# Environment and Natural Resources Trust Fund (ENRTF)
# M.L. 2018 ENRTF Work Plan (Main Document)

**Today's Date: August 10, 2018**

**Date of Next Status Update Report:** July 1, 2019

**Date of Work Plan Approval:**

**Project Completion Date:** June 30, 2022

**Does this submission include an amendment request?** No

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**PROJECT TITLE: Seidl's Lake Storm Water Improvements**

**Project Manager:** Chris Hartzell

**Organization:** City of South St. Paul

**College/Department/Division:** Engineer Department

**Mailing Address:** 125 3rd Avenue North

**City/State/Zip Code:** South St. Paul, MN 55075

**Telephone Number:** (651) 554-3210

**Email Address:** chartzell@southstpaul.org

**Web Address:** www.southstpaul.org

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**Location:** Project location is the Metro geographic region of Minnesota. Seidl's Lake is in Dakota County and the Cities of South St. Paul and Inver Grove Heights. Project partners include South St. Paul, Inver Grove Heights, West St. Paul, and the Lower Mississippi River Watershed Management Organization.

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**Total Project Budget:** $781,000

**Amount Spent:** $0

**Balance:** $781,000

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**Legal Citation:** M.L. 2018, Chp. 214, Art. 6, Sec. 4, Subd. 5(3), Special Appropriation Trust Fund Bonds

**Appropriation Language:** $781,000 for a grant to the city of South St. Paul for capital improvements to improve the water quality of Seidl's Lake. The capital improvements include design, engineering, construction, and equipping of a storm water lift station to discharge excess storm water into the city of South St. Paul's storm sewer system to minimize the fluctuating water levels of the lake. This project would be implemented jointly by the cities of South St. Paul, Inver Grove Heights, and West St. Paul.

**I. PROJECT STATEMENT:**

The Seidl's Lake Storm Water Improvements Project is the 1st step in improving the water quality of Seidl's Lake and re-establishment of the natural ecosystem and improvement in fish habitat by making other improvements possible.

Seidl's Lake is a landlocked 6.5-acre DNR protected water body located within the popular recreational amenity of Seidl's Lake Park, which is jointly owned and operated by the City of South St. Paul and Inver Grove Heights. The Seidl's Lake watershed is approximately 400 acres spread over the communities of West St. Paul, South St. Paul, and Inver Grove Heights. The lake is a landlocked basin and therefore relies upon infiltration and evaporation to control the water surface elevation of the lake. Any changes to the watershed or in-lake conditions leads to a change in the lake levels. Because of changes to the watershed, Seidl's Lake has experienced significant fluctuations (greater than 15 feet) in the lake levels. The lack of an outlet to control the water levels has resulted in vegetation and habitat die-off, a concentration of contaminants in the lake, steep barren slopes and eroded shorelines, deteriorated water quality, and damaged park amenities. Water monitoring has been performed on Seidl's lake since 1994 which shows that the lake is consistently not meeting standards for total phosphorus, chlorophyll a, and secchi depth. The lake has changed from a "B" grade to a "D" grade in a 10 year period and resulted in extended trail closures and loss of recreational space, including a fishing pier.

The higher lake levels can be attributed to several factors: (1) increased runoff volume discharging to the lake from upstream development (additional impervious surface area), (2) accumulated sediments within the lake from shoreline erosion and upstream development have reduced the infiltration capacity of the lake, (3) increased rainfall intensity and volumes based on current weather patterns. The increased runoff volumes and more severe rainfall events have caused the water levels to stay high for a longer duration, which in turn has caused the die-off of the existing vegetation and exposure of the underlying soils, leading to the overall degradation of the lake & park ecosystem.

The City, in partnership with local governmental agencies, has evaluated Seidl's Lake and identified improvements to restore the prior hydrologic and hydraulic conditions within the lake. These three improvements include: (1) treating and infiltration storm water runoff to improve water quality, reduce the sediment loading and reduce the overall volume of runoff entering into the lake, (2) installing a lift station to aide in the drawdown of the lake to minimize the duration of inundation, and (3) restoring the shoreline with soft and hard armoring techniques to prevent future erosion.

The purpose of this project is to implement improvement #2, the design & construction a storm water pumping station and force main system to control the water level fluctuations in the lake to allow for the re-establishment of the natural ecosystem and improvement in fish habitat. Improvements #1 & #3 are to be evaluated concurrently with this project using City funds for a feasibility study for each and will be ultimately implemented as funding becomes available. By constructing the storm water pumping station, the overall lake ecosystem will be able to be restored. The storm water pumping station is proposed to be located along the northeast corner of the lake. The pumping station will be designed to pump approximately 10 cfs through the force main system and into a gravity storm sewer system located on 4th St. North, ultimately discharging into the Mississippi River. The pumping station is to be designed as an off-peak station, which delays the start of pumping until after the rainfall event to maintain capacity within the downstream storm sewer system.

The two feasibility studies mentioned previously are the West Outlet Water Quality Study and the Lake Loop Trail and Shoreline and Bank Restoration Study. The purpose of these studies is to identify the scope of work, estimated construction costs and overall benefit of the system to aide in the restoration of the lake ecosystem.

The West Outlet Water Quality Study is to evaluate water quality improvements for the Alice Ct. area to treat storm water runoff prior to entering into the lake. Storm water best management practices (BMPs) will be evaluated to determine the amount of Total Suspended Solids and Total Phosphorus able to be removed from the runoff and from Seidl's Lake. The ultimate goal of this study is to identify a project that is able to provide treatment for a storm sewer system that currently is untreated prior to discharging to Seidl's Lake.

The Lake Loop Trail & Shoreline and Bank Restoration Study is to complete a shoreline and bank restoration plan for Seidl's Lake. Once the pumping station is operational, the shoreline around the lake will need to be restored based on the new water surface elevation of the lake. The shoreline restoration study will be focused on utilizing stabilization practices that leverage use of native vegetation integrated with bank soft and hard armoring practices, including coir blankets and logs, shore land-sloping, and turf reinforcement mats. Riprap will be considered but the focus will be on providing a natural ecosystem around the lake and hard armoring techniques will only be utilized where the conditions preclude use of other practices.

Trust funds ($781,000) will be used for a portion of the design, engineering, construction, and equipping of a storm water lift station to discharge excess storm water into the city of South St. Paul's storm sewer system to minimize the fluctuating water levels of the lake. The match from City funds is expected to be $285,000 to cover the above studies and the balance of the construction cost. Proposed future match from City funds is anticipated for the storm water treatment and infiltration projects and shoreline restoration projects, as well as the long-term maintenance of the improvements.

Overall the construction of the storm water pumping station is the key to the successful rehabilitation of Seidl's Lake. Once the lake level can be stabilized, it allows the shoreline to be restored, creating a natural buffer between the lake and upland areas. All the improvements the City has completed and is proposing will create a habitat for fish and wildlife to flourish, allowing residents to experience diverse natural habitat within their community.

**II. OVERALL PROJECT STATUS UPDATES:**

First Update July 1, 2019

Second Update January 1, 2020

Third Update July 1, 2020

Final Update January 1, 2021

**III. PROJECT ACTIVITIES AND OUTCOMES:**

**ACTIVITY 1 Title:** ***Design and Construction of Seidl's Lake Pumping Station & Force main***
**Description:** Design the pumping station and force main and prepare drawings and specifications for equipment and procedures. Include drawings and specifications in a publicly advertised package for contractors to bid on.

**ACTIVITY 1 ENRTF BUDGET: $781,000**

| Outcome | Completion Date |
|---|---|

| | |
|---|---|
| 1. Specifications and drawings ready for bidding. | January 2019 |
| 2. Operational pumping station that lowers water levels in Seidl's Lake | October 2020 |
| 3. Measurable outcome includes monitoring changes in sechhi depth | Oct. 2021 & beyond |
| | |

First Update July 1, 2019

Second Update January 1, 2020

Third Update July 1, 2020

Final Update January 1, 2021

**IV. DISSEMINATION:**

**Description:** The overall plan to disseminate, present, document and share data concerning the project includes the city website (www.southstpaul.org) and social media (https://www.facebook.com/City-of-South-St-Paul-Minnesota), council meetings and Open House(s). Acknowledgement of ENTRF support will be included on all project publications, signage, and other public communications and outreach related to work completed using the appropriation in accordance with ENRTF acknowledgement guidelines.

First Update July 1, 2019

Second Update January 1, 2020

Third Update July 1, 2020

Final Update January 1, 2021

**V. ADDITIONAL BUDGET INFORMATION:**

**A. Personnel and Capital Expenditures**

**Explanation of Capital Expenditures Greater Than $5,000:** The pumping station and force main will continue to be used for lowering water levels and improving the quality of Seidl's Lake throughout its useful life.

**Explanation of Use of Classified Staff:** N/A

**Total Number of Full-time Equivalents (FTE) Directly Funded with this ENRTF Appropriation:**

| | |
|---|---|
| Enter Total Estimated Personnel Hours: | Divide by 2,080 = TOTAL FTE: 0.2 FTE |

**Total Number of Full-time Equivalents (FTE) Estimated to Be Funded through Contracts with this ENRTF Appropriation:**

| | |
|---|---|
| Enter Total Estimated Personnel Hours: | Divide by 2,080 = TOTAL FTE: 3.0 FTE |

**B. Other Funds:**

| SOURCE OF AND USE OF OTHER FUNDS | Amount Proposed | Amount Spent | Status and Timeframe |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **Other Non-State $ To Be Applied To Project During Project Period:** | | | |
| City Funds | $ 285,000 | $ | Secured 10/2018 – 10/1/2020 Estimated amount to complete the funding package for completion of the project. |
| **Other State $ To Be Applied To Project During Project Period:** | | | |
| | $ | $ | |
| **In-kind Services To Be Applied To Project During Project Period:** | | | |
| | $ | $ | |
| **Past and Current ENRTF Appropriation**: | | | |
| | $ | $ | |
| **Other Funding History:** | | | |
| | $ | $ | |

**VI. PROJECT PARTNERS:**

**A. Partners outside of project manager's organization receiving ENRTF funding – N/A**

**B. Partners outside of project manager's organization NOT receiving ENRTF funding**

| Name | Title | Affiliation | Role |
|---|---|---|---|
| Scott Thureen | Public Works Director | City of Inver Grove Heights | Project Management Team |
| Ross Beckwith | Public Works & Parks Director/City Engineer | City of West St. Paul | Project Management Team |
| Joe Barten | Administrator | Lower Minnesota River Watershed Management Organization | Project Management Team |

**VII. LONG-TERM- IMPLEMENTATION AND FUNDING: Long term maintenance of the lift station and forcemain and any additional work needed will be funded between partners.**

**VIII. REPORTING REQUIREMENTS:**

- The project is for 2 years, will begin on October 2018, and end on 10/1/2020.
- Periodic project status update reports will be submitted 1/1 and 7/1 of each year.
- A final report and associated products will be submitted between June 30 and August 15, 2022.

**IX. SEE ADDITIONAL WORK PLAN COMPONENTS:**

**A. Budget Spreadsheet - Attached**
**B. Visual Component or Map - Attached**
**C. Parcel List Spreadsheet N/A**
**D. Acquisition, Easements, and Restoration Requirements N/A**
**E. Research Addendum N/A**

**Attachment A:**
**Environment and Natural Resources Trust Fund**
**M.L. 2018 Budget Spreadsheet**

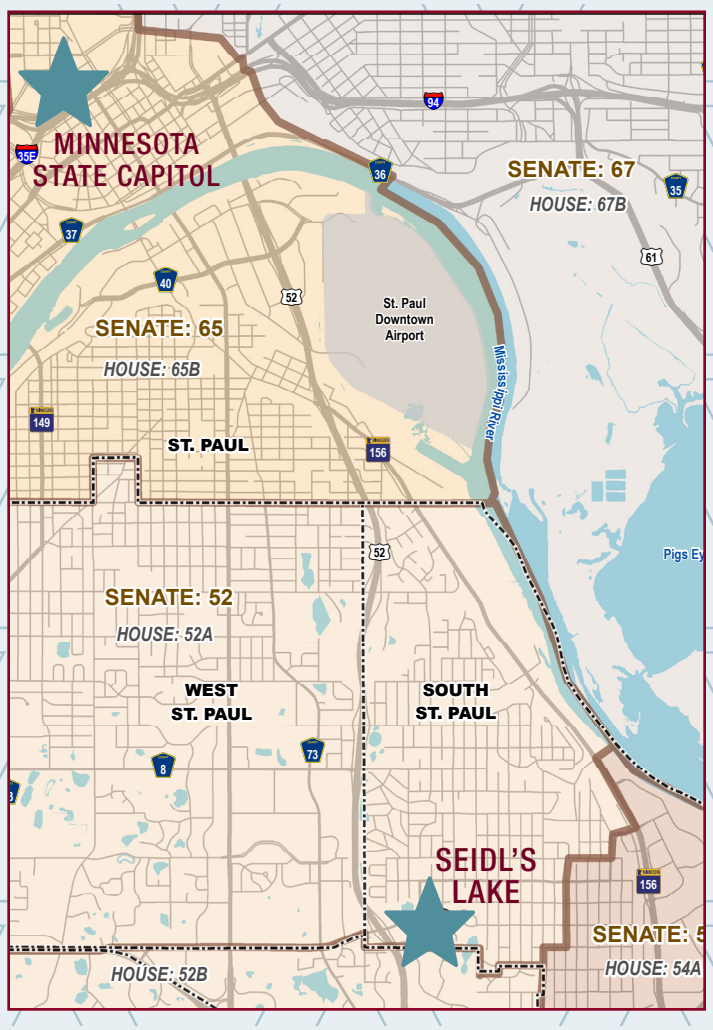
**Legal Citation: M.L. 2018, Art. 6, Chp. 214, Sec. 4, Subd. 4 (x).**
**Project Manager: Chris Hartzell**
**Project Title:** Seidl's Lake Storm Water Improvments
**Organization: City of South St. Paul**
**Project Budget: $781,000**
**Project Length and Completion Date:** 2 Years, October 1, 2020
**Today's Date: August 10, 2018**

| ENVIRONMENT AND NATURAL RESOURCES TRUST FUND BUDGET | Budget | Amount Spent | Balance |
|---|---|---|---|
| **BUDGET ITEM** | | | |
| **Personnel (Wages and Benefits)** | | $0 | $0 |
| | | | |
| | | | |
| **Professional/Technical/Service Contracts** | | | |
| Engineering Services - Design - Value Based Selection | $99,700 | $0 | $99,700 |
| Engineering Services - Construction - Value Based Selection | $65,000 | $0 | $65,000 |
| **Equipment/Tools/Supplies** | | | |
| | | $0 | $0 |
| | | $0 | $0 |
| **Capital Expenditures Over $5,000** | | | |
| Pumping Station & Forcemain - Competitively Bid | $616,300 | $0 | $616,300 |
| | | $0 | $0 |
| **Fee Title Acquisition** | | | |
| | | $0 | $0 |
| **Easement Acquisition** | | | |
| | | $0 | $0 |
| **Professional Services for Acquisition** | | | |
| | | $0 | $0 |
| **Printing** | | | |
| | | $0 | $0 |
| **Travel expenses in Minnesota** | | | |
| | | $0 | $0 |
| | | $0 | $0 |
| **Other** | | $0 | $0 |
| | | | |
| **COLUMN TOTAL** | $781,000 | $0 | $781,000 |

# Seidl's Lake Pumping Station

*Regional Partnership to improve water quality and flood protection*

## PROJECT LOCATION




## PROBLEM

- High water levels fluctuating 15 feet or more following rain events
- Water levels remain high for weeks to months

## IMPACTS

- Sediment accumulation and deteriorated water quality from grade "B" to grade "D" in just a 10 year period
- Degraded and/or dead trees and shoreline vegetation resulting in excessive erosion
- Extended trail closures and loss recreational space, including fishing pier

| | |
|---|---|
| WATER QUALITY IMPROVEMENTS TO DATE: | $500,000 |
| FUNDS REQUESTED: | $781,000 |

Frequent trail closures after rain event

## SEIDL'S LAKE IS A REGIONAL HIGH VALUE RESOURCE

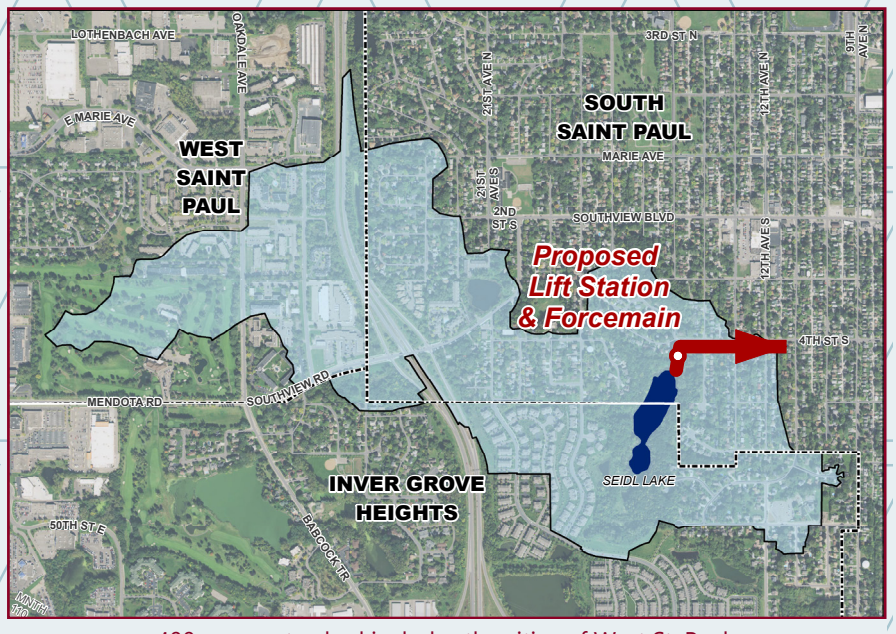
- Located within Seidl's Lake Park which is jointly operated by the cities of inver Grove Heights and South St. Paul
- DNR protected water body
- Dedicated school forest for Special School District No. 6
- Popular recreational amenity

**PROJECT PARTNERS**

SSP · Inver Grove Heights · City of West Saint Paul · LMR WMO Lower Mississippi River Watershed Management Organization

# Seidl's Lake Pumping Station

*Regional Partnership to improve water quality and flood protection*




400-acre watershed includes the cities of West St. Paul, South St. Paul, and Inver Grove Heights

## PROPOSED SOLUTION

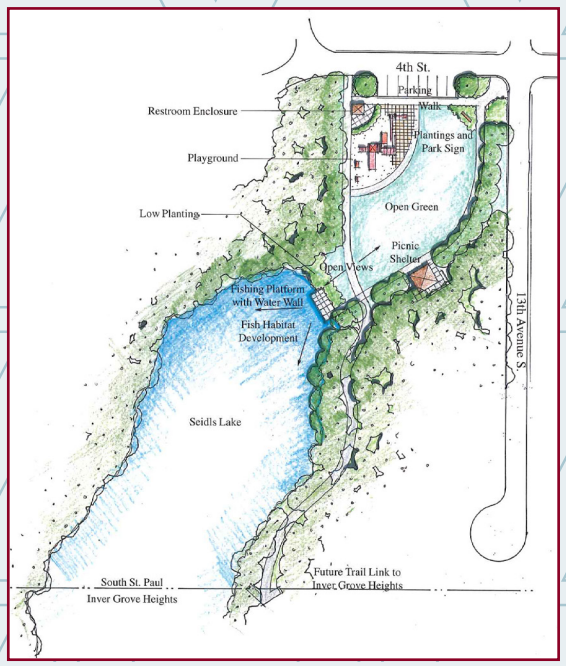
- Stormwater pumping station routed to South St. Paul's storm sewer
- Operational partnership between cities and Lower Mississippi River WMO to plan, implement and maintain the system
- Builds on water quality improvements already implemented by the project partners

## BENEFITS

- Improved water quality
- Improved vegetation and stablized shoreline for long term protection of ecosytem
- Significant reduction in the duration of high water levels
- Regular use of the park will be restored
- Park Master Plan improvements can now be implemented, including restored fish habitat

## ESTIMATED DAYS FOR WATER LEVEL TO RETURN TO NORMAL

| CONDITION | EXISTING CONDITION | AFTER PROJECT |
|---|---|---|
| 4-inch Rain Event | 10 days | 3 days |
| 6-inch Rain Event | 20 days | 6 days |
| 7-inch Snowmelt | 60 days | 15 days |




Future Investement: Seidl's Lake Park Master Plan

## WE NEED YOUR SUPPORT!

The City of South St. Paul along with project partners view Seidl's Lake as an important environmental asset for the region and we need your support in securing funding to restore it's full potential. With $781,000 in state bonding money, the City of South St. Paul and project partners can move forward with its plan to restore and enhance this important natural resource and regional asset!

## CONTACT


Chris Hartzell, P.E.,
*City Engineer*

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