

AGENDA
PUBLIC WORKS & UTILITIES COMMITTEE
Village of Hoffman Estates
September 23, 2019

7:00 pm – Board Room

Members:	Anna Newell, Chairperson	Gary G. Stanton, Trustee
	Michael Gaeta, Vice Chairperson	Karen J. Arnet, Trustee
	Gary Pilafas, Trustee	William McLeod, Mayor
	Karen V. Mills, Trustee	

I. Roll Call

II. Approval of Minutes – August 19, 2019
September 9, 2019 – Special Meeting

NEW BUSINESS

1. Request authorization to award contract for the 2019 Drainage Improvements Project to DeVinci Construction, Inc. of Naperville, IL (low bid), in an amount not to exceed \$31,790.
2. Request authorization to:
 - a) enter into a performance contract with Siemens Industry, Inc. for the replacement of residential and commercial water meters, conversion to LED street lights, and the installation of an advanced metering infrastructure system; and
 - b) pursue financing with a direct placement bond issue, to be bid out by the Village’s municipal advisors, Speer Financial, Inc.
3. Request authorization to waive bidding and purchase one (1) Diesel Exhaust Fluid (DEF) Bulk Containment Unit using Sourcewell contract 040215-PGE discount from Blue Energy Equipment, in an amount not to exceed \$30,868.

REPORTS (INFORMATION ONLY)

1. Department of Public Works Monthly Report.
2. Department of Development Services Monthly Engineering Report of the Transportation and Engineering Division.

III. President’s Report

IV. Other

V. Items in Review

VI. Adjournment

(Further details and information can be found in the agenda packet attached hereto and incorporated herein and can also be viewed online at www.hoffmanestates.org and/or in person in the Village Clerk’s office).

The Village of Hoffman Estates complies with the Americans with Disabilities Act (ADA). For accessibility assistance call the ADA Coordinator at 847 882-9100.

**PUBLIC WORKS & UTILITIES COMMITTEE
MEETING MINUTES**

August 19, 2019

I. Roll call

Members in Attendance:

**Trustee Anna Newell, Chairperson
Trustee Michael Gaeta, Vice Chairperson
Trustee Karen Mills
Trustee Gary Pilafas
Trustee Gary Stanton
Trustee Karen Arnet
Mayor William McLeod**

**Management Team Members
in Attendance:**

**Jim Norris, Village Manager
Dan O'Malley, Deputy Village Manager
Art Janura, Corporation Counsel
Alan Wenderski, Village Engineer
Mark Koplin, Asst. Village Mgr.-Dev. Svs.
Peter Gugliotta, Director of Planning
Kevin Kramer, Director of Economic Dev.
Ted Bos, Police Chief
Pat Fortunato, Fire Chief
Patrick Seger, Director of HRM
Bev Romanoff, Village Clerk
Rachel Musiala, Finance Director
Monica Saavedra, Director of HHS
Joe Nebel, Director of Public Works
Patti Cross, Asst. Corporation Counsel
Ben Gibbs, GM Sears Centre
Suzanne Ostrovsky, Asst. to Village Mgr.**

The Public Works & Utilities Committee meeting was called to order at 8:34 p.m.

II. Approval of Minutes – July 22, 2019

Motion by Trustee Gaeta, seconded by Trustee Pilafas, to approve the minutes of the Public Works & Utilities Committee meeting of July 22, 2019. Roll call vote taken. All ayes. Motion carried.

NEW BUSINESS

- 1. Request authorization to award contract for the abandonment of the Well 9 to Water Well Solutions (low bid), Elburn, IL in an amount not to exceed \$98,309 and rejection of all bids for demolition of the above ground facility at Well 9 site.**

An item summary sheet from Joe Nebel and Haileng Xiao was presented to Committee.

Mr. Nebel provided comments.

Motion by Trustee Gaeta, seconded by Trustee Pilafas, award contract for the abandonment of the Well 9 to Water Well Solutions (low bid), Elburn, IL in an amount not to exceed \$98,309 and rejection of all bids for demolition of the above ground facility at Well 9 site. Roll call vote taken. All ayes. Motion carried.

2. **Request authorization to award contract for engineering services for relocation/replacement of 16" water transmission mains along Huntington Roads between Mundhank Road and Lakewood Blvd., to HRGreen, McHenry, IL (low qualified proposal), in an amount no to exceed \$62,904.**

An item summary sheet from Joe Nebel and Haileng Xiao was presented to Committee.

Motion by Trustee Gaeta, seconded by Trustee Pilafas, to award contract for engineering services for relocation/replacement of 16" water transmission mains along Huntington Roads between Mundhank Road and Lakewood Blvd., to HRGreen, McHenry, IL (low qualified proposal), in an amount no to exceed \$62,904. Roll call vote taken. All ayes. Motion carried.

REPORTS (INFORMATION ONLY)

1. **Department of Public Works Monthly Report.**

The Public Works Monthly Report was received and filed.

Mr. Nebel provided an update on the recycling event held at Public Works on August 17th.

2. **Department of Development Services Monthly Engineering Report of the Transportation and Engineering Division.**

The Department of Development Services Monthly Engineering Report of the Transportation & Engineering Division was received and filed.

- III. **President's Report**
- IV. **Other**
- V. **Items in Review**
- VI. **Adjournment**

Motion by Trustee Arnet, seconded by Trustee Pilafas, to adjourn the meeting at 8:43 p.m.
Roll call vote taken. All ayes. Motion carried.

Minutes submitted by:

Jennifer Djordjevic, Director of Operations &
Outreach, Office of the Mayor and Board

Date

**SPECIAL PUBLIC WORKS & UTILITIES COMMITTEE
MEETING MINUTES**

September 9, 2019

I. Roll call

Members in Attendance:

- Trustee Anna Newell, Chairperson**
- Trustee Michael Gaeta, Vice Chairperson**
- Trustee Karen Mills**
- Trustee Gary Pilafas**
- Trustee Gary Stanton**
- Trustee Karen Arnet**
- Mayor William McLeod**

**Management Team Members
in Attendance:**

- James Norris, Village Manager**
- Dan O'Malley, Deputy Village Manager**
- Arthur Janura, Corporation Counsel**
- Mark Koplin, Asst. Vlg. Mgr.-Dev. Services**
- Peter Gugliotta, Director of Planning**
- Kevin Kramer, Economic Dev. Director**
- Mike Hankey, Dir. Transportation and Eng.**
- Patti Cross, Asst. Corporation Counsel**
- Patrick Seger, Director HRM**
- Richard Signorella, CATV Coordinator**
- Matthew Galloway, Administrative Intern**

The Special Public Works & Utilities Committee meeting was called to order at 7:32 p.m.

NEW BUSINESS

- 1. Request approval of the locations for the 2019 Drainage Improvement Project and discussion of the Village Drainage Policy.**

An item summary sheet from Al Wenderski was presented to Committee.

Motion by Trustee Gaeta, seconded by Trustee Arnet, to approve locations for the 2019 Drainage Improvement Project. Voice call vote taken. All ayes. Motion carried.

II. Adjournment

Motion by Trustee Gaeta, seconded by Trustee Pilafas, to adjourn the meeting at 7:33 p.m. Voice vote taken. All ayes. Motion carried.

Minutes submitted by:

Debbie Schoop, Executive Assistant

Date

**COMMITTEE AGENDA ITEM
VILLAGE OF HOFFMAN ESTATES**

SUBJECT: Request authorization to award contract for the 2019 Drainage Improvements Project to DeVinci Construction, Inc., of Naperville, IL (low bid), in an amount not to exceed \$31,790.

MEETING DATE: September 23, 2019

COMMITTEE: Public Works & Utilities

FROM: Alan Wenderski

PURPOSE: Present the bids for the 2019 Drainage Improvements Project and recommend approval of award of contract.

BACKGROUND: In 1992, the Village adopted a drainage policy and an annual drainage improvement project to correct drainage problems in the right of way and other areas.

The Village Board approved (September 9, 2019 Special Public Works and Utilities Meeting) two locations chosen for this year's project at a preliminary cost estimate of \$45,000.

See table below for a full list of the locations included within the 2019 Drainage Improvements Project.

Drainage Project Locations				
Aug-19				
PRIORITY	LOCATION	INITIAL DATE	DESCRIPTION	SOLUTION
1	1105 Aspen Street	2016	Low area in backyard with multiple upstream lots. Significant ponding occurs that affects four adjacent properties. Drainage issue cannot be adequately solved within the limits of 1105 Aspen Street's property only.	Install rear yard storm inlet at 1105 Aspen Street and install storm sewer to outlet in swale at 1085 Aspen Street.
2	1623 Acom Drive	2011	Offsite flow from upstream unincorporated area causing frequent erosion prior to entering rear yard swale and storm sewer.	Install rear yard storm inlet to capture offsite flow and connect to nearby storm sewer system.

DISCUSSION:

On September 16, 2019, five bids were received for the 2019 Drainage Improvements Project. The engineer's estimate for the project was \$48,026. The bid summary is shown in the table below:

Bidder	Bid Cost
DeVinci Construction	\$ 31,790
Foundation Mechanics	\$ 49,882
A Lamp Concrete	\$ 61,659
Copenhaver Construction	\$ 67,236
Archon Construction	\$ 89,954

DeVinci Construction submitted the lowest qualified bid of \$31,790. DeVinci Construction has completed previous drainage projects for the Village and has worked as a sub-contractor on numerous street projects. All previous projects were completed in a timely and satisfactory manner.

FINANCIAL IMPACT:

Funding is shown in the 2019 CIP from the Stormwater Utility Fund. The low bid amount is under the budgeted amount (\$50,000) for this project.

RECOMMENDATION:

Request authorization to award contract for the 2019 Drainage Improvements Project to DeVinci Construction, Inc., of Naperville, IL (low bid), in an amount not to exceed \$31,790.

**COMMITTEE AGENDA ITEM
VILLAGE OF HOFFMAN ESTATES**

SUBJECT: Request authorization to:

- a.) enter into a performance contract with Siemens Industry, Inc. for the replacement of residential and commercial water meters, conversion to LED street lights, and the installation of an advanced metering infrastructure system; and
- b.) pursue financing with a direct placement bond issue, to be bid out by the Village's municipal advisors, Speer Financial Inc.

MEETING DATE: September 23, 2019

COMMITTEE: Public Works & Utilities

FROM: Jim Norris, Village Manager
Dan O'Malley, Deputy Village Manager
Joseph Nebel, Director of Public Works
Rachel Musiala, Director of Finance
Aaron Howe, Public Works Management Analyst

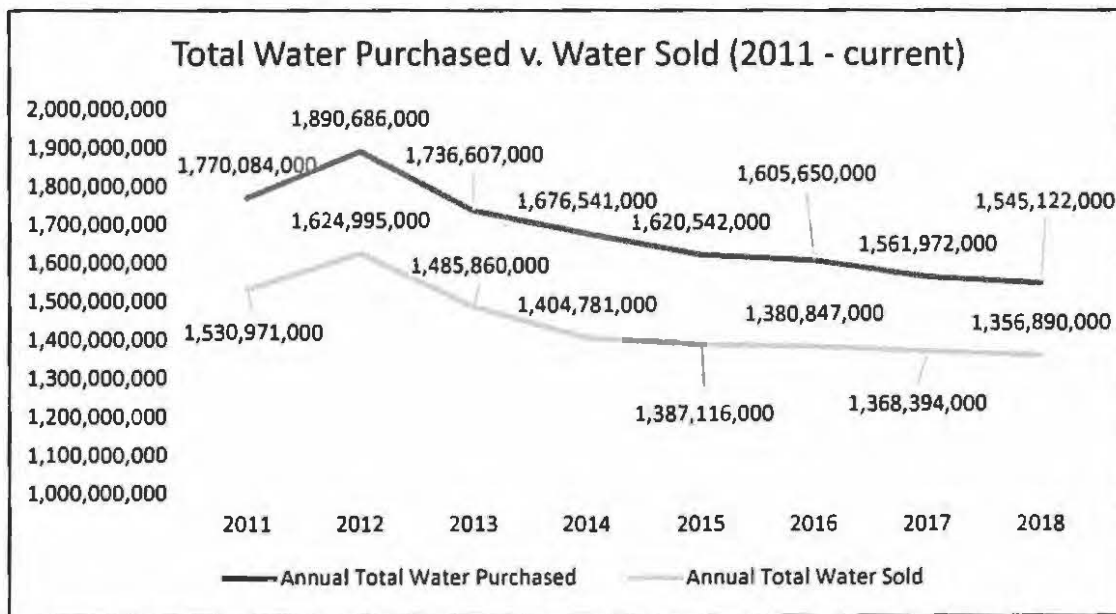
PURPOSE: To present and receive direction on performance contracted projects to include residential and commercial water meter replacement, LED street light conversion, and installation of an advanced metering infrastructure (AMI) system and to approve a contract with Siemens Industry, Inc. to complete these projects.

BACKGROUND: The Hoffman Estates water distribution system includes approximately 16,600 residential and commercial water meters and 16,600 water meter reading units (MIUs). Staff has suspected for a number of years that inaccurate water meters are a contributing factor to lost or unmetered water. Staff has researched options to address lost or unmetered water and recommends a performance contract as a solution that is fiscally sound, accomplishes a necessary task, and does not disrupt current Public Works operations. A performance contract is designed to ensure that projects are funded by a combination of revenue recovered, decreased maintenance costs, and improvements in operational efficiencies. It is projected that the three projects detailed will provide a return on investment within 12 years.

BACKGROUND (continued):

Based upon a statistically significant sample of residential water meters bench-tested during an investment-grade audit, existing residential water meters are projected to read at an average of 92.82% accurate. This contributes to the Village’s total non-revenue water percentage of 12.9% (2018). Non-revenue water includes metered water that is not billed, water lost during water main breaks, and water that is under-metered due to inaccuracy, in addition to other minor contributing factors.

By the 2020 reporting period, non-revenue water must account for less than 10% of total water purchased by the Village as mandated by the Illinois Department of Natural Resources (IDNR). A replacement of Village water meters will recover revenue currently lost due to under-billed water usage and contribute to reducing non-revenue water reported to the IDNR annually.



DISCUSSION:

Water meter accuracy can be attributed to a number of conditions, most notably age of meter and total registered lifetime flow. It is estimated that approximately half of residential water meters currently installed have greater than 1.5 MG of registered lifetime flow:

Water Meters by Total Registered Lifetime Flow	
0-1.5 Million Gallons	8,840
1.5-2 MG	2,300
2-3 MG	4,025
3-4 MG	1,275
4-5 MG	140
5+ MG	20

Based on lifetime flow, Staff believes a significant majority of water meters currently in use in the Village are greater than 25 years old. While studies show that meter age alone is not sufficient evidence that a water meter is reading inaccurately (based upon a 2012 study published by the American Water Works Association) a combination of lifetime flow and age, among other factors unique to each water distribution system, are conditions that contribute to decreased accuracy.

Existing residential water meters are Neptune T-10 model units. The T-10 is a mechanical water meter that reads volume of flow via a chamber that turns as water is used. Over time, this mechanical chamber may wear down and fail to capture water usage accurately. While mechanical meters are comparably accurate at the date of installation to non-mechanical meters, mechanical meters record water usage less accurate as they accumulate lifetime flow. An alternative to traditional mechanical water meters are no-moving-part meters, such as the Neptune Mach-10. Mach-10 units register the volume of flow by using an ultrasonic sound-based system powered by an internal battery. No-moving-part meters maintain greater accuracy throughout their useful life, regardless of lifetime flow. However, once the battery on the meter fails the device must be replaced in its entirety. The increase in lifetime meter accuracy provides a benefit to the Village that Staff believes exceeds the perceived deficiency of a battery that is not replaceable. Mach-10 water meters have a pro-rated warranty that covers the entire cost of replacement for 10 years and a portion of the cost until year 20. Mach-10 meters have an expected useful life span of 20 years.

Advanced Metering Infrastructure (AMI) Installation:

Water meters are currently read and billed monthly via drive-by reading units. Public Works staff collects usage history which is provided to Water Billing on an encrypted flash drive. This data is transferred into existing water billing software which produces bills that are mailed to residents. In order to increase efficiency and reduce the possibility of errors in the meter reading process, meter reading infrastructure can be installed on existing Village assets, such as water towers. With AMI technology meters can be read multiple times per day automatically.

Conversion to an AMI system enhances internal capabilities by allowing on-demand remote meter readings that can assist in identifying problematic meters, allows for instant final meter readings, and eliminates the need for re-reads.

In order to fully utilize the proposed AMI technology with existing or replacement water meters, MIUs must be updated to the fourth generation unit ("V4"). Fewer than 1,000 existing units are currently V4s. All non-fourth generation MIUs are recommended for replacement to ensure the most accurate and reliable remote reading system.

LED Street Light Conversion:

The Village street light infrastructure includes approximately 2,530 lights that are a combination of traditional high-pressure sodium or metal halide style fixtures with a small number of LED fixtures.

Lighting Type	Wattage	Total
High Pressure Sodium	100W	45
	150W	975
	250W	570
	400W	115
Total HPS:		1,705
Metal Halide	70W	15
	100W	20
	150W	45
	175W	10
	250W	600
	400W	75
Total Metal Halide:		765
Light Emitting Diode	68W	25
	150W	35
Total Street Lights:		2,530

Modern LED style street light fixtures offer increased longevity and more efficient lighting, using much less energy to produce an equivalent light source. Energy and maintenance costs are projected to decrease with a conversion to LED technology. LED fixtures also allow for the installation of “smart” features via a connection point located on the fixture. By installing fixtures with this connection point, the Village is laying the foundation for future smart cities technologies.

Project Management:

An advantage to a performance contract is that the contractor manages and executes all phases of the projects including project marketing, call centers for resident questions and scheduling of appointments, all installations, data integration, customer service, and employee training. This eliminates the need to hire additional Village staff to accomplish these functions.

Another feature of a performance contract that includes a performance guarantee is that the contractor is required to annually measure and verify the accuracy of the newly installed water meters. Should the meters fall short of the guaranteed accuracy, the contractor is required to reimburse the Village for the shortfall amount.

FINANCIAL IMPACT:

To finance the project cost of \$9.6 million, the Village issued a request for proposals for a tax-exempt municipal lease, which is a typical financing mechanism for performance contracts like this. The Village received three qualified proposals ranging from 2.3689% to 2.6187% over 15 years. After reviewing the proposals in detail with Village staff, the Village's Municipal Advisor, and the Legal Division, several concerns were raised with the lease option:

- A Rate Lock Agreement is required (form of derivative product with potential risks)
- Prepayment is at 102% (penalty)
- Certain default provisions of the agreement could be risky or have adverse effects on the Village's bond rating
- Security for the agreement is title to the equipment – cannot be done
- Any material change in the financial markets could modify the pricing
- The agreement included unfavorable default provisions
- Agreement terms would have to be agreed upon by the Village, the bank, and Siemen's and there were several provisions that staff did not think Siemen's and the bank would be able to agree upon

Due to these potential risks, the Village had our Municipal Advisor, Speer Financial, do research to see if a bond issue would be a better option for financing. The bond issue would be much less risky and if we received favorable rates, it would be a safer option for the Village to pursue. As of the time of their research, Speer came back to the Village with an estimate bond issue rate of between 2.394%-2.708%. The real rate would not be known until we actually went to market, but staff felt the rates were favorable enough to continue to pursue this option.

The Municipal Advisor also looked into the possibility of a direct placement bond issue. A direct placement bond issue is different from a public sale in that we work directly with several banks that we know are interested in the bond issue and thus avoid a rating fee as well as an underwriter and official statement (less fees). We would simply put together a term sheet and send it around to several banks for a bid. The difference between this and the lease is that these will be bonds and there are banks that will purchase these without all of the extra covenants that were proposed in the lease issue. It would still be a clean bond issue, just purchased by one investor (a bank) rather than publicly sold to many investors. When Speer reached out to a few banks which might be interested in our deal, they received an indicative rate of 2.44% which staff thought was a good indication of favorable interest.

It is staff's recommendation that the Village pursue financing of this project with a direct placement bond issue by having Speer Financial draft the Term Sheet and send it out to banks. Staff will bring final bids back to the October 21st Village Board meeting for final approval. It should be noted that one of the benefits of this performance contract is that financing should be funded through the additional revenues that will be realized from increased meter efficiencies. This bond issue will not be funded through the Village's tax levy.

RECOMMENDATION:

Request authorization to:

- a) Enter into a performance contract with Siemens Industry, Inc. for the replacement of residential and commercial water meters, conversion to LED street lights, and the installation of an advanced metering infrastructure system; and
- b) Pursue financing with a direct placement bond issue, to be bid out by the Village's municipal advisors, Speer Financial, Inc.

Be Confident with Sustained Accuracy Over Time

Neptune[®] MACH 10[®] Ultrasonic Meter



The MACH 10[®] ultrasonic water meter features solid state metrology with no degradation of accuracy over time. Combined with a corrosion-resistant, lead-free, high-copper alloy maincase, the MACH 10 is built to withstand demanding service conditions and deliver sustained accuracy over the life of the meter.

- Sizes 5/8", 3/4", and 1"
- Extended low-flow range and accuracy
- No maintenance
- Accuracy sustained over meter life
- Advanced ultrasonic technology
- Lead free, high-copper alloy maincase
- Certified to UL 327B (1/4", 1") for residential fire service applications



**NEPTUNE**
TECHNOLOGY GROUP
#winyourday

Specifications

AWWA C715 Compliant

NSF/ANSI 61 Certified

UL327B Certified

(Optional on ¾", 1")

Application

- Cold water measurement of flow in residential potable, combination potable and fire service, and reclaim/secondary water applications.

Maximum Operating Water Pressure

- 175 psi

Operating Water

Temperature Range

- +33°F to +122°F (+0.5°C to +50°C)

Nine-digit LCD display

Options

Sizes

- ½", ¾" x ¼"
- ¾", 1" x 1"
- 1", 1" x 1¼"

Units of Measure

- U.S. gallons, Imperial gallons, cubic feet, cubic metres

Meter Options

- Potable water
- Reclaim water
- Residential fire service (combo or standalone meter service lines)

Environmental Conditions

- Operating temperature: +14°F to +149°F (-10°C to +65°C)
- Storage temperature: -40°F to +158°F (-40°C to +70°C)

Warranty

- Neptune provides a limited warranty with respect to its MACH 10 residential line of ultrasonic meters for performance, materials, and workmanship.

System Compatibility

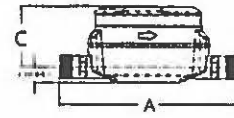
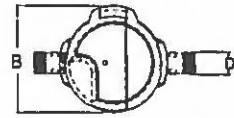
- Available in MACH 10)R900i and MACH 10)TC configurations for an integrated radio solution.

LoRa Alliance Certified

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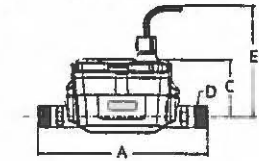
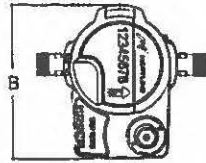
MACH 10® Dimensions

Meter Size	A	B	C	D NPSM
½"	7½"	4¾"	2½"	½" - 14
¾" x ¼"	7½"	4¾"	2½"	1" - 11½"
¾"	9"	4¾"	2¾"	1" - 11½"
¾" 5L	7½"	4¾"	2¾"	1" - 11½"
¾" x 1"	9"	4¾"	2¾"	1¼" - 11½"
1"	10¼"	4¾"	2¾"	1¼" - 11½"
1" x 1¼"	10¼"	4¾"	2¾"	1¼" - 11½"



MACH 10®)R900i™ DIMENSIONS

Meter Size	A	B	C	D NPSM	E
¾"	7½"	6¼"	2½"	¾" - 14	5¼"
¾" x ¼"	7½"	6¼"	2½"	1" - 11½"	5¼"
¾"	9"	6¼"	2¾"	1" - 11½"	5½"
¾" 5L	7½"	6¼"	2¾"	1" - 11½"	5½"
¾" x 1"	9"	6¼"	2¾"	1¼" - 11½"	5½"
1"	10¼"	6¼"	2¾"	1¼" - 11½"	6¼"
1" x 1¼"	10¼"	6¼"	2¾"	1¼" - 11½"	6¼"



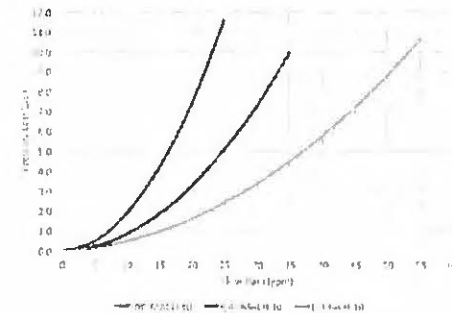
Operating Characteristics

Meter Size	Normal Operating Range @ 100% Accuracy (+/- 1.5%)	AWWA C715 Standard Type 1	Extended Low Flow @ 100% Accuracy (+/- 3%)
½"	0.10 to 25 U.S. gpm 0.02 to 4.55 m³/h	0.2 to 20 U.S. gpm 0.23 to 4.5 m³/h	0.05 U.S. gpm 0.01 m³/h
¾"	0.10 to 35 U.S. gpm 0.02 to 6.82 m³/h	0.5 to 30 U.S. gpm 0.45 to 6.8 m³/h	0.05 U.S. gpm 0.01 m³/h
1"	0.40 to 55 U.S. gpm 0.11 to 11.36 m³/h	0.75 to 50 U.S. gpm 0.75 to 11.4 m³/h	0.25 U.S. gpm 0.03 m³/h

Registration

High Resolution (8-digit reading)	
0.1	U.S. Gallons
0.1	Imperial Gallons
0.01	Cubic Feet
0.001	Cubic Metres

Pressure Loss



Residential Fire Service Meter



neptuneig.com

Neptune Technology Group
1600 Alabama Highway 229
Tallahassee, AL 36078
900-633-8754 f 334-283-7293



A PRODUCT SHEET OF NEPTUNE TECHNOLOGY GROUP

R900® Gateway v4 Fixed Network Data Collector



Streamline Measurement and Boost Efficiency

Maximize the efficiency of your workforce – not only by automating meter reading but also by freeing up time for other tasks. Like the other components of Neptune’s R900® System, the R900® Gateway fixed network data collector is designed for quick installation, ease of use, and flexibility. The R900 Gateway collects metering data as well as daily leak, reverse flow, and days of no flow alerts from all E-CODER®-equipped meters. The R900 Gateway’s software-defined radio technology can process eight meter readings simultaneously and gather 360 readings per second – optimizing your fixed network with high throughput reading performance; especially in high-density R900® deployments. The data you collect is accurate, timely, and simple to share with other departments – so you can turn it into meaningful information that will help identify hidden causes of loss and optimize efficiency.

Migrate Backward and Forward With Total Confidence

Get the most value from your current assets, both infrastructure and workforce, through Neptune® systems that allow you to migrate at your own pace from mobile automatic meter reading (AMR) to advanced metering infrastructure (AMI). Providing fixed network functionality, the R900 Gateway is easily integrated into the system with mobile methods of reading your existing R900 endpoints, so that you can choose the technology you need, where you need it – without a need for special programming or reprogramming of MIUs. The R900 Gateway supports the R900 System’s 1 Watt fixed network message from endpoints, reducing infrastructure costs.

Resolve Customer Issues Proactively with Detailed Data

The R900 Gateway gives your utility simplified access to information that will help you identify and resolve water-related issues quickly and easily. You’ll be able to track detailed hourly water consumption for individual accounts and receive alerts that will help you proactively improve service to your customers. Save them – and your utility – time and money, and inform customers of excessive water usage to head off high bill complaints, reduce delinquent payments, and eliminate write-offs.

KEY BENEFITS

Facilitates Migration to AMI

- Supports the 1 Watt fixed network message from R900 endpoints, reducing infrastructure costs
- Migrate at your own pace – your system can be read by any combination of mobile and fixed that you choose
- No reprogramming of endpoints required to migrate to fixed network reading

Simple Access to Powerful Data

- On-demand read capability – obtain a reading whenever you need it
- Daily leak, reverse flow, and days of no flow alerts from E-CODER-equipped meters

Improves Meter Reading Efficiency

- Software-defined radio (SDR) technology capable of processing eight readings simultaneously
- Optimal performance in high-density R900 environments – capable of 360 readings per second

No Stranded Assets

- Maintains compatibility with existing R900s deployed
- Utilizing the power of our software-defined radio technology, all existing R900 Gateway v3 units can be easily updated to obtain R900 Gateway v4 functionality

Specifications

Receiver

- 910-920 MHz
- 50 channels
- Processes 8 readings simultaneously
- Processes 360 readings per second
- Capable of handling up to 25,000 R900s

Installation Options

- Rooftop
- Pole (2" – 16" diameter)
- Wall
- Water towers
- Street lights

Power Supplies

- 100-140 VAC
- 150W Solar
- 220W Solar

Battery Backup

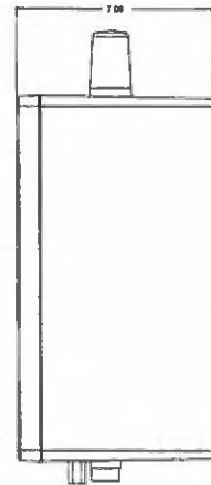
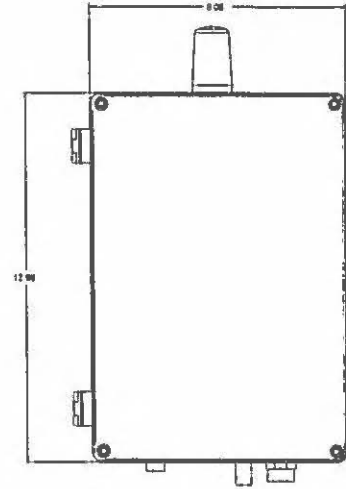
- AC version – UPS provides 8 hours battery backup
- Solar version – 3-day backup battery

Backhaul Options

- Multi-carrier cellular modem
 - LTE Cat 3 Dual & Quad
 - EVDO/CDMA 1x
 - UMTS/HSPA
 - EDGE/GPRS
- Ethernet RJ-45
- Private LAN compatibility via Ethernet connection

Environmental

- NEMA 4X enclosure
- Operating temperature: -22°F to +140°F (-30°C to +60°C)
- Storage temperature: -40°F to +158°F (-40°C to +85°C)
- 0-95% non-condensing humidity



Neptune[®] 360[™] Data Management Platform

A Product of Neptune Technology Group

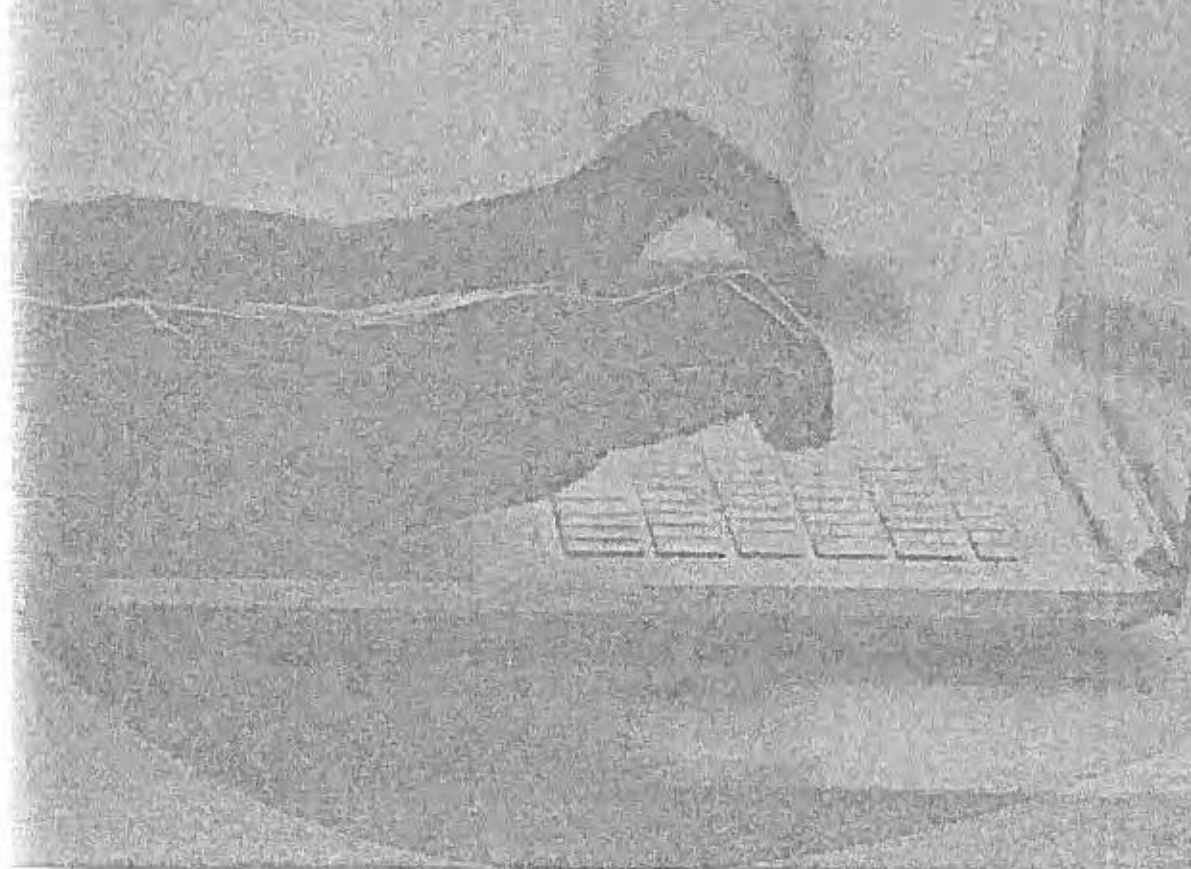




Turn Information into Action

Data is just data unless you can use it effectively.

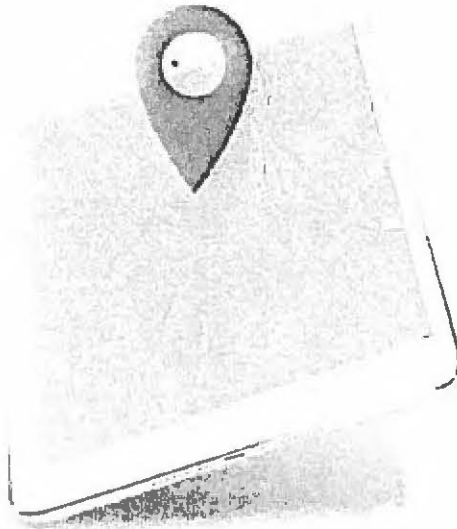
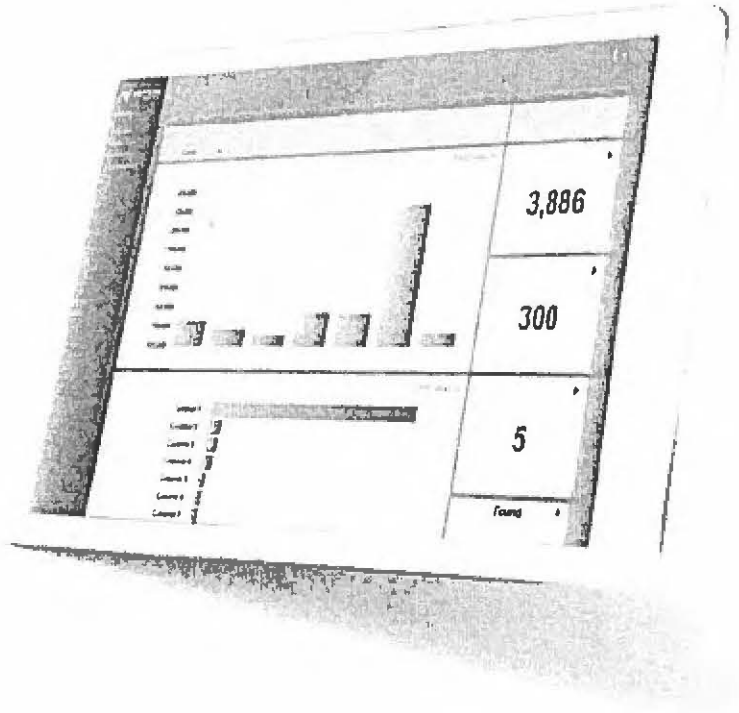
To go beyond basic meter reading and billing, your utility needs tools that provide a deeper understanding of the data you collect to turn it into meaningful information for a Smart Water Network. The Neptune[®] 360[™] data management platform was designed to provide as much data as your utility needs, while helping you make sense of it all — empowering faster, more informed decisions. Analyze data quickly and easily with software tailored for the needs of water utilities.



Putting Your Data in View

Having the data is one thing, seeing the data and making sense of it is another. Neptune 360 delivers an intuitive, user-friendly design, making the data clear and easy to interpret. Examining your entire AML network using system-wide Key Performance Indicators and geographical views assists with identifying areas of concern and finding ways to maximize operational efficiencies.

Quickly access a dashboard view of your largest water consumers, providing you with information needed to take action. Analysis of individual trends and usage patterns helps resolve customer service calls with confidence. Detailed reporting of consumption activity, potential leaks, and reverse flow will keep you ahead of issues that could impact your utility's revenue.



Lift Your IT Burden with a Cloud-Based Solution

Boost utility efficiency with Neptune 360 delivered as a service. No longer install servers or perform upgrades. All that is needed is an Internet browser. Just log on to access anywhere at any time.



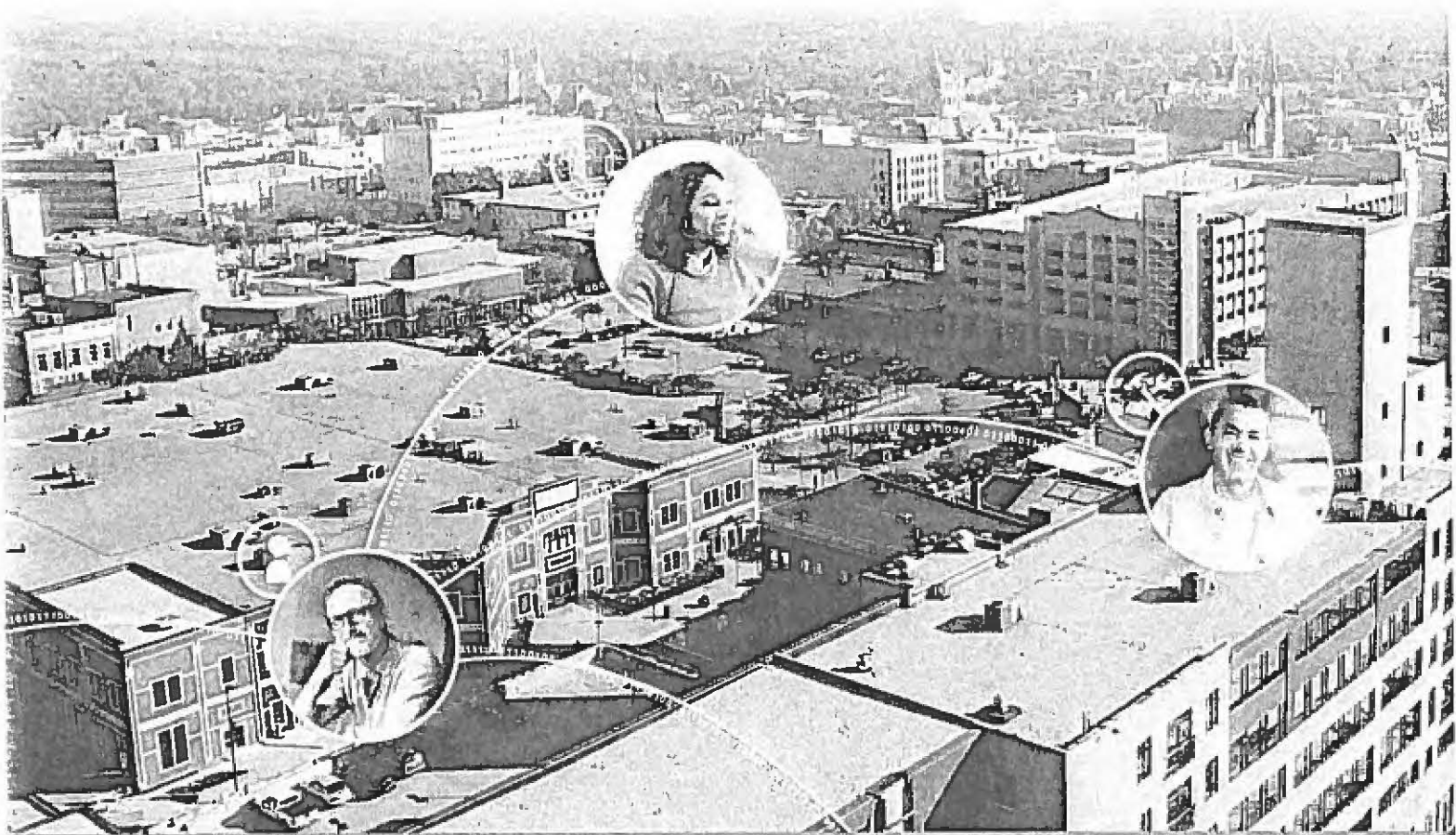
A True Sense of Security

Ease your security concerns and stay focused on the business of water. Continuously-monitored Neptune 360 operates from a world-class data center, providing the highest level of security, redundancy, and disaster recovery services.

Share Information Across the Smart Water Network

Your management, maintenance, customer service, water quality, and other departments all need fast, easy access to information. Share and leverage actionable data captured by Neptune 360, empowering

collaboration and helping predict impacts on your utility. The platform seamlessly integrates meter data, event data, and alerts directly with third party work order systems, customer portals, hydraulic modeling applications, and other systems through Application Programming Interfaces (APIs).



An Application that Grows as You Grow

From mobile meter reading today to moving to an AMI network tomorrow, the same software platform is utilized. Apply trend analysis, initiate structure planning and usage initiatives. The modular-based platform makes it easy to turn on new features as your needs evolve, bringing you critical data to proactively plan for tomorrow.



Trust the Data

Data accuracy and dependability matter. By implementing the highest level architecture, Neptune ensures data integrity with processes and tools to maintain quality from the meter to the platform as part of routine business operation.

NEPTUNE³⁶⁰

Analyze and share meaningful data with a platform that empowers utilities. Actionable insights help you achieve your goals and objectives.

METERS MATTER
Stream critical actionable data right into Neptune³⁶⁰.

WALK-BY DATA
Sync collected data easily.

MOBILE
Incorporate mobile data collection.

FUTURE PROOF AMI
Connect AMI network data.

BRING YOUR OWN DEVICE
Eliminate specialized devices and communicate efficiently.

THIRD PARTY SOFTWARE
Link data with third party applications (such as GIS and ESRI).

CUSTOMER RELATIONSHIPS
Streamline utility data management and provide exceptional customer service.



- + ACT QUICKLY
- + PLAN FOR THE FUTURE
- + MANAGE GROWTH



Neptune® 360™ Benefits

- Neptune-managed system with no installation required
- Cloud-based solution in a world-class data center with the highest level of security and disaster recovery/redundancy
- 24/7 software system monitoring
- Retain data ownership in a system designed exclusively for water utilities
- Integrate and access Data Analytics across departments — helping your utility achieve goals and objectives
- Identify potential leaks, excessive consumption, and reverse flow to proactively resolve issues faster
- Migrate easily from mobile to fixed network
- Aid Non-Revenue Water reduction, conservation, and rate planning
- A single platform across devices that can be accessed anywhere at any time

Specifications

Neptune 360

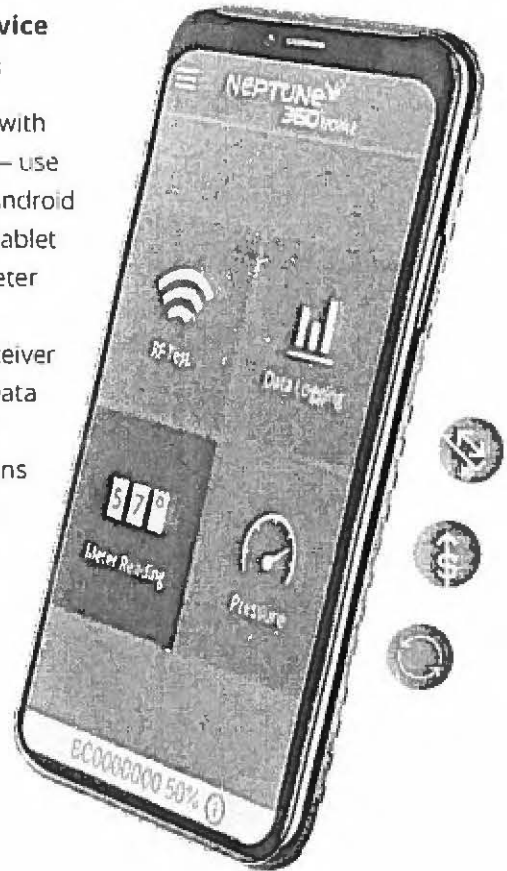
- Google Chrome and Microsoft Edge web browsers supported
- When using touch screen monitors, Neptune recommends Microsoft Edge web browser for optimal viewing and performance

Neptune 360 Mobile

- Neptune 360 Mobile supports Android, iPhone, and iPad devices running the following operating systems:
 - Android: 5.1.X Lollipop, 6.0.X Marshmallow, 7.0.X Nougat, 7.1.X Nougat, 8.1.X Oreo
 - iOS: 10.3.1 and higher, 11

Bring Your Own Device to Field Operations

Save money and time with Neptune 360 Mobile — use your utility's existing Android or iOS cell phones or tablet devices to perform meter reading. Pair with an R900® Belt Clip Transceiver or MRX920™ Mobile Data Collector and expand your field device options when performing re-reads, reading monthly routes or even responding to high water bill complaints.



96

days of hourly
historical
consumption



Neptune 360 Mobile provides direct communication via wireless from the field without the need to bring your mobile device back into the office, yielding data on demand for more efficient customer service. Other application capabilities include RF Test, Off-Cycle Read, and Data Log to capture 96 days of hourly historical consumption — addressing customer issues faster.



neptunetg.com
#winyourday

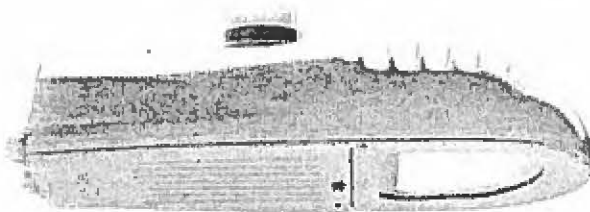
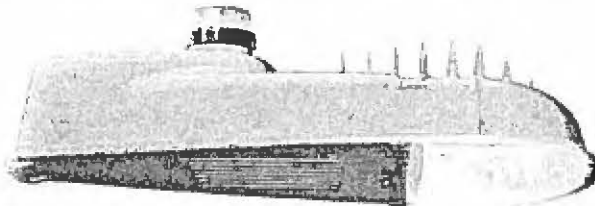
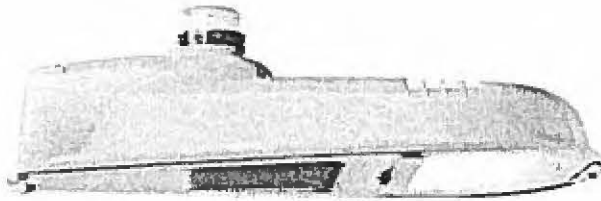
Neptune Technology Group
1740 Alabama Highway 300
Flossie, AL 36078
800-635-8754 | 256-231-7213

GE
Lighting

Amber Meadows, Hoffman Estates
CalAtlantic
Thorne Electric Job 17-1111
Item: Luminaire

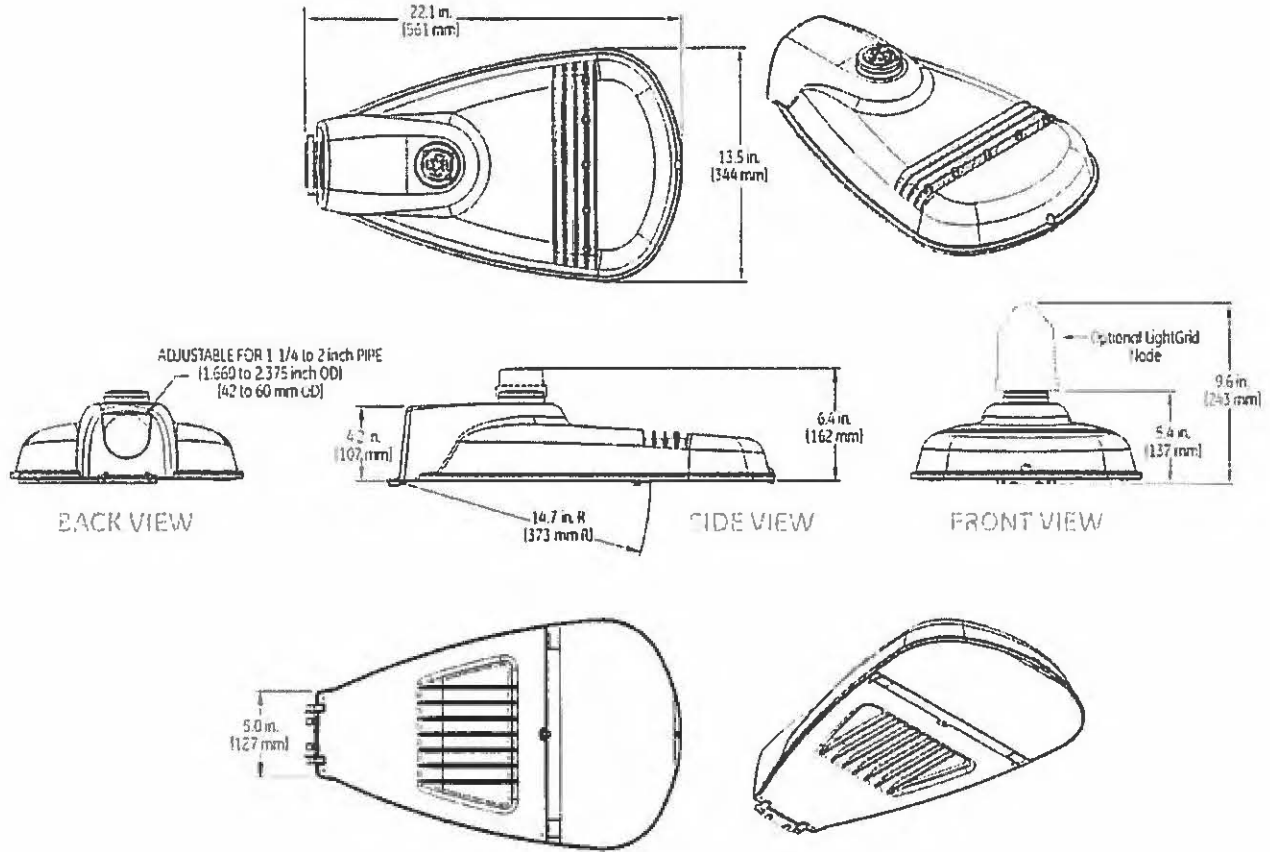
Evolve™ LED Roadway Lighting

LED Roadway Luminaire (ERL1-ERLH-ERS1-ERS2)



imagination at work

Product Dimensions
 Evolve™ LFD Streetlight (ERL1)



- Approximate net weight: 12.4 lbs (5.6 kgs) - Without XFMR
- Approximate net weight: 15.5 lbs (7 kgs) - With XFMR
- Effective Projected Area (EPA): 0.5 sq ft max (0.046 sq m)

Product Features

The Evolve™ LED Roadway Luminaire is optimized for customers requiring a LED solution for local, collector and major roadways. GE's unique reflective optics are designed to optimize application efficiency and minimize glare. The modern design incorporates the heat sink directly into the unit for heat transfer to prolong LED life. This reliable unit has a 100,000 hour design life, significantly reducing maintenance needs and expense over the life of the fixture. This efficient solution lowers energy consumption compared to traditional HID fixture for additional operating cost savings.

Applications

- Designed to meet recommended luminance and illuminance requirements for local, collector and major roadway/street classifications.

Housing

- The modern design incorporates Casting-integral heatsink for maximum heat transfer.
- Meets 3G vibration per ANSI C136.31-2010.
- Die Cast Enclosure.



LED & Optical Assembly

- Evolve™ light engine consisting of reflective technology designed to optimize application efficiency and minimize glare.
- Utilizes high brightness LEDs, 70 CRI at 3000K and 4000K typical.
- LM-79 tests and reports in accordance with IESNA standards.

Lumen Maintenance

- Lumen Maintenance per TM21.

Ratings

- /  listed, suitable for wet locations per UL 1598.
- Std. Optical enclosure rated per ANSI C136.25-2009: ERL1 = IP65, ERS1-2 = IP66, ERLH = IP65.
- Upward Light Output Ratio (ULOR) = 0.
- Compliant with the material restriction requirements of RoHS.

Model	Temp. Range	Temp. Range
ERL1	02-09	-40°C to 50°C
ERLH	10-11	-40°C to 50°C
ERLH	13-15	-40°C to 46°C
ERS1	10-15	-40°C to 50°C
ERS2	16-23	-40°C to 50°C
ERS2	25-28	-40°C to 46°C

Delayed start may be experienced <-35°C.

Mounting

- Slipfitter with +/- 5 degree of adjustment for leveling.
- Integral die cast mounting pipe stop.
- Adjustable for 1.25 in. or 2 in. mounting pipe.

Finish

- Corrosion resistant polyester powder paint, minimum 2.0 mil. thickness.
- Standard colors: Black, Gray and Dark Bronze.
- RAL & custom colors available.
- Optional coastal finish available.

Electrical

- 120-277 VAC and 347-480 VAC.
- System power factor is >90% and THD <20%.*
- Class "A" Sound rating.
- 0-10V dimming standard or DALI dimming available upon request for 120V-277V.
- Surge Protection per ANSI C136.2-2015:
 - Standard: 6kV/3kA "Basic: (120 Strikes)"
 - Optional Secondary: 10kV/5kA "Enhanced: (40 Strikes)"
- EMI: Title 47 CFR Part 15 Class A
- Photo electric sensors (PE) available.

* System power factor and THD is tested and specified at 120V input and maximum load conditions. THD<26% for 347/480V supply with 03 power level.

Warranty

- 5 Year Standard
- 10 Year Optional

Suggested HID Replacement Lumen Levels

- ~4,000-5,000 lumens to replace 100W HPS Cobra-head
- ~7,000-8,800 lumens to replace 150W HPS Cobra-head
- ~8,500-11,500 lumens to replace 200W HPS Cobra-head
- ~11,500-14,000 lumens to replace 250W HPS Cobra-head
- ~21,000-28,000 lumens to replace 400W HPS Cobra-head

Note: Actual replacement lumens may vary based upon mounting height, pole spacing, design criteria, etc.

**COMMITTEE AGENDA ITEM
VILLAGE OF HOFFMAN ESTATES**

SUBJECT: Request authorization to waive bidding and purchase one (1) Diesel Exhaust Fluid (DEF) Bulk Containment Unit using Sourcewell contract 040215-PGE discount from Blue Energy Equipment, in an amount not to exceed \$30,868.

MEETING DATE: September 23, 2019

COMMITTEE: Public Works & Utilities

FROM: Joseph Nebel, Director of Public Works
Kelly Kerr, Assistant Director of Public Works
Joseph Capiga, Fleet Services Supervisor

PURPOSE: To purchase and install a DEF Bulk Containment Unit (500 gallons) at the Vehicle Maintenance Facility via Sourcewell (formerly NJPA) contract 040215-PGE.

BACKGROUND: Included in the 2019 Capital Improvements Program budget is a total of \$31,000 for the purchase of an Insulated Diesel Exhaust Fluid Bulk Storage Cabinet. Diesel Exhaust Fluid (DEF) helps meet EPA 2010 NOx emissions in the engine's exhaust. Most diesel engines manufactured after 2013 require DEF. This insulated/heated cabinet will allow the storage of 500 gallons of DEF with dispensing hoses/nozzles on both sides of the cabinet. The cabinet will be installed on the fueling island at the Vehicle Maintenance Facility and tied to the current fueling system for dispensing DEF for Public Works and Fire Department vehicles.

Currently, twenty (20) Village owned vehicles and equipment require DEF for operation. All future vehicles and equipment purchased that have diesel engines will require DEF as well. Our current practice has been purchasing DEF in 55 gallon drums. Having it delivered and stored in bulk allows less frequent ordering and also a very significant reduction in the cost per gallon.

DISCUSSION:

Sourcewell (formerly NJPA) is a purchasing consortium and has a current Purchase Contract through Blue Energy Equipment for a 500 gallon bulk storage system for diesel exhaust fluid.

The Village joined Sourcewell (formerly NJPA) in 2010 and has utilized the Sourcewell discount pricing for a number of years for purchasing large snow plow truck chassis as well as for the up fitting of snow plow trucks.

FINANCIAL IMPACT:

A total of \$31,000 is budgeted in the 2019 Capital Improvements Program budget for the purchase of an Insulated Diesel Exhaust Fluid Bulk Storage Cabinet.

RECOMMENDATION:

Request authorization to waive bidding and purchase one (1) Diesel Exhaust Fluid (DEF) Bulk Containment Unit using Sourcewell (formerly NJPA) contract 0402I5-PGE discount from Blue Energy Equipment, in an amount not to exceed \$30,868.



August 30, 2019

Blue1 Sourcewell Contract #040215-PGE

Village of Hoffman Estates
Mr. Joe Capiga
Fleet Services Supervisor
Department of Public Works
2405 Pembroke Ave
Hoffman Estates, IL 60169

RE: Blue1 DEF System Installation Proposal

Thank you for your interest in Blue1 Energy Equipment. Together with Sourcewell, we can provide all your DEF equipment and services in one turn-key contract. We are pleased to offer you pricing on a 500 gallon Commercial Mini-Bulk System along with the installation, start-up and training. The following proposal is for the Village of Hoffman Estates, location 2405 Pembroke Ave, Hoffman Estates, IL 60192.

Pricing Breakdown:

Part Number	Description	QTY	Sourcewell Pricing Each	Sourcewell Pricing
COM500	500 Gal Commercial Mini-Bulk System. Includes built-in dispenser, 20' hose reel, swivel breakaway, nozzle, insulation & heater.	1	\$20,929.00	\$20,929.00
OPT-2D	Second Built-in Commercial dispenser with 20' hose reel	1	\$5,567.00	\$5,567.00
INSTALLATION	Labor & Material required to complete the Installation Services defined in the Scope of Work details of this proposal.	1	\$3,622.00	\$3,622.00
FREIGHT	Freight	1	\$750.00	\$750.00

TOTAL: \$30,868

Applicable taxes and will be added to the final invoice.



Installation Services – Scope of Work:

- *Customer to provide forklift and manpower to offload equipment, set in place, & anchor into concrete.
- *Customer to provide all electrical conduit & wire from building to tank and run low voltage conduit from tank to existing card reader.
 - Note: Circuit will be 110V, 30 Amp.
- Mobilize to site.
- Extend and terminate all wiring into DEF system and card reader.
 - Note: Owner needs to provide additional modules for new dispenser pulser connection if needed.
- Once DEF product is delivered by owner, purge system after product has been delivered by others.
- Test, Start-up and Calibrate the system.
- Train local personnel.

Notes / Exclusions:

- Does not include any engineered drawings or local permits.
- Proposal assumes necessary power and amperage load is available at the designated locations. Electrical shall be provided to designated location by owner.
- If any repairs are required on existing equipment not noted in the scope of work, that will be billed on a time & material basis.
- Blue1 is not responsible for additional equipment,
- Prices are good for 90 days from the date of this quote.

Terms:

Owner must include Sourcewell contract number #040215-PGE on Purchase Order to receive these special Sourcewell prices. Standard Blue1 / Sourcewell terms and conditions apply.

Pricing does not include any applicable sales tax. If applicable, customer must present applicable tax exempt certificate with Purchase Order.

Puregreen Equipment Services
DBA/Blue1 Energy Equipment

Village of Hoffman Estates

Printed Name

Printed Name

Signature

Signature

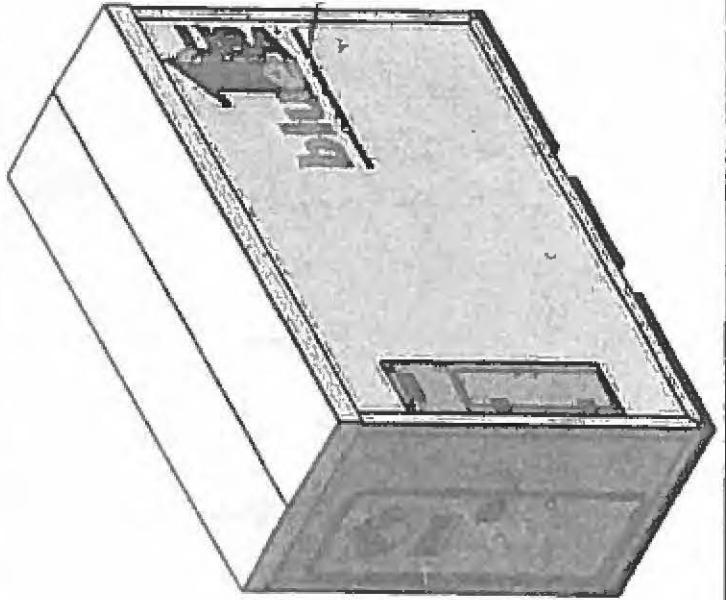
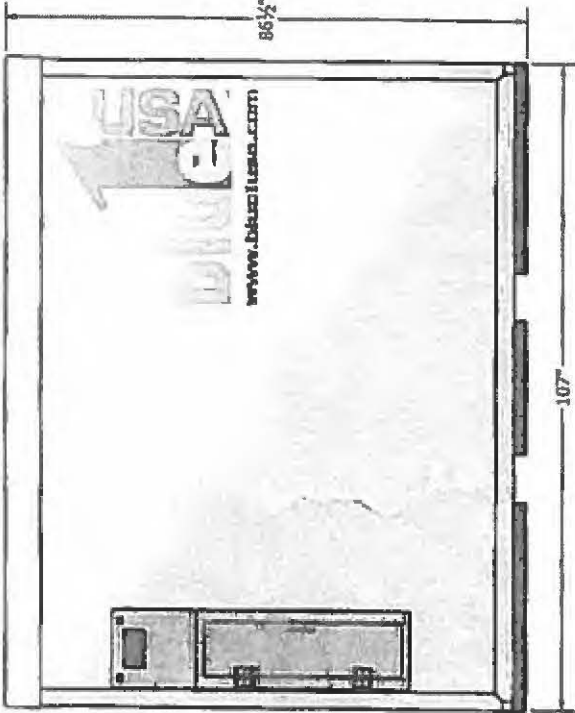
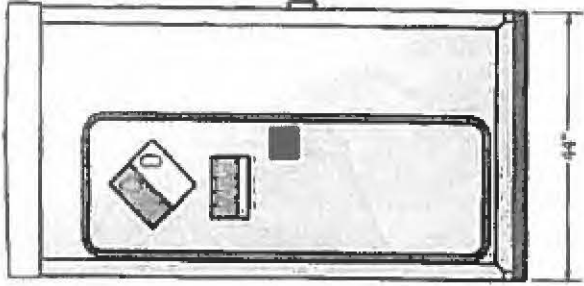
Title


Date

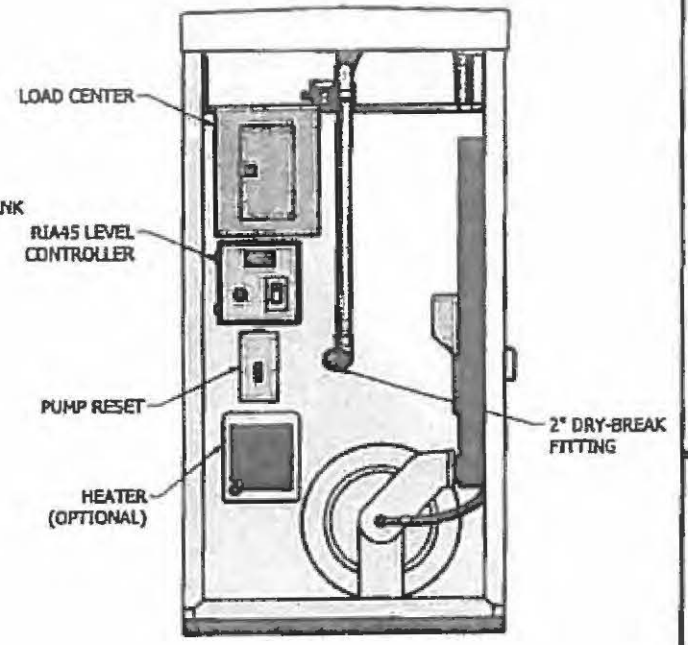
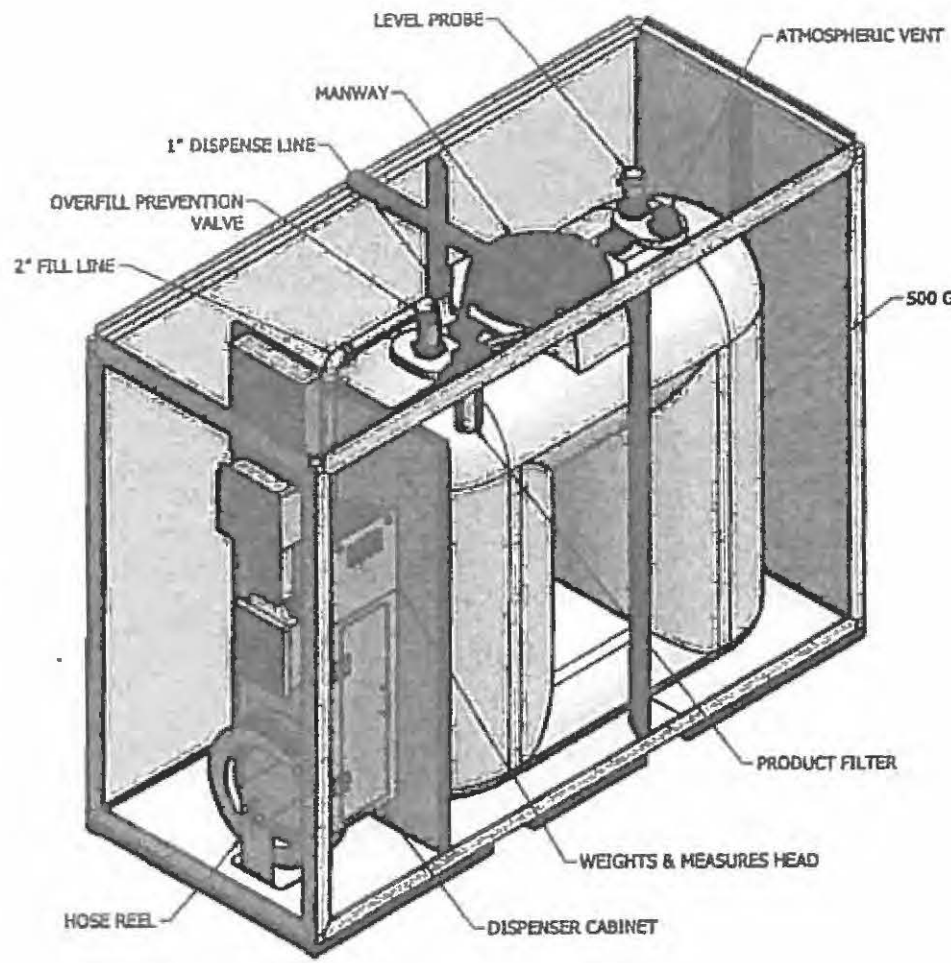
Title

Date

1650 Horizon Pkwy #450, Buford, GA 30518 (770) 232-9090
www.blue1energyequipment.com



		500 GALLON MINI-BULK UNIT	
NO. OF SET	REV	1	
DWG.	500 COMMERCIAL RIWVN	1	
SCALE	1/4" = 1'-0"	1 OF 2	
MTS			



	PROJECT		500 GALLON MINI-BULK UNIT	
	DESC.		PLUMBING & ELECTRICAL	
	DATE	BY	CHECKED	REV
	SCALE	HW		1
NTS		SHEET		2 OF 2

Village of Hoffman Estates, Illinois
2019 - 2026 Eight Year Capital Improvements Program

Project Information

Project Name: Insulated Diesel Exhaust Fluid Cabinet **Department:** PW - Streets
Project Status: Retain from Previous CIP **Project Type:** 90 - Non-automotive Equip
Location: 2405 Pembroke **Acct. Number:** 37000025-4602
Relationship to Other Projects:

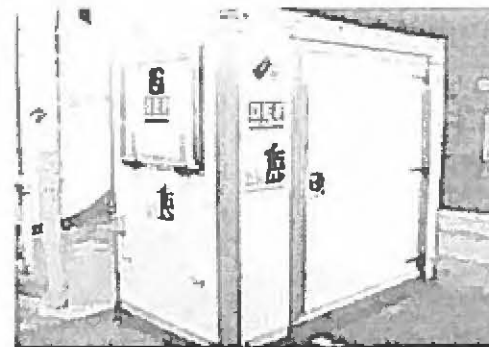
Description

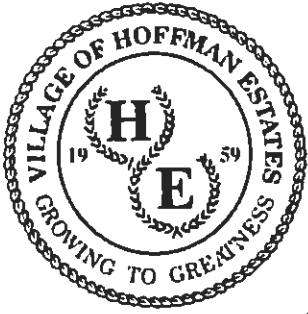
Diesel Exhaust Fluid (DEF) helps meet EPA 2010 NOx emissions standards. Most large diesel engine vehicles manufactured since 2010 utilize Selective Catalytic Reduction (SCR) requiring DEF injected into the exhaust stream to reduce NOx emissions in the engine's exhaust. Most diesel engines manufactured after 2013 require diesel exhaust fluid (DEF). This heated (DEF freezes at 12 degrees F) cabinet will hold a 270 gallon tote which would need to be refilled every other fuel delivery once diesel fleet is 100% DEF. The cabinet will be placed at the fueling island located at the Vehicle Maintenance Facility and tied into the current fueling system for dispensing of DEF. This includes all materials and labor to install.

	2018 Budget	2018 Estimate	2019	2020	2021	2022	2023	2024	2025	2026	Total 2019-2026 Only
Project Cost Description											
Diesel Exhaust Cabinet	-	-	31,000	-	-	-	-	-	-	-	31,000
TOTAL COSTS	\$ -	\$ -	\$ 31,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 31,000
Proposed Source of Funds											
General Fund	-	-	31,000	-	-	-	-	-	-	-	31,000
TOTAL FUNDS	\$ -	\$ -	\$ 31,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 31,000

Currently, 13 Village vehicles and 1 backhoe require DEF. All future diesel engine vehicles and equipment will require DEF with the exception of some light-duty off road equipment.

The practice now is purchasing DEF in 55 gallon drums with 2.5 gallon containers used in emergency situations.





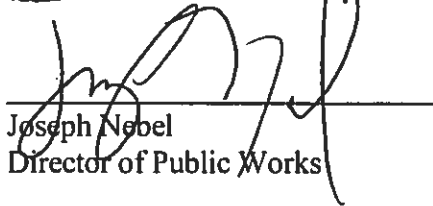
VILLAGE OF HOFFMAN ESTATES

DEPARTMENT OF PUBLIC WORKS

August 2019 MONTHLY REPORT

SUBMITTED TO: Public Works Committee

September 2019


Joseph Nebel
Director of Public Works


Kelly Kerr
Assistant Director of Public Works

MAJOR PROJECT STATUS

Well 9 Abandonment

On August 19, 2019 Village Board authorized the contract with Water Well Solutions for the work to proper abandonment of the Well 9. Pre-Construction Meeting was held on August 19, 2019. Permit application has been submitted to Cook County Public Health Department. The work schedule has been approved for the construction to start in the week of 9/16/2019 and to complete in the week of 10/4/2019.

2019 Valve Assessment Program

Project kick-off meeting was held on July 30, 2019 with M.E. Simpson for the exercise and assessment of 800 valves and concurrent leak survey. Work started on the same day. Before the end of August 708 valves located in Parcel A, B, HL, NA, NB, NC and BS were exercised and/or mapped with GPS coordinates determined. The concurrent leak survey covered 1,271 water system fixtures (valves, hydrants and service shut-offs) and a total of 7 leaks were found, including three significant hidden leaks. All leaks reported in the period have been repaired. Boxes/vaults of the completed valves were pumped down by staff.

MWRD IICP Engineering

On July 2, 2018 the Village Board approved a contract with Baxter & Woodman Consulting Engineers for engineering and field services required for compliance with MWRD' Infiltration/Inflow Control Program (IICP). The services will cover the following areas:

1. Conduct a prioritized condition assessment of high risk public sanitary sewer system infrastructure through various inspection and testing methods.
2. Begin rehabilitation of major defects within three years of identification.
3. Utilize inspections to catalog illegal connections in high risk areas for disconnection in Private Sector Program (PSP).
4. Develop and implement a Private Sector Program (PSP).
5. Develop and submit annual reports under the Short Term Requirements and Long Term Operation and Maintenance Program (LTOMP)

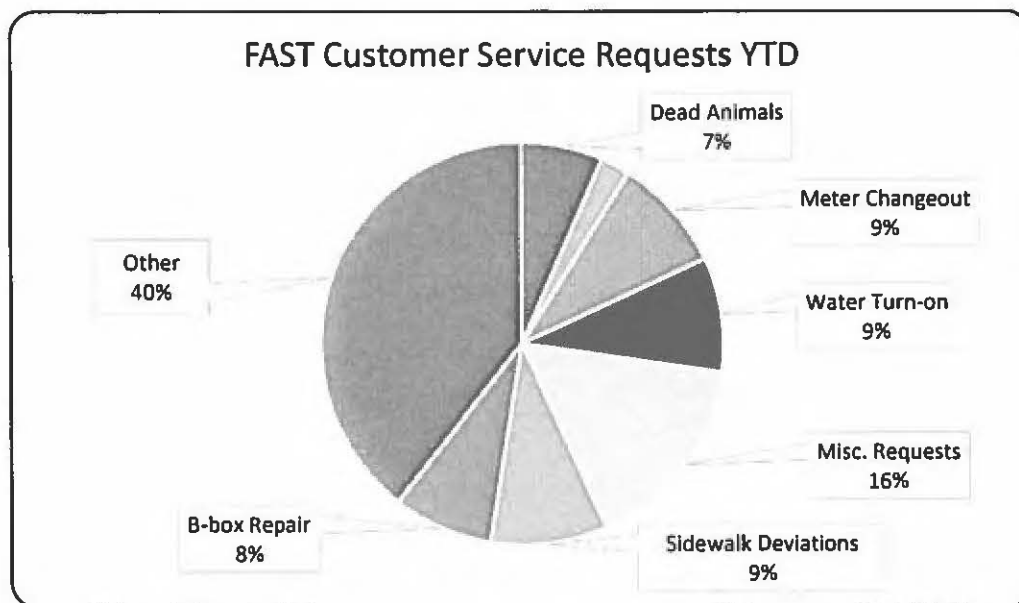
Project Kick off meeting was held on August 8, 2018 with planning of the immediate task of smoke testing of all sanitary sewer in high risk areas, which was completed in October, 2018 and covered all High Risk Areas (12 sub-basins with a total of 133,133 feet of sewer mains) per MWRD standards. Review of the final report is completed and 4 areas have been identified for further dye water testing to determine point of source of infiltration and inflow into the sanitary sewer system. Camera inspection of remaining 173 manholes. By the end of May 2019, all manholes in High Risk Areas is complete inspection is complete. Plans are being prepared for dye water testing in June to locate point sources of infiltration and inflow. Annual compliance report to MWRD is complete. A list of critical sewer repairs has been submitted for approval as part the required work for IICP compliance. Design engineering and preparation of bid documents started and planned work is to start in November or December. MWRD is still reviewing the Private Sector Program (PSP) and the Long Term Operation and Maintenance Program (LTOMP) submitted by staff.

Customer Services

Fast Action Service Team (FAST):

1. Continued salt dome roller replacement project;
2. Began second round of mud-jacking program.

Fast Action Service Team (FAST)												
Customer Service Requests												
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
116	106	159	206	210	251	235	197					1480



Customer Service Team:

1. Installed 2" compound meter at 710 Hill.

Customer Service Team												
Water Billing - Customer Service Appointments												
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
40	45	63	56	68	47	47	52					418

Finance-generated Water Meter Readings												
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
233	411	296	349	280	271	234	319					2393
Delinquent Water Accounts												
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
139	106	115	107	88	101	101	75					832
New Construction Inspections												
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
8	6	4	4	5	5	3	6					41
Customer Service Requests - Gov Q&A/Meter Repairs												
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
19	34	32	21	43	20	27	22					218
Siding Permit Inspections												
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
0	0	0	0	0	0	0	0					0
B-box Repairs												
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
0	2	4	1	0	2	0	3					12
MIU Installations/Replacements												
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
16	15	43	18	15	36	57	42					242

Utility Locates Team:

2. Provided water and sanitary sewer service line locates for Alhambra sanitary sewer reconstruction project;
3. Assisted with locates for the 2019 road reconstruction program.

Utility Locates Team												
JULIE Locates												
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
176	172	677	800	889	746	639	683					4782
Emergency JULIE Locates												
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
9	14	23	42	47	52	28	33					248
Utility Joint Meets												
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
4	3	6	5	7	9	7	6					47

Facilities

1. Continued general maintenance at Village Hall;
2. Replaced windows at Fire Station #24;
3. Replaced broken window in Hennessey Room;
4. Repaired chiller at Public Works Center.

Facilities												
Preventative Maintenance Program - staff hours												
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
98	102	112	116	106	91	90	90					805

Fleet Services

1. Prepared replacement unit C81 for service;
2. Continued warranty repairs on unit FT22;
3. Began snow and ice checks on Public Works vehicles.

Fleet Services												
Preventative Maintenance Program - Number of Repairs												
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
19	22	22	29	17	20	16	20					165
Vehicles Sent for Warranty Repair												
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
3	3	2	4	7	2	17	14					52

Forestry

1. Performed stump grinding at various locations;
2. Removed surplus woodchips from West Site storage area;
3. Began making preparations for the fall planting program.

Forestry												
Customer Service Requests												
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
11	9	20	28	66	82	98	55					369

Maintenance & Construction

Storm Sewer Team:

1. Performed mandatory IEPA monthly outflow checks.

Storm Sewer Team												
Feet of Storm Sewer Flushed												
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
2,390	1,940	2,907	970	540	200	0	0					8,947
Catch Basin Rebuilds												
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
0	0	0	4	4	5	5	4					22

Construction/Maintenance Team:

- 1) Performed water shut-down for contracted water main improvements on Central Road;
- 2) Conducted multiple confined space water main valve repairs;

3) Performed water/sewer excavation parkway restorations.

Construction/Maintenance Team												
B-box Repair/Replacement												
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1	4	9	4	3	12	4	4					41
Hydrant Replacement												
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1	0	0	2	1	2	0	3					9
Valve Repair/Replacement												
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1	1	2	1	2	3	1	4					15
Water Main/Service Line Leak Repairs												
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
2	3	4	3	2	2	3	6					25

Traffic Operations

Pavement Maintenance Team:

1. Coordinated monthly tailgate, JSA, fork lift, back injury prevention, and low-boy semi-dump training;
2. Continued in-house pavement marking program;
3. Continued asphalt driveway repairs per Street Reconstruction Program;
4. Continued water/sewer excavation site repairs.

Pavement Maintenance Team												
Tons of Hot Asphalt Installed												
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
0.0	0.0	0.0	14.0	29.0	37.0	64.5	36.5					181.0
Tons of Cold Asphalt Installed												
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
7.0	19.5	14.5	5.5	4.0	5.5	1.5	1.0					58.5

Sign Team:

1. Performed type-I sign reposting on Rohrsen Road, Pacific Avenue, Atlantic Boulevard, and Bulrush Drive;
2. Fabricated and assembled signs for special events including a PD retirement, the annual recycling extravaganza, and the Platzkonzert;
3. Assembled temporary stop signs at request of the Police Department;
4. Re-signed Prairie Stone Parkway by Village Green to allow on-street parking.

Sign Team												
Repaired/Replaced Signs												
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
20	12	24	14	11	4	4	2					91

Signs Fabricated and Installed												
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
40	100	167	150	80	134	16	155					842

Street Light Team:

1. Assisted Pavement Maintenance Team with asphalt repairs at various locations;
2. Cleared tree branches obstructing street light fixtures throughout the Village;
3. Replaced (3) light fixtures in Sears Centre parking lot;
4. Installed street light pole anchor at 640 Illinois Boulevard.

Street Light Team												
Customer Service Requests												
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
13	7	12	6	6	9	8	8					69
Street Lights Repaired												
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
27	18	31	15	40	79	24	25					259

Water Operations

Operations Team:

1. Repaired air exchanger at Police Department gun range;
2. Pulled pump #1 at Barrington Lift Station;
3. Continued valve exercising program;
4. Pulled WDA Lift Station grinder for inspection and cleaning;
5. Trenched and buried 40' of sump pump line at Abbey Wood Pumping Station;
6. Pulled wiring for new monitors at Police Department EOC.

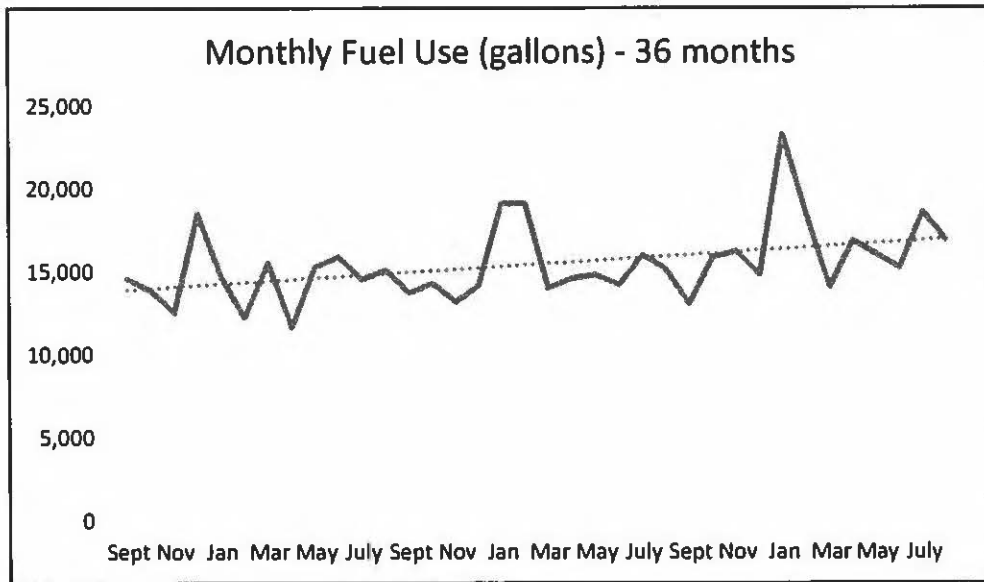
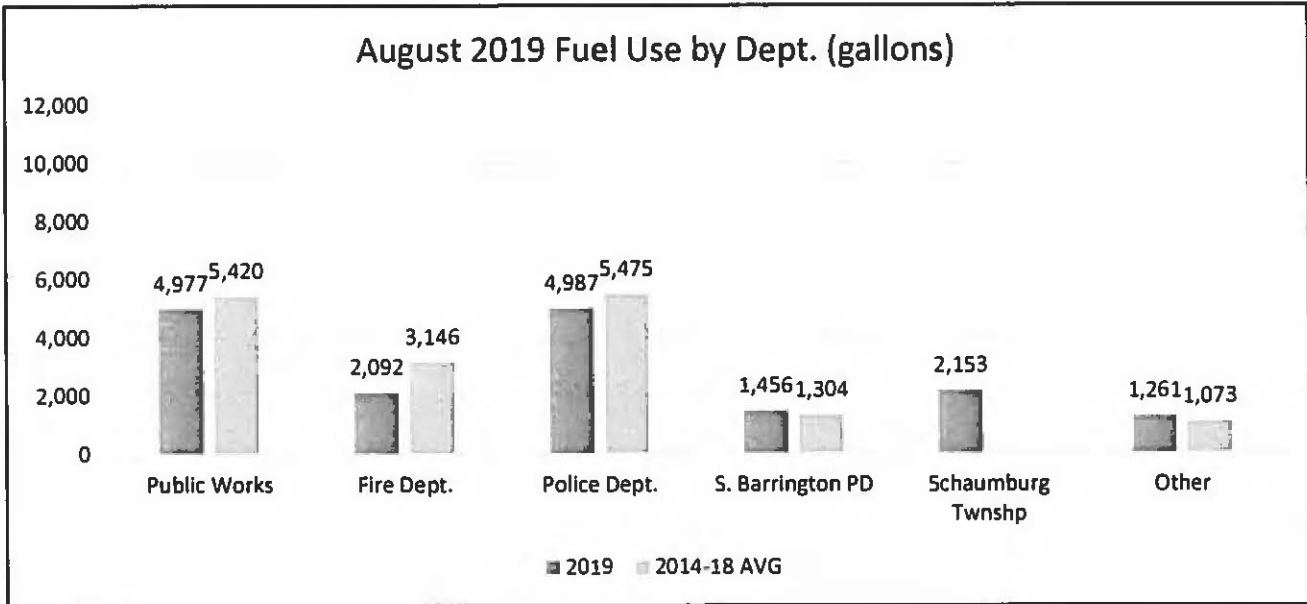
Operations Team												
Resident Water Quality Tests												
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1	0	2	1	1	0	1	1					7

Sanitary Sewer Flow Management Team:

1. Assisted Water Operations team with lift station checks and wash-downs;
2. Performed storm sewer CCTV on Almond and Avondale;
3. Conducted root cutting in Barrington Square.

Sanitary Sewer Flow Management Team												
Sewer Lines Flushed (feet)												
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
3,337	0	5,254	350	1,168	1,372	14,654	8,287					34,422
Sanitary Main Inspections (feet)												
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
0	355	4,747	3,965	394	282	0	0					9,743

Fuel Use Report



**ENGINEERING REPORT OF THE
TRANSPORTATION AND ENGINEERING DIVISION
DEPARTMENT OF DEVELOPMENT SERVICES
SEPTEMBER MONTHLY REPORT**

Attached is the Monthly Engineering Report of the Transportation and Engineering Division in the Department of Development Services for the period ending September 20, 2019.

Alan Wenderski, P.E.
Village Engineer

MISCELLANEOUS

Summary of miscellaneous items:

- 69 permit inspections
- 5 residential drainage investigations
- 7 floodplain inquiries
- Engineering site plan review for:
 - 1400 Gannon Drive
 - 2250 W. Higgins Road
 - South Ridge Park
 - 1260 W. Higgins Road
 - 2353 Hassell Road
- Reviewed permits for:
 - 7 – Drainage
 - 1 – Detached Garage
 - 2 – Patio
 - 2 – Single-Family Residential
- Plan/permit review related to residential development:
 - 5 – Permit Plats
 - 6 – Top of Foundation
 - 6 – Final Grading
 - 13 – Certificates of Occupancy

PROJECT STATUS

VILLAGE PROJECTS	
PROJECT NAME	DESCRIPTION
2019 Drainage Project	Bid opening held on September 16 th . Low bid was \$31,790 from DeVinci Construction. Awaiting award of contract. Work scheduled to begin near the end of October. Village Project Manager: Shelley Walenga
2019 Preventative Maintenance Project	Bid opening held on September 3 rd . Low bid was \$248,804 from Patriot Pavement Maintenance. Awaiting execution of contract and scheduling preconstruction meeting. Work scheduled to begin in early October. Village Project Manager: Shelley Walenga
2019 Street Revitalization Project	See attached for current project status/schedule. Village Project Manager: Andy LoBosco

VILLAGE PROJECTS	
PROJECT NAME	DESCRIPTION
Almond/Audubon Culvert Replacement	Design work ongoing. Target bid opening in fall with anticipated start of construction in late fall. Permit coordination with Army Corps and North Cook County Soil and Water Conservation District ongoing. Chastain serving as design engineer. Village Project Manager: Shelley Walenga
Prairie Stone Stormwater Management Plan	Contract with V-3 to revise/update the 2004 Prairie Stone Stormwater Management Plan. Met with MWRD to discuss future permitting requirements within Prairie Stone on May 20 th . Progress meeting with V-3 and Prairie Stone POA scheduled for early October. Village Project Manager: Alan Wenderski

COMMERCIAL PROJECTS	
PROJECT NAME	DESCRIPTION
Adesa Auto Auction 5407 Trillium Boulevard	Phase 1 - Awaiting signatures on Bill of Sale and submittal of Maintenance Agreement required prior to public acceptance. Phase 2 - Concept plan review complete, awaiting revised submittal. Village Project Manager: Alan Wenderski
Aldi 375 West Higgins Road	Work complete. Awaiting as-built drawings. Village Project Manager: Terry White
Buona Beef 2250-2360 West Higgins Road	Staff reviewing project guarantee. IDOT permit received on September 6 th . Preconstruction meeting scheduled for September 26 th . Village Project Manager: Alan Wenderski
Bystronic/Eagle Way Extension 2200 Central Road	Site work and building work ongoing. Earthwork ongoing for construction of Eagle Way extension. Staff reviewing plans for grading on north lot. Village Project Manager: Terry White
Greenspoint Amenities 2800 West Higgins Road 2300 Barrington Road	Exterior site improvements. Approved by Village Board on June 17 th . Reviewing engineer's estimate for calculation of project guarantee. Village Project Manager: Alan Wenderski
Hoffman Plaza Higgins and Roselle	Phase 1 - Completion of detention basin improvements ongoing. Outlot 4 - Project guarantee received. Preconstruction meeting held on September 4 th . Village Project Manager: Terry White
Holiday Inn Express 5235 Prairie Stone Parkway	Interior building work ongoing. Village Project Manager: Terry White

COMMERCIAL PROJECTS	
PROJECT NAME	DESCRIPTION
Mercedes-Benz of Hoffman Estates 1000 West Golf Road	Work substantially completed. Awaiting MWRD final inspection and as-built drawings. Village Project Manager: Terry White
Shell – Ricky Rocket’s 2590 West Golf Road	Final inspection and MWRD final inspection completed. Punch list work ongoing. Awaiting as-built drawings. Village Project Manager: Terry White
Schaumburg Township Parking Lot Expansion 1 Illinois Boulevard	Work substantially completed. Awaiting MWRD final inspection and as-built drawings. Village Project Manager: Terry White

RESIDENTIAL PROJECTS	
PROJECT NAME	DESCRIPTION
Amber Meadows NE Corner of Essex Drive and Beacon Pointe Drive	Home building ongoing. Village Project Manager: Terry White
Bergman Pointe NW Corner of Ela Road and Algonquin Road	Home building ongoing. Signal modifications at Ela/Algonquin substantially complete. Final inspection for public improvements ongoing. Village Project Manager: Terry White
Devonshire Woods SW Corner of Shoe Factory Road and Essex Drive	Home building ongoing. Final inspection for subdivision acceptance completed. Punch list work ongoing. Village Project Manager: Terry White/Oscar Gomez

2019 Street Revitalization Project Schedule Update: (September 13, 2019)

RECONSTRUCTION STREETS	Start Date ¹	Pre-Construction				Construction										Landscaping			
		Layout	Tree Root Pruning	Sawcutting	Concrete Removal	Asphalt Removal	Earth Excavation	Sub base Backfill	Storm Sewer	Curb & Gutter	Driveway Aprons	Sidewalks	Fine Grading	Asphalt Binder	Asphalt Surface	Striping	Backfill Topsoil	Sod & Seed	Percent Complete
1 ALHAMBRA LANE Ashland St to Arizona Blvd	9/4/2019																		
2 AVONDALE LANE Alhambra Ln to Almond Ln	9/4/2019																		
3 HASSELL DRIVE Hassell Rd to End of Street	9/23/2019																		
4 LAFLEUR LANE Brittany Ln to Freeman Rd	9/16/2019		n/a																
												Completed	In Progress						

¹Tentative / Actual

Definition of Construction Steps

Layout	Village engineers evaluate existing conditions, determine removals, and complete construction staking.
Tree Root Pruning	A circular saw machine cuts tree roots to reduce damage to the tree during construction.
Saw Cutting	A circular saw machine cuts the concrete and asphalt at construction joints.
Concrete Removal	The contractor removes existing sidewalk, curb and gutter, and driveway aprons that will be replaced.
Asphalt Removal	The contractor either uses a backhoe or milling machine to remove existing asphalt layers.
Earth Excavation	Removal of the all materials located below the existing road to a stabilized subgrade.
Sub base Backfill	The installation of stone to a depth of 8" - 12" with a layer of geotextile fabric.
Storm Sewer	Repair and replacement of existing storm sewer structures and pipes.
Curb & Gutter	The installation of concrete curb & gutter utilizing mechanical equipment or hand tools.
Driveway Aprons	The replacement of asphalt and concrete driveway aprons.
Sidewalks	The replacement of concrete public sidewalks.
Fine Grading	The shaping of the stone sub base to ensure drainage, compaction, and elevation.
Asphalt Binder	The first layer of asphalt.
Asphalt Patching	Repair of localized pavement failures on resurfacing streets.
Asphalt Surface	The final layer of asphalt.
Striping	Completion of permanent pavement striping.
Backfill Topsoil	Placement of topsoil to areas that have been disturbed during construction.
Sod & Seed	Placement of sod and seed to areas that have been disturbed during construction.

2019 Street Revitalization Project Schedule Update: (September 13, 2019)

RESURFACING STREETS	Start Date	Pre-Construction		Construction											Landscaping		Percent Complete
		Strip	Graveling	Asphalt Removal	Asphalt Removal	Storm Sewer	Curb & Gutter	Driveway Aprons	Sidewalks	Asphalt Binder	Asphalt Patching	Asphalt Surface	Stripping	Backfill Topsoil	Sod & Seed		
1 ANGOULME LANE Bron Ln to Roberson Rd	5/20/2019							n/a			n/a						100%
2 ANJOU LANE Versailles Rd to Picardy Ln	7/15/2019																92%
3 APPLE STREET Burgess Rd to Golf Rd	9/30/2019																
4 ATLANTIC AVENUE Boyle Rd to Pacific Ave	5/23/2019										n/a						100%
5 BAYSIDE COURT W Dixons Circle End of Street	10/21/2019																
6 BIRKLEY LN W Washington Blvd to Spring Mill Dr	6/24/2019										n/a						91%
7 BIRKMAN DRIVE Versailles Rd to Chalmers Dr	8/09/2019																75%
8 BIRKWOOD DRIVE Washington Blvd to Cambridge Ln	8/5/2019																52%
9 BIRUSH DRIVE Crescentower Dr to Harmon Blvd	6/11/2019										n/a						91%
10 CLOVER LANE 8th Avenue Ln to Rindow Ln	10/28/2019																
11 CROFT LANE Crescentower Dr to Lexington Dr	7/25/2019																92%
12 CRANSHIRE COURT Regent Dr to End of Street	7/15/2019					n/a					n/a						84%
13 FOX PATH LANE Roberson Rd to Mallard Ln	5/20/2019									n/a	n/a						100%
14 FREEMAN ROAD Mumford Dr to Park Ln	9/5/2019																
15 GRIFFINSPOINT PARKWAY Higgins Rd to Higgins Rd	10/7/2019																
16 HARRISON LANE Limestone Dr to Winston Dr	7/26/2019																92%
17 LEATHERLEAF LANE Alder Dr (S) to Whispering Fruits Dr	8/19/2019					n/a					n/a						80%
18 MOLAVE STREET Illinois Blvd to Lincoln St	8/28/2019																60%
19 NANUCKET COURT Stone Harbor Dr to End of Street	10/21/2019																
<i>Tentative / Actual</i>										Completed		In Progress					

All resurfacing streets to be completed within 30 days of start date

