



**CITY OF NOVI CITY COUNCIL  
MARCH 18, 2024**

**SUBJECT:** Approval to award engineering design services to OHM Advisors for the assessment of operational improvements at the Island Lake Booster Station, in the amount of \$35,250.00.

**SUBMITTING DEPARTMENT:** Department of Public Works, Water & Sewer Division

<b>EXPENDITURE REQUIRED</b>	<b>\$ 35,250.00</b>
<b>AMOUNT BUDGETED</b>	<b>\$ 38,775.00</b>
<b>APPROPRIATION REQUIRED</b>	<b>\$ 0</b>
<b>LINE ITEM NUMBER</b>	<b>592-536.00-816.066</b>

**BACKGROUND INFORMATION:**

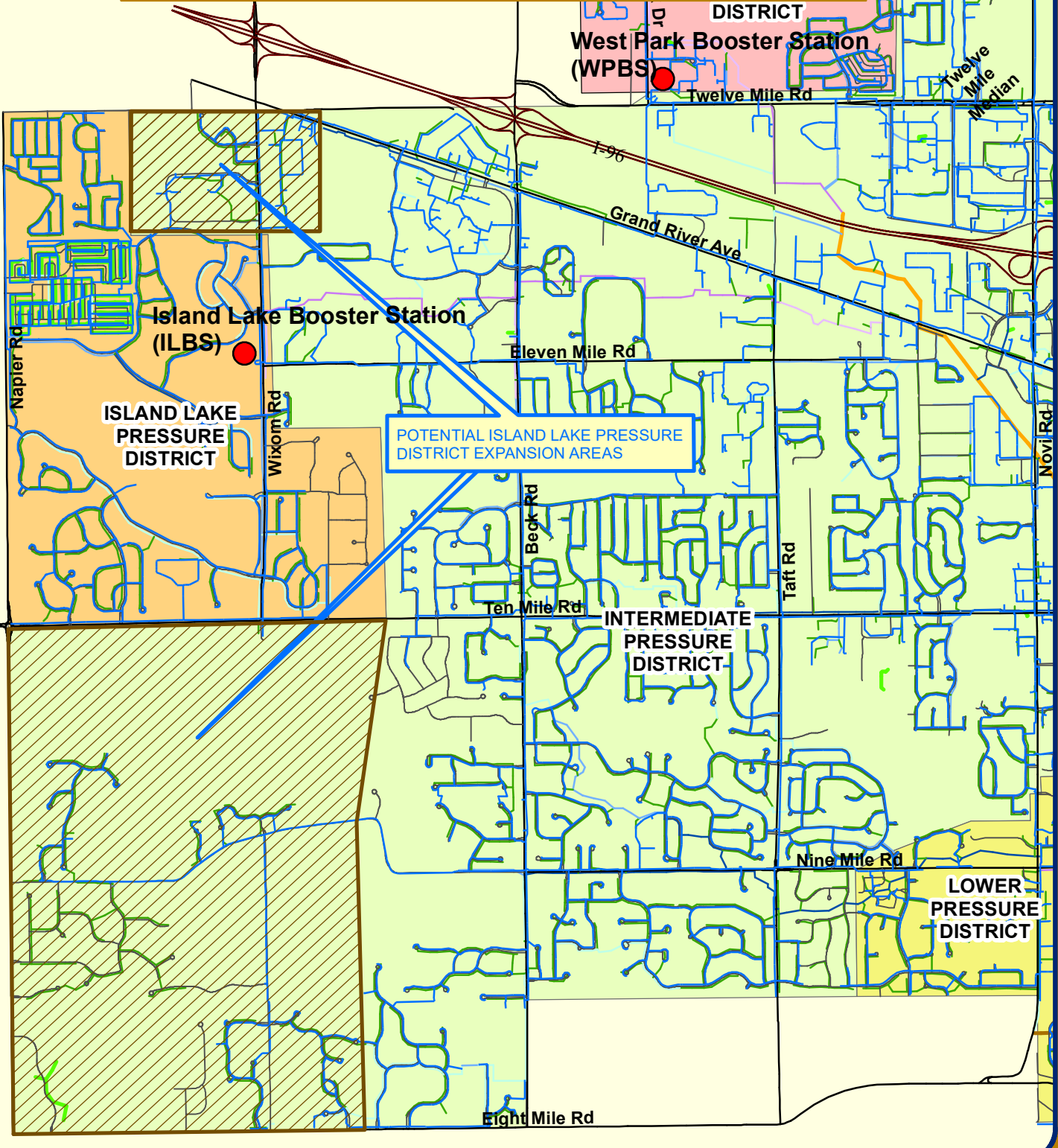
The last few Water System Master Plan updates have identified an expansion of the Island Lake Pressure District, one of four system pressure districts, to help with pressures and flows in the southwestern area of the city. A recent preliminary assessment of the operational changes associated with the Island Lake Booster Station (ILBS) confirmed the potential to accomplish significant improvements in flow and pressure. This upgrade to the ILBS would also allow for expansion of the district into the Grand River/Wixom Road area to address another area of concern. A detailed analysis of the ILBS will be completed and following a hydraulic evaluation of the system based on projected demands, the design criteria will be developed for the anticipated upgrades to the pumps and associated equipment. Once the analysis is completed, a project will be proposed to upgrade the ILBS accordingly which will likely also include improvements to the previously evaluated West Park Booster Station. Once the ILBS improvements are determined, and the capability of the station upgrades is understood, staff will initiate the design to expand the Island Lake Pressure district.

The attached design engineering services proposal outlines the detailed scope of services for the Island Lake Booster Station analysis.

**RECOMMENDED ACTION:** Approval to award engineering design services to OHM Advisors for the assessment of operational improvements at the Island Lake Booster Station, in the amount of \$35,250.00.

# ISLAND LAKE BOOSTER STATION ASSESSMENT

## LOCATION MAP



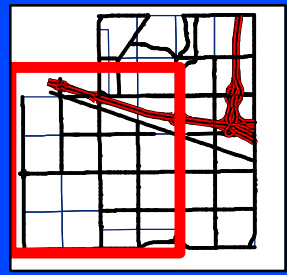
Map Author: Croy  
 Date: 3/1/2024  
 Project: ILBS  
 Version #: v1.0

**MAP INTERPRETATION NOTICE**

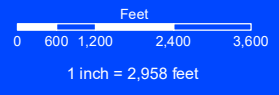
Map information depicted is not intended to replace or substitute for any official or primary source. This map was intended to meet National Map Accuracy Standards and use the most recent, accurate sources available to the people of the City of Novi. Boundary measurements and area calculations are approximate and should not be construed as survey measurements performed by a licensed Michigan Surveyor as defined in Michigan Public Act 332 of 1970 as amended. Please contact the City GIS Manager to confirm source and accuracy information related to this map.

### Map Legend

Island Lake District Expansion



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





February 20, 2024

Ben Croy, PE  
City Engineer  
City of Novi  
26300 Lee BeGole Drive  
Novi, MI 48375

Regarding: Scope of Engineering Services  
**Island Lake Booster Station Assessment**

Dear Mr. Croy,

Per your request, the following outlines our proposed scope of services and fee for the preparation of an assessment of the Island Lake Booster Station (ILBS). This summary includes our project understanding, proposed scope of work, assumptions, schedule, and fee.

### **PROJECT UNDERSTANDING**

The ILBS serves the Island Lake Pressure District within the City. The station pumps water from the Intermediate Pressure District into the Island Lake Pressure District. The ILBS has been previously identified for improvements to account for changing demands and aging equipment. Besides growing demands within the existing Island Lake Pressure District, the primary driver of changes to future demands is the likely expansion of the Island Lake Pressure District to areas south and north of the existing district to improve service pressures in those areas. The City desires to know if the existing station and equipment is suitable for the present and future requirements and, if they are not suitable, what changes may be needed to the station.

The assessment will consider the present and future requirements of the ILBS, the suitability of existing equipment to meet those requirements, and the current condition of station equipment. Results will be summarized in a technical memorandum and presented to the City.

### **SCOPE OF SERVICES**

#### **Task 1: Project Initiation and Data Review**

Under this task, OHM will review already available data and request additional required data from the City. Access to SCADA data for the ILBS will be necessary. OHM will meet with the City to review project objectives, schedule, and available data.

#### **Task 2: Station and Equipment Assessment**

The ILBS was inspected by OHM and the City as part of the 2017 Asset Management Plan (AMP). As part of the AMP, individual pieces of equipment at the station were inventoried and assessed for the estimated remaining useful life. Subsequent inspections by the City have found the station equipment to generally be maintaining their 2017 status. Under Task 2, OHM will re-inspect the station equipment with the City and update the prior assessments. The original station drawings will be obtained from the manufacturer (EFI-Solutions in Centralia, Illinois) and an updated process flow diagram that includes pipe sizes and instrumentation will be created. Existing electric service to the station will also be noted as higher horsepower motors may be required if an upsizing of the existing pumps is recommended.



### **Task 3: Planning and Demand Projections**

Previous work has been done to estimate the future boundaries and demands of the expanded Island Lake Pressure District. That work will be reviewed to determine likely future demands of the district that the ILBS must be able to meet.

### **Task 4: Hydraulic Evaluation of Existing Pumps**

Minimum and maximum system curves will be developed accounting for available suction pressures, desired discharge pressure, and head losses within the system. The existing pump curves will be compared against the system curves and anticipated demands to determine if they are suitable for continued service or if alternative pumps can better meet the needs of the system. Based on previous preliminary assessments and conversations, it is anticipated that different pumps will be recommended.

### **Task 5: Develop Criteria for New Pumps and Cost Estimates**

Based on findings from previous tasks, replacement pumps for the Island Lake Pressure District will be assessed and potential pump curves will be analyzed. Cost estimates will be developed for the recommended ILBS improvements. If significant pump and piping changes are recommended, a conceptual cost estimate will be provided for complete station replacement.

### **Task 6: Present Findings**

The findings of the analysis will be summarized in a draft technical memorandum and presented to the City. Necessary changes to the memorandum will be made based on input from the City, and the memorandum will be finalized.

## **SCHEDULE**

Assuming authorization by March 11, 2024, OHM Advisors proposes to submit the final report deliverable to the City no later than July 1, 2024. This duration is based on timely responses from the City when information requests are verbally or formally submitted. As outlined in the Scope of Services, ongoing involvement is needed from the City to maintain task progress and schedule.

## **FEE**

Our professional services will be performed in accordance with the *Civil Engineering Consulting Services Agreement between the City and OHM Advisors*. OHM Advisors will provide the above-outlined services for a not-to-exceed fee of thirty-five thousand two hundred fifty dollars (\$35,250). The costs are derived based on the anticipated number of staff hours at the standard contract rate of \$125/hour. The summary of hours and the task breakdown are as follows:

Task	Staff Hours	Rate	Amount
Task 1 – Project Initiation and Data Review	40	\$ 125.00	\$5,000
Task 2 – Station and Equipment Assessment	77	\$ 125.00	\$9,625
Task 3 – Planning and Demand Projections	18	\$ 125.00	\$2,250
Task 4 – Hydraulic Evaluation of Existing Pumps	34	\$ 125.00	\$4,250
Task 5 – Develop Criteria for New Pumps	68	\$ 125.00	\$8,500
Task 6 – Present Findings	45	\$ 125.00	\$5,625
		<b>Total</b>	<b>\$35,250</b>

## **ASSUMPTIONS AND CLARIFICATIONS**

The above-listed scope of services was prepared with the following assumptions:

- ▶ The City will provide data necessary for analysis.
- ▶ Attendance at public meetings is not necessary or included.



- ▼ In the event any additional services are required by OHM Advisors, an Authorization for Additional Services will be submitted for your approval prior to performing said services.
- ▼ The following services are not included in this scope:
  - Additional field verification or assistance.
  - GIS data collection or updates to existing GIS data.
  - Detailed design plans and bidding documents for proposed improvements.

Thank you for giving us the opportunity to be of service. We look forward to working with you on this project. If you have any questions or need additional information, please contact our office.

Sincerely,

**OHM Advisors**

Authorization to Proceed

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Susan Knepper, PE

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Signature

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Date

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Printed Name

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Title

cc: Tim Juidici, Principal, OHM Advisors  
File