



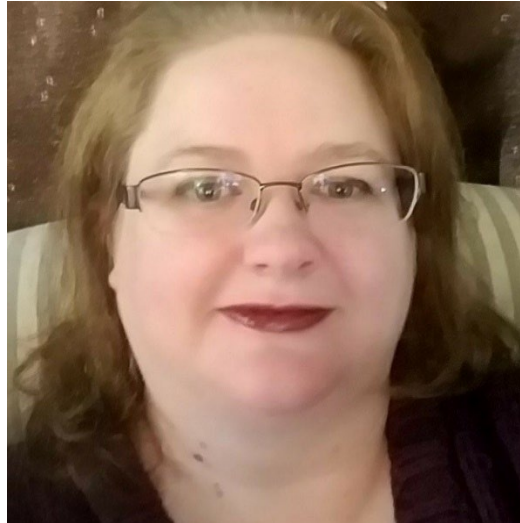
We work with others to protect the health of the people of Washington State by ensuring safe and reliable drinking water.



ESTATES CUSTOMER MEETING

Washington State Department of Health

February 9, 2022



Jocelyne Gray, P.E.
Assistant Regional Manager
SW Regional Operations
Office of Drinking Water

Presenters

Jocelyne Gray, P.E., WDM4, CCS
SWRO Assistant Regional Manager
Office of Drinking Water

Culley Lehman, WDM2
General Manager
Cascadia Water

Agenda

- System Management – General Discussion
- Summary of Sanitary Survey
- Water Quality
- Emergency Response
- Planned Capital Improvements
- Questions and Answers



System Management

System Ownership Types

1. Homeowners Association (HOA)
2. Municipalities (cities, counties, PUDs)
3. Non-profit Corporations and Associations
4. Investor-Owned Utilities (IOU)

State Office of Drinking Water (ODW) regulates water quality for all Group A water systems regardless of ownership, WAC 246-290.

Homeowners Association

1. Chapter 64.38 RCW
2. Overseen by Homeowners
3. Bylaws must authorize management and ownership of water system
4. Must be registered with Washington State Secretary of State

Municipalities

1. Title 36 RCW – Cities and Towns
2. Title 36 RCW – Counties
3. Title 53 RCW – Port Districts
4. Title 54 RCW – Public Utility Districts (PUD)
5. Title 57 RCW – Water and Sewer Districts
6. Boards/Councils/Commissions Overseen by Voters

Nonprofit Corporations and Associations

1. Title 24 RCW
2. Boards Overseen by Members
3. Must be registered with Washington State Secretary of State

Investor Owned Utilities

1. Title 23 RCW – Corporations and Associations (Profit)
2. Title 23B RCW – Washington Business Corporation Act
3. Title 25 RCW - Partnerships
4. Chapters 80.01 and 80.28 RCW - Utility and Trades Commission (UTC) Regulated
5. Must be registered with Washington State Secretary of State



2021 Sanitary Survey



Significant Deficiency 1 - Well 1 Opening

Dale sealed the opening for the wires going into the well head during the survey.



Significant Finding 2 – Corrective Action Plan for Repair or Replacement of Large Tank – Multiple Leaks

Corrective Action Plan to Replace Both Storage Tanks with a New Above Ground Tank – Approved 2/1/2022

Observations – Out of Compliance with WAC

Observation 3 – Update Coliform Monitoring Plan to meet Revised Total Coliform Rule (RTCR) – WAC 246-290-300 and -320.

Observation 4 – Ensure Cross Connection Control Program is implemented, and existing backflow assemblies are tested annually – WAC 246-290-490.

Recommendations

Recommendation 5 – Upcoming Lead and Copper Rule requirements. Water systems are required to inventory all materials of the service lines on the water system's side AND on the customer's side of the meter/connection. Inventory must be submitted to ODW by October 16, 2024.

Recommendation 6 – Discuss planning requirements with Regional Planner.

Recommendation 7 – Development of Operations and Maintenance Program that includes an Emergency Response Plan.



Water Quality

Water Quality

40 CFR 141 (Federal)

WAC 246-290-300 through -320 (State)

IOC = Inorganic Contaminants

VOC = Volatile Organic Chemicals

SOC = Synthetic Organic Chemicals (Insecticides and Pesticides)

RADs = Radionuclides (Uranium, Gross Alpha)

PFAS = Per- and polyfluoroalkyl Substances

Water Quality

MCL = Maximum Contaminant Level

SMCL = Secondary Maximum Contaminant Level

HA = EPA Health Affects Level (usually lifetime exposure)

AL = Action Level

SRDL = State Reporting Detection Limit

MG/L = Milligrams Per Liter

PPM = Parts Per Million = MG/L

Water Quality

Primary Contaminants (health concerns)

E. coli, Arsenic, Nitrate, Asbestos – all MCLs, Lead (AL), Copper (AL), Organic Chemicals (MCL), PFAS (SRDL)

Secondary Contaminants (mostly aesthetic)

Iron, Manganese (HA), Sulfate, Chloride

Emerging Contaminants (being studied)

Medications, Personal Care Products

Fifth Unregulated Contaminant Monitoring Rule (UCMR5)

- 29 PFAS (Federal) and Lithium
- Small systems (less than 3000 people served) – only 800 selected nationally to test for UCMR5 contaminants

Water Quality

Coliform (Bacteria) – all samples satisfactory since September 2014, sampled monthly

Nitrate – all samples below the MCL, sampled annually

Lead & Copper – last AL exceedances were in 2010, granted reduced 3-year sampling

Manganese exceeds the SMCL, but not the HA, 0.18 mg/L in 2019, 3-year sampling

RADs – 6-year sampling

Water Quality

Other IOCs have a 9-year waiver

VOCs have a 6-year waiver

Asbestos has a 9-year waiver

Insecticides and Pesticides have 3-year waiver

Herbicides has 9-year waiver



Emergency Response

Water System Emergency Response

GOAL: To quickly react to emergency conditions, adjust the system to maintain safe and adequate service to the greatest extent feasible, and to return the system to entirely normal operations as rapidly as possible.

Depending on the nature and severity of the emergency event, certain components of the system are going to be more vulnerable and subject to failure than others.

Cascadia Water is a member of WAWARN, a Water/Wastewater Agency Response Network that allows water and wastewater systems to receive rapid mutual aid and assistance from other systems across the state in an emergency.

Water System Emergency Response

EMERGENCY CONTACT	CONTACT INFORMATION
Dale Metzger, Contract Operator for Estates	Cell: 360-477-9704
Culley Lehman, General Manager, Cascadia Water	Cell: 360-661-7781
DOH After-Hours Hotline (for Operators and System Owners Only)	1-877-481-4901
DOE Spill Response	1-800-424-8802
Clallam County Environmental Health	360-417-2258
Fire/Police/Medical Emergencies	9-1-1
Customer Complaints – Cascadia Water first then DOH	360-331-7388 360-236-3030

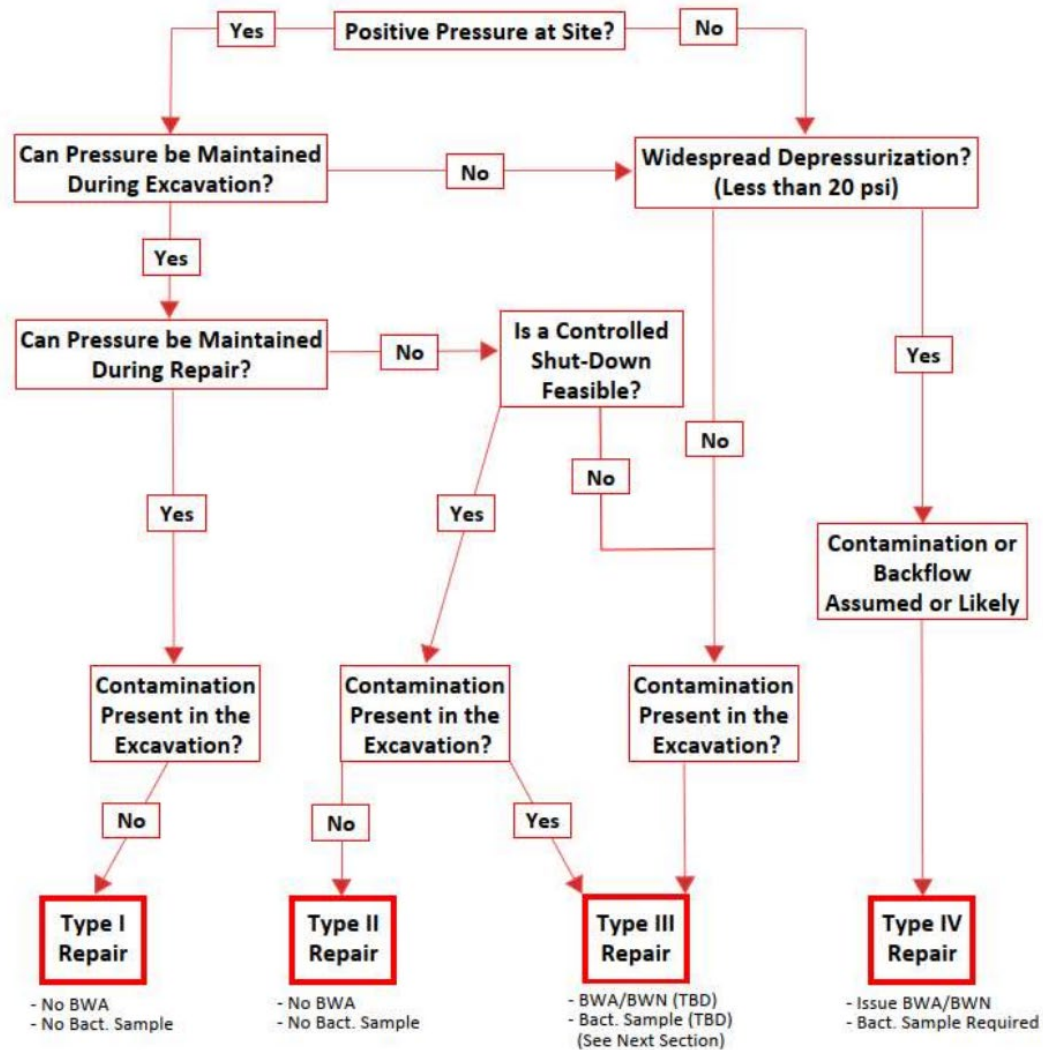
Water System Emergency Response

Water Main Break – Response Protocol

Water main failures present a potential public health risk with the potential for contamination entering the distribution system dependent on the severity of the failure. The following flow chart follows the recommendations from requirements from the Washington Administrative Code 246-290-451(1) and the recommendation from the WA Department of Health to provide protocols to follow in the event of a water main break.

Water System Emergency Response

Water Main Break – Risk Determination Flow Chart:



* BWA: Boil Water Advisory
 BWN: Boil Water Notice

Water System Emergency Response

Water Main Break Categories & Response:

Type I Break	Type II Break	Type III Break	Type IV Break
Positive pressure maintained through completion of repair.	Controlled pipe repair with limited depressurization during pipe segment shutdown.	Uncontrolled loss of pressure at break site or depressurization elsewhere in the system.	Catastrophic main break or water loss event resulting in the complete loss of water service.
Pressure maintained in pipe during repair.	Pressure maintained at break site until pipe is exposed and trench dewatered. Shutdown limited to immediate valved off area. No loss of pressure elsewhere.	Pressure loss at break site while pipe is still buried or submerged and/or pressure loss elsewhere in the system.	Extensive water loss compared to system capacity, with no pressure/no water. Storage loss leaves limited flushing capacity.
Contamination is unlikely.	Limited possibility of contamination.	Significant possibility of contamination.	Contamination likely or certain.



Capital Improvements

Planned Capital Improvements

1. Gallon = gal
2. Horsepower = HP
3. Gallons Per Minute = gpm
4. Maximum Day Demand = MDD

Planned Capital Improvements

1. **Standby Generator** – IN PROGRESS – Estimated installation date: May 2022
2. **Water System Master Plan** – IN PROGRESS
3. **Reservoir Replacement** – 200,000-gal (will replace the two below ground reservoirs)
4. **Pumphouse Replacement**
5. **Booster Pump System** – (3) 20 HP Pump (~350-gpm/pump) (assume 500-gpm for fire and a MDD of 270-gpm)
6. **Pressure Tank Replacement** – (2) 1,200-gal tanks
7. **Well Replacement** – (1) 180 gpm well
8. **Water Main Replacement*** - **5-Acre School = Priority Loop*
9. **Meter Replacement*** - **High water table area = Priority*
10. **Security fencing at well site**
11. **Filtration** – manganese removal



Questions?



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