	Repair Low Flow Channel Riprap Protection	5 Years	0.05	1,120.0	56.0	CY	\$104.46	\$5,850	21,622	1,072		
	Channel Topsoil Maintenance	10 Years	0.10	52,244.0	5,224.0	CY	\$1.86	\$9,717	16,042	795		
	Spoil Berm Topsoil Maintenance	25 Years	0.05	58.838.0	2,942.0	CY	\$1.78	\$5,237	2,411	120		
	Turf Maintenance / Replacement	10 Years	0.05	128.0	6.0	ACRE	\$4,156.00	\$24,936	41,170	2,041		
	Mowing	1 Year	2.00	128.0	256.00	ACRE	\$20.00	\$5,120	103,273	5,120	2 mowings per year @	\$20 / acre
	REACH 8											
	Slope Maintenance - Type 1	10 Years	0.05	100,000.0	5,000.0	CY	\$3.40	\$17,000	28,067	1,392		
	Slope Maintenance - Type 1 Slope Maintenance - Type 2	10 Years	0.05	30,884.0	5,000.0 1.544.0	CY	\$3.40 \$3.83	\$17,000	9,763	1,392		
	Excavate Sediment from Channel - Type 3			,	,-	CY	\$5.83 \$5.03	. ,	,	5,580		
		10 Years 10 Years	0.10	135,516.0	13,552.0	CY		\$68,167	112,545	,		
	Repair Riprap Channel Bank Protection	10 Years 5 Years	0.05 0.05	13,363.0 627.0	668.0 31.0	CY	\$119.91 \$104.46	\$80,100 \$3,238	132,247 11,969	6,556 593		
	Repair Low Flow Channel Riprap Protection						\$104.46	. ,	,			
	Channel Topsoil Maintenance	10 Years	0.10	33,493.0	3,349.0	CY	\$1.86	\$6,229	10,284	510		
	Spoil Berm Topsoil Maintenance	25 Years	0.05	220,624.0	11,031.0	CY	\$1.78	\$19,635	9,040	448		
	Turf Maintenance / Replacement	10 Years	0.05	157.0	8.0	ACRE	\$4,156.00	\$33,248	54,893	2,721	2	000 /
	Mowing	1 Year	2.00	157.0	314.00	ACRE	\$20.00	\$6,280	126,671	6,280	2 mowings per year @	\$20 / acre

OPERATION, MAINTENANCE, REPAIR, REPLACEMENT AND REHABILITATION Life Cycle 50 Years Date Prepared: 28-Apr-2011 Rate of Return 4.375% FARGO-MOORHEAD METRO FEASIBILITY REPORT AND ENVIRONMENTAL IMPACT STATEMENT CHANNEL DIVERSION - LLP ND Phase 4 **EQUIVALENT AVERAGE** FARGO-MOORHEAD METRO FEASIBILITY REPORT O&M and MAJOR REPLACEMENT COSTS ANNUAL O&M / MAJOR REPLACEMENT VALUE PRESENT COMMENTS ANNUAL **PROJECT** ESTIMATED QUANTITY O&M CODE ITEM DESCRIPTION UNIT UNIT PRICE AMOUNT VALUE COST O&M CYCLE FACTOR QUANTITY QUANTITY \$73.241.069 \$3,631,084 Percentage of Construction 0.31% RED RIVER INLET CONTROL STRUCTURE RRN GATED CONTROL STRUCTURE Gated Structure \$3,619,300.00 Concrete - Major Rehab 0.50 0.50 LS \$1.809.650 212.701 10.545 50 Years 1.0 Gates and Bulkheads - Major Rehab 0.50 LS \$2.965.600 348.569 50 Years 0.50 1.0 \$5,931,200.00 17,281 605,117 Gates and Bulkheads - Annual O & M Year 1.00 1.0 1.0 LS \$30,000 \$30,000 30,000 Wingwalls - Concrete - Major Rehab 50 Years 0.50 1.0 0.50 LS \$5,633,000.00 \$2,816,500 331,044 16,412 Repair Riprap Erosion Protection 10 0.05 1.0 0.05 LS \$3,398,700.00 \$169,935 280,567 13,910 Years 0.05 LS \$297,515 24,353 Fish Passage System Miantenance 0.05 1.0 \$5,950,300.00 491,206 10 Years Mech, Elect, SCADA, Ice Control & Misc. Items 0.02 1.0 0.02 LS \$1,024,600.00 \$20,492 413,335 20,492 Annual O&M costs = 2.0% of construction Year WOLVERTON CREEK CLOSURE/DRAINAGE STRUCTURE WOLVERTON CREEK STRUCTURE Gated Structure 4.742 Concrete - Major Rehab 50 Years 0.50 1.0 0.50 LS \$1,627,400.00 \$813,700 95.640 Gates and Bulkheads - Major Rehab 50 Years 0.50 1.0 0.50 LS \$637,300.00 \$318,650 37,453 1,857 Gates and Bulkheads - Annual O & M Year 1.00 1.0 1.0 LS \$30,000 \$30,000 605,117 30,000 Repair Riprap Erosion Protection 10 Years 0.05 1.0 0.05 LS \$57,200.00 \$2.860 4.722 234 Mech. Elect. SCADA. Ice Control & Misc. Items Year 0.02 1.0 0.02 LS \$256,200.00 \$5.124 103.354 5.124 Annual O&M costs = 2.0% of construction WILD RICE RIVER CONTROL STRUCTURES WWR GATED CONSTROL STRUCTURE Gated Structure 4.387 Concrete - Major Rehab 50 Years 0.50 1.0 0.50 LS \$1,505,600.00 \$752,800 88.482 Gates and Bulkheads - Major Rehab 50 Years 0.50 1.0 0.50 LS \$1,753,900.00 \$876,950 103,074 5.110 Gates and Bulkheads - Annual O & M Year 1.00 1.0 1.0 LS \$30,000 \$30,000 605.117 30.000 Wingwalls - Concrete - Major Rehab 50 Years 0.50 1.0 0.50 LS \$2,545,400.00 \$1,272,700 149.590 7.416 Repair Riprap Erosion Protection 10 Years 0.05 1.0 0.05 LS \$1.632.000.00 \$81.600 134.724 6.679 Fish Passage System Miantenance 10 Years 0.05 1.0 0.05 LS \$4.550.300.00 \$227.515 375.634 18.623 Mech, Elect, SCADA, Ice Control & Misc. Items LS Year 0.02 1.0 0.02 \$3,962,000.00 \$79,240 1,598,317 79.240 Annual O&M costs = 2.0% of construction **EAST WEIR (at Connecting Channel) EAST WEIR STRUCTURE** Repair Riprap Erosion Protection 10 Years 0.05 1.0 0.05 LS \$47,600.00 \$2.380 3.929 195 SCADA 1 Year 0.02 1.0 0.02 LS \$75,100.00 \$1,502 30,296 1,502 Annual O&M costs = 2.0% of construction INLET WEIR TO DIVERSION STRUCTURE **INLET WEIR STRUCTURE** Concrete Rollway Structure 0.50 LS 2,788 50 Years 1.0 0.50 \$956,800.00 \$478,400 56,230 Structure Walls Years 0.50 0.50 LS 124,478 6,171 50 1.0 \$2,118,100.00 \$1,059,050 Repair Riprap Erosion Protection LS 10 Years 0.05 1.0 0.05 \$171,300.00 \$8,565 14,141 701 Mech, Electrical, SCADA & Misc. Features LS 937,004 1 Year 0.02 1.0 0.02 \$2,322,700.00 \$46,454 46,454 Annual O&M costs = 2.0% of construction

OPERATION, MAINTENANCE, REPAIR, REPLACEMENT AND REHABILITATION

Life Cycle Rate of Return 50 Years

4.375%

Date Prepared: 28-Apr-2011

FARGO-MOORHEAD METRO FEASIBILITY REPORT AND ENVIRONMENTAL IMPACT STATEMENT CHANNEL DIVERSION - LLP ND Phase 4

	CHANNEL D	IVER	RSION -	LLP ND	Phase 4								
	FARGO-MOORHEAD METRO F	EAS	BILIT	/ REPOR	RT	O&M ar	nd MAJO	R REPLACEMENT	COSTS	EQUIVALENT ANNUAL O& REPLACEME	M / MAJOR ENT VALUE		
CODE	ITEM DESCRIPTION		TIMATED M CYCLE	QUANTITY FACTOR	PROJECT QUANTITY	O&M QUANTITY	UNIT	UNIT PRICE	AMOUNT	PRESENT VALUE	ANNUAL COST	COMMENTS	
		Od	WOTCLE	TACTOR	QUANTITI	QUANTITI				\$73,241,069	\$3,631,084	Percentage of Construction	0.31%
09	SHEYENNE RIVER AQUEDUCT STRUCTURES SHEYENNE RIVER AQUEDUCT STRUCTURE Gated Aqueduct Structure & Wingwalls Concrete - Major Rehab		Years	0.50	1.0	0.50	LS	\$13,193,300.00	\$6,596,650	775,352	38,440		
	Repair Riprap Erosion Protection Mech, Elect, SCADA, Ice Control & Misc. Items	10 1	Years Year	0.05 0.02	1.0 1.0	0.05 0.02	LS LS	\$1,569,900.00	\$78,495 \$54,440	129,597 1,098,086	6,425		2.0% of construction
	SHEYENNE RIVER SPILLWAY WEIR TO DIVERS			0.02	1.0	0.02	LS	\$2,722,000.00	Ф04,440	1,090,000	54,440	Affilial Odivi costs =	2.0% Of CONSTRUCTION
	Repair Riprap Erosion Protection		Years	0.05	1.0	0.05	LS	\$2,727,500.00	\$136,375	225,159	11,163		
	Concrete Wall & Steel Reinforcement Rehab		Years	0.50	1.0	0.50	LS	\$394,700.00	\$197,350	23,196	1,150		
	MAPLE RIVER CONTROL STRUCTURE MAPLE RIVER GATED CONTROL STRUCTURE Gated Aqueduct Structure & Wingwalls Concrete - Major Rehab Repair Riprap Erosion Protection	50 10		0.50 0.05	1.0 1.0	0.50 0.05	LS LS	\$13,036,200.00 \$1,411,300.00	\$6,518,100 \$70,565	766,120 116,505	37,982 5,776		
	Mech, Elect, SCADA, Ice Control & Misc. Items		Year	0.02	1.0	0.02	LS	\$2,621,300.00	\$52,426	1,057,463	52,426	Annual O&M costs =	2.0% of construction
	MAPLE RIVER SPILLWAY WEIR TO DIVERSION Repair Riprap Erosion Protection		NEL Years	0.05	1.0	0.05	LS	\$2,362,800.00	\$118,140	195,052	9,670		
	Concrete Wall & Steel Reinforcement Rehab		Years	0.50	1.0	0.50	LS	\$153,200.00	\$76,600	9,003	446		
	DRAIN 14 - LARGE DRAIN STRUCTURE DRAIN 14 STRUCTURE Drop Structure & Walls - Concrete Major Rehab Repair Riprap Erosion Protection SCADA, & Misc. Safety Items		Years Years Year	0.50 0.05 0.02	1.0 1.0 1.0	0.50 0.05 0.02	LS LS LS	\$2,915,900.00 \$164,100.00 \$35,200.00	\$1,457,950 \$8,205 \$704	171,363 13,547 14,200	8,496 672 704		2.0% of construction
	LOWER RUSH RIVER DROP STRUCTURE												
	Drop Structure & Walls - Concrete Major Rehab Repair Riprap Erosion Protection Fish Passage System Miantenance Mech, Elect, SCADA, & Misc. Items	10 10	Years Years Years Year	0.50 0.05 0.05 0.02	1.0 1.0 1.0 1.0	0.50 0.05 0.05 0.02	LS LS LS	\$3,005,900.00 \$428,200.00 \$1,826,800.00 \$477,200.00	\$1,502,950 \$21,410 \$91,340 \$9,544	176,653 35,349 150,805 192,508	8,758 1,752 7,476 9,544		2.0% of construction
	RUSH RIVER DROP STRUCTURE Drop Structure & Walls - Concrete Major Rehab Repair Riprap Erosion Protection Fish Passage System Miantenance Mech, Elect, SCADA, & Misc. Items	10	Years	0.50 0.05 0.05 0.00	1.0 1.0 1.0 1.0	0.50 0.05 0.05 0.00	LS LS LS	\$3,436,300.00 \$475,300.00 \$1,247,200.00 \$447,100.00	\$1,718,150 \$23,765 \$62,360 \$0	201,947 39,237 102,958 0	10,012 1,945 5,104 0		
	LARGE DRAIN	10	Years	0.05	1.0	0.05	EA	\$447,400.00	\$22,370	36,933	1,831		
	SMALL DRAINS	10	Years	0.05	2.0	0.10	EA	\$127,200.00	\$12,720	21,001	1,041		
	SIDE CHANNEL INLET MANHOLES - 72-INCH	10	Years	0.05	19.0	0.95	EA	\$444,900.00	\$422,655	697,815	34,596		
	SIDE CHANNEL INLET MH - TWIN 72-INCH	10	Years	0.05	7.0	0.35	EA	\$808,900.00	\$283,115	467,431	23,174		
	RED RIVER OUTLET CONTROL STRUCTURE Riprap Erosion Protection	10	Years	0.05	1.0	0.05	CY	\$1,260,300.00	\$63,015	104,040	5,158		
	DIVERSION LANDSCAPE PLANTINGS	10	Years	0.01	36.6	0.37	МІ	\$30,000.00	\$10,980	18,128	899	USACE-MVP-00	000088005

OPERATION, MAINTENANCE, REPAIR, REPLACEMENT AND REHABILITATION

Life Cycle Rate of Return

\$73,241,069

\$3,631,084

50 Years

4.375%

Date Prepared: 28-Apr-2011

FARGO-MOORHEAD METRO FEASIBILITY REPORT AND ENVIRONMENTAL IMPACT STATEMENT CHANNEL DIVERSION - LLP ND Phase 4

Total O&M

	FARGO-MOORHEAD METRO FE	ASIBILITY	repor	RT	O&M an	d MAJO	R REPLACEMEN	r costs	EQUIVALENT ANNUAL O& REPLACEME	M / MAJOR	
CODE	ITEM DESCRIPTION	ESTIMATED O&M CYCLE		PROJECT QUANTITY	O&M QUANTITY	UNIT	UNIT PRICE	AMOUNT	PRESENT VALUE	ANNUAL COST	COMMENTS
		OXIVI CTCLE	FACTOR	QUANTIT	QUANTITY				\$73,241,069	\$3,631,084	Percentage of Construction 0.31%

11	LEVEES & FLOODWALLS											
	LEVEES											
	TIE-BACK LEVEES											
	Levee Embankment Maintenance	10	Years	0.05	835,320.0	41766.00	CY	\$17.51	\$731,323	1,207,434	59,861	
	Levee Topsoil Maintenance	10	Years	0.05	110,024.0	5501.20	CY	\$1.81	\$9,957	16,440	815	
	Levee Turf Maintenance / Replacement	10	Years	0.05	1.0	0.05	ACRE	\$2,750,700.00	\$137,535	227,074	11,258	
	Mowing	1	Year	4.00	1.0	4.00	ACRE	\$20.00	\$80	1,614	80	4 mowings per year @ \$20 / acre
	Fertilizing & Weed Control	1	Year	1.00	1.0	1.00	ACRE	\$250.00	\$250	5,043	250	
14	RECREATIONAL FACILITIES											
	Multi-Purpose Trails	10	Years	0.05	19.0	0.95	MI	310,600.00	\$295,070	487,169	24,152	
	Soft Trails	10	Years	0.05	25.0	1.25	MI	106,400.00	\$133,000	219,587	10,886	
	Trail River Crossing	10	Years	0.05	3.0	0.15	EA	2,850,000.00	\$427,500	705,814	34,992	
	Trailhead Facilities	5	Years	0.05	3.0	0.15	EA	166,600.00	\$24,990	92,369	4,579	
	Restroom Facilities Maintenance	1	Years	1.00	3.0	1.00	LS	42,500.00	\$42,500	857,250	42,500 M	Maint person = 1 FT @ 60K / yr + 1 PT @ 25K / yr for 6 mo
	Restroom Facilities Operating Utilitites	1	Years	1.00	3.0	3.00	EA	1,200.00	\$3,600	72,614	3,600	Utilities each site @ \$200 / month for 6 months
	Parking Facilities											
	Car Parking Lots	10	Years	0.10	4.0	0.40	EA	45,900.00	\$18,360	30,313	1,503	
	Car/Trailer Park Lots	10	Years	0.10	2.0	0.20	EA	146,800.00	\$29,360	48,474	2,403	
	Wildlife Viewing Overlooks	10	Years	0.10	2.0	0.20	EA	7,900.00	\$1,580	2,609	129	
	Interpretive Siganage	10	Years	0.10	30.0	3.00	LS	1,100.00	\$3,300	5,448	270	
	Fishing Sites	10	Years	0.10	4.0	0.40	EA	32,000.00	\$12,800	21,133	1,048	
	Landscaping Maintenance	10	Years	0.01	150.0	1.50	ACRE	31,300.00	\$46,950	77,516	3,843	

PROJECT COST SUMMARY SHEET

FARGO MOORHEAD METRO FEASIBILITY STUDY

CHANNEL DIVERSION - ND35K Phase 3

(Included for REFERENCE ONLY)

Project: Fargo Moorhead Metro Draft Feasibility Study Cost Estimate

Location: Fargo, North Dakota and Moorhead, Minnesota

Date: September 1, 2010

PREPARED BY: Moore Engineering, Inc.

Jeffrey L. Hansen, CEMVP-EC-D

		Total Estimated	Continge	anov.	Estimated Amount Plus	Index Factor To	Index Cost To	Midpoint Of Featue	Index to Midpoint	Fully Funded Amount Plus
Itama	Itam Description			_						
Item	Item Description	Amount	Amount	Percent	Contingency	10 / 2011	10 / 2011	Year	Factor	Contingency
0.4	Landa O Damana	* 40,000,000	#40.050.000	050/	# 00 050 000	0.047	004 074 000	007.0044	0.070	#05 500 000
01	Lands & Damages	\$48,200,000	\$12,050,000	25%	\$60,250,000	0.017	\$61,274,000	OCT 2014	0.070	\$65,563,000
- 00	Deleverage	#00 F04 000	#00.440.000	050/	0400 700 000	0.047	0400 440 000	DE0 0045	0.000	0444 040 000
02	Relocations	\$80,564,000	\$20,142,000	25%	\$100,706,000	0.017	\$102,418,000	DEC 2015	0.093	\$111,943,000
- 00	Fish O MURRIE Factor	# 7 0.400.000	#40.004.000	050/	#04 400 000	0.047	# 00 074 000	A DD 0040	0.000	# 400 470 000
06	Fish & Wildlife Facilities	\$73,136,000	\$18,284,000	25%	\$91,420,000	0.017	\$92,974,000	APR 2016	0.099	\$102,179,000
-00	Doods Dailroads and Dridges	£47.045.000	£11.061.000	250/	\$50,006,000	0.017	#60 000 000	ADD 2016	0.000	¢66 044 000
08	Roads, Railroads and Bridges	\$47,845,000	\$11,961,000	25%	\$59,806,000	0.017	\$60,823,000	APR 2016	0.099	\$66,844,000
09	Channels & Canals	\$640,208,000	\$160,055,000	25%	\$800,263,000	0.017	\$813,867,000	APR 2016	0.099	\$894,440,000
	Charmels & Canals	ψ0+0,200,000	Ψ100,000,000	2070	ψ000,200,000	0.017	ψο το,οοτ,οοο	74111 2010	0.000	ψ00+,++0,000
11	Levees and Floodwalls	\$2,905,000	\$726.000	25%	\$3,631,000	0.017	\$3,693,000	APR 2016	0.099	\$4,058,000
		, , , , , , , , , , , ,	, ,,,,,,,,		, -, ,		, -, ,			· //
14	Recreation Facilities	\$23,220,000	\$5,805,000	25%	\$29,025,000	0.017	\$29,518,000	APR 2016	0.099	\$32,441,000
30	Planning, Engineering and Design	\$130,182,000	\$32,546,000	25%	\$162,728,000	0.039	\$169,074,000	DEC 2015	0.164	\$196,803,000
31	Construction Management	\$60,751,000	\$15,188,000	25%	\$75,939,000	0.039	\$78,901,000	APR 2016	0.245	\$98,231,000
					·		·			
	Editorial Desirat Oral	M4 407 044 000	0070 757 000	050/	#4 000 700 000		04 440 540 000			#4 570 500 000
	Estimated Project Cost	\$1,107,011,000	\$276,757,000	25%	\$1,383,768,000		\$1,412,542,000			\$1,572,502,000

NOTES:

Costs are based on August 2010 unit pricing.

The ND35K Phase 3 cost estimate is included for REFERENCE ONLY. Work was halted in September 2010 when downstream impacts stretched all the way to the Canadian border and still had not reached a point of zero impacts.

Activity	Activity	Orig	Early	Early	2010		2011		2012		2013		2014		201	5		2016			2017		2018	B		2019			2020	
FCP	Description	Dur	Start	Finish	Q4	Q1 (Q2 Q3	Q4 Q1	Q2 C	3 Q4 Q1	Q2 Q3	Q4 Q1	Q2 Q	3 Q4 C	1 Q2	Q3 Q4	Q1 (2 Q3	Q4	Q1 Q2	Q3	Q4 Q1	Q2	Q3 Q4	Q1	Q2 C	Q3 Q4	Q1 (Q2 Q3	Q4
	Outlet Structure	872*	03JAN12	06MAY15								<u> </u>			Out	let Struct	ure													
FCP01010	L&D - Outlet Structure		03JAN12	30NOV12	1 1				1 1 1	VI &D'- C	Outlet Struct	uro	1 1 1										1 1		1 1					
FCP01020	Design - Outlet Structure		03JAN12	30NOV12	1 1	1 1					- Outlet Stru			1 1 1 1 1 1 1 1				1 1 1	1 1		1 1	1 1 1 1 1 1 1 1 1	1 1		1 1	1 1 1		1 1	1 1 1	
FCP01020	Bid & Award - Outlet Structure		01JAN13	06MAY13	1 1					Design		ard - Outle	t Structur																	
II					-						Blu & Aw	aru - Outie	i Siructur	G		etruction	n - Outlet S	tructure												
FCP01040	Construction - Outlet Structure	388	07MAY13	06MAY15									"		- V		outlet Stru													
FCP01090	Complete - Outlet Structure	400*	00 10 110	06MAY15						<u>i i i i i </u>		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	tract NIM	Croobing	Con	ipiete - C	Juliet Siru	luie												
FCP02000	15th Street NW Crossing		03JAN12	29NOV13						VI 2D 454	b Charak NIVA	1 1 1	treet NW	Crossing									1 1							
FCP02010	L&D - 15th Street NW Crossing		03JAN12	30OCT12	1						h Street NW	11117							1 1				1 1		1 1			1 1		
FCP02020	Design - 15th Street NW Crossing		03JAN12	30OCT12	1 1	1 1				Design - 1	5th Street N				1 1 1			1 1 1	1 1		1 1	1 1 1 1 1 1 1 1	1 1		1 1	1 1 1	1 1 1	1 1	1 1 1	
II	Bid & Award - 15th Street NW Crossing		01JAN13	06MAY13							Bid & Aw	/ard - 15th						1 1 1					1 1					1 1		
FCP02040	Construction - 15th Street NW Crossing	178	07MAY13	29NOV13								Y		5th Street N		ng														
FCP02090	Complete - 15th Street NW Crossing	0		29NOV13								Comp		Street NW	: : : '															
FCP03000	MN FCP Channel Seg 1		03JAN12	27JUN14										N FCP Char	nel Seg 1															
FCP03010	L&D - MN FCP Channel Seg 1		03JAN12	17DEC12	ii						MN FCP Cha			i i i i																
FCP03020	Design - MN FCP Channel Seg 1	250	03JAN12	17DEC12						Desig	n - MN FCP (Channel Se	g 1																	
FCP03030	Bid & Award - MN FCP Channel Seg 1	90	18DEC12	22APR13	1 1						Bid & Awa	ard - MN FC	P Chann	el Seg 1	1 1 1				1 1				1 1		1 1			1 1		
FCP03040	Construction - MN FCP Channel Seg 1	250	23APR13	27JUN14	 	1 1			1 1 1				Ç	onstruction	- MN FCP (Channel	Seg 1	1 1 1	1 1		1 1	1 1 1 1	1 1		1 1		1 1 1	1 1	1 1 1	
FCP03050	Utilities - MN FCP Channel Seg 1	250	23APR13	27JUN14								+++	- II	ilities - MN	FCP Chanr	nel Seg 1														
FCP03090	Complete - MN FCP Channel Seg 1	0		27JUN14									♦ c	omplete - M	N FCP Cha	nnel Seg	1													
FCP04000	110th Avenue NW Crossing	499*	03JAN12	29NOV13								110th	Avenue N	W Crossing																
FCP04010	L&D - 110th Avenue NW Crossing	225	03JAN12	12NOV12						L&D - 11	0th Avenue	NW Crossi	ing																	
FCP04020	Design - 110th Avenue NW Crossing	225	03JAN12	12NOV12	ii						110th Avenu	ue NW Cro	ssing	i i i i																
FCP04030	Bid & Award - 110th Avenue NW Crossing	90	01JAN13	06MAY13	1 1						<mark>√</mark> Bid & Aw	/ard - 110th	Avenue	NW Crossin	g				1 1				1 1		1 1	-		1 1		
FCP04040	Construction - 110th Avenue NW Crossing	178	07MAY13	29NOV13	1 1				1 1 1			Const	ruction - 1	10th Avenu	e NW Cros	sing		1 1 1	1 1		1 1	1 I I I 1 I I I I	1 1		1 1			1 1	1 1 1	
FCP04090	Complete - 110th Avenue NW Crossing	0		29NOV13								Comp	lete - 110t	h Avenue N	W Crossin	g														
FCP05000	MN FCP Channel Seg 2	759*	03JAN12	28NOV14										MN	FCP Chan	nel Seg 2	:													
FCP05010	L&D - MN FCP Channel Seg 2	280	03JAN12	28JAN13							- MN FCP (Channel Se	g 2																	
FCP05020	Design - MN FCP Channel Seg 2	280	03JAN12	28JAN13	ii					Des	ign - MN FC	P Channel	Seg 2																	
FCP05030	Bid & Award - MN FCP Channel Seg 2	90	29JAN13	03JUN13	1 1						Bid & A	ward - MN	FCP Cha	nnel Seg 2	1 1 1				1 1				1 1		1 1			1 1		
FCP05040	Construction - MN FCP Channel Seg 2	348	04JUN13	29NOV14	1 1									<u> </u>	struction -	MN FCP	Channel	Seg 2	1 1				1 1		1 1	-		1 1	.	
FCP05050	Utilities - MN FCP Channel Seg 2		04JUN13	29NOV14									- II	Util	ities - MN F	CP Char	nel Seg 2					1 1 1 1	1 ! !							
<u> </u>	Complete - MN FCP Channel Seg 2	0		01DEC14										Cor	nplete - MN	N FCP CI	annel Seg	2												
<u> </u>	Rail Bridge 1 - BNSF P-Line Sub	759*	03JAN12	28NOV14											Bridge 1 -								l i i			i i i i				
FCP06010	L&D - RR Crossing 1 - BNSF P-Line Sub		03JAN12	14NOV12	1 1	1 1				L&D - RF	R Crossing 1	I - BNSF P-	Line Sub						1 1			1 1 1 1	1 1		1 1			1 1	1 1 1	
FCP06020	Design - Rail Bridge 1 - BNSF P-Line Sub		03JAN12	14NOV12	1 1				1 1 1		Rail Bridge	1 - BNSF F	P-Line Sul	,	1 1 1				1 1				1 1		1 1	-		1 1	.	
FCP06030	Bid & Award - Rail Bridge 1 - BNSF P-Line Sub		01JAN13	06MAY13	1 1									BNSF P-Lin	e Sub															
FCP06040	Construction - Rail Bridge 1 - BNSF P-Line Sub		07MAY13	29NOV14										: : _ :	struction -	Rail Bri	ge 1 - BN	SF P-Line	Sub											
FCP06090	Complete - Rail Bridge 1 - BNSF P-Line Sub	0		29NOV14										Cor	nplete - Ra	il Bridge	1 - BNSF	P-Line Su	ıb							111				
FCP07000	State Highway 75 Crossing	499*	03JAN12	29NOV13	1 1							State I	Highway 7	'5 Crossing	<u> </u>				1 1				1 1		1 1					
FCP07010	L&D - State Highway 75 Crossing		03JAN12	12NOV12	1 1	1 1		i i 🔼	1 1 1	L&D - St	ate Highway	1 1 1 1 1	T T		1 1 1			1 1 1	1 1		1 1	1 1 1 1	1 1		1 1	1 1 1		1 1	. 1 1 1	
FCP07020	Design - State Highway 75 Crossing		03JAN12	12NOV12	1 1						State Highw		-	1 1 1 1	1 1 1	1 1 1 1	1 1 1	1 1 1	1 1	1 1 1 1		<u> </u>	1 1			1 1 1	1 1	1 1	1 1 1	
<u> </u>	Bid & Award - State Highway 75 Crossing		01JAN13	06MAY13						1 1 1 1 1 1 1 1				75 Crossing	g															
FCP07040	Construction - State Highway 75 Crossing		07MAY13	29NOV13							1 1 1 1 1 1			State Highw		sina														
FCP07090	Complete - State Highway 75 Crossing	0		29NOV13	1 1							Y		e Highway 7	ĭ l ı ı l	1 1 1 1 1							1 1							
FCP08000	MN FCP Channel Seg 3	740*	29JAN13	30NOV15					1 1 1		1 1 1 1	1 1 7 7 7		,		9	MN FCP	Channel S	Sea 3		1 1	1 1 1 1	1 1		1 1		1 1 1	1 1	1 1 1	
FCP08010	L&D - MN FCP Channel Seg 3		29JAN13	04NOV13	1 1	1 1	1 1 1 1		1 1 1			VL&D - M	IN FCP Ch	annel Seg 3	1 1 1		11111	1 1 1		1 1 1 1	1 1	1 1 1 1	1 1	1 1 1	1 1	1 1 1	1 1 1	1 1	1 1 1	1 1 1
FCP08020	Design - MN FCP Channel Seg 3		29JAN13	04NOV13									1 ' ' 1 '	Channel Se																
FCP08030	Bid & Award - MN FCP Channel Seg 3		01JAN14	06MAY14								, , , , , , , , , , , , , , , , , , ,		Award - MN		nnel Seg	3													
FCP08040	Construction - MN FCP Channel Seg 3		07MAY14	30NOV15	i i												Construc	tion - MN	FCP C	annel Se	a 3									
FCP08040	Utilities - MN FCP Channel Seg 3		07MAY14	30NOV15											1 1		Utilities -	1 1 1	1 1	1 1 1 1	3 -		1 1							
FCP08090	Complete - MN FCP Channel Seg 3	0/2	OT WICH 15	30NOV15	1 1	1 1		1 1 1 1 1	1 1 1	1 1 1 1 1	1 1 1 1	1 1 1 1	1 1 1	1 1 1	1 1 1		Complete			1 1 7 1		1 1 1 1 1 1 1 1	1 1	1 1 1	1 1	1 1 1	1 1 1	1 1	1 1 1	1 1 1
FCP09090 FCP09000	100th Ave N (CR 5) Crossing	521*	13NOV12	11NOV14										1004	n Ave N (Cl	1 1 1 1 1			. Sijaili	io, deg s										
FCP09000 FCP09010			13NOV12 13NOV12	28OCT13								VIED 40	Oth Ave	I (CR 5) Cro			sang													
FCF09010	L&D - 100th Ave N (CR 5) Crossing	250	ISINOV IZ	2000113						<u> </u>		¥ LQD - 10	Jui Ave N	i (GIN 3) GIO	Joney															
Start Date	01OCT10						_ lı	A06			USAG	^E			Sheet	1 of 6														——
Finish Date	31DEC24					Early	Dai			Fargo-Mo	orhead Met		ood Risk		Silvet		Date					Revision					Checke	d	Approved	d
Data Date	010CT10						ess Bar al Activity				Downstream	n to Upstre				<u> </u>				_	_		_		USAC	CE-MVI	P-00000)8800 5		
Run Date	29JUN11 08:23										7.5 year S L - 3														20/10	17171	. 55550	.55000		
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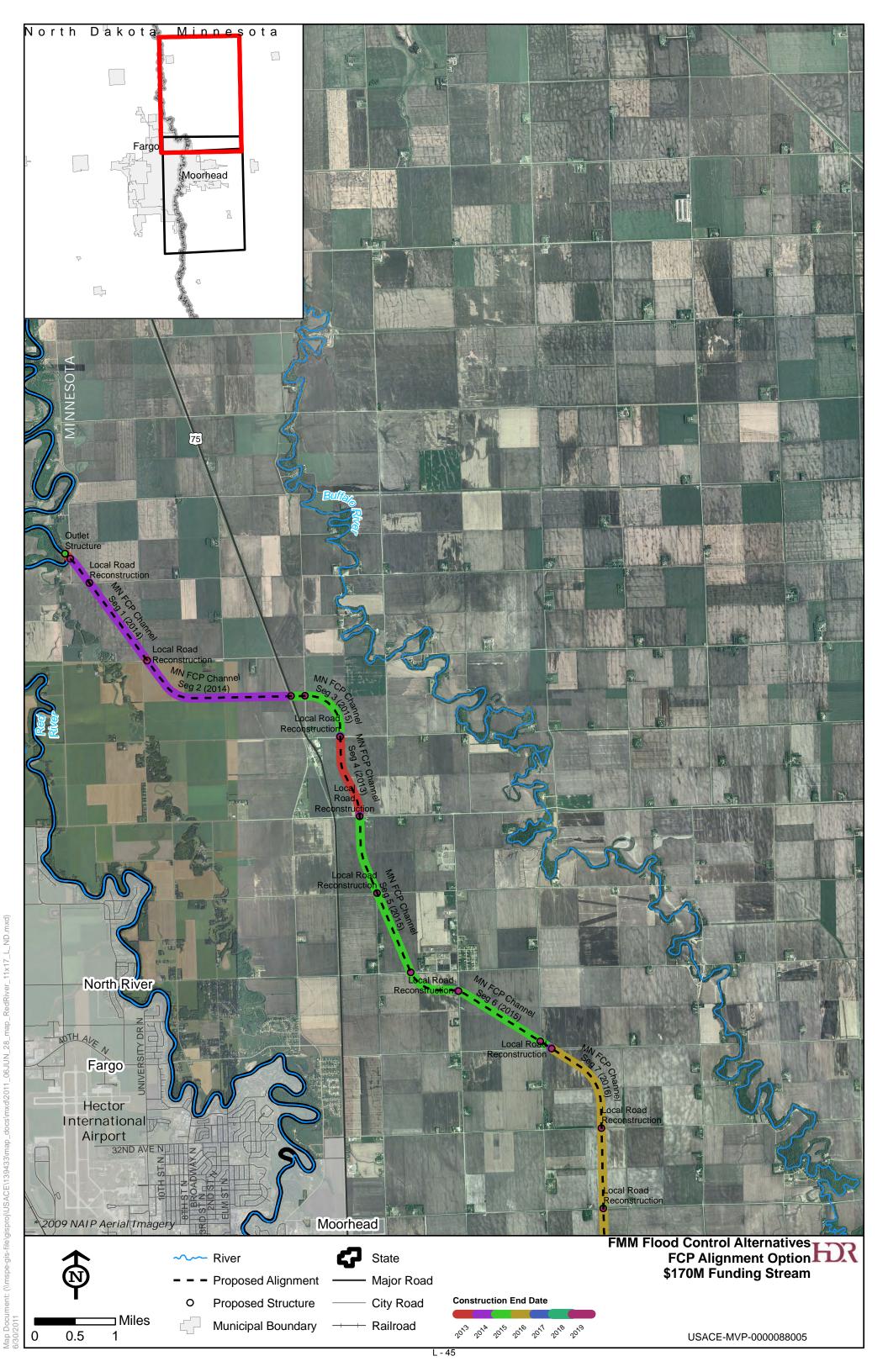
T																						
Activity	Activity	Orig	Early	Early	2010	201		2012	2013	2014	2015	20)16		2017		2018		2019		2020	
ID FORMAN	Description	Dur	Start	Finish	Q4	Q1 Q2	Q3 Q4 Q1 Q	2 Q3 Q4	4 Q1 Q2 Q3 Q4			Q4 Q1 Q2	Q3 C	Q4 Q1	Q2 (Q4 Q1	Q2 Q3	Q4 (Q1 Q2 Q	3 Q4 Q1	Q2 Q3	Q4
FCP09020	Design - 100th Ave N (CR 5) Crossing			28OCT13	1 I 1 I	1 1 1 1			De La Company	esign - 100th Ave N	`.!		1 1 1				1 1 1 1	1 1		1 1 1 1 1 1	1 1 1 1	1 1 1
FCP09030	Bid & Award - 100th Ave N (CR 5) Crossing			03MAR14		1 1 1 1		1 1 1 1 1		Bid & Award	- 100th Ave N (CR 5) Cro							1 1				
FCP09040	Construction - 100th Ave N (CR 5) Crossing	178	16APR14	11NOV14	1 1						Construction - 100th	1 1 1 1 1 1 1 1	1 1 1 7 1									
FCP09090	Complete - 100th Ave N (CR 5) Crossing	0		11NOV14						<u>, ; ; ; ; ; ; </u>	Complete - 100th Ave	e N (CR 5) Crossi	ing									
FCP10000	MN FCP Channel Seg 4	499*	03JAN12	29NOV13						MN FCP Channel So	eg 4											
FCP10010	L&D - 100th Ave N (CR 5) Crossing	254	03JAN12	21DEC12					L&D - 100th Ave N (CF	R 5) Crossing												
FCP10020	Design - MN FCP Channel Seg 4	254	03JAN12	21DEC12					Design - MN FCP Char									ii				
FCP10030	Bid & Award - MN FCP Channel Seg 4	90	01JAN13	06MAY13	1 1				Bid & Award	- MN FCP Channel S	Seg 4							1 1				
FCP10040	Construction -MN FCP Channel Seg 4	178	07MAY13	29NOV13	1 1					Construction -MN F	CP Channel Seg 4							1 1			1 1 1 1	
FCP10090	Complete - MN FCP Channel Seg 4	0		29NOV13	1 1					Complete - MN FCP	Channel Seg 4		1 1 1				1 1 1 1	1 1		1 1 1 1 1 1 1 1 1 1	1 1 1 1	1 1 1
FCP11000	90th Avenue N (CR 26) Crossing	505*	24DEC12	28NOV14	1 1						90th Avenue N (CR	26) Crossing										
FCP11010	L&D - 90th Avenue N (CR 26) Crossing	215	24DEC12	18OCT13	1 1					&D - 90th Avenue N ((CR 26) Crossing											
FCP11020	Design - 90th Avenue N (CR 26) Crossing	215	24DEC12	18OCT13					De	esign - 90th Avenue	N (CR 26) Crossing											
FCP11030	Bid & Award - 90th Avenue N (CR 26) Crossing	90	01JAN14	06MAY14							ard - 90th Avenue N (CR	26) Crossing										
FCP11040	Construction - 90th Avenue N (CR 26) Crossing			29NOV14							Construction - 90th		6) Crossii	na								
FCP11050	Utilities - 90th Avenue N (CR 26) Crossing			29NOV14							Utilities - 90th Aven											
	Complete - 90th Avenue N (CR 26) Crossing	1,75	3	29NOV14	i i						Complete - 90th Ave											
FCP12000	MN FCP Channel Seg 5	766*	24DEC12	30NOV15	1 1							MN FCP Cha		5						+++++		
 	L&D - MN FCP Channel Seg 5			30NOV15	1 I 1 I					L&D - MN FCP Ch	nannel Seg 5			7 1								
	Design - MN FCP Channel Seg 5			03JAN14	1 1					Design - MN FCP												
												300.5										
FCP12030	Bid & Award - MN FCP Channel Seg 5		06JAN14	09MAY14						DIO & AW	vard - MN FCP Channel S	<u>. i , T ,</u>										
FCP12040	Construction - MN FCP Channel Seg 5		10MAY14	30NOV15						1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		Construction				111111						
FCP12050	Utilities - MN FCP Channel Seg 5	368		28NOV15							<u> </u>	Utilities - MN			T ! ! ! !							
FCP12090	Complete - MN FCP Channel Seg 5	0		30NOV15								Complete - N	MN FCP C	Channel S	Seg 5							
FCP13000	County Road 14 Crossing		24DEC12	28NOV14	1 1						County Road 14 Cro	ossing						1 1				
FCP13010	L&D - County Road 14 Crossing		24DEC12	18OCT13	1 I 1 I	1 1 1 1			1 X 1:::::::::::::::::::::::::::::::::::	&D - County Road 14	- I		1 1 1				1 1 1 1	1 1		1 1 1 1 1 1	1 1 1 1	
FCP13020	Design - County Road 14 Crossing		24DEC12	18OCT13					De	esign - County Road	14 Crossing					1 1 1 1 1	1 1 1 1	1 1			1 1 1 1	1 1 1
FCP13030	Bid & Award - County Road 14 Crossing	90	01JAN14	06MAY14	1 1					Bid & Aw	ard - County Road 14 Cr	ossing										
FCP13040	Utilities - County Road 14 Crossing	178	07MAY14	29NOV14							Utilities - County Ro	oad 14 Crossing										
FCP13050	Construction - County Road 14 Crossing	178	07MAY14	29NOV14							Construction - Cour	nty Road 14 Cros	sing									
FCP13090	Complete - County Road 14 Crossing	0		29NOV14							Complete - County I	Road 14 Crossin	g									
FCP14000	MN FCP Channel Seg 6	751*	14JAN13	30NOV15	ii							MN FCP Cha	annel Seg	96				ii				
FCP14010	L&D - MN FCP Channel Seg 6	235	14JAN13	06DEC13	1 1	1 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1		L&D - MN FCP Cha	nnel Seg 6	1 1 1 1 1 1 1	1 1 1			1 1 1 1 1	1 1 1 1	1 1			1 1 1 1	
FCP14020	Design - MN FCP Channel Seg 6	235	14JAN13	06DEC13	1 1	1 1 1 1				Design - MN FCP C	Channel Seg 6		1 1 1				1 1 1 1	1 1		1 1 1 1 1 1	1 1 1 1	1 1 1
FCP14030	Bid & Award - MN FCP Channel Seg 6	90	01JAN14	06MAY14	1 1					Bid & Aw	ard - MN FCP Channel S	6eg_6										
FCP14040	Construction - MN FCP Channel Seg 6	372	07MAY14	30NOV15								Construction	n - MN FC	CP Chanı	nel Seg 6							
FCP14090	Complete - MN FCP Channel Seg 6	0		30NOV15								Complete - N	MN FCP C	Channel :	Seg 6							
FCP15000	57 Avenue N (CR 19) Crossing	505*	24DEC12	28NOV14	1 1						57 Avenue N (CR 19) Crossing										
FCP15010	L&D - 57th Avenue N Crossing	260	24DEC12	20DEC13	i i					L&D - 57th Avenue	e N Crossing							ii				
FCP15020	Design - 57 Avenue N (CR 19) Crossing			20DEC13	1 1					 	ie N (CR 19) Crossing											
	Bid & Award - 57 Avenue N (CR 19) Crossing		01JAN14	06MAY14	1 1					IN	vard - 57 Avenue N (CR 1	9) Crossing										
FCP15040	Construction - 57 Avenue N (CR 19) Crossing			29NOV14	1 1						Construction - 57 A		Crossing	g								
FCP15090	Complete - 57 Avenue N (CR 19) Crossing	0		29NOV14	1 1						Complete - 57 Aven		-			1 1 1 1 1						
	MN FCP Channel Seg 7	778*	09DEC13	30NOV16					;			71-1-		MN F	CP Chann	el Seg 7						
	L&D - MN FCP Channel Seg 7		09DEC13	19DEC14					: ; ; ; ; ; ; ; ; ;]		L&D - MN FCP Cha	annel Seq 7										
FCP16020	Design - MN FCP Channel Seg 7		09DEC13	19DEC14	1 1				: : : : : i i i 🔀		Design - MN FCP C											
FCP16030	Bid & Award - MN FCP Channel Seg 7			06MAY15	1 I 1 I						1 7 1 1 1 1	ard - MN FCP Ch	annel Se	eq 7				1 1				
FCP16040	Construction - MN FCP Channel Seg 7			30NOV16	1 1		1 1 1 1 1 1 1	1 1 1 1 1							ruction -	MN FCP Chan	nel Seg 7			1 1 1 1 1 1	1 1 1 1	1 1 1
FCP16050	Utilities - MN FCP Channel Seg 7			30NOV16												CP Channel Se	1 : : 7 : :					
FCP16090	Complete - MN FCP Channel Seg 7	0,2	3.111111	30NOV16									iiiii	. Y		FCP Channel	Tilli					
FCP17000	28th Avenue N (CR 18) Crossing	506*	23DEC13	30NOV15	ii							28th Avenue	1 1 1									
FCP17010	L&D - 28th Avenue N Crossing		23DEC13	170CT14	1 1						L&D - 28th Avenue N C			-, 3.033	9							
			23DEC13	170CT14	1 1	1 1 1 1	1 1 1 1 1 1	1 1 1 1 1	<u> </u>		Design - 28th Avenue I		na			1 1 1 1 1	1 1 1 1	1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1	
	Design - 28th Avenue N (CR 18) Crossing				1 1				:					18) Cross	ing							
<u> </u>	Bid & Award - 28th Avenue N (CR 18) Crossing		01JAN15	06MAY15	1 1						Bid & AW	ard - 28th Avenu		1 1 1		roccina						
FCP17040	Construction - 28th Avenue N (CR 18) Crossing	1/8	07MAY15	JUNUV15		<u> </u>	JEACO.	<u> </u>		W	21 12 22	Construction	ıı - ∠ətn A	venue N	(OK 18)	JOSSING						
Start Date Finish Date	01OCT10 31DEC24					Early Bar	FA06	E-	USACE Fargo-Moorhead Metro A	Area Flood Risk	Sheet 2 of 6	Date				Revision				Checked	Appro	oved
Data Date	01OCT10					Progress Bar		1 (FCP Downstream to	Upstream						. •.•		11	SACENNO	-000008800		
Run Date	29JUN11 08:23					Critical Activi	ity		7.5 year Scena									U	SACE-IVIVE	-0000008800	, u	
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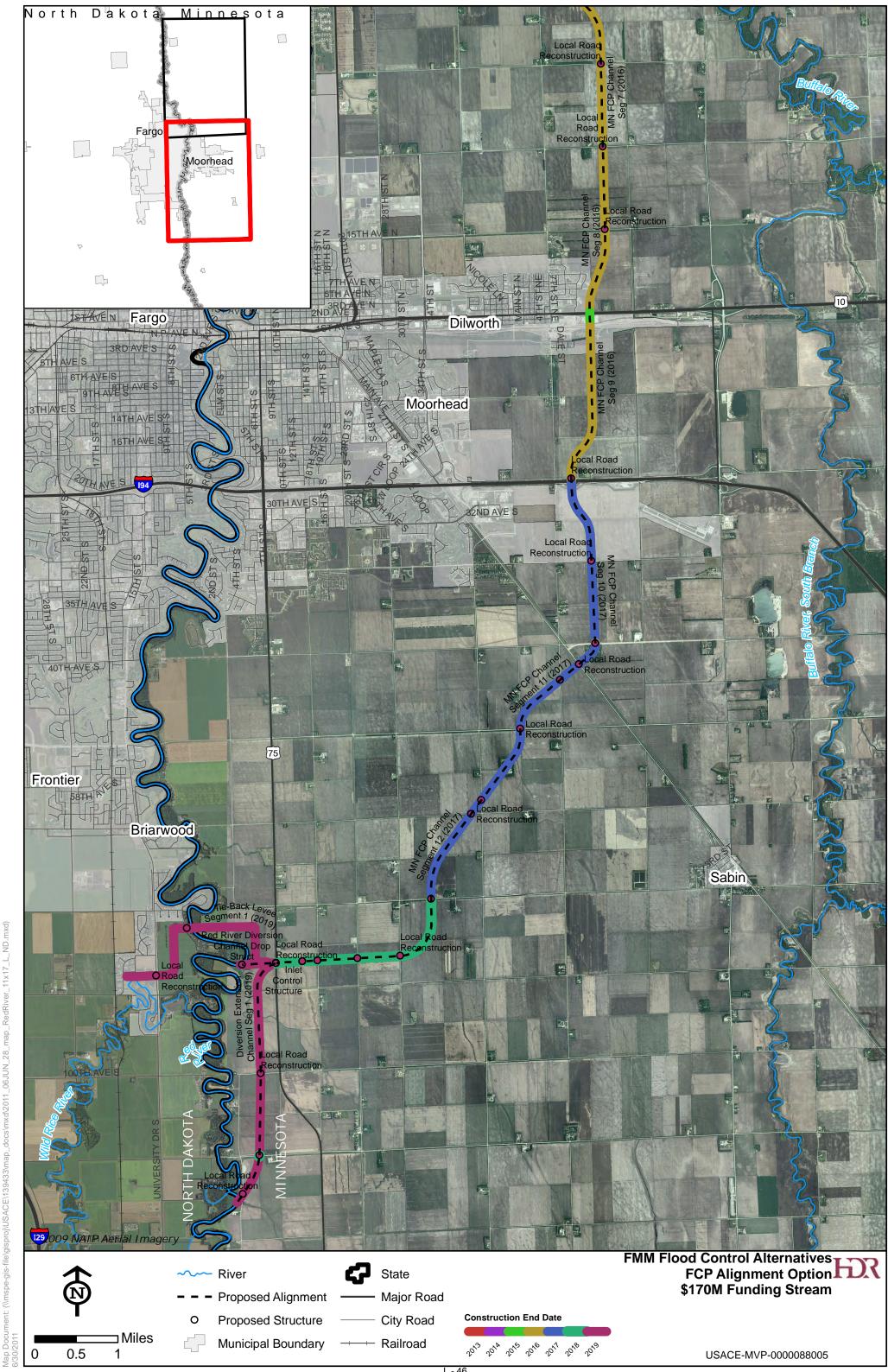
Activity	Activity	Orig Early	Early	2010 2011 2012 2013	2014 2015 2016 2017 2018 2019 2020
ID FOR47000	Description	Dur Start	Finish	Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3	Q4 Q1 Q2 Q3 Q4 Q1 Q1 Q1 Q2 Q3 Q4 Q1
FCP17090	Complete - 28th Avenue N (CR 18) Crossing	770+ 0005010	30NOV15		Complete - 28th Avenue N (CR 18) Crossing
FCP18000	MN FCP Channel Seg 8	778* 09DEC13	30NOV16		MN FCP Channel Seg 8
FCP18010	L&D - MN FCP Channel Seg 8	270 09DEC13	19DEC14		L&D - MN FCP Channel Seg 8
FCP18020	Design - MN FCP Channel Seg 8	270 09DEC13	19DEC14		Design - MN FCP Channel Seg 8
FCP18030	Bid & Award - MN FCP Channel Seg 8	90 01JAN15	06MAY15		Bid & Award - MN/FCP Channel Seg 8
FCP18040	Construction - MN FCP Channel Seg 8	372 07MAY15	30NOV16		Construction - MN FCP Channel Seg 8
FCP18050	Utilities - MN FCP Channel Seg 8	372 07MAY15	30NOV16		Utilities + MN FCP Channel Seg 8
FCP18090	Complete - MN FCP Channel Seg 8	0	30NOV16		Complete - MN FCP Channel Seg 8
FCP19000	US Highway 10 WB Crossing	506* 23DEC13	30NOV15		US Highway 10 WB Crossing
FCP19010	L&D - US Highway 10 WB Crossing	215 23DEC13	17OCT14		L&D - US Highway 10 WB Crossing
FCP19020	Design - US Highway 10 WB Crossing	215 23DEC13	17OCT14		Design - US Highway 10 WB Crossing
FCP19030	Bid & Award - US Highway 10 WB Crossing	90 01JAN15	06MAY15		Bid & Award - US Highway 10 WB Crossing
FCP19040	Construction - US Highway 10 WB Crossing	178 07MAY15	30NOV15		Construction - US Highway 10 WB Crossing
FCP19090	Complete - US Highway 10 WB Crossing	0	30NOV15		Complete - US Highway 10 WB Crossing
FCP20000	US Highway 10 EB Crossing	506* 23DEC13	30NOV15		US Highway 10 EB Crossing
FCP20010	L&D - US Highway 10 EB Crossing	180 23DEC13	29AUG14		L&D - US Highway 10 EB Crossing
FCP20020	Design - US Highway 10 EB Crossing	180 23DEC13	29AUG14		Design - US Highway 10 EB Crossing
FCP20030	Bid & Award - US Highway 10 EB Crossing	90 01JAN15	06MAY15		
FCP20040	Construction - US Highway 10 EB Crossing	178 07MAY15	30NOV15		Construction - US Highway 10 EB Crossing
FCP20050	Utilities - US Highway 10 EB Crossing	178 07MAY15	30NOV15		Utilities - US Highway 10 EB Crossing
FCP20090	Complete - US Highway 10 EB Crossing	0	30NOV15		Complete - US Highway 10 EB Crossing
FCP21000	BNSF Dillworth Rail Yard Relocation	871* 03JAN12	05MAY15		BNSF Dillworth Rail Yard Relocation
FCP21010	L&D - Dillworth Rail Yard	510 03JAN12	16DEC13		L&D - Dillworth Rail Yard
FCP21020	Design - BNSF Dillworth Rail Yard Relocation	510 03JAN12	16DEC13] ; ;	Design - BNSF Dillworth Rail Yard Relocation
FCP21030	Bid & Award - Dillworth Rail Yard Reloc Ph1	90 01JAN14	06MAY14		Bid & Award - Dillworth Rail Yard Reloc Ph1
FCP21040	Construction - Dillworth Rail Yard Reloc Ph 1	260 07MAY14	05MAY15		Construction - Dillworth Rail Yard Reloc Ph 1
FCP21090	Complete - Dillworth Rail Yard Reloc Ph 1	0	05MAY15		Complete - Dillworth Rail Yard Reloc Ph 1
FCP22000	Rail Bridge 2 - BNSF Mainline	761* 01JAN14	30NOV16		Rail Bridge 2 - BN\$F Mainline
FCP22010	L&D - RR Crossing 2 (BNSF Mainline)	90 01JAN14	06MAY14		L&D - RR Crossing 2 (BNSF Maintine)
FCP22020	Design - Rail Bridge 2 - BNSF Mainline	120 01JAN14	17JUN14		Design - Rail Bridge 2 - BNSF Mainline
FCP22030	Bid & Award - Rail Bridge 2 - BNSF Mainline	90 18JUN14	21OCT14		Bid & Award - Rail Bridge 2 - BN\$F Mainline
FCP22040	Construction - Rail Bridge 2 - BNSF Mainline	422 22OCT14	30NOV16		Construction - Rail Bridge 2 - BNSF Mainline
FCP22090	Complete - Rail Bridge 2 - BNSF Mainline	0	30NOV16		Complete - Rail Bridge 2 - BNSF Mainline
FCP23000	MN FCP Channel Seg 9	778* 09DEC13	30NOV16		MN FCP Channel Seg 9
FCP23010	L&D - MN FCP Channel Seg 9	270 09DEC13	19DEC14		L&D - MN FCP Channel Seg 9
FCP23020	Design - MN FCP Channel Seg 9	270 09DEC13	19DEC14		Design - MN FCP Channel Seg 9
FCP23030	Bid & Award - MN FCP Channel Seg 9	90 01JAN15	06MAY15		Bid & Award - MN/FCP Channel Seg 9
FCP23040	Construction - MN FCP Channel Seg 9	372 07MAY15	30NOV16		Construction - MN FCP Channel Seg 9
FCP23090	Complete - MN FCP Channel Seg 9	0	30NOV16		Complete - MN FCP Channel Seg 9
FCP24000	I-94 WB Crossing	587* 01SEP14	29NOV16		I-94 WB Crossing
FCP24010	L&D - I-94 WB Crossing	250 01SEP14	14AUG15		L&D -I-94 WB Crossing
FCP24020	Design - I-94 WB Crossing	250 01SEP14	14AUG15		Design - I-94 WB Crossing
FCP24030	Bid & Award - I-94 WB Crossing	90 01JAN16	05MAY16		Bid & Award - I-94 WB Crossing
FCP24040	Construction - I-94 WB Crossing	178 06MAY16	29NOV16		Construction -I-94 WB Crossing
FCP24050	Utilities - I-94 WB Crossing	178 06MAY16	29NOV16		Utilities + I-94 WB Crossing
FCP24090	Complete - I-94 WB Crossing	0	29NOV16		Complete - I-94 WB Crossing
FCP25000	I-94 EB Crossing	587* 01SEP14	29NOV16		I-94 EB Crossing
FCP25010	L&D - I-94 EB Crossing	250 01SEP14	14AUG15		L&D -I-94 EB Crossing
FCP25020	Design - I-94 EB Crossing	250 01SEP14	14AUG15		Design - I-94 EB Crossing
FCP25030	Bid & Award - I-94 EB Crossing	92 01JAN16	09MAY16		Bid & Award - I-94 EB Crossing
FCP25040	Construction - I-94 EB Crossing		29NOV16		Construction -I-94 EB Crossing
FCP25090	Complete - I-94 EB Crossing	0	29NOV16		Complete - I-94 EB Crossing
FCP26000	MN FCP Channel Seg 10	761* 01JAN15	30NOV17		MIN FCP Channel Seg 10
FCP26010	L&D - MN FCP Channel Seg 10	252 01JAN15	18DEC15		L&D - MN FCP Channel Seg 10
	Design - MN FCP Channel Seg 10	252 01JAN15	18DEC15		
Start Date	010CT10			FA06 US	ACE Sheet 3 of 6
Finish Date	31DEC24			Progress Bar Fargo-Moorhead M	etro Area Flood Risk Date Revision Checked Approved
Data Date Run Date	01OCT10 29JUN11 08:23			Critical Activity FCP Downstream	am to Upstream Scongrig
					Scenario 41
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Activity	Activity	Orig Early	Early	2010 201	11 201	2 201	3 2014	4 2015 2016 2017 2018 2019 2020
ID	Description 10 10 10 10 10 10 10 10 10 10 10 10 10	Dur Start	Finish	Q4 Q1 Q2		Q3 Q4 Q1 Q2	Q3 Q4 Q1 Q2 Q3	Q3 Q4 Q1 Q2 Q3 Q4
FCP26030	Bid & Award - MN FCP Channel Seg 10	90 01JAN16	05MAY16					Bid & Award - MN FCP Channel Seg 10
FCP26040	Construction - MN FCP Channel Seg 10	375 06MAY16	30NOV17					Construction - MN FCP Channel Seg 10
FCP26050	Utilities - MN FCP Channel Seg 10	375 06MAY16	30NOV17					Utilities - MN FCP Channel Seg 10
FCP26090	Complete - MN FCP Channel Seg 10	0	30NOV17					Complete - MN FCP Channel Seg 10
FCP27000	50th Avenue S (CR 75) Crossing	587* 01SEP14	29NOV16					50th Avenue S (CR 75) Crossing
FCP27010	L&D - 50th Avenue S (CR 75) Crossing	250 01SEP14	14AUG15					L&D -50th Avenue S (CR 75) Crossing
FCP27020	Design - 50th Avenue S (CR 75) Crossing	250 01SEP14	14AUG15					Design - 50th Avenue S (CR 75) Crossing
FCP27030	Bid & Award - 50th Avenue S (CR 75) Crossing	90 01JAN16	05MAY16					Bid & Award - 50th Avenue S (CR 75) Crossing
FCP27040	Construction - 50th Avenue S (CR 75) Crossing	178 06MAY16	29NOV16					Construction - 50th Avenue S (CR 75) Crossing
FCP27050	Utilities - 50th Avenue S (CR 75) Crossing	178 06MAY16	29NOV16					Utilities - 50th Avenue S (CR 75) Crossing
FCP27090	Complete - 50th Avenue S (CR 75) Crossing	0	29NOV16					Complete - 50th Avenue S (CR 75) Crossing
FCP28000	Rail Bridge 3 - BNSF OVTR	1,022* 01JAN14	30NOV17					Rail Bridge 3 - BN\$F OVTR
FCP28010	L&D - RR Crossing 3 (OVTR)	259 01JAN14	29DEC14					L&D - RR Crossing 3 (OVTR)
FCP28020	Design - Railroad Bridge 3 - BNSF OVTR	259 01JAN14	29DEC14					Design - Railroad Bridge 3 - BNSF OVTR
FCP28030	Bid & Award - Railroad Bridge 3 - BNSF OVTR	90 01JAN15	06MAY15					Bid & Award - Railroad Bridge 3 - BNSF OVTR
FCP28040	Construction - Railroad Bridge 3 - BNSF OVTR	568 07MAY15	30NOV17	.				Construction - Railroad Bridge 3 - BNSF OVTR
FCP28090	Complete - Railroad Bridge 3 - BNSF OVTR	0	30NOV17					Complete - Railroad Bridge 3 - BNSF OVTR
FCP29000	CSAH 52 Crossing	500* 01JAN16	30NOV17					CSAH 52 Crossing
FCP29010	L&D - CSAH 52 Crossing	230 01JAN16	17NOV16					L&D - CSAH 52 Crossing
FCP29020	Design - CSAH 52 Crossing	230 01JAN16	17NOV16]				Design - CSAH 52 Crossing
FCP29030	Bid & Award - CSAH 52 Crossing	90 02JAN17	05MAY17					Bid & Award - CSAH 52 Crossing
FCP29040	Construction - CSAH 52 Crossing	179 06MAY17	30NOV17					Construction - CSAH 52 Crossing
FCP29090	Complete - CSAH 52 Crossing	0	30NOV17					Complete - CSAH 52 Crossing
FCP30000	MN FCP Channel Seg 11	761* 01JAN15	30NOV17					MN FCP Channel Seg 11
FCP30010	L&D - MN FCP Channel Seg 11	197 01JAN15	02OCT15					L&D - MN FCP Channel Seg 11
FCP30020	Design - MN FCP Channel Seg 11	197 01JAN15	02OCT15					Design - MN FCP Channel Seg 11
FCP30030	Bid & Award - MN FCP Channel Seg 11	90 01JAN16	05MAY16	1				Bid & Award - MN FCP Channel Seg 11
FCP30040	Construction - MN FCP Channel Seg 11	375 06MAY16	30NOV17					Construction - MN FCP Channel Seg 11
FCP30050	Utilities - MN FCP Channel Seg 11	371 06MAY16	25NOV17					Utilities - MN FCP Channel Seg 11
FCP30090	Complete - MN FCP Channel Seg 11	0	30NOV17					Complete - MN FCP Channel Seg 11
FCP31000	60th Avenue S Crossing	499* 01JAN16	29NOV17	1				60th Avenue S Crossing
FCP31010	L&D - 60th Avenue S Crossing	215 01JAN16	27OCT16	1				L&D - 60th Avenue S Crossing
	Ţ.	215 01JAN16	27OCT16					Design - 60th Avenue S Crossing
FCP31030	Bid & Award - 60th Avenue S Crossing	90 02JAN17	05MAY17	1				Bid & Award - 60th Avenue S Crossing
FCP31040	Construction - 60th Avenue S Crossing	178 06MAY17	29NOV17					Construction -60th Avenue S Crossing
FCP31090	Complete - 60th Avenue S Crossing	0	29NOV17	1				Complete - 60th Avenue S Crossing
FCP32000	MN FCP Channel Seg 12	761* 01JAN15	30NOV17	1				MN FCP Channel Seg 12
FCP32010	L&D - MN FCP Channel Seg 12	261 01JAN15	31DEC15					L&D - MN FCP Channel Seg 12
FCP32020	Design - MN FCP Channel Seg 12	261 01JAN15	31DEC15					Design - MN FCP Channel Seg 12
FCP32030	Bid & Award - MN FCP Channel Seg 12	90 01JAN16	05MAY16					Bid & Award - MN FCP Channel Seg 12
FCP32040	Construction - MN FCP Channel Seg 12	375 06MAY16	30NOV17	1				Construction - MN FCP Channel Seg 12
FCP32050	Utilities - MN FCP Channel Seg 12	375 06MAY16	30NOV17	1				Utilities - MN FCP Channel Seg 12
FCP32090	Complete - MN FCP Channel Seg 12	0	30NOV17					Complete - MN FCP Channel Seg 12
FCP33000	80th Avenue S Crossing	500* 01JAN16	30NOV17	1				80th Avenue S Crossing
FCP33010	L&D - 80th Avenue S Crossing	235 01JAN16	24NOV16					L&D - 80th Avenue S Crossing
FCP33020	Design - 80th Avenue S Crossing	235 01JAN16	24NOV16	1:: ::				Design - 80th Avenue S Crossing
FCP33030	Bid & Award - 80th Avenue S Crossing	90 02JAN17	05MAY17					Bid & Award - 80th Avenue S Crossing
FCP33040	Construction - 80th Avenue S Crossing	179 06MAY17	30NOV17					Construction - 80th Avenue S Crossing
FCP33050	Utilities - 80th Avenue S Crossing	179 06MAY17	30NOV17					Utilities - 80th Avenue S Crossing
FCP33090	Complete - 80th Avenue S Crossing	0	30NOV17	1				Complete + 80th Avenue S Crossing
FCP34000	MN FCP Channel Seg 13	761* 01JAN16	30NOV18					MN FCP Channel Seg 13
FCP34010	L&D - MN FCP Channel Seg 13	261 01JAN16	30DEC16	1:: :: ::				L&D - MN FCP Channel Seg 13
FCP34020	Design - MN FCP Channel Seg 13	261 01JAN16	30DEC16			1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		Design - MN FCP Channel Seg 13
FCP34020	Bid & Award - MN FCP Channel Seg 13	90 02JAN17	05MAY17	1				Bid & Award - MN FCP Channel Seg_13
FCP34030 FCP34040	Construction - MN FCP Channel Seg 13	376 06MAY17	30NOV18	.				Construction - MN FCP Channel Seg 13
Start Date	010CT10	J/O OUNATI/	JUNUV 10		FA06	<u> </u>	LICACE	Sheet 4 of 6
Finish Date	31DEC24			Early Bar			USACE d Metro Area Flood Risk	
Data Date	010CT10			Progress Ba		FCP Down	stream to Upstream	USACE-MVP-000088005
Run Date	29JUN11 08:23			CIRIOGI ACTI	9	7.5 y	rear Scenario L - 42	
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Activity	Activity	Orig Early	Early	2040	0044	2040		2042	0044	0045		2042
ID	Description	Dur Start	Finish	Q4 Q1	2011 Q2 Q3 Q4	Q1 Q2 Q	3 Q4 Q1 Q2	2013 2 Q3 Q4 Q	1 Q2 Q3	Q4 Q1 Q2 Q3	Q4 Q1 Q2	2016 2017 2018 2019 2020 12 Q3 Q4 Q1 Q2 Q3 Q4
FCP34050	Utilities - MN FCP Channel Seg 13	376 06MAY17	30NOV18									Utilities - MN FCP Channel Seg 13
FCP34090	Complete - MN FCP Channel Seg 13	0	30NOV18									Complete - MN FCP Channel Seg 13
FCP35000	Rail Bridge 4 - BNSF Moorhead Sub	761* 01JAN16	30NOV18									Rail Bridge 4 - BNSF Moorhead Sub
FCP35010	L&D - RR Crossing 4 (BNSF Moorhead Sub)	256 01JAN16	23DEC16	1 1 1 1							1 -	L&D - RR Crossing 4 (BNSF Moorhead Sub)
FCP35020	Design - Rail Bridge 4 - BNSF Moorhead Sub	256 01JAN16	23DEC16									Design - Rail Bridge 4 - BNSF Moorhead Sub
FCP35030	Bid & Award - Rail Bridge 4 - BNSF Moorhead Sub	90 02JAN17	05MAY17									Bid & Award - Rail Bridge 4 - BNSF Moorhead Sub
FCP35040	Construction - Rail Bridge 4 - BNSF Moorhead Sub	376 06MAY17	30NOV18							Construction - I	Rail Bridge 4 - I	BNSF Moorhead Sub
FCP35090	Complete - Rail Bridge 4 - BNSF Moorhead Sub	0	30NOV18									Complete - Rail Bridge 4 - BNSF Moorhead Sub
FCP36000	MN FCP Channel Seg 14	761* 01JAN16	30NOV18	1 1 1 1							1 1	MN FCP Channel Seg 14
FCP36010	L&D - MN FCP Channel Seg 14	280 01JAN16	26JAN17									L&D - MN FCP Channel Seg 14
FCP36020	Design - MN FCP Channel Seg 14	280 01JAN16	26JAN17									Design - MN FCP Channel Seg 14
FCP36030	Bid & Award - MN FCP Channel Seg 14	90 27JAN17	01JUN17									Bid & Award - MN FCP Channel Seg 14
FCP36040	Construction - MN FCP Channel Seg 14	353 02JUN17	30NOV18	1 1 1 1								Construction - MN FCP Channel Seg 14
FCP36090	Complete - MN FCP Channel Seg 14	0	30NOV18									Complete - MN FCP Channel Seg 14
FCP37000	Inlet Control Structure	649* 26DEC16	20JUN19									Inlet Control Structure
FCP37010	L&D - Inlet Control Structure	166 26DEC16	14AUG17]								L&D -Inlet Control Structure
FCP37020	Design - Inlet Control Structure	166 26DEC16	14AUG17									Design Inlet Control Structure
FCP37030	Bid & Award - Inlet Control Structure	90 01JAN18	04MAY18									Bid & Award - Inlet Control Structure
FCP37040	Construction - Inlet Control Structure	237 05MAY18		 								Construction - Inlet Control Structure
FCP37090	Complete - Inlet Control Structure	0	20JUN19									Complete - Inlet Control Structure
FCP38000	MN FCP Channel Seg 15	760* 01JAN16	29NOV18									MN FCP Channel Seg 15
FCP38010	L&D - MN FCP Channel Seg 15	230 01JAN16	17NOV16									L&D - MN FCP Channel Seg 15
FCP38020	Design - MN FCP Channel Seg 15	230 01JAN16	17NOV16									Design - MN FCP Channel Seg 15
FCP38030	Bid & Award - MN FCP Channel Seg 15	90 02JAN17	05MAY17									Bid & Award - MN FCP Channel Seg 15
FCP38040	Construction - MN FCP Channel Seg 15	375 06MAY17	29NOV18	1 1 1 1								Construction - MN FCP Channel Seg 15
FCP38090	Complete - MN FCP Channel Seg 15	0	29NOV18	- ! ! ! !								Complete - MN FCP Channel Seg 15
FCP39000	State Highway 75 (N) Crossing	505* 26DEC16	30NOV18									State Highway 75 (N) Crossing
FCP39010	L&D - State Highway 75 (N) Crossing	215 26DEC16										L&D - State Highway 75 (N) Crossing
FCP39020	Design - State Highway 75 (N) Crossing	215 26DEC16										Design - State Highway 75 (N) Crossing
FCP39030	Bid & Award - State Highway 75 (N) Crossing	90 01JAN18	04MAY18	-								Bid & Award - State Highway 75 (N) Crossing
FCP39040	Construction - State Highway 75 (N) Crossing	180 05MAY18		-								Construction - State Highway 75 (N) Crossing Utilities - State Highway 75 (N) Crossing
FCP39050	Utilities - State Highway 75 (N) Crossing	179 05MAY18										
FCP39090 FCP40000	Complete - State Highway 75 (N) Crossing MN FCP Channel Seg 16	675* 18NOV16	30NOV18 20JUN19									Complete - State Highway 75 (N) Crossing ✓ MN FCP Channel Seg 16
FCP40000	L&D - MN FCP Channel Segment 16	230 18NOV16		-								L&D - MN FCP Channel Segment 16
FCP40020	Design - MN FCP Channel Segment 16	230 18NOV16										Design - MN FCP Channel Segment 16
FCP40030	Bid & Award - MN FCP Channel Segment 16	90 01JAN18	04MAY18									Bid & Award - MN FCP Charinel Segment 16
FCP40040	Construction - MN FCP Channel Segment 16	237 05MAY18		1 1 1 1	1 1 1 1 1 1		1 1 1 1 1 1 1		1 1 1 1 1		1 1 1 1 1 1	Construction - MN FCP Channel Segment 16
FCP40090	Complete - MN FCP Channel Segment 16	0	20JUN19									Complete - MN/FCP Channel Segment 16
FCP41000	Diversion Ext Chnl Seg 1	674* 18NOV16		1								Diversion Ext Chnl Seg 1
FCP41010	L&D - Diversion Ext Chnl Seg 1	290 18NOV16										L&D - Diversion Ext Chnl Seg 1
FCP41020	Design - Diversion Ext Chnl Seg 1	290 18NOV16	28DEC17									Design - Diversion Ext Chil Seg 1
FCP41030	Bid & Award - Diversion Ext Chnl Seg 1	90 01JAN18	04MAY18									Bid & Award - Diversion Ext Chnl Seg 1
FCP41040	Construction - Diversion Ext Chnl Seg 1	236 05MAY18	19JUN19									Construction - Diversion Ext Chnl Seg 1
FCP41090	Complete - Diversion Ext Chnl Seg 1	0	19JUN19	1:::::								Complete - Diversion Ext Chnl Seg 1
FCP42000	110th Avenue S Div Channel Crossing	505* 26DEC16	30NOV18	1:: ::								110th Avenue S Div Channel Crossing
FCP42010	L&D - 110th Avenue S Div Channel Crossing	215 26DEC16	20OCT17									L&D - 110th Avenue \$ Div Channel Crossing
FCP42020	Design - 110th Avenue S Div Channel Crossing	215 26DEC16	20OCT17						1 1 1 1 1			Design - 110th Avenue S Div Channel Crossing
FCP42030	Bid & Award - 110th Avenue S Div Channel Crossin	90 01JAN18	04MAY18									Bid & Award - 110th Avenue S Div Channel Crossin
FCP42040	Construction - 110th Avenue S Div Channel Crossi	180 05MAY18	30NOV18									Construction - 110th Avenue S Div Channel Crossi
FCP42090	Complete - 110th Avenue S Div Channel Crossi	0	30NOV18									Complete - 110th Avenue S Div Channel Crossi
FCP43000	Diversion Ext Chnl Seg 2	591* 18NOV16	22FEB19									Diversion Ext Chnl Seg 2
FCP43010	L&D - Diversion Ext Chnl Seg 2	230 18NOV16	05OCT17									L&D - Diversion Ext Chrll Seg 2
FCP43020	Design - Diversion Ext Chnl Seg 2	230 18NOV16	05OCT17									Design - Diversion Ext Chnl Seg 2
FCP43030	Bid & Award - Diversion Ext Chnl Seg 2	90 01JAN18	04MAY18		<u> </u>							Bid & Award - Diversion Ext Chnl Seg 2
Start Date	010CT10			Early	Bar FA06			USACE		Sheet 5 of 6		
Finish Date Data Date	31DEC24 01OCT10			Prog	ress Bar			ead Metro Area wnstream to Ups			Date	Revision Checked Approved
Run Date	29JUN11 08:23			Critic	al Activity			5 year Scenario				USACE-MVP-0000088005
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Company Comp	
Control Cont	019 2020
PC-04-2003 Control	ruction - Diversion Ext Chnl Seg 2
Checkel Color Co	ete - Diversion Ext Chnl Seg 2
COMMING Life Te Bask Leves Segment COMMING SSEAVITE COMMING CO	
CPM-402 Delay TeBask Lever Segment 2.50 (JAMN 5 2004) Contraction TeBask Lever Segment CPM-403 Delay TeBask Lever Segment Complete TeBask Lever Segment CPM-403 Delay TeBask Lever Segment TeBask Lever Segmen	/Tie-Back Levee Segment 1
CPCM-400 Die & Answell - Tille Back Lever Segment 1	
Complete Te-Bask Leves Segment Complete Te-Bask Leves Segment	
PCH4400 Complete - Tie-Back Levee Segment D ZOUN19 Complete - Tie-Back Levee Segment PCH4500 AD - 1-62 No Consting 215 OLAN16 2000** 200	<u> </u>
PCM-9000 28 NS Cessing	
Control April Ap	
FCP-40000 Design - L-20 MB Crossing 215 (D.M.NH) 27/00-TH 125 MB Crossing 310 (D.M.NH) 27/00-TH 27/00-TH	
FCM-9000 Ed 8 Award - 1-20 NB Crossing 90 (02)ANT 90 (04)AVT 70 (04)AVT	
FCP-64606 Construction 1.29 NB Crossing 179 (88MAYT 179 (88MA	
COMPRISE SUB NO CONSISTING CONTINUED CONTINUED	
FCPH0000 LoS St Crossing	
FCP40010 LaD - L29 BS Crossing 215 01 LAN16 27 C0716 27	
FCP48020 Design - 1-29 SB Crossing 215 DIAN16 270CT16 Design - 1-29 SB Crossing 275 DIAN17 DAN177 Design - 1-29 SB Crossing 275 DIAN17 DAN177 DOS DESIGN DESIGN	
FCP48020 Design - 129 SB Crossing 215 D1AN18 270C116	
FCP48030 Bid & Award - 1-29 SB Crossing 90 DLAN17 SMAY17 FCP48040 Construction - 1-29 SB Crossing 179 SBMAY17 SMAY17 SMAY17 FCP48040 Construction - 1-29 SB Crossing 179 SBMAY17 SMAY17 S	
FCP4804 Construction - I-29 SB Crossing 179 08MAY17 30NOV17	
FCP46080 Complete - 1-29 SB Crossing Complete - 1-29 SB Cros	
FCP47000 Tie-Back Levee Segment 2 905 01JAN16 20JUN19 FCP47010 L80 - Tie-Back Levee Segment 2 254 01JAN16 20JUN19 FCP47010 L80 - Tie-Back Levee Segment 2 254 01JAN16 20JUN19 FCP47020 Design - Tie-Back Levee Segment 2 90 22DEC16 26APR17 FCP47030 Bid & Award - Tie-Back Levee Segment 2 90 22DEC16 26APR17 FCP47030 Complete - Tie-Back Levee Segment 2 90 22DEC16 26APR17 FCP47030 Complete - Tie-Back Levee Segment 2 90 22DEC16 26APR17 FCP47030 Complete - Tie-Back Levee Segment 2 90 22DEC16 26APR17 FCP47030 Complete - Tie-Back Levee Segment 2 90 22DEC16 26APR17 FCP48030 Red River Drop Structure 949 26DEC16 20JUN19 FCP48030 Bid & Award - Fee River Drop Structure 90 01JAN18 04MAY18 FCP48030 Complete - Tie-Back Levee Segment 2 90 01JAN18 04MAY18 FCP48030 Complete - Tie-Back Levee Segment 2 90 01JAN18 04MAY18 FCP48030 Complete - Tie-Back Levee Segment 2 90 01JAN18 04MAY18 FCP48030 Complete - Tie-Back Levee Segment 2 90 01JAN18 04MAY18 FCP48030 Complete - Tie-Back Levee Segment 2 90 01JAN18 04MAY18 FCP48030 Complete - Tie-Back Levee Segment 2 90 01JAN18 04MAY18 FCP48030 Complete - Tie-Back Levee Segment 2 90 01JAN18 04MAY18 FCP48030 Complete - Tie-Back Levee Segment 2 90 01JAN18 04MAY18 FCP48030 Complete - Tie-Back Levee Segment 2 90 01JAN18 04MAY18 90 00 00 00 00 00 00 00 00 00 00 00 00	
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FCP47030 Bid & Award - Tie-Back Levee Segment 2 90 2DEC16 26APR17 20JUN19 Construction - Tie-Back Levee Segment 2 441 27APR17 20JUN19 Construction - Tie-Back Levee Segment 2 50 20JUN19 Complete - Tie-Back Levee Segment 2 50 50 50 50 50 50 50	
FCP47040 Construction - Tie-Back Levee Segment 2 441 27APR17 20JUN19	<u> </u>
FCP47090 Complete - Tie-Back Levee Segment 2 0 20JUN19 Complete - Tie-Back Levee Segment 2 Compl	4
FCP48000 Red River Drop Structure 649 26DEC16 20JUN19 FCP48020 Design - Red River Drop Structure 257 26DEC16 19DEC17 FCP48030 Bid & Award - Red River Drop Structure 90 01JAN18 04MAY18 FCP48040 Construction - Red River Drop Structure 237 05MAY18 20JUN19 FCP48090 Complete - Red River Drop Structure 0 237 05MAY18 20JUN19 FCP48090 Local Road Reconstruction 660 28OCT16 20JUN19 FCP49000 Local Road Reconstruction 216 28OCT16 24AUG17 FCP49020 Design - Local Road Reconstruction 90 01JAN18 04MAY18 FCP49030 Bid & Award - Local Road Reconstruction 90 01JAN18 04MAY18 FCP49040 Construction - Local Road Reconstruction 90 01JAN18 04MAY18 FCP49040 Construction - Local Road Reconstruction 237 05MAY18 20JUN19 FCP50000 Levee Road Raises 690 28OCT16 20JUN19 FCP50000 Levee Road Raises 900 1JAN18 04MAY18 FCP50000 Levee Road Raises 910 01JAN18 04MAY18 FCP50000 Construction - Levee Road Raises 910 01JAN18 04MAY18 FCP50000 Construction - Levee Road Raises 910 01JAN18 04MAY18 FCP50000 Construction - Levee Road Raises 910 01JAN18 04MAY18 FCP50000 FCP50000 Rid & Award - Levee Road Raises 910 01JAN18 04MAY18 FCP50000 Rid & Award - Levee Road Raises 910 01JAN18 04MAY18 FCP50000 Non-Struct Floodproofing 545* 28OCT16 29NOV18	
FCP48020 Design - Red River Drop Structure 257 26DEC16 19DEC17	<u> </u>
FCP48030 Bid & Award - Red River Drop Structure 90 01JAN18 04MAY18 04MAY18	Red River Drop Structure
FCP48040 Construction - Red River Drop Structure 237 05MAY18 20JUN19	' ' ' ' ' ' ' ' ' ' ' ' ' ' '
FCP48090 Complete - Red River Drop Structure 0 20JUN19	
FCP49000 Local Road Reconstruction 690° 280CT16 20JUN19 FCP49020 Design - Local Road Reconstruction 215 280CT16 24AUG17 FCP49030 Bid & Award - Local Road Reconstruction 90 01JAN18 04MAY18 FCP49040 Construction - Local Road Reconstruction 237 05MAY18 20JUN19 FCP50000 Levee Road Raises 690° 280CT16 20JUN19 FCP50020 Design - Levee Road Raises 215 280CT16 24AUG17 FCP50030 Bid & Award - Levee Road Raises 90 01JAN18 04MAY18 FCP50040 Construction - Levee Road Raises 90 01JAN18 04MAY18 FCP50040 Construction - Levee Road Raises 237 05MAY18 20JUN19 FCP50040 Construction - Levee Road Raises 237 05MAY18 20JUN19 FCP50040 Construction - Levee Road Raises 237 05MAY18 20JUN19 FCP50040 Non-Struct Floodproofing 545° 280CT16 29NOV18 FCP51000 Non-Struct Floodpro	
FCP49020 Design - Local Road Reconstruction 215 28OCT16 24AUG17 24AUG17 24AUG17 24AUG17 24AUG17 24AUG17	Complete - Red River Drop Structure
FCP49030 Bid & Award - Local Road Reconstruction 90 01JAN18 04MAY18	Local Road Reconstruction
FCP49040 Construction - Local Road Reconstruction 237 05MAY18 20JUN19 FCP50000 Levee Road Raises 690* 28OCT16 20JUN19 FCP50020 Design - Levee Road Raises 215 28OCT16 24AUG17 FCP50030 Bid & Award - Levee Road Raises 90 01JAN18 04MAY18 FCP50040 Construction - Levee Road Raises 237 05MAY18 20JUN19 FCP50040 Construction - Levee Road Raises 237 05MAY18 20JUN19 FCP51000 Non-Struct Floodproofing 545* 28OCT16 29NOV18	
FCP50000 Levee Road Raises 690* 28OCT16 20JUN19 FCP50020 Design - Levee Road Raises 215 28OCT16 24AUG17 FCP50030 Bid & Award - Levee Road Raises 90 01JAN18 04MAY18 FCP50040 Construction - Levee Road Raises 237 05MAY18 20JUN19 FCP51000 Non-Struct Floodproofing 545* 28OCT16 29NOV18	Reconstruction
FCP50020 Design - Levee Road Raises 215 280CT16 24AUG17 FCP50030 Bid & Award - Levee Road Raises 90 01JAN18 04MAY18 FCP50040 Construction - Levee Road Raises 237 05MAY18 20JUN19 FCP51000 Non-Struct Floodgroofing 545* 280CT16 29NOV18	<u> </u>
FCP50020 Design - Levee Road Raises 215 280CT16 24AUG17 FCP50030 Bid & Award - Levee Road Raises 90 01JAN18 04MAY18 FCP50040 Construction - Levee Road Raises 237 05MAY18 20JUN19 FCP51000 Non-Struct Floodproofing 545* 280CT16 29NOV18	Levee Road Raises
FCP50040 Construction - Levee Road Raises 237 05MAY18 20JUN19 FCP51000 Non-Struct Floodproofing 545* 280CT16 29NOV18	
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FCP51000 Non-Struct Floodproofing 545* 280CT16 29NOV18	Construction - Levee Road Raises
	Floodproofing
FCP51020 Design - Non-Struct Floodproofing 215 28OCT16 24AUG17	
FCP51030 Bid & Award - Non-Struct Floodproofing 90 01JAN18 04MAY18 90 01JAN18 04MAY18	Floodproofing
FCP51040 Construction - Non-Struct Floodproofing 237 05MAY18 20JUN19	7
FCP52000 RR Signal System Costs 486* 03JAN12 12NOV13	
FCP52020 Design - RR Signal System Costs 215 03JAN12 29OCT12 Design - RR Signal System Costs	
FCP52030 Bid & Award - RR Signal System Costs 90 30OCT12 04MAR13	
FCP52040 Construction - RR Signal System Costs 179 16APR13 12NOV13	
Start Date 010CT10 Early Bar Finish Date 31DEC24 Sheet 6 of 6 Fargo-Moorhead Metro Area Flood Risk Revision	Checked Approved
Data Date 010CT10 FCP Downstream to Upstream	/IVP-0000088005
Run Date 29JUN11 08:23 7.5 year Scenario L - 44	
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Activity	Activity	_	Early Early	2010	2011	2012 2013 2014 2015 2016 2017 2018 2019 2020
ID	Description	Dur	Start Finish	Q4 C	Q1 Q2 Q3 (3 Q4 Q1 Q2 Q3 Q4 Q1
LP1						
LP101000	Outlet Structure	759* 03.		_		Outlet Structure
LP101010	L&D - Outlet Structure	215 03				L&D-Outlet Structure:
LP101020	Design - Outlet Structure	215 03				Design - Outlet Structure
LP101030	Bid & Award - Outlet Structure	90 01	JAN13 06MAY13			Bid & Award - Outlet Structure
LP101040	Construction - Outlet Structure	372 071	MAY13 29NOV14	iiii		Construction - Outlet Structure
LP101090	Complete - Outlet Structure	0	29NOV14			
LP102000	ND LPP Channel Seg 1	441* 03.	JAN12 10SEP13	1 1 1		: ; ; <mark> </mark>
LP102010	L&D - ND LPP Channel Seg 1	100 03	JAN12 21MAY12			; ; 🔨 🚾 🔽 L&D + ND LPP Chlannel/Seg 1 ;
LP102020	Design - ND LPP Channel Seg 1	100 03	JAN12 21MAY12			Design - ND LPP Channel Seg 1
LP102030	Bid & Award - ND LPP Channel Seg 1	90 01	JAN13 06MAY13			Bid & Award - ND LPP Channel Seg 1
LP102040	Construction - ND LPP Channel Seg 1	91 071	MAY13 10SEP13			Construction - ND LPP Channel Seg 1
LP102090	Complete - ND LPP Channel Seg 1	0	10SEP13			Complete - ND LPP Channel Seg 1
LP103000	173rd Avenue SE (CR 31)	499* 03.	JAN12 29NOV13			7173rd Avenue SE (CR 31)
LP103010	L&D - 173rd Avenue SE (CR 31)	216 03	JAN12 30OCT12			L&D-173rd Avenue SE (CR 31)
LP103020	Design - 173rd Avenue SE (CR 31)	218 03				Design -173rd Avenue SE (CR 31)
LP103030	Bid & Award - 173rd Avenue SE (CR 31)	90 01	JAN13 06MAY13			Bid & Award - 173rd Avenue SE (CR 31)
LP103040	Construction - 173rd Avenue SE (CR 31)	178 071		1:::::		Construction - 173rd Avenue SE (CR 31)
LP103050	Utilities - 173rd Avenue SE (CR 31)	178 071				Utilities - 173rd Avenue SE (CR 31)
LP103090	Complete - 173rd Avenue SE (CR 31)	0	29NOV13			Complete - 1/73rd Avenue SE (CR 31)
LP104000	ND LPP Channel Seg 2	759* 03.				ND LPP Channel Seg 2
LP104010	L&D - ND LPP Channel Seg 2	260 03				L&D-ND LPP Channel Seg 2
LP104020	Design - ND LPP Channel Seg 2	260 03				Design - ND LPP Channel Seg 2
LP104030	Bid & Award - ND LPP Channel Seg 2	90 01		-		Bid & Award - ND LPP Channel Seg_2
LP104040	Construction - ND LPP Channel Seg 2	372 071				Construction - ND LPP Channel Seg 2
LP104040 LP104050	Utilities - ND LPP Channel Seg 2	372 071		-		Utilities - ND LPP Channel Seg 2
LP104090	Complete - ND LPP Channel Seg 2	0	01DEC14			Complete - ND LPP Channel Seq 2
LP105000	25th Street SE (CR 4)	541* 021				25th Street SE (CR 4)
LP105000 LP105010	L&D - 25th Street SE (CR 4)	215 021				L&D - 25th Street SE (CR 4)
LP105010 LP105020	Design - 25th Street SE (CR 4)	215 021		-		Design 25th Street SE (CR 4)
LP105020		90 01				
l II	Bid & Award - 25th Street SE (CR 4)					Bid & Award - 25th Street SE (CR 4) Construction - 25th Street SE (CR 4)
LP105040	Construction - 25th Street SE (CR 4)	178 071		-		Utilities - 25th Street SE (CR 4)
	Utilities - 25th Street SE (CR 4)	1/8 0/1	MAY14 29NOV14	_		Complete - 25th Street SE (CR 4)
LP105090	Complete - 25th Street SE (CR 4)	4 000* 04	29NOV14	_		
LP106000	ND LPP Channel Seg 3	1,022* 01.		-		ND LPP Channel Seg 3
LP106010	L&D - ND LPP Channel Seg 3	345 01				
LP106020	Design - ND LPP Channel Seg 3	345 01		-		Design - ND LPP Channel Seg 3
	Bid & Award - ND LPP Channel Seg 3	90 29/		_		Bid & Award - ND LPP Channel Seg 3
LP106040	Construction - ND LPP Channel Seg 3	465 023		_		Construction - ND LPP Channel Seg 3
LP106050	Utilities - ND LPP Channel Seg 3	465 023		_		
LP106090	Complete - ND LPP Channel Seg 3	0	30NOV16			Complete - ND LPP Channel Seg 3
LP107000	County Road 81	541* 021		4		County Road 81
LP107010	L&D - County Road 81	215 021		4		L&D- County Road 81
LP107020	Design - County Road 81	215 021				Design - County Road 81
	Bid & Award - County Road 81	90 01		_		
LP107040	Construction - County Road 81	178 071				Construction - County Road 81
LP107090	Complete - County Road 81	0	29NOV14			Complete - County Road 81
LP108000	RR Crossing - BNSF Hillsboro Sub	747* 03.				RR Crossing - BNSF Hillsboro Sub
LP108010	L&D - RR Crossing - BNSF Hillsboro Sub	215 03	JAN12 29OCT12	_ ; ; ; ;		L&D - RR Crossing - BNSF Hillsboro Sub
LP108020	Design - RR Crossing - BNSF Hillsboro Sub	215 03				Design - RR Crossing - BNSF Hillsboro Sub
LP108030	Bid & Award - RR Crossing - BNSF Hillsboro Sub		OCT12 04MAR13	1 1 1		Bid & Award - RR Crossing - BNSF Hillsboro Sub
LP108040	Construction - RR Crossing - BNSF Hillsboro Sub	373 16/				Construction - RR Crossing - BNSF Hillsboro Sub
LP108050	Utilities - RR Crossing - BNSF Hillsboro Sub	373 16				Utilities - RR Crossing - BNSF Hillsboro Sub
LP108090	Complete - RR Crossing - BNSF Hillsboro Sub	0	12NOV14			▼ V Complete - RR Crossing - BNSF Hillsboro Sub
Start Date	01OCT10				FA06	FA06 USACE Sheet 1 of 8 Checked Approximate Checked
Finish Date Data Date	31DEC24 01OCT10				Progress Bar	Fargo-Moorhead Metro Area Flood Risk LPP Downstream to Upstream Date Revision Checked Approved LPA CE NAVID GOOGGOODDOOF
Run Date	29JUN11 08:21				Critical Activity	8.5 year Scenario USACE-MVP-0000088005
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Part	
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1979 1979	
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Community - No. 18 Mark (a) Tax Conference Community - No. 18 Mark (a) Community - No. 1	
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1972-00 1972	
### Compare 101-101-101-101-101-101-101-101-101-101	
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PF1900	
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P114000 ND I.PP Channel Seg 5	
PF14010 LBJ - NO LPP Channel Seg 5 50 290/EC14 EXAMPT 5	
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LP114030 But & Aurera - ND LPP Channel Seg 5 50 150 INDCT15 150 MAY16	
LP114040 Construction - ND LPP Channel Seg 5	
LP114080 Utilities - ND LPP Channel Seg 5	
Complete - ND LPP Channel Seg 5	
LP115000 S1st Street SE (CR 22) S55° 27JUN14 09AUG16	
LP115010 L8D - 31 st Street SE (CR 22) 215 27 JUN14 23 APR15	
LP115020 Design - 31st Street SE (CR 22) 215 27JUN14 23APR15 27AUG15 27AUG16 27AU	
EP115030 Bid & Award - 31st Street SE (CR 22) 90 24APR15 27AUG15 27AUG16 2	
LP115040 Construction - 31st Street SE (CR 22) 178 28AUG15 09AUG16	
LP115050 Utilities -31st Street SE (CR 22) 178 28AUG15 09AUG16	
LP115090 Complete - 31st Street SE (CR 22)	
LP116000 Lwr Rush River Drop Structure 852 27AUG13 30NOV16	
LP116010	
LP116020 Design - Lwr Rush River Drop Structure 215 27AUG13 23JUN14	
EP116030 Bid & Award - Lwr Rush River Drop Structure 90 01JAN15 06MAY15 06MAY16 06MA	
LP116040 Construction - Lwr Rush River Drop Structure 372 07MAY15 30NOV16	
LP116090 Complete - Lwr Rush River Drop Structure 0 30NOV16 LP117000 ND LPP Channel Seg 6 383* 15JUN15 30NOV16 LP117010 L&D - ND LPP Channel Seg 6 130 15JUN15 11DEC15 LP117020 Design - ND LPP Channel Seg 6 130 15JUN15 11DEC15 LP117030 Bid & Award - ND LPP Channel Seg 6 90 01JAN16 05MAY16 LP117040 Construction - ND LPP Channel Seg 6 179 06MAY16 30NOV16 Start Date 010CT10 Construction - ND LPP Channel Seg 6 Sheet 2 of 8 Finish Date Date Sheet 2 of 8	
LP117000 ND LPP Channel Seg 6 383* 15JUN15 30NOV16 LP117010 L&D - ND LPP Channel Seg 6 130 15JUN15 11DEC15 LP117020 Design - ND LPP Channel Seg 6 130 15JUN15 11DEC15 LP117030 Bid & Award - ND LPP Channel Seg 6 90 01JAN16 05MAY16 LP117040 Construction - ND LPP Channel Seg 6 179 06MAY16 30NOV16 Start Date 010CT10 Finish Date 31DEC24 Faring Brage FA06 USACE Sheet 2 of 8 Faring Brage Check Page Moorbead Metro Area Flood Risk Check Ch	
LP117010 L&D - ND LPP Channel Seg 6 130 15JUN15 11DEC15 LP117020 Design - ND LPP Channel Seg 6 130 15JUN15 11DEC15 LP117030 Bid & Award - ND LPP Channel Seg 6 90 01JAN16 05MAY16 LP117040 Construction - ND LPP Channel Seg 6 179 06MAY16 30NOV16 Start Date Finish Date Farro-Moorbead Metro Area Flood Pick Revision Check Revision Check Revision Check	
LP117020 Design - ND LPP Channel Seg 6	
LP117030 Bid & Award - ND LPP Channel Seg 6 90 01JAN16 05MAY16 LP117040 Construction - ND LPP Channel Seg 6 179 06MAY16 30NOV16 Start Date Finish Date Sheet 2 of 8	
LP117040 Construction - ND LPP Channel Seg 6 179 06MAY16 30NOV16 Start Date Finish Date Sheet 2 of 8 Farro-Moorhead Metro Area Flood Pick Date Revision Revision Check	
Start Date 010CT10 Start Date Sheet 2 of 8 Sheet 2 of 8 Sheet 2 of 8 Start Date Start Date Sheet 2 of 8 Sheet	
Finish Date Salp Early Bal Salp Earl	<u> </u>
	hecked Approved
Data Date 010CT10 Critical Activity LPP Downstream to Upstream	000088005
6.5 year Scenario	
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Activity	Activity Description	Orig Dur	Early Start	Early Finish	2010	2011		2012		2013		2014	2015	2	2016	2017	2018	2019	2020
LP117050	Utilities - ND LPP Channel Seg 6			30NOV16	Q4	Q1 Q2 (Q3 Q4 Q1	1 Q2 C	Q3 Q4 Q1	Q2 Q3 Q4	Q1 Q	2 Q3 Q4 Q	1 Q2 Q3 Q	Q4 Q1 Q2	Q3 Q4 Q1	<mark>Q2 Q3 Q4 Q1</mark> - ND LPP Channel Se	Q2 Q3 Q4	Q1 Q2 Q3	Q4 Q1 Q2 Q3 Q4
LP117090	Complete - ND LPP Channel Seg 6	1790		30NOV16												e - ND LPP Channel S	7		
	RR Crossing - BNSF Prosper Sub	1.054* 3	30OCT12	11NOV16												ing - BNSF Prosper S			
LP118010	L&D - RR Crossing - BNSF Prosper Sub			05AUG13	11					VI &D'-1	RR Crossin	g - BNSF Prosper	Sub						
LP118020	Design - RR Crossing - BNSF Prosper Sub			05AUG13					The state of the s		1 1 1 1 1	sing - BNSF Prosp	: 1 ! : 11 : : 1 : :						
LP118030	Bid & Award - RR Crossing - BNSF Prosper Sub			06MAY14						7 700.91	V : : : :	Bid & Award - RR		Prosper Sub					
LP118040	Construction - RR Crossing - BNSF Prosper Sub	+	07MAY14	11NOV16								Did a Atlara Itt		1 Tosper oub		tion - RR Crossing - E	RNSF Prosper Sub		
LP118090	Complete - RR Crossing - BNSF Prosper Sub	0.00	OTIVIATI 14	11NOV16							+ + + + +					- RR Crossing - BNS	 		
LP119000	ND LPP Channel Seg 7	644* 1	15JUN15	30NOV17	1 1									1 11 11		' ' ' ' ' <u></u> ' ' '	PP Channel Seg 7		
	L&D - ND LPP Channel Seg 7			08APR16										VI 8	D - ND LPP Channel				
<u> </u>	Design - ND LPP Channel Seg 7			08APR16											sign - ND LPP Chann				
	Bid & Award - ND LPP Channel Seg 7			12AUG16											<u> </u>	ID LPP Channel Seg	7		
LP119030	Construction - ND LPP Channel Seg 7			30NOV17							- 				Blu & Awaru - I	<u></u>	ruction - ND LPP C	hannel Sec 7	
LP119040	Complete - ND LPP Channel Seg 7	290 1		30NOV17												' ' ' ' T ' T	lete - ND LPP Chan	· · · · · · · · · · · ·	
	33rd Street SE (CR 20)	410* 3		29NOV16	1 1										33rd Str	et SE (CR 20)	iete - ND, EFT Gilaii	iner seg /	
LP120000	L&D - 33rd Street SE (CR 20)			22DEC15											d Street SE (CR 20)	pet GL (GIV 20)			
II	, ,			22DEC15 22DEC15									i Tilliani		33rd Street SE (CR 20				
LP120020	Design - 33rd Street SE (CR 20) Bid & Award - 33rd Street SE (CR 20)			05MAY16	+++						++++				Bid & Award - 33rd St		+		
II	Construction - 33rd Street SE (CR 20)			29NOV16											<u>' </u>	ction - 33rd Street SE	(CB 30)		
LP120040 LP120050	Utilities - 33rd Street SE (CR 20)			29NOV16 29NOV16											<u> </u>	- 33rd Street SE (CR 2	1		
	, ,	1/8 0													i	e - 33rd Street SE (CF	11 1 1 1 1 1 1 1 1		
LP120090	Complete - 33rd Street SE (CR 20)	000*		29NOV16											Complet	<u> </u>			
LP121000 LP121010	Maple River Aqueduct			28NOV17 04JAN16											aple River Aqueduct	- Iviapie	River Aqueduct		
LP121010	L&D - Maple River Aqueduct Design - Maple River Aqueduct			04JAN16								X			Maple River Aqueduc				
LP121020				04JAN 16 09MAY16										IV IT	Bid & Award - Maple F				
LP121030	Bid & Award - Maple River Aqueduct Construction - Maple River Aqueduct			28NOV17											Biu & Awaru - Wapie i		ruction - Maple Riv	or Aquaduct	
	· · ·			28NOV17													es - Maple River Aq		
LP121050 LP121090	Utilities - Maple River Aqueduct Complete - Maple River Aqueduct	370 1		28NOV17	1 1												lete - Maple River A		
	ND LPP Channel Seg 8	642* 1		29NOV17	1 1												PP Channel Seg 8	-queduct	
LP122010	L&D - ND LPP Channel Seg 8			01JAN16										I &D - NE	D LPP Channel Seg 8				
LP122020	Design - ND LPP Channel Seg 8			01JAN16											ND LPP Channel Seg	8			
<u> </u>	Bid & Award - ND LPP Channel Seg 8			12AUG16				i i i i						Design =	<u> </u>	ID LPP Channel Seg	R		
	Construction - ND LPP Channel Seg 8			29NOV17	1 1	1 1 1 1	1 1 1 1	1 1 1 1	1 1 1 1 1	1 1 1 1 1	1111	1 1 1 1 1	1 1 1 1 1		Bla a Awara 1		ruction - ND LPP C	hannel Seg 8	
LP122050	Utilities - ND LPP Channel Seg 8			29NOV17													es - ND LPP Channe	1 1 1 1 1 1 1	
	Complete - ND LPP Channel Seg 8	209 1		29NOV17													lete - ND LPP Chan		
	36th Street SE (CR 10)	506* 2		29NOV17				i I i i I i									Street SE (CR 10)		
LP123010	L&D - 36th Street SE (CR 10)		23DEC15	18OCT16											VI &D - 36th	Street SE (CR 10)			
LP123020	Design - 36th Street SE (CR 10)		23DEC15	18OCT16	1 1	1 1 1 1	1 1 1 1	1 1 1 1 1 1 1 1	1 1 1 1 1	1 1 1 1 1 1	1 1 1	1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1			th Street SE (CR 10)	1 1 1 1 1 1	1 1 1 1 1 1	
	Bid & Award - 36th Street SE (CR 10)			05MAY17												Bid & Award - 36th	Street SE (CR 10)		
LP123040	Construction - 36th Street SE (CR 10)			29NOV17												7 	ruction - 36th Stree	et SE (CR 10)	
LP123050	Utilities - 36th Street SE (CR 10)			29NOV17												V	es - 36th Street SE (
LP123090	Complete - 36th Street SE (CR 10)	n		29NOV17	11												lete - 36th Street Si		
	ND LPP Channel Seg 9	498*		29NOV17			1 1 1 1	1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1 1							PP Channel Seg 9		
	L&D - ND LPP Channel Seg 9			29JUL16											L&D - ND LPP C				
	Design - ND LPP Channel Seg 9			29JUL16											Design - ND LPF				
	Bid & Award - ND LPP Channel Seg 9			05MAY17												y Bid & Award - ND L	PP Channel Seq 9		
LP124040	Construction - ND LPP Channel Seg 9			29NOV17											:	<u>V V </u>	ruction - ND LPP C	hannel Seg 9	
LP124050	Utilities - ND LPP Channel Seg 9			29NOV17			1 1 1 1			1 1 1 1 1 1						Y	es - ND LPP Channe		
	Complete - ND LPP Channel Seg 9	0		29NOV17												:	lete - ND LPP Chan		
	RR Crossing - BNSF KO Sub	605*		30NOV15				:						RR Crossir	ng - BNSF KO Sub				
LP125010	L&D - RR Crossing - BNSF KO Sub			20JAN14							L&D - F	RR Crossing - BNS	SF KO Sub						
	Design - RR Crossing - BNSF KO Sub			20JAN14								- RR Crossing - B							
	Bid & Award - RR Crossing - BNSF KO Sub			26MAY14	11							Bid & Award - RF		SF KO Sub					
LP125040	Construction - RR Crossing - BNSF KO Sub			30NOV15								1		<u></u>	on - RR Crossing - BN	ISF KO Sub			
LP125090	Complete - RR Crossing - BNSF KO Sub	0		30NOV15									1 1 1 1	Y II	RR Crossing - BNSF				
Start Date	01OCT10					Early Bar	FA06			USACE			Sheet 3 of 8						
Finish Date	31DEC24					Progress Bar				orhead Metro A				Date		Revision			Checked Approved
Data Date Run Date	01OCT10 29JUN11 08:21					Critical Activit	у		LPP	Downstream to 8.5 year Scer			-					USACE-MVP-0	000088005
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Activity	Activity	Orig Forb	Farly																	
Activity ID	Activity Description	Orig Early Dur Start	Early Finish	2010 Q4 Q1	2011		Q3 Q4 Q	2013 01 Q2 Q3	Q4 Q1	201 I Q2	4 Q3 Q4	Q1 Q2 Q3	3 Q4		016 2017 Q3 Q4 Q1 Q2 Q3 Q4	2018	2019	04 01 02	2020	4
LP126000	ND LPP Channel Seg 10	1,020* 04JAN16	29NOV19			WI WZ			W4 W1	WZ						WI WZ WO W4	Q1 QZ Q3	ND LPP Ch		
LP126010	L&D - ND LPP Channel Seg 10	240 04JAN16	02DEC16	1 1 1 1							1 1 1 1		🕭		L&D - ND LPP Channe	I Seg 10				
LP126020	Design - ND LPP Channel Seg 10	240 04JAN16	02DEC16										<u> </u>		Design - ND LPP Char	nel Seg 10				
LP126030	Bid & Award - ND LPP Channel Seg 10	90 02JAN17	05MAY17												Bid & Award	I - ND LPP Channel Seg	ı o			
LP126040	Construction - ND LPP Channel Seg 10	572 06MAY17	29NOV19										Construct	tion - ND L	LPP Channel Seg 10			 		
LP126050	Utilities - ND LPP Channel Seg 10	572 06MAY17	29NOV19										Ųtilii	ties - ND L	LPP Channel Seg 10		+++			
LP126090	Complete - ND LPP Channel Seg 10	0	29NOV19													Complete - NI	LPP Channel Seg	10🔖		
LP127000	I94 WB Bridge	507* 23DEC15	30NOV17													7l94 WB Bridge				
LP127010	L&D - I94 WB Bridge	215 23DEC15	18OCT16										i i i	11 11	L&D - I94 WB Bridge					
LP127020	Design - I94 WB Bridge	215 23DEC15	18OCT16										i i i		Design - I94 WB Bridge					
LP127030	Bid & Award - I94 WB Bridge	90 02JAN17	05MAY17												Bid & Awarc	- I94 WB Bridge				
LP127040	Construction - I94 WB Bridge	179 06MAY17	30NOV17													Construction - I94 WB I	Bridge			
LP127050	Utilities - I94 WB Bridge	179 06MAY17	30NOV17													Utilities - I94 WB Bridge				
LP127090	Complete - I94 WB Bridge	0	30NOV17													Complete - I94 WB Brid	ge			
LP128000	I-94 EB Bridge	507* 23DEC15	30NOV17										¦ ¦ ¦			/I-94 EB Bridge				
LP128010	L&D - I-94 EB Bridge	215 23DEC15	18OCT16												L&D - I-94 EB Bridge					
LP128020	Design - I-94 EB Bridge	215 23DEC15	18OCT16												Design - I-94 EB Bridge					
LP128030	Bid & Award - I-94 EB Bridge	90 02JAN17	05MAY17												Bid & Award	, - I-94 EB Bridge				
LP128040	Construction - I-94 EB Bridge	179 06MAY17	30NOV17													Construction - I-94 EB	Bridge			
LP128090	Complete - I-94 EB Bridge	0	30NOV17													Complete - I-94 EB Brid	ge			
LP129000	ND LPP Channel Seg 11	779* 05DEC16	28NOV19															ND LPP Ch	annel Seg	11
LP129010	L&D - ND LPP Channel Seg 11	240 05DEC16	03NOV17													L&D - ND LPP Channel S	eg 11			
LP129020	Design - ND LPP Channel Seg 11	240 05DEC16	03NOV17	1 1 1 1							1 1 1 1					Design - ND LPP Channe	l Seg∣11			1 1
LP129030	Bid & Award - ND LPP Channel Seg 11	90 01JAN18	04MAY18														- ND LPP Channel S	Seg 11		
LP129040	Construction - ND LPP Channel Seg 11	375 05MAY18	28NOV19												Construction - ND LPP Chann	1 1 7 1 7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1				
LP129050	Utilities - ND LPP Channel Seg 11	375 05MAY18	28NOV19												Utilities - ND LPP Chann					
LP129090	Complete - ND LPP Channel Seg 11	0	28NOV19								1 1 1 1			1 1 1 1	<u> </u>		LPP Channel Seg	110		
LP130000	41st Street (CR 8)	506* 23DEC15	29NOV17													41st Street (CR 8)				
LP130010	L&D - 41st Street (CR 8)	215 23DEC15	18OCT16												L&D - 41st Street (CR 8)					
LP130020	Design - 41st Street (CR 8)	215 23DEC15	18OCT16										i i i /-		Design - 41st Street (CR t					
LP130030	Bid & Award - 41st Street (CR 8)	90 02JAN17	05MAY17												Bid & Award	I - 41st Street (CR 8)				
LP130040	Construction - 41st Street (CR 8)	178 06MAY17	29NOV17													Construction - 41st Str				
LP130050	Utilities - 41st Street (CR 8)	178 06MAY17	29NOV17													Utilities - 41st Street (C	1			
LP130090	Complete - 41st Street (CR 8)	0	29NOV17													Complete - 41st Street	CR 8)			
LP131000	ND LPP Channel Seg 12	779* 05DEC16	28NOV19	1 1 1 1				1 1 1 1 1 1			1 1 1 1		1 1 1					ND LPP Ch	annel Seg	12
LP131010	L&D - ND LPP Channel Seg 12	190 05DEC16	25AUG17	=											_	- ND LPP Channel Seg 1				
LP131020	Design - ND LPP Channel Seg 12	190 05DEC16	25AUG17												Desig	yn - ND LPP Channel Sec		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		1
LP131030	Bid & Award - ND LPP Channel Seg 12	90 01JAN18	04MAY18												Construction - ND LPP Chann		- ND LPP Channel S	seg 12 ; ; ; ;		
LP131040 LP131050	Construction - ND LPP Channel Seg 12 Utilities - ND LPP Channel Seg 12	375 05MAY18	28NOV19	-											Utilities - ND LPP Chann					
LP131050 LP131090	Complete - ND LPP Channel Seg 12	375 05MAY18	28NOV19 28NOV19												July Stances - ND E. I. Chain		LPP Channel Seg	12		
LP131090 LP132000	44th Street (CR 6)	552* 19OCT16	29NOV18													. î . . <u></u>	44th Street (CR 6)			
LP132010	L&D - 44th Street (CR 6)	215 19OCT16	15AUG17	1 1 1 1	1 1 1 1		1 1 1 1 1	1 1 1 1 1	1 1 1 1	<u> </u>	1 1 1 1	1 1 1 1 1	1 1 1	1 1 1 1	180-	44th Street (CR 6)		1 1 1 1 1 1	1 1 1	1 1
LP132010 LP132020	Design -44th Street (CR 6)	215 19OCT16	15AUG17	!												n 44th Street (CR 6)				
LP132020	Bid & Award - 44th Street (CR 6)	90 01JAN18	04MAY18	!												. 7	- 44th Street (CR 6)			
LP132040	Construction - 44th Street (CR 6)	179 05MAY18	29NOV18													. Y . . <u>.</u> Y	Construction - 44th			
LP132050	Utilities - 44th Street (CR 6)	179 05MAY18	29NOV18	-												. V . <u></u>	Utilities - 44th Stre	1 1 1 1 1 1		
LP132090	Complete - 44th Street (CR 6)	0	29NOV18	1 1 1 1				1 1 1 1 1	1 1 1	1 1 1	1 1 1 1		1 1 1	1 1 1 1			Complete - 44th St	11 7 1	1 1 1	
LP133000	ND LPP Channel Seg 13	780* 05DEC16	29NOV19															ND LPP Ch	annel Sea	13
LP133010	L&D - ND LPP Channel Seg 13	171 05DEC16	31JUL17	1 1 1 1											L&D-	ND LPP Channel Seg 13				
LP133020	Design - ND LPP Channel Seg 13	171 05DEC16	31JUL17	1											_	- ND LPP Channel Seg	ı 3			
LP133030	Bid & Award - ND LPP Channel Seg 13	90 01JAN18	04MAY18	1													- ND LPP Channel \$	Seg_13		
LP133040	Construction - ND LPP Channel Seg 13	376 05MAY18	29NOV19												Construction - ND LPP Chann					
LP133050	Utilities - ND LPP Channel Seg 13	376 05MAY18	29NOV19	1											Utilities - ND LPP Chann	el Seg 13				
LP133090	Complete - ND LPP Channel Seg 13	0	29NOV19														LPP Channel Seg	13 😽		
Start Date	01OCT10			Ear	v Bar FA06			USA	ACE			Sheet 4 o	of 8			<u> </u>				
Finish Date Data Date	31DEC24 01OCT10				gress Bar			-Moorhead Me	etro Area F		k			Date	Re	vision	c	hecked	Approved	
Run Date	29JUN11 08:21				ical Activity		L	PP Downstrea 8.5 vear	am to Upst Scenario	ream							USACE-MVP-0	000088005		
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Activity	Activity	Orig Early	Early	2012												2010	
ID	Description	Dur Start	Finish	2010 Q ²	2011 1 Q2 Q	3 Q4 Q1	201 Q2	12 Q3 Q4 Q1	2013 Q2 Q3 Q4	Q1 Q2 Q3	Q4 Q1 Q2 Q	3 Q4 Q1	2016 Q2 Q3 Q4 Q	2017 1 Q2 Q3 Q4 (2018 Q1 Q2 Q3	Q4 Q1 Q2 Q3 Q4 Q1	2020 I Q2 Q3 Q4
LP134000	46th Street (CR 14)	552* 19OCT16	29NOV18													46th Street (CR 14)	
LP134010	L&D - 46th Street (CR 14)	215 19OCT16	15AUG17											L&D - 46tl	n Street (CR 14)		
LP134020	Design -46th Street (CR 14)	215 19OCT16	15AUG17											Design -4	6th Street (CR 14		
LP134030	Bid & Award - 46th Street (CR 14)	90 01JAN18	04MAY18	1 1 1		1 1 1 1 1 1 1 1 1 1									Bid & Aw	ard - 46th Street (CR 14)	
LP134040	Construction - 46th Street (CR 14)	179 05MAY18	29NOV18													Construction - 46th Street (C	R 14)
LP134090	Complete - 46th Street (CR 14)	0	29NOV18													Complete - 46th Street (CR 1	4)
LP135000	RR Crossing - RRVW 4th Sub	525* 01JAN15	04JAN17										R	R Crossing - RRVW 4th	n Sub		
LP135010	L&D - RR Crossing - RRVW 4th Sub	120 01JAN15	17JUN15								L&I	O - RR Crossing	- RRVW 4th Sub				
LP135020	Design - RR Crossing - RRVW 4th Sub	120 01JAN15	17JUN15								De:	ign - RR Crossi	ing - RRVW 4th Sub				
LP135030	Bid & Award - RR Crossing - RRVW 4th Sub	90 18JUN15	21OCT15									Bid & Awar	rd - RR Crossing - R	RVW 4th Sub			
LP135040	Construction - RR Crossing - RRVW 4th Sub	315 22OCT15	04JAN17										Ç.	onstruction - RR Cross	ing - RRVW 4th S	Sub	
LP135090	Complete - RR Crossing - RRVW 4th Sub	0	04JAN17											omplete - RR Crossing	- RRVW 4th Sub		
LP136000	ND LPP Channel Seg 14	609* 01AUG17	29NOV19														PP Channel Seg 14
LP136010	L&D - ND LPP Channel Seg 14	215 01AUG17	28MAY18													D LPP Channel Seg 14	
LP136020	Design - ND LPP Channel Seg 14	215 01AUG17	28MAY18													ND LPP Channel Seg 14	
LP136030	Bid & Award - ND LPP Channel Seg 14	90 29MAY18	01OCT18													Bid & Award - ND LPP Channel S	Seg 14
LP136040	Construction - ND LPP Channel Seg 14	248 02OCT18	29NOV19										Co	onstruction - ND LPP C		· · · · · · · · · · · · · · · · · · ·	
LP136090	Complete - ND LPP Channel Seg 14	0	29NOV19												Complete	-ND LPP Channel Seg 14	
LP137000	Sheyenne River Aqueduct	· ·	31OCT18										7.10-1 +-1			Sheyenne River Aqueduct	
LP137010	L&D - Sheyenne River Aqueduct		27APR16								 		L&D - Sheyenne R				
LP137020	Design - Sheyenne River Aqueduct		27APR16										Design - Sheyenne	1 1 1 1 1 1 1 1			
LP137030	Bid & Award - Sheyenne River Aqueduct	90 28APR16	31AUG16						1 1 1 1 1 1			<u> </u>	Bid & Awa	ard - Sheyenne River A	queduct	V	
LP137040	Construction - Sheyenne River Aqueduct	445 01SEP16	31OCT18													Construction - Sheyenne Rive	
LP137090	Complete - Sheyenne River Aqueduct	0	31OCT18													Complete - Sheyenne River Ac	
LP138000	ND LPP Channel Seg 15	609* 01AUG17	29NOV19												VI SD. NI		PP Channel Seg 15
LP138010	L&D - ND LPP Channel Seg 15	215 01AUG17	28MAY18													D LPP Channel Seg 15 ND LPP Channel Seg 15	
LP138020 LP138030	Design - ND LPP Channel Seg 15 Bid & Award - ND LPP Channel Seg 15		28MAY18 01OCT18													Bid & Award - ND LPP Channel S	Seg 15
LP138040	Construction - ND LPP Channel Seg 15		29NOV19	1 1 1										onstruction - ND LPP C	🔻	· · · · · · · · · · · <u>▼</u> ·	Jeg 13
LP138050	Utilities - ND LPP Channel Seg 15	248 02OCT18	29NOV19 29NOV19											Utilities - ND LPP C	· · · · · · · · ·		
LP138090	Complete - ND LPP Channel Seg 15	0	29NOV19													-ND LPP Channel Seg 15	
LP139000	170th Avenue SE (CR 17)	551* 28APR16	07JUN18									i i i i i <mark>/</mark>				venue SE (CR 17)	
LP139010	L&D - 170th Avenue SE (CR 17)		22FEB17	1 1 1	1 1 1 1	1 1 1 1		1 1 1 1 1 1	1 1 1 1 1 1		1 1 1 1 1 1	 	X	L&D - 170th Avenue S			1 1 1 1 1 1 1
LP139020	Design - 170th Avenue SE (CR 17)		22FEB17									!	X : : : : : : <u>-</u>	√ Design - 170th Avenu			
LP139030	Bid & Award - 170th Avenue SE (CR 17)		28JUN17									:			- 170th Avenue S	SE (CR 17)	
LP139040	Construction - 170th Avenue SE (CR 17)		07JUN18												<u></u>	uction - 170th Avenue SE (CR 17)	
LP139090	Complete - 170th Avenue SE (CR 17)	0	07JUN18												. 🕎	ete - 170th Avenue SE (CR 17)	
LP140000	Inlet Wier to Diversion	551* 28APR16	07JUN18									1 1 1 1 1 4			Inlet Wi	er to Diversion	
LP140010	L&D - Inlet Wier to Diversion	215 28APR16	22FEB17									:		L&D - Inlet Wier to Di	version		
LP140020	Design - Inlet Wier to Diversion	215 28APR16	22FEB17											Design - Inlet Wier to	Diversion		
LP140030	Bid & Award - Inlet Wier to Diversion	90 23FEB17	28JUN17											Bid & Award	- Inlet Wier to Div	version	
LP140040	Construction - Inlet Wier to Diversion	179 29JUN17	07JUN18												Constru	uction - Inlet Wier to Diversion	
LP140050	Utilities - Inlet Wier to Diversion	179 29JUN17	07JUN18	1 1 1			1 1								Utilities	- Inlet Wier to Diversion	
LP140090	Complete - Inlet Wier to Diversion	0	07JUN18												Comple	ete - Inlet Wier to Diversion	
LP141000	ND LPP Channel Seg 16	609* 01AUG17	29NOV19														PP Channel Seg 16
LP141010	L&D - ND LPP Channel Seg 16	160 01AUG17	12MAR18												<u> </u>	P Channel Seg 16	
LP141020	Design - ND LPP Channel Seg 16	160 01AUG17	12MAR18	1 1 1		1 1 1 1			1 1 1 1 1 1							LPP Channel Seg 16	
LP141030	Bid & Award - ND LPP Channel Seg 16	90 13MAR18	16JUL18													Award - ND LPP Channel Seg 1	6
LP141040	Construction - ND LPP Channel Seg 16	314 17JUL18	29NOV19											uction - ND LPP Chanr			
LP141050	Utilities - ND LPP Channel Seg 16	314 17JUL18	29NOV19											tilities - ND LPP Chanr		ND I DD Charry I Co. 140	
LP141090	Complete - ND LPP Channel Seg 16	0	29NOV19												Complete	-ND LPP Channel Seg 16	
LP142000	48th Street SE (CR 16)	500* 01JAN15	30NOV16	1 1 1								VIOD		Street SE (CR 16)			
LP142010	L&D - 48th Street SE (CR 16)		28OCT15										Street SE (CR 16)				
LP142020	Design - 48th Street SE (CR 16)	215 01JAN15	28OCT15									Design - 48	8th Street SE (CR 16				
LP142030	Bid & Award - 48th Street SE (CR 16)	90 01JAN16	05MAY16			IEA06			1104.05		04	of O	piu & Awarg - 48t	h Street SE (CR 16)			
Start Date Finish Date	01OCT10 31DEC24	1			Early Bar	FA06		Fargo-Mo	USACE oorhead Metro Ar	ea Flood Risk	Sheet 5	of 8 Date		Revision	<u> </u>	Checked	Approved
Data Date Run Date	01OCT10 29JUN11 08:21				Progress Bar Critical Activity				Downstream to U	Jpstream						USACE-MVP-00000880	
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Activity	Activity	Orig Early	Early	2010	2011		2012	2013		2014	2015		2016 2017 2018 2019 2020
ID	Description	Dur Start	Finish	Q4	Q1 Q2 Q	3 Q4 Q1	Q2 Q3		Q4		Q1 Q2 Q3 Q		12 Q3 Q4 Q1 Q2 Q3 Q4
LP142040	Construction - 48th Street SE (CR 16)	179 06MAY16	30NOV16										Construction - 48th Street SE (CR 16)
LP142090	Complete - 48th Street SE (CR 16)	0	30NOV16										Complete - 48th Street SE (CR 16)
LP143000	ND LPP Channel Seg 17	608* 01AUG17	28NOV19	-									ND LPP Channel Seg 17
LP143010	L&D - ND LPP Channel Seg 17	170 01AUG17	26MAR18	-									L&D - ND LPP Channel Seg 17 Design - ND LPP Channel Seg 17
LP143020	Design - ND LPP Channel Seg 17 Bid & Award - ND LPP Channel Seg 17	174 01AUG17 90 02APR18	30MAR18 03AUG18	1::									Design - ND LPP Channel Seg 17
LP143030 LP143040	Construction - ND LPP Channel Seg 17	297 04AUG18	28NOV19	1									Construction - ND LPP Channel Seg 17
LP143040 LP143050	Utilities - ND LPP Channel Seg 17	297 04AUG18 297 04AUG18	28NOV19 28NOV19										Utilities - ND LPP Channel Seg 17
LP143090	Complete - ND LPP Channel Seg 17	0	28NOV19	- ! !					1 1				Complete - ND LPP Channel Seg 17
LP144000	Wild Rice River Structures	746* 02JAN17	11NOV19	1									Wild Rice River Structures
LP144010	L&D - Wild Rice River Structures	250 02JAN17	15DEC17	1									L&D - Wild Rice River Structures
LP144020	Design - Wild Rice River Structures	250 02JAN17	15DEC17						1 1				Design - Wild Rice River Structures
LP144030	Bid & Award - Wild Rice River Structures	90 01JAN18	04MAY18										Bid & Award - Wild Rice River Structures
LP144040	Construction - Wild Rice River Structures	360 05MAY18	11NOV19										Construction - Wild Rice River Structures
LP144050	Utilities - Wild Rice River Structures	360 05MAY18	11NOV19						1 1				Utilities - Wild Rice River Structures
LP144090	Complete - Wild Rice River Structures	0	11NOV19										Complete - Wild Rice River Structures
LP145000	I-29 SB Bridge	496* 18DEC17	11NOV19										I-29 SB Bridge
LP145010	L&D - I-29 SB Bridge	215 18DEC17	12OCT18						1 1				L&D -1-29 SB Bridge
LP145020	Design - I-29 SB Bridge	215 18DEC17	12OCT18										Design - I-29 \$B Bridge
LP145030	Bid & Award - I-29 SB Bridge	90 15OCT18	15FEB19										Bid & Award - 1-29 SB Bridge
LP145040	Construction - I-29 SB Bridge	180 16APR19	11NOV19										Construction - I-29 SB Bridge
LP145090	Complete - I-29 SB Bridge	0	11NOV19										Complete: I-29 SB Bridge
LP146000	I-29 NB Bridge	510* 18DEC17	29NOV19										I-29 NB Bridge
LP146010	L&D - I-29 NB Bridge	215 18DEC17	12OCT18										L&D - 1-29 NB Bridge
LP146020	Design - I-29 NB Bridge	215 18DEC17	12OCT18						1 1				Design - I-29 NB Bridge
LP146030	Bid & Award - I-29 NB Bridge	90 01JAN19	06MAY19	1									Bid & Award - I-29 NB Bridge Construction - I-29 NB Bridge
LP146040	Construction - I-29 NB Bridge	196 16APR19	29NOV19										Utilities - I-29 NB Bridge
LP146050 LP146090	Utilities - I-29 NB Bridge Complete - I-29 NB Bridge	196 16APR19	29NOV19 29NOV19	-									Complete - I-29 NB Bridge
LP146090 LP147000	ND LPP Channel Seg 18	759* 01AUG17	26JUN20	1									ND LPP Channel Seg 18
LP147000 LP147010	L&D - ND LPP Channel Seg 18	315 01AUG17	15OCT18	1									L&D - ND LPP Channel Seg 18
LP147010	Design - ND LPP Channel Seg 18	315 01AUG17	15OCT18										Design - ND LPP Channel Seg 18
LP147030	Bid & Award - ND LPP Channel Seg 18	90 16OCT18	18FEB19										Bid & Award - ND LPP Channel Seg 18
LP147040	Construction - ND LPP Channel Seg 18	259 16APR19	27JUN20										Construction - ND LPP Channel Seg 18
LP147050	Utilities - ND LPP Channel Seg 18	259 16APR19	27JUN20	1									Utilities - ND LPP Channel Seg 18
LP147090	Complete - ND LPP Channel Seg 18	0	29JUN20	1::1									Complete - ND LPP Channel Seg 18
LP148000	County Road 81	496* 18DEC17	11NOV19										County Road 81
LP148010	L&D - County Road 81	255 18DEC17	07DEC18	1 1			1 1 1 1	1 1 1 1 1 1 1 1	1 1				L&D - County Road 81
LP148020	Design - County Road 81	255 18DEC17	07DEC18										Design - County Road 81
LP148030	Bid & Award - County Road 81	90 10DEC18	12APR19										Bid & Award - County Road 81
LP148040	Construction - County Road 81	180 16APR19	11NOV19										Construction - County Road 81
LP148050	Utilities - County Road 81	180 16APR19	11NOV19					1 1 1 1 1 1 1 1 1 1					Utilities - County Road 81
LP148090	Complete - County Road 81	0	11NOV19										Complete - County Road 81
LP149000	ND LPP Channel Seg 19	335* 01AUG17	12NOV18										ND LPP Channel Seg 19
LP149010	L&D - ND LPP Channel Seg 19	120 01AUG17	15JAN18	1									L&D - ND LPP Channel Seg 19
LP149020	Design - ND LPP Channel Seg 19	120 01AUG17	15JAN18	1									Design - ND LPP Channel Seg 19 Bid & Award - ND LPP Channel Seg 19
LP149030 LP149040	Bid & Award - ND LPP Channel Seg 19 Construction - ND LPP Channel Seg 19	90 16JAN18 150 22MAY18	21MAY18 12NOV18	1 1				1 1 1 1 1 1 1	1 1				Construction - ND LPP Channel Seg 19
LP149040 LP149050	Utilities - ND LPP Channel Seg 19	150 22MAY18	12NOV18	1									Utilities - ND LPP Channel Seg 19
LP149090	Complete - ND LPP Channel Seg 19	0	12NOV18	1									Complete - ND LPP Channel Seg 19
LP150000	Red R Outlet Control Structures	754* 01AUG17	19JUN20									Red F	R Outlet Control Structures
LP150010	L&D - Red R Outlet Control Structures	250 01AUG17	16JUL18										L&D - Red R Outlet Control Structures
LP150020	Design - Red R Outlet Control Structures	250 01AUG17	16JUL18				1 1 1 1						Design - Red R Outlet Control Structures
LP150030	Bid & Award - Red R Outlet Control Structures	90 17JUL18	19NOV18										Bid & Award - Red R Outlet Control Structures
LP150040	Construction - Red R Outlet Control Structures		20JUN20										Construction - Red R Outlet Control Structures
Start Date	01OCT10	1 11 3112110		4	Early Bar	FA06		US	ACE		Sheet 6 of 8		<u></u>
Finish Date Data Date	31DEC24 01OCT10				Progress Bar			Fargo-Moorhead M	letro Are	ea Flood Risk		Date	Revision Checked Approved
Run Date	01OC110 29JUN11 08:21				Critical Activity			LPP Downstre 8.5 year	am to U	opstream rio			USACE-MVP-0000088005
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Activity	A addition	Orien Forth	Forty										
Activity ID	Activity Description	Orig Early Dur Start	Early Finish	2010	2011	20	12	2013		014	2015	2	2016 2017 2018 2019 2020
LP150090	Complete - Red R Outlet Control Structures	O Start	20JUN20	Q4 Q1	Q2 Q3 Q4	Q1 Q2	Q3 Q4 Q1	Q2 Q3 Q4	Q1 Q2	Q3 Q4	Q1 Q2 Q3	Q4 Q1 Q2	2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q1 Q1 Q2 Q3 Q4 Q1 Q1 Q1 Q2 Q3 Q4 Q1
LP151000	East Opt Tie Back Levee Seg 1	502* 01AUG17	03JUL19	1:: ::									East Opt Tie Back Levee Seg 1
LP151010	L&D - East Opt Tie Back Levee Seg 1	190 01AUG17	23APR18										L&D - East Opt Tie Back Levee Seg 1
l II				-									Design - East Opt Tie Back Levee Seg 1
LP151020	Design - East Opt Tie Back Levee Seg 1	190 01AUG17		-									
LP151030	Bid & Award - East Opt Tie Back Levee Seg 1	90 24APR18		_		1 1 1 1			1 1 1 1	1 1 1 1			Bid & Award - East Opt Tie Back Levee Seg 1
LP151040	Construction - East Opt Tie Back Levee Seg 1	150 28AUG18		_									:
LP151090	Complete - East Opt Tie Back Levee Seg 1	0	03JUL19										Complete - East Opt Tie Back Levee Seg 1
LP152000	ND Control Structures	479* 17JUL18	15MAY20										ND Control Structures
LP152010	L&D - ND Control Structures	130 17JUL18	14JAN19										L&D - ND Control Structures
LP152020	Design - ND Control Structures	130 17JUL18	14JAN19	.									Design - ND Control Structures
LP152030	Bid & Award - ND Control Structures	90 15JAN19	20MAY19										Bid & Award - ND Control Structures
LP152040	Construction - ND Control Structures	192 21MAY19	15MAY20										Construction - ND Control Structures
LP152090	Complete - ND Control Structures	0	15MAY20			1 1 1 1							
LP153000	East Opt Tie Back Levee Seg 2	430* 01AUG17	25MAR19										East Opt Tie Back Levee Seg 2,
LP153010	L&D - East Opt Tie Back Levee Seg 2	120 01AUG17	15JAN18										L&D - East Opt Tie Back Levee Seg 2
LP153020	Design - East Opt Tie Back Levee Seg 2	120 01AUG17	15JAN18										Design - East Opt Tie Back Levee Seg 2
LP153030	Bid & Award - East Opt Tie Back Levee Seg 2	90 24APR18	27AUG18										Bid & Award - East Opt Tie Back Levee Seg 2
LP153040	Construction - East Opt Tie Back Levee Seg 2	150 28AUG18	25MAR19										Construction - East Opt Tie Back Levee Seg 2
LP153090	Complete - East Opt Tie Back Levee Seg 2	0	25MAR19										Complete - East Opt Tie Back Levee Seg 2
LP154000	Cass 17 Tie Back Levee	360* 16JAN18	03JUN19										Cass 17 Tie Back Levee
LP154010	L&D - Cass 17 Tie Back Levee	120 16JAN18	02JUL18										L&D - Cass 17 Tie Back Levee
LP154020	Design - Cass 17 Tie Back Levee	120 16JAN18	02JUL18										Design - Cass 17 Tie Back Levee
LP154030	Bid & Award - Cass 17 Tie Back Levee	90 03JUL18	05NOV18										Bid & Award - Cass 17 Tie Back Levee
LP154040	Construction - Cass 17 Tie Back Levee	150 06NOV18	03JUN19	1									Construction - Cass 17 Tie Back Levee
LP154090	Complete - Cass 17 Tie Back Levee	0	03JUN19										Complete - Cass 17 Tie Back Levee
LP155000	Road Raise for I-29	490* 16JAN18	02DEC19	- 1 1 1									Road Raise for I-29
LP155020	Design - Road Raise for I-29	224 16JAN18	23NOV18	-									Design - Road Raise for I-29
LP155030	Bid & Award - Road Raise for I-29	90 01JAN19	06MAY19				1 1 1 1 1						Bid & Award - Road Raise for I-29
LP155040	Construction - Road Raise for I-29	150 07MAY19	02DEC19	1									Construction - Road Raise for I-29
LP155090	Complete - Road Raise for I-29	0	02DEC19	┫┆┆│┆┆│									Complete - Road Raise for I-29
LP156000	Road Raise for Hwy 75	465* 16JAN18	28OCT19	-									Road Raise for Hwy 75
LP156020	Design - Road Raise for Hwy 75	214 16JAN18	09NOV18	-		1 1 1 1			1 1 1 1	1 1 1 1			Design - Road Raise for Hwy 75
LP156030	Bid & Award - Road Raise for Hwy 75	90 01JAN19											Bid & Award - Road Raise for Hwy 75
LP156040	Construction - Road Raise for Hwy 75	150 07MAY19		1::									Construction - Road Raise for Hwy 75
LP156090	Complete - Road Raise for Hwy 75	0	28OCT19	1:: ::									Complete - Road Raise for Hwy 75
LP157000	Road Raise for RR over TB Levee	465* 16JAN18	28OCT19	1									Road Raise for RR over TB Levee
LP157020	Design - Road Raise for RR over TB Levee	214 16JAN18	09NOV18	-		1 1 1 1				1 1 1 1			Design - Road Raise for RR over TB Levee
LP157030	Bid & Award - Road Raise for RR over TB Levee	90 01JAN19	06MAY19	1 1 1 1	1 1 1 1 1 1	1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1	1 1 1 1	1 1 1 1 1 1		Bid & Award - Road Raise for RR over TB Levee
LP157040	Construction - Road Raise for RR over TB Levee	150 07MAY19		1									Construction - Road Raise for RR over TB Levee
LP157090	Complete - Road Raise for RR over TB Levee	0	28OCT19	1 ; ; ; ;									Complete - Road Raise for RR over TB Levee
LP158000	Local Road Construction	465* 16JAN18	28OCT19	1									Local Road Construction
LP158020	Design - Local Road Construction	214 16JAN18	09NOV18	-		1 1 1 1				1 1 1 1			Design - Local Road Construction
LP158030	Bid & Award - Local Road Construction	90 01JAN19	05NOV10										Bid & Award - Local Road Construction
LP158040	Construction - Local Road Construction	150 07MAY19		1:: ::									Construction - Local Road Construction
LP158090	Complete - Local Road Construction	0	280CT19	1									Complete - Local Road Construction
LP159000	Levee Conn Channel ND-23	465* 16JAN18	28OCT19	-									Levee Conn Channel ND-23
LP159000	Design - Levee Conn Channel ND-23	120 16JAN18	02JUL18										Design - Levee Conn Channel ND-23
LP159020 LP159030	Bid & Award - Levee Conn Channel ND-23	90 01JAN19	0230L18 06MAY19	1 1 1 1	1 1 1 1 1 1			1 1 1 1 1 1				1 1 1 1 1 1	Bid & Award - Levee Conn Channel ND-23
LP159040	Construction - Levee Conn Channel ND-23	150 07MAY19		┫┆┆│┆┆│									Construction - Levee Conn Channel ND-23
LP159090	Complete - Levee Conn Channel ND-23	0	280CT19	-									Complete - Levee Conn Channel ND-23
LP160000	Levee Conn Channel ND-25	360* 16JAN18	03JUN19	-									Levee Conn Channel ND-25
LP160000	Design - Levee Conn Channel ND-25	120 16JAN18	02JUL18	1:: ::									Design - Levee Conn Channel ND-25
LP160020 LP160030	Bid & Award - Levee Conn Channel ND-25	90 03JUL18	0230L18 05NOV18	1 1 1 1	1 1 1 1 1 1	1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1	1 1 1 1	1 1 1 1 1 1	1 1 1 1 1	Design - Levee Conn Channel ND-25
l II													Construction - Levee Conn Channel ND-25
LP160040	Construction - Levee Conn Channel ND-25	150 06NOV18		- 									Complete - Levee Conn Channel ND-25
LP160090	Complete - Levee Conn Channel ND-25	U	03JUN19		lean.						Ob 17.12	<u> </u>	Complete - Levee Com Chamer ND-25
Start Date Finish Date	01OCT10 31DEC24			Early			Fargo-Mo	USACE orhead Metro Ar	rea Flood P	isk	Sheet 7 of 8	Date	Revision Checked Approved
Data Date	01OCT10				ress Bar			Downstream to	Upstream	ion			USACE-MVP-000088005
Run Date	29JUN11 08:21			Critic	cal Activity			8.5 year Scena					USACE-IVIVP-00000880005
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Activity	Activity	Orig Early	Early	2010	2011		2012		2013		2014	2	2015		2016 2017 2018 2019 2020	
ID	Description	Dur Start	Finish	Q4 Q1	Q2 Q3	Q4 Q1	Q2 Q3	Q4 Q1	Q2 Q3	Q4 Q1	Q2 Q3	Q4 Q1 Q2	Q3 Q4	Q1 Q	40 4. 4. 42 40 4. 4. 42 40 4. 4. 42 40 4. 4.	Q4
LP161000	Wolverton Creek Structure	621* 16JAN18	02JUN20				1 1 1 1				1 1 1 1				Wolverton Creek Structure	
LP161020	Design - Wolverton Creek Structure	250 16JAN18	31DEC18									1 1 1 1 1 1			Design - Wolverton Creek Structure	
LP161030	Bid & Award - Wolverton Creek Structure	90 01JAN19	06MAY19												Bid & Award - Wolverton Creek Structure	
LP161040	Construction - Wolverton Creek Structure	219 07MAY19	02JUN20												Construction - Wolverton Creek Structure	
LP161090	Complete - Wolverton Creek Structure	0	02JUN20												Complete - Wolverton Creek Structure	
LP162000	East Weir Structure	634* 16JAN18	19JUN20												East Weir Structure	
LP162020	Design - East Weir Structure	250 16JAN18	31DEC18												Design - East Weir Structure	
LP162030	Bid & Award - East Weir Structure	90 01JAN19	06MAY19												Bid & Award - East Weir Struct	ure
LP162040	Construction - East Weir Structure	235 07MAY19	20JUN20												Construction - East Weir Structure	
LP162090	Complete - East Weir Structure	0	20JUN20	1 1 1 1			1 1 1 1	1 1 1 1	1 1 1 1		1 1 1 1					
LP163000	Upstream Storage Area	326* 16JAN18	16APR19												Upstream Storage Area	
LP163010	L&D - Upstream Storage Area	250 16JAN18	31DEC18												L&D - Upstream Storage Area	
LP163090	Complete - Upstream Storage Area	0	16APR19												Complete - Upstream Storage Ai	rea
LP164000	Drain 14 Structure	634* 16JAN18	19JUN20												Drain 14 Structure	
LP164020	Design - Drain 14 Structure	250 16JAN18	31DEC18												Design - Drain 14 Structure	
LP164030	Bid & Award - Drain 14 Structure	90 01JAN19	06MAY19				1 1 1 1	1 1 1 1	1 1 1 1		1 1 1 1				Bid & Award - Drain 14 Structu	re
LP164040	Construction - Drain 14 Structure	235 07MAY19	20JUN20												Construction - Drain 14 Structure	
LP164090	Complete - Drain 14 Structure	0	20JUN20												Complete - Drain 14 Structure	
LP165000	Storage Area 1 Embankment	634* 16JAN18	19JUN20	1:::::::::											Storage Area 1 Embankment	
LP165010	L&D - Upstream Storage Area	250 16JAN18	31DEC18	1											L&D - Upstream Storage Area	
LP165020	Design - Storage Area 1 Embankment	250 16JAN18	31DEC18	1											Design - Storage Area 1 Embankment	
LP165030	Bid & Award - Storage Area 1 Embankment	90 01JAN19	06MAY19	- 			1 1 1 1	1 1 1 1	1 1 1 1		1 1 1 1				Bid & Award - Storage Area 1 Embankment	
LP165040	Construction - Storage Area 1 Embankment	235 07MAY19		1 1 1 1	1 1 1 1	1 1 1 1	1 1 1 1	1 1 1 1	1 1 1 1		1 1 1 1				Construction - Storage Area 1 Embankment	
LP165090	Complete - Storage Area 1 Embankment	0	20JUN20	-											Complete - Storage Area 1 Embankment	
LP166000	Storage Area 1 Inlet	634* 16JAN18	19JUN20	1											Storage Area 1 Inlet	
LP166020	Design - Storage Area 1 Inlet	250 16JAN18	31DEC18	-											Design - Storage Area 1 Inlet	
LP166030	Bid & Award - Storage Area 1 Inlet	90 01JAN19	06MAY19	-											Bid & Award - Storage Area 1 III	nlet
LP166040	Construction - Storage Area 1 Inlet	235 07MAY19				1 1 1 1									Construction - Storage Area 1 Inlet	illet
l I		233 07101A1 19	20JUN20 20JUN20				1 1 1 1	1 1 1 1	1 1 1 1		1 1 1 1				Complete - Storage Area 1 Inlet	
LP166090	Complete - Storage Area 1 Inlet	0	19JUN20	-			1 1 1 1								Storage Area 1 Close/Drain N	
LP167000	Storage Area 1 Close/Drain N	634* 16JAN18		-											Design - Storage Area 1 Close/Drain N	
LP167020	Design - Storage Area 1 Close/Drain N	250 16JAN18	31DEC18	-											Bid & Award - Storage Area 1 Close/Drain N	
LP167030	Bid & Award - Storage Area 1 Close/Drain N	90 01JAN19	06MAY19												<u> </u>	
LP167040	Construction - Storage Area 1 Close/Drain N	235 07MAY19													Construction - Storage Area 1 Close/Drain N Complete - Storage Area 1 Close/Drain N	
LP167090	Complete - Storage Area 1 Close/Drain N	0	20JUN20				1 1 1 1	1 1 1 1	1 1 1 1		1 1 1 1				Storage Area 1 Close/Drain S	
LP168000	Storage Area 1 Close/Drain S	634* 16JAN18	19JUN20	-												
LP168020	Design - Storage Area 1 Close/Drain S	250 16JAN18	31DEC18	-											Design - Storage Area 1 Close/Drain S	
LP168030	Bid & Award - Storage Area 1 Close/Drain S	90 01JAN19	06MAY19												_	
LP168040	Construction - Storage Area 1 Close/Drain S	235 07MAY19													Construction - Storage Area 1 Close/Drain S	
LP168090	Complete - Storage Area 1 Close/Drain S	0	20JUN20	-											Complete - Storage Area 1 Close/Drain S	
LP169000	Storage Area 1 Levee Road Raise	634* 16JAN18	19JUN20			1 1 1 1	1 1 1 1	1 1 1 1	1 1 1 1		1 1 1 1				Storage Area 1 Levee Road Raise	
LP169020	Design - Storage Area 1 Levee Road Raise	250 16JAN18	31DEC18												Design - Storage Area 1 Levee Road Ra	aise
LP169030	Bid & Award - Storage Area 1 Levee Road Raise	90 01JAN19	06MAY19												Bid & Award - Storage Area 1 Levee Road Raise	
LP169040	Construction - Storage Area 1 Levee Road Raise	235 07MAY19													Construction - Storage Area 1 Levee Road Raise	
LP169090	Complete - Storage Area 1 Levee Road Raise	0	20JUN20												Complete - Storage Area 1 Levee Road Raise	
Start Date Finish Date Data Date	01OCT10 31DEC24 01OCT10				y Bar FA(06			USAC	Area Floo		SI	neet 8 of 8	Date	Revision Checked Appro	oved
Run Date	29JUN11 08:21			Crit	cal Activity			LPP	Downstream 8.5 year Sc		1111				USACE-MVP-0000088005	
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FARGO MOORHEAD METRO STUDY USACE – ST PAUL DISTRICT

COST ENGINEERING DX - TPCS ATR CERTIFICATION

For the Fargo Moorhead Metro Study, as presented by St Paul District, the Walla Walla Cost Dx representatives have completed an Agency Technical Review (ATR) of the 2012 Budget and Total Project Cost. The ATR included study of the project scope, report, cost estimates, schedules, escalation, and risk-based contingencies in accordance with ER 1110-2-1150 Engineering and Design for Civil Works Projects and ER 1110-2-1302 Civil Works Cost Engineering.

As of 21 June 2011, the Walla Walla District, Cost Engineering Directory of Expertise (Dx) for Civil Works, certifies the estimated total project cost of the Fargo Moorhead Metro Study estimated values of:

FCP

FY 2012 Price Level:

\$1,236,700,000

Fully Funded Amount:

\$1,363,631,000

LPP

FY 2012 Price Level

\$1,781,347,000

Fully Funded:

\$2,007,791,000

It remains the responsibility of the District to correctly reflect these cost values within the Final Report.

Date

Kim C. Callan, PE, CCE, PM1

Chief, Cost Engineering Walla Walla District