



July 2, 2019

TO: LOCSO Board of Directors

FROM: Jose Acosta, Utility Systems Manager JA

SUBJECT: **Agenda Item 13L – 7/11/2019 Board of Directors Meeting**  
Award Bid to Perform Leak Detection Services for District's Water Distribution System

**President**  
Marshall E. Ochylski

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### DESCRIPTION

District staff recognized an inconsistency with the unaccounted water figures. The figures were presenting a worrisome pattern, showing the difference between water produced and water consumed as a growing gap percentage. One area of concern for possible water loss are potential leaks within the distribution system that cannot be located with the current tools available or manpower of District staff.

### STAFF RECOMMENDATION

This item will be approved along with the Consent Calendar unless it is pulled by a Director for separate consideration. If so, Staff recommends that the Board adopt the following motion:

***Motion: I move that the Board direct staff to award contract to Matchpoint Inc., the lowest responsive bidder in the amount of \$7,420.35, to perform the leak detection services outlined.***

### DISCUSSION

Approved for the 2019/20 FY Budget were funds to complete a leak detection survey of the LOCSO water distribution system. The leak detection services will include the deployment of acoustic technology to canvas the approximately 26 miles of mainline, along with all mainline and hydrant valves, service lines and other endpoint apparatus within the distribution system. This technology will assist with locating leaks and provide detailed reporting on any leak discovered.

The District has experienced unaccounted water figures in the range of 15%, which is unacceptable. One of the possible reasons for this discrepancy was the pause in the residential water meter replacement program in 2016/17. The residential water meters should be replaced in a timely manner to ensure accuracy and replace worn and depreciated meters, preferably with 10-15 year cycles. District staff commenced a meter replacement program in 2014, the program continued at a slow pace until 2016/17 when the program was stopped. The concern at the time was the compatibility of the meters being installed, not working in a satisfactory manner. In 2017, the meter replacement program was again implemented to ensure the program was completed, at the completion of the 2019/20 fiscal year all meters will have been replaced. Since the meter replacement program was continued, the gap between water produced and water consumed has been decreased to the 10% range.

One other area of concern with unaccounted water loss is the potential of leaks within the distribution system. District staff did conduct an internal survey of the distribution system, this survey included investigating known susceptible areas, checking dead ends, blow offs, well head apparatus, system interties, and review of data available for the distribution system. As not all leaks will surface or be detectable with the tools available to field crews, a thorough leak detection survey should be conducted. The District experienced a high number of mainline breaks and service line breaks during the construction of the wastewater project and because of these issues there may remain some possible areas of concern.

Staff made contact with eight companies to request proposals to complete a leak survey of the District's water distribution system. Five companies returned their proposals to complete the project, below are their quotes:

- Pure Technologies – \$19,800.00
- Matchpoint Inc. – \$7,420.35
- American Leak Detection – provided quote at \$1,600.00 per day and estimated length of project to last approximately 5-8 days. \$8,000.00 – \$12,800.00
- Utility Services Associates – \$6,965.92
- M.E. Simpson Co. Inc. – \$18,450.00

Staff is requesting the quote for Matchpoint Inc., be accepted. The service that will be rendered are of high quality and will provide valuable tools for staff to utilize at the conclusion of the survey. Attached is the submittal from Matchpoint Inc., for review.

**FINANCIAL IMPACT**

The financial impact is estimated to be \$7,420.35. Funding for the project will come from Fund 500, Capitol Improvement Fund.

Attachments

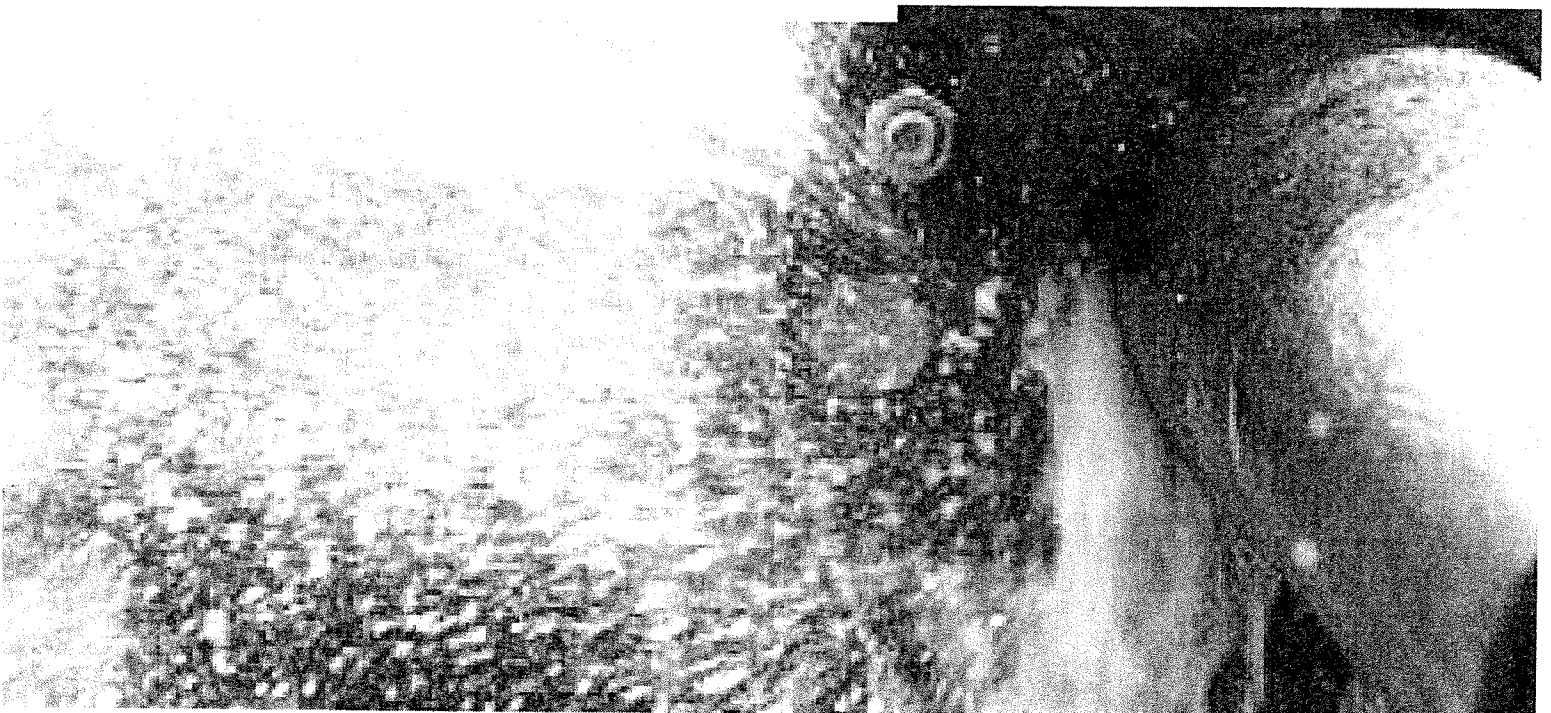


# Leak Detection Services

PROSPOSAL PREPARED FOR  
**Los Osos Comm Services District**  
ATTN: Jose Acosta  
2122 9th St Ste 110  
Los Osos, CA 93402

PREPARED BY  
**Nancy Jones**  
Matchpoint Water Asset Management Inc.  
2919 Orville Wright Way, Suite 100  
Wilmington, NC 28405  
Nancy@matchpointinc.us

FOR LOS OSOS COMM SERVICES DISTRICT



**MATCHPOINT**

March 19, 2019

Los Osos Community Services District  
Attn: Jose Acosta, Utility Systems Manager  
2122 9<sup>th</sup> St Ste 110  
Los Osos, CA 93402

Dear Jose,

Matchpoint Water Asset Management Inc. (MWAM) is pleased to submit to the Los Osos Community Services District the enclosed proposal to perform Leak Detection Services on approximately 25.9 miles of your water distribution system.

Matchpoint is dedicated to the integration of people, processes, and technology that enable stewardship for the provision and procurement of water, the world's most precious resource. Our commitment to efficiency, creativity, critical thinking, thoughtful solutions and responsible stewardship of the environment is expressed in every contact we make.

MWAM uses highly trained and experienced personnel along with the most advanced equipment, technology and training to implement our Leak Detection Solutions. I invite you to visit our website. It is [www.matchpointinc.us](http://www.matchpointinc.us). This will help both of you learn more about us and read some of the customer Case Studies.

Sincerely,

Austin Deaver  
Area Sales Representative  
P: (910) 584-5690  
[adeaver@matchpointinc.us](mailto:adeaver@matchpointinc.us)

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## Company Narrative

**Firm Background** Matchpoint Water Asset Management Inc. is a non-revenue water and water loss recovery company. Vision is our driving force, but value is our promise. We're dedicated to helping clients save valuable resources by bringing water infrastructure to life. **Water is invaluable and it is our mission to save and make better use of it.** Our corporate office is located in Wilmington, North Carolina with an affiliate office in San Diego, California.

Since our establishment in 2005, we have provided an umbrella of Smart water solutions to help utilities, municipalities and commercial enterprises nationwide and throughout the Caribbean, effectively manage water infrastructure.

Matchpoint's combined water industry and water loss expertise expands over 100 years. Leak detection services are Matchpoint's core competency and we have executed hundreds of leak detection surveys and system maintenance. Along with being the Sole Distributor for Primayer Ltd leak detection products, our service offering has grown to include comprehensive and data-driven infrastructure management solutions without compromising the quality of our foundational service. In addition to our other services, in 2016 we opened the doors to our Certified Technical Center in NC to better serve clients by providing service, repair, and calibration of leak detection and network monitoring equipment.

Commitment to customer objectives is at the center of everything we do. Matchpoint works in collaboration with our clients and their teams to ensure our solutions meet our clients' needs in an effective and efficient manner. Throughout our history, Matchpoint consistently scores a 4.90 out of 5.00 on our customer satisfaction surveys.



This leak detection experience [provided by Matchpoint] was the best that Bennington has seen in a very long time... When we do additional leak detection in the future, we will look to Matchpoint first."

**TERRY MORSE, WATER RESOURCES SUPERINTENDENT**

TOWN OF BENNINGTON, VERMONT

(STATE OF VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION CONTRACT)

## Services

- Leak Detection: Acoustic and In-pipe Inspections
- Network Monitoring and Data Analytics
- Data Driven Solutions & Risk Management Assessments
- Full Suite of UAV-Based Services, including Infrared Assessment
- Training and Support
- Rental Program
- Equipment Service, Repair, and Calibration
- Consultation and Design Services
- GIS Mapping partnered with esri



## DESCRIPTION OF SERVICES AND DELIVERABLES

### OUR LEAK DETECTION SERVICES

Matchpoint's leak detection services are traditional, non-invasive, and are reliant on acoustic technology combined with personnel expertise. Our leak detection approach has been refined over the lifetime of our company to ensure optimum customer satisfaction, effective communication, and precise results. We abide by a comprehensive process that maximizes the potential of reducing water loss and minimizes the likelihood of dry holes or excavating a leak-free hole.

All services will be executed to meet, and very often exceed, the best practices listed in the AWWA Manual of Water Supply Services (M36) and will be performed at the highest level of health and safety standards (OSHA safety standards).

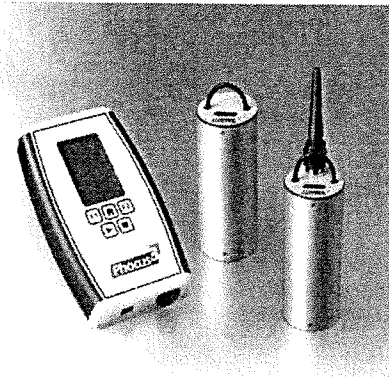
### SURVEY

The Matchpoint crew will deploy acoustic technology to survey the approximately 25.9 miles of your water distribution system. This initial step highlights anomalies within the network, which then allows for additional leak detection activities to be prioritized.

The initial survey will be executed using acoustic noise loggers and/or an electronic listening stick to identify points of interest. We will select the most efficient and effective solution for each area based on pipe material and other factors.

The Phocus3 acoustic noise loggers will be used in "lift-n-shift" mode and deployed during daytime hours at relevant and sensible spacing (as close as possible on PVC mains and no greater than 500 feet apart on AC & metallic mains). The acoustic noise loggers go "live" and listen at night when the distribution system is at its highest pressure and the ambient noise/usage is at its lowest. The loggers record actual audio leak noise each night and the data is gathered for analysis every morning. Any identified leak noise will require further investigation through pinpointing and confirmation.

Phocus3 acoustic noise loggers



Our commercial fleet is equipped with all Signage and Safety Equipment





There are three potential outcomes from the initial system survey:

1. **Leak Identified:** If a leak noise is identified then we will do further investigating to determine if it is indeed a true leak through pinpointing and confirmation testing.

**a. Pinpoint**

After the initial survey we execute the correlation, or pinpointing, phase in order to determine the legitimacy and exact location of leak noises discovered, using a Eureka3 advanced real time noise correlator.

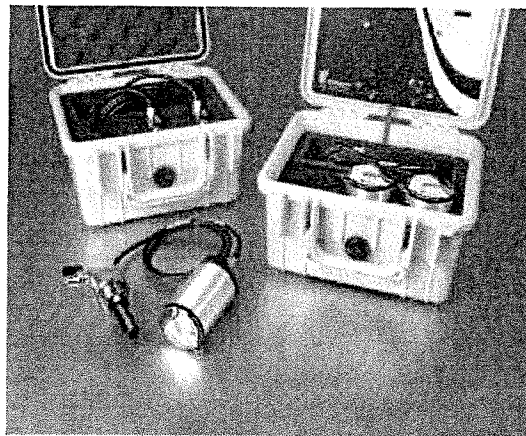


For more difficult jobs and/or complex sites, we will deploy Enigma non-real time correlating noise loggers in the suspect area. The Enigma will log sound data during nighttime hours and our crews will collect the data for analyzing the following morning. Examples of when this equipment could be used include: very busy intersections, often with multiple pipes, and/or very quiet leaks, which are difficult to correlate during normal working hours. The Enigma uses wet fittings to listen for leakage and is also the most appropriate tool for PVC or large mains.

Enigma non-real time correlating Noise



Enigma Hy-q pinpointing Noise Loggers for PVC and/or large mains loggers



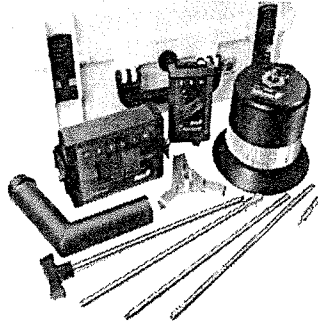
**b. Confirmation:**

Each time any leak is highlighted in the pinpointing process the leakage technician will verify this result is as correct and as accurate as possible by carrying out the confirmation process.



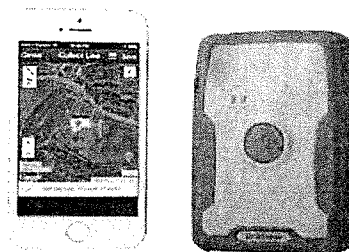
We use a combination of skills and equipment in this process using an advanced ground microphones and listening sticks, carrying out visual checks. This part of the process is the most critical and greatly increases the accuracy of our work and in return reduces false excavations known as 'dry holes'; thus saving you time and money.

#### Mikron 3 Ground Mic



If the noise is a valid leak, then the area will be physically and visibly marked and the leak will be recorded through GPS software. All confirmed leaks' details would be included on the daily leak report card, as well as the weekly, monthly and final reports.

#### esri ARC GIS Data Collection Software and Trimble GPS Location Equipment



2. **System Defects Located:** Any other defects noticed in the distribution system during the survey will be included on all reporting.
3. **No Leak Found:** If no leak is identified during a given day, then no more action is needed. Yet, we will report that there was no identifiable leak on the surveyed area of pipe on the particular day in all reports.

**DELIVERABLES**

1. **Daily** If a leak is discovered then it will be accounted for in a daily "Leak Card" and submitted to the representative of choice on that same day of discovery. The leak card will include the following details:



**MATCHPOINT**

**Matchpoint Water Asset Management**  
**Water That's the Point**

2919 Orville Wright Way  
 Suite 100  
 Wilmington, NC 28405

**Leak Card 77**

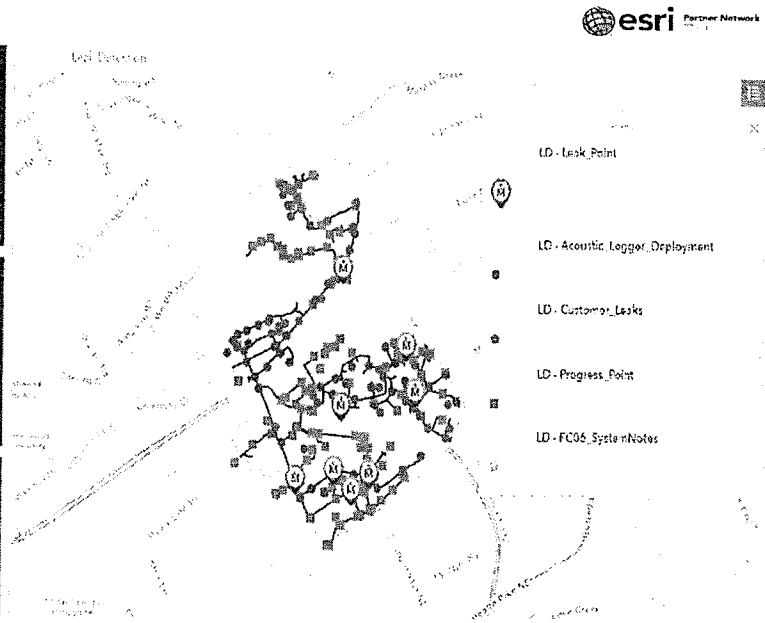
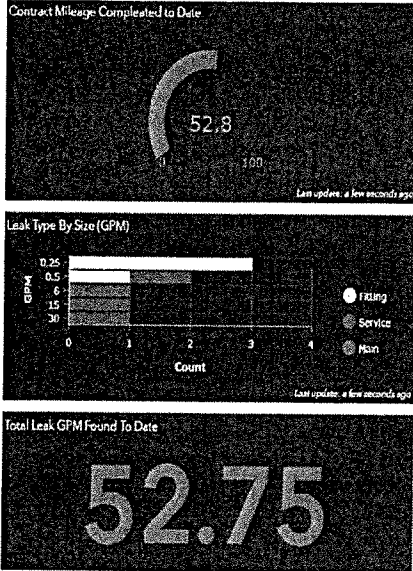
<b>Project:</b>	Spalding Co, Ga			<b>Address:</b>	4580 Old Atlanta Rd				
<b>Urgency:</b>	Immediate	<b>Surface Material:</b>	Grass	<b>Leak Type:</b>	Service	<b>Pipe Size:</b>	.75	<b>Pipe Material:</b>	HDPE
<b>Leak Detection Method:</b>	Sounding   Positive Chlorine Test   Thermal Imagery		<b>Visible Water:</b>	No	<b>Person Submitted To:</b>	Mr. Brian Upson			
<b>MPT Estimated GPM</b>	<b>Gallons Per Minute:</b>		20		<b>Leak Description &amp; Comments:</b> Distribution leak detected on service line via sounding equipment. Further inspection found water surfacing in ditch. Positive Chlorine test obtained. Leak appears to be 5' from service.				
	<b>Gallons Per Day:</b>		28,800.00						
	<b>Gallons Per Month:</b>		865,000.00						
	<b>Gallons Per Year:</b>		10,512,000.00						
<b>Project Manager:</b>	IJ			<b>Date:</b>	Apr 1, 2018				

## 2. Daily/Weekly

MWAM has the ability to provide you with a secure online portal for viewing Project Data and Statistics. This information is updated "real time" from the esri Collector app and the Dashboard is customizable to the needs of the client. This leak detection dashboard includes pertinent statistics such as miles covered, leaks found by type, and total NRW located. This service is available for an additional fee.

Below are examples of two of our most popular configurations.

### Dashboard View



### Collector Map



### 3. Project Summary Report

All project details and results will be compiled and submitted to the Los Osos Community Services District as follows:

- Combined file of all the leak cards
- Cumulative of all Daily Reports
- Full .shp file for all project findings
- Correlation files for confirmed leaks (if applicable) which includes:
- System Investigation Summary and further recommendations
- Conclusions /Recommendations regarding the water system and for further non-revenue water reduction
- Presentation of our findings and recommendations for Phase II of your sustainability plan.

## PRICING SHEET

MWAM will provide the Leak Detection Services described in this proposal on your approximately 25.9 miles for **\$7,420.35**

**\*\*NOTE:** We will also provide the esri platform, upon request, for an additional fee