

A G E N D A

A MEETING OF THE MUNICIPAL SERVICES COMMITTEE TO BE HELD ON MONDAY, JANUARY 25, 2021, AT 5:30 P.M. AT THE VILLAGE HALL, 835 MIDWAY DRIVE, IN THE VILLAGE OF WILLOWBROOK, DUPAGE COUNTY, ILLINOIS

DUE TO THE COVID 19 PANDEMIC THE VILLAGE WILL BE UTILIZING A CONFERENCE CALL FOR THIS MEETING.

THE PUBLIC CAN UTILIZE THE FOLLOWING CALL IN NUMBER:

**Dial in Phone Number: 630-920-2488
Code: 012153#**

Written Public Comments Can Be Submitted By 5:15 pm on January 25, 2021 to mmertens@willowbrook.il.us

1. CALL TO ORDER
2. ROLL CALL
3. APPROVAL OF MINUTES:
 - a. November 23, 2020 Meeting of the Municipal Services Committee
4. DISCUSS – Water Distribution Point-in-Time Leak Survey Proposals
5. DISCUSS – Water Distribution Continuous Leak Detection System Proposal

6. DISCUSS – Water Rate Study and Water Distribution Capital Improvement Plan Proposal

7. Discuss - Pump House Meter Replacement
8. PUBLIC WORKS UPDATE

- a. Water Pumpage Charts
- b. November & December 2020 Monthly Building Permit Reports

9. VISITOR'S BUSINESS

(Public comment is limited to three minutes per person)

10. ADJOURNDMENT

Mayor

Frank A. Trilla

Village Clerk

Deborah A. Hahn

Village Trustees

Sue Berglund

Umberto Davi

Michael Mistele

Gayle Neal

Paul Oggerino

Gregory Ruffolo

Village Administrator

Brian Pabst

Chief of Police

Robert Schaller

Director of Finance

Carrie Dittman



MINUTES OF THE REGULAR MEETING OF THE MUNICIPAL
SERVICES COMMITTEE OF THE VILLAGE OF WILLOWBROOK HELD
ON MONDAY, NOVEMBER 23, 2020 AT 5:30 P.M. AT THE VILLAGE
HALL, 835 MIDWAY DRIVE, IN THE VILLAGE OF WILLOWBROOK,
DUPAGE COUNTY, ILLINOIS

1. CALL TO ORDER

The meeting was called to order at 5:30 PM. It was noted that this meeting was held via conference call due to the Covid-19 pandemic.

2. ROLL CALL

Those physically present at roll call were Chairman Michael Mistele and Assistant Village Administrator Mertens.

Those present via Zoom Conference call were Trustee Berglund, Trustee Ruffolo, Attorney Tom Bastian, Finance Director Carrie Dittman, and Public Works Forman AJ Passero.

3. APPROVAL OF MINUTES

After review of the draft minutes from the October 26, 2020 meeting of the Municipal Services Committee, Trustee Berglund made a motion to approve the minutes as presented. Trustee Ruffolo seconded the Motion. Roll Call. Motion Carried.

4. DISCUSS VILLAGE SINGLE FAMILY HOME SPRING / FALL BRUSH COLLECTION PROGRAM

Assistant Village Administrator Mertens advised that the Village has received several inquiries regarding the brush pick-up fee that is now itemized on the Groot Industries service invoice and wanted to provide some clarity regarding the program and possible alternatives for moving forward in 2021.

The Village over the years has contracted a twice a year brush collection program for all single-family homes within the community. The program is funded through what is called a “pass-through” collection fee that was in our contracts with Republic Services and now Groot Industries. The past contracts the Village had with Republic Services called for the contractor to bill the residents a minimum monthly pass-through surcharge for the Village brush collection program. The old rate in the Republic Services contract was billed at \$2.16 per household, per quarter. The new contract with Groot Services adjusted the pass-through rate to \$4.35 per household, per quarter. This amount was updated to cover the current Village cost for the spring and fall brush collection program. The Village then applies that pass-through collected fee to pay a separate contractor to perform the twice a year brush collection program for the single-family homes.

The Village had the same program with Republic, although it was at a lower rate that did not cover the full cost of the program and it was not broken out as a separate item on your bill. Since the Village does not have a general property tax like our neighboring communities, this

was the method chosen to fund this Village program over the years.

As you may be aware, the contract with Republic Services expired this past July. With that in mind, the Village went out for competitive bid for refuse services to secure the best pricing for the quality service our residents expect. The Village received four proposals and Groot Industries coming in as the lowest bidder. They offer three different cart sizes in the contract so residents can determine which size best suits their needs and budget. As indicated in the chart below, the Village has received a better rate structure for most of the residents, depending on the size of the refuse & recycling cart that is used for the property.

The comparisons are as follows:

Cart Size for Refuse & Recycling	Republic Services Contract Ending 07/31/20	Groot Industries Beginning 08/01/20	Delta
95 Gallon	\$65.61 / Quarter	\$55.74 / Quarter	Decrease of \$9.87 / Qtr.
65 Gallon	\$63.12 / Quarter	\$52.74 / Quarter	Decrease of \$10.38 / Qtr.
35 Gallon	\$59.46 / Quarter	\$49.74 / Quarter	Decrease of \$9.97 / Qtr.
35 Gallon - Senior	\$46.53 / Quarter	\$46.74 / Quarter	Increase of \$0.21 / Qtr.
Village Brush Pick Up Program	\$2.16 / Quarter	\$4.35 / Quarter	Increase of \$2.18 / Qtr.

The updated \$4.35 brush collection fee covers the cost of the twice a year brush collection program. The pricing achieved with the new Groot contract still provides an overall cost savings (95, 65, & 35-gallon services) to most of the residents.

The Current Brush Collection program is as follows:

- Occurs in the Spring and the Fall of each year, the Village has done additional storm brush programs over the last two years as well.
- Billed by Groot Industries \$4.35 / Quarter or \$17.40 / year / single family home.
- 2020 program contract was with D. Ryan Tree & Landscaping at a cost of \$31,200 / year.
- Branches and trimmings only with an 8" diameter maximum.
- 4 'x 8' area with the unbound limbs facing the street.
- Utilize a chipper system with an outside contractor.
- The fall 2020 program collected 14 trucks at 30 yards each or 2,940 cubic yards, not counting extra pickups for oversized piles.

Residents began to make calls to both Groot Industries and the Village of Willowbrook as the invoices went out for the quarterly refuse service bills. Resident concerns were as follows:

1. Transparency of the program funding. The \$4.35 / quarter was not listed on the Groot Industries mailer or the Village website until November 12, 2020.
2. Some residents to not use the brush collection program due to minimal vegetation on their property.
3. Some residents already have a landscape company taking care of their trees and shrubs.
4. Some residents thought the Village paid for the full program.
5. Some residents thought the Village should bill for the services instead of Groot Industries.
6. Some residents thought the Village should consider a user-based sticker program.

Staff wanted to provide the Committee with a status of the program and the resident feedback. Staff offers the following options for consideration for moving forward with the 2021 Village Brush Program:

1. Keep the program as currently design as highlighted above.
2. Modify the program to once a year brush collection program and billed twice a year at \$4.35/single family home.
3. Convert to a Village funded program.
4. Convert the program, being with the fall brush collection, to a sticker program through Groot industries. In this program the brush and branches must be bundled with twin and may not exceed 4 feet in length or 2 feet in diameter. Individual branches should not exceed 4 inches in diameter. Bundles should not exceed 40 pounds each.
5. Remove Groot Industries from the Brush Collection billing starting in the 1st quarter 2021. The Village takes over the billing at \$4.35 / quarter, starting in the 2nd quarter 2021. Create an Opt-Out program for residents who do not use the brush collection program.
6. Cancel the twice a year brush collection program.

Upon discussion, the consensus of the Committee was to recommend keeping the twice a year brush collection program for the single-family homes but have the Village cover the cost moving forward in 2021. Additionally, staff was directed to send out a letter to the residents advising them of the enhancements to the program. A resolution would be placed on the next Village Board meeting to memorialize the Groot Agreement modification.

5. PUBLIC WORKS UPDATE

- a) **Water Pumpage Chart** - Staff provided an overview of the September 2020 Water Pumpage Report. Assistant Village Administrator advised the Committee about leak detection proposals that the Village is currently reviewing. Additionally, he advised that Christopher B. Burke Engineering will be providing a proposal for an infrastructure assessment and water rate study. This would provide the Village with an accurate inventory of the Villages water system, age, and life expectancy. This information would be rolled into a long-term infrastructure master plan for the water system and provide the Village with an analytical recommendation for water rates to meet these infrastructure goals. These items will be presented for consideration at the January 2021 Committee meeting.
- b) **October 2020 Monthly Permit Activity Report** – Staff provided an overview of the October 2020 Building Department Report.
- c) **Valve Exercising Program / Leak Survey Pro-Maps Atlas Update Program** Staff is still in the process of getting additional prices for these services and this item will be discussed at a future Committee meeting.
- d) **Snow Equipment** - Public Works Forman Passero advised the Committee that Public Works has tested the snow equipment in preparation for the FY 2020/21 snow season.

6. VISITORS BUSINESS

None

7. ADJOURNMENT

Motion to adjourn was made by Trustee Mistele, seconded by Trustee Ruffolo. Roll Call. Motion Carried.

The meeting was adjourned at 6:08 PM.

MUNICIPAL SERVICES COMMITTEE MEETING

AGENDA ITEM SUMMARY SHEET

AGENDA ITEM DESCRIPTION

Discuss Water Distribution Point-in-Time Leak Survey Proposals

COMMITTEE REVIEW

- Finance/Administration
- Municipal Services
- Public Safety

Meeting Date: January 25, 2021

<input type="checkbox"/> Discussion Only	<input checked="" type="checkbox"/> Approval of Staff Recommendation (for consideration by Village Board at a later date)
<input type="checkbox"/> Seeking Feedback	<input type="checkbox"/> Approval of Staff Recommendation (for <u>immediate</u> consideration by Village Board)
<input type="checkbox"/> Regular Report	<input type="checkbox"/> Report/documents requested by Committee

BACKGROUND

At the July 27, 2020 Municipal Service Committee staff presented a proposal from ME Simpson for a valve exercising program, a Pro-Maps Water Atlas update for a GIS system and leak detection program as all-in-one vendor proposal. Upon discussion staff was directed to seek multiple proposals for the proposed services. Over the last number of months staff investigated other vendors but was not successful in locating other vendors that provide all three services under one package. At subsequent Municipal Service Committee meetings staff advised the Municipal Services Committee that it would seek to break up the program into three separate projects in order to obtain the competitive service proposals for the Village.

The water distribution leak survey helps isolate possible leaks within our water system. The leak survey program utilizes listening points of contact, on all hydrants and selected main line valves, b-box, and service valves, to pinpoint leaks in the water distribution system. Once located the Village public works staff would work with the Village contractor to repair the leaks to reduce the Village water loss throughout the system. As discussed at a previous Board meeting, staff advised that the Village water loss was 13% last year. The Illinois Department of Natural Resources requires the water loss to be less than 10% for a municipal system. It is imperative to find the deficiencies in our system so that we can become compliant to the standards of the Illinois Department of Natural Resources as well as reduce the fiscal impact on Village water expenses.

The following is a list of proposals from three firms for the Winter / Fall 2021 water leak detection survey program:

Company	Per Mile Rate	Winter 2021	Fall 2021	Total
ADS Environmental Service	\$134.00	\$5,628.00	\$5,628.00	\$11,256.00
Associated Technical Services, LTD (ATS)	\$211.20	\$9,152.64	\$9,152.54	\$18,305.28
M.E. Simpson Co., Inc.	\$205.00	\$9,225.00	\$9,225.00	\$18,450.00

Funding for this program is available in the FY 2020/21 Water System Improvement budget.

REQUEST FOR FEEDBACK

Staff recommends the Village consider a Winter / Fall 2021 leak detection survey program with ADS Environmental Service. Funding for the Winter 2021 program is currently available in our FY 2020/2021 water system improvement budget, the balance of the program would need to be approved as part of the Village FY 2021/2022 budget.

PROFESSIONAL OR TECHNICAL SERVICES AGREEMENT

The Parties named below hereby agree to be bound to the terms and conditions on the following pages and in accordance with the Exhibits attached to and incorporated herein to this Agreement.

ADS LLC:
340 The Bridge Street, Suite 204, Huntsville, Alabama 35806

By: _____

Printed Name: _____

Title: _____

Date: _____

CLIENT: _____

Address: _____

By: _____

Printed Name: _____

Title: _____

Date: _____

TERMS AND CONDITIONS OF AGREEMENT

NOW THEREFORE, the Parties, agreeing to be legally bound, hereby agree as follows:

ARTICLE 1 –RESPONSIBILITIES OF THE PARTIES

1.01 ADS

A. ADS shall provide the Services set forth herein and in the ADS Proposal dated 12/11/2020 attached hereto and incorporated herein as Exhibit A.

B. The standard of care for all services performed or furnished by ADS under this Agreement will be the care and skill ordinarily used by members of ADS' profession practicing under similar circumstances at the same time and in the same locality. ADS makes no warranties, express or implied, under this Agreement or otherwise, in connection with ADS' services, except as provided in section 4.01.

1.02 CLIENT

A. Client shall have the responsibilities set forth herein and in Exhibit A.

ARTICLE 2 - PAYMENTS TO ADS

2.01 Compensation

A. Client shall pay ADS in accordance with the schedule set forth in Exhibit A.

2.02 Invoices

A. Invoices will be prepared in accordance with ADS' standard invoicing practices, unless otherwise stated in Exhibit A. Invoices are due and payable within thirty (30) days after the date they are issued by ADS. If Client fails to make any payment due ADS for services and/or reimbursable expenses within thirty (30) days after issuance of ADS' invoice, the amounts due ADS will be increased at the rate of one and one-half percent (1.5%) per month (or the maximum rate of interest permitted by law) from said thirtieth day.

2.03 Credit Check and Security

A. This Agreement is contingent upon credit verification and approval of the Client by ADS. Client shall provide ADS with true and correct credit information if requested by ADS. Client authorizes ADS to make inquiries and to receive information about Client's credit history from others and to enter this information in Client's records and to disclose this information to appropriate third parties for reasonable business purposes. ADS, in its sole discretion, may deny the Services based upon an unsatisfactory credit history, or may condition the Services, which may include requiring (i) pre-payment for Services and other charges, and/or (ii) a security deposit, valid credit card on file or bank account information (EFT) to secure return of equipment and payment for Services and other charges.

ARTICLE 3 – TERMINATION

3.01 Termination

A. For Cause

1. The obligation to provide further services under this Agreement may be terminated by either party for cause upon thirty (30) days written notice in the event of a substantial failure by either party to perform in accordance with the terms of this Agreement through no fault of the terminating party. Notwithstanding the foregoing, this Agreement will not terminate as a result of such substantial failure if the Party receiving such notice begins, within seven (7) days of receipt of such notice, to correct its failure to perform and proceeds diligently to cure such failure within no more than thirty (30) days of receipt thereof.

2. In the event of termination by ADS for cause, ADS will be entitled to invoice Client and will be paid for all

services rendered and all reimbursable expenses incurred through the effective date of termination.

B. For Convenience

1. Either party may terminate this Agreement for its convenience upon sixty (60) days written notice to the other party. If this Agreement is terminated by the Client for its convenience, ADS shall be paid a reasonable amount for expenses directly attributable to termination, both before and after the effective date of termination, including, but not limited to demobilization expenses and costs associated with terminating subcontract agreements.

ARTICLE 4 - GENERAL CONSIDERATIONS

4.01 *Warranty*

A. All new products manufactured by ADS will be free from defects in material and workmanship for up to one (1) year following the date of shipment from ADS. Any unauthorized repair or replacement, use, installation or incorporation of unauthorized parts or accessories, including without limitation opening up a monitor, will void this product warranty. Any repair or replacement will be covered by this new product warranty for ninety (90) days from the date that such repaired or replaced product is shipped from ADS. This warranty is available to the Client as the original purchaser of the product and only if it has been installed, operated, and maintained in accordance with ADS' standards. This warranty does not apply to damage by catastrophes of nature, fire, explosion, acts of God (including, but not limited to, lightning damage and power surges), accidents, improper use or service, damage during transportation, or other similar causes beyond ADS' control. ADS expressly disclaims any and all implied warranties, including, but not limited to any warranty for fitness for a particular purpose.

2. To the extent allowed by law, ADS hereby expressly excludes any warranty for design defect. While products manufactured by ADS are designed and manufactured to meet published specifications, ADS may from time to time improve products currently in the market. However, purchased hardware manufactured to a previous design will only be replaced or upgraded at ADS' discretion.

4.02 *Use of Documents*

A. If required, ADS shall provide Client with a printed hard copy of the deliverable agreed upon in Exhibit A. All other deliverables shall be in the appropriate electronic media format.

B. Client agrees that it will perform acceptance tests or procedures on electronic files within thirty (30) days of receipt of same, after which the Client shall be deemed to have accepted the data thus transferred. Any errors detected within the thirty (30)-day acceptance period will be corrected by ADS.

C. Any reuse or modification of the Documents without written verification or adaptation by ADS, as appropriate for the specific purpose intended, will be at Client's sole risk and without liability or legal exposure to ADS or to ADS' Subcontractors. Client shall indemnify and hold harmless ADS

and ADS' Subcontractors from all claims, damages, losses, and expenses, including attorneys' fees arising out of such use.

4.03 *Changes, Modifications and/or Amendments*

A. All changes, modifications and/or amendments to this Agreement or Exhibit A hereto shall be made in writing and shall be signed by both Parties.

4.04 *Insurance*

A. During the term of this Agreement, ADS shall at all times procure and maintain at a minimum the following insurance coverage:

*General Liability \$1,000,000 CSL and annual aggregate
Automobile Liability \$1,000,000 CSL and annual aggregate*

Workers Compensation as required by statute

ADS will provide Evidence of Insurance upon request.

4.05 *Controlling Law, Venue and Dispute Resolution*

A. The Parties shall endeavor to resolve any disputes through informal negotiations between the Parties. If the dispute cannot be resolved within sixty (60) days after first notice of the dispute, the Parties agree that the dispute may be submitted to the court of competent jurisdiction in the county in which the work under this Agreement was performed, or in an alternative location upon agreement of the Parties.

B. THE PARTIES HERETO EACH HEREBY KNOWINGLY, VOLUNTARILY AND INTENTIONALLY WAIVE THE RIGHT EACH MAY HAVE TO A TRIAL BY JURY WITH RESPECT TO ANY LITIGATION BASED HEREON, OR ARISING OUT OF, UNDER OR IN CONNECTION WITH THIS AGREEMENT OR ANY COURSE OF CONDUCT, COURSE OF DEALING, STATEMENT (WHETHER ORAL OR WRITTEN) OR ACTIONS OF EITHER PARTY TO THIS AGREEMENT.

C. In the event of any dispute and/or legal action arising from an interpretation and/or the performance of any of the provisions of this Agreement, the Parties hereby agree that the prevailing Party shall be awarded reasonable attorney's fees and costs, including but not limited to, the cost of paralegals, accountants and attorney's fees and costs of appellate proceedings, if applicable.

4.06 *Successors, Assigns, and Beneficiaries*

A. Neither party shall assign this Agreement without the prior written consent of the other, which shall not be unreasonably withheld, except that without securing such prior consent either party shall have the right to assign this Agreement, and all obligations hereunder, to any successor by way of merger or consolidation or the acquisition of all or substantially all of the business and assets of the party relating to the subject matter of these terms. This right shall be retained provided that such successor shall expressly assume all of the obligations and liabilities of the assigning party under the Agreement. Any assignment in violation of this paragraph shall be void. The terms and conditions of this Agreement shall be binding upon and enforceable by the successor and permanent assign of the assigning party.

B. All duties and responsibilities undertaken pursuant to this Agreement will be for the sole and exclusive benefit of Client and ADS and not for the benefit of any other third Party.

4.07 Limitation of Liability

A. TO THE EXTENT PERMITTED BY APPLICABLE LAW, IN NO EVENT SHALL ADS, OR ANY OF ITS AFFILIATES, DIRECTORS, EMPLOYEES, AGENTS OR PARENT CORPORATIONS, BE LIABLE TO ANY PERSON, FIRM OR ENTITY, INCLUDING, BUT NOT LIMITED TO CLIENT, FOR ANY INDIRECT, PUNITIVE, EXEMPLARY, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES, INCLUDING BUT NOT LIMITED TO LOST PROFITS, BUSINESS INTERRUPTION, LOST DATA, LOST REVENUE AND/OR LOST SAVINGS, EVEN IF CLIENT HAS BEEN ADVISED OF THEIR POSSIBLE EXISTENCE OR IF SAME WERE REASONABLY FORESEEABLE.

4.08 Force Majeure

A. Neither Client nor ADS shall hold the other responsible for damages or delays in performance caused by Force Majeure or other events beyond the control of the other Party which could not reasonably have been anticipated or prevented. Force Majeure shall include, but not be limited to, unusually severe weather, floods, power outages, epidemics, war, acts of terrorism, riots, strikes, lockouts, exercise of police power, condemnation or eminent domain. The foregoing shall not give rise to any claims or damages or be considered a waiver by either Party of the obligations of this Agreement.

4.09 Confidentiality and Non-disclosure

A. Both Parties acknowledge that, in the course of performing this Agreement, certain employees, agents or representatives may be exposed to or acquire information which is proprietary or confidential. Such proprietary and confidential information may include without limitation information related to research, development, designs, plans, reports, investigations, materials, data, pricing, trade secrets, customer lists, salaries, or business information ("Confidential and Proprietary Information").

B. Both Parties agree to hold each other's Proprietary and Confidential Information in strict confidence and not to make each other's Proprietary and Confidential Information available in any form to any third party or to use each other's Proprietary and Confidential Information for any other purpose than for the performance of work under the implementation of this Agreement.

4.10 EEO Statement

A. It is the policy of ADS to recruit, hire, train, compensate, promote, discipline, and otherwise treat its employees and applicants without regard or consideration for the individual's race, color, religious creed, sex, age, national origin, ancestry, mental or physical disability, marital status, citizenship status or any other reason prohibited by law. In addition, ADS is committed to fully complying with all

applicable laws and regulations regarding the Americans with Disabilities Act of 1990, Title VII of the Civil Rights Act, and the Vietnam Era Veterans Readjustment Assistance Act and applicable Federal, State, and Local regulations. ADS also provides equal employment opportunity in all employment practices to qualified applicants and employees without regard to disability.

4.11 Notices

A. Any notice required under this Agreement shall be in writing, addressed to the appropriate Party at its address on the signature page and given personally, by registered or certified mail postage prepaid, or by a commercial courier service. All notices shall be effective upon the date of receipt.

4.12 Survival

A. All express representations, indemnifications, limitations of liability, and assurances of confidentiality included in this Agreement shall survive its completion or termination for any reason.

4.13 Severability

A. Any provision or part of this Agreement held to be void or unenforceable under any Laws or Regulations shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon Client and ADS, who agree that the Agreement shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

4.14 Waiver

A. Non-enforcement of any provision by either Party shall not constitute a waiver of that provision, nor shall it affect the enforceability of that provision or of the remainder of this Agreement.

4.15 Headings

A. The headings used in this Agreement are for general reference only and do not have special significance.

4.16 Entire Agreement

A. This Agreement constitutes the entire agreement between the Parties and exclusive statement of the terms between the Parties with respect to services to be performed hereunder. The Exhibits referenced in this Agreement and the specifications and drawings referenced therein are a part of this Agreement with the same force and effect as if fully set forth herein. No alteration, modification, or amendment of any of the provisions hereof shall be binding unless in writing and signed by duly Authorized Representatives of the Parties.

Exhibit A

PROPOSAL

ADS proposal dated 12/11/2020 containing the agreed upon Scope of Work, Compensation and Party Responsibilities is attached hereto and incorporated as if fully set forth herein.

December 11, 2020

A.J. Passero
Public Works Foreman
Village of Willowbrook
835 Midway Drive
Willowbrook, IL 60527

Subject: Quote for Leak Detection Services

Dear Mr. Passero,

ADS Environmental Services is pleased to submit a quote leak detection survey for the Willowbrook, IL Water Distribution System. We have assumed that this scope of work will match the current specifications, terms, and conditions of the Darien, IL water leak survey program. ADS can currently offer at a unit cost of \$134.00 per surveyed mile. It is estimated that this survey will be for approximately 42 miles and that 2 surveys will be completed in the 2021 calendar year.

Our crews are available to get started on this work within 3-5 weeks (or when scheduled by the Village Staff) of a submitted Purchase Order from the Village for this project. We look forward to your acceptance of our offer and the opportunity to continue to work with the Village of Willowbrook on this important project. Please do not hesitate to contact me directly with any questions.

Sincerely,

Steve Huggins

Steve Huggins
Chicago Project Manager
ADS Environmental Services
A Division of ADS LLC
312 243 9440 (O) 773 404 0858 (M)

Scope of Services

ADS will conduct a leak detection/location survey with sonic detection equipment on the Village's water system. We will survey the total length of water main estimated to be 42.00 miles, and monitor the system by listening directly on all hydrants and selected main line valves, b-box, and service valves with highly sensitive sound intensifying instruments. For a project of this size, we propose two days sounding of the system followed by one day of resounding and correlating at each potential leak location. This approach will provide a set of organized results for the report that can be submitted to the village each week. ADS will perform two full days of sounding the system and marking down the potential leak sounds. One day will then be taken to return to those locations to see if the sound is still present. The sound may simply be due to usage and resounding will determine whether it is a leak sound. If it is a leak sound, the location will be further investigated with the electronic correlator.

ADS will thoroughly investigate the mains, hydrants, valves and/or services with an electronic leak correlator and ground microphone to pinpoint the leaks for repair. ***Leak locations will be marked with Precautionary Blue Paint unless otherwise noted by the Village.*** We recommend that all identified leaks be repaired while ADS engineers are still working in the Village so that the immediate area can be sounded again in case another leak may have been masked by the original leak noise. ADS will also record all defective system components – such as valves, hydrants and curb stops – as well as any map errors that are noted in the course of carrying out the field activities. We will be able to conduct the vast majority of the survey during normal working hours. In areas with a high traffic volume, ADS will perform this work during off-hours and will provide the Village with the necessary notice.

Classification of Leaks

ADS classifies leaks according to the following classes, which will be shown on each individual leak sheet and in the final report.

Class	Definition
I	Leaks that are hazardous in terms of potential underground washouts, possibly resulting in surface collapse, encroachment and/or damage to nearby utilities, commercial and private properties or leaks that indicate leakage to be severe enough to warrant immediate repair by Village work forces
II	Leaks that display water losses significant enough to be placed on a regular repair schedule
III	Relatively small leaks that should be repaired as work time permits

Reporting

We will meet with the designated Village representative on daily basis and deliver any leak reports from the previous day's work. Leak sheets will be prepared with a sketch of the location, leak classification and estimated water loss. We will also prepare a progression map with symbols that indicate leaks and classification corresponding to the leak report. ADS will prepare and submit a consultant's weekly report to Village's designated representative that will include:

- Miles surveyed that week
- Miles surveyed to date
- Total estimated water loss
- Number of leaks and suspected locations
- Hours worked that week

Final Report

Our final report will summarize the project and show the results of all tests and investigations. This report will include:

- A description of the area surveyed
- An overview of the methodology and equipment used for the survey
- A comprehensive list of all leak types and locations and estimated quantity of leakage found (GPD)
- An inventory of defective system components and map errors encountered during the survey
- Sketches of the individual leak locations
- Estimated benefits-to-costs resulting from completing the leak survey effort taking into account:
 - Estimated water loss from the leaks discovered during the survey
 - Village's production/purchase price for water
 - Cost of the survey itself

Professional Staff

ADS will provide the Village a project a team of experienced professionals in water leak detection services. Experience, we believe, is the most critical factor governing the work quality in the field. Our team is well versed in the most advanced leak detection technology. Our combination of engineering expertise and field staff experience will ensure that the Village's needs are understood and met. An experienced, trained leak technician will be provided to perform the leak detection survey. The Leakage Technician will likely be either William Doyle or Omar Granciano. Each has extensive experience with leak detection investigations. Resumes for our leakage technicians as well as project experience are available upon request.

Schedule of Work

ADS will coordinate the project start date with the Village. Based on the number of miles, it is estimated that the field portion of the project will take 6 to 8 working days to complete. The technician can usually cover approximately six to eight miles of pipe per day during the sounding phase, depending on weather and traffic conditions. The time needed to pinpoint leaks depends upon the number of leaks discovered and their level of difficulty. As previously discussed, we have found that two days of sounding the system should be followed by one day of resounding and correlating at each potential leak location. The leak survey will be conducted primarily during normal working hours with additional leak detection being conducted during late evening and/or early morning hours if necessary in areas of high traffic volume. The final report will be submitted within 30 days of the end of the field work. We anticipate completing two (2) full system surveys for the Village in 2021, as requested.

Equipment

ADS will use the Fluid Conservation Systems (FCS) S-30 and/or the ADS/Primayer Mikron Leak Surveyor for sounding the leaks and the Echologics LT Leak or Guttermann Aquascan for pinpointing the leaks. Echologics, Guttermann and Primayer are leaders in the manufacture and service of leak detection equipment. Our leak technicians use this equipment for leak surveys and emergency leak calls on a daily basis and continue to have good success with it.

Safety

ADS has an integrated, comprehensive safety process that is led by a full time Safety Manager with over twenty-five years of ADS experience. The safety program encompasses training, audits, equipment and procedures necessary to meet federal, state and local safety requirements. Training includes confined space entry certification, personal protective equipment, blood borne pathogens, gas meter operation, hazard communication, defensive driving, and first aid/CPR, and a comprehensive physical biannual examination. Each field crew carries all necessary communications, safety, confined space entry and traffic control equipment that meets or exceeds NFPA specifications. A safety plan that documents ADS safety protocols can be submitted for informational purposes if requested. ADS's safety program is industry leading. Many other companies and municipalities have used our program as a model for their own.

Assumptions

Our pricing is based upon the following assumptions:

- Village personnel will ensure easy access to all main line valve vaults and valve boxes. This will include pumping out valve vaults where necessary and removing debris from boxes and vaults to make valves and water lines accessible.
- The Village will make available any and all available as-built drawings, maps, atlases, records and all other data pertaining to the water system.

- The Village will provide knowledgeable qualified personnel for consultation and assistance regarding the water system.
- The Village will be responsible for repairing the leaks.
- The Village will hold ADS harmless from all items for which the Village is responsible.

Proposed Cost Estimate

The fee to complete the Project Scope of Work is as Follows:

Task	Description	Pricing
LEAK SURVEY (#1)	Leak Survey Program as described above for approximately 42.00 miles of mains, listening directly on all hydrants, selected main line valves, b-box, and service valves	\$5,628.00
LEAK SURVEY (#2)	Leak Survey Program as described above for approximately 42.00 miles of mains, listening directly on all hydrants, selected main line valves, b-box, and service valves	\$5,628.00
Total	For 2 Full System Surveys	\$11,256.00

Insurance

Our fee includes the cost of maintaining the following insurance to cover the activities of our engineers:

- Worker's Compensation – Statutory coverage
- Comprehensive General Liability – \$1,000,000 combined single limit
- Automobile Liability – \$1,000,000 combined single limit
- Professional Liability – \$1,000,000 per single occurrence

The cost of any additional coverage required by the Client will be added to our fee.

Service Terms & Conditions

****SEE ATTACHED****



October 23, 2020

Village of Willowbrook
7760 S Quincy St.
Willowbrook, IL. 60521

Attn: Mr. Andrew Passero
Public Works Foreman

RE: 2021 Water Leak Survey Proposal

Dear Mr. Passero,

We are pleased to present the following proposal to perform a two-phase "ATS LEAK DETECTION & LOCATION SURVEY" for the Village of Willowbrook. ATS has already performed successful leak surveys that Willowbrook has ever had. We are looking forward to the opportunity of providing this valuable professional service for you and the Village of Willowbrook.

With an "ATS Leak Survey" your water conservation program remains on its most successful course. As each newly discovered leak is repaired, the Village will begin to realize almost immediate return on your leak survey dollars. *In fact, over the years, ATS Comprehensive Leak Surveys have averaged a \$29.50: \$1 return in recovered water vs. the cost of hiring ATS for Willowbrook.*

Nationwide studies have determined that of these three major factors, a properly performed leak survey will have the biggest positive impact in reducing a water loss in the least amount of time while spending a fraction of the cost of a typical meter testing & replacement program. Of course, we recommend that both metering and accounting procedures continue to be addressed as important ingredients of any comprehensive water system audit and water conservation program.

"WHY CHOOSE ATS?"

QUALITY: "Quality is never an accident. It is always the result of high intention, sincere effort, intelligent direction, and skillful execution. It represents the wise choice of many alternatives."

ATS has earned its standing as one of the most innovative and successful leak location firms in America. Since 1979, ATS has conducted hundreds of leak surveys all across the Midwest in cities of all sizes, ages, layouts and water loss problems. Many of these cities have also had experience with other leak survey firms in addition to ATS. It is worth noting that in every one of those cities, ATS has never failed to find less than two times more leakage (and often more) than the competitor's survey that preceded the ATS Survey in the same town.

A Comprehensive ATS Leak Survey is essentially accomplished with these steps:

- Prepare a Comprehensive Proposal - We take into account the content and layout of your water system; current water loss data (non-revenue generating water) and previous leak survey history; the budget you have to work with; develop survey options to stretch your budget and get you the most accurate and effective leak survey possible. Once our proposal has been submitted and approved, we will be in contact with you to schedule the Pre-Survey Meeting.
- Pre-Survey Meeting – Informative meeting conducted with an *ATS Survey Project Team*, to discuss all aspects of the project such as procedures, equipment, documentation, assistance, and scheduling.
- The Area Designated for Survey is divided up into manageable “survey sub-areas” which are scaled directly from your maps to get the amount of water main in each area. Streets that are scheduled to be resurfaced are always a good place to start the survey so that an “old” leak isn’t covered up with “new” surface.
- ATS Crews will check in with the Village at the start of every survey workday so you’ll know where we’ll be that day and what kind of progress we’re making. Our office never closes. *ATS Crews and ATS’ Offices are available 24 hours a day / 365 days a year.*
- Ultrasonic Leak Detection Phase of each survey sub-area. We will log every monitored appurtenance, every detected suspect leak site, all map discrepancies and any inaccessible points that need to be found or exposed so they can be surveyed.
- Computerized Electronic Leak Location Phase – Re-survey every suspect leak site and accurately pinpoint every subsequently detected leak.
- Leak Location Reports are submitted daily as leaks are located. Leak locations are marked, diagramed and documented in detail.
- Final Survey Report - Gather Leak Repair Data, leak calculations and assemble Final Report.

There are very sound reasons why choosing ATS makes excellent business sense.

Superior Experience - ATS helped introduce leak location correlators to the American water industry, and subsequently has specialized in leak detection in 1979. This was years before any of our competitors purchased their first correlator. As a result, ATS has performed more leak surveys and pinpointed more leaks with this technology than anyone. ATS developed the leak survey techniques, correlator survey specs and field strategies that have become the standards for the industry. In fact, some of FCS – *Fluid Conservation Systems*' Regional Managers, Sales Staff, Instructors and former Director of Operations received training from ATS.

Conserving Municipal Manpower and Resources - ATS frees up your staff so that they can concentrate on their normal duties. Many public works departments are already stretched to their limit every day, providing quality services to your citizens. With our tremendous amount of municipal leak survey experience, your typical involvement is answering questions, freeing up inaccessible points and pumping out valves during the location phase on an "as-needed basis". ATS is self-reliant.

Superior Availability – The ATS fleet of ten "Leakmobiles" is ready at a moment's notice 24 hours a day and 365 days a year. ATS has more correlator equipped response vehicles than anyone in the business. We also never have less than two emergency crews on call every day of the year. In fact, during a recent winter, ATS rolled out 6 crews at 4 AM on a Sunday morning to respond to a Chicago suburb's call for emergency service. Within a few hours ATS discovered the two large main breaks were running their system dry with no other visible signs of their existence. It's the same response we give during a leak survey should you ever need our support any time day or night.

Superior Results - Like anything in life, the person who practices their craft every day is going to have distinct and measurable advantages over the person that doesn't do it as often, and subsequently, as well. For the past 40 years, ATS has been out in the field seven days a week performing leak surveys, utility locations and leak pinpointing. Subsequently our listening skills are going to be that much more acute. Your survey will be more effectively accomplished as we detect more leaks and pinpoint them with more consistent accuracy than your low bidders have been able to do. *Call on our references*. We highlighted the towns that have used ATS and some of the other firms you've used. The differences in the survey findings are significant.

Superior Value - ATS delivers more results recovering lost water due to leakage per dollar than anyone else in the business. This is especially true with our incentive-based proposal vs. lump sum pricing. Without any fee guarantees beyond the detection phase, there is natural incentive for us to accurately detect and pinpoint as many leaks as possible. Fears that incentive pricing will cost too much money resulting in blown budgets or being forced to reduce the survey area have gone unfounded.

ESTIMATE OF COST

ATS Comprehensive Leak Detection and Location Survey

Final billing will be based upon the actual amount of surveyed main determined by a combination of actual field and map measurements plus the total number of pinpointed leaks. With no fee guarantees beyond the detection phase, our Incentive-Based Proposal, places the pressure on the surveyor to detect and pinpoint as many leaks as possible. Your costs will be less if there are fewer leaks than we normally find on average. Should there be more leaks than expected then you won't be paying an extra dollar without getting a leak in return. The flexibility of this type of pricing also give you control should we approach the maximum amount of money that you have in your budget.

All-Inclusive – All Detection and leak pinpointing cost included.

Detection and Locating Phase: 228,816 LF of water main @ \$ 0.04 per LF =
\$9,152.64

5,280 LF of water main @ \$0.04 per LF = \$211.20 per lineal mile.

Option B: Survey Incentive Based Proposal

Detection Phase: 228,816 LF of water main @ \$ 0.025 per LF = \$5,720.40
5,280 LF @ \$0.025 per LF = \$132.00 per lineal mile of
water main.

Location Phase: \$ 395.00 for every pinpointed main line or service line leak.
\$ 95.00 for every pinpointed hydrant or main line valve leak.

SURVEY COMPLETION TIME: We estimate the *DETECTION PHASE* of the survey on the entire system can be completed in 12 - 15 days. The duration of the *LOCATION PHASE* will depend upon the number of suspect leak sites to investigate and actual number, type and location of those pinpointed leaks. Based upon our previous surveys in Willowbrook, another 5 - 10 days for pinpointing is possible. The *RE-MONITORING PHASE* will also add additional time to the job depending on how many repaired leak sites we have to recheck, and any additional leaks that we detect and pinpoint during this extra step.

Additional Callout Savings: Discounted Leak Pinpointing for Survey Clients – While your leak survey is underway, any leak or utility location callout that can be scheduled while we are in town during normal work hours will be discounted to the \$395.00 leak survey rate. This discount represents a savings of at least \$250.00 per callout. After hour, Emergency, Holiday and Weekend Services are charged per our basic schedule of prices.

The following features are included with *ATS Comprehensive Leak Survey Programs*:

ATS COMPREHENSIVE SURVEY PROGRAM: Every fire hydrant, accessible hydrant auxiliary valve, and every accessible mainline valve will be monitored for leak sounds. When a water system starts to get tighter, there is more emphasis on the surveyor to have to dig deeper to find the leaks that are not making obvious leak sounds. This fact makes monitoring every valve essential to finding these tough leaks. Valves are the best quality listening point possible. The thoroughness of this technique ensures that every detectable leak is found.

ULTRASONIC LEAK DETECTION: The existence and general neighborhood of every detected leak is established with *FCS S30 Ultrasonic Leak Detection Equipment*. A preliminary leak size & type classification is also made at that time. A significant difference between an *ATS Leak Survey* and the other surveyors is in the ultrasonic leak detection phase's number of checkpoints. No one checks more points for leak sounds than ATS. The Fact is that you'll detect more leaks by checking every possible appurtenance in the water system. Not every survey firm checks every point. We do.

DETECTION SURVEY RECORDS: Every accessible fire hydrant, hydrant auxiliary valve and mainline valve is monitored for suspect leak sounds. B-Boxes are checked only in the vicinity of a detected suspect leak site. Valuable survey and system data that is collected and logged on these records. *This data includes:* Appurtenance Type and Location, General Conditions Encountered, Accessibility, Map Discrepancies and Leak Sound Characteristics.

WATER MAIN and VALVE LOCATION: All of the water main and service connections are accurately located in the vicinity of every leak location. This helps ensure that every survey leak is pinpointed as accurately as possible. All utility line location work is accurately performed with *Radiodetection RD7000 and RD8000 High Performance Line Location Systems, Schonstedt and CST Ferromagnetic Metal Locators*. *No one works a leak site harder than ATS!*

COMPUTERIZED LEAK ANALYSIS & PINPOINTING: Every suspect leak site, no matter how slight the sound, is electronically confirmed with one of our computerized *FCS C2000, FCS AccuCorr, FCS Tri-Corr, FCS 9090 or Sewerin SeCorr 2008 Leak Noise Correlator Systems*. The pinpointing phase begins with ultrasonically resurveying every suspect leak site, electronic Correlator analysis of every suspect leak site to either eliminate a suspect leak site or accurately confirm the presence of the leak and pinpoint its exact location. A leak's exact location is pinpointed with consistent accuracy by analyzing, timing and measuring leak sound waves simultaneously from two contact points.

"X" MARKS THE SPOT! The pinpointed location of every mainline, service line and valve leak will marked in the field with spray marking paint with an "X". The exceptions are homeowner's side service leaks and hydrant leaks. Every leak is documented with its own *"Leak Location Report"* form.

LEAK LOCATION REPORTS: This is an individual report form that details the exact location and characteristics of each pinpointed leak. These forms are submitted daily as the leaks are pinpointed. The *Village* with actual leak repair information updates each *Leak Report*. This repair information is used by ATS to calculate water loss and revenue recovery data for the *Final Report*.

FINAL REPORT: Three (3) copies of a comprehensive *FINAL SURVEY REPORT* will be submitted after the completion of the survey. Additional copies are available upon request. These reports concisely detail all of our survey activities and findings; estimated & calculated leak sizes; revenue recovery calculations for each leak; leak location reports; general observations and recommendations.

INITIATING THE SURVEY: Your verbal authorization followed by your Purchase Order and *ATS Leak Survey Contracts* are all we need to initiate your Survey. A *Pre-Survey Meeting* will be scheduled to discuss all aspects of the leak survey. We will detail how the survey will be performed, how to interpret all of the survey documentation, and the type of assistance and mutual cooperation that will be required during the survey. All Field and Administrative Personnel with an involvement and interest in the leak survey are encouraged to attend.

We welcome the opportunity to meet with you and your staff to answer any questions you may have about *ATS Survey Equipment and Methodology*. ATS has unique skills that give us the necessary expertise to perform a thorough and successful leak survey. Thank you for your consideration of *Associated Technical Services Ltd.*

Yours Truly,
ASSOCIATED TECHNICAL SERVICES LTD.

Marcie A Kaplar

Marcie A Kaplar
Survey Manager

BASIC SCHEDULE OF PRICES
LEAK DETECTION & LOCATION SURVEYS
(Survey Area to be defined by Owner)

1. Minimum Leak Survey - 10,000 Lineal Feet of Water Main = \$ _____

1a. Survey Areas over 10,000 Lineal Feet of pipe will be priced as follows:

<u>More than</u>	<u>but less than</u>	<u>Unit Price Per Lineal Foot</u>
10,000 LF	19,999 LF	\$ _____
20,000 LF	39,999 LF	\$ _____
40,000 LF	59,999 LF	\$ _____
60,000 LF	79,999 LF	\$ _____
80,000 LF	99,999 LF	\$ _____
100,000 LF	or More	\$ <u>0.04 (Opt. A); 0.025 (Opt. B)</u>

~

1b) LOCATION:

Option A: All costs associated with Survey Leak pinpointing are included.

Option B: \$ 395.00 for every Main Line or Service Line Leak.

\$ 95.00 for every Fire Hydrant Leak and Valve Packing Leak.

2. MOBILIZATION & MILEAGE: - MILEAGE IS WAIVED

- A) No Charge under 50 miles - round trip
- B) \$ 1.50 per mile under 100 miles - round trip

TERMS: Payment is due within 30 days receipt of invoice. ATS will, at its option, submit periodic billings based upon the percentage of completion of the project. ATS also reserves the right to determine the percentage of completion for billing purposes.

PLEASE NOTE: All prices are based upon utmost cooperation and advance preparation by the Owner. Such as accurate plans and knowledge of the water system and making all needed appurtenances accessible to our survey crews. See Section II of the attached "General Conditions for Leak Surveys" for a detailed listing of responsibilities of ATS and the Owner. ATS reserves the right to adjust the "Basic Schedule of Prices" if preliminary field investigation of the survey reveals extraordinary, hazardous or otherwise adverse conditions.

GENERAL CONDITIONS
LEAK DETECTION & LOCATION SURVEYS

Responsibility of ATS / Associated Technical Services Ltd.

- A) Two-person crew qualified to operate the *ATS Leak Detection & Location System*.**
- B) The "ATS Leak Detection & Location System" consists of:**
 - *FCS S30, S20 Ultrasonic Leak Surveyor Instruments (Leak Detection Phase)*
 - *FCS/Fluid Conservation Systems, Sewerin Leak Noise Correlators (Leak Location Phase)*
 - *FCS and Sewerin Ultrasonic Preamplifiers (Leak Location Phase)*
 - *FCS, Wilcoxon, Vibrometer, Sewerin Accelerometers, Gas Sensors, Hydrophone Sensors*
 - *Radcom SoundSens Programmable Leak Correlation / Localization System*
 - *Radiodetection, CTS Berger, Fisher & Schonstedt Underground Utility Location Equipment*
- C) "ATS Leakmobile" - Mobile Van with self-contained power supply and /or capability of operating from an alternate VAC 60 Hz source, or suitable alternate vehicle at the discretion of ATS.**
- D) *Mobilization / Mileage* – Round Trip, Portal-to-Portal and On-Site.**
- E) *On-Site Consultation with Owner* or their representatives as necessary.**
- F) The entire area designated by the *Owner* shall be surveyed for leakage. Detected leaks shall be pinpointed only on that part of the water system maintained by the *Owner*. Unless it is previously specified and ordered, customer service line leaks will only be pinpointed up to the municipal side of the curbstop without additional charges. Leaks on the customer side of the curbstop typically require a separate appointment so *ATS* can make contact with the service line inside the building.**
- G) Only those leaks that are detected by the *ATS Leak Survey* are to be included in the pinpointing phase of this contract. Unless other previous arrangements are made, any pinpointing of any incidentally or coincidentally occurring leakage, main breaks or previously known leakage that was not initially included in our proposal or as a part of this agreement shall be charged at our normal rates for scheduled / emergency service callouts.**
- H) If the "Re-monitoring of Repaired Leak Sites" service is specified, included in our proposal and ordered, this agreement, leak repairs to that site must be completed within 30 days after that leak's location report was submitted to the *Owner*. The *Owner* then must notify *ATS* at the time of repairs so re-monitoring can be scheduled. All subsequently detected leakage will be located.**
- I) *ATS* will establish and mark the location of a leak or leaks in the field with either marking paint, a field stake and / or written individual "ATS Leak Location Report".**
- J) *ATS* will provide essential traffic warning equipment and traffic control and re-direction with flagmen on an as-needed basis, whenever conditions dictate the necessity of these safety precautions. *ATS Work Zone Safety Equipment* includes but is not limited to safety vests, vehicle arrow boards, strobe warning lights and safety cones that are used whenever our vehicles are parked during the leak survey on residential and other light or slower traffic areas.**

GENERAL CONDITIONS FOR LEAK SURVEYS

RESPONSIBILITY OF OWNER

The *Owner* will insure easy access to all main line valves, valve boxes or other strategically necessary access points. This may also include exposing and cleaning out auxiliary valves and b-boxes on an as-needed basis if they will facilitate the accurate confirmation and pinpointing of a detected leak. *This could include* breaking loose needed valve covers; pumping water out all valve vaults and boxes and, if necessary, removing debris from those enclosures to make the valves and adjoining pipelines accessible. The *Owner* will also make access available to any point or location strategically needed by *ATS* to perform said work at the discretion of *ATS*.

- If the *Owner* orders leak pinpointing between the curbstop and the customer's building, the *customer* shall be responsible for contacting *ATS*. Pinpointing can be performed on a weekday from 8:30 AM to 1:00 PM.
- The *Owner* will make available to *ATS* any and all available location maps, schematics, as-built drawings, final reports from previous leak surveys, and any other data pertaining to the area being surveyed. Access to your "*IDOT LMO-2*" *Annual Water Audit Reports* is always very helpful.
- The *Owner* will make available knowledgeable, qualified personnel for consultation and assistance regarding the *Owner's* water system.
- Identify the authorized representatives of the *Owner* to act on behalf of the *Owner* and sign *ATS* agreements, purchase orders and additional work orders.
- Give *ATS* right of access, and necessary identification required, and notify appropriate authorities (Police, Fire Dept, Public Works Dept, etc.) as needed of program underway.
- The *Owner* will at its option, provide Traffic Warning Equipment, Traffic Control and Re-Direction with Flagmen on an as-needed basis, should conditions dictate the necessity of this safety precaution. Instances such as a lane closure in a heavy traffic area may require hiring the services of a Work Zone Safety Vendor to provide the necessary traffic control equipment such as barricades, warning lights, arrow panels and temporary barriers. The *Owner* must approve any use of a Work Zone Safety Vendor in advance. *Owner* will be responsible for the costs of the Work Zone Safety Vendor.
- *Owner's* repair crews shall make a reasonable effort to provide *ATS* with accurate leak repair information whenever this data is available. *Repair data should detail the following:* Date of repair; type of leak; approximate size and shape of the leak orifice; approximate water pressure; and method of repair. This information is necessary for *ATS* to make leak size, water loss and revenue recovery calculations for a comprehensive "*Leak Survey Final Report*".

Certain input data to the *ATS Leak Detection & Location System* is based upon information received from the *Owner*. The accuracy of the *Owner's* data will directly affect the results of the Leak Survey. *ATS* will attempt to verify such data by consultation with the *Owner* and thereupon will have a right to rely upon the accuracy of the *Owner's* data. *ATS* is not liable for any costs to the *Owner* as a result of incomplete or inaccurate data supplied by the *Owner* or their representatives.



October 28, 2020

Mr. Andrew Passero
Public Works Foreman
Village of Willowbrook
7760 Quincy Street
Willowbrook, IL 60527

RE: PROPOSAL FOR A WATER DISTRIBUTION SYSTEM LEAK SURVEY

Dear Mr. Passero,

M.E. Simpson Co., Inc. is pleased to present the Village of Willowbrook, Illinois our proposal for a Water Distribution System Leak Detection Survey 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 Distribution System Leak Detection Services and offer this response. We are committed to exceeding your expectations.

Sincerely,

Randy Lusk
Innovations & Solutions Manager

Randy Lusk
Regional Manager

3406 Enterprise Avenue
Valparaiso, IN 46383

800.255.1521 P
888.531.2444 F

Randy.Lusk@mesimpson.com

SCOPE OF WORK

Water Distribution System Leak Survey

The Field Scope of Service for the Leak 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 distribution 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 insure 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 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 **AC Digital**, **TriCorr Touch** 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 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 insure correct pipe distances are used for the correlations. Correlations may need to be performed several times with several configurations to insure 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 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."

Utility Observations

The M.E. Simpson Co., Inc. Project Team will welcome having staff of the Utility observe field procedures while the Leak 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.
- ◆ **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 Excel 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

Effective communication...
accurate documentation...
**Insuring the success for
the leak survey**

- ◆ 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 furnish all maps in an electronic format or paper atlases (two copies), and records necessary to properly conduct the survey.
- ◆ 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 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 of 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 valves 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 Illinois 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 2020) for all project personnel.

INVESTMENT

A commitment to improving and maximizing the Village of Willowbrook's water distribution system for future generations.

M.E. Simpson Co., Inc. is pleased to present our "Proposal" for a Water Distribution System Leak Detection program for the Village of Willowbrook, Illinois. M.E. Simpson Co., Inc. will perform our leak detection services on approximately **45** miles of watermain within the Village of Willowbrook's water distribution system. The survey will be completed by listening on the accessible main line valves, fire hydrants and as needed services 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.

2020 Leak Survey

Water Distribution System Leak Survey Program Fee	\$9,225.00**
---	---------------------

******Any water main surveyed in addition to the above **45** original miles of watermain will be surveyed at the rate of **\$205.00** per mile of pipe.

We thank you for this opportunity to acquaint you with our Water Distribution System Leak Detection services 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.

MUNICIPAL SERVICES COMMITTEE MEETING

AGENDA ITEM SUMMARY SHEET

AGENDA ITEM DESCRIPTION	COMMITTEE REVIEW
Discuss Water Distribution Continuous Leak Detection System Proposal	<input type="checkbox"/> Finance/Administration <input checked="" type="checkbox"/> Municipal Services <input type="checkbox"/> Public Safety <u>Meeting Date: January 25, 2021</u>

<input type="checkbox"/> Discussion Only	<input type="checkbox"/> Approval of Staff Recommendation (for consideration by Village Board at a later date)
<input checked="" type="checkbox"/> Seeking Feedback	<input type="checkbox"/> Approval of Staff Recommendation (for <u>immediate</u> consideration by Village Board)
<input type="checkbox"/> Regular Report	<input type="checkbox"/> Report/documents requested by Committee

BACKGROUND

As discussed at a previous Municipal Services Committee meeting staff advised that the Village water loss was 13% last year. The Illinois Department of Natural Resources requires the water loss to be less than 10% for a municipal system. It is imperative to find the deficiencies in our system so that we can become compliant to the standards of the Illinois Department of Natural Resources as well as reduce the fiscal impact of the Village water expenses. The Village past practices have been to utilize a point-in-time leak detection surveys to help manage water loss in our water distribution system. A water leak detection option that is being currently utilized by the City of Elmhurst is a continuous water leak detection system. This system is supplied by Aclara, which also supplies the water metering software system utilized by the Village of Willowbrook.

A summary of the system in place for the City of Elmhurst is as follows:

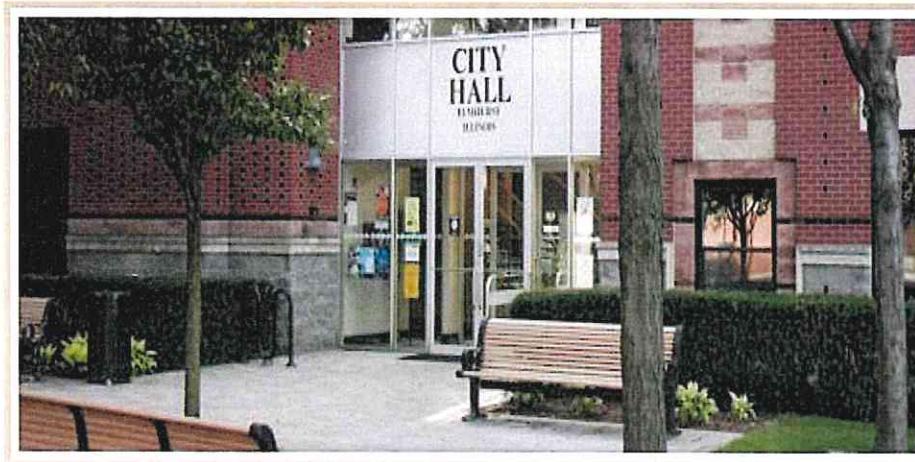
- Over 600 acoustical devices are listening for leaks on water mains, hydrants, and service lines every night, 365 days a year.
- If 2 or more devices hear a sound they correlate the leak sound down to an area of 5-10 feet (could be a water main break, service leak or a main valve leak)
- Water meters record flows every 15 minutes, if flows are greater than 2gpm for 72 hours, the water smart system send the owner a notice that they have a continuous water use and should look for a leak.
- Customers can monitor use on portal to see hours of high use or if they have uses they do not know about.
- The system covers all main line water piping and monitors, analyzes, prioritizes, and correlates leaks 365 days a year.
- Water smart monitors, analysis data, and reports directly to customers that they may have an internal leak that may be costing them money.
- Decrease Non-revenue water loss.
- Monitor for leaks daily versus yearly surveys.
- Find leaks in main distribution system before they surface causing property damage.
- Decrease residential complaints of high bills due to leaking toilets or other internal home leaks.

A copy of a power point presentation of the City of Elmhurst system is attached for your review.

Staff has requested a proposal for the Alcara Continuous Leak Detection System and is attached in a proposal by Midwest Meter Inc, the proposal calls for three hundred (300) Zone Scan locations along with the noise and survey tools and one time set up fees. The program as presented is estimated at \$488,800.00.

REQUEST FOR FEEDBACK

Staff is seeking feedback on the continuous leak detection option for further consideration by the Village. Staff would recommend a formal presentation by Alcara to highlight further details and Committee member questions should the Committee be interested. Additionally, should the Committee find benefit for this type of program staff would recommend working the system proposal into the proposed water rate study and capital improvement plan being discussed in another agenda item.



Attacking Elmhurst's Unaccounted for Water

September 27th, 2018

Surfed my way to 2018
Tri-State Seminar



Water Meter Team

A Preferred
PMI **SIEMENS**
Contractor



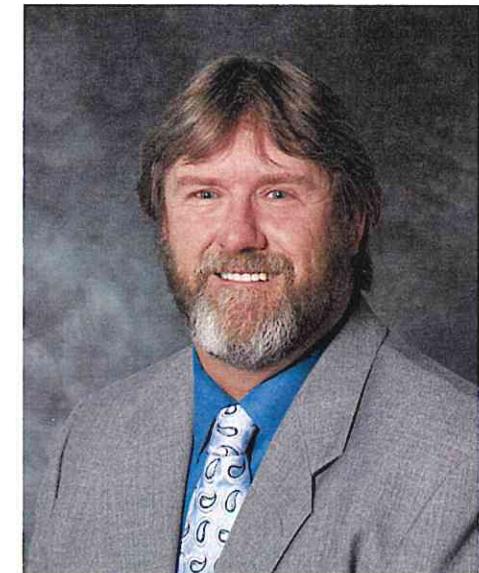
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Paul Burris
Utility Operations Manager
City of Elmhurst
630-330-0895
Paul.Burris@elmhurst.org



22 years Municipal and 10 years Private Utilities
Class 4 Nevada Water Production and Water Distribution
Class 4 Nevada Wastewater Treatment and Collection
Class 4 Arizona Water Production and Water Distribution
Class 4 Arizona Wastewater Treatment and Collection
Plus Licensed at the highest levels in both water and wastewater in Illinois, Indiana and New Jersey. Hold Water S1/D1 in Michigan.

2018 National American Public Works Water Resource Manager of the Year

Presented at Tri-State 2017 – Water Main flushing without Water Main Breaks



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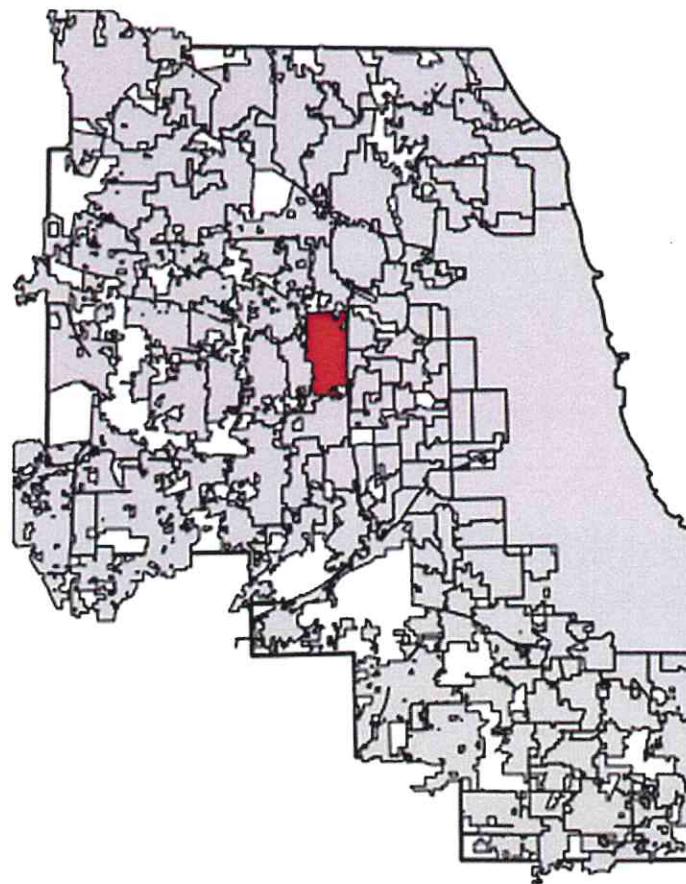
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City of Elmhurst

The City's Lake Michigan water supply is provided through three interconnections from DuPage Water Commission (DWC).

The City of Elmhurst's water supply system consists of :

- three ground level reservoirs (each with an attached booster pumping station) – Total 15MGD
- three elevated storage tanks (1.5MGD)
- 188 miles of water main.
- Average 4.0 MGD
- Peaking near 6.2MGD
- 46,000 residents.
- Just over 15,000 water meters
- Over 100 water main breaks/year

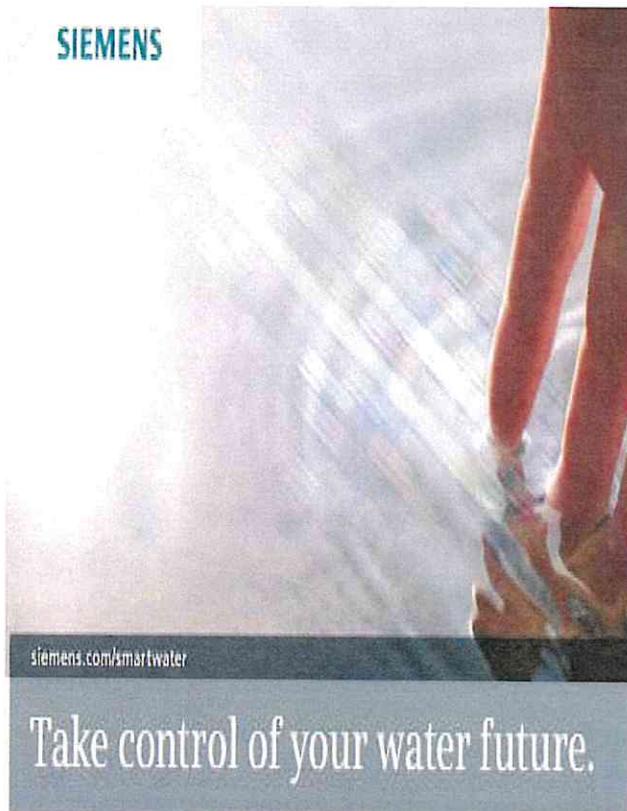


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Agenda



- Why we did the project
- Team Approach
- Method of Installation
- Vendor Selection
- Selling Council
- Lessons Learned
- Video
- Customer Portal



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Why...

Unaccounted for Water (UFW)

City's current UFW is 18% - 20% (800,000Gal/day)

9/18 UFW mandate limit is set at 12% by IDNR

UFW cost and Operational Savings

cost to purchase 242,000,000 gals of UFW/year

Operational cost – move UFW water, staff availability

25+ year old meters

Over 80% of meters are 25 years old

Water meters have moving parts and are performing lower than AWWA standards

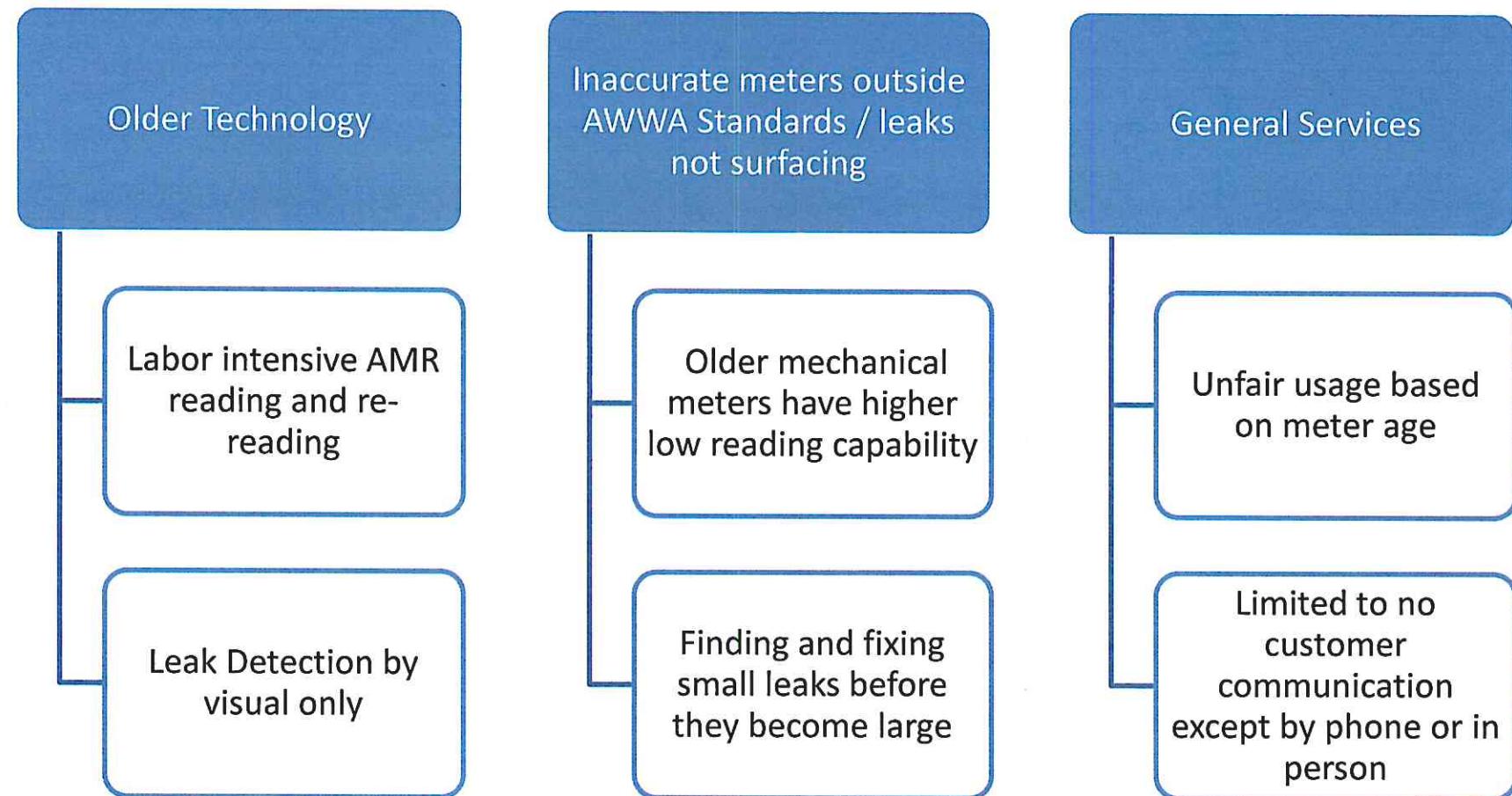


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WHY...



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Project Time Line

- April 2016 - Started In Elmhurst and was task to see if project was viable or not.
- June 2016 – internal team assembled
- June – October 2016 – Team discussions, project scope and vendor meetings, internal processes reviewed, system review
- **September 2016 – Tri-State and Visit North Las Vegas for insight**
- September 2016 to February 2017 – RFQ for Performance Management
- March – July 2017 – Investment Grade Audit and Contract Discussion
- July 2017 – Council Approval
- July – December 2017 – Ordering meters, AMI network equipment and test meter change swap files
- January 2018-August 2018 – meter change out (Goal wa II)
- June 2018 – Customer Portal On line
- September 2018 – Leak Detection installed
- October 2018 – Project completed



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Team Approach – Where do we Start – Its Overwhelming



Chris Johnson – Customer Service Manager
Mike Stenson – Director of Information Technology
Madonna Nero – Information Technology
John Jagielo – Supervisor Water and Sewer Supervisor
Chris Dufort – Superintendent of Utilities - Distribution
Dan Rosenwinkel – Superintendent of Utilities- Production
Julian McDonough- Assistant Finance Director
Paul Burris – Utility Operations Manager
Howard Killian – Director of Public Works

- Team members had many years of experience but only a few had experienced a full meter change out. Let alone complete project in less than 1 year. (our goal)
- Started from the basics
 - What do we want to accomplish (goals)
 - What is out there
 - What do we have experience with
 - What attributes in meters do we want
 - What is the final product work load and for who
 - Cellular verse fixed network
 - What is MTU and how does it work
 - How does Fixed network work
 - Customer access portals



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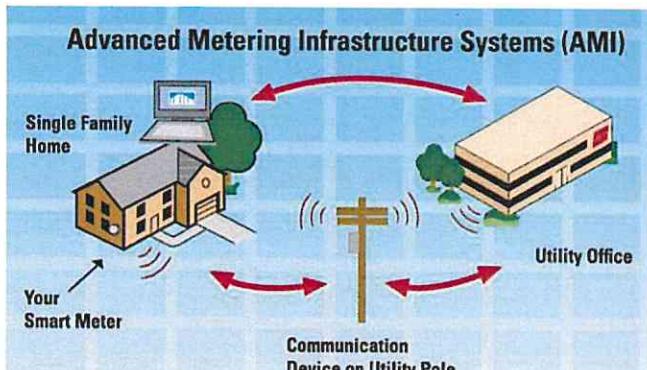
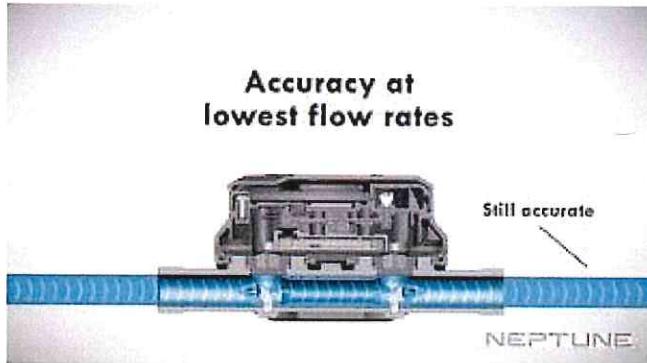
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Team Project Goals

Automatic Metering Infrastructure (AMI) systems & Ultrasonic Water Meters

What we were looking for:

- Reduce UFW to less than 12% by Sept 2018
 - 10% by end of 2018 / 8% by June 2019
- Convert from Cubic Meter to Gallons
- Increase accuracy of meters for fair billing
- Licensed FCC Frequency (99.5% read rate daily)
- Proper sizing and typing of all meters
- Achieve operational savings
- No Combination Meters
- Reduce RF transmissions
- Updated infrastructure and accurate billing system
- IT integration, streamline operations efficiency
- 20 year accuracy guarantee
- Internal leak/tamper detection
- No moving parts
- True 2-way communication between meter and customer service – final reads by push of button
- Brass meter flow tubes
- Service Line Identified (lead, copper, other)
- Customer Portal for self monitoring
- Distribution Leak Detection for water not surfacing

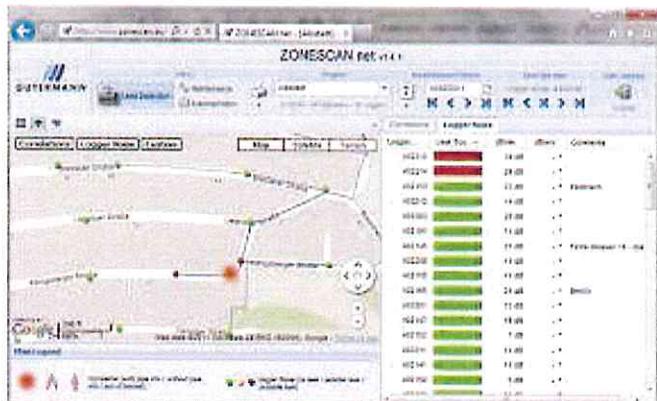


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Team Project Goals



Distribution Leak Detection

Benefits:

- Communicates on same AMI network
- Continual monitoring of all water mains
- Remote correlation to locate system leaks
- Reduced emergency responses to main breaks

Customer Portal

Benefits:



- Customer self-service
- Automated leak detection & resolution management (internal)
- Easy access to billing information & payments
- Transparency



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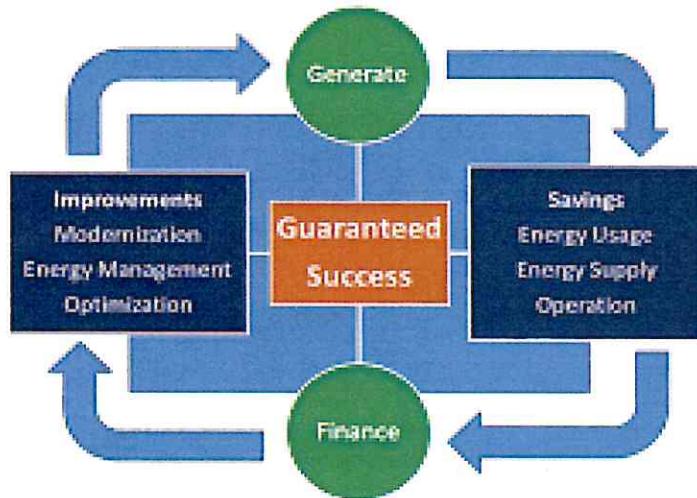
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Methods of Installation?

In House – nope – not staffed for that

Engineer – design – scope – bid- nope

Engineer design bid-build - nope



Performance Contracting: We have Never

Done that before but lets investigate

- A legislative vehicle that allows public entities to improve their facilities, by using their energy and operational savings to fund a project, with **guaranteed** savings.



Guarantee

- Offer a guaranteed fixed project cost
- No change order policy for a given scope
- Energy savings guarantee / Meter accuracy guarantee (on top of manufacturer)
- Annual reconciliation
- Guarantee not met, Performance Contractor provides shortfall check\$\$\$\$\$\$\$\$



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RFQ Process

Preparation and Issuance of RFQ

Site Visit and Sharing Basic Information

Perform review of Selection Criteria

Partner Selection

Investment Grade Audit

Contract Negotiation



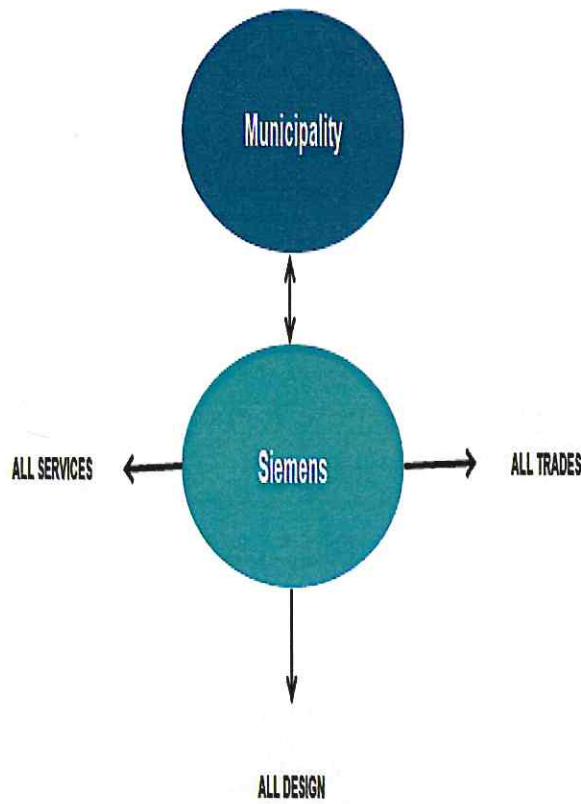
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Performance Management

Project Management



- One point of contact to hold accountable
→ limits pointing of fingers
- Procurement savings due to utilizing Siemens' purchasing power
- Vendor accountability (defective materials, inventory management etc.)
- Managing data integration, coordination of billing software utility, installation & vendors
- Guaranteed uninterrupted & accurate billings



Why Elmhurst Team Chose Performance Contracting

Over 100,000 Hours

In House Assessment

- Test meters (verify need)
- Analyze and clean up billing database do a technology comparison to pick meters
- Build a business case for Council

Back Office (4-5 hours/meter)

- Resident inquiries and education
- Door hangers/community outreach
- Appointment setting
- Inventory & Claim management
- Trouble shooting and service calls
- QA/QC; data importing
- Warehousing

Meter Install (1 hour/meter)

- Possible overtime
- Required re-plumbing

IT Integration (1 hour/meter)

- Hire consultant
- Troubleshooting
- Data migration and Training

PC Approach

- Work with one firm and one point of contact
- Manage Data Integration
- Vet, hire and manage all subcontractors
- Schedule installation
- Collaboration between Public Works and Siemens
- Complete procurement and bidding services
- Liability for all resident claims for damages
- Project Guarantee



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Leveraging Buying Power



- Zone Operations Manager dedicated to the water meter business assigned to the project (*Jonathan Woods*)
- Formal Procurement Plan put together for project:
 - Detailed specifications & plans
 - Evaluation criteria based on project priorities
 - Review bids and make recommendation based on best value
 - Assist with final negotiations

Leverage Siemens National buying power and relationships to get the best value for the City



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Vendor Symposium/Selection

SIEMENS

Aclara



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Selection of AMR/AMI
Technology

- Discuss All Systems that are Available
- Organize a Symposium of AMI Technology
- Share Experiences of How Various Systems and Technologies Have Worked at Other Utilities
- **Did not look lowest capital cost but 20 year net present value with all operating cost**
 - **Stephen Davis – Meter Technology Consultants - Yesterday**
- Choose the System that Meets Elmhurst's Needs

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Selling Council on \$8.2M Project

City of Elmhurst



Agenda Item Details

Meeting	Jul 17, 2017 - Regular Meeting of the Elmhurst City Council
Category	7. Consent Agenda
Subject	7.20 Report - Water Meter Replacement and Fixed Base Meter Reading System with Leak Detection (PWB)
Type	Action (Consent), PW&B, Report
Fiscal Impact	Yes
Budgeted	Yes
Budget Source	510-6052-501-40-68
Recommended Action	<p>It is, therefore, the recommendation of the Public Works and Buildings Committee that the following contracts be approved not to exceed listed amounts in addition to contingency funds in the amount of \$200,000:</p> <p>Siemens Industry - \$4,244,594, Neptune Meters - \$2,336,978, Master Meters - \$286,074, Aclara - \$1,117,602 and Water Smart - \$32,250 and the City Attorney be authorized to draft a resolution approving the five contracts.</p> <p>Signed: Marti Deuter (Vice Chairman), Michael J. Bram, Norm Leader Unsigned: Jim Kennedy (Chairman)</p>

[water meter rept.pdf \(140 KB\)](#)

Our adopted rules of Parliamentary Procedure, Robert's Rules, provide for a consent agenda listing several items for approval of the Council by a single motion. Most of the items listed under the consent agenda have gone through Committee for review and recommendation. Documentation concerning these items has been provided to all Council members and the public in advance to assure an extensive and thorough review. Items may be removed from the consent agenda at the request of any Council member.



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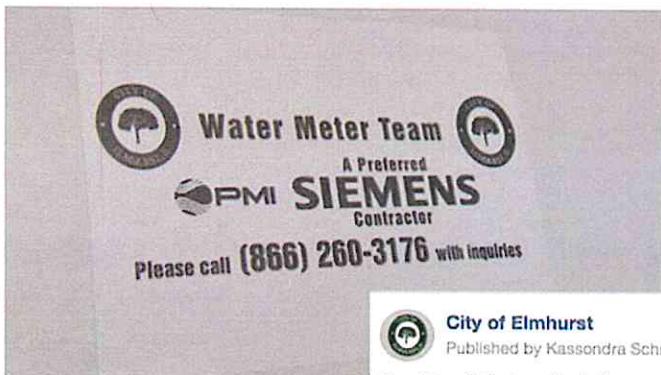


City of Elmhurst

Published by Kassondra Schref [?] · January 11 at 1:55pm · ④

The City's Water Meter Change Out Project is underway. Be on the lookout for mailed notifications with information on scheduling your appointment.

<https://www.elmhurst.org/1552/Water-Meter-Change-Out>



1,404 people reached



Comment

Ziggy Grubdust

1 Share

Public Outreach



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1,573 people reached



Comment

Boost Post



City of Elmhurst

Published by Kassondra Schref [?] · December 14, 2017 · ④

The City of Elmhurst is in the process of conducting a citywide water meter change out project requiring all residential and commercial water meters to be replaced. Elmhurst water customers have received an introductory letter with project information.

<https://www.elmhurst.org/CivicAlerts.aspx?AID=1584>



City of Elmhurst

Citywide Water Meter Change Out Project Underway

ELMHURST.ORG

996 people reached



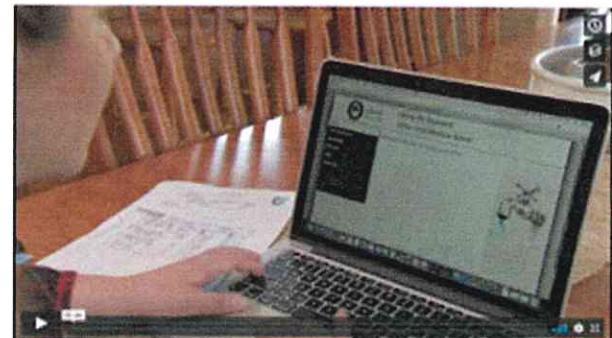
Comment

Mike's Market

Write a comment...

Boost Post

Share



Citywide Water Meter Changeout to begin soon

The City of Elmhurst's Water Meter Changeout Team is in the process of assembling the final plans for the Citywide Water Meter Changeout Project. Residents will be notified via mail once the project begins and again when they need to schedule their appointment. Watch this video on what to expect during your appointment.



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Video



<https://vimeo.com/238076097>



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Lessons Learned

- Don't forget fire meter and irrigation meters – Use the right data
- Plan for everything and hope for the best (SOP's)
- Consensus throughout process
- Found 2 meters not on system (=60,000gpd)
- Found 4 meters billed as 2" but really were 4" (under billed by 20,000gpd)
- Estimated 5.5% gain in meter accuracy (220,000gpd)
- 4 meters with accuracy issues out of 15,000
- Public out reach can never be enough
- Meet weekly to stay on track - Keep all city employees in the loop
- Meter set up matches MTU reporting
- Plan for employee training time, more than you think you will need
- Billing files will take longer than you think, verify, verify, verify
- Things will go wrong

Remember its not the problem but how you handle it that you will be judged on



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Status As of February 28th 2018

8 weeks into start of meter exchanges

Project Status

Water Summary by Mailing Zone

Zone	Type	Total in Zone	Complete	Incomplete	RTU	Scheduled	Other	Completion Rate	Fire
1	WTR	1430	<u>13</u>	<u>1277</u>	0	1	7	0.91	<u>132</u>
2	WTR	2524	<u>22</u>	<u>2389</u>	0	2	<u>18</u>	0.87	<u>93</u>
3	WTR	1050	<u>7</u>	<u>1010</u>	0	1	7	0.67	<u>25</u>
4	WTR	1949	<u>46</u>	<u>1841</u>	0	3	9	2.37	<u>50</u>
5	WTR	1538	<u>9</u>	<u>1511</u>	0	2	<u>11</u>	0.58	<u>5</u>
6	WTR	1511	<u>23</u>	<u>1459</u>	0	3	7	1.52	<u>19</u>
7	WTR	898	<u>56</u>	<u>615</u>	0	<u>194</u>	5	6.27	<u>28</u>
8	WTR	1437	<u>283</u>	<u>637</u>	2	<u>492</u>	<u>14</u>	19.88	<u>9</u>
9A	WTR	875	<u>631</u>	<u>144</u>	0	<u>93</u>	4	72.44	<u>3</u>
9B	WTR	829	<u>519</u>	<u>148</u>	1	<u>149</u>	9	63.29	<u>3</u>
10	WTR	938	<u>745</u>	<u>125</u>	0	<u>38</u>	8	80.1	<u>22</u>
RF	WTR	227	<u>195</u>	<u>29</u>	0	0	0	85.9	<u>3</u>
		15206	<u>2549</u>	11185	3	978	99	16.88	392
Total	Good	No Read	Bad Read	Stale	Unable	Read Rate			
	2359	2349	6	0	4	0	99.57		



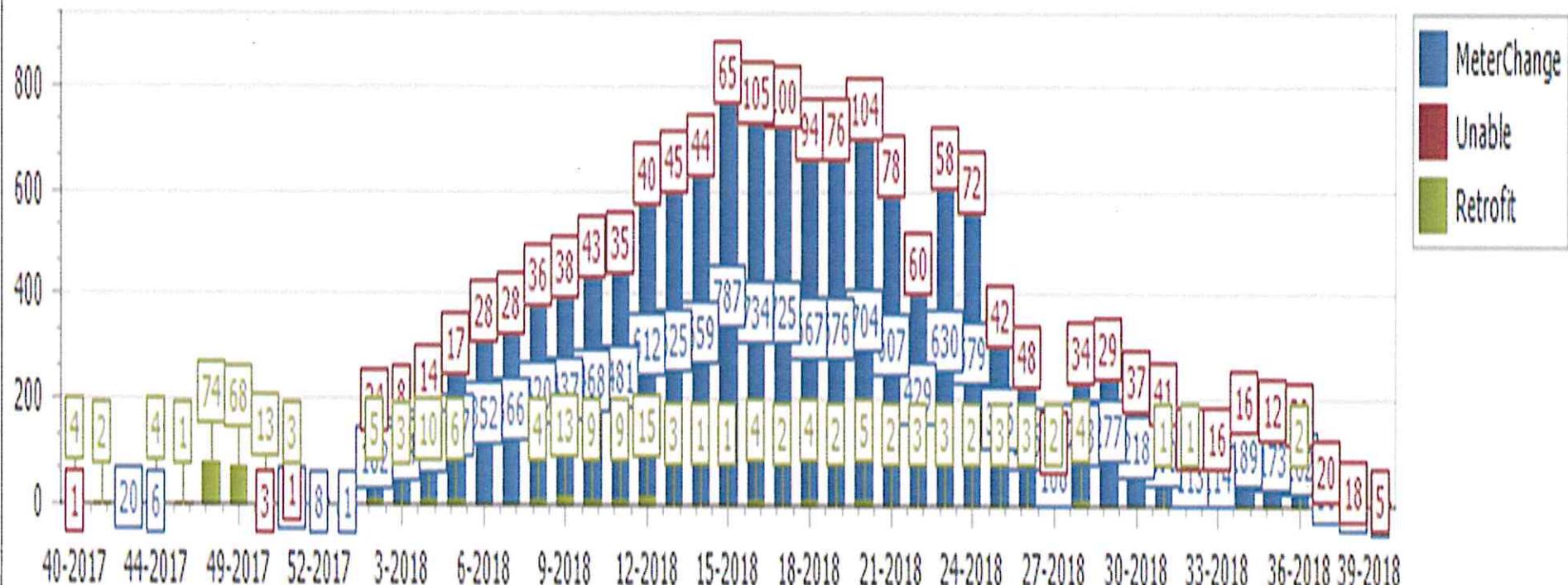
CITY OF ELMHURST

CLOSE TO EVERYTHING.
Unlike Anything

<https://pmiwebportal.com/Elmhurst/Water/Summary.aspx>

209 N. York Street
Elmhurst, IL 60126

Weekly Production



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CITY OF ELMHURST

209 N. York Street
Elmhurst, IL 60126

As of yesterday we had 501 meters not changed out

201 – Fire bypass meters (doing in house)

49 – deduct meters (as of Jan 1 leaving in place but no longer deducting)

51 – irrigation meters – (deciding how to handle)

44 - Demo

42 - Water off (vacant, snow birds)

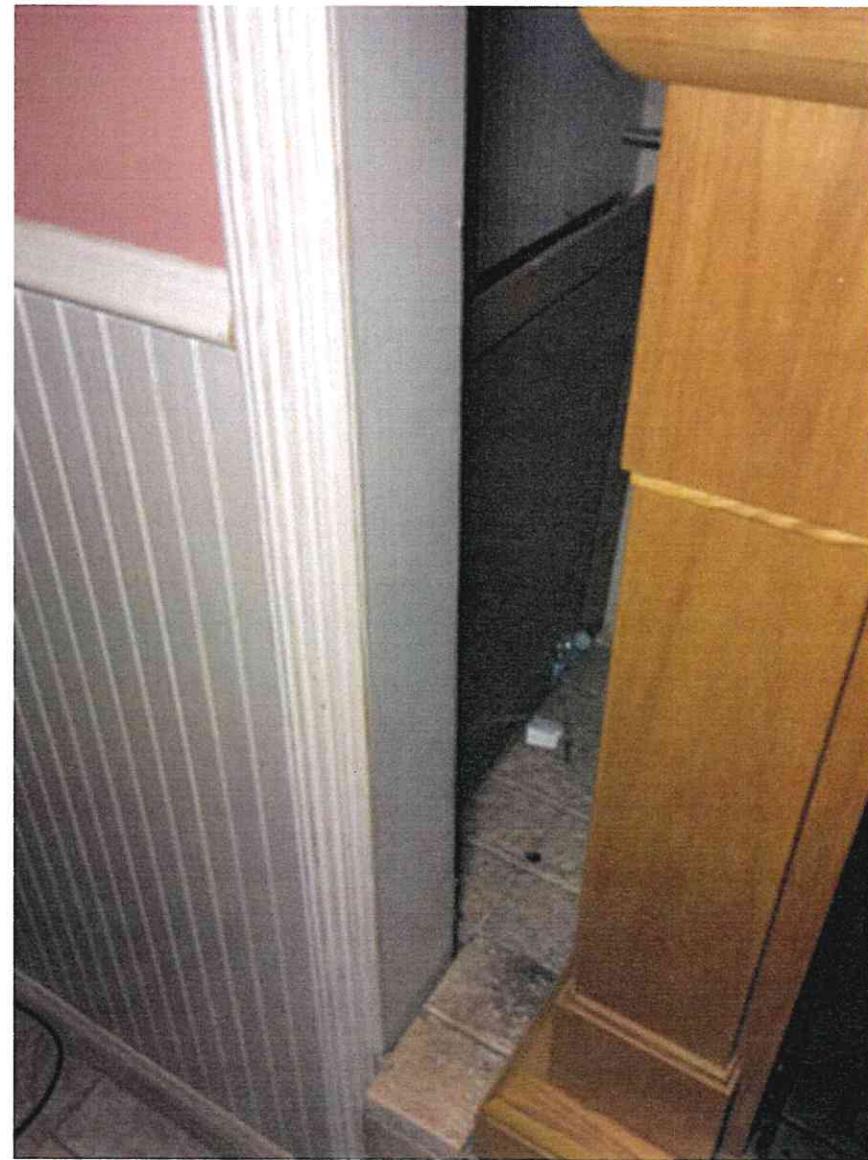
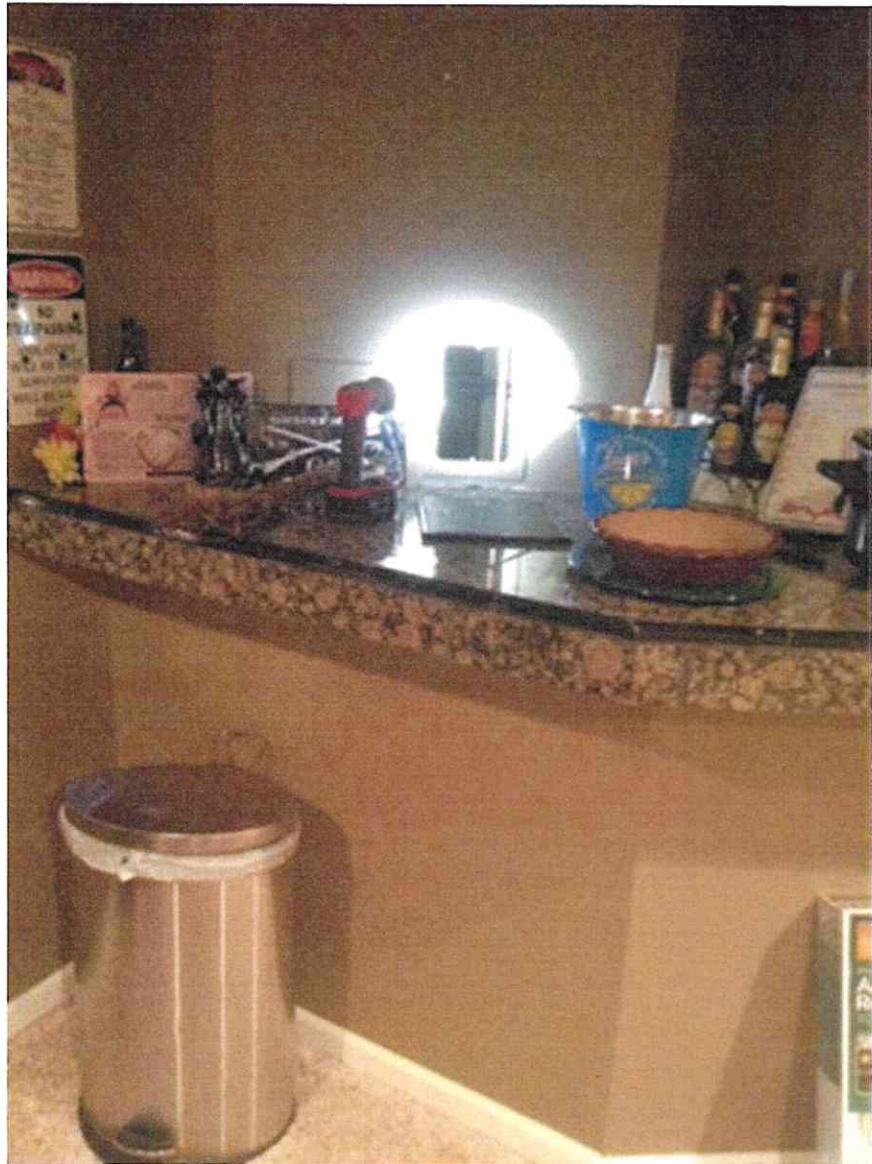
114 - Working on (no show, obstructed, piping issues, b-box repair needed)



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209 N. York Street
Elmhurst, IL 60126



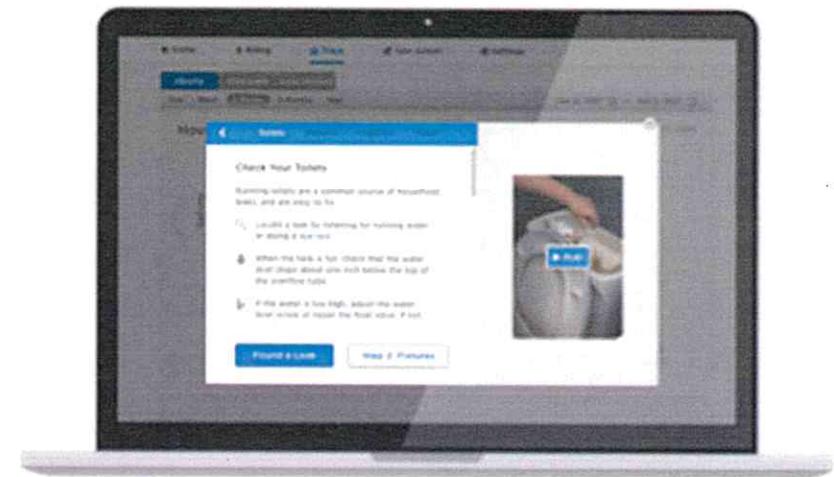
CLOSE TO EVERYTHING,
Unlike Anything

CITY OF ELMHURST

209 N. York Street
Elmhurst, IL 60126

Customer Portal & Engagement

- We chose many to look at then chose the one that worked best for us : WATERSMART
- Features of Customer Portal
 - Daily use by hour
 - How do I compare to others
 - Easy Short cuts & self-service tools
 - Ability to communicate with customers via email, text, voice, and print for emergency/non-emergency
 - Automated leak detection & resolution mgmt. for Customer and Utility
 - Automated threshold and bill alerts for customers
 - Integrated payments solution
 - Conservation & non-conservation recommended actions



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[https://admin-
cityofelmhurst.watersmart.com/index.php/dashboard/DashboardAuth](https://admin-cityofelmhurst.watersmart.com/index.php/dashboard/DashboardAuth)

CITY OF ELMHURST

209 N. York Street
Elmhurst, IL 60126

Zone Scan Installation as of Today

<https://zonescan.net>

- Acoustic, Correlating detection down to 3' area
- Leverages the Aclara STAR network
- Leak Detection technology from Gutermann International
- The only current remote correlated acoustic leak-detection system
- Cost effectively identifies small leaks before they become major problems
- Geospatial presentation for simple work order creation
- Correlates leak to a area of 3 feet (need proper Pipe GIS Data)



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CITY OF ELMHURST

209 N. York Street
Elmhurst, IL 60126

Thank You

Paul Burris
Utility Operations Manager
City of Elmhurst
630-330-0895
Paul.Burris@elmhurst.org



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CITY OF ELMHURST

209 N. York Street
Elmhurst, IL 60126

Midwest Meter, Inc
 P.O. Box 318
 Edinburg, IL 62531
 Phone: 1-800-634-4746
 Fax: (217) 623-4216



Quotation

Customer

Name Village of Willowbrook
 Address _____
 City Willowbrook State IL ZIP _____
 Phone _____

Misc.

Date 10/20/2020
 Terms Net 30
 Delivery Various

Qty	Description	Unit Price	TOTAL
300	Zonescan Logger (Includes STU, logger/cable, Zonescan II valve lid and antenna)	\$1,450.00	\$ 435,000.00
1	Deployment Assistance and Training (One Time Fee)	\$6,000.00	\$ 6,000.00
1	Zonescan Headend License Module (One Time Fee)	\$4,000.00	\$ 4,000.00
1	Guterman Set-up Fee (One Time Fee)	\$5,500.00	\$ 5,500.00
1	Guterman Logger Annual Fee (\$18 per logger)	\$5,400.00	\$ 5,400.00
1	Guterman Software Annual Fee	\$900.00	\$ 900.00
1	Guterman Annual Hosting and Product Maintenance Fee	\$2,100.00	\$ 2,100.00
1	Guterman Leak Noise Correlator	\$25,000.00	\$ 25,000.00
1	Guterman Ground Mic / Leak Survey Tool	\$4,900.00	\$ 4,900.00
			<u>\$ 488,800.00</u>
<div style="border: 1px solid black; padding: 5px; text-align: center;"> <u>Tim O'Connor</u> <u>(630) 397-8559</u> <u>toconnor@midwest-meter.com</u> </div>			

Aclara RF ZoneScan II

Correlated Acoustic Leak Detection System

OVERVIEW

The Aclara ZoneScan II system combines acoustic data loggers from Gutermann International with Aclara's advanced RF Network technology to provide fully integrated leak detection through fixed-network advanced metering infrastructure (AMI). Time-synchronized sound recordings are initiated through the ZoneScan II Meter Transmission Unit (MTU), which sends the resulting data back through fixed-network infrastructure to the utility for analysis, presentation, and notification. Web-based application software correlates the data between loggers and provides visual identification of high probability/leak locations.



Find and fix leaks fast with the Aclara ZoneScan II leak-detection system. The industry's leading, remotely correlated acoustic leak-detection system cost-effectively identifies small leaks before they become major problems, and will give you immediate insight into non-revenue water losses in your water distribution network.

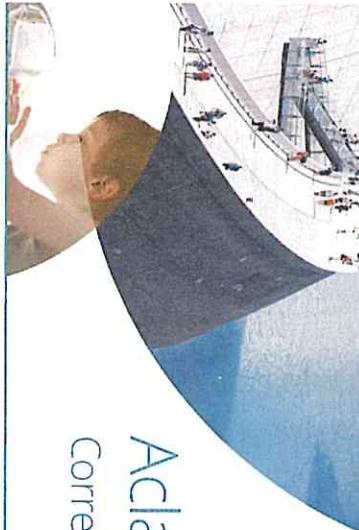
FEATURES AND BENEFITS

- **Pinpoint accuracy:** Identify precise leak locations with correlated, time-synchronized sound recordings
- **Hands-off operation:** Perform automated data collection with minimal attention by operators
- **Added value:** Add leak detection easily to two-way Aclara RF Network AMI systems
- **Software and Analytics:** Intuitive software with built-in leak detection and correlation algorithms identify and display leaks and can push notifications to key personnel
- **Easy Installation:** Fitting in valve stacks, the ZoneScan II endpoint installs quickly in the field and is setup remotely from Aclara's head-end software
- **Rugged and reliable:** Boasting a battery lifetime greater than 8 years and a fully encapsulated design, the ZoneScan II endpoint will operate maintenance free its entire lifetime
- **High Performance:** Excellent RF performance makes the ZoneScan II suitable for adding to any Aclara RF deployment
- **System-wide Correlation:** All MTUs are tightly time synchronized to each other allowing accurate correlation between all MTUs in the system
- **Advanced Diagnostics:** Regular self-diagnostics and health-check reporting keeps the ZoneScan II operating at peak performance and quickly notifies operators of any issues
- **Pipe Material Compatibility:** The ZoneScan II system works with pipes made of a range of materials including metal, concrete, and non-metallic types



Aclara RF ZoneScan II

Correlated Acoustic Leak Detection System



MTU SPECIFICATIONS

Network type	Two-way ¹
Transmit/receive frequency	450-470 MHz (FCC licensed)
Installation locations	Standard valve stacks
Battery life	8 years ^{2,4}
End point to end point synchronization	< 1 millisecond difference
Physical characteristics	2.8" w x 5.5" h x 1.8" d; 1.5 lb; color: black
Operating temperature range	-40°C to +70°C
Storage temperature range	0%-100% non-condensing, IP68 rated -40°C to +85°C
Approvals	FCC part 90; Industry Canada RSS-119
Warranty	8 years ^{3,4}
Network topology	Aclara RF Network (point to multi-point)
Network compatibility	Aclara DCU II or better
Software requirements	AclaraONE™ head-end and sensor module

¹Two-way communication for on-demand reads, remote configuration, and firmware over the air

²Battery life is stated at default settings of recordings performed once per day for 12 seconds and transmitted once per day

³Refer to Aclara standard warranty for details

⁴Battery life warranty invalid if MTU stored more than 1 year before installation and activation

Specifications are subject to change without notice.

Visit us at Aclara.com, phone 800 297 2728 or contact us at info@aclara.com and follow us on Twitter @AclaraSolutions.

AQUASCAN 610®

Leak Locating Correlator

Legend

1. Hydrophone (Optional)
2. Transmitting sensors
3. Correlator
4. Ground microphone (Optional)
5. Vehicle charger
6. Carry case
7. 100-240V AC adapter
8. Bluetooth headphones
9. Antenna extension



The AquaScan 610 is highly accurate and extremely portable. It is designed to withstand daily use, rain or shine, in outdoor conditions.

GUTERMANN

AQUASCAN 610®

Leak Locating Correlator

The combination of high performance, elegant design, compact size and advanced features make this the most popular leak noise correlator available.

System Configuration

- 1 Correlator with antenna and carry strap
- 2 Transmitting sensors with antenna, extension antenna cable and handle
- 1 12 V vehicle charge cable with 3 connectors for correlator and sensors
- 1 100-240V AC adapter
- 1 Correlator carry case
- 1 Operating manual
- 2 Year warranty

Optional Accessories

- 1 Bluetooth headphones
- 1 MMC Multimedia card to create MP3 files
- 1 Hydrophones (pair) for use on non-metallic pipes
- 1 AQUASCOPE ground microphone
- 1 AQUASCOPE hand-probe

Technical Specifications

Pipe material	All common pipe materials; mixed material mode
Sound velocity	Sound velocity table and on-site velocity check
Correlation resolution	16,000 points
Correlation accuracy	1 cm for 100 m (1" for 1,000 ft)
Display	High resolution LCD display with background illumination (12cm x 9cm / 4.7" x 3.6")
Filter	Automatically selected manually invertible, adjustable
Frequency analysis	FFT, coherence and ASA (advanced spectrum analysis) simultaneous multi-correlation
Notch filter	User selectable
Frequency response	1-5000 Hz
Peak suppression	Unlimited, user selectable
Memory capacity	Up to 60 correlations with all measurements data to enable post-processing of correlation with changed parameters
Multimedia card	MMC for additional data storage and leak noise analysis within PC software
Sensors	Ultra compact high sensitivity piezo-ceramic sensors with built-in radio transmitter and magnetic ring
Output	Bluetooth for headphone and data transfer to PC. Multi-purpose socket for battery charger, hydrophones, ground microphone and hand-probe
Power	Correlator and sensors: rechargeable 3.7V Lithium polymer battery
Battery charging	Vehicle or indoor
Battery charge life	Correlator: up to 12 hours; Sensors: Up to 8 hours
Dimensions	Correlator: 220mm x 140mm x 35mm (8.6" x 5.5" x 1.4") Transmitting sensors: Ø 61mm x 128mm (Ø 2.4" x 5")
Weight	Correlator: 1.0 kg (2.2 lbs) Transmitting sensors: 0.6 kg (1.3 lbs)

Your Nearest Distributor



GUTERMANN

Gutermann AG
Sihlstrasse 140
CH-6340 Baar, Switzerland
T +41 41 7606033
F +41 41 7606034
E info@gutermann-water.com
W gutermann-water.com

Australia · Canada · France · Germany · Malaysia · Mexico · Peru · Switzerland · UK · USA



The AquaScan 610 is the world's first cordless leak noise correlator and provides highly accurate and error-free leak pinpointing.



No cables - no hassle or repairs

The world's only high-performance correlator combining the ultra-sensitive sensor and the radio transmitter into one single compact unit which can be used in underground chambers with lids closed. Bluetooth communication allows both direct leak listening with stereo headphones and data transfer to PC.



Metallic or plastic, big or small - it works!

Highest pinpointing accuracy

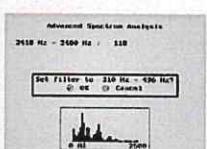
Sophisticated frequency analysis and algorithms combined with extra-high sensitivity and rigorous hardware engineering enable the operator to identify and pinpoint leaks in the most difficult of field conditions such as plastic pipes, low pressure situations and large diameters.



Easy error-free pinpointing

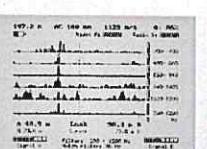
High capacity processors and first-class firmware which was perfected through decades of experience in acoustic leak detection offer unmatched pinpointing precision of 1 cm per 100 metres (1" per 1000ft) pipe distance, resulting in increased operator performance and minimised excavation costs.

The unique quality assessment feature offers the operator a high level of confidence for the leak pinpointing results. The quality of each correlation is automatically verified and indicated on screen. For less experienced operators the special wizard mode provides a step by step on-screen guidance through the correlation process.



Advanced Spectrum Analysis

Run the unique Advanced Spectrum Analysis (ASA) feature - narrowing down the correlation process to the leak-specific frequency - to find unusually quiet leaks in noisy environments, in which conventional correlators often fail to produce reliable results.



Simultaneous multi-correlation

This unique feature displays simultaneous correlations in different frequency bands, allowing to identify secondary leaks (e.g. on house connections) which would otherwise remain undiscovered. On top of that, in the expert mode the operator can experiment with different manual filter settings and see their immediate effect on the correlation.



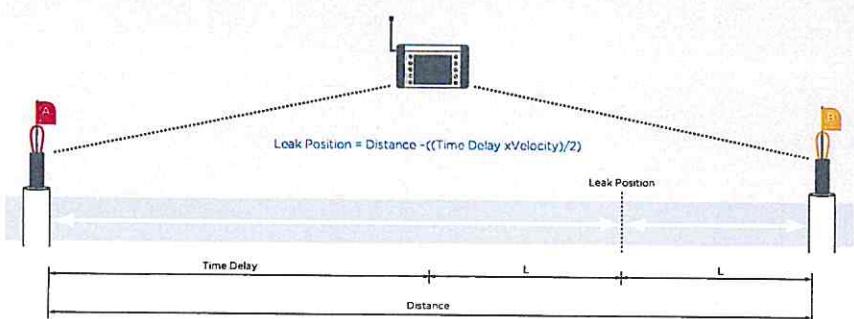
2 in 1: Also converts into a ground mic

By connecting the correlator to a Gutermann AquaScope hand-probe (for spot sounding on pipes & fittings) or ground microphone (for surface verification), you can conveniently convert the AquaScan 610 into a high-performance listening device saving the need to carry around additional equipment.



Life-long firmware update - For free!

As an owner of the AquaScan 610, you will always have access to the latest firmware updates for your device, as and when they become available. This ensures that you are always up to date with the latest technology that a high performance correlator by Gutermann has to offer.



MUNICIPAL SERVICES COMMITTEE MEETING

AGENDA ITEM SUMMARY SHEET

AGENDA ITEM DESCRIPTION	COMMITTEE REVIEW
Discuss Water Rate Study and Water Distribution Capital Improvement Plan Proposal	<input type="checkbox"/> Finance/Administration <input checked="" type="checkbox"/> Municipal Services <input type="checkbox"/> Public Safety <u>Meeting Date:</u> January 25, 2021

<input checked="" type="checkbox"/> Discussion Only	<input type="checkbox"/> Approval of Staff Recommendation (for consideration by Village Board at a later date)
<input type="checkbox"/> Seeking Feedback	<input type="checkbox"/> Approval of Staff Recommendation (for <u>immediate</u> consideration by Village Board)
<input type="checkbox"/> Regular Report	<input type="checkbox"/> Report/documents requested by Committee

BACKGROUND

The Village of Willowbrook receives its Chicago water supply through the DuPage Water Commission. The last water rate adjustment by the Village of Willowbrook occurred on January 1, 2015. A summary of the rate increases by the Village as well as increases by the DuPage Water Commission (DWC) is attached for your review.

The Village does not have an established system on how DWC rates are passed through or a methodology on how the Village considers rates adjustments on a year-to-year basis. This study will help the Village be as transparent as possible with our residential and commercial customers on our public assets and how the rate system was designed. The study will offer options for water rates centered on a base system maintenance number applied to all users, and water usage rates to better balance the needs of the customer base and the community alike.

Staff has requested a water rate study proposal from Christopher B. Burke Engineering, the Village Engineering firm. Their proposal is as follows:

Water Rate Study Task Fee

1. Project Kickoff and Scoping Meeting \$1,500
2. Review Historic Revenues and Expenses \$3,500
3. Establish Basis for Projected Revenues and Expenses \$5,000
4. Prepare a Rate Model and Establish Baseline Rate Design \$7,000
5. Evaluate Alternative Rate Designs \$5,000
6. Prepare Draft and Final Report \$4,000
7. Meetings and Presentations \$1,500 Direct Costs \$500

TOTAL \$28,000

An important note is that this water rate proposal presumes that the Village has a complete water distribution capital improvement program. The Village does have a few items in our planning process for capital improvements, but the Village does not have a true water distribution capital improvement plan. Staff believes that it is important for the Village to consider initiating a water rate study in conjunction with a water distribution capital improvement program to review the data and make recommendations on a formalized system. It is anticipated that this capital improvement program will provide the Village with

an inventory of our water distribution system, with a history of installation, repairs, and projected long-term maintenance. This information would be rolled into a water rate study that will help the Village in establishing a methodology and process for considering any enhancements to our water rates. Staff has requested that Christopher B. Burke Engineering provide an additional proposal for a formal water distribution capital improvement plan. This proposal estimate is due to the Village shortly but not available at the time of issuing the agenda packet.

REQUEST FOR FEEDBACK

Staff is seeking feedback on the water rate and water distribution capital improvement concept. Should the Committee find benefit for this type of program staff would recommend adding this item into the Village Budget for formal consideration by the Village Board.

VILLAGE OF WILLOWSBROOK
WATER RATE HISTORY

Village Rates:

	DATE OF INCREASE										
	2001	5/1/2010	3/1/2012	5/1/2013	1/1/2014	1/1/2015*					
Rate/1,000 gal											
< 36,000 gal	\$ 3.99	4.79	5.75	7.19	8.63	9.67					
> 36,000 gal	\$ 4.60	5.52	6.62	8.28	9.94	11.14					
Village increase:		20%	20%	25%	20%	12%	0%	0%	0%	0%	0%
						4.72	4.82	4.87	4.79	4.73	4.70
											4.70

DWC Rates:

	DATE OF INCREASE												
	5/1/2010	5/1/2011	5/1/2012	5/1/2013	1/1/2014	5/1/2014	1/1/2015	5/1/2015	5/1/2016	5/1/2017	5/1/2018	5/1/2019	5/1/2020
Rate/1,000 gal													
O & M fixed	1.48	1.84	2.24	2.89	3.52	3.97	4.68	4.85	4.80	4.88	4.94	4.97	4.97
	1.48	1.84	2.24	2.89	3.52	4.19	4.95	4.85	4.80	4.88	4.94	4.97	4.97
DWC Increase:	6.47%	24.32%	21.74%	29.02%	21.80%	19.03%	18.14%	-2.02%	-1.03%	1.67%	1.23%	0.61%	0.00%

DWC net increases since last Village increase (5/1/15 - 5/1/20):

0.45%

* Village rates last increased on 1/1/2015



CHRISTOPHER B. BURKE ENGINEERING, LTD.

9575 W Higgins Road, Suite 600 Rosemont, Illinois 60018-4920 Tel (847) 823-0500 Fax (847) 823-0520

January 6, 2021

Village of Willowbrook
835 Midway Drive
Willowbrook, IL 60527-5549

Attention: Mr. Michael S. Mertens, Assistant Village Administrator

Subject: Proposal for Professional Engineering Services
Water Rate Study
Village of Willowbrook

Dear Mr. Mertens:

As requested, Christopher B. Burke Engineering, Ltd. (CBBEL) is pleased to submit this proposal for providing professional engineering services for the subject project. Below is our Understanding of the Assignment, Scope of Services and Estimate of Fee.

UNDERSTANDING OF THE ASSIGNMENT

CBBEL understands that the Village of Willowbrook is seeking the services of a qualified and experienced engineering consultant to perform a Comprehensive Water Rate Study.

The Water Rate Study will be performed to meet the following major objectives:

- Recommend fair and equitable water rate structures that are based on a cost of service analysis and designed to fund estimated operating and capital expenditures over the next five years while maintaining adequate cash balances.
- Provide at least 3 recommended rate alternatives that are based on standard rate practices that will provide for current and future costs of providing water service in accordance with established and anticipated standards and regulations and which equitably distribute costs to residential, commercial and industrial customers.
- Provide a comparison of water rates and utility system costs against similar nearby municipalities (5 minimum).

CBBEL will set up a kickoff and scoping meeting with the Village to discuss various types of rate structures, collect and discuss available study data and requirements, and if necessary, refine scope of services and the methodology for performing the study. The historic revenues and expenses will be reviewed and parameters for projecting future

revenues and expenses will be established. A spreadsheet-based rate model will be prepared and used to establish the recommended water rate design for the 5-year period. The rate model will also incorporate features so that it can be used to evaluate alternative rate designs and structures as well as various funding options. Meetings will be held with Village staff as necessary throughout the study to discuss project information and status of current and future projects.

Based on CBBEL's overall approach to the study, the proposed Rate Study will be performed to include the following major tasks:

1. Project Kickoff and Scoping Meeting
2. Review Historic Revenues and Expenses
3. Establish Basis for Projected Revenues and Expenses
4. Prepare a Rate Model and Establish Rate Design
5. Evaluate Alternative Rate Designs
6. Prepare Draft and Final Report
7. Meetings and Presentations

The Scope of Services is described in more detail under the seven identified tasks that follow.

SCOPE OF SERVICES

Task 1 – Project Kickoff and Scoping Meeting

CBBEL will set up a kickoff meeting with the Village to discuss and clearly establish the goals and objectives for this project. The methodology to be used in performing the evaluations will be presented and discussed along with the schedule to complete the study. CBBEL will refine the scope of services if necessary, in accordance with the meeting discussions and submit a revised task list for review and approval by the Village. Key elements of the kickoff and scoping meeting will include the following:

- Discuss project requirements and criteria, and methodology to perform the evaluations
- Collect and discuss available project information and data
- Present brief description of various rate structures commonly used by municipalities
- Discuss the rate model to be prepared and used for this project
- Establish the expected outcomes for the various tasks and schedule for completion

An important element of this meeting is the collection and discussion of available data and the financial, operating and budgeting information that is relevant for the rate study. It is expected that the bulk of the data and information will be available at this initial meeting, however, follow up meetings with appropriate Village staff may be necessary for collection and discussion of additional data. The anticipated data and information to be collected is as follows:

1. Previous Rate Study Reports
2. Annual Financial Reports
3. Rate Ordinance and Current Rates and Fees
4. Water Consumption by User Type
5. Usage and Billing Data
6. New Customer Projections (Anticipated Future Growth and Development)
7. IDNR Water Audits (Other Available Info on Water Losses)
8. Operating Statements of the Utilities Fund
9. Detailed Revenue and Expense Tabulations (that provide breakdowns for the various categories of revenues and expenses)
10. Budget Worksheets
11. Capital Improvement Plan (CIP), if available
12. Debt Service Requirements (Current and Proposed)

In general, the last 3 to 5 years of historic data if available for such items as revenues and expenses, and water consumption and billings, etc. would be useful for the study.

Task 2 – Review Historic Revenues and Expenses

CBBEL will compile the data and information collected in Task 1. A thorough review and analysis of all the historic revenue and expense data will be performed. The data will be summarized and assessed to analyze trends (percentage increases/decreases) that may be used to make future projections of revenue and expenses. Customer usage and billing data will be assessed to establish usage by the various customer classes; residential, commercial and industrial. This information will be necessary to evaluate rate structure changes. The Village's cash balance and funding requirements of the Utilities Fund and other specific accounts will be reviewed and assessed. If necessary, this task will also include a review and assessment of the tap-on/connection fees charged to new customers or for additional service connections. Recommendations regarding any suggested changes in funding requirements, connection fees or other related items will be presented and discussed with Village staff.

Task 3 – Establish Basis for Projected Revenues and Expenses

This task will provide the basis for making the revenue and expense projections over the 5-year financial planning period. Where specific information is not available to incorporate into the projections, the general trends in revenues and expenses as determined in Task 2 will be used.

The major components of revenue will include revenue from water sales, miscellaneous operating revenue, miscellaneous non-operating revenue and interest income. The revenue generated by such sources as the tap-on/connection fees, late fees and penalties will be included in these major components of revenue. Subcomponents of these revenue sources will be broken out and identified separately if the bases of these revenue sources are projected to change within the five-year projection period (i.e. change in customer base). Projected or potential changes in the customer base, such as the addition of new residential developments or new commercial/industrial developments, that will have a significant effect on water delivery will be discussed with the Village and incorporated into the analysis if necessary.

The major components of expenses will include the Village operation and maintenance expenses, bulk water purchases, MWRD wastewater treatment charges, capital requirements, debt service requirements, funding and margin requirements. The Village's CIP will be reviewed and discussed with Village staff so that appropriate expense allocations can be incorporated into the financial plan. Existing and/or proposed funding of a capital reserve fund to finance the future rehabilitation/replacement of old and deteriorated facilities will be discussed and accounted for. Existing and proposed debt service requirements will be identified and incorporated into the financial plan. Debt service coverage requirements and other margin requirements will be discussed with the Village and incorporated into the financial plan.

Task 4 – Prepare a Rate Model and Establish Baseline Rate Design

CBBEL will prepare a rate model using an EXCEL spreadsheet format. The spreadsheet will be a custom document that incorporates the revenue and expense data and features that will facilitate the calculations to evaluate existing water rates, alternative rate structures and financing options.

CBBEL will use the rate model to establish a five-year forecast of the Financial Plan. The goal of the financial plan is to allow for the generation of adequate revenues to cover the projected operating and capital costs while maintaining sufficient cash balances, capital reserves and margin requirements. The first step in the evaluation is to determine the adequacy of projected revenue provided by existing rates to meet projected expenses. An assessment of various rate adjustments (if necessary) will be made to demonstrate that projected revenue will meet projected expenses considering adequate cash balances, various funding requirements and that bond coverage reserve funds are maintained. Potential rate adjustments will consider level and escalating rates over the 5-year period.

The financial plan will identify the overall change in revenue required to provide for adequate funding for major capital improvement programs (CIP), to meet all recurring annual operating and capital expenditures, to cover all debt service requirements, and to maintain sufficient cash balances and capital reserves. The preliminary financial plan will be provided to the Village for assessment of estimated impacts on the cash flow of the utility. Based on the Village's assessment, appropriate revisions to the forecast assumptions will be discussed and incorporated into the final five-year financial plan. Extrapolation of the financial plan beyond the 5-year period can be accommodated if desired by the Village.

Task 5 – Evaluate Alternative Rate Designs

The rate model developed under Task 4 will also be used to evaluate alternative rate structures and financing options. The alternative rate structures to be evaluated will include the following:

- Establishment of separate classification rates for residential, commercial and industrial customers
- Establishment of a fixed customer charge (alternative to a minimum charge)

The rate model will also be developed to facilitate the evaluation of financing options for planned capital projects including financing with cash or through additional debt service.

Task 6 – Prepare Draft and Final Report

A draft report will be prepared and submitted to the Village for review and comment. The draft report will include a brief description of study methodology, summary of basic data used in the study, description of the rate model developed for the study, and alternative rate structures that were evaluated. The report will contain the study conclusions and recommendations. An executive summary will also be provided to briefly summarize the study conclusions and recommendations. The final report will incorporate any comments received from the Village.

Task 7 – Meetings and Presentations

In addition to the kickoff meeting, the Scope of Services includes one other formal meeting (evening) to present the rate study to the Village Board. Also, it is anticipated that during the course of the study as information is received and reviewed there may be the need for follow-up meetings with appropriate Village staff to discuss and clarify the materials to be used in the study. Additional meetings with Village staff may also be needed to review study progress and preliminary results as the study progresses. These meetings would be performed as part of the work effort under the appropriate tasks identified for this study.

ESTIMATE OF FEE

TASK	FEE
Task 1 – Project Kickoff and Scoping Meeting	\$1,500
Task 2 – Review Historic Revenues and Expenses	\$3,500
Task 3 – Establish Basis for Projected Revenues and Expenses	\$5,000
Task 4 – Prepare a Rate Model and Establish Baseline Rate Design	\$7,000
Task 5 – Evaluate Alternative Rate Designs	\$5,000
Task 6 – Prepare Draft and Final Report	\$4,000
Task 7 – Meetings and Presentations	\$1,500
Direct Costs	\$500
TOTAL	\$28,000

We will bill you at the hourly rates specified on the attached Schedule of Charges. We will establish our contract in accordance with the attached General Term and Conditions. These General Terms and Conditions are expressly incorporated into and are an integral part of this contract for professional services. Direct costs for blueprints, photocopying, mailing, mileage, overnight delivery, messenger services and report binding are included

in the Fee Estimate. Please note that meetings and additional services performed by CBBEL that are not included as part of this proposal will be billed on a time and materials basis and at the attached hourly rates.

Please sign and return one copy of this agreement as an indication of acceptance and notice to proceed. Please feel free to contact us anytime.

Sincerely,



Michael E. Kerr, PE
President

JPC/pjb

Encl. Schedule of Charges
General Terms and Conditions

THIS PROPOSAL, SCHEDULE OF CHARGES & GENERAL TERMS AND CONDITIONS
ACCEPTED FOR VILLAGE OF WILLOWBROOK:

BY: _____

TITLE: _____

DATE: _____

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CHRISTOPHER B. BURKE ENGINEERING, LTD.
STANDARD CHARGES FOR PROFESSIONAL SERVICES
APRIL, 2020

	Charges*
	(\$/Hr)
Personnel	
Principal	275
Engineer VI	251
Engineer V	208
Engineer IV	170
Engineer III	152
Engineer I/II	121
Survey V	229
Survey IV	196
Survey III	172
Survey II	126
Survey I	100
Engineering Technician V	198
Engineering Technician IV	161
Engineering Technician III	146
Engineering Technician I/II	68
CAD Manager	177
Assistant CAD Manager	153
CAD II	135
GIS Specialist III	148
GIS Specialist I/II	94
Landscape Architect	170
Landscape Designer I/II	94
Environmental Resource Specialist V	216
Environmental Resource Specialist IV	170
Environmental Resource Specialist III	139
Environmental Resource Specialist I/II	94
Environmental Resource Technician	114
Administrative	104
Engineering Intern	63
Information Technician III	130
Information Technician I/II	116

Direct Costs

Outside Copies, Blueprints, Messenger, Delivery Services, Mileage Cost + 12%

*Charges include overhead and profit

Christopher B. Burke Engineering, Ltd. reserves the right to increase these rates and costs by 5% after December 31, 2020.

CHRISTOPHER B. BURKE ENGINEERING, LTD.
GENERAL TERMS AND CONDITIONS

1. Relationship Between Engineer and Client: Christopher B. Burke Engineering, Ltd. (Engineer) shall serve as Client's professional engineer consultant in those phases of the Project to which this Agreement applies. This relationship is that of a buyer and seller of professional services and as such the Engineer is an independent contractor in the performance of this Agreement and it is understood that the parties have not entered into any joint venture or partnership with the other. The Engineer shall not be considered to be the agent of the Client. Nothing contained in this Agreement shall create a contractual relationship with a cause of action in favor of a third party against either the Client or Engineer.

Furthermore, causes of action between the parties to this Agreement pertaining to acts of failures to act shall be deemed to have accrued and the applicable statute of limitations shall commence to run not later than the date of substantial completion.

2. Responsibility of the Engineer: Engineer will strive to perform services under this Agreement in accordance with generally accepted and currently recognized engineering practices and principles, and in a manner consistent with that level of care and skill ordinarily exercised by members of the profession currently practicing in the same locality under similar conditions. No other representation, express or implied, and no warranty or guarantee is included or intended in this Agreement, or in any report, opinion, document, or otherwise.

Notwithstanding anything to the contrary which may be contained in this Agreement or any other material incorporated herein by reference, or in any Agreement between the Client and any other party concerning the Project, the Engineer shall not have control or be in charge of and shall not be responsible for the means, methods, techniques, sequences or procedures of construction, or the safety, safety precautions or programs of the Client, the construction contractor, other contractors or subcontractors performing any of the work or providing any of the services on the Project. Nor shall the Engineer be responsible for the acts or omissions of the Client, or for the failure of the Client, any architect, engineer, consultant, contractor or subcontractor to carry out their respective responsibilities in accordance with the Project documents, this Agreement or any other agreement concerning the Project. Any provision which purports to amend this provision shall be without effect unless it contains a reference that the content of this condition is expressly amended for the purposes described in such amendment and is signed by the Engineer.

3. Changes: Client reserves the right by written change order or amendment to make changes in requirements, amount of work, or engineering time schedule adjustments, and Engineer and Client shall negotiate appropriate adjustments acceptable to both parties to accommodate any changes, if commercially possible.
4. Suspension of Services: Client may, at any time, by written order to Engineer (Suspension of Services Order) require Engineer to stop all, or any part, of the services required by this Agreement. Upon receipt of such an order, Engineer shall immediately comply with its terms and take all reasonable steps to minimize the costs associated with the services affected by such order. Client, however, shall pay all costs incurred by the suspension, including all costs necessary to maintain continuity and for the

resumptions of the services upon expiration of the Suspension of Services Order. Engineer will not be obligated to provide the same personnel employed prior to suspension, when the services are resumed, in the event that the period of suspension is greater than thirty (30) days.

5. Termination: This Agreement may be terminated by either party upon thirty (30) days written notice in the event of substantial failure by the other party to perform in accordance with the terms hereof through no fault of the terminating party. This Agreement may be terminated by Client, under the same terms, whenever Client shall determine that termination is in its best interests. Cost of termination, including salaries, overhead and fee, incurred by Engineer either before or after the termination date shall be reimbursed by Client.
6. Documents Delivered to Client: Drawings, specifications, reports, and any other Project Documents prepared by Engineer in connection with any or all of the services furnished hereunder shall be delivered to the Client for the use of the Client. Engineer shall have the right to retain originals of all Project Documents and drawings for its files. Furthermore, it is understood and agreed that the Project Documents such as, but not limited to reports, calculations, drawings, and specifications prepared for the Project, whether in hard copy or machine readable form, are instruments of professional service intended for one-time use in the construction of this Project. These Project Documents are and shall remain the property of the Engineer. The Client may retain copies, including copies stored on magnetic tape or disk, for information and reference in connection with the occupancy and use of the Project.

When and if record drawings are to be provided by the Engineer, Client understands that information used in the preparation of record drawings is provided by others and Engineer is not responsible for accuracy, completeness, nor sufficiency of such information. Client also understands that the level of detail illustrated by record drawings will generally be the same as the level of detail illustrated by the design drawing used for project construction. If additional detail is requested by the Client to be included on the record drawings, then the Client understands and agrees that the Engineer will be due additional compensation for additional services.

It is also understood and agreed that because of the possibility that information and data delivered in machine readable form may be altered, whether inadvertently or otherwise, the Engineer reserves the right to retain the original tapes/disks and to remove from copies provided to the Client all identification reflecting the involvement of the Engineer in their preparation. The Engineer also reserves the right to retain hard copy originals of all Project Documentation delivered to the Client in machine readable form, which originals shall be referred to and shall govern in the event of any inconsistency between the two.

The Client understands that the automated conversion of information and data from the system and format used by the Engineer to an alternate system or format cannot be accomplished without the introduction of inexactitudes, anomalies, and errors. In the event Project Documentation provided to the Client in machine readable form is so converted, the Client agrees to assume all risks associated therewith and, to the fullest

extent permitted by law, to hold harmless and indemnify the Engineer from and against all claims, liabilities, losses, damages, and costs, including but not limited to attorney's fees, arising therefrom or in connection therewith.

The Client recognizes that changes or modifications to the Engineer's instruments of professional service introduced by anyone other than the Engineer may result in adverse consequences which the Engineer can neither predict nor control. Therefore, and in consideration of the Engineer's agreement to deliver its instruments of professional service in machine readable form, the Client agrees, to the fullest extent permitted by law, to hold harmless and indemnify the Engineer from and against all claims, liabilities, losses, damages, and costs, including but not limited to attorney's fees, arising out of or in any way connected with the modification, misinterpretation, misuse, or reuse by others of the machine readable information and data provided by the Engineer under this Agreement. The foregoing indemnification applies, without limitation, to any use of the Project Documentation on other projects, for additions to this Project, or for completion of this Project by others, excepting only such use as may be authorized, in writing, by the Engineer.

7. **Reuse of Documents:** All Project Documents including but not limited to reports, opinions of probable costs, drawings and specifications furnished by Engineer pursuant to this Agreement are intended for use on the Project only. They cannot be used by Client or others on extensions of the Project or any other project. Any reuse, without specific written verification or adaptation by Engineer, shall be at Client's sole risk, and Client shall indemnify and hold harmless Engineer from all claims, damages, losses, and expenses including attorney's fees arising out of or resulting therefrom.

The Engineer shall have the right to include representations of the design of the Project, including photographs of the exterior and interior, among the Engineer's promotional and professional materials. The Engineer's materials shall not include the Client's confidential and proprietary information if the Client has previously advised the Engineer in writing of the specific information considered by the Client to be confidential and proprietary.

8. **Standard of Practice:** The Engineer will strive to conduct services under this agreement in a manner consistent with that level of care and skill ordinarily exercised by members of the profession currently practicing in the same locality under similar conditions as of the date of this Agreement.
9. **Compliance With Laws:** The Engineer will strive to exercise usual and customary professional care in his/her efforts to comply with those laws, codes, ordinance and regulations which are in effect as of the date of this Agreement.

With specific respect to prescribed requirements of the Americans with Disabilities Act of 1990 or certified state or local accessibility regulations (ADA), Client understands ADA is a civil rights legislation and that interpretation of ADA is a legal issue and not a design issue and, accordingly, retention of legal counsel (by Client) for purposes of interpretation is advisable. As such and with respect to ADA, Client agrees to waive any action against Engineer, and to indemnify and defend Engineer against any claim arising from Engineer's alleged failure to meet ADA requirements prescribed.

Further to the law and code compliance, the Client understands that the Engineer will strive to provide designs in accordance with the prevailing Standards of Practice as previously set forth, but that the Engineer does not warrant that any reviewing agency having jurisdiction will not for its own purposes comment, request changes and/or additions to such designs. In the event such design requests are made by a reviewing agency, but which do not exist in the form of a written regulation, ordinance or other similar document as published by the reviewing agency, then such design changes (at substantial variance from the intended design developed by the Engineer), if effected and incorporated into the project documents by the Engineer, shall be considered as Supplementary Task(s) to the Engineer's Scope of Service and compensated for accordingly.

10. **Indemnification:** Engineer shall indemnify and hold harmless Client up to the amount of this contract fee (for services) from loss or expense, including reasonable attorney's fees for claims for personal injury (including death) or property damage to the extent caused by the sole negligent act, error or omission of Engineer.

Client shall indemnify and hold harmless Engineer under this Agreement, from loss or expense, including reasonable attorney's fees, for claims for personal injuries (including death) or property damage arising out of the sole negligent act, error omission of Client.

In the event of joint or concurrent negligence of Engineer and Client, each shall bear that portion of the loss or expense that its share of the joint or concurrent negligence bears to the total negligence (including that of third parties), which caused the personal injury or property damage.

Engineer shall not be liable for special, incidental or consequential damages, including, but not limited to loss of profits, revenue, use of capital, claims of customers, cost of purchased or replacement power, or for any other loss of any nature, whether based on contract, tort, negligence, strict liability or otherwise, by reasons of the services rendered under this Agreement.

11. **Opinions of Probable Cost:** Since Engineer has no control over the cost of labor, materials or equipment, or over the Contractor(s) method of determining process, or over competitive bidding or market conditions, his/her opinions of probable Project Construction Cost provided for herein are to be made on the basis of his/her experience and qualifications and represent his/her judgement as a design professional familiar with the construction industry, but Engineer cannot and does not guarantee that proposal, bids or the Construction Cost will not vary from opinions of probable construction cost prepared by him/her. If prior to the Bidding or Negotiating Phase, Client wishes greater accuracy as to the Construction Cost, the Client shall employ an independent cost estimator Consultant for the purpose of obtaining a second construction cost opinion independent from Engineer.

12. **Governing Law & Dispute Resolutions:** This Agreement shall be governed by and construed in accordance with Articles previously set forth by (Item 9 of) this Agreement, together with the laws of the **State of Illinois**.

Any claim, dispute or other matter in question arising out of or related to this Agreement, which can not be mutually resolved by the parties of this Agreement, shall be subject to mediation as a condition precedent to arbitration (if arbitration is agreed upon by the parties of this Agreement) or the institution of legal or equitable proceedings by either party. If such matter relates to or is the subject of a lien arising out of the Engineer's services, the Engineer may proceed in accordance with applicable law to comply with the lien notice or filing deadlines prior to resolution of the matter by mediation or by arbitration.

The Client and Engineer shall endeavor to resolve claims, disputes and other matters in question between them by mediation which, unless the parties mutually agree otherwise, shall be in accordance with the Construction Industry Mediation Rules of the American Arbitration Association currently in effect. Requests for mediation shall be filed in writing with the other party to this Agreement and with the American Arbitration Association. The request may be made concurrently with the filing of a demand for arbitration but, in such event, mediation shall proceed in advance of arbitration or legal or equitable proceedings, which shall be stayed pending mediation for a period of 60 days from the date of filing, unless stayed for a longer period by agreement of the parties or court order.

The parties shall share the mediator's fee and any filing fees equally. The mediation shall be held in the place where the Project is located, unless another location is mutually agreed upon. Agreements reached in mediation shall be enforceable as settlement agreements in any court having jurisdiction thereof.

13. Successors and Assigns: The terms of this Agreement shall be binding upon and inure to the benefit of the parties and their respective successors and assigns: provided, however, that neither party shall assign this Agreement in whole or in part without the prior written approval of the other.
14. Waiver of Contract Breach: The waiver of one party of any breach of this Agreement or the failure of one party to enforce at any time, or for any period of time, any of the provisions hereof, shall be limited to the particular instance, shall not operate or be deemed to waive any future breaches of this Agreement and shall not be construed to be a waiver of any provision, except for the particular instance.
15. Entire Understanding of Agreement: This Agreement represents and incorporates the entire understanding of the parties hereto, and each party acknowledges that there are no warranties, representations, covenants or understandings of any kind, matter or description whatsoever, made by either party to the other except as expressly set forth herein. Client and the Engineer hereby agree that any purchase orders, invoices, confirmations, acknowledgments or other similar documents executed or delivered with respect to the subject matter hereof that conflict with the terms of the Agreement shall be null, void & without effect to the extent they conflict with the terms of this Agreement.
16. Amendment: This Agreement shall not be subject to amendment unless another instrument is duly executed by duly authorized representatives of each of the parties and entitled "Amendment of Agreement".

17. **Severability of Invalid Provisions:** If any provision of the Agreement shall be held to contravene or to be invalid under the laws of any particular state, county or jurisdiction where used, such contravention shall not invalidate the entire Agreement, but it shall be construed as if not containing the particular provisions held to be invalid in the particular state, country or jurisdiction and the rights or obligations of the parties hereto shall be construed and enforced accordingly.
18. **Force Majeure:** Neither Client nor Engineer shall be liable for any fault or delay caused by any contingency beyond their control including but not limited to acts of God, wars, strikes, walkouts, fires, natural calamities, or demands or requirements of governmental agencies.
19. **Subcontracts:** Engineer may subcontract portions of the work, but each subcontractor must be approved by Client in writing.
20. **Access and Permits:** Client shall arrange for Engineer to enter upon public and private property and obtain all necessary approvals and permits required from all governmental authorities having jurisdiction over the Project. Client shall pay costs (including Engineer's employee salaries, overhead and fee) incident to any effort by Engineer toward assisting Client in such access, permits or approvals, if Engineer perform such services.
21. **Designation of Authorized Representative:** Each party (to this Agreement) shall designate one or more persons to act with authority in its behalf in respect to appropriate aspects of the Project. The persons designated shall review and respond promptly to all communications received from the other party.
22. **Notices:** Any notice or designation required to be given to either party hereto shall be in writing, and unless receipt of such notice is expressly required by the terms hereof shall be deemed to be effectively served when deposited in the mail with sufficient first class postage affixed, and addressed to the party to whom such notice is directed at such party's place of business or such other address as either party shall hereafter furnish to the other party by written notice as herein provided.
23. **Limit of Liability:** The Client and the Engineer have discussed the risks, rewards, and benefits of the project and the Engineer's total fee for services. In recognition of the relative risks and benefits of the Project to both the Client and the Engineer, the risks have been allocated such that the Client agrees that to the fullest extent permitted by law, the Engineer's total aggregate liability to the Client for any and all injuries, claims, costs, losses, expenses, damages of any nature whatsoever or claim expenses arising out of this Agreement from any cause or causes, including attorney's fees and costs, and expert witness fees and costs, shall not exceed the total Engineer's fee for professional engineering services rendered on this project as made part of this Agreement. Such causes included but are not limited to the Engineer's negligence, errors, omissions, strict liability or breach of contract. It is intended that this limitation apply to any and all liability or cause of action however alleged or arising, unless otherwise prohibited by law.

24. Client's Responsibilities: The Client agrees to provide full information regarding requirements for and about the Project, including a program which shall set forth the Client's objectives, schedule, constraints, criteria, special equipment, systems and site requirements.

The Client agrees to furnish and pay for all legal, accounting and insurance counseling services as may be necessary at any time for the Project, including auditing services which the Client may require to verify the Contractor's Application for Payment or to ascertain how or for what purpose the Contractor has used the money paid by or on behalf of the Client.

The Client agrees to require the Contractor, to the fullest extent permitted by law, to indemnify, hold harmless, and defend the Engineer, its consultants, and the employees and agents of any of them from and against any and all claims, suits, demands, liabilities, losses, damages, and costs ("Losses"), including but not limited to costs of defense, arising in whole or in part out of the negligence of the Contractor, its subcontractors, the officers, employees, agents, and subcontractors of any of them, or anyone for whose acts any of them may be liable, regardless of whether or not such Losses are caused in part by a party indemnified hereunder. Specifically excluded from the foregoing are Losses arising out of the preparation or approval of maps, drawings, opinions, reports, surveys, change orders, designs, or specifications, and the giving of or failure to give directions by the Engineer, its consultants, and the agents and employees of any of them, provided such giving or failure to give is the primary cause of Loss. The Client also agrees to require the Contractor to provide to the Engineer the required certificate of insurance.

The Client further agrees to require the Contractor to name the Engineer, its agents and consultants as additional insureds on the Contractor's policy or policies of comprehensive or commercial general liability insurance. Such insurance shall include products and completed operations and contractual liability coverages, shall be primary and noncontributing with any insurance maintained by the Engineer or its agents and consultants, and shall provide that the Engineer be given thirty days, unqualified written notice prior to any cancellation thereof.

In the event the foregoing requirements, or any of them, are not established by the Client and met by the Contractor, the Client agrees to indemnify and hold harmless the Engineer, its employees, agents, and consultants from and against any and all Losses which would have been indemnified and insured against by the Contractor, but were not.

When Contract Documents prepared under the Scope of Services of this contract require insurance(s) to be provided, obtained and/or otherwise maintained by the Contractor, the Client agrees to be wholly responsible for setting forth any and all such insurance requirements. Furthermore, any document provided for Client review by the Engineer under this Contract related to such insurance(s) shall be considered as sample insurance requirements and not the recommendation of the Engineer. Client agrees to have their own risk management department review any and all insurance requirements for adequacy and to determine specific types of insurance(s) required for the project. Client further agrees that decisions concerning types and amounts of insurance are

specific to the project and shall be the product of the Client. As such, any and all insurance requirements made part of Contract Documents prepared by the Engineer are not to be considered the Engineer's recommendation, and the Client shall make the final decision regarding insurance requirements.

25. Information Provided by Others: The Engineer shall indicate to the Client the information needed for rendering of the services of this Agreement. The Client shall provide to the Engineer such information as is available to the Client and the Client's consultants and contractors, and the Engineer shall be entitled to rely upon the accuracy and completeness thereof. The Client recognizes that it is impossible for the Engineer to assure the accuracy, completeness and sufficiency of such information, either because it is impossible to verify, or because of errors or omissions which may have occurred in assembling the information the Client is providing. Accordingly, the Client agrees, to the fullest extent permitted by law, to indemnify and hold the Engineer and the Engineer's subconsultants harmless from any claim, liability or cost (including reasonable attorneys' fees and cost of defense) for injury or loss arising or allegedly arising from errors, omissions or inaccuracies in documents or other information provided by the Client to the Engineer.
26. Payment: Client shall be invoiced once each month for work performed during the preceding period. Client agrees to pay each invoice within thirty (30) days of its receipt. The client further agrees to pay interest on all amounts invoiced and not paid or objected to for valid cause within said thirty (30) day period at the rate of eighteen (18) percent per annum (or the maximum interest rate permitted under applicable law, whichever is the lesser) until paid. Client further agrees to pay Engineer's cost of collection of all amounts due and unpaid after sixty (60) days, including court costs and reasonable attorney's fees, as well as costs attributed to suspension of services accordingly and as follows:

Collection Costs. In the event legal action is necessary to enforce the payment provisions of this Agreement, the Engineer shall be entitled to collect from the Client any judgement or settlement sums due, reasonable attorneys' fees, court costs and expenses incurred by the Engineer in connection therewith and, in addition, the reasonable value of the Engineer's time and expenses spent in connection with such collection action, computed at the Engineer's prevailing fee schedule and expense policies.

Suspension of Services. If the Client fails to make payments when due or otherwise is in breach of this Agreement, the Engineer may suspend performance of services upon five (5) calendar days' notice to the Client. The Engineer shall have no liability whatsoever to the Client for any costs or damages as a result of such suspension caused by any breach of this Agreement by the Client. Client will reimburse Engineer for all associated costs as previously set forth in (Item 4 of) this Agreement.

27. When construction observation tasks are part of the service to be performed by the Engineer under this Agreement, the Client will include the following clause in the construction contract documents and Client agrees not to modify or delete it:

Kotecki Waiver. Contractor (and any subcontractor into whose subcontract this clause is incorporated) agrees to assume the entire liability for all personal injury claims suffered by its own employees, including without limitation claims under the **Illinois** Structural Work Act, asserted by persons allegedly injured on the Project; waives any limitation of liability defense based upon the Worker's Compensation Act, court interpretations of said Act or otherwise; and to the fullest extent permitted by law, agrees to indemnify and hold harmless and defend Owner and Engineer and their agents, employees and consultants (the "Indemnitees") from and against all such loss, expense, damage or injury, including reasonable attorneys' fees, that the Indemnitees may sustain as a result of such claims, except to the extent that **Illinois** law prohibits indemnity for the Indemnitees' own negligence. The Owner and Engineer are designated and recognized as explicit third party beneficiaries of the Kotecki Waiver within the general contract and all subcontracts entered into in furtherance of the general contract.

28. **Job Site Safety/Supervision & Construction Observation:** The Engineer shall neither have control over or charge of, nor be responsible for, the construction means, methods, techniques, sequences of procedures, or for safety precautions and programs in connection with the Work since they are solely the Contractor's rights and responsibilities. The Client agrees that the Contractor shall supervise and direct the work efficiently with his/her best skill and attention; and that the Contractor shall be solely responsible for the means, methods, techniques, sequences and procedures of construction and safety at the job site. The Client agrees and warrants that this intent shall be carried out in the Client's contract with the Contractor. The Client further agrees that the Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the work; and that the Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to all employees on the subject site and all other persons who may be affected thereby. The Engineer shall have no authority to stop the work of the Contractor or the work of any subcontractor on the project.

When construction observation services are included in the Scope of Services, the Engineer shall visit the site at intervals appropriate to the stage of the Contractor's operation, or as otherwise agreed to by the Client and the Engineer to: 1) become generally familiar with and to keep the Client informed about the progress and quality of the Work; 2) to strive to bring to the Client's attention defects and deficiencies in the Work and; 3) to determine in general if the Work is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents. However, the Engineer shall not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. If the Client desires more extensive project observation, the Client shall request that such services be provided by the Engineer as Additional and Supplemental Construction Observation Services in accordance with the terms of this Agreement.

The Engineer shall not be responsible for any acts or omissions of the Contractor, subcontractor, any entity performing any portions of the Work, or any agents or employees of any of them. The Engineer does not guarantee the performance of the

Contractor and shall not be responsible for the Contractor's failure to perform its Work in accordance with the Contract Documents or any applicable laws, codes, rules or regulations.

When municipal review services are included in the Scope of Services, the Engineer (acting on behalf of the municipality), when acting in good faith in the discharge of its duties, shall not thereby render itself liable personally and is, to the maximum extent permitted by law, relieved from all liability for any damage that may accrue to persons or property by reason of any act or omission in the discharge of its duties. Any suit brought against the Engineer which involve the acts or omissions performed by it in the enforcement of any provisions of the Client's rules, regulation and/or ordinance shall be defended by the Client until final termination of the proceedings. The Engineer shall be entitled to all defenses and municipal immunities that are, or would be, available to the Client.

29. **Insurance and Indemnification:** The Engineer and the Client understand and agree that the Client will contractually require the Contractor to defend and indemnify the Engineer and/or any subconsultants from any claims arising from the Work. The Engineer and the Client further understand and agree that the Client will contractually require the Contractor to procure commercial general liability insurance naming the Engineer as an additional named insured with respect to the work. The Contractor shall provide to the Client certificates of insurance evidencing that the contractually required insurance coverage has been procured. However, the Contractor's failure to provide the Client with the requisite certificates of insurance shall not constitute a waiver of this provision by the Engineer.

The Client and Engineer waive all rights against each other and against the Contractor and consultants, agents and employees of each of them for damages to the extent covered by property insurance during construction. The Client and Engineer each shall require similar waivers from the Contractor, consultants, agents and persons or entities awarded separate contracts administered under the Client's own forces.

30. **Hazardous Materials/Pollutants:** Unless otherwise provided by this Agreement, the Engineer and Engineer's consultants shall have no responsibility for the discovery, presence, handling, removal or disposal of or exposure of persons to hazardous materials/pollutants in any form at the Project site, including but not limited to mold/mildew, asbestos, asbestos products, polychlorinated biphenyl (PCB) or other toxic/hazardous/pollutant type substances.

Furthermore, Client understands that the presence of mold/mildew and the like are results of prolonged or repeated exposure to moisture and the lack of corrective action. Client also understands that corrective action is a operation, maintenance and repair activity for which the Engineer is not responsible.

MUNICIPAL SERVICES COMMITTEE MEETING

AGENDA ITEM SUMMARY SHEET

AGENDA ITEM DESCRIPTION

Discuss Pump House Meter Replacement

COMMITTEE REVIEW

- Finance/Administration
- Municipal Services
- Public Safety

Meeting Date: January 25, 2021

- Discussion Only
- Approval of Staff Recommendation (for consideration by Village Board at a later date)
- Seeking Feedback
- Approval of Staff Recommendation (for immediate consideration by Village Board)
- Regular Report
- Report/documents requested by Committee

BACKGROUND

As discussed at a previous Municipal Services Committee meeting staff advised that the Village water loss was 13% last year. The Illinois Department of Natural Resources requires the water loss to be less than 10% for a municipal system. It is imperative to find the deficiencies in our system so that we can become compliant to the standards of the Illinois Department of Natural Resources as well as reduce the fiscal impact of the Village water expenses.

One area of focus that may account for our water loss is an under registering from our pump house meters. The Village has two meters in our pump house that are 8 plus years old. These meters have not been tested or replaced during this time frame. The following is a proposal from Midwest Meter to replace the two 8" badger meters.

- Badger T-3500 8 " Cast Iron Turbo Meter w/ Lead Free Bronze Cover with HRE-LCD / 4-20 Output Dual Register for Aclara 3400 Encoder MTU and SCADA \$4,865.00 / each for a total of \$9,730.00.

Funding for these meters is available in the new meter and meter replacement line items of our FY2020 / 21 budget.

REQUEST FOR FEEDBACK

Staff recommends consideration of this replacement meter proposal. Upon consensus staff would recommend formal consideration at the February 8, 2021 Village Board meeting.

Midwest Meter, Inc
P.O. Box 318
Edinburg, IL 62531
Phone: 1-800-634-4746
Fax: (217) 623-4216



Quotation

Customer

Name Village of Willowbrook
Address _____
City Willowbrook State IL ZIP _____
Phone _____

Misc.

Date 1/22/2021
Terms Net 30
Delivery Various
FOB _____

Qty	Description	Unit Price	TOTAL
2	Badger T-3500 8 " Cast Iron Turbo Meter w/ Lead Free Bronze Cover with HRE-LCD / 4-20 Output Dual Register for Aclara 3400 Encoder MTU and SCADA	\$4,865.00	\$ 9,730.00
		Total	\$ 9,730.00

Sales Rep

Name Tim O'Connor

Prices are firm for acceptance within 30 days of the date of quotation, and an order placed within that time period will indicate acceptance.

Product specification and prices are subject to change without notice unless specifically stated in this quotation.

Thank you for your business!



Badger Meter

Recordall® Turbo Series Meters

Models 160 (1-1/2 in.), 200 (2 in.), 450 (3 in.), 1000 (4 in.),
2000 (6 in.), 3500 (8 in.), 5500 (10 in.) and 6200 (12 in.)
NSF/ANSI Standards 61 and 372 Certified

DESCRIPTION

Recordall Turbo Series meters meet or exceed the most recent revision of AWWA Standard C701 Class II Standards and are available in a lead-free bronze alloy for sizes 1-1/2 in. through 10 in. and cast iron for 12 in. meters. Turbo Series meters comply with the lead-free provisions of the Safe Drinking Water Act. Sizes 1-1/2 in. through 10 in. meters are also certified to NSF/ANSI Standards 61 and 372 (Trade Designation: Turbo Series LL-NS) and carry the NSF-61 mark on the housing. All components of the lead-free alloy meter (housing, measuring element, seals and so on) comprise the certified system.

Models 160 through 6200 are designed for 1-1/2 in. through 12 in. applications. These meters feature:

- Direct coupled turbine based on an exclusive in.floating rotor in. design that reduces bearing friction—and associated wear and tear.
- Low pressure loss for improved system efficiency.
- Exceptional registration accuracy across low flow rate, normal operating flow rate and maximum continuous operation flow.
- Permanently sealed, tamper-resistant register or encoder.
- Integral strainer option for sizes 1-1/2 in. through 4 in. help protect your system from damaging debris and related downtime.
- Meters and encoders are compatible with Badger Meter AMR/AMI meter reading systems and other approved reading technologies.

Applications: Recordall Turbo Series meters are designed for cold water, commercial and industrial applications where flows are consistent medium to high flows. Applications include hotels, apartment buildings, irrigations centers and manufacturing and processing plants. Turbo Series meters help reduce day-to-day maintenance costs while delivering accurate and efficient performance.

Operation & Performance: Direct magnetic drive is achieved when the magnet carrier is driven by a gear train coupled to the rotor. The gear train consists of two sets of gears connected by a vertical transmission shaft. One gear set is at the magnet carrier, the other is a worm gear set at the rotor shaft. When water flows into the Turbo Series meter measuring element, it contacts the multi-vaned rotor. The resulting rotor rotation is then transmitted by magnetic coupling to a sealed register or encoder. The direct magnetic drive is built to provides a reliable meter-to-registration coupling.



Tamper-Proof Features: Unauthorized removal of the register or encoder is inhibited by the option of a tamper detection seal wire screw, TORX® tamper-resistant seal screw or the proprietary tamper-resistant keyed seal screw. Each can be installed at the meter site or at the factory.

Construction: The Recordall Turbo Series meter is constructed in compliance with ANSI and AWWA C701 standards. It consists of the following basic components: meter housing, interchangeable, unitized measuring element and permanently sealed direct reading registers or encoders.

The measuring element consists of the transmission coupling, rotor, inlet and outlet straightening vanes with nose cones, and calibration ring assembly. The unique inlet and outlet straightening vanes minimize swirl from piping arrangements upstream as well as downstream.

A strainer is recommended to help ensure optimal flow conditioning and protection for the measuring element. An integral strainer is available as an option for 1-1/2 in. through 4 in. meter sizes. The stainless steel strainer is built into the inlet end and includes a removable cover plate to permit easy access for routine cleaning. External strainers are available in sizes 2 in. through 12 in.

To simplify maintenance, the registers or encoders and measuring elements can be removed without removing the meter housing. Interchangeability of certain parts between meters also minimizes spare parts inventory investment.

Meter Installation: The meter is designed for installations where flow is in one direction only. Companion flanges for installation of meters on various pipe types and sizes are available in cast iron or NL bronze as an option. See the "Recordall Turbo Series Meters User Manual" for specific instructions.

SPECIFICATIONS

Turbo Series Model	160 1-1/2 in. (40 mm)	200 2 in. (50 mm)	450 3 in. (80 mm)	1000 4 in. (100 mm)	2000 6 in. (150 mm)	3500 8 in. (200 mm)	5500 10 in. (250 mm)	6200 12 in. (300 mm)				
Meter Flanges AWWA 125 Pound Class	Elliptical	Elliptical or Round	Round	Round	Round	Round	Round	Round AWWA 125 lb class				
Typical Operating Range (100% ± 1.5%)	4...200 gpm (0.9...45.4 m³/h)	4...310 gpm (0.9...70.4 m³/h)	5...550 gpm (1.1...124.9 m³/h)	10...1250 gpm (2.3...284 m³/hr)	20...2500 gpm (4.5...568 m³/h)	30...4500 gpm (6.8...1022 m³/h)	50...7000 gpm (11.4...1590 m³/h)	90...8800 gpm (20.5...1998 m³/h)				
Typical Low Flow (95% min.)	2.5 gpm (0.6 m³/h)	2.5 gpm (0.6 m³/h)	4 gpm (0.9 m³/h)	6 gpm (1.4 m³/h)	12 gpm (2.7 m³/h)	20 gpm (4.5 m³/h)	30 gpm (6.8 m³/h)	65 gpm (14.8 m³/h)				
Max. Continuous Flow	160 gpm (36 m³/h)	200 gpm (45.4 m³/h)	450 gpm (102.2 m³/h)	1000 gpm (227.1 m³/h)	2000 gpm (454 m³/h)	3500 gpm (795 m³/h)	5500 gpm (1250 m³/h)	6200 gpm (1408 m³/h)				
Maximum Intermittent Flow	200 gpm (45.4 m³/h)	310 gpm (70.4 m³/h)	550 gpm (124.9 m³/h)	1250 gpm (284 m³/h)	2500 gpm (568 m³/h)	4500 gpm (1022 m³/h)	7000 gpm (1590 m³/h)	8800 gpm (1988 m³/h)				
Pressure Loss at Max. Continuous Flow	3.8 psi (0.26 bar)	3.1 psi (0.21 bar)	1.8 psi (0.12 bar)	7.3 psi (0.50 bar)	4.8 psi (0.33 bar)	2.5 psi (0.17 bar)	1.6 psi (0.11 bar)	0.8 psi (0.05 bar)				
Pressure Loss at Max. Continuous Flow: With Integral Strainer	9.9 psi (0.68 bar)	8.3 psi (0.57 bar)	5 psi (0.43 bar)	17.8 psi (1.2 bar)	—							
Max. Operating Pressure	150 psi (10 bar)											
Max. Operating Temperature	120° F (49° C)											
Optional Integral Strainer	Built into inlet end. Removable cover plate permits access to strainer for cleaning.				—							
Optional External Strainer	—	Available for Models 200, 450, 1000, 2000, 3500, 5500 and 6200.										
Test Plug	Standard with integral strainer; optional for other models.				Optional for Models 2000 and 3500.		—					

MATERIALS

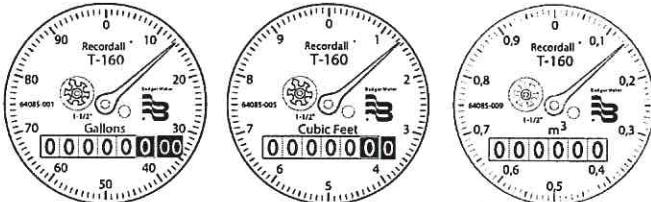
Meter Housing	Lead-free alloy (EXCEPTION: Model 6200 meter housing is blue epoxy-coated cast iron)
Turbo Head	Lead-free alloy
Nose Cone & Straightening Vanes	Thermoplastic
Rotor	Thermoplastic
Rotor Radial Bearings	Lubricated thermoplastic
Rotor Thruster Bearing	Sapphire jewels
Rotor Bearing Pivots	Passivated 316 stainless steel
Calibration Mechanism	Stainless steel & thermoplastic
Magnet	Ceramic
Trim	Stainless steel
Register Housing & Cover	Thermoplastic or bronze
Optional Strainer and Trim	Stainless steel

REGISTERS / ENCODERS

Standard—Sweep-Hand Registration

The standard register is a straight-reading, permanently sealed magnetic drive register. Dirt, moisture, tampering and lens fogging problems are eliminated. The register has a six-odometer wheel totalization display, 360° test circle with center sweep hand, and flow finder to detect leaks. Register gearing is made of self-lubricating engineered polymer, which minimizes friction and provides long life. The multi-position register simplifies meter installation and reading. The register capacity for the 1-1/2 in., 2 in., 3 in. and 4 in. meters is 100,000,000 gallons (10,000,000 ft³, 1,000,000 m³). The register capacity for the 6 in., 8 in., and 10 in. meters is 1,000,000,000 gallons (100,000,000 ft³, 10,000,000 m³). The high-flow register capacity for the 12 in. meter is 10,000,000,000 gallons (1,000,000,000 ft³, 10,000,000 m³).

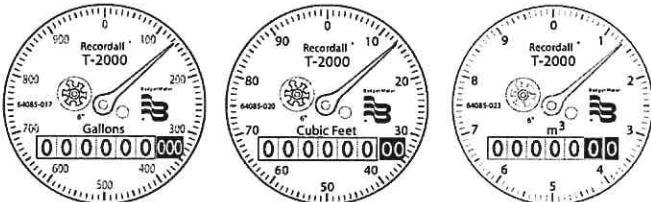
Registers for 1-1/2 in., 2 in., 3 in. and 4 in. Meters



Sweep Hand Revolution

Meter Model	Gallon	Cubic Feet	Cubic Meter
160	100	10	1
200	100	10	1
450	100	10	1
1000	100	10	1

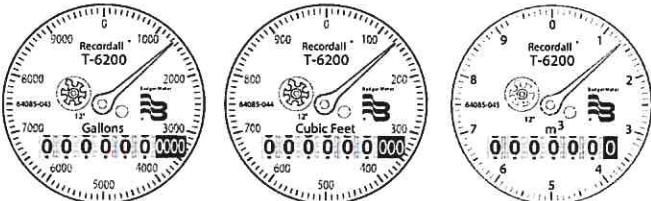
Registers for 6 in., 8 in. and 10 in. Meters



Sweep Hand Revolution

Meter Model	Gallon	Cubic Feet	Cubic Meter
2000	1000	100	10
3500	1000	100	10
5500	1000	100	10

Registers for 12 in. Meters



Sweep Hand Revolution

Meter Model	Gallon	Cubic Feet	Cubic Meter
6200	10000	1000	10

Optional—Encoders for AMR/AMI Reading Solutions

AMR/AMI solutions are available for all Recordall Disc Series meters. All reading options can be removed from the meter without disrupting water service. Badger Meter encoders provide years of reliable, accurate readings for a variety of applications and are also available pre-wired to Badger Meter approved AMR/AMI solutions. See details at www.badgermeter.com.

PHYSICAL DIMENSIONS OF METERS WITHOUT STRAINER

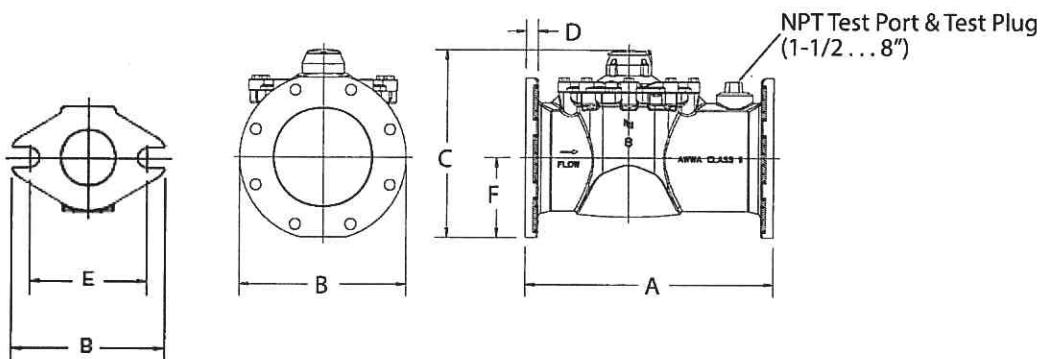


Figure 1: Sample Illustration from 8 in. Model 3500

Turbo Series Model	160	200	200	450	1000	2000	3500	5500	6200
Meter Flanges	1-1/2 in. Elliptical	2 in. Elliptical	2 in. Round	3 in. Round	4 in. Round	6 in. Round	8 in. Round	10 in. Round	12 in. Round
Meter & Pipe Size	1-1/2 in. (40 mm)	2 in. (50 mm)	2 in. (50 mm)	3 in. (80 mm)	4 in. (100 mm)	6 in. (150 mm)	8 in. (200 mm)	10 in. (250 mm)	12 in. (300 mm)
Net Weight	14.3 lb (6.5 kg)	14.9 lb (6.8 kg)	17.4 lb (7.9 kg)	31 lb (14.1 kg)	40 lb (18.1 kg)	77 lb (35 kg)	123 lb (55.7 kg)	210 lb (95.3 kg)	262 lb (118.8 kg)
Shipping Weight	16.8 lb (7.6 kg)	16.4 lb (7.4 kg)	18.9 lb (8.6 kg)	34 lb (15.4 kg)	45 lb (20.4 kg)	89 lb (40.4 kg)	147 lb (66.6 kg)	235 lb (106.6 kg)	286 lb (129.7 kg)
Qty. of Bolts	2	2	4	4	8	8	8	12	12
NPT Test Port & Test Plug (optional)	1 in. (25.4 mm)	1-1/2 in. (40 mm)	1-1/2 in. (40 mm)	2 in. (50 mm)	2 in. (50 mm)	2 in. (50 mm)	2 in. (50 mm)	—	—
Length (A)	13 in. (330 mm)	10 in. (254 mm)	10 in. (254 mm)	12 in. (305 mm)	14 in. (356 mm)	18 in. (457 mm)	20 in. (508 mm)	26 in. (660.4 mm)	19-11/16 in. (500 mm)
Width (B)	5-7/32 in. (133 mm)	5-27/32 in. (148 mm)	6 in. (152 mm)	7-1/2 in. (191 mm)	9 in. (229 mm)	11 in. (280 mm)	13-1/2 in. (343 mm)	16 in. (406.4 mm)	19 in. (482 mm)
Height (C)	6-9/32 in. (159 mm)	6-1/2 in. (165 mm)	7-3/32 in. (180 mm)	8-11/16 in. (220 mm)	9-21/32 in. (245 mm)	13-5/16 in. (338 mm)	15-3/16 in. (385 mm)	17-15/32 in. (443 mm)	19-11/16 in. (500 mm)
Flange (D)	51/64 in. (20 mm)	25/32 in. (20 mm)	5/8 in. (16 mm)	3/4 in. (19 mm)	13/16 in. (21 mm)	7/8 in. (22 mm)	1 in. (25 mm)	1-1/16 in. (27 mm)	1.26 in. (32 mm)
Bolt Circle (E)	4 in. (102 mm)	4-1/2 in. (114 mm)	4-3/4 in. (121 mm)	6 in. (152 mm)	7-1/2 in. (191 mm)	9-1/2 in. (241 mm)	11-3/4 in. (298 mm)	14-1/4 in. (362 mm)	17 in. (432 mm)
Centerline (F)	1-27/32 in. (47 mm)	2-1/16 in. (52 mm)	2-5/8 in. (67 mm)	3-11/32 in. (85 mm)	4-5/16 in. (109 mm)	5-1/4 in. (133 mm)	6-3/8 in. (162 mm)	7-7/8 in. (199.4 mm)	8-7/8 in. (226 mm)

PHYSICAL DIMENSIONS OF METERS WITH INTEGRAL STRAINER

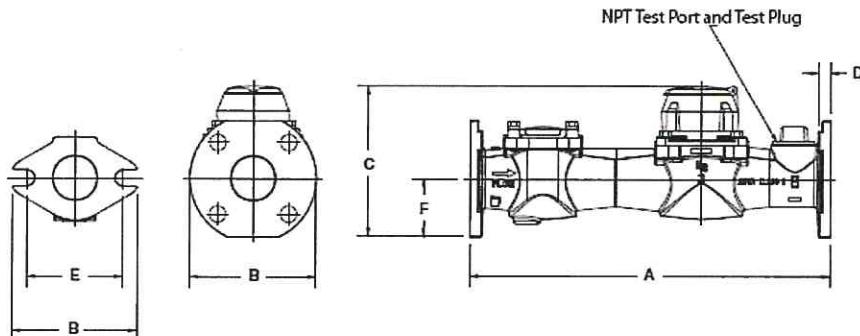
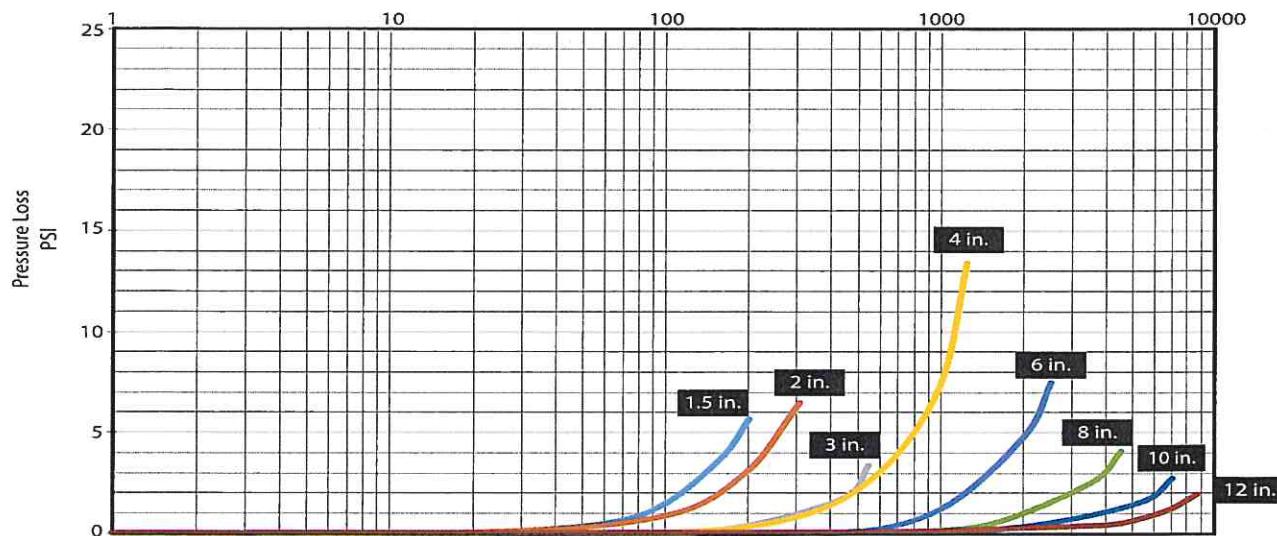


Figure 2: Physical dimensions

Turbo Series Model	160	200	200	450	1000
Meter Flanges	Elliptical	Elliptical	Round	Round	Round
Meter & Pipe Size	1-1/2 in. (40 mm)	2 in. (50 mm)	2 in. (50 mm)	3 in. (80 mm)	4 in. (100 mm)
Net Weight	14.3 lb (6.5 kg)	24 lb (11 kg)	26 lb (12 kg)	49 lb (22 kg)	60 lb (27.22 kg)
Shipping Weight	16.8 lb (7.6 kg)	28 lb (13 kg)	30 lb (14 kg)	55 lb (25 kg)	70 lb (31.75 kg)
Number of Bolts	2	2	4	4	8
NPT Test Port & Test Plug (Standard)	1 in. (25.4 mm)	1-1/2 in. (40 mm)	1-1/2 in. (40 mm)	2 in. (50 mm)	2 in. (50 mm)
Length (A)	13 in. (330 mm)	17 in. (432 mm)	17 in. (432 mm)	19 in. (483 mm)	23 in. (584 mm)
Width (B)	5-7/32 in. (133 mm)	5-27/32 in. (148 mm)	6 in. (152 mm)	7-1/2 in. (191 mm)	9 in. (229 mm)
Height (C)	6-9/32 in. (159 mm)	6-1/2 in. (165 mm)	7-3/32 in. (180 mm)	8-15/16 in. (227 mm)	9-21/32 in. (245 mm)
Flange (D)	51/64 in. (20 mm)	27/32 in. (47 mm)	5/8 in. (16 mm)	27/32 in. (21 mm)	13/16 in. (21 mm)
Bolt Circle (E)	4 in. (102 mm)	4-1/2 in. (114 mm)	4-3/4 in. (121 mm)	6 in. (152 mm)	7-1/2 in. (191 mm)
Centerline (F)	1-27/32 in. (47 mm)	2-1/16 in. (52 mm)	2-5/8 in. (67 mm)	3-19/32 in. (91 mm)	4-5/16 in. (109 mm)

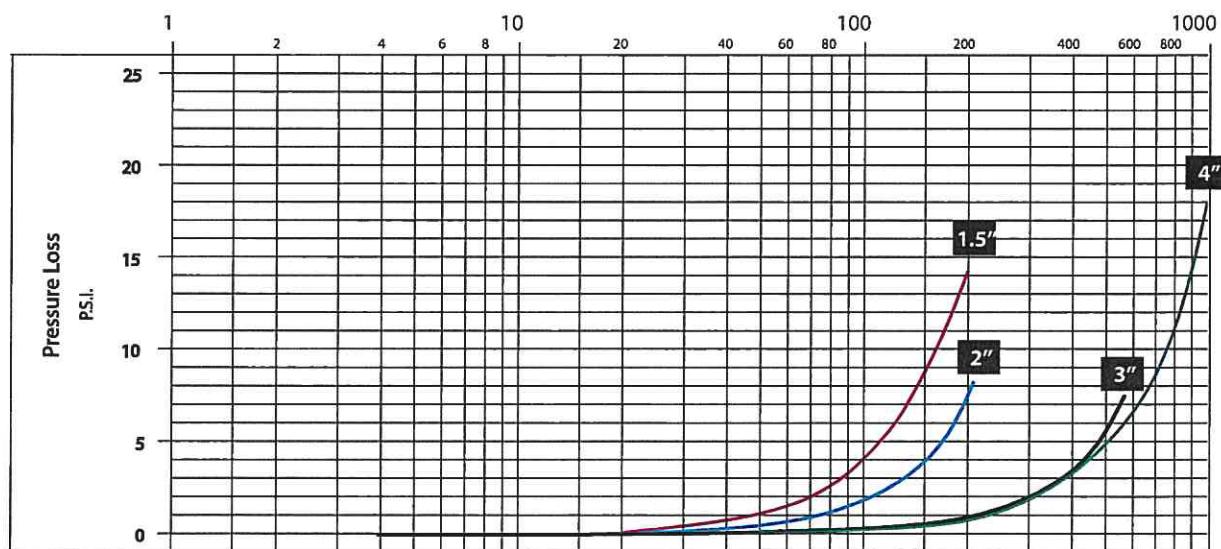
PRESSURE LOSS CHART FOR METERS WITHOUT STRAINER

Rate of flow in gallons per minute (gpm)



PRESSURE LOSS CHART FOR METERS WITH INTEGRAL STRAINER

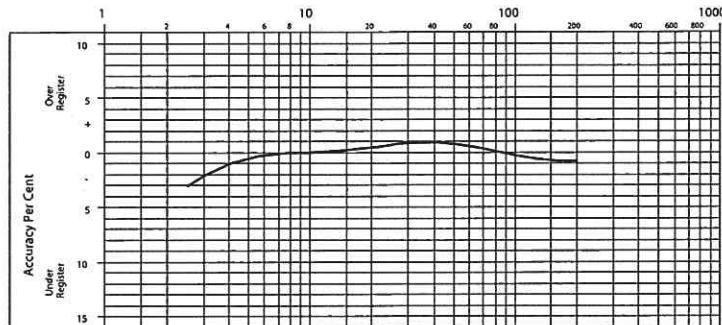
Rate of flow in gallons per minute (gpm)



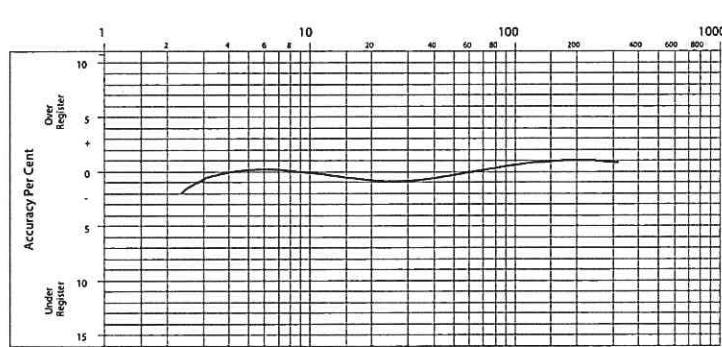
ACCURACY CHARTS FOR METERS WITHOUT STRAINER

Rate of flow in gallons per minute (gpm)

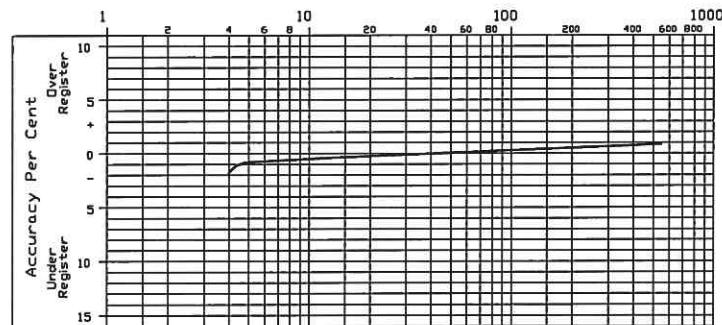
1-1/2 in. Meter



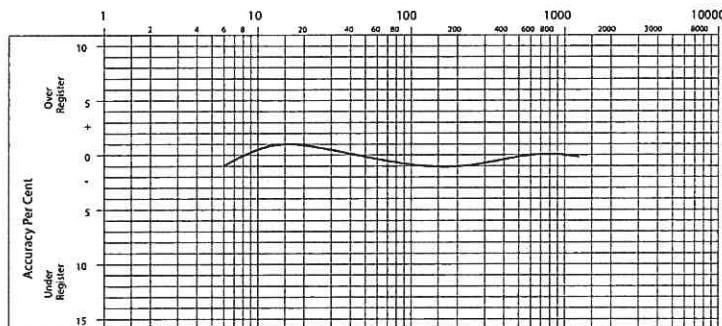
2 in. Meter



3 in. Meter



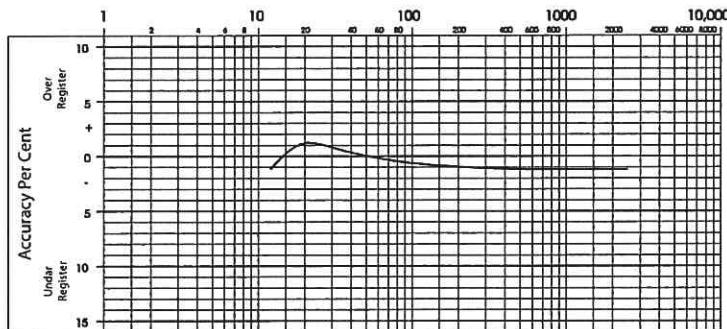
4 in. Meter



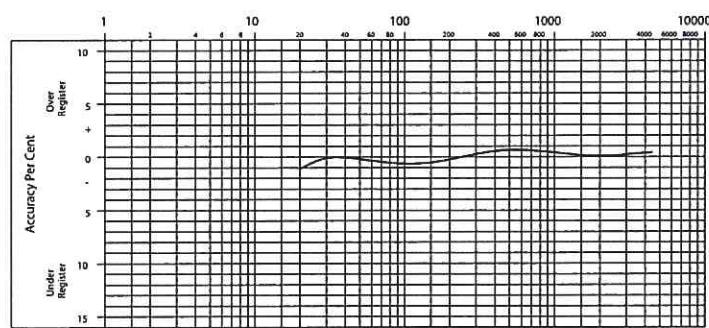
ACCURACY CHARTS FOR METERS WITHOUT STRAINER (CONTINUED)

Rate of flow in gallons per minute (gpm)

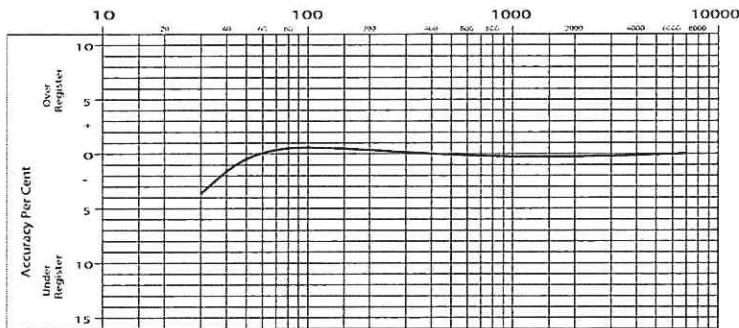
6 in. Meter



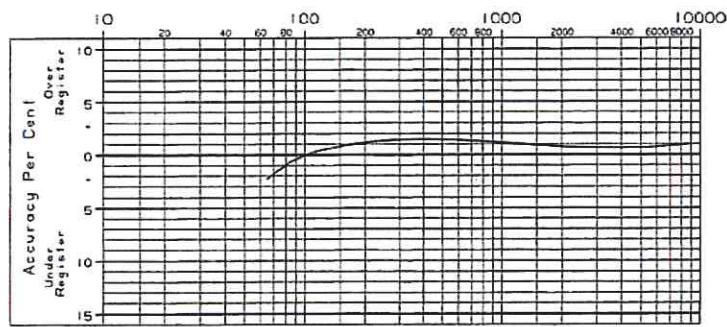
8 in. Meter



10 in. Meter



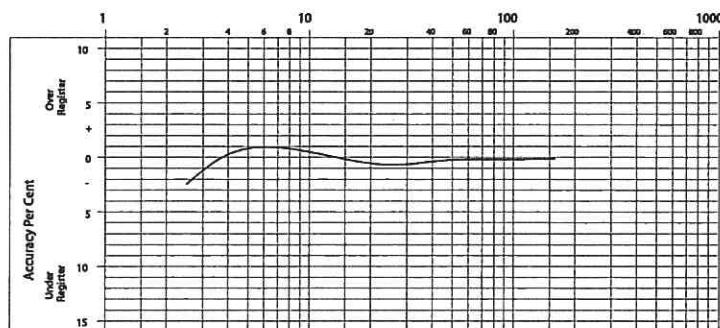
12 in. Meter



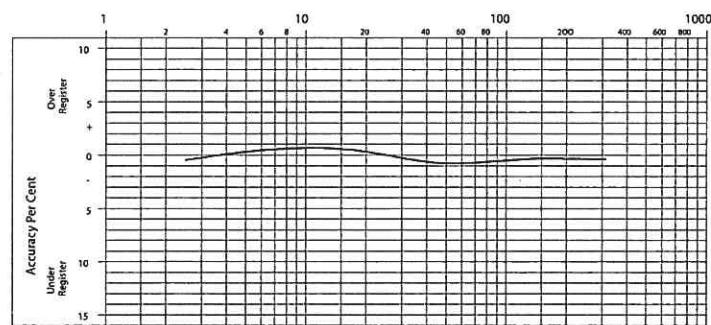
ACCURACY CHARTS FOR METERS WITH INTEGRAL STRAINER

Rate of flow in gallons per minute (gpm)

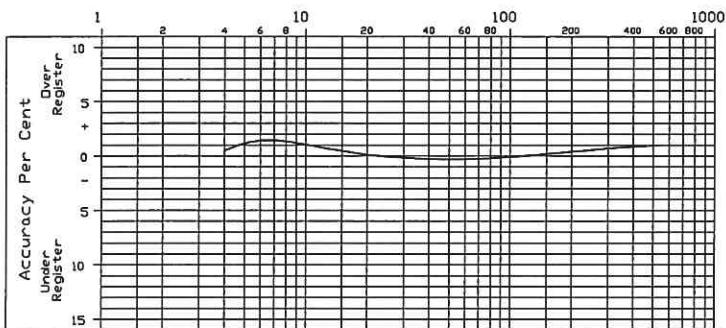
1-1/2 in. Meter



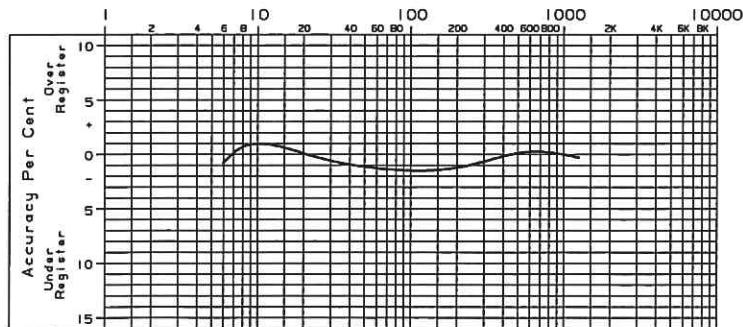
2 in. Meter



3 in. Meter



4 in. Meter



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www.badgermeter.com

The Americas | Badger Meter | 4545 West Brown Deer Rd | PO Box 245036 | Milwaukee, WI 53224-9536 | 800-876-3837 | 414-355-0400
México | Badger Meter de las Americas, S.A. de C.V. | Pedro Luis Ogazón N°32 | Esq. Angelina N°24 | Colonia Guadalupe Inn | CP 01050 | México, DF | México | +52-55-5662-0882
Europe, Middle East and Africa | Badger Meter Europa GmbH | Nürtinger Str 76 | 72639 Neuffen | Germany | +49-7025-9208-0
Europe, Middle East Branch Office | Badger Meter Europe | PO Box 241442 | Dubai Silicon Oasis, Head Quarter Building, Wing C, Office #C209 | Dubai / UAE | +971-4-371 2503
Czech Republic | Badger Meter Czech Republic s.r.o. | Matíková 2082/26 | 621 00 Brno, Czech Republic | +420-5-41420411
Slovakia | Badger Meter Slovakia s.r.o. | Racianska 109/B | 831 02 Bratislava, Slovakia | +421-2-44 63 83 01
Asia Pacific | Badger Meter | 80 Marine Parade Rd | 21-04 Parkway Parade | Singapore 449269 | +65-63464836
China | Badger Meter | 7-1202 | 99 Hangzhong Road | Minhang District | Shanghai | China 201101 | +86-21-5763 5412
Switzerland | Badger Meter Swiss AG | Mittelholzerstrasse 8 | 3006 Bern | Switzerland | +41-31-932 01 11

Legacy Document Numbers: RTS-T-1-1/2, 3, 4, 6, 8, 10 and 12; RTS-T-1-1/2, 2, 3, and 4



Badger Meter

HR-E® LCD 4-20 Encoder

DESCRIPTION

The High Resolution 4-20 encoder (HR-E LCD 4-20) is a fully electronic, solid-state encoder with no moving parts. It is designed for use with all current Badger Meter® Recordall® Disc Series, Turbo Series, Compound Series, Combo Series and Fire Service meters and assemblies. These solid-state units produce a standard encoded output as well as a 4-20 mA DC output signal through a dual output wire design. The HR-E LCD 4-20 encoder provides connectivity with Badger Meter ORION® AMR/AMI endpoints and other AMR/AMI technology solutions approved by Badger Meter.

NOTE: For more detailed information, see the user manual, *High Resolution LCD Encoders*, available at www.badgermeter.com.

Field Programmable: The HR-E LCD 4-20 encoder comes standard as factory programmed, with the option for field programming the unit of measure, meter type, meter model, digit resolution from the encoder, billing units, rate-of-flow time and units, and the analog output. Programming is performed through the IR port via a computer.

Output Resolution: Standard encoded output is 9 digits. The 4-20 signal from the encoder is proportional to the flow of fluid passing through the meter. Power for the 4-20 output signal device can be obtained from a 9...50V DC control loop. The default 20 mA setting of the signal is defined in the resolution chart.

Status Indicators: Icons on the encoder face indicate encoder status and alarm conditions. Status indicators are sent as part of the encoder extended message to AMR/AMI systems such as ORION Cellular, Fixed Network and Migratable endpoints that are capable of receiving an extended message. The details can also be read through an IR interface.

Mounting: The fully potted encoder assembly has a bayonet mount compatible with all Recordall Disc, Turbo Series, Compound Series, Combo Series and Fire Series meters and assemblies. The bayonet mount positions the encoder in any of four orientations for visual reading convenience. The encoder can be removed from the meter without disrupting water service.

Magnetic Drive Communication: The encoder detects movement of the wet side meter magnet with magnetic sensors to provide reliable and dependable meter monitoring.

Tamper-resistant Features: Unauthorized removal of the encoder is inhibited by a tamper-resistant Torx seal screw. Torx seal screws are provided as standard accessories. Optional proprietary tamper-proof screws are also available.

In addition, the encoder is resistant to magnetic tampering. The encoder detects an attempted tamper—as well as encoder removal—and displays a tamper alarm in either situation. Approved endpoints capable of receiving the alarms, such as ORION Cellular, Fixed Network and Migratable endpoints, can then report the tamper condition to the meter reading software.



Construction: The housing of the HR-E LCD 4-20 encoder is constructed of an engineered polymer enclosure and a polycarbonate lens. For long-term performance, the enclosure is fully encapsulated, weatherproof, and UV-resistant to withstand harsh environments and to protect the electronics in flooded or submerged pit applications. A patented epoxy potting comprises the encoder bottom. Due to this unique sealing, the HR-E LCD 4-20 exceeds all applicable requirements of AWWA Standard C707.

Wire Connections: The encoder is available with dual output wire connections. The encoder side wire is available with an in-line connector for easy connection to AMR/AMI endpoints, or a flying lead for field splice connection. The 4-20 side is available with a flying lead for easy connection in the field.

Operating Characteristics: The encoder is shipped in storage mode so a meter status alarm is not triggered. In storage mode, the meter model screen is displayed. Upon sensing two revolutions of the meter magnet, the encoder goes into normal operation mode. The display then automatically toggles between these four modes:

- 9-digit consumption displays for 45 seconds.
- 6-digit consumption (segmented leak detector in this mode) displays for 5 seconds.
- Rate of flow displays for 5 seconds.
- Meter model displays for 5 seconds.

SPECIFICATIONS

Encoder Type	Permanently sealed, electronic LCD absolute encoder with analog output and field-programmable option
Encoder Display	Status indicators, unit of measure, billing units, automatic toggle between 9-digit and 6-digit consumption (segmented leak detector in this mode), rate of flow, meter model
Unit of Measure	U.S. gallons, Imperial gallons, cubic feet, cubic meters and liters
Flow Rate	Seconds, minutes, and hours
Numerals	7 mm (0.28 in.) high
Weight	11 ounces
Humidity	0...100% condensing
Temperature	Storage: -40...140° F (-40...60° C) Max. ambient for 1 hr: 150° F (66° C) Electronics & Display: 14...140° F (-10...60° C)
Status Indicators	Electronic and visual icons for: meter functioning correctly, meter alarm (indicates temperature limits exceeded, magnetic tamper or encoder removal), reverse flow, suspected leak, 30-day no usage, end of battery life
Encoder Output	Industry standard ASCII format Three-wire synchronous for AMR/AMI solutions Red = clock/power; Black = ground; Green = data
Analog Output	Two-wire/passive
Input Voltage Range	9...50V DC supply
Current	4...20 mA
Max. Load Resistance (Ohms)	50 Ohms + 50 Ohms (supply voltage - 9V)
Battery	Lithium thionyl chloride AA cell, fully encapsulated within encoder housing
Battery Life	20 years (calculated)

DIMENSIONAL DRAWINGS

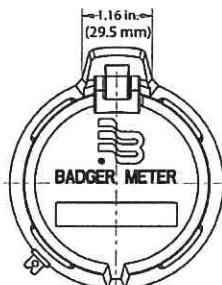


Figure 1: Top view

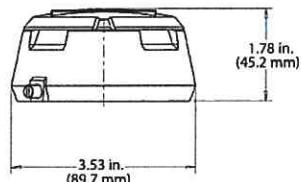


Figure 2: Front view

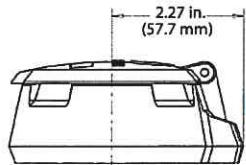


Figure 3: Left side view

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www.badgermeter.com

The Americas | Badger Meter | 4545 West Brown Deer Rd | PO Box 245036 | Milwaukee, WI 53224-9536 | 800-876-3837 | 414-355-0400
 México | Badger Meter de las Américas, S.A. de C.V. | Pedro Luis Ogazón N°32 | Esq. Angelina N°24 | Colonia Guadalupe Inn | CP 01050 | México, DF | México | +52-55-5662-0882
 Europe, Middle East and Africa | Badger Meter Europa GmbH | Nürtinger Str 76 | 72639 Neuffen | Germany | +49-7025-9208-0
 Europe, Middle East Branch Office | Badger Meter Europe | PO Box 341442 | Dubai Silicon Oasis, Head Quarter Building, Wing C, Office #C209 | Dubai / UAE | +971-4-371 2503
 Czech Republic | Badger Meter Czech Republic s.r.o. | Maříkova 209/26 | 621 00 Brno, Czech Republic | +420-5-41420411
 Slovakia | Badger Meter Slovakia s.r.o. | Racianska 109/B | 831 02 Bratislava, Slovakia | +421-2-44 63 83 01
 Asia Pacific | Badger Meter | 80 Marine Parade Rd | 21-06 Parkway Parade | Singapore 449269 | +65-63464836
 China | Badger Meter | 7-1202 | 99 Hangzhong Road | Minhang District | Shanghai | China 201101 | +86-21-5763 5412
 Switzerland | Badger Meter Swiss AG | Mittelholzerstrasse 8 | 3006 Bern | Switzerland | +41-31-932 01 11

MEASUREMENT RESOLUTION

The HR-E LCD 4-20 default output resolutions are as noted below.

Recordall Disc Series	Size (in.)	Encoder Output			Analog Output 20 mA Setpoint (gpm)
		9-dial (gal)	9-dial (ft³)	9-dial (m³)	
LP	5/8, 5/8 x 3/4	0.01	0.001	0.0001	20
M25	5/8, 5/8 x 3/4	0.01	0.001	0.0001	25
M35	3/4	0.01	0.001	0.0001	35
M40	1	0.01	0.001	0.0001	40
M55	1	0.01	0.001	0.0001	55
M70	1	0.01	0.001	0.0001	70
M120	1-1/2	0.1	0.01	0.001	120
M170	2	0.1	0.01	0.001	170

Recordall Turbo Series	Size (in.)	Encoder Output			Analog Output 20 mA Setpoint (gpm)
		9-dial (gal)	9-dial (ft³)	9-dial (m³)	
T160	1-1/2	0.1	0.01	0.001	200
T200	2	0.1	0.01	0.001	310
T450	3	0.1	0.01	0.001	550
T1000	4	0.1	0.01	0.001	1250
T2000	6	1	0.1	0.01	2500
T3500	8	1	0.1	0.01	4500
T5500	10	1	0.1	0.01	7000
T6200	12	10	1	0.01	8800
T6600	16	10	1	0.01	13200
T10000	20	10	1	0.01	19800

Recordall Compound Series	Size (in.)	Encoder Output			Analog Output 20 mA Setpoint (gpm)
		9-dial (gal)	9-dial (ft³)	9-dial (m³)	
High Side T200	2.	0.1	0.01	0.001	310
Low Side M25	2.	0.01	0.001	0.0001	25
High Side T450	3	0.1	0.01	0.001	550
Low Side M25	3	0.01	0.001	0.0001	25
High Side T1000	4	0.1	0.01	0.001	1250
Low Side M35	4	0.01	0.001	0.0001	35
High Side T2000	6	1	0.1	0.01	2500
Low Side M35	6	0.01	0.001	0.0001	35
High Side T3500	8	1	0.1	0.01	—
Low Side M120	8	0.1	0.01	0.001	—

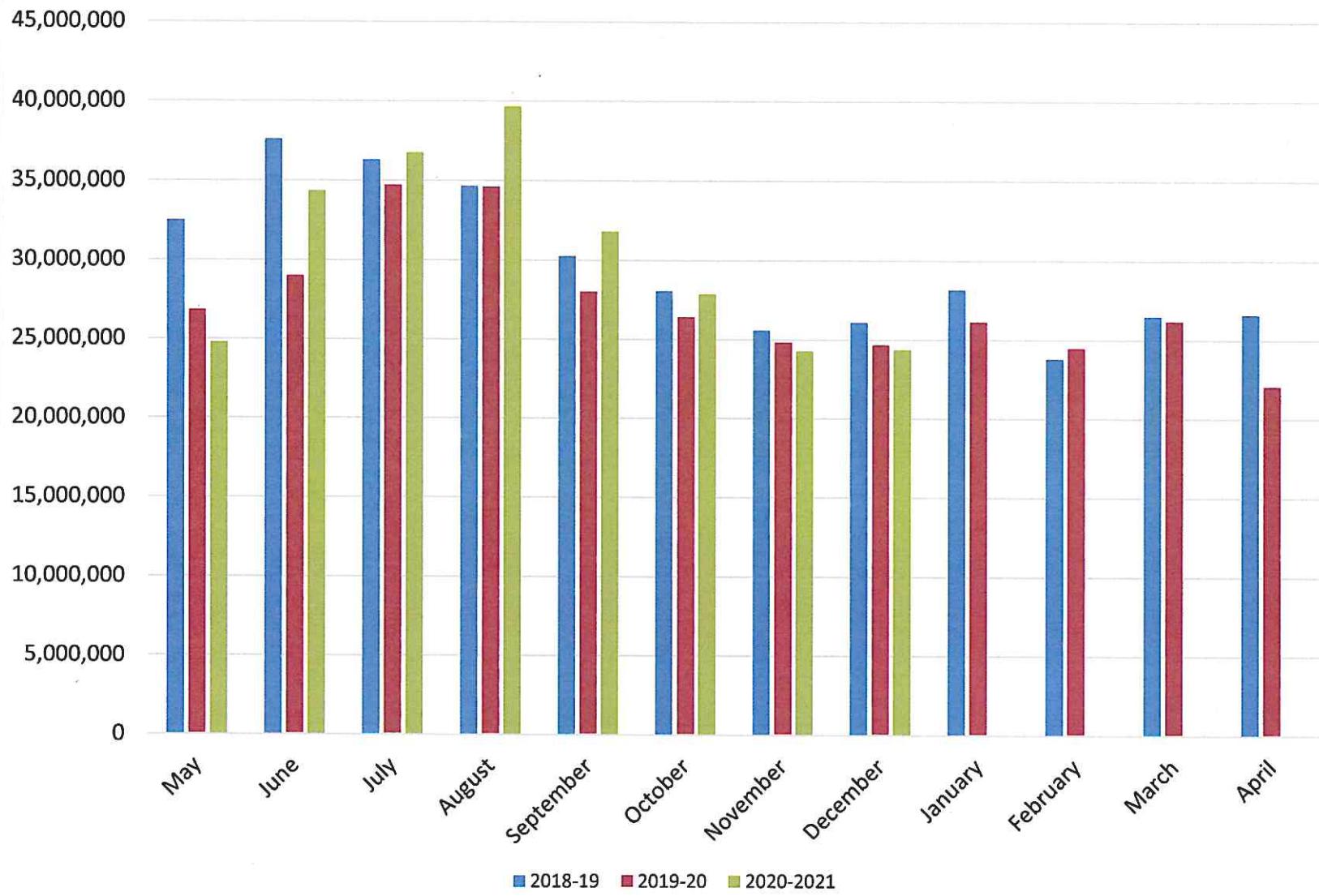
NOTE: For Fire Service Meters and Assemblies, please refer to appropriate Disc and TSM information provided above.

	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-2021	Average
May	30,860,000	29,547,000	29,213,000	31,048,000	28,681,000	32,538,000	26,828,000	24,806,000	29,190,125
June	31,512,000	32,193,000	29,447,000	34,451,000	33,573,000	37,621,000	28,968,000	34,376,000	32,767,625
July	39,106,000	33,122,000	32,813,000	34,898,000	34,333,000	36,319,000	34,699,000	36,766,000	35,257,000
August	41,448,000	32,796,000	36,985,000	32,739,000	33,061,000	34,685,000	34,602,000	39,696,000	35,751,500
September	35,737,000	31,869,000	32,623,000	30,853,000	33,220,000	30,268,000	27,999,000	31,817,000	31,798,250
October	29,226,000	28,728,000	30,690,000	27,589,000	27,807,000	28,071,000	26,404,000	27,873,000	28,298,500
November	28,446,000	25,364,000	26,585,000	25,929,000	25,066,000	25,580,000	24,820,000	24,268,000	25,757,250
December	29,847,000	26,710,000	27,194,000	26,581,000	26,480,000	26,088,000	24,643,000	24,376,000	26,489,875
January	31,265,000	28,505,000	27,915,000	26,165,000	26,040,000	28,169,000	26,108,000		27,738,143
February	29,230,000	25,484,000	26,048,000	22,962,000	22,950,000	23,791,000	24,453,000		24,988,286
March	29,917,000	28,779,000	26,552,000	25,855,000	25,388,000	26,502,000	26,164,000		27,022,429
April	28,101,000	25,255,000	26,791,000	24,720,000	24,583,000	26,615,000	22,048,000		25,444,714
TOTAL	384,695,000	348,352,000	352,856,000	343,790,000	341,182,000	356,247,000	327,736,000	243,978,000	

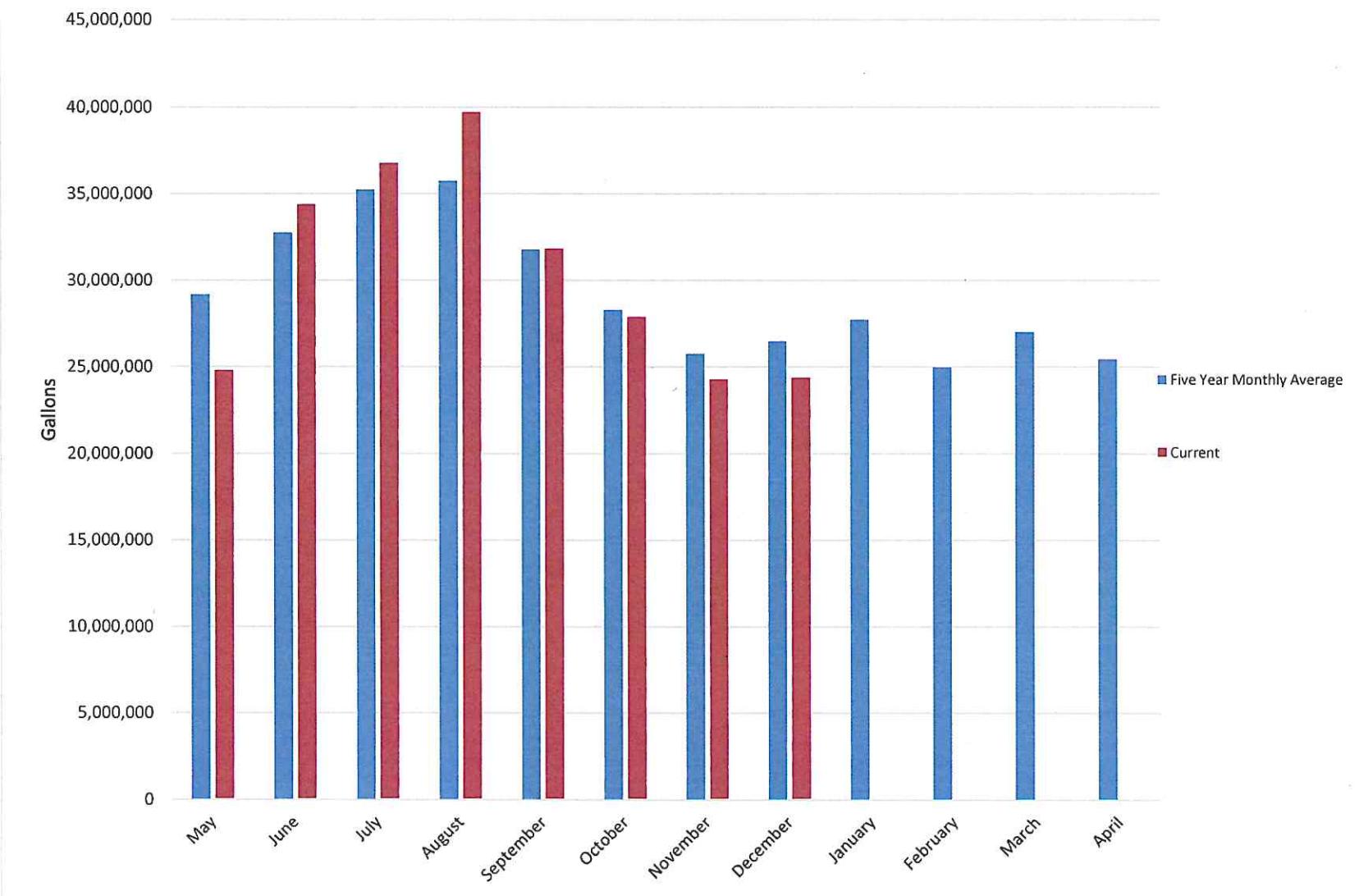
YEAR TO DATE LAST YEAR (gallons):	228,963,000
YEAR TO DATE THIS YEAR (gallons):	<u>243,978,000</u>
DIFFERENCE (gallons):	15,015,000
PERCENTAGE DIFFERENCE (+/-):	6.56%
FY 20/21 PUMPAGE PROJECTION (gallons):	330,000,000
FY 20/21 GALLONS PUMPED TO DATE:	<u>243,978,000</u>
CURRENT PERCENTAGE PUMPED COMPARED TO PROJECTION	73.93%

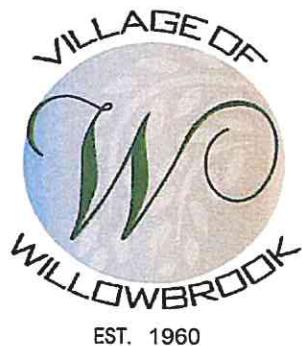
All table figures
are in millions of
gallons sold on
a monthly basis
per fiscal year.

Village of Willowbrook Monthly Pumpage Chart



Village Of Willowbrook
Average Monthly Pumpage
Compared to Current





Willowbrook

835 Midway Drive
Willowbrook, IL 60527-5549

Phone: (630) 323-8215 Fax: (630) 323-0787 www.willowbrookil.org

MONTHLY REPORT

MUNICIPAL SERVICES DEPARTMENT November, 2020

Mayor

Frank A. Trilla

Permits Issued:

Asphalt	13
Boiler Com	1
Buildout	1
Demo SFR	1
Fence	2
Generator	1
Irrigation	1
Int Rem R	2
Park. lot	1
Plumbing	1
Remodel Com	3
Roof	1
Signs	3
Tents	2
Water Heater	1
Water Discon	1
Window/Doors	5

Village Trustees

Deborah A. Hahn

Village Clerk

Sue Berglund

Umberto Davi

Michael Mistele

Gayle Neal

Paul Oggerino

Gregory Ruffolo

TOTALS	40
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Plan Review Deposit Fee	1
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Permit Revenue for November 2020	\$ 27,118.85
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Total Revenue Collected for Fiscal YTD	\$ 187,420.05
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Total Budgeted Revenue for Fiscal Year 20/21	\$ 295 000.00
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Total Percentage of Budgeted Revenue Collected to Date	63.53%
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Certificate of Occupancy, Final	5
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Certificate of Occupancy, Temporary	3
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Chief of Police

Robert Schaller

Director of Finance

Carrie Dittman

Respectfully submitted,

Michael Mertens-Assistant Village Administrator



Proud Member of the
Illinois Route 66 Scenic Byway

MUNICIPAL SERVICES DEPARTMENT

PERMIT REVENUE

Fiscal Year 2020-2021

MONTH	CURRENT FISCAL YEAR 2020-2021		PRIOR FISCAL YEAR 2019-2020	
MAY	\$	41,190.44	\$	24,660.45
JUNE	\$	20,616.93	\$	18,235.23
JULY	\$	33,143.57	\$	86,968.36
AUGUST	\$	19,558.63	\$	13,262.60
SEPTEMBER	\$	25,890.62	\$	18,390.75
OCTOBER	\$	19,901.01	\$	59,207.60
NOVEMBER	\$	27,118.85	\$	19,078.16
DECEMBER			\$	19,940.06
JANUARY			\$	145,370.82
FEBRUARY			\$	29,837.34
MARCH			\$	29,705.09
APRIL			\$	146,939.37
COLLECTED REVENUE	\$	187,420.05	\$	611,595.83
BUDGETED REVENUE	\$	295,000.00	\$	280,000.00
REVENUES COLLECTED- (OVER)/UNDER BUDGET	\$	107,579.95	\$	(331,595.83)
PERCENTAGE OF BUDGETED REVENUE COLLECTED		63.53%		218.43%

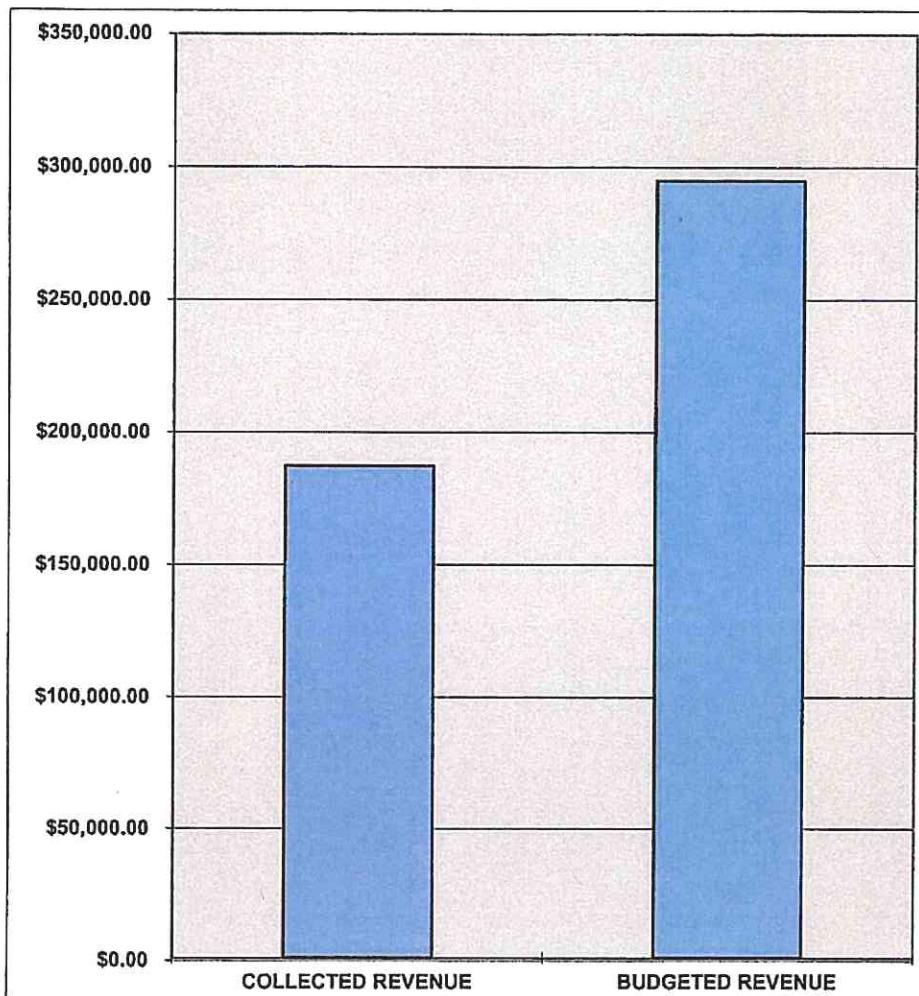
MUNICIPAL SERVICES DEPARTMENT

PERMIT REVENUE

	Fiscal Year 20-21	Fiscal Year 19-20
COLLECTED REVENUE	\$ 187,420.05	\$ 611,595.83
BUDGETED REVENUE	\$ 295,000.00	\$ 280,000.00

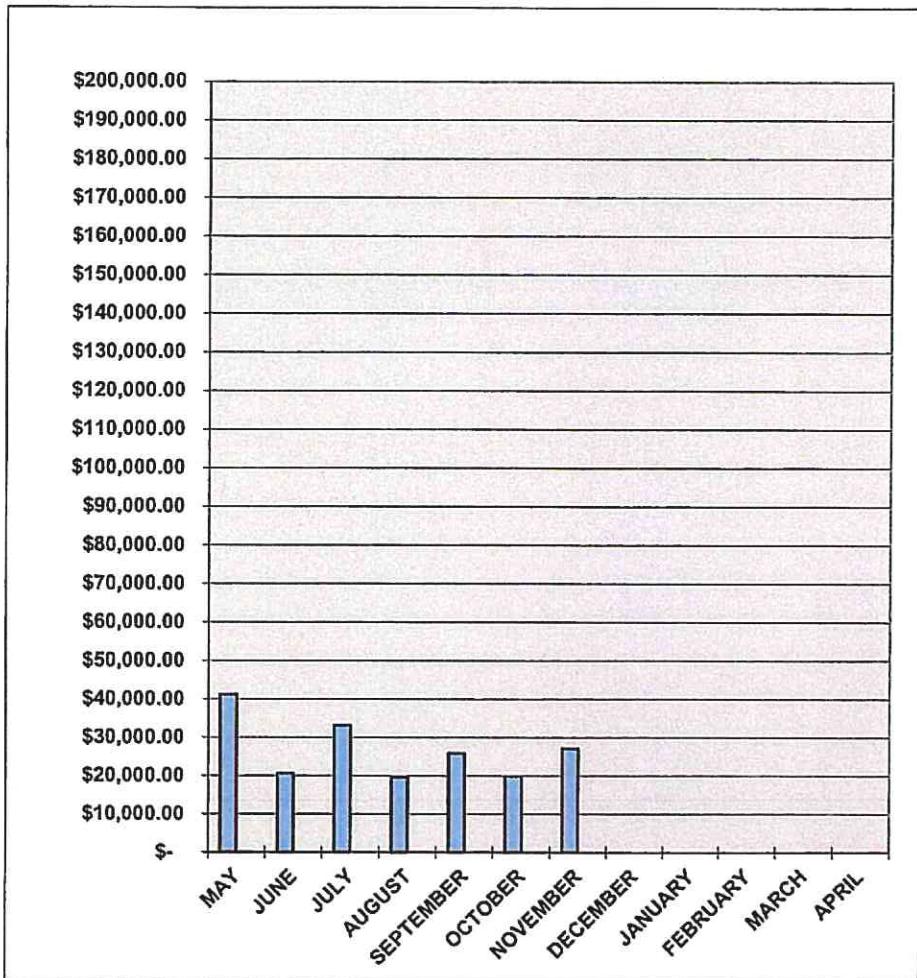
MUNICIPAL SERVICES DEPARTMENT

PERMIT REVENUE



MUNICIPAL SERVICES DEPARTMENT

PERMIT REVENUE



Permit	Date Issued:	Date Released:	Date Permit Expires:	Name:	Address:	Permit Purpose:	Business Name:	Fee:	RES / COMM:	Valuation:
20-219	10/30/20	11/02/20	05/03/22		317 75th Street	Inter alterations	Dental Center	\$ 2,642.25	C	\$ 42,000.00
20-393	10/30/20	11/02/20	05/03/22		7201 Adams Street	Roof	Clorox	\$ 410.00	C	\$ 115,000.00
20-394	11/02/20	11/02/20	05/03/22		72 75th Place	Bathroom Remodel		\$ 390.00	R	\$ 5,000.00
20-395	11/02/20	11/04/20	05/05/22		6220 Tremont St	12 Windows		\$ 215.00	R	\$ 9,000.00
20-396	11/04/20	11/04/20	05/05/22		729 73rd Ct	Fence		\$ 190.00	R	\$ 3,000.00
20-387	10/27/20	11/04/20	05/05/22		6131 Knoll wood	Parking lot area	The Knolls Assoc	\$190.00	M	\$ 300.00
20-390	10/28/20	11/05/20	05/06/22		501 Lake Hins.Dr # 303	Bathroom Remodel		\$390.00	M	\$26,500.00
20-401	11/04/20	11/05/20	05/06/22		755 Tanglewood #D	Windows		\$190.00	R	\$ 2,200.00
20-152	10/29/20	11/06/20	05/07/22		7000 Kingwery Hwy	Remodel Car Wash	Premier Petroleum (Shell)	\$6,472.90	C	\$ 2,200,000.00
20-403	11/06/20	11/06/20	03/06/21		7819 Cherry Tree lane	Water Heater		\$ 240.00	R	\$ 400.00
20-409	11/10/20	11/11/20	05/12/22		7201 Kingery	Temp Tent (Covid)	Stats Bar	NC	C	
20-378	10/26/20	11/11/20	05/12/22		254 Snug Harbor	Asphalt DW		\$ 180.00	R	\$ 3,678.00
20-379	10/26/20	11/11/20	05/12/22		273 Snug Harbor	Asphalt DW		\$ 180.00	R	\$ 2,262.40
20-380	10/26/20	11/11/20	05/12/22		6631 Snug Harbor	Asphalt DW		\$ 180.00	R	\$ 1,715.84
20-381	10/26/20	11/11/20	05/12/22		6649 Snug Harbor	Asphalt DW		\$ 180.00	R	\$ 1,886.08
20-382	10/26/20	11/11/20	05/12/22		6660 Snug Harbor	Asphalt DW		\$ 180.00	R	\$ 1,836.20
20-383	10/26/20	11/11/20	05/12/22		6661 Snug Harbor	Asphalt DW		\$ 180.00	R	\$ 1,742.72
20-384	10/26/20	11/11/20	05/12/22		6667 Snug Harbor	Asphalt DW		\$ 180.00	R	\$ 2,419.20
20-397	11/04/20	11/11/20	05/12/22		6619 Snug Harbor	Asphalt DW		\$ 180.00	R	\$ 2,069.76
20-398	11/04/20	11/11/20	05/12/22		256 Waverly Court	Asphalt DW		\$ 180.00	R	\$ 2,253.44
20-399	11/04/20	11/11/20	05/12/22		200 Gull Island	Asphalt DW		\$ 180.00	R	\$ 1,859.20
20-404	11/06/20	11/11/20	05/12/22		6642 Weather Hill	Asphalt DW		\$ 180.00	R	\$ 1,563.52
20-408	11/10/20	11/11/20	05/12/22		Gull island/snug harbor/etc	Asphalt street		\$ 510.00	M	\$ 45,189.00
20-410	11/11/20	11/12/20	03/17/21		7700 Brookbank	Roof		\$ 100.00	R	\$ 8,500.00
20-411	11/11/20	11/12/20	05/13/22		333 Chatelaine Crt	Roof		\$ 100.00	R	\$ 12,000.00
20-402	11/04/20	11/12/20	05/13/22		6910 Madison St	Asphalt Parking lot	Healthcare Info.Service	\$ 510.00	C	\$ 47,000.00
20-406	11/06/20	11/20/20	05/21/22		7246 Coltonwood #B	Windows		\$ 190.00	M	\$ 6,085.00
20-412	11/13/20	11/13/20	05/14/22		755 Plainfield Road	Temp sign	Clover Garden	\$ 145.00	C	
20-413	11/13/20	11/13/20	05/14/22		755 Plainfield Road	Temp tent	Clover Garden	\$ 310.00	C	
20-414	11/16/20	11/16/20	05/17/22		6443 Clarendon Hills Rd # 409L	Patio Doors		\$ 190.00	M	\$ 10,000.00
20-405	11/06/20	11/17/20	05/18/22		420 Stratford Lane	Windows		\$ 215.00	R	\$ 17,225.00
20-418	11/17/20	11/17/20	05/18/22		504 Ridgemoor Dr	Plumbing		\$ 215.00	R	\$ 5,223.00
20-416	11/16/20	11/17/20	05/18/22		858 75th Street	Intr. Modifications	Kabob Q	\$ 335.00	C	\$ 1,500.00
20-415	11/16/20	11/19/20	05/20/22		322 Arabian Circle	Generator		\$ 340.00	R	\$ 1,500.00
20-419	11/17/20	11/20/20	05/21/22		530 Executive	Boiler	Aramark	\$ 685.00	C	
20-427	11/23/20	11/24/20	11/27/20		740 67th Place	Irrigation		\$ 240.00	R	\$ 5,750.00
20-429	11/24/20	11/24/20	05/25/22		740 67th Place	Fence		\$ 240.00	R	\$ 10,500.00
20-198	11/19/20	11/25/20	05/21/20		7223 Kingery	Build out	Charlie's gaming	\$ 4,333.70	C	\$ 75,000.00
20-423	11/19/20	11/30/20	05/31/22		5936 Bentley	Demo SFR		\$ 1,690.00	R	\$ 11,800.00
20-432	11/30/20	11/30/20	05/31/22		5936 Bentley	Water Disconnect		\$ 335.00	R	\$ 1,000.00
20-424	11/19/20		06/30/01		7145 Kingery	Plan Review		\$ 5,000.00	C	

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GL ACTIVITY REPORT FOR WILLOWBROOK
FROM 01-00-310-401 TO 01-00-310-401
TRANSACTIONS FROM 11/01/2020 TO 11/30/2020

Page:

1/1

Date	JNL	Type	Description	Reference #	Debits	Credits	Balance
			Fund 01 GENERAL FUND				
11/01/2020			01-00-310-401 BUILDING PERMITS		BEG. BALANCE		(148,468.62)
11/02/2020	CR	RCPT	Building Dept. Invoice 11/02/2020		3,442.25		(151,910.87)
11/04/2020	CR	RCPT	Building Dept. Invoice 11/04/2020		405.00		(152,315.87)
11/04/2020	CR	RCPT	Building Dept. Invoice 11/04/2020		190.00		(152,505.87)
11/05/2020	CR	RCPT	Building Dept. Invoice 11/05/2020		190.00		(152,695.87)
11/05/2020	CR	RCPT	Building Dept. Invoice 11/05/2020		390.00		(153,085.87)
11/06/2020	CR	RCPT	Building Dept. Invoice 11/06/2020		6,472.90		(159,558.77)
11/06/2020	CR	RCPT	Building Dept. Invoice 11/06/2020		240.00		(159,798.77)
11/06/2020	BD	TRX	SUMMARY BD 11/06/2020		100.00		(159,898.77)
11/11/2020	CR	RCPT	Building Dept. Invoice 11/11/2020		2,490.00		(162,388.77)
11/11/2020	BD	TRX	SUMMARY BD 11/11/2020		100.00		(162,488.77)
11/16/2020	BD	TRX	SUMMARY BD 11/16/2020		50.00		(162,538.77)
11/16/2020	CR	RCPT	Building Dept. Invoice 11/16/2020		1,110.00		(163,648.77)
11/16/2020	BD	TRX	SUMMARY BD 11/16/2020		190.00		(163,838.77)
11/17/2020	BD	TRX	SUMMARY BD 11/17/2020		215.00		(164,053.77)
11/19/2020	CR	RCPT	Building Dept. Invoice 11/19/2020		550.00		(164,603.77)
11/19/2020	BD	TRX	SUMMARY BD 11/19/2020		340.00		(164,943.77)
11/20/2020	CR	RCPT	Building Dept. Invoice 11/20/2020		5,000.00		(169,943.77)
11/20/2020	BD	TRX	SUMMARY BD 11/20/2020		685.00		(170,628.77)
11/30/2020	CR	RCPT	Building Dept. Invoice 11/30/2020		4,813.70		(175,442.47)
11/30/2020			01-00-310-401	END BALANCE	0.00	26,973.85	(175,442.47)

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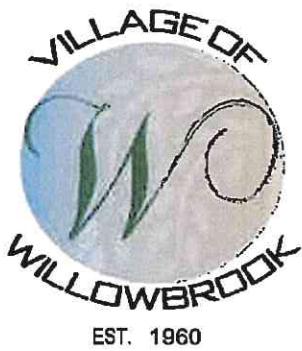
User: DSCHMIDT
DB: Willowbrook

GL ACTIVITY REPORT FOR WILLOWBROOK
FROM 01-00-310-402 TO 01-00-310-402
TRANSACTIONS FROM 11/01/2020 TO 11/30/2020

Page:

1/1

Date	JNL	Type	Description	Reference #	Debits	Credits	Balance
Fund 01 GENERAL FUND							
11/01/2020			01-00-310-402 SIGN PERMITS				(11,642.58)
11/16/2020	CR	RCPT	Building Dept. Invoice 11/16/2020				(11,787.58)
11/30/2020			01-00-310-402				(11,787.58)
				BEG. BALANCE			
				END BALANCE	0.00	145.00	



Willowbrook

835 Midway Drive
Willowbrook, IL 60527-5549

Phone: (630) 323-8215 Fax: (630) 323-0787 www.willowbrookil.org

MONTHLY REPORT
MUNICIPAL SERVICES DEPARTMENT
December, 2020

Mayor

Frank A. Trilla

Permits Issued:	
Asphalt	1
Buildout	1
Demo Inter	1
Deck	1
Electric	2
Fence	3
Garage	1
Generator	1
HVAC	2
Int Mod Com	1
Int Rem. Res	4
Plumbing	1
RTU	1
Re-Occp	1
Roof	4
Sewer rep	1
Signs	4
Solar Panels	1
Temp Tent	1
Window/Door	6

Village Clerk

Deborah A. Hahn

Village Trustees

Sue Berglund

Umberto Davi

Michael Mistele

Gayle Neal

Paul Oggerino

Gregory Ruffolo

Village Administrator

Brian Pabst

Chief of Police

Robert Schaller

Director of Finance

Carrie Dittman

TOTALS	38
Plan Review Deposit Fee	2
Permit Revenue for December 2020	\$ 33,403.71
Total Revenue Collected for Fiscal YTD	\$ 220,823.76
Total Budgeted Revenue for Fiscal Year 20/21	\$ 295 000.00
Total Percentage of Budgeted Revenue Collected to Date	74.86%
Certificate of Occupancy, Final	4
Certificate of Occupancy, Temporary	0

Respectfully submitted,

Michael Mertens-Assistant Village Administrator



Proud Member of the
Illinois Route 66 Scenic Byway

MUNICIPAL SERVICES DEPARTMENT

PERMIT REVENUE

Fiscal Year 2020-2021

MONTH	CURRENT FISCAL YEAR		PRIOR FISCAL YEAR	
	2020-2021	2019-2020		
MAY	\$ 41,190.44		\$ 24,660.45	
JUNE	\$ 20,616.93		\$ 18,235.23	
JULY	\$ 33,143.57		\$ 86,968.36	
AUGUST	\$ 19,558.63		\$ 13,262.60	
SEPTEMBER	\$ 25,890.62		\$ 18,390.75	
OCTOBER	\$ 19,901.01		\$ 59,207.60	
NOVEMBER	\$ 27,118.85		\$ 19,078.16	
DECEMBER	\$ 33,403.71		\$ 19,940.06	
JANUARY			\$ 145,370.82	
FEBRUARY			\$ 29,837.34	
MARCH			\$ 29,705.09	
APRIL			\$ 146,939.37	
COLLECTED REVENUE	\$ 220,823.76		\$ 611,595.83	
BUDGETED REVENUE	\$ 295,000.00		\$ 280,000.00	
REVENUES COLLECTED- (OVER)/UNDER BUDGET	\$ 74,176.24		\$ (331,595.83)	
PERCENTAGE OF BUDGETED REVENUE COLLECTED	74.86%		218.43%	

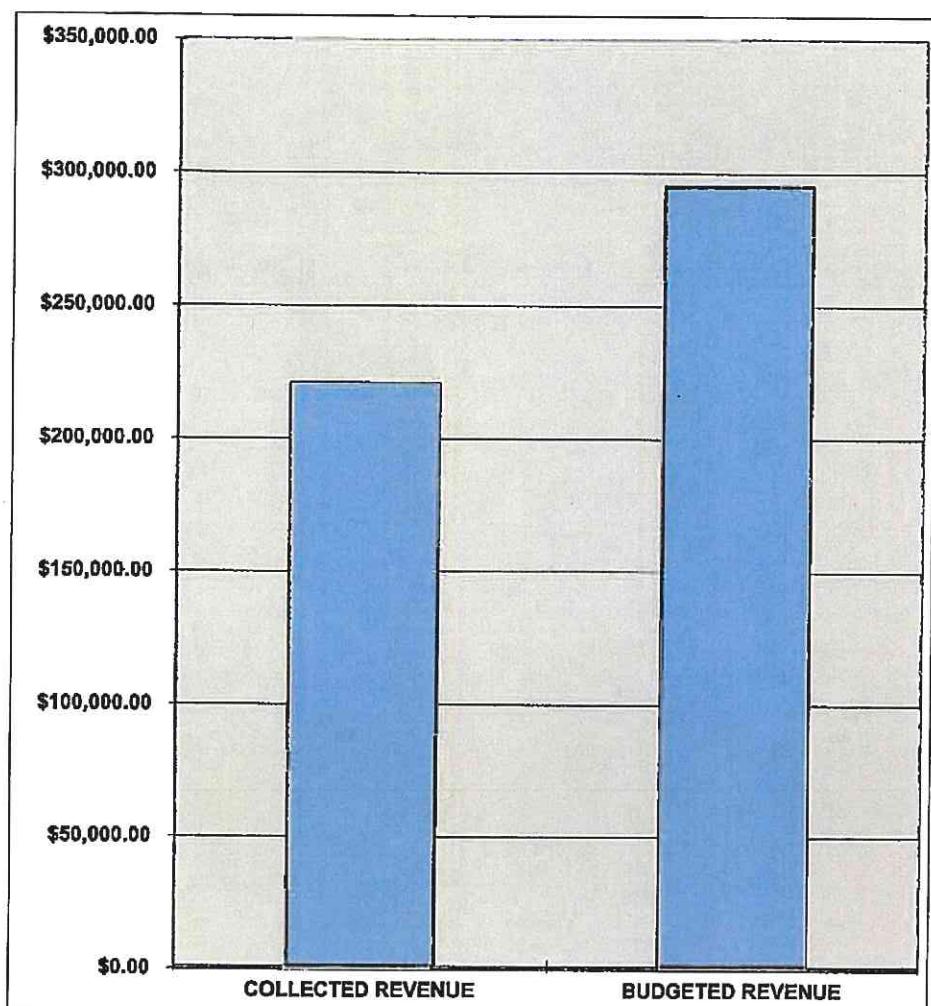
MUNICIPAL SERVICES DEPARTMENT

PERMIT REVENUE

	Fiscal Year 20-21	Fiscal Year 19-20
COLLECTED REVENUE	\$ 220,823.76	\$ 611,595.83
BUDGETED REVENUE	\$ 295,000.00	\$ 280,000.00

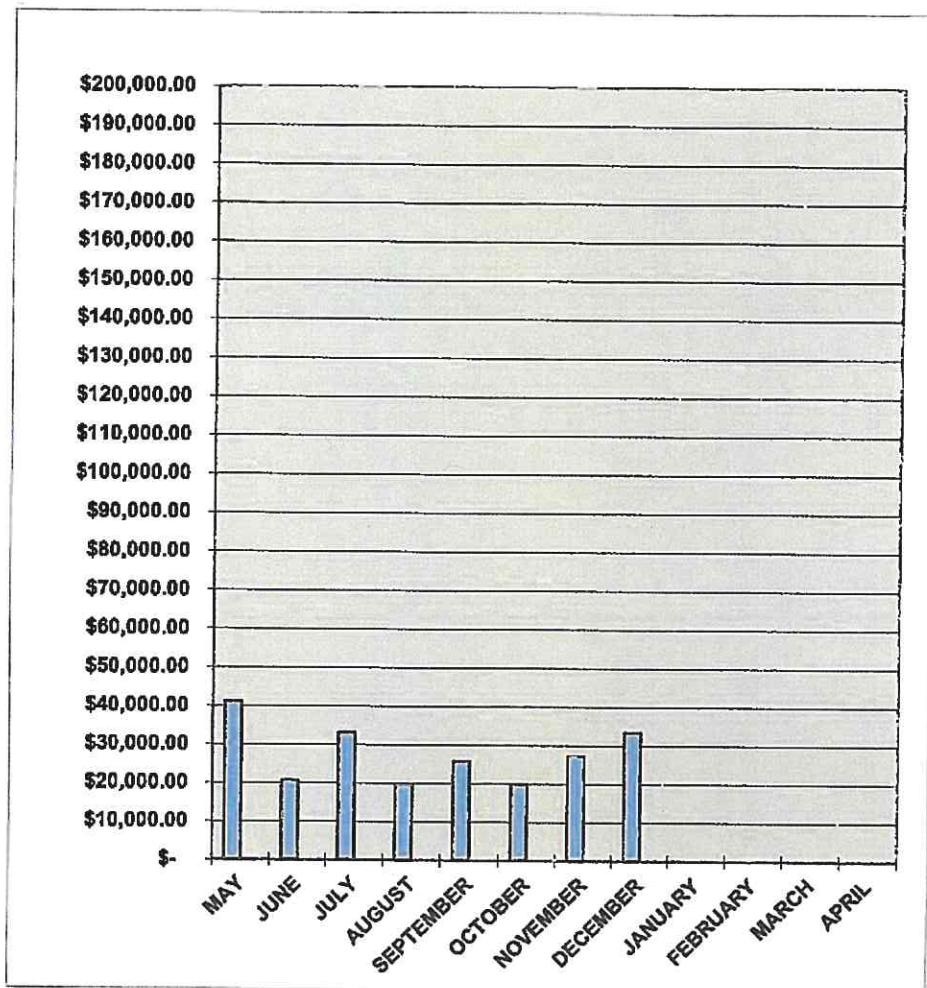
MUNICIPAL SERVICES DEPARTMENT

PERMIT REVENUE



MUNICIPAL SERVICES DEPARTMENT

PERMIT REVENUE



Permit	Date Issued:	Date Released:	Date Permit Expires:	Name:	Address:	Permit Purpose:	Business Name:	Fee:	RES / COMM:	Valuation:
20-365	10/21/20	12/01/20	06/01/22		7440 Tennessee	Garage/storage	Willowbrook Apt	\$ 947.50	M	\$ 15,000.00
20-407	11/09/20	12/01/20	06/01/22		6300 Kingery 126-128	Elec Sign	Melt N Dip	\$ 876.20	C	\$ 2,800.00
20-426	11/23/20	12/01/20	06/01/22		701 Lake Hinsdale Dr #510	Kich/bath remodel		\$ 490.00	M	\$ 40,000.00
20-434	12/01/20	12/01/20	06/01/22		7223 Kingery	Elec Sign	Charlie Gaming	\$ 646.52	C	\$ 2,650.00
20-389	10/28/20	12/02/20	06/02/22		6537 Bentley	Bathroom remodel		\$ 390.00	R	\$ 20,000.00
20-428	11/23/20	12/02/20	03/17/21		7145 Kingery	Inter. Demo	Dollar Store	\$ 760.00	C	\$ 20,000.00
20-435	12/02/20	12/02/20	06/02/22		6551 Arabian Circle	Generator		\$ 390.00	R	\$ 8,300.00
20-431	11/25/20	12/03/20	06/03/22		980 Plainfield Road	Inter. Modification	American Family Care	\$ 735.00	C	\$ 2,500.00
20-437	12/03/20	12/03/20	06/03/22		212 Gull Island	Deck		\$ 240.00	R	\$ 7,400.00
20-440	12/04/20	12/04/20	06/04/22		525 87th Place	Roof		\$ 100.00	R	\$ 1,000.00
20-243	08/06/20	12/07/20	06/07/22		7808 Cherry Tree Lane	Roof		\$ 100.00	R	\$ 19,000.00
20-438	12/03/20	12/07/20	06/07/22		240 Sunset Ridge Road	Electric		\$ 190.00	R	\$ 1,157.00
20-442	12/07/20	12/07/20	06/07/22		207 Somerset Road	Electric		\$ 165.00	R	\$ 1,375.00
20-240	08/06/20	12/09/20	06/09/22		369 Wedgewood	Roof		\$ 100.00	R	\$ 17,448.29
20-367	10/23/20	12/09/20	06/09/22		6511 Chaucer Road	Window		\$ 190.00	R	\$ 3,195.00
20-444	12/09/20	12/09/20	06/09/22		7775 Quincy	RTU units	Quincy LLC	\$ 460.00	C	\$ 75,000.00
20-445	12/09/20	12/09/20	06/09/22		6300 Kingery #404	Re-occupancy	Toy Express	NC		
20-447	12/10/20	12/11/20	11/27/20		7719 Virginia Ct	Roof		\$ 100.00	R	\$ 9,250.00
20-076	12/07/20	12/11/20	06/11/22		215 Sunset Ridge	Kitchen remodel	This was reinstated	\$ 490.00	R	\$ 17,400.00
20-436	12/14/20		06/30/21		6340 Americana Drive	Plan Review	1-Mobil	\$ 1,000.00		
20-443	12/08/20	12/14/20	06/14/22		317 75th Street	Sign	Dental office	\$ 649.98	C	\$ 9,533.74
20-449	12/11/20	12/14/20	06/14/22		355 Willowood Lane	Solar Panels		\$ 465.00	R	\$ 35,360.00
20-448	12/11/20	12/16/20	06/16/22		7719 Blackberry Lane	Window/doors		\$ 190.00	R	\$ 5,804.68
20-430	12/16/20		06/30/21		313 75th Street	Plan Review	Rosie's Gaming	\$ 1,000.00	C	
20-453	12/16/20	12/16/20	06/16/22		5848 Clarendon Hills ROW	Emergency Sewer Rep		NC	C	
20-454	12/16/20	12/17/20	06/17/22		6343 Tennessee Ave	Windows/doors		\$ 215.00	R	\$ 38,812.00
20-455	12/17/20	12/17/20	06/17/22		215 63rd Street	Temp Tent	Midtown Athletic	NC/Covid	C	
20-450	12/14/20	12/18/20	06/18/22		6340 Americana Dr. #815	Plumbing		\$ 215.00	M	
20-452	12/16/20	12/18/20	06/18/22		7551 S Madison Street	Asphalt	Patrick Commerical	\$ 510.00	C	\$ 33,200.00
20-446	12/10/20	12/18/20	06/18/02		7145 Kingery	Sign	Dollar Tree Store	\$ 1,428.84	C	\$ 7,803.00
20-417	11/17/20	12/21/20	06/21/22		6340 Thurlow Street	Fence		\$ 190.00	R	\$ 5,800.00
20-420	11/17/20	12/21/20	06/21/22		6333 Westley Road	Fence		\$ 190.00	R	\$ 5,800.00
20-421	11/17/20	12/21/20	06/21/22		129 Sunset Ridge Road	Fence		\$ 190.00	R	\$ 6,000.00
20-424	12/18/20	12/22/20	06/22/22		7145 Kingery	Build out	Dollar Tree Store	\$ 13,992.47	C	\$ 250,000.00
20-461	12/21/20	12/23/20	06/23/22		701 Lake Hinsdale Dr #510	HVAC		\$ 290.00	M	\$ 5,200.00
20-460	12/22/20	12/26/20	06/26/22		207 Hill Road	HVAC		\$ 290.00	R	\$ 12,887.00
20-457	12/22/20	12/29/20	06/29/22		7544 Clarendon Hills Rd #1E	Window/doors		\$ 190.00	M	\$ 4,569.00
20-462	12/29/20	12/29/20	06/29/22		314 Palomino Trail	Basement remodel		\$ 733.00	R	\$ 75,000.00
20-459	12/22/20	12/30/20	06/30/22		7719 Eleanor Place	Window		\$ 190.00	R	\$ 750.00
20-463	12/30/20	12/30/20	06/30/22		303 Waterford Dr	Window		\$ 215.00	R	\$ 7,933.00

Date	JNL	Type	Description	Reference #	Debits	Credits	Balance
Fund 01 GENERAL FUND							
12/01/2020			01-00-310-401 BUILDING PERMITS				
12/01/2020	CR	RCPT	Building Dept. Invoice 12/01/2020				
12/01/2020	BD	TRX	SUMMARY BD 12/01/2020		435.00		(177,902.47)
12/01/2020	BD	TRX	SUMMARY BD 12/01/2020		947.50		(178,849.97)
12/01/2020	BD	TRX	SUMMARY BD 12/01/2020		385.00		(179,234.97)
12/01/2020	BD	TRX	SUMMARY BD 12/01/2020		490.00		(179,724.97)
12/02/2020	CR	RCPT	Building Dept. Invoice 12/02/2020		760.00		(180,484.97)
12/02/2020	BD	TRX	SUMMARY BD 12/02/2020		390.00		(180,874.97)
12/03/2020	BD	TRX	SUMMARY BD 12/03/2020		240.00		(181,114.97)
12/03/2020	BD	TRX	SUMMARY BD 12/03/2020		190.00		(181,304.97)
12/04/2020	CR	RCPT	Building Dept. Invoice 12/04/2020		1,125.00		(182,429.97)
12/07/2020	CR	RCPT	Building Dept. Invoice 12/07/2020		200.00		(182,629.97)
12/07/2020	BD	TRX	SUMMARY BD 12/07/2020		165.00		(182,794.97)
12/07/2020	BD	TRX	SUMMARY BD 12/07/2020		190.00		(182,984.97)
12/08/2020	BD	TRX	SUMMARY BD 12/08/2020		100.00		(183,084.97)
12/09/2020	BD	TRX	SUMMARY BD 12/09/2020		460.00		(183,544.97)
12/10/2020	CR	RCPT	Building Dept. Invoice 12/10/2020		190.00		(183,734.97)
12/11/2020	BD	TRX	SUMMARY BD 12/11/2020		100.00		(183,834.97)
12/11/2020	BD	TRX	SUMMARY BD 12/11/2020		1,000.00		(184,834.97)
12/12/2020	BD	TRX	SUMMARY BD 12/12/2020		190.00		(185,024.97)
12/14/2020	CR	RCPT	Building Dept. Invoice 12/14/2020		490.00		(185,514.97)
12/14/2020	BD	TRX	SUMMARY BD 12/14/2020		335.00		(185,849.97)
12/14/2020	BD	TRX	SUMMARY BD 12/14/2020		465.00		(186,314.97)
12/16/2020	BD	TRX	SUMMARY BD 12/16/2020		2,500.00		(188,814.97)
12/16/2020	BD	TRX	SUMMARY BD 12/16/2020		215.00		(189,029.97)
12/18/2020	BD	TRX	SUMMARY BD 12/18/2020		335.00		(189,364.97)
12/21/2020	CR	RCPT	Building Dept. Invoice 12/21/2020		1,295.00		(190,659.97)
12/22/2020	CR	RCPT	Building Dept. Invoice 12/22/2020		13,992.47		(204,652.44)
12/22/2020	BD	TRX	SUMMARY BD 12/22/2020		290.00		(204,942.44)
12/24/2020	BD	TRX	SUMMARY BD 12/24/2020		290.00		(205,232.44)
12/29/2020	CR	RCPT	Building Dept. Invoice 12/29/2020		250.00		(205,482.44)
12/29/2020	BD	TRX	SUMMARY BD 12/29/2020		733.00		(206,215.44)
12/30/2020	CR	RCPT	Building Dept. Invoice 12/30/2020		190.00		(206,405.44)
12/30/2020	BD	TRX	SUMMARY BD 12/30/2020		190.00		(206,595.44)
12/30/2020	BD	TRX	SUMMARY BD 12/30/2020		215.00		(206,810.44)
12/31/2020			01-00-310-401		END BALANCE	0.00	31,367.97

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GL ACTIVITY REPORT FOR WILLOWBROOK
FROM 01-00-310-402 TO 01-00-310-402
TRANSACTIONS FROM 12/01/2020 TO 12/31/2020

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TRANSACTIONS FROM 12/01/2020 TO 12/31/2020							
Date	JNL	Type	Description	Reference #	Debits	Credits	Balance
			Fund 01 GENERAL FUND				
12/01/2020			01-00-310-402 SIGN PERMITS				
12/01/2020	BD	TRX	SUMMARY BD 12/01/2020			BEG. BALANCE	(11,787.58)
12/01/2020	BD	TRX	SUMMARY BD 12/01/2020			316.20	(12,103.78)
12/14/2020	BD	TRX	SUMMARY BD 12/14/2020			261.52	(12,365.30)
12/18/2020	BD	TRX	SUMMARY BD 12/18/2020			314.98	(12,680.28)
12/31/2020			01-00-310-402			1,143.04	(13,823.32)
				END BALANCE	0.00	2,035.74	(13,823.32)