



October 3, 2018

Via email: price@ci.sweet-home.or.us

Trish Rice
Engineering Technician
City of Sweet Home
1140 12th Avenue
Sweet Home, OR 97386

RE: Leak Detection Survey

Dear Trish:

We are pleased to present you with the following proposal for a leak detection survey.

American Leak Detection will provide all labor, equipment, materials, and incidental expenses for the following price based on the information you provided. Should actual conditions or mileage differ it may be necessary to discuss adjusting our rate appropriately.

Survey Area:	Entire system – approx. 54 miles of line
Leak Type:	Main Line and Distribution
Per Diem:	N/A
Travel:	N/A
Daily Rate:	\$1,250.00
Total # of days:	14
Total Proposal:	\$17,500.00

This bid is based on the following information:

- City will provide accurate, detailed information regarding location of lines to be surveyed, size and type of lines valve locations and access points.
- City will provide one knowledgeable person to assist during the leak survey.
- Daily rate covers the cost of one technician working 8 hrs. during normal business hours.
- The price includes all reports as outlined and there will be no charge for follow-up phone calls or consulting time.
- **There are no additional fees for travel, per diem or mobilization.**

Please see attached detailed information. We look forward to working with you.

Scope of Work

American Leak Detection (ALD) will provide leak detection and survey on the water system for the City of Sweet Home (City). A leak survey consists of using acoustical listening equipment along with leak correlation, ground mic'ing, pipeline locating, and using inert test gases (helium and nitrogen) approved by the AWWA as the approved test gas needed for testing the system and locating leaks.

The survey will record any leaks, irregularities or defects that may need to be addressed to maintain the integrity of the water system. A comprehensive report will be submitted upon completion, which will identify leak locations, aid in prioritizing repairs and provide a record for future maintenance.

Initial Survey

The initial survey will be performed with a survey tool (listening device) to listen at all accessible contact points such as fire hydrants, valves, air vacs, curb stops, meters, and any available pipe. Normally contact points will be at intervals no greater than 350 feet. Our goal is to be as thorough as possible and to find all leaks. ALD does not perform only hydrant-to-hydrant testing unless requested to do so by the City. The leak survey will begin at a pre-determined location and proceed, section by section, until all requested pipe sections are surveyed and suspected leak areas noted.

If good contact is not available, a highly sensitive ground mike device will be used making physical contact to the ground over the pipe at intervals no greater than 6 feet. If ground cover is not of a hard surface, probe rods will be used at intervals of 10 feet. If ambient noise on a certain section during day times hours interferes with survey effectiveness, that section will be scheduled to be performed at night. Additional costs may incur if survey is performed after hours. During the survey process, high leak signal areas will be prioritized and reinvestigated before the pinpointing process is started.

Estimated survey time / distance per day on metallic systems such as Steel, Galvanized, Ductile Iron, Cast Iron and Copper is an average of 3-5 miles per day. For non-metallic systems such as PVC, C-900, Poly, C/A (asbestos cement) and cement lined cast iron, ground mic'ing may be needed every 4-6 feet to see if leak(s) can be heard averaging 2-3 miles per day.

ALD requires that the City provide one knowledgeable person on-call as needed to assist during the leak survey. The employee will be responsible for the following:

- Help technician in the placement of the sensor on the pipe.
- Offer information on the pipe size, type and layout.
- Act on behalf of the utility for public relations.
- Open or close PRVs, related valves, fire hydrants or customer service valves.
- Help direct traffic if needed and help insure the safety of all.

Pinpointing Leaks

As leaks are heard during the survey, leak correlation will be performed by setting up correlator sensors at valve, hydrants, or any point of contact. Data such as pipe distances between sensors, pipe type and diameter of each segment, will be collected. This information will be entered into the correlator's main unit, and then put through a series of filters to help determine the location of a leak. A correlator must hear leak noise to locate a leak. The ability to hear leak noise and locate a leak depends on the pipe material and size of the leak. Accurate pipe data is crucial to the correlation process.

Individual leak locates average about thirty minutes to one hour each, if there is no interference. The length of time for the pinpointing process will be determined by the number of correlator set-ups are required to confirm each leak. We normally perform at least two different set-ups to confirm each leak location.

Ground mic'ing will be performed to assist in confirming leaks and will also be used to listen to segment of the distribution lines that are A/C, C-900 and plastic/poly. Ground mic'ing on the surface above these lines will be performed every 4-6 feet. These are low frequency materials that do not allow leak sound to travel great distances and leaks can be difficult to hear.

Pipe line locating will be used as needed to assist with locating leaks. Line locators work only on metallic materials such as steel, copper, ductile iron, and cast iron, depending on the type of connections. Rubber connecting joints can hinder electrical currents from traveling any great distances.

Inert test gas and electronic inert gas detection equipment may be used as needed to help identify the location of leaks. This will help locate small leaks or leaks that are not producing enough leak noise to be heard by other listening devices due to pipe material, soil, and the position and type of leak.

If leak(s) are being difficult to detect due to distance, pipe material, size of leak or other factors, valving off certain segments, pot holing at certain dedicated distances and increased pressure may need to be coordinated with system to help identify leak locations. This is a last resort of testing but under certain circumstances could be the only way of narrowing the leak location.

Leak Report

ALD will use daily worksheets to identify all points of contact and sections tested. If available, we will use a copy of the system map to highlight all tested areas, indicate location of leaks and identify any areas of concern. All daily testing results, leak locations, estimated size of leaks, and the total number of leaks found will be entered into a final report for documentation for the system. During the pinpointing process the technician will also record the confirmed leak locations with a Trimble GIS mapping system. This process will enable ALD to provide the City with a KML file for confirmed leak locations that can be viewed using Google Maps or Google Earth.

Results vary greatly depending on the pipe type and age, system pressure, bedding materials and the total percentage of non-revenue water. ALD will provide a very thorough leak survey by listening to every accessible contact point. All daily testing results, leak locations, estimated size of leaks, and the total number of leaks found will be entered into a final report for documentation of the survey.

Project Schedule

Once notice to proceed is received, we can normally schedule work to commence within 2 weeks. If only a partial day is required, we can normally schedule within one week. We would be able to accommodate the City's schedule upon short notice if an emergency or circumstance should arise requiring postponement or delay of the survey. Since we are locally based in Oregon we would be available for on-site follow-up or consultation regarding marked leak locations.

Qualifications

American Leak Detection of Oregon and SW Washington has been in operation for over 16 years. In that time we have successfully served many municipalities, water districts and large industries throughout the region. Projects have ranged from a few hours to weeks and all have included thorough reports and follow-up. As members of professional organizations such as OAWU, AWWA, and LOC, we are keenly aware of the needs of the water districts and municipalities in our area. A list of the municipalities we have worked for and a list of current recommendations can be provided upon request.

We have completed surveys on many water systems throughout the state of Oregon and SW Washington and we also provide on-going leak detection service to a multitude of cities on an "as-needed" short term basis. We have eight highly trained technicians that are fully equipped with all the necessary equipment needed to complete any type of leak detection. Our technicians are based in Medford, Grants Pass, Bend, Eugene, Salem, Portland and Vancouver, WA.

We provide emergency response service 7 days a week 24 hours a day. We are readily available and will return for confirmation of a specific leak location or additional pipe sections after completion of the initial survey. We take a great deal of pride in our business and strive to provide not only the best leak detection service, but also the best customer service and follow-up available.

PROPOSAL ACCEPTED:

Please sign below indicating acceptance of our proposal and return via facsimile to 888/999-5325 or email to sbotermans@americanleak.com. We will contact you about scheduling.

Signature  _____ Date 10-26-18
 _____ Date 10-27-18

Print name and title: Greg Mahler Mayor
RAM Township City Manager