

Alternative Financing and Delivery

Corps Program and the Fargo-Moorhead Diversion

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Challenges and Opportunities

- **Corps Civil Works Portfolio: 3,000+ Operational Projects, with Replacement Value of Approx \$268B**
- **Corps Civil Works Asset Classes are Diverse**
 - Flood & Coastal Storm Damage
 - Coastal and Inland Harbors
 - Inland Waterways
 - Hydropower
 - Dam & Levee Safety Programs
 - Water Storage
 - Aquatic Ecosystems
 - Water-Based Recreation
- **Demands for CW Infrastructure Maintenance, Operations, and Capital Investment are Expanding**
 - Civil Works New Construction Backlog → \$ 60B
 - ASCE: Dams, Levees, IWW's = "D" → \$140B
- **CW Infrastructure Systems Aging, Experiencing Negative Performance Trends Across Portfolio (Serviced by ~\$4.6B Annual Budget Nationally....)**



Alternative Financing & Delivery

- **The Corps has been Trying to Think Differently About Its Approach to Project Financing and Delivery**
 - Meet Administration Intent While Protecting Tax Payer and Federal Equities
 - Working Portfolio of P3 Demonstration Projects, w/in Existing Authority
- **Two National Problems Corps is Trying to Address Through AF/P3**
 - For Existing Infrastructure, Sustain Performance, Extend Service Life, and/or Buy Down Risk for the Nation
 - Accelerate Delivery of New Infrastructure to Reduce Life Cycle Costs and Achieve Earlier Accrual of Project Benefits to the Nation
- **April 2015 Treasury Report** → “....years of underinvestment in our public infrastructure have imposed massive costs on our economy.”



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Alternative Financing & Delivery

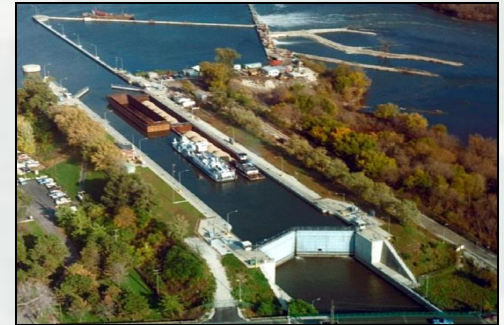
- **Looking for innovative ways to achieve goals of:**
 - Accelerating Project Delivery
 - Reducing cost to taxpayers
 - Reducing risk to population and infrastructure sooner
 - Reducing scheduling and funding risks
 - Demonstrate a viable strategy to reduce USACE backlog of projects



Corps Demonstration Program

■ Ongoing Demonstration Program (Existing Auth/Policy)

- ▶ Most Mature: Fargo-Moorhead Metro (FRM Construction)
- ▶ Most Sophisticated: Illinois Waterway (Inland Navigation O&M)
 - Aimed at the operations and maintenance of Federal assets
 - Possible bundling of many sites
 - Questions on revenue source, along with legal policy issues.
- ▶ Most straight forward: Grand Prairie (Water supply)
 - RFI – responses due July 25th
 - June 22nd Industry day
- ▶ Feasibility: Ala Wai
 - Still in feasibility study phase
 - Looking to bundle Corps Flood Risk Project with locally desired water quality, ecosystem, and recreation features.
- ▶ Other considerations – hydropower and recreation
 - Corps has a large number of hydro and recreational facilities
 - Work with Power Marketing Administration (PMA) on hydro – policy/legal issues
 - Need to identify recreation opportunities.



Alternative Financing Challenges

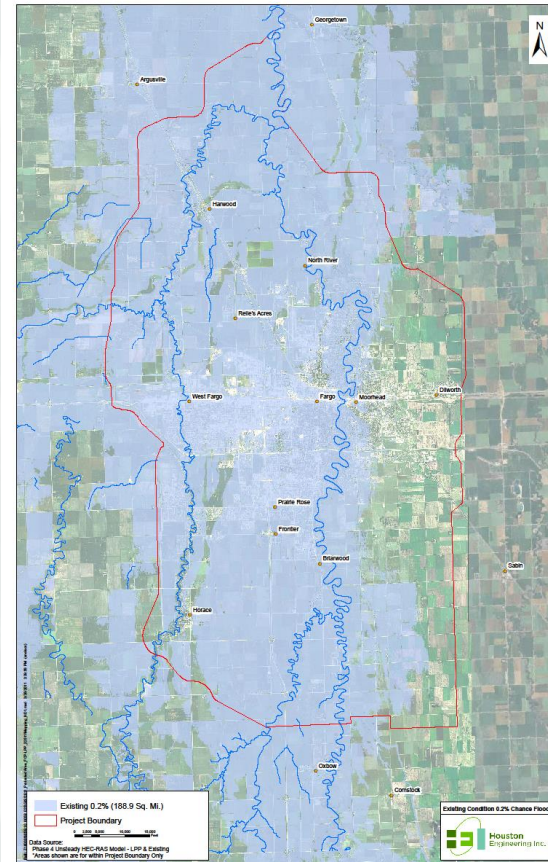
- **Payment Mechanisms, Availability Payments**
 - ▶ Inability to Make Commitments on Future Appropriations
- **Budget Scoring**
 - ▶ Scores Full Federal Project Cost Up Front in First Year
- **Revenue Generation and Ring-Fencing**
 - ▶ Ability to Collect, Retain and Reinvest Fees/Charges
- **Budgetability**
 - ▶ Prioritization of Projects Within Current Budget Policy (Benefit-Cost Ratio)



Fargo-Moorhead Diversion

Without Project

- Metro area will continue to be subject to flooding and rely on emergency responses
- Failure of emergency levees would be catastrophic
- Expected average annual flood damages greater than **\$194.8 million** and will continue to increase
- **\$10 billion** estimated damages from a 500-year flood



Existing 500-year inundation



Estimated Flood Damages

Flood Damages:

- 100-year flood event - ~\$6 Billion
- 500-year flood event - ~\$10 Billion

Loss of Life:

- ~200 for 100-year flood event
- ~600 for 500-year flood event



Emergency Levee – 2nd Street looking south



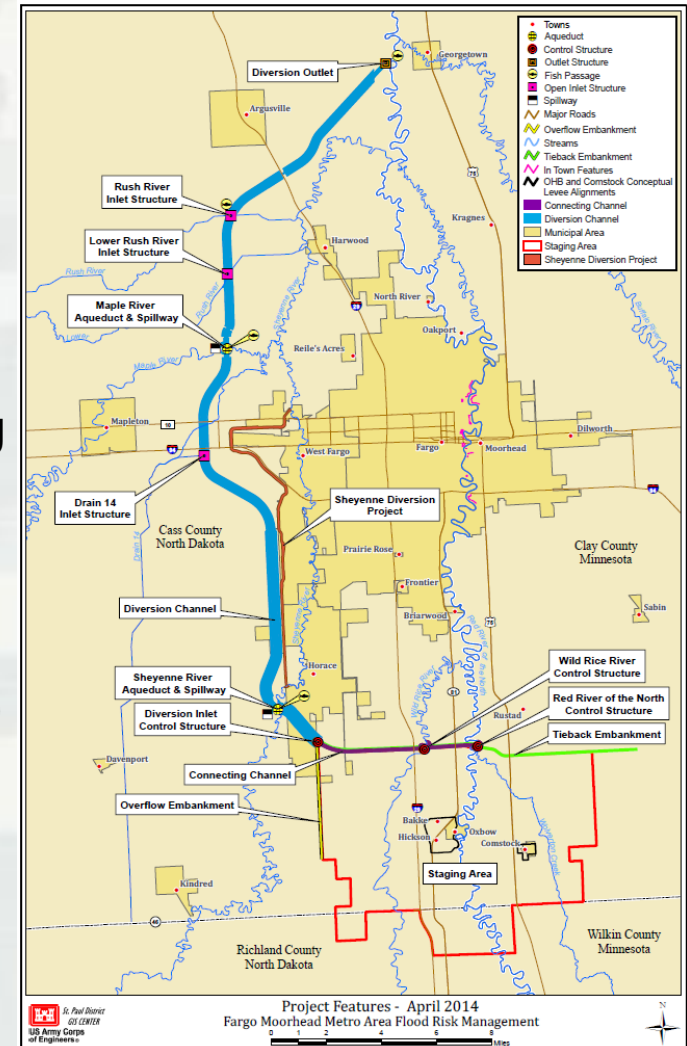
Fargo-Moorhead Metro – Value to the Nation

- **Flood stage has been exceeded in 50 of the last 112 years or 20 or the last 22 years**
- **8 of the 16 “major” floods on record have occurred since 2000**
- **230,000 people live and work in the Fargo-Moorhead Metro**
- **Fargo-Moorhead is a major health, educational, cultural and commercial center which generates:**
 - \$5.48 billion in annual non-farming wages
 - over \$3.51 billion in annual taxable sales
 - \$19 billion in property value
- **North Dakota is the second in national oil production at over 1,000,000 barrels/day**
- **Roughly half the oil travels through Fargo-Moorhead on the DOD’s Strategic Rail Corridor Network (STRACNET)**



Why the Diversion?

- What are the benefits
 - *Provides 100-year level of risk reduction*
 - *Ability to flood fight up to a 500-year event*
 - Provides benefits to more than 70 square miles of existing infrastructure
 - The diversion plan is the **safest, most reliable, and most resilient plan** for existing infrastructure and population centers
- Plan Components
 - 30 mile, 20,000 cfs diversion channel
 - 2 aqueduct structures (Sheyenne and Maple)
 - 2 control structures (Red and Wild Rice)
 - 1 Diversion inlet control structure
 - Southern embankment



Split Delivery Plan

- Entire project is Federal project
- Diversion Channel - non-Federal Sponsors
- Southern Embankment (dry dam) and mitigation - USACE
- Innovative approach
- Reduces Federal share by \$400 million
- Accelerates project delivery
 - 11 contracts vs. 28
 - Diversion/embankment constructed simultaneously
 - Mitigates appropriations risk
- Optimal delivery schedule – 6.5 years construction
- Plan works well in current market environment
- Implementable within Existing Authority, No Additional Authority Required



Split Delivery Plan

- **Diversion Channel - non-Federal Sponsors**
- Design, Build, Finance, Operate, and Maintain Contract
- 30 year period of O&M, with remaining life turn over requirements.
- Milestone payments during construction
- Availability payments during O&M (annual)
- Transfers design and construction risks to contractor.
- RFQ available with responses due by 4:00 PM Central time on 7 September 2016.
- http://www.fmdiversion.com/wp-content/uploads/2016/07/P3_RFQ_Sec_Apps_FINAL-Website.pdf



Split Delivery Plan

- **Southern Embankment - Federal**
- Design-bid-build contracts
- 6.5 years of construction
- 11 contracts (3 large and 8 small to medium)
- Appropriations driven schedule
- Corps maintains design, construction and appropriations risk.
- Diversion Inlet first Federal construction
- Concurrent design of control structures and embankment reaches
- Diversion Inlet RFP - https://www.fbo.gov/index?s=opportunity&mode=form&id=9c7ebe844c1bedb18f0665c72f973186&tab=core&_cview=1

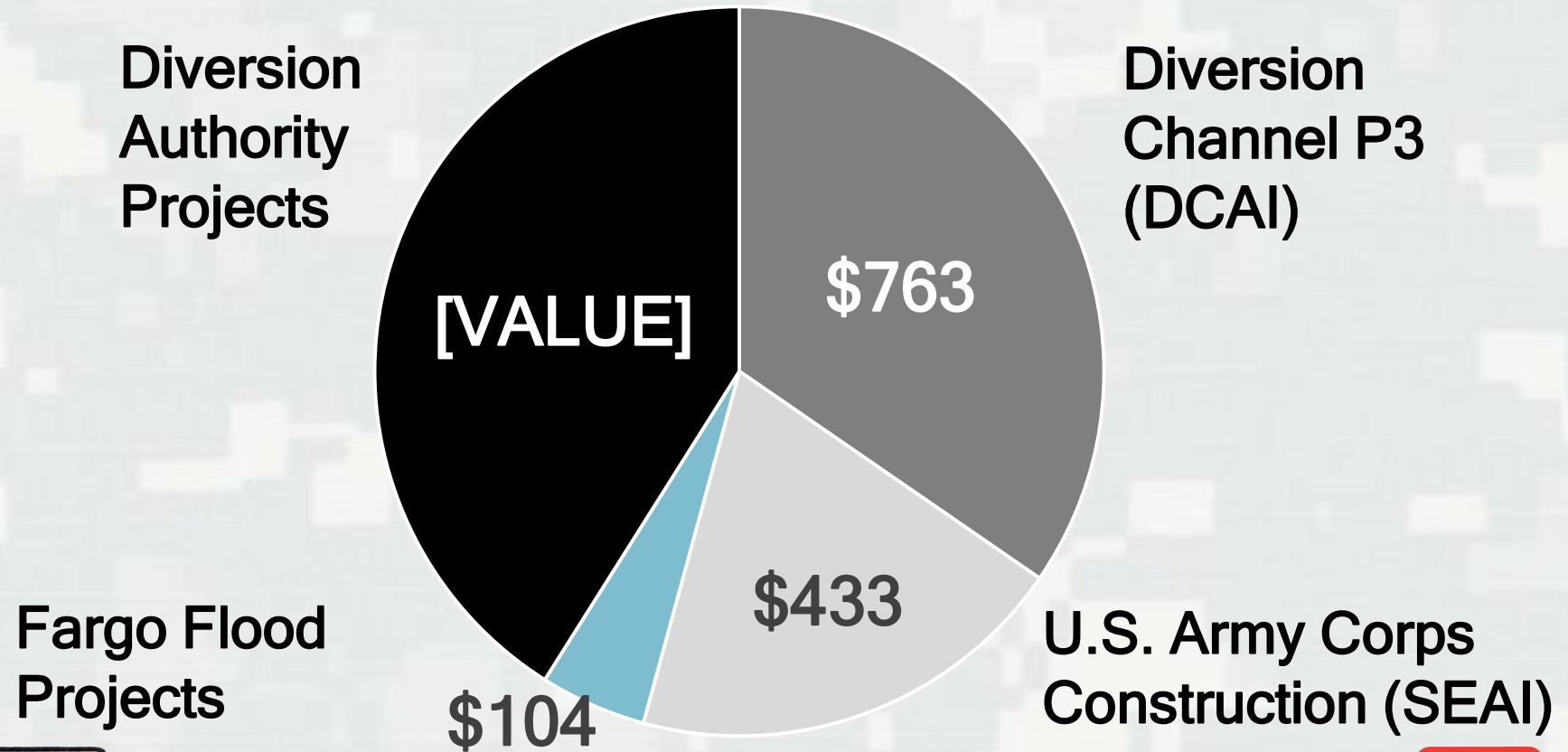


Financial Plan Overview

- Key features:
 - ▶ Multiple financing tools, including a mix of public and private financing to achieve a robust and cost-effective financial profile and risk transfer
 - P3 financing to enhance project delivery
 - ▶ Long-term extension of existing sales taxes at current rates (subject to voter approval in November 2016)
 - Sales Tax Revenues will be used towards long-term public debt, PAYGO during construction, and Availability Payments to the P3 Developer
 - ▶ Availability of special assessment mechanism through an Improvement District is a key credit enhancement
 - No special assessments are anticipated to be required under the current plan of finance



Financial Plan Includes Diversion Authority and Fargo Flood Projects Totaling \$2.2B




Sources of Funding and Financing

- Federal Funding
 - ▶ \$450 million (2015\$) to fund USACE portion of the Project, escalating to year-of-expenditure per PPA
- State Funding
 - ▶ \$450 million from North Dakota for DA projects (committed)
 - ▶ \$120 million from North Dakota for In-Town Projects (committed)
 - ▶ \$43 million from Minnesota (to be requested)
- Sales Tax Revenues
 - ▶ 1¾ cent sales taxes allocated to FM Metro Flood Protection
 - ▶ Covers all PAYGO and debt service requirements
- Improvement District
 - ▶ Authorization of up to \$725 million in Improvement District assessments in the event of revenue shortfall

Secures Improvement Bonds and Availability Payments



Financial Plan Uses Existing City of Fargo and Cass County Sales Taxes

	City of Fargo						Cass Co.*
	1 ¢			½ ¢	½ ¢	½ ¢	½ ¢
Expiration Date	2028			2032	2028	2028	2031
Funding Intent	¼ ¢ Water	¼ ¢ Waste Water	¼ ¢ Streets	¼ ¢ Flood Control	Infrastructure Flood Control	FM Diversion Project	FM Diversion Project
Sales Tax Funding for FM Metro Flood Protection				 1 ¾ ¢			



*Accounts for other County-wide flood projects



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Revenue and Equity

- 💧 Project financed from sales and use taxes, grants, donations, and any other funds from Member Entities (“Pledged Revenues”)
- 💧 If Pledged Revenues insufficient: propose sales and use tax increase to voters (Fargo/Cass County) and/or use Improvement District (CCJWRD)
- 💧 Anticipate 90/10 debt/equity ratios
- 💧 Consideration given to PAB’s and TIFIA – in touch with Build America Transportation Investment Center (BATIC)



Diversion Inlet Structure

■ Project Information

- Gated control structure
- Pile foundation
- 3-4 year construction
- \$25 to 100 Million construction cost
- RFP: Low Price/Technically Acceptable
- 3 Tainter gates
- Approx. 1,050 feet of diversion and connecting channel
- Approx. 410,000 CY Excavation



View of Inlet Structure (Looking Downstream from the Embankment Area) - GATES DOWN



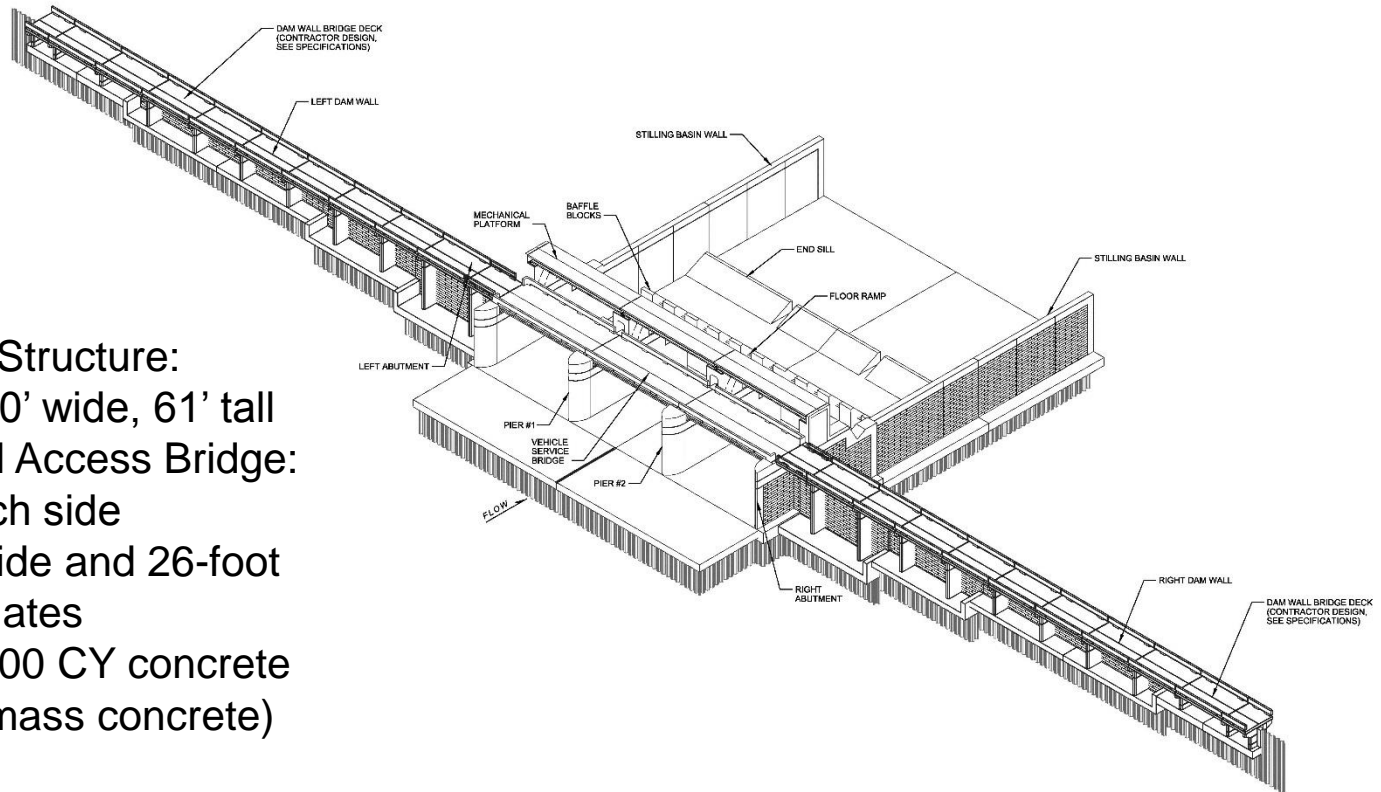
Inlet Structure • Aesthetic Treatments

February 9, 2016



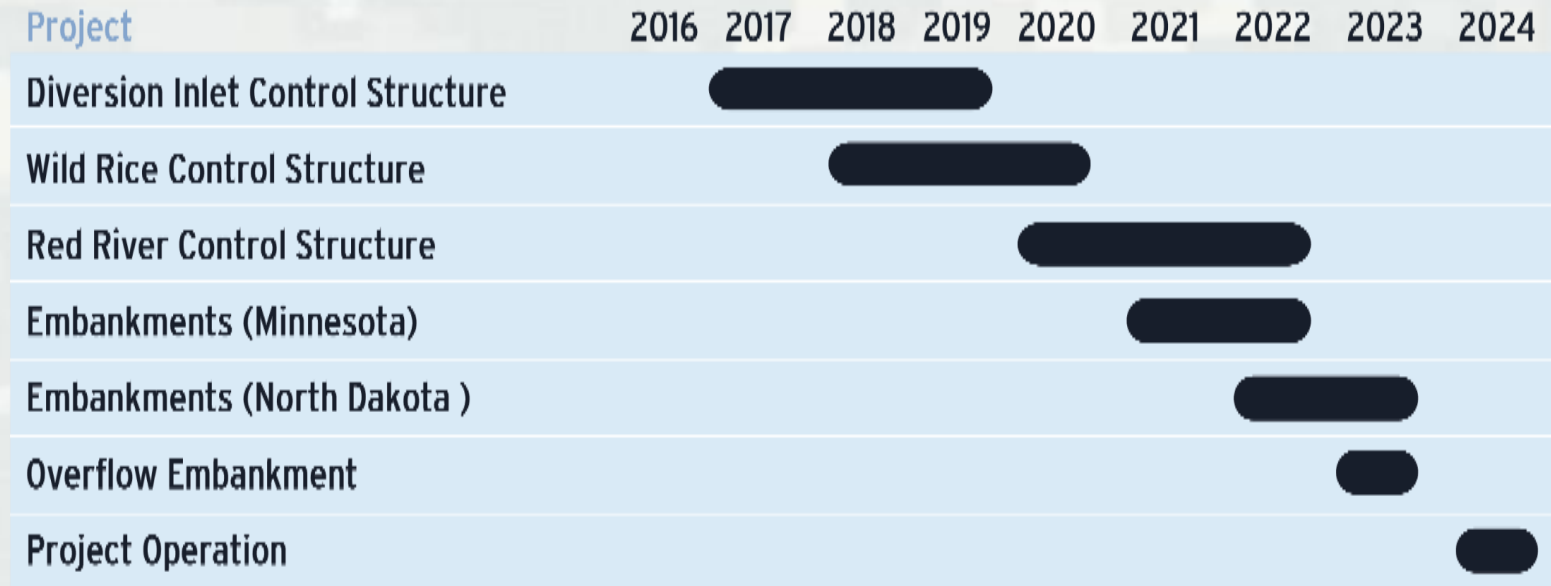
Diversion Inlet Structure - Isometric

- ▶ Overall Inlet Structure:
257' long, 190' wide, 61' tall
- ▶ Tie-walls and Access Bridge:
299' long/each side
- ▶ (3) 50-foot wide and 26-foot high tainter gates
- ▶ Approx. 15,500 CY concrete
(12,000 CY mass concrete)



Construction

●●●● **FEDERAL CONSTRUCTION SCHEDULE** ●●●● SOUTHERN EMBANKMENT



- Federal schedule assumes capability funding stream



Policy and Budgeting Considerations

Traditional Delivery vs. Split Delivery

Federal Input
vs.
National Output

One time **\$450M Investment** = **\$175M Annual National Output**

■ Split Delivery provides a significant return on investment

- Federal Investment of \$450M will result in \$175M in annual NED benefits.
- Annualized Federal Investment is \$21M with annual NED returns of \$175M
- Federal Return on Investment of 705% - (Benefits-Federal Costs)/Federal Costs
- Reduces the Federal share (45% to 30%)

■ \$450M investment

- Safeguards 225,000 people
- Prevents \$6B in damages from 100-year event
- Prevents \$10B in damage from a 500-year event
- Prevents loss of life 200 people for 100-year and 600 people for 500-year
- Provides domestic energy security
- Reduces Federal disaster assistance



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Strong Local Sponsor Team

- Local Sponsors: Cities of Fargo and Moorhead and Diversion Authority



- Local Partners:
 - ▶ Cass County ND and Clay County, MN
 - ▶ Buffalo-Red River Watershed District and Cass County Jt. Water Resource Board
- Have secured local share through local sales taxes, state funding, and special assessment district



Alternative Financing & Delivery

- **Fargo-Moorhead will Demonstrate Proof of Concept for both Alternative Delivery and P3, While Also Mitigating Critical Life/Safety Risks and Economic Impacts in ND/MN**
- **Project was 1 of only 6 new construction starts for the entire Corps of Engineers**
- **Corps and sponsors agreed to pursue a “Split Delivery” Plan**
- **Diversion is a high priority project with visibility at all levels within the Corps.**
- **Outputs will be replicable to other:**
 - Sponsor led P3 projects
 - Split delivery approaches



What are we Demonstrating

■ **Viability and Value of Alternative Delivery**

- Accelerating Project Delivery
 - Reducing Cost to Taxpayers
 - Realizing NED Benefits Earlier
 - Achieving Reduced Risk Exposure of Population and Infrastructure Sooner
- Transfer of Design and Construction Risk to Private Sector
- Approach to Reduce USACE Project Backlog
- Local Sponsor led P3 Contracts and Larger Role in Delivery

■ **Viability and Value of Alternative Financing**

- Revenue Generation Model for Large FRM Projects
- Market Interest and Responsiveness to Larger Scale Civil Works Projects
- Transfer of Financial Risk to Private Sector
- Implements Tenets of President's Build America Initiative



What are we Demonstrating

■ Corps and sponsors responsibilities for P3

- **National Environmental Policy Act (NEPA)**

- Corps generally responsible for NEPA documentation (ROD complete)
- Sponsors supply information for any needed changes
- Developed detailed process including timeframes

- **Technical requirements**

- Corps and sponsors to agree on requirements
- Sponsors control and Corps advisor, as needed
- Changes to technical requirements (Corps involvement):
 - Subject to breach that potentially results in loss of life
 - Change to any fundamental aspect of the technical requirements
 - i.e How much flow the diversion must handle.
 - All others by sponsors.



Innovation

- **Innovative approach to project implementation**
 - **Split delivery**
 - Sponsor lead diversion
 - Corps lead southern embankment (Dam)
- **Innovative approach to coordination for P3**
 - Corps and sponsors agreement on:
 - Technical and NEPA process
 - Corps level of involvement
- **Innovation in delivery**
 - Private sectors turn
 - Corps completed large amount of design ~10 miles
 - Aqueduct structures, inlets, bridges, etc.
 - 55 million cubic yards of material to move
 - Corps and sponsors agreement on performance based outputs



Important Milestones

- On 9 February 2016 the project was allocated \$5M as a construction new start.
- On 31 March 2016 the courts ruled in favor of the Corps and all counts against the Corps have been dismissed with prejudice.
- On 16 May 2016 the MNDNR released its final EIS which reconfirmed the Federal findings and analysis.
- 7 June 2016 – Joint Industry Day – www.fmdiversion.com/industryday
- 29 June 2016 – MNDNR determination of “adequacy” on final EIS
- 5 July 2016 – ASA(CW) determination “likely to resolve any outstanding regulatory issues”



Important Milestones

- 8 July 2016 – NDSWC Permit for Diversion Inlet provided
- 11 July 2016 – Project Partnership Agreement between the Corps and Sponsors was executed
- 11 July 2016 – Memorandum of Understanding and Roles and Responsibilities documents executed.
- 11 July RFP for Corps diversion inlet contract released, available at <https://www.fbo.gov/>
- 14 July 2016 – Sponsors released P3 RFQ
- November 2016 – P3 RFP Issued, Federal construction begins



Summary

- The diversion plan is the only feasible way to provide 100-year flood risk management to the Fargo-Moorhead metro area.
- The Project was authorized for construction by Congress in June 2014.
- The Project was funded for construction in February 2016.
- FMM is the first Demonstration Project for alternative financing.
- Split delivery is an innovative approach for FMM and national problem
- Federal construction to begin in the fall of 2016.



Questions?

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