



Notice of Public Works Committee Meeting

AGENDA

PUBLIC WORKS COMMITTEE - CITY OF FALLS CITY, OREGON

Meeting Location: 320 N Main Street, Falls City

Meeting Date: Thursday, March 21, 2019 6:00 PM

Posted on March 15, 2019

1. Call to order

Roll Call: Chair Jennifer Drill ___ Mayor Gordon ___ Mike McConnell ___ Guy Mack ___
Tony Meier ___ Cliff Lauder ___ Gordon Hanson ___

2. Pledge of Allegiance

3. Motion to adopt the entire agenda

4. Consent Agenda: Motion Action Approving Consent Agenda Items

A. Public Works Committee Meeting Minutes February 21, 2019 (p. 1-2)

5. Public Comments: Citizens may address the Committee or introduce items for Committee consideration on any matters. The Committee may not be able to provide an immediate answer or response, but may direct staff to follow-up on any questions raised. Out of respect to the Committee and others in attendance, please limit your comment to five (5) minutes. Please state your name and city of residence for the record.

6. Old Business

a. Master Water Plan Round Table Discussion with Don Poe, Public Works Supervisor (p. 3)

***Please sign out a copy of the Water Master Plan. These MUST BE RETURNED to City Hall.* Total= 6 copies.**

7. New Business

b. Leak Detection Survey Estimates (p. 4-13)

c. Public Works Committee Meeting Date Change – Verbal, Chair Drill

8. Correspondence, Comments and Ex-Officio Reports

9. Adjourn

City of Falls City
Public Works Committee Meeting
Thursday February 21, 2019, 7:00 p.m.
Meeting Location: 320 N Main Street, Falls City, OR 97344

Committee Members Present

Tony Meier, Mike McConnell, Chair Jennifer Drill, Cliff Lauder, Mayor Gordon, Guy Mack.

Chair Drill called the meeting to order at 6:55 PM

1) Call to Order

Chair Drill took roll call. All members present.

2) Pledge of Allegiance

Chair Drill lead the Pledge of Allegiance.

3) Motion to Adopt the entire agenda

An addition was made by Mayor Gordon to include Public Works Committees' Schedule and Roles to agenda. Member Meier moved and Member Lauder seconded to adopt the entire agenda. Motion carried 6-0-0 Ayes. Jennifer Drill, Tony Meier, Michael McConnell, Mayor Gordon, Cliff Lauder, Guy Mack.

4) Consent Agenda: Motion Action Approving Consent Agenda Items

- A. Public Works Committee Minutes January 18, 2019
- B. Public Works Committee Minutes December 15, 2018
- C. Public Works Committee Minutes November 15, 2018
- D. Public Works Committee Minutes October 18, 2018

A motion was made by Mayor Gordon and seconded by Committee Member Meier approving Consent Agenda items A., B., C., D. Motion carried 6-0-0 Ayes. Jennifer Drill, Tony Meier, Mike McConnell, Mayor Gordon, Cliff Lauder, Guy Mack.

5) Public Comments - None

6) Old Business

- A. Leak Adjustments - FYI
- B. Backflow Testing - FYI

7) New Business

- A. Master Water Plan Round Table Discussion with Don Poe, Public Works Supervisor-
 - 1. Supervisor Poe informed the Committee that the majority of the water meters have reached or are nearing their lifespan of 20 years and suggested the City discuss/implement a Meter Replacement program conducted over a two (2) to Three (3) year period. This would cost approximately \$50-\$100,000.00 if done by Public Works employees for 425 meters and could reduce leakage and provide more accurate usage numbers. Most water meters can be replaced in a couple of hours but others could take much longer.
 - 2. Supervisor Poe informed Committee of excessive leaks in the distribution system of up to 25 - 30,000 gallons difference from flow though water treatment plant and the utility billing read usage. Professional leak detection would cost approximately \$8,500.00.

General discussion followed: including transmission lines, largest threat to Water System (Supervisor Poe indicated forest fire damage to Watershed), whether to replace meters and then leak test or leak test and then initiate meter replacement if necessary, whether City could address replacement of failed backflow devices at time of new meter installation and the need to stress water conservation.

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Mayor Gordon moved and Committee Member Meier seconded that **the PWC recommend that City Staff/Council research and provide recommendations on leak detection options to reduce water loses.** Motion carried 6-0-0 Ayes. Jennifer Drill, Mayor Gordon, Tony Meier, Mike McConnell, Cliff Lauder, Guy Mack.

Committee Member Lauder moved and Mayor Gordon seconded that **the PWC recommend that City Staff/Council study using any excess 2018 budget monies and 2019 budget monies in the feasibility and implementation of replacing water meters.** Motion carried 6-0-0 Ayes. Jennifer Drill, Mayor Gordon, Tony Meier, Mikel McConnell, Cliff Lauder, Guy Mack.

B. Public Works Committee Meeting Schedules and Roles

Schedule: Chair Drill informed Committee that we were required to only hold two (2) meetings per year. Committee agreed in principle: 1. to hold meetings on the third (3rd) Thursday of each month, 2. meet at 6:00 PM (new time), 3. meet only if needed, 4. that the Chair would email, call or text members of meeting status.

Roles: Chair of Committee will: 1. pick up Committee packets from City Hall, 2. obtain key and open Community Center, 3. communicate any changes to Committee members and 4. to work with City Staff on Agenda items. Vice Chair to perform these duties in absence of Chair. Committee members shall inform Chair if not able to attend (to determine if Quorum will be met) and any Agenda items needed.

8) Correspondence, Comments and Ex-Officio Reports

A. Next Public Works Committee Meeting will be held March 21, 2019, 6:00 pm.

B. Committee Member Lauder questioned whether monies donated by Garden Club (\$600.00) could be used to replace strip of grass/dirt in front of Community Center with pavers (he would donate his labor to accomplish this task).

9) Adjourn

A motion was made by Committee Member Mack and seconded by Committee Member Lauder to adjourn the meeting. Motion carried 6-0-0. Ayes: Mike McConnell, Jennifer Drill, Tony Meier, Mayor Gordon, Cliff Lauder, Guy Mack.

The meeting was adjourned at 8:11 PM.

_____ Public Works Committee Chair Drill

Attested: _____ Public Works Committee Member

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AGENDA REPORT

TO: PUBLIC WORKS COMMITTEE
FROM: JOHANNA BIRR, CITY CLERK
SUBJECT: WATER MASTER PLAN ROUND TABLE DISCUSSION- DON POE
DATE: 3/11/2019

SUMMARY

*** Please return the Water Master Plan book checkout sheet to the City Clerk at City Hall. It is imperative to keep track of these copies as they are the only copies available.

Committee to have further discussion on workable projects.

BACKGROUND N/A

PREVIOUS COMMITTEE ACTION

The Falls City Water Master Plan was reviewed by Committee for recommendations on projects to be performed to ensure the City's water system is running efficiently. Several projects to be considered include but are not limited to:

1. Meter replacement program- the majority of the meters have reached or are nearing their lifespan of 20 years. This would cost \$50-\$60,000 but could be spread across several years.
2. Leak detection program- Usage documentation differs between 25- 30,000 gallons from flow through the water plant and the utility billing read usage. This is a significant loss of resources.

ALTERNATIVES/FINANCIAL IMPLICATIONS N/A
STAFF RECOMMENDATION N/A
PROPOSED MOTION N/A

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AGENDA REPORT

TO: PUBLIC WORKS COMMITTEE
FROM: JOHANNA BIRR, CITY CLERK
SUBJECT: LEAK DETECTION ESTIMATES
DATE: 3/12/2019

SUMMARY

Clerk Birr researched the cost of leak detection for Public Works Committee to provide a recommendation to Council as how to or if to proceed with this project. There are two options in the area. They were both recommended several years ago by Luckiamute Domestic Water Coop to Clerk Birr to share with residents with water leaks. Currently the system has a master meter at the water plant, 477 connections, 25 valves and 46 hydrants as main contact points.

A leak detection survey includes listening to all valves, meters, hydrants and any other contact points. This involves sonic listening equipment to detect leaks. Such as a ground mic and correlator because it can be difficult to find leaks in asbestos-cement (AC) pipe as the leaks don't make as much noise as copper, PVC or steel piping do. The time it takes to do a leak detection survey is dependent on the number of leaks, how long it takes to pinpoint them and the number of contact points.

Falls City's water distribution system piping network has approximately 16 miles of distribution and transmission piping ranging in size from 1 inch to 12 inches in diameter. The system is generally configured with a number of disconnected service areas with limited looping. The existing transmission and distribution piping, as well as fire hydrant coverage for the water system networks are shown in Appendix A in Figure 3 (Size), Figure 4 (Material) and Figure 5 (Fire Hydrant Coverage) in your copy of the Master Water Plan book.

The original distribution system was installed approximately 1915 and the first intake box was installed at Teal Creek. Major improvements to the system were made in the 1990's, but a large portion of the system is still AC pipe, which is more likely to break, especially under high pressure conditions. Portions of the downtown area have pressures far in excess of the recommended pressure ranges in order to provide pressure to the homes in the higher elevations. Falls City experiences frequent water main breaks due to these high pressures and old pipes.

Only two City parks are connected to the system without a meter. The Faye Wilson Park connection is inactive and not used. Most of the water used at the upper Park is through a metered connection; very little water is used from the unmetered connection. Many of the existing meters have not been replaced since their original installation in 1993, in most cases, over 20 years ago. This could account for a small portion of water loss but certainly not all. Mr. Poe has identified suspect locations to investigate.

Options include:

1. Dan's Leak Detection

Dan Schaffner is owner/operator of this business and services several neighboring municipalities and Luckiamute Domestic Water Coop. His rate is \$1,200.00 per day. The survey is estimated to take up to 20 hours, if less, he will take off \$100.00 per hour under the

for

estimated 16. He averages between 250- 400 contact points per day. This contractor stated the price will never be more than the quoted price. (Exhibit A)

2. American Leak Detection-

Jason Springfield is a specialist skilled in small systems. American Leak Detection (ALD) charges \$1,500.00 per 8 (eight) hours on site. The technician can usually survey 3 miles per day or 200 contact points per day. ALD will also work on an hourly rate with a two-hour minimum of \$525.00 and \$195.00 per hour thereafter. This would be beneficial if there was a known leak within an area but unknown actual location of the leak. (Exhibit B)

3. Oregon Association of Water Utilities (OAWU)- Staff is currently still awaiting a proposal from OAWU. If this is received before the Public Works meeting it will be introduced to committee as a handout attachment to the packet for consideration.

BACKGROUND

The Falls City Water Master Plan contains future plans to improve and maintain the City's water system. Superintendent of Public Works, Don Poe suggested options for Committee to consider. One option is for a leak detection survey to eliminate water revenue loss due to the discrepancy of plant flow versus actual meter reads billed for.

PREVIOUS COMMITTEE ACTION

Mayor Gordon moved and Committee Member Meier seconded that the PWC recommend that City Staff/Council research and provide recommendations on leak detection options to reduce water losses. Motion carried 6-0-0. Ayes: Jennifer Drill, Mayor Gordon, Tony Meier, Mike McConnell, Cliff Lauder, Guy Mack

ALTERNATIVES/FINANCIAL IMPLICATIONS

Currently lost revenue in water loss is between \$1049.00- \$1258.00 if the gallonage is to be considered an average residential base rate of \$41.96 per 5,000 gallons. Figured at the overage rate of \$2.55 per 1,000-gallon unit is a potential loss of \$63,750.00- \$76,500.00 per month.

The Leak Detection Survey would take at least two (2) eight (8) hour days, possibly more.

STAFF RECOMMENDATION

The chosen contractor will need one Public Works employee to accompany them while work is being done and identify any known problem areas. Both technicians are accustomed to working with small municipalities.

EXHIBIT A- Leak Detection Survey Proposal- Dan's Leak Detection, LLC

EXHIBIT B- Leak Detection Survey Proposal- American Leak Detection

EXHIBIT C- Leak Detection Survey Proposal- Oregon Association of Water Utilities- Not yet received.

PROPOSED MOTION

I move that the Public Works Committee recommend to the City Council of Falls City to instruct City Manager Corthell to research budget monies and if available, use _____ to conduct a thorough or partial leak survey of the

(insert recommended contractor name here)

Falls City water distribution system.

DS

jbirr@fallscityoregon.gov

From: Dan's Leak Detection LLC <quickbooks@notification.intuit.com>
Sent: Wednesday, March 13, 2019 1:16 PM
To: jbirr@fallscityoregon.gov
Cc: dan@dansleakdetection.com
Subject: Estimate 1006 from Dan's Leak Detection LLC
Attachments: Estimate_1006_from_Dans_Leak_Detection_LLC.pdf

Good Afternoon,

Please review the attached estimate. Feel free to contact us if you have any questions.
We look forward to working with you.

We have also included a list of references:
Garry Black, City of Philomath, 541-929-3579
Matt Johnson, City of Momnouth, 503-930-9437
Blake Boyles, City of North Plains, 503-389-1397
Carol, Luckiamute Domestic Water, 503-838-2075

Thank you,

Dan's Leak Detection LLC

----- Estimate Summary -----
Estimate # : 1006
Estimate Date: 03/13/2019
Expiration Date: 03/13/2019
Total: \$3,000.00
The complete version has been provided as an attachment to this email.

pb



Dan's Leak Detection LLC
4111 Hayesville DR NE
Salem, OR 97305 US
503 569-5560
brittany@dansleakdetection.com
www.dansleakdetection.com

Estimate

ADDRESS

City of Falls City
299 Mill St
Falls City, OR

ESTIMATE #	DATE	EXPIRATION DATE
1006	03/13/2019	03/13/2019

ACTIVITY	QTY	RATE	AMOUNT
municipal survey full day	2.50	1,200.00	3,000.00
survey of municipal system daily rate			

The above estimate is for an entire sonic survey of complete water system to determine any and all unaccounted for water loss. During survey all meters, hydrants, valves and any other contact will be sonically listened to. All leaks heard will be pinpointed and mapped as close as possible to exact spot of leak. This estimate is for 2 and 1/2 days or 20 hours of survey/ leak pinpointing. The estimate will not exceed this amount even if more time is required, however for every hour under 20 hours \$100 per hour will be removed from final bill.

TOTAL **\$3,000.00**

Accepted By

Accepted Date

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jbirr@fallscityoregon.gov

From: Shari Botermans <sbotermans@americanleak.com>
Sent: Tuesday, March 12, 2019 1:09 PM
To: jbirr@fallscityoregon.gov
Subject: Leak Detection Survey Proposal
Attachments: Leak Detection Survey Proposal - City of Falls City 3-12-19.pdf

Dear Johanna,

It was a pleasure speaking with you this morning. As promised attached is a proposal for a leak detection survey. As we discussed the amount of time to complete a survey of your entire system depends on the total linear feet of pipe we are surveying. Our technician can usually survey 3 miles per day depending on the amount of leaks he finds and the time it takes to pinpoint each leak location. Once you have the plans we can get a better idea of how long it will take.

We can always start with one day of survey and see how far we get and what we find. Sometimes we find substantial leaks at the beginning of the survey and the City or District chooses to make the repair before continuing. Since we are locally based we are very flexible in working with your budget and schedule. We can also work on an hourly rate instead of a full day rate. Our two hour minimum is \$525 and \$195 per hour thereafter. If your water operator has a specific location he wants us to survey it's cheaper to go on the hourly rate.

If you have any questions please don't hesitate to give me a call. We look forward to working with you.

Sincerely,

Shari Botermans, CEO - Ext. 1001
888.777.5325 | Fax 888.999.5325
2821 Bullock Road, Medford, OR 97504
www.americanleakdetection.com



 Please consider the environment before printing this e-mail

PS



March 14, 2019

Via email: jbirr@fallscityoregon.gov

Ms. Johanna Birr
City of Falls City
299 Mill Street
Falls City, OR 97344

RE: Leak Detection Survey

Dear Johanna:

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 – 16 miles with 477 connections and 46 hydrants
Leak Type:	Main Line and Distribution
Per Diem:	N/A
Travel:	N/A
Daily Rate:	\$1,500.00
Total # of days:	4
Total Proposal:	\$6,000.00

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.
- If survey takes longer or shorter amount of time, final billing will be adjusted.
- There are no additional fees for travel, per diem or mobilization.

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

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Scope of Work

American Leak Detection (ALD) will provide leak detection and survey on the water system for the City of Falls City (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.

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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.

PH

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 highly trained technicians that are fully equipped with all the necessary equipment needed to complete any type of leak detection.

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.

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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

Print name and title: _____

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