
VILLAGE OF SUGAR GROVE BOARD REPORT

TO: VILLAGE PRESIDENT & BOARD OF TRUSTEES
FROM: ANTHONY SPECIALE, DIRECTOR OF PUBLIC WORKS
BRAD MERKEL, DEPUTY DIRECTOR OF PUBLIC WORKS
SUBJECT: RESOLUTION: AUTHORIZING A PSA FOR A WATER SYSTEM VALVE
MAINTENANCE PROGRAM
AGENDA: MAY 17, 2022 REGULAR BOARD MEETING
DATE: MAY 4, 2022

ISSUE

Should the Village authorize a PSA for a Water System Valve Maintenance Program.

DISCUSSION

During last IEPA Inspection it was noted that the Village should have a valve exercising /maintenance Program. Staff has been researching options and surveying surrounding communities on the best method to complete such a program. After researching options, it was determined the best option is to design/bid a multi-year water valve maintenance program to include hydrant testing, leak detection, GIS location and valve exercising. This Program is a multi-year that would focus on completing various sections of town each year until complete. Staff estimates it will take 3 years to complete the project.

Staff opened bids for this project on April 8, 2022. The Village received 2 bids for the Water System Valve Maintenance Project and only one of the bids met the qualifications. The bidder that did not meet the qualifications could not meet the leak detection response time and also did not provide an accurate proposal on the GIS Program specified in the bid.

Staff recommends awarding the multi-year PSA for the Water System Valve Maintenance Program to M.E. Simpson Co., Inc.

COST

The cost to complete the multi-year Water System Valve Maintenance Program is \$25,000 per year. The FYE 2022-& FYE 2023 Water Operations Budget, account number 50-60-6309: Other Professional Services has \$25,000.00 allocated for this project.

RECOMMENDATION

The Village Board approves Resolution # **20220517PW1** authorizing the Director of Public Works to execute an agreement with M.E. Simpson Co., INC for the Water System Valve Maintenance Program in the not to exceed amount of \$25,000.



RESOLUTION NO. 20220517PW1

VILLAGE OF SUGAR GROVE, KANE COUNTY, ILLINOIS

**RESOLUTION AUTHORIZING EXECUTION OF AN AGREEMENT WITH
ME SIMPSON CO., INC. FOR WATER SYSTEM VALVE MAINTENANCE
PROGRAM.**

WHEREAS, the Village of Sugar Grove Board of Trustees find that it is in the best interest of the Village to engage the services of ME Simpson Co., Inc for the Water System Valve Maintenance Program, and to execute the attached agreement;

NOW, THEREFORE, BE IT RESOLVED by the President and Board of Trustees of the Village of Sugar Grove, Kane County, Illinois, as follows:

That attached hereto and incorporated herein by reference as Exhibit A is an agreement between ME Simpson Co., Inc and the Village of Sugar Grove for the Water System Valve Maintenance Program. The President and Clerk are hereby authorized to execute said agreement on behalf of the Village and to take such further actions as are necessary to fulfill the terms of said agreement.

Passed by the President and Board of Trustees of the Village of Sugar Grove, Kane County, Illinois, at a regular meeting thereof held on the 17th day of May, 2022.

Jennifer Konen, President of the Board
of Trustees of the Village of Sugar Grove,
Kane County, Illinois

ATTEST: _____
Alison Murphy, Clerk
Village of Sugar Grove

	Aye	Nay	Absent	Abstain
Trustee Matthew Bonnie	_____	_____	_____	_____
Trustee Sean Herron	_____	_____	_____	_____
Trustee Heidi Lendi	_____	_____	_____	_____
Trustee Michael Schomas	_____	_____	_____	_____
Trustee Ryan Walter	_____	_____	_____	_____
Trustee James F. White	_____	_____	_____	_____
President Jennifer Konen	_____	_____	_____	_____



YOUR TEAM FOR SECURE + RELIABLE
Water System Solutions



RFB TO PROVIDE

The Village of Sugar Grove, Illinois **Water System Assessment Program Proposal**

Due: April 8, 2022 by 10:00 AM



April 08, 2022

Mr. Brad Merkel
Deputy Director of Public Works
Village of Sugar Grove
10 Municipal Drive
Sugar Grove, IL 60544

RE: PROPOSAL FOR WATER SYSTEM ASSESSMENT PROGRAM

Dear Mr. Merkel,

M.E. Simpson Co., Inc. is pleased to present the Village of Sugar Grove, Illinois our proposal for the Water Assessment Program. We are honored to be considered for this work and are confident our team will help make the project a success.

M.E. Simpson Co., Inc. is a Professional Services Firm dedicated to developing and providing programs and services designed to maximize peak performance for our clients' water distribution systems. Many of these programs are universally recognized as a part of "Best Management Practices" (BMPs) for utilities. We pride ourselves on delivering solid solutions using the highest quality technical and professional services by way of state-of-the-art technology and a skilled and well-trained staff of professionals. Our highly-educated engineers and technical team are committed to the success of this project. They will be ready at a moment's notice to relieve your staff's burden and ensure a seamless continuation of your services.

Our services were developed and refined to provide utilities with programs that can be customized to meet their needs. From complete "Turn-Key" services to assisting with the development of "in-house" programs for utilities, M.E. Simpson Co., Inc. serves our clients with this ultimate goal: to deliver to the public the implicit faith that **"the water is always safe to drink"**.

Thank you for your consideration and this opportunity to acquaint you with our Water Assessment Services to include Fire Hydrant Assessment and Flow Testing, Valve Assessment and Leak Detection services and offer this response. We are committed to exceeding your expectations.

Sincerely,

A handwritten signature in black ink, appearing to read 'CC', is written over the name Carlos Covarrubias.

Carlos Covarrubias
Regional Manager

Carlos Covarrubias
Regional Manager

3406 Enterprise Avenue
Valparaiso, IN 46383

800.255.1521 P
888.531.2444 F

carlos.covarrubias@mesimpson.com

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FIRM HISTORY

M.E. Simpson Co., Inc. was founded in 1979 by Marvin E. Simpson. We are based out of Valparaiso, Indiana, near Chicago, Illinois. Our firm has become the industry leader in developing and providing water loss assessment and distribution system asset management programs and services, aiding our clients in maximizing their peak performance for their water distribution systems. We offer the highest quality Technical and Professional Services, using state-of-the art technologies and highly skilled and trained professionals. Our staff has developed a host of high-tech programs that will ensure that your Utility will be proactive in dealing with your water distribution systems. "Crumbling infrastructure, inaccurate records, conservation, sustainability, water quality, water loss, economic conditions, revenue shortfalls, being green, having enough water"; these are all statements and buzz words in today's society. Currently in the water industry, these words are our reality, thus making them our responsibility.

We have maximized distribution system performance and optimized distribution system data, records, and mapping for all our clients. To date, we have provided Water Loss Control programs that have included over 85,000 Large Water Meters serviced, 125,000 miles of Leak Detection services and numerous water audit programs. Our Asset Management services have documented over 500,000 valves located and exercised. Our Fire Hydrant Flow testing program has recorded 95,000 fire hydrants inspected, flow tested, and water main capacity information developed.

[Fire Hydrant Flow Testing Services History](#)

M.E. Simpson Co., Inc. developed its Fire Hydrant Flow Testing program in 1995 and expanded it to include Fire Hydrant Maintenance. we have improved the program so now it is a fundamental asset management and condition assessment program for our clients.

Our crews have been deployed to many locations throughout the United States including Minnesota and overseas. Our crews have the unique ability to be able to respond to individual Utility requests because of the cross training they have received performing all the services M.E. Simpson Co. Inc. provides. We are proud of the work we have performed using the latest technology and meeting the needs of "our customer" the Water Works Industry. We have played an important role in educating utilities about the need for and efficiency of annual maintenance and testing programs.

[Valve Assessment History](#)

M.E. Simpson Co., Inc. developed its Valve Assessment program in 1986. Since then, we've improved the program so now it is a fundamental asset management and condition assessment program for our clients. We developed Polcon Pro-Valve®, a Microsoft Access database showing all the pertinent information needed to readily recreate valve location and data. Today that database program has been changed into a cloud-based mapping and asset management program that is accessible by clients online and has the ability to integrate with the Utility's GIS system, including electronic work orders.

Our Valve Assessment Programs have been employed since 1986 in a majority of municipalities around the Chicago Metro Area and the Midwest and have spread to other utilities across the US. These programs have benefited municipalities from small systems consisting of 100 valves to systems with several thousands of valves. Additionally, our crews have been deployed to several locations throughout the United States including Georgia, California, and overseas to help utilities with their distribution system maintenance and assessments. Our crews have the unique ability to be able to respond to individual Utility requests because of the cross training they have received performing all the services M.E. Simpson Co. Inc. provides.

Our project manager and personnel have all the equipment and abilities necessary to perform your valve program and respond to any needs that the Utility may have. We are proud of the work we have performed using the latest technology and meeting the needs of "our customer" the Water Works Industry. We have played an important role in educating utilities about the need for and efficiency of annual maintenance programs, including the development of our online database programs for mainline valve assessments, fire hydrant maintenance and flow testing, Pro-Maps®, our atlas updating services, and the continuing development and manufacturing of the Polcon® Flow Monitoring Equipment.

Leak Detection History

M.E. Simpson Co., Inc. developed its Water Transmission and Distribution Leak Survey services in 1987. Since then, we've improved the program so now it is a fundamental water loss control program for our clients.

Our Water Transmission and Distribution Leak Survey services have been employed since 1987 in a majority of municipalities around the Chicago Metro Area and the Midwest and have spread to other utilities across the US. These programs have benefited municipalities from small systems consisting of 5 miles of pipe to systems with several thousands of miles of pipe. Additionally, our crews have been deployed to several locations throughout the United States including Georgia, California, and overseas to help utilities with their transmission and distribution system leakage issues. Our crews have the unique ability to be able to respond to individual Utility requests because of the cross training they have received performing all the services M.E. Simpson Co. Inc. provides.

Our project manager and personnel have all the equipment and abilities necessary to perform your leak survey and respond to any needs that the Utility may have. We are proud of the work we have performed using the latest technology and meeting the needs of "our customer" the Water Works Industry. We have played an important role in educating utilities about the need for and efficiency of annual water loss programs.

Fire Hydrant Flow Testing Project Understanding

The Village of Sugar Grove, IL is seeking a qualified firm to provide services for a Fire Hydrant Assessment and Flow Testing Program. The program is needed to be able to identify and quantify specific hydrant issues that are occurring in the water distribution system with the end aim of being able to provide specific directions for fire hydrant repair, pressure issues, flow issues and related hydraulic and distribution system concerns.

M.E. Simpson Co., Inc. (MESCO) has been providing Fire Hydrant Flow Testing/Watermain Capacity Testing programs for over twenty-five years.

Fire hydrants are very important components in a water distribution system because they provide fire suppression but serve many other useful functions as well. Hydrants are routinely used for flushing water mains, testing chlorine residuals, street, and sewer cleaning, and providing water for construction purposes.

However, fire hydrants must be operable and capable of always providing adequate fire-flow; that is their primary function. To assure hydrants can be used at any time, a systematic inspection, maintenance, and flow testing program should be in place. By methodically examining every hydrant in a distribution system, problems can be identified and corrected *before* they become catastrophic.

MESCO has been producing successful Fire Hydrant Flow Testing programs in the Chicago metropolitan area, as well as the greater Midwest since 1995 and understands the complexity of implementing long range water distribution system asset management programs. MESCO believes that through this work we have established a proven history of delivery, responsiveness, ingenuity, and environmental stewardship. We share the same mission as the Village of Sugar Grove, IL and are encouraged by the leadership role that the Village of Sugar Grove, IL is assuming towards a holistic approach to address water system challenges.

Valve Project Understanding

The Village of Sugar Grove, IL is seeking a qualified firm to provide services for a Valve Assessment Program. The program is needed to be able to identify and quantify specific valve issues that are occurring in the water distribution system with the end aim of being able to provide specific directions for water valve maintenance techniques that can be employed short term and long term.

M.E. Simpson Co., Inc. (MESCO) has been providing valve assessment programs for over thirty-five years.

MESCO has been providing valve assessments for Chicago suburbs in some cases for over 35 years as well as conducting valve assessments in various locations in the US. Our firm has performed valve assessments on a combined total of over 500,000 valves since 1986. We have provided Real loss and Apparent loss assessments, having assessed over 80,000 commercial/industrial large meters for accuracy as well as leak detection for over 100,000 miles of pipe. Our crews have assessed numerous production water meters (up to 108" in diameter) not only in the Midwest but in several larger cities in the US. Our firm has provided formal water auditing to several cities and towns since 2003 when the IWA/AWWA Water Audit methodology was developed and released for use by the American Water Works Association (AWWA) Water Loss Committee. We have active members on several AWWA committees, including a Past Chair of the Water Loss Control Committee (2010-2014) and past AWWA Vice Presidents and Directors.

MESCO has been producing successful water system maintenance in the Chicago metro suburban area since 1979 and understands the complexity of implementing long range distribution system maintenance programs for several water systems ranging from Water Commissions to individual municipal systems. These services have also been provided to several water utilities from small utilities to some of the largest water utilities including Los Angeles, Chicago, Baltimore, Miami-Dade, Phoenix and Scottsdale. MESCO believes that through this work we have established a proven history of delivery, responsiveness, ingenuity and environmental stewardship. We share the same mission as the Village of Sugar Grove, IL and are encouraged by the leadership role that the South Adams County Water District is assuming towards a holistic approach to address water system challenges.

Leak Survey Project Understanding

The Village of Sugar Grove, IL is seeking a qualified firm to provide services for a Water System Leak Detection Survey. The program is needed to be able to identify and quantify specific leakage issues that are occurring in the water Distribution system with the end aim of being able to provide specific directions for location and ultimate repair of the leaks and an overall reduction in the system's water losses.

SCOPE OF WORK

Fire Hydrant Maintenance Program

The Field Scope of Service for the Fire Hydrant Maintenance is understood to be the following:

Fire hydrants are very important components in a water distribution system. Not only do they provide fire suppression but serve many other useful functions as well. Hydrants are routinely used for flushing water mains, testing chlorine residuals, street and sewer cleaning, and providing water for construction purposes. However, fire hydrants must be operable and capable of providing adequate fire-flow at all times; that is their primary function. To assure hydrants can be used at any time, a systematic inspection and maintenance program should be in place. By methodically examining the hydrants in a distribution system, problems can be identified and corrected before they become catastrophic.

Inspection Process

Hydrants should be inspected on a regular basis, at least once a year. To maintain ISO certification, twice a year inspection needs to be performed. Dry-barrel hydrants require two inspections per year, summer and winter, to mitigate the possibility of water freezing in the barrel. This is especially important in areas with high ground water where proper drainage could be affected.

Insurance ratings and ISO certifications are based in part, on the condition of the hydrants, and how closely they meet the standards for operation. Public safety depends on the ability to identify malfunctioning hydrants and being able to repair them in a timely fashion.

General Hydrant Inspection

- ◆ **Appearance:** The color and condition of the paint, based on the Utilities color scheme, will be assessed. Hydrants that have been displaced due to ground-shifting or collision will be documented, and the Utility notified immediately. If necessary, bollards will be recommended to protect the hydrant from future collisions. Hydrants located very close to roadways and vehicle traffic will be documented, so they can be moved by the Utility.
- ◆ **Accessibility:** A recommendation will be made to raise or lower a hydrant when improper distance from the ground inhibits proper function. Pumper ports and nozzles that do not face the correct direction will be documented, so that the hydrant can be rotated.
- ◆ **Location:** If GPS option is chosen, the exact location will be determined using GPS and "x-y" coordinates, based on permanent local features.
- ◆ **Leakage:** An electronic listening device will be used to ensure that the fire hydrant is not leaking.
- ◆ **Functionality:** The condition of the pumper/nozzle threads and caps will be assessed for damage and proper function and will be lubricated for ease of operation. Dry-barrel hydrants will be checked for proper drainage. The condition of the operating nut will be determined, with regard to excessive wear or rounding. Hydrants that are difficult to operate will be exercised, by repeatedly opening and closing the main valve with the pumper/nozzle caps securely fastened. Hydrants that exhibit evidence of unauthorized operation will be documented so that security devices can be installed to protect against unauthorized usage in the future.

The above is a general description of the type of information gathered during an inspection to determine the condition of the hydrant and would be used to schedule any necessary repairs. Detailed procedures for inspecting

fire hydrants are given below (based on AWWA M17 – ‘Installation, Field Testing, and Maintenance of Fire Hydrants’). Our technicians will use the following methodology when performing hydrant maintenance.

Dry-Barrel Hydrant Inspection & Maintenance Procedure

- Check and record static pressure.
- Check the hydrants appearance. Condition of paint and proper color-coding will be assessed.
- Hydrants that need to be raised or lowered will be documented, as well as accessibility issues.
- Remove one nozzle/pumper cap and, using a listening device, check for main valve leakage. Repair or schedule a repair, as necessary.
- Replace the nozzle/pumper cap, loose enough for air to escape. Open hydrant a few turns, allowing air to vent from loose cap. Tighten the cap.
- Open hydrant fully, checking for ease of operation. Repeatedly exercise the operating stem, as needed, to remove buildup and promote better operation. If lubrication or stem replacement is required, perform or schedule the necessary work.
- With the hydrant fully pressurized, check for leakage around the flanges, nozzles/pumpers, seals, and operating nut. Repair or schedule a repair, as necessary.
- Partially close the hydrant to open the drain outlets, with the caps in place to ensure static pressure against the weep holes.
- Completely close the hydrant, and then turn the operating nut ¼ turn to ½ turn closed to relieve the pressure on the thrust bearing or packing.
- Remove a nozzle/pumper cap and attach a diffuser. Flush the hydrant to remove foreign material.
- Close the hydrant and remove the diffuser. Place your hand over the nozzle/pumper to check for suction as the water drains out of the barrel. For no-drain hydrants, the water must be pumped from the barrel.
- Check for main valve leakage with an amplified listening device.
- Remove all nozzle/pumper caps and inspect the threads. Clean and apply approved lubricant to caps and nozzles/pumpers.
- Inspect cap chains for binding and ease of movement. Unbind or replace, as necessary.
- Replace the caps and tighten them to the Utilities specification.
- Check operating nut lubrication and maintain as needed.
- Inspect breakaway device for damage.
- **Collect or verify the GPS location of hydrant and the “x-y” location to the same GPS requirements of the valve assessments (sub-meter accuracy).**
- Notify the Utility immediately of inoperable hydrants needing major repair.
- Lubrication based on manufacturer’s procedures and recommendations (On fully assembled hydrant)

ISO Requirements

Hydrant maintenance and upkeep is one of many steps leading to ISO certification. ISO certification, with respect to hydrants, requires that a Utility perform hydrant maintenance every six months, including:

- Location and number identification
- Identification of physical damage or defect
- Removing obstructions and debris on or around the hydrant
- Ensure hydrant outlets face the proper direction
- Make sure there is a minimum 15” clearance between lowest outlet and the ground and ensure traffic feature, if present, is visible and above grade to ensure that it works as intended
- Ensure the auxiliary valve is visible
- Determine the condition of paint and correct color code

- All outlets have been cleaned and lubricated
- Determine the status: Public, Private, or Non-Potable hydrant
- Obtain static pressure reading
- Operating stem has been exercised and lubricated per manufacturer's recommendations and procedures
- Hydrant reflectors and markers have been installed and/or repaired
- An amplified listening device is used to check for leaks

M.E. Simpson Co., Inc.'s approach to hydrant maintenance comes directly from the AWWA M17 manual and meets or surpasses all ISO requirements.

Fire Hydrant Flow/Water main Capacity Testing Program

The procedure for hydrant flow testing also known as "fire flow testing" or "main capacity testing" will be the same procedure as described in Chapter 6 of the Fifth Edition of the AWWA M17 manual on Fire Hydrants. This procedure meets or surpasses all ISO requirements.

- The Project Team will plan the flow testing program so hydrants are flow tested near the water source first, then working away from the from the water source in an organized sequence to keep water discoloration and distribution disturbances to a minimum. The "flush" hydrant shall be downstream of the "residual" hydrant (the hydrant being tested), thus insuring proper residual readings for full potential fire flow (re: AWWA M-17 manual, page 41). Dead end hydrants will be flushed but cannot be fire flow tested.
- As a way to gain a better economy of scale for work, the inspection and ISO maintenance procedure described above will be incorporated into the flow testing procedure.
- It may be necessary to conduct parts of the hydrant flow testing during "off hours" such as at night. This may be required in areas of high traffic volume where traffic may affect the ability to conduct safe flow testing, and traffic volume may affect the ability of the Project Team to be able to safely access hydrants on busy streets. The Project Team will give 24-hour advanced notice of intent to flow test hydrants in a particular area that may require after hours work or nighttime work. This is so the Utility can plan for the area to be worked in, give notification to the Police department, as well as other Public Works Divisions as to the activity that will take place.
- The Project Team will use large flushing signs in designated areas to notify the public in the areas to be flow tested and inspected.
- Fire hose and deflection tubes will be utilized, as required, to direct flushing water away from traffic, pedestrians, underground Utility vaults, and private property.
- Calibrated pressure gauges and Polcon® Pacer pressure recorders will be used to determine the static and residual pressure during the flow-testing process while ensuring that the distribution system pressure remains above 20 psi. Any incidents of the distribution system being unable to supply a residual of 20 psi in the surrounding area will be brought to the immediate attention of the Utility Superintendent.
- All pressure gauges used in the field will undergo **daily testing** against a "standard" gauge to ensure the field gauges are accurate during the flow-testing project. Any gauges that are found to not be within acceptable limits will be replaced. This will insure the observed static and residual pressures are accurate and reliable.
- All of the pertinent information for each fire hydrant that is flow-tested will be documented. This data is critical to establishing an ongoing flow-testing and maintenance program. The following is a list of the information gathered.
- Fire Hydrant nozzle size used for each test will be recorded
- Static Pressure will be recorded for each Fire Hydrant

- Residual Pressure will be recorded for each Fire Hydrant tested
- Flow, GPM (Gallons Per Minute), will be recorded for each Fire Hydrant flowed
- The amount of time it takes to flush each Fire Hydrant will be recorded. An estimate will be made of the amount of water used during the operation of each Fire Hydrant test
- Fire Hydrants that are in need of repair, painting, color coding, or have operation defects will be noted with an estimate of repairs needed to make the hydrant operational.
- The date tested and technicians operating the Fire Hydrant will be recorded.
- The Fire Hydrant address or location will be recorded.
- GPS ("X,Y") coordinates for each hydrant will be taken with sub-meter accuracy
- Elevations will be taken based from the GPS ("Z") coordinates and verified using GIS.
- After each Fire Hydrant has been flushed, the Project team will verify that the hydrant is seated and is draining properly. The Project Team will use an FCS S30 or Gutermann Aqua Scope electronic listening device to ensure that the hydrant is not leaking. A majority of fire hydrant leaks go un-noticed because they are small leaks draining out through the drain holes at the base of the hydrant. Using these devices will help eliminate this type of leakage.

Fire Hydrant Operation

M.E. Simpson Co., Inc. takes great care when operating the customer's fire hydrants in their water distribution system. Even with our years of proven experience in water system operations problems occasionally occur. Any valves or fire hydrants that break or fail during the maintenance program will be repaired or replaced at the expense of the water Utility. M.E. Simpson Co., Inc. cannot be held responsible for possible valve or hydrant failures during their operation. M.E. Simpson Co., Inc. cannot be held responsible for damage done to the water system during the fire hydrant maintenance program, such as water leaks, discolored water and turbidity that can possibly occur during the maintenance process. M.E. Simpson Co., Inc. cannot be held responsible for possible damage to the water utilities' individual water customer.

NFPA Color Coding Standards

Municipal, Private, and Non-Potable fire-hydrants should not be painted the same color (the body of the hydrant) according to the NFPA. Each of the three types should follow the color code listed below. The bonnet and nozzle/pumper caps are also to be color-coded according to the hydrants' rated flow rate at 20 psi (see below).

The NFPA has published standards regarding the color coding of fire hydrants (NFPA 291). The scheme is as follows:



<u>Supply</u>	<u>Body Color</u>
Municipal System:	Chrome Yellow
Private System:	Red
Non-Potable System:	Violet (Light Purple)

Hydrant ratings at 20 psi.

Class C	Less than 500 GPM	Red
Class B	500-999 GPM	Orange
Class A	1000-1499 GPM	Green
Class AA	1500 GPM & above	Light Blue

Utility Observations

The M.E. Simpson Co., Inc. Project Team will welcome having staff of the Utility observe field procedures while the maintenance program is in progress. They will be happy to explain and demonstrate the equipment and techniques that are employed by M.E. Simpson Co., Inc. for fire hydrant maintenance. This may be useful for the staff of the Utility in understanding the parameters of hydrant maintenance.

Final Reports, Documentation & Communications

M.E. Simpson Co, Inc. will perform the following:

- ◆ Project Team will **meet daily** with assigned Utility personnel to go over areas of hydrant maintenance for prior workdays and plan current day.
- ◆ At the end of each day, or as requested, a list of any broken or inoperable valves or hydrants will be turned in.
- ◆ Hydrant location will be documented from existing landmarks and will be a part of each Hydrant record.
- ◆ Information collected by M.E. Simpson Co., Inc. during the program and any other information provided by the Utility shall be regarded as CONFIDENTIAL and will not be shared without permission from the Utility or unless required by law.
- ◆ **Prepare the final report** at the completion of the project which will include all Fire Hydrant Maintenance Testing reports, other problems found in the system during the course of testing that need the attention of the Water Utility. **This final report shall be made available for submission to the Water Department within thirty (30) workdays of the completion of the fieldwork.**

Effective communication...
accurate documentation...
**Ensuring the success for
the fire hydrant assessment
and flow testing**

Assumptions & Services Provided by the Utility

- ◆ The Utility will furnish, in an electronic format, all maps, atlases, (two copies) and records necessary to properly conduct the flow testing program.
- ◆ The Utility will make available, on a reasonable but periodic basis, certain personnel with a working knowledge of the water system who may be helpful with general information about the water system. *This person will not need to assist the Project Team on a full-time basis, but only on an "as needed" basis.*
- ◆ The Utility will supply information regarding pressure zone boundary valves, and any other information that may make the job of flow testing easier to perform.
- ◆ The Utility will assist, if needed, to help gain entry into sites that may be difficult to enter due to security issues or other concerns.

SCOPE OF WORK

Valve Assessment Services

The Field Scope of Service for the Valve Assessment Services Program is understood to be the following:

M.E. Simpson Co., Inc. will furnish all labor, material, transportation, tools, and equipment necessary to perform valve assessments on the water distribution system. M.E. Simpson Co., Inc. shall be required to provide such skilled and trained personnel and equipment necessary to complete the work herein specified.

There will be a minimum of Two Persons per team always performing the valve assessments.

- ◆ Work in an orderly and **safe** manner to ensure protection of the local residents, Utility employees, and the Field Staff so that no **avoidable** accidents occur.
- ◆ All Field Staff will have readily observable identification badges worn while in the field. All vehicles used in the field will have company signs attached.
- ◆ The valve equipment to be used will be that which is described in the "Equipment to be used" section.
- ◆ Project Team Personnel will **meet with the Utility to review the project** guidelines and answer any questions on procedures.
- ◆ Any **pressure zones** in the distribution system will be identified on the water atlas prior to developing the valve assessment program. This will need to be done with distribution personnel prior to the start of the program to avoid having pressure zone problems due to valves opened when they need to be closed.
- ◆ As a part of the valve program, mapping discrepancies found on the current water atlas will be noted and included as a part of the final report so the Utility can make needed corrections. This will be included as a part of the periodic reporting to the Utility, thus enabling the Utility to keep up with mapping corrections.
- ◆ A progression map shall be maintained for each section under study indicating valves assessed on the map. This will be especially helpful in quickly determining the work progress of the crews in the field.
- ◆ It may be necessary to conduct parts of the valve assessment during "off hours" such as at night. This may be required in areas of high traffic volume where traffic may affect the ability to conduct safe valve assessment, and traffic volume may affect the ability of the Project Team to be able to safely access valves on busy streets. The Project Team will give 24-hour advanced notice of intent to operate valves in a particular area that may require after hours work or nighttime work. This is so the Utility can plan for the area to be worked in, give notification to the Police department, as well as other Public Works Divisions as to the activity that will take place.

Valve Location

The Project Team will:

- ◆ **Examine the water maps** to determine the anticipated location of each water valve.
- ◆ **Attempt to verify** the existence of all water valves shown on the water maps by visual inspection.
- ◆ **Search for water valves** shown, but not identified by visual inspection, using a magnetic locator, probing rods and other tools.
- ◆ **Employ a combination** of recorded information, manual and technical testing techniques as needed to establish the location of remaining water valves.

- ◆ **Identify locations where a water valve is expected**, but not shown on the water map, and proceed through verification and search process.
- ◆ **Two attempts shall be made to locate “lost” valves** before these are turned into the Utility for location. The Project Team will ask permission to trace existing water mains by means of line locating equipment to establish the configuration of existing water mains and probable location of water valves should search by magnetic locator fail. If the Utility cannot locate the valve within five working days, The Project Team shall be paid for the attempted locate.
- ◆ **Valve enclosures will be vacuumed and cleaned** to expose the operating nut.
- ◆ **Corrections to the Utility maps** shall be drawn on the paper maps provided by the Utility and returned to the Utility after the project is completed.
- ◆ **Located valve boxes or valve vault covers** shall be painted with an environmentally formulated **precautionary blue paint** for future identification.

GPS Valve Location

Once the valves have been located, the Project Team will perform the following for valves that do not already have GPS coordinates:

- ◆ **The Project Team will collect GPS Coordinates** of all valves assessed using the above “Scope of Work”
- ◆ The Project Team will work with the Utility to develop a “data dictionary” which will define the information to be collected for each attribute. The Data dictionary shall have the following but not limited to:
 - Date and time the information was gathered.
 - The unique identifying number for each attribute consistent and compatible with system presently employed by the *Utility*.
 - Location for each attribute referenced by Northing and Easting coordinates generated from the GPS location in the Utility’s local State Plane Coordinate system.
 - Type of Attribute (mainline valve).
 - Offset information if the attribute needs to have the location determined by an offset coordinate due to blocked signals from the GPS satellites.
 - Any other data required to be collected as part of the attribute data set as defined by the Data Dictionary. This Data Dictionary will be assembled by the Project Team and the Utility.
- ◆ **The accuracy of each GPS location will be sub-meter.**
- ◆ **GPS locations will need to have readings** from at least four satellites in position and a reading from a local GPS beacon, or five satellites for the position to be considered accurate as a differentially corrected GPS location.
- ◆ **Position of the GPS satellites shall be given primary consideration.** The position of the satellites shall be recorded as part of the data. If the satellites are low on the horizon, it is expected that the project team will wait until the position is better before attempting to gather the GPS position.
- ◆ **The information collected** will be compiled into the **Utility** preferred software database with the ability to export the information into a format acceptable to the Utility such as Microsoft Access, Microsoft Excel, .DXF file, or .SHP file for use in the Utility’s GIS system or CAD mapping program, and also included



in the Polcon Pro Valve® database. We can export our data into any database that supports open data connectivity.

- **All locations will be differentially corrected** for accuracy in real-time. A data transformation will be done on the GPS points taken to ensure they are in the correct coordinate system requested by the utility. Our field teams utilize Trimble® R1 units for sub-meter accuracy and Trimble® R2 units for sub-foot accuracy. The level of accuracy taken will be based upon the above scope of work.

Documentation of GPS Valve Locations

M.E. Simpson will provide a location report for each documented valve located, and/or a database, in a cloud-based electronic format agreed upon between the Utility and M.E. Simpson Co., Inc.

- The GPS location data collected will be exported into a database for Utility use
- The GPS data collected shall include but is not limited to the following information:
 - a. *Identifying number consistent and compatible with system presently employed by the Utility.*
 - b. *Location referenced by coordinates using the **Village of Sugar Grove, IL Coordinate System**.*
 - c. *Location by street and cross-street names.*
 - d. *Type of structure.*
 - e. *Date and time data was collected.*

Valve Exercising

The Project Team will:

- Operate selected valves in accordance with the AWWA manual M-44, "Distribution Valves: Selection, Installation, Field Testing and Maintenance"
- Attempt to operate each of the valves manually.
- Valves requiring an operating torque greater than one hundred (100) foot-pounds shall be operated by a portable and/or truck mounted hydraulic valve machine. The valve operators used by the Project Team have torque-limiting capabilities that allow incremental settings from fifty (50) to twenty-five hundred (2500) foot-pounds of torque.
- The machine shall be solely and completely dependent upon the operator for continuous control of direction and torque, otherwise known as "non-locking" or "torque limiter" capability.
- All valves will be operated with the minimum torque required preventing valve damage.
- Maximum torques shall be as follows:
 - 4" gate valves – 300 ft. lbs.
 - 6" and larger gate valves – 600 ft. lbs.
 - Butterfly valves – 200ft. lbs.
- During initial valve closure, the valve will be turned no more than five (5) turns before turn direction is reversed to two (2) turns, thus allowing the threads of the stem and gate to free themselves. This closure and partial reversal process shall be repeated until the valve has achieved full closure.
- The valves will then be operated from full open to full closure until such time as this can be done without further turn range improvement or no further reduction in the required operating torque is noted, through a **minimum of two (2) consecutive ranges of operations and a maximum of seven (7) operations.**
- **The Project Team shall notify the Water Superintendent**, of intent to operate a certain group of water valves. The Team shall obtain permission to perform the work, at least twenty-four (24) hours or one (1) working day in advance of the intended start of that work.
- **Valves found in the closed position** shall be reported to the Utility immediately so verification can be made for operating or not.

- **Valve vaults and boxes shall be cleaned or pumped out** to gain access to the valve and for inspection of the operating nut.
- **If there is reasonable evidence that a valve might break during the operating process, the Utility will be notified immediately, and a decision will be made by the Utility to attempt or not to attempt the process. Any valves that fail or break during operation will be repaired or replaced by the Utility. The Project Team cannot be held responsible for possible valve failures during the operating procedure.**

Documentation of Valve Operating

- All of the pertinent information for each valve that is exercised will be documented in the Utility's GIS system supplied by the **Village of Sugar Grove, IL**. The following is a list of the information gathered.
 - *Facility ID, Inspection Company, Ground Surface, Depth to Nut (Ft), Operating Position Found, Diameter, Valve Type, # of Turns, Name of Operator, Valve Leaking?, Stem OK?, Packaging OK?, Lube Req'd, Other Maint Req'd, Notes, Cleaning Required, Location Description, Valve Condition, Date Exercised, Box Type, Current Operating Position, Designator, Operator (Other), Operating Nut OK?, Exercise Completed, Reason Could Not Complete, Reason Could Not Complete Details.*

Valve Operations

Our Project Team takes great care when operating and operating valves in the water distribution system. Even with our years of proven experience in water system operations problems occasionally occur. Any valves that break or fail during the assessment program will be repaired or replaced at the expense of the water Utility. The Project Team cannot be held responsible for possible valve failures during their operation due to pre-existing conditions. The Project Team cannot be held responsible for damage done to the water system during valve operating, such as water leaks, discolored water and turbidity that can possibly occur during the process.

Final Reports, Documentations & Communications

M.E. Simpson Co, Inc. will perform the following:

- Project Team will **meet daily** with assigned Utility personnel to go over progress for prior workday and plan current day and area of valves to be operated.
- **Document all valve operating and locating** as indicated in the **"Scope of Work"**.
- **Maintain a progression valve report** of the project indicating valves operated.
- **Valves found with problems** shall be documented and turned into the assigned Utility personnel daily so the Utility can make the necessary corrections so the valve can be turned.
- **Prepare the final report** at the completion of the project which will include all valve documentation per **"Scope of Work"** for the Utility, for the total number of valves operated, valves requiring maintenance, as well as other problems found in the system during the course of the program that need the attention of the Water Utility. This report shall be made available for submission to the Utility within thirty (30) days of the completion of the fieldwork.
- **The equipment used** will be that which is described in the "Equipment to be used" section.

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accurate documentation...
**Ensuring the success for
the leak detection survey**

Assumptions and Services Provided by the Utility

- The *Utility* will furnish all maps, atlases, (two copies) and records necessary to properly conduct the valve-operating program.
- The *Utility* will provide records such as old valve cards or any additional information that would make the valve location and operating easier to perform. This information shall be regarded as **CONFIDENTIAL** by the Project Team and will not be shared with anyone outside of the Water Utility without consent of the Water Utility.
- The *Utility* will notify other departments in the Utility, town, or Utility as to the activity of valve operating so that various departments are aware that a program is in progress. This is to ensure that if there should be a problem with part of the distribution system, notification can be made promptly.
- The *Utility* will also make available, on a reasonable but periodic basis, certain personnel with a working knowledge of the water system who may be helpful in attempting to locate particularly hard-to-find valves and for general information about the water system. *This person will not need to assist the Project Team on a full-time basis*, but only on an “as needed” basis.
- The Utility will assist, if needed, to help gain entry into sites that may be difficult to get into due to security issues or other concerns. This may be required of areas where distribution mains run in easements on private property.
- The Utility will provide all Valve ID numbers, type of valve (if known), Map page numbers or grid number, and any other additional information that can aid in helping the overall success of the program.

Valves to be Assessed

Reports, Documentation & Communications

- Project Team will **meet daily** with assigned Utility personnel to go over areas of valve assessments for prior workdays and plan current day and next two days’ areas to flow test.
- At the end of each day, or as requested, a list of any broken or inoperable valves will be turned in.
- Each step of the valve assessment program will be identified in a valve report.
- Maintain a progression map to be included with the final report of the project indicating areas where valve assessments have been performed
- The Utility will be provided with valve assessment information
- Information collected by the Project Team during the program and any other information provided by the Utility shall be regarded as CONFIDENTIAL and will not be shared without permission from the Utility or unless required by law.
- Develop a log of activity to be included with the final report that will include the following:
 1. Type of problems observed
 2. Location of same for problems discovered
 3. Mapping errors on the water atlas
- **Prepare the final report** at the completion of the project which will include all valve assessment reports, other problems found in the system during the course of flow testing that need the attention of the Water Utility. **This final report shall be made available for submission to the Water Department within thirty (30) workdays of the completion of the fieldwork.**

Assumptions & Services Provided by the Utility

- The Utility will furnish, in an electronic format, all maps, atlases, (two copies) and records necessary to properly conduct the flow testing program.

- The Utility will make available, on a reasonable but periodic basis, certain personnel with a working knowledge of the water system who may be helpful with general information about the water system. *This person will not need to assist the Project Team on a full-time basis, but only on an “as needed” basis.*
- The Utility will supply information regarding pressure zone boundary valves, and any other information that may make the job of flow testing easier to perform.
- The Utility will assist, if needed, to help gain entry into sites that may be difficult to enter due to security issues or other concerns.

Equipment to be Used

The following equipment will be used for valve operation and maintenance work during the Valve Exercising and Assessment program for the Utility. All materials listed will be always on the job site.

- All necessary hand tools
- Truck mounted Arrow Board/Signage, and warning lights on trucks
- Traffic control equipment, including properly sized traffic cones with reflective stripes, when needed or required
- A “Schonstedt”/ “Chicago Tape” magnetic locator
- Truck mounted or trailer mounted hydraulic valve operator with adjustable torque control
- Portable hydraulic valve operator adjustable torque control
- Truck mounted or trailer mounted Vacuum capable of 300 CFM
- Trucks are equipped with either a Honda 6.5 horsepower pump capable of discharging 150 GPM or a Stanley Hydraulic pump capable of discharging 450 GPM
- Extendable valve keys for manual operation

SCOPE OF WORK

Water Distribution System Leak Survey

The Field Scope of Service for the Leak Detection Survey is understood to be the following:

M.E. Simpson Co., Inc. will furnish all labor, material, transportation, tools, and equipment necessary to survey the water system areas selected by the city. M.E. Simpson Co., Inc. shall be required to provide such skilled and trained personnel and equipment necessary to complete the work herein specified.

There will be a minimum of Two Persons per team working on the survey at all times.

- ◆ Work in an orderly and **safe** manner to ensure protection of the local residents, Utility employees, and the Field Staff so that no **avoidable** accidents occur.
- ◆ All Field Staff will have readily observable identification badges worn while in the field.
- ◆ The leak detection equipment to be used will be that which was described in the "Equipment to be used" section.
- ◆ Initially listen to **all fire hydrants, all accessible main line valves**, and when necessary, selected service connections in the entire Distribution system by making physical contact with the valve, hydrant, pipe, or B-box. (Listening points that are not accessible will be given to the Utility and when corrected they will be listened to.)
- ◆ Listening points of contact will be valves, hydrants, service valves or meter settings. The preference of listening points in order as follows, direct contact with the pipe, main line valves, hydrant valves, hydrants, then service valves or meter settings.
- ◆ Specific listening distances will be determined by pipe material. Metallic type pipes; no greater than 500' between listening points. Non-Metallic AC/Concrete type pipes; no greater than 300' between listening points. Non-Metallic PVC/HDPE type pipes; no greater than 150' between listening points.
- ◆ A "suspected leak" log shall be maintained indicating all areas where suspected leak noise was heard. This log will be reviewed when the Project Team is verifying the suspected leak area for confirmation of the actual existence of a leak. This log will be a part of the periodic reports turned into the Utility regardless of an actual leak located in the area or not, **with an explanation of the noise source.**
- ◆ When leak noise has been detected and or suspected, the Project Team will verify the suspected area a second time to confirm the noise. At least four hours will pass between the initial listening of the area before a second listen and confirmation is attempted.
- ◆ The Project Team will **line locate** the water main and service lines in the immediate area so the correct pipe distances can be input into the leak correlator and also so that the Water Utility will have an idea of where the water main is located prior to excavation. Non-metallic pipe locations will be "interpolated" as best that can be identified, given the line location of metallic services, Utility knowledge of the area, or other information regarding the actual location of the main.
- ◆ The Project Team will use "State of the Art" **Electronic Leak Correlators** to determine if a leak is present and use the same equipment to pinpoint the leak.
- ◆ For PVC water mains only the Echologics LeakFinder-ST w/hydrophones leak correlator or Fluid Conservation Systems (FCS) TriCorr Touch Pro leak correlator, will be used for correlations because of the ability for these correlators to be able to analyze the particular sound frequencies inherent to PVC pipe.

- The leak location will be marked in the field (on the surface) using environmentally formulated Precautionary Blue paint.
- The Project Team will document all leak locations with a diagram indicating the location of the leak. Other information related to that correlation will be included as part of the field sheet such as the filters used for the correlation, line locations, distances between sensors, etc.
- The locations of leaks requiring immediate attention (immediate threat to life, injury or traffic) will be turned in as quickly as possible to facilitate the repair process.
- The Project Team will report daily or per request of the Utility, to assigned Utility Professional and go over the progress of the previous day, as well as cover what will be surveyed the current day.
- It may be necessary to conduct parts of the Leak Survey during “off hours” such as at night. This may be required in areas of high traffic volume where traffic noise may affect the ability to detect leak noise, and traffic volume may affect the ability of the Project Team to be able to safely access main line valves in the middle of the street. The Project Team will give 24-hour advanced notice of intent to survey a particular area that may require after hours surveying or nighttime surveying. This is so the Utility can plan for the area to be surveyed, give notification to the Police department, as well as other Public Works Divisions as to the activity that will take place.
- As a part of the leak program, mapping discrepancies found, Distribution assets found in disrepair will be noted and turned into the utility.
- Leaks verified on the customer’s side of a service shut-off will not be located beyond the shut-off. If a leak appears to be on the Customers’ side, the Utility will be notified first, then the customer notified and permission granted prior to the water being shut off even for short periods of time where possible and as time allows, as well as the ability for the customer to respond.
- If the Utility requests leak locations beyond the service shut off on the customer’s side of the service line, this will result in an additional charge to the leak survey based on an hourly rate and this service must be agreed upon between the Utility and M.E. Simpson Co., Inc. prior to the start of the survey.
- Valves and hydrants will not be operated without Utility permission. Valves and hydrants that break during this type of operation are the sole responsibility of the Utility. M.E. Simpson Co., Inc. cannot be responsible for valves and hydrants that break due to pre-existing conditions.
- The Utility is encouraged to dig up and repair the leaks located as soon as possible so that the area may be re-surveyed while the Project Team is still working on the survey in that general geographical location to ensure no other leaks are present in that area.

Equipment List

- FCS **S30** Gutermann **AquaScope** electronically enhanced listening device.
- Echologics **LeakFinder-ST w/hydrophones**; FCS **TriCorr Touch Pro** or Vivax-Metrotech **HL6000X** leak correlator systems.
- **RADIO Detection** Line Locators.
- **Chicago Tape, Fisher M-Scope** or **Schonstedt** magnetic locators.
- **All necessary valve keys and hand tools.**
- Truck mounted arrow board/signage and warning lights.
- Traffic control equipment, including properly sized traffic cones with reflective stripes.

Quality Control and Accuracy of Leak Locations

The level of accuracy of leak detection is a matter of taking in all the above considerations and applying those considerations to each individual potential leak location as it is being evaluated. Any statement made

as to the level of accuracy of leak locations must be considered based on the individual conditions of each leak.

Locating leaks on a Distribution system can be very challenging. It is not a perfect science. Pipes and fittings can leak for a variety of reasons (age, poor installation, material failures, bad soils, etc.), and the ability to locate leaks is dependent on the stated variables listed in the "Project Approach". By employing a strict methodology in the field for conducting a leak detection survey, these variables can be accounted for and mitigated. The depth of experience of the Project Team is extremely important to maintaining the ability to have accurate locations of leaks. Additionally, crews work as Two-Person Teams in the field, double checking the progress of the work as the survey progresses. The systematic procedure for leak confirmation has been stated in the Scope of Field Service and is restated here.

"Suspected leak areas are always listened to a second time, preferably at a different time of day than originally listened to. The mains and services will be line located to ensure correct pipe distances are used for the correlations. Correlations may need to be performed several times with several configurations to ensure all the possible scenarios have been covered. Sewer manholes may need to be opened and flows observed. If there is any doubt as to the existence of a leak, the area may be checked and correlated at different times to rule out water usage or other factors. The progress of the survey will be monitored by the use of daily logs and a progression map with suspected leak noise indications marked and possible leak locations will be maintained. Field leak location forms will be turned into the Utility according to the agreed schedule. The Project Team will follow up on leak locations by monitoring the repair schedule of the Utility. That way in case a potential leak location is wrong, the Project Team can return to the site and determine why the leak location was incorrect and correct it. This means maintaining a good level of communication between the Project Team in the field, and the Utility.

As a matter of Quality Control for leaks in the field, our Correlators, FCS TriCorr Touch Pro and Echologics LeakFinder-ST have the distinct ability to be able to detect and pinpoint more than one leak in the same relative area, thus allowing better leak coverage and insuring that one leak is not "masking" another leak in the same area. The use of progress reports and meetings will allow for open discussions of problems encountered so solutions can be examined."

GPS Leak Location

Once the leaks have been located, the Project Team will perform the following for leaks that do not already have GPS coordinates:

- **The Project Team will collect GPS Coordinates** of all valves assessed using the above "Scope of Work"
- The Project Team will work with the Utility to develop a "data dictionary" which will define the information to be collected for each attribute. The Data dictionary shall have the following but not limited to:
 - Date and time the information was gathered.
 - The unique identifying number for each attribute consistent and compatible with system presently employed by the *Utility*.
 - Location for each attribute referenced by Northing and Easting coordinates generated from the GPS location in the Utility's local State Plane Coordinate system.
 - Type of Attribute (mainline valve).
 - Offset information if the attribute needs to have the location determined by an offset coordinate due to blocked signals from the GPS satellites.
 - Any other data required to be collected as part of the attribute data set as defined by the Data Dictionary. This Data Dictionary will be assembled by the Project Team and the Utility.

- **The accuracy of each GPS location will be sub-meter.**
- **GPS locations will need to have readings** from at least four satellites in position and a reading from a local GPS beacon, or five satellites for the position to be considered accurate as a differentially corrected GPS location.
- **Position of the GPS satellites shall be given primary consideration.**
The position of the satellites shall be recorded as part of the data. If the satellites are low on the horizon, it is expected that the project team will wait until the position is better before attempting to gather the GPS position.
- **The information collected will be compiled into the Utility preferred software database with the ability to export the information into a format acceptable to the Utility such as Microsoft Access, Microsoft Excel, .DXF file, or .SHP file for use in the Utility's GIS system or CAD mapping program, and also included in the Polcon Pro Valve® database. We can export our data into any database that supports open data connectivity.**
- **All locations will be differentially corrected** for accuracy in real-time. A data transformation will be done on the GPS points taken to ensure they are in the correct coordinate system requested by the utility. Our field teams utilize Trimble® R1 units for sub-meter accuracy and Trimble® R2 units for sub-foot accuracy. The level of accuracy taken will be based upon the above scope of work.
- GPS leak location is considered an **optional** service and is not to be assumed as included in the line item for leak detection services found on the investment page of this proposal unless otherwise specified. If the Utility decides to include GPS collection, it will be listed under a separate line item on the investment page unless otherwise specified. If GPS collection is included in the line item for leak location services found on the investment page, only one (1) accurate GPS point will be included per leak in the Utility's distribution system. Re-GPS'd leaks requested by the Utility that have already been GPS'd by M.E. Simpson Co., Inc. with a verified accuracy level will be an additional charge.



Utility Observations

The M.E. Simpson Co., Inc. Project Team will welcome having staff of the Utility observe field procedures while the Leak Detection Survey is in progress. They will be happy to explain and demonstrate the equipment and techniques that are employed by M.E. Simpson Co., Inc. for detecting and locating leaks on the Water System.

Final Reports, Documentations & Communications

M.E. Simpson Co, Inc. will perform the following:

- Project Team will **meet daily** with assigned Utility personnel to go over areas of survey for prior workday and plan current day and area to survey.
- The field technicians will be readily available by cellular phone. This will facilitate communications between the Utility and the field technicians. A **24-hour toll-free 800 number** is available for direct contact with M.E. Simpson Co., Inc. for emergencies.

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the leak detection survey**

- **Diagram all leak locations**, date of location, and classify according to severity and an estimate of loss.
- **The Project Manager will** meet with the Utility regularly for a progress report.
- **Prepare a progress report** at monthly intervals for the Utility if requested.
- Develop a **Leak Survey log** of activity which will also have confirmed leaks listed and this list will be turned in weekly (in the Utility preferred format). The list will also be included with the final report that will include the following:
 1. Mechanical deficiencies discovered.
 2. Mapping errors on the water atlas.
 3. Type of monitored appurtenances.
 4. Location of same for leaks discovered.
 5. Total estimated loss
- Provide a paper map with numbered location IDs and ArcGIS files showing a point location for each leak. The ArcGIS shapefile/geodatabase shall include the following attribute fields:
 1. Location per sub-meter GPS.
 2. Date of leak test.
 3. Estimated severity in GPM.
 4. Notes (as applicable).
- **Prepare the final report** at the completion of the project which will include all leak location reports with drawings, total of estimated water loss, total pipe distance investigated, a description of the area surveyed, and other problems found in the system during the course of the survey that need the attention of the Water Utility. The leak summary will list leak types such as main leaks, service line leaks, valve leaks, or hydrant leaks.
- A cost benefit analysis of the survey based on the “cost to produce” water will also be included that describes the financial impact to the Utility for water loss. Recommendations for system maintenance will be a part of this report based on field observations made during the survey. **This final report shall be made available for submission to the Utility within thirty (30) working days of the completion of the fieldwork.**

Assumptions & Services Provided by the Utility

- The Utility will provide access to documents, records, electronic and paper maps, and data sources. These detailed items are necessary to properly conduct the water Distribution system leak survey. These will include:
 1. ArcGIS Online internet mapping application, which allows on-screen distance measurements.
 2. Exported copy of the Utility’s water GIS database in shapefile or other ESRI-compatible format.
 3. Electronic version of the Village-wide map in PDF format.
 4. PDF versions or paper copies of detailed engineering drawings only as needed and available.
- The Utility will assist as necessary to clean out service valves, meter pits and valve-boxes needed for listening.
- The Utility will provide a Primary Contact Person and/or secondary contact person for the Field Staff to report to on a periodic basis. This person shall act as the official liaison for the duration of the Leak Survey. This person shall have a working knowledge of the water system and will be helpful in attempting to locate particularly hard-to-find water valves for listening and for general information about the water system. **This person will not need to assist the Project Team on a full-time basis**, but only on an “as needed” basis.

- The Utility will assist, if needed, to help gain entry into sites that may be difficult to get into due to security issues or other concerns.
- The Utility will assist, if needed, to locate all nonmetallic pipe within the service area. This would include all Concrete Cylinder pipe, Asbestos Cement Pipe, PVC pipe and HDPE pipe.
- We will encourage the immediate digging of major leaks (main breaks) so that if there are problems with the leak location, the problems can be corrected while the Project Team is close by and can verify the site.

PROJECT SAFETY PLAN

M.E. Simpson Co., Inc.'s Safety Programs cover all aspects of the work performed by M.E. Simpson Co., Inc. We take great pride in our safety plan/policy/program and that is evident in our EMR scores over the last five years. The safety of our employees, the utilities employees and that of the general public is our #1 priority.

Our Safety Plan/Policy/Program, with all its parts, is 60 pages in length. In an effort to be more efficient and less wasteful we do not print copies of the safety program for RFPs. There is nothing secretive or proprietary contained within our plan/policy/program and we are happy to share its contents. If you would like a PDF copy of our plan/policy/program please contact Terrence Williams, Operations Manager, at 800.255.1521 and a copy of our program will be sent via email to you.

Below is an overview of our plan/policy/program:



Safety is a major part of any project. M.E. Simpson Co., Inc. always provides a safe work environment for its employees. **Our staff is trained in General Industry OSHA rules, Confined Space Entry & Self-Rescue, First Responder First Aid, CPR, and Traffic Control.** While in the field on your project, M.E. Simpson Co., Inc., and its employees will follow all the necessary safety procedures to protect themselves, your staff, and the general public.

M.E. Simpson Co., Inc. uses Two-Man Teams for Safety and Quality Assurance.

The use of a "one-person" leak detection team is dangerous and impractical where water mains run under roadways. It would be a dangerous precedent to allow a "one-person" team to access main line hydrant located in the roadway, attempt to listen to the valve with headphones on, and at the same time try to control traffic flow at that person's location in the street.

Therefore M.E. Simpson Co., Inc. adheres to the following:

- The Project Manager and the Field Manager will be trained in accordance with OSHA Standard 1910 (General Industry) and be in possession of an OSHA 10 Hour or 30 Hour Card.
- Any listening points located in a "confined space" such as pit and vault installations that **require entry** will be treated in accordance with the safety rules regarding **Confined Space Entry, designated by the Utility, The Department of Labor and OSHA.**
 - All personnel are **trained and certified** in Confined Space Entry & Self-Rescue.
- We will follow all safety rules regarding **First Responder First Aid & CPR, designated by the Utility, The Department of Labor and OSHA.**
 - All personnel are **trained and certified** in First Responder First Aid & CPR.
- We will follow all **traffic safety rules, designated by the Utility, The Department of Labor, OSHA, and the State/Local Department of Transportation (per MUTCD).**
 - All personnel are **trained and certified**, by the **AMERICAN TRAFFIC SAFETY SERVICES ASSOCIATION (ATSSA)** in Traffic Control and Safety.

Current documentations of safety training and certifications can be provided for all project personnel for the Utility. These certifications are current and up to date (for 2022) for all project personnel.

INDUSTRY KNOWLEDGE / ADDITIONAL INFORMATION

At MESCO, services are tailored to the specific needs of our clients. Our participation can range from the small specialized work supplementing the work of any in-house staff, to complete development of full-scale water system programs.

With continuation and enhancement of the Village of Sugar Grove, IL Water System Assessment Program, we will support a fundamental cornerstone of the Village of Sugar Grove, IL Water Distribution System Policies. Our team brings to the Village of Sugar Grove, IL a demonstrated experience and a unique perspective in fire hydrant assessment and flow testing, valve assessments and leak detection services.

From MESCO's in depth experiences working with several water utilities performing fire hydrant assessment and flow testing, valve assessments and leak detection services there have been some very similar issues from each utility that have been clearly exposed. Utilities expect the work process to be able to be performed at a high level, with competent technicians and staff, and that it is done efficiently. There are three basic objectives that should be met by the Project Team:

1. **Expertise.** The Village of Sugar Grove, IL needs breadth and depth to help solve the variety of water system challenges that it faces in maintaining the water infrastructure – which is large, complex, aging and requiring upgrading to address new water needs and water hydraulic issues. With our Team's experience in every aspect of water distribution system optimization, we can often provide support that assists the utility in avenues well beyond just the fire hydrant project, valve project and leak project scopes.
2. **Streamlined Access.** The Village of Sugar Grove, IL needs to be able to easily access and manage the Project Team's expertise to bring it to bear on distribution system fire hydrant, valve and leak issues rapidly and with the least possible administrative burden to the Village of Sugar Grove, IL staff. However, the Village of Sugar Grove, IL will need to have considerable input to the process by providing needed data for planning, assessing, testing and documentation. In this respect, interaction with utility staff will be needed to produce a quality water system assessment program effort.
3. **Professional Working Relationships.** The Village of Sugar Grove, IL must be confident that the Project Team is working as true professionals – putting the Village of Sugar Grove, IL interest first. The professionals in the Village of Sugar Grove, IL organization must have good working relationships with MESCO's professionals. Both parties should look for opportunities to complement each group's goals and ultimate requirements of the Village of Sugar Grove, IL customers.

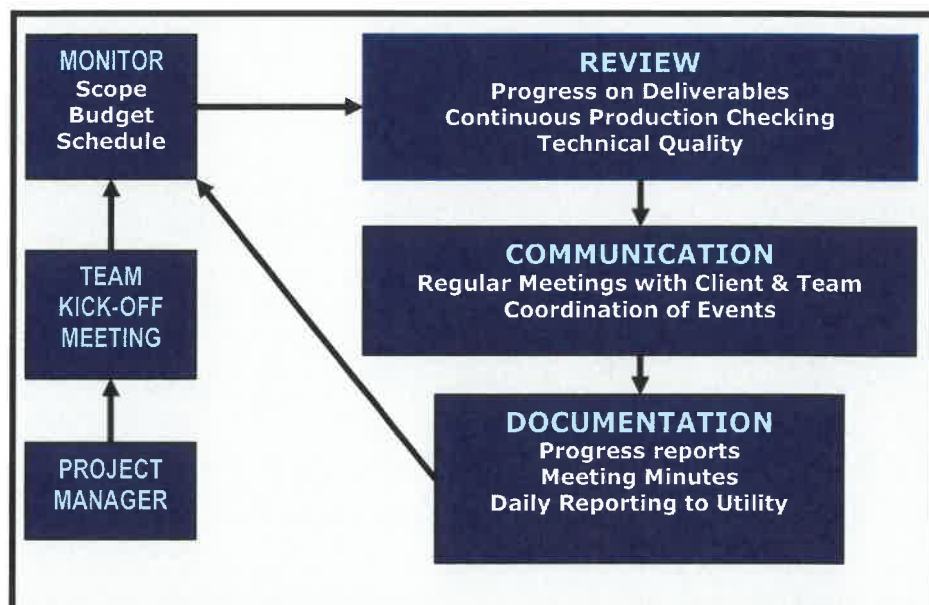
The strengths of the M.E. Simpson Co., Inc.'s organization and staff, as well as our specific approach to this assignment, will fulfill all of the Village of Sugar Grove, IL needs for their Fire Hydrant Assessment and Flow Testing, Valve Assessment and Leak Detection Programs.

PROJECT MANAGEMENT APPROACH

M.E. Simpson Co., Inc.'s project management approach is what leads to our proven track record to complete projects on time and within the budget established. Based on our past experience, we have developed project management practices that will ensure the Village of Sugar Grove, IL of effective communication and project tracking throughout this project. We will follow the Project Management Institute (PMI) standards, including the Project Management Body of Knowledge (PMBOK). These globally accepted standards will assure this project is planned, executed, monitored and controlled in accordance with world class procedures. M.E. Simpson Co., Inc. has seasoned and experienced managers, project leaders and technicians that will have continuous input, ensuring the results of the Fire Hydrant Assessment and Flow Testing, Valve Assessment and Leak Detection Programs for the Village of Sugar Grove, IL.

Our project management system establishes - the single project manager – who has the responsibility and authority to act on behalf of M.E. Simpson Co., Inc. This project manager will stay with the project from beginning to the successful completion. The project manager's specific responsibilities include:

- ◆ Coordination of all activities in this project
- ◆ Establishing key decisions and review milestones during this project
- ◆ Preparing an initial project development plan identifying the schedule of work tasks and key personnel to perform the work in the field to meet the milestones and objectives
- ◆ Coordinate communications and meetings with the Utility as needed or required to review technical concepts and alternatives, soliciting staff input and coordinating activities with the project team
- ◆ Prepare periodic reports as needed and meet with the Utility on a regular basis summarizing project scheduling, progress and maintaining the project within the budget stipulated
- ◆ Oversee the execution and development of the project deliverables



Project management remains an important activity during the course of the project and does not stop with the Project Manager. For the Fire Hydrant Assessment and Flow Testing, Valve Assessment and Leak Detection programs, each member of the project team is dedicated to providing the best Water System Assessment Program that can be attained using the state-of-the-art technology and equipment, field experience and engineering knowledge.

Our team will be made up of experienced water professionals that are highly skilled and trained professionals in water distribution system hydraulics, fire hydrant assessment/flow testing. These technicians will also have knowledge and experience with water loss control programs such as water meter evaluation/testing (residential, commercial, wholesale, and production meters), leak surveys and pinpointing, as well as asset management programs such as valve assessment and exercising. It is this combination of experience and knowledge that has helped shape our approach to fire hydrant assessment and flow testing in distribution systems because the team members have the capacity to make on the spot decisions regarding any fine tuning of the program.

Fire Hydrant and Flow Testing Program

For the Fire Hydrant Assessment and Flow Testing Program, each Project Team member assigned to specific tasks is dedicated to providing the best Fire Hydrant Assessment and Flow Testing Program knowledge that can be attained. Each team member is highly experienced in the implementation of fire hydrant testing as well as other asset management and water loss control programs. It is our team's combination of field experience and engineering knowledge that has shape our approach to asset management programs in distribution systems. The individual team members have the capacity to make sound decisions regarding any fine tuning of the hydrant testing program. They will maintain constant communication with the Village of Sugar Grove, IL and the Project Manager regarding the fire hydrant testing program.

MESCO is sure that the selection of our team to perform this work will provide the Village of Sugar Grove, IL with exceptional experience, sound decision making, and a level of service providing the following advantages:

- A professional team with a specialized expertise in fire hydrant evaluation, assessment, testing, documentation and asset management.
- One of the finest and highly experienced technical and engineering team with the capacity to provide the highest quality work for the Village of Sugar Grove, IL.
- A project approach that incorporates interim reporting and continuous input opportunities by the Village of Sugar Grove, IL.
- Innovative proven analysis techniques developed from the completion of several similar projects that sought the same scope and results as this project.

Project Quality Assurance/Quality Control

Quality is of the utmost importance to MESCO Team – not merely because of the Village of Sugar Grove, IL and other client's requirements, but because it is vital to our continued success and viability. Quality management and services bring to all of us the rewards of jobs well done, satisfied Utility staff, and successful projects.

Our QA/QC program is built around several key elements of each participating firm's mission and values which consist of:

- Maintaining a reputation for the highest quality performance
- Client satisfaction
- Continuous process improvement
- Open communication with the field staff and the Utility
- Team Work

The QA/QC plan for this project is very simple. No work will leave MESCO Team until it has been verified that all the requirements and objectives of the project as well as the requirements of the project QA/QC managers have been met.

During the course of the project, the Project Manager and/or the QA/QC manager will meet with the Village of Sugar Grove, IL to ensure that the work product is technically correct, but also meets the needs and expectations of the Village of Sugar Grove, IL. Every step will be well documented for progress reports.

MESCO Team's professional services are grounded in sound principles that meet the tests of time from past successes of hundreds of fire hydrant maintenance projects will satisfy the quality requirements of the Scope of Service. Each member of the project team has a thorough understanding of the project objectives. Every member of the team will apply sound methodology and principles, and are expected to produce quality, accurate and complete documents. The QA/QC procedure has been developed and implemented based on tried and proven methodologies. The prevention of poor-quality service is based on four sound principles:

- ◆ Quality management of the project by using experienced personnel committed to excellence.
- ◆ Conformance to requirements by being knowledgeable of all local conditions in the field and keeping abreast of new cutting-edge hydrant technology and asset management remediation methods.
- ◆ Prevention of rework and errors by using teamwork, cross checking the hydrant program procedures every step of the way, and having staff knowledgeable in all aspects of the hydrant assessment and flow testing program.
- ◆ Quality is built in - not added on. The project management and staff have shown that a quality service is produced when the project tasks are properly sequenced and carried out to the final termination of the program using the built-in system of checks and balances.

Valve Assessment

For the valve assessment and exercising program, each Project Team member assigned to specific tasks is dedicated to providing the best valve assessment knowledge that can be attained. Each team member is highly experienced in the implementation of the valve programs. It is our team's combination of field experience and engineering knowledge that has shape our approach to valve assessments and exercising in distribution systems. The individual team members have the capacity to make sound decisions regarding any fine tuning of the program. They will maintain constant communication with the Village of Sugar Grove, IL and the Project Manager regarding the valve program progress.

MESCO is sure that the selection of our team to perform this work will provide the Village of Sugar Grove, IL with exceptional experience, sound decision making, and a level of service providing the following advantages:

- ◆ A professional team with a specialized expertise in water distribution system assessments
- ◆ Highly experienced engineering and field teams with the capacity to provide the highest quality work for the Village of Sugar Grove, IL.
- ◆ A project approach that incorporates interim reporting and continuous input opportunities by the Village of Sugar Grove, IL and its client.
- ◆ Innovative proven techniques developed from the completion of several similar projects that sought the same scope and results as this project.

Project Quality Assurance/Quality Control

Quality is of the utmost importance to the Project Team – not merely because of the Village of Sugar Grove, IL, and other client's requirements, but because it is vital to our continued success and viability. Quality management and services bring to all of us the rewards of jobs well done, satisfied Utility staff, and successful projects.

Our QA/QC program is built around several key elements of each participating firm's mission and values which consist of:

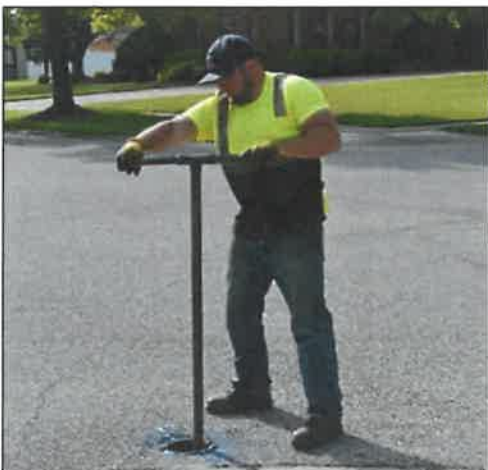
- Maintaining a reputation for the highest quality performance
- Client satisfaction
- Continuous process improvement
- Open communication with the field staff and the Utility
- Teamwork

The QA/QC plan for this project is very simple. No work will leave MESCO Team until it has been verified that all the requirements and objectives of the project as well as the requirements of the project QA/QC managers have been met. During the course of the project, the Project Manager and/or the QA/QC manager will meet with the Village of Sugar Grove, IL to ensure that the work product is technically correct, but also meets the needs and expectations of the Village of Sugar Grove, IL. Every step will be well documented for progress reports. GIS data is collected in a way that does not allow our technicians to complete a step without first verifying that all necessary data has been collected. Our administrative staff then proofs the data collected in the field to ensure only the most accurate data is delivered to the client.



The Project Team's professional services are grounded in sound principles that meet the tests of time from past successes of hundreds of valve assessment and exercise projects and will satisfy the quality requirements of the Scope of Service. Each member of the project team will have a thorough understanding of the project objectives. Every member of the team will apply sound methodology and principles, and are expected to produce quality, accurate and complete documents. The QA/QC procedure has been developed and implemented based on tried and proven methodologies. The prevention of poor-quality service is based on four sound principles:

- **Quality management** of the project by using experienced personnel committed to excellence.
- **Conformance to requirements** by being knowledgeable of all local conditions in the field and keeping abreast of new cutting-edge asset management methods.
- **Prevention of rework and errors** by using teamwork, cross checking the valve program procedures every step of the way and having staff knowledgeable in all aspects of valve assessment and exercising projects.
- **Quality is built in - not added on.** The project management and staff have shown that a quality service is produced when the project tasks are properly sequenced and carried out to the final termination of the program using the built-in system of checks and balances.



Leak Detection Program

For the leak detection program it is this combination of experience and knowledge that has helped shape our approach to leak surveys in distribution systems because the team members have the capacity to make on the spot decisions regarding any fine tuning of the program. They will maintain constant communication with the Utility District and the Project Managers regarding their progress as well as any major issues needing immediate attention and discussion.



MESCO team members have been highly active with the AWWA Water Loss Control Committee helping with the rewrite of the M36 Manual, M33 Manual and revisions to the free Water Audit Software tool. Each team member is highly experienced in the implementation of leak surveys as well as other water loss control programs. It is our team's combination of field experience and engineering knowledge that has shape our approach to water loss control programs in distribution systems. The individual team members have the capacity to make sound decisions regarding any fine tuning of the leak survey. They will maintain constant communication with the Utility and the Project Manager regarding leak survey progress.

MESCO is sure that the selection of our team to perform this work will provide the Utility with exceptional experience, sound decision making, and a level of service providing the following advantages:

- ◆ A professional team with a specialized expertise in leak detection and water loss management
- ◆ One of the finest and highly experienced technical and engineering team with the capacity to provide the highest quality work for the Utility.
- ◆ A project approach that incorporates interim reporting and continuous input opportunities by the Utility.
- ◆ Innovative proven analysis techniques developed from the completion of several similar projects that sought the same scope and results as this project.

Project Quality Assurance/Quality Control

Quality is of the utmost importance to MESCO Team – not merely because of the Utility and other client's requirements, but because it is vital to our continued success and viability. Quality management and services bring to all of us the rewards of jobs well done, satisfied Utility staff, and successful projects.

Our QA/QC program is built around several key elements of each participating firm's mission and values which consist of:

- ◆ Maintaining a reputation for the highest quality performance
- ◆ Client satisfaction
- ◆ Continuous process improvement
- ◆ Open communication with the field staff and the Utility
- ◆ Teamwork

The QA/QC plan for this project is very simple. No work will leave MESCO Team until it has been verified that all the requirements and objectives of the project as well as the requirements of the project QA/QC managers have been met. During the project, the Project Manager and/or the QA/QC manager will meet with the Utility to ensure that the work product is technically correct, but also meets the needs and expectations of the Utility. Every step will be well documented for progress reports.

MESCO Team's professional services are grounded in sound principles that meet the tests of time from past successes of hundreds of leak detection projects will satisfy the quality requirements of the Scope of Service. Each member of the project team has a thorough understanding of the project objectives. Every member of the team will apply sound methodology and principles, and are expected to produce quality, accurate and complete documents. The QA/QC procedure has been developed and implemented based on tried and proven methodologies. The prevention of poor-quality service is based on four sound principles:

- Quality management of the project by using experienced personnel committed to excellence.
- Conformance to requirements by being knowledgeable of all local conditions in the field and keeping abreast of new cutting-edge water loss remediation methods.
- Prevention of rework and errors by using teamwork, cross checking the leak survey procedures every step of the way and having staff knowledgeable in all aspects of leak survey projects.
- Quality is built in - not added on. The project management and staff have shown that a quality service is produced when the project tasks are properly sequenced and carried out to the final termination of the program using the built-in system of checks and balances.

Leak Detection Methods and Procedures

MESCO Leak Detection Teams are made up of experienced water professionals with expertise in conducting leak surveys and leak pinpointing. They are trained to follow specific procedures, utilizing state-of-the-art technology and equipment, field experience and engineering knowledge.

Pinpointing leaks requires more than just running a correlator. To maximize location accuracy and minimize error, a precise methodology must be employed. MESCO Teams will investigate, measure, and gather all the necessary information, which includes but is not limited to the following:

- Pipe Size and Material
- Layout of water piping infrastructure, verified via Line-Location Technology
 - This includes service lines, hydrant legs, and any other connections to the pipe in the suspected leak area
- History of leakage in suspected area
- Measurement of pipe segments for accurate correlation
- Identify which listening points are the "loudest" to narrow down and focus in on the suspected leak area
- Identification and impact of other possible noise sources (i.e. pumps, electrical interference, traffic, etc....)
- Determine if there any partially or fully closed valves, which may result in reduced pressure on the pipe, or even cause noise as water flows through these "restrictions"
- Inspect storm and sewer structures for leakage inflow, as necessary

Once the appropriate information has been gathered, MESCO Leak Teams will methodically narrow down the suspected leak area, until the leak has been pinpointed using a correlator, or other appropriate means.

Verification of suspected Leak Locations is of the utmost importance!

Our team will utilize the following QA/QC methods to ensure that the leak location is as accurate as possible:

- When possible, verifying the leak location by correlating its position from multiple correlations, conducted from multiple listening points
- Pinpoint confidence is greatly increased by obtaining the same leak location via different correlations and listening points, and reduces the possibility of error
- Any connections located within 10% of the total correlation length to the suspected leak area will be investigated, to ensure that the leak is, in fact, on the pipe being investigated, and not on an adjacent connection
- Leaks found on Services can be verified by temporarily shutting off the service
- *This is only done with the permission of the utility, and coordination with the property owner*
- Hydrant Leaks, where it is suspected that the hydrant isn't fully closed, can be verified by closing the hydrants auxiliary valve, to see if the leak noise dissipates
- *Attempting to close the hydrant and stop the leakage by tightening the operating nut is done only with the permission of the utility*
- Using a ground mic is another method that can be utilized as a verification method, depending on the situation and local conditions

Leakage Estimation

- M.E. Simpson Company, Inc. adheres' to the policy of assigning conservative leakage estimations to suspected leaks. These estimations are based on more than 30 years of extensive experience, along with other factors such as, the audio frequency of the leak, its audio volume, the pipe material and size, soil type and condition, and the distances over which the leak noise travels to the various listening points.
- For suspected leaks which have not surfaced and/or are not visible, there is no precise methodology for leakage estimation. Even when a leak is "surfacing" or is visibly discharging into a storm/sewer structure, there is no guarantee that what is visible represents the entirety of the leakage flow. Estimates must be made based on situational specifics, best judgement, and prior experience.
- Once a leak has been excavated, and the full extent of the defect is known, more accurate, but limited, estimations of the flow rate can be made, based on the measured geometry of the defect and the operating pressure. However, the leakage effects of certain types of defects are not easily measured, such as full-circumference breaks, lateral splits, and complete failures where the damage is profound and extensive. Even with this information, it is usually not possible to determine how long the leak has existed, or the total volume that has escaped during its existence.
- It is similar for hydrant leakage estimates, where the hydrant valve has not closed completely, or the valve seat is obstructed. These types of "leaks" are not visible, as the water usually escapes the hydrant barrel through drainage ports and cannot be readily quantified. Small, reasonable estimates are generally assigned in these situations.

SCHEDULE OF WORK

Proposal Due: April 8, 2022

Notice To Proceed: TBD

Kick Off Meeting and Commencement of work: Within 30 days of “Notice to Proceed” or as agreed upon between the Utility and M.E. Simpson to meet with Utility staff to go over project goals and objectives. Field work will begin the same day or agreed upon by the Utility and M.E. Simpson Co., Inc.

Fieldwork to be completed and documented: Field work will be started as agreed upon by the Utility and M.E. Simpson Co., Inc. Assume one field team (2 persons each), are in the field for completion of field work for the Fire Hydrant Assessment and Flow Testing, Valve Assessment and Leak Detection Programs.

Daily Work Hours

Normal “on site” daily work hours will be 7:00 AM to 4:30 PM. Any work that needs to be performed outside the normal work hours will be discussed with the Water Superintendent at least 24 hours in advance.

Daily Reporting: The Field staff will meet with assigned Utility staff daily or as needed and determined by the assigned Utility Manager. Hydrant issues that need immediate attention will be documented and submitted immediately for the Utility’s attention. Minor issues will be reported daily for scheduling of repair.

Periodic Reports: Weekly summary reports will be available 10 work days after field work has been validated for the program for each week, for the Hydrant Testing work. These reports will have all the hydrant assessment and testing information compiled during the course of the project for the week.

Final Reports: Final summary reports will be available 30 work days after field work has been completed for the program. These reports will have all the hydrant assessment and testing data compiled during the course of the project.

EXPERIENCE OF KEY PERSONNEL

Our team brings the necessary experience for a project of this magnitude, as well as the personal attributes needed to serve the Village of Sugar Grove, IL with distinction. We offer our clients the highest quality technical and professional services, using state-of-the-art technologies and highly skilled and trained professionals. The M.E. Simpson Co., Inc. team members selected to serve the Village of Sugar Grove, IL bring significant experience and a proven track record of delivering timely, cost-effective and sound hydrant program solutions.

They share a passionate commitment to client service and attention to detail required for a successful project. The Organizational Chart at right illustrates the Project Team for the Utility's Water System Assessment Program. One of the two Project Leaders listed will lead the Project Team in the field. **Two-Man Project Teams will be used at all times during the course of the project for reasons of safety and quality assurance.**

Project Manager: Terrence Williams

Terrence Williams has been with M.E. Simpson Company since September 2014. Terrence previously worked in retail management. Terrence is a graduate of Purdue University with a Bachelor of Science in Accounting. Terrence also completed his MBA at Keller Graduate School of Management.

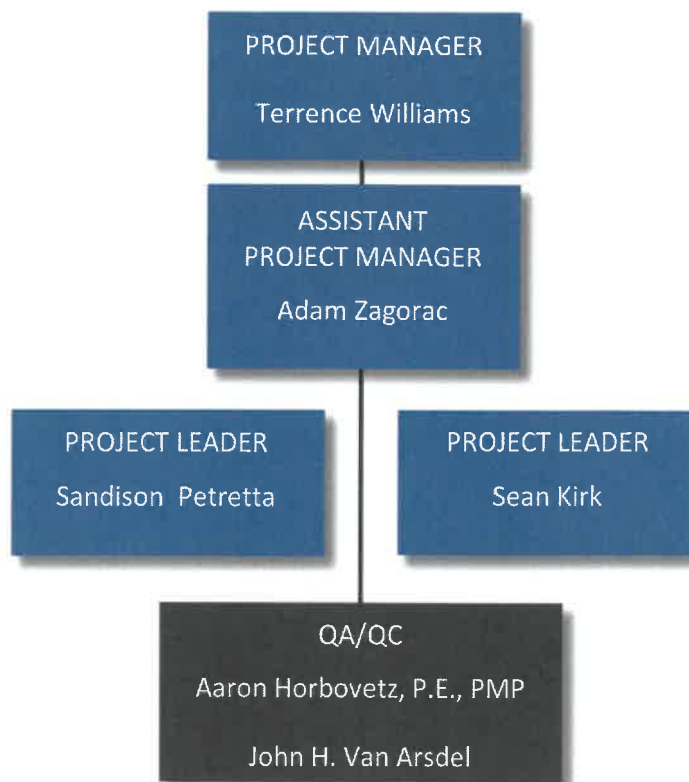
Terrence is currently involved in the preparation of client reports, data quality control, and drafting new paperless database programs. He also has experience in valve location, exercising and mapping, and the use of the state-of-the-art leak detection equipment. Terrence also has experience in fire hydrant and main capacity flow testing, and the operation of our Polcon® Flow Testing equipment.

Professional Certifications:

- ◆ 10 Hour OSHA Certified for General Industry
- ◆ American Red Cross First Aid and CPR with AED Certified
- ◆ American Traffic Safety Services Association Flagging Certified
- ◆ Extensive traffic control training
- ◆ Extensive confined space training

Assistant Project Manager: Adam Zagorac

Adam Zagorac has been with the Company since December of 2007. Adam has attended numerous classes and lectures related to the operation, maintenance, and installation of water meters, and completed classes in plumbing.



Adam has experience in the following: maintenance and installation of water meters; valve location, exercising and mapping; fire hydrant and main capacity flow testing; and the use of state-of-the-art leak detection equipment. He is also experienced in the use of all of our Polcon® Flow Testing equipment.

Professional Certifications:

- 10-Hour OSHA Certified for General Industry
- American Red Cross First Aid and CPR with AED Certified
- American Traffic Safety Services Association Flagging Certified
- Extensive traffic control training
- Extensive confined space training

Project Leader: Sandison Petretta

Sandison Petretta has been with the Company since July of 2000. He previously worked in the commercial painting industry. Sandison has attended numerous classes and lectures related to the operation, maintenance, and installation of water meters, and completed classes in plumbing. Sandison has experience in the following: maintenance and installation of water meters; valve location, exercising and mapping; fire hydrant and main capacity flow testing; and the use of state-of-the-art leak detection equipment. He is also experienced in the use of all of our Polcon® Flow Testing equipment.

Professional Certifications:

- 10-Hour OSHA Certified for General Industry
- American Red Cross First Aid and CPR with AED Certified
- American Traffic Safety Services Association Flagging Certified
- Extensive traffic control training
- Extensive confined space training

Project Leader: Sean Kirk

Sean Kirk has been with the Company since November 2019. Prior to working for M.E. Simpson Company, Inc., Sean worked as a warehouse manager. Sean has attended numerous classes and lectures related to the operation, maintenance, and installation of water meters as well as leak detection.

Sean has experience in the following: maintenance and installation of water meters; valve location, exercising and mapping; fire hydrant and main capacity flow testing; and the use of state-of-the-art leak detection equipment.

Professional Certifications:

- 10-Hour OSHA Certified for General Industry
- American Red Cross First Aid and CPR with AED Certified
- American Traffic Safety Services Association Flagging Certified
- Extensive traffic control training
- Extensive confined space training

QA/QC: Aaron M. Horbovetz, PE, PMP

Aaron Horbovetz has been with M.E. Simpson Co., Inc. since 1999. In 2004-2005 he was on hiatus to pursue his engineering degree. He returned to M.E. Simpson Co., Inc. in 2006. He earned his degree in Mechanical Engineering from Purdue University and is a licensed Professional Engineer in the State of Indiana, since 2016. Aaron is also a certified Project Management Professional (PMP®), since 2013. He is a regular presenter at AWWA conferences, since 2012, both at section meetings and at the ACE conferences, and participates in multiple AWWA committees at both the local and national levels.

Aaron has attended numerous classes and lectures related to the operation, maintenance, and installation of water meters, and completed classes in plumbing. He has experience in the following: maintenance and installation of water meters; valve location, exercising and mapping, fire hydrant and main capacity flow testing, and the use of state-of-the-art leak detection equipment. Aaron also manages the company's hydraulics services division, including all Pitot testing, pump curve analysis, and C-Factor testing.

Mr. Horbovetz is responsible for the Engineering Division of M.E. Simpson Co., Inc. overseeing many of the more complex programs associated with hydraulic studies and Master Metering services.

Professional Certifications:

- Licensed Professional Engineer, Indiana
- Certified Project Management Professional (PMP)
 - Member of Project Management's Institute Calumet Chapter
- 30 Hour OSHA Certified for General Industry
- American Red Cross First Aid and CPR with AED Certified
- American Traffic Safety Services Association Flagging Certified
- Extensive traffic control training
- Extensive confined space training

QA/QC: John H. Van Arsdel

John H. Van Arsdel has been with M.E. Simpson Co., Inc. since May 1989. He graduated from Valparaiso University with a B.A. in Geography with an emphasis in Locational Evaluation and Research Design. Additional classes include water operator's classes and seminars on Water Filtration and Distribution, Vulnerability Assessment Class for the Sandia Labs RAM-W method and the RAM-W "modified" for small to medium systems (licensed for the Sandia Labs RAM-W Method, and the RAM-W "modified" for small to medium water systems), along with classes related to the operation and maintenance of water meters, and system hydraulics specifically related to the Polcon® Flow Testing equipment.

John has over 33 years of experience directing projects for water utilities including water audits, loss prevention, leak detection programs, meter evaluation and maintenance, flow testing using the Polcon® Flow Testing method (large flow meter assessments, C-factors, pump curves, zone flow measurements), mainline valve assessments (location, exercising and mapping programs), and fire hydrant and main capacity flow testing programs. He has presented numerous classes for continuing education credits for water operators for over 24 years to several local and state water works organizations on Water Loss Reduction including Water Audits, Leak Detection, Meter Testing and Flow Testing. He has presented water loss papers at the AWWA ACE in 2007, 2008, 2009, 2012, 2015, 2016, 2018, and the former DSS (now the WIC), 2010, 2011, 2012, 2014, the NAWL 2015, 2017, and 2019. In 2003, he conducted classes on Vulnerability Assessments and Emergency Response Planning for water utilities and conducted several VA and ERP projects. He served from 2010 to 2014 as Chair of the AWWA Water Loss Control Committee. For the Illinois Section in 2014-2015 he set up the Train the Trainer classes for Water Auditing and trained several sets of trainers and was the lead trainer for the Indiana Section AWWA Water Auditing and Validation training for 2019-20 that is being handled by the Indiana Finance Authority. John is a Certified Water Audit Level 1 Validator for California and Indiana.

Professional Certifications:

- 30 Hour OSHA Certified for General Industry
- American Red Cross First Aid and CPR with AED Certified
- American Traffic Safety Services Association Flagging Certified
- Certified Water Audit Validator (Indiana)

REFERENCES

Fire Hydrant Assessment and Flow Testing Projects

Village of Downers Grove, Illinois (2009 – Current)

M.E. Simpson Co., Inc. has performed a Fire Hydrant Flow Testing Program for the Village of Downers Grove for several years as well as a Fire Hydrant Maintenance program. Most recently 608 hydrants were located and tested. Of these hydrants, 596 were found to be in good working condition, 4 were found to be usable but with minor problems and 8 were found to be unusable. The total number of problem hydrants has decreased greatly with annual fire hydrant flow testing and inspections.

David Moody
Water Manager
Village of Downers Grove
5101 Walnut Avenue
Downers Grove, IL 60515-4074
(630) 434-5495
dmoody@downers.us

Village of Lansing, IL (1997 – Current)

M.E. Simpson Co., Inc. has been working with the Village of Lansing, IL for many years. The hydrant program most recently completed was a success, reporting the hydrants which are in good working condition, usable, or unusable. These flow testing programs are very important to the Village, thanks to this program the Village can now correct the problems with those hydrants found to be unusable so that, should the need ever arise, they can be used in an emergency.

Mr. Jim Nickias
Superintendent
Village of Lansing
3300 171st St.
Lansing, IL 60438
(708) 895-7190
jnickias@gmail.com

Village of Hazel Crest, IL (2015 – Current)

M.E. Simpson Co., Inc. has performed Fire Hydrant Maintenance for the Village of Hazel Crest for several years. Most recently 225 hydrants were located and classified. The total number of problem hydrants has decreased greatly with annual fire hydrant flow testing and inspections.

Dante Sawyer
Director of Public Works
Village of Hazel Crest
3000 W 170th Place
Hazel Crest, Illinois 60429
(708) 335-9600 x202
dsawyer@villageofhazelcrest.com

Valve Assessment Projects

[Village of Schaumburg, Illinois \(2016 - Current\)](#)

M.E. Simpson Co., Inc. has provided annual mainline valve assessments for the Village of Schaumburg, Illinois. The assessments include locating each valve and operating each valve through the full cycle of turns, three times. 25 % of the system (approximately 1,000 valves) are operated each year to insure full operability of the system valves. GPS coordinates are taken for each location and all data is put into the valve database for the utility.

Mr. Brian Wagner
Superintendent of Utilities
Village of Schaumburg
(847) 895-7100
bwagner@schaumburg.com

[Village of Downers Grove, Illinois \(2008 - Current\)](#)

We have been providing valve assessment services for the Village of Downers Grove since 2008. M.E. Simpson Co., Inc. was contracted to perform valve exercising, locating, and documenting services for the city. Each year ½ of the valves are assessed to ensure full operability of the system valves as part of a regular maintenance program.

Mr. David Moody
Asst. Director of Public Works
Village of Downers Grove
(630) 434-5462
dmoody@downers.us

[Village of Orland Park, Illinois \(2004 - Current\)](#)

M.E. Simpson Co., Inc. has been providing valve assessment services for the Village of Orland Park since before 2004. This is a distribution system that has over 4500 valves. The system is divided into areas of 1400 valves each year to be assessed. GPS coordinates are taken for each location and all data is put into the valve database for the utility.

Mr. Ken Dado
Utility Supervisor
Orland Park Public Services
(708) 403-6350
kdado@orlandpark.org

Leak Survey Projects

[City of Joliet, Illinois \(2008 - Current\)](#)

M.E. Simpson Co., Inc. has been performing water loss assessments for the City of Joliet since 2008, including leak detection surveys and “on call” emergency leak detection services as a way to reduce water loss in the distribution system. The program for 2019 surveyed approximately 685 miles of water main and located 130 leaks. These leaks were estimated to be costing the utility in excess of \$440.60 per day or \$160,817.00 annually. The survey paid for itself in water loss recovery in 4 months based on the Variable Cost (production cost) of water. This project cost a total of \$59,200.00 and was completed in 144 days.

Ms. Allison Swisher, P.E.
Director of Public Utilities
City of Joliet
921 East Washington Street
Joliet, Illinois 60433
815.724.4230
aswisher@jolietcity.org

Village of Downers Grove, IL (2011-2020)

M.E. Simpson Co., Inc. conducted a Leak Survey on approximately 233 miles per year as a way for the Village to reduce water losses occurring in the distribution system. The completed Leak Survey Program in 2014 resulted in the location of 20 leaks totaling 364,320 gallons of water per day. The leaks were estimated to be costing the utility in excess of **\$562,491.86** annually using the cost of water sold per 1,000 gallons. This project cost a total of \$39,600.00 and was completed in 49 days.

Mr. David Moody
Water Division Manager
Village of Downers Grove
5101 Walnut Avenue
Downers Grove, IL 60515-4074
630-434-5462
dmoody@downers.us

Village of Shorewood, IL (2014-2020)

M.E. Simpson Co., Inc. conducted a Leak Survey on approximately 105.5 miles in 2018 as a way for the Village to reduce water losses occurring in the distribution system. The most recent completed Leak Survey Program in 2018 resulted in the location of 23 leaks totaling 59,040 gallons of water per day. Using a production price of \$3.50 per thousand gallons these leaks were estimated to be costing the utility in excess of **\$201.60** per day or **\$73,840.00** annually. The 2018 leak survey paid for itself within 3 months. This project cost a total of \$19,500.00 and was completed in 25 days.

Mr. Noriel Noriega
Superintendent of Public Works
Village of Shorewood
1 Towne Center Boulevard
Shorewood, Illinois 60404
815.725.2150
nnoriega@vil.shorewood.il.us



MESIMPS-02

SRUTKOWSKI

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

3/30/2022

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an **ADDITIONAL INSURED**, the policy(ies) must have **ADDITIONAL INSURED** provisions or be endorsed. If **SUBROGATION IS WAIVED**, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER General Insurance Services, Inc. 407 E. Lincolnway Valparaiso, IN 46383	CONTACT NAME: Stacy Rutkowski PHONE (A/C, No, Ext): (219) 510-6209 FAX (A/C, No): (219) 510-6427 E-MAIL ADDRESS: srutkowski@genins.com	
	INSURER(S) AFFORDING COVERAGE	
INSURED M E Simpson Co Inc 3406 Enterprise Ave Valparaiso, IN 46383	INSURER A : Cincinnati Insurance NAIC # 10677	
	INSURER B : Cincinnati Indemnity 23280	
	INSURER C : Landmark American Insurance Company	
	INSURER D :	
	INSURER E :	
	INSURER F :	

COVERAGES

CERTIFICATE NUMBER:

REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WYD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR <input checked="" type="checkbox"/> Contractual Liab <input checked="" type="checkbox"/> XCU Cov is included GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input checked="" type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC OTHER:	X	X	EPP 0417637	12/23/2021	12/23/2022	EACH OCCURRENCE \$ 1,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 500,000 MED EXP (Any one person) \$ 10,000 PERSONAL & ADV INJURY \$ 1,000,000 GENERAL AGGREGATE \$ 2,000,000 PRODUCTS - COMP/OP AGG \$ 2,000,000
A	AUTOMOBILE LIABILITY <input checked="" type="checkbox"/> ANY AUTO OWNED AUTOS ONLY <input type="checkbox"/> SCHEDULED AUTOS <input checked="" type="checkbox"/> HIRED AUTOS ONLY <input checked="" type="checkbox"/> NON-OWNED AUTOS ONLY	X	X	EPP 0417637	12/23/2021	12/23/2022	COMBINED SINGLE LIMIT (Ea accident) \$ 1,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$
A	<input checked="" type="checkbox"/> UMBRELLA LIAB <input checked="" type="checkbox"/> OCCUR <input type="checkbox"/> EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE DED RETENTION \$			EPP 0417637	12/23/2021	12/23/2022	EACH OCCURRENCE \$ 10,000,000 AGGREGATE \$ 10,000,000
B	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) <input checked="" type="checkbox"/> Y / <input checked="" type="checkbox"/> N if yes, describe under DESCRIPTION OF OPERATIONS below	N/A	X	EWC 0417638	12/23/2021	12/23/2022	<input checked="" type="checkbox"/> PER STATUTE <input type="checkbox"/> OTH-ER E.L. EACH ACCIDENT \$ 1,000,000 E.L. DISEASE - EA EMPLOYEE \$ 1,000,000 E.L. DISEASE - POLICY LIMIT \$ 1,000,000
C	Professional Liab			LHR793479	12/23/2021	12/23/2022	Each Claim 3,000,000
A	Leased & Rented			EPP 0417637	12/23/2021	12/23/2022	Ded \$1,000 25,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

RE: Water System Assessment Program

The Village of Sugar Grove and its officers, officials, employees, agents and volunteers are Additional Insureds on a Primary & Non-Contributory basis with respect to General Liability and Auto Liability when required by written contract. A Waiver of Subrogation applies in favor the Additional Insured with respect to General Liability, Auto Liability and Workers Compensation when required by written contract.

CERTIFICATE HOLDER

CANCELLATION

Village of Sugar Grove
 10 Municipal Drive
 Sugar Grove, IL 60554

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

ADDITIONAL INSURED BY CONTRACT

This endorsement modifies insurance provided under the following:

**BUSINESS AUTO COVERAGE FORM
GARAGE COVERAGE FORM**

This endorsement changes the policy effective on the inception date of the policy unless another date is indicated below.

Endorsement Effective: 12-23-2021	Policy Number: EBA 041 76 37
Named Insured: ME SIMPSON CO INC	
Countersigned by:	

(Authorized Representative)

With respect to coverage provided by this endorsement, the provisions of the Coverage Form apply unless modified by the endorsement.

SECTION II - LIABILITY COVERAGE, A. Coverage, I. Who is an Insured is amended to include as an insured any person or organization for whom you have agreed in a valid written contract to provide insurance as afforded by this policy.

This provision is limited to the scope of the valid written contract.

This provision does not apply unless the valid written contract has been executed prior to the "bodily injury" or "property damage".

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

PRIMARY AND NONCONTRIBUTORY INSURANCE

This endorsement modifies insurance provided under the following:

BUSINESS AUTO COVERAGE FORM

This endorsement changes the policy effective on the inception date of the policy unless another date is indicated below.

Endorsement Effective: 12-23-2021	Policy Number: EBA 041 76 37
Named Insured: ME SIMPSON CO INC	
Countersigned by:	

(Authorized Representative)

With respect to coverage provided by this endorsement, the provisions of the Coverage Form apply unless modified by the endorsement.

1. Noncontributory Insurance

SECTION IV - BUSINESS AUTO CONDITIONS, B. General Conditions, 5. Other Insurance is replaced by the following:

- c. Regardless of the provisions of Paragraph a. above, this Coverage Form's Liability Coverage is primary and we will not seek contribution from any other insurance for any liability assumed under an "insured contract" that requires liability to be assumed on a primary noncontributory basis.

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

BLANKET WAIVER OF SUBROGATION - AUTO

This endorsement modifies insurance provided under the following:

BUSINESS AUTO COVERAGE FORM

This endorsement changes the policy effective on the inception date of the policy unless another date is indicated below.

Endorsement Effective: 12-23-2021	Policy Number: EBA 041 76 37
Named Insured: ME SIMPSON CO INC	
Countersigned by:	

(Authorized Representative)

With respect to coverage provided by this endorsement, the provisions of the Coverage Form apply unless modified by the endorsement.

1. Blanket Waiver of Subrogation

SECTION IV - BUSINESS AUTO CONDITIONS, A. Loss Conditions, 5. Transfer of Rights of Recovery Against Others to Us is amended by the addition of the following:

We waive any right of recovery we may have against any person or organization because of

payments we make for "bodily injury" or "property damage" arising out of the operation of a covered "auto" when you have assumed liability for such "bodily injury" or "property damage" under an "insured contract", provided the "bodily injury" or "property damage" occurs subsequent to the execution of the "insured contract".

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

CONTRACTORS ADDITIONAL INSURED - AUTOMATIC STATUS AND AUTOMATIC WAIVER OF SUBROGATION WHEN REQUIRED IN WRITTEN CONTRACT, AGREEMENT, PERMIT OR AUTHORIZATION

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

A. Additional Insured - Owners, Lessees Or Contractors - Automatic Status For Other Parties When Required In Written Contract Or Agreement With You

1. **Section II - Who Is An Insured** is amended to include as an additional insured any person or organization you have agreed in writing in a contract or agreement to add as an additional insured on this Coverage Part. Such person(s) or organization(s) is an additional insured only with respect to liability for:

a. "Bodily injury", "property damage" or "personal and advertising injury" *caused, in whole or in part, by the performance of your ongoing operations by you or on your behalf, under that written contract or written agreement. Ongoing operations does not apply to "bodily injury" or "property damage" occurring after:*

- (1) All work, including materials, parts or equipment furnished in connection with such work, on the project (other than service, maintenance or repairs) to be performed by or on behalf of the additional insured(s) at the location of the covered operations has been completed; or
- (2) That portion of "your work" out of which the injury or damage arises has been put to its intended use by any person or organization other than another contractor or subcontractor engaged in performing operations for a principal as a part of the same project; and

b. "Bodily injury" or "property damage" *caused, in whole or in part, by "your work" performed under that written contract or written agreement and in*

cluded in the "products-completed operations hazard", but only if:

- (1) The Coverage Part to which this endorsement is attached provides coverage for "bodily injury" or "property damage" included within the "products-completed operations hazard"; and
- (2) The written contract or written agreement requires you to provide additional insured coverage included within the "products-completed operations hazard" for that person or organization.

If the written contract or written agreement requires you to provide additional insured coverage included within the "products-completed operations hazard" for a specified length of time for that person or organization, the "bodily injury" or "property damage" must occur prior to the expiration of that period of time in order for this insurance to apply.

If the written contract or written agreement requires you to provide additional insured coverage for a person or organization per only ISO additional insured endorsement form number **CG 20 10**, without specifying an edition date, and without specifically requiring additional insured coverage included within the "products-completed operations hazard", this Paragraph **b.** does not apply to that person or organization.

2. If the written contract or written agreement described in Paragraph 1, above specifically requires you to provide additional insured coverage to that person or organization:

a. *Arising out of your ongoing operations or arising out of "your work"; or*

- b. By way of an edition of an ISO additional insured endorsement that includes *arising out of* your ongoing operations or *arising out of* "your work";

then the phrase *caused, in whole or in part, by* in Paragraph **A.1.a.** and/or Paragraph **A.1.b.** above, whichever applies, is replaced by the phrase *arising out of*.

- 3. With respect to the insurance afforded to the additional insureds described in Paragraph **A.1.**, the following additional exclusion applies:

This insurance does not apply to "bodily injury", "property damage" or "personal and advertising injury" arising out of the rendering of, or the failure to render, any professional architectural, engineering or surveying services, including:

- a. The preparing, approving or failing to prepare or approve, maps, shop drawings, opinions, reports, surveys, field orders, change orders or drawings and specifications; or
- b. Supervisory, inspection, architectural or engineering activities.

This exclusion applies even if the claims against any insured allege negligence or other wrongdoing in the supervision, hiring, employment, training or monitoring of others by that insured, if the "occurrence" which caused the "bodily injury" or "property damage", or the offense which caused the "personal and advertising injury", involved the rendering of, or the failure to render, any professional architectural, engineering or surveying services.

- 4. This Paragraph **A.** does not apply to additional insureds described in Paragraph **B.**

B. Additional Insured - State Or Governmental Agency Or Subdivision Or Political Subdivision - Automatic Status When Required In Written Permits Or Authorizations

- 1. **Section II - Who Is An Insured** is amended to include as an additional insured any state or governmental agency or subdivision or political subdivision you have agreed in writing in a contract, agreement, permit or authorization to add as an additional insured on this Coverage Part. Such state or governmental agency or subdivision or political subdivision is an additional insured only with respect to operations performed by you or on your behalf for which the state or governmental agency or subdivision or political subdivision issued, in writing, a contract, agreement, permit or authorization.

- 2. With respect to the insurance afforded to the additional insureds described in Paragraph **B.1.**, the following additional exclusions apply:

This insurance does not apply to:

- a. "Bodily injury", "property damage" or "personal and advertising injury" arising out of operations performed for the federal government, state or municipality; or
- b. "Bodily injury" or "property damage" included within the "products-completed operations hazard."

- C. The insurance afforded to additional insureds described in Paragraphs **A.** and **B.**:

- 1. Only applies to the extent permitted by law; and
- 2. Will not be broader than that which you are required by the written contract, written agreement, written permit or written authorization to provide for such additional insured; and
- 3. Does not apply to any person, organization, state, governmental agency or subdivision or political subdivision specifically named as an additional insured for the same project in the schedule of an endorsement added to this Coverage Part.

- D. With respect to the insurance afforded to the additional insureds described in Paragraphs **A.** and **B.**, the following is added to **Section III - Limits Of Insurance**:

The most we will pay on behalf of the additional insured is the amount of insurance:

- 1. Required by the written contract, written agreement, written permit or written authorization described in Paragraphs **A.** and **B.**; or
- 2. Available under the applicable Limits of Insurance shown in the Declarations;

whichever is less.

This endorsement shall not increase the applicable Limits of Insurance shown in the Declarations.

- E. **Section IV - Commercial General Liability Conditions** is amended to add the following:

Automatic Additional Insured Provision

This insurance applies only if the "bodily injury" or "property damage" occurs, or the "personal and advertising injury" offense is committed:

- 1. During the policy period; and

2. Subsequent to your execution of the written contract or written agreement, or the issuance of a written permit or written authorization, described in Paragraphs **A.** and **B.**

- F. Except when **G.** below applies, the following is added to **Section IV - Commercial General Liability Conditions, 5. Other Insurance**, and supersedes any provision to the contrary:

When Other Additional Insured Coverage Applies On An Excess Basis

This insurance is primary to other insurance available to the additional insured described in Paragraphs **A.** and **B.** except:

1. As otherwise provided in **Section IV - Commercial General Liability Conditions, 5. Other Insurance, b. Excess Insurance**; or
2. For any other valid and collectible insurance available to the additional insured as an additional insured by attachment of an endorsement to another insurance policy that is written on an excess basis. In such case, this insurance is also excess.

- G. The following is added to **Section IV - Commercial General Liability Conditions, 5. Other Insurance**, and supersedes any provision to the contrary:

Primary Insurance When Required By Written Contract, Agreement, Permit Or Authorization

Except when wrap-up insurance applies to the claim or "suit" on behalf of the additional insured, this insurance is primary to any other insurance available to the additional insured described in Paragraphs **A.** and **B.** provided that:

1. The additional insured is a Named Insured under such other insurance; and
2. You have agreed in writing in a contract, agreement, permit or authorization described in Paragraph **A.** or **B.** that this insurance would be primary to any other insurance available to the additional insured.

As used in this endorsement, wrap-up insurance means any insurance provided by a consolidated (wrap-up) insurance program.

Primary And Noncontributory Insurance When Required By Written Contract, Agreement, Permit Or Authorization

Except when wrap-up insurance applies to the claim or "suit" on behalf of the additional insured, this insurance is primary to and will not seek contribution from any other insurance available to the additional insured described in Paragraphs **A.** and **B.** provided that:

1. The additional insured is a Named Insured under such other insurance; and
2. You have agreed in writing in a contract, agreement, permit or authorization described in Paragraph **A.** or **B.** that this insurance would be primary and would not seek contribution from any other insurance available to the additional insured.

As used in this endorsement, wrap-up insurance means any insurance provided by a consolidated (wrap-up) insurance program.

- H. **Section IV - Commercial General Liability Conditions, 9. Transfer Of Rights Of Recovery Against Others To Us** is amended by the addition of the following:

We waive any right of recovery we may have against any additional insured under this endorsement against whom you have agreed to waive such right of recovery in a written contract, written agreement, written permit or written authorization because of payments we make for injury or damage arising out of your ongoing operations or "your work" done under a written contract, written agreement, written permit or written authorization. However, our rights may only be waived prior to the "occurrence" giving rise to the injury or damage for which we make payment under this Coverage Part. The insured must do nothing after a loss to impair our rights. At our request, the insured will bring "suit" or transfer those rights to us and help us enforce those rights.

WAIVER OF OUR RIGHT TO RECOVER FROM OTHERS ENDORSEMENT

We have the right to recover our payments from anyone liable for an injury covered by this policy. We will not enforce our right against the person or organization named in the Schedule.

This agreement shall not operate directly or indirectly to benefit anyone not named in the Schedule.

Schedule

Blanket Waiver of Subrogation

If you are required by a written contract or agreement, which is executed before a loss, to waive your rights of recovery from others, we agree to waive our rights of recovery.

This waiver of rights applies to any person or organization for whom the Named Insured has agreed by written contract to furnish this waiver, but shall not be construed to be a waiver with respect to any other operations in which the Insured has no contractual interest.

Does not apply to work performed in the following state(s):
CA

This endorsement changes the policy to which it is attached and is effective on the date issued unless otherwise stated.

(The information below is required only when this endorsement is issued subsequent to preparation of the policy.)

Endorsement Effective 12-23-2021 Policy No. EWC 041 76 38-04 Endorsement No.

Insured ME SIMPSON CO INC

Insurance Company THE CINCINNATI CASUALTY COMPANY

Premium \$INCL

Countersigned by

Stacy Rutkowski

WC 00 03 13

INVESTMENT

A commitment to improving and maximizing the Village of Sugar Grove, Illinois water system for future generations.

M.E. Simpson Co., Inc. is pleased to present our "Proposal" for a Water System Assessment including fire hydrant assessment and flow testing, valve assessment and leak detection programs for the Village of Sugar Grove, Illinois. M.E. Simpson Co., Inc. will perform our water system assessment program on the Village of Sugar Grove's water distribution system. The assessing and flow testing services will be performed by one of our two-man teams with all necessary equipment furnished by M.E. Simpson Co., Inc. as described within this document. The project will also include complete reporting of all issues found, with a final comprehensive report.

Fire Hydrant, Assessment	\$76.00 per unit
Fire Hydrant Flow Test	\$76.00 per unit
Valve Assessment	\$88.00 per unit
Leak Detection	\$237.60 per mile or .045 per foot
Water Assessment Software	
Pro-Maps Data Management Software	\$12,000.00
Emergency Leak Detection	\$365.00 per hour

All procedures will be followed according to the above scope of services.

We thank you for this opportunity to acquaint you with our Water System Assessment to include Fire Hydrant Assessment and Flow Testing, Valve Assessment and Leak Detection Programs and offer this proposal. If you have further inquiries or you wish to discuss our service in more detail, do not hesitate to call us.