

Flood Diversion Authority Board Meeting Post-Feasibility Southern Alignment Analysis Update

Presented by

Program Management Consultant

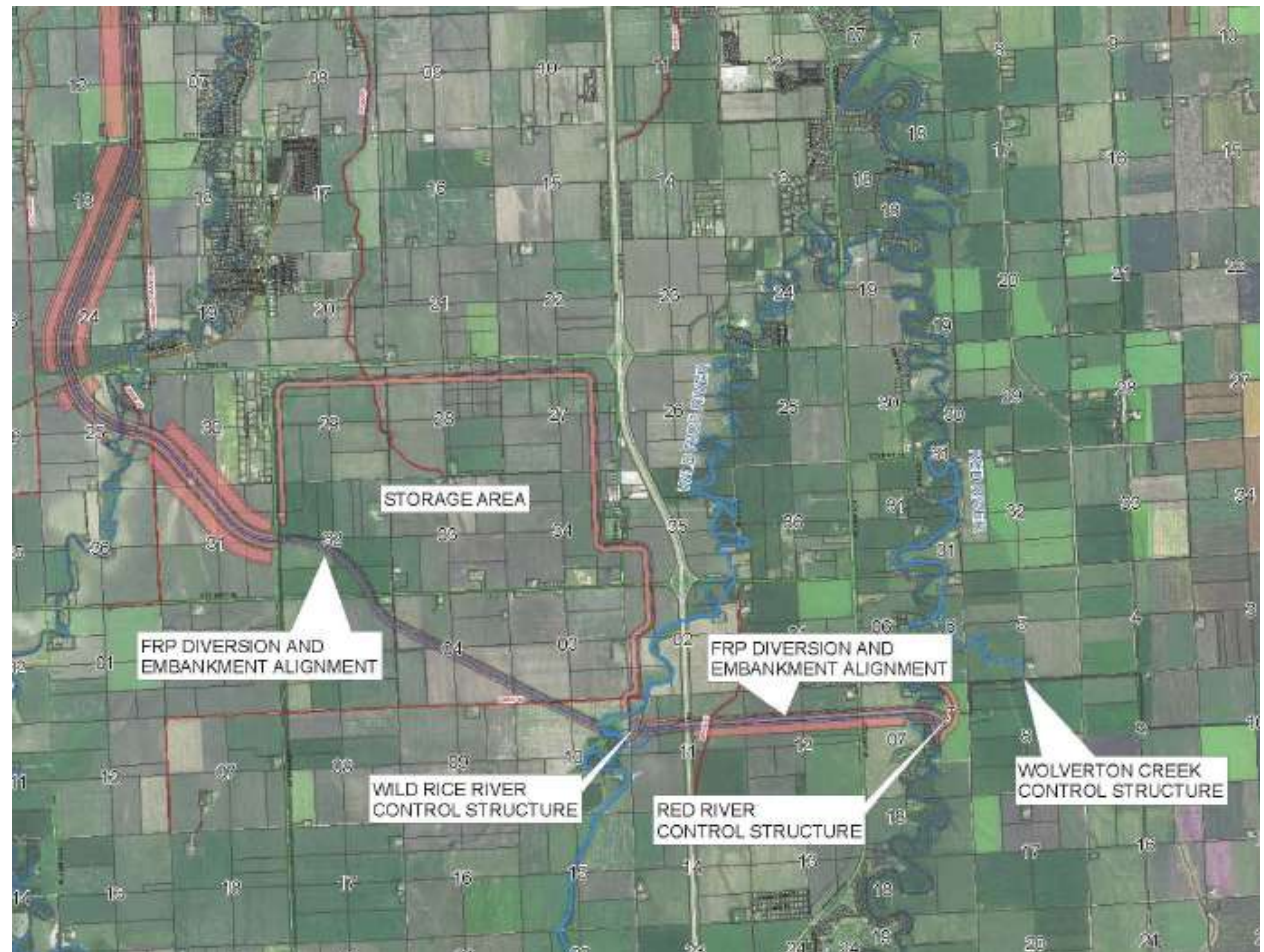
August 9, 2012

Post-Feasibility Studies for Southern Alignment

- 💧 Federally Recommended Plan (Baseline)
- 💧 Value Engineering 13 - Option A
- 💧 Value Engineering 13 - Option C
- 💧 North of the Wild Rice River Alignment
- 💧 South of Oxbow Alignment
- 💧 Increased Flows Through the Flood Damage Reduction Area
- 💧 Diversion Inlet Gates vs. Fixed Weir
- 💧 Oxbow, Hickson, Bakke Levees

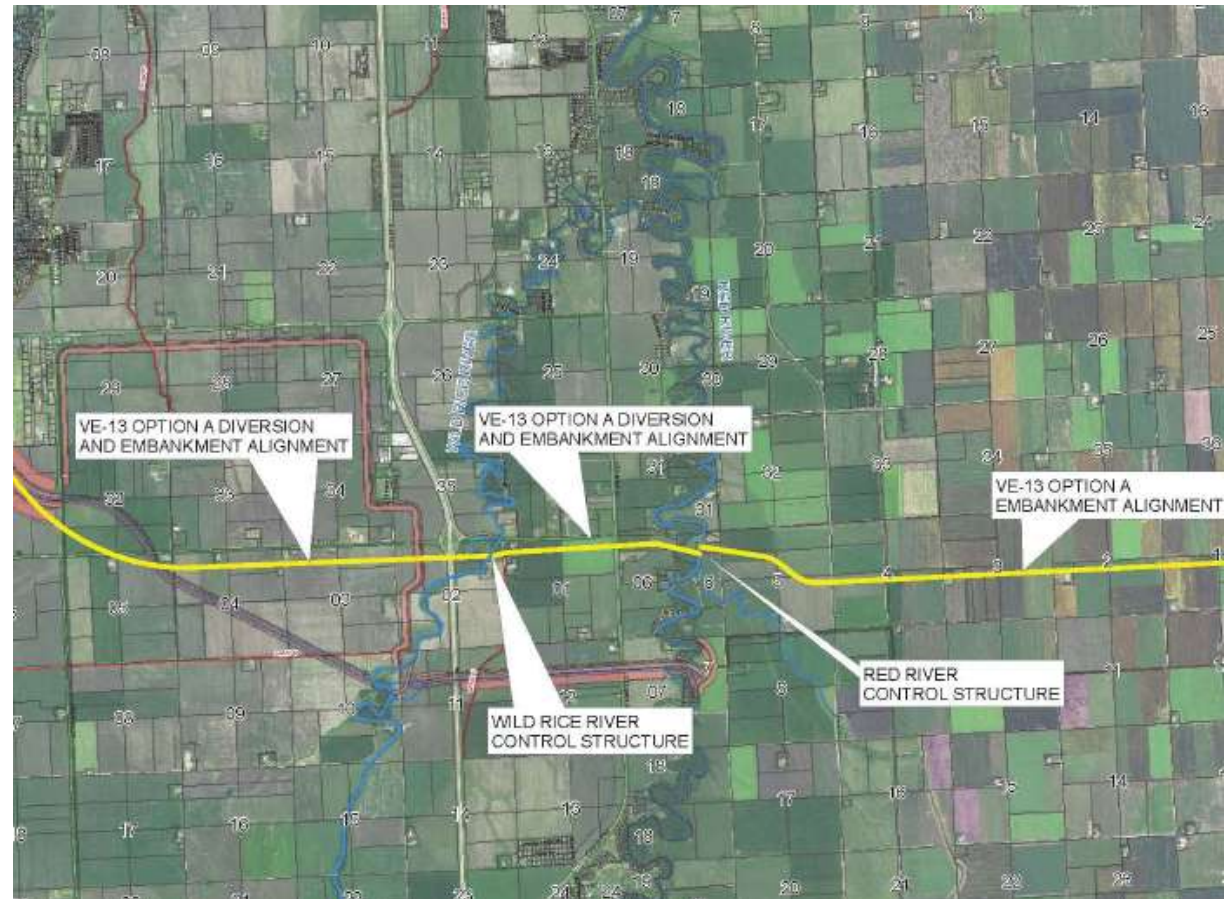
Federally Recommended Plan

- Signed Chief's Report
- Record of Decision (ROD)



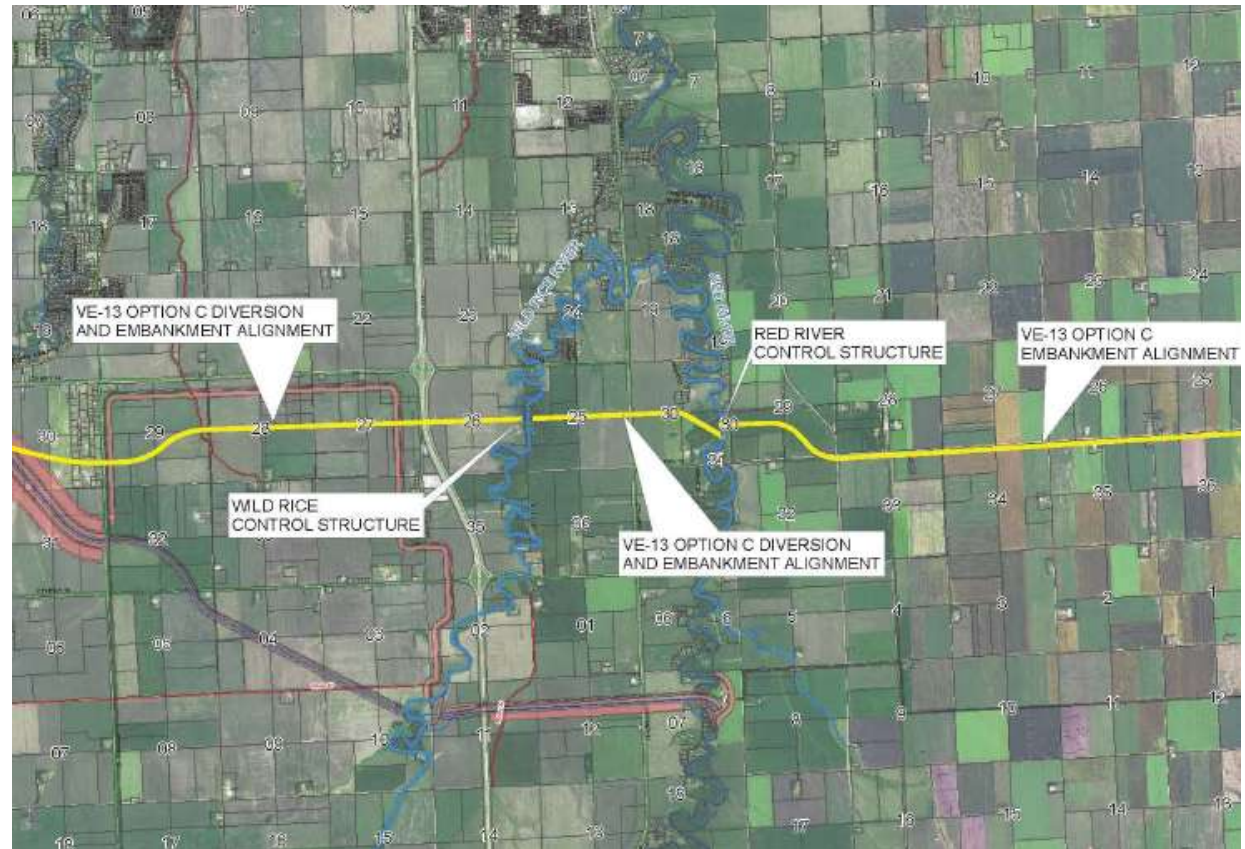
Value Engineering 13 - Option A

- VE performed as part of FRP
- Eliminates Storage Area
- Eliminates Wolverton Creek Control Structure
- Reduces Staging Elevation 0.16 ft



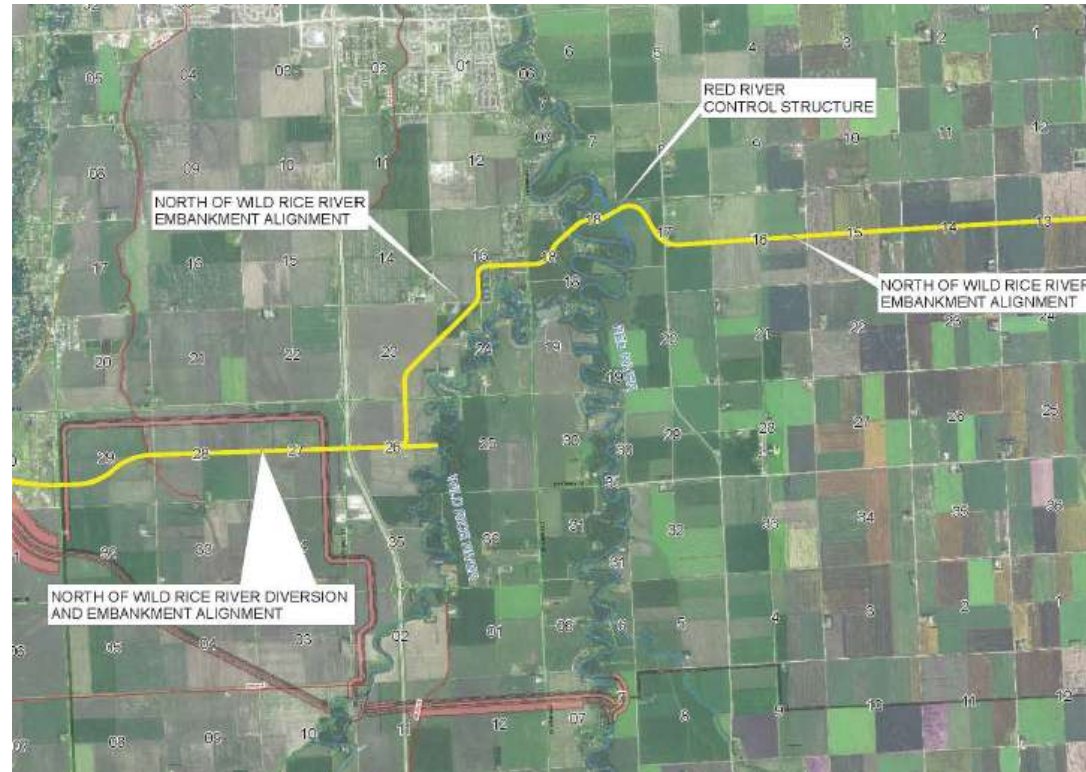
Value Engineering 13 - Option C

- VE performed as part of FRP
- Eliminates Storage Area
- Eliminates Wolverton Creek Control Structure
- Reduces Staging Elevation 2.8 ft



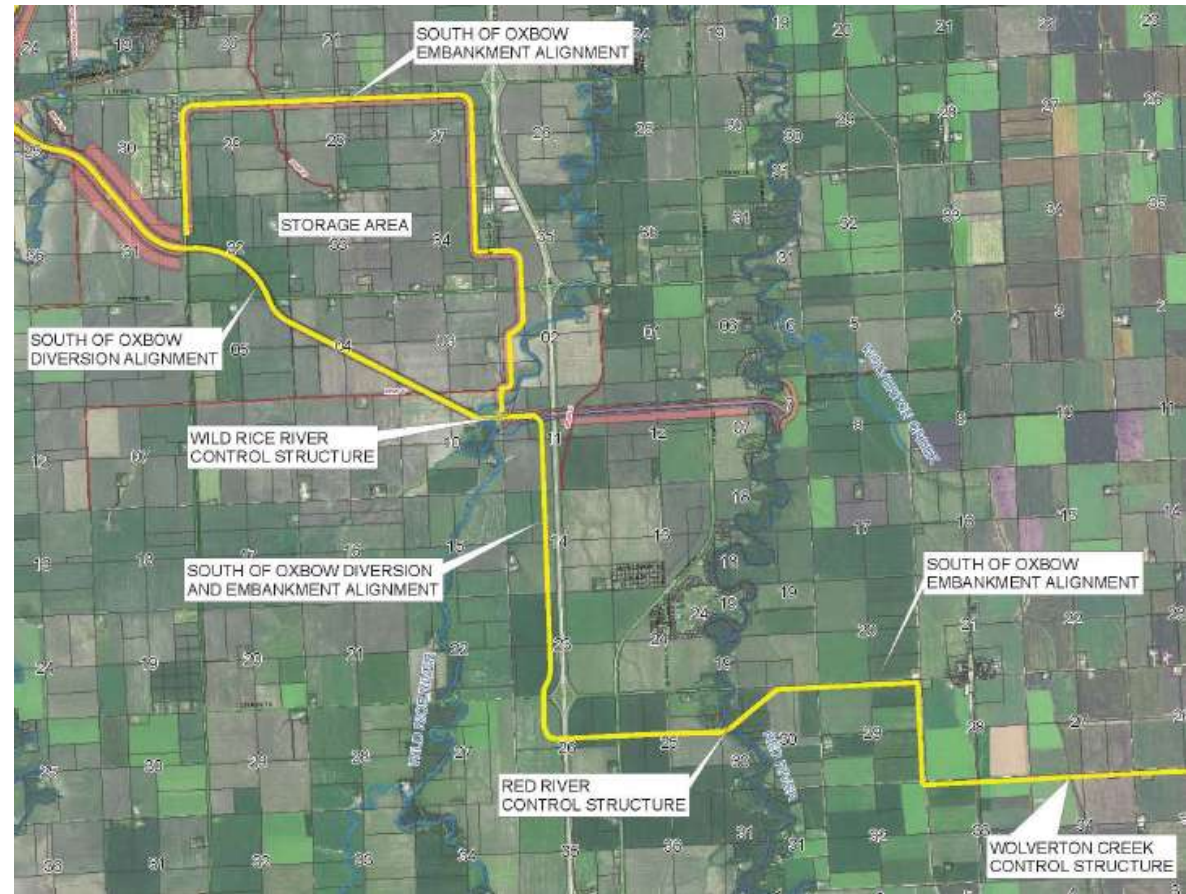
North of the Wild Rice River Alignment

- Not identified in the FRP VE
- Eliminates Storage Area
- Eliminates Wolverton Creek and Wild Rice Control Structures
- Reduces Staging Elevation 5.1 ft
- Technical analysis ongoing, would require more permitting challenges and additional Federal review



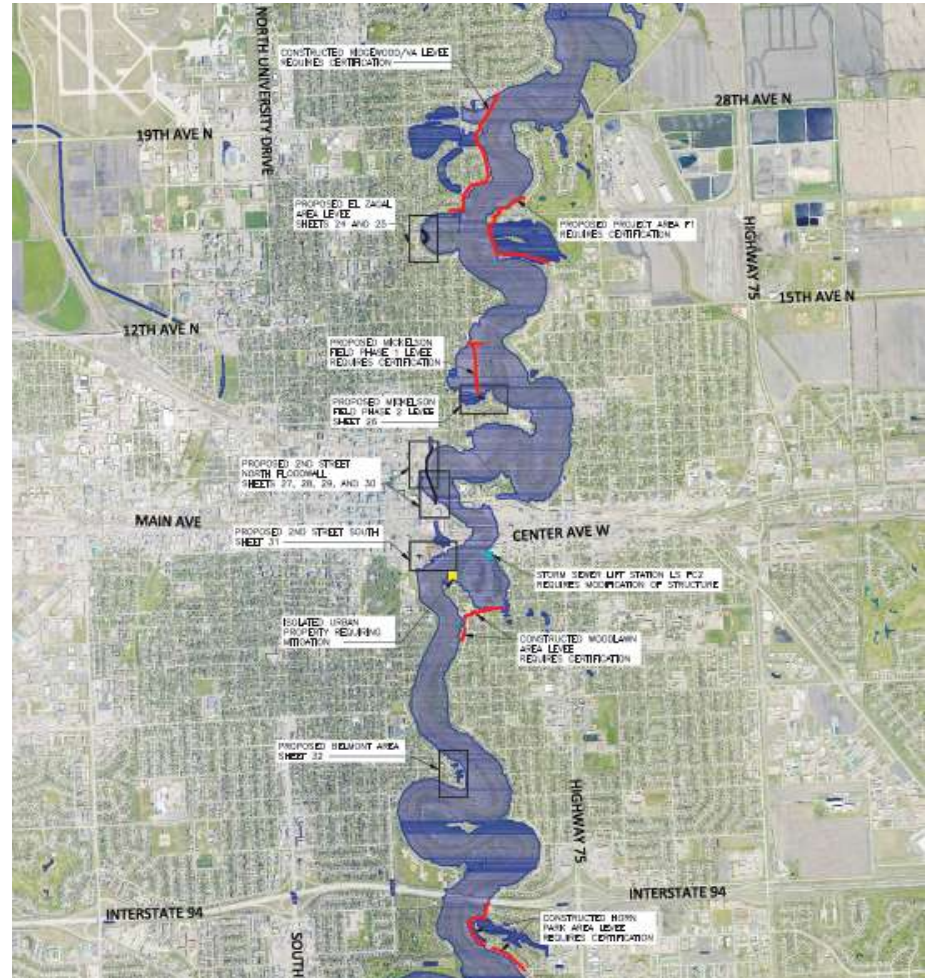
South of Oxbow Alignment

- Protects Oxbow, Hickson, Bakke
- Moves upstream impacts further upstream
- Increases Levee/Dam length by 50%
- Significant Permitting Challenges and additional Federal approval



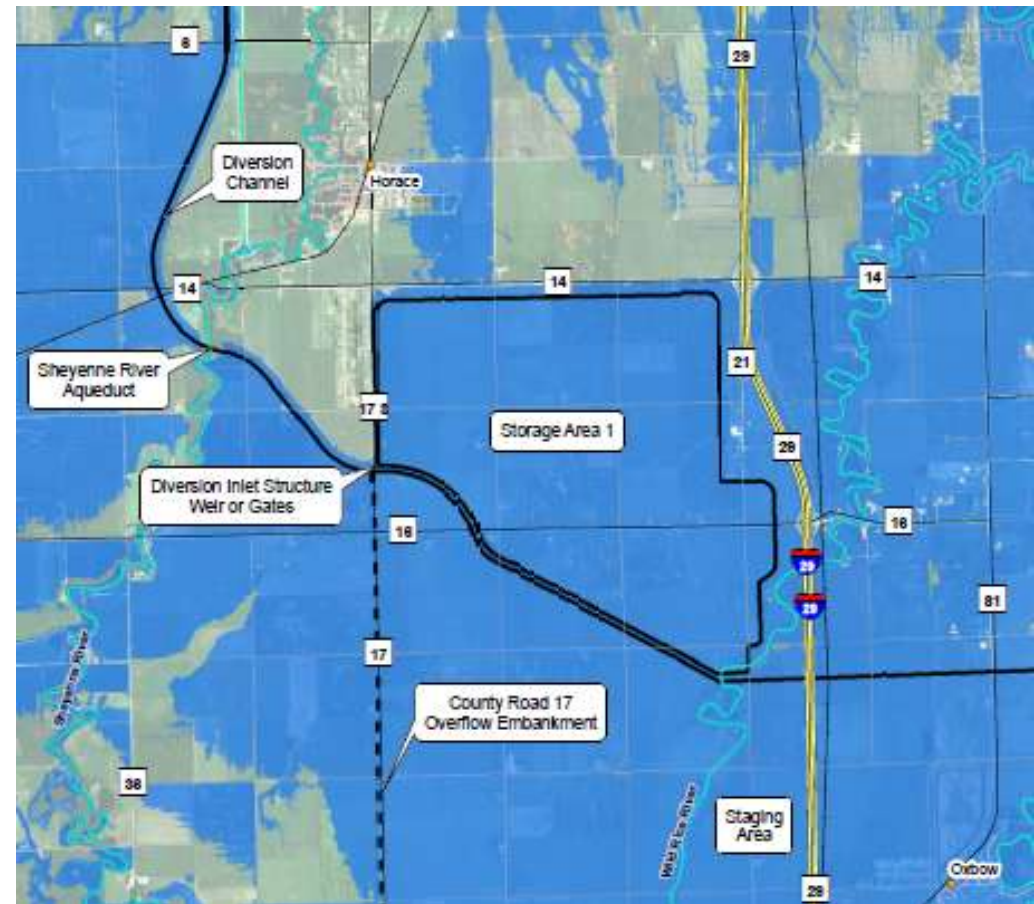
Flows Through the Flood Damage Reduction Area

- FRP sets flows to current 30.8 ft protection level
- Study looked at flows to levels from 30 ft to 37 ft
- Increasing flows to 35 ft passes 17,000 cfs – which reduces predicted frequency of use of the Diversion from every 3 - 4 years to over 10 years
- Eliminates the need for fish passages on Wild Rice and Red River control structures



Diversion Inlet Gates vs. Fixed Weir

- Allows differing response and operation for different flood events



Oxbow, Hickson, Bakke Levees

- Only feasible if flood staging elevations can be significantly lowered
- Dam/Levee implications are still being studied
- Permitting impacts are still being studied



Selection Decision Criteria

- 💧 Implementability
- 💧 Cost
- 💧 Property Impacts
 - Structures Impacted*
 - Acres of Land Impacted*
- 💧 Risk
- 💧 Floodplain Impacts
- 💧 Environmental Impacts
- 💧 Transportation Impacts

Integrated Alternatives

💧 Federally Recommended Plan

- *With Flows Through the Flood Damage Reduction Area & Diversion Inlet Gates*

💧 Value Engineering 13 - Option A

- *With Flows Through the Flood Damage Reduction Area & Diversion Inlet Gates*

💧 Value Engineering 13 - Option C

- *With Flows Through the Flood Damage Reduction Area & Diversion Inlet Gates*

💧 North of the Wild Rice River Alignment

- *With Flows Through the Flood Damage Reduction Area & Diversion Inlet Gates*
- *With Flows Through the Flood Damage Reduction Area, Diversion Inlet Gates and Oxbow, Hickson, Bakke Levee*

Path Forward

- August 9: Presentation of individual studies*
- August 15-16: Evaluation of integrated alternatives with USACE*
- August 18-30: Individual meetings with Boards/Commissions*
- September 13: Presentations to JPA Board*
- Public Meeting*
- Sep-Oct: Public Involvement*
- October: Board Approval*