

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.”



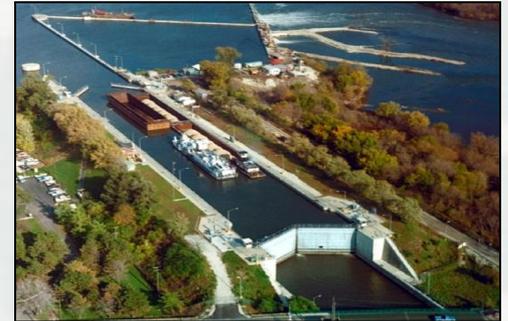
Alternative Financing & Delivery

- **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

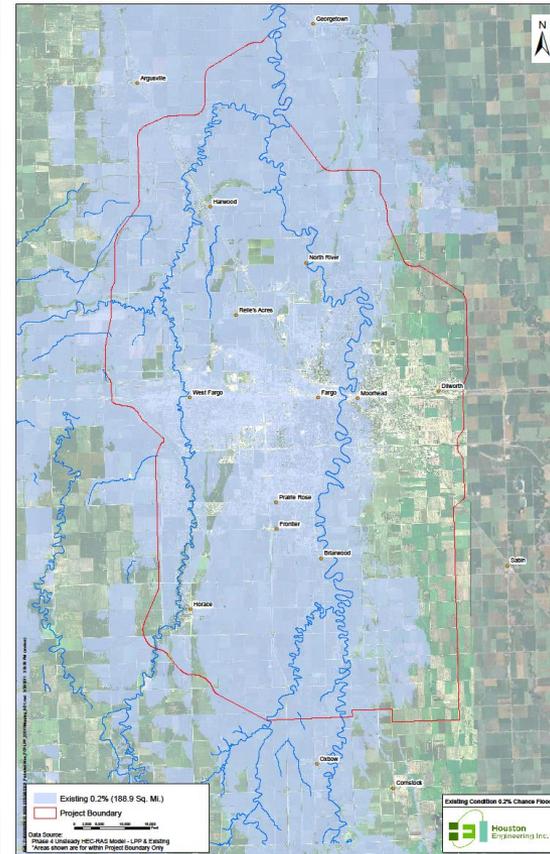
- **Payment Mechanisms, Availability Payments**
 - ▶ Inability to Make Commitments on Future Appropriations
- **Budget Scoring**
 - ▶ Scores Full Federal Project Cost Up Front in First Year
- **Revenue Generation and Ring-Fencing**
 - ▶ Ability to Collect, Retain and Reinvest Fees/Charges
- **Budgetability**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



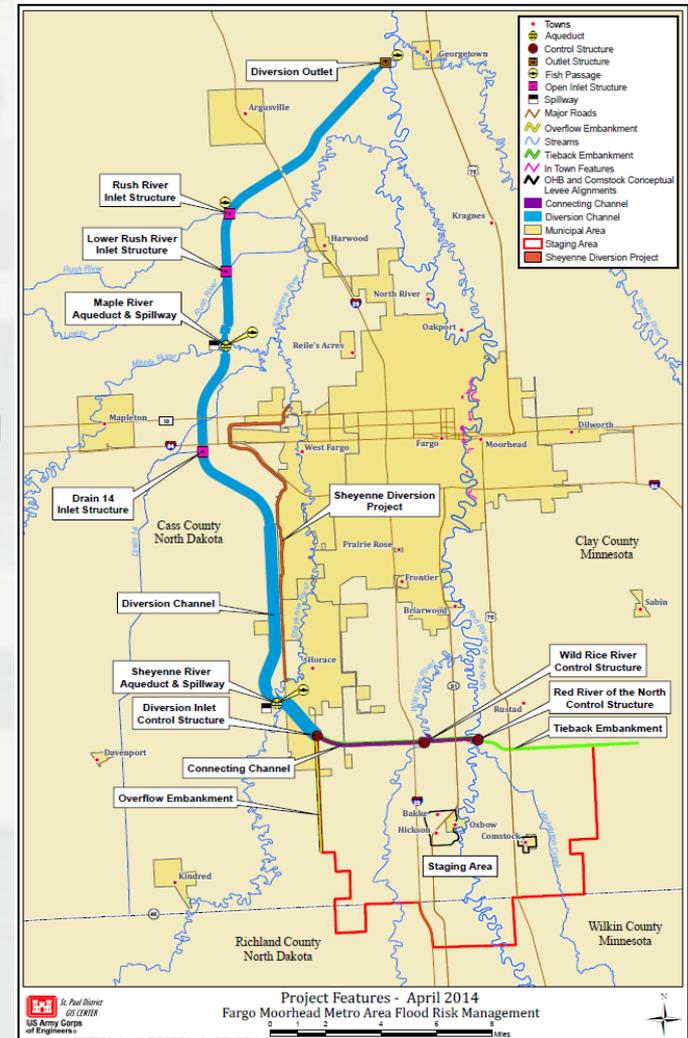
Fargo-Moorhead Metro – Value to the Nation

- **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



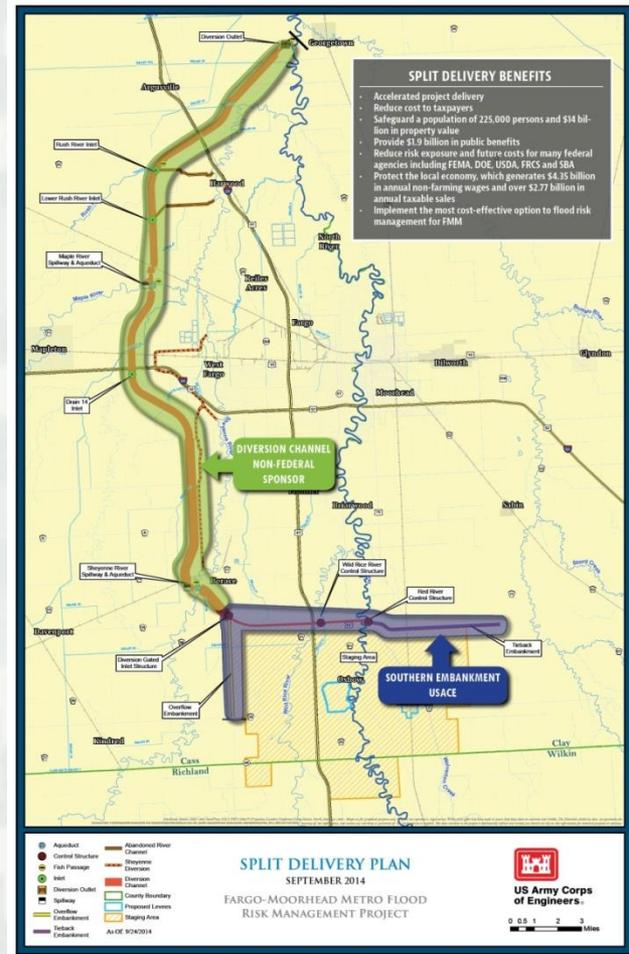
Split Delivery Plan

- 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&_cvview=1

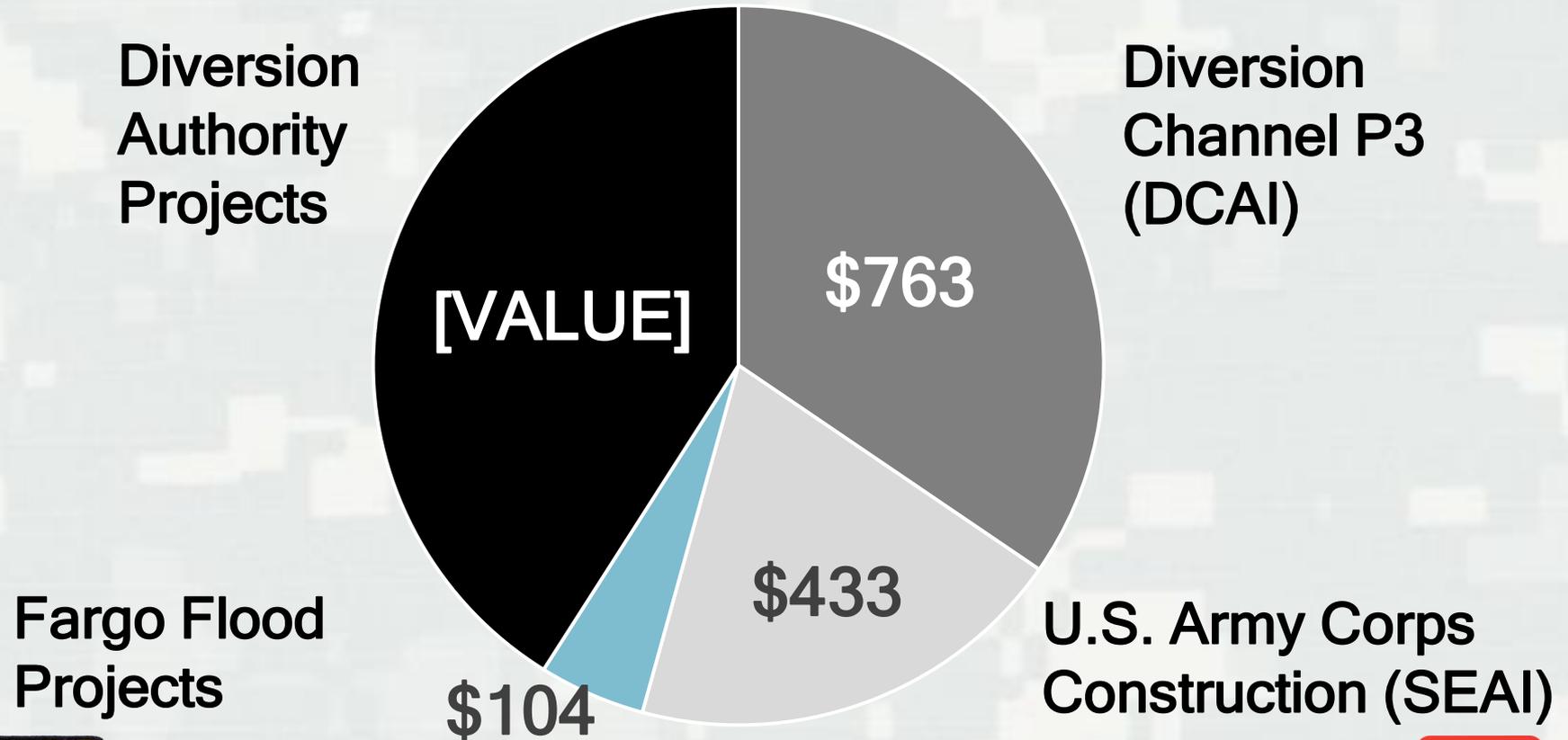


Financial Plan Overview

- 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 ¢ |
| Expiration Date | 2028 | | | 2032 | 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



BUILDING STRONG®

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



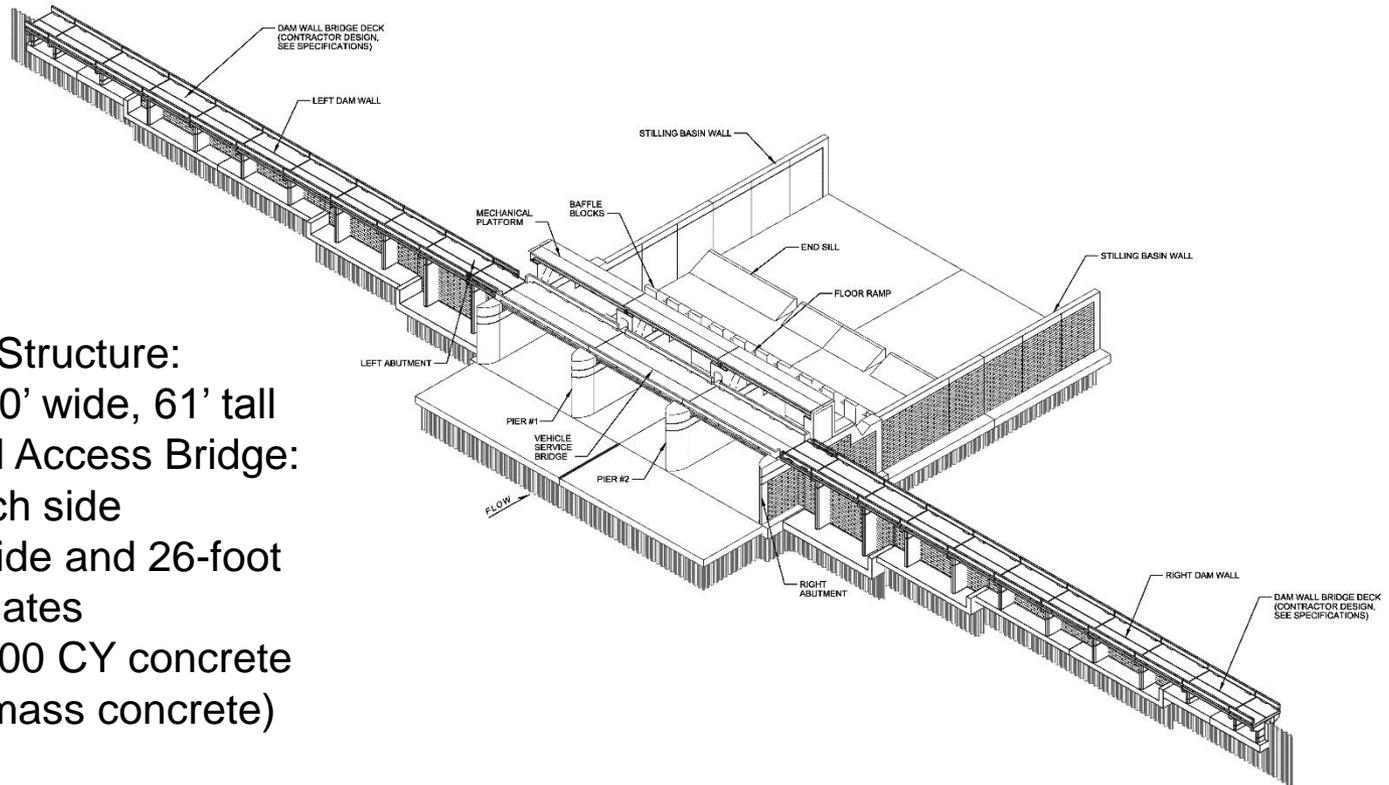
Inlet Structure - Aesthetic Treatments

February 9, 2016



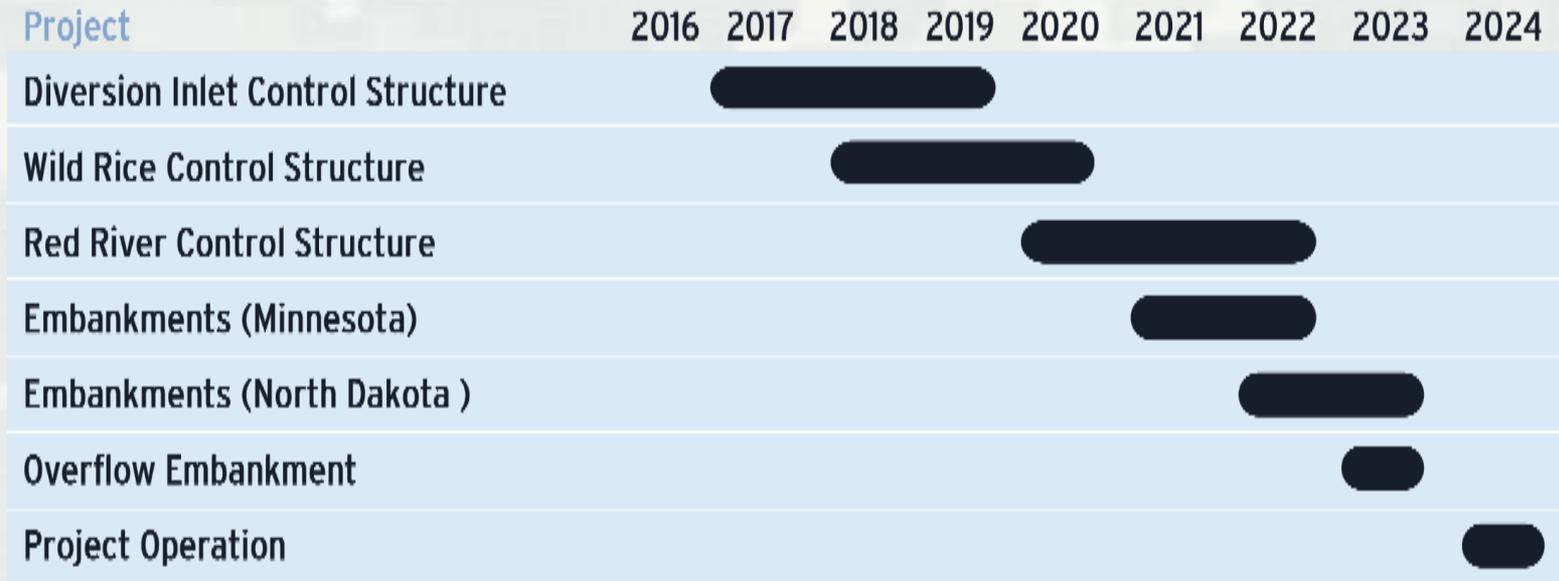
Diversion Inlet Structure - Isometric

- ▶ 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



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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