City of Minot Flood-Risk Reduction: **Preliminary Implementation Planning**





JANUARY 2013 SUMMARY

Purpose of This Planning Effort

This planning effort is intended to provide preliminary information about possible costs, schedules, and prioritization factors for the implementation of the flood-risk-reduction measures described in the February 2012 preliminary engineering report (PER) through Minot.

At the request of the City of Minot, this assessment is focused on PER project elements within the Minot city limits, from the US Highway 83 Bypass bridge to the US Highway 2 Bypass bridge.

This summary includes:

- A prioritized construction sequence
- A preliminary baseline implementation timeline for use in project planning
- A preliminary cost-loaded schedule for use in project finance planning
- Funding sources for similar flood-risk-reduction projects in North Dakota



This planning effort is an important step on the path to reducing the risk of flooding in the Minot area.

Project Implementation Timeline

A summary of the estimated project implementation timeline is shown in Figure 1. Implementation of the flood-riskreduction features through Minot is a multi-step process requiring significant environmental and field investigations, feasibility assessments, environmental reviews and approvals, permitting, detailed design, and land acquisition prior to construction. Due to the variety of construction activities and project elements, it is very likely that some features with negligible environmental impacts could be implemented on a separate and expedited schedule.

Figure 1. Potential Project Implementation Timeline by Fiscal Year (City of Minot Features Only)

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Basinwide Preliminary Engineering															
Environmental and Field Investigations, Design Development, and Feasibility Assessment for Federal EIS															
Federal EIS															
Detailed Design															
Permitting															
Construction															
Land Acquisition															

Prioritization Factors

Development of a preliminary baseline implementation timeline requires the development of logical sequencing of subprojects. Subprojects are portions of the overall PER project to consider implementing in phases or independently. Definition of individual subprojects was based on several factors, including geographic location, potential stand-alone flood-risk-reduction benefits, available right of way, predominant feature type, anticipated permitting and regulatory effort, and other considerations. The construction sequence and schedule was developed considering the following prioritization factors (in order of importance):

- 1. Critical regional infrastructure value: Subprojects were assigned a critical priority if they have features that would reduce the risk of flood damage to critical regional infrastructure. It is essential to keep these facilities functional during floods to maintain public health and safety.
- 2. City of Minot flood-risk reduction: Subprojects that the City prefers to have constructed early in the overall construction sequence and schedule were assigned a high priority. These areas were identified by City of Minot staff based on prioritization factors such as difficulty of flood fighting in a particular area, protection of critical transportation corridors, protection of municipal infrastructure, and number of properties affected.

3. Anticipated permitting effort: Subprojects that are likely to require less time and effort to permit were assigned higher priority. For example, a subproject is assigned a high priority if it may be implemented independent of larger federal processes, including the federal environmental impact statement (FEIS) and Record of Decision (ROD), the US Army Corps of Engineers (USACE) Section 408 or Section 404 processes, or others, and provides early value to the region and city. Subprojects of this nature may be pursued while the FEIS process and permitting for other subprojects proceeds on a parallel track.

A summary of subprojects and the estimated timeline for City of Minot features is shown in Figure 3.

Preliminary Timeline and Anticipated Costs

Figure 2 represents a preliminary timeline for estimated capital expenses, by fiscal year, during the anticipated implementation schedule. This timeline was based on (1) the established priority ranking for subprojects, (2) the estimated critical-path schedule and sequencing for the implementation of the subprojects, and (3) the estimated costs of each activity or subproject.

The implementation schedules were developed without consideration of available funding. Project funding and financing will be dependent on policies regarding the local cost share. The prioritization strategy was applied to the subprojects listed in Table 1 and shown on Figure 3.

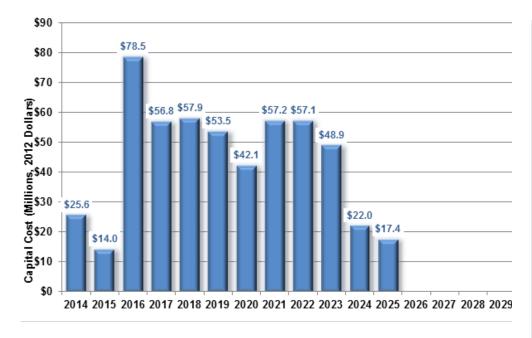
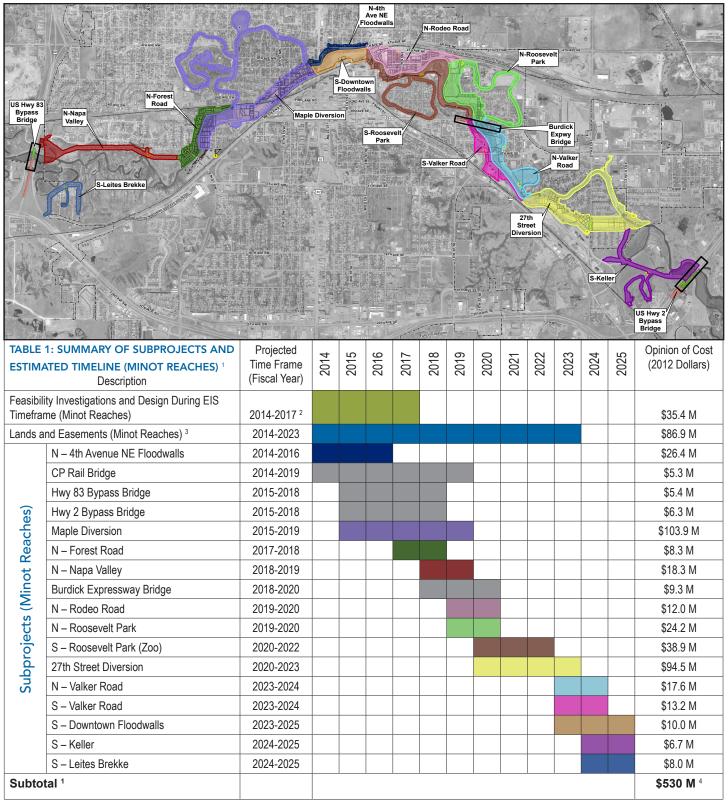


Figure 2. Estimated Annual Capital Expenses by Fiscal Year (Excluding Escalation)

All costs are presented in 2012 US dollars, similar to estimated costs presented in the PER. The estimated costs do not include time escalation or operation and maintenance costs. In accordance with generally accepted accounting principles, fiscal years were established for the project implementation period based on the latter year within the date range of the fiscal year. For instance, the 2015 fiscal year will correspond with the calendar period of July 1, 2014, to June 30, 2015.

Figure 3. Subprojects and Estimated Timeline (Minot Reaches)



¹ Prioritization of tasks and subprojects is based on the feasibility level of design for the project scope at this time. Future investigations and detailed design could require adjustments to the proposed timeline. Any schedule slippage in critical-path tasks or changes to key assumptions could require modifications to the schedule set forth in the estimated timeline and could require re-evaluation of the estimated funding scenario(s).

² The estimated timeline for completion of the EIS process and obtaining a Record of Decision (ROD) is some time in FY2017. Much of the work related to flood-risk-reduction features is likely dependent on meeting this key permitting benchmark.

³ The proposed sequence and cost-loaded critical path schedule assume that land acquisition is completed for each phased subproject prior to the bidding and construction of that subproject.

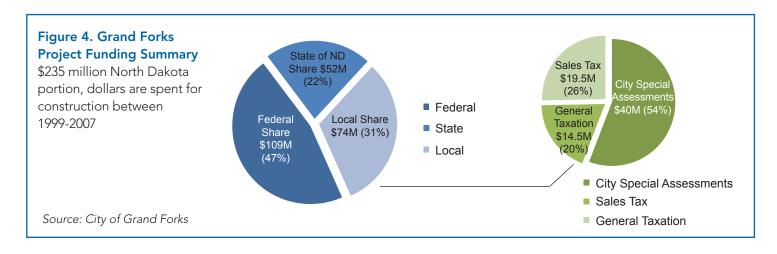
⁴ The scope of the Mouse River Enhanced Flood Protection Project has been modified to exclude work presently being planned around the Minot water treatment plant. The water treatment plant is a stand-alone project and is not impacted by implementation of the overall flood risk reduction project.

Funding Sources of Similar Projects in North Dakota

The funding of other large flood-risk-reduction projects in North Dakota was reviewed to identify possible funding sources for the Mouse River Enhanced Flood Protection Project. Two examples are provided below.

Grand Forks Flood-Risk-Reduction Project

The \$235 million Grand Forks project was funded using a variety of federal, state, and local sources. The approximate distribution of project revenues from such sources was \$109 million (47%), \$52 million (22%), and \$74 million (31%), respectively, as indicated in the pie chart below. The local share of the Grand Forks flood-risk-reduction project was funded utilizing a variety of sources, including general obligation bonds repaid through property tax levies, special assessments, and revenue bonds repaid through sales tax proceeds.



Fargo-Moorhead Flood-Risk-Reduction Project

The \$1.8 billion Fargo-Moorhead project is proposed to be funded using a variety of federal, state, and local sources. Since the federal share is capped at \$800 million, the non-federal interest will need to cover about 56% of the overall project cost (nearly \$1 billion). Of the non-federal share, the governmental entities in Minnesota plan to contribute \$100 million (6%) while the State of North Dakota and local governments in North Dakota are each planning to contribute \$449 million (25%) toward the project.

According to the Fargo-Moorhead Diversion Authority, the North Dakota local share is being financed equally through the collection of sales taxes in Cass County, North Dakota, with an additional sales tax being levied in the city of Fargo.

