



## CITY of NOVI CITY COUNCIL

**Agenda Item G**  
**July 31, 2017**

**SUBJECT:** Approval to award engineering services to Orchard, Hiltz & McCliment for the development of an Asset Management Plan for the City's water distribution system, in the amount of \$30,800.

**SUBMITTING DEPARTMENT:** Department of Public Services, Water and Sewer Division *ZLC*

**CITY MANAGER APPROVAL:** 

<b>EXPENDITURE REQUIRED</b>	<b>\$ 30,800</b>
<b>AMOUNT BUDGETED</b>	<b>\$ 31,000 (FY 2016-17 budget rollover)</b>
<b>LINE ITEM NUMBER</b>	<b>592-592.00-816.023</b>

### BACKGROUND INFORMATION:

The Michigan Department of Environmental Quality (MDEQ) has recently instituted a new rule for all communities serving more than 1,000 people, requiring the development of a water distribution system asset management plan (AMP). The AMP will address the process of operating, maintaining and upgrading assets in a cost effective manner to help ensure proper planning for the future. The AMP is required to include certain components such as:

- Asset Inventory – age, condition, remaining useful life, etc.
- A determination of the criticality (likelihood of failure) for all assets.
- Level of service goals for the water system.
- 5-year and 20-year capital improvement plan.
- Summary of funding structure and rate methodology to ensure sufficient resources to implement the AMP.

The MDEQ is requiring that the AMP be developed and implemented by January 1, 2018. To meet this deadline, OHM was asked to provide the attached proposal to develop an AMP for the City under the direction of the Water and Sewer Division. Per the proposal, OHM will complete the AMP over the next 6 months for a fee in the amount of \$30,800. The goal will be to develop a plan that exceeds the minimum requirements set by the MDEQ, to develop a useful working document for future planning as well as on-going operation and maintenance.

**RECOMMENDED ACTION:** Approval to award engineering services to Orchard, Hiltz & McCliment for the development of an Asset Management Plan for the City's water distribution system, in the amount of \$30,800.



June 14, 2017

Mr. Ben Croy, PE  
City of Novi  
Field Services Complex  
Department of Public Services  
26300 Lee BeGole Drive  
Novi, MI 48375

**RE: Proposal for Water Distribution System Asset Management Plan Development**

Dear Mr. Croy:

OHM Advisors (OHM) is pleased to provide this proposal for professional consulting services for the preparation of a water distribution system Asset Management Plan (AMP) for the City of Novi (City). The water system AMP will ultimately be used by the City to address high-priority asset needs that are critical to your infrastructure's performance, identifying costs of operating the infrastructure, and also planning for future capital and operating expenditures. The Michigan Department of Environmental Quality's (MDEQ) Rule 1606 of the Administrative Rules of Act 399 requires development and implementation of a water system AMP by January 1, 2018. In compliance with this requirement, the City has requested OHM Advisors prepare a proposal for development of such a plan.

To facilitate your review, this proposal is organized as follows:

- Project Understanding
- Scope of Services
- Project Team and Schedule
- Fee

**PROJECT UNDERSTANDING**

The MDEQ is in the process of informing community water supplies that service more than 1,000 people of the Rule requirement for development and implementation of a water system AMP by January 1, 2018. In order to meet the currently understood MDEQ requirements, water system AMPs are to include the following components:

- Details of the system used to maintain *inventory* of assets
- Description of the methodology to assess *criticality* considering likelihood and consequence of failure
- Statement of *level of service* goals
- A 5-year and 20-year *capital improvements plan*
- Summary of the *revenue structure* and rate methodology to provide sufficient resources to implement the AMP.

Since the City's water supply services more than 1000 people, the community is required to prepare a water system AMP. The City receives its supply water through metered connections with Great Lakes Water Authority (GLWA). The physical components of the City's water supply are understood to generally include five (5) GLWA meter vaults, two (2) booster stations (West Park and Island Lake), one (1) 1.5 million gallon ground water storage tank with control vault (associated with West Park pump station), nine (9) pressure-reducing valves, 6-inch to 36-inch distribution piping, and network architecture in support of SCADA monitoring. The water system AMP shall address each of these assets.



## SCOPE OF SERVICES

The objective of OHM Advisors proposed Scope of Services is to prepare a water system AMP with the aforementioned plan components as it relates to the City's water system. The following Scope of Services are proposed:

Task 1: Asset Inventory	Task 5: Capital Improvement Plan
Task 2: Condition Assessment	Task 6: Revenue Structure
Task 3: Asset Criticality Assessment	Task 7: Development of AMP for Delivery to MDEQ
Task 4: Level of Service Identification	

A description of each task is provided below.

### Task 1: Asset Inventory

Development of the City's asset inventory will be accomplished by review of readily available existing sources of data, such as the City's existing geographic information system (GIS). For Task 1, we propose to use existing GIS as the repository for the asset inventory and will work with the City to assess if the data is up-to-date and complete with water main size, material of construction, age, and hydrant and valve features.

OHM Advisors will notify the City should data gaps exist in the GIS that prevents our understanding or development of the remaining tasks to complete the water system AMP. We assume that the City will be responsible for providing an updated GIS to OHM Advisors to continue the scope of work.

### Task 2: Condition Assessment

The purpose of Task 2 is to utilize new, existing, and historic water system information in order to both approximate infrastructure condition (in lieu of actual field condition testing) and potential remaining useful life. For that end, we propose to complete the following work associated with Task 2:

- Review City-provided water main break data; we assume the break data includes date of break and location.
- Perform analysis on the information in order to approximate water main condition on groups of infrastructure.
- Perform approximation on potential remaining useful life of water main infrastructure given the water mains' age, material of construction, and break history.
- Perform field reconnaissance of vertical infrastructure (pump stations, accessible vaults, and ground storage tank) to inventory existing infrastructure and review physical condition.

### Task 3: Asset Criticality Assessment

As part of this task, asset criticality calculations will be performed by identifying asset probability of failure (based on asset condition and remaining useful life information) as well as consequence of failure (based on qualitative or quantitative information, such as potential service disruption impacts, *etc.*). As part of this task, we also propose to obtain critical asset information from the City that will be incorporated into the risk assessment. This includes locations such as schools, shelters, hospitals, police stations, airports, *etc.* OHM will use a combination of GIS and spreadsheets (Microsoft Excel format) to perform the calculations and analysis.

### Task 4: Level of Service Identification

We propose to assist the City with development of level of service goals. The level of service helps define the way that City staff and water system stakeholders (residents, board, *etc.*) want the utility to perform over the long term. As part of this effort, we propose to identify an approach for the development of level of service (LOS) goals (including service



criteria, performance indicator, and targeted level of service) and stakeholder involvement. This work will be completed in collaboration with City staff.

#### Task 5: Capital Improvement Plan

Novi has an existing capital improvement plan (CIP) as presented in the July 2014 Water Master Plan (WMP) update. Several of the July 2014 CIP projects have been recently re-assessed by OHM Advisors by way of model simulations; such model simulations relate to the southeast, northeast, and 11 Mile Road districts of the Novi water system.

OHM Advisors proposes to prepare a 5-year and 20-year CIP as part of our water system AMP deliverable. We will build upon the CIP projects presented in Novi's July 2014 WMP and our recent model simulations. Water system AMP CIP projects will consider previously identified hydraulic issues, our condition analysis findings, and Novi-directed desired projects.

#### Task 6: Revenue Structure

Development of a revenue structure is required by the Rule. This proposal assumes that the City will use internal finance staff or a third-party financial consultant to perform this assessment. Therefore, only minimal effort is proposed as part of this task, which relates to assisting City finance staff (or their designee) with questions and, perform revisions on the proposed, prioritized CIP as per City request.

#### Task 7: Development of AMP for Delivery to the MDEQ

As part of this task, a report will be generated for submission to the MDEQ, including the findings, results, and conclusions from the above outlined tasks.

### **PROJECT TEAM AND SCHEDULE**

Consistent with all City DPS Projects, George Tsakoff will serve as the lead point of contact for the project with the City. Lambrina Tercala, PE, will function as the project manager from our water resources group. Ms. Tercala will be supported by a team of technical experts within OHM Advisors for execution of this work.

Assuming authorization by June 15, 2017, we propose to submit the final report deliverable to you by December 15, 2017. This duration is based on timely responses from the City when information requests are verbally provided or formally submitted. As understood in the Scope of Services, on-going involvement is needed from the City to maintain Task progress and schedule. Attached is our preliminary project schedule to demonstrate Task milestones and durations.

### **FEE**

OHM proposes to provide the above outlined professional services for a total lump sum fee of \$30,800, based on the task breakdown below.

Task 1 – Asset Inventory	\$4,000
Task 2 – Condition Assessment	\$9,000
Task 3 – Asset Criticality Assessment	\$5,700
Task 4 – Level of Service Identification	\$1,600
Task 5 – Capital Improvement Plan	\$4,100
Task 6 – Revenue Structure	\$1,400



Task 7 – Asset Management Plan Report	<u>\$5,000</u>
<b>TOTAL =</b>	<b>\$30,800</b>

Please note, this proposal outlines the tasks associated with satisfying the currently understood MDEQ's Rule requirements. This proposal excludes further requirements that may be communicated from the MDEQ after the date of this proposal. If additional labor effort is required beyond the scope of services as described herein, OHM Advisors will discuss a change order with the City. OHM Advisors will not proceed with additional services without the expressed written authorization from the City.

OHM Advisors will invoice the City of Novi on a monthly basis in accordance with the continuing services agreement between the City and OHM Advisors.

We thank you for this opportunity to provide professional engineering services. If there are any questions, please contact us. Should you find our proposal acceptable, please provide written authorization for us to begin the work.

Sincerely,  
OHM Advisors

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George Tsakoff, PE  
Senior Project Manager

cc: James Stevens, OHM Advisors  
Lambrina Tercala, OHM Advisors