CITY of NOVI CITY COUNCIL

Agenda Item K
August 13, 2018

SUBJECT: Approval to award civil engineering services to AECOM Great Lakes, Inc., for design engineering services associated with the Pavilion Shore Park Shoreline Erosion Control and Improvements project in the amount of $19,355.16.

SUBMITTING DEPARTMENT: Department of Public Works, Engineering Division
Parks, Recreational and Cultural Services

CITY MANAGER APPROVAL:

EXPENDITURE REQUIRED	**$ 19,355.16**
AMOUNT BUDGETED	**$ 292,082**
APPROPRIATION REQUESTED	**N/A**
LINE ITEM NUMBER	**400-691.00-977.026**

BACKGROUND INFORMATION:

Pavilion Shore Park, adjacent to Walled Lake, requires shoreline repairs. City Engineering Consultant AECOM has submitted a proposal to provide the shoreline repair. The design and subsequent repairs will protect the shoreline against erosion. Various stabilization techniques will be considered and an analysis will be done to select the correct improvement. AECOM will assist the City in acquiring MDEQ permits for construction of these improvements.

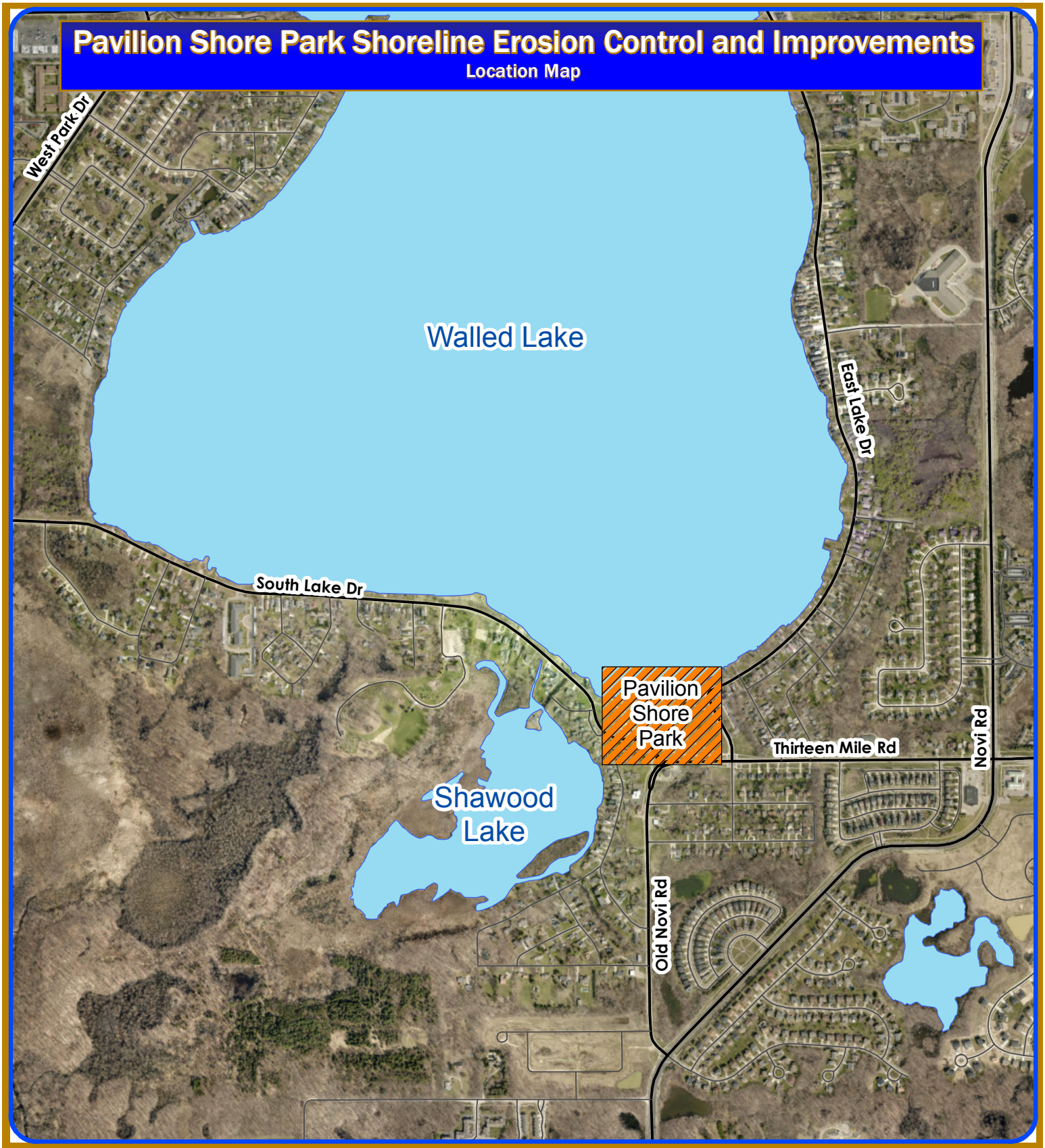
In 2013, the development of Pavilion Shore Park included removal of several trees with 2" to 3" trunk diameters along the shoreline. At the time, Coir logs were installed with intention to slow erosion and spur the growth of new shoreline plants. Coir logs are tube-shaped erosion-control devices filled with straw, flax, rice, coconut fiber material or composted material. Each roll is wrapped with UV-degradable polypropylene netting with 100% biodegradable materials like burlap, jute or coir. Unfortunately, the logs failed due to wave action, down current, and winter ice flow on the lake.

The attached *Design Engineering Services* proposal, as executed by AECOM, outlines the scope of services in more detail. The design fee rate per the Exhibit B Fee Curve Schedule (as part of the City's general Engineering Services Contract with AECOM) is 10.00% for streambank restoration projects (storm sewer construction). The total amount of the project is $19,355.16. The Engineering Division has reviewed the scope of services proposal and recommends approval.

RECOMMENDED ACTION: Approval to award civil engineering services to AECOM Great Lakes, Inc., for design engineering services associated with the Pavilion Shore Park Shoreline Erosion Control and Improvements project in the amount of $19,355.16.

Pavilion Shore Park Shoreline Erosion Control and Improvements

Location Map



Map Author: Joseph Akers
Date: July 23, 2018
Project: Pavilion Shore Park Improvements
Version: 1

Amended By:
Date:
Department:

MAP INTERPRETATION NOTICE

Map information depicted is not intended to replace or substitute for any official or primary source. This map was intended to meet National Map Accuracy Standards and use the most recent, accurate sources available to the people of the City of Novi. Boundary measurements and area calculations are approximate and should not be construed as survey measurements performed by a licensed Michigan Surveyor as defined in Michigan Public Act 132 of 1970 as amended. Please contact the City GIS Manager to confirm source and accuracy information related to this map.

Proposed Improvement Area

City of Novi
Engineering Division
Department of Public Services
26300 Lee BeGole Drive
Novi, MI 48375
cityofnovi.org

Feet
0 205 410 820 1,230

1 inch = 1,010 feet

July 28, 2018

Mr. Joseph Akers
City of Novi
Field Services Complex
26300 Lee Begole Drive
Novi, MI 48375

Reference: Proposal for Engineering Services
Pavilion Shore Park

Dear Mr. Akers,

AECOM is pleased to submit this proposal for the above referenced project at Pavilion Shore Park. In certain locations, the existing shoreline slope protection has suffered a large amount of erosion which requires repair. We understand that the project includes the following items:

Pavilion Park

- Slope restoration where shore line has eroded. Build out toward the water to the stakes that are still present.
- Design shoreline erosion protection:
  - No steel sheet piling allowed
  - No cement liners allowed.
  - Consider various stabilization techniques, including soil wrapped in geotextile liner, heavy riprap over geotextile liner, cobble blocks, etc.
  - Use new slope protection system to deter geese if possible.
  - An erosion analysis of the previous core log protection scheme.
- Assistance in obtaining new MDEQ permit for construction.

An estimate of costs is attached.

The following tasks will be completed for the project:

Initial Meeting and Scope Verification
The intent of this task is to meet with the City and verify the limits and scope of work for the project. The need for additional improvements will also be identified and discussed at the meeting. Upon completion of this task, we will move forward with the surveying and preliminary design.

Survey and Base Plans
The intent of this task is to provide topographic survey and base mapping as needed for the proposed design work. We anticipate that a full topographic survey will be required for the anticipated channel work included in the project. Base drawings will be created using the survey data, supplemented by aerial photos and a detailed field review of the site.

AECOM will prepare base plans (30%-40% complete) to identify the major design features. These plans will also be used to further the utility investigation and resolution of potential conflicts. Base plans will include the results of the survey information, utility information from response to our solicitations, and a preliminary estimate.

AECOM Great Lakes, Inc.
27777 Franklin Road, Suite 2000
Southfield, MI 48034
Tel: 248.204-5900
Fax:248.204.5901

AECOM will obtain existing utility data with a design ticket through the MISS DIG system. In addition, AECOM will distribute the base plan design set to the utility companies that have indicated that they have facilities in the project area. We will incorporate the additional information that utility companies provide to AECOM into the plan set. Due to the fast pace of this project, this may require an addenda during the bid phase.

Preliminary Plans

Incorporating the information obtained from the above tasks, we will prepare the preliminary plan set (90%) in accordance with City requirements. This submittal will include items such as creek cross sections, materials/quantities and details. A Project Manual and preliminary updated cost estimate will also be prepared and submitted.

Final Plans and Proposal

Incorporating comments from the City, AECOM will develop the final plans submittal, including the plan set, Project Manual, and cost estimate.

Advertising and Award

We will respond to any final comments received from the City and submit the Advertisement for Bids to the City for publication. Contract Documents will be made available to bidders by AECOM. AECOM will respond to bidder inquiries during the advertising period and prepare addenda as required. Following the bid opening AECOM will submit the Bid Tabulation and a letter with recommendations regarding contract award

Construction

AECOM will provide full time inspection, contract administration, and staking as required for the project.

Schedule

We anticipate that the following schedule can be maintained for the Creek Channel Lining work alone. If culvert replacement is needed, the MDOT permit would take approximately 6 weeks longer to obtain.

Request Soil Borings and Cores	None Required
Notice To Proceed with Design	September 31, 2018
Final Plans Submittal	December 15, 2018
MDEQ Permit Anticipated	February 28, 2019
Contract Award	April 15, 2019
Begin Construction	May, 2019
End Construction	July, 2019

Estimated Cost of Construction and Design Fees

The attached estimate shows the construction cost for the project is $193,551.60.00.

The design fee (using the Engineering Fee Chart for Storm Sewer Construction work) is 10.00% of construction cost.

10.00% x $193,551.60 = $19,355.16.

We understand that fees for construction phase services will be determined after a construction contract is awarded.

Please contact me if you have any questions or wish to discuss this submittal.

Sincerely,

AECOM Great Lakes, Inc.

Sean Kelsch, PE
Vice-President

City of Novi
Shoreline Erosion Control & Misc Improvements
Pavilion Shore Park
Preliminary Estimate of Cost
7/28/2018

Item No.	Item Description	Unit	Quantities	Unit Price ($)	Total Cost ($)
			Total	Unit Price ($)	Total Cost ($)
1	Mobilization (10%)	LS	1	17,595.60	$ 17,595.60
2	Pre-Construction Audio-Visual	LS	1	2,000.00	$ 2,000.00
3	Earth Excavation	Cyd	264	$ 15.00	$ 3,960.00
4	Heavy Riprap or Cobblestone	Syd	1,296	$ 100.00	$ 129,600.00
5	Silt Fence	Ft	800	$ 3.00	$ 2,400.00
6	Turbidity Curtain	Ft	800	$ 15.00	$ 12,000.00
7	Maintaining Traffic	LS	1	$ 5,000.00	$ 5,000.00
8	Surface Restoration	LS	1	$ 5,000.00	$ 5,000.00
	Miscellaneous Items (10%)				$ 15,996.00
	Total Construction Cost				$ 193,551.60
	Design Engineering	LS	10.00%		$19,355.16
	Geotechnical Investigation	LS	-	$ -	$0.00
	Inspection (Crew Days)	Day	35	$700.00	$24,500.00
	Contract Administration	LS	7.00%		$13,548.61
	Materials Testing	LS	1	$ 3,500.00	$3,500.00
	Total Estimated Cost				**$254,455.37**

Estimate Assumptions:

The shoreline on the lakeside of the block retaining wall is not included in the project.

Pavilion Shore facing east (Aug. 2013 Grand Opening)

Pavilion Shore facing west (Sept. 2017)

Pavilion Shore facing east (Sept. 2017)

Pavilion Shore facing east (July 2013)