



Minnesota River Crossing Flood Mitigation Study

August 11, 2011





Purpose

- Identify lower cost improvements to Hwy 41, Hwy 101 and Hwy 169 to minimize transportation disruption caused by seasonal flooding of the Minnesota River
- Results will aid Mn/DOT in pursuing flood mitigation funding in the fall of 2011







Relationship to Hwy 41 River Crossing EIS

- The Hwy 41 Tier 1 EIS is to preserve a long-term freeway connection between Hwy 212 and Hwy 169 that addresses capacity issues as well as elevating the bridge out of the 100 year flood level
 - Costs estimated to be in the hundreds of millions
 - Construction could be many decades away





Relationship to Hwy 41 River Crossing EIS

- This Flood Study will be for shorter-term, lower-cost design improvements to minimize closings due to flooding, but will not solve capacity issues
 - Costs estimated to be in the tens of millions
 - Construction in near to mid-term, depending on costs/financing





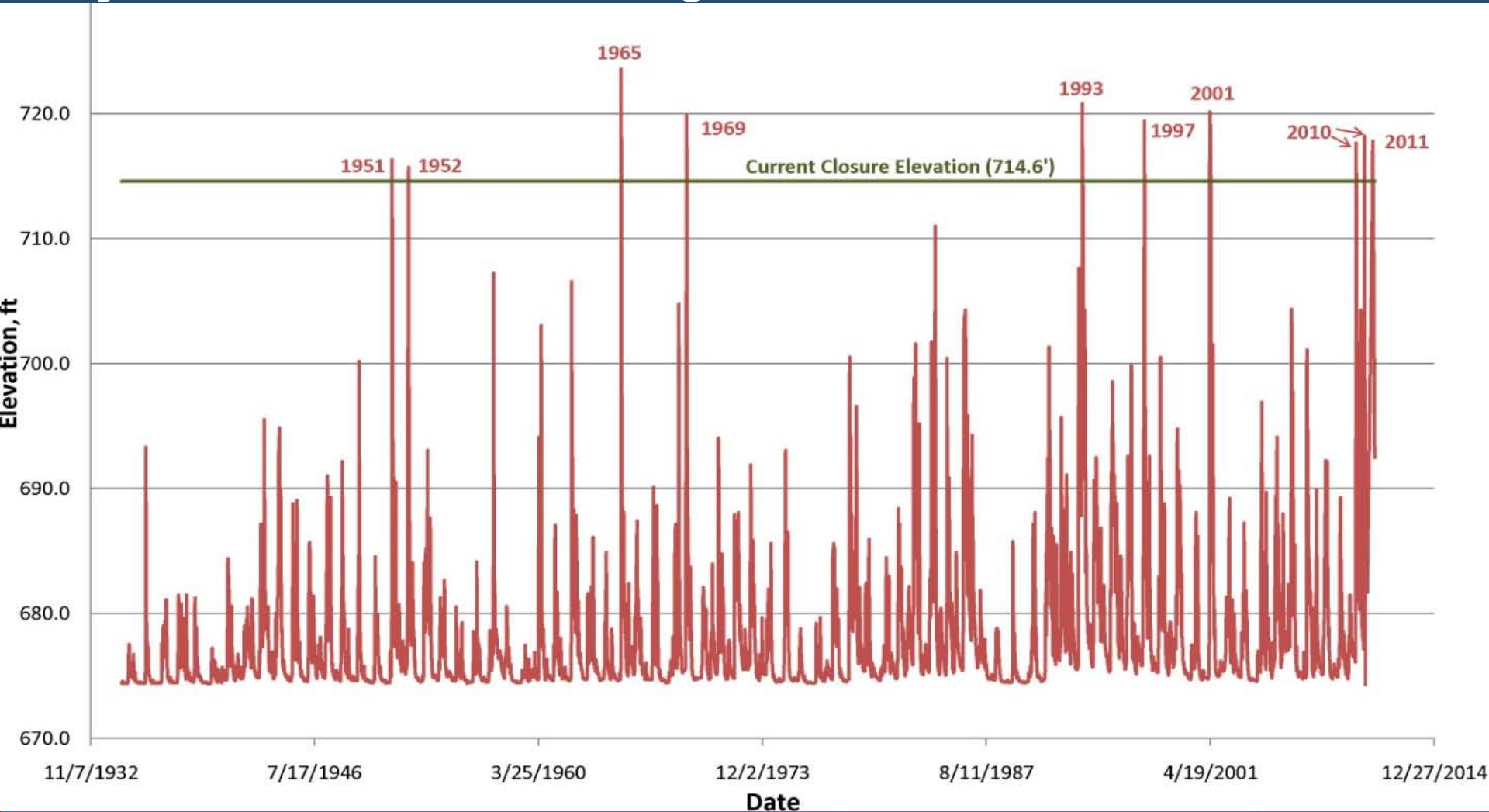
Elements

- Traffic forecasting and analysis
- Analysis of historical flooding
- Development of alternatives
- River modeling
- Evaluation of alternatives
 - Includes benefit-cost analysis
- Public and Agency involvement
- Final report



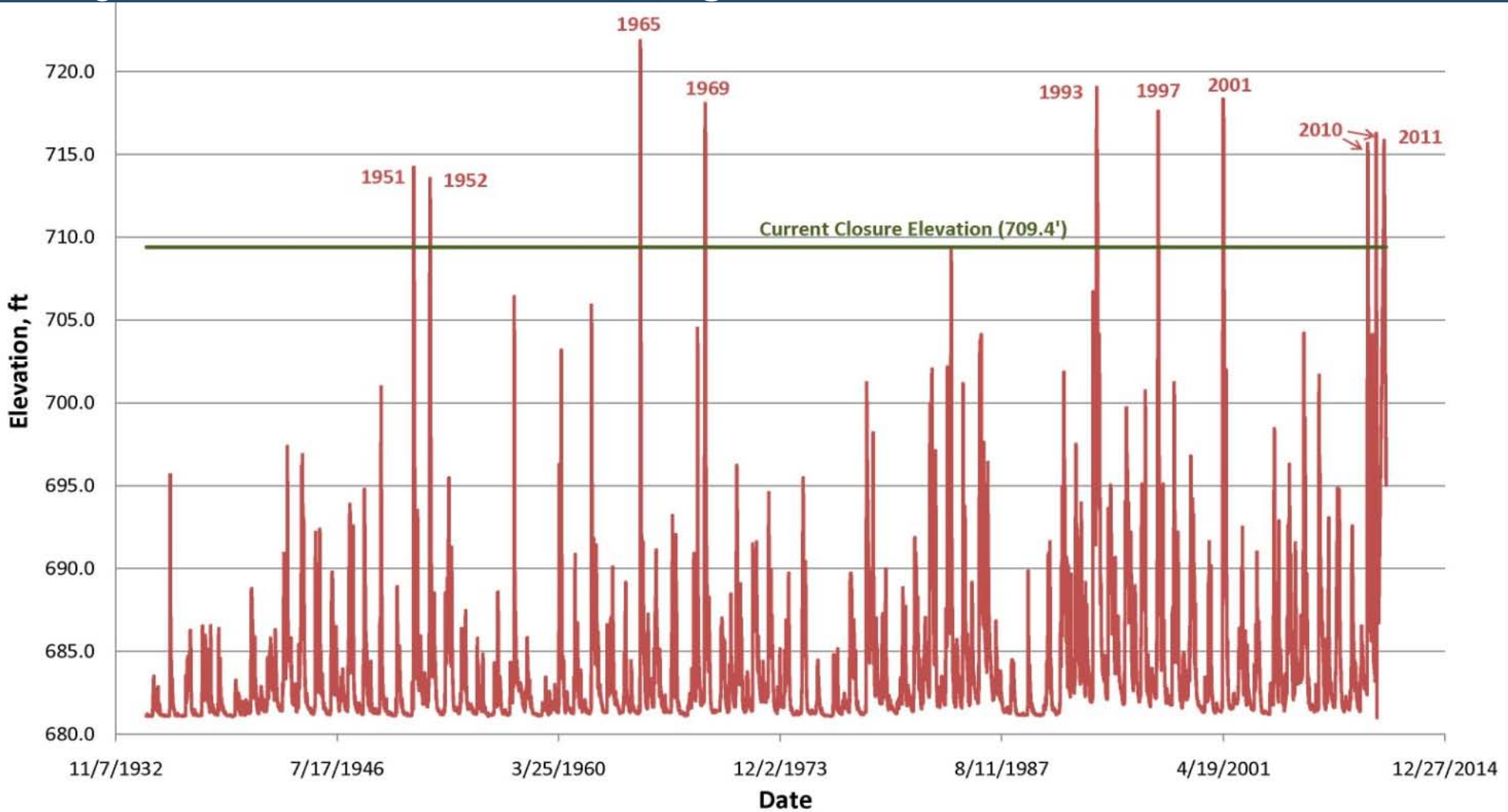


Hwy 41 Historical Flooding – Ten Closures Over 80 Years





Hwy 101 Historical Flooding – Ten Closures Over 80 Years





Daily Cost of Hwy Closures

When Hwy 101 and 41 are closed, the value of the additional time and miles traveled is

- \$670,000 (2009)
- \$1,675,000 (2030)





Why Not Just Raise The Road?

- Raising the road would act as a dike and back up the river causing impacts up stream
- The regulations do not allow fill in the floodplain that will cause the river to raise
- The alternatives will be designed to have sufficient waterway opening to prevent any increase in water levels



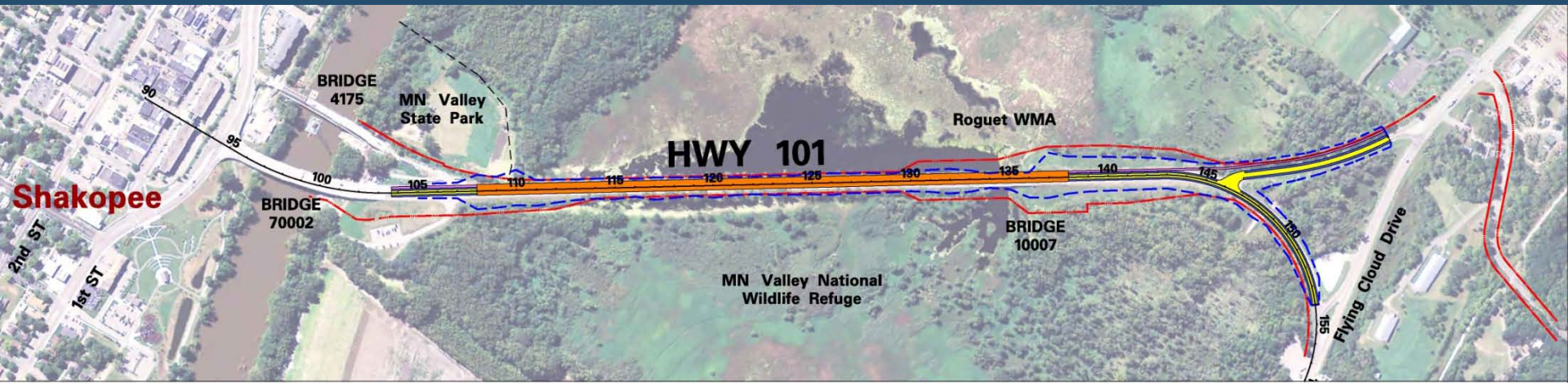


Hwy 41 and Hwy 101 Alternatives

Raise roadway elevation using fill and land bridge

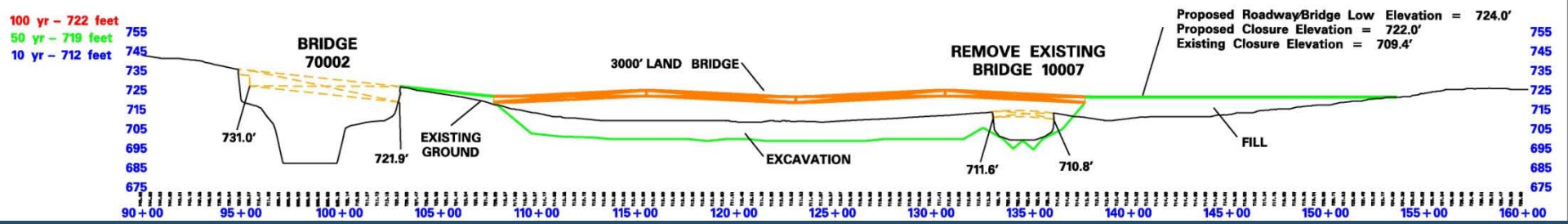
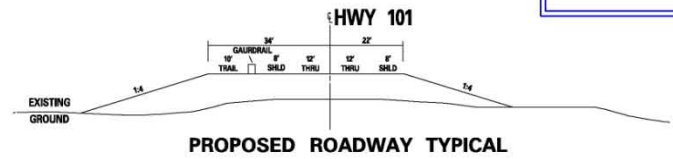
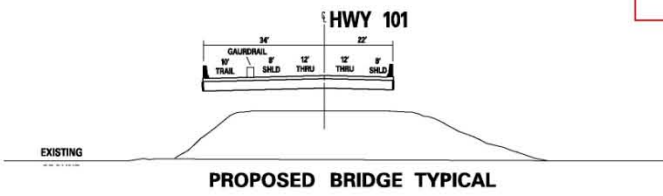
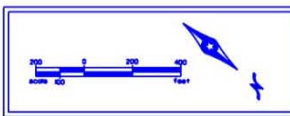


TH 101 – Preferred Alternative



- LEGEND**
- PROPOSED BRIDGES
 - PROPOSED ROADWAY
 - PROPOSED SHOULDER - PAVED
 - BITUMINOUS TRAILS
 - EXISTING RIGHT OF WAY
 - CONSTRUCTION LIMITS

Concept Subject to Change





TH 101 Design Assumptions

50 year flood elevation is 719'

Current closure elevation is 709.4

Proposed Bridge elevation is 724'

Closure elevation is controlled by low steel elevation of 722' on
Shakopee Bridge

Bridge Length = 3000 feet

Total width with barriers = 56 feet

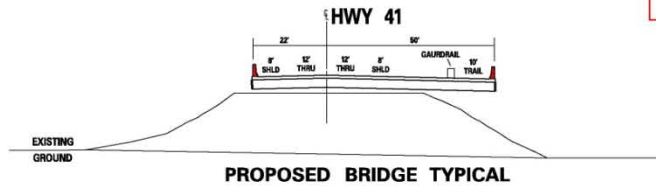
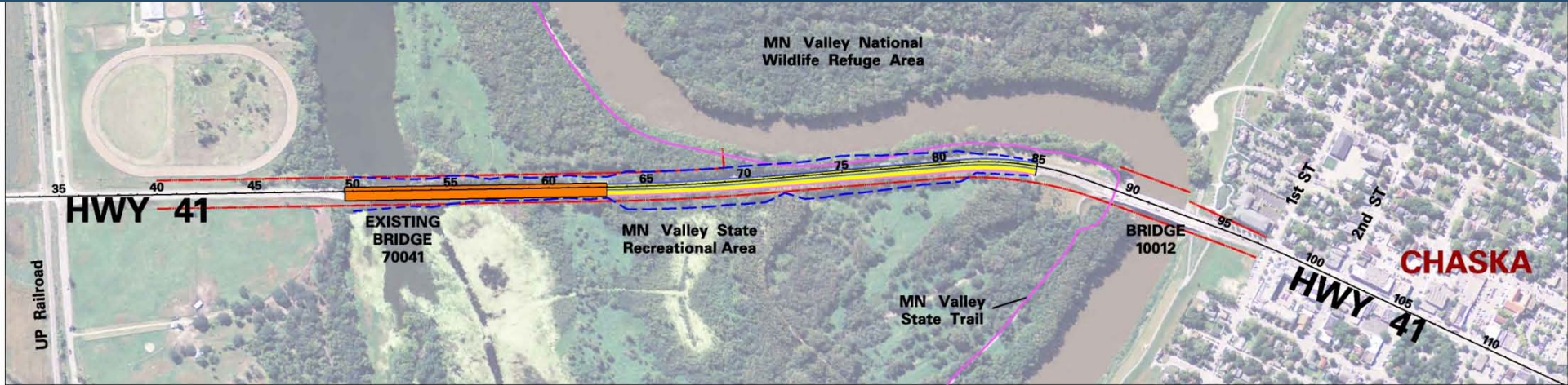
Includes 10 foot trail

Existing right-of-way = 100 feet

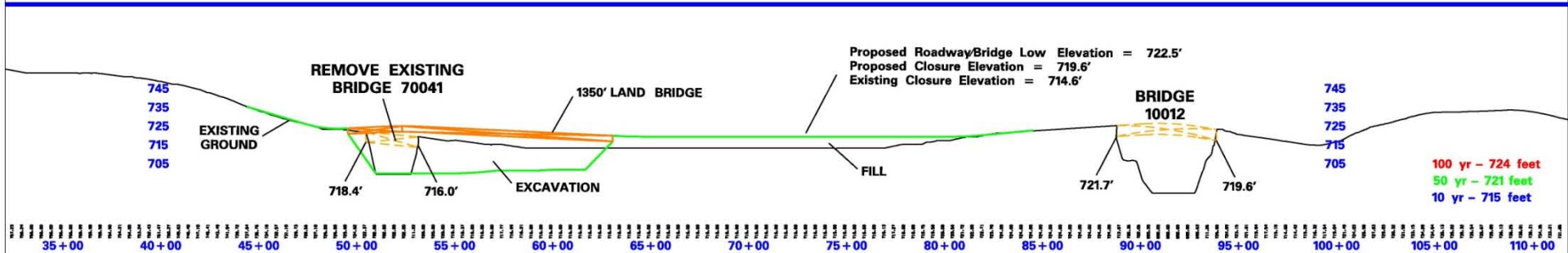
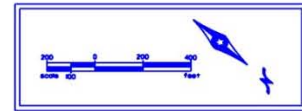
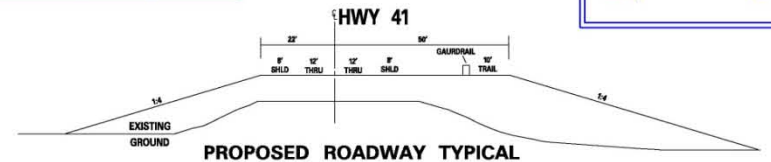
Construction : Full closure 12 month duration



TH 41 – Preferred Alternative



Concept Subject to Change





TH 41 Design Assumptions

50 year flood elevation is 721'

Current closure elevation is 714.6

Proposed Bridge elevation is 722.5

Closure elevation is controlled by low steel of 719.6' on Chaska Bridge

Bridge Length = 1350 feet

Total width with barriers = 72 feet

Includes 10 foot trail

Existing right-of-way is 150 feet

Construct under traffic, 18 month duration





Hwy 169 Alternatives

- Temporary Lane Add similar to this year
 - From Hwy 101 to Pioneer Trail
 - Only during seasonal flooding
- Permanent Lane Add
 - From County Road 18 to Pioneer Trail
 - Year round benefits
 - Higher cost with complex issues





Evaluation Criteria

- Construction Cost
- Benefit Cost
- Property Impacts and Costs
- Constructability
- Environmental Impacts/Opportunities
- Community Input





Next Steps

- Analyze Alternatives
- Prepare Report
- Final Open House to Present Results
- Pursue Flood Mitigation Funding





Project Partners

- Carver County
- Scott County
- City of Shakopee
- City of Chaska
- City of Chanhassen
- City of Bloomington
- Louisville Township
- Jackson Township
- Metropolitan Council

Resource Agencies

- US Army Corps of Engineers
- MN Department of Natural Resources
- US Fish and Wildlife Service
- Federal Highway Administration
- State Historic Preservation Office





For More Information

<http://www.dot.state.mn.us/metro/floodstudy/>

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