YOUR TEAM FOR SECURE + RELIABLE

Water System Solutions

BID TO PROVIDE

Rollingwood, Texas

Valve, Manhole, GPS & Mapping Program

M.E. SIMPSON Co., Inc.

March 11, 2021

Mr. Justin White
Utilities Superintendent
403 Nixon Drive
Rollingwood, Texas 78746

RE: PROPOSAL FOR A VALVE, MANHOLE, GPS & MAPPING PROGRAM

Dear Mr. White,

M.E. Simpson Co., Inc. is pleased to present the Florham Park Water & Sewer Utilities our proposal for a Valve, Manhole, GPS & Mapping 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 Valve Assessment & Exercising Services and offer this response. We are committed to exceeding your expectations.

Sincerely,

Michael D. Simpson
Chief Executive Officer

Michael D. Simpson
Chief Executive Officer

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Valparaiso, IN 46383

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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've 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 80,000 Large Water Meters serviced (including several utilities in Georgia), 100,000 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 80,000 fire hydrants inspected, flow tested, and water main capacity information developed.

Project Understanding

Rollingwood, Texas is seeking a qualified firm to provide services for a Valve Assessment & Exercising 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.

SCOPE OF WORK

Valve Assessment and Exercising Program Scope of Services

Project Field Approach

The **Valve Assessment and Exercising Program** is conducted in the field by our technicians. M.E. Simpson Co., Inc. will locate and operate all designated valves in the system in accordance with AWWA standards (American Water Works Association Manual M-44, "Distribution Valves: Installation, Field Testing and Maintenance"). The important operation, location and asset management details of the valves will be noted and compiled on our "Valve Exercising and Assessment Report" and submitted to your office for your permanent records.

Valve Assessment and Exercising

The **Water Distribution System Valve Assessment and Exercising Program** is conducted in the field by our Project Team (M.E. Simpson Co., Inc. uses **TWO** trained technicians on each valve team). All valves are operated manually and when necessary, M.E. Simpson Co., Inc. uses a hydraulic valve machine capable of operating 2" through 60" valves. This machine can be set with a torque as low as 5-foot pounds and is capable of increasing up to 2500-foot pounds. The hydraulic valve operator with the "adjustable torque control" feature, along with experienced operating personnel, prevents excessive breakage during valve operating.

M.E. Simpson Co., Inc. will furnish all labor, material, transportation, tools, and equipment necessary to perform the program. M.E. Simpson Co., Inc. shall be required to provide such skilled and trained personnel and equipment necessary to complete the work herein specified. We will locate and operate each main line valve in the system. The important operation and location details of each valve will be noted and compiled on our "Valve Assessment and Exercising Report" and submitted to your office, in an electronic format, for your permanent records.

The importance of the **Valve Assessment and Exercising Program** is apparent when major emergencies arise, and Utility personnel are unable to either locate or close a valve or several valves during a water main break. The same problem occurs when valves that are normally closed need to be opened during a firefighting effort and these valves then fail in the closed position. These situations can occur when valves are not operated annually or at least every two years.

An organized field approach to this Valve Exercising and Assessment project will include the following:

- **Introduce and maintain an interactive role** with the Utility Staff for the Valve Program. Conduct short interviews with staff about particulars of the distribution system such as problem areas prone to poor fire flow, age of pipe, and pressure problems in the distribution system. This will allow for a greater understanding of how the distribution system is functioning allowing priorities to be assigned to particular segments of the work.
- **Divide areas of the distribution system** into geographic areas that can be assessed in progression and problems identified in an orderly fashion. This would include setting a schedule and maintaining a level of Field Staffing that will ensure completion of the valve assessments within the schedule and budget allotted. This will require all maps of the distribution system to be examined during the course of the planning sessions to formulate a workable plan of action.
- **Perform valve assessments on the distribution system** and document all locations and valves in a manner that will allow a prioritized list of maintenance items to be pursued according to the described “Scope of Work”.
- **Locate** all valves in a manner that will allow their positions to be known and readily re-creatable by Utility personnel upon demand. (GPS Coordinates can be taken or the Utility can provide their GPS data for the records).
- **Document** each valve operated and individual valve data to such an extent as to provide information characteristic to each specific attribute as defined by the Utility.
- **Provide constant communication** with the Utility staff so valves with issues can be addressed in a timely manner.
- **Provide instruction and council to Utility staff** during the course of the valve exercising and assessments so once the program is concluded, the Utility staff will have a complete understanding of all the parameters of conducting valve exercising and assessments with the established goal of reducing the amount of maintenance required for the distribution system while providing up to date data for the Utility for each and every valve.
- **Provide daily reporting** during the course of the project as well as a final report indicating all the pertinent details regarding the Valve Assessment and Exercising Program.
- **Provide recommendations for future valve assessment and exercising programs** such as a methodology and frequency for valve operating.

Valve Location - General

- **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 atlas by visual inspection.
- **Search for water valves** shown, but not identified by visual inspection, using a magnetic locator.
- **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. M.E. Simpson Co. 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, M.E. Simpson Co. shall be paid for the attempted locate.
- **Located valve boxes or valve vault covers** shall be painted with an environmentally formulated precautionary blue paint for future identification.

Information & Data Collection

- All the information and data collected will be provided in an electronic format so that it may be uploaded to the Utility's GIS-Based application. This will be accomplished either live as the project is proceeding by the means of a laptop or tablet type device with a wireless connection to the internet and login onto the Utility's GIS-Based application or delivered to the Utility at the end of the project in an electronic format at the end of the project.
- The data collected shall include, but not be limited to, the following water valve information:
- Identifying number presently employed by the Utility's GIS-Based application
- Location referenced by coordinates in landmark system presently employed by the Utility's GIS-Based application
- Location by street and cross-street names
- Size
- Type
- Identified Problems: Box/Vault full of debris and/or water, Paved Over, Sealed Shut, Misaligned, Buried, Chlorination Whip in Vault, Bent Stem, Packing Leak, Missing Operating Nut, Rounded Operating Nut, Bolt Deterioration, Broken Stem, Inaccessible, Structural Deficiencies
- Operating nut depth
- Enclosure type
- Number of turns to achieve full closure
- Direction of closure
- Present valve position

- Date operated
- **Documentation:** As stated above; all documentation will be performed either "live", online through the Utility's GIS-Based online application or delivered to the Utility at the end of the project in an electronic format at the end of the project.
- All the information and data collected will be compiled by means of electronic tablet or laptop computer.
- The data collected shall include, but not be limited to, the following water valve information:
  - Identifying number consistent and compatible with system presently employed by the Utility
  - Location referenced by coordinates in landmark system approved by the Utility
  - Size
  - Type
  - Operating nut depth
  - Enclosure type
  - Number of turns to achieve full closure
  - Direction of closure
  - Present valve position
  - Date operated

GPS Locations

M.E. Simpson Company's Project Team will furnish all labor, material, transportation, tools, and equipment necessary to perform GPS locations on specified appurtenances in the distribution system, then take these GPS locations and import them into a GPS database, showing all the important locational details needed and desired by the Utility. The Project Team 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 performing the asset assessments 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. All vehicles used in the field will have company signs attached.
- The field equipment to be used will be that which was 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.
- As a part of the program, mapping discrepancies found on the current atlases will be noted and included as a part of the final report so the Utility will have a listing of 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 made by the Project Team.
- A progression map shall be maintained for each section under study indicating all assets located 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 asset 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 collection of GPS points, and traffic volume may affect the ability of the Project Team to be able to safely GPS valves on busy streets. The Project Team will give 24-hour advanced notice of intent to GPS 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.

- Examine the water maps to determine the anticipated location of each asset/appurtenance chosen.
- Attempt to verify the existence of all selected assets shown on the atlases by visual inspection.
- Search for assets shown, but not identified by visual inspection, using a magnetic locator.
- Employ a combination of recorded information, manual and technical testing techniques as needed to establish the location of remaining assets.
- Identify locations where a main line valve or water main is expected, but not shown on the current maps, and proceed through verification and search process.

GPS VALVE & HYDRANT LOCATION

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

- **The Project Team will collect GPS Coordinates** of all valves & hydrants 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 & hydrant).
  - 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.
- **"PDOP" readings need to be less than 5**. "PDOP" readings greater than 5 will not be considered as accurate locations.
- **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. Data

collected with the satellites low on the horizon and/or poorly distributed shall not be considered valid.

- **The information collected** will be compiled into a 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.
- **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. The level of accuracy taken will be based upon the above scope of work.

DOCUMENTATION OF GPS VALVE LOCATIONS

The Project Team will provide a location report for each documented valve & hydrant located, and/or 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 **Texas State Plane 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 – 200 ft. 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 one (1) range of operation**.

- **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 Exercising

Identifying number consistent and compatible with system presently employed by the Utility.

- Valve Number
- Size of Valve
- Type of Valve (Gate, Butterfly, Other)
- Valve Box/Vault
- Direction of Closure
- Depth of Operating Nut
- Valve Use (Mainline, Crossover, Service Line)

- Location information
  - Street Name
  - Cross Street Name
  - House Number (if available)
  - Site Location (Street, Parkway, Driveway, Easement, Centerline)

- Box/Vault Condition
  - Valve Box full of Debris
  - Valve Vault full of water
  - Paved Over
  - Valve Box Misaligned
  - Valve Box Buried

- Operational Conditions of Valve
  - Final Number of turns to close
  - Final Position
  - Date Turned
  - Crew performing operation
  - Valve Problems (Bent stem, Packing Leak, Missing Operating Nut, Rounded Operating Nut, Broken Stem, Inaccessible)
  - Comments

Valve Exercising

M.E. Simpson Co., Inc. takes great care when exercising/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. M.E. Simpson Co., Inc. cannot be held responsible for possible valve failures during their operation due to pre-existing conditions. M.E. Simpson Co., Inc. 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.

Equipment

The following equipment will be used for valve exercising/assessment work during the valve program for the Utility. All material listed will be on the job site at all times.

- 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.
- All necessary hand tools needed.
- 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 “Fischer M-Scope” / “Schonstedt” / “Chicago Tape” magnetic locator.
- A “Radio Detection RD4000” series line locator.
- ***GPS Location Services:*** A Trimble GPS GeoExplorer 6000 Series GeoXH handheld receiver, and related equipment.

Specialty Line Location Services Scope

- Contact points for Conductive line trace distances should not exceed 300' between points. I.e.: Hydrants, valves, B-boxes.
- For line locations of PVC or AC water mains, the metallic services can be traced to the point of connection to the water main and then the main location can be interpolated by connecting the points of connection. These locations will be performed to the best of the Project Team’s ability; however, the locations can only be termed “estimated” due to the nature of non-metallic pipe.
- The line location will be marked in the field (on the surface) using environmentally formulated Precautionary Blue paint.
- GPS Locations will be taken of appurtenances and related key portions of the lines located for further documentation and mapping purposes.

- The Project Team will document all line locations with a diagram indicating the location of the water main and service. These field sheets will be copied and turned into the assigned Water Department Manager if the utility is excavating immediately.

Utility Observations

The M.E. Simpson Co., Inc. Project Team will welcome having staff of the Utility observe field procedures while the Valve Assessment and Exercising 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 assessing and exercising valves in the Water System.

Manhole Inventory & Inspection Services

The Field Scope of Service for the Manhole Inventory & Inspection Services is understood to be the following:

The Project Team (M.E. Simpson Co., Inc.) will furnish all labor, material, transportation, tools, and equipment necessary to perform manhole assessments on the collection system. The Project Team 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 performing the manhole assessments at all times.**

- **Review all** as-built drawings of the system, all original atlases, all books, field cards, notes, computer copies of the system maps, and a copy of a digital map of the Utility if available.
- **Examine the sanitary collection system maps** to determine the anticipated location of each manhole.
- **Attempt to verify** the existence of all manholes shown on the collection system maps by visual inspection.
- **Search for manholes** shown, but not identified by visual inspection, using a magnetic locator.
- **Employ a combination** of recorded information, manual and technical testing techniques as needed to establish the location of remaining manholes.
- **Identify locations where a manhole is expected**, but not shown on the utility map, and proceed through verification and search process.
- **Two attempts shall be made to locate "lost" manholes** before these are turned into the utility for location. If the utility cannot locate the manhole within five working days, M.E. Simpson Co. shall be paid for the attempted locate.
- **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.
- **Once located, all manholes shall be opened,** and a visual **Level 1 inspection** conducted. No manhole shall be entered during this process unless previously agreed upon by M.E. Simpson Co. and the Utility and then only by following accepted confined space entry regulations. The following information can be gathered and entered onto the inspection field sheet:
  - GPS coordinates (X, Y, Z)
  - Sewer type
  - Site locations (street, alley, parkway, etc.)
  - Rim condition
  - Lid type and condition
  - Frame condition

- Manhole details (construction material, Chimney, cone, steps, wall condition & observed infiltration)
- Bench condition
- Channel condition
- Inlet/outlet pipes (pipe size & clock position, pipe material, flow direction)
- Roaches present or not

- **The Project Team shall notify** the *Utility Superintendent*, of intent to conduct manhole inspections in specific areas. 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.
- **Locations of all structures** selected by the Utility will be gathered via GPS.

GPS MANHOLE LOCATION

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

- **The Project Team will collect GPS Coordinates** of all manholes 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 (storm drain, sanitary manhole, etc.)
  - 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.
- **"PDOP" readings need to be less than 5**. "PDOP" readings greater than 5 will not be considered as accurate locations.
- **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. Data collected with the satellites low on the horizon and/or poorly distributed shall not be considered valid.

- **The information collected** will be compiled into a 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.
- **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. The level of accuracy taken will be based upon the above scope of work.
- **Located vault covers** shall be painted with an environmentally formulated **precautionary green paint** for future identification.

DOCUMENTATION OF SANITARY STRUCTURE LOCATIONS

M.E. Simpson Company will provide a location report for each structure located, in a book and a database on a CD or our Pro-Manhole™ on-line database available by username and password, in a format agreed upon between the Utility and M. E. Simpson Co., Inc.

- The GPS data collected will be exported into a database for Utility use.
- The 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 State Plane Coordinate System.*
c. *Location by street and cross-street names.*
d. *Type of structure.*
e. *Date and time data was collected.*
f. *Rim data (flush, buried, etc.)*
g. *Lid type*
h. *Frame condition*
i. *Manhole condition (construction material, chimney, cone & wall condition)*
j. *Bench condition*
k. *Channel condition*
l. *Pipe sizes & clock position*
m. *Flow direction*
n. *Depth (Frame to Invert)*
o. *Any other detail that is agreed upon to be included with the database.*

Equipment

The following equipment will be used for valve exercising/assessment work during the valve program for the Utility. All material listed will be on the job site at all times.

- For the sub-meter GPS locations, the equipment shall be a Trimble® R1 Unit.
- All necessary hand tools needed.
- 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.
- Depth measurement tools, pipe diameter measuring tools.
- A "Schonstedt" / "Chicago Tape" magnetic locator.

Utility Observations

The M.E. Simpson Co., Inc. Project Team will welcome having staff of the Utility observe field procedures while the manhole inventory & inspection 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 assessing manholes in the wastewater system.

Atlas Scope of Services

Our Asset Management Program, Water & Wastewater Atlas Updating is a multi-phase plan encompassing a select group of our services that will assist your Utility in improving records and information as well as optimizing your distribution and collection system's operational performance. Our program will be structured around your specific needs so that you can optimize your results and maintain flexibility in the performance of the various tasks. The Project Team will submit a questionnaire for particular details required for the review.

The Utility will provide all relevant information to conduct the atlas update program. All data will be provided in an electronic format. In the collection and review of the data, a hierarchical approach will be used.

- *Current* information found in the water & wastewater utility reports, maps, records, GPS data and files will be used as the initial set of data. Some discrepancies among the data sets will be resolved by contacting utility staff.
- *Older* legacy utility data may be consulted and used.
- *Records* such as, as-built drawings, installation records and related information will be used as reference information for the Utility's distribution and collection system. Meeting with key Utility staff members to gather information and knowledge about the water and wastewater system will also be utilized when needed.
- *Base Maps* will be provided by the Utility in an electronic format, preferably shapefiles for ESRI. Base maps usually include county, street, and parcel information. M.E. Simpson Company will use this information as a foundation for the water and wastewater system data to create the updated atlas for your GIS records. If base maps cannot be provided by the Utility, a standard ERSI base map will be used at an additional cost.
- *System Verification* of key assets and related appurtenances will be conducted to create a field verified atlas based on this proposal.
- *GPS Locations* and coordinates of the water, waste water, or storm water system attributes will be provided by the Utility in a suitable electronic format. If GPS coordinates do not exist, M.E. Simpson Company can provide GPS Location Services as a part of this program. An atlas update program cannot be done if GPS coordinates are not provided.
- The Utility will receive a PMF (Published Map File) on a flash drive and will also receive an updated PMF file after each project (service) is completed. Updated atlas data will be within the scope of the current project. For example: if a valve exercising and/or manhole inspection program is taking place in town by MESCO staff, atlas updates regarding valve and manhole placement will be conducted.

- The Utility will receive one (1) 17”x22” printed copy of the updated atlas created by M.E. Simpson Company. Printed pages of atlas will be based upon section data supplied by the Utility If section data is not available, printed pages of the atlas will be determined by M.E. Simpson Company.
- Water mains on the updated atlas will be color coded based upon the size of main, valve structures will be color coded based upon operability, and hydrant structures will be color coded based upon flow rate and operability. Color coding will be pre-determined by M.E. Simpson Company. Any changes to the color-coding system set in place could result in additional charges.
- Additional updates out of scope will be performed only upon agreement between the Utility and M.E. Simpson Company at an additional charge.
- Optional or additional paper copies of the atlas are available for an additional charge.

- Map assets such as valves, hydrants and manholes can be added to the atlas to account for new structures in the system. These structures can be added by manually selecting the position or with a GPS collection device such as a Trimble® R1 or R2 unit. In order to collect GPS points through the application, a mobile device with an internet connection is needed; such as a cell phone or tablet device. Access to the state’s real-time network is also necessary to collect and process GPS points instantly. Signing up for this service is the responsibility of the Utility and may be a paid-for service depending on the state of operation. The Utility will also have the ability to add service records to all main line valves and hydrants in the water system.

- Deleting assets from the water and wastewater system will be handled by M.E. Simpson Company at no additional charge. This includes but is not limited to: main line valves, fire hydrants, water mains, manholes, sewer mains etc. This is to ensure the integrity of the data remains intact. Please allow 72 hours for updates handled by M.E. Simpson Company.

- Pro-Maps™ has the ability to display the base map view in multiple formats such as; ESRI Topo, ESRI World Street and ESRI Aerial.

- Photographs of each asset can be collected and stored within our collector APP. These photographs will display the visual condition as well as the location of the asset.

- All edits made to the water atlas will take 24 hours to reflect on field equipment due to the offline functionality of the software. If changes are made, please allow 24 hours for updates to appear. Changes made on the desktop version of the software will be updated immediately.

- Current geodatabase files and shapefiles pertaining to the work completed during the atlas update program will be readily available to the Utility at no additional cost.

M.E. Simpson Company’s Project Team will furnish all labor, material, and equipment necessary to perform water atlas updates. The Project Team shall be required to provide such skilled and trained personnel and equipment necessary to complete the work herein specified.

- Project Team Personnel will meet with the Utility to review the project guidelines and answer any questions on procedures.
- Examine the water maps to determine the anticipated location of each asset (mainline valve, hydrant, valve vault, major service valves, etc.)

Final Reports, Documentations & Communication

Effective communication… accurate documentation… **Ensuring the success for the valve, manhole, mapping program.**

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 valves, manholes & GPS points to be assessed.
- 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.
- **The Project Manager will** meet with the Utility regularly for a progress report.
- **Document all valves and structures located** as indicated in the "Scope of Services".
- **Maintain a progression report** of the project indicating areas of valves, manholes & mapping completed.
- Provide a list of material deficiencies such as, broken valves, valves or manholes with minor issues and mapping discrepancies on a weekly (in Pro-Maps™ 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 or sewer atlas
    3. Broken Valves
    4. Major Deficiencies
    5. Minor Deficiencies

- **Valves or Structures found with problems** shall be documented and turned into the assigned Utility personnel daily so the Utility can make the necessary maintenance corrections.
- **The equipment used** will be that which was described in the "Equipment to be used" section.
- **Prepare the final report** at the completion of the project which will include all valve and manhole location, information and documentation reports, total of valves assessed and exercised, manholes inspected and inventoried and a list of problems found in the system during the course of the assessment program that need the attention of the Utility. **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*, in an acceptable electronic format, will furnish all maps, atlases, and records, necessary to properly conduct the Valve Exercising, Manhole Inspection and GPS/Mapping program.
- If a base map does not exist, then the Utility and M.E. Simpson Co., Inc. will need to agree on how and where to obtain a base map of the Municipality that can be used as an acceptable base map.
- The *Utility* will provide records such as old water or sewer cards or any additional information that would make valve and structure location easier to perform. This information shall be regarded as **CONFIDENTIAL** by M.E. Simpson Co., Inc., and will not be shared with anyone outside of the Utility without consent of the Utility.
- The *Utility* will notify other departments in the city, town, or village as to the activity of the valve exercising, manhole inspection and GPS/Mapping program 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 system under study, 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 and wastewater system who may be helpful in attempting to locate particularly hard-to-find valves, manholes and for general information about the water and wastewater 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 water mains or collection mains run in easements on private property.

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 of 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.

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 Department of Transportation (per MUTCD).**
  - All personnel are **trained and certified**, by the **AMERICAN TRAFFIC SAFETY SERVICES ASSOCIATION (ATSSA)** in Traffic Control and Safety.

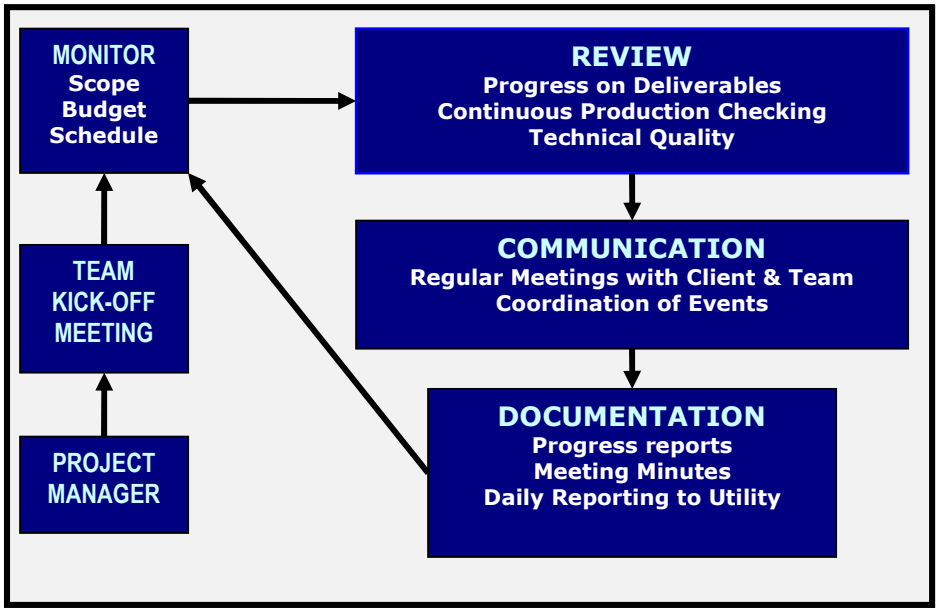
Current documentations of safety training and certifications can be provided for all project personnel for the Utility. These certifications are current and up to date (for 2021) for all project personnel.

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 Rollingwood, Texas of effective 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. MESCO has seasoned and experienced managers that will have continuous input, ensuring the results of the Valve Assessment & Exercising, Manhole Inspection & Inventory and GPS/Mapping Program exceed the expectations of Rollingwood, Texas.

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 each of the programs, each member of the project team is dedicated to providing the best valve, manhole, GPS & Mapping program that can be attained using the state-of-the-art assessment tools, field experience and engineering knowledge. Our team will be made up of experienced water professionals that are experts in valve assessment, manhole level 1 inspection, GPS and mapping along with, fire hydrant maintenance/flow testing, water distribution system hydraulic modeling, and leak detection. It is this combination of experience and knowledge that has helped shape our approach to valve assessments 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 Rollingwood, Texas and the Project Manager regarding their progress as well as any major issues needing immediate attention and discussion.

For the assessment 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 these programs. It is our team's combination of field experience and engineering knowledge that has shape our approach to valve, manhole, GPS and mapping assessments in water 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 Rollingwood, Texas and the Project Manager regarding the projects progress.

MESCO is sure that the selection of our team to perform this work will provide Rollingwood, Texas 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 Rollingwood, Texas.
- A project approach that incorporates interim reporting and continuous input opportunities by the Rollingwood, Texas 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 Rollingwood, Texas, 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 Rollingwood, Texas to ensure that the work product is technically correct, but also meets the needs and expectations of Rollingwood, Texas. 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, manhole, GPS and mapping 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 assessment procedures every step of the way and having staff knowledgeable in all aspects of the 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.

SCHEDULE OF WORK

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), **30 days** in the field for completion of valve, manhole, GPS and mapping assessments.

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 Utilities Manager 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 Utilities Manager. Valves needing immediate attention will be documented and submitted immediately for the Utility's attention. Minor repairs will be reported daily for scheduling of repair. Valves that need moderate to severe repair will be turned in to assigned Utility Manager daily or as agreed upon by, prioritized by severity. Manholes needing immediate attention beyond minor repairs (minor repairs are those that would be required but do not affect the ability of the manhole's safety) will be documented and submitted immediately for the Utility's attention.

Final Reports: Final summary reports will be available 30 workdays after field work has been completed for the program for the year. These reports will have all the data compiled during the course of the project. In addition, the valve and manhole database will be delivered to the Utility in agreed upon database format.

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 Rollingwood, Texas's Valve Assessment & Exercising / Manhole Inventory & Inspection / GPS & Mapping program, we will support a fundamental cornerstone of Rollingwood, Texas Asset Management Policies. Our team brings to Rollingwood, Texas a demonstrated experience and a unique perspective in valve assessment and manhole inspection.

From MESCO's in depth experiences working with several water utilities performing water distribution system programs 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.** Rollingwood, Texas needs breadth and depth to help solve the variety of water system challenges that it faces in maintaining the water infrastructure – which is complex, aging and requiring upgrading to address new water needs. With our Team's experience in every aspect of Distribution System maintenance and optimization, we can often provide support that assists the utility in avenues well beyond just the valve assessment, manhole inspection & GPS/Mapping project scope.

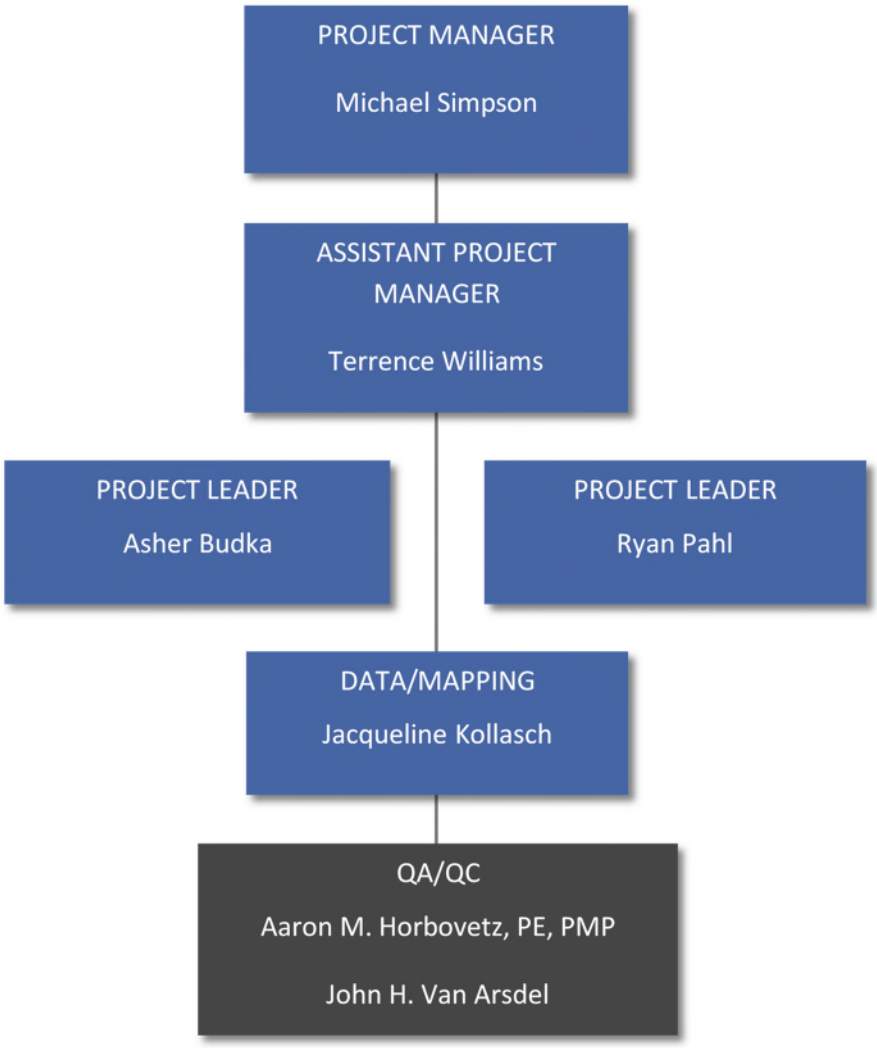
2. **Streamlined Access.** Rollingwood, Texas needs to be able to easily access and manage the Project Team's expertise to bring it to bear on distribution system valve problems rapidly and with the least possible administrative burden to Rollingwood, Texas's staff. However, Rollingwood, Texas will need to have considerable input to the process by providing needed data for analysis. In this respect, interaction with utility staff will be needed to produce quality water system maintenance efforts.

3. **Professional Working Relationships.** Rollingwood, Texas must be confident that the Project Team is working as true professionals – putting Rollingwood, Texas's interests first. The professionals in Rollingwood, Texas 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 Rollingwood, Texas's residents.

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 Rollingwood, Texas's needs for water system maintenance for valves and manhole inspection.

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 Rollingwood, Texas 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 Rollingwood, Texas bring significant experience and a proven track record of delivering timely, cost-effective, and sound Valve, Manhole, GPS & Mapping 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 Valve, Manhole, GPS & Mapping 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: Michael D. Simpson

Michael D. Simpson has been with the Company since February of 1983. He completed two years at Purdue University where he studied Industrial Technology. Michael began his career with M.E. Simpson Co., Inc. as a meter technician. He implemented the Company's leak detection program which has now developed into the Company's Water Loss Reduction and Water Distribution System Evaluation Programs.

While working for the Company, Michael developed many of the techniques used today by M.E. Simpson Co., Inc. personnel when performing water loss reduction programs and water distribution system evaluations. With that experience, Michael taught these special techniques to several employees. Along with that experience Michael has completed classes, as well as given lectures on hydraulics that are specifically related to the Polcon® Flow Testing equipment.

As a dedicated member of numerous organizations, he has taught classes on water loss reduction and water distribution system evaluations throughout the United States. Michael has gained invaluable experience as he has been personally responsible for over 100 water loss control and water distribution evaluation programs. Currently, as CEO of M.E. Simpson Company, Inc., Michael oversees the Company as a whole and manages all daily functions of all corporate and regional offices, its personnel and financial management.

Professional Certifications:

- 10 Hour and 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

Assistant 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

Project Leader: Asher Budka

Asher Budka has been with the Company since August 2007. Prior to being employed at M.E. Simpson Company, Asher served 6 years active duty in the US Navy as a Nuclear Electronics Technician 2nd Class. Asher possesses 4 ½ years of operating US Navy Nuclear Power Plants as a Reactor Operator and performed preventive, and corrective maintenance on Reactor Instrumentation and Control equipment including Venturi flow meter calibrations. He also received training in fluid flow, hydraulics, schematic and blueprint reading from the Navy that has aided in the understanding of water distribution systems and their flow characteristics. He recently obtained his Bachelor's Degree of Science in Project Management from Colorado Technical University. Asher has traveled all over the country completing various projects in Arizona, California, New Mexico, Texas, Florida, Georgia, Maryland, Connecticut, Massachusetts, New York, Virginia, and has also traveled halfway around the world to perform a project on Diego Garcia. He has attended numerous classes and lectures on the operation and maintenance of water meters. He has experience in the

maintenance and installation of water meters, valve location, exercising and mapping, and the use of state-of-the-art leak detection equipment. Asher is experienced in the operation and maintenance of water meters, fire hydrants and main capacity flow testing, and the operation of our Polcon® Flow Testing equipment. He has managed numerous Unidirectional Flushing Programs and trained personnel in the conduction of UDF Programs.

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: Ryan Pahl

Ryan Pahl has been with the Company since January 2019. Ryan previously worked for M.E. Simpson Company from 2013 until 2016. Ryan was recently a water resource operator for Avondale Public Works – Distribution in Avondale, AZ. Ryan has traveled all over the country completing various projects including jobs in Georgia, Kansas, Florida, Michigan and Wisconsin. Ryan has attended numerous classes and lectures on the operation and maintenance of water meters. He has experience in the maintenance and installation of water meters; in valve location, exercising and mapping; and in the use of state-of-the-art leak detection equipment. Ryan is experienced in water meter, fire hydrant and water 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
- Licensed Water Operator: Maryland
- Licensed Water Operator: Arizona

Data/Mapping: Jacqueline Kollasch

Jacqueline Kollasch has been with M.E. Simpson Company since July 2016. She has a Bachelor of Science in Geography with a minor in Communications from Valparaiso University. Jacqueline is our GIS Technician. She is responsible for creating and interpreting maps. She also manages and manipulates data entered in our GIS database.

Professional Certifications:

- Certified Water Audit Validator (Indiana)

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

Aaron Horbovetz has been with the Company since September of 1999. 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. Aaron 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.

He has attended numerous classes and lectures related to the operation, maintenance and installation of water meters, and completed classes in plumbing. Aaron 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 manages the company's hydraulics services division, including all Pitot testing, pump curve analysis, and C-Factor testing.

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
- Certified Water Audit Validator (Indiana)

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. He has completed water operators 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 (currently licensed to use the Sandia Labs RAM-W Method, and licensed to teach 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 31 years of experience directing projects for water utilities concerning 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. John has been responsible for the analysis, evaluation, and CAD updating of Water Distribution, Sanitary, and Storm Sewer Atlases using GPS locating. He developed the Company's Unidirectional Main Flushing Program and Utility Atlas Updating Program. He has presented classes for continuing education credits for water operators for over eighteen 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 papers at the AWWA ACE in 2007, 2008, 2009, and 2012, At the 2010, 2011, and 2012 AWWA DSS he presented papers on water loss reduction. Since 2003, he has conducted classes on Vulnerability Assessments and Emergency Response Planning for water utilities as well as conducting several VA and ERP projects. He served from 2010 to 2014 as Chair of the AWWA Water Loss Control Committee.

As Vice President of M.E. Simpson Co., Inc., John serves as the main point of contact for client development, business sales and customer relations for the Eastern U.S.

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
- Extensive traffic control training
- Extensive confined space training
- Certified RAM-W trainer
- Certified Water Audit Validator (California, Indiana)

REFERENCES

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
14700 Ravinia Avenue
Orland Park, IL 60462
(708) 403-6350
kdado@orlandpark.org

City of Canton, Ohio (2013 - Current)

M.E. Simpson Co., Inc. is currently providing mainline valve assessments for the City of Canton, Ohio for its distribution system. The assessments include locating each valve and operating each valve through the full cycle of turns, two times. Sub-foot GPS coordinates were taken for each location and all data was put into the valve database for the utility. Valve repairs were also part of this assessment program. The repairs include, cleaning out of valve boxes, valve box alignments, raising valve boxes, and providing a condition assessment of each valve. Valve data was collected by computer tablet in the field and instantly uploaded to the M.E. Simpson Co., Inc. cloud-based database for review. The data was then seamlessly uploaded to the City database. In addition to the valve program, M.E. Simpson Co., Inc. provided large transmission main assessments to Canton to assess potential leakage along finished water transmission lines (42”) that transported finished water from the Sugar Creek Water Treatment Plant to the City over several miles. In 2019 the MESCO crews utilized the Echo Logics EchoShore M equipment which uses special hydrophones and correlation algorithms to acoustically detect and pinpoint leaks on larger diameter pipes over long distances without deploying an invasive device into the transmission main. The 42” transmission main was subjected to this higher level of investigation that led to the pinpointing of a smaller leak along the 49,632 feet of pipeline. In 2020, MESCO conducted additional leak detection on the twin 42” line from the treatment plant and another 36” line. This program was extended to include more large diameter main leakage investigations for the City of Canton.

James Benekos, Facilities Engineer
Canton Water Department
2664 Harrisburg Rd. N.E.
Canton, OH 44705
(330) 438-6557
james.benekos@cantonohio.gov

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, Water Manager
Village of Downers Grove
5101 Walnut Avenue
Downers Grove, Illinois 60515
(630) 434-5462
sbalicki@downers.us

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
714 South Plum Grove
Schaumburg, IL 60193
(847) 895-7100
bwagner@schaumburg.com

Washington Suburban Sanitary Commission, Maryland (2018 - Current)

M.E. Simpson Co., Inc. is currently providing small mainline valve assessments for the Washington Suburban Sanitary Commission (WSSC) for its distribution system. WSSC provides water service to Montgomery County, and Prince Georges County in Maryland for the Washington D.C. Suburban area. The assessments include locating each 14” and smaller valve and operating each valve through the full cycle of turns, two times. GPS coordinates are taken for each location and all data is put into the valve database for the utility. Valve repairs are also part of this assessment program. The repairs include replacement of missing/damage operating nuts without digging up the valves, valve box alignments, raising valve boxes, and providing a condition assessment of each valve. Valve data is collected by computer tablet in the field and instantly uploaded to the M.E. Simpson Co., Inc. cloud-based database for review. The data is then seamlessly uploaded to the WSSC database.

Mr. Christopher Caro, P.E., Project Manager
WSSC
14501 Sweitzer Lane
Laurel, MD 20707
(301) 206-7538 office
(240) 340-3406 mobile
Christopher.Caro@wsscwater.com

I N V E S T M E N T

A commitment to improving and maximizing Rollingwood's Valve Assessment & Exercising / Manhole Inventory & Inspection / GPS & Mapping project.

M.E. Simpson Co., Inc. is pleased to offer our proposal for a Valve Assessment & Manhole Inventory & Inspection and GPS/Mapping Program for Rollingwood, Texas. This program is based on locating, exercising, assessing, and documenting valves, conducting manhole inspection and GPS Mapping services in the Utility's water distribution and wastewater collection systems. The exercising, inspection, GPS and documentation will be done by one of our two-man teams', in accordance with the above Scope of Service, with all necessary equipment furnished by M.E. Simpson Co., Inc. as described within this document.

Valve Assessment & Exercising Program:	
2021 Valve program at a rate of $2,650.00 per day (Not to Exceed 10 days)	**$26,500.00**
Manhole Inventory & Inspection Program:	
2021 Manhole program at a rate of $2,650.00 per day (Not to Exceed 10 days)	**$26,500.00**
GPS & Mapping/Atlas Program:	
2021 GPS & Mapping Atlas services at a lump sum fee	**$ 7,000.00**
Mobilization:	
Mobilization/de-Mobilization at a lump sum fee per occurrence	**$ 7,900.00**
Total Project:	**$67,900.00**

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

We thank you for this opportunity to acquaint you with our Valve Assessment & Exercising / Manhole Inventory & Inspection / GPS Mapping Program 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.