



**CITY OF NOVI CITY COUNCIL**  
**JUNE 26, 2023**

**SUBJECT:** Consideration of approval to award engineering services to OHM Advisors for oversight and administration of the Distribution System Material Inventory for the City's water service lines, in the amount of \$125,500.

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

|                               |                           |
|-------------------------------|---------------------------|
| <b>EXPENDITURE REQUIRED</b>   | <b>\$ 125,500</b>         |
| <b>AMOUNT BUDGETED</b>        | <b>\$ 375,000</b>         |
| <b>APPROPRIATION REQUIRED</b> | <b>\$ 0</b>               |
| <b>LINE ITEM NUMBER</b>       | <b>592-536.00-816.056</b> |

**BACKGROUND INFORMATION:**

The Michigan Department of Environment, Great Lakes, and Energy (EGLE) is requiring all communities to complete a Distribution System Material Inventory (DSMI) to determine if any lead or galvanized water service lines exist in the system. If any exist, a plan must be put in place to replace a minimum of 5-percent per year. Staff recently completed a preliminary inventory, the first step in this process, and based on that information staff does not believe any lead service lines exist. However, the complete DSMI is still required, which will involve randomly selecting properties for physical verification of the water service line materials at three points, per the enclosed figure, including the public portion of the line, the private portion of the line, and the interior portion of the line. A fourth verification point would be required if lead "goosenecks" were believed to be used at the connection to the main. It is anticipated that 361 properties will need to be inspected.

OHM has been selected to provide oversight and implementation of this program. The primary tasks involved in their scope of services include the following:

1. Contract preparation for System Evaluation
  - Review of existing service line data
  - Complete random selection of service lines for investigation
  - Develop public information to be distributed
  - Prepare contracts

2. Service Line Exploration Oversight / Data Collection
  - Project inspection and oversight
  - Contact with property owners to discuss project and obtain authorization
  - Project documentation
3. GIS Update / Data Incorporation
  - Develop GIS layer with data collected.
  - QA/QC of data.

OHM's proposal is enclosed and includes a detailed description of the tasks involved, as well as the fees and schedule for the work. Contract preparation will begin following the award, with inspections anticipated to begin later this year.

**RECOMMENDED ACTION:** Approval to award engineering services to OHM Advisors for oversight and administration of the Distribution System Material Inventory for the City's water service lines, in the amount of \$125,500.



May 12, 2023

Mr. Ben Croy, P.E.  
City Engineer  
City of Novi, Department of Public Works  
26300 Lee Begole Drive  
Novi, MI 48375

RE: EGLE DSMI Revised Lead & Copper Rule Water Service Line Inventory  
Scope of Engineering Services - **DRAFT**

Dear Mr. Croy:

We are submitting this scope of services as a follow-up to our prior discussions and the City's desire to educate the City and public on activities related to determining water service line materials related to the implementation of the Lead & Copper Rule. The following outlines our Project Understanding, Scope of Work, Schedule, and Fee for this phase of this project.

### **Project Understanding**

The City of Novi is committed to providing safe and reliable drinking water to its customers and recognizes this opportunity to continue efforts in achieving this goal. The City recently completed a preliminary Distribution System Material Inventory (DSMI) per the EGLE Lead & Copper Rule. Per EGLE guidelines, homes built prior to 1989 are considered at risk for containing lead service lines. All homes will require water service lines to be excavated/exposed to verify existing materials, as no other record of materials exists. This process will help the City identify a total of approximately 12,500 residential service lines throughout the water system. Of these lines, there are approximately 6,000 service lines that are classified as "unknown" by EGLE verification requirements. The City would like to verify the unknown service line materials throughout the distribution system. This effort will help identify properties with lead or galvanized service lines and better quantify the amount of funding the City will require to replace its existing lead and/or galvanized service lines at a rate of 5-percent annually as required by EGLE. In addition, identifying unknown service line materials will allow the City to update their water GIS database for future reference. The final DSMI is due to EGLE by January 1, 2025 and the City must report to EGLE yearly on the status of their progress in full lead service line replacements. Guidelines require that the City determine the material of three hundred and sixty-one (361) (20% of the 6,000 unknown service lines) unknown service lines and assist towards completion of their DSMI requirements per the Lead & Copper Rule.

Additionally, due to the potentially disruptive nature of replacing lead and galvanized service lines, the City, with OHM assistance, intends to engage in a public education effort associated with the implementation of the Lead & Copper Rule.

### **Scope of Work**

Our work plan includes the tasks required to complete the contract preparation, evaluation of service line materials with oversight and data incorporation into GIS and the City's DSMI. Specific tasks to complete this project are as follows:

#### **OHM Advisors®**

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### **Task 1 – Contract Preparation for System Evaluation**

Under this task, OHM Advisors will prepare preliminary and final documents including mapping, technical specifications, and contract documents for bidding. Specific work efforts are as follows:

- Conduct review of existing service line data and eliminate areas with known services lines constructed after 1989 or are greater than 4 inches in diameter.
- Perform random selection of service lines to determine which service lines are to be investigated.
- Develop contract documents to use for bidding the water service line system evaluation.
- Assist the City with advertising the project, and answer contractor questions during the bidding process. Issue an addendum, if needed.
- Bid the project, attend the bid opening, and develop a bid tabulation.
- Check low bid qualifications and provide a recommendation of award to the City Council.
- Upon approval by the City Council, assist the City with executing contracts.
- Prepare a draft of an informative flyer to distribute to residents during on-site material investigations. The flyer will include information regarding the updates to the Lead & Copper Rule, background information on the Lead & Copper Rule, and safe drinking water practices if you have lead service lines. Draft flyer will be provided to the City for review and finalized based on city comments.

### **Task 2 – Service Line Exploration Oversight / Data Collection**

This task will involve investigation to determine the material makeup of each selected service lines. This will be accomplished by hydrovac excavations both within the right of way, private property, and entry into the residences to verify material up to the meter and internal to the home. It is anticipated that work will be conducted at 361 residences, commercial/industrial, churches, and governmental buildings alike throughout the City where the material of the service line is unknown. The OHM team will provide on-site engineering services during this phase, specific work tasks would include the following:

- Project administration.
- Coordination with utilities and agencies.
- On-site inspection.
- Facilitation of bi-weekly progress meetings.
- Measurement, computation, and documentation of quantities for unit prices items.
- Distributions system materials will be entered into the GIS collector app.
- Reporting and record keeping.
- Finalization of project documentation.

The Project Manager will provide oversight of contract responsibilities and serve as the liaison between the Contractor and the City. Routine tasks include the following:

- As-needed site visits to review critical items, site conditions, progress and resolve contentious issues.
- Coordinate with utility companies.
- Shop drawing and submittal review.
- Review materials testing reports as work progresses.
- Monitor project progress schedule.
- Communicate with the field technicians and office technician daily to review current items and outstanding issues.
- Resolve problems, issues, discrepancies, or other items brought to the attention of the team by the Contractor, including written documentation of findings or resolutions to these issues.
- Coordinate and complete the final inspection and create/monitor a punch list of items the Contractor needs to complete.



Office technician/lead field technician will complete administration and office technician tasks for the project. Responsibilities will include:

- Prepare recommendations and bi-weekly pay estimates for review and approval of the Project Engineer and City of Novi.
- Work with the City staff on the closeout process.
- Develop Contractor outstanding documentation correspondence.

Field Technicians will perform daily on-site inspections. They are the daily on-site eyes and ears for the Project Manager and City staff. Responsibilities will include the following:

- Complete required paperwork daily and submit it to the project office technician on a regularly scheduled basis.
- A designated OHM employee will handle scheduling efforts with residents and the Contractor, including managing an online calendar for interior inspections and field phone calls to schedule with residents who prefer scheduling over the phone.
- Prior to Contractor exploration, make one attempt to gain access to as many of the selected residential, industrial, and commercial buildings identified as one of the 361 buildings a part of the project. A temporary construction easement, with language to be prepared by the City's legal counsel, will have to be signed by the landowner prior to entry. This information will be tracked using a Collector App. Field technician will provide educational flyer to the resident at this time. All interior inspections shall be completed prior to potholing beginning. It is assumed that city DPS staff will assist OHM with the public's engagement for initial home entries.
- Communicate with the property owners to keep them informed as to schedule, upcoming activities, changes in staging, pass out educational flyers, handle questions or issues, and develop a direct line of communication.
- Review and monitor traffic control devices.
- Work with the Project Manager and the Contractor's field representative to ensure quantities are agreed upon on a regular basis.
- Using a Collector App, collect water service line material as the project progresses, documenting field changes, actual utility locations, substantial quantity changes and water service lead material type outside of the right-of-way and at the meter.

### **Task 3 – GIS Update / Data Incorporation**

OHM GIS technicians will provide data to the City for inclusion in its database as investigations progress. Newly acquired data will be downloaded and processed in the City's GIS system, responsibilities will include the following:

- Create GIS fields for data collection.
- Input data for known water services.
- QA/QC data that is collected in the field.

### **Schedule**

Based on past communication with the City, the following is the anticipated schedule for this project:



| <b>PHASE</b>           | <b>SCHEDULE</b>               |
|------------------------|-------------------------------|
| CONTRACT PREPARATION   | July 2023 – August 2023       |
| ADVERTISEMENT          | September 2023                |
| CONTRACT AWARD         | October 2023                  |
| PROJECT IMPLEMENTATION | November 2023 – December 2024 |

This schedule is based upon an authorization to proceed given by June 1, 2023. Potential schedule related items that may impact task durations are as follows:

- Weather
- Resident response to public education and program objectives

### **Assumptions**

The following services are not anticipated to be required for this project and have not been included at this time:

1. Permit or application fees that are necessary – to be paid by the City or as reimbursable expenses to OHM.
2. The City will work with its legal counsel to develop a temporary construction easement to complete work on private property.
3. Right-of-way and/or easement acquisitions if applicable – to be acquired by the city.
4. Exploration Oversight budget assumes a 20-week schedule completed under one contract. Final exploration oversight fees would be based on the Contractor's actual schedule.
5. OHM Field Technicians will make one attempt to access all residential, industrial, and commercial buildings identified in the DSMI. This will only occur after landowner signs a temporary construction easement.
6. Traffic impact studies.
7. Remediation or removal of contaminated or hazardous soils or materials.
8. Pavement Evaluation or Geotechnical Analysis/Report.

In the event any of these services are required by OHM Advisors, an addendum to the scope of work will be submitted for your approval prior to performing said services.

### **Compensation**

The proposed fee for the above work is one hundred twenty-five thousand five hundred dollars (\$125,500.00). The costs are derived based on the anticipated number of staff hours at the standard contract rate of \$125/hour. The summary of anticipated hours and costs are included in the following table:



| Task                                  | Estimated Hours | Hourly Rate | Estimated Cost       |
|---------------------------------------|-----------------|-------------|----------------------|
| <b>Task 1 - Contract Preparation</b>  |                 |             | <b>\$ 23,500.00</b>  |
| Review Existing Data                  | 48              | \$ 125.00   | \$ 6,000.00          |
| Contract Documents                    | 120             | \$ 125.00   | \$ 15,000.00         |
| Bid Process                           | 20              | \$ 125.00   | \$ 2,500.00          |
| <b>Task 2 - Exploration Oversight</b> |                 |             | <b>\$ 89,000.00</b>  |
| Public Engagement                     | 32              | \$ 125.00   | \$ 4,000.00          |
| Contract Administration               | 184             | \$ 125.00   | \$ 23,000.00         |
| On-Site Observation                   | 496             | \$ 125.00   | \$ 62,000.00         |
| <b>Task 3 - GIS Update</b>            |                 |             | <b>\$ 13,000.00</b>  |
| Data Coordination/Input               | 104             | \$ 125.00   | \$ 13,000.00         |
| <b>Total</b>                          | <b>1004</b>     |             | <b>\$ 125,500.00</b> |

Thank you for the opportunity to be of service. If you have any questions or require additional information, please contact us. We look forward to working with you on this project. If you have any questions regarding this proposal, please do not hesitate to contact me at 248-751-3104.

Sincerely,  
 OHM Advisors

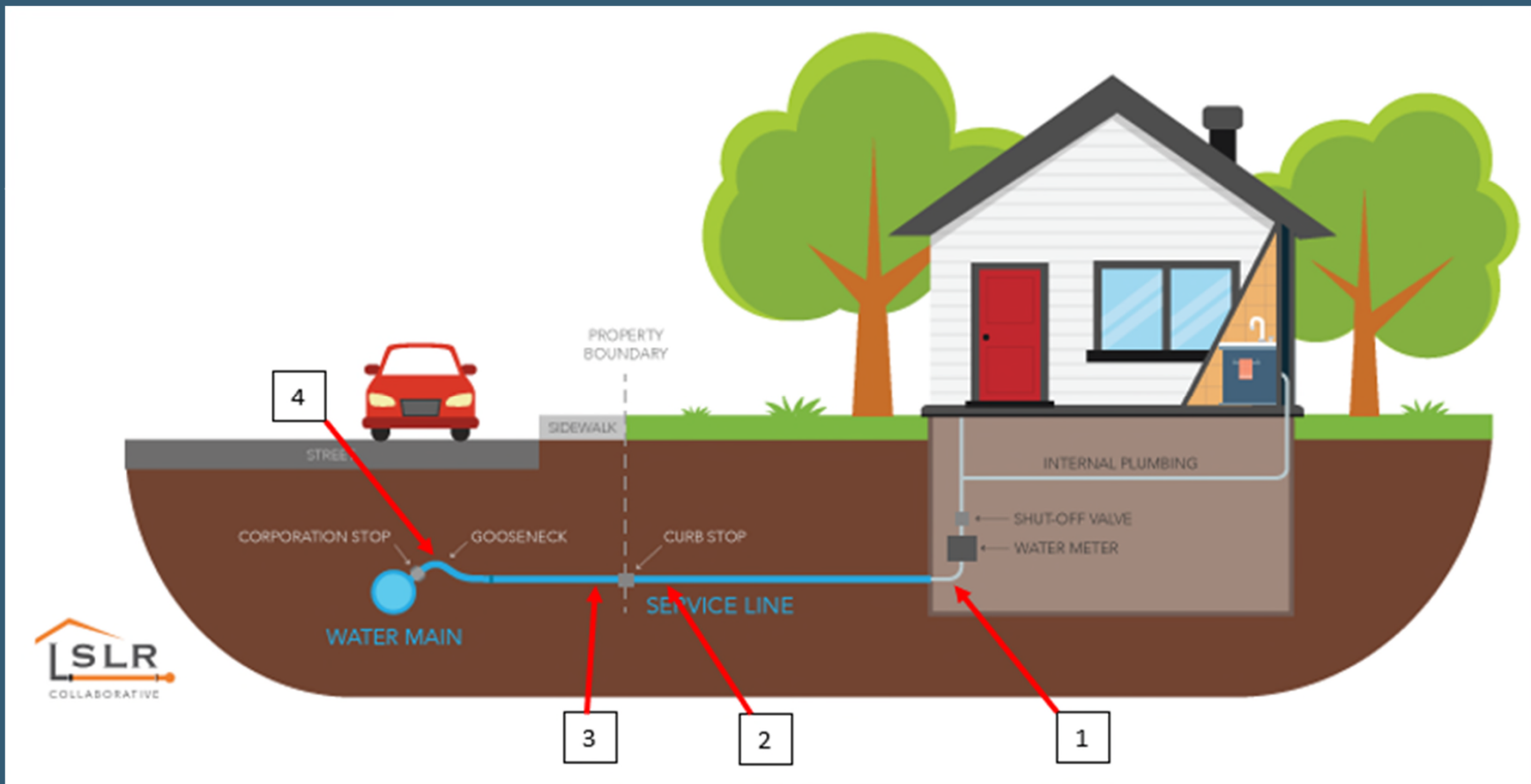
Authorization to Proceed

\_\_\_\_\_  
 Timothy J. Juidici, P.E.  
 Principal-in Charge

\_\_\_\_\_  
 Signature Date

\_\_\_\_\_  
 Printed Name Title

cc: Steve Siklich, PE, OHM



**EGL**





## COMPLETE DISTRIBUTION SYSTEM MATERIALS INVENTORY OVERVIEW

### **Complete Distribution System Materials Inventory (CDSMI) Overview**

#### **Requirements**

2018 revisions to the Michigan Safe Drinking Water Act, 1976 PA 399, as amended, requires that water supplies develop and maintain a CDSMI. Pursuant to Rule 325.11604(c)(ii), a CDSMI must be submitted to the Michigan Department of Environment, Great Lakes, and Energy (EGLE) by January 1, 2025.

#### **Purpose**

The purpose of the CDSMI is to characterize, record, and maintain a comprehensive inventory of distribution system materials, including service line materials on both public and private property. Maintenance of an accurate inventory of distribution materials supports effective asset management planning, lead service line replacement efforts, and notification of those served by a lead service line.

#### **Goals of the CDSMI**

1. Characterize and document distribution system materials, including service line materials on both public and private property.
2. Demonstrate through physical verification that the inventory is accurate (the scope of field verification will vary based on number of unknown service lines and reliability of records).
3. Demonstrate effective data management systems and data maintenance procedures are in place and consistently implemented. If you do not have a data management system or maintenance procedures, they should be developed.
4. Inform residents served by a lead service line.
5. Support ongoing asset management and service line replacement efforts.

### **Developing Your CDSMI**

#### **Organize and Review Existing Records**

An early step in the CDSMI process should include a thorough review of existing records. A comprehensive review and organization of records will help identify what information is available and where gaps exist. Much of this should have been done when developing the Preliminary Distribution System Materials Inventory that was due to EGLE by January 1, 2020.

#### **Evaluate Existing and/or Create an Inventory Tracking System and Procedures**

Water supplies must develop and maintain a system for tracking distribution system materials, including service line materials on both public and private property. Tracking systems can include advanced data systems, spreadsheets, GIS software, or other methods that are sufficient to maintain the inventory. Supplies should also create and/or review existing procedures that establish how the inventory will be maintained.

#### **Conduct Physical Verification of Service Line Materials**

Most water supplies must conduct some physical verification of service lines materials in their distribution system. The extent of minimum physical verification efforts will depend on water supply size and knowledge of service line materials.

**Evaluate Results of Physical Verification**

After conducting the physical verification in the previous step, supplies should compare pre-verification records with the field-verified findings to assess reliability of existing records. If the verification confirms existing records are reliable, a water supply may feel confident moving forward with finalizing their CDSMI based on those records. However, supplies that find the reliability of records to be mixed or unreliable may need to conduct additional physical verification.

**Conduct Additional Verification of Service Line Materials or Other Distribution System Components, as/if Needed**

As noted above, supplies that find existing records to be unreliable may need to conduct additional verifications. Next steps will be supply-specific. For example, a supply finding some types of records to be reliable while others are not may require additional verification targeted to problem areas. Those with broadly unreliable records may require significant additional work.

**Update and/or Expand Records to Develop the CDSMI**

Supplies should use the information gained above to build-out their CDSMI. Some supplies may wish to use techniques such as predictive modeling to assist with this effort. Supplies may need assistance if using such methods.

**Report to EGLE**

By January 1, 2025, supplies must submit a CDSMI to EGLE. The form and manner of submittal will be communicated by EGLE in separate guidance.

**Maintain Your Inventory and Submit Five-Year Updates**

CDSMIs should be maintained on an ongoing basis. An updated inventory must be submitted to EGLE every five years.

**\*\*Remember to Notify the Public\*\***

Owners and occupants of buildings served by a service line containing lead or presumed to contain lead must be notified within 30 days of determination. Owners and occupants of buildings where service line materials cannot be determined must be notified of the potential for lead.

For more information, visit [Michigan.gov/LCR](https://Michigan.gov/LCR).