



Title: Multi-Year Capital Implementation Plan

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Purpose:

The January 27, 2022 Policy and Planning Committee (PPC) Meeting will cover the ongoing development of a multi-year capital implementation plan, with a focus on the upcoming priorities in the Six Mile Creek-Halsted Bay Subwatershed. This is the first of two memos and provides background information on the multi-year CIP, an overview of its development, and an outline of the January 27, 2022 PPC meeting.

Summary:

At the December 16, 2021 PPC Meeting, staff initiated a discussion of the organization's emerging capital project priorities. MCWD has progressively improved its approach to capital project planning through cycles of planning, implementation, and deliberate reflection, thus increasing the sophistication and efficacy of its capital project implementation model. With project work in our two focal geographies – Minnehaha Creek and Six Mile Creek-Halsted Bay – approaching critical milestones, MCWD is positioned to again identify process refinements in our project program model to deliver high impact capital projects.

As staff and the Board begin planning for the next round of significant capital investment, staff have identified two short-term needs to enhance organizational focus and move towards a more systematized approach of setting capital project priorities:

- Develop a multi-year capital improvement plan (CIP) framework to support Board decision making, that more effectively predicts project benefits, costs, constraints, risks, phases of work, and timelines
- Make near term decisions regarding the strategic priorities for the next phase of project implementation in MCWD's two focal geographies

The [December 16th PPC memo](#) summarizes the background and purpose of the multi-year CIP and frames the principal questions the organization faces as it approaches the next five-year project implementation phase.

December 16 PPC Takeaways

At the December 16, 2021 PPC meeting, staff and the Board engaged in a two-part discussion of the organization's current capital project priorities. First, staff introduced the multi-year CIP framework and sought preliminary feedback on threshold requirements of an improved CIP process to better support high quality decision making at a strategic, system scale. Next, staff provided a high-level overview of near-term decisions necessary to continue setting direction in the two focal geographies of SMCHB and Minnehaha Creek.

The Board's discussion resulted in the identification of several planning principles that underlie MCWD's planning approach and philosophy:

- Fundamental to MCWD's focal geography approach is the idea that in these select areas, MCWD will serve as the catalyst to drive visionary, integrated projects forward
- Risk is intrinsic to this role, and perseverance through obstacles – political, technical, financial, or other – has led to MCWD's most exemplary work

- Investing in the early planning phase of an emerging project opportunity is essential to manage that risk more effectively and minimize the net impact to project scope, schedule, and budget
- A core purpose of the multiyear CIP is to systematize our approach to the planning phase to more effectively manage the risk inherent in the balanced urban ecology philosophy

It was evident from the discussion that there is a spectrum of viewpoints on the Board when it comes to these principles. Notable areas with differing perspectives include project scale, risk, and MCWD's role as project catalyst will continue to be elements of the discussion through the CIP development process.

In addition to these planning principles, the Board discussed two additional needs that would facilitate their decision making around capital project priorities:

- Define the rhythm of work in focal geographies – Why do we start? When are we done? How do we define what's next?
- Develop an analytical framework to systematically evaluate opportunities and subsequent prioritization to compare costs and benefits across projects and across subwatersheds

These grounding concepts and topic areas will be interwoven in the upcoming series of meetings that will lead to the development of the multiyear CIP.

Multi-year CIP Development Framework

The December 16, 2021 meeting was the first in a series of meetings in which staff and the Board will work collaboratively to develop the content, process, and format of the multi-year CIP. Doing the work to align priorities and expectations during the first and second quarter of 2022 will ensure timely delivery of the reformatted and focused CIP through the annual budget development timeline. Staff are proposing the following process:

- December 16, 2021: Introduction to the multiyear CIP framework (Complete)
- January 27, 2022 (PPC): Six Mile Creek-Halsted Bay project review
- February 24, 2022 (PPC): Minnehaha Creek Greenway project review
- March 24, 2022 (PPC): Minneapolis Parkway project review
- May 26, 2022 (PPC): Draft assembled multiyear CIP and workplans, aligning with the budget presentation
- June 9, 2022 (Board): Authorization to release the multiyear CIP for comment
- August 26, 2022 (Board): Adoption of the 2023 CIP

January 27 Policy and Planning Committee

The January 27, 2022 PPC meeting will be the first in the series of focal geography specific project discussions. The purpose of these meetings is threefold:

- Continue to build a shared understanding between the Board and staff on the organizational philosophy and approach to project planning
- Facilitate a more in-depth discussion of the project opportunities in each focal area
- Refine the format, content, and delivery of CIP information over the course of these meetings to lead to the development of the 2023 multiyear CIP

In advance of each meeting, the Board will be provided with the following information:

- A subwatershed overview memo that summarizes background, strategy, and status of project planning in the subject subwatershed
- A one-page project summary sheet for each project, which includes the scope, schedule, and budget, and will, in its final format, serve as the public facing project information sheet
- A risk register, which outlines the project's risk profile

The project summary and risk register documents are draft only, and the format of content will continue to be refined in advance of the CIP adoption. In addition to these two project information sheets, staff are working to develop a project plan template to summarize the projects' critical path from initiation through construction. Project plans will be delivered with the assembled draft CIP at the May 26, 2022 PPC meeting and preliminarily discussed at each PPC meeting.



Title: Subwatershed Project Review: Six Mile Creek-Halsted Bay

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Purpose:

The January 27, 2022 Policy and Planning Committee (PPC) Meeting will cover the ongoing development of a multi-year capital implementation plan with a focus on the upcoming priorities in the Six Mile Creek-Halsted Bay (SMCHB) Subwatershed. This is the second of two memos for the PPC meeting and outlines essential grounding information about the SMCHB Subwatershed, including the strategy, status of current initiatives, and anticipated capital project priorities.

Summary:

The January 27, 2022 PPC Meeting will focus on the project priority decisions for the Six Mile Creek-Halsted Bay (SMCHB) Subwatershed. This memo will provide critical grounding information on the background, strategy, and current project status for the SMCHB Subwatershed.

SMCHB was established as a focal geography in 2015 [link RBA]. The rationale for its adoption was grounded in the subwatershed's need for significant restoration of its abundant natural resources and the recognition that the traditional watershed planning model had not been an effective approach in making meaningful progress towards water quality improvements in this geography.

In 2012, MCWD initiated a comprehensive evaluation of the SMCHB Subwatershed to inform program activities (carp management), capital project prioritization, and the development of the 2017 Watershed Management Plan (WMP). The evaluation was completed as two separate studies over the course of five years:

- The Six Mile Diagnostic study (2012) evaluated internal and external nutrient loads to receiving water bodies, the native and invasive aquatic vegetation contributions to nutrient cycling, and the contribution of invasive common carp to poor water quality in the subwatershed
- The Six Mile Carp Assessment (2014-2017), developed in partnership with the University of Minnesota's AIS Research Center, built a comprehensive understanding of the carp population, carp movement, reproduction locations, and age to inform management decisions

Following the adoption of SMCHB as a focal geography, staff initiated an 18-month plan development process that ran from 2016-2017. Building from a strong scientific foundation, MCWD convened stakeholders from across the subwatershed to assemble a strategic implementation plan to develop restoration strategies, identify capital project opportunities, and align implementation plans and timelines with our partners. Milestones of that process included:

- A resolution adopted by all partners formally establishing the SMCHB Subwatershed Coalition
- The development of a subwatershed implementation plan as a subchapter of the 2017 WMP, with letters of support from all participating agencies
- Development of a finance agreement with Carver County to use the County's bonding authority for up to \$20 million dollars in project and land acquisition costs

The adopted subwatershed plan proposed 10-15 years of focused implementation in SMCHB. Due to the scale, jurisdictional complexity, and natural resources dynamics, the subwatershed was divided into four management units,

each with a unique but related menu of projects, strategies, and tools. The general management approach applicable to all management units is to:

- Manage carp below the threshold where they damage ecosystems
- Control watershed sources of nutrient inputs through wetland restoration, stormwater management, and other projects
- Utilize alum and other shallow lake restoration strategies to address internal loading and reestablish lake ecology
- Opportunistically partner on value-add stormwater solutions concurrent with development

The first phase of capital project implementation following the adoption of SMCHB as a focal geography was a twofold strategy:

- Pursue carp management goals system wide
- Partner with the City of Victoria to achieve shared water quality goals, as established in the [2015 MOU], including the restoration of Wassermann Lake

Since adoption of the 2017 WMP, MCWD has worked closely with its partners to achieve its phase one restoration goals and is on track to both reach carp management goals system wide and meet state water quality standards in Wassermann Lake. The organization is now positioned to leverage that momentum into a second phase of capital project planning in the SMCHB Subwatershed.

SMCHB Outlook

The first phase of capital project implementation focused in the area of highest growth – the City of Victoria – in order to pair natural resources with community development. While additional project opportunities exist within the City of Victoria (City), the City's focus on development in its southern growth corridor means that land use will not be a significant driver of opportunity during this next phase of implementation. Given that, staff are proposing the following strategy:

- Position the organization as responsive in the Pierson-Marsh-Wassermann management unit
 - Maintain partnership with the City and continue to scan the landscape for emerging opportunities
 - Pursue discrete projects that align with the established management unit strategy, including the East Auburn Wetland Restoration
- Initiate project planning in two additional management units in order to evaluate the opportunity and risk of advancing identified projects in these areas:
 - Turbid-Lundsten Corridor Planning
 - Halsted Bay Alum Facility
- Continue to review watershed wide strategy to identify future project opportunities

The January 27, 2022 meeting will focus on project opportunities proposed for inclusion in the 2023 CIP. These include:

East Auburn Wetland Restoration

The East Auburn Wetland Restoration is a residual opportunity in the Pierson-Marsh-Wassermann management unit. The wetland corridor between Wassermann Lake and East Auburn Lake was identified as a likely source of nutrient pollution through the Six Mile Diagnostic study. In the last several years, efforts by the Research and Monitoring program have identified the 10-acre wetland segment immediately downstream of Wassermann Lake as the area of highest nutrient export concentration. Given that finding, staff have initiated feasibility work to identify a nutrient reduction project within that wetland segment.

Turbid-Lundsten Corridor Planning

The Turbid-Lundsten management unit is the smallest of the four management units in the SMCHB subwatershed. It includes Turbid Lake, which is impaired for nutrients, and South Lundsten Lake, which is classified as a wetland but also has elevated nutrient levels. The corridor is connected by a ditched creek channel through a historic wetland corridor that is largely tiled to facilitate agricultural land uses.

The corridor was the subject of two feasibility studies in 2010, both of which identified viable projects that were not advanced, one at the request of the landowner and the other in order to refocus on establishing a broader subwatershed strategy. Staff are proposing to reevaluate the corridor and its project readiness by revisiting and expanding upon previous feasibility efforts, engaging landowners in the area, and developing a cohesive corridor vision. Projects identified through this planning effort will be proposed for incorporation into the multi-year CIP.

Lake Minnetonka - Halsted Bay Alum Facility

The Lake Minnetonka Halsted Bay Alum Facility concept emerged out of a comprehensive feasibility study to evaluate strategies to address both watershed and internal loading to Halsted Bay of Lake Minnetonka. While the long-term concept for the Parley-Halsted Bay Management unit is to restore upstream lakes to reduce nutrient inputs to Halsted Bay, this upstream restoration effort could take decades due to the diffuse nature of the nutrient inputs, modest anticipated land use change, and few technically viable projects. As such, the Lake Minnetonka - Halsted Bay Alum Facility has emerged as a solution that will achieve near-term nutrient reductions in Halsted Bay while staff continues to seek out viable upstream restoration projects.

Staff are proposing to commence project planning work on the alum facility to assess project viability and risk, build partnerships, and evaluate financing opportunities.

Attachments

Attached are the following project pages for the three projects listed above:

- A one-page project summary sheet, which includes the scope, schedule, and budget, and will, in its final format, serve as the public facing project information sheet
- A risk register, which outlines the project's risk profile

These documents are draft only, and the content of format will continue to be refined in advance of the CIP adoption. In addition to these two project information sheets, staff are working to develop a project plan template to summarize the projects' critical path from initiation through construction. Project plans will be delivered with the assembled draft CIP at the May 26 PPC meeting, and preliminarily discussed at each subwatershed meeting.

MINNEHAHA CREEK WATERSHED DISTRICT

MULTI-YEAR CAPITAL IMPROVEMENT PLAN

2023-2027

OVERVIEW

PROJECT NAME

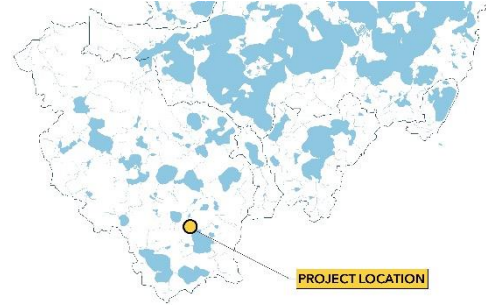
East Auburn Wetland Restoration

LOCATION

Victoria (SMCHB)

TARGET WATERBODY

East Auburn Lake



DESCRIPTION

SCOPE

This project will target phosphorus export from a degraded wetland at the outlet of Wassermann Lake. MCWD will conduct robust monitoring and feasibility to develop a management approach that will likely include an innovative solution, depending on observed wetland conditions.

JUSTIFICATION

East Auburn is an impaired waterbody requiring a total nutrient reduction of 626 lbs/yr, with 410 lbs/yr designated from the upstream watershed. This project will target a specific wetland segment at the outlet of Wassermann Lake that represents the highest identified concentration of nutrient export to East Auburn Lake. Management methods for reducing nutrient output from degraded wetlands are not well established, and successful implementation may support the implementation of projects in similar wetland systems.

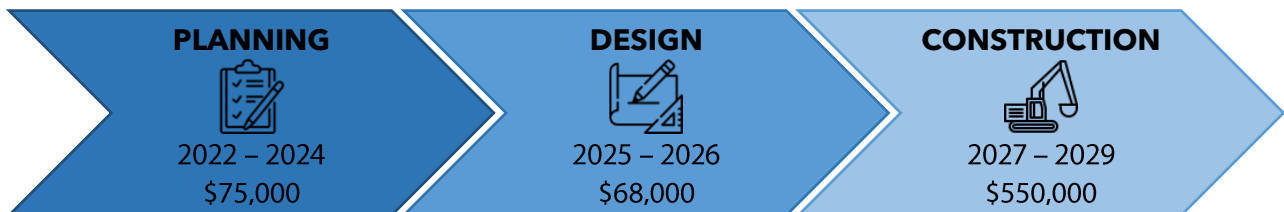
PROJECT BENEFITS

The project will target a phosphorus reduction of 135 lbs/yr. Secondary benefits including habitat restoration and storage improvements will be explored through feasibility.

RELATED PROJECTS

East Auburn Stormwater Pond Enhancement Project (2018); Wassermann Lake Internal Load Management Project (2021); Wassermann Lake Preserve and Pond Alum Treatment (2020); Six Mile Creek Halsted Bay Habitat Restoration Program (2018)




SCHEDULE + BUDGET

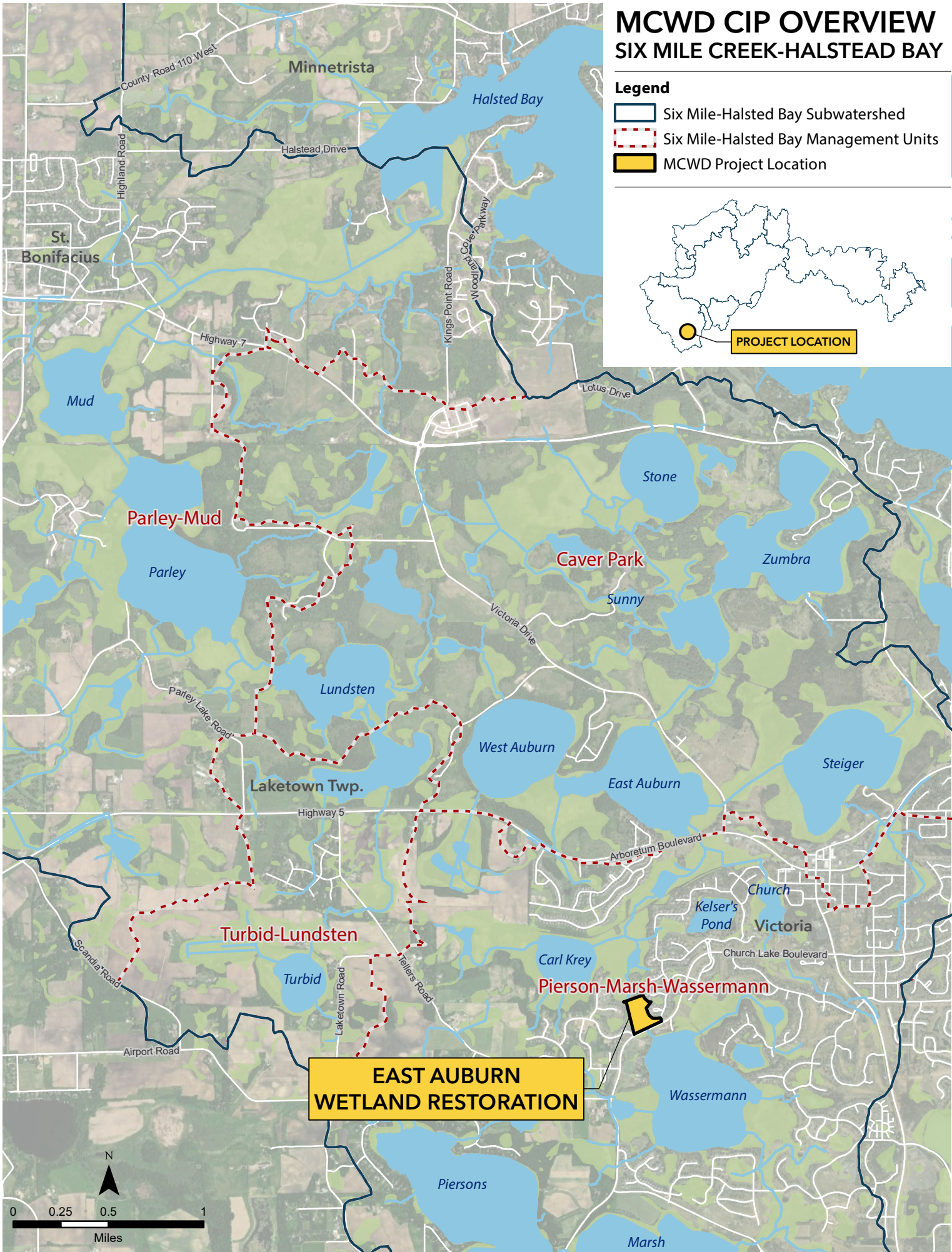
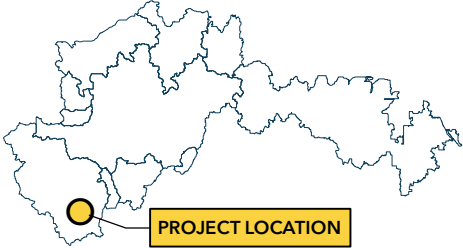


MCWD CIP OVERVIEW

SIX MILE CREEK-HALSTED BAY

Legend

-  Six Mile-Halsted Bay Subwatershed
-  Six Mile-Halsted Bay Management Units
-  MCWD Project Location



MINNEHAHA CREEK WATERSHED DISTRICT

MULTI-YEAR CAPITAL IMPROVEMENT PLAN

2023-2027

EAST AUBURN WETLAND RESTORATION

RISK REGISTER

The purpose of the risk register is to summarize the project’s risk profile. The risk register is a dashboard created to assess the probability of risk (high, medium, low) across five key project categories – technical, regulatory, financial, partnership, and engagement –to inform the project planning process. Primary risks are identified at the project manager’s discretion based on their project understanding and are not comprehensive of all points of risk, rather, they are the risks most likely to shape the project planning process.

RISK ASSESSMENT



	PRIMARY RISK	IMPACT	MITIGATION
TECHNICAL	Sufficient technical detail cannot be delivered under current scope of work to inform project	May require extension in monitoring timeline and addition contract for further feasibility work	Identify critical period in monitoring plan to determining need for timeline and scope changes
TECHNICAL	Project carries inherent risk as it is likely to require innovative approach with limited precedent	Recommendations may be experimental and therefore actual project outcomes uncertain	Requires analytic approach to weight risk & reward of project, consider research-based partnership
REGULATORY	Innovative method increases schedule and budget of project permitting	Costly and lengthy design process to meet regulatory requirements	Engage coordination with regulatory agencies to inform design

MINNEHAHA CREEK WATERSHED DISTRICT

MULTI-YEAR CAPITAL IMPROVEMENT PLAN

2023-2027

OVERVIEW

PROJECT NAME

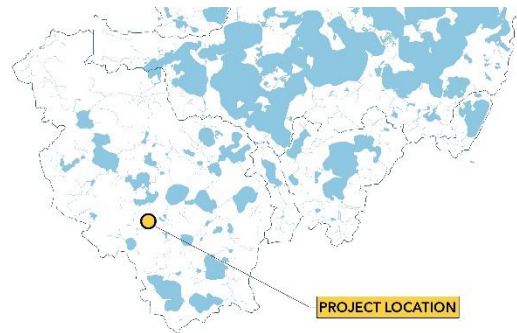
Turbid-Lundsten Corridor Restoration

LOCATION

Laketown Township (SMCHB)

TARGET WATERBODIES

Turbid, South & North Lundsten Lakes, Six Mile Creek



DESCRIPTION

SCOPE

An individual project or set of combined complementary projects will reduce phosphorus loading and export within this chain of lakes and the adjacent wetlands. The scale of work will be dependent on land acquisition, potential partnerships, and identifying feasible project opportunities, which will be the focus of early planning efforts. Project opportunities to be evaluated include wetland and stream corridor restoration, internal load treatment using alum, and habitat corridor establishment.

JUSTIFICATION

Turbid Lake is impaired for nutrients which is primarily due to internal loading. The lake requires a 138 lbs/yr phosphorus reduction under an approved TMDL. South Lundsten has very high phosphorus concentrations but is classified as a wetland and therefore does not have a TMDL. The altered wetlands around this small chain of lakes are the principal drivers of degraded water quality. Previous feasibility studies have identified viable management strategies in this corridor.

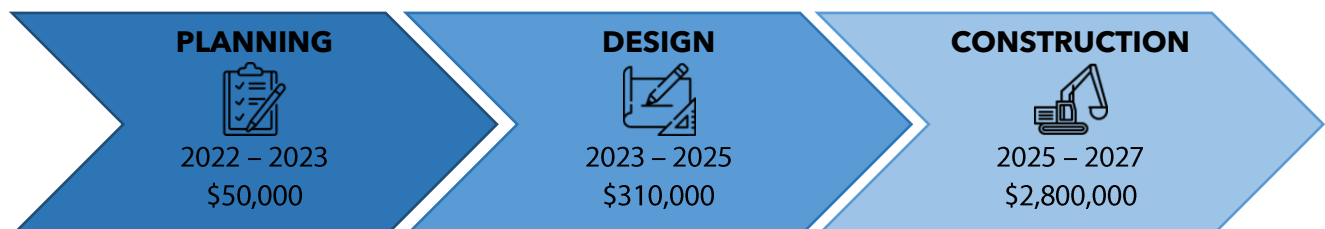
PROJECT BENEFITS

Project benefits may include an approximate 35 lbs/yr nutrient reduction to Turbid Lake and 55 lbs/yr reduction to South Lundsten (based on 2012 feasibility); 95 acres of restored wetlands with associated ecological and hydrological benefits; and future integration with residential development and an expanding greenway corridor.

RELATED PROJECTS

None currently, but multiple projects within the corridor are possible depending on opportunities to assemble strategic easement/fee title acquisition and partner coordination.




SCHEDULE + BUDGET

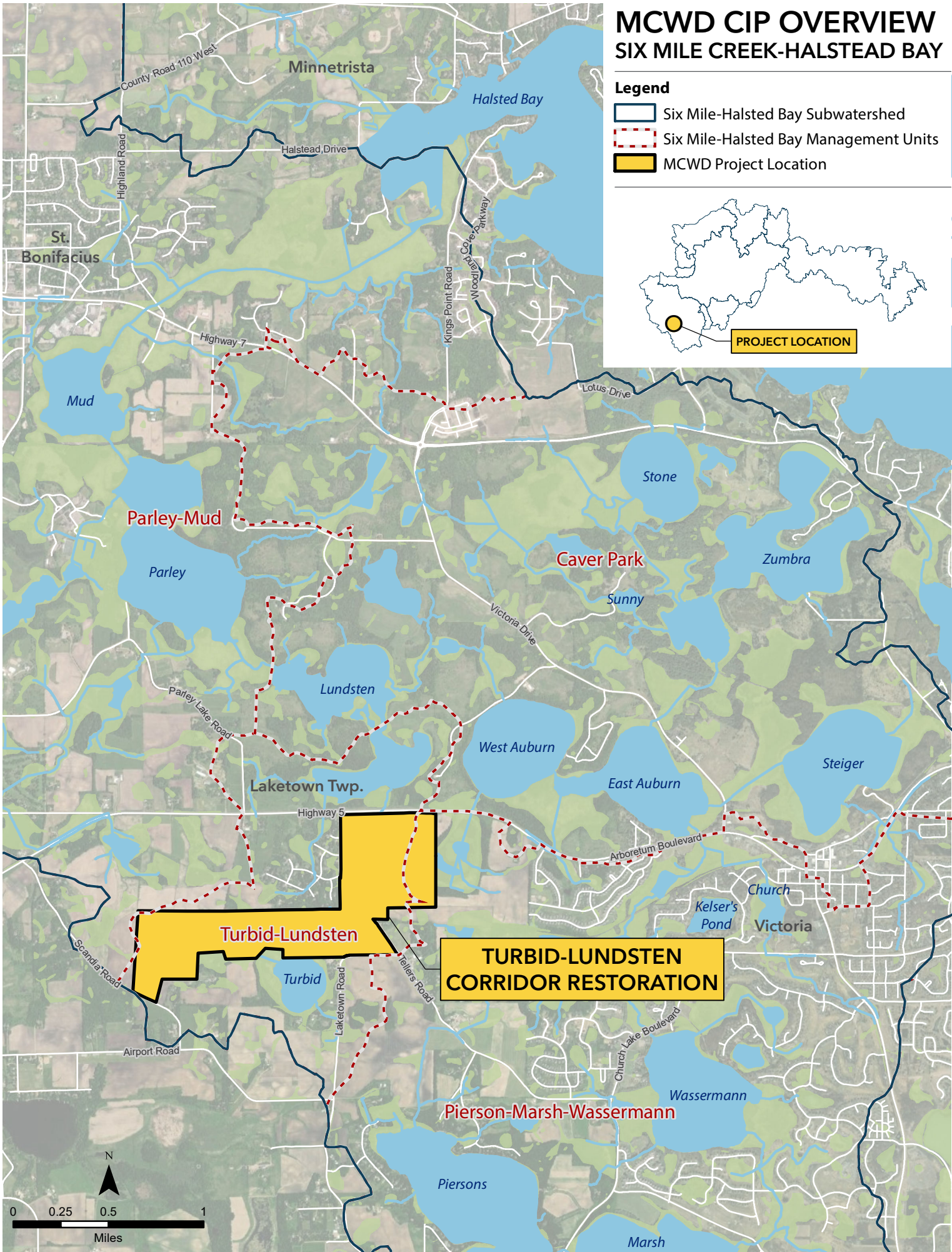
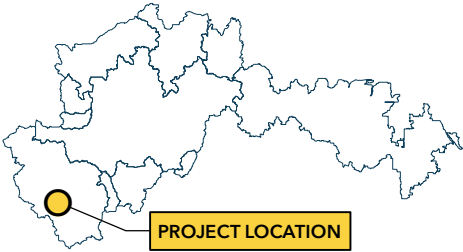


MCWD CIP OVERVIEW

SIX MILE CREEK-HALSTED BAY

Legend

-  Six Mile-Halsted Bay Subwatershed
-  Six Mile-Halsted Bay Management Units
-  MCWD Project Location



MINNEHAHA CREEK WATERSHED DISTRICT

MULTI-YEAR CAPITAL IMPROVEMENT PLAN

2023-2027

TURBID-LUNDSTEN CORRIDOR RESTORATION

RISK REGISTER

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RISK ASSESSMENT



	PRIMARY RISK	IMPACT	MITIGATION
PARTNERSHIP	Limited understanding of landowner and partner interest	Lack of land rights is a barrier to advancing corridor improvements	Perform landowner/partner engagement concurrent with project scope and concept development
TECHNICAL	Past feasibility studies do not align with current data and best practice for watershed management	Need for additional technical investigation will affect timeline and budget	Perform very focused updated feasibility to evaluate project options to mitigate internal loading
REGULATORY	Extensive permitting process likely due to potential wetland work, filtration devices, and alum	Costly and lengthy design process to meet regulatory requirements	Engage early coordination with regulatory agencies to inform design

MINNEHAHA CREEK WATERSHED DISTRICT

MULTI-YEAR CAPITAL IMPROVEMENT PLAN

2023-2027

OVERVIEW

PROJECT NAME

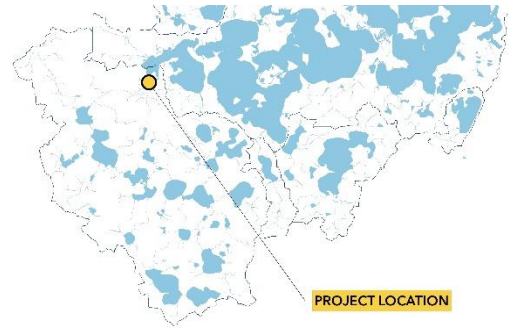
Lake Minnetonka – Halsted Bay Alum Treatment Facility

LOCATION

Minnetrista (SMCHB)

TARGET WATERBODY

Halsted Bay, Lake Minnetonka



DESCRIPTION

SCOPE

Construction of a phosphorus removal facility which will pump water from Six Mile Creek, treat it using aluminum sulfate (alum), and discharge treated water into the Creek before entering Halsted Bay. Alum treatment to address internal loading in Halsted Bay will also be evaluated as complementary component of this project.

JUSTIFICATION

Halsted Bay is impaired for nutrients and requires the largest phosphorus load reduction of any waterbody in the MCWD. Preliminary feasibility assessments identified that 50% of the nutrient load to Halsted Bay is from Six Mile Marsh (40% internal load, 10% other watershed load), requiring a 2,000 lbs/yr nutrient load reduction. The vast majority of nutrient input to Halsted Bay is dissolved phosphorus, which requires chemical treatment for removal. Meeting state water quality standards in Halsted Bay will require addressing both watershed and internal loading.

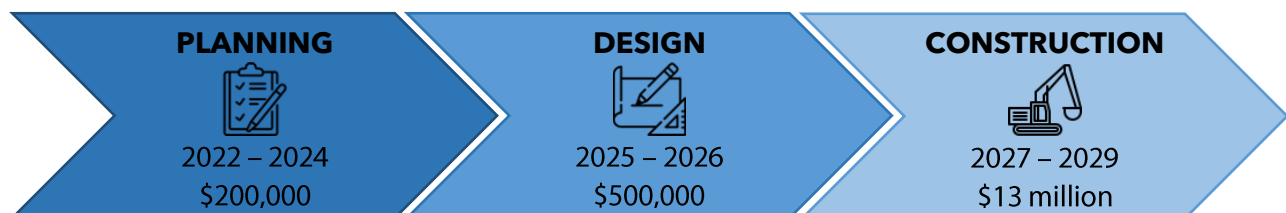
PROJECT BENEFITS

This project will reduce nutrient loading to Halsted Bay by approximately 1,620 lbs/yr. If paired with an in-lake alum treatment, an additional 1,900 lbs/yr reduction could be achieved. Secondary benefits include increased water clarity, reemergence of aquatic habitat, and improved recreational value.

RELATED PROJECTS

Six Mile Creek Halsted Bay Habitat Restoration Program (2017-2022)




SCHEDULE + BUDGET

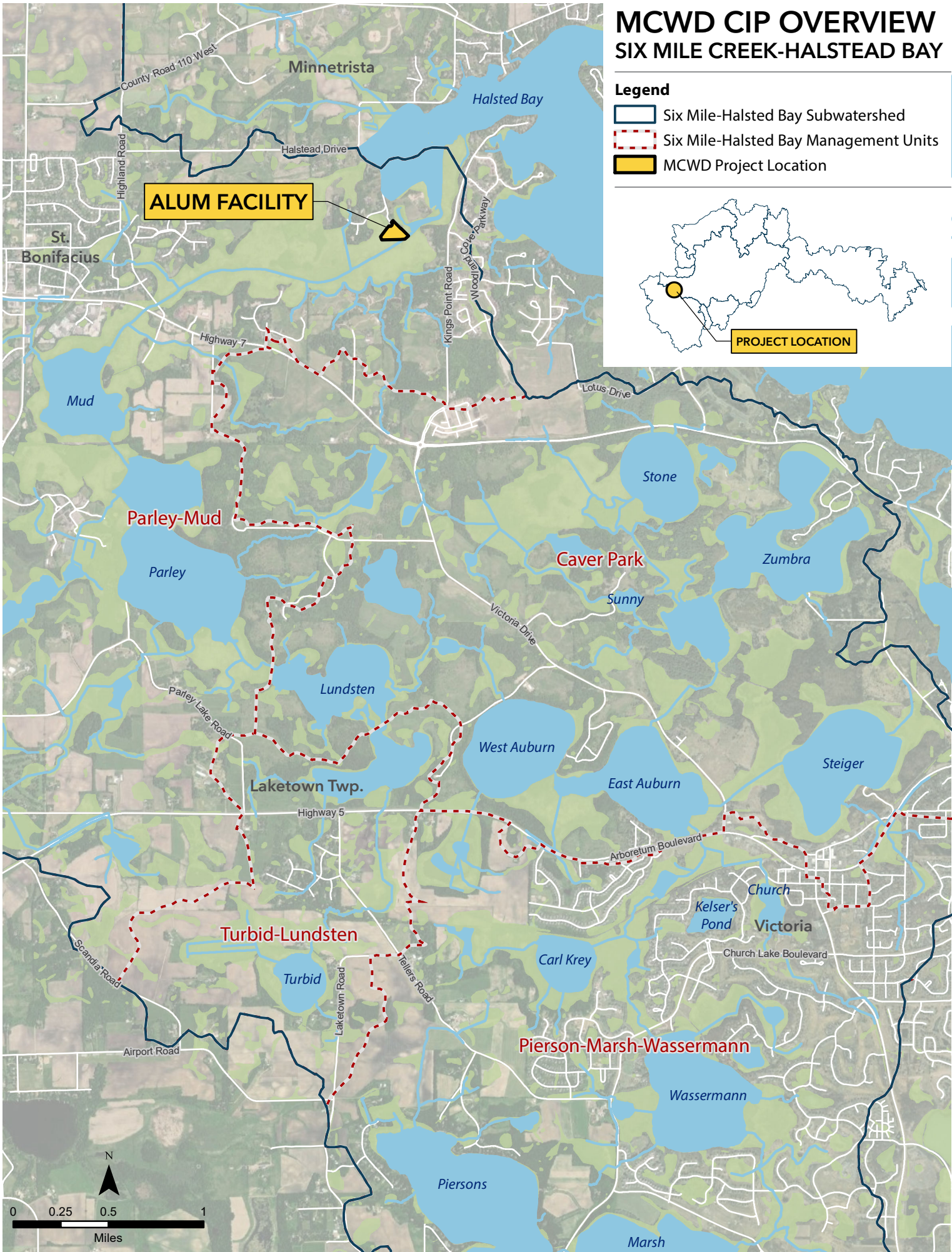
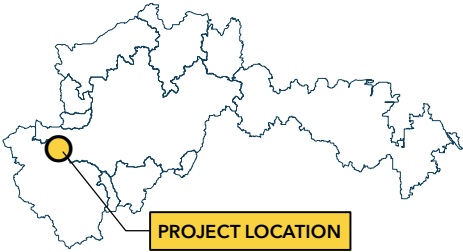


MCWD CIP OVERVIEW

SIX MILE CREEK-HALSTED BAY

Legend

-  Six Mile-Halsted Bay Subwatershed
-  Six Mile-Halsted Bay Management Units
-  MCWD Project Location



MINNEHAHA CREEK WATERSHED DISTRICT

MULTI-YEAR CAPITAL IMPROVEMENT PLAN

2023-2027

LAKE MINNETONKA - HALSTED BAY ALUM TREATMENT FACILITY

RISK REGISTER

The purpose of the risk register is to summarize the project’s risk profile. The risk register is a dashboard created to assess the probability of risk (high, medium, low) across five key project categories – technical, regulatory, financial, partnership, and engagement –to inform the project planning process. Primary risks are identified at the project manager’s discretion based on their project understanding and are not comprehensive of all points of risk, rather, they are the risks most likely to shape the project planning process.

RISK ASSESSMENT



	PRIMARY RISK	IMPACT	MITIGATION
PARTNERSHIP	Project is unable to gain sufficient support by public decision makers to secure funding and regulatory needs	Partnership essential to facilitate funding, permitting, and community relationship	Planning phase will require and emphasize lobbying plan to build network of support
PARTNERSHIP	Cannot secure a facility operator	Project cannot proceed without operator as MCWD not positioned for long term O&M	Identification of facility operator and preliminary agreement goal of planning phase
TECHNICAL	Technical feasibility leads to modifications to design, siting, and/or cost assumptions	Findings that led to existing property not being suitable would have significant impacts	Design and execute robust monitoring and feasibility assessment at onset of the project
REGULATORY	Unable to secure MCES discharge permit	Would require second site for sludge management and raise costs significantly	Two-pronged strategy of building political support and early coordination with regulatory agencies