LAKE WHATCOM WATER AND SEWER DISTRICT
1220 Lakeway Drive
Bellingham, WA 98229

REGULAR MEETING OF THE BOARD OF COMMISSIONERS
AGENDA
April 24, 2019
8:00 a.m. – Regular Session

1. CALL TO ORDER

2. PUBLIC COMMENT OPPORTUNITY
   At this time, members of the public may address the Commission. Please state your name prior to making comments.

3. ADDITIONS, DELETIONS, OR CHANGES TO THE AGENDA

4. CONSENT AGENDA

5. SPECIFIC ITEMS OF BUSINESS:
   A. Presentation on the Findings of Cathodic Protection Inspection of District Reservoirs
   B. Resolution No. 858—Cross-Connection Control Program Revision Approval
   C. Comprehensive Sewer Plan Engineering Services Contract Approval

6. OTHER BUSINESS

7. STAFF REPORTS
   A. General Manager
   B. Engineering Department
   C. Finance Department
   D. Operations Department

8. PUBLIC COMMENT OPPORTUNITY

9. ADJOURNMENT

AGENDA BILL Item 4	**Consent Agenda**			
DATE SUBMITTED:	April 18, 2019	MEETING DATE:	April 24, 2019	
TO: BOARD OF COMMISSIONERS		FROM: Rachael Hope		
GENERAL MANAGER APPROVAL				
ATTACHED DOCUMENTS		1. See below		
		2.		
		3.		
TYPE OF ACTION REQUESTED		RESOLUTION ☐	FORMAL ACTION/ MOTION ☒	INFORMATIONAL /OTHER ☐

**** TO BE UPDATED 4/23/19 ****

BACKGROUND / EXPLANATION OF IMPACT

- Meeting Notes from the April 10, 2019 Board Meeting
- Payroll for Pay Period #09 (04/06/2019 through 04/19/2019) total to be added 4/23
- Payroll Benefits for Pay Period #09 total to be added 4/23
- Accounts Payable Vouchers total to be added 4/23

LAKE WHATCOM WATER AND SEWER DISTRICT
1220 Lakeway Drive
Bellingham, WA 98229

REGULAR SESSION OF THE BOARD OF COMMISSIONERS
Minutes
April 10, 2019

Board Secretary Todd Citron called the Regular Session to order at 6:30 p.m.

Attendees: Commissioner Todd Citron
Commissioner John Carter
Commissioner Bruce Ford
Commissioner Leslie McRoberts
General Manager Justin Clary
Asst. General Manager/District Engineer Bill Hunter
Operations & Maintenance Manager Brent Winters
Recording Secretary Rachael Hope
District Legal Counsel Bob Carmichael
Consulting Engineer Melanie Mankamyer

Excused Absences: Commissioner Laura Abele

Also in attendance was former Commissioner and District customer Don Oehler.

Changes to Agenda
Clary requested the addition of Agenda Item 9, an Executive Session. Commissioner Ford requested discussion regarding the Post Point Treatment Plant be added to the agenda. The Board agreed.

Consent Agenda

Action Taken
McRoberts moved, Ford seconded, approval of:

- **Meeting Notes from the 03/27/2018 Board Meeting**
- **Accounts Payable Vouchers totaling $115,312.03.**
- **Payroll for Pay Period #08 (03/23/2019 through 04/05/2019) totaling $42,355.50.**
- **Payroll Benefits for Pay Period #08 totaling $49,869.46.**

Motion passed.

Commissioner Protocol Manual Review
Clary recalled that the board performed an initial review of the Commissioner Protocol Manual during its regularly scheduled March 27 meeting. During this review, the board identified an incomplete

sentence at the end of Section 4.03 and requested revision to Section 7.10 pertaining to meeting attendance via speakerphone, and to clarify the policy on Commissioner eligibility for compensation when attending a meeting remotely. Discussion followed.

Action Taken

McRoberts moved, Ford seconded, to approve the Lake Whatcom Water and Sewer District Commissioner Protocol Manual, as presented. Motion passed.

Other Business

Post Point Water Treatment Plant

Commissioner Ford briefed the board on topics he wished to address at an upcoming meeting scheduled with City of Bellingham staff. The meeting is for a make-up presentation regarding plans for the Post Point Water Treatment Plant project since he was unable to attend the February 27, 2019 regular meeting when the original presentation occurred. Discussion followed.

Whatcom County Boundary Review Board

District constituent Don Oehler provided information to the Board about his seat on the Whatcom County Boundary Review Board, including the purpose and activities of the Review Board. Discussion followed.

General Manager's Report

Clary updated the Board on several topics, including the open Maintenance Worker I position and collaboration with the County on projects scheduling with the goal of mitigating impacts to citizens. Discussion followed.

Public Comment

Mankamyer noted that Evergreen Rural Water has now officially rolled out their apprentice program and further details are available on their website.

Executive Session – 30 Minutes

Citron recessed the Regular Session to Executive Session at 7:32 p.m. It was estimated that the Executive Session would take about 30 minutes. There were multiple purposes for this Executive Session:

- *Executive Session Per RCW 42.30.140(4)(b): Planning or adopting strategy or position to be taken by the governing body during the course of any . . . grievance or mediation proceedings*
- *Executive Session Per RCW 42.30.110(1)(a)(i): Discuss with legal counsel "potential litigation."*
- *Executive Session Per RCW 42.30.110(1)(f): To evaluate complaints brought against a public employee.*
- *Executive Session Per RCW 42.30.110(1)(g): To review the performance of a public employee.*

Citron recessed the Executive Session and reconvened the Regular Session at 8:00 p.m.

Executive Session – 10 Minutes

Citron re-recessed the Regular Session to Executive Session at 8:00 p.m. It was estimated that the Executive Session would take about 10 minutes. There were multiple purposes for this Executive Session:

- *Executive Session Per RCW 42.30.140(4)(b): Planning or adopting strategy or position to be taken by the governing body during the course of any . . . grievance or mediation proceedings*
- *Executive Session Per RCW 42.30.110(1)(a)(i): Discuss with legal counsel "potential litigation."*
- *Executive Session Per RCW 42.30.110(1)(f): To evaluate complaints brought against a public employee.*
- *Executive Session Per RCW 42.30.110(1)(g): To review the performance of a public employee.*

Citron recessed the Executive Session and reconvened the Regular Session at 8:09 p.m.

With no further business, Citron adjourned the Regular Session at 8:09 p.m.

_____ _____

Recording Secretary, Rachael Hope Date Minutes Approved

_____ _____

Laura Weide Todd Citron

_____ _____

Bruce R. Ford Leslie McRoberts

_____

John Carter

AGENDA BILL Item 5.A	**Staff Presentation Cathodic Protection Inspection**			
DATE SUBMITTED:	April 18, 2019	MEETING DATE:	April 24, 2019	
TO: BOARD OF COMMISSIONERS		FROM: Brent Winters		
GENERAL MANAGER APPROVAL				
ATTACHED DOCUMENTS		1. none		
TYPE OF ACTION REQUESTED		RESOLUTION ☐	FORMAL ACTION/ MOTION ☐	INFORMATIONAL /OTHER ☒

BACKGROUND / EXPLANATION OF IMPACT

This is a placeholder for an operations staff presentation regarding the findings of cathodic protection inspection of District reservoirs.

FISCAL IMPACT

Not applicable.

RECOMMENDED BOARD ACTION

No action.

PROPOSED MOTION

Not applicable.

AGENDA BILL Item 5.B	**Resolution No. 858 Cross-Connection Control Program Update**			
DATE SUBMITTED:	April 16, 2019	MEETING DATE:	April 24, 2019	
TO: BOARD OF COMMISSIONERS		FROM: Justin Clary, General Manager		
GENERAL MANAGER APPROVAL				
ATTACHED DOCUMENTS		1. Resolution No. 858		
		2. Revised Cross-Connection Control Program		
TYPE OF ACTION REQUESTED		RESOLUTION ☒	FORMAL ACTION/ MOTION ☐	INFORMATIONAL /OTHER ☐

BACKGROUND / EXPLANATION OF IMPACT

As a purveyor of drinking water to the public, the District is required to follow rules and regulations that meets Washington State drinking water standards and prevents contamination of the public water system. One such requirement is the adoption and implementation of a cross-connection control program that meets Washington State Department of Health (DOH) requirements. A "cross-connection" is a *physical arrangement whereby a public water system is connected, either directly or indirectly, with any other water system that may be capable of imparting contamination to the public water supply system as a result of backflow.*

The District has a longstanding policy related to cross-connection control, with original policy created via adoption of Resolution No. 227 in 1978. Since that time, the District has created and adopted revisions to a cross-connection control program that have aligned with District policy and current regulations. The last revision to the District's cross-connection control program was completed via adoption of Resolution No. 784 in 2011. As it has been a number of years since the last revision to the cross-connection control program, District staff have completed a revision to District's program that aligns with DOH requirements.

FISCAL IMPACT

No fiscal impact is anticipated associated with the adoption of this resolution.

RECOMMENDED BOARD ACTION

Staff recommends revision of the District's cross-connection control program via adoption of Resolution No. 858.

PROPOSED MOTION

A recommended motion is:

"I move to adopt Resolution No. 858, as presented."

LAKE WHATCOM WATER AND SEWER DISTRICT
RESOLUTION NO. 858

A Resolution of the Board of Commissioners Updating the Cross-Connection Control Program

WHEREAS, it is the responsibility of a water purveyor to provide water to the customer at the meter that meets Washington State water quality standards; and

WHEREAS, it is the water purveyor's responsibility to prevent the contamination of the public water system from the source of supply (i.e., to the customer's connection to the service pipe or meter); and

WHEREAS, it is a requirement of the Washington State Department of Health (DOH) for a purveyor to establish a cross connection-control program satisfactory to DOH; and

WHERAS, cross-connections within the customer's plumbing system pose a potential source for the contamination of the public water supply system; and

WHEREAS, the District has a longstanding cross-connection control policy; to wit:

Resolution No. 227 adopted in 1978 establishing a cross-connection control policy that adopted state standards for water supplies and cross-connection control regulation; and

Resolution No. 784 adopted in 2011 establishing a policy concerning the potential cross-connections and pressure reducing valves; and

WHEREAS, the District's Cross-Connection Control Program is adopted by reference in Section 8.8 of the District Administrative Code; and

WHERAS, based upon advances in technology and revisions to applicable laws and regulations since the last update to the Cross-Connection Control Program, the Board deems that it is in the public interest of the District to revise its Cross-Connection Control Program; and

WHEREAS, the foregoing recitals are a material part of this Resolution;

NOW, THEREFORE, BE IT RESOLVED by the Board of Commissioners of the Lake Whatcom Water and Sewer District, Whatcom County, Washington as follows:

Section 1. Section 8.8 of the District Administrative Code is repealed and replaced with the following:

8.8 Cross-Connection Control Program

The Lake Whatcom Water and Sewer District Cross-Connection Control Program is hereby included into this Code by reference. The Cross-Connection Control Program may be reviewed

at the District office located at 1220 Lakeway Drive, Bellingham, Washington, during normal business hours and is available on the District website.

Section 2. Exhibit A attached hereto shall be the effective revision of the Lake Whatcom Water and Sewer District Cross-Connection Control Program.

Section 3. Any resolutions or parts of resolutions in conflict herewith are hereby repealed insofar as they conflict with the provisions of this Resolution.

Section 4. If any section, subsection, sentence, clause or phrase of this Resolution is for any reason held to be invalid or unconstitutional, such decision shall not affect the validity of the remaining portions of this Resolution. The Board of Commissioners hereby declare that it would have passed this code and each section, subsection, sentence, clause and phrase thereof, irrespective of the fact that any one or more sections, subsections, sentences, clauses or phrases has been declared invalid or unconstitutional, and if, for any reason, this Resolution should be declared invalid or unconstitutional, then the original Resolution or Resolutions shall be in full force and effect.

Section 5: This Resolution shall be effective immediately.

ADOPTED by the Board of Commissioners of Lake Whatcom Water and Sewer District, Whatcom County, Washington, at a regular meeting thereof, on the 24th day of April, 2019.

_____	_____
Laura Abele, Commissioner	Todd Citron, Commissioner
_____	_____
Bruce Ford, Commissioner	Leslie McRoberts, Commissioner
_____	_____
John Carter, Commissioner	Approved as to form, District legal counsel

CROSS-CONNECTION CONTROL PROGRAM

LAKE WHATCOM WATER & SEWER DISTRICT

Adopted April 12, 1978 (Resolution No. 227)
Revised November 30, 2011 (Resolution No. 784)
Revised April 24, 2019 (Resolution No. 858)

LAKE WHATCOM WATER & SEWER DISTRICT
1220 LAKEWAY DRIVE
BELLINGHAM, WASHINGTON 98229

CROSS-CONNECTION CONTROL PROGRAM

LAKE WHATCOM WATER & SEWER DISTRICT

The material and data in this report were prepared under the supervision and direction of the undersigned.

LAKE WHACOM WATER & SEWER DISTRICT

_____

Rich Munson
Program Administrator

_____

Justin Clary, PE
General Manager

CONTENTS

ACRONYMS AND ABBREVIATIONS

ASSE	American Society of Sanitary Engineering
AWWA	American Water Works Association
BAT	backflow assembly tester
DCDA	double check detector assembly
DCVA	double check valve assembly
District	Lake Whatcom Water and Sewer District
DOH	Washington State Department of Health
Program	District Cross-Connection Control Program
psi	pounds per square inch
RPBA	reduced pressure backflow assembly
WAC	Washington Administrative Code

1 INTRODUCTION

The Lake Whatcom Water and Sewer District (District), in its operation of four (4) potable water systems (South Shore, North Shore – Eagleridge, North Shore – Agate Heights, and Johnson Well), is required to ensure protection of public health through the provision of minimum requirements and standards for design, construction, operation, and maintenance of its systems. It is essential that physical cross-connections, which create or have potential to create an imminent and substantial danger to public health, be eliminated from the distribution system and plumbing system of customers. Backflow can result in potable water systems becoming a transmitter of disease, toxic materials, and other hazardous liquids. Therefore, it is necessary to establish and maintain this Cross-Connection Control Program (Program) to protect the health of water customers by the control of actual and/or potential cross-connection through methods of containment and/or isolation.

1.1 Authority

Washington Administrative Code (WAC) 246-290-490 requires public water supply systems to establish a routine cross-connection control program for the purpose of detecting and preventing cross-connections that create or have the potential to create an imminent and substantial danger to public health by and from contamination due to the cross-connection. Upon detection of a prohibited cross-connection, both community and non-community water systems shall either eliminate the cross-connection by installation of an appropriate backflow prevention assembly acceptable to the water purveyor or discontinue service until the contaminant source is eliminated. Such a program shall be developed utilizing accepted practices of the American Water Works Association (AWWA) guidelines as set forth in AWWA Manual M14, *Backflow Prevention and Cross-Connection Control Recommended Practices* (AWWA, 2015).

1.2 Purpose

The intent of this Program is to provide for the permanent abatement or control, by way of backflow prevention, of all cross-connections in the District's systems, as required by WAC 246-290-490. When it is deemed necessary by the District's Program Administrator, there will be installed, at a customer's service connection, an approved backflow prevention assembly commensurate with the degree of health hazard to the water supply.

1.3 Definitions

Air Gap Separation An unobstructed vertical distance through which the free atmosphere between the lowest opening from any pipe or faucet supplying water to a tank, plumbing fixture, or other assembly and the flood rim of the receptacle, and shall be at least double the diameter of the supply pipe measured vertically above the flood level rim of the vessel. In no case shall the gap be less than one (1) inch. This gap shall also be above the established 100-year flood level.

Auxiliary Water Supply Any water supply on or available to the premises other than the District's approved public potable water supply. These auxiliary water supplies may include water from another purveyor's public water supply or any natural source(s) such as a well, spring, lake, river, stream, harbor, etc., or "used waters" or "industrial fluids." These waters may be polluted, contaminated, or may be objectionable and constitute an unacceptable water source over which the District does not have sanitary control.

Backflow The flow of water or other liquids, mixtures or substances into the distribution pipes of a potable supply of water from any source or sources other than its intended source.

Backflow Assembly Tester A person who is certified by the Washington State Department of Health to test backflow prevention assemblies.

Back Pressure Backflow caused by a pump, elevated tank, boiler, or other means that could create pressure greater than the supply pressure.

Back Siphonage Backflow due to a negative or sub-atmospheric pressure within a water system.

Backflow Prevention Assembly An assembly to counteract back pressure or prevent back siphonage.

Backflow Prevention Assembly – Approved The term approved backflow prevention assembly shall mean an assembly that has met the requirements of the Manual of Cross Connection Control published by the University of Southern California Foundation for Cross-Connection Control and Hydraulic Research (USC, 2011).

Check Valve A generic term used for a variety of valves that specifically allow flow in one direction only. A check valve in an approved assembly must be an approved check valve that is drip tight in the normal direction of flow when the inlet pressure is at least one (1) pound per square inch (psi).

Consumer's Water System Any potable and/or industrial water system that begins at the point of delivery from the District water meter or connection and is located wholly or partially on the customer's premises.

Containment A method of controlling potential and/or confirmed cross-connections by installation of a *double check valve assembly* or a *reduced pressure principle backflow prevention assembly.*

Contaminant Any substance present in drinking water that may adversely affect the health of the consumer or the aesthetic qualities of water.

Cross-Connection Any physical arrangement whereby a public water supply system is connected, directly or indirectly, with any other water supply system, sewer, drain, conduit, pool, storage reservoir, plumbing fixture, or other assembly which contains or may contain contaminated water, sewage, or other waste or liquid of unknown or unsafe quality, which may be capable of imparting contamination to the public water supply system as a result of backflow. Bypass arrangements, jumper connections, removable sections, swivel or change-over assemblies, or any other temporary

or permanent assembly's through which or because of which backflow could occur are considered to be cross-connections.

Cross-Connection Control Specialist An individual certified by Washington State and approved by the District to administer a cross-connection control program and to conduct cross-connection surveys.

Customer Any person or organization who receives water from the District.

Customer's System The water piping system located immediately downstream from the District's water meter or service connection.

Distribution System The network of pipes and other facilities that are used to distribute water from the source, treatment, and transmission, or storage facilities to the customer.

Double Check Detector Assembly An assembly composed of two double check valve assemblies, set in parallel, equipped with a meter on the bypass line to detect small amounts of water leakage or use.

Double Check Valve Assembly An assembly composed of two single, independently acting check valves, including tightly closing shutoff valves located at each end of the assembly and suitable connections for testing the water tightness of each check valve.

Health Hazard Any conditions, assemblies, or practices in a water supply system or in its operation which create or may create a danger to the health and well-being of the water consumer.

Isolation A method of controlling potential and/or confirmed cross-connections by installation of an air gap separation or a vacuum breaker.

Local Administrative Authority The local official, board, department, or agency authorized to administer and enforce the provisions of the Uniform Plumbing Code, as adopted under Chapter 19.27 Revised Code of Washington.

Mobile Unit A "mobile unit" shall mean any unit connecting to the water system through a hydrant, hose, bib, or other appurtenance of a permanent nature that is part of the District water system or a permanent water service to a premise. Examples can include but are not limited to the following: water trucks, pesticide applicator vehicles, chemical mixing units or tanks, waste hauling trucks or units, sewer cleaning equipment, carpet or steam cleaning equipment other than homeowner use, rock quarry or asphalt/concrete batch plants, or any other mobile equipment or vessel. Uses that are excluded from this definition are recreational vehicles at assigned sites or parked in accordance with District regulations, and homeowner devices that are used by the property owner in accordance with other provisions of this Program pertaining to provision of water service to a premise.

Potable Water Water that is safe for human consumption and free from harmful or objectionable materials.

Public Water Supply Any system or water supply intended or used for human consumption or other domestic use, including source, treatment, storage, and distribution where water is furnished to any community, collection or number of individuals, or is made available to the public for human consumption or domestic use, but excluding supplies serving one single-family residence.

Reduced Pressure Backflow Prevention Assembly An assembly incorporating two or more check valves and an automatically operating differential relief valve located between the two check valves, two shutoff valves and equipped with necessary appurtenances for testing. The assembly shall operate to maintain the pressure in the zone between the two check valves, less than the pressure of the public water supply side of the assembly even at cessation of normal flow. In the case of leakage of either check valve, the differential relief valve shall operate to maintain this reduced pressure by discharging to the atmosphere. When the inlet pressure is two pounds per square inch or less, the relief valve shall open to the atmosphere, thereby providing an air gap in the assembly. This air gap shall also be above the 100-year flood level.

Thermal Expansion The pressure increase due to the rise in water temperature.

1.4 General Policy

1. In order to provide for an orderly and adequate means of backflow prevention, the District has adopted Resolution No. 858, which establishes the requirements herein for the protection of its distribution systems as (see Appendix A). New water service connections will be installed, and existing water service connections will be modified to conform to these requirements where applicable.
2. The District's responsibility for backflow prevention will begin at the water supply source and include all water treatment, storage, and distribution facilities. The District's responsibility ends at the point of delivery to the consumer's water system, which begins at the downstream end of the District's service connection water meter located within the public right-of-way or District-held easement.
3. Under provisions in WAC 246-290-490, the District is not responsible for eliminating or controlling cross-connections within the consumer's water system (plumbing). That responsibility falls under the jurisdiction on of the local administrative authority that is authorized to administer and enforce the Uniform Plumbing Code (Whatcom County).
4. The District's water supply to any premise listed in WAC 246-290-490(4)(b)(iii)(Table 9) will require an approved air gap or an approved reduced pressure backflow assembly (RPBA) at the end of the service connection, prior to any branch connections, on the customer's side of the property line. These premises include, but are not limited to:
    - Agricultural (farms and dairies)
    - Beverage bottling plants
    - Car washes
    - Chemical plants

- Commercial laundries and dry cleaners
- Premises where both reclaimed water and potable water are provided
- Film processing facilities
- Food processing plants
- Hospitals, medical centers, nursing homes, veterinary, medical and dental clinics, and blood plasma centers
- Premises with separate irrigation systems using the purveyor's water supply and with chemical addition (for example, parks, playgrounds, golf courses, cemeteries, estates, etc.)
- Laboratories
- Metal plating industries
- Mortuaries
- Petroleum processing or storage plants
- Piers and docks
- Radioactive material processing plants or nuclear reactors (RPBAs for connections serving these premises are acceptable only when used in combination with an in-plant approved air gap; otherwise the District will require an approved air gap at the service connection)
- Survey access denied or restricted
- Wastewater lift stations and pumping stations
- Wastewater treatment plants (RPBAs for connections serving these premises are acceptable only when used in combination with an in-plant approved air gap; otherwise the District will require an approved air gap at the service connection)
- Premises with an unapproved auxiliary water supply interconnected with the potable water supply (Customers with permit-exempt wells may choose to either decommission the well in accordance with Washington State Department of Ecology standards, or install RPBAs at all service connections where the well, or piping from the well, is interconnected with the District's system. Similarly, customers with direct draw piping from any surface water body shall install RBPAs at all service connections where the direct lake draw piping is interconnected with the District's system.)
- Premises with fire suppression systems that include chemical injection devices and/or booster pumps (flow through systems are exempt)

5. Backflow prevention requirements for single family residences, when applicable, will comply with the following:
    - The type of backflow prevention required will provide a level of protection commensurate with the degree of the cross-connection hazard:

- Backflow prevention assemblies will be installed according to District specifications;
- Assemblies are installed, inspected, and tested in accordance with WAC 246-290-490; and
- Backflow preventer must be installed when outdoor water use (irrigation, etc.) systems are installed.

6. Any mobile unit or apparatus which uses the water from any premise within the District's water system shall first obtain authorization from the District and be inspected annually to assure appropriate backflow protection is installed; backflow assemblies installed on mobile units must also be tested annually by a certified backflow assembly tester
7. All temporary connections will be required to have cross-connection protection; the type of protection required will be determined on a case-by-case basis by the District

2 PROGRAM OBJECTIVES

The objectives of this Program are to:

1. Reasonably reduce the risk of contamination of the public water distribution systems; and
2. Reasonably reduce the District's exposure to legal liability arising from the backflow of any contaminant originating from the customer's plumbing system and then supplied to other customers.

2.1 Summary of Program Decisions

The following table summarizes the major policy and program decisions adopted for the **Lake Whatcom Water and Sewer District** water systems. The items in the table represent cross-connection control program areas that have more than one acceptable approach or option.

Decision Item	Decision
1. Type of Program [General, WAC 246-290-490(2)(e)]	
a. Premises isolation only [WAC 246-290-010]	No
b. Premises isolation and in-premises protection (combination program) [WAC 246-290-010]	Yes
2. Extent of Coordination with Local Administrative Authority [WAC 246-290-490(2)(d)]	
a. Information exchange	Yes
b. Interaction	No
c. Joint program	No

Decision Item	Decision
3. Relationship with Customer [Element 1]	
a. Signed service agreement or contract	No
b. Ordinance/resolution; implied service agreement	Yes
4. Enforcement of Corrective Action [Element 1]	
a. Rely upon shut-off of water service	Yes
b. Rely upon District-installed premises isolation	No
5. Assessment and Re-assessment of Hazard [Element 2]	
a. By District's staff or equivalent	Yes
b. By cross-connection control specialist (CCS) employed by customer; report reviewed by District's CCS	Yes
6. Location and Ownership of Premises Isolation Assembly [Element 3]	
a. On District's service line	No
b. On customer's service line	Yes
7. CCS Option – District's Program Management [Element 4]	
a. District's staff member certified	Yes
b. Inter-agency agreement or use other agency's CCS	No
c. Contract with consultant CCS	No
8. Testing of Assemblies [Element 5]	
a. By District's staff or District-employed backflow assembly tester (BAT)	No
b. By customer-employed (contractor) BAT	Yes
9. Cost Recovery [WAC 246-290-100(4)(h) and -105(4)(p)]	
a. Borne by all customers (general water rates)	Yes
b. Assessed to specific class (commercial meters)	No
c. Each customer directly bears cost	No

3 PERSONNEL

3.1 Program Administrator

The Cross-Connection Control Manager (Administrator) is responsible for organizing and implementing the District's program. The Administrator will hold a valid Washington State Cross-Connection Control Specialist certification, be experienced in water works operations, and have specific training through recognized courses and seminars in cross-connection control and backflow prevention. Duties include the initial screening of all service applications and determination of the need for the proper backflow prevention assembly; issuing correspondence to customers; record keeping for the program; periodic review of customer premises and/or consumption patterns, to assure that all cross-connections are controlled; initiation of enforcement action; response to contamination events; investigation; and communication with state health authorities.

3.2 Cross-Connection Control Specialist

This person must hold a valid Washington State Cross-Connection Control Specialist certification in accordance with WAC 246-290-490. Duties include plan review; initial and repeat survey of facilities; review of tests done by a certified Backflow Assembly Tester (BAT); recommendation of installation standards and procedures required for premise isolation; recommendation of material for public education; input test and assembly data into computer data base; and assist the program administrator. All District operations staff with current Washington State cross-connection control certification serve, as needed, in the role of Cross-Connection Control Specialist.

4 ENFORCEMENT

The District may immediately terminate water service, require disconnection of a cross-connection, and/or impose fines when the District determines that a health hazard, or potential health hazard, exists. An example of a health hazard is an uncontrolled potential, direct or indirect cross-connection, and/or a cross-connection that is not controlled commensurate with the degree of health hazard.

Advanced notification will be provided before any of the above measures are taken, unless the degree of hazard, or potential degree of hazard, is so severe that it could cause immediate contamination and/or health threat. The following circumstances may result in termination of water service, the imposition of a fine, or both:

- Refusal to install a backflow prevention assembly when required by the District, or the Washington State Department of Health (DOH)
- Failure to replace an improper type, and/or failure to replace or repair a defective or improperly installed backflow prevention assembly
- Failure to have the backflow prevention assembly tested and/or inspected per District requirements
- Existence of a high-health hazard cross-connection, to the District's system, that is not protected with the appropriate backflow prevention assembly
- Refusal to allow inspection of the premises

In the case of application for water service, the service will not be granted if the District determines that any of the above conditions exist.

Prior to taking action to disconnect or deny service to a premise, the appropriate local administrative authority (Whatcom County Department of Health) and/or Whatcom County Fire Marshal will be notified.

In the event that the water service is terminated and/or the meter removed, then the service will not be resumed nor the meter reinstalled until the customer has complied with the Program requirements, and paid any then delinquent rates, charges or fines. In addition, the customer will have paid the District's standard turn-on and/or meter re-installation charges. The cost of disconnection by the District, as established in the District's Master Fees and Charges Schedule, will be charged to the property, and payment enforced in the same manner as for other rates and charges.

Customers who remain out of compliance for two (2) months will be subject to disconnection and will remain disconnected until compliance is met. The foregoing remedy for violations will not be exclusive. The District, the DOH, and/or other regulatory agencies will be entitled to enforce this Program and the applicable regulations in any manner available by law.

The District will not be held liable for damages nor will allowances be made for loss of production, sales or services, or any other consequential damages arising from the implementation of any of the measures required by and/or contained in this Program.

4.1 Authority to Abate Cross-Connection

In the event the cross-connection is not abated within the prescribed time, water service to the premises will be discontinued immediately. Or, if the General Manager or designated representative determines that the service should not be interrupted, the District may hire a contractor to abate the cross-connection by means of installing an approved backflow prevention assembly. In such event, the District will bill the property owner for all costs and administration incurred in accordance with the current Master Fees and Charges Schedule.

5 CROSS-CONNECTION CONTROL PROGRAM HEALTH HAZARD EVALUATION

A. Non-residential (commercial/industrial/government) services are considered to have the greatest potential for adverse health hazard cross-connections to exist within their plumbing systems and are therefore, assessed as high health hazard risks. As such, all non-residential customers are required to install RPBAs, at a location just downstream of their service meter, in order to achieve premise isolation. Cross-connection control health hazard surveys (see Appendix B) will only be conducted for residential customers.

   The District will conduct health hazard evaluations at and/or within customer premises, where plumbing systems are mostly visible, to assure that either no direct or indirect cross-connections exist or that if they do exist, they are protected by a backflow prevention assembly commensurate with the assessed degree of health hazard. If, at the sole discretion of District's Program Administrator, plumbing systems are not adequately visible for thorough inspection, even though no apparent cross-connection is visible, protection by a

backflow prevention assembly commensurate with the assessed degree of health hazard will be required.

Upon the initiation of a health hazard evaluation, the District will contact the customer/owner, and an appointment to meet the owner or representative at the premises will be made. At this time, the District's conditions for service, the regulations regarding cross-connections, and the customer's responsibility to install a proper backflow prevention assembly, if needed, will be explained to the customer.

B. The customer should be reminded that the evaluation of the premises is for the sole purpose of establishing the District's minimum requirements for the protection of the public water supply system, commensurate with the District's assessment of the degree of health hazard. It is not to be assumed by the customer or other regulatory agencies, that the District's backflow prevention assembly survey requirements, or other actions by District personnel, constitutes an approval of the customer's plumbing system, or an assurance to the customer of the absence of cross-connections therein.

C. The District's Program Administrator will establish the priority of its health hazard evaluations and/or repeat surveys of premises based on the risk management policies established by the District, and the minimum requirements imposed by DOH.

In accordance with DOH regulations (WAC 246-290-490), and the AWWA's Manual for Backflow Prevention and Cross-Connection Control Recommended Practices (AWWA, 2015), the Administrator will establish standards and procedures governing the application, installation, approval and testing of backflow prevention assemblies, and other related tasks. The Administrator may also establish such other more stringent requirements deemed necessary to reduce the risk of contamination of the public water supply system.

D. The systematic program of health hazard evaluations will be established with priority given on the basis of risk to public health and will be outlined as follows:

New Construction

- Upon application for water service permit, the customer will be informed of the appropriate backflow prevention assembly installation and testing requirements.
- Before water service commences, a completed successful test of the assembly and a proper report from a Washington State-certified BAT must be received by the District.

Existing Premises

- All existing premises will be listed by category, on a priority basis for surveying, as needed, based upon the risk assessment. After the initial prioritizing, a list of repeat surveys will be established, and the list will be followed, except in circumstances that require a special survey such as a response to a water quality complaint.
- An authorized District Cross-Connection Control Specialist will conduct the initial health hazard evaluation of the premise.

- Upon completion of the initial premise health hazard evaluation the Cross-Connection Control Specialist will brief the Program Administrator of the findings.
- The Program Administrator will issue the evaluation report and a compliance letter to the property owner if a backflow prevention assembly is needed.
- Approved backflow prevention assemblies must be installed under the following time frame:
  - Low-Health Hazard - 30 days
  - High-Health Hazard - 10 days
  - Severe-Health Hazard - immediately
- Upon the date that corrective action was to have been completed, the Program Administrator will ensure that corrective actions have been completed in accordance with District requirements. If corrective actions have not been completed, the Administrator will issue a compliance-warning letter with a new corrective action completion date. Upon the final compliance date, the Administrator will ensure the corrective actions have been completed. If they have not been completed, the Administrator will issue a termination door hanger and notify the local administrative authority (Whatcom County Health Department).
- All copies of correspondence, test results, and completed actions will be placed in the cross-connection control file for that premise. Records will be kept for a minimum of five (5) years, or as long as the backflow prevention assembly remains in service.
- Evaluations will be completed at least annually, or more often if the degree of hazard so dictates.

5.1 Hazard Evaluation Procedure

Evaluation of hazards will be conducted as follows:

1. Send the "On Site Cross-Connection Health Hazard Evaluation Scheduling" letter to customer.
   - If customer responds to the letter, schedule an evaluation and proceed with Step No. 3.
   - If no response to this letter, proceed with Step No. 2.
2. Send the "On Site Cross-Connection Health Hazard Evaluation Scheduling – Final Notice" letter.
   - If customer responds to the letter, schedule an evaluation and proceed with Step No. 3.
   - If the customer does not respond to this letter, the customer's service will be subject to disconnection.
3. Meet the customer on-site and conduct the health hazard evaluation of customer's premise. Take notes and if necessary make a sketch. Fill out health hazard evaluation report form. Proceed with Step No. 4.

4. Send confirmation of health hazard evaluation assessment results to customer.
    - If no corrective action is needed, attach letter informing customer.
    - If corrective action is needed, attach a letter informing customer of the requirements and timeline. Proceed with Step No. 5.
5. Obtain the initial backflow prevention assembly test report and enter information into the Program database for annual testing compliance tracking. If the customer fails to have the backflow prevention assembly tested, proceed with Step No. 6.
6. Follow-Up with the "Backflow Prevention Assembly Testing – Second Notice" letter.
    - If customer responds to this letter, schedule a follow-up evaluation. Obtain the backflow prevention assembly test report(s) and enter information into the Program database.
    - If the customer does not respond to this letter, proceed to Step No. 7.
7. Send the "Backflow Prevention Assembly Testing – Final Notice" letter.
    - If customer responds to this letter, schedule a follow-up evaluation. Obtain the backflow prevention assembly test report(s) and enter information into the Program database.
    - If no response to this letter, the customers' service will be disconnected.

When a customer's service is subject to disconnection, a door hanger will be placed at the property, notifying the customer that their water will be shut off in five (5) days. At that time, the customer has the option of complying with the District's direction or having their service disconnected. Water service will remain disconnected until the customer complies with District requirements. As per WAC 246-290-490, the appropriate local administrative authority (Whatcom County Health Department) will be notified prior to taking any action.

6 BACKFLOW PREVENTION ASSEMBLY TESTING

All backflow prevention assemblies will be tested upon installation, after repair or relocation, and at a minimum, at least annually. The District will notify cross-connection customers each year that an annual test of their backflow prevention assembly is required. The test must be completed, and the associated test report must be received at the District.

A. It is the cross connection customer's responsibility to assure that the test report has been received by the District. The District will not acknowledge that a test has been completed until the test report has been received.

B. A BAT, holding a valid Washington State BAT certification is required to complete all testing of backflow prevention assemblies. Testers will be required to furnish current DOH certification and verification of test equipment calibration to the District, prior to the

District's acceptance of backflow prevention assembly test reports. All test reports will be furnished on a form provided by, or one acceptable to the District. Test results will be compared with previous results for the specific assembly, and with statistical results for the type, make and model of assembly.

C. Certified backflow assembly testers must submit, at least annually, written verification of the calibration accuracy of the test equipment and of the calibration equipment.

D. Each customer will have, at least, 30 days after notification in which to complete the test and assure that the District has received the test report reflecting passing results.

E. The customer will be responsible for the replacement or repair of the backflow prevention assembly if the assembly fails to test satisfactorily.

6.1 Previously Installed Assemblies

Backflow prevention assemblies that were approved at the time of installation but are not on the current list of approved assemblies will be permitted to remain in service provided they are maintained; are commensurate with the degree of hazard; are tested at least annually; and perform satisfactorily.

- Backflow prevention assemblies in service but not currently listed, as an approved assembly will be replaced by an assembly on the current list of approved assemblies if the not-currently listed assembly is relocated or requires more than minimum maintenance to successfully pass the annual test.
- If a water system protected by a backflow prevention assembly is modified to include components or additives requiring a higher level of protection against backflow, the backflow prevention assembly will be replaced with an approved assembly appropriate for the degree of hazard.

6.2 Annual Backflow Prevention Assembly Testing Notice Procedure

Annual backflow prevention assembly testing notification will be conducted as follows:

1. Send "Annual Backflow Prevention Assembly Testing" letter two (2) months before due date.
   - As customers complete their tests and test reports are received, enter the test results into the Program database. Ensure that any backflow prevention assembly that has been replaced is on the list of approved assemblies.
   - If no response to this letter, proceed to Step No. 2.
2. Send "Backflow Prevention Assembly Testing – Second Reminder Notice" letter.
   - As customers complete their tests and test reports are received, enter test results into Program database. Ensure that any backflow prevention assembly that has been replaced is on the list of approved assemblies.

- If no response to this letter, proceed to Step No. 3.

3. Send "Backflow Prevention Assembly Testing – Third and Final Reminder Notice" letter.
   - If customer responds to the letter, obtain the test report for the backflow prevention assembly and enter into Program database. Ensure that any backflow prevention assembly that has been replaced is on the list of approved assemblies.
   - If no response to letter, the customers' service will be disconnected.

When a customer's service is subject to disconnection, a door hanger will be placed at the property, notifying the customer that their water will be shut off in five (5) days. At that time, the customer has the option of complying with the District's direction or having their service disconnected. Water service will remain disconnected until the customer complies with District requirements. As per WAC 246-290-490, the appropriate local administrative authority (Whatcom County Health Department) will be notified prior to taking any action.

7 RECORDS AND REPORTS

An adequate record system is essential for the operation of a backflow prevention program. These records form the basis for any enforcement action by or legal defense of the District, as well as giving a basis for comparing test results of different backflow assemblies. The Program Health Hazard Evaluation File will consist of:

A. A separate file will be established for each individual customer that requires the installation of a backflow prevention assembly.

B. The following information will be maintained in each file:
   - Copies of all cross-connection control correspondence with the customer
   - Copy of health hazard evaluation reports complete with field drawings
   - Copies of backflow prevention assembly test reports for all assemblies

C. All backflow prevention assembly test report forms will be entered into the XC2 program that tracks assembly testing and dates of tests.

D. Backflow prevention assemblies that are replaced will be double-checked to ensure that they appear on the list of approved assemblies. If they do not appear on the list, the customer will be issued a letter.

E. A master list of service connections and/or customer's premises where approved backflow prevention assemblies protect the water system from contamination, and the assessed hazard of each connection. These records will be kept for as long as the premise poses a cross-connection hazard to the water system.

F. Inventory information on:

- Approved air gaps installed in lieu of approved assemblies, including exact location, assessed hazard, installation date, history of health hazard evaluations, inspection results, and person conducting inspections
- Approved backflow prevention assemblies including exact location, assembly description (type, manufacturer, model, size and serial number) assessed hazard, installation date, history of health hazard evaluations, tests and repairs, test results, and the BAT performing the tests
- These records will be kept on file for the life of the backflow prevention assembly

G. An annual Cross-Connection Control Summary report and Backflow Incident report will be made available to DOH upon demand. This report will describe the status of the District's backflow prevention program as well as any backflow incidents that occurred. These records will be kept on file for a minimum of five (5) years.

8 PUBLIC OUTREACH

8.1 Consumer Education

Public education is a very important aspect of this Program. Premises with a low priority for a cross-connection control hazard survey (see Appendix B), such as single family residential homes, may never be surveyed. Customers are provided with informational brochures describing cross-connection hazards in homes and the recommended assemblies that are to be installed by the homeowner to reduce the hazards. Public education explains the necessity of the cross-connection control program and prevents misunderstandings.

The District's consumer education will be clear that the information provided is based on its perspective of cross-connection control and the necessary backflow prevention to protect the public water supply, and that the customer has the obligation to comply with these requirements.

8.2 Customer Information Packet

Information on the District's cross-connection control program is available to all customers, both as hard copies and on the District's website. The priority for handing out the packet, including an introductory letter, will be determined from the risk assessment done by the Program Administrator.

Customers applying for water service from the District will be given a New Customer Information Packet, which includes information regarding the District's Program and backflow prevention requirements (Appendix C).

9 BACKFLOW PREVENTION ASSEMBLY INSTALLATION

9.1 General Requirements

All backflow prevention assemblies will be listed on the most current list of approved backflow prevention assemblies published by DOH. Installation of backflow prevention assemblies in existing systems will be accompanied by the necessary upsizing of the system to assure adequate flow capacity for proper operation of the system. Installation requirements include, but are not limited to, the following:

- An assembly more than five (5) feet above the floor or ground level must have a permanent platform under it for the tester or maintenance person to stand on.
- Approved assemblies must be installed at the end of the District's service connection and on the customer side of the property line.
- All approved assemblies installed will be the size, type, and model pre-approved by DOH and the District.
- The model of the assembly and installation plans will be submitted to the District for approval prior to installation.
- When installed in an enclosure, adequate space considerations must be given for proper testing and maintenance as per District specifications.
- Any assembly or assembly with an air inlet or relief port must be installed outside any enclosure or hooded area containing fumes that are corrosive, toxic, or poisonous.
- No part of the approved assembly will be submerged under water, nor installed at a location subject to flooding. If installed in a vault, adequate drainage will be provided. In all cases, whenever access to a vault is required, follow and comply with local, state, and federal safety rules regarding confined space entry. The vault will be large enough for free access for workers to enter for testing and/or repairing the assembly. RPBAs may be installed in a vault only it the relief valve discharge can be drained to daylight through a "bore sight" type drain. The drain will be of adequate capacity to carry the full rated flow of the assembly and will be screened at both ends. An approved air gap will be located on the relief valve.
- Assemblies 2.5 inches and larger will have support blocks to prevent damage to the assembly or piping.
- For installations where 24 hour uninterrupted service is necessary, a parallel assembly shall be provided to permit assembly testing and maintenance. The bypass or parallel backflow prevention assembly must be of the same type as the main line assembly.

- Thoroughly flush the lines before installing the assembly to eliminate debris from the lines that could foul one of the checks or relief port.

9.1.1 Freeze Protection

Backflow prevention assemblies are installed on all types of water services, so it is not always appropriate to shut down a system to drain the assembly to prevent freezing. Backflow prevention assemblies should be protected from freezing and other severe weather, and from accidental physical damage. Experience has shown that freeze damaged assemblies are often damaged beyond repair, so they must be replaced. All backflow prevention assemblies should have provisions for freeze protection.

9.1.2 Thermal Expansion

A backflow prevention assembly placed on a water service can cause thermal expansion. Serious damage could occur to a plumbing system if the pressure and high temperature caused by thermal expansion is not relieved. Excessive water temperature or pressure inside a hot water tank, if not relieved, could cause the tank to explode. The customer's hot water tank and connected plumbing system is normally protected by a temperature/pressure relief valve located at or near the top of the hot water heater. In addition some plumbing codes require a thermal expansion tank to be installed.

9.2 Air Gap Separation Installation Requirements

An air gap separation is designed to prevent backflow caused by both severe and high-health hazard assessments.

An approved air gap is a physical separation between the free flowing discharge end of the District supply line, and the overflow rim of an open or non-pressurized receiving vessel. These separations must be vertically orientated a distance of at least twice the inside diameter of the inlet pipe, but never less than one (1) inch.

An obstruction around or near an air gap may restrict the flow of air into the outlet pipe and nullify the effectiveness in preventing back siphonage. When affected by sidewalls, the vertical separation must be at least three (3) times that of the inside pipe diameter.

9.3 Reduced Pressure Backflow Assembly Installation Requirements

An RPBA is designed to prevent backflow caused by backpressure and back siphonage for both low- and high-health hazard assessments.

The following installation practices are common to all RPBAs and reduced pressure detector assemblies:

1. An RPBA will only be installed in the orientation for which it is approved. Any other configuration may hinder the assembly in preventing backflow.

2. The RPBA must be on the DOH Approved list.
3. The RPBA must be tested upon installation and annually thereafter.
4. The RPBA must be tested if moved or repaired.
5. An RPBA must be installed above ground at a minimum of twelve (12) inches from relief valve opening to ground or flood level.
6. The assembly must be protected from freezing and other severe weather conditions, and from accidental damage.
7. Because of the inherent design of an RPBA, fluctuating supply pressure condition may cause nuisance dripping and potential fouling of the assembly. In a static condition, the zone of reduced pressure between the check valves must be maintained at a pressure of 2.0 pounds per square inch (psi) or greater differential below incoming supply pressure. Depending upon the degree of fluctuating pressure, the assembly may discharge water from time to time.
8. Approved assemblies larger than two (2) inches will have a minimum clearance of twelve (12) inches on the backside and twenty-four (24) inches on the test cock side, twelve (12) inches plus the nominal size of the assembly below the assembly and thirty-six (36) inches above the assembly.

   Assemblies less than two (2) inches will have a minimum clearance of six (6) inches on the backside, twelve (12) inches on the test cock side of the assembly, and twelve (12) inches plus the nominal size of the assembly below the assembly and thirty-six (36) inches above the assembly.

9.4 Double Check Valve Assembly Installation Requirements

A double check valve assembly (DCVA) is designed to prevent backflow caused by backpressure and back siphonage for low health hazard assessments.

The following installation practices are common to all DCVAs:

1. Unless the DCVA has been elevated and approved by the District, it will only be installed in a horizontal configuration. Any other orientation may deter the DCVA from preventing backflow.
2. A DCVA may be installed in a pit below ground. If so, adequate room for testing and maintenance must be provided. Plugs must be installed in the test cocks to reduce the risk of ground water from being siphoned through a leaking test cock. The test cocks must be installed facing up or to one side. Sufficient draining must be provided to prevent the assembly from being submerged.
3. Approved assemblies two (2) inches or larger will have a minimum clearance of six (6) inches on the backside and twelve (12) inches on the test cock side, twelve (12) inches below the assembly and adequate room above the assembly.

Assemblies less than two (2) inches will have a minimum clearance of six (6) inches on the test cock side and (6) inches below the assembly.

4. The DCVA must be on the DOH Approved list.
5. The DCVA must be tested upon installation and annually thereafter.
6. The DCVA must be tested if moved or repaired.
7. The DCVA must be protected from freezing and other severe weather conditions, and from accidental damage.

9.5 Double Check Detector Assembly Installation Requirements

A double check detector assembly (DCDA) is designed to prevent backflow caused by backpressure and back siphonage. They are used for low health hazard assessments on fire lines.

The following installation practices are common to all DCDAs:

1. Unless the DCDA has been elevated and approved by the District, it will only be installed in a horizontal configuration. Any other orientation may deter the DCDA from preventing backflow.
2. A DCDA may be installed in a pit below ground. If so, adequate room for testing and maintenance must be provided. Plugs must be installed in the test cocks to reduce the risk of ground water from being siphoned through a leaking test cock. The test cocks must be installed facing up or to one side. Sufficient draining must be provided to prevent the assembly from being submerged.
3. Approved assemblies larger than two (2) inches will have a minimum clearance of twelve (12) inches on the backside and twenty-four (24) inches on the test cock side, twelve (12) inches plus the nominal size of the assembly below the device and thirty-six (36) inches above the assembly.

   Assemblies less than two (2) inches will have a minimum clearance of six (6) inches on the test cock side and (6) inches below the assembly.
4. The DCDA must be on the DOH Approved list.
5. The DCDA must be tested upon installation and annually thereafter.
6. The DCDA must be tested if moved or repaired.
7. The DCDA must be protected from freezing and other severe weather conditions, and from accidental damage.

10 BACKFLOW INCIDENT INVESTIGATION

When a taste, color, or odor inquiry is received, the person responding should try to gather as much relevant information as possible by using the District's asset management software program. While it is important to get a good description of the problem, the person taking the inquiry should try to refrain from suggesting problems if possible, as people generally tend to agree with a suggestion instead of carefully assessing the real problem.

Once an inquiry has been received and as much information gathered from the person reporting the inquiry, the District will determine what sort of response is appropriate under the certain set of conditions. For instance, if there was only one inquiry, the response would probably be somewhat different than if there are multiple queries from the same area. However, no matter how many people complain, there are certain minimum steps that should be taken:

1. A District employee will visit the site of the complaint to examine the water.
2. The District employee will perform certain minimum tests, such as pH and chlorine residual. The pH and chlorine tests are good immediate indicators of potential problems, and if the results indicate a potential problem, a bacteriological analysis should also be completed.
3. The city of Bellingham, or Edge Analytical, located at 805 W. Orchard Drive, Suite 4, in Bellingham will test samples quickly and on short notice, including weekends or evenings, in the event of an extreme emergency (see Appendix D for water sampling procedures).

REFERENCES

ASSE. 2004. Standard No. 1020, pressure vacuum breaker assembly. Published by the American Society of Sanitary Engineers. 2004.

ASSE. 2011a. Standard No. 1013, reduced pressure principle backflow preventers and reduced pressure principle fire protection backflow preventers. Published by the American Society of Sanitary Engineers. 2011.

ASSE. 2011b. Standard No. 1015, double check backflow prevention assemblies and double check fire protection backflow prevention assemblies. Published by the American Society of Sanitary Engineers. 2011.

ASSE. 2017a. Standard No. 1001, atmospheric type vacuum breakers. Published by the American Society of Sanitary Engineers. 2017.

ASSE. 2017b. Standard No. 1011, hose connection vacuum breakers. Published by the American Society of Sanitary Engineers. 2017.

ASSE. 2017c. Standard No. 1024, dual check backflow preventers. Published by the American Society of Sanitary Engineers. 2017.

AWWA. 2015. Backflow prevention and cross-connection control recommended practices, manual M14, fourth edition. Published by the American Water Works Association. 2015.

AWWA. 2017a. Standard for double check-valve backflow prevention assembly. Published by the American Water Works Association. September 1, 2017.

AWWA. 2017b. Standard for reduced-pressure principle backflow prevention assembly. Published by the American Water Works Association. September 1, 2017.

USC. 2011. Manual of cross connection control. Published by the University of Southern California Foundation for Cross-Connection Control and Hydraulic Research. November 1, 2011.

APPENDIX A

RESOLUTION NO. 858

APPENDIX B

CROSS-CONNECTION CONTROL HAZARD SURVEY REPORT

Cross-Connection Control Hazard Survey Report

Survey date: _____

Customer Information

Customer Name: _____Telephone: _____

Address: _____ZIP: _____

Contact person:_____

Description of premises:_____

Description of water use: _____

Water Service and Backflow Prevention Assembly (BPA) Size/Type

Service Type	Service Size	Meter Size	BPA Size	BPA Type
Domestic				
Fire				
Irrigation				
Other				

Cross-Connection Control Specialist (CCS) Information

Name: _____ Telephone: _____

Company name: _____

Address: _____ ZIP: _____

DOH CCS Certification #: _____ Year certified: _____

Survey Results

Note: The CCS's survey shall include an inspection of the premises isolation assembly to verify that it is installed correctly and is a currently listed DOH-approved assembly.

Item	Location & Description of Cross Connection	Backflow Prevention Required

Surveyor's Comments

Surveyor's Recommendations

I certify that this cross-connection hazard survey accurately reflects the overall risk posed by the customer's plumbing system to the District's distribution system. Based on the above survey, I certify that:

1. I found the following type(s) of premises isolation backflow preventer(s):

   Air Gap ____ RPBA/RPDA ____ DCVA/DCDA _____ None ____.

2. The existing backflow preventer(s) is/are properly installed.

   Yes ____ No ____ N/A ____.

3. The existing backflow preventer(s) is/are commensurate with the degree of hazard:

   Yes ____ No ____ N/A ____.

4. Since no backflow preventer was installed for premises isolation, the premises owner should install a premises isolation backflow preventer of the following type:

   Air Gap ____ RPBA/RPDA ____ DCVA/DCDA ____ N/A ____.

5. The premises owner should replace the existing premises isolation backflow preventer(s) with the following:

   Air Gap ____ RPBA/RPDA ____ DCVA/DCDA ____ N/A ____.

The completed survey report shall be first signed by the CCS conducting the survey, and then countersigned by the owner of the premises or the owner's authorized agent.

CCS Signature: _____**Date:** _____

As the Owner of the Premises (or Owner's authorized agent), I certify that I have received a copy of this completed Cross-Connection Control Hazard Survey Report.

Signature: _____**Date**: _____

Note: Customers and regulatory agencies should be aware that the District's requirement for this cross connection hazard survey and/or for the installation of a specific backflow prevention assembly on a service pipe ***do not*** constitute an approval of the customer's plumbing system, compliance of the customer's plumbing system with the Uniform Plumbing Code or an assurance of the absence of cross connections in the customer's plumbing system.

APPENDIX C

NEW CUSTOMER PERMIT APPLICATION PACKET

2019-20 New Customer

Water & Sewer Permit Application Packet

Last updated 3/27/2019

Table of Contents

PERMITS ARE ISSUED BY APPOINTMENT ONLY

- Complete your pages 4, 9, 10 and 11 from the permit packet and submit these sheets to the Lake Whatcom Water & Sewer District office. Keep remaining pages for your reference.
- When the permit is ready a District representative will contact you to set up your permit intake and payment appointment.
- The Bonded Side Sewer Contractor List is a separate list available at the front counter or online at http://www.lwwsd.org.

LAKE WHATCOM WATER & SEWER DISTRICT
PERMIT PROCESS

the permit process is easy with proper planning

DETERMINE AVAILABILITY

Schedule a permit intake appointment with the engineering department. Bring your complete Permit Application (available on the District website) and if available, an 11x17 copy of your site plan. Staff will determine water and sewer availability and will discuss the project requirements and permit process.

CONNECTION LOCATIONS

If water and sewer is available, the District will visit the building site and review system records. Within 5 to 10 days of your permit intake appointment, the District will provide details on the proposed locations of the water and sewer connections.

PERMIT PAYMENT

Payment for your permit is due *before* construction starts. Permits are valid for 365 calendar days from the date of issue.

Call the District office, 360-734-9224, to schedule your preconstruction meeting.

SIDE SEWER LATERAL CONSTRUCTION

Your side sewer lateral contractor, with current District bonding (see website for list) must schedule a preconstruction meeting before installation. All work must be inspected by the District and must meet the District's construction requirements for acceptance.

LAST DAY FOR SEWER INSPECTIONS IS 9/19!

WATER SERVICE INSTALLATION

The District will install the water service line and meter box within 2-4 weeks of permit payment.

Meters are unlocked when water service is requested. Billing begins when meter is unlocked.

BEGIN SERVICE

Contact the District office when you are ready for service. Services can begin when all permit requirements are met, including the installation of the PRV.

Billing begins when the service is turned on. Turning on water service for construction water starts the customer's billing.

YOU DID IT! WE LOOK FORWARD TO SERVING YOU

811 Know what's below. Call before you dig.

CONTACT INFORMATION

District website: http://www.lwwsd.org
District office: 1220 Lakeway Drive | Bellingham, WA 98229
Telephone: (360)734-9224

Connection Fee Components & Charges

Last Updated 03/25/2019

	EFFECTIVE DATE			
	January 1 2018	January 1 2019	January 1 2020	January 1 2021
WATER				
General Facilities (5/8"x3/4" Water Meter)	$ 5,742	$ 5,885	$ 6,033	$ 6,183
Service Installation	$ 700	$ 700	$ 700	$ 700
Permit Processing	$ 40	$ 40	$ 40	$ 40
Initial Inspection	$ 25	$ 25	$ 25	$ 25
Total Water Connection Charge	**$ 6,507**	**$ 6,650**	**$ 6,798**	**$ 6,948**
SEWER[1]				
Sewer Facilities	$ 7,726	$ 7,919	$ 8,117	$ 8,320
Permit Processing	$ 40	$ 40	$ 40	$ 40
Initial Inspection	$ 75	$ 75	$ 75	$ 75
Total Sewer Connection Charge	**$ 7,841**	**$ 8,034**	**$ 8,232**	**$ 8,435**
Total Water & Sewer Connection Charge	**$ 14,348**	**$ 14,684**	**$ 15,030**	**$ 15,383**

Other Fees or Charges

ITEM	WATER	SEWER	EXPIRES
Blaine Water Main Extension	$10,910.00		8/25/2024
COB Reservoir Reimbursement Fee[2]	$300.00		N/A
Edgewood Long Plat Sewer		$4,102.00	2/24/2019
Lakewood/Grand Blvd Special Benefit Fee[3]		$6,000.00	N/A
La Salle Sewer Extension		$4,761.73	7/13/2021
South Geneva Class A Sewer		$22,406.50	7/22/2026
South Geneva Class A Sewer Vault		$1,704.55	7/22/2026
South Geneva Class A Water	$17,088.97		7/22/2026
South Geneva Class B Water	$5,981.14		7/22/2026
ULID #18 Latecomer Fee[4] (See Resolution 672 for details)		2018 $7,037.81 2019 $7,303.12 2020 $7,568.43 2021 $7,833.75 2022 $8,099.06	1/1/2023

Footnotes

(1) An additional $755 is charged for some lots in Sudden Valley where the District installed a sewer lateral from the sewer main to the property line.

(2) Water permits connecting to the Eagleridge water system

(3) $6,000.00 in Special Benefit fees will be added to connection fees where the collector system has been extended to provide sewer service

(4) Properties which are not subject to assessment as part of ULID #18 but which are within the south shore service area benefitting from the Lake Louise Road interceptor shall pay a latecomer charge in lieu of the ULID assessment.

LAKE WHATCOM WATER AND SEWER DISTRICT
Application for Water/Sewer Permit

PART 1 - Customer Billing / Lot Owner Information

Name: _____ Phone Number: _____

Mailing Address: _____

City: _____ State: _____ Zip: _____

PART 2 - Project Site Information

Tax Parcel Number: _____ Sudden Valley Division: _____ Lot(s): _____

Street Address: _____

City: _____ State: _____ Zip: _____

PART 3 - Type of Permit (check all that apply)

☐ **Water Service**
- ☐ Single Family Residence
- ☐ Commercial or Other Type of Building. Describe: _____
  Water Supply Fixture Units (WSFU) per Uniform Plumbing Code: _____
- ☐ Customer Pressure Reducing Valve will be Installed. (show location of PRV on site plan)

Special plumbing or activities that will be present on this site: ☐ None

- ☐ Underground sprinkler system
- ☐ Water treatment system (e.g. water softener)
- ☐ Solar heating system
- ☐ Residential fire sprinkler system
- ☐ Sewage pumping facility or grey water system
- ☐ Boat moorage with water supply
- ☐ Home-based business. Description: _____
  (e.g. beauty salon, machine shop, etc...)
- ☐ Radiant In-floor Heat
- ☐ Boiler
- ☐ Swimming pool or spa
- ☐ Other water supply

☐ **Sewer Service**

List Bonded Side Sewer Contractor Installing Sewer: _____
- ☐ Gravity Side Sewer
- ☐ Private Grinder Pump to Gravity Sewer Main (Submit Grinder Pump Service Checklist)
- ☐ Private Grinder Pump to Sewer Force Main (Submit Grinder Pump Service Checklist)

PART 4 – County Permits & Water/Sewer Service Site Plan

☐ **Copy of Whatcom County Building Permit** (new construction only)
☐ **Copy of Whatcom County Revocable Encroachment Permit** (required if work is in County Right-of-Way)
☐ **Site Plan**. Plan must be to scale, neat, legible, and include the following information as applicable:

Existing Features. Property lines, buildings, driveways, ditches, culverts, sewer mains, manholes, sewer cleanouts, fire hydrants, water main valves, sewer cleanouts.

Proposed Features. Buildings, driveways, sewer service alignment, cleanouts, connection to sewer main, grinder pump, location of customer pressure reducing valve, easements, backflow preventer.

Note: Tree removal for sewer and water service lines must be coordinated with Sudden Valley Community Association.

Application Submitted By: _____ Date: _____ Phone: _____
(print name)

Water And Sewer Permit

Lake Whatcom Water and Sewer

1220 Lakeway Dr
Bellingham, WA 98229
(360) 734-9224

Date Issued:
[redacted]
Permit #:
[redacted]

PERMIT CONDITIONS

BILLING. Water and sewer billing both begin on the date the water meter is turned on by the District. For sewer-only customers, billing begins on the date connection is made to the sewer main.

CONSTRUCTION STANDARDS. All water and sewer services shall be installed per the District's current Design and Construction Standards. Copies of the standards are available at the District office.

WATER SERVICE INSTALLATION. The District will set a meter adjacent to the property line within the public right-of-way or easement corridor at a location determined by the District. If required, the District will install a new service line from the public water main to the meter location. The owner is responsible for installing a private water service line from the meter to the building. Properties not adjacent to the public water main such as those located beyond the end of the main or behind lots fronting the main will require a longer private water service line installed by the owner or potentially be required to extend the public water main past and through their lot as determined by the District. Lot clearing and rough grading must be completed prior to the District installing a service and meter. A $50 re-inspection fee will be charged to the account if the District mobilizes to install the service and finds the lot not cleared and rough graded. A water service and meter is typically installed within two weeks from the date of request for water service. All customers are required to install a Pressure Reducing Valve (PRV) on the meter side of the service to protect their plumbing systems from high pressure surges. A PRV Inspection is required prior to occupancy.

SEWER SERVICE INSTALLATION. Sewer service lines from the public sewer main to the cleanout adjacent to the building must be installed by a contractor on the District's Bonded Side Sewer Contractor List. A current list of bonded side sewer contractors is available at the District office. Three inspections are required prior to occupancy. The owner is responsible for requesting the inspections. The owner or the owner's contractor may request inspections. A $100 re-inspection fee will be charged to the account for a no-show preconstruction meeting or re-inspection of deficient work. Required inspections are:

1. Onsite Preconstruction Meeting
2. Pipe Bedding and Backfill Inspection prior to covering any pipe
3. Leak Test Inspection after pipes are backfilled.

Owner or authorized agent agrees, by signing this permit, to comply with all the conditions of the Water and/or Sewer Service Permit Conditions, Design and Construction Standards, and all District Resolutions.

PERMIT EXPIRATION. Property owners issued connection permits shall have 365 days from the date of issuance of said connection permit to make a District-approved connection to the District water and/or sewer system without being subject to any increase or additional fees in the connection charge. After 365 days have elapsed, the connection permit shall be subject to any increase or additional fees in the connection charge adopted subsequent to the date of issuance of the permit.

Applicant's Printed Name	Applicant's Signature	Date

(District Use Only) Permit Issued By		
Printed Name	Receipt #	Date
Account Number:		

Initials _____

LAKE WHATCOM WATER AND SEWER DISTRICT
Grinder Pump Service Checklist

DESIGN/PUMP SELECTION

Grinder Pump System Tax Parcel Number: _____

- ☐ E-One 2000 Series Package Grinder Pump System
- ☐ Hydromatic Package Grinder Pump System
- ☐ Liberty Pumps 2448LSG, 2472LSG, or 2484LSG Simplex Grinder Package System
- ☐ Myers Package Grinder Pump System
- ☐ Other (System must be reviewed and approved by District. Submit drawings, specifications, & calculations)

Static Head (feet):_____(Vertical distance, or height, effluent is pumped)

Dynamic Head (feet):_____ (Friction losses due to pipe, bends, valves, fittings)

Total Dynamic Head (feet):_____ (Static Head + Dynamic Head)

Pump Operating Point (gpm):_____ (Flow rate of pump at Total Dynamic Head)

MINIMUM SPECIFICATIONS

Grinder pump systems shall be in accordance with Section C1-10.1 and C1-10.2 of the current edition of the Criteria for Sewage Works Design published by Washington State Department of Ecology. Specific section references from the design manual are noted in parentheses below.

Installed grinder pump system shall meet the criteria for the maximum hydraulic gradeline and be able to meet the pumping requirements of the structure where it is installed. (C1-10.1.5)

☐ **Connection to Gravity Sewer Main**
- ☐ Pressure service line shall be 1-1/4" HDPE SDR11 between grinder pump and gravity sewer stub.
- ☐ Minimum pipeline velocity of 2 feet per second. (C1-10.1.4)
- ☐ Maintenance shut-off ball valve on discharge line at grinder pump. (C1-10.2.1A)
- ☐ One check valve required. Can be installed on grinder pump. (C1-10-2.1A)

☐ **Connection to Force Main**
- ☐ Pressure service line shall be 1-1/4" HDPE SDR11 between grinder pump and check valve vault.
- ☐ Minimum pipeline velocity of 2 feet per second. (C1-10.1.4)
- ☐ Maintenance shut-off ball valve on discharge line at grinder pump.

Two check valves required. (C1-10.2.1A)
- ☐ Check valve #1: Installed at Grinder Pump. Can be installed on grinder pump.
- ☐ Check valve #2: Installed at property line. Check valve in vault per Standard Detail S12.

- ☐ Tapping saddle, 2" corp stop, resilient seat gate valve, and valve box at force main. (C1-10.2.1A)
- ☐ 2" HDPE SDR11 service line between forcemain and check valve vault.

☐ **Control Panel / Electrical Requirements**
- ☐ Grinder pump UL Listed for use in raw sewage. (C1-10.2.2A)
- ☐ Pump control panel and level-sensing mechanism UL Listed for use in raw sewage (C1-10.2.2C)
- ☐ High level visual and audio alarm with battery backup. (C1-10.2.2C)
- ☐ Audio alarm capable of being silenced until repair can be made. (C1-10.2.2C)

☐ Power transfer switch with an emergency generator plug for vessels with less than 24 hours of storage (1000 gallons for single family residence). (C1-10.1.6D&E)

☐ Electrical components in compliance with National Electrical Code and state Labor and Industries Electrical Inspection Division. (C1-10.2.2D)

☐ **Ventilation**
- ☐ Grinder pump storage tank shall have a separate vent system from structure plumbing. (C1-10.2.2E)

DESIGNER/SUPPLIER CONTACT INFORMATION

Designer:_____Phone:_____ Date:_____
(print name)

Supplier:_____Phone: _____Date:_____
(print name)

WATER AVAILABILITY FORM
PUBLIC WATER SYSTEM

Complete and submit form with original signatures to WCHD
(copies are not accepted)

WHATCOM COUNTY HEALTH DEPARTMENT
509 Girard Street
Bellingham, WA 98225
Telephone: 360-778-6000
Fax: 360-778-6001

Applicant Information:

Property Owner(s): _____ Phone: _____
Address: _____ City: _____ State: ____ Zip: _____
Contact Person: _____ Phone: _____
Email and/or Alternate Contact: _____

I certify that I am the owner or authorized representative of the below noted property. I have examined this form and know the same to be true and correct. I understand that this approval expires one year after the PWS Authorized Representative signature date and that application for final plat approval and/or building permit must be made before the expiration date. I understand that information submitted is subject to the Public Records Act.

Sign: _____ Print: _____ Date: _____

Property Information: Project Type: ☐ Single ☐ Multi-Family ☐ADU ☐ Commercial ☐ Plat

Tax Parcel Number (12 digit number): ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___
Address of Project: _____
Building Permit Number: _____ Plat Name: _____ Lot: _____
➢ Briefly describe project (attach site plan and additional pages as needed)_____
_____
_____

Certification of Public Water Availability: to be Completed by the PWS Authorized Representative

Group B water systems must have current water tests - bacteriological less than one year old and nitrate less than three years old.

Public Water System Name: Lake Whatcom Water & Sewer District DOH ID#: _____
The above Public Water System (PWS) is approved by the WA State Department of Health or the WCHD for _____ service connections and currently serves _____ service connections. The PWS has the necessary water system infrastructure in place to adequately provide service to the above property per WAC 246-290 or WAC 246-291. The PWS is capable of and willing to supply water to the above property, residence, project or plat for _____ ☐ **New** service(s) and/or _____ ☐ **Existing** service(s).

I certify that I am an authorized representative of the above PWS. I understand this certification expires one year after the PWS signature date. I understand that information submitted is subject to the Public Records Act 42.56.

Sign: _____ Print: _____ Date: _____
Title: _____ Address: 1220 Lakeway Drive, Bellingham WA 98229 Phone: 360-734-9224

For Health Department Use Only:

☐ Approved Date: _____ Approval Expires: _____
☐ Denied
By: _____ Comments or Conditions: _____
_____
_____
Notify Via: ☐ Email ☐ Phone ☐ Mail _____

The subdivision/building permit is located in an area that is governed by chapter 173-501 WAC and in which instream flows are not met and/or are subject to closure. In compliance with ch 58.17 RCW/RCW 19.27.097 the County has determined adequate potable water is available for this subdivision/building permit on the basis of evidence supplied by the Applicant. Other authorities, including courts of competent jurisdiction and the Department of Ecology, exercise jurisdiction over water resources in the state of Washington. Those authorities may determine that the proposed source of water for this project identified by the Applicant is not a valid water right appropriation or is subject to curtailment or seasonal restrictions on availability that could impact its reliability for the intended use. The County's issuance of this subdivision/building permit should not be relied upon by the Applicant or any successor in interest as an assurance, warranty or guarantee of the future availability of water to serve the subdivision/building permit.

March 2017

LAKE WHATCOM WATER & SEWER DISTRICT
1220 Lakeway Drive
Bellingham, WA, 98229

(360) 734-9224
Fax 738-8250

{Date}

Re: Sewer "Will Serve" Letter for
{Address}
{Assessor Parcel Number}

To Whom It May Concern:

The District can currently provide sewer service to the above parcel. Currently water is not available to this parcel. Prior to issuance of a sewer permit, a Covenant Binding Property Regarding Future Water Service must be recorded at the Whatcom County Auditor's Office. See attached covenant form.

This determination, however, is not indefinite, nor irrevocable. Nothing stated herein constitutes a commitment to provide water and sewer service to you in the future. The information used to arrive at this determination of availability is believed to be accurate at this time, but future demands are not always predictable. Similarly, new laws, regulations, or ordinances could also limit the ability to provide water and sewer service in the future. Accordingly, any expenditure which you make in anticipation of future sewer service is strictly at your own risk. Any statements in paragraph(s) above which are inconsistent with this paragraph should be disregarded.

Please call if you have any questions.

Sincerely,

LAKE WHATCOM WATER & SEWER DISTRICT

{District Representative}
{Title}

Assessor Parcel Number:_____

Address (if known):_____

Water/Sewer Permit and Construction Checklist

- Additional fees and credits associated with property

ULID #18 – is property located within the south shore sewer service area?

- ☐ **NO**, then ULID 18 does do not apply.
- ☐ **YES**, then check if property has Restrictive Covenant?
  - ☐ **YES**, then property cannot be served by sewer. *Owner might be able to trade restriction for assessment from another property.*
  - ☐ **NO**, then property can be served by sewer.

    Has ULID 18 assessment?
    - ☐ **YES**, then can be served with no additional fees.
    - ☐ **NO**, then Charges-in-Lieu of Assessment apply.
      Charges-in Lieu of Assessment: $_____
      for Year _____.

Is property located in a Latecomer Area?

- ☐ **NO**, then no additional fees apply
- ☐ **YES**, then following Latecomer Fees apply:

  _____ $_____
  _____ $_____
  _____ $_____

District installed Sewer Stub?

- ☐ **NO**, then no additional fees apply
- ☐ **YES**, then an additional charge applies. $_____

Applicable credits?

- ☐ Pre-Paid Connection Certificate Credit: $_____
- ☐ Expired Permit(s) Credit: $_____

➢ Water Availability Form, Water/Sewer Availability Form, or Sewer-Only Will-Serve Letter

Property is located within Urban Growth Area (UGA) or Local Area of More Intense Rural Development (LAMIRD)?

- ☐ **NO**, then City of Bellingham must confirm lot existed prior to May 1, 2005 in accordance with the Interlocal Agreement for Sewage Services between the City and District prior to District issuing an availability for sewer.
  - Process for confirmation with City of Bellingham.
    - ☐ Property owner provides District with copy of deed or Whatcom County Lot of Record determination that proves lot existed prior to May 1, 2005.
    - ☐ District will send information to City for confirmation
    - ☐ When District receives confirmation from City that lot can be served, District can continue with sewer availability checklist.
- ☐ **YES**, then continue to next checklist item.

Conditions for water and/or sewer availability.

Property is adjacent to water and sewer?

- ☐ **YES**, then prepare Water and Sewer Availability Form
- ☐ **NO**, then check next condition

Property is adjacent to Sewer only?

- ☐ **YES**, then Covenant Regarding Future Water Service is required prior to Sewer-Only Will-Serve Letter, or if within 200-Feet of Water System, Developer Extension may be required.
- ☐ **NO**, then check next condition

Property is adjacent to Water only?

- ☐ **YES,** then Covenant Regarding Future Sewer Services is required prior to Water Availability Form, or if within 200-Feet of Sewer Main, Developer Extension may be required (if located within LAMIRD or UGA).

➢ Submit Application for Water/Sewer Permit forms to District. Include the following:

- ☐ Copy of Whatcom County Building Permit
- ☐ Copy of Whatcom County Revocable Encroachment Permit (Required if work is in County Right-of-Way)
- ☐ Site Plan to include Existing and Proposed Features
- ☐ Pressure Reducing Valve(PRV) shown on Site Plan
- ☐ Special Plumbing or Activities to be listed
- ☐ Submit Grinder Pump Checklist if required
- ☐ Designate Bonded Side Sewer Contractor performing side sewer installation

➢ Pay Connection Fees, Sign Water/Sewer Permit

- ☐ District will prepare Water/Sewer Permit and call to schedule time for payment and pickup (typically 1 business day after submittal of Application for Water/Sewer Permit).

- Connection to Water

  - ☐ District will install water meter adjacent to property. Typically takes 2 to 14 days depending on whether a service line exists from the public water main to the property.
  - ☐ Customers can install their own water service lines from the water meter to the house per District standards.
  - ☐ Customer requests inspection of private pressure reducing valve required (PRV) on the service line at the entry of the house. The PRV protects internal plumbing from pressure spikes in public water system. The District's distribution system has over 50 large PRV's located throughout the system. These large PRV's have the potential to stick open and cause high water pressure with no warning. Customers may elect not to install a private pressure reducing valve after recording a Hold Harmless Agreement Concerning Owner's Desire Not to Install a Pressure Reducing Valve.
  - ☐ Billing for both water and sewer (if also served by sewer) begins the date the water meter is unlocked by the District at customer's request.

- Connection to Sewer

  - ☐ Installation of the side sewer from the public sewer main to the house must be performed by a contractor on the District's Bonded Side Sewer Contractor List.
  - ☐ Contractor requests a pre-construction meeting with District prior to any work.
  - ☐ Contractor requests sewer pipe bedding and backfill inspection prior to covering any pipe.
  - ☐ Contractor requests sewer leak test Inspection
  - ☐ Billing for sewer-only customers begins the date the side sewer is connected to the public sewer main.

GENERAL NOTES

1. All work and materials shall conform to the most current edition of the Standard Specifications for Road, Bridge and Municipal Construction (WSDOT) as prepared by Washington State Department of Transportation and the Washington State Chapter of the American Public Works Association, Lake Whatcom Water and Sewer District Design and Construction Standards, and the instructions and recommendations of the Manufacturer of the material concerned. In case of a conflict between the above standards, the more stringent shall apply. All work and materials shall be subject to the approval of the District Engineer.

2. Contractor shall obtain encroachment permits or other permissions which may be required from the County, State Highway Department, Sudden Valley Community Association, or other entity having jurisdiction over roads and streets, prior to commencing work.

3. All pipe shall be bedded in bedding material meeting WSDOT 9-03.12(3). The bedding cross-section shall be blocked with Control Density Fill (CDF) per WSDOT 2-09.3(1)E a minimum of every 800 feet and the trench drained to daylight or to a storm drain.

4. Backfill under pavement, under the roadway section, and at driveway crossings within County ROW shall consist of crushed surfacing top course material conforming to WSDOT 9-03.9(3). Backfill within private roadways shall consist of material conforming to WSDOT 9-03.19. Backfill in other areas shall consist of material conforming to WSDOT 9-03.15, except as shown on the plans or details. Backfilling of trenches shall be in accordance with WSDOT 7.08.3(3). Backfill shall be compacted to 95% modified Proctor within traffic areas, 90% modified Proctor in landscape and open areas.

5. Tracer wire installation is required on all District owned pipe and communication lines. Tracer wire is also required on private side sewers. Install tracer wire per District Standard Detail E5. In addition to tracer wire, install 2-inch wide detectable marking tape 8 to 12 inches below the finish surface. Detectable marking tape shall meet WSDOT 9-15.18 and be color coded blue for water and green for sewer.

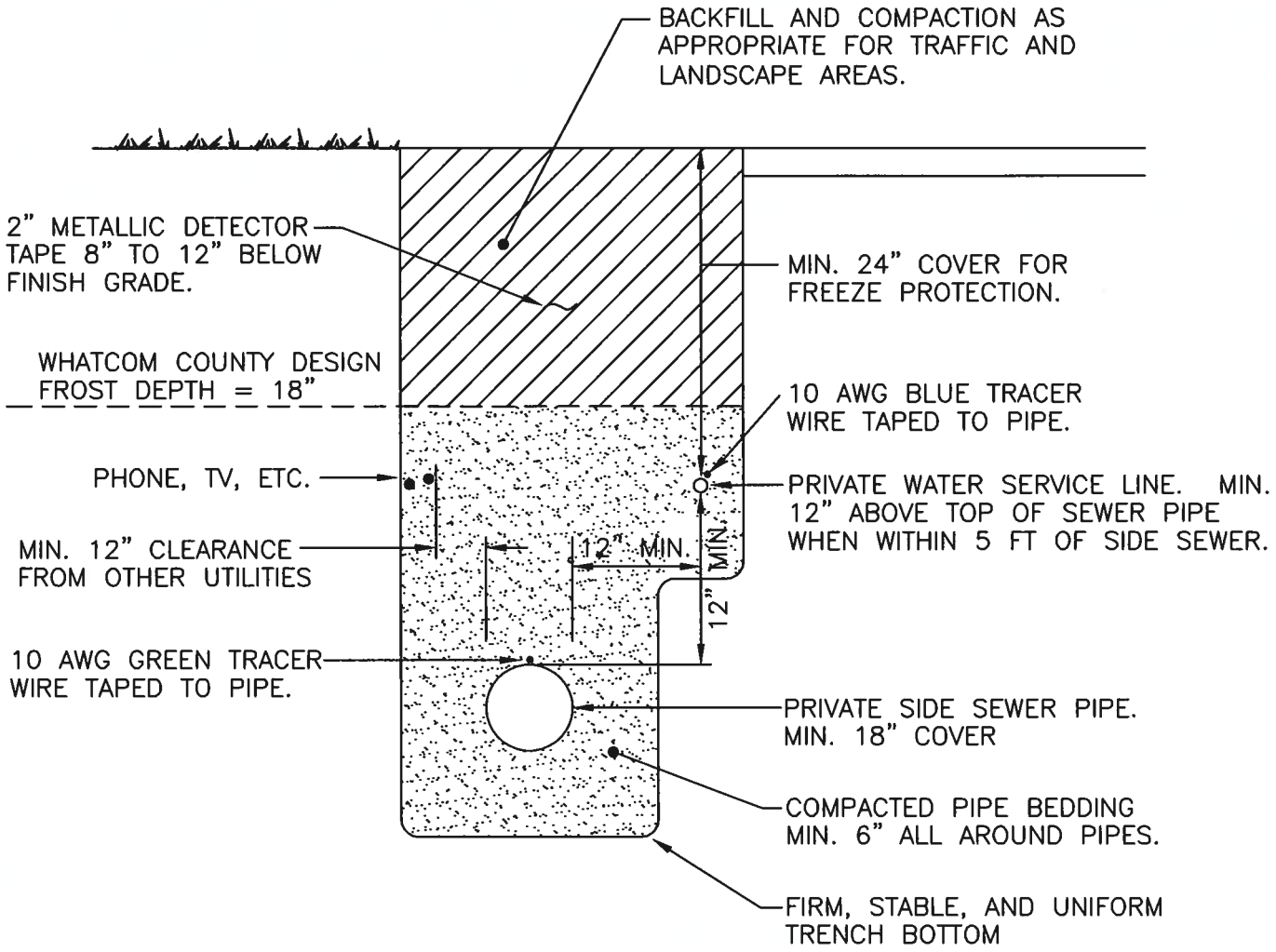
6. Water mains crossing over sewers stub service line with less than 18-inches of vertical clearance shall be stabilized with Control Density Fill (CDF) per WSDOT 2-09.3(1)E.

7. From the main to the property line, sewer laterals and water service lines shall maintain a minimum horizontal separation of 5-feet. Separation may be reduced to 1-foot if water service line is a minimum of 12-inches above the top of the sewer lateral.

8. Contractor shall remove all debris and excess excavation; repair all damage, and restore the site, public or private, to pre-construction conditions.

9. Where mains or service lines are placed within a ditch area, the buried depth shall be at least 30-inches below the bottom of the ditch.

10. All work within Whatcom County Right Of Way (ROW) shall comply with Whatcom County Development Standards, Section 512, updated 9/23/2015 or more recent.



NOTES:

1. Side sewer pipe material (PVC ASTM D3034 SDR 35) shall comply with most current International Plumbing Code (IPC) Table 702.3 Building Sewer Pipe. Separation of water service and side sewer shall comply with IPC 603.2 requirements.

2. Water service lines and side sewers shall be bedded in material meeting WSDOT 9-03.12(3) Gravel Backfill for Pipe Zone Bedding as shown in following table:

Sieve Size	Percent Passing by Weight
1.5"	99-100
1"	75-100
5/8"	50-100
U.S. No. 4	20-80
U.S. No. 40	3-24
U.S. No 200	10.0 max
Sand Equivalent	35 min.

LAKE WHATCOM WATER & SEWER DISTRICT

PRIVATE WATER SERVICE LINE AND SIDE SEWER TRENCH DETAIL

STANDARD DETAIL

G7

9/20/2017

WATER SYSTEM NOTES

1. Water distribution system materials, trenching, bedding, installation, backfilling, disinfection, and testing shall conform to WSDOT 7–09.

2. Water main pipe shall be class 52 ductile iron per WSDOT 9–30.1(1) and encased in polyethylene encasement per WSDOT 9–30.1(2). Fittings for ductile iron pipe shall conform to WSDOT 9–30.2 (1).

3. Valves shall have a minimum pressure rating of 200 psi. Gate valve installation shall conform to WSDOT 7–12. Gate valves shall be resilient–seated gate valves conforming to WSDOT 9–30.3(1) and AWWA C515 Standard for Resilient Seated Gate Valves. A cast iron valve box with a commercial concrete collar (18" x 18" x 6") shall be installed with each valve. An approved marking post shall be installed with each valve in accordance with WSDOT 7–12.3(1) for all valves not installed in pavement. Valves not in pavement shall have a 24" x 24" x 6" concrete collar cast around the valve box. Where a valve operating nut is more than 4–feet lower than grade, an American Flow Control Trench Adapter valve box and stem extension combination (or approved equal) must be installed.

4. Pressure reducing valves (2" and larger) shall be manufactured by Cla–Val, Watts, or approved alternate.

5. Service connections shall be installed per WSDOT 7–15. Lot corners shall be staked prior to service connection installations to assure services are installed in correct locations as shown on the approved plans.

6. District Engineer or their appointed representative shall witness pressure testing and bacteriological test sampling. Contractor shall provide the District Engineer 48 hours notice prior to conducting tests or sampling.

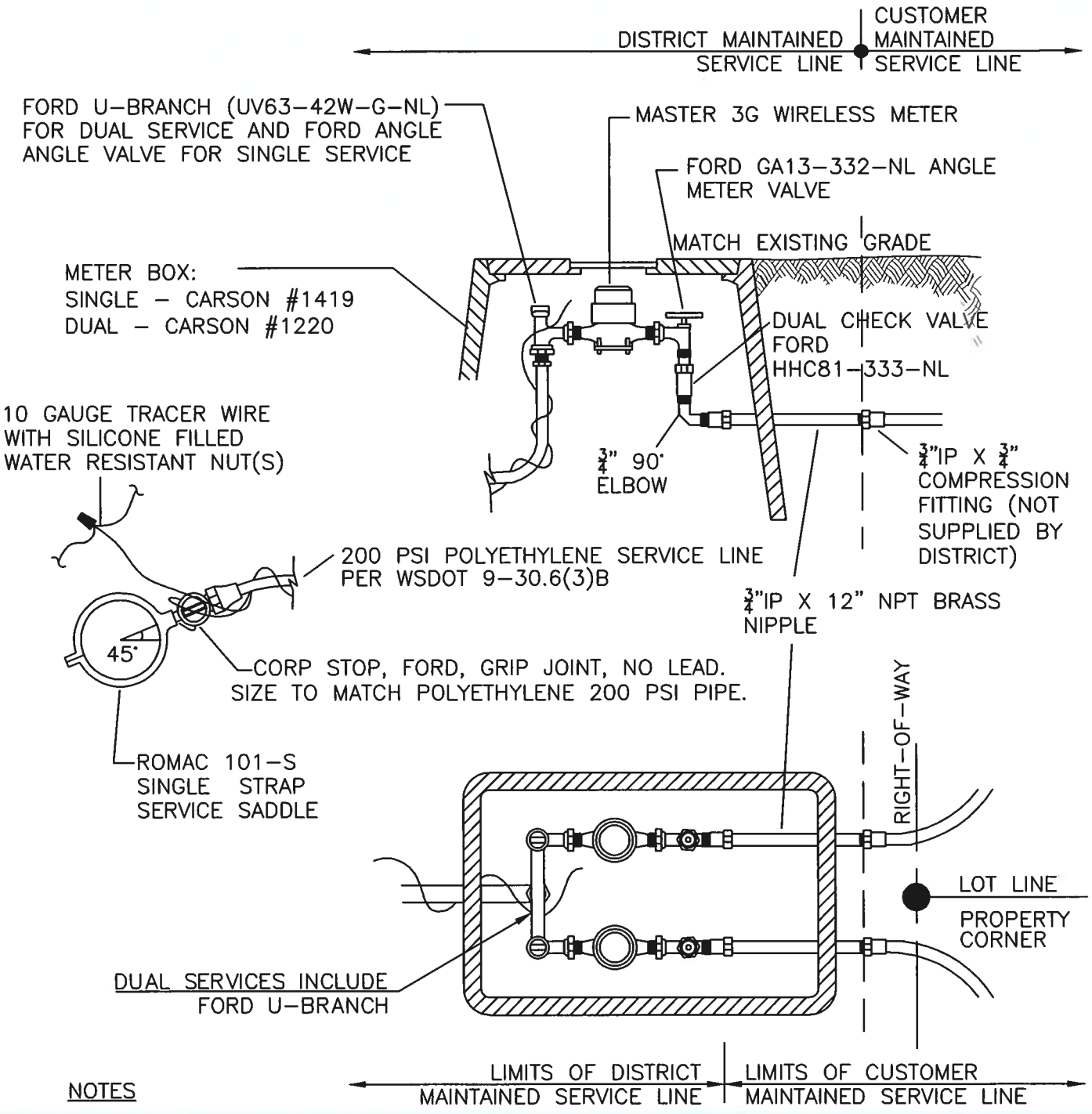
7. Water lines and appurtenances shall be pressure tested in accordance with WSDOT 7–09.3(23).

8. District Engineer must receive a satisfactory bacteriological report before new water mains are connected to existing mains and placed in service. Contractor shall disinfect, flush and provide a satisfactory bacteriological report to the District Engineer in accordance with WSDOT 7–09.3(24). Contractor shall provide two chlorine concentration test reports to show the initial chlorine concentration is at least 50 mg/L, and to show the 24–hour residual chlorine concentration is at least 25 mg/L. All tests must be performed by a DOH–certified testing laboratory and sample–taking shall be witnessed by the District Engineer or their appointed representative. Chlorinated flush water must be disposed of into the sanitary sewer. Contractor shall coordinate with District staff to ensure the rate of disposal does not overload the sewer.

9. New services shall be pressure tested along with the new main. No use of water through a newly installed service shall be allowed until water main and service installation has been inspected, pressure tested, chlorinated and a satisfactory bacteria test received. After installation, the service connection shall be flushed prior to connecting the meter. No service is to be covered until the District's Inspector has inspected the initial installation. All corporations must be in an ON position and all angle valves must be in the OFF position.

10. Service flow testing shall be done after water main pressure testing. During the inspection, every service shall be turned on to its full capacity to check flow and guarantee that each service line has been flushed.

11. No water main tie–ins to existing mains shall be scheduled for Fridays, weekends, or holidays.



NOTES

1. Service fittings shall be in accordance with WSDOT 9-30.6 except that PEX-a-tubing is not allowed and only compression (grip joint) fittings on service lines are allowed. All fittings shall be brass.

2. The water service pipe shall have a minimum of 30 inches depth and a maximum of 36 inches depth, including under ditch sections.

3. Meter boxes in traffic areas shall be rated for H-20 loading with a reader lid.

LAKE WHATCOM WATER & SEWER DISTRICT

WATER METER ASSEMBLY

STANDARD DETAIL

W8

3/27/2019

SEWER SYSTEM NOTES

1. Sewer system materials, trenching, bedding, installation, backfilling, and testing shall conform to WSDOT 7-05 and 7-17.

2. Gravity sewer pipe shall be ASTM D3034-SDR 35 PVC per WSDOT 9-05.12(1). In certain applications, the District may require class 52 ductile iron pipe, per WSDOT 9-30.1(1) encased in polyethylene encasement per WSDOT 9-30.1(2).

3. Pressure sewer pipe shall be class 52 ductile iron pipe per WSDOT 9-30.1(1) encased in polyethylene encasement per WSDOT 9-30.1(2) or PVC C900 class 150 per WSDOT 9-30.1(5). HDPE may be substituted with the approval of the District Engineer and the pipe rating shall be based on the specific design conditions.

3. All gate valves for sewer force mains 2-inch and larger shall be of the resilient, wedge-type, non-rising stem and shall meet or exceed the performance requirements of AWWA C515-Reduced-Wall, Resilient-Seated Gate Valves UL listed and FM approved. Valves shall be suitable for the type and class of pipe being installed. Valve opening direction shall be counter-clockwise. A cast iron valve box with a commercial concrete collar (18" x 18" x 6") shall be installed with each valve. Valves not in pavement shall have a 24" x 24" x 6" concrete collar cast around the valve box.

4. Side sewers, from main to private property line, shall be installed per WSDOT 7-18. Side sewers shall have a minimum slope of 2%. Side sewer shall maintain a minimum cover of 30 inches under ditches. Side sewers and cleanout/test tee at property line shall be minimum 6-inches in diameter. Inspection prior to backfill.

5. Sewer cleanouts shall be installed per WSDOT 7-19.

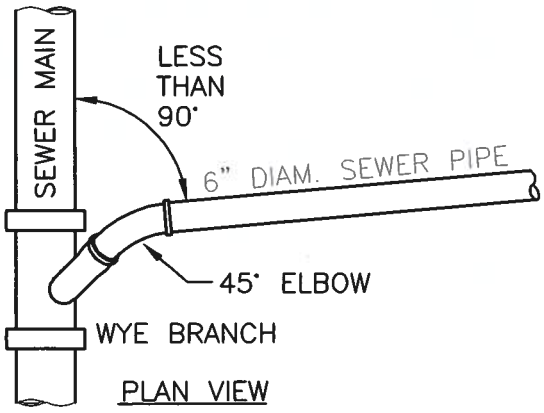
6. Grout for manholes shall be a non-shrinking cementitious grout, containing no gypsum or calcium sulfate Di-hydrate ($CaSO_4 2H_2O$), conforming to WSDOT 9-20.3(2), such as Rapid Set Cement All or approved equivalent. Grout shall be installed according to manufacturer's instructions. JET SET, BLUELINE, AND QUICKCRETE ARE NOT ALLOWED!

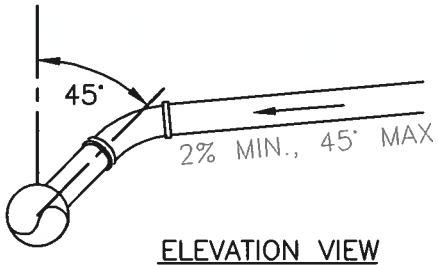
7. All sewer pipe and appurtenances shall be flushed and cleaned prior to being put into service. Debris shall not be allowed into the existing sewer system.

8. District Engineer or their appointed representative shall witness testing. Contractor shall provide the District Engineer 48 hours notice prior to conducting tests or sampling.

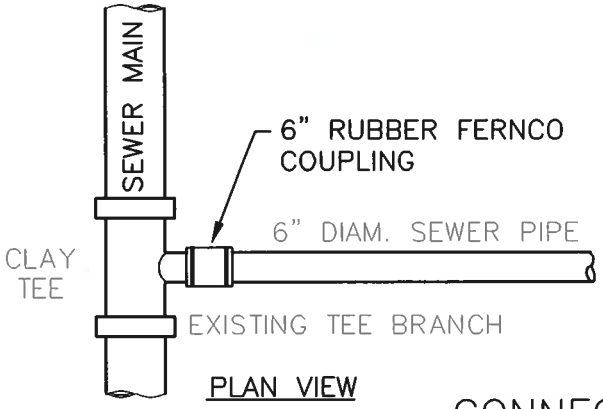
9. Pipe shall be tested after backfill by the low-pressure air test method per WSDOT 7-17.3(2)F. PVC pipe shall have a mandrel passed through it to check for any deflections in the pipe per WSDOT 7-17.3(2)G. The District at their option may require any or all sewers to be inspected by the use the District television camera before final acceptance. The costs incurred in making the inspection shall be borne by the Contractor. Connection to the existing system is not permitted until final acceptance.

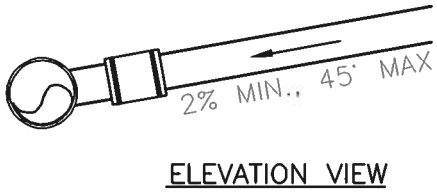
10. Downspouts, foundation/crawl space sump pumps, yard drains, or any outside drains shall not be connected to sanitary sewer mains or services.



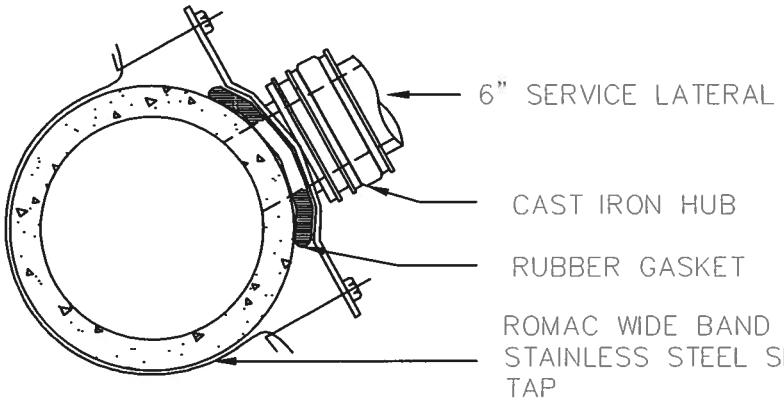


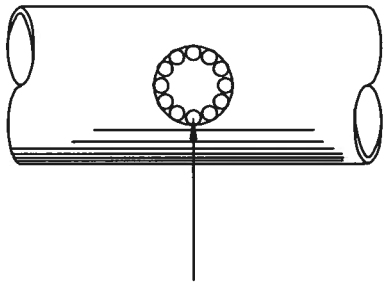
SERVICE LATERAL INSTALLED WITH NEW MAINS





CONNECTION TO EXISTING TEE





MIN 20, ¾"ø BORE HOLES FOR TAPPING SANITARY SEWER MAIN

NOTES;

1. Install wye fitting with gaskets for new sewer installations
2. Pipe bedding shall be sand or pea gravel 6" all around.
3. Minimum cover to finish grade is 30".
4. Drill multiple 3/4' holes (20 min for 6") then break out

CONNECTION TO EXISTING SEWER (TAP)

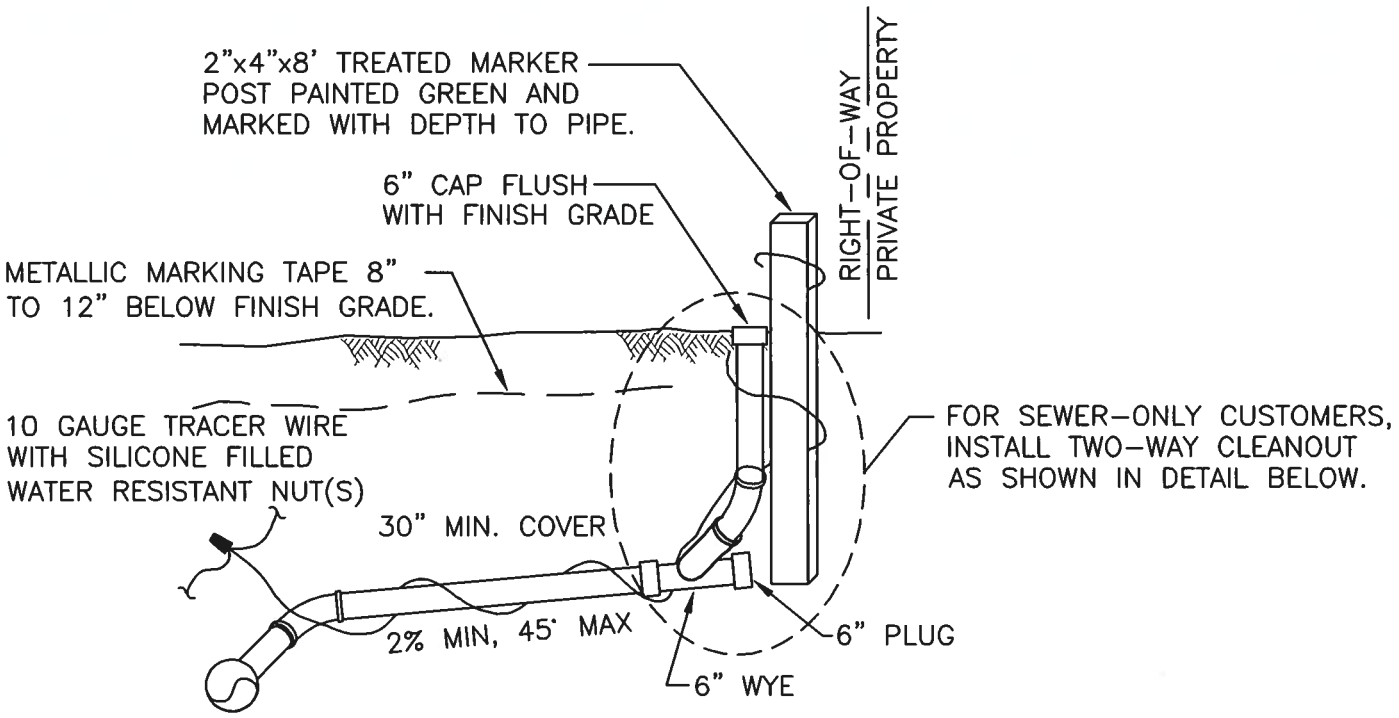
LAKE WHATCOM WATER & SEWER DISTRICT

SEWER LATERAL CONNECTION TO MAIN

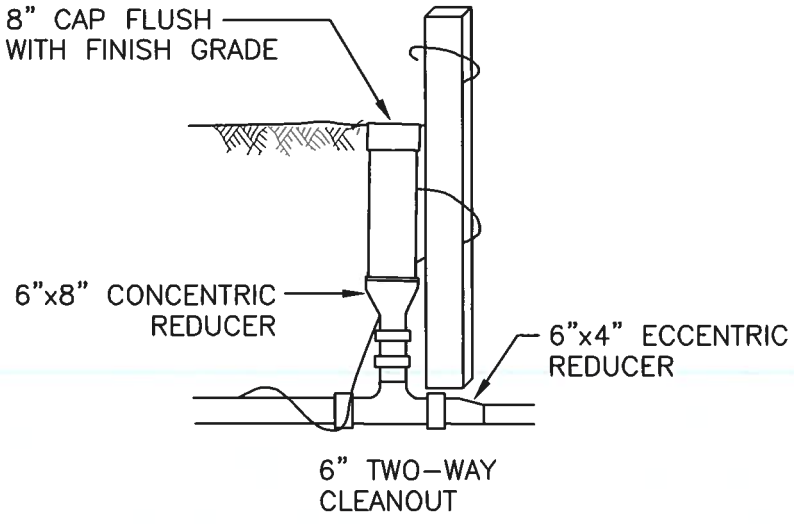
STANDARD DETAIL

S6

5/1/2014

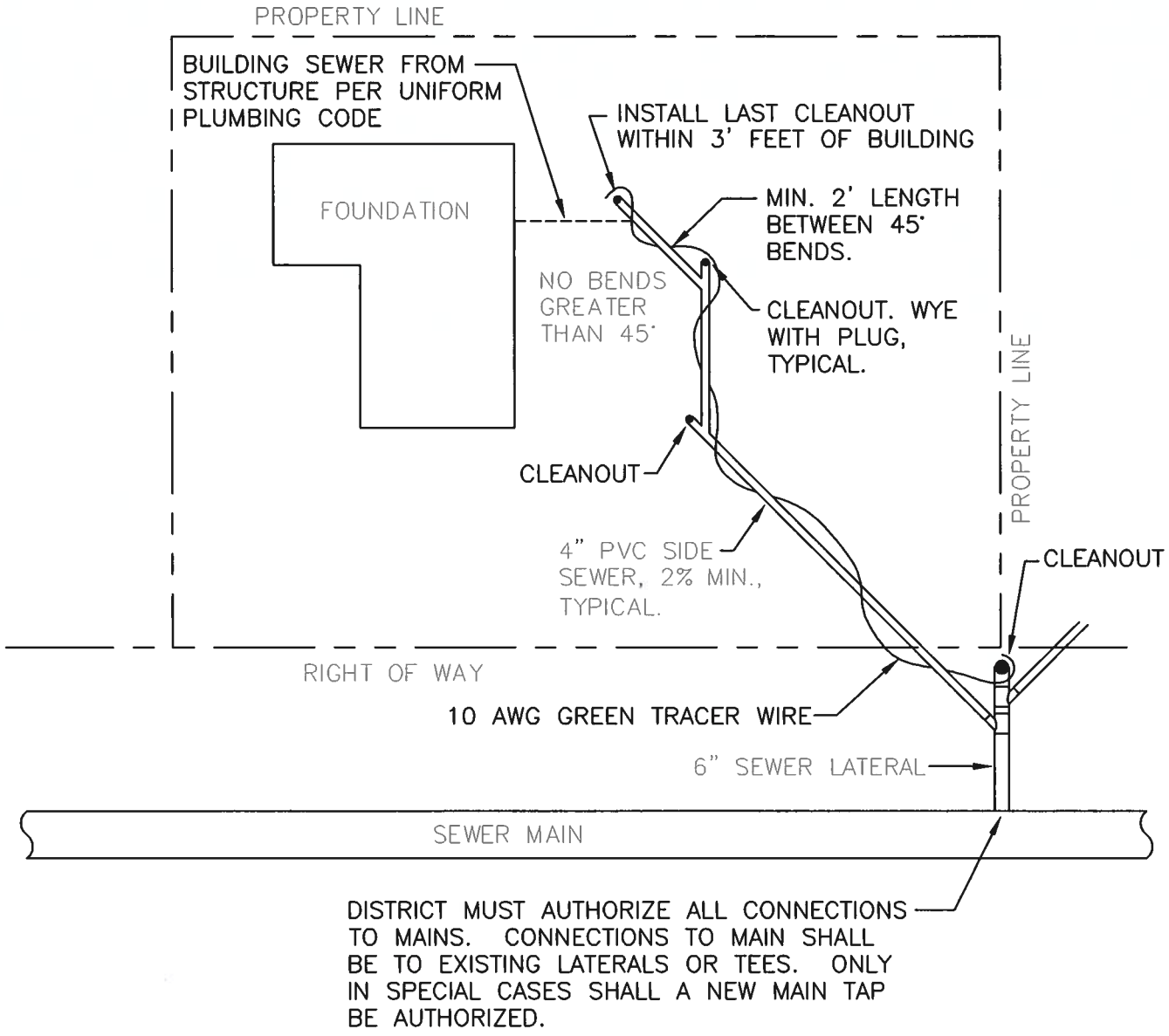


TYPICAL SEWER LATERAL & CLEANOUT



CLEANOUT FOR SEWER-ONLY CUSTOMERS.

LAKE WHATCOM WATER & SEWER DISTRICT	SEWER LATERAL AND CLEANOUT	STANDARD DETAIL S7 5/1/2014



Notes:

1. All pipe from main to cleanout at foundation shall be PVC ASTM D3034 SDR 35, joints shall conform to ASTM D3212 using elastomeric gaskets conforming to ASTM F477. Fittings shall be injection molded, factory welded, or factory solvent cemented.
2. Minimum 18" of cover from property line to building.
3. Down spouts, sump pumps, and outside drains shall not be connected to the sewer line.
4. Bends greater than 45° will not be accepted.
5. Minimum size for sewer lines will be 4" for single family residence and 6" for multi-family residence up to a 4 plex.
6. Cleanouts on service lines shall be installed at every change in alignment or grade in excess of 22 1/2 degrees.
7. Cleanouts shall be spaced no greater than 100' apart.
8. A cleanout shall be installed within 3' of the building.

LAKE WHATCOM WATER & SEWER DISTRICT

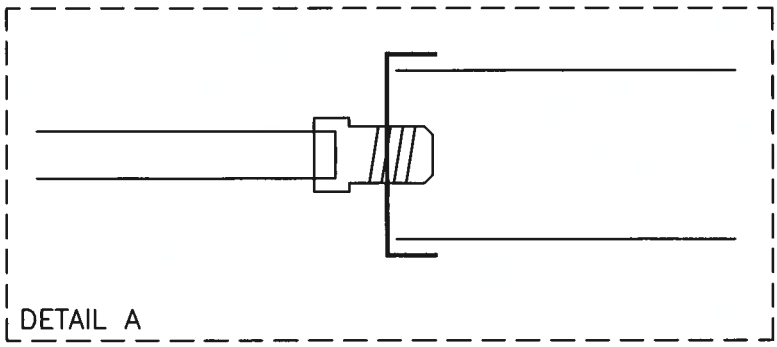
GRAVITY SIDE SEWER INSTALLATION

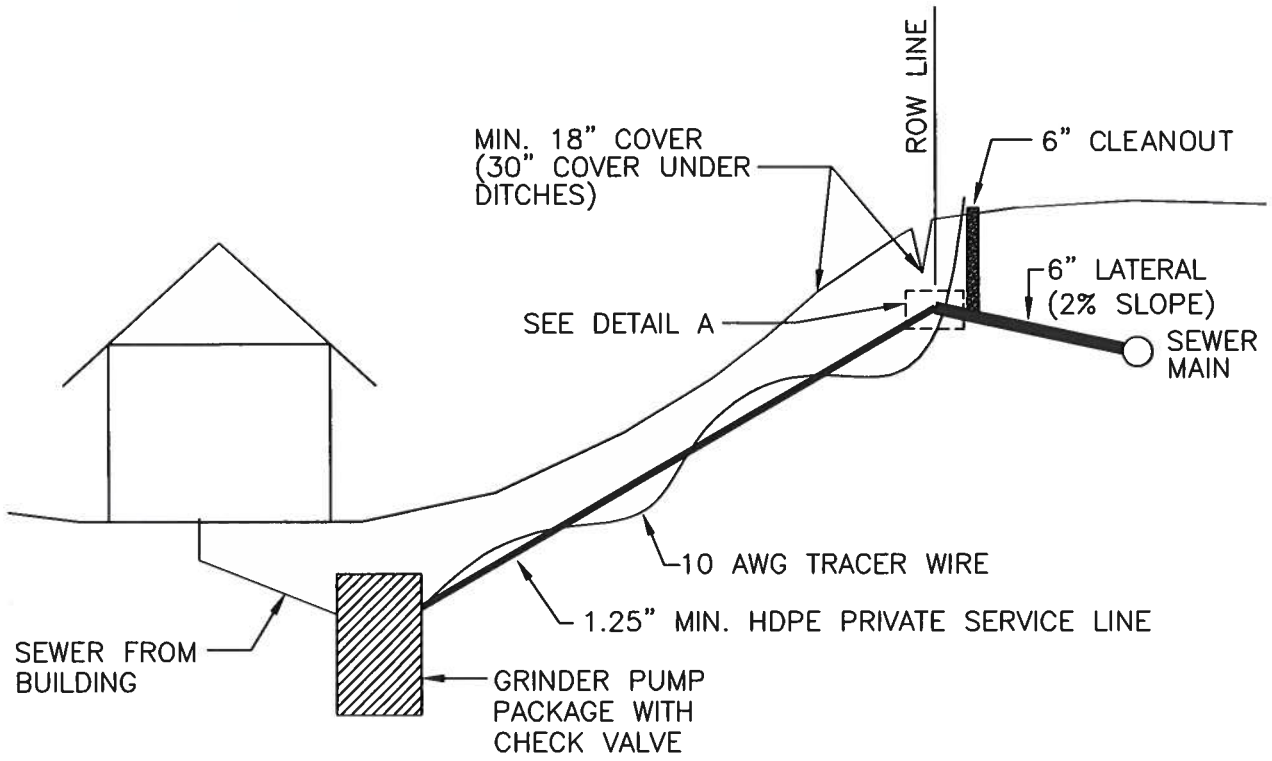
STANDARD DETAIL

S8

5/1/2014

060





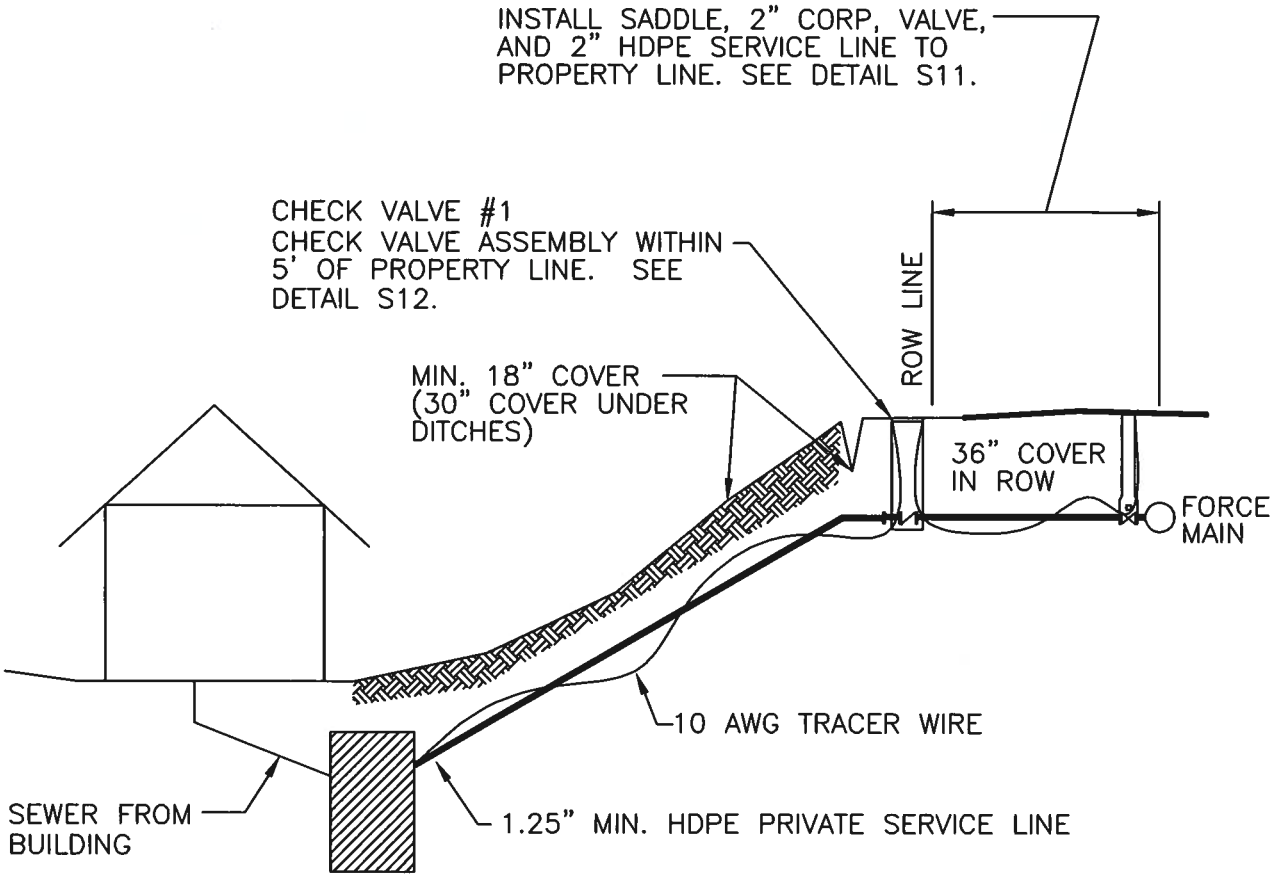
SEE DOE'S CRITERIA FOR
SEWAGE WORKS DESIGN,
SECTIONS C1–10.1 & C1–10.2
FOR GRINDER PUMP DESIGN &
COMPONENT INFORMATION

NOTES:

1. Pressure sewer service pipe shall be PE 3408 HDPE conforming to the requirements of ASTM D–3350. Piping shall be SDR11, IPS (OD), pressure rated at 160 PSI, conforming to the requirements of AWWA C901 and ASTM F714.

2. Brass compression fittings only – no hose clamps.

LAKE WHATCOM WATER & SEWER DISTRICT	GRINDER PUMP SERVICE TO GRAVITY MAIN INSTALLATION	STANDARD DETAIL S9 9/20/2017



GRINDER PUMP (CHECK VALVE #2 AT GRINDER PUMP)

SEE DOE'S CRITERIA FOR SEWAGE WORKS DESIGN, SECTIONS C1–10.1 & C1–10.2 FOR GRINDER PUMP DESIGN & COMPONENT INFORMATION

NOTES:

1. Pressure sewer service pipe shall be PE 3408 HDPE conforming to the requirements of ASTM D–3350. Piping shall be SDR11, IPS (OD), pressure rated at 160 PSI, conforming to the requirements of AWWA C901 and ASTM F714.

2. Two check valves are required between the pump station and the force main. One check valve shall be installed within 5' of the right–of–way in the check valve vault. The second valve shall be installed at the grinder pump.

LAKE WHATCOM WATER & SEWER DISTRICT

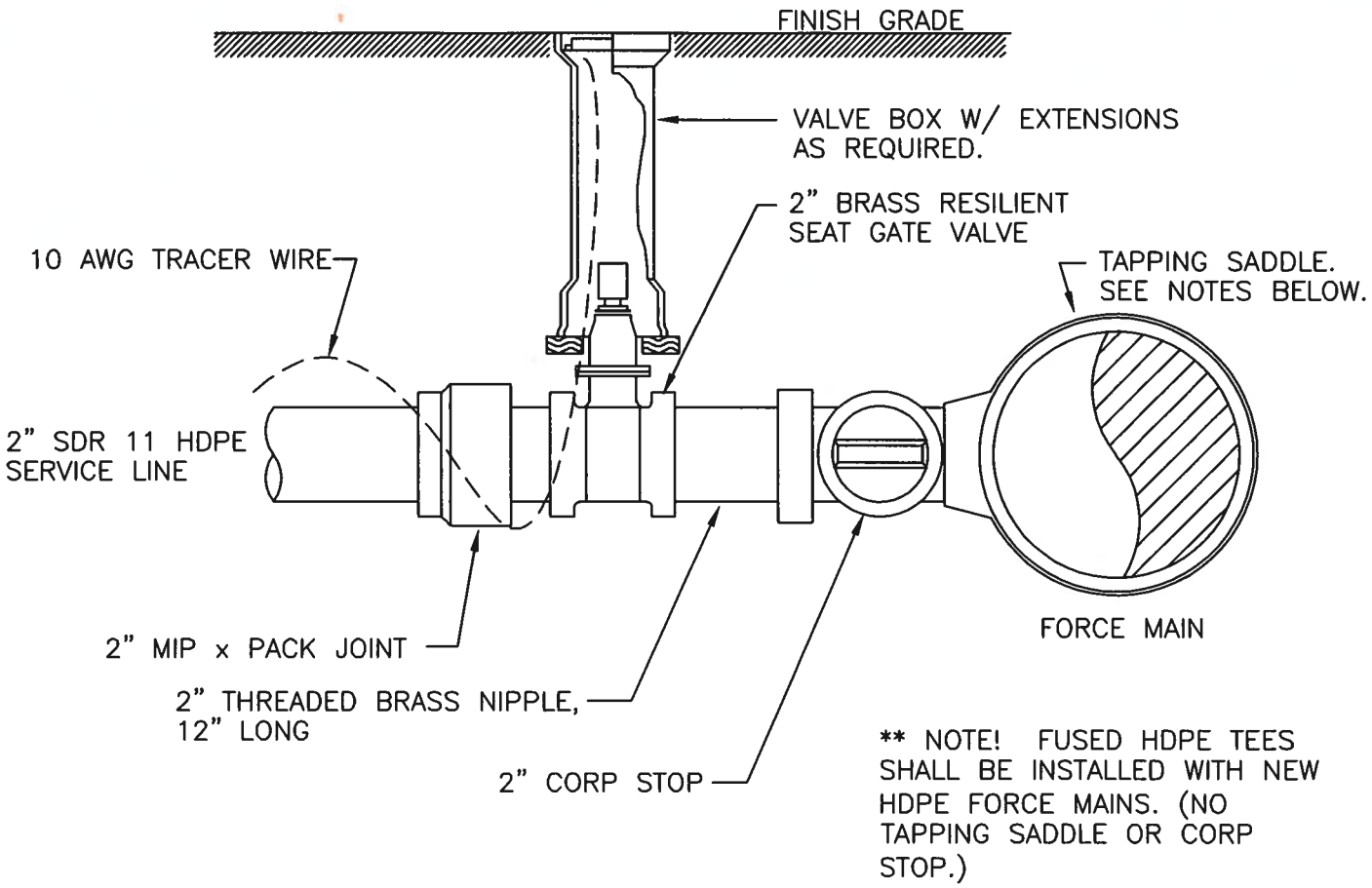
GRINDER PUMP SERVICE TO FORCE MAIN INSTALLATION

STANDARD DETAIL

S10

5/1/2014

062



NOTES:

1. HDPE Service Saddles. Saddles for use on SDR 17 HDPE mains shall be epoxy or nylon coated ductile iron tapping saddles with a double stainless steel strapping mechanism specifically recommended by the manufacturer for use on HDPE piping. Saddles shall be Romac style 202N–H or approved equal.

2. PVC Service Saddles. Saddles for use on AWWA C900 PVC mains shall have epoxy or nylon coated ductile iron tapping saddles with a double strap stainless steel strapping mechanism. Service saddles shall be Romac style 202N or approved equal.

3. Ductile Iron Service Saddles. Saddles for use on ductile iron mains shall have epoxy or nylon coated ductile iron tapping saddles with stainless steel tapping mechanism. Service saddles shall be Romac style 101NS or approved equal.

4. Customer Service Shutoff Valves. Shutoff valves shall be resilient wedge type gate valves in conformance with AWWA C515. Valves shall be suitable for sewage service and be equipped with transition gaskets where needed. Gate valves shall have a non–rising stem and be fusion–bonded epoxy coated inside and out meeting AWWA C550. Gate valves shall be Clow resilient wedge gate valves or approved equal.

5. Valve boxes shall have the word "SEWER" cast into the cover.

6. Fittings. All fittings shall be brass.

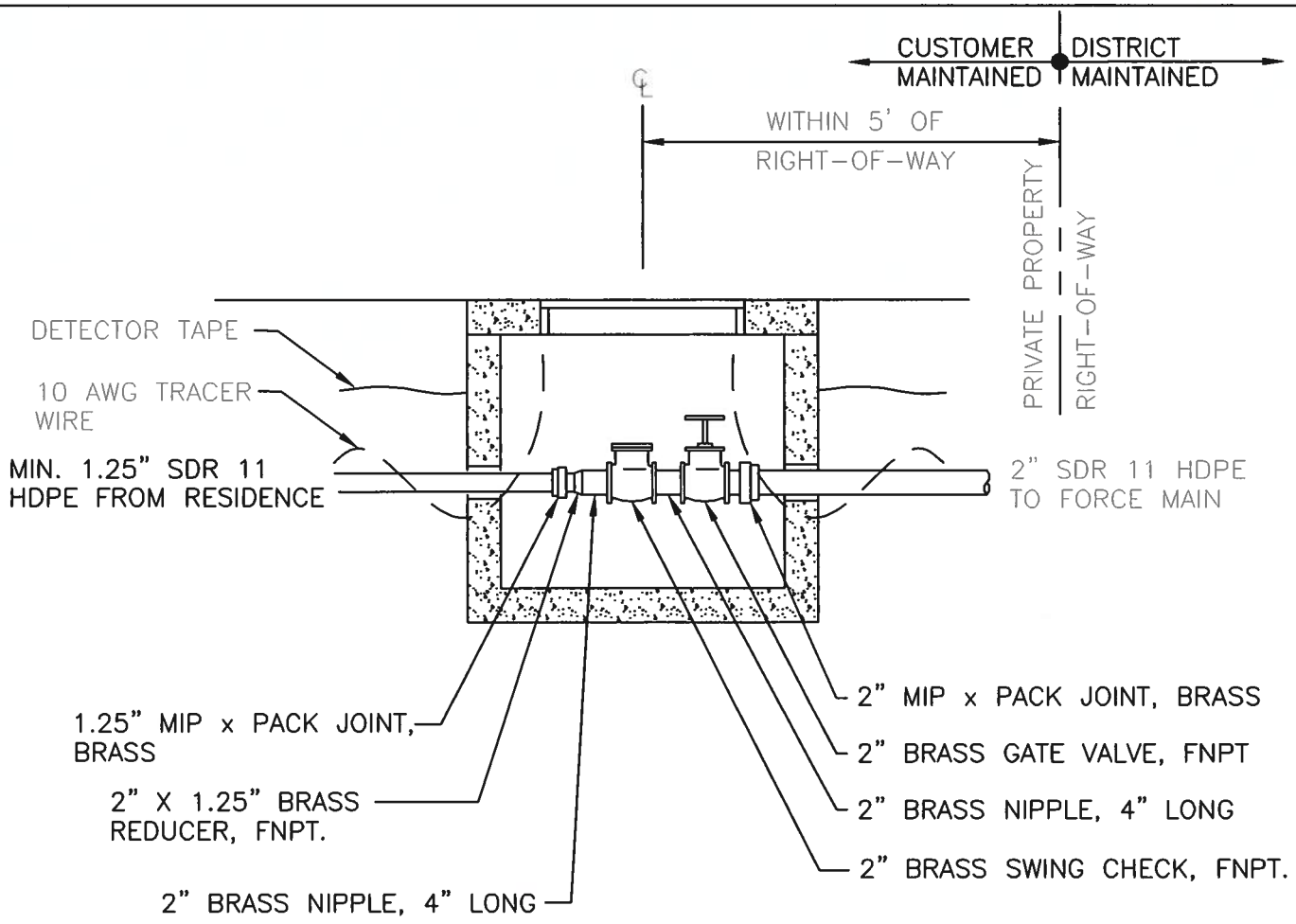
LAKE WHATCOM WATER & SEWER DISTRICT

CONNECTION TO FORCE MAIN

STANDARD DETAIL

S11

9/20/2017



Notes

1. Check Valve. Check valve shall be horizontal swing type manufactured out of brass and be pressure rated to 125 psi. Valve shall have metal to metal seal and threaded NPT end connections. Valve shall be a Milwaukee Valve UP509 or equal.

2. Gate Valve. Gate valve shall be manufactured out of brass and be pressure rated to 200 psi. Valve shall have threaded bonnet and non-rising stem. Valve shall be a Watts Regulator Company Series WGV-X or equal.

3. Vault. Vault shall be a pre-cast concrete hand hole with a 2'-0" by 3'-0" inside diameter and a maximum 4'-0" inside depth. Hand hole and access hatch shall be traffic rated. Access hatch shall be galvanized steel checker plate with pick holes and bolt down holes in plate. Check valve vaults shall be Utility Vault Model 2436 hand hole or approved equal.

4. Air/Vacuum Valve. Where required, air relief and combination air relief/ vacuum relief valves shall be as manufactured by Orenco, Apco, Crispin, ARI, or equivalent for sewer service. All valves shall be on private property and be fully accessible to enable customer's operation, maintenance and repair.

5. Fittings and Adapters. All fittings and adapters shall be brass.

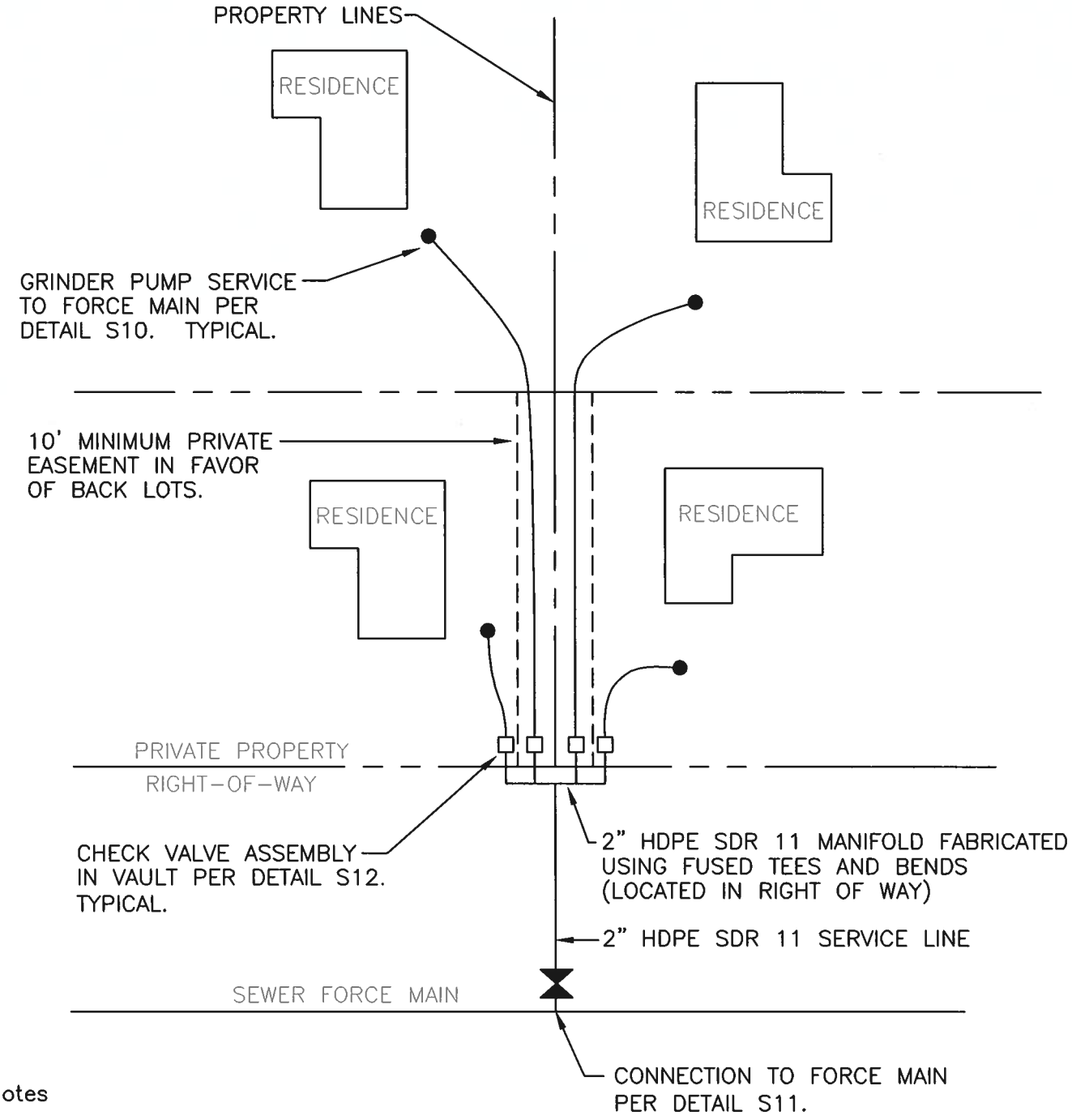
LAKE WHATCOM WATER & SEWER DISTRICT

FORCE MAIN SERVICE CHECK VALVE

STANDARD DETAIL

S12

95/210/220147



Notes

1. If approved by the District Engineer, a single 2" service tap may be shared with multiple residences. District will review requests for shared taps on a case by case basis. Property owners desiring to install a shared tap, shall individually but at the same time, submit a sewer permit application with the grinder pump check list for review by the District.

2. Manifold must be fabricated using fused HDPE tees and bends by a contractor certified by a HDPE pipe or fusion machine manufacturer.

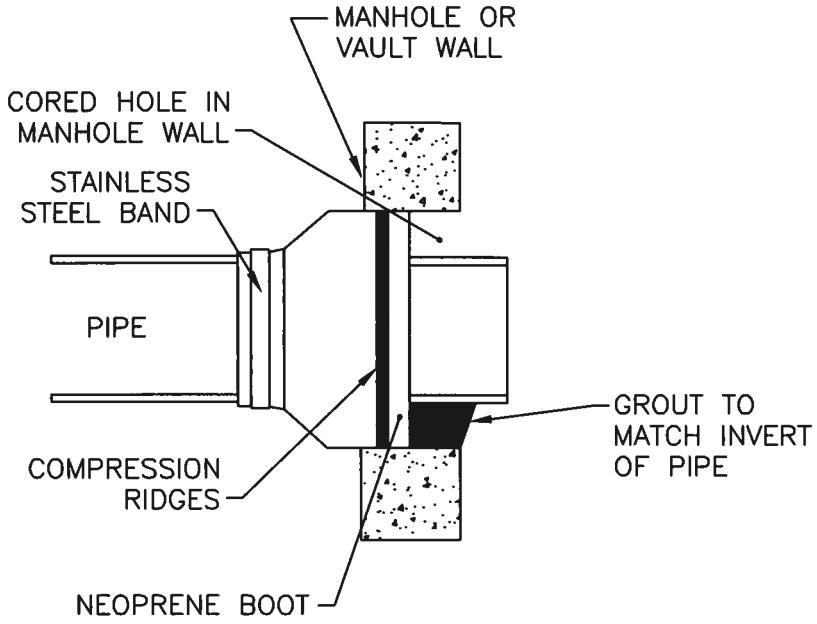
LAKE WHATCOM WATER & SEWER DISTRICT

SHARED FORCE MAIN SERVICE TAP

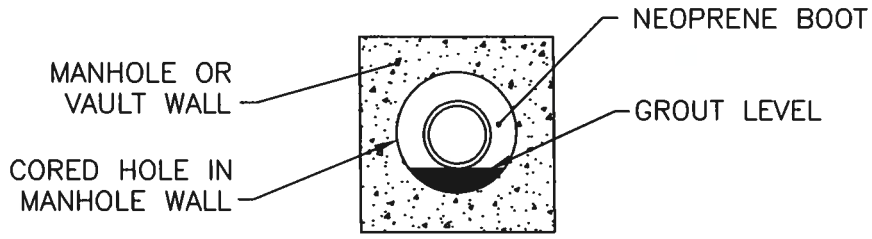
STANDARD DETAIL

S13

95/210/220147



FLEXIBLE SEAL ADAPTER



GROUT DETAIL

NOTES:

1. ALL MANHOLE CONNECTIONS SHALL BE 100% WATERTIGHT.
2. ALL PIPE SHALL EXTEND 2" INTO MANHOLE.
3. NEOPRENE BOOT ON THE FLEXIBLE SEAL ADAPTER SHALL BE A MINIMUM OF ⅜" THICK PER ASTM C-443, AND SHALL BE HELD IN PLACE WITH AN INTERNAL EXPANDING STAINLESS STEEL BAND SUCH AS "KOR-N-SEAL" OR APPROVED EQUAL.
4. DEFLECTION AT THE ADAPTER MUST NOT EXCEED MANUFACTURER'S RECOMMENDATION. IF SLOPE OF PIPE AT PENETRATION EXCEEDS RECOMMENDED DEFLECTION, CAST OR CORE HOLE AT AN ANGLE SUCH THAT DEFLECTION DOES NOT EXCEED MANUFACTURER'S RECOMMENDATION.

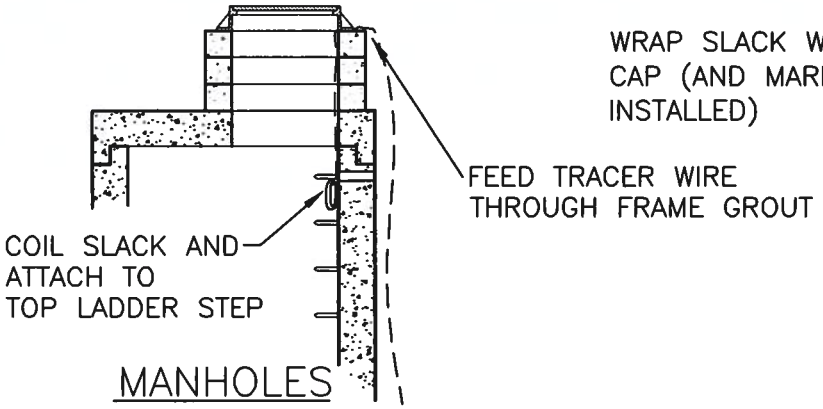
LAKE WHATCOM WATER & SEWER DISTRICT

MANHOLE PIPE PENETRATION DETAILS

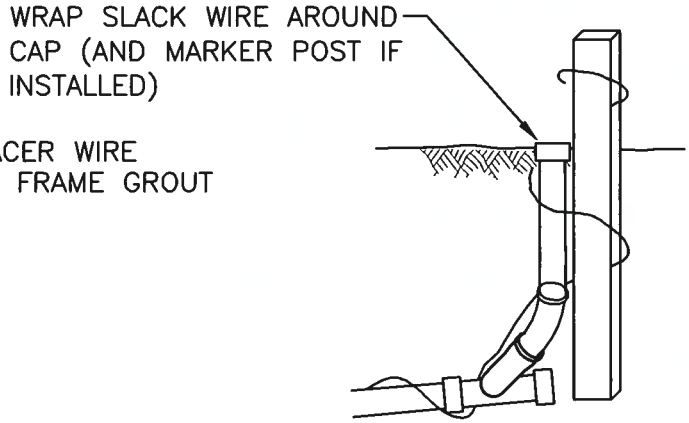
STANDARD DETAIL

S15

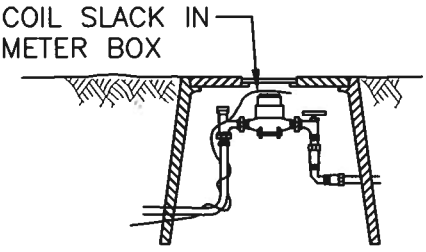
9/20/2017



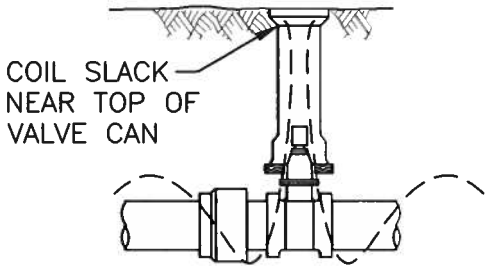
MANHOLES



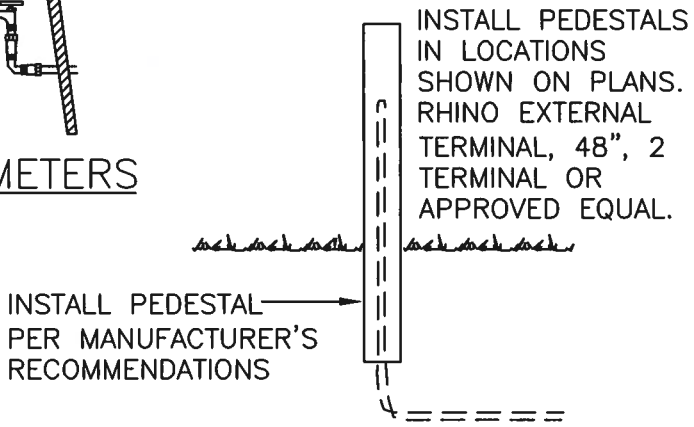
SEWER CLEANOUTS



WATER METERS



VALVE CANS



TRACER WIRE PEDESTAL

NOTES:

1. Tracer wire installation is required on all District owned pipe and communication lines. Tracer wire is also required on private side sewers.

2. Tracer wire shall be 10 AWG insulated copper wire rated for direct burial in wet locations. Use green insulation for sewer, blue insulation for water, and orange insulation for fiber/communication related utilities.

3. Install tracer wire in continuous lengths (no splices) between surface access points. Any direct bury splices shall be approved and inspected by the District Engineer prior to cover. Splices shall be made with silicone filled wire nuts rated for direct burial in wet locations such as "Ideal Underground Wire Connectors", "Ideal Mudbug Connectors," "Copperhead Snakebite Connectors," or "3M DBR Direct Bury Splice Kit."

4. Tape tracer wire to pipe at 10–foot intervals.

5. Provide at least 2–feet of coiled tracer wire slack at surface access points.

LAKE WHATCOM WATER & SEWER DISTRICT

TRACER WIRE

STANDARD DETAIL

E5

9/20/2017

APPENDIX D

WATER SAMPLING PROCEDURES

PWS ID Number	959101 – South Shore (Geneva & Sudden Valley) 081181 – North Shore – Eagleridge 52957B – North Shore – Agate Heights 047828 – Johnson Well

Preparation of the Sample Bottle

1. Select the most appropriate sampling point. Remove any aerators, screens, hoses, or filters from the cold water faucet.
2. Disinfect the tap with liquid chlorine.
3. Let the water run freely for at least five (5) full minutes.
4. Take chlorine residual.

Collection of the Sample

5. Hold the sample bottle near the bottom with one hand and unscrew the cap with the other. Do not rinse out the powder in the sample bottle, it is supposed to be there. Hold the cap near the top edge in one hand and the sample bottle in the other.
6. DO NOT touch any part of the cap that touches the bottle, or set the cap down, or let anything touch the cap.
7. Hold the sample bottle under the stream of water about an inch below the bottom edge of the water spout. DO NOT adjust the flow once you have started filling the sample bottle. Fill the sample bottle to the shoulder or 100 ml fill line but do not let the sample bottle overflow.
8. After the sample bottle is filled to the correct level, remove it from under the flow and immediately place the cap on the bottle and screw it down tightly.

Post Sampling Procedure

9. Shut off the cold water faucet.
10. Replace any attachments that were removed from the faucet.
11. Check to be sure the lab slip is correctly and completely filled out.

    A. Water system ID number

    B. Water system name

    C. Collection date and time the sample was taken

    D. Type of sample: Check ONLY ONE Type:

    i. Compliance

    ii. Investigative

    iii. Raw

iv. Special request

E. Sample location (street address or other type of location identifier)

F. System type (Group A or B)

G. Bottle number and date

H. Write in chlorine residual number

12. Attach the lab slip to the sample bottle with a rubber band.
13. Make a copy of lab slip (on blue paper) and put it in WTPO's box
14. Take a custody sheet with you to the Lab for them to sign
15. Place the sample in a cooler with an ice pack.
16. Transport the sample to the lab within 30 hours of the time of collection.

Water Sample Labs

Edge Analytical Corporate Lab 1620 S. Walnut St. Burlington, WA 98233 800-755-9295 360-757-1400	Edge Analytical 805 Orchard Dr. Suite 4 Bellingham, WA 98225 888-725-1212 360-715-1212 micro@edgeanalytical.com	City of Bellingham Attn. Peg Wendling 778-7850 733-9178 Have Post Point Wastewater Treatment Plant contact Peg Wendling at home and arrange for testing

AGENDA BILL Item 5.C	**Comprehensive Sewer Plan Update Engineering Services Contract Approval**			
DATE SUBMITTED:	April 17, 2019	MEETING DATE:	April 24, 2019	
TO: BOARD OF COMMISSIONERS		FROM: Bill Hunter, AGM/District Engineer		
GENERAL MANAGER APPROVAL				
ATTACHED DOCUMENTS		1. Pages from District Administrative Code		
		2. Draft Wilson Task Order Scope of Work		
TYPE OF ACTION REQUESTED		RESOLUTION ☐	FORMAL ACTION/ MOTION ☒	INFORMATIONAL /OTHER ☐

BACKGROUND / EXPLANATION OF IMPACT

The District's current comprehensive sewer plan was completed in May 2014 and approved by the Department of Ecology on June 6, 2014. The District established a policy to update its comprehensive plans every six (6) years in its Administrative Code.

The purpose of the comprehensive sewer plan is to provide a comprehensive overview of the existing sewage installations and treatment facilities operated and maintained by Lake Whatcom Water and Sewer District. In addition, the plan addresses potential future facilities development and projected population growth. The plan covers the following topics:

- system owner/operator information,
- sewer system layout including a description of the existing system boundaries,
- description of existing collection facilities including recently completed improvements,
- discussion of development trends within sewer district boundaries,
- discussion of existing and future collection and treatment issues such as existing and future sewer flows, and infiltration/inflow (I&I),
- discussion of sewer rate structure and revenue planning,
- discussion of present and future development alternatives within the district boundaries,
- outline of future improvement projects within the District.

Two of the most critical items in this upcoming update are to confirm and update a build-out capacity and prioritize projects that minimize inflow and infiltration as the District works with the City of Bellingham on their bio-solids treatment upgrades.

Staff asked Wilson Engineering to prepare a Task Order proposal to update the comprehensive sewer plan. Attached is a draft for the Board's review, discussion, and possible approval.

FISCAL IMPACT

The District's approved 2019 budget includes $85,000 for this project. The draft Task Order proposal by Wilson Engineering is $69,950.

RECOMMENDED BOARD ACTION

Staff recommends approving the task order.

PROPOSED MOTION

A recommended motion is:

> "I move to authorize the General Manager to execute Task Order #2019-001 with Wilson Engineering, LLC for the Comprehensive Sewer Plan Update not to exceed $69,950."

so long as consistent with this Resolution, take action at such meeting to review and ratify the contract or change order. [Resolution No. 767]

2.3 Capital Improvement Plan Policy

The District has established as a primary fiscal responsibility the preservation, maintenance and future improvement of the District's capital facilities, equipment, and assets. Proper planning and implementation of sound capital policies and programs assist the District in avoiding fiscal emergencies and unplanned capital costs in the future.

1. A comprehensive multi-year Capital Improvement Plan for the District's water and sewer facilities is updated annually. All projects included in the Capital Improvement Plan shall be consistent with the District's Water and Sewer Comprehensive Plans.

2. The Board will review on an annual basis and establish criteria against which capital proposals should be measured. Included among the factors which will be considered for priority ranking are the following:

    - Projects which will have a positive impact on the operating budget through reduced costs or increased revenues.
    - Projects which are scheduled in the Capital Improvement Plan.
    - Projects which can be realistically accomplished during the year that they are scheduled.
    - Projects that implement previous Board-approved reports and strategies.
    - Renewal and replacement schedule projects.

3. Proposed capital projects should include cost estimates that are complete, reliable and attainable. Project cost estimates for the Capital Improvement Plan shall be based upon a thorough analysis of the project and are expected to be as reliable as the level of detail known about the project.

4. Financial analysis of funding sources will be conducted for all proposed capital improvement projects, in addition to listing the total project costs.

5. The annual capital budget shall include only those projects which can reasonably be accomplished in the time frame indicated.

6. The District will project its equipment needs and will update these projections annually. From this projection, a maintenance and replacement schedule will be developed and followed. The intent of the maintenance program shall be to maintain all assets at an adequate level in order to protect the District's capital investment and to minimize future maintenance and replacement costs; customer's expected level of service and the protection of Lake Whatcom should also be considered.

7. Although the District will generally finance projects on a "pay-as-you-go" basis, the Board may conclude that the most equitable way of funding a project that benefits the entire community will be debt financing in order to provide capital improvements or services in a timely manner.

8. New private community development including residential and commercial projects shall pay for its fair share of the capital improvements that are necessary to serve the development in the form of capital facilities charges.

9. Project proposals should indicate the project's impact on the operating budget including, but not limited to, long-term maintenance costs necessary to support the improvement.

10. Capital projects that are not completed during the fiscal year shall be re-budgeted to be carried over to the next fiscal year. All re-budgeted capital projects should be so noted in the adopted Capital Budget.

11. Capital projects will not be budgeted unless there are reasonable expectations that revenues will be available to pay for them and subsequently fund their operations and services associated therewith.

12. Projects that involve intergovernmental cooperation in planning and funding should be established by an agreement that sets forth the basic responsibilities of the parties involved.

13. A comprehensive inventory of all capital assets shall be conducted and maintained to include estimates of actual value, replacement cost and remaining useful life.

14. Capital projects shall be financed to the greatest extent possible through user fees when direct benefit to users results from the construction of the project.

15. In conjunction with establishing or planning its capital program, the District maintains a six year capital-financing plan that supports execution of that program and is capable of sustaining long-term District capital requirements. The capital program incorporates system expansion, upgrades and improvements, and system repair and replacement. The intention is to establish an integrated capital funding strategy.

16. Comprehensive Plans for the District are completed or updated every six years as required by Chapter 57.16 RCW and applicable state regulations, using a 20-year planning horizon. For budgeting purposes, the District maintains a capital projects schedule, the Capital Improvement Plan of at least six years in duration and consistent with the comprehensive long-range plans for the system. The schedule will include the project description, estimated year of construction and total estimated cost. During the periodic rate study review various funding sources are identified as well as estimated capital fund balances, in an effort to identify a potential funding shortfall.

17. The District works to pursue a reasonable capital improvement program through careful balance of pay-as-you-go capital projects and debt financing.

18. District Capital Facilities Charge (CFC) revenue is revenue received from new customers connecting to the water and sewer systems and on expanded development(s). The District reviews and adjusts, if appropriate, the CFC as needed.

19. The District utilizes revenue bonds, Public Works Trust Fund loans, and State Revolving Fund (SRF) loans to assist in Capital Funding whenever necessary. Each capital project that may be funded by a loan is evaluated within the context of the District's capital improvement program and the capital budget. Alternative financing sources are always considered. The District will not issue or accept long-term debt to finance current operations. [Resolution No. 826]

TASK ORDER #2019-001
Lake Whatcom Water and Sewer District
General Engineering Services

DESCRIPTION:

The District is required to update its Sewer Comprehensive Plan every six years. The last update was completed in May 2014 and approved by the Department of Ecology in June 6, 2014.

The District has requested that Wilson Engineering prepare the sewer plan update. The scope for this effort is included in the attached spreadsheet.

SCOPE OF WORK:

District Project Number: _____.
Project name: **Sewer Comprehensive Plan - 2019 Update**

Project includes:

See attached spreadsheet.

Assumptions and limitations:

- District provides manpower to download and format SCADA history for all sewer pump stations (run times, metered flows) for wet weather and dry weather periods
- District provides pertinent information for pump station replacement projects (pre-design reports, plans, pump curves, etc.) completed since 2014.
- District provides suitable I&I analyses for North Shore and South Shore systems.
- District pays costs for Legal Notices.
- Public Meeting is held during a Regular Board Meeting.

COST SUMMARY:

Estimate of hours:

See attached spreadsheet.

Subconsultant fees:
None anticipated.

Other Direct Costs:
Nominal costs associated with mailings. Estimate = $100

Task Order Total Price (time & materials not to exceed):

Task 1 - Project Meetings	$4,752
Task 2 - Data Acquisition/Review	$2,252
Task 3 - Data Analysis	$9,110
Task 4 - Facilities Assessment	$6,948
Task 5 - I&I Analyses Review	$3,456
Task 6 - Future Demand Analysis	$4,032
Task 7 - Prepare Maps	$6,072
Task 8 - Capital Planning	$7,452
Task 9 - Cost Analysis	$3,240
Task 10 - Prepare Plan	$20,880
Task 11 - SEPA Checklist	$1,656
Direct Costs	$100
Total =	**$69,950**

PROJECT SCHEDULE:

Milestone dates (goals):

- Kick-off meeting - early May
- Facilities Assessment meeting - July 2019
- Draft Sewer Plan / Presentation to District, Board - September 2019
- Final Sewer Plan for Agency Review - November 2019

AUTHORIZATION:

Lake Whatcom Water and Sewer District

By: _____
Justin Clary
General Manager

Dated: _____

Wilson Engineering, LLC

By: _____
Melanie Mankamyer, PE
Principal

Dated: _____

LWWSD
Task 2019-001
Sewer Comprehensive Plan Update

Task Description	Fixed Expense	Principal Engineer	Senior Project Engineer	Engineer IV	Engineer III	Engineer II	Engineer I	Senior CAD Tech	CAD Design Tech	Cost
Rate ($/hr) =	L.S.	$162	$156	$146	$136	$126	$116	$102	$86	
Task 1: Project Meetings and Public Involvement										
Progress Meetings (two)		4				4				$ 1,152
Track and report progress & expenditures monthly		8								$ 1,296
Public Meetings (one, including Prep)		8				8				$ 2,304
Sub-Total	$ -	20	0	0	0	12	0	0	0	$ 4,752
Task 2: Data Acquisition/Review										
Existing Sewer Plan; other documents		4				4				$ 1,152
Existing GIS Data, AutoCAD maps		2			2	4				$ 1,100
Sub-Total	$ -	6	0	0	2	8	0	0	0	$ 2,252
Task 3: Data Analysis										
Import / Adjust Pump Station Drainage Basin boundaries		1			2	4				$ 938
Review SCADA data / pump run times gathered and formatted by District Staff		2				8				$ 1,332
Develop Dry Weather flows by Drainage Basin / Pump Station		2				16				$ 2,340
Develop Wet Weather flows by Drainage Basin / Pump Station		2				16				$ 2,340
Flow and Loading Projections		4				12				$ 2,160
Sub-Total	$ -	11	0	0	2	56	0	0	0	$ 9,110
Task 4: Facilities Assessment										
Review Cartegraph data- Facility inspection data; condition assessment data with Staff		2				16				$ 2,340
Site Visit / Field "Survey" (as needed)		8				8				$ 2,304
Identify Candidate Maintenance Improvements with Staff input		8				8				$ 2,304
										$ -
Sub-Total	$ -	18	0	0	0	32	0	0	0	$ 6,948
Task 5: I&I Analyses										
South Shore										
Review Staff I&I analyses		4				2				$ 900
Incorporate results into Report, Appendices		2				4				$ 828
North Shore										
Review Staff I&I analyses		4				2				$ 900
Incorporate results into Report, Appendices		2				4				$ 828
Sub-Total	$ -	12	0	0	0	12	0	0	0	$ 3,456
Task 6: Future Demand Analysis										
Review/Establish Service Area Goals and Policies		4				2				$ 900
Identify Existing and Future Service Area Boundaries		4				2				$ 900
Population Forecasts		4				8				$ 1,656
Land Use Projections		2				2				$ 576
										$ -
Sub-Total	$ -	14	0	0	0	14	0	0	0	$ 4,032

LWWSD
Task 2019-001
Sewer Comprehensive Plan Update

Task Description	Fixed Expense	Principal Engineer	Senior Project Engineer	Engineer IV	Engineer III	Engineer II	Engineer I	Senior CAD Tech	CAD Design Tech	Cost
Rate ($/hr) =	L.S.	$162	$156	$146	$136	$126	$116	$102	$86	
Task 7: Prepare Maps										
Overall System Map		2				4		8		$ 1,644
Collection Systems		4				4		16		$ 2,784
Sewer Pump Facilities		2				4		8		$ 1,644
										$ -
Sub-Total	$ -	8	0	0	0	12	0	32	0	$ 6,072
Task 8: Capital Planning										
Future Maintenance and Operational Improvement Project Narratives/Cost Ests		12				4				$ 2,448
Future Administrative, Financial and Planning Improvements		4				2				$ 900
Future Capital Improvement Project Narratives/Cost Est		16				12				$ 4,104
										$ -
Sub-Total	$ -	32	0	0	0	18	0	0	0	$ 7,452
Task 9: Cost Analysis										
Revenue Requirement Analysis		12								$ 1,944
Cost of Service Analysis		8								$ 1,296
										$ -
Sub-Total	$ -	20	0	0	0	0	0	0	0	$ 3,240
Task 10: Prepare Sewer Plan										
Prepare Draft Plan		40				20		4		$ 9,408
Print and Distribute to District for Review		8				4		8		$ 2,616
Incorporate District Comments		8				8		8		$ 3,120
Prepare Final Plan and Submit to Agencies		8				4		8		$ 2,616
Incorporate Agency Comments		8				8		8		$ 3,120
										$ -
Sub-Total	$ -	72	0	0	0	44	0	36	0	$ 20,880
Task 11: SEPA Checklist										
Prepare non-project SEPA checklist		4				8				$ 1,656
										$ -
Sub-Total	$ -	4	0	0	0	8	0	0	0	$ 1,656
Direct Expenses	$ 100									$ 100
Project Total	$ -	217	-	-	4	216	-	68	-	$ 69,950

Assumptions:
1. Hydraulic model updates are not required.
2. District will cover costs associated with Legal Notices.
3. District has completed I&I analyses for both North and South Shore.

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AGENDA BILL Item 7.A.	**General Manager's Report**			
DATE SUBMITTED:	April 16, 2019	MEETING DATE:	April 24, 2019	
TO: BOARD OF COMMISSIONERS		FROM: Justin Clary		
GENERAL MANAGER APPROVAL				
ATTACHED DOCUMENTS		1. General Manager's Report		
TYPE OF ACTION REQUESTED		RESOLUTION ☐	FORMAL ACTION/ MOTION ☐	INFORMATIONAL /OTHER ☒

BACKGROUND / EXPLANATION OF IMPACT
Updated information from the General Manager in advance of the Board meeting.

FISCAL IMPACT
None.

RECOMMENDED BOARD ACTION
None required.

PROPOSED MOTION
None.

LAKE WHATCOM WATER AND SEWER DISTRICT

General Manager's Report

Upcoming Dates & Announcements

Regular Meeting – Wednesday, April 24, 2019 – 8:00 a.m.

Important Upcoming Dates

Lake Whatcom Water & Sewer District			
Regular Board Meeting	Wed May 8, 2019	6:30 p.m.	Board Room
Employee Staff Meeting	Thu May, 9 2019	8:00 a.m.	Board Room Commissioner McRoberts to Attend
Investment Comm Meeting	Wed May 8, 2019	6:00 p.m.	Small Conference Room
Safety Committee Meeting	Wed May 8, 2019	8:00 a.m.	Small Conference Room
Lake Whatcom Management Program			
Data Group Meeting	Thu May 9, 2019	9:00 a.m.	City of Bellingham PW Offices 2221 Pacific Street
Policy Group Meeting	Mon Jun 24, 2019	3:00 p.m.	City of Bellingham's Fireplace Room 625 Halleck Street *Enter through the Halleck St entrance*
Joint Councils Meeting	March 2020	TBD	TBD
Other Meetings			
WASWD Section III Meeting	Tue May 14, 2019	6:15 p.m.	Bob's Burgers, 8822 Quil Ceda Pkwy, Tulalip, WA
Water Utility Coordinating Committee	to be determined	TBD	Whatcom County Health Offices 509 Girard Street
Whatcom Water Districts Caucus Meeting	Wed May 15, 2019	1:00 p.m.	Board Room
Lake Whatcom Stormwater Utility Public Meeting	Tues Apr 30, 2019	6:30 p.m.	Geneva Elementary School Cafeteria
Whatcom County Council of Governments Board Meeting	Wed May 8, 2019	3:00 p.m.	Council of Governments Offices 314 E Champion Street

Committee Meeting Reports

Safety Committee:

- During its April 10 meeting, Committee noted that great progress has been made in completion of outstanding items.
- District is coordinating with South Whatcom Fire Authority for staff CPR/AED/First Aid training.
- Annual employee-specific on-line safety training underway; each employee required to complete training by May 31.

Investment Committee:

- No meetings held since last Board meeting

Upcoming Important Agenda Topics and Meetings

- Presentation on Lake Whatcom Stormwater Utility Status on May 8
- Resolution setting policy for remote attendance of board meetings on May 8
- Issuance of iPads to Commissioners, and associated training scheduled for May

2019 Initiatives Status

Administration and Organizational Document Review/Revision

Personnel Policies Manual

- Workplace Violence Policy Update
  Approved by the Board during February 27 meeting.
- Drug Testing Policy Update
  Approved by the Board during February 27 meeting.
- Paid Family & Medical Leave Act Policy Addition
  Approved by the Board during February 27 meeting.
- Other revisions as identified/needed

Administrative Code

- Board Meeting Dates/Times
  Adopted by the Board during January 30 meeting (Resolution No. 854).
- Purchasing Policy
  Adopted by the Board during March 13 meeting (Resolution No. 857).
- Other revisions as identified/needed

Commissioner Protocol Manual

- Work session to review/revise
  Adopted by the Board during April 10 meeting.

Health & Safety Program

- Review program
  Ongoing. Safety Committee is currently reviewing the Respirator and Confined Space SOPs.

File Management System

- Electronic file management structure revision
  File management structure has been revised; migration of documents to the new structure is nearing completion.
- Digitize applicable hard copies and file in DocuWare
  To be initiated. Anticipate completion by September 30.

Community/Public Relations Enhancement

Website

- Reconfigured the layout of the *About* dropdown menu to make more user friendly.
- Developing content for the *Board of Commissioners* page (commissioner bios).

Intergovernmental Relations

- District staff met with Sudden Valley Community Association staff on April 11 to discuss ways to effectively integrate the District's permitting process into SVCA's development review/approval process.
- District staff attended a presentation hosted by the city of Bellingham related to toxic algae blooms/microcystin.

- J. Clary and B. Ford met with city of Bellingham staff regarding planned replacement of the Post Point Wastewater Treatment Plant solids handling facility.
- J. Clary scheduled to present the status of District projects to the Sudden Valley Community Association board during its regularly scheduled meeting on April 25.

Social Media Program

- Develop/implement social media program
  Program implemented February 14.
- Create/manage District LinkedIn account
  LinkedIn account is live (www.linkedin.com/company/lake-whatcom-water-and-sewer-district).
- Create/manage District Facebook account
  Facebook account is live (https://www.facebook.com/Lake-Whatcom-Water-Sewer-District-455872278278848).
- Create/manage District NextDoor account
  Working with NextDoor to create an agency account; NextDoor is currently limiting to emergency response agencies.

Press Releases

- District staff recognition press release issued on January 14.

50-Year Anniversary

- Press release/logo
  Release issued November 21, 2018; logo developed November 20, 2018.
- Banner
  Installed January 10.
- Commissioner/employee jackets with 50th anniversary logo
  Jackets distributed to staff during March 14 staff meeting.
- Celebration
  Completed during the annual employee banquet on January 11.

Fact Sheets

- Develop District fact sheets
  General informational fact sheet on the District under development.

Lake Whatcom Water Quality

Management Program

- Attend organized meetings; initiate additional meetings/discussions outside of program
  J. Clary in ongoing communication with city of Bellingham and Whatcom County staff regarding development of an interlocal agreement between the District, city of Bellingham, and Whatcom County specific to assessment of septic impacts along the north shore of Lake Whatcom.

Onsite Septic System Impact Assessment

- North shore monitoring
  See discussion above regarding development of an interlocal agreement for assessment of septic impacts along the north shore of Lake Whatcom.

Onsite Septic System Conversion Program

- Identify applicable lots
  Staff have identified lots to pursue connection to District collection system.

- Implement conversion notification process
  Notice of requirement to connect to District sewer system sent to three property owners on February 21.
- Complete conversion
  To be initiated; complete by December 31.

Watershed Stormwater Utility

- Participate in utility development process
  A public meeting presenting the outcome of the stormwater utility advisory committee's recommnedations to be held at 6:30 p.m., Tuesday, April 30, at Geneva Elementary School. County staff to present the utility structure and fees at the May 8 board meeting.

Board Technology Upgrades

Board-issued Tablets

- Identify/implement appropriate systems to board
  Staff received a proposal from our IT provider for tablet configuration; anticipate issuance of tablets second quarter 2019.

Electronic Board Packets

- Implement electronic-only packet production process
  Implement following issuance of tablets to Board.

Asset Management

Asset Location

- GPS District infrastructure in Sudden Valley
  Scheduled for summer 2019; complete by October 31.

Preventative Maintenance

- Develop/refine automatic work order notification process in Cartegraph
  Purchase order for Cartegraph modules issued; implementation anticipated by April 30.

O&M Workload Capacity Analysis

- Implement process in Cartegraph for tracking resource use
  Engineering and operations staff have begun tracking resources specific to utilities.
- Analyze resource allocation data
  To be conducted as data becomes available.

New Development Process Refinement

- Revise/implement new development permit/inspection/approval process
  Initial meeting with Sudden Valley Community Association staff held in 2018; staff are reviewing District development review process and how it integrates with Whatcom County and Sudden Valley Community Association processes. Staff attended the Sudden Valley Community Association contractor informational meeting held on April 5, and met with SVCA staff on April 11 to refine the integration of District permitting into the SVCA development approval process.

AGENDA BILL Item 7.B	**Engineering Department Report**			
DATE SUBMITTED:	April 18, 2019	MEETING DATE:	April 24, 2019	
TO: BOARD OF COMMISSIONERS		FROM: Bill Hunter		
GENERAL MANAGER APPROVAL				
ATTACHED DOCUMENTS		1. Summary of Existing District Projects		
		2. District Projects Staff Report		
		3.		
TYPE OF ACTION REQUESTED		RESOLUTION ☐	FORMAL ACTION/ MOTION ☐	INFORMATIONAL /OTHER ☒

BACKGROUND / EXPLANATION OF IMPACT
Staff presentation of Summary of Existing District Projects and priorities

FISCAL IMPACT
Not applicable at this time.

RECOMMENDED BOARD ACTION
Review and discuss.

PROPOSED MOTION
Not applicable at this time.

Lake Whatcom Water & Sewer District
Summary of Existing District Projects

Prepared for the April 24, 2019 Board Meeting
Data Compiled 04/18/2019 by RH, BH, RM, KH

Status of Water and System Capacities				
	South Shore ID# 95910	Eagleridge ID# 08118	Agate Heights ID# 52957	Johnson Well ID# 04782
DOH Approved ERUs	**	85	54	2
Connected ERUs	3845	70	44	2
Remaining Capacity (ERUs)	**	15	10	0
Permitted ERUs Under Construction	21	0	0	0
Pre-paid Connection Certificates & Expired Permit	17	0	5	0
Water Availabilities (trailing 12 months)	36	0	0	0
Subtotal - Commitments not yet connected	74	0	5	0
Available ERUs	**	**15**	**5**	**0**

** Per DOH, water system capacity is sufficient for buildout. Oct 2018

Completed District Projects in 2019	
Proj #	Project Name
C1705	PAR Sewer Pump Station Improvements
C1912	Procure Boom Lift for Reservoir Access
M1915	Vehicle 42 - 5 Yard Dump Truck Tire Replacement

085

State Required Report Status														
Monthly Reports														
Name Of Report		**Completed**												
Chlorination Report Agate Heights Prepared by: Kevin	Postmarked by the 10th of month	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	
		x	x	x	x									
Surface Water Treatment Rule Report (SVWTP) Prepared by: Kevin	Postmarked by the 10th of month	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	
		x	x	x	x									
Department of Revenue Prepared by: Debi	Due end of following month	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	
		x	x	x										
Community Right to Know (Hazardous Materials) Prepared by: Rich	March 31	February 28, 2019												
Annual Reports														
Name Of Report	**Deadline**	**Completed**												
WA State Cross Connection Report Prepared by: Rich	May													
OSHA 300 Log Prepared by: Rich	February 1	January 28, 2019												
Water Use Efficiency Performance Report Prepared by: Kevin	July 1													
Consumer Confidence Reports Prepared by: Kevin	May	Geneva		SV		EagleR		Agate Ht						
Report Number of Sewer ERUs to City of Bellingham Prepared by:	January 15	February 20, 2019												
Other Reports														
Name Of Report	**Deadline**	**Completed**												
Water Right Permit No. G1-22681 Development Extension	Due Every 5 Years Next Due Feb 15, 2023	March 20, 2018												
Water Right Permit No. S1-25121 Development Extension	Due Every 5 Years Next Due March 30, 2023	March 20, 2018												
CPR/First Aid Training Coordinated by: Rich	Due Biennially Next Due 2019													
Flagging Card Training Coordinated by: Rich	Due Triennially Next Due 2019													

Safety Program Summary Completed by Rich Munson			
Summary of Annual Safety Training *2019 Testing Period - Jan 1, 2019 to May 30, 2019*			
	Enrollments	Completions	% Complete
Engineering - Managers	52	50	96%
Engineering - Staff	23	23	100%
Field Crew	224	159	71%
Office - Managers	16	6	38%
Office - Staff	48	39	81%
Overall	**363**	**277**	**76%**

Safety meetings for the field crew take place every Friday at 7 a.m.

Dates of Completed Safety Committee Meetings		
Wednesday, January 19, 2019		
Monday, February 11, 2019		
Monday, March 11, 2019		
Wednesday, April 10, 2019		

Summary of Work-Related Injuries & Illnesses					
	2019	2018	2017	2016	2015
Total Number of Work Related Injuries Defined as a work related injury or illness that results in: · Death · Medical treatment beyond first aid · Loss of consciousness · Significant injury or illness diagnosed by a licensed health care professional · Days away from work (off work) · Restricted work or job transfer	0	0	1	0	1
Total Number of Days of Job Transfer or Restriction (light duty or other medical restriction)	0	0	13	0	0
Total Number of Days Away from Work (at home, in hospital, not at work)	0	0	4	0	0
Near Misses	0	2	1		

Developer Extension Agreements

D1801	**Sudden Valley Community Association - Area Z Fire Hydrant**
Scope	Installation of Fire Hydrant
Sign Date	8/16/2018
Expiration Date	8/16/2021 (3 years)

Prior to Commencing Construction

- ☒ 1. District Engineer approves design
- ☒ 2. Reimbursement of District Engineer review costs
- ☒ 3. Copy of insurance policy
- ☒ ~~4. Copies of recorded easement~~
  n/a: to be recorded prior to final acceptance, property owned by Sudden Valley Community Association
- ☒ 5. Copies of permits
- ☒ 6. Pay Developer Conformance Deposit
  Receipt #16291 8/14/18
- ☒ 7. Developer delivers performance bond
  Assignment of savings account received in the amount of $135,798 and dated 8/14/2018. This will cover up to $90,532 of constructed facilities
- ☒ 8. Pays 25% of total amount of general facilities connection fees due to District
  n/a: no new connection
- ☒ 9. Pays District Administration, Legal Services, and Inspection Deposit
  Receipt #16291 8/14/18
- ☒ 10. District Issues Notice to Proceed w/Construction

Prior to Final Acceptance

- ☐ 1. District inspects & approves facilities as complete
- ☐ 2. District receives water meters for each service
- ☐ 3. District accepts record drawings
- ☐ 4. District accepts easements & title insurance
- ☐ 5. District receives warranty bond or like security
- ☐ 6. District receives maintenance bond
- ☐ 7. District receives and approves Bill of Sale
- ☐ 8. District receives a copy of recorded plat or legal description
- ☐ 9. District receives legal description of property
- ☐ 10. District receives Latecomers Reimbursement fees due to otherDevelopers (if applicable)
- ☐ 11. Developer pays any applicable Supplemental DEA Processing/General Administrative fees
- ☐ 12. District receives signed and notarized Latecomers Reimbursement Agreement (when applicable)
- ☐ 13. Developer has reimbursed the District for all incurred costs associated with DEA
- ☐ 14. Developer has met and completed all local, state, and federal permit requirements
- ☐ 15. Copies of recorded easement on file with District

Tasks/Notes

- 7/3/2018 DEA Application Received
- 7/25/2018 Board Authorizes DEA with Conditions
- 8/7/2018 SVCA Submits Hydraulic Analysis
- 8/14/2018 SVCA submits drawings, DEA, assignment of savings, insurance certificate, check for $6,750 ($5,000 deposit for review & inspection, $1,000 conformance deposit, and $750 for processing fee), and shallow pipe depth memo.
- 9/5/2018 District completes review of hydraulic analysis. 1,250 GPM for 90 minutes is available.
- 9/5/2018 SVCA submits revised plans. Review on hold until SVCA makes another deposit of $5,329.66 to cover legal and engineering review.
- 12/17/2018 Deposit of $5,329.66 received

Continued on next page

Developer Extension Agreements (cont'd)	
D1801	**Sudden Valley Community Association - Area Z Fire Hydrant**
Tasks/Notes (cont'd)	
• 1/23/2019 Meeting with SVCA to review revised plans received 1/9/2019 • 2/26/2019 SVCA submits revised plans • 3/20/2019 District returns plan review comments to Wilson Engineering • 4/9/2019 District approves plans and issues notice to proceed.	

District Projects

Staff Report

4/16/2019

A1901 Whatcom County Region GIS Imagery Partnership 2019 Flight

An inter-local agreement with Whatcom County and a sub-agency license agreement with vendor, Pictometry International Corporation, in order to take receipt of the entire western Whatcom County imagery dataset and issuance of a Pictometry Connect license.

01 Administration

4/16/2019 Pictometry reached a milestone in the flight capture by completing the "Neighborhood" imagery portion of the project along with a portion of the Community level imagery. Flights for the remaining lowland, Nooksack River, and partner areas are next on the list.

A1902 Compulsory Sewer Connections

Compel property owners on private septic systems to connect to adjacent public sewer mains.

01 Administration

2/19/2019 Staff is looking at properties on Lake Louise Road and Older Lane that are on septic and are in nearby proximity to a public sewer. This group of properties have topographic, environmental or property ownership/easement barriers that block access to nearby public sewer. Staff is working on draft policies to present to the board for consideration and discussion.

2/21/2019 Staff identified 3 properties where sewer is readily available adjacent to the property. Sites include 1313 Oriental Ave, 1125 Geneva St, and 2326 Northshore Rd. Notifications are being mailed via certified mail to these properties, requiring connection within 18-month.

C1504 Reservoir Site Security

Install site security system at 1 reservoir site. Pilot project to evaluate equipment, configuration, and telemetry options.

01 Administration

5/4/2015 District staff have done initial research on available security camera systems and motion detection. List of equipment and options is in development. Initial pilot site will be the SVWTP.

12/21/2016 Staff ordered equipment. Should arrive soon. Equipment will be installed at SVWTP. Motion detection from camera system will be integrated into SCADA system for alarm monitoring by District crews.

1/19/2017 Equipment has been received. District staff will begin installation soon.

11/20/2017 Staff working to contract with electrician to install conduit and cabling at SVWTP.

1/25/2018 Quote from electrician is larger than expected. Staff re-evaluating wiring schematic and conduit run options.

10/23/2018 Staff obtaining updated quote from electrical contractor with option to route conduit on outside of building.

11/20/2018 Electrical contractor scheduled to start work on 11/26/2018.

12/18/2018 Electrical contractor finished installing conduit. District crews working on installing camera system and integrating with SCADA.

1/23/2019 District crews mounting equipment and making final wiring connections.
2/19/2019 Cameras are installed and operational. Staff is working to make the video stream available remotely on District iPads and integrating the alarms into SCADA.

C1611 Country Club Sewer Pump Station

Rehabilitation of Country Club Sewer Pump Station.

01 Administration

4/6/2016 Selection of consultant is in conjuction with general engineering services RFQ.
8/9/2016 Staff working with BHC to develop scope of work
9/8/2016 AE agreement finalized and being routed for execution. Scope/fee was approved by board on 8/31/2016. Work to begin as soon as agreement is executed.
11/2/2016 District attended Center Condo Owner's Association board meeting to present and coordinate the project. Association gave District needed letter of authorization to pursue Whatcom County permits for construction - of either option (pump station or direction drill).
12/21/2016 AE Agreement Amendment being routed for execution that includes scope for geotech test borings to determine directional drilling feasibility. BHC and GeoEngineers are scheduling work and preparing permit applications.
8/30/2017 Board authorizes Amendment 2 to AE Agreement. This work includes detailed geotechnical design for horizontal directional drilling.
9/13/2017 Board authorizes Amendment 3 to AE Agreement. This work include additional permitting and detailed design thru bidding.
11/8/2017 Staff attended Center Condo Owner's Association board meeting to brief board of progress and to coordinate future work.

02 Predesign

10/11/2016 Held predesign meeting with BHC and District staff. BHC beginning preliminary design.
11/21/2016 Staff and BHC working on scope amendment to investigate horizontal direction drilling as the primary option. This option has the potential to eliminate the need for the pump station.
3/21/2017 Consultant completed 3 test bores to determine feasibility of horizontal direction drilling. They did not encounter any hard rock. One bore had sandstone the last 5 feet.
4/19/2017 District received copy of Geotechnical Data Report that documents soil conditions found during exploratory boring. Geotechnical engineers are working on a 2nd report that will discuss and recommend horizontal drilling methodology for construction and bid documents.
5/17/2017 District received copy of draft geotech report regarding Trenchless (HDD) Alternative Evaluation. BHC also reviewing report and coordinating with subconsultant.
6/22/2017 Geotechnical subconsultant addressing District and BHC review comments and will be including a discussion on auger drilling in addition to the horizontal drilling method.
7/12/2017 Consultants presented horizontal direction drilling and conventional auger bore alternates to Board. Staff will make a recommendation a next Board meeting on the preferred alternative.

03 Permitting

10/20/2016 Pre-Application meeting with Whatcom County to review anticipated permitting requirements.
11/7/2016 District and GeoEngineers met wet Whatcom County Critical Areas Biologist to review potential critical areas.
12/22/2016 GeoEngineers submitted shoreline exemption permit application for test borings to Whatcom County.
11/16/2017 Held 2nd pre-application meeting with County staff. 2nd meeting was necessary due to scope change from replacement of pump station to horizontal directional drilling. Consultants are preparing permit applications for project to be submitted early December.

1/25/2018 Consultants are still preparing permit applications. Draft applications are expected any day for District review. Staff has rescheduled construction from summer 2018 to summer 2019. A revised CIP plan will be presented to board for approval on 1/31/2018.

2/12/2018 Staff have reviewed draft permit application package and is coordinating with consultant to address minor comments.

3/8/2018 District received permit application materials from consultant. Staff working to obtain Center Condo and SVCA notarized signatures.

4/13/2018 Permit applications submitted to Whatcom County.

4/17/2018 Corps and JARPA documents sent to agencies.

5/10/2018 County issued SEPA notice to agencies and property owners within 1000-feet of project for comment period. Written comments are due by June 10, 2018.

5/11/2018 District received Nationwide Permit12 (Utility Line Activities) from Army Corps of Engineers.

6/10/2018 Written SEPA comments to County due.

6/18/2018 As of today the shorelines administrator said he is still waiting on comments from critical areas staff, and that he'd check-in with those staff tomorrow.

7/5/2018 County in process of reviewing permit applications.

9/19/2018 County critical areas staff still reviewing details proposed plan. BHC and GeoEngineers are in contact with County staff to make sure they have everything they need to complete application processing and to schedule a shoreline hearing date.

10/18/2018 All additional information requested by County critical areas has been submitted. Waiting for shorelines hearing date.

11/28/2018 DOE issued conditional approval for Geneva Sewer Pump Station Improvements Project. There is a 21-day public comment period that ends 12/19/2019.

1/9/2019 Public Hearing at 125pm in the County Council Chambers for the shoreline substantial development permit.

1/11/2019 Received shoreline substantial development permit from hearing examiner's office.

05 Design

10/18/2017 BHC and Geoengineers working on detailed design and permit application submittal for HDD.

12/6/2017 District received Wetland Delineation Report, HDD Design Report, and Design Report from BHC. Staff is reviewing and coordinating with consultant.

2/12/2018 Staff received 30% complete plans for review and comment.

06 Bidding

2/4/2019 Advertisement for Bids published in Bellingham Herald and Seattle Daily Journal of Commerce.

2/21/2019 Non-mandatory prebid meeting at 1pm.

3/5/2019 Bid opening at 105pm.

09 Services During Construction

3/20/2019 Staff working with BHC to develop scope of work for service during construction.

10 Construction

3/13/2019 Board awards contract to Colacurcio Brothers, Inc.

4/8/2019 Contracts have been executed and Notice to Proceed given to contractor. Contract time is 150 days.

9/5/2019 Substantial Completion date (150 days from Notice to Proceed). Final Completion is 30 days after Substantial Completion.

C1705-G Geneva Sewer Pump Station - Construction

Construction of Geneva Sewer Pump Station Improvements project.

06 Bidding

1/29/2019 Advertisement for Bids published in Bellingham Herald and Seattle Daily Journal of Commerce.

2/19/2019 Non-mandatory prebid meeting at 2pm.

2/27/2019 Bid opening at 205pm.

09 Services During Construction

3/20/2019 Staff working with RH2 to develop scope of work for services during construction.

10 Construction

3/13/2019 Board awards contract to Equity Builders LLC.

4/8/2019 Construction contract has been executed. Notice to Proceed has been given to contractor. Contract time is 190 days.

10/15/2019 Substantial Completion date (190 days after Notice to Proceed). Final Completion is 20 days after Substantial Completion.

C1708 Ball Check Valves at Airport and Beaver Sewer Pump Stations.

Install 2 ball check valves at Airport and 1 ball check valve at Beaver.

1/18/2017 District crew verified measurements of existing swing check valves. Proposed ball check valves will fit. Staff will order new ball check valves.

01 Administration

6/22/2017 District solicited quotes from 3 vendors. A purchase order has been issued for the ball check valves. They should arrive soon.

7/20/2017 District received ball check valves. District crews to install valves.

10/23/2018 Check valve position switches have been ordered that were needed. Valves will be installed and in service by end of 2018.

C1716A Dead End Blowoffs

Installing new blowoffs on dead end mains

01 Administration

1/19/2017 Staff researching each site to determine detailed scope of work for each location.

5/25/2017 Crews continue to pick away at blow-off installation. 8 of 41 done.

6/22/2017 Crews installed a few more. 12 of 41 done.

7/20/2017 14 done.

11/20/2017 15 of 41 done.

12/18/2017 16 done.

3/21/2018 19 done.

4/19/2018 22 done.

5/21/2018 25 done.

6/19/2018 32 done.

7/17/2018 32 done.

9/19/2018 33 done.

2/19/2019 34 done.

3/20/2019 37 done.

4/16/2019 39 done out of 55 on the current list.

C1716B Geneva Booster Station - PRV's and Backflow Assembly

Replace pumps at Geneva Booster Station at Scenic Ave with pressure reducing valves following hydraulic modeling verification. Replace old backflow assembly at City intertie.

01 Administration

2/27/2017 Wilson prepared engineer's brief sheet that includes details PRV sizing and configuration. Staff will begin preparing a bill of materials and order parts. It is anticipated District crews will perform the work.

6/22/2017 Staff coordinating with City on what they need for a backflow assembly.

7/20/2017 Staff considering COB suggestion to move intertie to top of ridge on Parkstone at COB/District boundary.

9/20/2017 District considered moving PRV station per City suggestion. There are more benefits to the District to keep the Geneva Booster building and infrastructure. District staff is preparing the design report and construction drawings for submittal to DOH for installation of a PRV. Project will be coordinated with the water comp plan update in progress. We still need to coordinate with the City before going too much further in design/planning.

10/23/2018 Staff asking Wilson for Task Order proposal to submit DOH design report for approval and to assist in coordination with COB.

C1801 Shake Alert Pilot Program

Integrate ShakeAlert earthquake early warning signal into SCADA system that will automatically close valve on new Division 22 Reservoir No. 2 and activate audible alarms at the Administrative Building, Shop, and Sudden Valley Water Treatment Plant.

01 Administration

1/25/2018 Staff reviewing USGS ShakeAlert License Agreement and Terms of Service and RH2 ShakeAlert Pilot Application scope of work.

5/14/2018 Staff reviewed scope of work and is working with RH2 to execute agreement.

5/30/2018 Agreement with RH2 executed.

6/18/2018 ShakeAlert application completed and submitted to USGS.

8/17/2018 USGS approved application. Staff coordinating with RH2 on installation and programming details.

9/19/2018 Staff putting together purchase order for ShakeAlert device.

9/27/2018 Order placed for ShakeAlert device.

12/18/2018 Device is ready for installation. Staff is working with RH2 to schedule installation and integration.

1/23/2019 Final device configuration delayed due to federal government shutdown - University of Washington has a skeleton crew operating the seismic department.

3/20/2019 RH2 completing device configuration and testing.

C1802 Edgewater, Dellesta, Euclid Sewer Pump Station Improvements

Replace/renew Edgewater and Dellesta sewer pump stations that were installed in the 1970's. Replace/renew electrical controls and install permanent standby generator at Euclid sewer pump station.

01 Administration

1/25/2018 Staff developing RFP for selection of engineering consultant. 1st phase will includes predesign and shorelines permitting in 2018.

2/10/2018 Request for Proposals published Bellingham Herald.

3/7/2018 RFP submittals due at 1pm. Distribute RFP's to selection committee by end of week.

3/22/2018 Consultant selection committee meets to review and rank consultant proposals.

3/29/2018 Board selects RH2 as the most qualified consultant for projects to board. Staff will begin scope/fee negotiations with the consultant.

5/21/2018 Staff working with RH2 on initial scope of work. Intent is to have board authorize scope/fee at 5/30/2018 board meeting.

6/14/2018 Agreement executed with RH2.

02 Predesign

6/18/2018 Surveyors beginning site survey at Euclid.

7/17/2018 Survey of Euclid 80-percent complete. Flow testing of Dellesta and Edgewater complete.

8/20/2018 RH2 prepared 3 alternatives for generator and pump station control panel placement. Engineering staff is reviewing with District field crews.

9/19/2018 Staff reviewed conceptual design layouts for Edgewater and Dellesta stations. RH2 making a few minor revisions before preparing pre-application meeting packet for County. RH2 finalizing permit application package for Euclid sewer pump station.

10/24/2018 Dellesta & Edgewater PS. Design criteria review with District staff and RH2.

03 Permitting

10/25/2018 Euclid PS. Pre-application meeting scheduled with County, District staff, and RH2.

11/20/2018 RH2 preparing permit applications based on information from pre-application meeting with County.

12/18/2018 Euclid PS. Whatcom County is requiring an Environmental Site Assessment. Staff will be discussion options with RH2.

1/3/2019 Whatcom County pre-application meeting for both Dellesta and Edgewater pump stations.

2/19/2019 Shoreline development permit applications submitted to Whatcom County for Edgewater and Dellesta.

2/20/2019 Eulclid PS. Staff and RH2 trying to setup meeting with County regarding critical areas assessment and mitigation options.

3/20/2019 Euclid PS. District staff and RH2 still actively pursuing County for critical areas meeting - County staff has been non-responsive.

4/16/2019 Euclid PS. District staff and RH2 received confirmation from County staff that a critical areas assessment can be waived by assuming all areas are buffer areas. This will save the expense of doing an assessment. Staff is preparing documents for submittal to County.

C1803 Camp Firwood Automatic Transfer Switch

Recent severe snow/ice/wind weather events have made the process of getting a portable generator to the station difficult. The access road is a long steep gravel road that can have deep snow, ice, and downed trees blocking access. This project includes installing an automatic transfer switch and replacing the wood security fence around the station. A portable generator will be parked and wired to the ATS to automatically start during fall, winter, and spring months and would be removed when the camp is active during summer.

01 Administration

1/3/2018 Staff met with Camp Firwood maintenance staff to discuss pump station generator options. The simplest solution is to install an automatic transfer switch (ATS) and hookup a portable generator when the camp is closed to campers (fall, winter, and spring). This would provide automatic emergency power when we need it during the wet season. We can try this for several seasons. If it works as we think, we will not need a permanent generator at the site.

9/12/2018 Staff obtained 3 quotes for transfer switch. GSA quote was low quote. Staff ordered switch through GSA. Staff ordered materials to replace wooden fence around pump station. Fence work will occur after camp season this fall.

10/23/2018 District staff begin rebuilding security fence around station.

12/18/2018 Fence rebuild is finished. The ATS has been delivered to the District. Staff is scheduling ATS installation using District forces this winter.

05 Design

2/27/2018 ATS sized by electrical engineer. Staff working procurement thru GSA.

C1809 Replace Backhoe

Replace backhoe

01 Administration

2/12/2018 Staff looking into equipment available on Washington State bid.

5/21/2018 Staff working with vendor on state bid to put together order.

9/13/2018 Staff issued purchase order for new backhoe using Washington State bid.

5/14/2019 Tentative delivery date (information as of 3/20/2019).

C1810 Airport PS Stationary Generator & Lakewood PS Access Easement

Install stationary generator at Airport Sewer Pump Station. Record easements for both stationary generator at Airport and new access easement to Lakewood Sewer Pump Station.

01 Administration

4/19/2018	Staff review GSA quote and will be placing order soon. This will also include the ATS for Camp Firwood.
5/21/2018	Staff reviewed potential generator locations on site. The best place for installation is next to the control/electrical panels. This location, however, is not in the County road right-of-way, but on WWU Lakewood Facility land. Staff plans to try working with WWU to obtain an easement for the generator. This will require survey and engineering support from Wilson. A task order will be developed for Wilson to assist District staff in this process. An access easement to the District's Lakewood Sewer Pump Station serving WWU will also be part of the discussions.
7/17/2018	Staff coordinating with WWU to obtain easement to place stationary generator.
8/1/2018	Staff met with WWU to discuss easement. Wilson is preparing easement documents for review and routing. We also brought up that the District need an access route/easement to get to the Lakewood pump station. WWU suggested to try and resolve both easements at once. Staff needs to meet with Wilson onsite to figure out the best access route to Lakewood pump station. Then, Wilson can prepare that easement document as well before routing the total package to WWU.
10/17/2018	Wilson Task Order issued to assist in preparing and recording new easements on WWU property.
11/8/2018	Staff met with WWU to review Airport and Lakewood proposed easements. WWU to process Airport easement. WWU requested District contact adjacent property owner to Lakewood Pump Station to open easement discussions with them before WWU will consider giving access easement for that location.
11/16/2018	Staff met with property owner adjacent to Lakewood Sewer Pump Station to discuss proposed access easement.
12/12/2018	Generator purchase order was issued using GSA.
12/18/2018	WWU and staff are in the process of negotiating easement language for the Airport PS site.
2/19/2019	WWU in process of executing easement document.
4/1/2019	Easement has been executed by WWU and recorded with the County Auditor's office.

03 Permitting

4/2/2019	Permit application submitted to County.
4/16/2019	District staff working with County staff on finalizing permit requirements.

05 Design

2/27/2018	Generator sizing completed by electrical engineer. Staff now working on site plans and GSA procurement of generator.

09 Services During Construction

3/27/2019	Delivered genset to shop at 1010 Lakeview. Awaiting easement and permit to install. Jason

C1813 Division 7 Reservoir FEMA Seismic and ShakeAlert Grant Application

Revise FEMA grant application to include ShakeAlert components. Total grant could be as high as $1.1M

01 Administration

2/28/2018	Grant application submitted to FEMA.
4/19/2018	Staff heard that state level emergency management accepted the application and forwarded it on to the federal level.

C1814 Agate Heights WTP and Opal Booster Upgrades

Increase treatment and pumping capacity from 30gpm to 60 gpm.

01 Administration

2/12/2018 Staff asked Wilson to prepare Task Order to assist with preliminary design and permitting.

3/28/2018 Staff and Wilson toured two treatment plants that have "Atec" iron/manganese removal package treatment plant systems at Pole Road Water Association. Tour facilitated project scope development with staff and Wilson.

4/19/2018 Task order scope of work is being developed by staff and Wilson. Once a draft is complete it will be presented to the Board for authorization.

7/25/2018 Wilson task order reviewed and authorized by board.

7/26/2018 Task order executed. Wilson is beginning work.

02 Predesign

1/15/2019 District staff met with Wilson Engineering to review several different package treatment plant and package booster station vendors. Preliminary layouts indicate the existing building footprint is sufficient to install the larger capacity equipment - this significantly reduces the permitting requirements and overall project costs. Wilson will develop a pre-selection criteria to advertise, evaluate, and select specific equipment to be used to complete the design and reports to be submitted to DOH for review and approval. Selection criteria will be presented to the board for input prior to advertisement.

2/21/2019 Staff meeting with Wilson to explore and discuss new option of increasing capacity of existing Filtronics system.

04 Predesign and Permitting

9/19/2018 ATEC treatment system pilot testing scheduled for October 2018.

10/18/2018 Pilot testing of ATEC treatment system finished.

C1903 District Office Misc Facility Improvements

District administrative office facility repairs and improvements located at 1220 Lakeway Drive. Work includes: Installing an irrigation system, upper parking lot asphalt patching (approx. 16-ft x 75-ft = 1,200 sf area), front entrance parking lot surface drainage grading / asphalt patching (approx. 40-ft x 30-ft = 1,200 sf area), and replacing front entrance garden stepping pavers with concrete steps/walkway.

01 Administration

4/9/2019 Irrigation installed and ready for service this summer.

C1904 Comprehensive Sewer Plan Update

The current plan was approved by Washington State Department of Ecology on June 6, 2014. The District updates the plan every 6-years. The purpose of the sewer comprehensive plan is to provide an overview of the existing sewage installations and treatment facilities operated and maintained by Lake Whatcom Water and Sewer District. In addition, it addresses potential future facilities development and projected population growth.

01 Administration

3/29/2019 District received draft task order proposal. District staff is reviewing.

C1905 Sewer Rehabilitation and Replacement Projects

Annual project to find and reduce inflow and infiltration (I&I) of surface and ground water entering the public sewer system. Work includes: sewer main slip lining (spot repairs and full lengths), pressure grouting service tees, pressure grouting manhole leaks/voids, rebuild/seal manholes, smoke testing, and other efforts to reduce I&I.

01 Administration

2/19/2019 District crews begin video inspection of sewer pipe and manholes in Flat Car sub-basin. Sections identified as high infiltration risk are being prioritized.

C1905A - FLAT CAR BASIN System I&I Investigation & Repairs

Investigate sewer mains to identify repairs to reduce/eliminate system I&I. Project includes camera and physical inspections to develop permanent repair tasks.

C1906 Water Meters and Replacement Registers

Procurement of approximately 40 new water meters and 200 meter registers.

C1907 Fire Flow Improvements - Remove FH #22-112

This project removes a fire hydrant identified in the 2018 Water System Plan as having deficient fire flow. It is the only hydrant where sufficient fire flow cannot be reasonably achieved, and it is not needed. The District standard spacing for hydrants is 600 feet, and all parcels in this vicinity are within 600 feet of other hydrants. Hydrant #22-112 is located at the upper end of Kinglet Court. Project is to remove the hydrant and install a blow-off assembly used for flushing the main.

C1908 Fire Flow Improvements - Hydraulic Model Calibration

Project includes additional field testing for hydraulic model calibration to determine the appropriate friction factor (C factor) to use in the model. The C factor was reduced globally based on limited field tests which had a significant negative impact on available fire flow in the higher elevation areas. If the current C factor is correct and these are "real" (not modeling) deficiencies, the District will explore options to eliminate the deficiencies. 4 to 8 areas will be analyzed in the water system.

C1910 SVWTP and AHWTP Misc Component Replacement

Replace worn out components at Sudden Valley Water Treatment Plant (SVWTP) and Agate Height Water Treatment Plant (AHWTP). Replacements include: SVWTP Raw Water pH Probe, SVWTP Transmission Pump Control Valves (4 valves), SVWTP Transmission Pipeline Surge Valves (2 valves), SVWTP Raw Water Flow Meter, SVWTP CL2 Contact Tank Pressure Transmitter (used to measure tank level), SVWTP Spare Transfer Pump, and AHWTP Finish Water Flow Meter.

01 Administration

2/20/2019 Staff is preparing bid/contract documents to procure SVWTP control valves.

C1911 Field CL2 Injection System

Procure chlorine injection system for use in the field to chlorinate water mains after depressurization.

C1913 SVWTP 20-Year Facility Plan

The purpose of this project is to: Identify and document specific operational, maintenance, renewal, and replacement needs for the next 20-years which includes everything (concrete building structure, underground vaults, motors, pumps, piping, valves, electrical, controls, heating and ventilation, chemical handling, lab space, etc.), prioritize the improvements, analyze physical space requirements for identified improvements, develop several conceptual plans that could accommodate all the components (it is likely that additional floor space is needed).

01 Administration

2/20/2019 Staff pulling together background information in preparation for RFQ.

C1914 Water Rehabilitation and Replacement Projects

Miscellaneous water system rehab and replacement projects identified for 2019 include installing PRV vault drains at 5 PRV sites (Cascade, Rock Ridge, Hillside, Dutch Harbor, & Fremont.

01 Administration

1/3/2019 Slip lining Sanwick Court water main added to this project list. This will re-establish a looped system in this area. Recall that this water main had a break and that the main had to be shut down and is no longer looped. Wilson did a hydraulic analysis that indicates fire flows requirements are still met even when not looped. However, staff recommends that the loop be re-established to maintain system redundancy and resiliency.

1/16/2019 District staff is coordinating with SWFA on old hydrants in the Geneva area that have smaller 3.5", 4", or 4.5" threaded front ports, and several that have 4" stortz adapters. SWFA has standardized on the 5" stortz. These smaller font ports and 4" stortz adapters need to be fitted with 5" stortz. SWFA requested that the 4.5" National Hose thread (Dresser brand hydrants) and 4" stortz are the priority for conversion to 5" stortz.

M1811 North Shore Sewer Force Main Stream Crossing Protection

Ductile iron sewer force main pipe is exposed in stream bed on North Shore. Project scope includes permitting, design, and construction of pipe protection.

01 Administration

2/12/2018 Staff executed Wilson Task Order for per permitting and design phase.

4/9/2019 Wilson discovered the project needs a JARPA in addition to the HPA for Army Corps permitting of the "in-water" work. Construction is now anticipated to be pushed out another year to 2020. District staff has a meeting with Wilson on 4/23/2019 to discuss and coordinate the next permitting steps.

M1916 Flat Car Impellers, Volutes, and Wear Rings

Replace worn volute, impeller, and wear rings on pumps #1 and #3 at Flat Car Sewer Pump Station. Parts will have a ceramic coating that should extend their service life compared to the originals. Note pump #2 had these parts replaced in 2018.

M1917 AB PLC-5 Replacements and UPS Improvements

The District has several sites that use these older style PLC's: Sudden Valley Sewer Pump Station, Flat Car Sewer Pump Station, Beaver Sewer Pump Station, and Division 30 Booster Station.

This project is intended to begin the replacement process of discontinued PLC's as well as make uninterruptable power supply (UPS) improvements for better facility reliability. The scope of work and budget to complete the project is not known at this time. A budget amount of $100k was approved to select a general electrical/control engineering consultant through the Request for Qualifications (RFQ) selection process and to develop an initial scope to plan the migration at each site to the new PLC's and determine what UPS improvements can be made to increase facility reliability. With the remaining 2019 budget, prepare bid documents, bid the work, contract with a contractor to begin the migration, and lastly to develop future CIP budgets to finish the work.

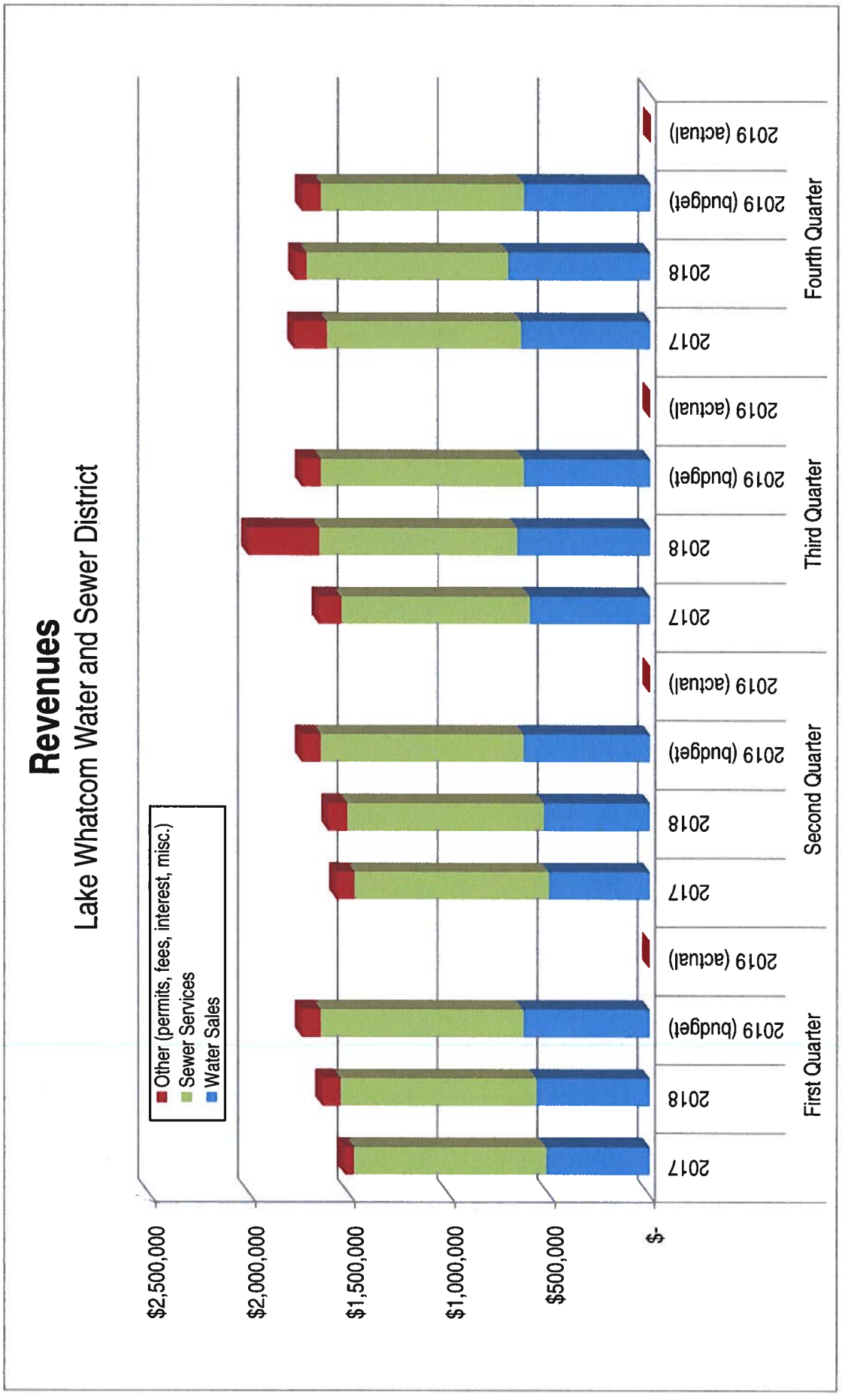
AGENDA BILL Item 7.C	**Finance Department Report**			
DATE SUBMITTED:	April 18, 2019	MEETING DATE:	April 24, 2019	
TO: BOARD OF COMMISSIONERS		FROM: Debi Denton		
GENERAL MANAGER APPROVAL				
ATTACHED DOCUMENTS		1. Monthly Budget Summary ending 03/31/19		
		2.		
		3.		
TYPE OF ACTION REQUESTED		RESOLUTION ☐	FORMAL ACTION/ MOTION ☐	INFORMATIONAL /OTHER ☒

BACKGROUND / EXPLANATION OF IMPACT
Information only.

FISCAL IMPACT
N/A

RECOMMENDED BOARD ACTION
N/A

PROPOSED MOTION
N/A


Revenues
Lake Whatcom Water and Sewer District
Other (permits, fees, interest, misc.)
Sewer Services
Water Sales
$2,500,000
$2,000,000
$1,500,000
$1,000,000
$500,000
$
2017
2018
2019 (budget)
2019 (actual)
First Quarter
2017
2018
2019 (budget)
2019 (actual)
Second Quarter
2017
2018
2019 (budget)
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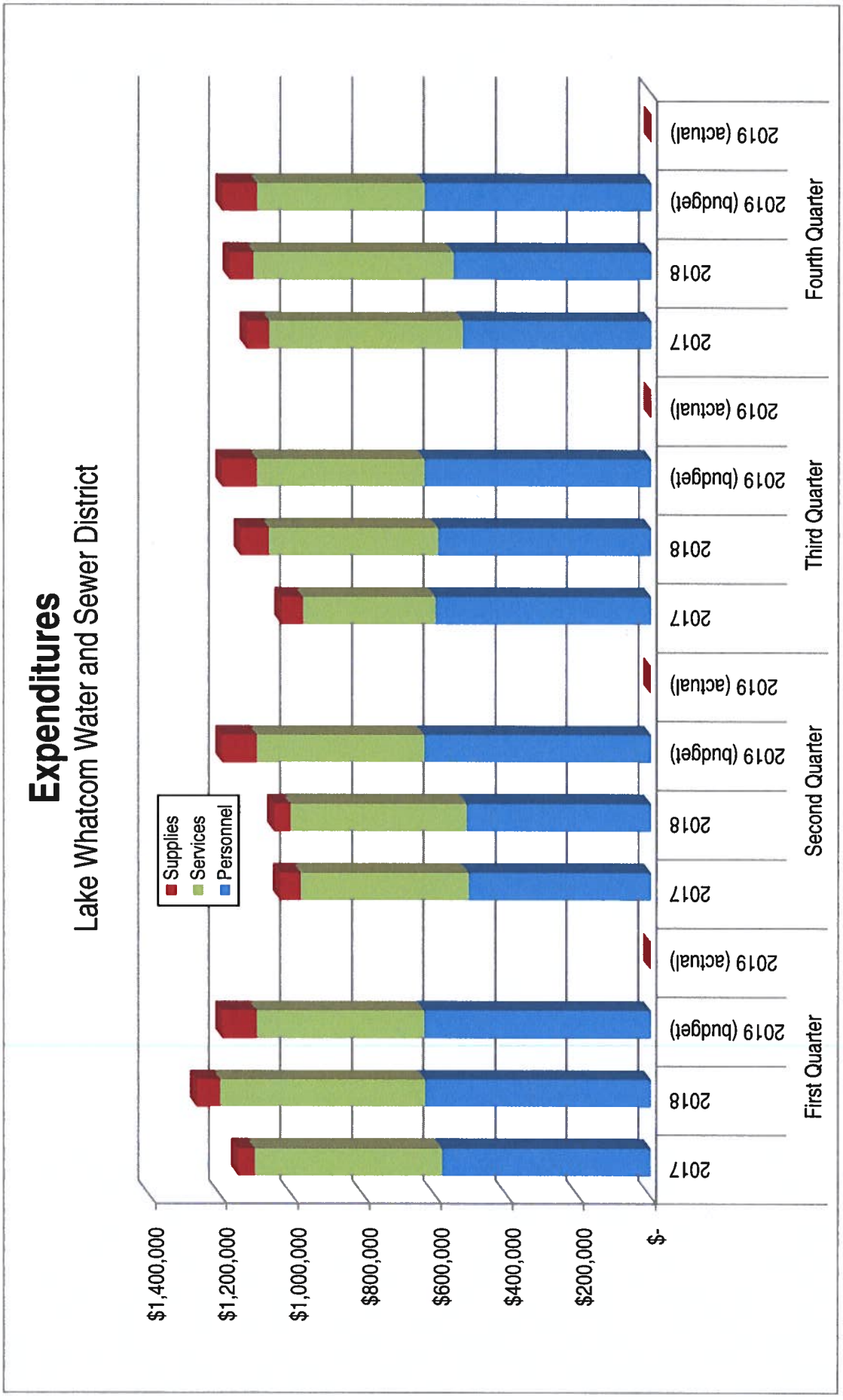
Third Quarter
2017
2018
2019 (budget)
2019 (actual)
Fourth Quarter


Expenditures
Lake Whatcom Water and Sewer District
Supplies
Services
Personnel
$1,400,000
$1,200,000
$1,000,000
$800,000
$600,000
$400,000
$200,000
$-
2017
2018
2019 (budget)
2019 (actual)
First Quarter
2017
2018
2019 (budget)
2019 (actual)
Second Quarter
2017
2018
2019 (budget)
2019 (actual)
Third Quarter
2017
2018
2019 (budget)
2019 (actual)
Fourth Quarter

LAKE WHATCOM WATER AND SEWER FUND SUMMARY 2019

	401 OPERATING	420 SYSTEM REINVESTMENT	425 SEWER/ STORM WATER CONTINGENCY	426 WATER CONTINGENCY	431 2016 BOND FUND	450 DEBT SERVICE	460 BOND RESERVE (RESTRICTED)	TOTAL
2019 REVENUES AND TRANSFERS IN	1,645,926	437,798	15,000	20,000	-	114,822	-	2,233,546
2019EXPENDITURES AND TRANSFERS OUT	(1,444,294)	(116,892)	(344,408)	-	(93,896)	(116,203)	-	(2,115,694)
CASH/INVESTMENTS 2018 CARRYOVER	1,868,506	1,092,805	772,210	440,000	114,092	1,381	772,334	5,061,328
ALLOCATED TO OPERATING RESERVES	**$2,070,138** **-$900,000** **$1,170,138**	**$1,413,711**	**$442,802**	**$460,000**	**$20,196**	**$0**	**$772,334**	**$5,179,180**

LAKE WHATCOM WATER AND SEWER

INVESTMENTS/CASH AS OF 3/31/2019

Petty Cash		$ 1,600		
Cash		$ 449,029		0.45%
Public Funds Account		$ 961,066		2.25%
LGIP		$ 1,012,257		2.52%
		$ 2,423,952		
		PAR VALUE		YIELD
FFCB - ProEquity	Callable	$ 500,000	Oct-19	1.44%
FHLB - ProEquity	Callable	$ 500,000	Feb-20	2.48%
FFCB - ProEquity	Callable	$ 750,000	Aug-20	1.10%
RFCO-ProEquity	Non-callable	$ 1,005,228	Jan-21	2.71%
US Bank		$ 2,755,228		
TOTAL		**$ 5,179,180**		

USE OF FUNDS:

Reserved	$	772,334
Contingency	$	902,802
Unrestricted	$	3,504,044
		$ 5,179,180

LAKE WHATCOM WATER AND SEWER REVENUE

	Description	Budget 2019	ACTUAL 3/31/2019 25%	
OPERATING FUND - 401				
REVENUES				
401-343-40-10	Water Sales Metered (4.0% base rate increase) *	2,526,043	575,937	
401-343-41-10	Permits (10 new connection permits)	210,000	19,149	
401-343-50-11	Sewer Service Residential (2.5% rate increase) *	4,058,102	1,001,381	
401-343-50-19	Sewer Service Other	4,000	940	
401-343-50-80	Latecomer's Fees	-	-	
401-343-81-10	Combined Fees	30,000	5,778	
401-359-90-00	Late fees	50,000	13,768	
401-361-11-00	Investment Interest	50,000	18,925	
401-361-40-00-80	ULID 18 Interest/Penalties	5,000	1,169	
401-368-10-00-80	ULID 18 Principal Payments	30,000	4,286	
401-369-10-00	Sale of scrap metal and surplus	2,000	3,544	
401-369-10-01	Miscellaneous	-	1,049	
401-395-10-00	Sale of Capital Assets	-	-	
401-398-20-00-01	Insurance recovery	-	-	
	TOTAL REVENUES	**6,965,145**	**1,645,926**	**23.6%**

	LAKE WHATCOM WATER AND SEWER EXPENDITURES			
	Description	BUDGET 2019	3/31/2019	
OPERATING FUND - 401			25%	
EXPENDITURES				
401-53X-10-10	Admin Payroll (3% cola plus step increases - 2019)	674,270	176,027	26%
401-53X-10-20	Admin Personnel Benefits (Medical,Retirement etc)	284,390	74,715	26%
401-53X-10-31	Gen Admin Supplies/Equipment	30,000	11,827	39%
401-53X-10-31-01	Meetings/Team building	3,000	4,078	136%
401-53X-10-40	Web pay/Bank Fees	40,000	9,740	24%
	Interlocal - Lake Whatcom Management Program (City)			
	Interlocal - Invasive Species (City)			
	Interlocal - Lake Whatcom Tributary Monitor (County)			
401-534-10-41	Water Quality Assurance Programs (TOTAL)	90,000	59,184	
	Simplifile (County Auditor Filing Fees)	6,500		
	Data Bar (Statement processing)	25,000		
	Answering Service	2,000		
	Data Pro (Time clock system)	2,000		
	BIAS Financial Software Maintenance	10,000		
	Web Check services	5,000		
	CPA (Internal audit and Financial statements)	6,000		
	Docuware/Web site maintenance and upgrade	15,000		
	Legal Counsel	60,000		
	3D - Computer support	25,000		
	3D - Firewall renewal	15,000		
	3D - Anti virus subscription	1,000		
	Building security for offices	2,000		
	Building custodial	10,000		
	Pest control	500		
	Landscaping service	4,000		
	South Whatcom Fire (hydrant maintenance)	1,000		
	GE Scada System Software Maintenance - Operations	7,500		
	Wilson Engineering	20,000		
	Camera Van Software	1,500		
	SCADA/PLC Support - Engineering/Operations	5,000		
	Cartegraph - Engineering/Operations	30,000		
	Auto Desk - Engineering	1,000		
	GIS Partnership	1,000		
	Rockwell - Engineering/Operations	500		
	IT Pipes	1,500		

	LAKE WHATCOM WATER AND SEWER EXPENDITURES			
	Description	**BUDGET 2019**	**3/31/2019**	
	ESRI - ARC GIS	1,500		
	Innovyze - Engineering	2,500		
	Master Meter	2,000		
	Cyberlock software	1,000		
	Whatcom County Emergency Management	20,000		
	Misc (Bid notices etc.)	5,000		
401-53X-10-41-01	Professional Services (TOTAL)	290,000	72,807	25%
401-53X-10-42	Communication	50,000	13,794	28%
401-53X-10-45	Admin Lease (new copy machines now leased)	7,000	2,526	36%
401-53X-10-46	Property Insurance	134,000	-	0%
401-53X-10-49	Admin Misc.	1,000	30	3%
401-53X-10-49-01	Memberships/Dues	17,000	12,747	75%
401-53X-10-49-02	WA State Dept of RevenueTaxes/Permits	215,000	54,160	25%
401-53X-40-43	Training & Travel	35,000	14,180	41%
401-53X-40-43-01	Tuition reimbursement	1,000	-	0%
401-53X-50-31	Maintenance Supplies	200,000	39,902	20%
40153X-50-31-01	Small assets	20,000	18,134	91%
401-53X-50-48	Operations Repair/Maint	120,000	44,690	37%
401-53X-50-49	Insurance Claims	5,000	5,000	100%
401-53X-60-41	Operations Contracted	22,500	1,072	5%
401-534-60-47	Water City of Bellingham	45,000	-	0%
401-535-60-47	Sewer City of Bellingham Treatment Fee	650,000	236,101	36%
401-53X-80-10	Operations Payroll (3% cola plus step increases - 2019)	1,066,380	270,653	25%
401-53x-80-10-01	Operations Capital Projects Payroll	-	-	
401-53X-80-20	Operations Personnel Benefits (Medical,Retirement etc)	503,000	114,222	23%
401-53X-80-32	Fuel	28,000	5,282	19%
401-53X-80-35	Safety Supplies	10,000	1,223	12%
401-53X-80-35-01	Safety Supplies Boots	2,500	373	15%
401-53X-80-35-02	Emergency Preparedness	10,000	-	0%
401-53X-80-47	General Utilities	230,000	50,937	22%
401-53X-80-49	Laundry	4,000	1,068	27%
	OPERATING EXPENDITURES	**4,788,040**	**1,294,472**	**27%**

AGENDA BILL Item 7.D	**Operations Department Report**			
DATE SUBMITTED:	April 18, 2019	MEETING DATE:	April 24, 2019	
TO: BOARD OF COMMISSIONERS		FROM: Brent Winters		
GENERAL MANAGER APPROVAL				
ATTACHED DOCUMENTS		1.		
		2.		
		3.		
TYPE OF ACTION REQUESTED		RESOLUTION ☐	FORMAL ACTION/ MOTION ☐	INFORMATIONAL /OTHER ☒

BACKGROUND / EXPLANATION OF IMPACT
Placeholder for the Operations & Maintenance manager to give a departmental update.

FISCAL IMPACT
Not applicable at this time.

RECOMMENDED BOARD ACTION
Review and discuss.

PROPOSED MOTION
Not applicable at this time.