

MEETING DATE: March 8, 2018

TITLE: Approval of Design Scope and Authorization to Enter Into Preliminary Design Contract for Six Mile Creek-Halsted Bay Habitat Restoration Program

RESOLUTION NUMBER: 18-021

PREPARED BY: Anna Brown

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REVIEWED BY: Administrator Counsel Program Mgr. (Name): _____
 Board Committee Engineer Other

WORKSHOP ACTION:

<input type="checkbox"/> Advance to Board mtg. Consent Agenda.	<input type="checkbox"/> Advance to Board meeting for discussion prior to action.
<input type="checkbox"/> Refer to a future workshop (date): _____	<input type="checkbox"/> Refer to taskforce or committee (date): _____
<input type="checkbox"/> Return to staff for additional work.	<input type="checkbox"/> No further action requested.
<input checked="" type="checkbox"/> Other (specify): Approval at March 8 Board Meeting	

PURPOSE or ACTION REQUESTED:

Approval of design scope for carp barriers and traps in the Six Mile-Creek Halsted Bay (SMCHB) Subwatershed in support of the SMCHB Habitat Restoration project.

PROJECT/PROGRAM LOCATION:

Six Mile Creek-Halsted Bay Subwatershed. Barrier locations indicated in the map, attached.

PROJECT TIMELINE:

March 2018: Design begins
July 1, 2018: Lessard Sams Outdoor Heritage Fund program begins
Fall 2018: Barrier construction begins
Fall 2019: Barrier construction complete
June 30, 2021: Project completion and reporting deadline

PROJECT/PROGRAM COST:

Fund name and number:	Planning-SMHCB Planning (2002) and Research & Monitoring (5001)
Current budget:	\$150,000 (2002) / \$967,963 (5001)
Expenditures to date:	\$5,400 (2002) / \$4,170 (5001)
Requested amount of funding:	\$76,325, to be shared between 2002 and 5001

SUMMARY:

The Six Mile Creek-Halsted Bay (SMCHB) subwatershed was identified in 2014 as a focal priority for planning and implementation activities due to its scale, natural resource complexity, existing impairments, and connection to Halsted Bay, which requires the largest phosphorus load reduction of any waterbody in the District. The District has led a cross-jurisdictional partnership within this geography aimed at identifying primary strategies to protect and restore the system while integrating our work with that of other public and private partners to maximize the return on the public's investment. The SMCHB Subwatershed Partnership has established the following to be principal water resources management strategies:

- Manage carp below aquatic resource damaging thresholds
- Restore the wetland and landscape system for water quality and biodiversity benefit
- Apply alum treatment in shallow lake ecosystems to reduce phosphorus loading

The primary role that common carp play in driving declining water quality in the SMCHB subwatershed was identified through a three-year comprehensive carp assessment, beginning in 2014, in partnership with the University of Minnesota's AIS Research Center. The study led to the development of a system-wide carp management strategy to suppress carp recruitment, prevent inter-lake migration, and reduce adult carp populations below the threshold at which they cause ecological damage.

In May of 2017, staff presented the Board of Managers with an opportunity to apply to the Lessard Sams Outdoor Heritage Council (LSOHC) to fully implement the carp management component of the overall SMCHB restoration strategy. LSOHC funds projects and programs that restore, protect, and enhance wetlands, prairies, forests and habitat for fish, game and wildlife, aligning with the SMCHB restoration strategy of restoring 2,488 acres of deep and shallow lake habitat through carp management. In subsequent project phases, this work would be further supported by the protection and restoration and contiguous wetland and upland corridors and targeted water quality improvements.

The SMCHB Habitat Restoration, Phase I was the third highest ranked habitat restoration proposal in the fiscal year 2019 funding pool. At the September LSOHC Board hearing, the District was recommended for \$567,000 in funding. The funding bill is currently being considered by the MN Legislature, and, pending adoption, funds will become available effective July 1, 2018.

At the Planning and Policy Committee Meeting on February 22, 2018, staff recommended that, in order to meet the schedule outlined in the District's LSOHC Accomplishment Plan, the design for the barrier and trap facilities should commence and be substantially completed before the July 1, 2018 grant start date. Under grant terms, the District will bear design costs regardless of timing. Costs incurred before the grant commences may not be counted toward the required District matching funds. However, as outlined in the accomplishment plan, the District will be able to supply its required match, as presently estimated, through its equipment acquisition and staff costs.

The attached design scope includes design, procurement, construction oversight, and as-built drawings for four (4) barrier/trap facilities. Each of the four barriers will be contracted for separately, due to differences in their design complexity and timing of installation. The timing of design and procurement will be scheduled such that construction can begin in the fall of 2018 for the barriers at Six Mile Marsh, Crown College, and Wassermann. South Lundsten will be designed and constructed in 2019.

RESOLUTION

RESOLUTION NUMBER: 18-021

TITLE: **Approval of Design Scope for Six Mile Creek-Halsted Bay Habitat Restoration Program**

WHEREAS, pursuant to Resolution 14-047 the MCWD Board of Managers has identified the Six Mile Creek-Halsted Bay (SMCHB) subwatershed as a priority area for focusing District planning activities and coordination efforts with subwatershed partners; and

WHEREAS, on October 10, 2013, the MCWD Board of Managers authorized the execution of a contract with Dr. Peter Sorenson and the University of Minnesota to conduct a three-year carp assessment of the SMCHB subwatershed to identify recruitment, carp census, and management strategies; and

WHEREAS, the MCWD Board of Managers has identified the need to diversify its external funding resources and develop a programmatic implementation strategy in priority geographies in order to meet the need for implementation of high impact capital projects; and

WHEREAS, in May of 2017, the MCWD Board of Managers authorized staff to apply for funding to the Lessard-Sams Outdoor Heritage Council to restore 2,488 acres of deep and shallow lake habitat through carp management;

WHEREAS, in September of 2017, the Lessard Sams Outdoor Heritage Council recommended the SMCHB Habitat Restoration project for \$567,000 in funding, and prepared a bill for legislative approval reflecting the same;

WHEREAS, at the February 22, 2018 MCWD Planning and Policy Committee meeting, staff provided an update on the work being undertaken to prepare for receipt of funding through the Lessard Sams Outdoor Heritage Council, including a recommendation that barrier and trap design begin in advance of the funding start date;

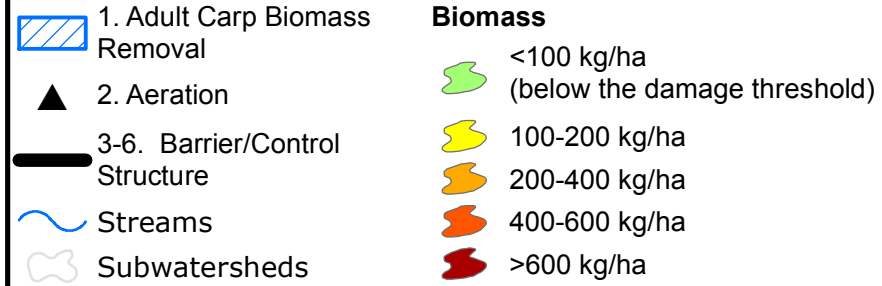
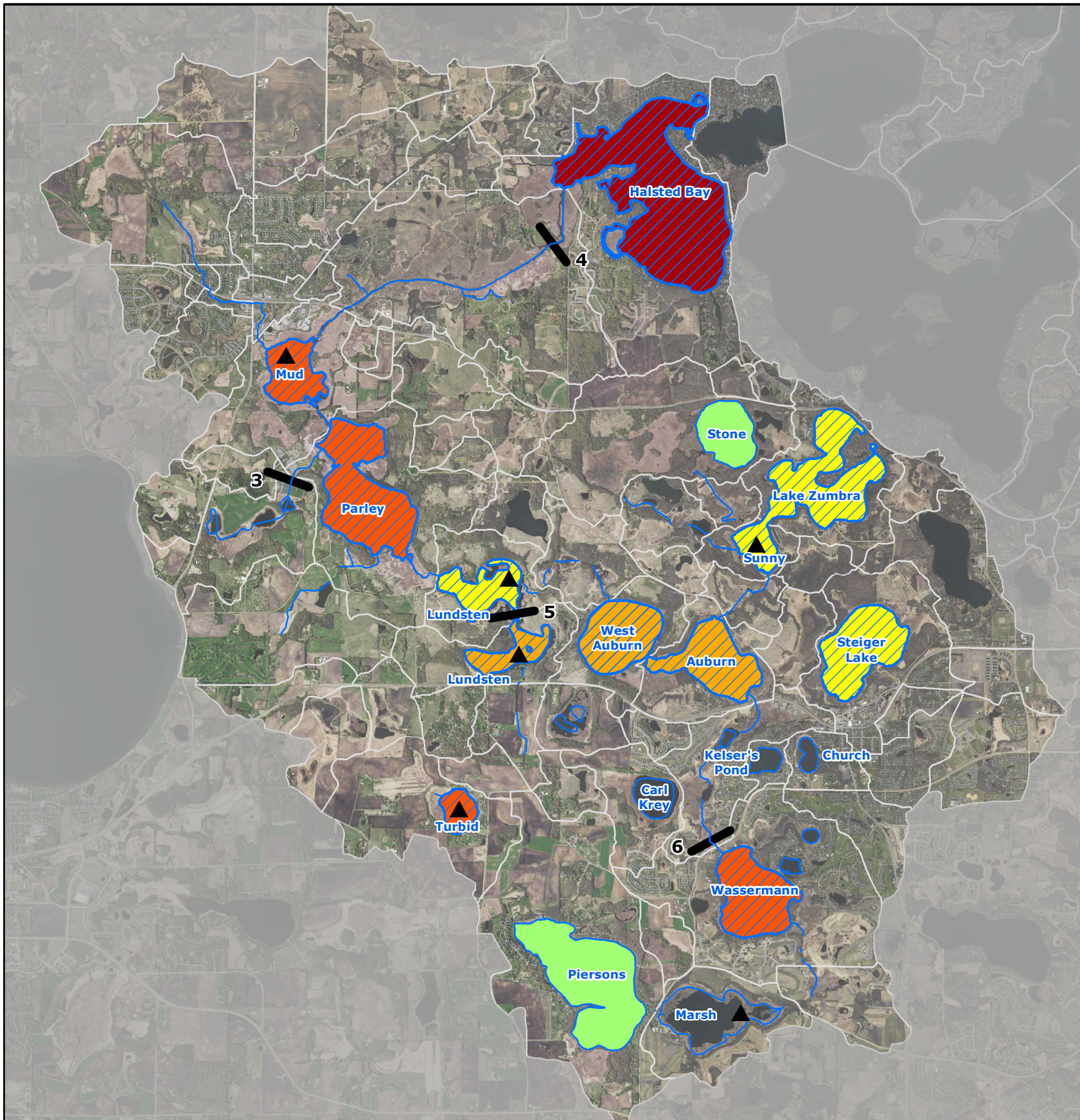
WHEREAS, District staff solicited a scope of services from Wenck Associates, and while District governance policies specify a competitive process for solicitation of professional services in an amount exceeding \$25,000, staff recommends that the Board authorize Wenck Associates on the basis of its unique qualification for the work due to its familiarity with the SMCHB hydrologic system, its role in developing cost estimates and conceptual design for barriers during the application process, and its experience designing successful carp management structures;

NOW, THEREFORE, BE IT RESOLVED that the Minnehaha Creek Watershed District Board of Managers authorizes the District administrator, with any final non-substantial scope adjustments and on advice of counsel, to execute a scope of services contract with Wenck Associates for an amount not to exceed \$74,865.

Resolution Number 18-021 was moved by Manager _____, seconded by Manager _____.
Motion to adopt the resolution ___ ayes, ___ nays, ___ abstentions. Date: _____.

Secretary

**DRAFT for discussion purposes only and subject to Board approval and the availability of funds.
Resolutions are not final until approved by the Board and signed by the Board Secretary.**

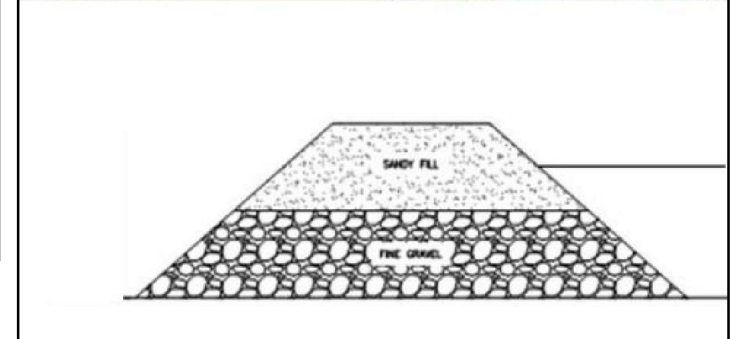


Responsive partner. Exceptional outcomes.

2016 Aerial Photograph (Source: MN GEO)

1 0.5 0 1 Miles

Path: L:\0185\0062\mxd\CarpPoster.mxd
 Date: 10/9/2017 Time: 1:48:39 PM User: shujc0243



Images are illustrative only. All structures will be designed for the specific site and management goal. Design costs are included in the grant budget.



Proposal



Responsive partner.
Exceptional outcomes.

To: Anna Brown, *Planner & Project Manager*
Minnehaha Creek Watershed District

From: Chris Meehan and Mark Schroeder, Wenck Associates, Inc.

Date: March 4, 2018

Subject: Six Mile Creek Carp Barrier Installations

Scope of Work

Wenck Associates, Inc. (Wenck) is pleased to submit a scope of work and schedule to develop plans and implement carp barriers to improve the quality of the Six Mile Creek watershed. The District received Lessard-Sams Outdoor Heritage Council funding to implement carp barriers and aeration units in ten locations throughout the watershed which will aim to improve the ecological health of these waterbodies in addition to the entire watershed.

The District is proposing to install 6 aeration units and 4 physical carp barriers throughout the watershed. Wenck will look to provide design, bidding assistance and construction oversight to implement the carp barriers along with providing access easements for the installation of the 6 aeration units and 4 physical barriers. Wenck Associates, Inc. proposes the following tasks to complete the project.

- Task 1.0 Access Easements for Barriers
- Task 2.0 Six Mile Marsh Carp Barrier
- Task 3.0 South Lunsten Carp Barrier
- Task 4.0 Crown College and Wasserman Lake Carp Barriers

A detail description for each of the above tasks is provided below.

Task 1.0 Access Easements for Aeration Units and Physical Barriers

Wenck will work with the District to create an access easement for each location that aeration units and physical barriers will be installed. Once a landowner is identified for each of the sites Wenck will conduct a historical review of the property to ensure there would not be conflicting easements. Upon completion of that review Wenck will develop a legal description of the easement that can be submitted for recording at the County. Wenck will review the easement dimensions with the District prior to recording to ensure adequate space to maintain the improvement.

Objectives:

- Conduct historical review of identified access properties to ensure there are not conflicting easements on property.
- Develop access easements for the 6 aeration units and 4 physical barriers to be installed.

Deliverables and meetings:

- Recordable access easements for the 6 aeration units and 4 physical barriers to be installed.

Task 2.0 Six Mile Marsh Carp Barrier

Wenck will develop plans and specifications for the installation of a Carp barrier and trap downstream of Highland Road in St. Bonifacius prior to Six Mile Creek Marsh. The barrier and trap will be steel structure which stretches across the channel. The barrier will also have a trapping component built in which allows for collection of carp as they try to migrate between Mud Lake and Halsted Bay. As part of the design Wenck will initiate the project by conducting a site survey and soil borings to confirm design requirements for the barrier.

After design requirements have been established Wenck will provide feasible options for the barrier and trap, along with estimated option costs that will be discussed and narrowed during the 60% design meeting with MCWD Staff. In addition to design, this phase will initiate assembling the project specifications and provide technical assistance to MCWD for permitting.

Following the 60% draft plan design and receiving feedback from MCWD, we will continue with final design. This phase comprises final permit comments and incorporating them into the contract documents, final design details, completing specifications, preparing the construction SWPPP, completing a cost estimate and a review of project documents by MCWD Staff.

Wenck will then work with MCWD staff to obtain quotes from qualified vendors for the installation of the barrier. Wenck will be readily available to field calls from prospective bidders to answer questions regarding the project plans and specifications. We will also prepare addendum(s) to address any issues in the contract documents. Wenck will then open the quotes with Minnehaha Creek Watershed District Staff, tabulate the quotes, and make a recommendation on the results.

During construction, Wenck will provide construction observation and will conduct the critical/milestone inspections, coordinate staking, communicate with the project manager and MCWD, and measure and track contract quantities. Wenck will also assist with administration of contract documents as required, punch list walk through and list, final payment, and project close-out documents. Prior to construction, Wenck will coordinate and

conduct a field walkthrough with the MCWD Staff and collect a photo inventory of existing conditions.

Following construction, Wenck will complete record drawings of the constructed product in a timely fashion, submit to the MCWD for review, and submit final documents.

Objectives:

- Obtain site topo, soil borings and other existing site features
- Prepare 60% design and cost estimate
- Site Design
 - Barrier design
 - Trap design
 - Calculate material quantities
 - Preliminary development of specifications
 - Preliminary erosion and sediment control plans
- Make final revisions to design, specifications, and cost estimate
- Submit updated documents to permitting agencies as necessary
- Address bidding questions
- Prepare addendum(s)
- Open and evaluate quotes and make recommendation
- Record plan survey

Deliverables and meetings:

- Electronic copy of draft design option figures and cost estimate(D)
- One (1) schematic design meeting (M)
- Final contract documents (D)
- Final supporting permit documents, as necessary (D)
- Quote solicitation (D)
- Coordinate and conduct field walkthrough and photo inventory (M)
- Pre-construction meeting (M)
- Three (3) construction meetings (M)
- Assist with punch list walk through and list (M)(D)
- Final Record Plans (D)

Task 3.0 South Lunsten Carp Barrier

Establishing a carp barrier between South and North Lunsten was a key strategy for carp management in the Six Mile Creek Watershed. In addition to establishing a barrier the ability to drawdown South Lunsten was a secondary strategy. These two objectives will be combined in the barrier design. Wenck will develop plans and specifications for the barrier in coordination for the District which achieves both objectives and ensures ease of long-

term maintenance. As part of the design Wenck will initiate the project by conducting a site survey and soil borings to confirm design requirements for the barrier. We anticipate this will require coordination with Three Rivers Park as the landowner but should not be an obstacle to implementation.

As with the Six Mile Creek Marsh barrier Wenck will provide feasible options for the barrier and drawdown, along with estimated option costs. A 60% design will be discussed with MCWD staff and further defined in review meeting. In addition to design, this phase will initiate assembling the project specifications and provide technical assistance to MCWD for permitting.

Following the 60% draft plan design and receiving feedback from MCWD, we will continue with final design. This phase comprises final permit comments and incorporating them into the contract documents, final design details, completing specifications, preparing the construction SWPPP, completing a cost estimate and a review of project documents by MCWD Staff.

Wenck will then work with MCWD staff to obtain quotes from qualified vendors for the installation of the barrier. Wenck will be readily available to field calls from prospective bidders to answer questions regarding the project plans and specifications. We will also prepare addendum(s) to address any issues in the contract documents. Wenck will then open the quotes with Minnehaha Creek Watershed District Staff, tabulate the quotes, and make a recommendation on the results.

During construction, Wenck will provide construction observation and will conduct the critical/milestone inspections, coordinate staking, communicate with the project manager and MCWD, and measure and track contract quantities. Wenck will also assist with administration of contract documents as required, punch list walk through and list, final payment, and project close-out documents. Prior to construction, Wenck will coordinate and conduct a field walkthrough with the MCWD Staff and collect a photo inventory of existing conditions.

Following construction, Wenck will complete record drawings of the constructed product in a timely fashion, submit to the MCWD for review, and submit final documents.

Objectives:

- Obtain site topo, soil borings and other existing site features
- Prepare 60% design and cost estimate
- Site Design
 - Barrier design
 - Drawdown design
 - Calculate material quantities
 - Preliminary development of specifications

- Preliminary erosion and sediment control plans
- Make final revisions to design, specifications, and cost estimate
- Submit updated documents to permitting agencies as necessary
- Address bidding questions
- Prepare addendum(s)
- Open and evaluate quotes and make recommendation
- Record plan survey

Deliverables and meetings:

- Electronic copy of draft design option figures and cost estimate(D)
- One (1) schematic design meeting (M)
- Final contract documents (D)
- Final supporting permit documents, as necessary (D)
- Quote solicitation (D)
- Coordinate and conduct field walkthrough and photo inventory (M)
- Pre-construction meeting (M)
- Two (2) construction meetings (M)
- Assist with punch list walk through and list (M)(D)
- Final Record Plans (D)

Task 4.0 Crown College and Wasserman Lake Carp Barriers

Retrofitting current culverts on Crown College and downstream of Wasserman Lake with carp barriers is another key strategy identified for improvement in the Six Mile Creek Watershed. These improvements will look to install carp barrier guards on the upstream and downstream side of culverts which provide access to key carp breeding grounds.

Wenck's first task will be conduct a site visit to document the culverts by obtaining measurements of the culvert size and material along with photographing site conditions.

Wenck will then develop shop drawings for the installation of these guards to facilitate obtaining quotes from fabricators and contractors for installation. Cost estimates will be developed prior to obtaining quotes for fabrication and installation and summarize as part of 60% design meeting with MCWD Staff. The 60% design will be discussed with MCWD staff and further defined in the review meeting. In addition to design, Wenck will provide technical assistance to MCWD for permitting.

Following approval of the shop drawings Wenck obtain quotes from qualified vendors for the installation of the barriers. Wenck will then open the quotes with Minnehaha Creek Watershed District Staff, tabulate the quotes, and make a recommendation on the results.

It is assumed the guards can be installed within a day or two for all the locations. Upon completion of installation of the guards Wenck will conduct a final inspection of the barriers, document conditions, punch list walk through and list, final payment, and project close-out documents. Prior to construction, Wenck will coordinate and conduct a field walkthrough with the MCWD Staff and collect a photo inventory of existing conditions.

Objectives:

- Document existing site features
- Prepare 60% shop drawing and cost estimate
- Make final revisions to shop drawing, and cost estimate
- Submit updated documents to permitting agencies as necessary
- Address bidding questions
- Open and evaluate quotes and make recommendation

Deliverables and meetings:

- Electronic copy of draft design option figures and cost estimate(D)
- One (1) schematic design meeting (M)
- Final contract documents (D)
- Final supporting permit documents, as necessary (D)
- Quote solicitation (D)
- Coordinate and conduct field walkthrough and photo inventory (M)
- A final construction inspection and assist with punch list walk though and list (M)(D)

Proposal Assumptions:

- Wenck assumes MCWD will obtain willing landowners for access easements and will coordinate with them to implement all projects
- Wenck assumes there will be no wetland delineation required.
- Wenck assumes MCWD will complete all necessary permitting applications and coordinate with each applicable agency.
- Wenck assumes no record drawings will be required for the Crown College and Wasserman Lake barriers
- Wenck assumes independent material testing will be paid for by MCWD

Table 1. Wenck Scope of Work for Six Mile Creek Carp Barrier Installation

Scope of Work	Fee Estimate
Task 1.0 Access Easements for Barriers	\$14,600
Task 2.0 Six Mile Marsh Carp Barrier	\$28,885
Task 3.0 South Lunsten Carp Barrier	\$15,575
Task 4.0 Crown College and Wasserman Lake Carp Barriers	\$15,805
TOTAL =	\$74,865

The total cost above includes all reimbursable expenses including mileage, printing, and equipment rental costs.

Schedule

Task #	Task Description	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug			
1	Draft Easements																				
	Six Mile Marsh Barrier and Trap Feasibility including Modeling Data Collection (Field Survey, Soil Borings) 60% Design Final Plans & Specifications Publish Request for Quotes Staff/Engineering Bid Review Construction Oversight As-builts																				
3	South Lundsten Feasibility including Modeling Data Collection (Field Survey, Soil Borings) 60% Design Final Plans & Quote Package Staff/Engineering Quote Review Construction Oversight As-builts																				
4	Crown College and Wasserman Feasibility including Modeling Data Collection (Field Survey, Soil Borings) 60% Design Final Plans & Quote Package Staff/Engineering Quote Review Construction Oversight																				