

AGENDA
Municipal Services Committee
April 28, 2025
5:30 P.M. – Council Chambers

- 1. Call To Order**
- 2. Establish A Quorum**
- 3. Old Business**
- 4. New Business**
 - a. **Ordinance** - Approval for a licensing agreement between the City of Darien and Lumos for a city wide fiber optic infrastructure implementation
 - b. **Motion** – Accepting the proposal of a 3-year contract including hardware, web application, service and support for five (5) Groundcast Sensors from Vaisala Inc, in an amount not to exceed \$8,000 per year, for a total of \$24,000 for the three-year contract.
 - c. **Motion** – Authorizing the purchase of the Phase 4-Leak Logger Program, consisting of 217 leak logger units from Gutermann Inc., in an amount not to exceed \$219,441.70.
 - d. **Motion** – Authorizing the purchase of two (2) Solar Speed Alert 18 Speed Limit Signs from All Traffic Solutions Incorporated in an amount not to exceed \$11,000.00.
 - e. **Motion** – Authorizing the purchase of one new Factory Cat Mini HD 29C Walk Behind Scrubber from Factory Cleaning Equipment Inc. in an amount not to exceed \$14,212.
 - f. **Motion** – Accepting a proposal for a Preventative Maintenance Agreement, Annual Evaluation and Operator Training for the Vactor Sewer Cleaner from Standard Equipment in an amount not to exceed \$8,500.
 - g. **Motion** – Accepting a proposal from TKB Associates, Inc., for digitalizing, cataloging, software, hardware and programming in an amount not to exceed \$49,140 for the Planning and Zoning and in an amount not to exceed \$39,190 for the Clerk’s Office historical records.
 - h. **PZC2025-06** – Rezone, Preliminary Plat of Consolidation, Special Use, Variations (Atlantic Homes Inc. – 1220-1225 Plainfield Road)
 - i. **Minutes – March 24, 2025** Municipal Services Committee
- 5. Director’s Report**
- 6. Next scheduled meeting – May 27, 2025**
- 7. Adjournment**

AGENDA MEMO
Municipal Services Committee
April 28, 2025

ISSUE STATEMENT

Approval of an [ordinance](#) for a licensing agreement between the City of Darien and Lumos for a citywide fiber optic infrastructure implementation.

BACKGROUND/HISTORY

As previously stated, over recent years, public demand for reliable, high-speed internet has grown significantly. Through a vast array of communication devices, people have increasingly become more connected. Currently there are only two entities licensed in the City of Darien that provide internet to businesses and residents, AT&T and Xfinity. While these corporations deliver high-speed internet through a coaxial cable, Lumos delivers internet through a fiber optic cable. The main difference between cable and fiber optic is the way they transmit data. Fiber optic uses light to transmit data, while cable uses electricity. Fiber optic is generally faster and more reliable than cable. Lumos will be providing fiber services for internet and telephone. Recently the City Council approved a licensing agreement with Metronet allowing them to install fiber cable infrastructure throughout the City.

Entering into these franchise agreements with additional service providers will create competition in the marketplace. Residents and business owners may realize benefits of increased competition in the form of improved service and lower cost. Further, Lumos as well as Metronet are currently working with our adjacent communities for the deployment of fiber infrastructure.

Attached and labeled are the following:

[Attachment A](#) is an introduction letter for the Lumos fiber development in the City of Darien

[Attachment B](#) is a general overview and field methodologies for Lumos

Please recall, the main focal point regarding fiber infrastructure and placement was vetted by the City Attorney and by teaming up with Downers Grove Counsel and Staff. The issues were regarding Easements and Right of Ways. Lumos is planning to install infrastructure within the City's right of ways with limited municipality regulations.

Although utility easements are incorporated as a portion of private property, the City has no oversight or permitting ability regarding regulated utilities. The City only has oversight in respect to easements that are utilized for drainage and are typically dedicated to the City for maintenance and or construction. Easement language is provided through a plat of subdivision. Court cases have cited telecommunications have the right to be within utility easements, regardless of the language naming certain entities and/or their successors. Staff has concluded that all work within easements shall be communicated between Lumos and the property owner in amicable fashion regarding placement of infrastructure, utility boxes and restoration.

Right-of-Ways, also referred to as parkways, are typically the area between the sidewalk and the curb and in rural areas; the limits are approximately 10-15 feet from the road edge. Telecommunications and other utility companies may utilize public right-of-ways for

installing, operating, and maintaining lines. All utility companies are required to obtain necessary permits.

Attached and labeled as [Attachment C](#) is a memo from the City Attorney regarding telecommunication rights and limited municipality regulations. Please note, the same memo applies to Lumos as was previously with Metronet.

By entering into a franchise agreement, the City agrees to allow Lumos to construct, maintain and operate a fiber system within the City. In return, the City will receive payment from Lumos in the form of a franchise fee and permitted inspection fees. *The Franchise Agreement is in for final edit and review with the City Attorney and will be forwarded with the upcoming City Council agenda.* Staff has further requested Lumos to present a 15-minute overview at the City Council meeting during the Mayors Report.

STAFF RECOMMENDATION

Staff recommends approval of an ordinance for a licensing agreement between the City of Darien and Lumos for a citywide fiber optic infrastructure implementation.

ALTERNATE CONSIDERATION

Modifying the Ordinance.

DECISION MODE

This item will be placed on the May 5, 2025 City Council agenda for formal consideration.

Dear Mayor and Honorable Members of the City Council,

Lumos is excited to introduce our plans to invest in the City of Darien through the deployment of a 100% fiber-optic network. Our goal is to bring the community a fast, reliable, and future-ready internet experience with symmetrical speeds - offering residents a true alternative in broadband service.

We are a fiber-only internet provider, backed by a multi-year infrastructure investment across Illinois. In Darien, we are proposing a full overbuild of the community - ensuring every household has access to a competitive alternative for high-speed internet. Lumos has already executed franchise agreements in nearby municipalities, including Naperville and Roselle.

As part of our approach, we are committed to:

- Transparent communication with City staff and residents.
- Timely restoration of any impacted areas, coordinated through daily street sheets and regular touchpoints.
- Responsiveness to any questions, concerns, or complaints - ensuring property owners are contacted within 24 hours and resolutions are provided within 5–8 business days.

We look forward to earning the trust of the community, working in partnership with the City of Darien to deliver this critical infrastructure, and becoming a long-term partner in the community's growth.

Thank you for the opportunity to present our project.

With gratitude,

Allen Rauth
Director, Market Development
Lumos Fiber



Introduction to

Iumos™



TODAYS AGENDA

- Introductions
- Lumos History/ Overview
- Community Benefits
- Construction
- Q&A



About Lumos

We believe all communities should have the fastest internet.

It's about more than streaming your favorite show or sending photos. It helps fuel economic growth and attract businesses and the workforce they require. And beyond that, fiber internet access increases housing values and spurs community development.

Our Heritage

**125 years of proudly
serving North
Carolina and
Virginia - connecting
families and small
businesses**





WHY DARIEN?

- ✓ Lack of fiber
- ✓ Growth
- ✓ Need for competition



WHY FIBER?

 Fiber	vs	 Cable
<p>Lumos is always fast, in every direction.</p> <p>We deliver equally fast speeds whether you stream, video conference or back up to the cloud—with no data caps or throttling.</p>		<p>Cable goes just as fast...sometimes.</p> <p>Cable companies often cap your speed without warning. Get used to buffering and frozen screens.</p>
<p>Signal quality never changes.</p> <p>Made of thin glass strands, fiber cables provide a clear path for your signal to travel any distance for faster internet.</p>		<p>Dated cable lines can't go the distance.</p> <p>Copper cables contain electrical resistance. Longer cables mean more resistance for your signal to pass through (degrading its quality.)</p>
<p>Lumos works in all weather.</p> <p>Fiber internet uses light signals to send data, so inclement weather like rain and lightning won't slow down your connection.</p>		<p>Bad weather slows cable's signals.</p> <p>Electronics and rain don't mix. Poor weather can impact cable's electrical signals, leading to lag. Try putting your cable lines in rice!</p>
<p>Fiber is designed for today's digital life.</p> <p>Fiber's glass tubing provides more bandwidth than copper wiring—connect as many users and devices as you need.</p>		<p>Cable was built for yesterday's bandwidth.</p> <p>Copper cables providing your internet also supply your neighbors. Things may slow down when Mrs. Cleaver starts streaming.</p>

THE ENTIRE COMMUNITY BENEFITS



Future-proof

Fiber is the gold standard and future proof technology that will grow with consumers data needs over time.



Speeds up to 8Gig

Enjoy a seamless online experience - connect any way you want, as much as you want, even during peak usage times



Choice

Broadband competition and choice in your area.



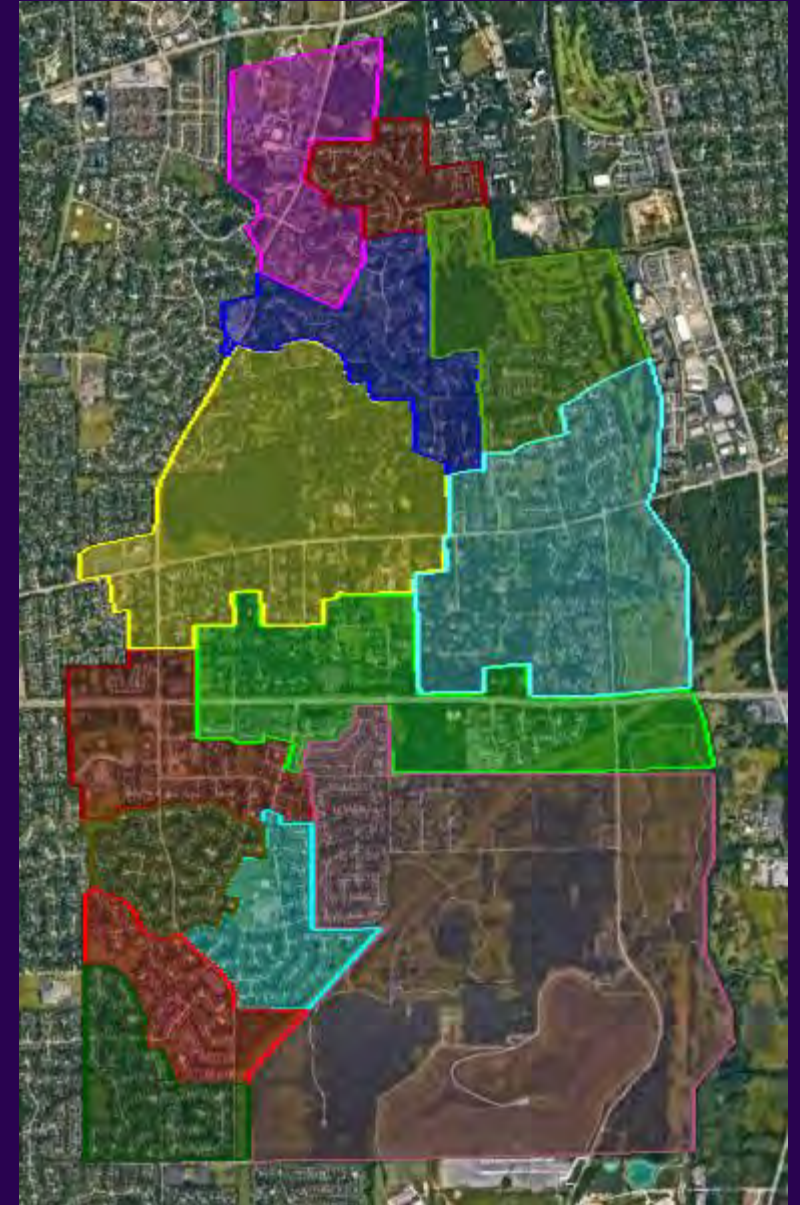
Reliable

Fiber is virtually immune to interference and doesn't falter under harsh weather conditions.

FDH's

FIBER DISTRIBUTION HUB's

- Deployment strategy is built around FDH zones covering 200–500 homes each.
- These zones are defined as build polygons to systematically permit, construct, and activate service.
- Enables phased construction, targeted communication, and efficient customer turn-up.

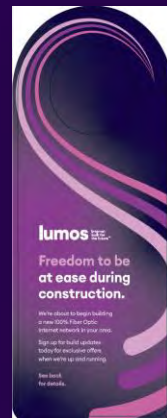


CONSTRUCTION COMMUNICATION



Communication One

Once permitting is complete, pre-construction letters are mailed



Communication Three

Week of construction, door hangers are placed.



Communication Two

30 days prior to construction, yard darts are placed.



During construction

Lumos sandwich boards are deployed at the beginning of each construction zone.

All trucks and drills for have Lumos magnet signs.

lumos



QUESTIONS, CONCERNS & RESOLUTIONS



- Pre-construction meeting before we begin construction in an area.
- Daily street sheets submitted to municipality.
- Restoration follows each day's work.



- Contact property owner with 24hrs of receiving complaints.
- Resolve complaints within 5 – 8 days.

Questions?



Odelson, Murphey, Frazier & McGrath, Ltd.

3318 West 95th Street – Evergreen Park, Illinois 60805
Phone (708) 424-5678
JBM Direct Dial (708) 634-0266
JBM e-mail: jmurphey@omfmlaw.com

Memorandum

VIA E-MAIL

To: Mayor and City Council

From: Dan Gombac and
John B. Murphey

Date: April 28, 2024

Re: **Lumos Agreement**

Staff is recommending the Council approve the attached agreement with Lumos. This **agreement largely mirrors the Metronet agreement** previously approved by the City Council. A copy of the Metronet agreement memo is attached.

Dan will be available to answer any questions regarding the specifics of this agreement.

JBM/sml
Enclosures

Odelson, Murphey, Frazier & McGrath, Ltd.

3318 West 95th Street – Evergreen Park, Illinois 60805
Phone (708) 424-5678 ~ Fax (708) 741-5053
JBM Direct Dial (708) 634-0266
JBM e-mail: jmurphey@omfmlaw.com

Memorandum

VIA E-MAIL

To: Mayor and City Council

From: Dan Gombac and
John B. Murphey

Date: March 19, 2025

Re: Metronet Agreement

The Council will be asked to approve an agreement with Metronet. In essence, the agreement authorizes Metronet to utilize City rights-of-way to install high-speed fiber optics for ultimate delivery to the residents. The staff due diligence process has been a learning experience for us. We have been working together with the Village of Downers Grove to ensure both a coordinated approach to appropriate municipal regulation and also a solid agreement.

Background

Some of you may recall when cable TV came to municipalities. There were a number of companies competing; ultimately, Comcast – Xfinity became the sole provider of cable TV service.

New Technology

Of course, there has been an explosion in communications technology. One of the technology advancements for the delivery of high-speed internet services is through fiber optics installed by companies like Metronet. In simplest terms, companies like Metronet are the next generation providing the underground infrastructure for the delivery of high-speed internet services.

The Legal Landscape

Along with Downers Grove, we have had a number of conference calls with representatives of Metronet to work through the legal, logistical, and communication issues. The Metronet representatives have been responsive and cooperative. We now have a firm understanding of the plan. Beginning as soon as possible, Metronet plans on installing its system under the rights-of-way and then working with property owners to obtain access in easements to extend the improvements so they will become available to the owners should they decide to contract for services.

Here is the breakdown:

A. Metronet has a legal right to use City rights-of-way. Under the law, there are non-discrimination provisions preventing a municipality from limiting qualified technology companies from accessing City rights-of-way. Metronet is entitled to access City rights-of-way.

Therefore, the primary purposes of the Metronet agreement are to: (i) authorize Metronet access to City R-O-W; and (ii) provide protection to the City for matters like restoration and indemnification. Downers Grove has taken the lead with negotiating the agreement with Metronet. Our agreement models the Downers Grove agreement.

The R-O-W issue is complicated, because a number of our arterials are under the jurisdiction of DuPage County, and we still have a few roads which are under the jurisdiction of the Township. Metronet will need to obtain separate R-O-W agreements with these other governments.

B. The Private Property Access Issue. We spent a good deal of time working through the issue of private property easements. Metronet has taken the position that it has the legal right to access “utility easements” to install its improvements. The matter may be more complicated than that. As part of our due diligence, we took a look at one of the City’s newer subdivisions. The typical easement provisions are part of the Plat. In terms of telecommunication services, the Plat is specific – the easement is granted to Comcast by name as opposed to being a broad telecommunications easement.

It is not the role of the City to provide hundreds of legal opinions as to whether Metronet has the right to utilize an existing easement on an homeowner’s property. Accordingly, on a going-forward basis, we recommend that the City’s position on this issue be one of neutrality – we will advise people that any easement disputes are between the homeowner and the company – no different than a potential dispute between a homeowner and Com Ed.

It may be that normal market dynamics will result in this issue taking care of itself in the great majority of cases. Allowing the installation of Metronet improvements on property will not cost a homeowner anything, nor will it obligate the homeowner to subscribe to any particular streaming service. Having this additional technology infrastructure in place would only improve property values, because of our collective desire for state-of-the art communication services and speed. In any event, the City's position on the private easement-access issue needs to be one of neutrality.

JBM/sml



CITY OF DARIEN

DU PAGE COUNTY, ILLINOIS

ORDINANCE NO. _____

**AN ORDINANCE APPROVING A MASTER LICENSE AGREEMENT WITH
LUMOS FIBER OF ILLINOIS, L.L.C. FOR THE USE OF THE CITY'S RIGHTS-OF-
WAY FOR THE INSTALLATION, OPERATION, AND MAINTENANCE OF
TELECOMMUNICATION FACILITIES**

**ADOPTED BY THE
MAYOR AND CITY COUNCIL
OF THE
CITY OF DARIEN**

THIS ____ DAY OF _____, 2025

**Published in pamphlet form by authority
of the Mayor and City Council of the City
of Darien, DuPage County, Illinois, this
_____ day of _____, 2025.**

ORDINANCE NO. _____

**AN ORDINANCE APPROVING A MASTER LICENSE AGREEMENT WITH
LUMOS FIBER OF ILLINOIS, LLC. FOR THE USE OF THE CITY’S RIGHTS-OF-
WAY FOR THE INSTALLATION, OPERATION, AND MAINTENANCE OF
TELECOMMUNICATION FACILITIES**

**BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF DARIEN, DU
PAGE COUNTY, ILLINOIS, IN THE EXERCISE OF ITS HOME RULE POWERS,
ILLINOIS, as follows:**

SECTION 1: Approval. The City Council hereby approves of a certain “Master License Agreement” with Lumos Fiber of Illinois, LLC for the use of the City’s rights-of-way for the installation, operation, and maintenance of telecommunications facilities in the City, said Agreement to be substantially in the form attached to this Ordinance.

SECTION 2: Authorization. The Mayor is hereby authorized to execute said Agreement on behalf of the City.

SECTION 3: Home Rule. This ordinance and each of its terms shall be the effective legislative act of a home rule municipality without regard to whether such ordinance should (a) contain terms contrary to the provisions of current or subsequent non-preemptive state law, or (b) legislate in a manner or regarding a matter not delegated to municipalities by state law. It is the intent of the corporate authorities of the City of Darien that to the extent the terms of this ordinance should be inconsistent with any non-preemptive state law, this ordinance shall supersede state law in that regard within its jurisdiction.

SECTION 4: Effective Date. This Ordinance shall be in full force and effect upon its

passage, approval, and publication as required by law.

**PASSED AND APPROVED BY THE CITY COUNCIL OF THE CITY OF DARIEN,
DU PAGE COUNTY, ILLINOIS, this ____ day of _____, 2025.**

AYES _____

NAYS: _____

ABSENT: _____

**APPROVED BY THE MAYOR OF THE CITY OF DARIEN, DU PAGE COUNTY,
ILLINOIS, this ____ day of _____, 2025.**

JOSEPH A. MARCHESE, MAYOR

ATTEST:

JOANNE E. RAGONA, CITY CLERK

APPROVED AS TO FORM:

CITY ATTORNEY

MOTION NO. _____

AGENDA MEMO
Municipal Services Committee
April 28, 2025

ISSUE STATEMENT

A motion accepting the proposal of a 3-year contract including hardware, web application, service and support for five (5) GroundCast sensors from Vaisala, Inc., in an amount not to exceed \$8,000 per year, for a total of \$24,000 for the three-year contract.

BACKGROUND/HISTORY

The Groundcast Sensors would be a compliment to the current Frost-Road Weather Information Systems, (RWIS), which provides limited temperature settings during the winter season. The current equipment is positioned on light poles throughout the City's seven (7) snow regions and allows Staff to view the current ambient air, road surface temperatures along with live field conditions. The GroundCast sensors would further provide an enhanced temperature reading consisting of surface and two subsurface temperatures at depths down to one-foot. Staff does note that the Frost system and the Groundcast Sensors have the ability to read the surface temperatures, while this is duplication, the feature is a standard for all such devices.

The challenge for all Public Works Department is not *all* related to ambient temperatures during snow and ice events, rather road temperatures below the surface. The methodology is referred Temperature-Based Application Rates: The strategy is to adjust the application rate of de-icing products based on the ground and pavement temperatures. When the temperatures are colder, more de-icing material may be needed to achieve the desired result. Adjusting the amount of product used based on the ground temperature reduces costs and provides an optimum treatment in regards to the amount of de-icing liquids materials and/or the combined use that needs to be utilized. The technology and equipment within the Department provides to have the ability to provide an optimal mix and vehicle control settings for icing and deicing.

In general, below are the various types of weather events that occur throughout the winter season:

Light snow storm

Light snow storm with period(s) of moderate or heavy snow

Moderate or heavy snow storm

Frost or black ice

Freezing rain storm

Sleet storm

Blizzard

The program consists of a 3-year contract of five (5) GroundCast sensors units as per the attached proposal labeled as [Attachment A](#). The equipment is installed through coring holes within the roadway. The sensors would provide three temperature readings, surface, and two subsurface temperatures.

GroundCast sensors from Vaisala, Inc. is an exclusive product and service that is solely manufactured and sold by Vaisala, Inc., see [Attachment B](#). Attached as [Attachment C](#) is additional literature regarding the Vaisala GroundCast sensor and forecast network.

The expenditure would be charged against FY25/26 Budget following account:

Account Number	Account Description	FY25/26 Budget	Expenditure
01-30-4213	Vaisala Road Sensors	\$5,000	\$4,000
02-50-4213	Vaisala Road Sensors	\$5,000	\$4,000
Totals		\$10,000	\$8,000

STAFF RECOMMENDATION

Staff recommends approval of a motion accepting the proposal of a 3-year contract including hardware, web application, service and support for five (5) Groundcast Sensors from Vaisala Inc, in an amount not to exceed \$8,000 per year, for a total of \$24,000 for the three-year contract.

ALTERNATE CONSIDERATION

As directed by the Committee.

DECISION MODE

This item will be on the May 5, 2025 City Council agenda for formal consideration.

**PASSED BY THE CITY COUNCIL OF THE CITY OF DARIEN, DU PAGE
COUNTY, ILLINOIS, this 5th day of May 2025.**

AYES: _____

NAYS: _____

ABSENT: _____



Wx Horizon: The easiest way to make data-driven winter maintenance decisions

Quotation #: DARI202501 3/26/2025

Anticipated contract start date: Jun 1, 2025

Term: 3 years

Wx Horizon Edition: Pro

Network Size (Premium and above only): Not applicable

Vaisala Customer

City of Darien Municipal Services

Primary Contact: Kris Throm – Street Superintendent, kthrom@darienil.gov, 630-514-3453

Billing Contact	Shipping Contact
Name	Name
Email	Email
Address	Address

Proposed Solutions

<i>Product</i>	<i>Quantity</i>	<i>Annual Unit Price</i>	<i>Annual Price Extended</i>
GroundCast	5	\$1,600	\$8,000
TempCast	0	\$0	\$0
Road Weather Forecast Points	5	\$0	\$0
Network Forecasting	0		
Annual Subtotal			\$8,000
Total Contract Price			\$24,000

Be proactive and harness the power of turning observations and forecasts into insights and action, including peace of mind integrated alert notifications.

If you have any questions, I'm here to help. You can reach me by email at eric.faulkner@vaisala.com or by phone/text at +1 (720) 241 9073

Assumptions and Stipulations

- 1. Quote is valid for 30 days from issuance
- 2. Installation materials including Fabick epoxy for GroundCast and a telescopic pole for TempCast are included
- 3. Subject to Vaisala General Conditions of Subscription Services (link) and Service description for Cast sensors with Wx Horizon Pro (below): <https://www.vaisala.com/en/vaisala-policies>
- 4. Wx Horizon & Cast sensor annual price is based on a 3-year term subscription commitment. Shorter terms may be considered at a higher price and can be quoted upon request
- 5. Excludes installation
- 6. Ground Cast Sensors require a minimum mounting depth of eighteen inches (18")
- 7. Customer is responsible for utility locates at desired Ground Cast installation locations
- 8. Cellular NBIOT coverage should be available wherever Verizon has service but must be confirmed at each location prior to installation
- 9. Sensors with updated firmware will be available in June of 2024
- 10. Invoice frequency can be tailored to quarterly, semi-annual, or annual intervals with the default being annual billing

With signature below, City of Darien, IL (Customer) agrees to a 3-year contract commitment for a total of \$24,000 with an annual billing frequency.

Name & Title

Signature

Date

Service description

Vaisala Cast™ Sensors with Wx Horizon Pro

Vaisala Cast™ Sensors complement the Vaisala Wx Horizon Pro weather hazard information system with accurate observations from critical locations. With a single Wx Horizon Pro subscription with predictable costs and continuous warranty, users can access both in-situ observations and road weather point forecasts from sensor locations. The Cast Sensors wirelessly collect environmental data from key locations and provide this for Wx Horizon to generate actionable information to help plan road winter maintenance operations.

1. Features

Vaisala Wx Horizon Pro weather hazard information system for road condition situational awareness

- Leverages Vaisala industry-leading sensors and world-class forecasting capabilities
- Provides road weather condition forecasts using Vaisala proprietary road weather model
- Provides access to data through a web user interface optimized for providing support for winter maintenance decisions, and through a REST API

Vaisala Cast™ Sensors

- Utilize Vaisala leading technology to measure key environmental parameters
- Wirelessly connect to Vaisala cloud
- Are fully autonomous with built-in power and communication
- Have minimum 3-year battery lifetime with no maintenance needs

Vaisala Cast™ Connect mobile application for sensor activation

- Is available free of charge from Google Play Store and vaisala.com
- Intuitively guides the user through the sensor activation process
- Ensures adequate cellular field strength at the installation location

2. Communication

- Cast Sensors are delivered together with a SIM-card for 24/7 connectivity
- Connectivity is subject to activating the sensors using the Cast Connect mobile application to ensure adequate cellular field strength at installation location
- Cellular communication costs are included in the subscription fee
- Data availability is subject to the availability of cellular service

Note: choosing a location with good cellular field strength will increase the battery lifetime of the sensors and make replacement need less frequent. The Cast Connect mobile application will assist by providing a visual indication of field strength before the activation.

3. Data license, access, and security

Vaisala grants the customer a non-exclusive license to use the sensor and the forecast data during the contract term for internal business purposes. A more complete description of the legal terms and conditions governing the subscription service is in the General Conditions of Subscription Services of Vaisala Group:

<https://www.vaisala.com/sites/default/files/documents/DOC250754-A-General-Conditions-of-Subscription-Services.pdf>.

A 3-year history dataset is stored at Vaisala and is available for the customer through the user interface and API.

The API is a cloud-hosted REST API deployed to multiple service regions for performance and resilience.

Data security is ensured in all parts of the data chain:

- Public key infrastructure (PKI) is used for managing device certificates
- TLS/DTLS secure protocols are used for data transmission
- Security audited SW components are used in cloud system software

4. Sensor shipping, installation, and replacement

- Upon reception and confirmation of a subscription order, Vaisala will ship the Cast Sensor hardware to the customer. The sensor will remain the property of Vaisala.
- The customer is responsible for installing the sensor according to the instructions and using the tools provided by Vaisala. Vaisala has no responsibility for incorrectly installed sensors and the effects thereof. The customer is responsible for ensuring that all laws and local regulations related to safety, environmental compliance, road closures, and site installation procedures are followed.
- Vaisala will monitor the sensors 24/7/365 and will proceed to ship replacement sensors in case of data loss due to non-functional sensor hardware, for example loss of battery power.
- Before shipping a replacement unit, Vaisala will contact the customer for a confirmation.
- Replacements included in the subscription fee only apply to sensors with no physical damage beyond normal wear and tear. In the event there is physical damage, a fee may apply for the sensor replacement.
- De-installation of old sensors and installation of replacement sensors are not included in the subscription fee. Please contact Vaisala sales to discuss and get a quote for the installation work.
- The customer is responsible for the removal of sensors after their lifetime and recycling them according to local regulations and instructions provided by Vaisala. Failing to do this, the customer accepts full liability for any environmental or hazard-related issues. The customer will also have an option to ship the sensors at their own cost to Vaisala for recycling.

5. Invoicing

The invoicing period for the Wx Horizon Pro subscriptions is 12 months, unless otherwise specified in purchase documentation. Invoicing period starts 30 days after the shipment of the Vaisala Cast Sensors associated with the subscription.

6. Technical support

Vaisala support team is available 365 days a year to receive service requests through

MyVaisala support channel. See the local contact details at www.vaisala.com/en/support.

The official language of the technical support is English.

7. Service availability

Vaisala strives to keep the service available 24/7, excluding necessary maintenance breaks or downtime caused by interruptions in services beyond Vaisala control, such as cloud or cellular service provider. For a more complete description, refer to the General Conditions of Subscription Services of Vaisala Group.

8. Maintenance and service breaks

We generally provide scheduled maintenance and updates of the Wx Horizon service without breaks to service availability or data measurement collected from Vaisala products. If maintenance or updates cannot be carried out without a break to the service availability, we will notify customer of such breaks through email and/or the Wx Horizon service itself. In case there are unexpected service breaks, we shall within normal office hours attempt to recover the service as soon as possible.

9. Summary of responsibilities

Vaisala responsibility	Customer's responsibility
<ul style="list-style-type: none">• Delivers sensor units upon start of the subscription and in case of data loss due to faulty sensor hardware• Provides a SIM card and cellular data communication• Provides an account and credentials for cloud hosted Wx Horizon software, with the Wx Horizon Pro feature set• Monitors sensors and proactively reacts to data interruptions• Provides observation and point forecast data for sensor locations through an API and on the Wx Horizon cloud user interface	<ul style="list-style-type: none">• Adopts and pays periodic subscription fees, in accordance with the applicable terms and conditions• Installs sensors based on instructions and tools provided by Vaisala, observing laws and local regulations• Removes and recycles sensors according to local regulations

MEMO



**Vaisala Inc.: Sole Source Supplier of
Wx Horizon, GroundCast, and TempCast Products**

To whom it may concern:

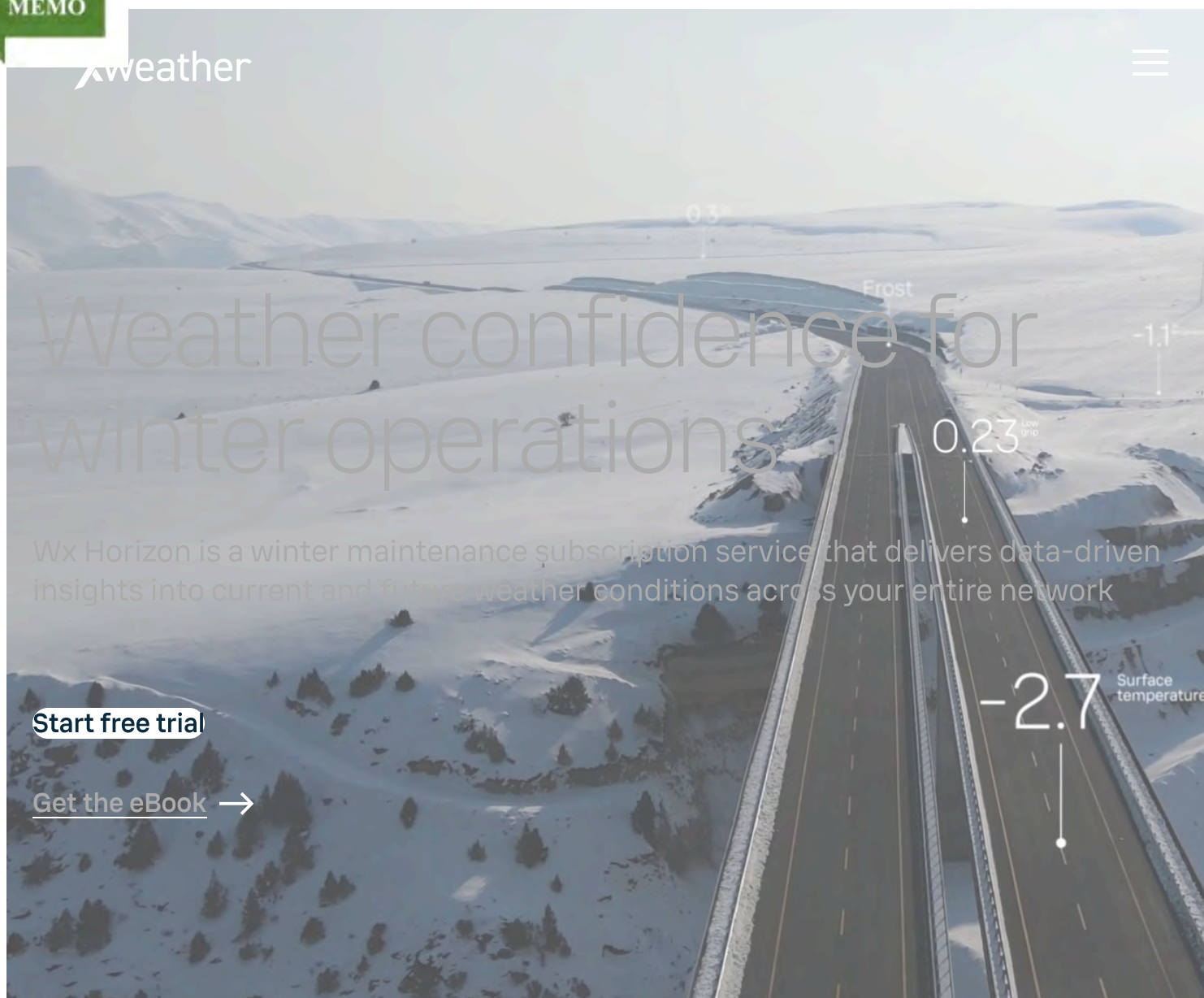
Vaisala Inc. is the only manufacturer and provider of the Wx Horizon, GroundCast, and TempCast products. Both the hardware and software components of these solutions are exclusively developed and manufactured by Vaisala Inc. To the best of our knowledge, there are no comparable products available for purchase or subscription in the United States. While there are other software and equipment providers, only Vaisala has combined these technologies (measurement of environmental observations combined with road weather forecasts) and made them available together on a subscription basis.

Sincerely,

A handwritten signature in black ink, appearing to read "Ben Brown". The signature is fluid and cursive, with the first name "Ben" being more prominent than the last name "Brown".

Ben Brown
Head of Xweather Roads

Marc 26, 2025



Know your network

Winter road maintenance requires comprehensive weather insights across your entire network. Fact is, generic forecasts based on limited observations lead to inefficient decisions, wasted resources, and compromised safety.

Wx Horizon gives you network-wide weather confidence in winter operations, enabling you to make data-driven decisions that reduce environmental impact, target treatments precisely where needed, and enhance road user safety.

What's your winter maintenance use case?



Cities and municipalities

Optimize your community's winter operations with accurate weather insights. Minimize unnecessary salt usage, make smarter call-out decisions, and receive timely notifications for the conditions that matter most to you.

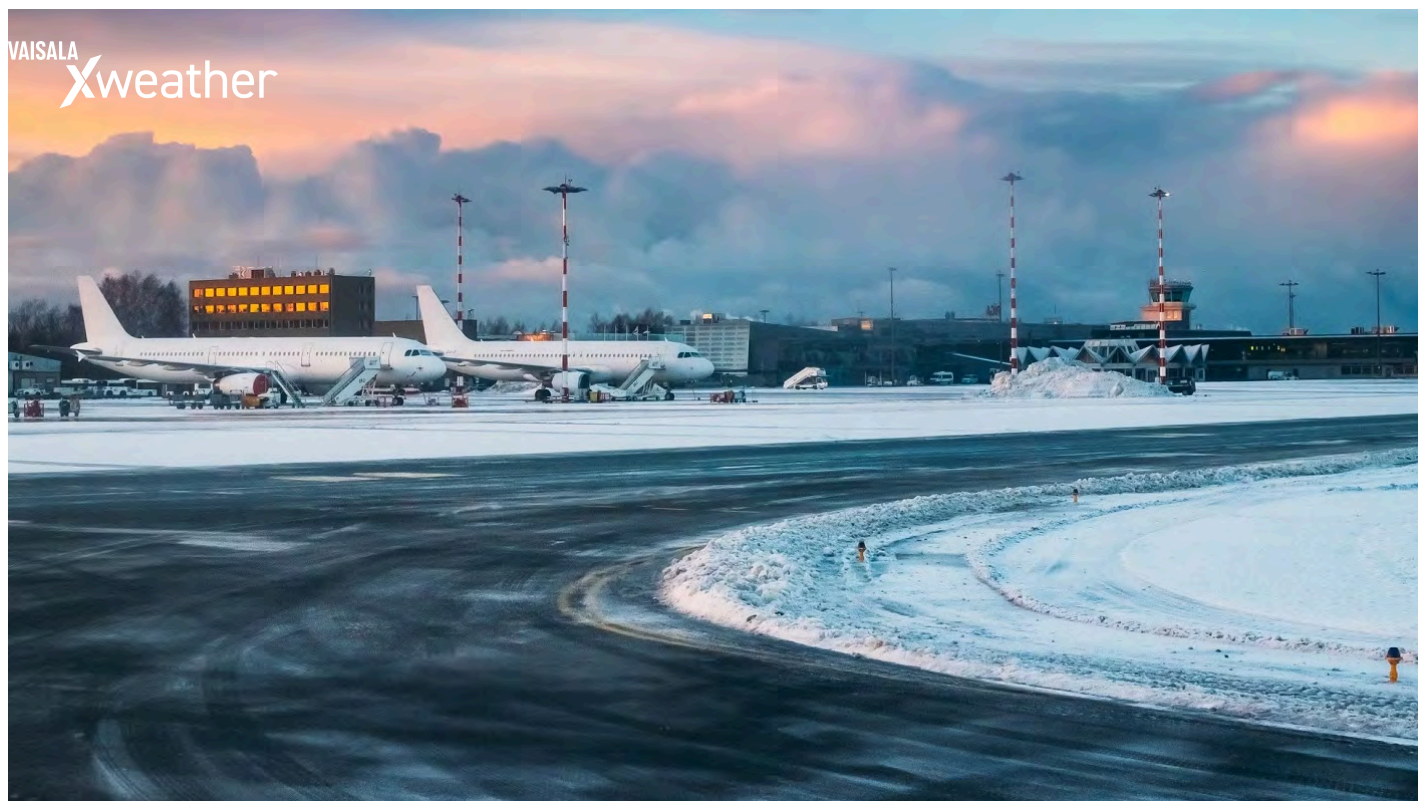
[Wx Horizon for cities & municipalities](#) →



Transportation agencies

Get precise, actionable insights into current and future winter weather impacts across your transportation network, enabling better decision-making and safer highways and interstates.

[Wx Horizon for transportation agencies](#) →



Airports

Understand the impact of winter weather on your entire airport with accurate, actionable insights into current and future conditions.

[Wx Horizon for airports](#) →

Client stories



Alabama Department of Transportation

"Wx Horizon pulls all the data we need from the TempCast and GroundCast sensors to give us the ground truth plus really accurate near-term forecasting in one place. We can be a lot more efficient and accurate in maintaining the road network, and it's cost-effective which is important."

[Read the story](#) ↗



Cranberry Township, PA

"We have found the Wx Horizon data to be invaluable in winter maintenance and after one season has shown significant cost savings in both overtime labor and materials."

[Read the story](#) →



City of Independence, MO

"Instead of bringing in people at midnight or before... we said, hey, let's do it—built our forecast and operations around Wx Horizon forecast, and we were able to save almost \$10,000 in material and staff time in that one 12 hour shift..."

[Read the story](#) →

Features for efficient winter maintenance planning



Insights dashboard

Access tailored weather briefings whenever you need them. The dashboard transforms complex weather data into clear, visual insights, allowing you to quickly identify critical scenarios across your network—no

constant monitoring required.



72-hour road weather network forecast

Determine where and when weather conditions will affect your roads up to 72 hours in advance. Identify affected areas and target treatments selectively.



Status layers for critical parameters

View data layers showing surface condition, surface temperature, grip, and air temperature.



Live grip data from connected cars

Access data from vehicle sensors on your roads to assess the effectiveness of your winter maintenance operations and identify sections that require further treatment.



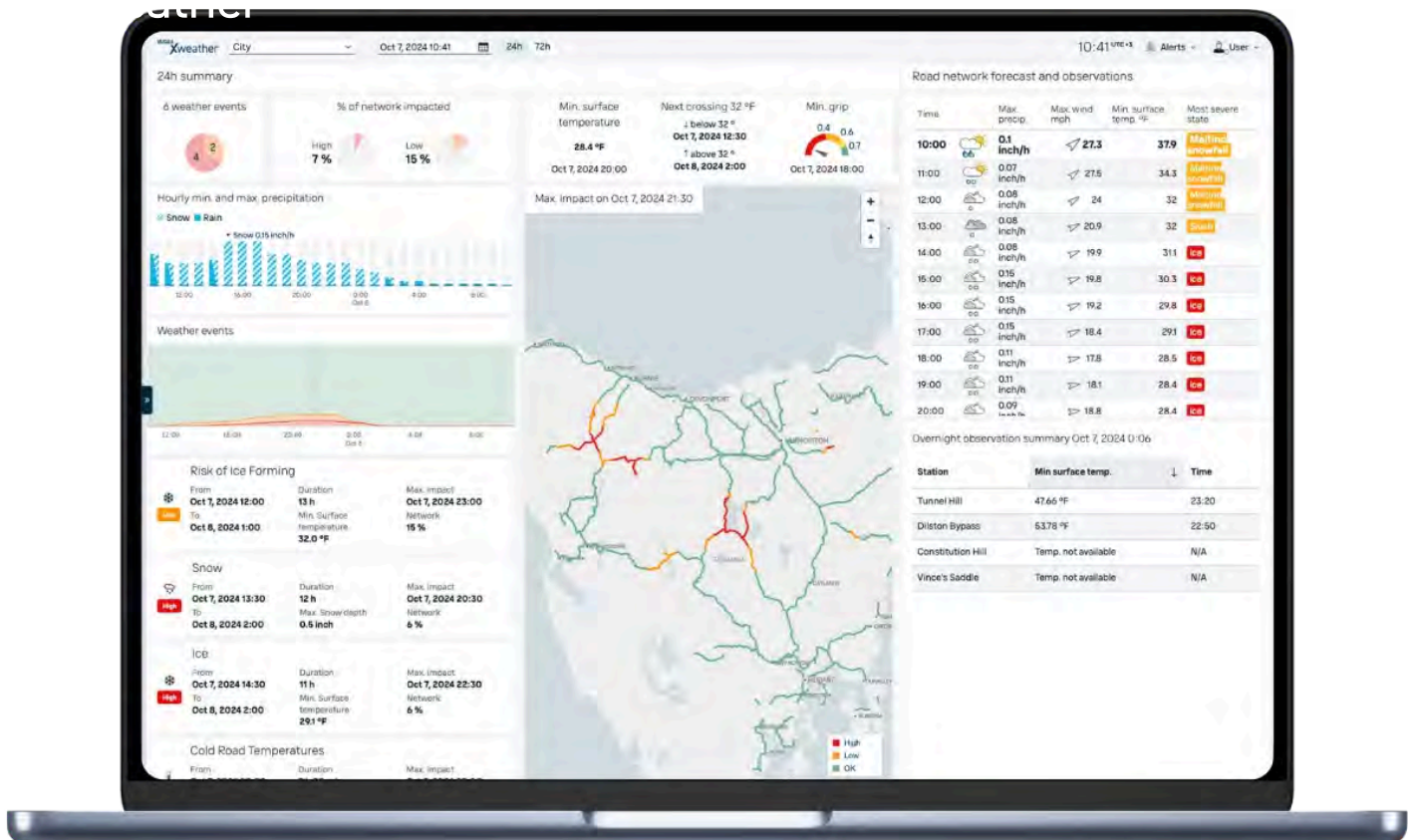
Alert notifications

Create and receive alerts for your road network to keep you and your team informed at all times.



10-day atmospheric weather forecasts, radar, wind speed, satellite and more

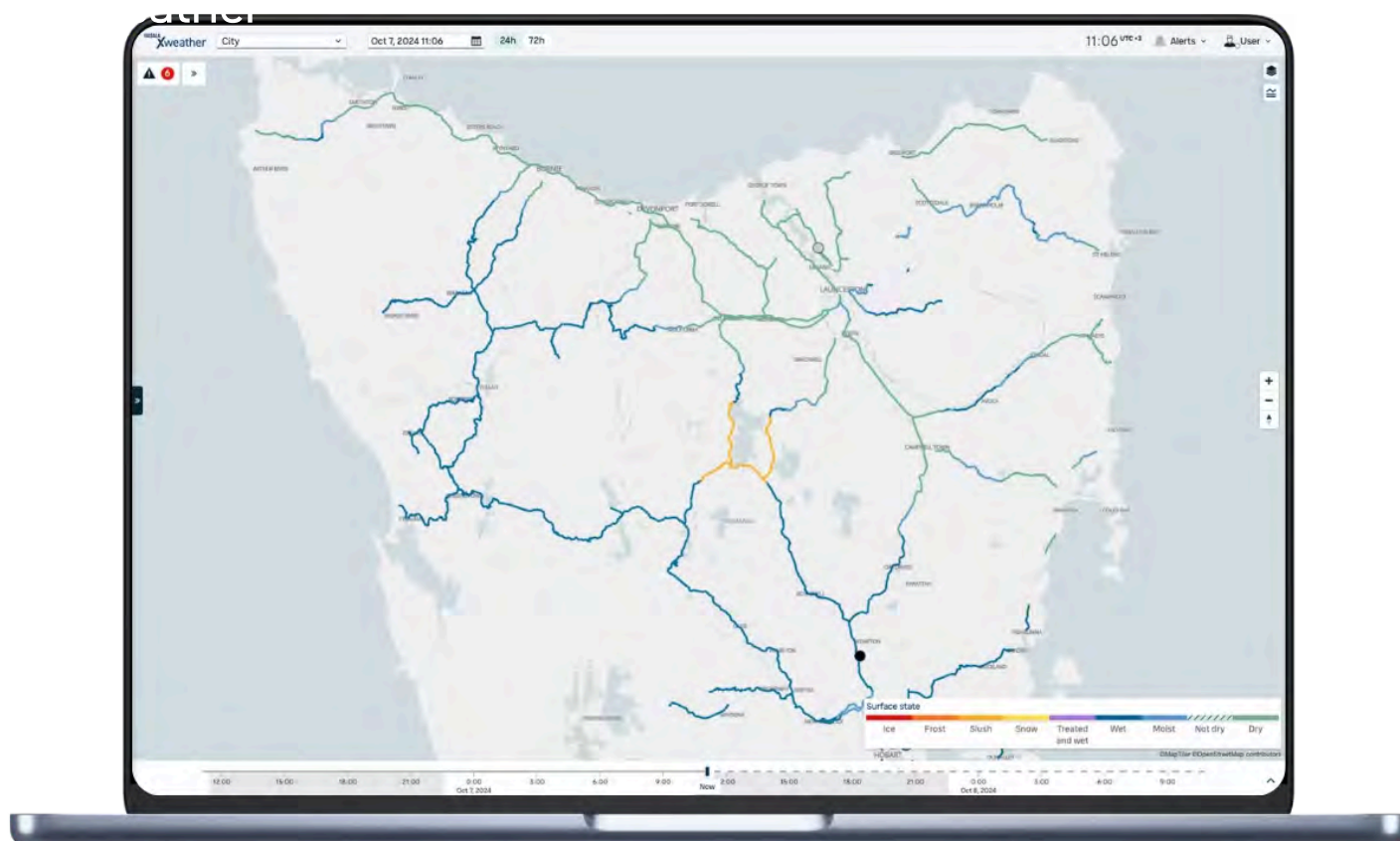
The forecast provides weather conditions, wind, temperature, and precipitation. Use radar, satellite, and "feels like" temperature data for additional information.



Deliver targeted treatments with confidence

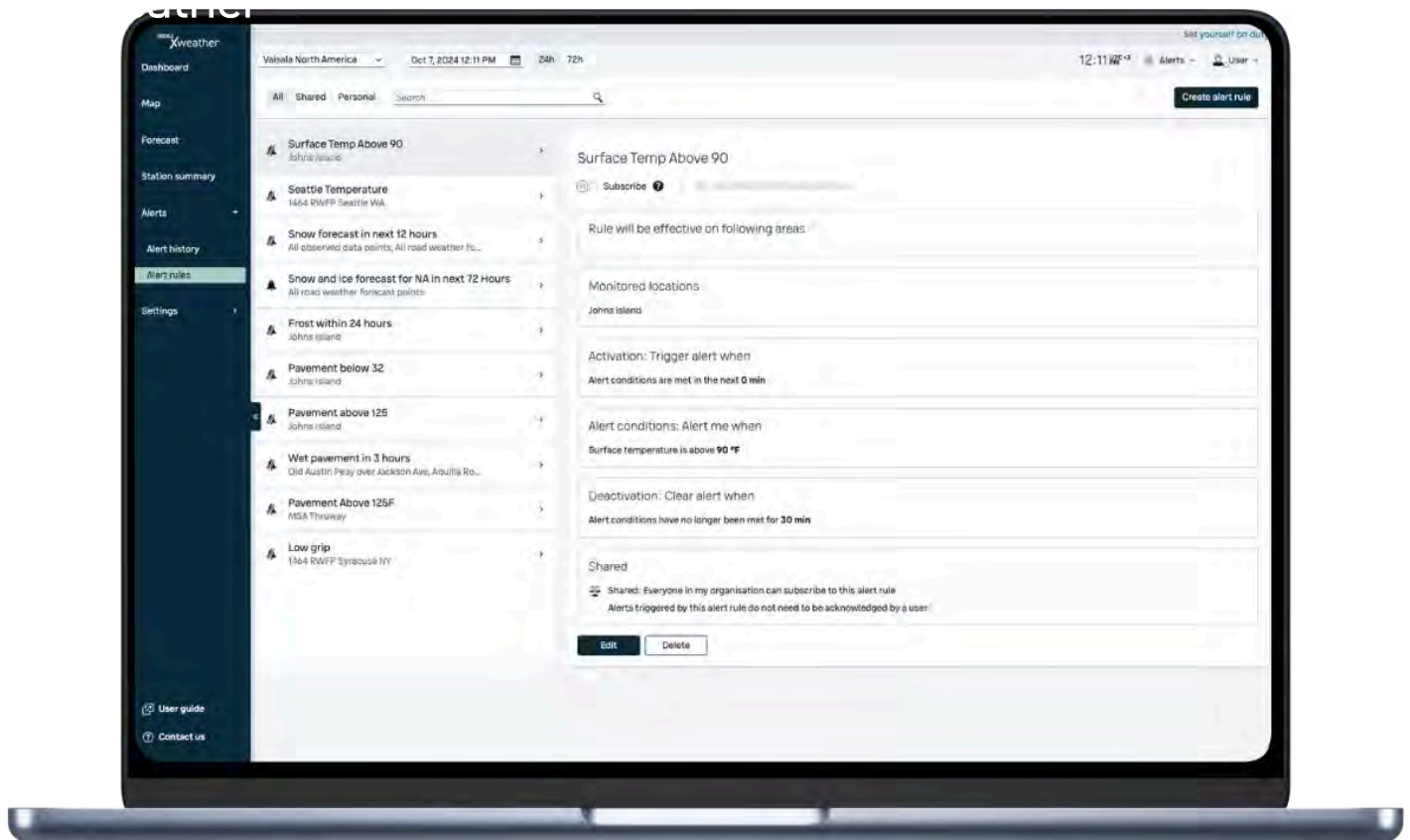
Ensure you treat when and where needed by capturing the nuances that other, more generic forecasts miss. Get 72-hour forecasts for specific locations, routes, and entire regions, driven by the latest readings from fixed and mobile data sources across your network.

Wx Horizon is powered by Xcast, Xweather's forecasting technology that leverages hyper-local sensor data, other comprehensive datasets, and advanced Machine Learning.



Increased assurance and network awareness

Gain full network-wide awareness of current road conditions and an understanding of driver experiences out on your network. Monitor the current road conditions from road sensors and vehicle data from across your network.



Always informed, instantly alerted

Access real-time weather insights across your entire network, updated every 10 minutes from stations and IoT sensors, with comprehensive network-wide updates every 30 minutes. Wx Horizon continuously monitors all incoming data, notifying you instantly via SMS, email, or voice mail when conditions become hazardous anywhere on your network. This constant flow of intelligence empowers you to make confident decisions at any time, plan operations with precision, and respond swiftly to changing conditions before they impact your operations.



Everything you need to know to get started with data-driven winter maintenance

As a decision-maker responsible for the safety of your community's roadways, you face the daily challenge of ensuring safe travel during winter conditions. There is both a pressing need and an excellent opportunity to improve and upgrade your methods and approaches.

This guide explores and compares a variety of data sources available to you. It will help you develop a truly data-driven approach that is not only efficient and effective but also tailored to the unique needs of your road network.

Get the guide

Pricing

Choose a plan that works for you.

30-DAY FREE TRIAL

Free

Experience Wx Horizon for yourself. Sign up today and start your free trial straight away.

- 72-hour road weather forecasts at 5 locations on your network
- Alert Notifications
- Radar, satellite, national weather hazards, and 10-day weather forecasts

[Sign up](#) →

PRO

Starting at

\$ **8,000** /yr

Proactive data-driven decision-making using multiple data points in your network.

- **5 Vaisala Xcast Sensors** (more available at extra cost)
- **Point forecasts:** 72-hour road weather forecasting for 5 locations (more available at extra cost)
- Observation-enhanced road weather forecasts for each sensor/station location
- Integrate your **Weather Station** and **Xcast Sensor** data
- Alert notifications
- Radar, satellite, national weather hazards, and 10-day weather forecasts
- Camera images
- Dashboard overview
- Connected car data (available at extra cost)

[Book a call to learn more](#) →

PREMIUM

Starting at

\$9,400/yr

Premium delivers road weather intelligence for current and future conditions across your entire network.

- **Network forecasts:** 72-hour road weather forecasts for all your routes, regions, and entire road network
- Observation-enhanced road weather forecasts for each sensor/station location
- Integrate your **Weather Station, Xcast Sensor** and **Mobile Sensor** data
- Alert notifications
- Radar, satellite, national weather hazards, and 10-day weather forecasts
- Camera images
- Dashboard overview
- Connected car data (available at extra cost)

[Book a call to learn more](#) →

FAQs

Are the forecasts in Wx Horizon any better than what you can get for free from other applications and websites?



What happens if a Cast sensor stops working?



What is a road weather forecast point?



How do you forecast at the virtual road weather forecast points?



What is the best way to improve the accuracy of my forecasts?



How do you create a forecast?



How far ahead can you forecast?



Can I trust a long-term forecast?



How often does the pavement forecast information get updated?



Is there human input into the forecasting?



How many sensors do I need?



Products

Xweather Observe

Xweather Optimize

Xweather Protect

WeatherDesk

Xweather Powerup

Wx Horizon

RoadAI

Weather API and Maps

Raster Maps

Developer

SDKs + toolkits

Resources

Documentation

Company

Contact

Support

Vaisala

Newsletter

Media and PR

MOTION NO. _____

AGENDA MEMO
Municipal Services Committee
April 28, 2025

ISSUE STATEMENT

A motion authorizing the purchase of the Phase 4-Leak Logger Program, consisting of 217 leak logger units from Gutermann Inc., in an amount not to exceed \$219,441.70. See [Exhibit A](#).

BACKGROUND/HISTORY

The logger system is the Phase 4 of 4 to be utilized by the Water Division to proactively locate and pinpoint leaks while they are small. The detectors, (loggers) are placed in water vaults and/or hydrant auxiliary valves. The loggers detect leaks through sound waves. When a leak occurs, the sound will amplify from the pipe and the adjacent ground area. As the detection state changes, a water sensor will be awakened on the radio and send data to a wireless gateway. Through a correlation process the loggers calculate the origin of the leak and process the information through the Gutermann I-Cloud gateway service. The cloud-based technology then sends an alert to a monitoring app on a mobile device or desktop application. The loggers provide daily monitoring, 365 days a year.

This program is considered Phase 4 of 4 and is budgeted over a three-year program, pending budget considerations. The cost of the entire program will be approximately \$616,000 with reoccurring costs after the initial five years of each phase. Please note the program was presented and approved under a City Council agenda memo dated March 6, 2023, see [Attachment A](#) followed by the subsequent purchases, Phase 2 and Phase 3 attached and labeled as [Attachment B](#). The pricing continues to be maintained as originally proposed. [Attachment C](#), is a breakdown of Phase 4. The breakdown further illustrates a capital reduction due to specific items that are not required. The reoccurring costs, hosting costs, will be budgeted beginning 2027/2028.

The proposed expenditure would be expended from the following line accounts:

ACCOUNT NUMBER	ACCOUNT DESCRIPTION	FY 25/26 BUDGET	PROPOSED EXPENDITURE	ACCOUNT BALANCE
02-50-4815	Capital Purchases Leak Detection Equipment & Data Loggers	\$220,000.00	\$219,441.70	\$558.30

STAFF RECOMMENDATION

Staff recommends a motion authorizing the purchase of the Phase 4-Leak Logger Program, consisting of 217 leak logger units from Gutermann Inc., in an amount not to exceed \$219,441.70.

ALTERNATE DECISION

As recommended by the Committee.

DECISION MODE

This item will be placed on the May 5, 2025 City Council agenda for formal consideration.

**PASSED BY THE CITY COUNCIL OF THE CITY OF DARIEN, DU PAGE
COUNTY, ILLINOIS, this 5th day of May 2025.**

AYES: _____

NAYS: _____

ABSENT: _____

AGENDA MEMO
City Council
March 6, 2023

ISSUE STATEMENT

A resolution authorizing the purchase of the Phase 1-Leak Logger Program, consisting of fifty-two leak logger units from Gutermann Inc., in an amount not to exceed \$58,965.

RESOLUTION

BACKGROUND/HISTORY

The proposed leak detection system would be utilized by the Water Division to proactively locate and pinpoint leaks while they are small. The detectors, (loggers) are placed in water vaults and/or hydrant auxiliary valves. The loggers detect leaks through sound waves. When a leak occurs, the sound will amplify from the pipe and the adjacent area. As the detection state changes, a water sensor will be awakened on the radio and send data to a wireless gateway. Through a correlation process the loggers calculate the origin of the leak and process the information through the Gutermann I-Cloud gateway service. The cloud-based technology then sends an alert to a monitoring app on a mobile device or desktop application.

This program will also eliminate the need to outsource leak locating services at a cost of approximately \$15,000-\$20,000 per year. The loggers will provide monitoring 24 hours per day 365 days a year. The program will have hosting costs after the initial five years, see attached sheet labeled as **Attachment A**.

This program is considered Phase 1 of 4 and is budgeted over a four-year program, pending budget considerations. The cost of the entire program will be approximately \$616,000 with reoccurring costs after the initial five years of each phase. As stated in the attached email, the pricing will be good for the entire project, see **Attachment B**. A further evaluation on the the return on investment throughout each phase was calculated and the program would pay for itself in 2.25 to 2.5 years. The reoccurring costs would be budget beginning 2027/2028. Please see **Attachment A**, summarizing the phases and costs.

Staff reviewed leak logger manufacturers and contacted municipalities that have deployed such systems. Upon review, it was determined that two vendors would meet the needs for the City of Darien. As additional information, **Attachment C** is technical information regarding the system.

Staff had solicited quotes for the leak loggers and received the following competitive quotes:

VENDOR	PHASE 1 COST	PHASE 2 COST	PHASE 3 COST	PHASE 4 COST	TOTAL COSTS
Gutermann	\$58,965	\$209,000	\$209,000	\$209,000	\$685,965
Subsurface Solutions	\$65,624	\$244,000	\$244,000	\$244,000	\$797,624

The proposed expenditure would be expended from the following line accounts:

ACCOUNT NUMBER	ACCOUNT DESCRIPTION	FY 23/24 BUDGET	PROPOSED EXPENDITURE	PROPOSED BALANCE
02-50-4815	Capital Purchases Leak Detection Equipment & Data Loggers	\$ 66,000	\$ 58,965	\$ 7,035

COMMITTEE RECOMMENDATION

The Municipal Services Committee recommends approval of a resolution authorizing the purchase of the Phase 1-Leak Logger Program, consisting of fifty-two leak logger units from Gutermann Inc., in an amount not to exceed \$58,965.

ALTERNATE DECISION

As recommended by the City Council.

DECISION MODE

This item will be placed on the March 6, 2023 City Council agenda for formal consideration.

PHASE 1 OF 3 ALL INCLUSIVE 5 YEAR COST

DESCRIPTION	QUANTITY	UNIT	Unit Cost	Discount	Gutermann - ZONESCAN NB- IDT
ZS-NBIOT-PROG-KIT	1	EACH	\$ 250.00	0%	\$ 250.00
ZS-NBIOT-KIT-90-29	52	EACH	\$ 1,365.00	25%	\$ 53,235.00
NBIOT-SIMCARD	52	EACH	\$ 55.00	0%	\$ 2,860.00
ZS-LB-ANTENNAS	52	EACH	\$ 30.00	100%	\$ -
Training - On Site Includes One day of training, travel and expenses	1	LUMP SUM	\$ 2,500.00	0%	\$ 2,500.00
Shipping	3	EACH	\$ 40.00	0%	\$ 120.00
TOTAL COST INCLUSIVE- FIVE YEARS					\$ 58,965.00

PROGRAM 1 OF 3 ANNUAL RECURRING COST YEARS 6-10

Recurring Annual Cost Section-Commences in Year 6	QUANTITY	UNIT	UNIT COST	ANNUAL RECURRING COST	FIVE YEAR COST	EIGHT YEAR COST
Per Sensor System Charge - Every year for 5 year term (\$18/Year)	52	MONTHLY	\$ 1.50	\$ 936.00	\$ 4,680.00	N/A
Per Sensor Wireless Access - Every year for 5 year term (\$31/Year)	52	MONTHLY	\$ 8.92	\$ 572.00	\$ 2,860.00	N/A
Total Recurring Cost Years 6-10				\$ 1,508.00	\$ 7,540.00	N/A
Sensor Battery Replacement - Every 8 years	52	EACH	\$ 20.00	\$ 1,300.00	\$ 650.00	\$ 1,040.00
Total Recurring Cost-Year 8				\$ 1,638.00	\$ 8,190.00	\$ 1,040.00

RETURN ON INVESTMENT	PHASE 1 INVESTMENT	AVERAGE ANNUAL WATER LOSS COST	SAVINGS	REDUCED AVERAGE ANNUAL WATER LOSS COST
PHASE 1 -52 LOGGERS	\$ 58,965.00	\$ (327,084.14)	\$ 58,965.00	\$ (268,119.14)

PHASE 2-

WATER LOSS CHART AND WHOLESALE COST

Break Size: 1/16" x 180 Degrees of 360				
Pipe Diameter Per Inch	Daily Loss in Gallons	Price per 1,000 gallon- Wholesale	Annual Loss in Gallons	Annual Cost
2	40,600	\$ 4.97	16,644,000	\$ 82,720.68
4	81,400	\$ 4.97	29,711,000	\$ 147,663.67
6	136,800	\$ 4.97	48,912,000	\$ 248,162.04
8	182,400	\$ 4.97	66,576,000	\$ 330,882.72
10	228,100	\$ 4.97	83,256,500	\$ 413,784.51
12	273,700	\$ 4.97	99,980,500	\$ 496,505.49
16	364,900	\$ 4.97	133,188,500	\$ 661,946.85

Break Size: 1/16" x 360 Degrees				
Pipe Diameter Per Inch	Daily Loss in Gallons	Price per 1,000 gallon	Annual Loss in Gallons	Annual Cost
2	91,100	\$ 4.97	33,251,500	\$ 165,259.96
4	182,500	\$ 4.97	66,612,500	\$ 331,064.13
6	273,600	\$ 4.97	99,864,000	\$ 496,324.08
8	364,800	\$ 4.97	133,152,000	\$ 661,765.44
10	456,200	\$ 4.97	166,513,000	\$ 827,569.61
12	547,400	\$ 4.97	199,801,000	\$ 993,010.97
16	729,900	\$ 4.97	266,413,500	\$ 1,324,075.10

WATER INVENTORY (LMO) REPORTING YEAR	UNACCOUNTABLE FLOW PERCENTAGE	UNACCOUNTABLE FLOW GALLONS PER DAY	UNACCOUNTABLE FLOW * GALLONS PER YEAR	WHOLESALE COST PER 100 GALLONS RATE IS AVERAGE DUE TO LMO REPORTING CALENDER	WHOLESALE COST
2022	9.80	177,098	64,641,314	6.00	\$ (327,084.14)
2021	7.50	136,198	49,711,374	4.00	\$ (247,064.51)
2020	14.00	274,000	100,012,000	4.00	\$ (497,084.23)
2019	8.60	173,998	63,488,394	4.00	\$ (256,356.65)
2018	9.40	179,218	65,440,124	4.00	\$ (321,360.57)
2017	10.20	189,814	142,201,094	4.00	\$ -609,082.73
2016	14.40	292,000	106,380,000	4.00	\$ (511,584.00)
**2015	14.80	274,000	100,010,000	4.00	\$ -585,168.57
**2014	4.50	99,200	36,135,000	\$ 4.00	\$ -642,423.00
2013	3.10	69,200	25,258,000	\$ 3.03	\$ -75,531.74
2012	3.30	89,234	32,580,600	\$ 2.73	\$ -88,915.20
2011	1.60	46,720	17,054,900	\$ 2.73	\$ -46,560.13
2010	7.90	191,000	69,713,000	\$ 2.73	\$ -196,321.81
2009	6.90	133,000	48,840,000	\$ 2.73	\$ -132,456.81
2008	3.20	81,000	29,560,000	\$ 2.73	\$ -80,712.40
2007	1.40	29,000	10,611,000	\$ 2.73	\$ -29,703.60
2006	4.90	102,000	37,230,000	\$ 2.73	\$ -101,637.00
2005	3.80	68,500	25,302,500	\$ 2.73	\$ -68,885.63
AVERAGE	5.59	129,000	47,114,200	\$ 2.73	\$ -128,621.77

* A major leak was identified at Cass Ave and South Frontage Rd-accounting for the increase.

**New standards implemented for calculations-First standard goal is to be under 12% water loss

PHASE 2 OF 4 ALL INCLUSIVE 5 YEAR COST

DESCRIPTION	QUANTITY	UNIT	Unit Cost	Discount	Gutermann - ZONESCAN NB-101T
ZS-NBIOT-PBIOG-KIT	1	EACH	\$ 250.00	0%	\$ 250.00
ZS-NBIOT-KIT-96-29	193	EACH	\$ 1,365.00	30%	\$ 184,115.50
NBIOT-SIMCARD	193	EACH	\$ 55.00	0%	\$ 10,615.00
ZS-LB-ANTENNAS	193	EACH	\$ 30.00	100%	\$ -
SAMSUNG ACTIVE TABLET	1	EACH	\$ 1,000.00	0%	\$ 1,000.00
Training - On Site Includes One day of training, travel and expenses	0	LUMP SUM	\$ 2,500.00	0%	\$ -
Training - On Site Includes One day of training, travel and expenses-CONTINGENCY	1	PER DAY	\$ 1,000.00	0%	\$ 1,000.00
Shipping--Estimated	1	LUMP SUM	\$ 2,600.00	0%	\$ 2,600.00
TOTAL COST INCLUSIVE-FIVE YEARS					\$ 199,876.50

PHASE 2 OF 4 ANNUAL RECURRING COST YEARS 6-10

Recurring Annual Cost Section-Commences in Year 6	QUANTITY	UNIT	UNIT COST	ANNUAL RECURRING	FIVE YEAR COST	EIGHT YEAR COST
Per Sensor System Charge - Every year for 5 year term (\$18/Year)	193	MONTHLY	\$ 1.50	\$ 3,474.00	\$ 17,370.00	N/A
Per Sensor Wireless Access - Every year for 5 year term (\$11/Year)	193	MONTHLY	\$ 0.92	\$ 2,123.00	\$ 10,615.00	N/A
Total Recurring Cost Years 6-10				\$ 5,597.00	\$ 27,985.00	N/A
Sensor Battery Replacement - Every 8 years	193	EACH	\$ 20.00	\$ 482.50	\$ 2,412.50	\$ 3,860.00
Total Recurring Cost-Year 8				\$ 6,079.50	\$ 30,397.50	\$ 3,860.00

RETURN ON INVESTMENT	INVESTMENT	AVERAGE ANNUAL WATER LOSS COST	ANNUAL SAVINGS	AVERAGE ANNUAL WATER LOSS COST WITH SAVINGS	5 YEAR ANNUAL SAVINGS	ANNUAL PERCENTAGE SAVINGS BASED ON TOTAL INVESTMENT
PHASE 1 -51 LOGGERS	\$ 58,965.00	#####	\$ 58,965.00	\$ (268,119.14)	\$ (1,340,595.72)	8.6%
PHASE 2 -193 LOGGERS	\$199,876.50	\$268,119.14)	\$ 258,841.50	\$ (9,277.64)	\$ (46,388.22)	37.7%
TOTALS	\$258,841.50	N/A	N/A	N/A	N/A	46.3%
TOTAL INVESTMENT COST	\$485,965.00					

WATER LOSS CHART AND WHOLESALE COST

Break Size: 1/8" x 180 Degrees of 360				
Pipe Diameter Per Inch	Daily Loss in Gallons	Price per 1,000 gallons Wholesale	Annual Loss in Gallons	Annual Cost
2	45,500	\$ 4.97	16,644,000	\$ 82,720.68
4	82,400	\$ 4.97	29,721,000	\$ 147,603.67
6	126,400	\$ 4.97	46,032,000	\$ 228,660.66
8	182,400	\$ 4.97	66,276,000	\$ 328,882.72
10	228,100	\$ 4.97	83,256,100	\$ 413,784.81
12	273,100	\$ 4.97	99,303,100	\$ 496,525.49
16	364,900	\$ 4.97	133,188,100	\$ 661,246.45

Break Size: 1/8" x 360 Degrees				
Pipe Diameter Per Inch	Daily Loss in Gallons	Price per 1,000 gallons	Annual Loss in Gallons	Annual Cost
2	91,100	\$ 4.97	33,251,000	\$ 165,259.96
4	182,200	\$ 4.97	66,632,000	\$ 331,084.43
6	273,300	\$ 4.97	99,664,000	\$ 496,204.08
8	364,400	\$ 4.97	133,152,000	\$ 661,262.64
10	456,200	\$ 4.97	166,513,000	\$ 827,369.61
12	547,400	\$ 4.97	199,801,000	\$ 993,010.97
16	739,800	\$ 4.97	269,413,100	\$ 1,338,079.10

WATER INVENTORY (LMO): REPORTING YEAR	UNACCOUNTABLE E FLOW PERCENTAGE	UNACCOUNTABLE E FLOW - GALLONS PER DAY	UNACCOUNTABLE E FLOW - GALLONS PER YEAR	1000-GALLONS RATE IS AVERAGE DUE TO LMO REPORTING CALENDAR	WHOLESALE COST
2002	0.00	177,000	64,641,000	6.00	\$187,089.14
2003	1.50	136,100	49,111,375	4.00	\$127,085.74
2004	14.00	274,000	100,012,000	4.00	\$187,085.74
2005	18.50	412,000	149,260,000	4.00	\$187,085.74
2006	9.00	199,200	72,448,800	4.00	\$187,085.74
2007	15.20	389,200	142,267,100	4.00	\$187,085.74
2008	14.00	292,000	106,580,000	4.00	\$111,264.00
2009	14.00	274,000	100,012,000	4.00	\$800,000.00
2010	4.50	96,200	34,935,000	4.00	\$442,423.00
2011	1.10	69,200	25,128,000	3.00	\$76,531.74
2012	7.10	89,200	32,399,000	2.75	\$86,023.25
2013	1.00	46,700	17,054,000	2.75	\$68,769.00
2014	7.00	101,000	36,515,000	2.75	\$87,963.75
2015	4.40	153,000	55,440,000	2.75	\$112,455.00
2016	3.20	81,000	29,565,000	2.75	\$86,712.00
2017	1.40	29,000	10,513,000	2.75	\$26,707.00
2018	4.00	102,000	37,128,000	2.75	\$101,457.75
2019	3.80	85,500	31,302,500	2.75	\$86,145.50
AVERAGE	8.25	120,000	47,114,200	2.75	\$128,623.75

* A major leak was identified at Cass Ave and South Frontage Rd accounting for the increase.

**New standards implemented for calculations-First standard goal is to be under 12% water loss

PHASE 3 OF 4 ALL INCLUSIVES YEAR COST

DESCRIPTION	QUANTITY	UNIT	Unit Cost	Discount	Gutermann - ZONESCAN NB-101
ZS-NBROT-PROG-KIT	1	EACH	\$ 250.00	0%	\$ 250.00
ZS-NBROT-KIT-90-29	193	EACH	\$ 1,365.00	30%	\$ 184,411.50
NBROT-SIMCARD	193	EACH	\$ 55.00	0%	\$ 10,615.00
ZS-LB-ANTENNAS	193	EACH	\$ 30.00	100%	\$ -
SAMSUNG ACTIVE TABLET	0	EACH	\$ 1,000.00	0%	\$ -
Training - On Site Includes One day of training, travel and expenses	0	LUMPSUM	\$ 2,500.00	0%	\$ -
Training - On Site Includes One day of training, travel and expenses-CONTINGENCY	2	PER DAY	\$ 1,000.00	0%	\$ 2,000.00
Shipping--Estimated	1	LUMPSUM	\$ 2,000.00	0%	\$ 2,000.00
TOTAL COST INCLUSIVE- FIVE YEARS					\$ 199,876.50

PHASE 3 OF 4 ANNUAL RECURRING COST YEARS 6-10

Recurring Annual Cost Section-Commences in Year 6	QUANTITY	UNIT	UNIT COST	ANNUAL RECURR	FIVE YEAR COST	EIGHT YEAR COST
Per Sensor System Charge - Every year for 5 year term (\$18/Year)	193	MONTHLY	\$ 1.50	\$ 3,474.00	\$ 17,370.00	N/A
Per Sensor Wireless Access - Every year for 5 year term (\$11/Year)	193	MONTHLY	\$ 0.92	\$ 2,123.00	\$ 10,615.00	N/A
Total Recurring Cost Years 6-10				\$ 5,597.00	\$ 27,985.00	N/A
Sensor Battery Replacement - Every 8 years	193	EACH	\$ 20.00	\$ 482.50	\$ 2,412.50	\$ 3,860.00
Total Recurring Cost Years				\$ 6,079.50	\$ 30,397.50	\$ 3,860.00

RETURN ON INVESTMENT	INVESTMENT	AVERAGE ANNUAL WATER LOSS COST	ANNUAL SAVINGS	AVERAGE ANNUAL WATER LOSS COST WITH SAVINGS	5 YEAR ANNUAL SAVINGS	ANNUAL PERCENTAGE SAVINGS BASED ON TOTAL INVESTMENT
PHASE 1 -52 LOGGERS	\$ 58,965.00	\$ (327,084.14)	\$ 58,965.00	\$ (268,119.14)	\$ (1,340,595.72)	8.6%
PHASE 2 -193 LOGGERS	\$199,876.50	\$ (268,119.14)	\$ 258,841.50	\$ (9,277.64)	\$ (46,388.22)	37.7%
PHASE 3 -193 LOGGERS	\$199,876.50	\$ (9,277.64)	\$ 458,718.00	\$ 449,440.36	\$ 2,247,201.78	66.9%
TOTALS	\$458,718.00	N/A	N/A	N/A	N/A	113.2%
TOTAL INVESTMENT COST	\$688,965.00					

WATER LOSS CHART AND WHOLESALE COST

Break Size: 100" x 100 Diagonals of 300				
Pipe Diameter Per Inch	Daily Loss in Gallons	Price per 1,000 gallon-Wholesale	Annual Loss in Gallons	Annual Cost
2	45,000	\$ 4.97	16,500,000	\$ 82,700.00
4	81,000	\$ 4.97	29,711,000	\$ 147,661.07
6	126,000	\$ 4.97	45,912,000	\$ 228,362.04
8	182,000	\$ 4.97	66,576,000	\$ 330,882.72
10	238,000	\$ 4.97	87,238,000	\$ 433,789.81
12	273,000	\$ 4.97	99,966,000	\$ 498,930.40
16	364,000	\$ 4.97	133,188,000	\$ 663,949.85

Break Size: 100" x 100 Diagonals				
Pipe Diameter Per Inch	Daily Loss in Gallons	Price per 1,000 gallon	Annual Loss in Gallons	Annual Cost
2	91,000	\$ 4.97	33,251,000	\$ 165,359.86
4	182,000	\$ 4.97	66,512,000	\$ 331,064.13
6	273,000	\$ 4.97	99,864,000	\$ 496,324.08
8	364,000	\$ 4.97	133,152,000	\$ 663,705.44
10	455,000	\$ 4.97	166,511,000	\$ 827,369.82
12	546,000	\$ 4.97	199,866,000	\$ 998,339.81
16	728,000	\$ 4.97	266,411,000	\$ 1,328,895.33

WATER INVENTORY (AMO) REPORTING YEAR	UNACCOUNTABLE LOSS- PERCENTAGE	UNACCOUNTABLE LOSS- GALLONS PER DAY	UNACCOUNTABLE LOSS- YEAR	WHOLESALE COST PER 1,000 GALLONS RATE IS AVERAGE OF 10 DAYS REPORTING CALENDAR	WHOLESALE COST
2020	9.5%	177,000	64,641.15	\$ 4.98	\$ 322,084.15
2021	7.5%	138,151	49,711.13	\$ 4.98	\$ 247,664.15
2020	14.0%	274,000	100,074.52	\$ 4.98	\$ 499,664.15
2020	8.0%	177,000	64,641.15	\$ 4.98	\$ 322,084.15
2019	0.4%	179,250	65,490.12	\$ 4.92	\$ 323,763.77
2017	18.2%	385,810	142,281.10	\$ 4.85	\$ 689,062.74
2019	14.4%	292,000	106,360.00	\$ 4.80	\$ 511,284.00
2021	14.5%	274,000	100,074.52	\$ 4.80	\$ 484,084.00
2014	4.5%	97,800	35,555.78	\$ 4.80	\$ 170,427.36
2013	3.1%	97,800	35,555.78	\$ 4.80	\$ 170,427.36
2012	9.5%	177,000	64,641.15	\$ 2.73	\$ 176,611.71
2011	1.6%	46,720	17,054.99	\$ 2.73	\$ 46,566.72
2010	7.96%	191,000	69,311.00	\$ 2.73	\$ 190,321.87
2009	6.40%	153,000	55,447.00	\$ 2.73	\$ 152,469.81
2008	6.20%	81,000	29,565.00	\$ 2.73	\$ 80,792.85
2007	1.40%	26,900	10,015.50	\$ 2.73	\$ 27,542.36
2006	4.91%	102,000	37,260.00	\$ 2.73	\$ 102,617.76
2005	3.80%	88,500	32,302.50	\$ 2.73	\$ 88,185.81
AVERAGE	6.55%	120,000	43,714.29	\$ 2.73	\$ 119,621.71

* A major leak was identified at Cava Ave and South Frontage Rd accounting for the increase.

**New standards implemented for calculations First standard goal is to be under 12% water loss

PHASE 4 OF 4 ALL INCLUSIVE 5 YEAR COST

DESCRIPTION	QUANTITY	UNIT	Unit Cost	Discount	Gutermann - ZONESCAN NB-IOT
ZS-NBIOT-PROG-KIT	1	EACH	\$ 250.00	0%	\$ 250.00
ZS-NBIOT-KIT-96-29	193	EACH	\$ 1,365.00	30%	\$ 184,411.50
NBIOT-SIM-CARD	193	EACH	\$ 55.00	0%	\$ 10,615.00
ZS-LB-ANTENNAS	193	EACH	\$ 30.00	100%	\$ -
SAMSUNG ACTIVE TABLET	0	EACH	\$ 1,000.00	0%	\$ -
Training - On Site Includes One day of training, travel and expenses	0	LUMP SUM	\$ 2,500.00	0%	\$ -
Training - On Site Includes One day of training, travel and expenses-CONTINGENCY	2	PER DAY	\$ 1,000.00	0%	\$ 2,000.00
Shipping--Estimated	1	LUMP SUM	\$ 2,600.00	0%	\$ 2,600.00
TOTAL COST INCLUSIVE- FIVE YEARS					\$ 199,876.50

PHASE 4 OF 4 ANNUAL RECURRING COST YEARS 6-10

Recurring Annual Cost Section-Commences in Year 6	QUANTITY	UNIT	UNIT COST	ANNUAL RECURRING C	FIVE YEAR COST	EIGHT YEAR COST
Per Sensor System Charge - Every year for 5 year term (\$18/Year)	193	MONTHLY	\$ 1.50	\$ 3,474.00	\$ 17,370.00	N/A
Per Sensor Wireless Access - Every year for 5 year term (\$11/Year)	193	MONTHLY	\$ 0.92	\$ 2,123.00	\$ 10,615.00	N/A
Total Recurring Cost Years 6-10	193			\$ 5,597.00	\$ 27,985.00	N/A
Sensor Battery Replacement - Every 8 years	193	EACH	\$ 20.00	\$ 482.50	\$ 2,412.50	\$ 3,860.00
Total Recurring Cost-Year 8				\$ 6,079.50	\$ 30,397.50	\$ 3,860.00

RETURN ON INVESTMENT	INVESTMENT	AVERAGE ANNUAL WATER LOSS COST	ANNUAL SAVINGS	AVERAGE ANNUAL WATER LOSS COST WITH SAVINGS	5 YEAR ANNUAL SAVINGS	ANNUAL PERCENTAGE SAVINGS BASED ON TOTAL INVESTMENT
PHASE 1 -52 LOGGERS	\$ 58,965.00	\$ (327,084.14)	\$ 58,965.00	\$ (268,119.14)	\$ (1,340,595.72)	8.6%
PHASE 2 -193 LOGGERS	\$ 199,876.50	\$ (268,119.14)	\$ 258,841.50	\$ (9,277.64)	\$ (46,388.22)	37.7%
PHASE 3 -193 LOGGERS	\$ 199,876.50	\$ (9,277.64)	\$ 458,718.00	\$ 449,440.36	\$ 2,247,201.78	66.9%
PHASE 4 -193 LOGGERS	\$ 199,876.50	\$ 449,440.36	N/A	N/A	N/A	N/A
TOTALS	\$ 658,594.50	\$ -	N/A	N/A	N/A	113.2%
TOTAL INVESTMENT COST	\$ 685,965.00					

WATER LOSS CHART AND WHOLESALE COST

Break Size: 1/16" x 180 Degrees of 360				
Pipe Diameter Per Inch	Daily Loss in Gallons	Price per 1,000 gallon- Wholesale	Annual Loss in Gallons	Annual Cost
2	45,600	\$ 4.97	16,644,000	\$ 82,720.68
4	81,400	\$ 4.97	29,711,000	\$ 147,663.67
6	136,800	\$ 4.97	49,932,000	\$ 248,162.04
8	182,400	\$ 4.97	66,576,000	\$ 330,882.72
10	228,100	\$ 4.97	83,256,500	\$ 413,784.81
12	273,700	\$ 4.97	99,900,500	\$ 496,505.49
16	364,900	\$ 4.97	133,188,500	\$ 661,946.85

Break Size: 1/16" x 360 Degrees				
Pipe Diameter Per Inch	Daily Loss in Gallons	Price per 1,000 gallon	Annual Loss in Gallons	Annual Cost
2	91,100	\$ 4.97	33,251,500	\$ 165,259.96
4	182,500	\$ 4.97	66,612,500	\$ 331,064.13
6	273,600	\$ 4.97	99,864,000	\$ 496,324.08
8	364,800	\$ 4.97	133,152,000	\$ 661,765.44
10	456,200	\$ 4.97	166,513,000	\$ 827,569.61
12	547,400	\$ 4.97	199,801,000	\$ 993,010.97
16	729,900	\$ 4.97	266,413,500	\$ 1,324,075.10

WATER INVENTORY (LMO) REPORTING YEAR	UNACCOUNTABLE FLOW PERCENTAGE	UNACCOUNTABLE FLOW - GALLONS PER DAY	UNACCOUNTABLE FLOW - GALLONS PER YEAR	WHOLESALE COST PER 1000 GALLONS-RATE IS AVERAGE DUE TO LMO REPORTING CALENDER	WHOLESALE COST
2022	9.30%	177,099	64,641,135	\$ 5.06	\$ (327,084.14)
2021	7.50%	136,195	49,711,175	\$ 4.97	\$ (247,064.54)
2020	14.00%	274,000	100,010,000	\$ 4.97	\$ (497,064.21)
2019	6.60%	113,384	41,604,168	\$ 4.96	\$ (208,356.63)
2018	9.40%	179,288	65,440,120	\$ 4.92	\$ (321,965.39)
2017	18.20%	389,810	142,281,000	\$ 4.85	\$ (690,062.85)
2016	14.40%	292,000	106,580,000	\$ 4.80	\$ (511,584.00)
**2015	14.30%	274,000	100,010,000	\$ 4.85	\$ (485,048.50)
*2014	4.55%	99,200	36,135,000	\$ 4.68	\$ (442,423.80)
2013	3.18%	69,200	25,258,000	\$ 3.03	\$ (76,531.74)
2012	3.76%	89,232	32,569,669	\$ 2.73	\$ (88,915.20)
2011	1.61%	46,226	17,054,999	\$ 2.73	\$ (46,506.12)
2010	7.96%	191,000	69,715,000	\$ 2.73	\$ (180,321.99)
2009	6.40%	153,000	55,845,000	\$ 2.73	\$ (152,456.85)
2008	3.20%	81,000	29,565,000	\$ 2.73	\$ (80,712.45)
2007	1.46%	29,900	10,913,500	\$ 2.73	\$ (29,793.86)
2006	4.91%	102,000	37,230,000	\$ 2.73	\$ (101,637.90)
2005	3.80%	88,500	32,302,500	\$ 2.73	\$ (88,185.83)
AVERAGE	5.55%	129,080	47,114,200	\$ 2.73	\$ (128,621.77)

* A major leak was identified at Cross Ave and South Frontage Rd-accounting for the increase.

**New standards implemented for calculations-First standard goal is to be under 12% water loss

Regina Kokkinis

From: Dan Gombac
Sent: Wednesday, February 22, 2023 3:17 PM
To: Regina Kokkinis
Subject: Leak Loggers

Need to incorporate email into agenda memo that the prices will be held.

From: Kris Throm <kthrom@darienil.gov>
Sent: Wednesday, February 22, 2023 10:23 AM
To: Dan Gombac <dgombac@darienil.gov>
Subject: FW: Checking In

See below for Gutermann pricing.

Thanks,

Kris Throm
City of Darien Municipal Services
Superintendent
 (630) 514-3453

To receive important information from the City of Darien sign up for our electronic newsletter:
 DARIEN DIRECT CONNECT
 Follow the link below and subscribing is simple! <http://www.darien.il.us/Reference-Desk/DirectConnect.aspx>

From: Cameron Keyes <cameron.keyes@gutermann-water.com>
Sent: Tuesday, February 21, 2023 12:36 PM
To: Kris Throm <kthrom@darienil.gov>
Subject: Re: Checking In

Hello Kris,

Thanks for the email. The pricing will be good for the entire project!

As for a trial and a Western Springs contact yes. I say we set up 10 or so loggers in your system ASAP. I'll be in the area for WaterCon the week of March 20th. Do you want to schedule something for the 23rd?

Looking forward to it.

Cameron Keyes

Director - North America : Gutermann, Inc.

C: 603-320-9166 F: 603-292-6171

www.linkedin.com/in/cameronkeyesgutermann

Correlating Loggers & Permanent Monitoring Systems

ZONESCAN

Smallest correlating radio logger on the market.

- Correlating loggers with high pinpointing accuracy for mobile applications (Lift & Shift or Drive-by)
- Intuitive and versatile Android software ZONESCAN Smart for use with phones and tablets
- Optional data upload to ZONESCAN Net cloud service
- Optimised battery life



Fixed Distribution Network Monitoring

ZONESCAN

Compact permanently installed noise loggers with direct NB-IoT data communication to the Gutermann Cloud.

- Robust data communication of the logger from the chamber to the cloud, even through cast iron lids
- Automatic synchronisation of loggers for accurate leak pinpointing (full correlation)
- NB-IoT is perfect for environmental monitoring thanks to excellent deep coverage, low communication costs and high energy-efficiency
- Easy installation with ZONESCAN INSTALL - Battery changeable in the field



ZONESCAN

Fully correlating monitoring system with complete RF infrastructure.

- Award-winning permanent monitoring system for municipalities without reliable NB-IoT cell coverage
- Fully automatic and highly accurate leak alarming and pinpointing
- Sophisticated Gutermann Cloud software with map-based views, dashboards reports and event management tools
- Hundreds of systems installed around the world



Fixed Trunk Main Monitoring

HISCAN

Permanent trunk main monitoring with hydrophones.

- Daily automatic correlations and near real-time leak alarms
- Precise pinpointing even of small emerging leaks
- Increased sensitivity even on plastic pipes using redesigned hydrophones
- Long distances between measuring points
- Energy independence thanks to solar panels
- Upload of data to the ZONESCAN Net cloud



CASE STUDIES

MULTISCAN  ZONESCAN  AQUASCAN 



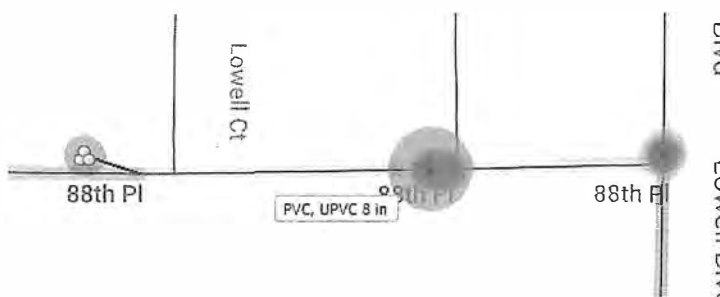
Product: MULTISCAN

Type: Real-Time/Overnight
Multi-point Correlator

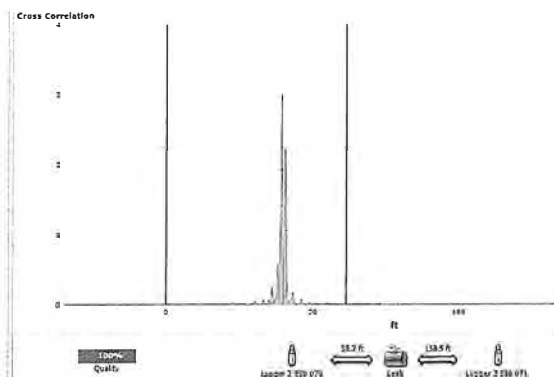
Utility/Company: Westminster, CO
Pipe Material/Diameter: 8" PVC Main
Correlation Quality(s): 100%

Time of Measurement: 8:37 A.M.

Summary: Leak was found after a pro-active leak survey, aimed at reducing non-revenue water. Three (3) sensors produced three leak correlations; one directly at the T-intersection between two sensors placed on Lowell Blvd, and two directly on the leaky hydrant's position, on 88th Pl. The leak was due to a corroded hydrant shoe valve, which was later replaced.



ZONESCAN NET Map View



ZONESCAN NET Correlation Graph



ZONESCAN NET Street View



Leak on Corroded Hydrant Shoe

Product: ZONESCAN 820





Type: Correlating Radio
Loggers in Lift & Shift mode

Utility/Company: Wentzville OH

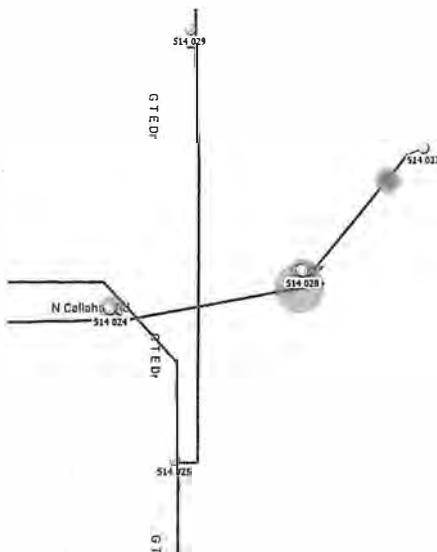
Pipe Material/Diameter: 6" Ductile Iron

Time of Measurement: 2:00 A.M.

Summary: During a pro-active leak survey, ten (10) sensors were placed in an area that was thought to be quiet. To the operator's surprise, one logger returned a high "leak score." After an investigation, the crew found a creek with an abandoned service line near the logger, and deployed the loggers again. Sure enough, the loggers pinpointed leaks on the service - leaks which were discovered to be the source of the pond (see photos below). After the line was shut off, the water drained into a nearby creek.

Correlations		Logger Noise	Events					
	Quality...	Logger 1	Logger 2	Distan...	Distan...	Center...	Pipe Length	Pipe ...
	<div><div>100%</div></div>	514 027	514 028	28.9 ft	126.2 ft	-48.6 ft	155.2 ft	
	<div><div>90%</div></div>	514 024	514 028	187.0 ft	0.0 ft	106.5 ft	161.0 ft	

ZONESCAN NET Correlation Tab



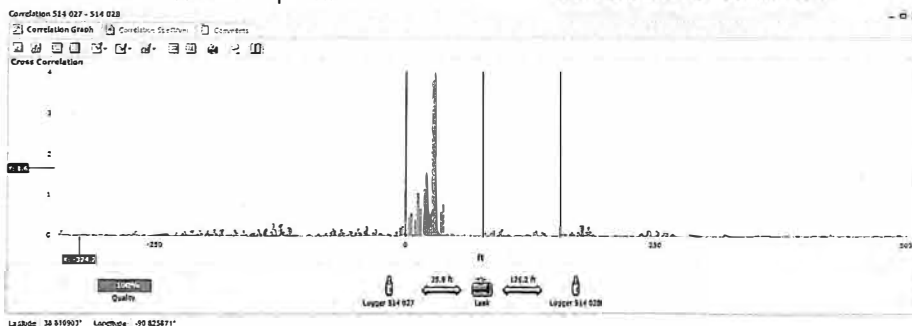
ZONESCAN NET Map View



ZONESCAN NET Street View



(Above) Pond created by the larger leak.
(Below) Puddle created by the smaller leak.



ZONESCAN NET Correlation Graph of 100% leak

Return on Investment: Though the crew did not know how long the leak had been active, they calculated that over a conservative period of 6 months, the excess production cost due to the leaks was roughly \$96,000. With the cost of equipment, and liberal estimates of man power hours, Wentzville's return on investment for finding the two leaks in question was over \$73,000.

Product: ZONESCAN NB-IO

Type: Automatic Network Monitoring Loggers, utilizing the Narrowband Internet of Things

Utility/Company: Lebanon PA

Pipe Material/Diameter: 4" CI Main w/ 3/4" Copper Service

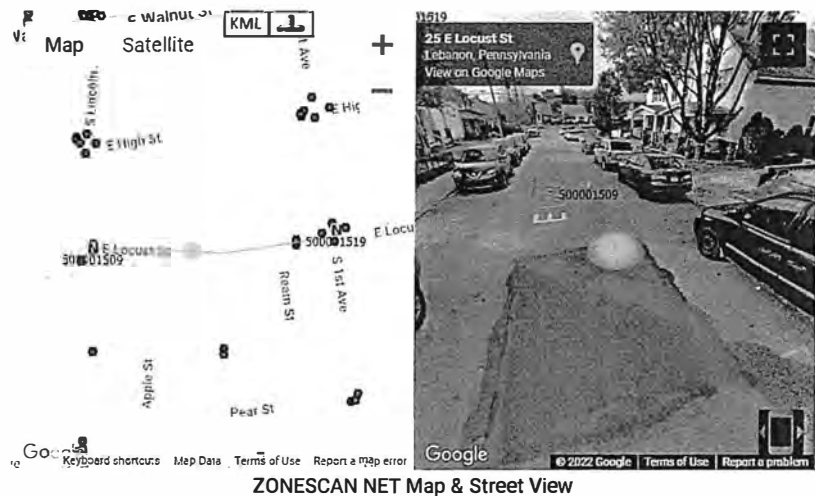
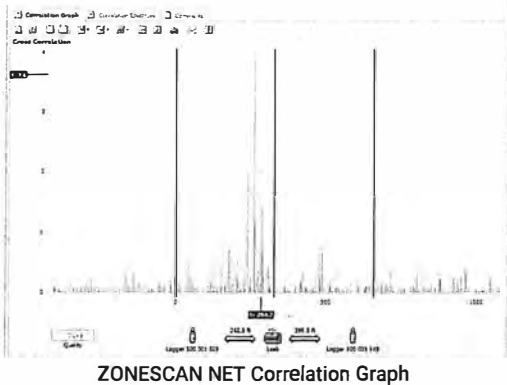
Summary: Lebanon PA installed their NB-IoT logger system in 2020, starting with 30 loggers, and expanding to 130 loggers in 2022. Since install, the system has boasted over 95% connectivity on a consistent basis, and has found over thirty leaks for the city. The two examples below are from the earliest, and most recent, days of install, respectively. Lebanon PA has made excellent use of the Events feature of ZONESCAN NET, which pings the user on new high-quality correlations, and allows the city to keep track of their investigated leaks, as well as label which correlations are due to other noise sources, such as PRVs.

Leak 1: Sept. 19, 2020 - 2:00 A.M.

Correlation Quality: 70%

Distance: 660 ft

Result: Leak was found repaired. Leak was non-surfacing, on a utility-side service line.

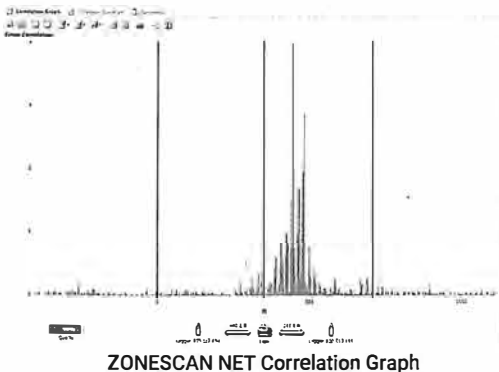


Leak 2: June 3rd, 2022 - 2:00 A.M.

Correlation Quality: 90%

Distance: 706 ft

Result: Leak was found repaired. Leak was non-surfacing, on a service line on the customer's property.



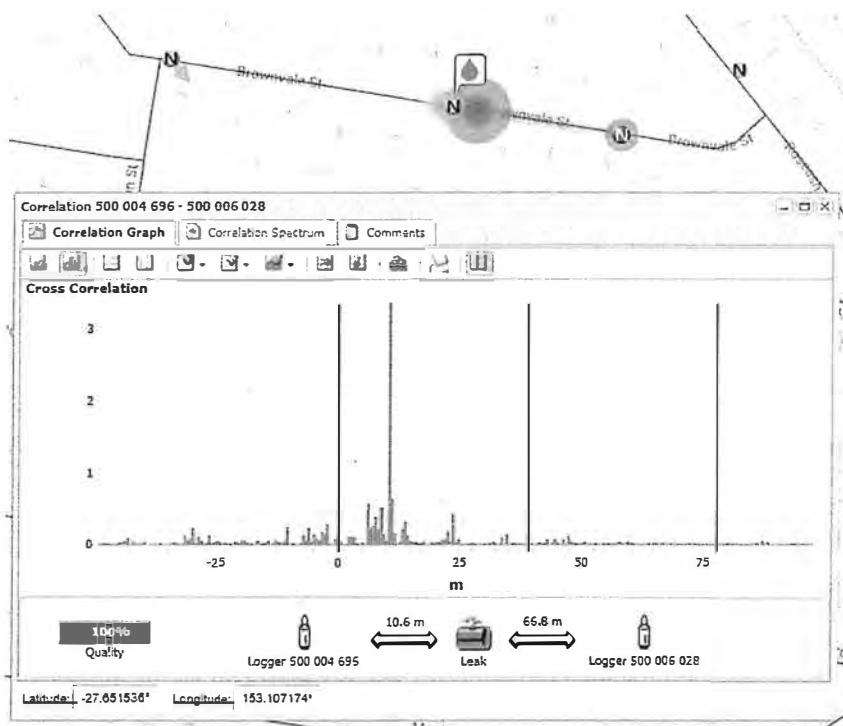
Product: ZONESCAN NB-IoT

Type: Automatic Network
Monitoring Loggers, utilizing the
Narrowband Internet of Things

Utility/Company: City of Logan, Australia

Pipe Material/Diameter: 100mm (4") PVC main w/ 100mm (3/4") poly conduit

Summary: The City of Logan, after tremendous success with their ZONESCAN 820 lift & shift program, implemented a 300-point ZONESCAN NB-IoT system in May of 2021. In the first few months, the system found a total of 23 leaks (both mainline and customer-side), which saved an estimated \$261k USD annually in non-revenue water. Pictured below is the most costly leak that was found by the system: a non-surfacing leak caused by a damaged road conduit. The city meticulously recorded every aspect of the found leaks, noting details such as identification-to-stoppage times, and gal/m losses.



Pipe Info: 100mm (4 in.) PVC main & 20mm (0.75 in.) poly road conduit

Correlation Score: 100%

Logger Spacing: 77.4m (254 ft)

Total Time from Identification to Stoppage: 29.45 hrs

Leakage Rate: 97.52 L/m (25.76 gal/m)

Actual Non-Revenue Water Loss: \$538.00 USD or 172 KL

Total Estimated Non Revenue Water Loss Annually (in USD): \$147,133.00



Return on Investment: Though the NB-IoT system will continue to monitor the utility's water system for years to come, large and costly leaks caught early have provided a near full return on investment in the span of just two months. This startling success led the city to invest in creating purpose-built, ultra-secure chambers to better cover their mixed material system with NB-IoT Loggers where no valves are present.



Product: ZONESCAN 820 & AQUASCAN 610

Utility/Company: Kansas City BPU, KS

Summary: In an effort to reduce its 35% water loss, the utility conducted a proactive leak survey using 50 overnight correlating loggers, and an AQUASCAN 610 real-time correlator. The survey spanned 144 miles of pipe, and lasted 61 days, with one worker able to deploy up to 25 loggers per hour. Pictured below are three examples of leaks found during the survey.

ZONESCAN NET Correlation Report

Kansas City BPU 2018-08-17 (Report created on 2019-06-03 2:21 PM)



Correlation

Quality	Location	Logger 1	Logger 2	Dist. L1	Dist. L2	Center Dist.	Pipe Len.	Comments
70	1 Eaton St	509679	509684	147.6 ft	26.6 ft	62.4 ft	174.2 ft	4" Main Leak - Pinpointed after 2 years of searching!



Leak on 4" CI Main Line

ZONESCAN NET Correlation Report

Kansas City BPU 2017-09-22 (Report created on 2017-10-24 5:27 PM)



Correlation

Quality	Location	Logger 1	Logger 2	Dist. L1	Dist. L2	Center Dist.	Pipe Len.	Comments
100	7425-7499 Georgia Ave	509700	509701	42.6 ft	735.4 ft	-348.1 ft	778.2 ft	



Leak on AC Main Line

Return on Investment: The survey identified a total of 64 leaks - 25 mainline, 12 service, 5 hydrants, 8 mainline/hydrant valves, and 14 customer-side leaks. Subsequent repairs took the utility from 1.55 MGD (approx. \$16.5k per mo.) losses to 0.662 MGD (approx. \$7k per mo.) losses, a reduction of over 20% in just two months.

RESOLUTION NO. R-32-23

**A RESOLUTION AUTHORIZING THE PURCHASE OF THE PHASE 1-LEAK
LOGGER PROGRAM, CONSISTING OF FIFTY-TWO LEAK LOGGER UNITS FROM
GUTERMANN INC., IN AN AMOUNT NOT TO EXCEED \$58,965**

**BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF DARIEN, DU
PAGE COUNTY, ILLINOIS, as follows:**

SECTION 1: The City Council of the City of Darien does hereby accept a proposal for the purchase of the Phase 1-Leak Logger Program, consisting of fifty-two leak logger units from Gutermann Inc., in an amount not to exceed \$58,965, a copy of which is attached hereto as **"Exhibit A"**.

SECTION 2: This Resolution shall be in full force and effect from and after its passage and approval as provided by law.

**PASSED BY THE CITY COUNCIL OF THE CITY OF DARIEN, DU PAGE
COUNTY, ILLINOIS, this 6th day of March 2023.**

AYES: 7 - Belczak, Chlystek, Gustafson, Kenny, Schauer, Sullivan, Vaughan

NAYS: 0 - NONE

ABSENT: 0 - NONE


**APPROVED BY THE MAYOR OF THE CITY OF DARIEN, DU PAGE COUNTY,
ILLINOIS, this 6th day of March 2023.**


JOSEPH MARCHESE, MAYOR

ATTEST:

JOANNE E. RAGONA, CITY CLERK

APPROVED AS TO FORM:


CITY ATTORNEY





Gutermann Inc.
 55 Main St., Suite 311
 03857 Newmarket, NH
 Tel.: +1 (603) 200-0340
 Fax: +1 (603) 292 6171
<http://www.gutermann-water.com>
usa@gutermann-water.com

Darien Public Works - IL, Kris Throm
 1041 S. Frontage Rd
 Darien IL 60561
 United States

Invoicing Address:

Darien Public Works - IL, Kris Throm
 1041 S. Frontage Rd
 Darien IL 60561
 United States

Shipping Address:

Darien Public Works - IL
 1041 S. Frontage Rd
 Darien IL 60561
 United States

Quotation

Quotation Number: S/GUS/2301183
 Quotation Date: 01/09/2023
 Expiration Date: 04/09/2023
 Reference: USA20230109CK NBIOT
 Your Contact Person: Cameron Keyes
 Phone:
 Email: cameron.keyes@gutermann-water.com

Pos	Qty	Unit	Part No	Description	Unit Price	Disc. %	Taxes	Amount
1	1.00	Pcs	ZS-NBIOT-PROG-KIT	[ZS-NBIOT-PROG-KIT] ZS NB-IoT programming kit	250.00	0.00		\$ 250.00
2	52.00	Pcs	ZS-NBIOT-KIT-90-29	[ZS-NBIOT-KIT-90-29] ZONESCAN NB-IoT correlating leak logger incl antenna (12,13,17,28 (90mm), 290 cm)	1,365.00	25.00		\$ 53,235.00
				Included in Price: five year subscription for battery change, warranty and hosting fee, per logger. (\$1.50 Per Month / Logger after the 5 years)				
3	52.00	Pcs	NBIOT-SIMCARD	[NBIOT-SIMCARD] ZONESCAN NB-IoT data SIM card.	55.00	0.00		\$ 2,860.00
				Five year hosting and management subscription, per logger				
4	52.00	Pcs	ZS-LB-ANT	[ZS-LB-ANT] ZONESCAN L bracket for antennas	30.00	100.00		\$ 0.00
5	1.00	Units	Included	Training - Web Based - included in equipment price	0.00	0.00		\$ 0.00
6	1.00	Units	Includes - one day training, travel and expenses	Training - On site (Days) - Includes One day of training, travel and expenses	2,500.00	0.00		\$ 2,500.00
7	3.00	Units		Shipping Cost	40.00	0.00		\$ 120.00

Page: 1 / 2

Bank Account
 TD Bank

Routing number
 01140071

Account number
 9242620600

Federal ID
 20-8983602



Gutermann Inc.

55 Main St., Suite 311

03857 Newmarket, NH

Tel.: +1 (603) 200-0340

Fax: +1 (603) 292 6171

<http://www.gutermann-water.com>

usa@gutermann-water.com

Subtotal	\$ 58,965.00
Total	\$ 58,965.00

Payment terms: 30 Days

Page: 2 / 2

Bank Account
TD Bank

Routing number
01140071

Account number
9242620600

Federal ID
20-8983602

Darien Public Works - IL, Kris Throm
 1041 S. Frontage Rd
 Darien IL 60561
 United States

Invoicing Address:

Darien Public Works - IL, Kris Throm
 1041 S. Frontage Rd
 Darien IL 60561
 United States

Shipping Address:

Darien Public Works - IL
 1041 S. Frontage Rd
 Darien IL 60561
 United States

Quotation

Quotation Number: S/GUS/2301183
 Quotation Date: 01/09/2023
 Expiration Date: 04/09/2023
 Reference: USA20230109CK NBIOT
 Your Contact Person: Cameron Keyes
 Phone:
 Email: cameron.keyes@gutermann-water.com

Pos	Qty	Unit	Part No	Description	Unit Price	Disc. %	Taxes	Amount
1	1.00	Pcs	ZS-NBIOT-PROG-KIT	[ZS-NBIOT-PROG-KIT] ZS NB-IoT programming kit	250.00	0.00		\$ 250.00
2	545.00	Pcs	ZS-NBIOT-KIT-90-29	[ZS-NBIOT-KIT-90-29] ZONESCAN NB-IoT correlating leak logger incl antenna (12,13,17,28 (90mm), 290 cm)	1,365.00	30.00		\$ 520,747.50
				Included in Price: five year subscription for battery change, warranty and hosting fee, per logger.				
3	545.00	Pcs	NBIOT-SIMCARD	[NBIOT-SIMCARD] ZONESCAN NB-IoT data SIM card.	55.00	0.00		\$ 29,975.00
				Five year hosting and management subscription, per logger				
4	545.00	Pcs	ZS-LB-ANT	[ZS-LB-ANT] ZONESCAN L bracket for antennas	30.00	100.00		\$ 0.00
5	1.00	Units		Samsung Active 3 Tablet	1,000.00	0.00		\$ 1,000.00
6	1.00	Units	Included	Training - Web Based - included in equipment price	0.00	0.00		\$ 0.00
7	1.00	Units	Includes - one day training, travel and expenses	Training - On site (Days) - Includes One day of training, travel and expenses	2,500.00	0.00		\$ 2,500.00

Pos	Qty	Unit	Part No	Description	Unit Price	Disc.%	Taxes	Amount
8	1.00	Units	Includes - one day training, travel and expenses	Training - On site (Days) - Each Additional Day	1,000.00	0.00		\$ 1,000.00
Subtotal								\$ 555,472.50
Total								\$ 555,472.50

Payment terms: 30 Days

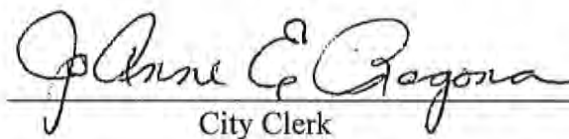
STATE OF ILLINOIS)
) SS
COUNTY OF DU PAGE)

I, JoAnne E. Ragona, do hereby certify that I am the duly qualified CITY CLERK of the CITY OF DARIEN of DuPage County, Illinois, and as such officer I am the keeper of the records and files of the City;

I do further certify that the foregoing constitutes a full, true and correct copy of **RESOLUTION NO. R-32-23 — “A RESOLUTION AUTHORIZING THE PURCHASE OF THE PHASE 1-LEAK LOGGER PROGRAM, CONSISTING OF FIFTY-TWO LEAK LOGGER UNITS FROM GUTERMANN INC., IN AN AMOUNT NOT TO EXCEED \$58,965”** of The City of Darien, Du Page County, Illinois, Duly Passed and Approved by the Mayor and City Council at a Meeting Held on March 6, 2023.

IN WITNESS WHEREOF, I have hereunto affixed my official hand and seal this 6th day of March, 2023.




City Clerk



March 9, 2023

Gutterman, Inc.
Attn: Cameron Keyes
55 Main St., Suite 311
Newmarket, NH 03857

RE: leak logger program – phase 1

Dear Cameron Keyes,

Enclosed please find a certified copy of *Resolution No. R-32-23 – “A RESOLUTION AUTHORIZING THE PURCHASE OF THE PHASE 1 - LEAK LOGGER PROGRAM, CONSISTING OF FIFTY-TWO LEAK LOGGER UNITS FROM GUTERMANN INC., IN AN AMOUNT NOT TO EXCEED \$58,965”* passed by the City Council at its regular meeting on March 6, 2023.

Should you have any questions or concerns, please give me a call at (630) 353-8106.

Sincerely,

CITY OF DARIEN

A handwritten signature in black ink, appearing to read "Daniel Gombac".

Daniel Gombac
Director of Municipal Services

Enclosure

cc: JoAnne E. Ragona, City Clerk
Kris Throm, Superintendent of Municipal Services

AGENDA MEMO
City Council
June 5, 2023

ISSUE STATEMENT

A resolution authorizing the purchase of the Phase 2-Leak Logger Program, consisting of 146 leak logger units from Gutermann Inc., in an amount not to exceed \$219,191.70

RESOLUTION

BACKGROUND/HISTORY

The proposed leak detection system is Phase 2-4 utilized by the Water Division to proactively locate and pinpoint leaks while they are small. The detectors, (loggers) are placed in water vaults and/or hydrant auxiliary valves. The loggers detect leaks through sound waves. When a leak occurs, the sound will amplify from the pipe and the adjacent area. As the detection state changes, a water sensor will be awakened on the radio and send data to a wireless gateway. Through a correlation process the loggers calculate the origin of the leak and process the information through the Gutermann I-Cloud gateway service. The cloud-based technology then sends an alert to a monitoring app on a mobile device or desktop application.

This program will also eliminate the need to outsource leak locating services at a cost of approximately \$15,000-\$20,000 per year upon full deployment of the leak loggers. The loggers will provide daily monitoring, 365 days a year. The program will have hosting costs after the initial five years, see attached sheet labeled as **Attachment A**.

This program is considered Phase 2 of 4 and is budgeted over a three-year program, pending budget considerations. The cost of the entire program will be approximately \$616,000 with reoccurring costs after the initial five years of each phase. As stated in the attached email, the pricing will be honored for the entire project, see **Attachment B**. A further evaluation on the the return on investment throughout each phase was calculated and the program would pay for itself in 2.25 to 2.5 years. The reoccurring costs would be budget beginning 2027/2028. Please see **Attachment A**, summarizing the phases and costs. As additional information, **Attachment C** is technical information regarding the system.

The proposed expenditure would be expended from the following line accounts:

ACCOUNT NUMBER	ACCOUNT DESCRIPTION	FY 23/24 BUDGET	PROPOSED EXPENDITURE	ACCOUNT BALANCE
02-50-4815	Capital Purchases Leak Detection Equipment & Data Loggers	\$220,000.00	\$219,191.70	\$808.30

STAFF RECOMMENDATION

Staff recommends a resolution authorizing the purchase of the Phase 2-Leak Logger Program, consisting of 146 leak logger units from Gutermann Inc., in an amount not to exceed \$219,191.70.

COMMITTEE RECOMMENDATION

This item is being presented to the Municipal Services Committee prior to the City Council Meeting on June 5, 2023. Chairman Belczak will be presenting the Committee's recommendation to the City Council.

ALTERNATE DECISION

As recommended by the City Council.

DECISION MODE

This item will be placed on the June 5, 2023 City Council agenda for formal consideration.

PHASE 1 OF 3 ALL INCLUSIVE 5 YEAR COST

DESCRIPTION	QUANTITY	UNIT	Unit Cost	Discount	Gutermann - ZONESCAN NB-IDT
ZS-NBIOT-PROG-KIT	1	EACH	\$ 250.00	0%	\$ 250.00
ZS-NBIOT-KIT-90-29	52	EACH	\$ 1,365.00	25%	\$ 53,235.00
NBIOT-SIMCARD	52	EACH	\$ 55.00	0%	\$ 2,860.00
ZS-LB-ANTENNAS	52	EACH	\$ 30.00	100%	\$ -
Training - On Site Includes One day of training, travel and expenses	1	LUMP SUM	\$ 2,500.00	0%	\$ 2,500.00
Shipping	3	EACH	\$ 40.00	0%	\$ 120.00
TOTAL COST INCLUSIVE- FIVE YEARS					\$ 58,965.00

PROGRAM 1 OF 3 ANNUAL RECURRING COST YEARS 6-10

Recurring Annual Cost Section-Commences in Year 6	QUANTITY	UNIT	UNIT COST	ANNUAL RECURRING COST	FIVE YEAR COST	EIGHT YEAR COST
Per Sensor System Charge - Every year for 5 year term (\$18/Year)	52	MONTHLY	\$ 1.50	\$ 936.00	\$ 4,680.00	N/A
Per Sensor Wireless Access - Every year for 5 year term (\$31/Year)	52	MONTHLY	\$ 8.92	\$ 572.00	\$ 2,860.00	N/A
Total Recurring Cost Years 6-10				\$ 1,508.00	\$ 7,540.00	N/A
Sensor Battery Replacement - Every 8 years	52	EACH	\$ 20.00	\$ 1,300.00	\$ 650.00	\$ 1,040.00
Total Recurring Cost-Year 8				\$ 1,638.00	\$ 8,190.00	\$ 1,040.00

RETURN ON INVESTMENT	PHASE 1 INVESTMENT	AVERAGE ANNUAL WATER LOSS COST	SAVINGS	REDUCED AVERAGE ANNUAL WATER LOSS COST
PHASE 1 -52 LOGGERS	\$ 58,965.00	\$ (327,084.14)	\$ 58,965.00	\$ (268,119.14)

PHASE 2-

WATER LOSS CHART AND WHOLESALE COST

Break Size: 1/16" x 180 Degrees of 360				
Pipe Diameter Per Inch	Daily Loss in Gallons	Price per 1,000 gallon- Wholesale	Annual Loss in Gallons	Annual Cost
2	40,600	\$ 4.97	16,644,000	\$ 82,720.68
4	81,400	\$ 4.97	29,711,000	\$ 147,663.67
6	136,800	\$ 4.97	48,912,000	\$ 248,162.04
8	182,400	\$ 4.97	66,576,000	\$ 330,882.72
10	228,100	\$ 4.97	83,256,500	\$ 413,784.51
12	273,700	\$ 4.97	99,980,500	\$ 496,505.49
16	364,900	\$ 4.97	133,188,500	\$ 661,946.85

Break Size: 1/16" x 360 Degrees				
Pipe Diameter Per Inch	Daily Loss in Gallons	Price per 1,000 gallon	Annual Loss in Gallons	Annual Cost
2	91,100	\$ 4.97	33,251,500	\$ 165,259.96
4	182,500	\$ 4.97	66,612,500	\$ 331,064.13
6	273,600	\$ 4.97	99,864,000	\$ 496,324.08
8	364,800	\$ 4.97	133,152,000	\$ 661,765.44
10	456,200	\$ 4.97	166,513,000	\$ 827,569.61
12	547,400	\$ 4.97	199,801,000	\$ 993,010.97
16	729,900	\$ 4.97	266,413,500	\$ 1,324,075.10

WATER INVENTORY (LMO) REPORTING YEAR	UNACCOUNTABLE FLOW PERCENTAGE	UNACCOUNTABLE FLOW GALLONS PER DAY	UNACCOUNTABLE FLOW GALLONS PER YEAR	WHOLESALE COST PER 100 GALLONS RATE IS AVERAGE DUE TO LMO REPORTING CALENDER	WHOLESALE COST
2022	9.80	177,098	64,641,314	6.00	\$ (27,084.14)
2021	7.50	136,198	49,711,374	4.00	\$ (247,064.51)
2020	14.00	274,000	100,012,000	4.00	\$ (497,084.23)
2019	8.60	113,598	41,468,394	4.00	\$ (206,336.65)
2018	8.40	179,218	65,440,124	4.00	\$ (321,361.35)
2017	10.20	389,814	142,201,094	4.00	\$ (609,082.37)
2016	14.40	292,000	106,380,000	4.00	\$ (511,584.00)
**2015	14.80	274,000	100,010,000	4.00	\$ (485,048.51)
**2014	4.50	99,200	36,135,000	4.00	\$ (442,423.00)
2013	3.10	69,200	25,258,000	3.00	\$ (76,531.74)
2012	3.30	89,234	32,580,600	2.70	\$ (88,915.26)
2011	1.60	46,720	17,054,900	2.70	\$ (46,560.11)
2010	7.90	191,000	69,715,000	2.70	\$ (196,321.18)
2009	6.90	113,000	41,840,000	2.70	\$ (112,456.18)
2008	3.20	81,000	29,560,000	2.70	\$ (80,712.46)
2007	1.40	29,000	10,611,000	2.70	\$ (29,793.60)
2006	4.90	102,000	37,230,000	2.70	\$ (101,637.60)
2005	3.80	68,500	25,302,500	2.70	\$ (68,185.65)
AVERAGE	5.50	129,000	47,114,200	2.70	\$ (128,621.77)

* A major leak was identified at Cass Ave and South Frontage Rd-accounting for the increase.

**New standards implemented for calculations-First standard goal is to be under 12% water loss

PHASE 2 OF 4 ALL INCLUSIVE 5 YEAR COST

DESCRIPTION	QUANTITY	UNIT	Unit Cost	Discount	Gutermann - ZONSCAN NB-101T
ZS-NBIOT-PBIOG-KIT	1	EACH	\$ 250.00	0%	\$ 250.00
ZS-NBIOT-KIT-96-29	193	EACH	\$ 1,365.00	30%	\$ 184,115.50
NBIOT-SIMCARD	193	EACH	\$ 55.00	0%	\$ 10,615.00
ZS-LB-ANTENNAS	193	EACH	\$ 30.00	100%	\$ -
SAMSUNG ACTIVE TABLET	1	EACH	\$ 1,000.00	0%	\$ 1,000.00
Training - On Site Includes One day of training, travel and expenses	0	LUMP SUM	\$ 2,500.00	0%	\$ -
Training - On Site Includes One day of training, travel and expenses-CONTINGENCY	1	PER DAY	\$ 1,000.00	0%	\$ 1,000.00
Shipping--Estimated	1	LUMP SUM	\$ 2,600.00	0%	\$ 2,600.00
TOTAL COST INCLUSIVE-FIVE YEARS					\$ 199,876.50

PHASE 2 OF 4 ANNUAL RECURRING COST YEARS 6-10

Recurring Annual Cost Section-Commences in Year 6	QUANTITY	UNIT	UNIT COST	ANNUAL RECURRING	FIVE YEAR COST	EIGHT YEAR COST
Per Sensor System Charge - Every year for 5 year term (\$18/Year)	193	MONTHLY	\$ 1.50	\$ 3,474.00	\$ 17,370.00	N/A
Per Sensor Wireless Access - Every year for 5 year term (\$11/Year)	193	MONTHLY	\$ 0.92	\$ 2,123.00	\$ 10,615.00	N/A
Total Recurring Cost Years 6-10				\$ 5,597.00	\$ 27,985.00	N/A
Sensor Battery Replacement - Every 8 years	193	EACH	\$ 20.00	\$ 482.50	\$ 2,412.50	\$ 3,860.00
Total Recurring Cost-Year 8				\$ 6,079.50	\$ 30,397.50	\$ 3,860.00

RETURN ON INVESTMENT	INVESTMENT	AVERAGE ANNUAL WATER LOSS COST	ANNUAL SAVINGS	AVERAGE ANNUAL WATER LOSS COST WITH SAVINGS	5 YEAR ANNUAL SAVINGS	ANNUAL PERCENTAGE SAVINGS BASED ON TOTAL INVESTMENT
PHASE 1 -51 LOGGERS	\$ 58,965.00	#####	\$ 58,965.00	\$ (268,119.14)	\$ (1,340,595.72)	8.6%
PHASE 2 -193 LOGGERS	\$199,876.50	\$268,119.14	\$ 258,841.50	\$ (9,277.64)	\$ (46,388.22)	37.7%
TOTALS	\$258,841.50	N/A	N/A	N/A	N/A	46.3%
TOTAL INVESTMENT COST	\$485,965.00					

WATER LOSS CHART AND WHOLESALE COST

Break Size: 1/8" x 180 Degrees of 360				
Pipe Diameter Per Inch	Daily Loss in Gallons	Price per 1,000 gallons Wholesale	Annual Loss in Gallons	Annual Cost
2	45,500	\$ 4.97	16,644,000	\$ 82,720.68
4	82,400	\$ 4.97	29,751,000	\$ 147,663.67
6	126,400	\$ 4.97	46,052,000	\$ 248,662.66
8	182,400	\$ 4.97	66,576,000	\$ 330,882.72
10	228,100	\$ 4.97	83,256,100	\$ 413,784.81
12	273,100	\$ 4.97	99,303,100	\$ 496,525.49
16	364,900	\$ 4.97	133,188,100	\$ 663,246.85

Break Size: 1/8" x 360 Degrees				
Pipe Diameter Per Inch	Daily Loss in Gallons	Price per 1,000 gallons	Annual Loss in Gallons	Annual Cost
2	91,000	\$ 4.97	33,251,000	\$ 165,250.96
4	182,500	\$ 4.97	66,632,000	\$ 331,084.43
6	273,600	\$ 4.97	99,664,000	\$ 496,264.08
8	364,800	\$ 4.97	133,152,000	\$ 663,262.64
10	456,200	\$ 4.97	166,513,000	\$ 827,369.61
12	547,400	\$ 4.97	199,801,000	\$ 993,010.97
16	739,800	\$ 4.97	269,413,100	\$ 1,338,079.10

WATER INVENTORY (LMO): REPORTING YEAR	UNACCOUNTABLE E FLOW PERCENTAGE	UNACCOUNTABLE E FLOW - GALLONS PER DAY	UNACCOUNTABLE E FLOW - GALLONS PER YEAR	1000-GALLONS RATE IS AVERAGE DUE TO LMO REPORTING CALENDER	WHOLESALE COST
2002	0.00	177,000	64,641,000	6.00	\$187,089.14
2003	1.50	136,100	49,511,370	4.00	\$127,085.74
2004	14.00	274,000	100,012,000	4.00	\$187,085.74
2005	18.50	412,000	149,284,000	4.00	\$187,085.74
2006	9.00	199,500	72,442,500	4.00	\$187,085.74
2007	15.20	589,500	214,267,500	4.00	\$187,085.74
2008	14.00	292,000	106,580,000	4.00	\$111,264.00
2009	14.00	274,000	100,012,000	4.00	\$800,000.00
2010	4.50	96,300	35,235,050	4.00	\$442,423.00
2011	1.10	69,300	25,238,070	3.00	\$76,531.74
2012	7.10	89,200	32,399,240	2.75	\$86,012.25
2013	1.00	46,700	17,054,050	2.75	\$68,769.00
2014	7.90	191,000	69,513,000	2.75	\$198,323.25
2015	4.40	153,000	55,449,000	2.75	\$172,455.00
2016	3.20	81,000	29,565,000	2.75	\$86,712.00
2017	1.40	29,000	10,513,500	2.75	\$26,707.00
2018	4.90	110,000	37,230,000	2.75	\$101,457.75
2019	3.80	85,500	31,302,500	2.75	\$86,145.50
AVERAGE	8.50	120,000	47,114,200	2.75	\$128,623.75

* A major leak was identified at Cass Ave and South Frontage Rd accounting for the increase.
**New standards implemented for calculations-First standard goal is to be under 12% water loss

PHASE 3 OF 4 ALL INCLUSIVES YEAR COST

DESCRIPTION	QUANTITY	UNIT	Unit Cost	Discount	Gutermann - ZONESCAN NB-101
ZS-NBROT-PROG-KIT	1	EACH	\$ 250.00	0%	\$ 250.00
ZS-NBROT-KIT-90-29	193	EACH	\$ 1,365.00	30%	\$ 184,411.50
NBROT-SIMCARD	193	EACH	\$ 55.00	0%	\$ 10,615.00
ZS-LB-ANTENNAS	193	EACH	\$ 30.00	100%	\$ -
SAMSUNG ACTIVE TABLET	0	EACH	\$ 1,000.00	0%	\$ -
Training - On Site Includes One day of training, travel and expenses	0	LUMPSUM	\$ 2,500.00	0%	\$ -
Training - On Site Includes One day of training, travel and expenses-CONTINGENCY	2	PER DAY	\$ 1,000.00	0%	\$ 2,000.00
Shipping--Estimated	1	LUMPSUM	\$ 2,000.00	0%	\$ 2,000.00
TOTAL COST INCLUSIVE- FIVE YEARS					\$ 199,876.50

PHASE 3 OF 4 ANNUAL RECURRING COST YEARS 6-10

Recurring Annual Cost Section-Commences in Year 6	QUANTITY	UNIT	UNIT COST	ANNUAL RECURR	FIVE YEAR COST	EIGHT YEAR COST
Per Sensor System Charge - Every year for 5 year term (\$18/Year)	193	MONTHLY	\$ 1.50	\$ 3,474.00	\$ 17,370.00	N/A
Per Sensor Wireless Access - Every year for 5 year term (\$11/Year)	193	MONTHLY	\$ 0.92	\$ 2,123.00	\$ 10,615.00	N/A
Total Recurring Cost Years 6-10				\$ 5,597.00	\$ 27,985.00	N/A
Sensor Battery Replacement - Every 8 years	193	EACH	\$ 20.00	\$ 482.50	\$ 2,412.50	\$ 3,860.00
Total Recurring Cost Years				\$ 6,079.50	\$ 30,397.50	\$ 3,860.00

RETURN ON INVESTMENT	INVESTMENT	AVERAGE ANNUAL WATER LOSS COST	ANNUAL SAVINGS	AVERAGE ANNUAL WATER LOSS COST WITH SAVINGS	5 YEAR ANNUAL SAVINGS	ANNUAL PERCENTAGE SAVINGS BASED ON TOTAL INVESTMENT
PHASE 1 -52 LOGGERS	\$ 58,965.00	\$ (327,084.14)	\$ 58,965.00	\$ (268,119.14)	\$ (1,340,595.72)	8.6%
PHASE 2 -193 LOGGERS	\$199,876.50	\$ (268,119.14)	\$ 258,841.50	\$ (9,277.64)	\$ (46,388.22)	37.7%
PHASE 3 -193 LOGGERS	\$199,876.50	\$ (9,277.64)	\$ 458,718.00	\$ 449,440.36	\$ 2,247,201.78	66.9%
TOTALS	\$458,718.00	N/A	N/A	N/A	N/A	113.2%
TOTAL INVESTMENT COST	\$688,965.00					

WATER LOSS CHART AND WHOLESALE COST

Break Size: 100" x 100 Diagonals of 300				
Pipe Diameter Per Inch	Daily Loss in Gallons	Price per 1,000 gallon- Wholesale	Annual Loss in Gallons	Annual Cost
2	45,000	\$ 4.97	16,540,000	\$ 82,720.08
4	81,000	\$ 4.97	29,711,000	\$ 147,661.07
6	126,000	\$ 4.97	46,032,000	\$ 248,362.06
8	182,000	\$ 4.97	66,576,000	\$ 330,882.72
10	238,000	\$ 4.97	87,236,000	\$ 433,769.81
12	273,000	\$ 4.97	100,361,000	\$ 498,300.40
16	364,000	\$ 4.97	133,186,000	\$ 661,940.85

Break Size: 100" x 100 Diagonals				
Pipe Diameter Per Inch	Daily Loss in Gallons	Price per 1,000 gallon	Annual Loss in Gallons	Annual Cost
2	91,000	\$ 4.97	33,251,000	\$ 165,359.86
4	182,000	\$ 4.97	66,512,000	\$ 331,064.13
6	273,000	\$ 4.97	99,864,000	\$ 496,324.08
8	364,000	\$ 4.97	133,152,000	\$ 661,705.44
10	455,000	\$ 4.97	166,511,000	\$ 827,369.82
12	546,000	\$ 4.97	199,861,000	\$ 998,300.81
16	728,000	\$ 4.97	266,411,000	\$ 1,324,895.33

WATER INVENTORY (AMO) REPORTING YEAR	UNACCOUNTABLE LOSS- PERCENTAGE	UNACCOUNTABLE LOSS- GALLONS PER DAY	UNACCOUNTABLE LOSS- YEAR	WHOLESALE COST PER 1,000 GALLONS RATIO- AVERAGE PER DAY	WHOLESALE COST
2020	9.5%	177,000	64,641.3	\$ 4.98	\$ 320,084.14
2021	7.5%	138,150	49,711.3	\$ 4.98	\$ 247,664.13
2020	14.0%	274,000	100,074.52	\$ 4.98	\$ 497,664.13
2020	8.0%	177,000	64,641.3	\$ 4.98	\$ 320,084.13
2019	0.4%	179,250	65,436.12	\$ 4.92	\$ 323,763.77
2017	18.2%	385,800	142,281.30	\$ 4.85	\$ 689,062.71
2019	14.4%	292,000	106,368.00	\$ 4.80	\$ 511,284.00
**2015	14.5%	274,000	100,074.52	\$ 4.80	\$ 480,284.00
**2014	4.5%	97,200	35,535.36	\$ 4.80	\$ 169,257.36
2013	3.1%	97,200	35,535.36	\$ 4.80	\$ 169,257.36
2012	9.5%	177,000	64,641.3	\$ 2.73	\$ 176,611.71
2011	1.6%	46,720	17,054.99	\$ 2.73	\$ 46,566.72
2010	7.96%	197,000	71,717.00	\$ 2.73	\$ 196,321.87
2009	6.40%	153,000	55,447.00	\$ 2.73	\$ 152,469.81
2008	6.20%	81,000	29,565.00	\$ 2.73	\$ 80,792.25
2007	1.46%	26,900	10,015.50	\$ 2.73	\$ 27,579.36
2006	4.91%	102,000	37,260.00	\$ 2.73	\$ 101,677.56
2005	3.80%	88,500	32,302.50	\$ 2.73	\$ 88,185.81
AVERAGE	9.5%	120,000	43,714.29	\$ 2.73	\$ 119,621.71

* A major leak was identified at Cava Ave and South Frontage Rd accounting for the increase.

**New standards implemented for calculations First standard goal is to be under 12% water loss

PHASE 4 OF 4 ALL INCLUSIVE 5 YEAR COST

DESCRIPTION	QUANTITY	UNIT	Unit Cost	Discount	Gutermann - ZONESCAN NB-IOT
ZS-NBIOT-PROG-KIT	1	EACH	\$ 250.00	0%	\$ 250.00
ZS-NBIOT-KIT-96-29	193	EACH	\$ 1,365.00	30%	\$ 184,411.50
NBIOT-SIM-CARD	193	EACH	\$ 55.00	0%	\$ 10,615.00
ZS-LB-ANTENNAS	193	EACH	\$ 30.00	100%	\$ -
SAMSUNG ACTIVE TABLET	0	EACH	\$ 1,000.00	0%	\$ -
Training - On Site Includes One day of training, travel and expenses	0	LUMP SUM	\$ 2,500.00	0%	\$ -
Training - On Site Includes One day of training, travel and expenses-CONTINGENCY	2	PER DAY	\$ 1,000.00	0%	\$ 2,000.00
Shipping--Estimated	1	LUMP SUM	\$ 2,600.00	0%	\$ 2,600.00
TOTAL COST INCLUSIVE- FIVE YEARS					\$ 199,876.50

PHASE 4 OF 4 ANNUAL RECURRING COST YEARS 6-10

Recurring Annual Cost Section-Commences in Year 6	QUANTITY	UNIT	UNIT COST	ANNUAL RECURRING C	FIVE YEAR COST	EIGHT YEAR COST
Per Sensor System Charge - Every year for 5 year term (\$18/Year)	193	MONTHLY	\$ 1.50	\$ 3,474.00	\$ 17,370.00	N/A
Per Sensor Wireless Access - Every year for 5 year term (\$11/Year)	193	MONTHLY	\$ 0.92	\$ 2,123.00	\$ 10,615.00	N/A
Total Recurring Cost Years 6-10	193			\$ 5,597.00	\$ 27,985.00	N/A
Sensor Battery Replacement - Every 8 years	193	EACH	\$ 20.00	\$ 482.50	\$ 2,412.50	\$ 3,860.00
Total Recurring Cost-Year 8				\$ 6,079.50	\$ 30,397.50	\$ 3,860.00

RETURN ON INVESTMENT	INVESTMENT	AVERAGE ANNUAL WATER LOSS COST	ANNUAL SAVINGS	AVERAGE ANNUAL WATER LOSS COST WITH SAVINGS	5 YEAR ANNUAL SAVINGS	ANNUAL PERCENTAGE SAVINGS BASED ON TOTAL INVESTMENT
PHASE 1 -52 LOGGERS	\$ 58,965.00	\$ (327,084.14)	\$ 58,965.00	\$ (268,119.14)	\$ (1,340,595.72)	8.6%
PHASE 2 -193 LOGGERS	\$ 199,876.50	\$ (268,119.14)	\$ 258,841.50	\$ (9,277.64)	\$ (46,388.22)	37.7%
PHASE 3 -193 LOGGERS	\$ 199,876.50	\$ (9,277.64)	\$ 458,718.00	\$ 449,440.36	\$ 2,247,201.78	66.9%
PHASE 4 -193 LOGGERS	\$ 199,876.50	\$ 449,440.36	N/A	N/A	N/A	N/A
TOTALS	\$ 658,594.50	\$ -	N/A	N/A	N/A	113.2%
TOTAL INVESTMENT COST	\$ 685,965.00					

WATER LOSS CHART AND WHOLESALE COST

Break Size: 1/16" x 180 Degrees of 360				
Pipe Diameter Per Inch	Daily Loss in Gallons	Price per 1,000 gallon- Wholesale	Annual Loss in Gallons	Annual Cost
2	45,600	\$ 4.97	16,644,000	\$ 82,720.68
4	81,400	\$ 4.97	29,711,000	\$ 147,663.67
6	136,800	\$ 4.97	49,932,000	\$ 248,162.04
8	182,400	\$ 4.97	66,576,000	\$ 330,882.72
10	228,100	\$ 4.97	83,256,500	\$ 413,784.81
12	273,700	\$ 4.97	99,900,500	\$ 496,505.49
16	364,900	\$ 4.97	133,188,500	\$ 661,946.85

Break Size: 1/16" x 360 Degrees				
Pipe Diameter Per Inch	Daily Loss in Gallons	Price per 1,000 gallon	Annual Loss in Gallons	Annual Cost
2	91,100	\$ 4.97	33,251,500	\$ 165,259.96
4	182,500	\$ 4.97	66,612,500	\$ 331,064.13
6	273,600	\$ 4.97	99,864,000	\$ 496,324.08
8	364,800	\$ 4.97	133,152,000	\$ 661,765.44
10	456,200	\$ 4.97	166,513,000	\$ 827,569.61
12	547,400	\$ 4.97	199,801,000	\$ 993,010.97
16	729,900	\$ 4.97	266,413,500	\$ 1,324,075.10

WATER INVENTORY (LMO) REPORTING YEAR	UNACCOUNTABLE FLOW PERCENTAGE	UNACCOUNTABLE FLOW - GALLONS PER DAY	UNACCOUNTABLE FLOW - GALLONS PER YEAR	WHOLESALE COST PER 1000 GALLONS-RATE IS AVERAGE DUE TO LMO REPORTING CALENDER	WHOLESALE COST
2022	9.30%	177,099	64,641,135	\$ 5.06	\$ (327,084.14)
2021	7.50%	136,195	49,711,175	\$ 4.97	\$ (247,064.54)
2020	14.00%	274,000	100,010,000	\$ 4.97	\$ (497,064.21)
2019	6.60%	113,384	41,604,168	\$ 4.96	\$ (208,358.63)
2018	9.40%	179,288	65,440,120	\$ 4.92	\$ (321,965.39)
2017	18.20%	389,810	142,281,000	\$ 4.85	\$ (690,062.85)
2016	14.40%	292,000	106,580,000	\$ 4.80	\$ (511,584.00)
**2015	14.30%	274,000	100,010,000	\$ 4.85	\$ (485,048.50)
*2014	4.55%	99,200	36,135,000	\$ 4.68	\$ (442,423.80)
2013	3.18%	69,200	25,258,000	\$ 3.03	\$ (76,531.74)
2012	3.76%	89,232	32,569,669	\$ 2.73	\$ (88,915.20)
2011	1.61%	46,226	17,054,999	\$ 2.73	\$ (46,506.12)
2010	7.96%	191,000	69,715,000	\$ 2.73	\$ (180,321.99)
2009	6.40%	153,000	55,845,000	\$ 2.73	\$ (152,456.85)
2008	3.20%	81,000	29,565,000	\$ 2.73	\$ (80,712.45)
2007	1.46%	29,900	10,913,500	\$ 2.73	\$ (29,793.86)
2006	4.91%	102,000	37,230,000	\$ 2.73	\$ (101,637.90)
2005	3.80%	88,500	32,302,500	\$ 2.73	\$ (88,185.83)
AVERAGE	5.55%	129,080	47,114,200	\$ 2.73	\$ (128,621.77)

* A major leak was identified at Cross Ave and South Frontage Rd-accounting for the increase.

**New standards implemented for calculations-First standard goal is to be under 12% water loss

Regina Kokkinis

From: Dan Gombac
Sent: Wednesday, February 22, 2023 3:17 PM
To: Regina Kokkinis
Subject: Leak Loggers

Need to incorporate email into agenda memo that the prices will be held.

From: Kris Throm <kthrom@darienil.gov>
Sent: Wednesday, February 22, 2023 10:23 AM
To: Dan Gombac <dgombac@darienil.gov>
Subject: FW: Checking In

See below for Gutermann pricing.

Thanks,

Kris Throm
City of Darien Municipal Services
Superintendent
 (630) 514-3453

To receive important information from the City of Darien sign up for our electronic newsletter:

DARIEN DIRECT CONNECT

Follow the link below and subscribing is simple! <http://www.darien.il.us/Reference-Desk/DirectConnect.aspx>

From: Cameron Keyes <cameron.keyes@gutermann-water.com>
Sent: Tuesday, February 21, 2023 12:36 PM
To: Kris Throm <kthrom@darienil.gov>
Subject: Re: Checking In

Hello Kris,

Thanks for the email. The pricing will be good for the entire project!

As for a trial and a Western Springs contact yes. I say we set up 10 or so loggers in your system ASAP. I'll be in the area for WaterCon the week of March 20th. Do you want to schedule something for the 23rd?

Looking forward to it.

Cameron Keyes

Director - North America : Gutermann, Inc.

C: 603-320-9166 F: 603-292-6171

www.linkedin.com/in/cameronkeyesgutermann

Correlating Loggers & Permanent Monitoring Systems

ZONESCAN 820

Smallest correlating radio logger on the market.

- Correlating loggers with high pinpointing accuracy for mobile applications (Lift & Shift or Drive-by)
- Intuitive and versatile Android software ZONESCAN Smart for use with phones and tablets
- Optional data upload to ZONESCAN Net cloud service
- Optimised battery life



Fixed Distribution Network Monitoring

ZONESCAN 1136

Compact permanently installed noise loggers with direct NB-IoT data communication to the Gutermann Cloud.

- Robust data communication of the logger from the chamber to the cloud, even through cast iron lids
- Automatic synchronisation of loggers for accurate leak pinpointing (full correlation)
- NB-IoT is perfect for environmental monitoring thanks to excellent deep coverage, low communication costs and high energy-efficiency
- Easy installation with ZONESCAN INSTALL - Battery changeable in the field



ZONESCAN ALPHA

Fully correlating monitoring system with complete RF infrastructure.

- Award-winning permanent monitoring system for municipalities without reliable NB-IoT cell coverage
- Fully automatic and highly accurate leak alarming and pinpointing
- Sophisticated Gutermann Cloud software with map-based views, dashboards reports and event management tools
- Hundreds of systems installed around the world



Fixed Trunk Main Monitoring

HISCAN

Permanent trunk main monitoring with hydrophones.

- Daily automatic correlations and near real-time leak alarms
- Precise pinpointing even of small emerging leaks
- Increased sensitivity even on plastic pipes using redesigned hydrophones
- Long distances between measuring points
- Energy independence thanks to solar panels
- Upload of data to the ZONESCAN Net cloud



CASE STUDIES

MULTISCAN  ZONESCAN  AQUASCAN 



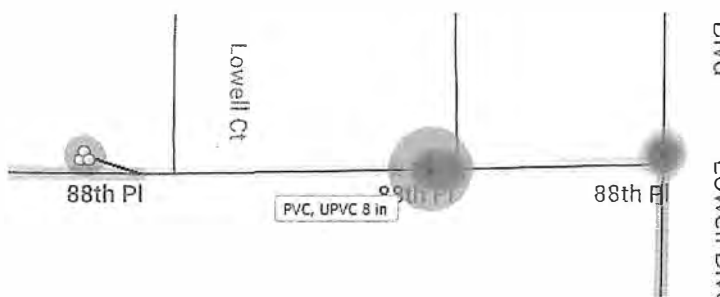
Product: MULTISCAN

Type: Real-Time/Overnight
Multi-point Correlator

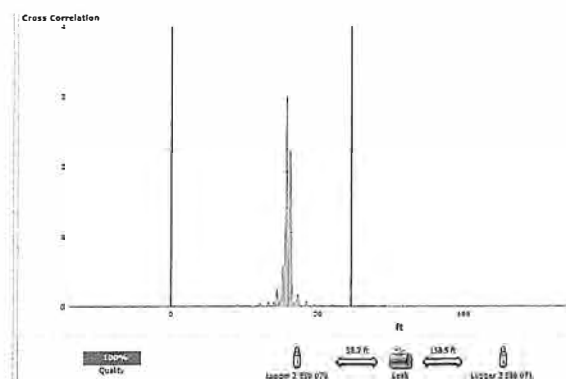
Utility/Company: Westminster, CO
Pipe Material/Diameter: 8" PVC Main
Correlation Quality(s): 100%

Time of Measurement: 8:37 A.M.

Summary: Leak was found after a pro-active leak survey, aimed at reducing non-revenue water. Three (3) sensors produced three leak correlations; one directly at the T-intersection between two sensors placed on Lowell Blvd, and two directly on the leaky hydrant's position, on 88th Pl. The leak was due to a corroded hydrant shoe valve, which was later replaced.



ZONESCAN NET Map View



ZONESCAN NET Correlation Graph



ZONESCAN NET Street View



Leak on Corroded Hydrant Shoe

Product: ZONESCAN 820





Type: Correlating Radio
Loggers in Lift & Shift mode

Utility/Company: Wentzville OH

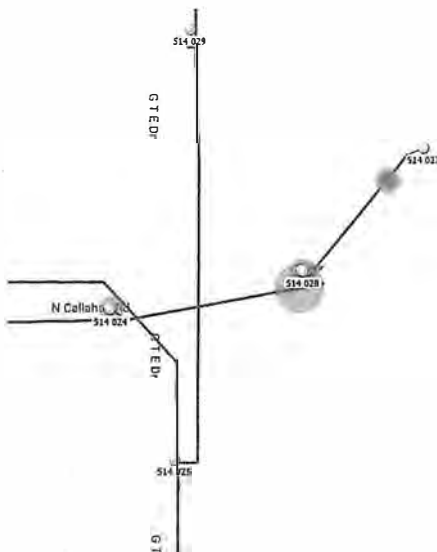
Pipe Material/Diameter: 6" Ductile Iron

Time of Measurement: 2:00 A.M.

Summary: During a pro-active leak survey, ten (10) sensors were placed in an area that was thought to be quiet. To the operator's surprise, one logger returned a high "leak score." After an investigation, the crew found a creek with an abandoned service line near the logger, and deployed the loggers again. Sure enough, the loggers pinpointed leaks on the service - leaks which were discovered to be the source of the pond (see photos below). After the line was shut off, the water drained into a nearby creek.

Correlations		Logger Noise	Events					
	Quality...	Logger 1	Logger 2	Distan...	Distan...	Center...	Pipe Length	Pipe ...
	<div><div>100%</div></div>	514 027	514 028	28.9 ft	126.2 ft	-48.6 ft	155.2 ft	
	<div><div>90%</div></div>	514 024	514 028	187.0 ft	0.0 ft	106.5 ft	161.0 ft	

ZONESCAN NET Correlation Tab



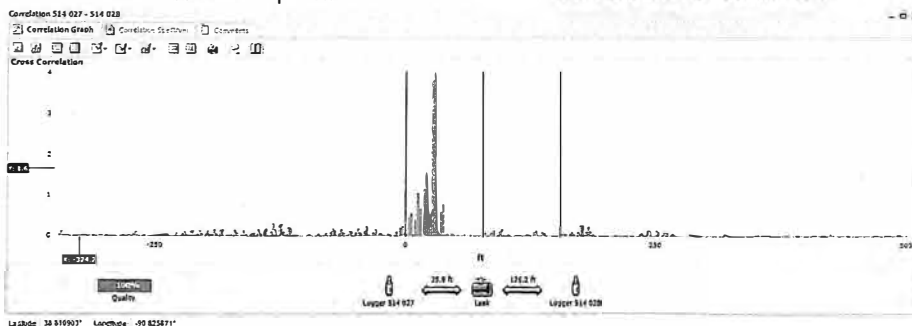
ZONESCAN NET Map View



ZONESCAN NET Street View



(Above) Pond created by the larger leak.
(Below) Puddle created by the smaller leak.



ZONESCAN NET Correlation Graph of 100% leak

Return on Investment: Though the crew did not know how long the leak had been active, they calculated that over a conservative period of 6 months, the excess production cost due to the leaks was roughly \$96,000. With the cost of equipment, and liberal estimates of man power hours, Wentzville's return on investment for finding the two leaks in question was over \$73,000.

Product: ZONESCAN NB-IO

Type: Automatic Network Monitoring Loggers, utilizing the Narrowband Internet of Things

Utility/Company: Lebanon PA

Pipe Material/Diameter: 4" CI Main w/ 3/4" Copper Service

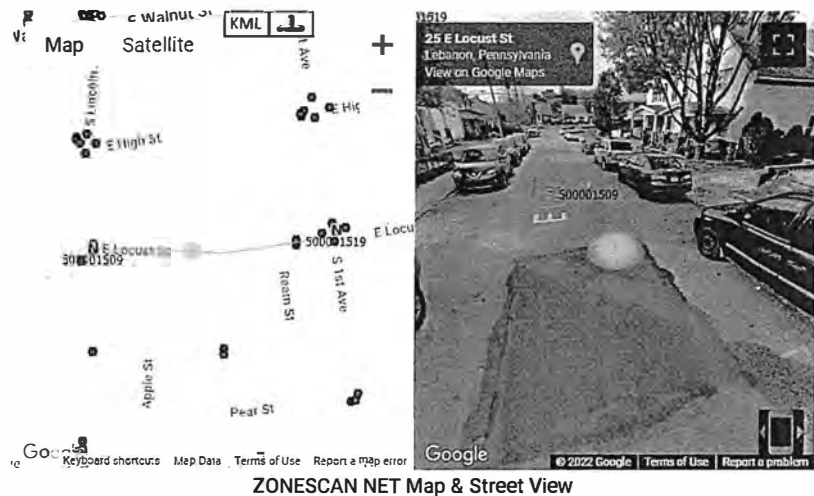
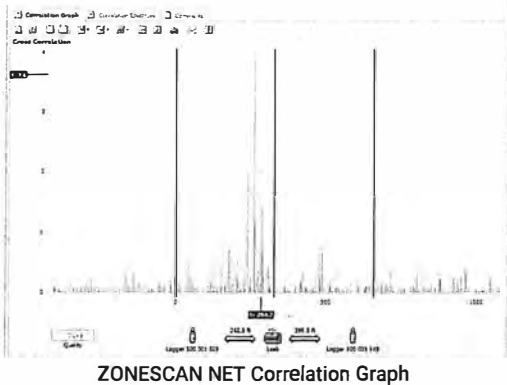
Summary: Lebanon PA installed their NB-IoT logger system in 2020, starting with 30 loggers, and expanding to 130 loggers in 2022. Since install, the system has boasted over 95% connectivity on a consistent basis, and has found over thirty leaks for the city. The two examples below are from the earliest, and most recent, days of install, respectively. Lebanon PA has made excellent use of the Events feature of ZONESCAN NET, which pings the user on new high-quality correlations, and allows the city to keep track of their investigated leaks, as well as label which correlations are due to other noise sources, such as PRVs.

Leak 1: Sept. 19, 2020 - 2:00 A.M.

Correlation Quality: 70%

Distance: 660 ft

Result: Leak was found repaired. Leak was non-surfacing, on a utility-side service line.

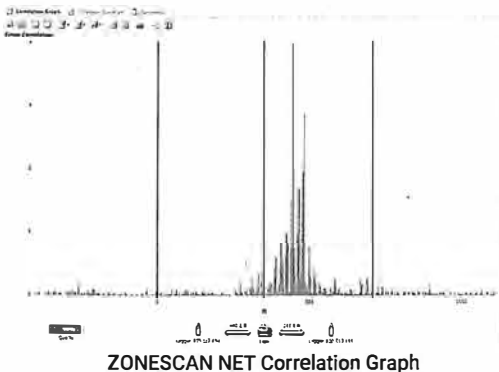


Leak 2: June 3rd, 2022 - 2:00 A.M.

Correlation Quality: 90%

Distance: 706 ft

Result: Leak was found repaired. Leak was non-surfacing, on a service line on the customer's property.



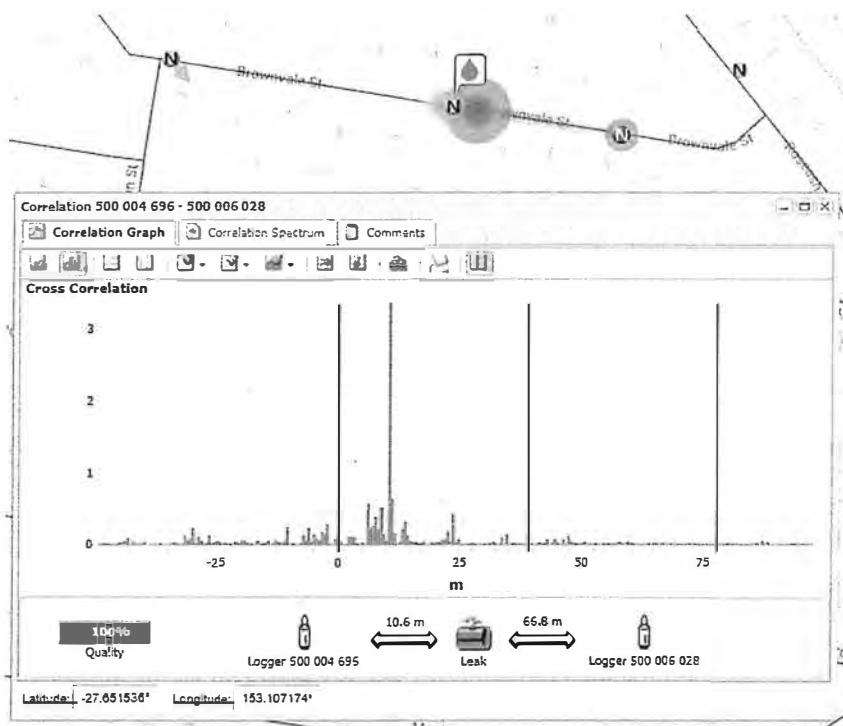
Product: ZONESCAN NB-IoT

Type: Automatic Network
Monitoring Loggers, utilizing the
Narrowband Internet of Things

Utility/Company: City of Logan, Australia

Pipe Material/Diameter: 100mm (4") PVC main w/ 100mm (3/4") poly conduit

Summary: The City of Logan, after tremendous success with their ZONESCAN 820 lift & shift program, implemented a 300-point ZONESCAN NB-IoT system in May of 2021. In the first few months, the system found a total of 23 leaks (both mainline and customer-side), which saved an estimated \$261k USD annually in non-revenue water. Pictured below is the most costly leak that was found by the system: a non-surfacing leak caused by a damaged road conduit. The city meticulously recorded every aspect of the found leaks, noting details such as identification-to-stoppage times, and gal/m losses.



Pipe Info: 100mm (4 in.) PVC main & 20mm (0.75 in.) poly road conduit

Correlation Score: 100%

Logger Spacing: 77.4m (254 ft)

Total Time from Identification to Stoppage: 29.45 hrs

Leakage Rate: 97.52 L/m (25.76 gal/m)

Actual Non-Revenue Water Loss: \$538.00 USD or 172 KL

Total Estimated Non Revenue Water Loss Annually (in USD): \$147,133.00



Return on Investment: Though the NB-IoT system will continue to monitor the utility's water system for years to come, large and costly leaks caught early have provided a near full return on investment in the span of just two months. This startling success led the city to invest in creating purpose-built, ultra-secure chambers to better cover their mixed material system with NB-IoT Loggers where no valves are present.



Product: ZONESCAN 820 & AQUASCAN 610

Utility/Company: Kansas City BPU, KS

Summary: In an effort to reduce its 35% water loss, the utility conducted a proactive leak survey using 50 overnight correlating loggers, and an AQUASCAN 610 real-time correlator. The survey spanned 144 miles of pipe, and lasted 61 days, with one worker able to deploy up to 25 loggers per hour. Pictured below are three examples of leaks found during the survey.

ZONESCAN NET Correlation Report

Kansas City BPU 2018-08-17 (Report created on 2019-06-03 2:21 PM)



Correlation

Quality	Location	Logger 1	Logger 2	Dist. L1	Dist. L2	Center Dist.	Pipe Len.	Comments
70	1 Eaton St	509679	509684	147.6 ft	26.6 ft	62.4 ft	174.2 ft	4" Main Leak - Pinpointed after 2 years of searching!



Leak on 4" CI Main Line

ZONESCAN NET Correlation Report

Kansas City BPU 2017-09-22 (Report created on 2017-10-24 5:27 PM)



Correlation

Quality	Location	Logger 1	Logger 2	Dist. L1	Dist. L2	Center Dist.	Pipe Len.	Comments
100	7425-7499 Georgia Ave	509700	509701	42.6 ft	735.4 ft	-348.1 ft	778.2 ft	



Leak on AC Main Line

Return on Investment: The survey identified a total of 64 leaks - 25 mainline, 12 service, 5 hydrants, 8 mainline/hydrant valves, and 14 customer-side leaks. Subsequent repairs took the utility from 1.55 MGD (approx. \$16.5k per mo.) losses to 0.662 MGD (approx. \$7k per mo.) losses, a reduction of over 20% in just two months.

RESOLUTION NO. R-64-23

**A RESOLUTION AUTHORIZING THE PURCHASE OF THE PHASE 2-LEAK
LOGGER PROGRAM, CONSISTING OF 146 LEAK LOGGER UNITS FROM
GUTERMANN INC., IN AN AMOUNT NOT TO EXCEED \$219,191.70**

**BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF DARIEN, DU
PAGE COUNTY, ILLINOIS, as follows:**

SECTION 1: The City Council of the City of Darien does hereby accept a proposal for the purchase of the Phase 2-Leak Logger Program, consisting of 146 leak logger units from Gutermann Inc., in an amount not to exceed \$219,191.70, a copy of which is attached hereto as **“Exhibit A”**.

SECTION 2: This Resolution shall be in full force and effect from and after its passage and approval as provided by law.

**PASSED BY THE CITY COUNCIL OF THE CITY OF DARIEN, DU PAGE
COUNTY, ILLINOIS, this 5th day of June 2023.**

AYES: 6 - Belczak, Gustafson, Leganski, Schauer, Stompanato, Sullivan

NAYS: 0 - NONE

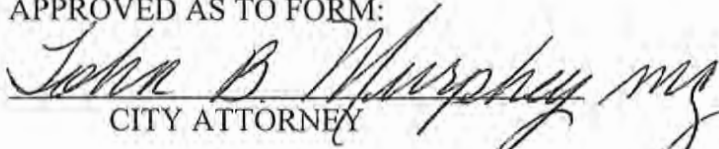
ABSENT: 1 - Kenny

**APPROVED BY THE MAYOR OF THE CITY OF DARIEN, DU PAGE COUNTY,
ILLINOIS, this 5th day of June 2023.**


JOSEPH MARCHESE, MAYOR

ATTEST:

JOANNE E. RAGONA, CITY CLERK

APPROVED AS TO FORM:

CITY ATTORNEY



Darien Public Works - IL, Kris Throm
 1041 S. Frontage Rd
 Darien IL 60561
 United States

Invoicing Address:
 Darien Public Works - IL, Kris Throm
 1041 S. Frontage Rd
 Darien IL 60561
 United States

Shipping Address:
 Darien Public Works - IL
 1041 S. Frontage Rd
 Darien IL 60561
 United States

Quotation

Quotation Number: S/GUS/2301463
 Quotation Date: 05/25/2023
 Expiration Date: 11/24/2023
 Reference: USA20230525CK NBIOT
 Your Contact Person: Cameron Keyes
 Phone:
 Email: cameron.keyes@gutermann-water.com

Pos	Qty	Unit	Part No	Description	Unit Price	Disc.%	Taxes	Amount
1	1.00	Pcs	ZS-NBIOT-PROG-KIT	ZS NB-IoT programming kit	400.00	100.00		\$ 0.00
2	217.00	Pcs	SIM-US-ATT	ZONESCAN NB-IoT data SIM card (AT&T (US)) Customs tariff number: 85235200	0.00	0.00		\$ 0.00
3	217.00	Pcs	ZS-NBIOT-KIT-90-29	ZONESCAN NB-IoT correlating leak logger incl antenna (12,13,17,28 (90mm), 290 cm)	1,365.00	26.00		\$ 219,191.70
4	217.00	Pcs	ZS-LB-ANT	ZONESCAN L bracket for antennas	30.00	100.00		\$ 0.00
5	1.00	Units	Included	Training - Web Based	0.00	0.00		\$ 0.00
6	1.00	Units	Includes - one day training, travel and expenses	Training - On site (1Day)	1,000.00	100.00		\$ 0.00
7	3.00	Pcs	FREIGHT	Freight charge and transport insurance	0.00	0.00		\$ 0.00
Total								\$ 219,191.70

*Please allow 10 weeks for delivery

*2 Year Manufacturers Warranty: Excludes cables, antennas, and cords.

Payment terms: 30 Days

STATE OF ILLINOIS)
) SS
COUNTY OF DU PAGE)

I, JoAnne E. Ragona, do hereby certify that I am the duly qualified CITY CLERK of the CITY OF DARIEN of DuPage County, Illinois, and as such officer I am the keeper of the records and files of the City;

I do further certify that the foregoing constitutes a full, true and correct copy of **RESOLUTION NO. R-64-23 — “A RESOLUTION AUTHORIZING THE PURCHASE OF THE PHASE 2-LEAK LOGGER PROGRAM, CONSISTING OF 146 LEAK LOGGER UNITS FROM GUTERMANN INC., IN AN AMOUNT NOT TO EXCEED \$219,191.70”** of The City of Darien, Du Page County, Illinois, Duly Passed and Approved by the Mayor and City Council at a Meeting Held on June 5, 2023.

IN WITNESS WHEREOF, I have hereunto affixed my official hand and seal this 5th day of June, 2023.




City Clerk



June 7, 2023

Gutermann Inc
Attn: Cameron Keyes
55 Main St., Suite 311
Newmarket NH 03857

RE: phase 2 leak logger program

Dear Mr. Keyes,

Enclosed please a certified copy of ***Resolution No. R-64-23 – “A RESOLUTION AUTHORIZING THE PURCHASE OF THE PHASE 2-LEAK LOGGER PROGRAM, CONSISTING OF 146 LEAK LOGGER UNITS FROM GUTERMANN INC., IN AN AMOUNT NOT TO EXCEED \$219,191.70”*** passed by the City Council at its regular meeting on June 5, 2023.

Should you have any questions or concerns, please give me a call at (630) 353-8106.

Sincerely,
CITY OF DARIEN

Daniel Gombac
Director of Municipal Services

Enclosure

cc: JoAnne E. Ragona, City Clerk
Kris Throm, Superintendent of Municipal Services

AGENDA MEMO
City Council
May 6, 2024

ISSUE STATEMENT

A resolution authorizing the purchase of the Phase 3-Leak Logger Program, consisting of 217 leak logger units from Gutermann Inc., in an amount not to exceed \$219,441.70.

RESOLUTION

BACKGROUND/HISTORY

The logger system is Phase 3-4 to be utilized by the Water Division to proactively locate and pinpoint leaks while they are small. The detectors, (loggers) are placed in water vaults and/or hydrant auxiliary valves. The loggers detect leaks through sound waves. When a leak occurs, the sound will amplify from the pipe and the adjacent ground area. As the detection state changes, a water sensor will be awakened on the radio and send data to a wireless gateway. Through a correlation process the loggers calculate the origin of the leak and process the information through the Gutermann I-Cloud gateway service. The cloud-based technology then sends an alert to a monitoring app on a mobile device or desktop application. The loggers provide daily monitoring, 365 days a year.

This program is considered Phase 3 of 4 and is budgeted over a three-year program, pending budget considerations. The cost of the entire program will be approximately \$616,000 with reoccurring costs after the initial five years of each phase. Please note the program was presented and approved under a City Council Agenda Memo dated March 6, 2023, see Attachment A followed by the subsequent purchase, Phase 2 attached and labeled as Attachment B. The pricing continues to be maintained as originally proposed. Attached and labeled as Attachment C, is a revised breakdown of Phase 2-4. The breakdown further illustrates a capital reduction due to specific items that are not required. The reoccurring costs, hosting costs, will be budgeted beginning 2027/2028.

The proposed expenditure would be expended from the following line accounts:

ACCOUNT NUMBER	ACCOUNT DESCRIPTION	FY 24/25 BUDGET	PROPOSED EXPENDITURE	ACCOUNT BALANCE
02-50-4815	Capital Purchases Leak Detection Equipment & Data Loggers	\$220,000.00	\$219,441.70	\$558.30

COMMITTEE RECOMMENDATION

The Municipal Services Committee recommends a resolution authorizing the purchase of the Phase 3-Leak Logger Program, consisting of 217 leak logger units from Gutermann Inc., in an amount not to exceed \$219,441.70.

ALTERNATE DECISION

As recommended by the City Council.

DECISION MODE

This item will be placed on the May 6, 2024 City Council agenda for formal consideration.

AGENDA MEMO
City Council
March 6, 2023

ISSUE STATEMENT

A resolution authorizing the purchase of the Phase 1-Leak Logger Program, consisting of fifty-two leak logger units from Gutermann Inc., in an amount not to exceed \$58,965.

RESOLUTION

BACKGROUND/HISTORY

The proposed leak detection system would be utilized by the Water Division to proactively locate and pinpoint leaks while they are small. The detectors, (loggers) are placed in water vaults and/or hydrant auxiliary valves. The loggers detect leaks through sound waves. When a leak occurs, the sound will amplify from the pipe and the adjacent area. As the detection state changes, a water sensor will be awakened on the radio and send data to a wireless gateway. Through a correlation process the loggers calculate the origin of the leak and process the information through the Gutermann I-Cloud gateway service. The cloud-based technology then sends an alert to a monitoring app on a mobile device or desktop application.

This program will also eliminate the need to outsource leak locating services at a cost of approximately \$15,000-\$20,000 per year. The loggers will provide monitoring 24 hours per day 365 days a year. The program will have hosting costs after the initial five years, see attached sheet labeled as **Attachment A**.

This program is considered Phase 1 of 4 and is budgeted over a four-year program, pending budget considerations. The cost of the entire program will be approximately \$616,000 with reoccurring costs after the initial five years of each phase. As stated in the attached email, the pricing will be good for the entire project, see **Attachment B**. A further evaluation on the the return on investment throughout each phase was calculated and the program would pay for itself in 2.25 to 2.5 years. The reoccurring costs would be budget beginning 2027/2028. Please see **Attachment A**, summarizing the phases and costs.

Staff reviewed leak logger manufacturers and contacted municipalities that have deployed such systems. Upon review, it was determined that two vendors would meet the needs for the City of Darien. As additional information, **Attachment C** is technical information regarding the system.

Staff had solicited quotes for the leak loggers and received the following competitive quotes:

VENDOR	PHASE 1 COST	PHASE 2 COST	PHASE 3 COST	PHASE 4 COST	TOTAL COSTS
Gutermann	\$58,965	\$209,000	\$209,000	\$209,000	\$685,965
Subsurface Solutions	\$65,624	\$244,000	\$244,000	\$244,000	\$797,624

The proposed expenditure would be expended from the following line accounts:

ACCOUNT NUMBER	ACCOUNT DESCRIPTION	FY 23/24 BUDGET	PROPOSED EXPENDITURE	PROPOSED BALANCE
02-50-4815	Capital Purchases Leak Detection Equipment & Data Loggers	\$ 66,000	\$ 58,965	\$ 7,035

COMMITTEE RECOMMENDATION

The Municipal Services Committee recommends approval of a resolution authorizing the purchase of the Phase 1-Leak Logger Program, consisting of fifty-two leak logger units from Gutermann Inc., in an amount not to exceed \$58,965.

ALTERNATE DECISION

As recommended by the City Council.

DECISION MODE

This item will be placed on the March 6, 2023 City Council agenda for formal consideration.

PHASE 1 OF 3 ALL INCLUSIVE 5 YEAR COST

DESCRIPTION	QUANTITY	UNIT	Unit Cost	Discount	Gutermann - ZONESCAN NB- IDT
ZS-NBIOT-PROG-KIT	1	EACH	\$ 250.00	0%	\$ 250.00
ZS-NBIOT-KIT-90-29	52	EACH	\$ 1,365.00	25%	\$ 53,235.00
NBIOT-SIMCARD	52	EACH	\$ 55.00	0%	\$ 2,860.00
ZS-LB-ANTENNAS	52	EACH	\$ 30.00	100%	\$ -
Training - On Site Includes One day of training, travel and expenses	1	LUMP SUM	\$ 2,500.00	0%	\$ 2,500.00
Shipping	3	EACH	\$ 40.00	0%	\$ 120.00
TOTAL COST INCLUSIVE- FIVE YEARS					\$ 58,965.00

PROGRAM 1 OF 3 ANNUAL RECURRING COST YEARS 6-10

Recurring Annual Cost Section-Commences in Year 6	QUANTITY	UNIT	UNIT COST	ANNUAL RECURRING COST	FIVE YEAR COST	EIGHT YEAR COST
Per Sensor System Charge - Every year for 5 year term (\$18/Year)	52	MONTHLY	\$ 1.50	\$ 936.00	\$ 4,680.00	N/A
Per Sensor Wireless Access - Every year for 5 year term (\$31/Year)	52	MONTHLY	\$ 8.92	\$ 572.00	\$ 2,860.00	N/A
Total Recurring Cost Years 6-10				\$ 1,508.00	\$ 7,540.00	N/A
Sensor Battery Replacement - Every 8 years	52	EACH	\$ 20.00	\$ 1,300.00	\$ 650.00	\$ 1,040.00
Total Recurring Cost-Year 8				\$ 1,638.00	\$ 8,190.00	\$ 1,040.00

RETURN ON INVESTMENT	PHASE 1 INVESTMENT	AVERAGE ANNUAL WATER LOSS COST	SAVINGS	REDUCED AVERAGE ANNUAL WATER LOSS COST
PHASE 1 -52 LOGGERS	\$ 58,965.00	\$ (327,084.14)	\$ 58,965.00	\$ (268,119.14)

PHASE 2-

WATER LOSS CHART AND WHOLESALE COST

Break Size: 1/16" x 180 Degrees of 360				
Pipe Diameter Per Inch	Daily Loss in Gallons	Price per 1,000 gallon- Wholesale	Annual Loss in Gallons	Annual Cost
2	40,600	\$ 4.97	16,644,000	\$ 82,720.68
4	81,400	\$ 4.97	29,711,000	\$ 147,663.67
6	136,800	\$ 4.97	48,912,000	\$ 248,162.04
8	182,400	\$ 4.97	66,576,000	\$ 330,082.72
10	228,100	\$ 4.97	83,256,500	\$ 413,784.51
12	273,700	\$ 4.97	99,900,500	\$ 496,505.49
16	364,900	\$ 4.97	133,188,500	\$ 661,946.85

Break Size: 1/16" x 360 Degrees				
Pipe Diameter Per Inch	Daily Loss in Gallons	Price per 1,000 gallon	Annual Loss in Gallons	Annual Cost
2	91,100	\$ 4.97	33,251,500	\$ 165,259.96
4	182,500	\$ 4.97	66,612,500	\$ 331,064.13
6	273,600	\$ 4.97	99,864,000	\$ 496,324.08
8	364,800	\$ 4.97	133,152,000	\$ 661,765.44
10	456,200	\$ 4.97	166,513,000	\$ 827,569.61
12	547,400	\$ 4.97	199,801,000	\$ 993,010.97
16	729,900	\$ 4.97	266,413,500	\$ 1,324,075.10

WATER INVENTORY (LMO) REPORTING YEAR	UNACCOUNTABLE FLOW PERCENTAGE	UNACCOUNTABLE FLOW GALLONS PER DAY	UNACCOUNTABLE FLOW * GALLONS PER YEAR	WHOLESALE COST PER 100 GALLONS RATE IS AVERAGE DUE TO LMO REPORTING CALENDER	WHOLESALE COST
2022	9.80	177,098	64,641,314	6.00	\$ (257,084.14)
2021	7.50	136,198	49,711,374	4.00	\$ (247,064.51)
2020	14.00	274,000	100,012,000	4.00	\$ (497,084.23)
2019	8.60	173,998	63,489,394	4.00	\$ (266,356.65)
2018	9.40	179,218	65,440,124	4.00	\$ (261,961.55)
2017	10.20	189,814	69,201,094	4.00	\$ (276,804.23)
2016	14.40	292,000	106,380,000	4.00	\$ (425,520.00)
**2015	14.80	274,000	100,010,000	4.00	\$ (400,040.00)
**2014	4.50	99,200	36,135,000	4.00	\$ (144,540.00)
2013	3.10	69,200	25,258,000	3.00	\$ (75,774.00)
2012	3.50	89,218	32,580,000	2.75	\$ (89,602.50)
2011	1.60	46,720	17,054,000	2.75	\$ (46,938.00)
2010	7.90	191,000	69,715,000	2.75	\$ (191,316.25)
2009	6.90	133,000	48,445,000	2.75	\$ (133,218.75)
2008	3.20	81,000	29,560,000	2.75	\$ (78,290.00)
2007	1.40	29,000	10,611,000	2.75	\$ (29,180.25)
2006	4.90	102,000	37,230,000	2.75	\$ (102,877.50)
2005	3.80	68,500	25,002,500	2.75	\$ (68,756.88)
AVERAGE	5.55%	129,000	47,114,200	2.75	\$ (129,061.75)

* A major leak was identified at Cass Ave and South Frontage Rd-accounting for the increase.

**New standards implemented for calculations-First standard goal is to be under 12% water loss

PHASE 2 OF 4 ALL INCLUSIVE 5 YEAR COST

DESCRIPTION	QUANTITY	UNIT	Unit Cost	Discount	Gutermann - ZONESCAN NB-407T
ZS-NBIOT-PBIOG-KIT	1	EACH	\$ 250.00	0%	\$ 250.00
ZS-NBIOT-KIT-96-29	193	EACH	\$ 1,365.00	30%	\$ 184,411.50
NBIOT-SIMCARD	193	EACH	\$ 55.00	0%	\$ 10,615.00
ZS-LB-ANTENNAS	193	EACH	\$ 30.00	100%	\$ -
SAMSUNG ACTIVE TABLET	1	EACH	\$ 1,000.00	0%	\$ 1,000.00
Training - On Site Includes One day of training, travel and expenses	0	LUMP SUM	\$ 2,500.00	0%	\$ -
Training - On Site Includes One day of training, travel and expenses-CONTINGENCY	1	PER DAY	\$ 1,000.00	0%	\$ 1,000.00
Shipping--Estimated	1	LUMP SUM	\$ 2,600.00	0%	\$ 2,600.00
TOTAL COST INCLUSIVE-FIVE YEARS					\$ 199,876.50

PHASE 2 OF 4 ANNUAL RECURRING COST YEARS 6-10

Recurring Annual Cost Section-Commences in Year 6	QUANTITY	UNIT	UNIT COST	ANNUAL RECURRING	FIVE YEAR COST	EIGHT YEAR COST
Per Sensor System Charge - Every year for 5 year term (\$10/Year)	193	MONTHLY	\$ 1.50	\$ 3,474.00	\$ 17,370.00	N/A
Per Sensor Wireless Access - Every year for 5 year term (\$11/Year)	193	MONTHLY	\$ 0.92	\$ 2,123.00	\$ 10,615.00	N/A
Total Recurring Cost Years 6-10				\$ 5,597.00	\$ 27,985.00	N/A
Sensor Battery Replacement - Every 8 years	193	EACH	\$ 20.00	\$ 482.50	\$ 2,412.50	\$ 3,860.00
Total Recurring Cost-Year 8				\$ 6,079.50	\$ 30,397.50	\$ 3,860.00

RETURN ON INVESTMENT	INVESTMENT	AVERAGE ANNUAL WATER LOSS COST	ANNUAL SAVINGS	AVERAGE ANNUAL WATER LOSS COST WITH SAVINGS	5 YEAR ANNUAL SAVINGS	ANNUAL PERCENTAGE SAVINGS BASED ON TOTAL INVESTMENT
PHASE 1 -53 LOGGERS	\$ 58,965.00	#####	\$ 58,965.00	\$ (268,119.14)	\$ (1,340,595.72)	8.6%
PHASE 2 -193 LOGGERS	\$199,876.50	\$268,119.14)	\$ 258,841.50	\$ (9,277.64)	\$ (46,388.22)	37.7%
TOTALS	\$258,841.50	N/A	N/A	N/A	N/A	46.3%
TOTAL INVESTMENT COST	\$485,965.00					

WATER LOSS CHART AND WHOLESALE COST

Break Size: 1/8" x 180 Degrees of 360				
Pipe Diameter Per Inch	Daily Loss in Gallons	Price per 1,000 gallons Wholesale	Annual Loss in Gallons	Annual Cost
2	45,000	\$ 4.97	16,044,000	\$ 82,720.68
4	82,400	\$ 4.97	29,721,000	\$ 147,603.67
6	126,400	\$ 4.97	46,032,000	\$ 248,682.66
8	182,400	\$ 4.97	66,276,000	\$ 330,882.72
10	228,100	\$ 4.97	83,256,100	\$ 413,784.81
12	273,100	\$ 4.97	99,303,100	\$ 496,525.49
16	364,900	\$ 4.97	133,188,100	\$ 663,246.85

Break Size: 1/8" x 360 Degrees				
Pipe Diameter Per Inch	Daily Loss in Gallons	Price per 1,000 gallons	Annual Loss in Gallons	Annual Cost
2	91,000	\$ 4.97	33,251,000	\$ 165,259.96
4	182,500	\$ 4.97	66,632,000	\$ 331,084.43
6	273,600	\$ 4.97	99,664,000	\$ 496,204.08
8	364,800	\$ 4.97	133,152,000	\$ 663,262.64
10	456,200	\$ 4.97	166,513,000	\$ 827,369.61
12	547,400	\$ 4.97	199,801,000	\$ 993,010.97
16	739,900	\$ 4.97	269,413,100	\$ 1,338,079.10

WATER INVENTORY (LMO): REPORTING YEAR	UNACCOUNTABLE E FLOW PERCENTAGE	UNACCOUNTABLE E FLOW - GALLONS PER DAY	UNACCOUNTABLE E FLOW - GALLONS PER YEAR	WHOLESALE COST PER 1000-GALLONS RATE IS AVERAGE DUE TO LMO REPORTING CALENDAR	WHOLESALE COST
2002	0.00	177,000	64,641,000	5.06	\$324,088.14
2003	1.50	136,100	49,711,375	4.09	\$201,085.74
2004	14.00	274,000	100,012,000	4.09	\$413,087.24
2005	18.50	367,000	133,685,000	4.06	\$552,769.06
2006	9.40	199,200	72,448,800	4.02	\$293,958.36
2007	15.20	389,200	142,287,000	4.85	\$698,782.17
2008	14.40	292,000	106,580,000	4.85	\$511,284.00
2009	14.00	274,000	100,000,000	4.85	\$490,000.00
2010	4.50	96,200	35,035,000	4.68	\$164,423.86
2011	1.10	39,200	14,238,000	3.03	\$78,531.74
2012	7.10	89,200	32,599,000	2.73	\$88,612.52
2013	0.00	46,700	17,050,000	2.73	\$47,635.00
2014	7.90	101,000	36,513,000	2.73	\$98,773.35
2015	4.40	153,000	55,440,000	2.73	\$152,455.05
2016	3.20	81,000	29,565,000	2.73	\$80,712.00
2017	1.40	29,000	10,513,500	2.73	\$28,797.86
2018	4.90	102,000	37,230,000	2.73	\$101,457.76
2019	3.80	85,500	31,302,500	2.73	\$86,145.53
AVERAGE	8.25	120,000	47,114,200	2.73	\$128,623.73

* A major leak was identified at Cass Ave and South Frontage Rd accounting for the increase.

**New standards implemented for calculations-First standard goal is to be under 12% water loss

PHASE 3 OF 4 ALL INCLUSIVES YEAR COST

DESCRIPTION	QUANTITY	UNIT	Unit Cost	Discount	Gutermann - ZONESCAN NB-101
ZS-NBROT-PROG-KIT	1	EACH	\$ 250.00	0%	\$ 250.00
ZS-NBROT-KIT-90-29	193	EACH	\$ 1,365.00	30%	\$ 184,411.50
NBROT-SIMCARD	193	EACH	\$ 55.00	0%	\$ 10,615.00
ZS-LB-ANTENNAS	193	EACH	\$ 30.00	100%	\$ -
SAMSUNG ACTIVE TABLET	0	EACH	\$ 1,000.00	0%	\$ -
Training - On Site Includes One day of training, travel and expenses	0	LUMPSUM	\$ 2,500.00	0%	\$ -
Training - On Site Includes One day of training, travel and expenses-CONTINGENCY	2	PER DAY	\$ 1,000.00	0%	\$ 2,000.00
Shipping--Estimated	1	LUMPSUM	\$ 2,000.00	0%	\$ 2,000.00
TOTAL COST INCLUSIVE- FIVE YEARS					\$ 199,876.50

PHASE 3 OF 4 ANNUAL RECURRING COST YEARS 6-10

Recurring Annual Cost Section-Commences in Year 6	QUANTITY	UNIT	UNIT COST	ANNUAL RECURR	FIVE YEAR COST	EIGHT YEAR COST
Per Sensor System Charge- Every year for 5 year term (\$18/Year)	193	MONTHLY	\$ 1.50	\$ 3,474.00	\$ 17,370.00	N/A
Per Sensor Wireless Access - Every year for 5 year term (\$11/Year)	193	MONTHLY	\$ 0.92	\$ 2,123.00	\$ 10,615.00	N/A
Total Recurring Cost Years 6-10				\$ 5,597.00	\$ 27,985.00	N/A
Sensor Battery Replacement - Every 8 years	193	EACH	\$ 20.00	\$ 482.50	\$ 2,412.50	\$ 3,860.00
Total Recurring Cost Years				\$ 6,079.50	\$ 30,397.50	\$ 3,860.00

RETURN ON INVESTMENT	INVESTMENT	AVERAGE ANNUAL WATER LOSS COST	ANNUAL SAVINGS	AVERAGE ANNUAL WATER LOSS COST WITH SAVINGS	5 YEAR ANNUAL SAVINGS	ANNUAL PERCENTAGE SAVINGS BASED ON TOTAL INVESTMENT
PHASE 1 -52 LOGGERS	\$ 58,965.00	\$ (327,084.14)	\$ 58,965.00	\$ (268,119.14)	\$ (1,340,595.72)	8.6%
PHASE 2 -193 LOGGERS	\$199,876.50	\$ (268,119.14)	\$ 258,841.50	\$ (9,277.64)	\$ (46,388.22)	37.7%
PHASE 3 -193 LOGGERS	\$199,876.50	\$ (9,277.64)	\$ 458,718.00	\$ 449,440.36	\$ 2,247,201.78	66.9%
TOTALS	\$458,718.00	N/A	N/A	N/A	N/A	113.2%
TOTAL INVESTMENT COST	\$688,965.00					

WATER LOSS CHART AND WHOLESALE COST

Break Size: 100" x 100 Diagonals of 300				
Pipe Diameter Per Inch	Daily Loss in Gallons	Price per 1,000 gallon- Wholesale	Annual Loss in Gallons	Annual Cost
2	45,000	\$ 4.97	16,500,000	\$ 82,750.08
4	81,000	\$ 4.97	29,711,000	\$ 147,661.07
6	126,000	\$ 4.97	45,912,000	\$ 228,382.04
8	182,000	\$ 4.97	66,576,000	\$ 330,882.72
10	238,000	\$ 4.97	87,238,000	\$ 433,789.81
12	273,000	\$ 4.97	99,966,000	\$ 498,930.40
16	364,000	\$ 4.97	133,188,000	\$ 661,949.85

Break Size: 100" x 100 Diagonals				
Pipe Diameter Per Inch	Daily Loss in Gallons	Price per 1,000 gallon	Annual Loss in Gallons	Annual Cost
2	91,000	\$ 4.97	33,251,000	\$ 165,559.86
4	182,000	\$ 4.97	66,512,000	\$ 331,084.13
6	273,000	\$ 4.97	99,864,000	\$ 496,324.08
8	364,000	\$ 4.97	133,152,000	\$ 661,705.44
10	455,000	\$ 4.97	166,511,000	\$ 827,369.82
12	546,000	\$ 4.97	199,866,000	\$ 998,339.81
16	728,000	\$ 4.97	266,411,000	\$ 1,328,895.33

WATER INVENTORY (AMO) REPORTING YEAR	UNACCOUNTABLE LOSS- PERCENTAGE	UNACCOUNTABLE LOSS- GALLONS PER DAY	UNACCOUNTABLE LOSS- YEAR	WHOLESALE COST PER 1,000 GALLONS RATE IS AVERAGE OF 10 DAYS REPORTING CALENDAR	WHOLESALE COST
2020	9.5%	177,000	64,641.15	\$ 4.98	\$ 322,084.15
2021	7.5%	138,150	49,711.15	\$ 4.98	\$ 247,664.15
2020	14.0%	274,000	100,074.52	\$ 4.98	\$ 499,664.15
2020	8.0%	177,000	64,641.15	\$ 4.98	\$ 322,084.15
2019	0.4%	179,250	65,490.15	\$ 4.92	\$ 323,760.75
2017	18.2%	385,800	142,281.10	\$ 4.85	\$ 689,062.75
2019	14.4%	292,000	106,900.00	\$ 4.80	\$ 511,284.00
2021	14.5%	274,000	100,074.52	\$ 4.80	\$ 484,584.00
2014	4.5%	97,800	35,555.70	\$ 4.80	\$ 170,525.30
2013	3.1%	97,800	35,555.70	\$ 4.80	\$ 170,525.30
2012	9.5%	177,000	64,641.15	\$ 2.73	\$ 176,611.75
2011	1.6%	46,720	17,054.99	\$ 2.73	\$ 46,560.72
2010	7.96%	197,000	71,711.00	\$ 2.73	\$ 196,321.07
2009	6.40%	153,000	55,447.00	\$ 2.73	\$ 151,269.81
2008	6.20%	81,000	29,565.00	\$ 2.73	\$ 80,792.25
2007	1.40%	26,900	9,753.50	\$ 2.73	\$ 26,792.36
2006	4.91%	102,000	37,260.00	\$ 2.73	\$ 101,677.50
2005	3.80%	88,500	32,302.50	\$ 2.73	\$ 88,185.81
AVERAGE	6.55%	120,000	43,714.20	\$ 2.73	\$ 119,621.75

* A major leak was identified at Cava Ave and South Frontage Rd accounting for the increase.

**New standards implemented for calculations First standard goal is to be under 12% water loss

PHASE 4 OF 4 ALL INCLUSIVE 5 YEAR COST

DESCRIPTION	QUANTITY	UNIT	Unit Cost	Discount	Gutermann - ZONESCAN NB-IOT
ZS-NBIOT-PROG-KIT	1	EACH	\$ 250.00	0%	\$ 250.00
ZS-NBIOT-KIT-96-29	193	EACH	\$ 1,365.00	30%	\$ 184,411.50
NBIOT-SIM-CARD	193	EACH	\$ 55.00	0%	\$ 10,615.00
ZS-LB-ANTENNAS	193	EACH	\$ 30.00	100%	\$ -
SAMSUNG ACTIVE TABLET	0	EACH	\$ 1,000.00	0%	\$ -
Training - On Site Includes One day of training, travel and expenses	0	LUMP SUM	\$ 2,500.00	0%	\$ -
Training - On Site Includes One day of training, travel and expenses-CONTINGENCY	2	PER DAY	\$ 1,000.00	0%	\$ 2,000.00
Shipping--Estimated	1	LUMP SUM	\$ 2,600.00	0%	\$ 2,600.00
TOTAL COST INCLUSIVE- FIVE YEARS					\$ 199,876.50

PHASE 4 OF 4 ANNUAL RECURRING COST YEARS 6-10

Recurring Annual Cost Section-Commences in Year 6	QUANTITY	UNIT	UNIT COST	ANNUAL RECURRING C	FIVE YEAR COST	EIGHT YEAR COST
Per Sensor System Charge - Every year for 5 year term (\$18/Year)	193	MONTHLY	\$ 1.50	\$ 3,474.00	\$ 17,370.00	N/A
Per Sensor Wireless Access - Every year for 5 year term (\$11/Year)	193	MONTHLY	\$ 0.92	\$ 2,123.00	\$ 10,615.00	N/A
Total Recurring Cost Years 6-10	193			\$ 5,597.00	\$ 27,985.00	N/A
Sensor Battery Replacement - Every 8 years	193	EACH	\$ 20.00	\$ 482.50	\$ 2,412.50	\$ 3,860.00
Total Recurring Cost-Year 8				\$ 6,079.50	\$ 30,397.50	\$ 3,860.00

RETURN ON INVESTMENT	INVESTMENT	AVERAGE ANNUAL WATER LOSS COST	ANNUAL SAVINGS	AVERAGE ANNUAL WATER LOSS COST WITH SAVINGS	5 YEAR ANNUAL SAVINGS	ANNUAL PERCENTAGE SAVINGS BASED ON TOTAL INVESTMENT
PHASE 1 -52 LOGGERS	\$ 58,965.00	\$ (327,084.14)	\$ 58,965.00	\$ (268,119.14)	\$ (1,340,595.72)	8.6%
PHASE 2 -193 LOGGERS	\$ 199,876.50	\$ (268,119.14)	\$ 258,841.50	\$ (9,277.64)	\$ (46,388.22)	37.7%
PHASE 3 -193 LOGGERS	\$ 199,876.50	\$ (9,277.64)	\$ 458,718.00	\$ 449,440.36	\$ 2,247,201.78	66.9%
PHASE 4 -193 LOGGERS	\$ 199,876.50	\$ 449,440.36	N/A	N/A	N/A	N/A
TOTALS	\$ 658,594.50	\$ -	N/A	N/A	N/A	113.2%
TOTAL INVESTMENT COST	\$ 685,965.00					

WATER LOSS CHART AND WHOLESALE COST

Break Size: 1/16" x 180 Degrees of 360				
Pipe Diameter Per Inch	Daily Loss in Gallons	Price per 1,000 gallon- Wholesale	Annual Loss in Gallons	Annual Cost
2	45,600	\$ 4.97	16,644,000	\$ 82,720.68
4	81,400	\$ 4.97	29,711,000	\$ 147,663.67
6	136,800	\$ 4.97	49,932,000	\$ 248,162.04
8	182,400	\$ 4.97	66,576,000	\$ 330,882.72
10	228,100	\$ 4.97	83,256,500	\$ 413,784.81
12	273,700	\$ 4.97	99,900,500	\$ 496,505.49
16	364,900	\$ 4.97	133,188,500	\$ 661,946.85

Break Size: 1/16" x 360 Degrees				
Pipe Diameter Per Inch	Daily Loss in Gallons	Price per 1,000 gallon	Annual Loss in Gallons	Annual Cost
2	91,100	\$ 4.97	33,251,500	\$ 165,259.96
4	182,500	\$ 4.97	66,612,500	\$ 331,064.13
6	273,600	\$ 4.97	99,864,000	\$ 496,324.08
8	364,800	\$ 4.97	133,152,000	\$ 661,765.44
10	456,200	\$ 4.97	166,513,000	\$ 827,569.61
12	547,400	\$ 4.97	199,801,000	\$ 993,010.97
16	729,900	\$ 4.97	266,413,500	\$ 1,324,075.10

WATER INVENTORY (LMO) REPORTING YEAR	UNACCOUNTABLE FLOW PERCENTAGE	UNACCOUNTABLE FLOW - GALLONS PER DAY	UNACCOUNTABLE FLOW - GALLONS PER YEAR	WHOLESALE COST PER 1000 GALLONS-RATE IS AVERAGE DUE TO LMO REPORTING CALENDER	WHOLESALE COST
2022	9.30%	177,099	64,641,135	\$ 5.06	\$ (327,084.14)
2021	7.50%	136,195	49,711,175	\$ 4.97	\$ (247,064.54)
2020	14.00%	274,000	100,010,000	\$ 4.97	\$ (497,064.21)
2019	6.60%	113,384	41,604,160	\$ 4.96	\$ (208,356.63)
2018	9.40%	179,288	65,440,120	\$ 4.92	\$ (321,965.39)
2017	18.20%	389,810	142,281,000	\$ 4.85	\$ (690,062.85)
2016	14.40%	292,000	106,580,000	\$ 4.80	\$ (511,584.00)
**2015	14.30%	274,000	100,010,000	\$ 4.85	\$ (485,048.50)
*2014	4.55%	99,200	36,135,000	\$ 4.68	\$ (442,423.80)
2013	3.18%	69,200	25,236,000	\$ 3.03	\$ (76,531.74)
2012	3.76%	89,232	32,569,669	\$ 2.73	\$ (88,915.20)
2011	1.61%	46,226	17,054,999	\$ 2.73	\$ (46,388.22)
2010	7.96%	191,000	69,715,000	\$ 2.73	\$ (180,321.99)
2009	6.40%	153,000	55,845,000	\$ 2.73	\$ (152,456.83)
2008	3.20%	81,000	29,565,000	\$ 2.73	\$ (80,712.45)
2007	1.46%	29,900	10,913,500	\$ 2.73	\$ (29,793.86)
2006	4.91%	102,000	37,230,000	\$ 2.73	\$ (101,637.90)
2005	3.80%	88,500	32,302,500	\$ 2.73	\$ (88,185.83)
AVERAGE	5.55%	129,080	47,114,200	\$ 2.73	\$ (128,621.77)

* A major leak was identified at Cross Ave and South Frontage Rd-accounting for the increase.

**New standards implemented for calculations-First standard goal is to be under 12% water loss

5

(4,385,307.58)

Regina Kokkinis

From: Dan Gombac
Sent: Wednesday, February 22, 2023 3:17 PM
To: Regina Kokkinis
Subject: Leak Loggers

Need to incorporate email into agenda memo that the prices will be held.

From: Kris Throm <kthrom@darienil.gov>
Sent: Wednesday, February 22, 2023 10:23 AM
To: Dan Gombac <dgombac@darienil.gov>
Subject: FW: Checking In

See below for Gutermann pricing.

Thanks,

Kris Throm
City of Darien Municipal Services
Superintendent
 (630) 514-3453

To receive important information from the City of Darien sign up for our electronic newsletter:

DARIEN DIRECT CONNECT

Follow the link below and subscribing is simple! <http://www.darien.il.us/Reference-Desk/DirectConnect.aspx>

From: Cameron Keyes <cameron.keyes@gutermann-water.com>
Sent: Tuesday, February 21, 2023 12:36 PM
To: Kris Throm <kthrom@darienil.gov>
Subject: Re: Checking In

Hello Kris,

Thanks for the email. The pricing will be good for the entire project!

As for a trial and a Western Springs contact yes. I say we set up 10 or so loggers in your system ASAP. I'll be in the area for WaterCon the week of March 20th. Do you want to schedule something for the 23rd?

Looking forward to it.

Cameron Keyes

Director - North America : Gutermann, Inc.

C: 603-320-9166 F: 603-292-6171

www.linkedin.com/in/cameronkeyesgutermann

Correlating Loggers & Permanent Monitoring Systems

ZONESCAN 820

Smallest correlating radio logger on the market.

- Correlating loggers with high pinpointing accuracy for mobile applications (Lift & Shift or Drive-by)
- Intuitive and versatile Android software ZONESCAN Smart for use with phones and tablets
- Optional data upload to ZONESCAN Net cloud service
- Optimised battery life



Fixed Distribution Network Monitoring

ZONESCAN 1136

Compact permanently installed noise loggers with direct NB-IoT data communication to the Gutermann Cloud.

- Robust data communication of the logger from the chamber to the cloud, even through cast iron lids
- Automatic synchronisation of loggers for accurate leak pinpointing (full correlation)
- NB-IoT is perfect for environmental monitoring thanks to excellent deep coverage, low communication costs and high energy-efficiency
- Easy installation with ZONESCAN INSTALL - Battery changeable in the field



ZONESCAN ALPHA

Fully correlating monitoring system with complete RF infrastructure.

- Award-winning permanent monitoring system for municipalities without reliable NB-IoT cell coverage
- Fully automatic and highly accurate leak alarming and pinpointing
- Sophisticated Gutermann Cloud software with map-based views, dashboards reports and event management tools
- Hundreds of systems installed around the world



Fixed Trunk Main Monitoring

HISCAN

Permanent trunk main monitoring with hydrophones.

- Daily automatic correlations and near real-time leak alarms
- Precise pinpointing even of small emerging leaks
- Increased sensitivity even on plastic pipes using redesigned hydrophones
- Long distances between measuring points
- Energy independence thanks to solar panels
- Upload of data to the ZONESCAN Net cloud



CASE STUDIES

MULTISCAN  ZONESCAN  AQUASCAN 



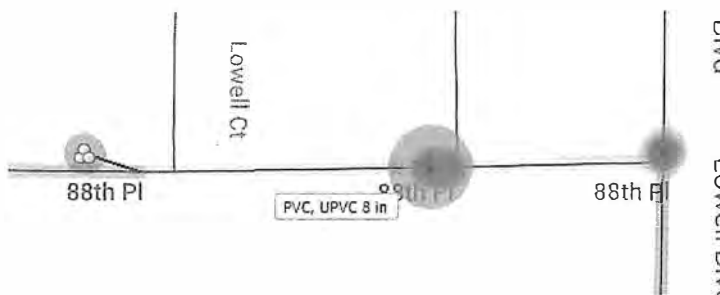
Product: MULTISCAN

Type: Real-Time/Overnight
Multi-point Correlator

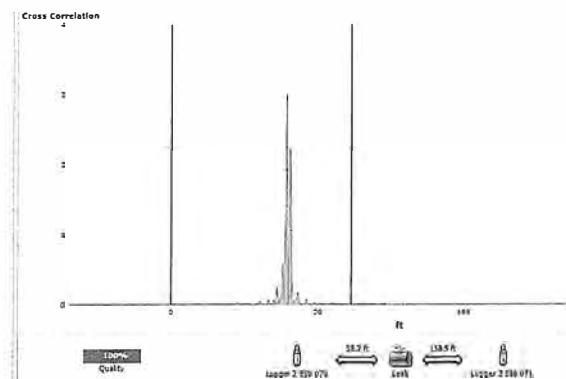
Utility/Company: Westminster, CO
Pipe Material/Diameter: 8" PVC Main
Correlation Quality(s): 100%

Time of Measurement: 8:37 A.M.

Summary: Leak was found after a pro-active leak survey, aimed at reducing non-revenue water. Three (3) sensors produced three leak correlations; one directly at the T-intersection between two sensors placed on Lowell Blvd, and two directly on the leaky hydrant's position, on 88th Pl. The leak was due to a corroded hydrant shoe valve, which was later replaced.



ZONESCAN NET Map View



ZONESCAN NET Correlation Graph



ZONESCAN NET Street View



Leak on Corroded Hydrant Shoe

Product: ZONESCAN 820





Type: Correlating Radio
Loggers in Lift & Shift mode

Utility/Company: Wentzville OH

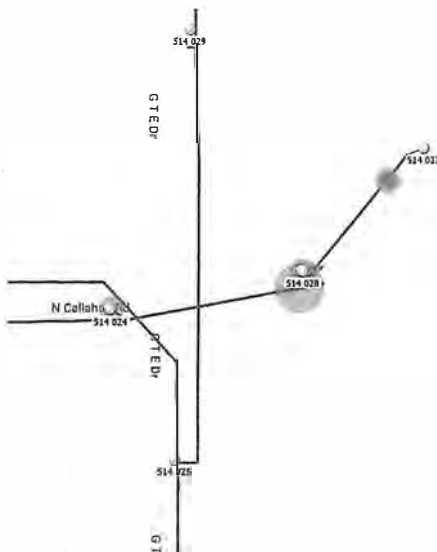
Pipe Material/Diameter: 6" Ductile Iron

Time of Measurement: 2:00 A.M.

Summary: During a pro-active leak survey, ten (10) sensors were placed in an area that was thought to be quiet. To the operator's surprise, one logger returned a high "leak score." After an investigation, the crew found a creek with an abandoned service line near the logger, and deployed the loggers again. Sure enough, the loggers pinpointed leaks on the service - leaks which were discovered to be the source of the pond (see photos below). After the line was shut off, the water drained into a nearby creek.

Correlations		Logger Noise	Events					
	Quality...	Logger 1	Logger 2	Distan...	Distan...	Center...	Pipe Length	Pipe ...
	<div><div>100%</div></div>	514 027	514 028	28.9 ft	126.2 ft	-48.6 ft	155.2 ft	
	<div><div>90%</div></div>	514 024	514 028	187.0 ft	0.0 ft	106.5 ft	161.0 ft	

ZONESCAN NET Correlation Tab



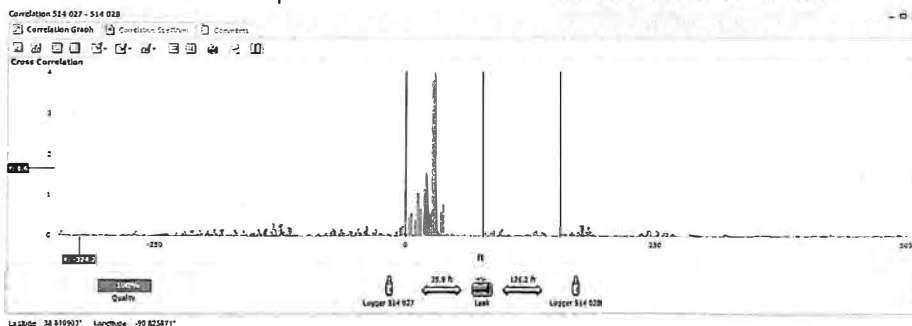
ZONESCAN NET Map View



ZONESCAN NET Street View



(Above) Pond created by the larger leak.
(Below) Puddle created by the smaller leak.



ZONESCAN NET Correlation Graph of 100% leak

Return on Investment: Though the crew did not know how long the leak had been active, they calculated that over a conservative period of 6 months, the excess production cost due to the leaks was roughly \$96,000. With the cost of equipment, and liberal estimates of man power hours, Wentzville's return on investment for finding the two leaks in question was over \$73,000.

Product: ZONESCAN NB-IO

Type: Automatic Network Monitoring Loggers, utilizing the Narrowband Internet of Things

Utility/Company: Lebanon PA

Pipe Material/Diameter: 4" CI Main w/ 3/4" Copper Service

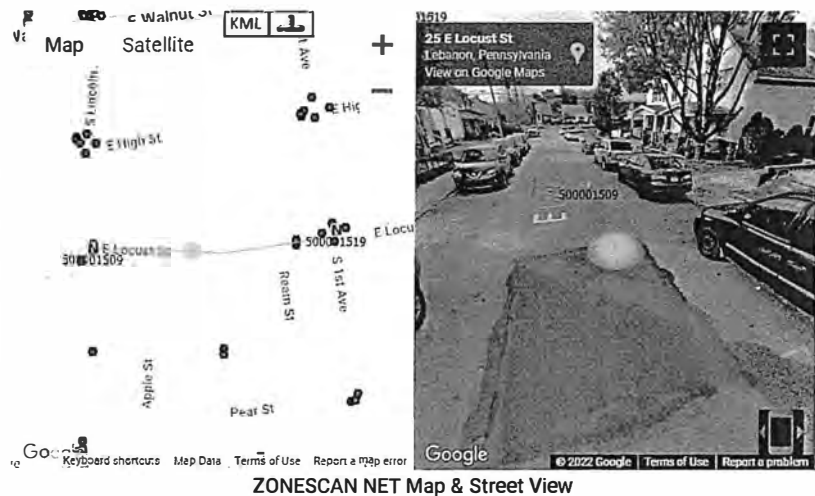
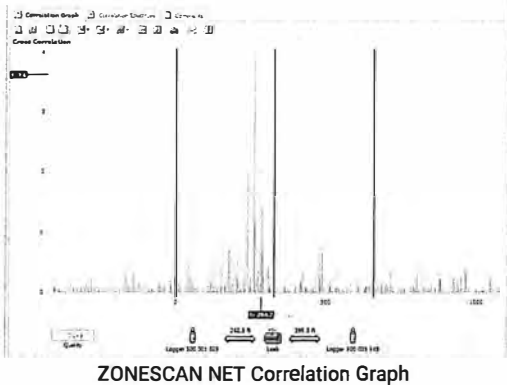
Summary: Lebanon PA installed their NB-IoT logger system in 2020, starting with 30 loggers, and expanding to 130 loggers in 2022. Since install, the system has boasted over 95% connectivity on a consistent basis, and has found over thirty leaks for the city. The two examples below are from the earliest, and most recent, days of install, respectively. Lebanon PA has made excellent use of the Events feature of ZONESCAN NET, which pings the user on new high-quality correlations, and allows the city to keep track of their investigated leaks, as well as label which correlations are due to other noise sources, such as PRVs.

Leak 1: Sept. 19, 2020 - 2:00 A.M.

Correlation Quality: 70%

Distance: 660 ft

Result: Leak was found repaired. Leak was non-surfacing, on a utility-side service line.

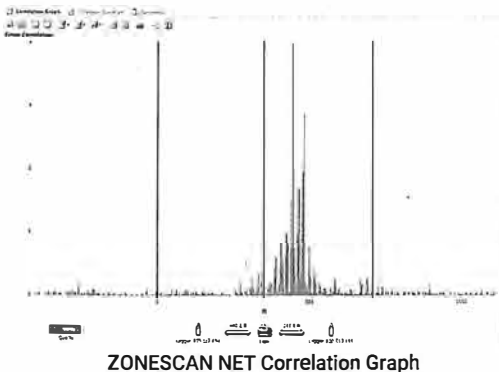


Leak 2: June 3rd, 2022 - 2:00 A.M.

Correlation Quality: 90%

Distance: 706 ft

Result: Leak was found repaired. Leak was non-surfacing, on a service line on the customer's property.



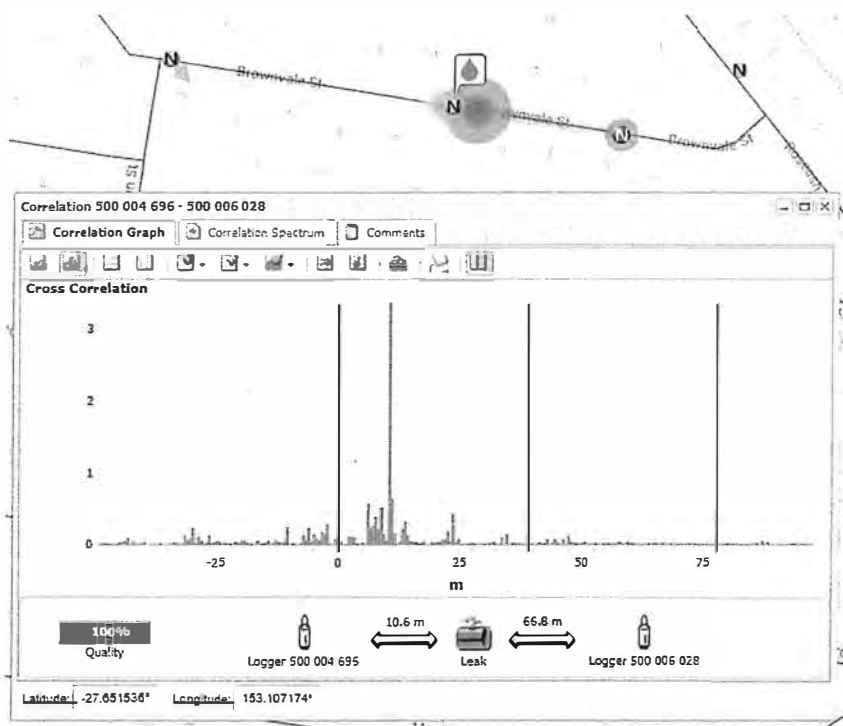
Product: ZONESCAN NB-IoT

Type: Automatic Network
Monitoring Loggers, utilizing the
Narrowband Internet of Things

Utility/Company: City of Logan, Australia

Pipe Material/Diameter: 100mm (4") PVC main w/ 100mm (3/4") poly conduit

Summary: The City of Logan, after tremendous success with their ZONESCAN 820 lift & shift program, implemented a 300-point ZONESCAN NB-IoT system in May of 2021. In the first few months, the system found a total of 23 leaks (both mainline and customer-side), which saved an estimated \$261k USD annually in non-revenue water. Pictured below is the most costly leak that was found by the system: a non-surfacing leak caused by a damaged road conduit. The city meticulously recorded every aspect of the found leaks, noting details such as identification-to-stoppage times, and gal/m losses.



Pipe Info: 100mm (4 in.) PVC main & 20mm (0.75 in.) poly road conduit

Correlation Score: 100%

Logger Spacing: 77.4m (254 ft)

Total Time from Identification to Stoppage: 29.45 hrs

Leakage Rate: 97.52 L/m (25.76 gal/m)

Actual Non-Revenue Water Loss: \$538.00 USD or 172 KL

Total Estimated Non Revenue Water Loss Annually (in USD): \$147,133.00



Return on Investment: Though the NB-IoT system will continue to monitor the utility's water system for years to come, large and costly leaks caught early have provided a near full return on investment in the span of just two months. This startling success led the city to invest in creating purpose-built, ultra-secure chambers to better cover their mixed material system with NB-IoT Loggers where no valves are present.



Product: ZONESCAN 820 & AQUASCAN 610

Utility/Company: Kansas City BPU, KS

Summary: In an effort to reduce its 35% water loss, the utility conducted a proactive leak survey using 50 overnight correlating loggers, and an AQUASCAN 610 real-time correlator. The survey spanned 144 miles of pipe, and lasted 61 days, with one worker able to deploy up to 25 loggers per hour. Pictured below are three examples of leaks found during the survey.

ZONESCAN NET Correlation Report

Kansas City BPU 2018-08-17 (Report created on 2019-06-03 2:21 PM)



Correlation

Quality	Location	Logger 1	Logger 2	Dist. L1	Dist. L2	Center Dist.	Pipe Len.	Comments
70	1 Eaton St	509679	509684	147.6 ft	26.6 ft	62.4 ft	174.2 ft	4" Main Leak - Pinpointed after 2 years of searching!



Leak on 4" CI Main Line

ZONESCAN NET Correlation Report

Kansas City BPU 2017-09-22 (Report created on 2017-10-24 5:27 PM)



Correlation

Quality	Location	Logger 1	Logger 2	Dist. L1	Dist. L2	Center Dist.	Pipe Len.	Comments
100	7425-7499 Georgia Ave	509700	509701	42.6 ft	735.4 ft	-348.1 ft	778.2 ft	



Leak on AC Main Line

Return on Investment: The survey identified a total of 64 leaks - 25 mainline, 12 service, 5 hydrants, 8 mainline/hydrant valves, and 14 customer-side leaks. Subsequent repairs took the utility from 1.55 MGD (approx. \$16.5k per mo.) losses to 0.662 MGD (approx. \$7k per mo.) losses, a reduction of over 20% in just two months.

RESOLUTION NO. R-32-23

**A RESOLUTION AUTHORIZING THE PURCHASE OF THE PHASE 1-LEAK
LOGGER PROGRAM, CONSISTING OF FIFTY-TWO LEAK LOGGER UNITS FROM
GUTERMANN INC., IN AN AMOUNT NOT TO EXCEED \$58,965**

**BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF DARIEN, DU
PAGE COUNTY, ILLINOIS, as follows:**

SECTION 1: The City Council of the City of Darien does hereby accept a proposal for
the purchase of the Phase 1-Leak Logger Program, consisting of fifty-two leak logger units from
Gutermann Inc., in an amount not to exceed \$58,965, a copy of which is attached hereto as
"Exhibit A".

SECTION 2: This Resolution shall be in full force and effect from and after its passage
and approval as provided by law.

**PASSED BY THE CITY COUNCIL OF THE CITY OF DARIEN, DU PAGE
COUNTY, ILLINOIS, this 6th day of March 2023.**

AYES: 7 - Belczak, Chlystek, Gustafson, Kenny, Schauer, Sullivan, Vaughan

NAYS: 0 - NONE

ABSENT: 0 - NONE


**APPROVED BY THE MAYOR OF THE CITY OF DARIEN, DU PAGE COUNTY,
ILLINOIS, this 6th day of March 2023.**


JOSEPH MARCHESE, MAYOR

ATTEST:

JOANNE E. RAGONA, CITY CLERK

APPROVED AS TO FORM:


CITY ATTORNEY





Gutermann Inc.
 55 Main St., Suite 311
 03857 Newmarket, NH
 Tel.: +1 (603) 200-0340
 Fax: +1 (603) 292 6171
<http://www.gutermann-water.com>
usa@gutermann-water.com

Darien Public Works - IL, Kris Throm
 1041 S. Frontage Rd
 Darien IL 60561
 United States

Invoicing Address:

Darien Public Works - IL, Kris Throm
 1041 S. Frontage Rd
 Darien IL 60561
 United States

Shipping Address:

Darien Public Works - IL
 1041 S. Frontage Rd
 Darien IL 60561
 United States

Quotation

Quotation Number: S/GUS/2301183
 Quotation Date: 01/09/2023
 Expiration Date: 04/09/2023
 Reference: USA20230109CK NBIOT
 Your Contact Person: Cameron Keyes
 Phone:
 Email: cameron.keyes@gutermann-water.com

Pos	Qty	Unit	Part No	Description	Unit Price	Disc. %	Taxes	Amount
1	1.00	Pcs	ZS-NBIOT-PROG-KIT	[ZS-NBIOT-PROG-KIT] ZS NB-IoT programming kit	250.00	0.00		\$ 250.00
2	52.00	Pcs	ZS-NBIOT-KIT-90-29	[ZS-NBIOT-KIT-90-29] ZONESCAN NB-IoT correlating leak logger incl antenna (12,13,17,28 (90mm), 290 cm)	1,365.00	25.00		\$ 53,235.00
				Included in Price: five year subscription for battery change, warranty and hosting fee, per logger. (\$1.50 Per Month / Logger after the 5 years)				
3	52.00	Pcs	NBIOT-SIMCARD	[NBIOT-SIMCARD] ZONESCAN NB-IoT data SIM card.	55.00	0.00		\$ 2,860.00
				Five year hosting and management subscription, per logger				
4	52.00	Pcs	ZS-LB-ANT	[ZS-LB-ANT] ZONESCAN L bracket for antennas	30.00	100.00		\$ 0.00
5	1.00	Units	Included	Training - Web Based - included in equipment price	0.00	0.00		\$ 0.00
6	1.00	Units	Includes - one day training, travel and expenses	Training - On site (Days) - Includes One day of training, travel and expenses	2,500.00	0.00		\$ 2,500.00
7	3.00	Units		Shipping Cost	40.00	0.00		\$ 120.00

Page: 1 / 2

Bank Account
 TD Bank

Routing number
 01140071

Account number
 9242620600

Federal ID
 20-8983602



Gutermann Inc.

55 Main St., Suite 311

03857 Newmarket, NH

Tel.: +1 (603) 200-0340

Fax: +1 (603) 292 6171

<http://www.gutermann-water.com>

usa@gutermann-water.com

Subtotal	\$ 58,965.00
Total	\$ 58,965.00

Payment terms: 30 Days

Page: 2 / 2

Bank Account
TD Bank

Routing number
01140071

Account number
9242620600

Federal ID
20-8983602

Darien Public Works - IL, Kris Throm
1041 S. Frontage Rd
Darien IL 60561
United States

Invoicing Address:

Darien Public Works - IL, Kris Throm
1041 S. Frontage Rd
Darien IL 60561
United States

Shipping Address:

Darien Public Works - IL
1041 S. Frontage Rd
Darien IL 60561
United States

Quotation

Quotation Number: S/GUS/2301183
Quotation Date: 01/09/2023
Expiration Date: 04/09/2023
Reference: USA20230109CK NBIOT
Your Contact Person: Cameron Keyes
Phone:
Email: cameron.keyes@gutermann-water.com

Pos	Qty	Unit	Part No	Description	Unit Price	Disc.%	Taxes	Amount
1	1.00	Pcs	ZS-NBIOT-PROG-KIT	[ZS-NBIOT-PROG-KIT] ZS NB-IoT programming kit	250.00	0.00		\$ 250.00
2	545.00	Pcs	ZS-NBIOT-KIT-90-29	[ZS-NBIOT-KIT-90-29] ZONESCAN NB-IoT correlating leak logger incl antenna (12,13,17,28 (90mm), 290 cm)	1,365.00	30.00		\$ 520,747.50
				Included in Price: five year subscription for battery change, warranty and hosting fee, per logger.				
3	545.00	Pcs	NBIOT-SIMCARD	[NBIOT-SIMCARD] ZONESCAN NB-IoT data SIM card.	55.00	0.00		\$ 29,975.00
				Five year hosting and management subscription, per logger				
4	545.00	Pcs	ZS-LB-ANT	[ZS-LB-ANT] ZONESCAN L bracket for antennas	30.00	100.00		\$ 0.00
5	1.00	Units		Samsung Active 3 Tablet	1,000.00	0.00		\$ 1,000.00
6	1.00	Units	Included	Training - Web Based - included in equipment price	0.00	0.00		\$ 0.00
7	1.00	Units	Includes - one day training, travel and expenses	Training - On site (Days) - Includes One day of training, travel and expenses	2,500.00	0.00		\$ 2,500.00

Pos	Qty	Unit	Part No	Description	Unit Price	Disc.%	Taxes	Amount
8	1.00	Units	Includes - one day training, travel and expenses	Training - On site (Days) - Each Additional Day	1,000.00	0.00		\$ 1,000.00
Subtotal								\$ 555,472.50
Total								\$ 555,472.50

Payment terms: 30 Days

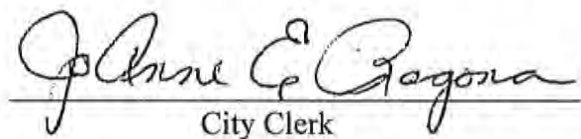
STATE OF ILLINOIS)
) SS
COUNTY OF DU PAGE)

I, JoAnne E. Ragona, do hereby certify that I am the duly qualified CITY CLERK of the CITY OF DARIEN of DuPage County, Illinois, and as such officer I am the keeper of the records and files of the City;

I do further certify that the foregoing constitutes a full, true and correct copy of **RESOLUTION NO. R-32-23 — “A RESOLUTION AUTHORIZING THE PURCHASE OF THE PHASE 1-LEAK LOGGER PROGRAM, CONSISTING OF FIFTY-TWO LEAK LOGGER UNITS FROM GUTERMANN INC., IN AN AMOUNT NOT TO EXCEED \$58,965”** of The City of Darien, Du Page County, Illinois, Duly Passed and Approved by the Mayor and City Council at a Meeting Held on March 6, 2023.

IN WITNESS WHEREOF, I have hereunto affixed my official hand and seal this 6th day of March, 2023.




City Clerk



March 9, 2023

Gutterman, Inc.
Attn: Cameron Keyes
55 Main St., Suite 311
Newmarket, NH 03857

RE: leak logger program – phase 1

Dear Cameron Keyes,

Enclosed please find a certified copy of *Resolution No. R-32-23 – “A RESOLUTION AUTHORIZING THE PURCHASE OF THE PHASE 1 - LEAK LOGGER PROGRAM, CONSISTING OF FIFTY-TWO LEAK LOGGER UNITS FROM GUTERMANN INC., IN AN AMOUNT NOT TO EXCEED \$58,965”* passed by the City Council at its regular meeting on March 6, 2023.

Should you have any questions or concerns, please give me a call at (630) 353-8106.

Sincerely,

CITY OF DARIEN

A handwritten signature in black ink, appearing to read "Daniel Gombac", is written over the printed name.

Daniel Gombac
Director of Municipal Services

Enclosure

cc: JoAnne E. Ragona, City Clerk
Kris Throm, Superintendent of Municipal Services

AGENDA MEMO
City Council
June 5, 2023

ISSUE STATEMENT

A resolution authorizing the purchase of the Phase 2-Leak Logger Program, consisting of 146 leak logger units from Gutermann Inc., in an amount not to exceed \$219,191.70

RESOLUTION

BACKGROUND/HISTORY

The proposed leak detection system is Phase 2-4 utilized by the Water Division to proactively locate and pinpoint leaks while they are small. The detectors, (loggers) are placed in water vaults and/or hydrant auxiliary valves. The loggers detect leaks through sound waves. When a leak occurs, the sound will amplify from the pipe and the adjacent area. As the detection state changes, a water sensor will be awakened on the radio and send data to a wireless gateway. Through a correlation process the loggers calculate the origin of the leak and process the information through the Gutermann I-Cloud gateway service. The cloud-based technology then sends an alert to a monitoring app on a mobile device or desktop application.

This program will also eliminate the need to outsource leak locating services at a cost of approximately \$15,000-\$20,000 per year upon full deployment of the leak loggers. The loggers will provide daily monitoring, 365 days a year. The program will have hosting costs after the initial five years, see attached sheet labeled as **Attachment A**.

This program is considered Phase 2 of 4 and is budgeted over a three-year program, pending budget considerations. The cost of the entire program will be approximately \$616,000 with reoccurring costs after the initial five years of each phase. As stated in the attached email, the pricing will be honored for the entire project, see **Attachment B**. A further evaluation on the the return on investment throughout each phase was calculated and the program would pay for itself in 2.25 to 2.5 years. The reoccurring costs would be budget beginning 2027/2028. Please see **Attachment A**, summarizing the phases and costs. As additional information, **Attachment C** is technical information regarding the system.

The proposed expenditure would be expended from the following line accounts:

ACCOUNT NUMBER	ACCOUNT DESCRIPTION	FY 23/24 BUDGET	PROPOSED EXPENDITURE	ACCOUNT BALANCE
02-50-4815	Capital Purchases Leak Detection Equipment & Data Loggers	\$220,000.00	\$219,191.70	\$808.30

STAFF RECOMMENDATION

Staff recommends a resolution authorizing the purchase of the Phase 2-Leak Logger Program, consisting of 146 leak logger units from Gutermann Inc., in an amount not to exceed \$219,191.70.

COMMITTEE RECOMMENDATION

This item is being presented to the Municipal Services Committee prior to the City Council Meeting on June 5, 2023. Chairman Belczak will be presenting the Committee's recommendation to the City Council.

ALTERNATE DECISION

As recommended by the City Council.

DECISION MODE

This item will be placed on the June 5, 2023 City Council agenda for formal consideration.

PHASE 1 OF 3 ALL INCLUSIVE 5 YEAR COST

DESCRIPTION	QUANTITY	UNIT	Unit Cost	Discount	Gutermann - ZONESCAN NB- IDT
ZS-NBIOT-PROG-KIT	1	EACH	\$ 250.00	0%	\$ 250.00
ZS-NBIOT-KIT-90-29	52	EACH	\$ 1,365.00	25%	\$ 53,235.00
NBIOT-SIMCARD	52	EACH	\$ 55.00	0%	\$ 2,860.00
ZS-LB-ANTENNAS	52	EACH	\$ 30.00	100%	\$ -
Training - On Site Includes One day of training, travel and expenses	1	LUMP SUM	\$ 2,500.00	0%	\$ 2,500.00
Shipping	3	EACH	\$ 40.00	0%	\$ 120.00
TOTAL COST INCLUSIVE- FIVE YEARS					\$ 58,965.00

PROGRAM 1 OF 3 ANNUAL RECURRING COST YEARS 6-10

Recurring Annual Cost Section-Commences in Year 6	QUANTITY	UNIT	UNIT COST	ANNUAL RECURRING COST	FIVE YEAR COST	EIGHT YEAR COST
Per Sensor System Charge - Every year for 5 year term (\$18/Year)	52	MONTHLY	\$ 1.50	\$ 936.00	\$ 4,680.00	N/A
Per Sensor Wireless Access - Every year for 5 year term (\$31/Year)	52	MONTHLY	\$ 8.92	\$ 572.00	\$ 2,860.00	N/A
Total Recurring Cost Years 6-10				\$ 1,508.00	\$ 7,540.00	N/A
Sensor Battery Replacement - Every 8 years	52	EACH	\$ 20.00	\$ 1,300.00	\$ 650.00	\$ 1,040.00
Total Recurring Cost-Year 8				\$ 1,638.00	\$ 8,190.00	\$ 1,040.00

RETURN ON INVESTMENT	PHASE 1 INVESTMENT	AVERAGE ANNUAL WATER LOSS COST	SAVINGS	REDUCED AVERAGE ANNUAL WATER LOSS COST
PHASE 1 -52 LOGGERS	\$ 58,965.00	\$ (327,084.14)	\$ 58,965.00	\$ (268,119.14)

PHASE 2-

WATER LOSS CHART AND WHOLESALE COST

Break Size: 1/16" x 180 Degrees of 360				
Pipe Diameter Per Inch	Daily Loss in Gallons	Price per 1,000 gallon- Wholesale	Annual Loss in Gallons	Annual Cost
2	40,600	\$ 4.97	16,644,000	\$ 82,720.68
4	81,400	\$ 4.97	29,711,000	\$ 147,663.67
6	136,800	\$ 4.97	48,912,000	\$ 248,162.04
8	182,400	\$ 4.97	66,576,000	\$ 330,882.72
10	228,100	\$ 4.97	83,256,500	\$ 413,784.51
12	273,700	\$ 4.97	99,900,500	\$ 496,505.49
16	364,900	\$ 4.97	133,188,500	\$ 661,946.85

Break Size: 1/16" x 360 Degrees				
Pipe Diameter Per Inch	Daily Loss in Gallons	Price per 1,000 gallon	Annual Loss in Gallons	Annual Cost
2	91,100	\$ 4.97	33,251,500	\$ 165,259.96
4	182,500	\$ 4.97	66,612,500	\$ 331,064.13
6	273,600	\$ 4.97	99,864,000	\$ 496,324.08
8	364,800	\$ 4.97	133,152,000	\$ 661,765.44
10	456,200	\$ 4.97	166,513,000	\$ 827,569.61
12	547,400	\$ 4.97	199,801,000	\$ 993,010.97
16	729,900	\$ 4.97	266,413,500	\$ 1,324,075.10

WATER INVENTORY (LMO) REPORTING YEAR	UNACCOUNTABLE FLOW PERCENTAGE	UNACCOUNTABLE FLOW GALLONS PER DAY	UNACCOUNTABLE FLOW * GALLONS PER YEAR	WHOLESALE COST PER 100 GALLONS RATE IS AVERAGE DUE TO LMO REPORTING CALENDER	WHOLESALE COST
2022	9.80	177,098	64,641,314	6.00	\$ (327,084.14)
2021	7.50	136,198	49,711,374	4.00	\$ (247,064.51)
2020	14.00	274,000	100,012,000	4.00	\$ (497,064.23)
2019	8.60	173,998	63,489,394	4.00	\$ (306,356.65)
2018	9.40	179,218	65,440,124	4.00	\$ (321,360.57)
2017	10.20	189,814	69,201,094	4.00	\$ (349,002.37)
2016	14.40	292,000	106,380,000	4.00	\$ (511,584.00)
**2015	14.80	274,000	100,010,000	4.00	\$ (495,048.57)
**2014	4.50	99,200	36,135,000	4.00	\$ (144,423.60)
2013	3.10	69,200	25,258,000	3.00	\$ (76,531.74)
2012	3.50	89,234	32,580,600	2.70	\$ (88,915.26)
2011	1.60	46,720	17,054,900	2.70	\$ (46,560.13)
2010	7.90	191,000	69,713,000	2.70	\$ (188,321.81)
2009	6.90	133,000	48,840,000	2.70	\$ (131,456.83)
2008	3.20	81,000	29,560,000	2.70	\$ (80,712.46)
2007	1.40	29,000	10,611,000	2.70	\$ (28,703.40)
2006	4.90	102,000	37,230,000	2.70	\$ (101,617.00)
2005	3.80	68,500	25,302,500	2.70	\$ (68,183.55)
AVERAGE	5.50	129,000	47,114,200	2.70	\$ (126,621.77)

* A major leak was identified at Cass Ave and South Frontage Rd-accounting for the increase.

**New standards implemented for calculations-First standard goal is to be under 12% water loss

PHASE 2 OF 4 ALL INCLUSIVE 5 YEAR COST

DESCRIPTION	QUANTITY	UNIT	Unit Cost	Discount	Gutermann - ZONSCAN NB-101T
ZS-NBIOT-PBIOG-KIT	1	EACH	\$ 250.00	0%	\$ 250.00
ZS-NBIOT-KIT-96-29	193	EACH	\$ 1,365.00	30%	\$ 184,115.50
NBIOT-SIMCARD	193	EACH	\$ 55.00	0%	\$ 10,615.00
ZS-LB-ANTENNAS	193	EACH	\$ 30.00	100%	\$ -
SAMSUNG ACTIVE TABLET	1	EACH	\$ 1,000.00	0%	\$ 1,000.00
Training - On Site Includes One day of training, travel and expenses	0	LUMP SUM	\$ 2,500.00	0%	\$ -
Training - On Site Includes One day of training, travel and expenses-CONTINGENCY	1	PER DAY	\$ 1,000.00	0%	\$ 1,000.00
Shipping--Estimated	1	LUMP SUM	\$ 2,600.00	0%	\$ 2,600.00
TOTAL COST INCLUSIVE-FIVE YEARS					\$ 199,876.50

PHASE 2 OF 4 ANNUAL RECURRING COST YEARS 6-10

Recurring Annual Cost Section-Commences in Year 6	QUANTITY	UNIT	UNIT COST	ANNUAL RECURRING	FIVE YEAR COST	EIGHT YEAR COST
Per Sensor System Charge - Every year for 5 year term (\$10/Year)	193	MONTHLY	\$ 1.50	\$ 3,474.00	\$ 17,370.00	N/A
Per Sensor Wireless Access - Every year for 5 year term (\$11/Year)	193	MONTHLY	\$ 0.92	\$ 2,123.00	\$ 10,615.00	N/A
Total Recurring Cost Years 6-10				\$ 5,597.00	\$ 27,985.00	N/A
Sensor Battery Replacement - Every 8 years	193	EACH	\$ 20.00	\$ 482.50	\$ 2,412.50	\$ 3,860.00
Total Recurring Cost-Year 8				\$ 6,079.50	\$ 30,397.50	\$ 3,860.00

RETURN ON INVESTMENT	INVESTMENT	AVERAGE ANNUAL WATER LOSS COST	ANNUAL SAVINGS	AVERAGE ANNUAL WATER LOSS COST WITH SAVINGS	5 YEAR ANNUAL SAVINGS	ANNUAL PERCENTAGE SAVINGS BASED ON TOTAL INVESTMENT
PHASE 1 -51 LOGGERS	\$ 58,965.00	#####	\$ 58,965.00	\$ (268,119.14)	\$ (1,340,595.72)	8.6%
PHASE 2 -193 LOGGERS	\$199,876.50	\$268,119.14)	\$ 258,841.50	\$ (9,277.64)	\$ (46,388.22)	37.7%
TOTALS	\$258,841.50	N/A	N/A	N/A	N/A	46.3%
TOTAL INVESTMENT COST	\$485,965.00					

WATER LOSS CHART AND WHOLESALE COST

Break Size: 1/8" x 180 Degrees of 360				
Pipe Diameter Per Inch	Daily Loss in Gallons	Price per 1,000 gallons Wholesale	Annual Loss in Gallons	Annual Cost
2	45,500	\$ 4.97	16,644,000	\$ 82,720.68
4	82,400	\$ 4.97	29,751,000	\$ 147,663.67
6	126,400	\$ 4.97	46,052,000	\$ 248,062.66
8	182,400	\$ 4.97	66,576,000	\$ 330,882.72
10	228,100	\$ 4.97	83,256,100	\$ 413,784.81
12	273,100	\$ 4.97	99,303,100	\$ 496,525.49
16	364,900	\$ 4.97	133,188,100	\$ 663,246.45

Break Size: 1/8" x 360 Degrees				
Pipe Diameter Per Inch	Daily Loss in Gallons	Price per 1,000 gallons	Annual Loss in Gallons	Annual Cost
2	91,000	\$ 4.97	33,251,000	\$ 165,259.96
4	182,500	\$ 4.97	66,632,000	\$ 331,084.43
6	273,600	\$ 4.97	99,664,000	\$ 496,204.08
8	364,800	\$ 4.97	133,152,000	\$ 663,762.64
10	456,200	\$ 4.97	166,513,000	\$ 827,589.61
12	547,400	\$ 4.97	199,801,000	\$ 993,010.97
16	739,800	\$ 4.97	269,413,100	\$ 1,338,079.10

WATER INVENTORY (LMO): REPORTING YEAR	UNACCOUNTABLE E FLOW PERCENTAGE	UNACCOUNTABLE E FLOW - GALLONS PER DAY	UNACCOUNTABLE E FLOW - GALLONS PER YEAR	1000-GALLONS RATE IS AVERAGE DUE TO LMO REPORTING CALENDER	WHOLESALE COST
2002	0.00	177,000	64,641,000	6.00	\$187,089.14
2003	1.50	136,100	49,511,370	4.00	\$127,085.74
2004	14.00	274,000	100,012,000	4.00	\$187,085.74
2005	18.50	412,000	149,884,000	4.00	\$187,085.74
2006	9.00	199,500	72,442,500	4.00	\$133,958.76
2007	15.20	389,500	142,287,000	4.00	\$186,762.15
2008	14.00	292,000	106,580,000	4.00	\$111,264.00
2009	14.00	274,000	100,012,000	4.00	\$89,000.00
2010	4.50	96,300	35,235,050	4.00	\$442,423.06
2011	1.10	69,300	25,238,070	3.00	\$76,531.74
2012	7.10	89,200	32,599,200	2.75	\$86,012.25
2013	1.00	66,700	24,269,700	2.75	\$65,769.00
2014	7.90	101,000	36,515,000	2.75	\$196,323.50
2015	4.40	153,000	55,443,000	2.75	\$112,455.00
2016	3.20	81,000	29,565,000	2.75	\$86,712.00
2017	1.40	29,000	10,513,000	2.75	\$26,707.00
2018	4.00	102,000	37,230,000	2.75	\$101,457.75
2019	3.80	85,500	31,302,500	2.75	\$86,145.50
AVERAGE	8.50	120,000	43,714,200	2.75	\$128,623.50

* A major leak was identified at Cass Ave and South Frontage Rd accounting for the increase.

**New standards implemented for calculations-First standard goal is to be under 12% water loss

PHASE 3 OF 4 ALL INCLUSIVES YEAR COST

DESCRIPTION	QUANTITY	UNIT	Unit Cost	Discount	Gutermann - ZONESCAN NB-101
ZS-NBROT-PROG-KIT	1	EACH	\$ 250.00	0%	\$ 250.00
ZS-NBROT-KIT-90-29	193	EACH	\$ 1,365.00	30%	\$ 184,411.50
NBROT-SIMCARD	193	EACH	\$ 55.00	0%	\$ 10,615.00
ZS-LB-ANTENNAS	193	EACH	\$ 30.00	100%	\$ -
SAMSUNG ACTIVE TABLET	0	EACH	\$ 1,000.00	0%	\$ -
Training - On Site Includes One day of training, travel and expenses	0	LUMPSUM	\$ 2,500.00	0%	\$ -
Training - On Site Includes One day of training, travel and expenses-CONTINGENCY	2	PER DAY	\$ 1,000.00	0%	\$ 2,000.00
Shipping--Estimated	1	LUMPSUM	\$ 2,000.00	0%	\$ 2,000.00
TOTAL COST INCLUSIVE- FIVE YEARS					\$ 199,876.50

PHASE 3 OF 4 ANNUAL RECURRING COST YEARS 6-10

Recurring Annual Cost Section-Commences in Year 6	QUANTITY	UNIT	UNIT COST	ANNUAL RECURR	FIVE YEAR COST	EIGHT YEAR COST
Per Sensor System Charge- Every year for 5 year term (\$18/Year)	193	MONTHLY	\$ 1.50	\$ 3,474.00	\$ 17,370.00	N/A
Per Sensor Wireless Access - Every year for 5 year term (\$11/Year)	193	MONTHLY	\$ 0.92	\$ 2,123.00	\$ 10,615.00	N/A
Total Recurring Cost Years 6-10				\$ 5,597.00	\$ 27,985.00	N/A
Sensor Battery Replacement - Every 8 years	193	EACH	\$ 20.00	\$ 482.50	\$ 2,412.50	\$ 3,860.00
Total Recurring Cost Years				\$ 6,079.50	\$ 30,397.50	\$ 3,860.00

RETURN ON INVESTMENT	INVESTMENT	AVERAGE ANNUAL WATER LOSS COST	ANNUAL SAVINGS	AVERAGE ANNUAL WATER LOSS COST WITH SAVINGS	5 YEAR ANNUAL SAVINGS	ANNUAL PERCENTAGE SAVINGS BASED ON TOTAL INVESTMENT
PHASE 1 -52 LOGGERS	\$ 58,965.00	\$ (327,084.14)	\$ 58,965.00	\$ (268,119.14)	\$ (1,340,595.72)	8.6%
PHASE 2 -193 LOGGERS	\$199,876.50	\$ (268,119.14)	\$ 258,841.50	\$ (9,277.64)	\$ (46,388.22)	37.7%
PHASE 3 -193 LOGGERS	\$199,876.50	\$ (9,277.64)	\$ 458,718.00	\$ 449,440.36	\$ 2,247,201.78	66.9%
TOTALS	\$458,718.00	N/A	N/A	N/A	N/A	113.2%
TOTAL INVESTMENT COST	\$688,965.00					

WATER LOSS CHART AND WHOLESALE COST

Break Size: 100" x 100 Diagonals of 300				
Pipe Diameter Per Inch	Daily Loss in Gallons	Price per 1,000 gallon- Wholesale	Annual Loss in Gallons	Annual Cost
2	45,000	\$ 4.97	16,500,000	\$ 82,700.00
4	81,000	\$ 4.97	29,711,000	\$ 147,661.07
6	126,000	\$ 4.97	45,912,000	\$ 228,362.04
8	182,000	\$ 4.97	66,576,000	\$ 330,882.72
10	238,000	\$ 4.97	87,238,000	\$ 433,789.81
12	273,000	\$ 4.97	99,966,000	\$ 496,905.40
16	364,000	\$ 4.97	133,188,000	\$ 661,949.85

Break Size: 100" x 100 Diagonals				
Pipe Diameter Per Inch	Daily Loss in Gallons	Price per 1,000 gallon	Annual Loss in Gallons	Annual Cost
2	91,000	\$ 4.97	33,251,000	\$ 165,359.86
4	182,000	\$ 4.97	66,512,000	\$ 331,064.13
6	273,000	\$ 4.97	99,864,000	\$ 496,324.08
8	364,000	\$ 4.97	133,152,000	\$ 661,705.44
10	455,000	\$ 4.97	166,510,000	\$ 827,369.82
12	546,000	\$ 4.97	199,866,000	\$ 996,339.81
16	728,000	\$ 4.97	266,413,000	\$ 1,324,895.31

WATER INVENTORY (AMO) REPORTING YEAR	UNACCOUNTABLE FLOW- PERCENTAGE	UNACCOUNTABLE FLOW- GALLONS PER DAY	UNACCOUNTABLE FLOW- YEARS REPORTING CALENDAR	1000 GALLONS RATE IS AVERAGE OF 1000 REPORTING CALENDAR	WHOLESALE COST
2020	9.5%	177,000	64,041.13	\$ 4.90	\$ 320,084.13
2021	7.5%	138,151	49,711.13	\$ 4.90	\$ 243,684.13
2020	14.0%	274,000	100,012.50	\$ 4.90	\$ 497,064.13
2020	8.0%	177,000	64,041.13	\$ 4.90	\$ 320,084.13
2019	0.4%	179,250	65,496.13	\$ 4.90	\$ 323,765.75
2017	18.2%	385,810	142,281.00	\$ 4.85	\$ 690,062.17
2019	14.4%	292,000	106,360.00	\$ 4.80	\$ 511,284.00
2021	14.5%	274,000	100,012.50	\$ 4.80	\$ 489,588.00
2014	4.5%	97,800	35,555.75	\$ 4.80	\$ 170,423.10
2013	3.1%	67,300	24,536.75	\$ 4.80	\$ 117,631.10
2012	3.9%	87,251	31,592.86	\$ 4.75	\$ 150,615.75
2011	1.6%	46,720	17,054.99	\$ 4.75	\$ 80,566.12
2010	3.9%	197,000	71,717.00	\$ 4.75	\$ 136,321.75
2009	6.4%	153,000	55,447.00	\$ 4.75	\$ 112,404.75
2008	6.0%	81,000	29,550.00	\$ 4.75	\$ 60,712.50
2007	1.4%	26,900	10,015.50	\$ 4.75	\$ 25,792.38
2006	4.9%	102,000	37,260.00	\$ 4.75	\$ 175,215.00
2005	3.8%	88,500	32,302.50	\$ 4.75	\$ 153,181.87
AVERAGE	6.5%	120,000	43,114.29	\$ 4.79	\$ 129,621.71

* A major leak was identified at Cava Ave and South Frontage Rd accounting for the increase.

**New standards implemented for calculations First standard goal is to be under 12% water loss

PHASE 4 OF 4 ALL INCLUSIVE 5 YEAR COST

DESCRIPTION	QUANTITY	UNIT	Unit Cost	Discount	Gutermann - ZONESCAN NB-IOT
ZS-NBIOT-PROG-KIT	1	EACH	\$ 250.00	0%	\$ 250.00
ZS-NBIOT-KIT-96-29	193	EACH	\$ 1,365.00	30%	\$ 184,411.50
NBIOT-SIMC CARD	193	EACH	\$ 55.00	0%	\$ 10,615.00
ZS-LB-ANTENNAS	193	EACH	\$ 30.00	100%	\$ -
SAMSUNG ACTIVE TABLET	0	EACH	\$ 1,000.00	0%	\$ -
Training - On Site Includes One day of training, travel and expenses	0	LUMP SUM	\$ 2,500.00	0%	\$ -
Training - On Site Includes One day of training, travel and expenses-CONTINGENCY	2	PER DAY	\$ 1,000.00	0%	\$ 2,000.00
Shipping--Estimated	1	LUMP SUM	\$ 2,600.00	0%	\$ 2,600.00
TOTAL COST INCLUSIVE- FIVE YEARS					\$ 199,876.50

PHASE 4 OF 4 ANNUAL RECURRING COST YEARS 6-10

Recurring Annual Cost Section-Commences in Year 6	QUANTITY	UNIT	UNIT COST	ANNUAL RECURRING C	FIVE YEAR COST	EIGHT YEAR COST
Per Sensor System Charge - Every year for 5 year term (\$18/Year)	193	MONTHLY	\$ 1.50	\$ 3,474.00	\$ 17,370.00	N/A
Per Sensor Wireless Access - Every year for 5 year term (\$11/Year)	193	MONTHLY	\$ 0.92	\$ 2,123.00	\$ 10,615.00	N/A
Total Recurring Cost Years 6-10	193			\$ 5,597.00	\$ 27,985.00	N/A
Sensor Battery Replacement - Every 8 years	193	EACH	\$ 20.00	\$ 482.50	\$ 2,412.50	\$ 3,860.00
Total Recurring Cost-Year 8				\$ 6,079.50	\$ 30,397.50	\$ 3,860.00

RETURN ON INVESTMENT	INVESTMENT	AVERAGE ANNUAL WATER LOSS COST	ANNUAL SAVINGS	AVERAGE ANNUAL WATER LOSS COST WITH SAVINGS	5 YEAR ANNUAL SAVINGS	ANNUAL PERCENTAGE SAVINGS BASED ON TOTAL INVESTMENT
PHASE 1 -52 LOGGERS	\$ 58,965.00	\$ (327,084.14)	\$ 58,965.00	\$ (268,119.14)	\$ (1,340,595.72)	8.6%
PHASE 2 -193 LOGGERS	\$ 199,876.50	\$ (268,119.14)	\$ 258,841.50	\$ (9,277.64)	\$ (46,388.22)	37.7%
PHASE 3 -193 LOGGERS	\$ 199,876.50	\$ (9,277.64)	\$ 458,718.00	\$ 449,440.36	\$ 2,247,201.78	66.9%
PHASE 4 -193 LOGGERS	\$ 199,876.50	\$ 449,440.36	N/A	N/A	N/A	N/A
TOTALS	\$ 658,594.50	\$ -	N/A	N/A	N/A	113.2%
TOTAL INVESTMENT COST	\$ 685,965.00					

WATER LOSS CHART AND WHOLESALE COST

Break Size: 1/16" x 180 Degrees of 360				
Pipe Diameter Per Inch	Daily Loss in Gallons	Price per 1,000 gallon- Wholesale	Annual Loss in Gallons	Annual Cost
2	45,600	\$ 4.97	16,644,000	\$ 82,720.68
4	81,400	\$ 4.97	29,711,000	\$ 147,663.67
6	136,800	\$ 4.97	49,932,000	\$ 248,162.04
8	182,400	\$ 4.97	66,576,000	\$ 330,882.72
10	228,100	\$ 4.97	83,256,500	\$ 413,784.81
12	273,700	\$ 4.97	99,900,500	\$ 496,505.49
16	364,900	\$ 4.97	133,188,500	\$ 661,946.85

Break Size: 1/16" x 360 Degrees				
Pipe Diameter Per Inch	Daily Loss in Gallons	Price per 1,000 gallon	Annual Loss in Gallons	Annual Cost
2	91,100	\$ 4.97	33,251,500	\$ 165,259.96
4	182,500	\$ 4.97	66,612,500	\$ 331,064.13
6	273,600	\$ 4.97	99,864,000	\$ 496,324.08
8	364,800	\$ 4.97	133,152,000	\$ 661,765.44
10	456,200	\$ 4.97	166,513,000	\$ 827,569.61
12	547,400	\$ 4.97	199,801,000	\$ 993,010.97
16	729,900	\$ 4.97	266,413,500	\$ 1,324,075.10

WATER INVENTORY (LMO) REPORTING YEAR	UNACCOUNTABLE FLOW PERCENTAGE	UNACCOUNTABLE FLOW - GALLONS PER DAY	UNACCOUNTABLE FLOW - GALLONS PER YEAR	WHOLESALE COST PER 1000 GALLONS-RATE IS AVERAGE DUE TO LMO REPORTING CALENDER	WHOLESALE COST
2022	9.30%	177,099	64,641,135	\$ 5.06	\$ (327,084.14)
2021	7.50%	136,195	49,711,175	\$ 4.97	\$ (247,064.54)
2020	14.00%	274,000	100,010,000	\$ 4.97	\$ (497,064.21)
2019	6.60%	113,384	41,604,168	\$ 4.96	\$ (208,356.63)
2018	9.40%	179,288	65,440,120	\$ 4.92	\$ (321,965.39)
2017	18.20%	389,810	142,281,000	\$ 4.85	\$ (690,062.85)
2016	14.40%	292,000	106,580,000	\$ 4.80	\$ (511,584.00)
**2015	14.30%	274,000	100,010,000	\$ 4.85	\$ (485,048.50)
*2014	4.55%	99,200	36,135,000	\$ 4.68	\$ (442,423.80)
2013	3.18%	69,200	25,238,000	\$ 3.03	\$ (76,531.74)
2012	3.76%	89,232	32,569,669	\$ 2.73	\$ (88,915.20)
2011	1.61%	46,226	17,054,999	\$ 2.73	\$ (46,388.22)
2010	7.96%	191,000	69,715,000	\$ 2.73	\$ (180,321.99)
2009	6.40%	153,000	55,845,000	\$ 2.73	\$ (152,456.85)
2008	3.20%	81,000	29,565,000	\$ 2.73	\$ (80,712.45)
2007	1.46%	29,900	10,913,500	\$ 2.73	\$ (29,793.86)
2006	4.91%	102,000	37,230,000	\$ 2.73	\$ (101,637.90)
2005	3.80%	88,500	32,302,500	\$ 2.73	\$ (88,185.83)
AVERAGE	5.55%	129,080	47,114,200	\$ 2.73	\$ (128,621.77)

* A major leak was identified at Cross Ave and South Frontage Rd-accounting for the increase.

**New standards implemented for calculations-First standard goal is to be under 12% water loss

5

(4,385,307.58)

Regina Kokkinis

From: Dan Gombac
Sent: Wednesday, February 22, 2023 3:17 PM
To: Regina Kokkinis
Subject: Leak Loggers

Need to incorporate email into agenda memo that the prices will be held.

From: Kris Throm <kthrom@darienil.gov>
Sent: Wednesday, February 22, 2023 10:23 AM
To: Dan Gombac <dgombac@darienil.gov>
Subject: FW: Checking In

See below for Gutermann pricing.

Thanks,

Kris Throm
City of Darien Municipal Services
Superintendent
 (630) 514-3453

To receive important information from the City of Darien sign up for our electronic newsletter:

DARIEN DIRECT CONNECT

Follow the link below and subscribing is simple! <http://www.darien.il.us/Reference-Desk/DirectConnect.aspx>

From: Cameron Keyes <cameron.keyes@gutermann-water.com>
Sent: Tuesday, February 21, 2023 12:36 PM
To: Kris Throm <kthrom@darienil.gov>
Subject: Re: Checking In

Hello Kris,

Thanks for the email. The pricing will be good for the entire project!

As for a trial and a Western Springs contact yes. I say we set up 10 or so loggers in your system ASAP. I'll be in the area for WaterCon the week of March 20th. Do you want to schedule something for the 23rd?

Looking forward to it.

Cameron Keyes

Director - North America : Gutermann, Inc.

C: 603-320-9166 F: 603-292-6171

www.linkedin.com/in/cameronkeyesgutermann

Correlating Loggers & Permanent Monitoring Systems

ZONESCAN 820

Smallest correlating radio logger on the market.

- Correlating loggers with high pinpointing accuracy for mobile applications (Lift & Shift or Drive-by)
- Intuitive and versatile Android software ZONESCAN Smart for use with phones and tablets
- Optional data upload to ZONESCAN Net cloud service
- Optimised battery life



Fixed Distribution Network Monitoring

ZONESCAN 1130

Compact permanently installed noise loggers with direct NB-IoT data communication to the Gutermann Cloud.

- Robust data communication of the logger from the chamber to the cloud, even through cast iron lids
- Automatic synchronisation of loggers for accurate leak pinpointing (full correlation)
- NB-IoT is perfect for environmental monitoring thanks to excellent deep coverage, low communication costs and high energy-efficiency
- Easy installation with ZONESCAN INSTALL - Battery changeable in the field



ZONESCAN ALPHA

Fully correlating monitoring system with complete RF infrastructure.

- Award-winning permanent monitoring system for municipalities without reliable NB-IoT cell coverage
- Fully automatic and highly accurate leak alarming and pinpointing
- Sophisticated Gutermann Cloud software with map-based views, dashboards reports and event management tools
- Hundreds of systems installed around the world



Fixed Trunk Main Monitoring

HISCAN

Permanent trunk main monitoring with hydrophones.

- Daily automatic correlations and near real-time leak alarms
- Precise pinpointing even of small emerging leaks
- Increased sensitivity even on plastic pipes using redesigned hydrophones
- Long distances between measuring points
- Energy independence thanks to solar panels
- Upload of data to the ZONESCAN Net cloud



CASE STUDIES

MULTISCAN  ZONESCAN  AQUASCAN 



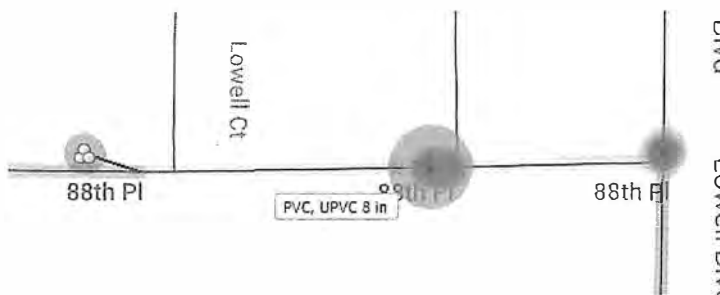
Product: MULTISCAN

Type: Real-Time/Overnight
Multi-point Correlator

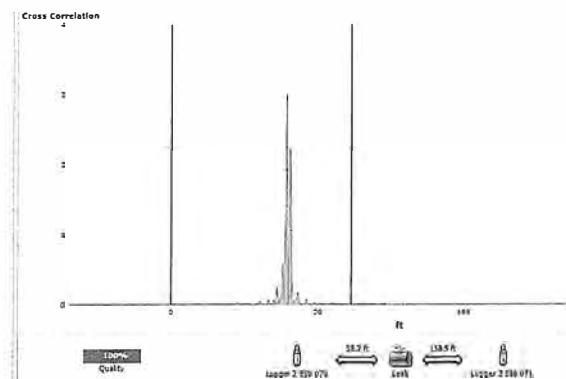
Utility/Company: Westminster, CO
Pipe Material/Diameter: 8" PVC Main
Correlation Quality(s): 100%

Time of Measurement: 8:37 A.M.

Summary: Leak was found after a pro-active leak survey, aimed at reducing non-revenue water. Three (3) sensors produced three leak correlations; one directly at the T-intersection between two sensors placed on Lowell Blvd, and two directly on the leaky hydrant's position, on 88th Pl. The leak was due to a corroded hydrant shoe valve, which was later replaced.



ZONESCAN NET Map View



ZONESCAN NET Correlation Graph



ZONESCAN NET Street View



Leak on Corroded Hydrant Shoe

Product: ZONESCAN 820





Type: Correlating Radio
Loggers in Lift & Shift mode

Utility/Company: Wentzville OH

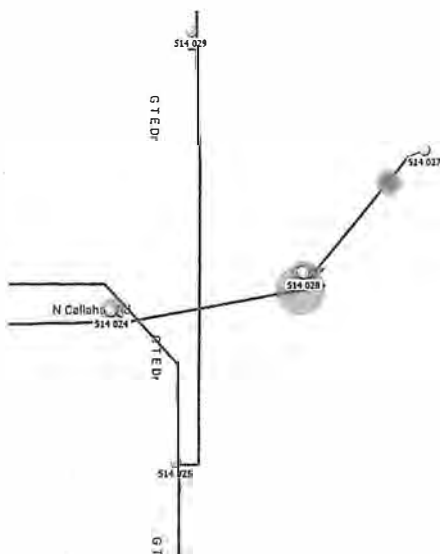
Pipe Material/Diameter: 6" Ductile Iron

Time of Measurement: 2:00 A.M.

Summary: During a pro-active leak survey, ten (10) sensors were placed in an area that was thought to be quiet. To the operator's surprise, one logger returned a high "leak score." After an investigation, the crew found a creek with an abandoned service line near the logger, and deployed the loggers again. Sure enough, the loggers pinpointed leaks on the service - leaks which were discovered to be the source of the pond (see photos below). After the line was shut off, the water drained into a nearby creek.

Correlations		Logger Noise	Events					
	Quality...	Logger 1	Logger 2	Distan...	Distan...	Center...	Pipe Length	Pipe ...
	<div><div>100%</div></div>	514 027	514 028	28.9 ft	126.2 ft	-48.6 ft	155.2 ft	
	<div><div>90%</div></div>	514 024	514 028	187.0 ft	0.0 ft	106.5 ft	161.0 ft	

ZONESCAN NET Correlation Tab



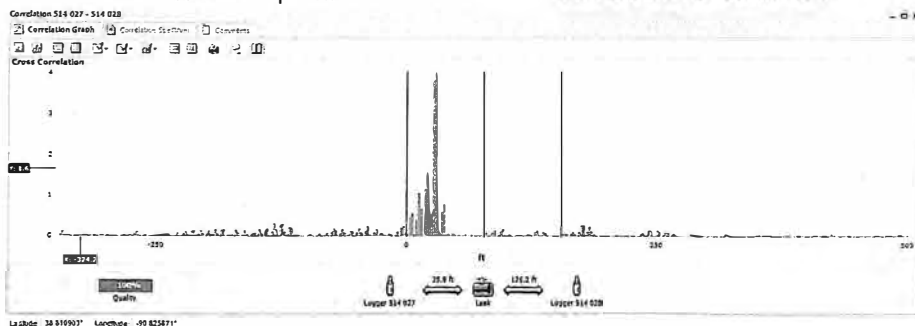
ZONESCAN NET Map View



ZONESCAN NET Street View



(Above) Pond created by the larger leak.
(Below) Puddle created by the smaller leak.



ZONESCAN NET Correlation Graph of 100% leak

Return on Investment: Though the crew did not know how long the leak had been active, they calculated that over a conservative period of 6 months, the excess production cost due to the leaks was roughly \$96,000. With the cost of equipment, and liberal estimates of man power hours, Wentzville's return on investment for finding the two leaks in question was over \$73,000.

Product: ZONESCAN NB-IO

Type: Automatic Network Monitoring Loggers, utilizing the Narrowband Internet of Things

Utility/Company: Lebanon PA

Pipe Material/Diameter: 4" CI Main w/ 3/4" Copper Service

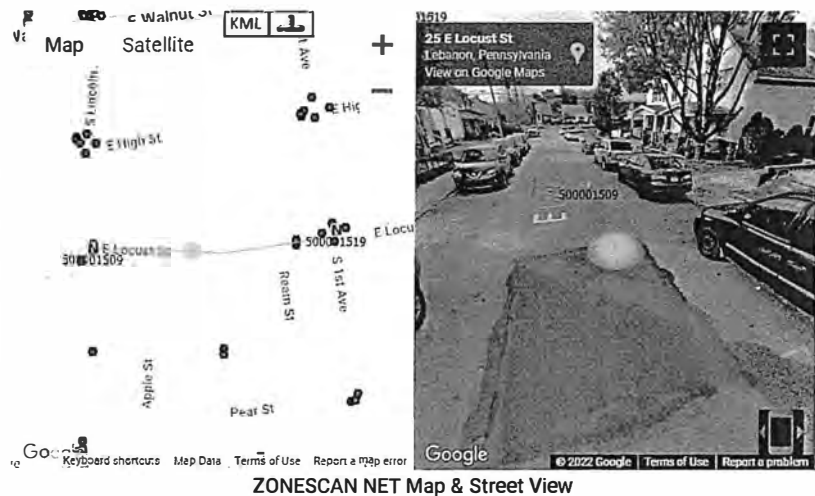
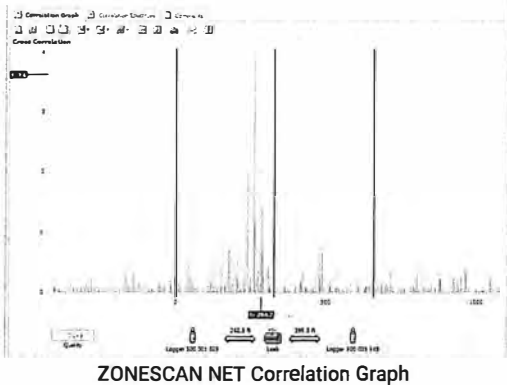
Summary: Lebanon PA installed their NB-IoT logger system in 2020, starting with 30 loggers, and expanding to 130 loggers in 2022. Since install, the system has boasted over 95% connectivity on a consistent basis, and has found over thirty leaks for the city. The two examples below are from the earliest, and most recent, days of install, respectively. Lebanon PA has made excellent use of the Events feature of ZONESCAN NET, which pings the user on new high-quality correlations, and allows the city to keep track of their investigated leaks, as well as label which correlations are due to other noise sources, such as PRVs.

Leak 1: Sept. 19, 2020 - 2:00 A.M.

Correlation Quality: 70%

Distance: 660 ft

Result: Leak was found repaired. Leak was non-surfacing, on a utility-side service line.

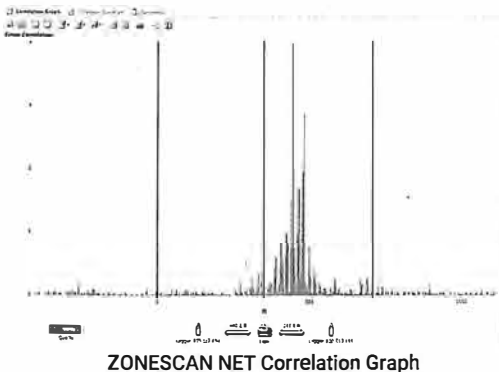


Leak 2: June 3rd, 2022 - 2:00 A.M.

Correlation Quality: 90%

Distance: 706 ft

Result: Leak was found repaired. Leak was non-surfacing, on a service line on the customer's property.



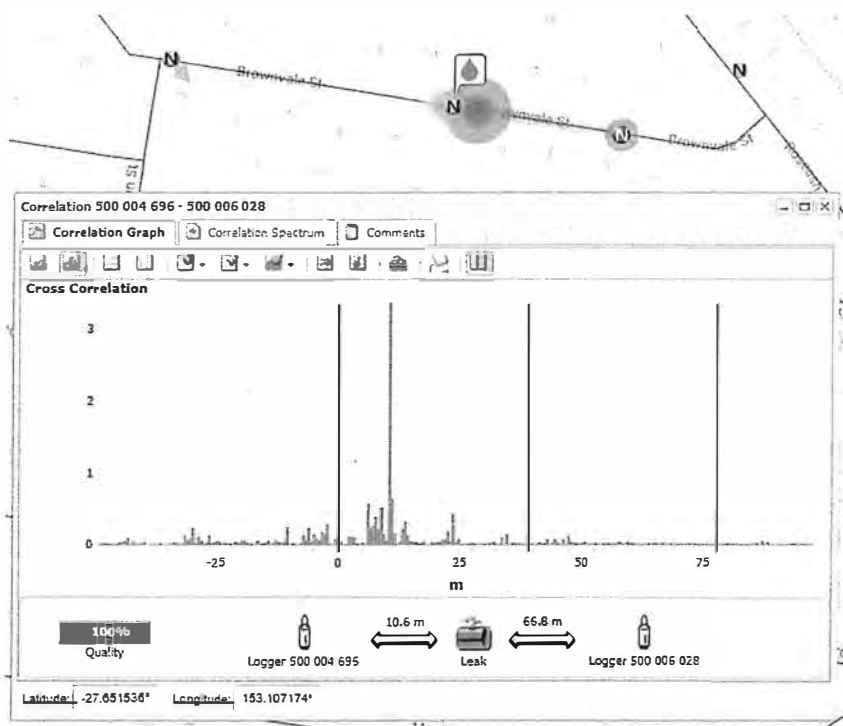
Product: ZONESCAN NB-IoT

Type: Automatic Network
Monitoring Loggers, utilizing the
Narrowband Internet of Things

Utility/Company: City of Logan, Australia

Pipe Material/Diameter: 100mm (4") PVC main w/ 100mm (3/4") poly conduit

Summary: The City of Logan, after tremendous success with their ZONESCAN 820 lift & shift program, implemented a 300-point ZONESCAN NB-IoT system in May of 2021. In the first few months, the system found a total of 23 leaks (both mainline and customer-side), which saved an estimated \$261k USD annually in non-revenue water. Pictured below is the most costly leak that was found by the system: a non-surfacing leak caused by a damaged road conduit. The city meticulously recorded every aspect of the found leaks, noting details such as identification-to-stoppage times, and gal/m losses.



Pipe Info: 100mm (4 in.) PVC main & 20mm (0.75 in.) poly road conduit

Correlation Score: 100%

Logger Spacing: 77.4m (254 ft)

Total Time from Identification to Stoppage: 29.45 hrs

Leakage Rate: 97.52 L/m (25.76 gal/m)

Actual Non-Revenue Water Loss: \$538.00 USD or 172 KL

Total Estimated Non Revenue Water Loss Annually (in USD): \$147,133.00



Return on Investment: Though the NB-IoT system will continue to monitor the utility's water system for years to come, large and costly leaks caught early have provided a near full return on investment in the span of just two months. This startling success led the city to invest in creating purpose-built, ultra-secure chambers to better cover their mixed material system with NB-IoT Loggers where no valves are present.



Product: ZONESCAN 820 & AQUASCAN 610

Utility/Company: Kansas City BPU, KS

Summary: In an effort to reduce its 35% water loss, the utility conducted a proactive leak survey using 50 overnight correlating loggers, and an AQUASCAN 610 real-time correlator. The survey spanned 144 miles of pipe, and lasted 61 days, with one worker able to deploy up to 25 loggers per hour. Pictured below are three examples of leaks found during the survey.

ZONESCAN NET Correlation Report

Kansas City BPU 2018-08-17 (Report created on 2019-06-03 2:21 PM)



Correlation

Quality	Location	Logger 1	Logger 2	Dist. L1	Dist. L2	Center Dist.	Pipe Len.	Comments
70	1 Eaton St	509679	509684	147.6 ft	26.6 ft	62.4 ft	174.2 ft	4" Main Leak - Pinpointed after 2 years of searching!



Leak on 4" CI Main Line

ZONESCAN NET Correlation Report

Kansas City BPU 2017-09-22 (Report created on 2017-10-24 5:27 PM)



Correlation

Quality	Location	Logger 1	Logger 2	Dist. L1	Dist. L2	Center Dist.	Pipe Len.	Comments
100	7425-7499 Georgia Ave	509700	509701	42.6 ft	735.4 ft	-348.1 ft	778.2 ft	



Leak on AC Main Line

Return on Investment: The survey identified a total of 64 leaks - 25 mainline, 12 service, 5 hydrants, 8 mainline/hydrant valves, and 14 customer-side leaks. Subsequent repairs took the utility from 1.55 MGD (approx. \$16.5k per mo.) losses to 0.662 MGD (approx. \$7k per mo.) losses, a reduction of over 20% in just two months.

RESOLUTION NO. R-64-23

**A RESOLUTION AUTHORIZING THE PURCHASE OF THE PHASE 2-LEAK
LOGGER PROGRAM, CONSISTING OF 146 LEAK LOGGER UNITS FROM
GUTERMANN INC., IN AN AMOUNT NOT TO EXCEED \$219,191.70**

**BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF DARIEN, DU
PAGE COUNTY, ILLINOIS, as follows:**

SECTION 1: The City Council of the City of Darien does hereby accept a proposal for the purchase of the Phase 2-Leak Logger Program, consisting of 146 leak logger units from Gutermann Inc., in an amount not to exceed \$219,191.70, a copy of which is attached hereto as **“Exhibit A”**.

SECTION 2: This Resolution shall be in full force and effect from and after its passage and approval as provided by law.

**PASSED BY THE CITY COUNCIL OF THE CITY OF DARIEN, DU PAGE
COUNTY, ILLINOIS, this 5th day of June 2023.**

AYES: 6 - Belczak, Gustafson, Leganski, Schauer, Stompanato, Sullivan

NAYS: 0 - NONE

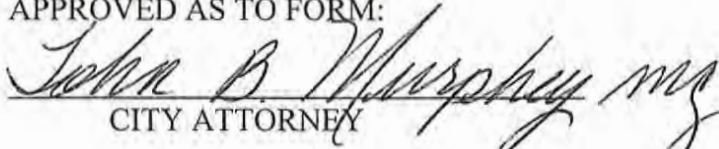
ABSENT: 1 - Kenny

**APPROVED BY THE MAYOR OF THE CITY OF DARIEN, DU PAGE COUNTY,
ILLINOIS, this 5th day of June 2023.**


JOSEPH MARCHESE, MAYOR

ATTEST:

JOANNE E. RAGONA, CITY CLERK

APPROVED AS TO FORM:

CITY ATTORNEY



Darien Public Works - IL, Kris Throm
 1041 S. Frontage Rd
 Darien IL 60561
 United States

Invoicing Address:
 Darien Public Works - IL, Kris Throm
 1041 S. Frontage Rd
 Darien IL 60561
 United States

Shipping Address:
 Darien Public Works - IL
 1041 S. Frontage Rd
 Darien IL 60561
 United States

Quotation

Quotation Number: S/GUS/2301463
 Quotation Date: 05/25/2023
 Expiration Date: 11/24/2023
 Reference: USA20230525CK NBIOT
 Your Contact Person: Cameron Keyes
 Phone:
 Email: cameron.keyes@gutermann-water.com

Pos	Qty	Unit	Part No	Description	Unit Price	Disc.%	Taxes	Amount
1	1.00	Pcs	ZS-NBIOT-PROG-KIT	ZS NB-IoT programming kit	400.00	100.00		\$ 0.00
2	217.00	Pcs	SIM-US-ATT	ZONESCAN NB-IoT data SIM card (AT&T (US)) Customs tariff number: 85235200	0.00	0.00		\$ 0.00
3	217.00	Pcs	ZS-NBIOT-KIT-90-29	ZONESCAN NB-IoT correlating leak logger incl antenna (12,13,17,28 (90mm), 290 cm)	1,365.00	26.00		\$ 219,191.70
4	217.00	Pcs	ZS-LB-ANT	ZONESCAN L bracket for antennas	30.00	100.00		\$ 0.00
5	1.00	Units	Included	Training - Web Based	0.00	0.00		\$ 0.00
6	1.00	Units	Includes - one day training, travel and expenses	Training - On site (1Day)	1,000.00	100.00		\$ 0.00
7	3.00	Pcs	FREIGHT	Freight charge and transport insurance	0.00	0.00		\$ 0.00
Total								\$ 219,191.70

*Please allow 10 weeks for delivery

*2 Year Manufacturers Warranty: Excludes cables, antennas, and cords.

Payment terms: 30 Days

STATE OF ILLINOIS)
) SS
COUNTY OF DU PAGE)

I, JoAnne E. Ragona, do hereby certify that I am the duly qualified CITY CLERK of the CITY OF DARIEN of DuPage County, Illinois, and as such officer I am the keeper of the records and files of the City;

I do further certify that the foregoing constitutes a full, true and correct copy of **RESOLUTION NO. R-64-23 — “A RESOLUTION AUTHORIZING THE PURCHASE OF THE PHASE 2-LEAK LOGGER PROGRAM, CONSISTING OF 146 LEAK LOGGER UNITS FROM GUTERMANN INC., IN AN AMOUNT NOT TO EXCEED \$219,191.70”** of The City of Darien, Du Page County, Illinois, Duly Passed and Approved by the Mayor and City Council at a Meeting Held on June 5, 2023.

IN WITNESS WHEREOF, I have hereunto affixed my official hand and seal this 5th day of June, 2023.




City Clerk



June 7, 2023

Gutermann Inc
Attn: Cameron Keyes
55 Main St., Suite 311
Newmarket NH 03857

RE: phase 2 leak logger program

Dear Mr. Keyes,

Enclosed please a certified copy of ***Resolution No. R-64-23 – “A RESOLUTION AUTHORIZING THE PURCHASE OF THE PHASE 2-LEAK LOGGER PROGRAM, CONSISTING OF 146 LEAK LOGGER UNITS FROM GUTERMANN INC., IN AN AMOUNT NOT TO EXCEED \$219,191.70”*** passed by the City Council at its regular meeting on June 5, 2023.

Should you have any questions or concerns, please give me a call at (630) 353-8106.

Sincerely,
CITY OF DARIEN

Daniel Gombac
Director of Municipal Services

Enclosure

cc: JoAnne E. Ragona, City Clerk
Kris Thom, Superintendent of Municipal Services

PHASE 3 OF 4 ALL INCLUSIVE 5 YEAR COST		PHASE 3 FY24/25			
DESCRIPTION	QUANTITY	UNIT	Unit Cost	Discount	Gutermann - ZONESCAN NB-IOT
ZS-NBIOT-PROG-KIT	1	EACH	\$ 250.00	0%	\$ 250.00
ZS-NBIOT-KIT-90-29	217	EACH	\$ 1,365.00	26%	\$ 219,191.70
NBIOT-SIMCARD	217	EACH	\$ 55.00	100%	\$ -
ZS-LB-ANTENNAS	217	EACH	\$ 30.00	100%	\$ -
SAMSUNG ACTIVE TABLET	0	EACH	\$ 1,000.00	0%	\$ -
Training - On Site Includes One day of training, travel and expenses	0	LUMP SUM	\$ 2,500.00	0%	\$ -
Training - On Site Includes One day of training, travel and expenses-CONTINGENCY	0	PER DAY	\$ 1,000.00	0%	\$ -
Shipping--Estimated	0	LUMP SUM	\$ 2,600.00	0%	\$ -
TOTAL COST INCLUSIVE- FIVE YEARS					\$ 219,441.70

PHASE 3 OF 4 ANNUAL RECURRING COST YEARS 6-10

Recurring Annual Cost Section-Commences in Year 6	QUANTITY	UNIT	UNIT COST	ANNUAL RECURRING COST	FIVE YEAR COST	EIGHT YEAR COST
Per Sensor System Charge - Every year for 5 year term (\$18/Year)	193	MONTHLY	\$ 1.50	\$ 3,474.00	\$ 17,370.00	N/A
Per Sensor Wireless Access - Every year for 5 year term (\$11/Year)	193	MONTHLY	\$ 0.92	\$ 2,123.00	\$ 10,615.00	N/A
Total Recurring Cost Years 6-10				\$ 5,597.00	\$ 27,985.00	N/A
Sensor Battery Replacement - Every 8 years	193	EACH	\$ 20.00	\$ 482.50	\$ 2,412.50	\$ 3,860.00
Total Recurring Cost-Year 8				\$ 6,079.50	\$ 30,397.50	\$ 3,860.00

RETURN ON INVESTMENT	INVESTMENT	AVERAGE ANNUAL WATER LOSS COST	ANNUAL SAVINGS	AVERAGE ANNUAL WATER LOSS COST WITH SAVINGS	5 YEAR ANNUAL SAVINGS	ANNUAL PERCENTAGE SAVINGS BASED ON TOTAL INVESTMENT
PHASE 1 -52 LOGGERS	\$ 58,965.00	\$ (327,084.14)	\$ 58,965.00	\$ (268,119.14)	\$ (1,340,595.72)	8.6%
PHASE 2 -193 LOGGERS	\$ 219,441.70	\$ (268,119.14)	\$ 278,406.70	\$ 10,287.56	\$ 51,437.78	40.6%
PHASE 3 -193 LOGGERS	\$ 219,441.70	\$ 10,287.56	\$ 497,848.40	\$ 508,135.96	\$ 2,540,679.78	72.6%
TOTALS	\$ 497,848.40	N/A	N/A	N/A	N/A	121.8%
TOTAL INVESTMENT COST	\$ 685,965.00					

WATER LOSS CHART AND WHOLESALE COST

Break Size: 1/16" x 180 Degrees of 360				
Pipe Diameter Per Inch	Daily Loss in Gallons	Price per 1,000 gallon Wholesale	Annual Loss in Gallons	Annual Cost
2	45,600	\$ 4.97	16,644,000	\$ 82,720.68
4	81,400	\$ 4.97	29,711,000	\$ 147,663.67
6	136,800	\$ 4.97	49,932,000	\$ 248,162.04
8	182,400	\$ 4.97	66,576,000	\$ 330,882.72
10	228,100	\$ 4.97	83,256,500	\$ 413,784.81
12	273,700	\$ 4.97	99,900,500	\$ 496,505.49
16	364,900	\$ 4.97	133,188,500	\$ 661,946.85

Break Size: 1/16" x 360 Degrees				
Pipe Diameter Per Inch	Daily Loss in Gallons	Price per 1,000 gallon	Annual Loss in Gallons	Annual Cost
2	91,100	\$ 4.97	33,251,500	\$ 165,259.96
4	182,500	\$ 4.97	66,612,500	\$ 331,064.13
6	273,600	\$ 4.97	99,864,000	\$ 496,324.08
8	364,800	\$ 4.97	133,152,000	\$ 661,765.44
10	456,200	\$ 4.97	166,513,000	\$ 827,569.61
12	547,400	\$ 4.97	199,801,000	\$ 993,010.97
16	729,900	\$ 4.97	266,413,500	\$ 1,324,075.10

WATER INVENTORY (LMO) REPORTING YEAR	UNACCOUNTABLE FLOW PERCENTAGE	UNACCOUNTABLE FLOW - GALLONS PER DAY	UNACCOUNTABLE FLOW - GALLONS PER YEAR	GALLONS-RATE IS AVERAGE DUE TO LMO REPPORTING CALENDER	WHOLESALE COST
2022	9.80%		17,099	64,644	\$35 5.06 \$ (327,084.14)
2021	7.50%		16,195	49,711	\$75 4.97 \$ (247,064.54)
2020	14.00%		24,008	100,012	\$20 4.97 \$ (497,064.21)
2019	6.60%		13,984	41,604	\$60 4.96 \$ (206,356.63)
2018	9.40%		19,288	65,440	\$20 4.92 \$ (321,965.39)
2017	18.20%	389,810	142,281,000	\$	4.85 -\$690,062.85
2016	14.40%	292,000	106,580,000	\$	4.80 -\$511,584.00
**2015	14.80%		274,000	100,010	\$30 4.85 -\$485,048.50
*2014	4.55%		99,200	94,535	\$00 4.68 -\$442,423.80
2013	3.18%		69,200	25,258	\$00 3.03 -\$76,531.74
2012	3.76%		89,232	32,569	\$09 2.73 -\$88,915.20
2011	1.61%	46,726	17,054,990	\$	2.73 -\$46,560.12
2010	7.96%	191,000	69,715,000	\$	2.73 -\$190,321.95
2009	6.40%	153,000	55,845,000	\$	2.73 -\$152,456.85
2008	3.20%	81,000	29,565,000	\$	2.73 -\$80,712.45
2007	1.46%	29,900	10,913,500	\$	2.73 -\$29,793.86
2006	4.91%	102,000	37,230,000	\$	2.73 -\$101,637.90
2005	3.80%	88,500	32,302,500	\$	2.73 -\$88,185.83
AVERAGE	5.55%	129,080	47,114,200	\$ 2.73	-\$128,621.77

* A major leak was idnetified at Cass Ave and South Frontage Rd-accounting for the increase.

**New standards implemented for calculations-First standard goal is to be under 12% water loss

\$ (4,385,307.58)

PHASE 3 OF 4

DESCRIPTION	QUANTITY	UNIT	Unit Cost	Discount	Gutermann - ZONESCAN NB-IOT
ZS-NBIOT-PROG-KIT	1	EACH	\$ 250.00	0%	\$ 250.00
ZS-NBIOT-KIT-90-29	217	EACH	\$ 1,365.00	26%	\$ 219,191.70
NBIOT-SIMCARD	217	EACH	\$ 55.00	100%	\$ -
ZS-LB-ANTENNAS	217	EACH	\$ 30.00	100%	\$ -
SAMSUNG ACTIVE TABLET	0	EACH	\$ 1,000.00	0%	\$ -
Training - On Site Includes One day of training, travel and expenses	0	LUMP SUM	\$ 2,500.00	0%	\$ -
TOTAL REVISED COST FOR PHASE 3					\$ 219,441.70

RESOLUTION NO. R-36-24

**A RESOLUTION AUTHORIZING THE PURCHASE OF THE PHASE 3-LEAK
LOGGER PROGRAM, CONSISTING OF 217 LEAK LOGGER UNITS FROM
GUTERMANN INC., IN AN AMOUNT NOT TO EXCEED \$219,441.70**

**BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF DARIEN, DU
PAGE COUNTY, ILLINOIS, as follows:**

SECTION 1: The City Council of the City of Darien does hereby authorize the purchase of the Phase 3-Leak Logger Program, consisting of 217 leak logger units from Gutermann Inc., in an amount not to exceed \$219,441.70, a copy of which is attached hereto as "**Exhibit A**".

SECTION 2: This Resolution shall be in full force and effect from and after its passage and approval as provided by law.

**PASSED BY THE CITY COUNCIL OF THE CITY OF DARIEN, DU PAGE
COUNTY, ILLINOIS, this 6th day of May 2024.**

AYES: 6 - Belczak, Kenny, Leganski, Schauer, Stompanato, Sullivan

NAYS: 0 - NONE

ABSENT: 1 - Gustafson

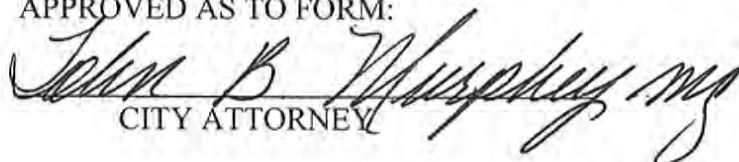
**APPROVED BY THE MAYOR OF THE CITY OF DARIEN, DU PAGE COUNTY,
ILLINOIS, this 6th day of May 2024.**


JOSEPH A. MARCHESE, MAYOR

ATTEST:


JOANNE E. RAGONA, CITY CLERK

APPROVED AS TO FORM:


CITY ATTORNEY



Gutermann Inc.
55 Main St., Suite 311
03857 Newmarket, NH
Tel.: +1 (603) 200-0340
Fax: +1 (603) 292 6171
<http://www.gutermann-water.com>
usa@gutermann-water.com

Darien Public Works - IL, Kris Throm
1041 S. Frontage Rd
Darien IL 60561
United States

Invoicing Address:
Darien Public Works - IL, Kris Throm
1041 S. Frontage Rd
Darien IL 60561
United States

Shipping Address:
Darien Public Works - IL
1041 S. Frontage Rd
Darien IL 60561
United States

Quotation

Quotation Number: S/GUS/2402012
Quotation Date: 03/12/2024
Expiration Date: 06/28/2024
Reference: USA20240312CK ZSAI
Your Contact Person: Cameron Keyes
Phone: +1 603-320-9166
Email: cameron.keyes@gutermann-water.com

Pos	Qty	Unit	Part No	Description	Unit Price	Disc. %	Taxes	Amount
1	1.00	Pcs	ZS-NBIOT-PROG-KIT	ZS NB-IoT programming kit	250.00	0.00		\$ 250.00
2	217.00	Units	ZS-AI-EXT-90-150	ZONESCAN AI correlating leak logger incl antenna (12,13,17,28 (90mm), 150 cm, External antenna)	1,365.00	26.00		\$ 219,191.70
3	217.00	Pcs	ZSNET-HOSTING-DATA-5Y	Hosting Fee ZONESCAN net plus data flat rate 5 years including NB-IoT communication flat rate and Gutermann cloud services for 5 years	195.00	100.00		\$ 0.00
4	217.00	Pcs	ZS-LB-ANT	ZONESCAN L bracket for antennas	30.00	100.00		\$ 0.00
5	217.00	Pcs	SIM-US-ATT	ZONESCAN NB-IoT data SIM card (AT&T (US)) Customs tariff number: 85235200	0.00	0.00		\$ 0.00
Total								\$ 219,441.70

*Delivery after May 1st, 2024

*2 Year Manufacturers Warranty: Excluding antennas, cords, and cables.

Payment terms: 30 Days

STATE OF ILLINOIS)
) SS
COUNTY OF DU PAGE)

I, JoAnne E. Ragona, do hereby certify that I am the duly qualified CITY CLERK of the CITY OF DARIEN of DuPage County, Illinois, and as such officer I am the keeper of the records and files of the City;

I do further certify that the foregoing constitutes a full, true and correct copy of **RESOLUTION NO. R-36-24 — “A RESOLUTION AUTHORIZING THE PURCHASE OF THE PHASE 3-LEAK LOGGER PROGRAM, CONSISTING OF 217 LEAK LOGGER UNITS FROM GUTERMANN INC., IN AN AMOUNT NOT TO EXCEED \$219,441.70”** of The City of Darien, Du Page County, Illinois, Duly Passed and Approved by the Mayor and City Council at a May 6, 2024.

IN WITNESS WHEREOF, I have hereunto affixed my official hand and seal this 6th day of May, 2024.




City Clerk



May 8, 2024

Gutermann Inc.
Attn: Cameron Keyes
55 Main St., Suite 311
Newmarket NH 03857

RE: phase 3 leak logger program

Dear Mr. Keyes,

Enclosed please a certified copy of *Resolution No. R-36-24 - "A RESOLUTION AUTHORIZING THE PURCHASE OF THE PHASE 3-LEAK LOGGER PROGRAM, CONSISTING OF 217 LEAK LOGGER UNITS FROM GUTERMANN INC., IN AN AMOUNT NOT TO EXCEED \$219,441.70"* passed by the City Council at its regular meeting on May 6, 2024.

Should you have any questions or concerns, please give me a call at (630) 353-8106.

Sincerely,
CITY OF DARIEN



Daniel Gombac
Director of Municipal Services

Enclosure

cc: JoAnne E. Ragona, City Clerk
Kris Throm, Superintendent of Municipal Services

PHASE 4 OF 4 ALL INCLUSIVE 5 YEAR COST		PHASE 4 FY25/26			
DESCRIPTION	QUANTITY	UNIT	Unit Cost	Discount	Gutermann - ZONESCAN NB- IOT
ZS-NBIOT-PROG-KIT	1	EACH	\$ 250.00	0%	\$ 250.00
ZS-NBIOT-KIT-90-29	217	EACH	\$ 1,365.00	26%	\$ 219,191.70
NBIOT-SIMCARD	0	EACH	\$ 55.00	0%	\$ -
ZS-LB-ANTENNAS	0	EACH	\$ 30.00	100%	\$ -
SAMSUNG ACTIVE TABLET	0	EACH	\$ 1,000.00	0%	\$ -
Training- On Site Includes Oneday of training, travel and	0	LUMP SUM	\$ 2,500.00	0%	\$ -
Training- On Site Includes Oneday of training, travel and	0	PER DAY	\$ 1,000.00	0%	\$ -
Shipping- Estimated	0	LUMP SUM	\$ 2,600.00	0%	\$ -
TOTAL COST INCLUSIVE- FIVE YEARS					\$ 219,441.70

PHASE 4 OF 4 ANNUAL RECURRING COST YEARS 6-10						
Recurring Annual Cost Section- Commences in Year 6	QUANTITY	UNIT	UNIT COST	ANNUAL RECURRING COST	FIVE YEAR COST	EIGHT YEAR COST
Per Sensor System Charge- Every year for 5 year term	193	MONTHLY	\$ 1.50	\$ 3,474.00	\$ 17,370.00	N/A
Per Sensor Wireless Access- Every year for 5 year term	193	MONTHLY	\$ 0.92	\$ 2,123.00	\$ 10,615.00	N/A
Total Recurring Cost Years 6-10	193			\$ 5,597.00	\$ 27,985.00	N/A
Sensor Battery Replacement - Every 8 years	193	EACH	\$ 20.00	\$ 482.50	\$ 2,412.50	\$ 3,860.00
Total Recurring Cost- Year 8				\$ 6,079.50	\$ 30,397.50	\$ 3,860.00

RETURN ON INVESTMENT	INVESTMENT	AVERAGE ANNUAL WATER LOSS COST	ANNUAL SAVINGS	AVERAGE ANNUAL WATER LOSS COST WITH SAVINGS	5 YEAR ANNUAL SAVINGS	ANNUAL PERCENTAGE SAVINGS BASED ON TOTAL INVESTMENT
PHASE 1 -52 LOGGERS	\$ 58,965.00	\$ (327,084.14)	\$ 58,965.00	\$ (268,119.14)	\$ (1,340,595.72)	8.6%
PHASE 2 -193 LOGGERS	\$219,441.70	\$ (268,119.14)	\$ 278,406.70	\$ 10,287.56	\$ 51,437.78	40.6%
PHASE 3 -193 LOGGERS	\$219,441.70	\$ 10,287.56	\$ 497,848.40	\$ 508,135.96	\$ 2,540,679.78	72.6%
PHASE 4 -193 LOGGERS	\$219,441.70	\$ 508,135.96	N/A	N/A	N/A	N/A
TOTALS	\$717,290.10	\$ -	N/A	N/A	N/A	121.8%
TOTAL INVESTMENT COST	\$685,965.00					

WATER LOSS CHART AND WHOLESALE COST

Break Size: 1/16" x 180 Degrees of 360				
Pipe Diameter Per Inch	Daily Loss in Gallons	Price per 1,000 gallon- Wholesale	Annual Loss in Gallons	Annual Cost
2	45,600	\$ 4.97	16,644,000	\$ 82,720.68
4	81,400	\$ 4.97	29,711,000	\$ 147,663.67
6	136,800	\$ 4.97	49,932,000	\$ 248,162.04
8	182,400	\$ 4.97	66,576,000	\$ 330,882.72
10	228,100	\$ 4.97	83,256,500	\$ 413,784.81
12	273,700	\$ 4.97	99,900,500	\$ 496,505.49
16	364,900	\$ 4.97	133,188,500	\$ 661,946.85

Break Size: 1/16" x 360 Degrees				
Pipe Diameter Per Inch	Daily Loss in Gallons	Price per 1,000 gallon	Annual Loss in Gallons	Annual Cost
2	91,100	\$ 4.97	33,251,500	\$ 165,259.96
4	182,500	\$ 4.97	66,612,500	\$ 331,064.13
6	273,600	\$ 4.97	99,864,000	\$ 496,324.08
8	364,800	\$ 4.97	133,152,000	\$ 661,765.44
10	456,200	\$ 4.97	166,513,000	\$ 827,569.61
12	547,400	\$ 4.97	199,801,000	\$ 993,010.97
16	729,900	\$ 4.97	266,413,500	\$ 1,324,075.10

WATER INVENTORY (LMO) REPORTING YEAR	UNACCOUNTABLE FLOW PERCENTAGE	UNACCOUNTABLE FLOW - GALLONS PER DAY	UNACCOUNTABLE FLOW - GALLONS PER YEAR	WHOLESALE COST PER 1000 GALLONS-RATE IS AVERAGE DUE TO LMO REPORTING CALENDER	WHOLESALE COST
2022	9.80%	177,099	64,641,135	\$ 5.06	\$ (327,084.14)
2021	7.50%	136,195	49,711,175	\$ 4.97	\$ (247,064.54)
2020	14.00%	274,008	100,012,920	\$ 4.97	\$ (497,064.21)
2019	6.60%	113,984	41,604,168	\$ 4.96	\$ (206,356.63)
2018	9.40%	179,288	65,440,120	\$ 4.92	\$ (321,965.39)
2017	18.20%	389,810	142,281,000	\$ 4.85	\$ -690,062.85
2016	14.40%	292,004	106,580,000	\$ 4.80	\$ -511,584.00
**2015	14.80%	274,000	100,010,000	\$ 4.85	\$ -485,048.50
*2014	4.55%	99,200	94,535,000	\$ 4.68	\$ -442,423.80
2013	3.18%	69,200	25,258,000	\$ 3.03	\$ -76,531.74
2012	3.76%	89,232	32,569,669	\$ 2.73	\$ -88,915.20
2011	1.61%	46,726	17,054,990	\$ 2.73	\$ -46,560.12
2010	7.96%	191,000	69,715,000	\$ 2.73	\$ -190,321.95
2009	6.40%	153,000	55,845,000	\$ 2.73	\$ -152,456.85
2008	3.20%	81,000	29,565,000	\$ 2.73	\$ -80,712.45
2007	1.46%	29,900	10,913,500	\$ 2.73	\$ -29,793.86
2006	4.91%	102,000	37,230,000	\$ 2.73	\$ -101,637.90
2005	3.80%	88,500	32,302,500	\$ 2.73	\$ -88,185.83
AVERAGE	5.55%	129,080	47,114,200	\$ 2.73	\$ -128,621.77

* A major leak was identified at Cass Ave and South Frontage Rd-accounting for the increase.

**New standards implemented for calculations-First standard goal is to be under 12% water loss

\$ (4,385,307.58)

PHASE 4 OF 4

DESCRIPTION	QUANTITY	UNIT	Unit Cost	Discount	Gutermann - ZONESCAN NB- IOT
ZS-NBIOT-PROG-KIT	1	EACH	\$ 250.00	0%	\$ 250.00
ZS-NBIOT-KIT-90-29	217	EACH	\$ 1,365.00	26%	\$ 219,191.70
NBIOT-SIMCARD	217	EACH	\$ 55.00	100%	\$ -
ZS-LB-ANTENNAS	217	EACH	\$ 30.00	100%	\$ -
SAMSUNG ACTIVE TABLET	0	EACH	\$ 1,000.00	0%	\$ -
Training - On Site Includes One day of training, travel and expenses	0	LUMP SUM	\$ 2,500.00	0%	\$ -
TOTAL REVISED COST FOR PHASE 3					\$ 219,441.70



Darien Public Works - IL, Kris Throm
1041 S. Frontage Rd
Darien IL 60561
United States

Invoicing Address:

Darien Public Works - IL, Kris Throm
1041 S. Frontage Rd
Darien IL 60561
United States

Shipping Address:

Darien Public Works - IL
1041 S. Frontage Rd
Darien IL 60561
United States

Quotation

Quotation Number: S/GUS/2502856
Quotation Date: 03/26/2025
Expiration Date: 05/30/2025
Reference: GUS-250326-0440VB ZSZA
Your Reference: ZSAI (x217)
Your Contact Person: Volker Brohm
Phone: +1 408-772-5094
Email: volker.brohm@gutermann-water.com

Pos	Qty	Unit	Part No	Description	Unit Price	Disc. %	Taxes	Amount
1	1.00	Pcs	ZS-NBIOT-PROG-KIT	ZS NB-IoT programming kit	250.00	0.00		\$ 250.00
2	217.00	Units	ZS-AI-EXT-36-150	ZONESCAN AI correlating leak logger incl antenna (1,2,3,4,25,66 (36mm), 150 cm, External antenna)	1,365.00	26.00		\$ 219,191.70
3	217.00	Pcs	ZSNET-HOSTING-DATA-5Y	Hosting Fee ZONESCAN net plus data flat rate 5 years including NB-IoT communication flat rate and Gutermann cloud services for 5 years	195.00	100.00		\$ 0.00
4	217.00	Pcs	ZS-LB-ANT	ZONESCAN L bracket for antennas	30.00	100.00		\$ 0.00
5	217.00	Pcs	SIM-UK-VOD	ZONESCAN NB-IoT data dual SIM card (VDF uses ATT(US) or T-mobile(US)) Customs tariff number: 85235200	0.00	0.00		\$ 0.00
Total								\$ 219,441.70

*Delivery after May 15th. 2025

*2 Year Manufacturers Warranty: Excluding antennas, cords, and cables.

Payment terms: 30 Days

MOTION NO. _____

AGENDA MEMO
Municipal Services Committee
April 28, 2025

ISSUE STATEMENT

A motion authorizing the purchase of two (2) Solar Speed Alert 18 Speed Limit Signs from All Traffic Solutions Incorporated in an amount not to exceed \$11,000.00. See [Exhibit A](#).

BACKGROUND/HISTORY

The flashing speed limit signs are a traffic calming device that will post the proper speed limit and will have a flashing display of the vehicle that approaches the sign. The signs are a proactive approach to further mitigate potential speeding. The signs would be strategically placed mid-block on 71st Street; 1 westbound, and 1 eastbound, mid-block.

The FY25-26 Budget allocated funds for the purchase for up to two speed radar signs to be implemented as identified within the City. The equipment would be purchased through the Sourcewell Purchasing Cooperative, under Contract No 090122-ATS. The proposed expenditure would be expended from the following FY25/26 Budget line account:

ACCOUNT NUMBER	ACCOUNT DESCRIPTION	FY22/26 BUDGET	PROPOSED EXPENDITURE	PROPOSED BALANCE
01-30-4257	SUPPLIES-OTHER	\$ 15,000.00	\$ 11,000.00	\$ 4,000.00

STAFF RECOMMENDATION

Staff recommends approval of a motion authorizing the purchase of two (2) Solar Speed Alert 18 Speed Limit Signs from All Traffic Solutions Incorporated in an amount not to exceed \$11,000.00

ALTERNATE DECISION

As recommended by the Committee.

DECISION MODE

This item will be placed on the May 5, 2025 City Council agenda for formal consideration.

**PASSED BY THE CITY COUNCIL OF THE CITY OF DARIEN, DU PAGE
COUNTY, ILLINOIS, this 5th day of May 2025.**

AYES: _____

NAYS: _____

ABSENT: _____

MEMO


**Mail Purchase
Orders to:**

3100 Research Dr.
State College, PA
16801

All Traffic Solutions Inc.
PO Box 221410
Chantilly, VA 20153
Phone: 814-237-9005
Fax: 814-237-9006
DUNS #: 001225114
Tax ID: 25-1887906
CAGE Code: 34FQ5

QUOTE Q-96466
DATE: 04/14/2025

**PAGE
NO:** 1

**Questions contact:
MANUFACTURER:
All Traffic Solutions**

Owen Lauerman
(571) 549-3766
x
olauerman@alltrafficsolutions.co
m

Independent Sales Rep:
BILL TO:

City of Darien
1710 Plainfield Road
Darien, IL 60561

Billing Contact:

SHIP TO:

City of Darien
1710 Plainfield Road
Darien, IL 60561
Attn: Kris Throm

PAYMENT
TERMS:

Net 30

CUSTOMER: City of
Darien

CONTACT:(630) 514-3453

ITEM NO:
DESCRIPTION:
QTY:
EACH:
**EXT.
PRICE:**

4000741	SpeedAlert 18 Radar Message Sign (RMS); base unit w/ mounting bracket	2	\$3,892.32	\$7,784.64
4001299	3 Year Warranty	2	\$0.00	\$0.00
4001626	VZW communications prep	2	\$0.00	\$0.00
4000631	Bluetooth: allows wireless control from supported Bluetooth enabled devices (purchased separately)	2	\$420.24	\$840.48
4000519	Traffic Data Collection; stores vehicle statistics locally for later analysis	2	\$525.30	\$1,050.60
4001820	Integrated Solar pole mount battery kit (iA/SA18) 33Ah batt, LFP charger & solar controller	2	\$1,029.18	\$2,058.36
4000913	Solar panel, 100W; includes bracket for pole and harness	2	\$900.00	\$1,800.00
4000641	Shipping and Handling Common Carrier	1	\$430.00	\$430.00
4001190	Discount - New Purchase	1	(\$2,964.08)	(\$2,964.08)

Special Notes:

**SALES
AMOUNT:**

\$11,000.00

**TOTAL
USD:**

\$11,000.00

Duration: This quote is good for 60 days from date of issue.

Shipping Notes: All shipments shall be FOB shipper. Shipping charges shall be additional unless listed on quote.

Taxes: Taxes are not included in quote. Please provide a tax-exempt certificate or sales tax will be applied.

Warranty: Unless otherwise indicated, all products have a one year warranty from date of sale. Warranty extensions are a component of some applications that are available at time of purchase. A Finance Charge of 1.5% per month will be applied to overdue balances. GSA GS-07F-6092R

I am authorized to commit my organization to this order. If your organization will be creating a purchase order for this order, please submit purchase order to either of the following: Email: sales@alltrafficsolutions.com or Physical Address: Listed at top of quote.

Signature: _____ Date: _____

Print Name: _____ Title: _____

MOTION NO. _____

AGENDA MEMO
Municipal Services Committee
April 28, 2025

ISSUE STATEMENT

A motion authorizing the purchase of one new Factory Cat Mini HD 29C Walk Behind Scrubber from Factory Cleaning Equipment Inc. in an amount not to exceed \$14,212. See [Exhibit A](#).

BACKGROUND/HISTORY

The proposed walk behind floor scrubber is a replacement to a 2016 floor scrubber. The existing equipment has served its useful life and current repairs are in excess of \$8,000. The improved model includes stainless steel manufacturing versus steel and improved hoppers for degreaser/cleaning solutions. The equipment will further protect the epoxy coating on the garage floor re-coated last year.

Staff requested competitive quotes and received the following quotes:

VENDOR	UNIT COST
Factory Cleaning Equipment	\$ 14,212
Jon Don	\$ 14,872
RPS Corporation	\$ 14,396

The proposed expenditure would be expended from the following line accounts:

ACCOUNT NUMBER	ACCOUNT DESCRIPTION	FY 25-26 BUDGET	PROPOSED EXPENDITURE	PROPOSED BALANCE
02-50-4815	Capital Purchases Garage Floor Cleaner	\$ 7,800	\$ 7,106	\$ 694
01-30-4815	Capital Purchases Garage Floor Cleaner	\$ 7,800	\$ 7,106	\$ 694

STAFF RECOMMENDATION

Staff recommends approval of a motion authorizing the purchase of one new Factory Cat Mini HD 29C Walk Behind Scrubber from Factory Cleaning Equipment Inc. in an amount not to exceed \$14,212.

ALTERNATE DECISION

As recommended by the Committee.

DECISION MODE

This item will be on the May 5, 2025 City Council agenda for formal consideration.

PASSED BY THE CITY COUNCIL OF THE CITY OF DARIEN, DU PAGE COUNTY, ILLINOIS, this 5th day of May 2025.

AYES: _____

NAYS: _____

ABSENT: _____



AN EMPLOYEE OWNED COMPANY

Sales • Service • Rental • Chemical
800-793-3790 | www.thesweeper.com

City of Darien
1041 S Frontage
Darien IL 60561
Attn: Dave Fell

April 16, 2025

New Factory Cat MiniHD 29C Walk Behind Scrubber

210 AH Battery Pack	
29" Scrub Path	
Cylindrical Scrub Head	
Auto Stop-Start Charger	
21 Gallon Solution Tank	
23 Gallon Recovery Tank	0 = %%
Stainless Steel Scrub Head	%
650 Watt 3-Stage Vac Motor	13,522.00 %÷%
Variable Forward & Reverse Traction Drive	300.00 %÷%
All Steel Frame	390.00 %÷%
0-250 Lbs Brush Pressure	14,212.00 %%
Thick Powder Painted Frame	%
Debris Hopper	
HD Tires	
Choice of Brushes	
Operators Manual and Parts Book	
Warranty: 3 Years Parts, 1 Year Labor, 7 Years Tanks, 90 Days Travel	

Price 29" Cylindrical...	\$ 13,522.00
Freight...	\$ 300.00
Subject To Tax	

Options	
Single Point Watering...	\$ 390.00
Managers Lockouts...	\$ 160.00

60 Month Financing-\$1.00 Purchase Option

\$294.00/Month

Subject to Tax

Total - \$14,212.00

Authorized Acceptance/Title

Date

Acceptance of the above offer indicates acknowledgment of the terms and conditions on the back of this agreement.

Quoted By: Greg Arndt Cell: 630-542-0758 Email greg@thesweeper.com

MOTION NO. _____

AGENDA MEMO
Municipal Services Committee
April 28, 2025

ISSUE STATEMENT

A motion to accept a proposal for a Preventative Maintenance Agreement, Annual Evaluation and Operator Training for the Vactor Sewer Cleaner from Standard Equipment in an amount not to exceed \$8,500.

BACKGROUND/HISTORY

The service agreement is for the recently purchased Vactor Sewer Cleaner and is provided by Standard Equipment. The company is the authorized manufacturer’s representative for the equipment. The service agreement relates to reviewing the equipment for deficiencies and warranties as it relates to the truck chassis, hydraulics and electronic components, see attached proposal labeled as [Exhibit A](#). Any items requiring repairs will be replaced or repaired upon the city Mechanic’s approval. The agreement also includes additional multi-day training for all the employees at scheduled intervals. The Mechanic will be attending and engaging with additional hands on training for mechanics at a future independent multi-day event.

Standard Equipment is the sole authorized agent for the geographic region and the agreement is for one year.

The proposed expenditure would be expended from the following line accounts:

ACCOUNT NUMBER	ACCOUNT DESCRIPTION	FY 25-26 BUDGET	PROPOSED EXPENDITURE	PROPOSED BALANCE
01-30-4229	Maintenance Vehicles Vactor Service Agreement	\$ 7,500	\$ 4,250	\$ 3,250
02-50-4229	Maintenance Vehicles Vactor Service Agreement	\$ 7,500	\$ 4,250	\$ 3,250

STAFF RECOMMENDATION

Staff recommends approval of a motion to accept a proposal for a Preventative Maintenance Agreement, Annual Evaluation and Operator Training for the Vactor Sewer Cleaner from Standard Equipment in an amount not to exceed \$8,500.

ALTERNATE DECISION

As recommended by the Committee.

DECISION MODE

This item will be on the May 5, 2025 City Council agenda for formal consideration.

**PASSED BY THE CITY COUNCIL OF THE CITY OF DARIEN, DU PAGE COUNTY,
ILLINOIS**, this 5th day of May 2025.

AYES: _____

NAYS: _____

ABSENT: _____

625 S IL Route 83 • ELMHURST, IL 60126 • PHONE:312/829-1919 • FAX:630/782-1699
E-MAIL: sales@standardequipment.com • INTERNET: http://www.standardequipment.com



February 11, 2025

To Whom It May Concern:

To provide the Village of Darien with the requested information pertaining to the updated cost of Preventative Maintenance, and Annual Evaluation, and Training on a new Vactor Sewer Cleaner, please see below:

- Complete Chassis Preventative Maintenance
- Complete Vactor module preventative maintenance, including hydraulic system annual service
- Complete unit evaluation, including Vactor module and chassis (in-house at Standard Equipment Company's Facility)
 - Any warranty items will be repaired during the evaluation
- Complete operator and maintenance training for Village of Darien staff (on site)
- Cost of Pickup & Delivery to the customer

Total Cost for one (1) year: \$8,500.00

MOTION NO. _____

AGENDA MEMO
Municipal Services Committee
April 28, 2025

ISSUE STATEMENT

A motion accepting a proposal from TKB Associates, Inc., for digitalizing, cataloging, software, hardware and programming in an amount not to exceed \$49,140 for the Planning and Zoning and in an amount not to exceed \$39,190 for the Clerk's Office historical records. See [Exhibit A](#).

BACKGROUND/HISTORY

The City currently has a significant number of Planning and Zoning and Clerk's Office files consisting of the following documents:

Planning and Zoning - Zoning Cases

Clerk's Office - Ordinances, Resolutions, Motions and State files/correspondence

Many of the records are permanent records and need to be preserved consisting of approximately 180,000 various documents. The records are a history of City Council decisions relating to zoning cases. The zoning cases are historical records that pertain to the land use of a specific property. The cases also include documentation of Planning and Zoning hearings and City Council decision modes. Attached and labeled as [Attachment A](#), is the costs related to the Community Development Department.

The Clerks Office also has a significant number of files containing an estimated 110,000 various documents. These files are permanent records and need to be preserved. The records are a history of Ordinances, Resolutions, Motions and State documents. Attached and labeled as [Attachment B](#), is the costs related to the Clerk's Office.

This is the final phase of a 3-year project and reduces the physical footprint of paper files. Again, the scanning project will allow the City to preserve records, through a secure I-Cloud data base storage and management system. Further benefits to digitizing are ease of searching, retrieving, and reproducing documents from Staffs work station. Please note that contingencies have been included within the respective attachments.

The scope of work, for both departments includes the following:

Pickup and Delivery of Documents
Conversion of paper files to digital
Cataloging and Indexing
Software and Licensing
Hardware
Misc Programming

Laserfische is a tool that is currently used with the Accounting, Municipal Services-large format plans, and the Police Department with very satisfactory results. Limited services through AIS will be required to modify the server for any additional hardware and software. The proposed expenditure would be expended from the following line items:

ACCOUNT NUMBER	ACCOUNT DESCRIPTION	FY24-25 BUDGET	PROPOSED EXPENDITURE
01-20-4325	Laserfiche Scanning- Comm Dev	\$50,000	\$49,140
01-20-4325	Laserfiche Scanning- Clerk's Office	\$40,000	\$39,190

STAFF RECOMMENDATION

A motion accepting a proposal from TKB Associates, Inc., for digitalizing, cataloging, software, hardware and programming in an amount not to exceed \$49,140 for the Planning and Zoning and in an amount not to exceed \$39,190 for the Clerk's Office historical records.

ALTERNATE DECISION

As recommended by the Committee.

DECISION MODE

This item will be on the May 5, 2025 City Council agenda for formal consideration.

**PASSED BY THE CITY COUNCIL OF THE CITY OF DARIEN, DU PAGE
COUNTY, ILLINOIS, this 5th day of May 2025.**

AYES: _____

NAYS: _____

ABSENT: _____

MEMO

DIGITAL CONVERSION PROJECT-COMMUNITY DEVELOPMENT PLANNING AND ZONING

Vendor/Description	CONVERSION PROJECT-COMMUNITY DEVELOPEMNT PLANNING AND ZONING	DIGITAL Units	Quantity	Unit Cost	Cost	Annual Cost
AIS Labs Hardware Software Programming						
	Estimated AIS labor to work w/TKB setup remotely	Hourly		\$ 8	10500	\$ 840.00
	Contingency	Lump Sum	1	\$ 500.00	\$ 500.00	
AIS Labs Costs					\$ 1,340.00	

TKB Associates-Scanning and Cataloging	Conversion of Standard 8.5x11 Format Files to Digital image for import into Laserfiche - Prepping Scanning and Indexing -	Each	180,000	\$ 0.09	\$ 15,300.00
	Conversion of Large Format Files to Digital image for import into Laserfiche - Prepping Scanning and Indexing -	Each	5,500	\$ 1.00	\$ 5,500.00
	Indexing - Department files - Department, Document Type, and Date - Indexes TBD	Each	35,000	\$ 0.60	\$ 21,000.00
	Pick-Up/Delivery Charge of Boxes	Per	2	\$ 500.00	\$ 1,000.00
	Contingency	Lump Sum	1	\$ 5,000.00	\$ 5,000.00
TKB Associates Scanning and Cataloging Cost					\$ 47,800.00

Cost Summary

AIS Labs Hardware Software Programming				\$ 1,340.00
TKB Associates Scanning and Cataloging Cost				\$ 47,800.00
Total Program Cost				\$ 49,140.00

DIGITAL CONVERSION PROJECT-CLERKS OFFICE

Vendor/Description	CONVERSION PROJECT-COMMUNITY DEVELOPEMNT PLANNING AND ZONING	DIGITAL Units	Quantity	Unit Cost	Cost	Annual Cost
AIS Labs Hardware Software Programming						
	Estimated AIS labor to work w/TKB setup remotely	Hourly		\$ 8	105.00	840.00
	Contingency	Lump Sum	1	\$ 500.00	\$ 500.00	
AIS Labs Costs					\$ 1,340.00	

TKB Associates-Scanning and Cataloging	Conversion of Standard 8.5x11 Format Files to Digital image for import into Laserfiche - Prepping Scanning and Indexing -	Each	110,000	\$ 0.09	\$ 9,350.00
	Conversion of Large Format Files to Digital image for import into Laserfiche - Prepping Scanning and Indexing -	Each	4,500	\$ 1.00	\$ 4,500.00
	Indexing - Department files - Department, Document Type, and Date - Indexes TBD	Each	30,000	\$ 0.60	\$ 18,000.00
	Pick-Up/Delivery Charge of Boxes	Per	2	\$ 500.00	\$ 1,000.00
	Contingency	Lump Sum	1	\$ 5,000.00	\$ 5,000.00
TKB Associates Scanning and Cataloging Cost					\$ 37,850.00

Cost Sumarry

AIS Labs Hardware Software Programming				\$ 1,340.00
TKB Associates Scanning and Cataloging Cost				\$ 37,850.00
Total Program Cost				\$ 39,190.00

MEMO

**TKB Associates, Inc.**

9459 Enterprise Drive
Mokena, IL 60448

Proposal

Date	Estimate #
04/16/2025	2609

Name / Address
City of Darien Lisa Klemm 1702 Plainfield Rd Darien, IL 60561

Terms	Rep
	JB

Item	Description	Qty	Cost	Total
	2025 Scanning Projects for Community Development Planning & Zoning and the Clerk's Office. Document types and indexing rules to be determined.			
Conversion	Prepping Scanning Indexing - Small Format	180000	0.085	15,300.00T
Conversion	Prepping Scanning Indexing - Large Format	5,500	1.00	5,500.00T
Conversion	Indexing Documents - Department, Document Type, and Date - TBD	35,000	0.60	21,000.00T
Pick-Up/Delivery	Pick-Up/Delivery Transportation Charge of Projects	2	500.00	1,000.00T
Conversion	Contingency	1	5,000.00	5,000.00T
	Total Investment			47,800.00
	This proposal is to estimate a scanning project. Actual images and documents counts will be invoiced. Sales Tax Exempt		0.00%	0.00

It's been a pleasure working with you!

Please visit our Web Site at www.tkbassociates.com

Phone #	Fax #
7088056966	708-478-4167



TKB Associates, Inc.

9459 Enterprise Drive
Mokena, IL 60448

Proposal

Date	Estimate #
04/23/2025	2612

Name / Address
City of Darien Lisa Klemm 1702 Plainfield Rd Darien, IL 60561

Terms	Rep
	JB

Item	Description	Qty	Cost	Total
	2025 Scanning Projects for the Clerk's Office. Document types and indexing rules to be determined.			
Conversion	Prepping Scanning Indexing - Small Format	110000	0.09	9,900.00T
Conversion	Prepping Scanning Indexing - Large Format	4,500	1.00	4,500.00T
Conversion	Indexing Documents - Department, Document Type, and Date - TBD	30,000	0.60	18,000.00T
Pick-Up/Delivery	Pick-Up/Delivery Transportation Charge of Projects	2	500.00	1,000.00T
Conversion	Contingency	1	4,450.00	4,450.00T
	Total Investment			37,850.00
	This proposal is to estimate a scanning project. Actual images and documents counts will be invoiced. Sales Tax Exempt		0.00%	0.00

It's been a pleasure working with you!

Please visit our Web Site at www.tkbassociates.com

Phone #	Fax #
7088056966	708-478-4167

AGENDA MEMO
MUNICIPAL SERVICES COMMITTEE
APRIL 28, 2025

CASE

PZC2025-06

Rezone, Preliminary Plat of Consolidation, Special Use, Variations
 (Atlantic Homes Inc. – 1220-1225 Plainfield Road)

ISSUE STATEMENT

Petition from Atlantic Homes Inc. for a rezone of Parcel 1 from Single Family Residence District (R-2) to Multi-Family Residence District (R-3), a plat of consolidation to combine the two subject parcels for development purposes, and the construction of two new eight (8) unit, two-story condominium buildings totaling 16,491 square feet, with sixteen (16) 2-car garages, along with associated site and utility improvements. The property is located at 1220-1225 Plainfield Road, Darien, Illinois 60561 (PINs 09-28-410-001 and 09-28-410-043). Multiple zoning variations are included in the request.

GENERAL INFORMATION

Petitioner:	Atlantic Homes Inc.
Property Owner:	Ljubomir Ivanov
Property Location:	1220-1225 Plainfield Road
PIN Numbers:	09-28-410-001 and 09-28-410-043
Existing Zoning:	Single Family Residence (R-2) and Multi-Family Residence (R-3)
Proposed Zoning:	Multifamily Residence (R-3)
Existing Land Use:	Vacant (Former site of dental office)
Comprehensive Plan:	Low Density Residential (Existing)
Surrounding Zoning & Uses	
North:	Office (O), Community Shopping Center District (B-2), Single Family Residence District (R-2); Office/Commercial Uses and City Water Tower
East:	Multi-Family Residence (R-3); Funeral Home / Single Family
South:	Single Family Residence (R-2) and Multi-Family Residence (R-3); Apartments and Single Family
West:	Single Family Residence (R-2); Single Family
Size of Property:	54,8051 square feet (1.35 Acres)
Floodplain:	N/A
Natural Features:	Most of the property is flat and slopes gently from the northwest to the southeast. It is partially wooded.
Transportation/Access:	The petition site gains access from one driveway on Plainfield Road.

ATTACHMENTS

- A) LOCATION MAP AND AERIAL PHOTO**
- B) EXISTING ZONING MAP**
- C) PROPOSED ZONING MAP**
- D) SITE PLAN / GRADING PLAN**
- E) FLOOR PLANS AND ELEVATIONS**

F) DESIGN BOOKLET / PHOTOS
G) PROJECT REVIEW CRITERIA
H) JUSTIFICATION LETTER / FINDINGS OF FACT

BACKGROUND

The 1.35-acre subject property is located at the southwest corner of Plainfield Road and Lester Lane, a private street (see Attachment A – Location Map and Aerial Photo), within the Single Family Residence (R-1) District and the Multi-Family Residence (R-3) District. It was originally constructed as a residential property in the 1950's, possibly even earlier. Please note the property is incorrectly addressed as 1220 Plainfield Road according to the tax records on file with the County of DuPage and will need to be re-addressed prior to construction. The property and structure were converted into a dentist office in 1979. The business was inactive for over 10 years and the property was abandoned until November of 2024, when the City razed the building and associated improvements due to numerous building code concerns regarding the unsecured and vacant building, which was a continuous hazard to the public.

The petitioner, Atlantic Homes Inc., is the contract-purchaser of the site. Staff understands that negotiations with the current owner have been challenging, adding complexity to the petitioner's efforts. Based on staff interactions, the petitioner appears prepared to work constructively with the City and take necessary steps to address longstanding issues associated with the property, and proposes the construction of two new eight (8) unit, two-story condominium buildings totaling 16,491 square feet, with sixteen (16) 2-car garages. This product is a repeat product of condominiums built recently in the Village of Lisle at the southwest corner of Ogden Avenue and Beau Bien Boulevard.

PROPOSAL

The proposal includes a rezone of Parcel 1 from Single Family Residence District (R-2) to Multi-Family Residence District (R-3), a plat of consolidation to combine the two subject parcels for development purposes, and the construction of two new eight (8) unit, two-story condominium buildings totaling 16,491 square feet, with sixteen (16) 2-car garages, along with on-site parking facilities, trash and recycling areas, and utility improvements. The following variations are included as part of the project:

- Variations from the minimum lot area per unit requirements in Section 5A-7-3-5(D) to allow for 16 total units
- Variation from the (3) acre requirement for new R-3 District areas per Section 5A-7-3-1
- Variations from the side yard requirements in Section 5A-7-3-6(A) and (B) to allow for garages to be placed 5-feet from the interior property lines.

ANALYSIS

A) Existing Zoning and Land Use

Existing Zoning and Land Use: The subject property consists of two parcels that have different corresponding zoning districts. Parcel 1, the westerly parcel, currently lies within the Single Family Residence (R-1) District, and Parcel 2, the easterly parcel, lies within the Multi-Family Residence (R-3) District (see Attachment B – Existing Zoning Map). Bordering the site to the east is property in the Multi-Family Residence (R-3) District consisting of a funeral home with a single-

family residence; to the south is property in the Single Family Residence (R-2) District and Multi-Family Residence (R-3) District consisting of apartments and a single-family home; to the west is property within the Single Family Residence (R-2) District with a single-family home; to the north lies property within the Office (O), Community Shopping Center (B-2), and Single Family Residence (R-2) Districts, which consists of office and commercial uses as well as the City's water tower.

Comprehensive Plan: The site is designated for Low Density Residential in the Comprehensive Plan. This site was not included in the 2022 Comprehensive Plan Update, and land use changes haven't been considered since 2006 when the Comprehensive Plan was last updated comprehensively. Generally, future land use designations are meant to be a guide for new development, but are not binding. It should be noted that the site operated as a commercial use for over 30 years. As previously stated in this report, the previous owner operated a dental office during that time – it is likely that the owner never pursued a zoning change, as it was not required for the use to continue.

B) Condominium Buildings (Special Use Permit, Rezone, and Variations)

Land-Use / Rezone: The petitioner proposes to rezone the westerly parcel of the property from Single Family Residence District (R-2) to Multi-Family Residence District (R-3), which would allow for the development of the site with multi-family residential products such as condominiums or apartments (see Attachment C – Proposed Zoning Map) with a Special Use Permit. The proposed zone change, if approved, would directly implement goals in the Comprehensive Plan that support a diversified housing inventory. In addition, the Comprehensive Plan states that land use planning decisions should consider how the development meets community needs, the effect a new development has on surrounding residential properties, and the capacity of the adjacent street system to support such development. The proposed land use will comply with those allowed within the Multi-Family Residence (R-3) District under Section 5A-7-3-3.

Section 5A-7-3-1 of the City's Code states that no R-3 District shall be established unless the site is (3) acres. The subject petition includes a variation request for relief from this section. Although the proposed project does not fully align with the Comprehensive Plan's future land use designation, it may still merit consideration given past flexibility in applying the minimum site area standard, the site's context, and broader goals related to infill development and housing diversity.

Development Standards: Except as it pertains to density restrictions and setback requirements for the 2-car garages, the project meets or exceeds all design and development standards for the Multi-Family Residence District (R-3) established in Section 5A-7-3 of the City Code.

Density: Section 5A-7-3-5(D) requires that 4,500 square feet of lot area be provided for each two bedroom unit. With a lot area of 54,805 square feet, the resulting density for the site would be 12 units. The project proposes two new eight (8) unit, two-story condominium buildings, for a total of 16 units. A variation is requested to allow the four additional units.

Site Design, Access and Circulation: As shown Attachment D – Site Plan, the two residential

buildings on site front Plainfield Road, with the guest parking and garages placed to the rear and side of the site. Three buildings provide the two-car garages for the units: a building with seven garages, a building with 5 garages, and a building with 4 garages. A single full service driveway is provided on Plainfield Road. Lester Lane is a private road that is actually a separate piece of property owned in part by almost all of the property owners on Lester Lane, despite showing as part of the property on assessor’s map. No access is provided from Lester Lane and no alterations to the street are proposed – the City may seek to have a portion of the road dedicated and improved upon review and submittal of a future plat.

Table 1: Parking Summary

Use	Size	Parking Standard	Total Parking	
			Required	Proposed
Dwelling, multi-family	16 units	2 stalls/unit	32 stalls	32 garage spaces + 8 guest parking spaces

Architecture / Landscaping: The symmetrical, square buildings are traditional in character, with brick facades and hipped roofs, incorporating prominent gabled entryways with vertical stone banding between first- and second-floor windows. Decorative light fixtures are used on the exterior. (see Attachment E –Floor Plans and Elevations). The garage buildings are typical wood frame structures with gabled roofs, cement board siding and concrete foundations. Photos of the interiors and exterior of proposed product, which was built last year in the Village of Lisle have been provided for reference (see Attachment F). The photos include a photo of the proposed garage design. Landscaping will be required to comply with the City’s Zoning Ordinance. Landscaping will consist of a variety of shade trees, ornamental trees, shrubs and groundcover.

Grading and Utilities: Existing easements will be utilized and new easements will be necessary to obtain for on-site utilities and off-site utilities, including water and sanitary sewer. New water and sanitary utility lines are proposed to be placed in Lester Lane.

Preliminary Plat of Consolidation: The petitioner proposes the consolidation of the two subject parcels for development purposes. A plat of consolidation and a plat of subdivision for condominium purposes will be required to be submitted for separate review and approval, if the project is approved.

C) Justification Narrative / Project Review Criteria

The various criteria the administrative bodies use when acting on this project are included in Attachment G. The petitioner submitted a *Justification Narrative* and *Findings of Fact* that would support the application request (see Attachment H).

D) Public Comment / Outreach

Pursuant to City Code and Illinois Statutes, a public notice was published and mail notices were sent to all property owners, business owners and occupants within 250 feet of the project boundary. The City shared project plans with several interested parties who contacted staff for information.

The petitioner contacted property owners on Lester Lane separately to provide photos of the product and a description of the project. At the time of publication of this staff report, no public comments have been received.

PZC MEETING UPDATE – 04/16/2025

The Planning, Zoning and Economic Development Commission reviewed this item at its meeting on April 16, 2025. The petitioner was present and answered questions after staff's introduction of the case. A previous request to include apartments as part of the project was rescinded by the petitioner and the project proceeded as originally noticed, as proposed condominiums. Members of the public were in attendance and provided comment on drainage concerns, traffic movements, and concerns regarding the density that was requested in the variation. Staff answered various questions about the site design, drainage standards and the nature of the variations requested.

Based on testimony and discussion at the meeting, the Planning and Zoning Commission made a motion to forward the case with a favorable recommendation to the Municipal Services Committee and City Council. The motion carried with a 6-1 vote.

ADDITIONAL UPDATES FOR MUNICIPAL SERVICES MEETING FOR 04/28/2025

Following comments and concerns voiced by residents and the Planning, Zoning and Economic Development Commission, staff are providing updates in two key areas.

Traffic: Following comments made by residents concerning the potential for conflicting turning movements between the project driveway and Lester Lane, the petitioner has revised their proposal to include a “pork-chop” that would restrict the driveway to “right-out only”. Staff note that any driveways would be reviewed and approved by DuPage County, which may further restrict traffic movements out of the driveway.

Drainage: Staff note the development will improve on-site drainage by capturing/slowing runoff from frequent small storms. Under the DuPage County Stormwater Ordinance, drainage patterns cannot be changed, and runoff cannot be concentrated onto neighboring properties. The Ordinance does not require capture of all runoff from extreme rain events, and the project will meet all stormwater requirements and improve drainage over the current conditions.

Density: Staff have prepared a comparison of high-density residential zoning districts in nearby jurisdictions to provide context for the requested variance. The R-3 District is the highest-density residential zoning classification currently available under the Zoning Ordinance in Darien, and rather than a flat lot area per dwelling unit standard, the City Code further stratifies the required lot area by the number of bedrooms in each unit. The proposed residential density is approximately 11.76 units per acre, which meets the intent of the R-3 District.

Neighboring jurisdictions (the Village of Woodridge, City of Downers Grove, and Village of Willowbrook) have simple lot area per dwelling unit standards, that offer zoning districts that accommodate higher residential densities and a broader range of multi-family housing types. A summary of these zoning districts is provided in Table 2.

Table 2: Comparison of High-Density Residential Zoning Districts

Jurisdiction	Zoning District	Min. Lot Area per Dwelling Unit	Approx. Max Units per Acre
City of Darien	R-3	4,500 SF / 2 BR unit	Between 9-12 units/acre
Village of Woodridge	A-2	2,275 SF / dwelling unit	~19 units / acre
Village of Downers Grove	R-6	1,000 SF / dwelling unit	~43 units / acre
Village of Willowbrook	R-5	2,000 SF / dwelling unit	~21 unit / acre
Subject Project	R-3 (proposed)	2,722 SF / dwelling unit (proposed)	11.76 units / acre (proposed)

DECISION MODE

The Municipal Services Committee will consider this item at its meeting on April 28, 2025.

MEETING SCHEDULE

Municipal Services Committee
City Council

April 28, 2025
May 5, 2025

CITY OF DARIEN
PLANNING AND ZONING COMMISSION
APRIL 16, 2025

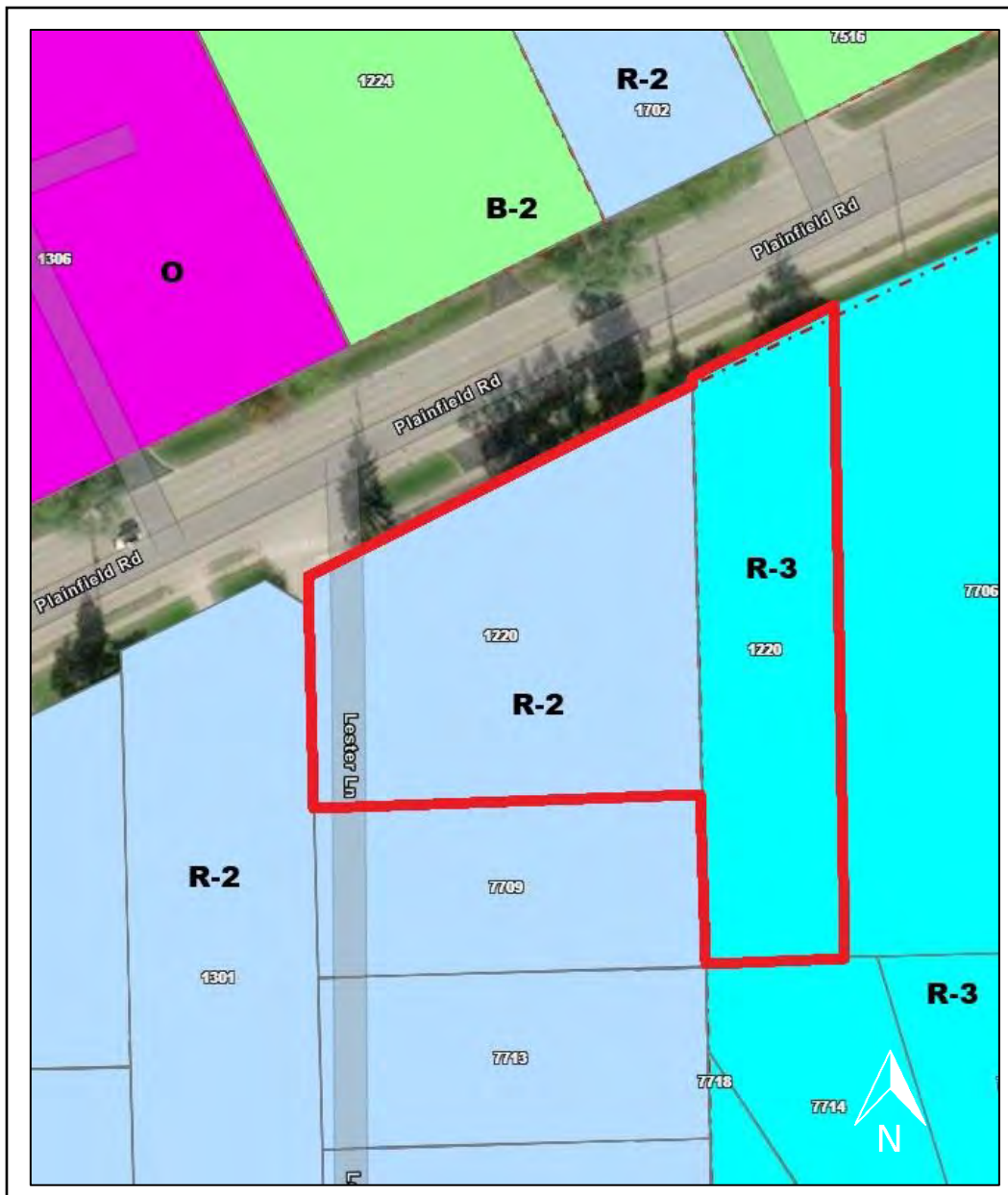
LOCATION MAP



Project No.: PZC2025-06 – 1220-1225 Plainfield Road

CITY OF DARIEN
PLANNING AND ZONING COMMISSION
APRIL 16, 2025

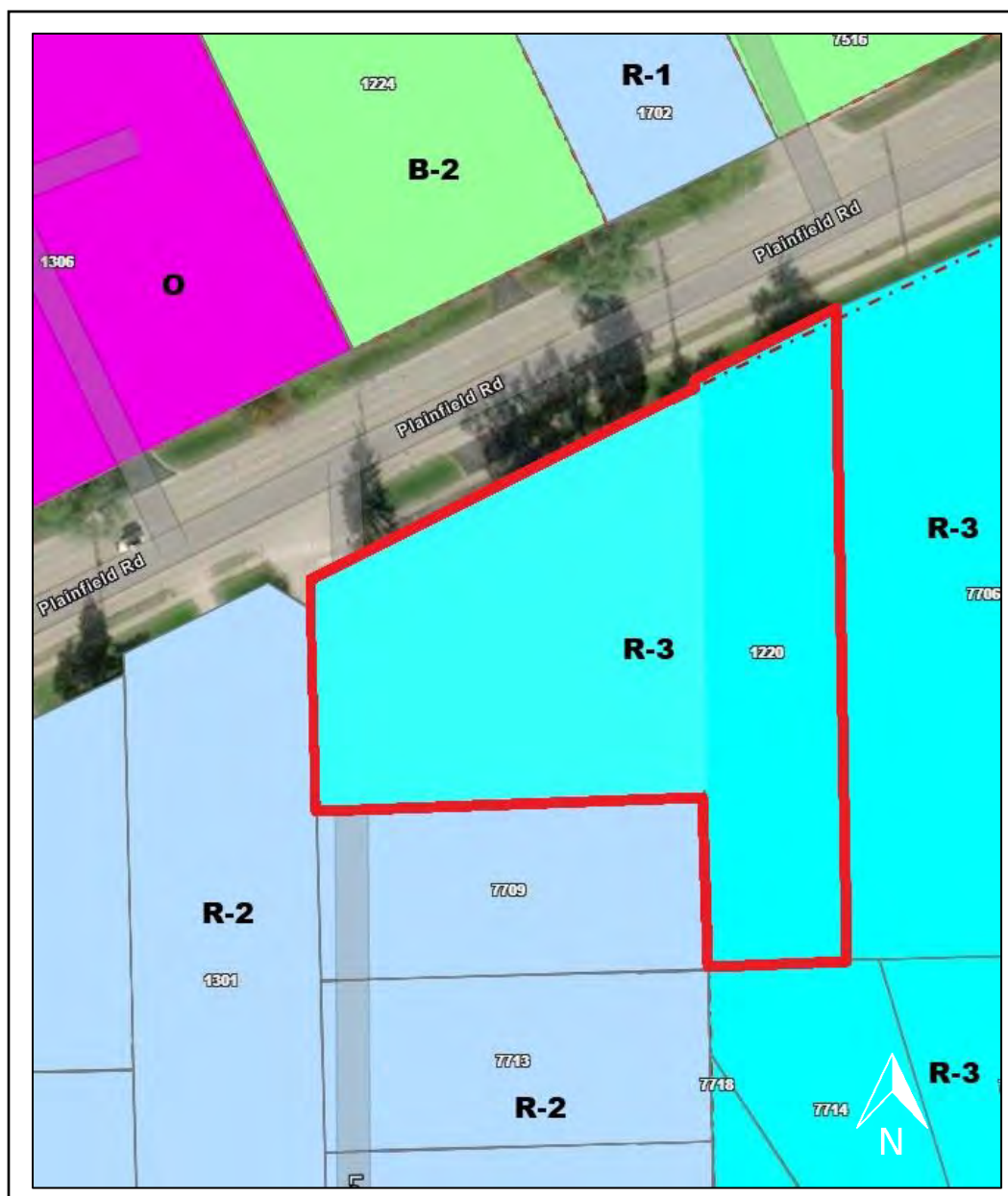
EXISTING ZONING



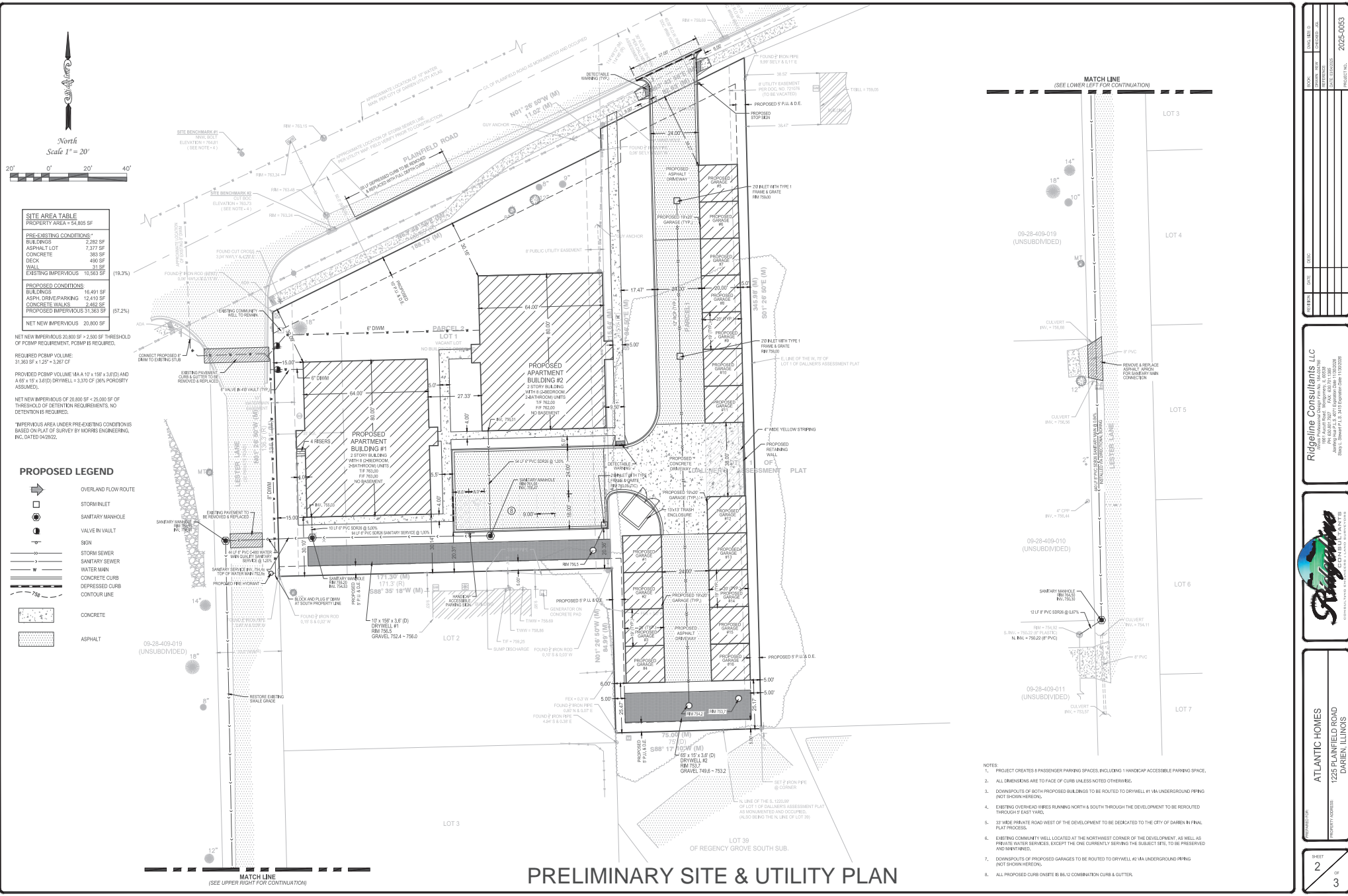
Project No.: PZC2025-06 – 1220-1225 Plainfield Road

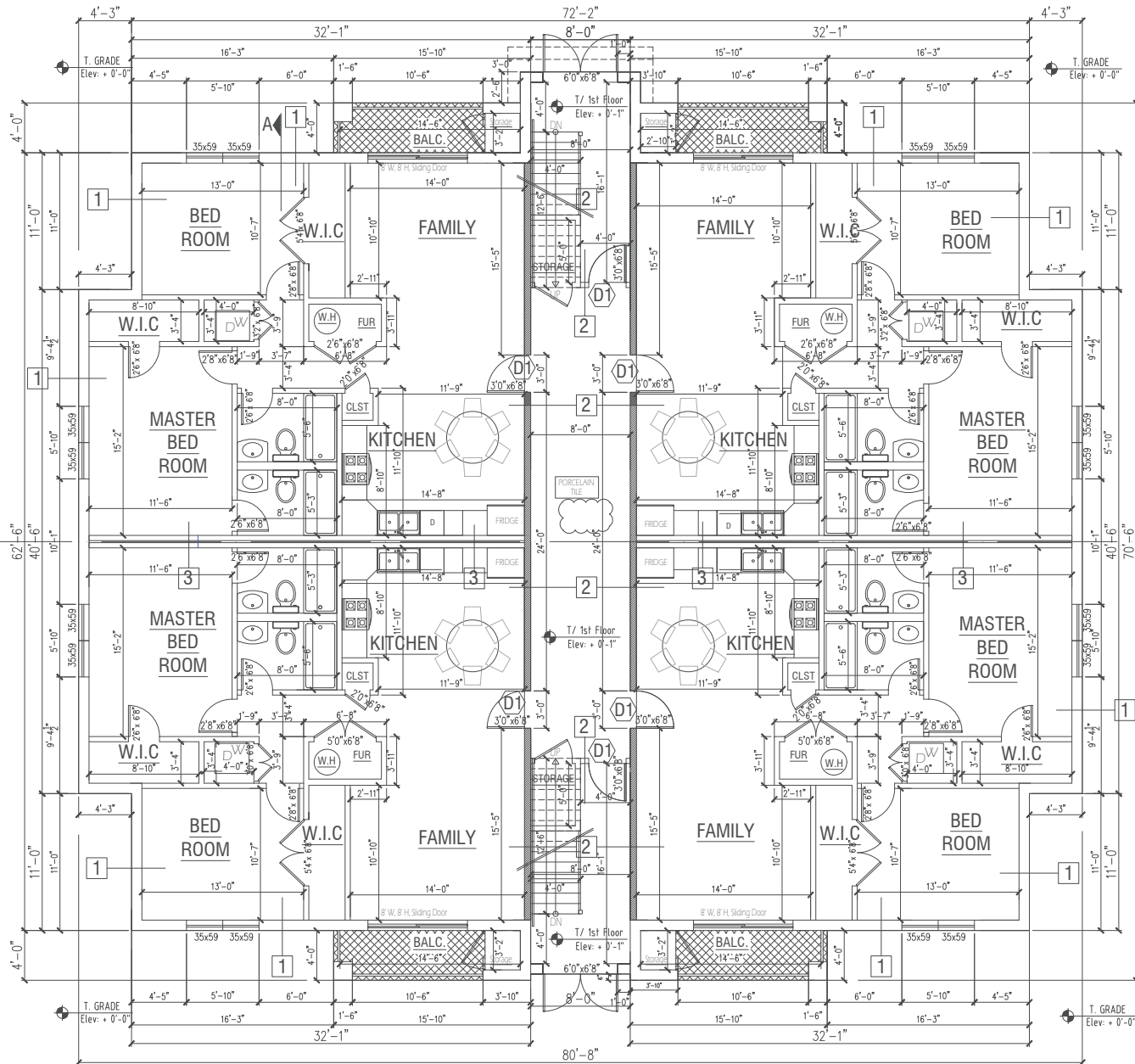
CITY OF DARIEN
PLANNING AND ZONING COMMISSION
APRIL 16, 2025

PROPOSED ZONING



Project No.: PZC2025-06 – 1220-1225 Plainfield Road





PROPOSED 1ST FLOOR PLAN

SCALE 1/4" = 1'-0"

DRAWN: G.M.K.
CHECKED BY: G.M.K.
DATE: 03/27/2025
PROJECT #: 08-25

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PROJECT NAME: PROPOSED NEW 2 STORY, 8 UNIT RESIDENTIAL BUILDING
PROJECT ADDRESS: 1230 P. LANE FIELD RD. DARIEN, IL 60541

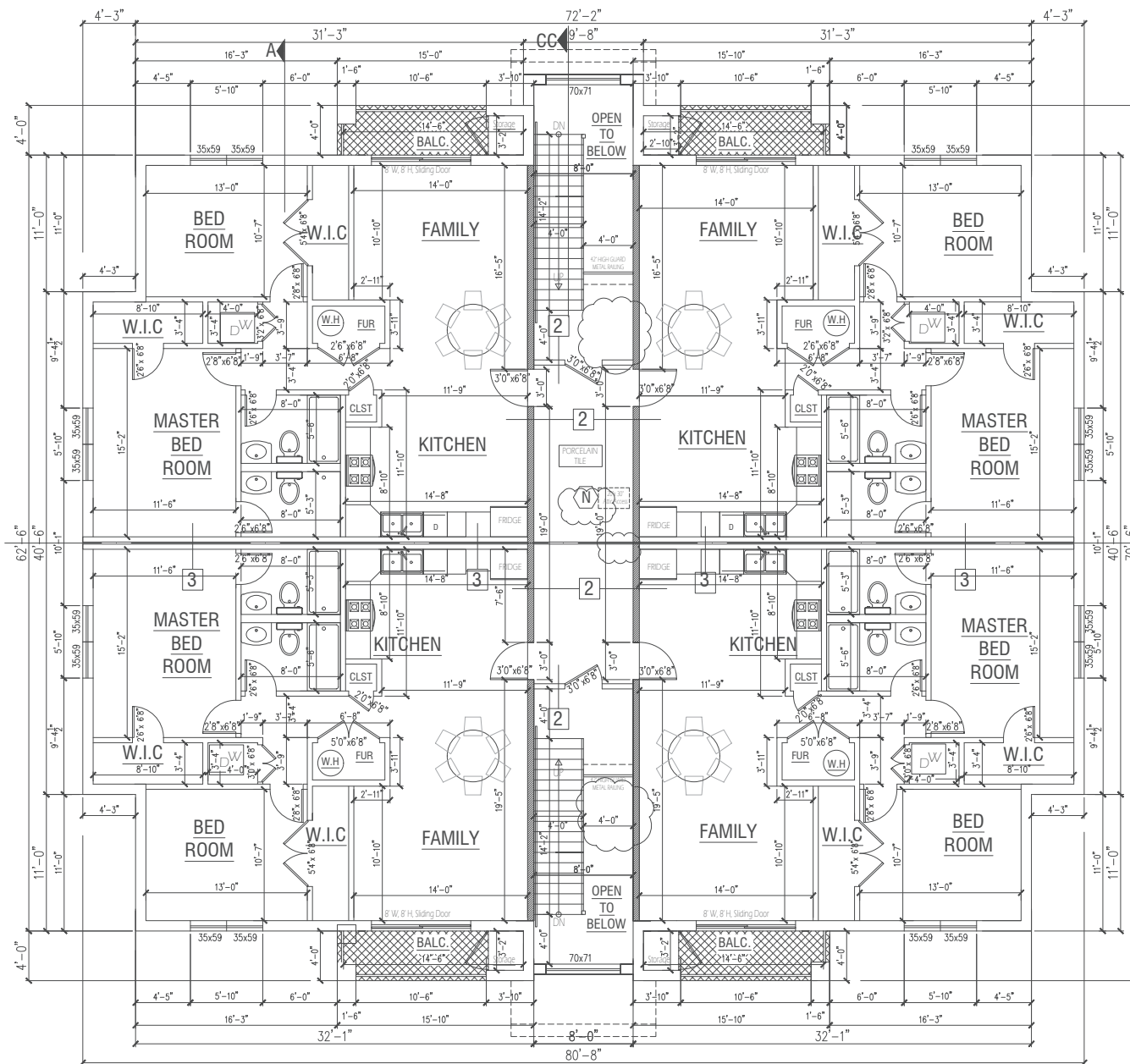
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(C) 630.865.4551 (E) lucidengr@gmail.com



GHULAM M. KAMAL
LICENSED STRUCTURAL ENGINEER
STATE OF ILLINOIS
LIC. NO. 081-006522
EXPIRES: 11-30-2026

SHEET
1ST FLOOR PLAN

A-101



PROPOSED 2ND FLOOR PLAN

SCALE $\frac{1}{4}" = 1'-0"$

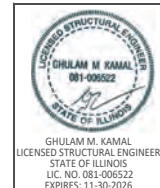
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DATE: 03/27/2025
PROJECT #: 08-25

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PROJECT NAME: PROPOSED NEW 2 STORY, 8 UNIT RESIDENTIAL BUILDING
PROJECT ADDRESS: 1230 P. LANE FIELD RD. DARIEN, IL 60541

LUCID
ENGINEERING SERVICES GROUP, LLC
163 FRANKLIN STREET, BLOOMINGDALE, ILLINOIS 60010
(C) 030-866-6651 (E) lucidengr@gmail.com



SHEET
2ND FLOOR PLAN

A-102



- ① Cast Stone Gray Color Stone 12"x24" or Brick
- ② BRICK FACE RUNNING BOND Color 1
- ③ BRICK FACE RUNNING BOND Color 2
- ④ BRICK FACE RUNNING BOND Color 3
- ⑤ 6'0" WIDE, 8'0" HIGH WOOD RESIDENTIAL FRONT DOOR
- ⑥ DARK BRONZE ALUM. SYSTEM FINISH FOR THE TOTAL CANOPY SIDES.
- ⑦ Polymer Stone Balusters System for Terrace Railing
- ⑧ 3/2" Bullnose Limestone Sill
- ⑨ 10"4, Soldier Cast Stone Gray Color
- ⑩ 12"4, Soldier Cast Stone Gray Color

ELEVATION - FRONT
SCALE 1/4"= 1'-0"

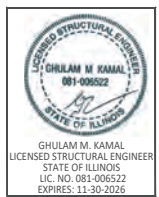
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1	03/27/2025
REVIEW ONLY	
NO.	DESCRIPTION

PROJECT NAME:
PROPOSED NEW 2 STORY, 8 UNIT
RESIDENTIAL BUILDING
PROJECT ADDRESS:
1229 PLAINFIELD RD, DARIEN, IL 60541

LUCID
ENGINEERING SERVICES GROUP, LLC
1631 FRANKLIN STREET, BLOOMINGDALE, ILLINOIS 60010
PROFESSIONAL ENGINEER
STATE OF ILLINOIS
LIC. NO. 081-006522
EXPIRES: 11-30-2026



SHEET
ELEVATIONS
A-104



ELEVATION - REAR
SCALE 1/4" = 1'-0"

- ① Cast Stone Gray Color Stone 12"x24" or Brick
- ② BRICK FACE RUNNING BOND Color 1
- ③ BRICK FACE RUNNING BOND Color 2
- ④ BRICK FACE RUNNING BOND Color 3
- ⑤ 6'0" WIDE, 8'0" HIGH WOOD RESIDENTIAL FRONT DOOR
- ⑥ DARK BRONZE ALUM. SYSTEM FINISH FOR THE TOTAL CANOPY SIDES.
- ⑦ Polymer Stone Balusters System for Terrace Railing
- ⑧ 3/2" Bullnose Limestone Sill
- ⑨ 1'0"4" Soldier Cast Stone Gray Color
- ⑩ 1'2"4" Soldier Cast Stone Gray Color

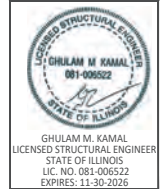
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DATE: 03/27/2025
PROJECT #: 08-05

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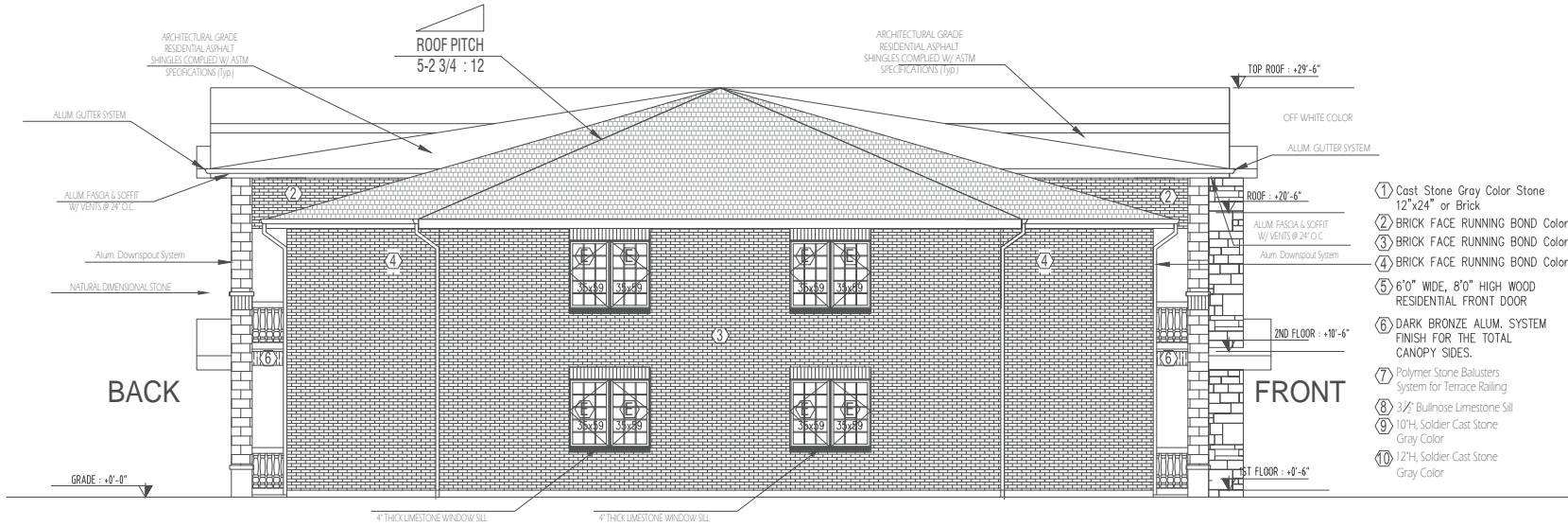
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1	03/27/2025
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NO.	DESCRIPTION

PROJECT NAME: PROPOSED NEW 2 STORY, 8 UNIT RESIDENTIAL BUILDING
PROJECT ADDRESS: 1329 PLYMOUTH RD, DARIEN, IL 60541

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ENGINEERING SERVICES GROUP, LLC
163 FRANKLIN STREET, BLOOMINGDALE, ILLINOIS 60010
PROFESSIONAL ENGINEER
STATE OF ILLINOIS
LIC. NO. 081-006522
EXPIRES: 11-30-2026



SHEET
ELEVATIONS
A-105



ELEVATION - SIDES-TYP
SCALE 1/4" = 1'-0"

- ① Cast Stone Gray Color Stone 12"x24" or Brick
- ② BRICK FACE RUNNING BOND Color 1
- ③ BRICK FACE RUNNING BOND Color 2
- ④ BRICK FACE RUNNING BOND Color 3
- ⑤ 6'0" WIDE, 8'0" HIGH WOOD RESIDENTIAL FRONT DOOR
- ⑥ DARK BRONZE ALUM. SYSTEM FINISH FOR THE TOTAL CANOPY SIDES.
- ⑦ Polymer Stone Balusters System for Terrace Railing
- ⑧ 3 1/2" Bullnose Limestone Sill
- ⑨ 10"H, Soldier Cast Stone Gray Color
- ⑩ 12"H, Soldier Cast Stone Gray Color

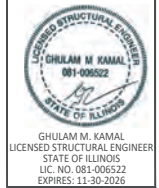
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CHECKED BY: G.M.K.
DATE: 03-27-25
PROJECT #: 08-25

THIS DOCUMENT HAS BEEN REVIEWED AND APPROVED FOR THE PROJECT SET OF PLANS FOR THE PROPOSED NEW 2 STORY, 8 UNIT RESIDENTIAL BUILDING. THE DESIGNER HAS CONDUCTED A VISUAL CHECK OF ALL DETAILS AND INFORMATION ON THESE PLANS, INCLUDING DIMENSIONS AND MATERIALS, AND HAS FOUND THEM TO BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE ILLINOIS PROFESSIONAL ENGINEERING ACT. THE DESIGNER DOES NOT GUARANTEE THE ACCURACY OF THE INFORMATION, CONDITIONS AND ASSUMPTIONS SHOWN ON THESE PLANS. NO OTHER PERSONS SHOULD BE DEPENDENT ON THESE PLANS TO BE ACCURATELY CONSTRUCTED.

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NO.	DESCRIPTION

PROJECT NAME:
PROPOSED NEW 2 STORY, 8 UNIT
RESIDENTIAL BUILDING
PROJECT ADDRESS:
1120 PLAINFIELD RD, DARIEN, IL 60541

LUCID
ENGINEERING SERVICES GROUP, LLC
1120 PLAINFIELD RD, DARIEN, IL 60541
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SHEET
ELEVATION, STAIRS
A-106





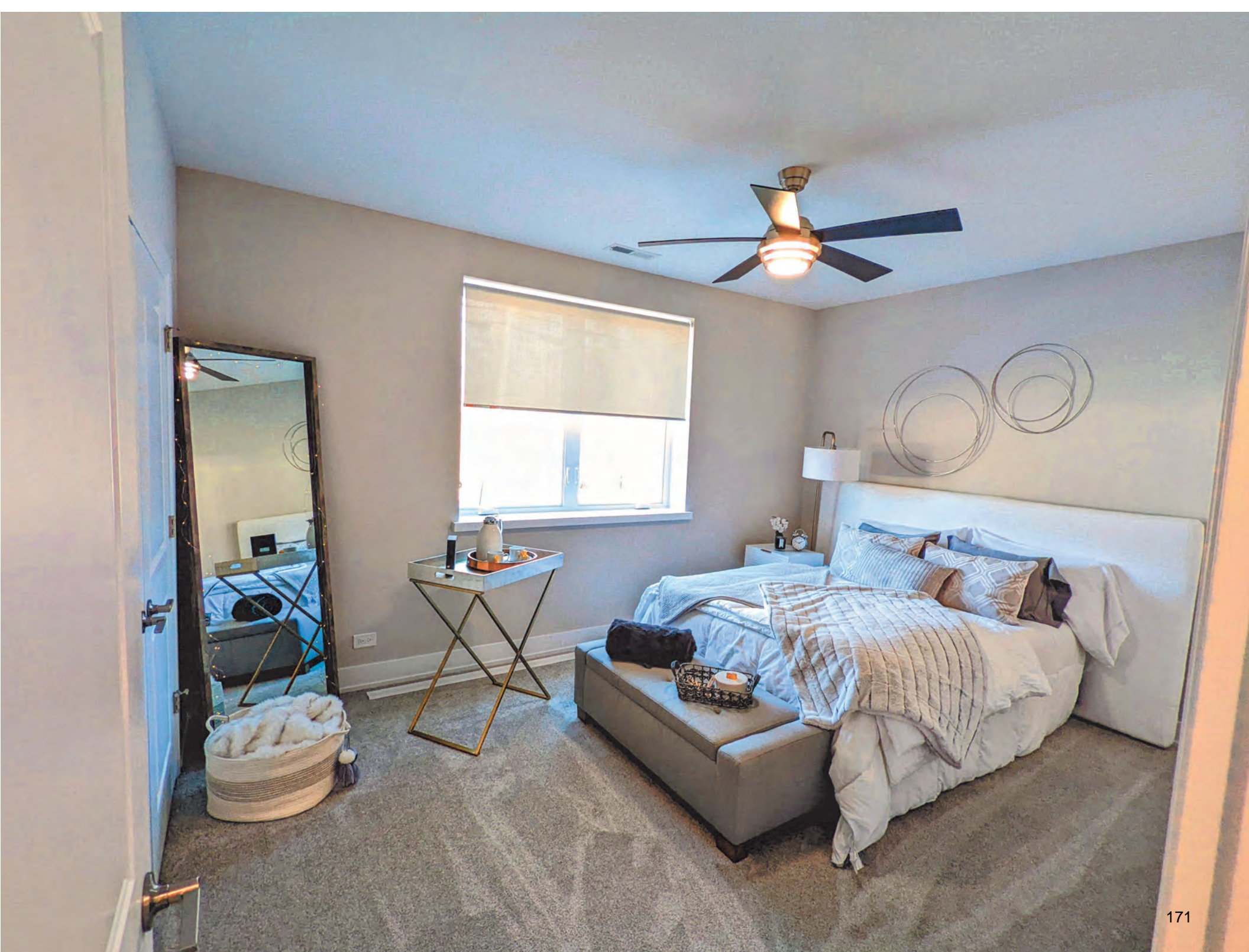














Special Use and Variation Criteria

The criteria that the Planning, Zoning and Economic Development Commission and City Council must consider when acting on a request for a Special Use and Variation are included below.

Special Use Criteria:

No special use shall be recommended to the City Council by the Plan Commission, nor approved by the City Council, unless findings of fact have been made on those of the following factors which relate to the special use being sought:

- 1. That the special use is deemed necessary for the public convenience at the location specified.*
- 2. That the establishment, maintenance, or operation of the special use will not be detrimental to, or endanger the public health, safety, or general welfare.*
- 3. That the special use will not be injurious to the use and enjoyment of other property in the immediate vicinity for the purposes already permitted, nor substantially diminish and impair property values within the neighborhood.*
- 4. That the establishment of the special use will not impede the normal and orderly development and improvement of the surrounding property for uses permitted in the district.*
- 5. That the exterior architectural design, landscape treatment, and functional plan of any proposed structure will not be at variation with either the exterior architectural design, landscape treatment, and functional plan of the structures already constructed or in the course of construction in the immediate neighborhood or the character of the applicable district, as to cause a substantial depreciation in the property values within the neighborhood.*
- 6. That adequate utilities, access roads, drainage, and/or necessary facilities have been or are being provided.*
- 7. That adequate measures have been or will be taken to provide ingress and egress so designed as to minimize traffic congestion in the public streets.*
- 8. That the special use shall, in all other respects, conform to the applicable regulations of the district in which it is located, except as such regulations may, in each instance, be modified by the City Council pursuant to the recommendations of the Plan Commission and Planning and Development Committee.*

Variation Criteria:

The City may grant variations based on the finding-of-fact that supports the following criteria outlined below by the City to be the most relevant to the subject property situation.

- a) The property in question cannot yield a reasonable return if permitted to be used only under the conditions allowed by the regulations in the zone.*
- b) The plight of the owner is due to unique circumstances.*
- c) The variation if granted will not alter the essential character of the locality.*
- d) Essential Need: The owner would suffer substantial difficulty or hardship and not mere inconvenience or a decrease in financial gain if the variation is not granted.*
- e) Problem with Property: There is a feature of the property such as slope or shape or change made to the property, which does not exist on neighboring properties, which makes it unreasonable for the owner to make the proposed improvement in compliance with this*

title. Such feature or change was not made by the current owner and was not known to the current buyer at the time of purchase.

- f) Smallest Solution: There is no suitable or reasonable way to redesign the proposed improvements without incurring substantial difficulty or hardship or reduce the amount of variation required to make such improvements.*
- g) Create Neighbor Problem: The variation, if granted, will not cause a substantial difficulty, undue hardship, unreasonable burden, or loss of value to the neighboring properties.*
- h) Create Community Problem: The variation, if granted, may result in the same or similar requests from other property owners within the community, but will not cause an unreasonable burden or undesirable result within the community.*
- i) Net Benefit: The positive impacts to the community outweigh the negative impacts.*
- j) Sacrifice Basic Protections: The variation, if granted, will comply with the purposes and intent of this title set forth in subsection 5A-1-2(A) of this title and summarized as follows: to lessen congestion, to avoid overcrowding, to prevent blight, to facilitate public services, to conserve land values, to protect from incompatible uses, to avoid nuisances, to enhance aesthetic values, to ensure an adequate supply of light and air, and to protect public health, safety, and welfare.*

LUCID Engineering Services Group, LLC

163 Franklin Street • Bloomingdale, IL 60108 Ph: (630)865-6551 • Email: lucidesgllc@gmail.com

Date: March 28, 2025

To: Mr. Jordan Yanke, Senior Planner
Community Development Department
Planning and Zoning Division
City of Darien, IL
1702 Plainfield Road, Darien, IL 60561

From: Ghulam Masoom Kamal, SE, PE
Lucid Engineering Services Group, LLC

REFERENCE: 1220 PLAINFIELD RD, DARIEN, IL 60561
VARIATIONS, ZONING CHANGE, AND PLAT OF CONSOLIDATION

PROJECT BRIEF DESCRIPTION:

BELOW IS A SUMMARY OF THIS PROPOSED DEVELOPMENT PROJECT AND REQUESTED VARIATIONS AND ZONING CHANGE REQUEST.

If you have any questions regarding this, please do not hesitate to contact the undersigned.

Sincerely,



Ghulam M Kamal, SE, PE
LUCID Engineering Services Group, LLC



DATED: 03/28/2025
LICENSE EXPIRES: 11/30/2026

LUCID Engineering Services Group, LLC

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GENERAL INTRODUCTION: PROPOSED DEVELOPMENT:

The project consists of proposed new residential development located at **1220 PLAINFIELD RD, DARIEN, IL 60561**. The project is a new construction development and consists of two new 8-Unit, two story buildings and 16-2 car garage structures. Each floor of each building consists of 4 units. Below are some project details.

The perspective developer is interested in developing this residential project with the flexibility and allowance to start the project as an apartment complex rentable to the tenants on flexible lease terms (short-term or long-term lease) as needed. With keeping in line with the ongoing market situation, the project will be converted into condominium development and will be sold to the future condominium owners as required. The City of Darien will be kept updated on the future development goals as this project goes into development and construction stage.

PROJECT DETAILS:

LOT AREA: 54,805 SQ FT

BUILDING DATA:

TWO PROPOSED BUILDINGS

TOTAL = 8 UNITS / BUILDING

4 UNITS / FLOOR/ BUILDING

TOTAL DWELLING UNITS = 16 UNITS

GARAGE DATA:

GARAGE AREA (16 -2 CAR GARAGES): 380 SQ FT / GARAGE

PROPOSED IMPROVEMENTS:

BUILDINGS: 16,491 SQ FT

ASPHALT DRIVE/PARKING: 12,410 SQ FT

CONCRETE WALKS: 2,462 SQ FT

TOTAL PROPOSED IMPERVIOUS: 31,363 SQ FT

EXISTING CONDITIONS:

BUILDINGS: 2,282 SQ FT

ASPHALT LOT: 7,377 SQ FT

CONCRETE: 383 SQ FT

DECK: 490 SQ FT

WALL: 31 SQ FT

TOTAL EXISTING IMPERVIOUS: 10,563 SQ FT

NET NEW IMPERVIOUS: 20,800 SQ FT

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PROJECT BRIEF DESCRIPTION

The intent of this project is to create a residential development by combining two parcels, Parcel 1 and Parcel 2 located on Lot 1, (see engineering plans for this property) with different residential zoning. The Parcels are currently zoned as Parcel 1: current zoning R-2 and Parcel 2: current zoning R-3. The proposed zoning of the new consolidated parcel to be R-3 to facilitate the future development.

In order for this project to move forward, both parcels need to be combined and need to be zoned R-3, further the 8' Utility and Drainage Easement located on the east side of the Parcel 2, need to be vacated and relocated to the east side and south side of Parcel 1 and made into a 5' wide easement.

After consolidation, this new parcel would allow the construction of two new, two-story buildings with 8 residential apartment units in each building as detailed above along with 16-2 car garages and 8 visitor parking spaces and a 24' wide driveway located on the east side.

In order to provide this facility, there are some administrative entitlements that are being requested here within. First, the Plat of Consolidation to combine the two parcels into a new R-3 zoned one parcel and removal of the easement located on the east side of parcel 2. Second, both the consolidation and the new development trigger a few minor variances that are being requested, in order to maximize lot use requested here within. Findings of fact for each are provided here within, as follows.

It is also requested that this residential development be allowed flexibility as a rentable apartment complex with an option to be converted into a condominium development. The City of Darien will be kept updated on the future development goals as this project goes into development and construction stage.

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ZONING VARIATIONS - JUSTIFICATION NARRATIVE:

2a. The property in question cannot yield a reasonable return if permitted to be used only under the conditions allowed by the regulations in the zone.

RESPONSE: The project cannot be developed with current zoning and easement that existing on Parcel 2 and due to the different zoning on Parcel 1. With new zoning and easement adjustment, this project will substantially increase the value and marketability of this property.

2b. The plight of the owner is due to unique circumstances.

RESPONSE: In an effort develop this project with existing irregular lot boundaries, some unique circumstances have presented themselves that require a minor amount of relief.

2c. The variation if granted will not alter the essential character of the locality.

RESPONSE: Due to its relatively smaller size and scale, the impact of these variations on the overall character of the area and comparison to surrounding lots and buildings would be hardly noticeable. In fact, this type of new development is in the very spirit of the City's comprehensive Plan and Key Development Areas.

3a. Essential Need? The owner would suffer substantial difficulty or hardship and not mere inconvenience or a decrease in financial gain if the variation is not granted.

RESPONSE: The proposal seeks zoning change on Parcel 1 to match the current zoning of Parcel 2. No additional curb cut is requested on Plainfield Road. This development will not be possible without zoning change and requested variations.

3b. Problem with Property? There is a feature of the property such as slope or shape or change made to the property, which does not exist on neighboring properties, which makes it unreasonable for the owner to make the proposed improvement in compliance with the Zoning Code. Such feature or change was not made by the current owner and was not known to the current buyer at the time of purchase.

RESPONSE: As noted above, the proposal seeks to combine the two parcels and zoning to be R-3 to make the development workable. Additionally, the applicant propose to move the entrance to the new development to the east away from the intersection of Plainfield Road and Lester Lane which will benefit the traffic flow. Therefore, in order for this development to be economically feasible, the requested variations from the ordinance are necessary.

3c. Smallest Solution? There is no suitable or reasonable way to redesign the proposed improvements without incurring substantial difficulty or hardship or reduce the amount of variation required to make such improvements.

RESPONSE: As noted above, the proposal seeks to combine these two parcels and rezone into R-3 zoning to develop this project. Without the requested variations, this project will not be workable as proposed. The proposed building can't be constructed with the current City standards in the ordinance.

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3d. Create Neighbor Problem? The variation, if granted, will not cause a substantial difficulty, undue hardship, unreasonable burden, or loss of value to the neighboring properties.

RESPONSE: The granting of these variations will have no financial or physical impact on the surrounding properties. If anything, this will be an added value to those businesses and the residential neighborhood alike.

3e. Create Community Problem? The variation, if granted, may result in the same or similar requests from other property owners within the community, but will not cause an unreasonable burden or undesirable result within the community.

RESPONSE: Due to its unique nature, this proposed development would be an asset to the community, and could be used as a model for similar future development once proof of concept is established.

3f. Net Benefit? The positive impacts to the community outweigh the negative impacts.

RESPONSE: With no notable negative impact and the benefits to the community, for this this use and location. acceptance of its ordinance variations would be a positive improvement

3g. Sacrifice Basic Protections? The variation, if granted, will comply with the purposes and intent of the Zoning Code set forth in Section 5A-1-2 (A) and summarized as follows; to lessen congestion, to avoid overcrowding, to prevent blight, to facilitate public services, to conserve land values, to protect from incompatible uses, to avoid nuisances, to enhance aesthetic values, to ensure an adequate supply of light and air, and to protect public health, safety, and welfare.

RESPONSE: This proposal seeks to integrate this redevelopment into the existing nature of the property as seamlessly as possible. As such, it is necessary to request zoning change so both parcels can be combined into one new zoning, the requested relief will increase the value of the property, and will convert something unsightly and under-used into something very positive, useful, and gainful for the property owner and the City of Darien, its residents, and visitors.

CONCLUSION

As discussed, the re-zoning and combining these two parcels will make this property more energized and seek to infill a vacancy to continue the development fabric along the central corridor of Plainfield Road and a Key Development Area. Provided the evidence supplied in these findings of fact that fully support the use and the need for administrative relief, the applicant respectfully requests a favorable recommendation from Staff and its recommending bodies to the City Council for the project as proposed here within.

The building's façade is varied in material and articulation in order to break up the overall mass, while also addressing the different frontage conditions of Plainfield Road. The facade is composed of a few cladding materials, predominantly brick/stone cladding with some secondary use of metal panels. The building is provided with separate entry points into the building from the east and west sides to provide ease and functionality.

MINUTES
CITY OF DARIEN
MUNICIPAL SERVICES COMMITTEE
March 24, 2025

PRESENT: Alderman Thomas Belczak – Chairman, Alderman Ted Schauer, Alderman Ralph Stompanato

ABSENT: None

OTHERS: Mr. Dan Gombac – Director

Establish Quorum

Chairperson Thomas Belczak called the meeting to order at 5:30 p.m. at the City of Darien City Hall, 1702 Plainfield Road, Darien, Illinois. Chairperson Belczak declared a quorum present.

New Business

- a. Resolution – Accepting a proposal from Steve Piper and Sons, Inc., for Tub Grinding Services in an amount not to exceed \$6,500.00.**

Mr. Dan Gombac, Director reported that this would be an annual program where the vendor would provide the machine for double grinding of woodchips. He reported that lots of residents take part in this program and that it's a great service. He further reported that using a vendor is the best option because the equipment is not worth purchasing.

There was no one in the audience wishing to present public comment.

Alderman Schauer made a motion, and it was seconded by Alderman Stompanato approval of a Resolution accepting a proposal from Steve Piper and Sons, Inc., for Tub Grinding Services in an amount not to exceed \$6,500.00.

Upon voice vote, the MOTION CARRIED UNANIMOUSLY 3-0.

- b. Ordinance – Authorizing the disposal of surplus property.**

Mr. Dan Gombac, Director reported that the disposal would consist of file cabinet drawers due to the digitizing of files at City Hall. He reported that the cabinets would have a low resale value and that they would be scrapped if not purchased.

There was no one in the audience wishing to present public comment.

Alderman Stompanato made a motion, and it was seconded by Alderman Schauer approval of an Ordinance authorizing the disposal of surplus property.

Upon voice vote, the MOTION CARRIED UNANIMOUSLY 3-0.

- c. Resolution – Authorizing the extension of a proposal from Sprinklers, Inc., for the spring startup and winter shutdown maintenance and backflow prevention testing of City owned irrigation systems and potable water backflow preventers as per the schedule of unit prices.**

Mr. Dan Gombac, Director reported that this program would be part of an EPA mandate for backflow prevention. He reported that a certified plumber would be required to test the 12 sites that we irrigated. He further reported that they would check all heads for startup sequence and winter shut down to protect from freezing. Mr. Gombac reported that he had been able to negotiate to receive the same price as last year.

There was no one in the audience wishing to present public comment.

Alderman Schauer made a motion, and it was seconded by Alderman Stompanato approval of a Resolution authorizing the extension of a proposal from Sprinklers, Inc., for the spring startup and winter shutdown maintenance and backflow prevention testing of City owned irrigation systems and potable water backflow preventers as per the schedule of unit prices.

Upon voice vote, the MOTION CARRIED UNANIMOUSLY 3-0.

- d. Resolution – Waiving the competitive bid process and accepting a proposal from Mosca Design for the purchase of holiday lighting and decorative displays at a cost not to exceed \$35,000.**

Mr. Dan Gombac, Director reported that this item had been budgeted for upcoming approval for seasonal inventory. He reported that it would include adding a section to the historical tree at 75th and Cass, as well as add items to City Hall, the Police Department, Plainfield and Cass, and the 75th Street berm area. He further reported that this would be an opportunity to receive the items at a discounted price.

There was no one in the audience wishing to present public comment.

Alderman Schauer made a motion, and it was seconded by Alderman Stompanato approval of a Resolution waiving the competitive bid process and accepting a proposal from Mosca Design for the purchase of holiday lighting and decorative displays at a cost not to exceed \$35,000.

Upon voice vote, the MOTION CARRIED UNANIMOUSLY 3-0.

- e. Resolution – Accepting the extension of a proposal at the unit prices for sidewalk grinding from Hard Rock Concrete Cutters, Inc., in an amount not to exceed \$250,000.**

Mr. Dan Gombac, Director reported that this would be the second full year of grinding and that about half the City had been covered. He reported that they had received no negative feedback

on the program and that the budget had been cut for concrete and sidewalk replacement by almost half. He further reported that Hard Rock had been last year's vendor and that they had negotiated the same unit price. Mr. Gombac reported that the vendor had done a very professional job that left no dust or residue from grinding, and that they GPS everything.

There was much discussion amongst the Committee regarding how well of a job the vendor had done in the previous year.

There was no one in the audience wishing to present public comment.

Alderman Stompanato made a motion, and it was seconded by Alderman Schauer approval of a Resolution accepting the extension of a proposal at the unit prices for sidewalk grinding from Hard Rock Concrete Cutters, Inc., in an amount not to exceed \$250,000.

Upon voice vote, the MOTION CARRIED UNANIMOUSLY 3-0.

- f. PZC2024-14 – Special Use Amendment, Variations – 8226 S. Cass Avenue – Petitioner (True North Energy, LLC) requests an amendment to the Special Use Permit which previously permitted the construction and demolition of the existing car wash and mini-mart, and the relocation/expansion of the mini-mart. The project includes requested variations from the City's landscape requirements. On-side improvements include parking facilities, landscape improvements and drainage/stormwater improvements. The subject property is located in the General Business District B-3 at the northwest corner S. Cass Avenue and N. Frontage Road, commonly known as 8226 S. Cass Avenue.**

Mr. Dan Gombac, Director reported that True North had recently purchased the Shell to re-vamp and would get rid of the car wash and add a mini-mart. He reported that they would be seeking a liquor license for the mini-mart that would be approved by Mayor Marchese. He further reported that the architectural design would be very nice and improve the ambiance of the site.

Mr. Gombac reported that they would repave the easement per staff comments and that the preliminary plans for drainage had been approved by Dan Lynch and Christopher Burke Engineering, with some minor comments to be addressed. He further reported that the petition had gone to Planning and Zoning and had received a 7-0 vote of approval.

Alderman Ralph Stompanato stated that the only concerns at the PZC meeting had been the lighting and ensuring a 10ft fence be placed on the North side.

Mr. Gombac reported that the Code would support the lighting issue.

Alderman Ted Schauer questioned if there would be drainage along the fence.

Mr. Gombac reported that there would be drainage along Darien Path Way through inlets and that the Shell surface water would do a proposed drainage structure.

There was some discussion regarding the use of the car wash.

There was further discussion regarding safety precautions.

Alderman Schauer questioned when they would start construction if approved.

Mr. Gombac reported they would start most likely in the summer and that they would be able to complete the demo without affecting the gas pumps.

There was no one in the audience wishing to present public comment.

Alderman Schauer made a motion, and it was seconded by Alderman Stompanato approval of PZC2024-14 – Special Use Amendment, Variations – 8226 S. Cass Avenue – Petitioner (True North Energy, LLC) requests an amendment to the Special Use Permit which previously permitted the construction and demolition of the existing car wash and mini-mart, and the relocation/expansion of the mini-mart. The project includes requested variations from the City’s landscape requirements. On-side improvements include parking facilities, landscape improvements and drainage/stormwater improvements. The subject property is located in the General Business District B-3 at the northwest corner S. Cass Avenue and N. Frontage Road, commonly known as 8226 S. Cass Avenue.

Upon voice vote, the MOTION CARRIED UNANIMOUSLY 3-0.

- g. PZC2025-02 – Short-Term Rentals – Zoning Text Amendment – Petition from the City of Darien to amend Title 5A (Zoning Regulations) to add “the offering of a short-term rental” as a prohibited action under the existing short-term rental prohibition contained in Section 5A-5-16 of the City Code.**

Mr. Dan Gombac, Director reported that the word “offering” would be added to the Code. He reported that a judge did not like the prior Code and they had lost a case as a result. He reported that Attorney Murphy had been content with the Code but now has revised it to include the word “offering,” which would clean it up and give a hard definition. Mr. Gombac reported that this update would give the opportunity that when a person “offers” it is not the same as “rent” because “rent” would result in a transaction.

Alderman Tom Belczak questioned if the word “offering” would be sufficient.

Mr. Gombac stated that it would be.

Alderman Ralph Stompanato questioned if anyone had been monitoring the AirBnb website for listings.

Mr. Gombac reported that the code enforcement officer had been monitoring it and would check in every few weeks with findings. He reported that he had not seen any concerns at this point.

Alderman Belczak questioned if the property that brought this issue to attention had been a concern anymore.

Mr. Gombac stated that they were no longer an issue.

There was some discussion regarding the specifics of Airbnb.

Mr. Gombac reported that if there was an issue they would send a letter of warning to the property and it would be followed up on.

There was no one in the audience wishing to present public comment.

Alderman Stompanato made a motion, and it was seconded by Alderman Schauer approval of PZC2025-02 – Short-Term Rentals – Zoning Text Amendment – Petition from the City of Darien to amend Title 5A (Zoning Regulations) to add “the offering of a short-term rental” as a prohibited action under the existing short-term rental prohibition contained in Section 5A-5-16 of the City Code.

Upon voice vote, the MOTION CARRIED UNANIMOUSLY 3-0.

h. Ordinance – Preliminary approval for a licensing agreement between the City of Darien and Metronet for a City-wide fiber optic infrastructure implementation.

Mr. Dan Gombac, Director reported that Metronet had inadvertently put out an ad to residents regarding installing fiber in the area. He reported that they had been reprimanded and that they had apologized profusely and explained it had been a miscommunication with their marketing department.

Mr. Gombac reported that he had been working with them since January. He reported that fiber cables would be the next up and coming thing to obtain service at a higher quality and faster speed. He reported that Metronet would provide Internet and telephone services, not cable but streaming. He further reported that Metronet had been coming into Illinois on a large scale and that the Village of Woodridge had recently permitted them.

Mr. Gombac reported that they would be installing cables in rear and side yard easements and could be found in the rights-of-way. He reported that they would be placed in boxes in an underground easement. He further reported that he would expect Metronet to receive some backlash and would anticipate residents challenging them.

Mr. Gombac reported that the City would not be able to inspect the work unless it would be in a drainage easement. He reported that communication laws allow these companies to be there and that the sales tax fee would be a neutral revenue source.

There was some discussion regarding the placement of the cables.

There was no one in the audience wishing to present public comment.

Alderman Schauer made a motion, and it was seconded by Alderman Stompanato approval of an Ordinance for preliminary approval for a licensing agreement between the City of Darien and Metronet for a City-wide fiber optic infrastructure implementation.

Upon voice vote, the MOTION CARRIED UNANIMOUSLY 3-0.

i. Minutes – March 3, 2025 Municipal Services Committee

There was no one in the audience wishing to present public comment.

Alderman Stompanato made a motion, and it was seconded by Alderman Schauer approval of the March 3, 2025 Municipal Services Committee Meeting Minutes.

Upon voice vote, the MOTION CARRIED UNANIMOUSLY 3-0.

Director's Report

a. Update – Marquis Sign

Mr. Dan Gombac, Director reported that there had been 8 business inquiries, but no solid agreements made, 5 businesses with free advertising and 8 non-profits using the sign. He reported that Jessica Plzak is the advertising coordinator and would design ads, schedule and coordinate with Belmont Digital, check the sign rotation and correct any display issues. He reported that there had been some issues occurring – sides not in sync, timing too quick, and lighting too bright – all which would be fixed.

Mr. Gombac further reported that there would be information given to businesses for ad sales through the DBA and that he would give a report at the upcoming council meeting.

There was some discussion regarding lowering the fee to advertise, resulting in a consensus to lower the cost. Mr. Gombac reported that he would follow up with businesses and update the policy.

Mr. Gombac reported that the property's attached to the Plainfield wall would be alerting their mortgage regarding deed release. He reported that they would be able to work with a negotiator through DuPage County. He further reported that he would follow up with resolutions from the mortgage company and authorized agreements.

Next Scheduled Meeting

Chairperson Tom Belczak announced that the next meeting is scheduled for Monday, April 28, 2025.

ADJOURNMENT

With no further business before the Committee, Alderman Stompanato made a motion, and it was seconded by Alderman Schauer to adjourn. Upon voice vote, the MOTION CARRIED UNANIMOUSLY, and the meeting adjourned at 6:36 p.m.

RESPECTFULLY SUBMITTED:

X

Thomas Belzak
Chairman

X

Ted Schauer
Alderman

X

Ralph Stompanato
Alderman