Klondike Clean Water Retention Project #11 (January 23 2024 Update)

Project Proposer: Two Rivers Watershed District

Description/Location: The 7,600 acre multi-purpose resource project is located 10 miles east of the City of Lake Bronson, MN and 4 miles north, covering nearly 12 square miles on the Kittson and Roseau County line. It is planned to have gated storage of up to **35,250 acre feet** from a 191.5 square mile upstream drainage area, include 8 miles of diked inlet channel, up to 6 miles of diversion channels, a 17 mile long dike, and an average dike height of 6 feet.

Problem: Large scale overland flooding is a common occurrence from the City of Badger and west to the Kittson & Roseau County line along 18 linear miles of Lateral 1 of State Ditch 95. Undersized channel capacity and the slope of the landscape contributes to out of bank flows and overland flooding on a large scale. In large flood events, water overflows out of the Roseau River and enters the Two Rivers Watershed District via State Ditch #72, exacerbating the problems. Impacts occur to public roads and infrastructure, loss of agricultural crops, and farmsteads. Roads can be closed for several weeks at a time.

Project Benefits: A Project Work Team consisting of representatives of local (County, Watershed District, City, Township), state (DNR, BWSR, MPCA) and federal (NRCS, USFWS, USCOE) agencies as well as local landowners and non-government groups (Nature Conservancy, International Water Institute) was convened. This project team met monthly over the course of several years to discuss the project, set goals and investigate alternatives. These meetings followed the process recommended by the Red River Flood Damage Reduction Work Group, which has endorsed the project. This ensures that the project will achieve both flood damage reduction and natural resources enhancement goals and follow proper environmental review procedures.

FLOOD DAMAGE REDUCTION

- *Store 35,250 acre feet of floodwaters on the land*
- *Reduce downstream peak flows and flood duration*
  - *- Reduce Two Rivers contribution to Red River peak flows by 15-20%*
  - *Reduce peak flows on Two Rivers at Lake Bronson State Park by 13%*
- *Provide adequate outlet for Lat 1 State Ditch #95*
- *Store a portion of Roseau River overflow flooding*
- *Prevent flooding on over 25 square miles*
- *Reduce damages to roads, bridges, culverts, farmsteads, and ag lands*

Natural Resources Enhancements

- *Fish Habitat*
  - Provide 10-20 cfs flow in Two Rivers during dry periods
- *Prairie Rich Fen*
  - Protect and enhance a large Fen
  - Implement a fen protection plan
- *Water Quality Improvements*
  - Reduce sediment loads to Two Rivers by 62%
  - Reduce Phosphorous & Nitrogen loads by 77% & 81%
  - Reduce duration and peaks of annual algae blooms at Lake Bronson
  - Increase dissolved oxygen levels
  - Address water quality impairments on Two Rivers

Status & Timeline – Pending Funding & Permitting

- Final Plans and Specifications are 90% complete
- Permitting in progress - potentially complete by June 2024 (EAW is done, USCOE, WCA, SHPO, 103E ditches, Others)
- Phase 1 – 16,500 acre ft; fish habitat & water quality – 2024-2026
- Phase 2 – raise to 27,500 acre ft; fen protection – target 2026-2028
- Phase 3 – raise to 35,250 acre ft; – target 2029-2030

Funding Needs:

- Project Design/Permitting/Right of Way is $7.2M
- Phase 1 Construction estimate is $13M - $17.5M
- Phase 2 Construction estimate is $7M - $9.4M
- Phase 3 Construction estimate is $5M - $6.7M
- Total Cost = $32.2M - $42M

Funding secured to date: $2.8 M (LSOHC) $7.2 M (RRWMB) $0.5 M State of MN

THESE ARE ESTIMATES - NUMBERS ARE SUBJECT TO CHANGE AS PROJECT DEVELOPS FURTHER

Two Rivers Watershed District

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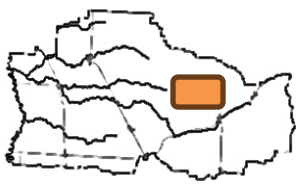
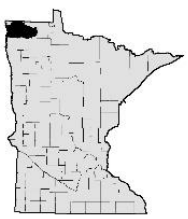
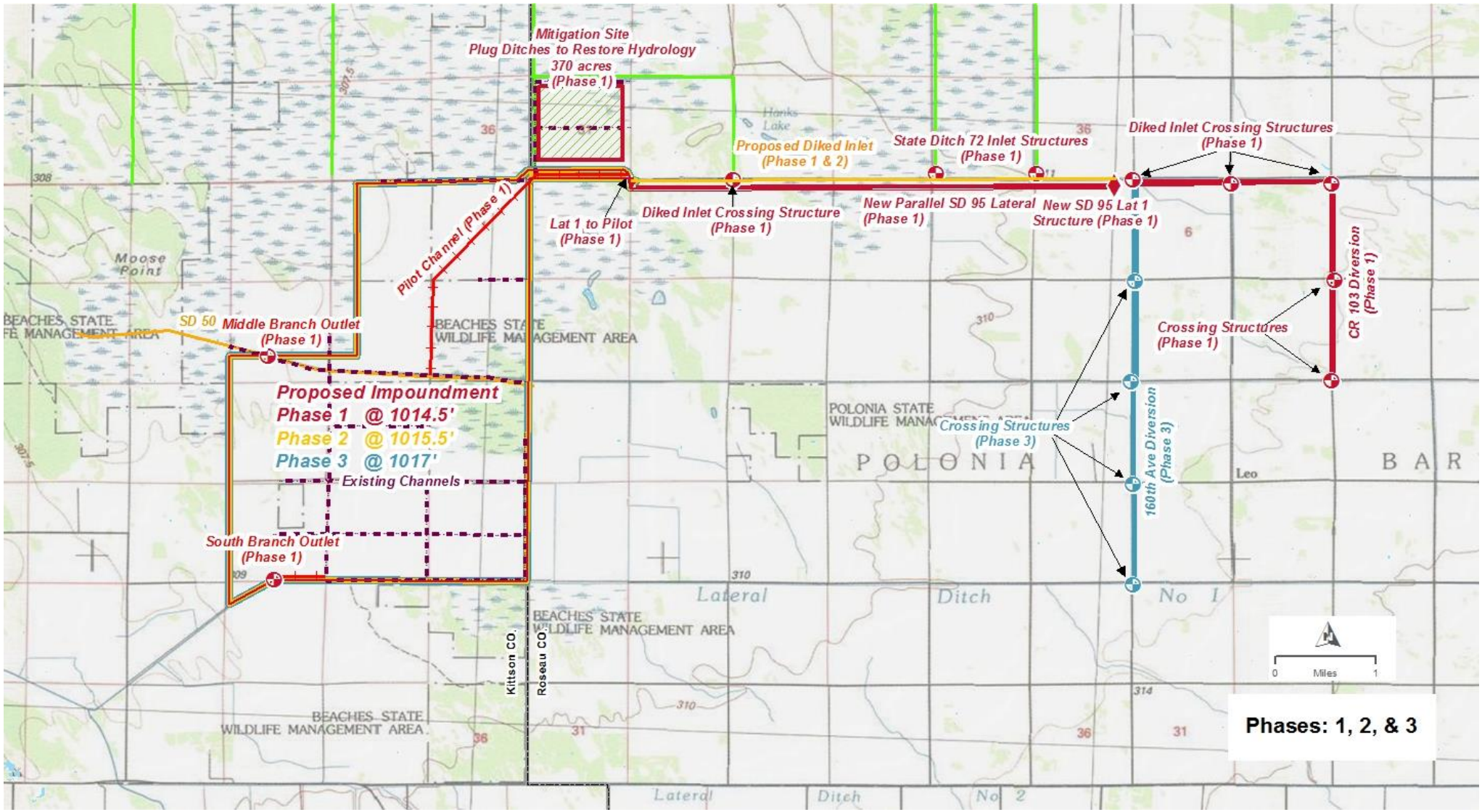




Project Info @ www.tworiverswd.com/Klondike.html



Preliminary Work: Preferred alternative; Engineer's Report; Final Plans & Specifications; Obtain Right of Way; Obtain Permits; Obtain Funding; Cost $7.2 Million

Phase 1: Construct dikes to impound 16,500 acre feet; Construct Pilot Channel; Construct 2 outlet structures & spillways; Construct inlet channel; Construct 2 inlet structures; Cost between $13 Million & $17.5 Million

Phase 2: Construct/raise dikes to impound 26,750 acre feet; Further work on the diked inlet and road; Cost between $7 Million & $9.4 Million

Phase 3: Construct/raise dikes to impound 35,250 acre feet; Construct 4 mile inlet/diversion channel; Cost between $5 Million & $6.7 Million