HOW TO IMPROVE YOUR CCC PROGRAM

Photo by Paula Salter

City of Wenatchee

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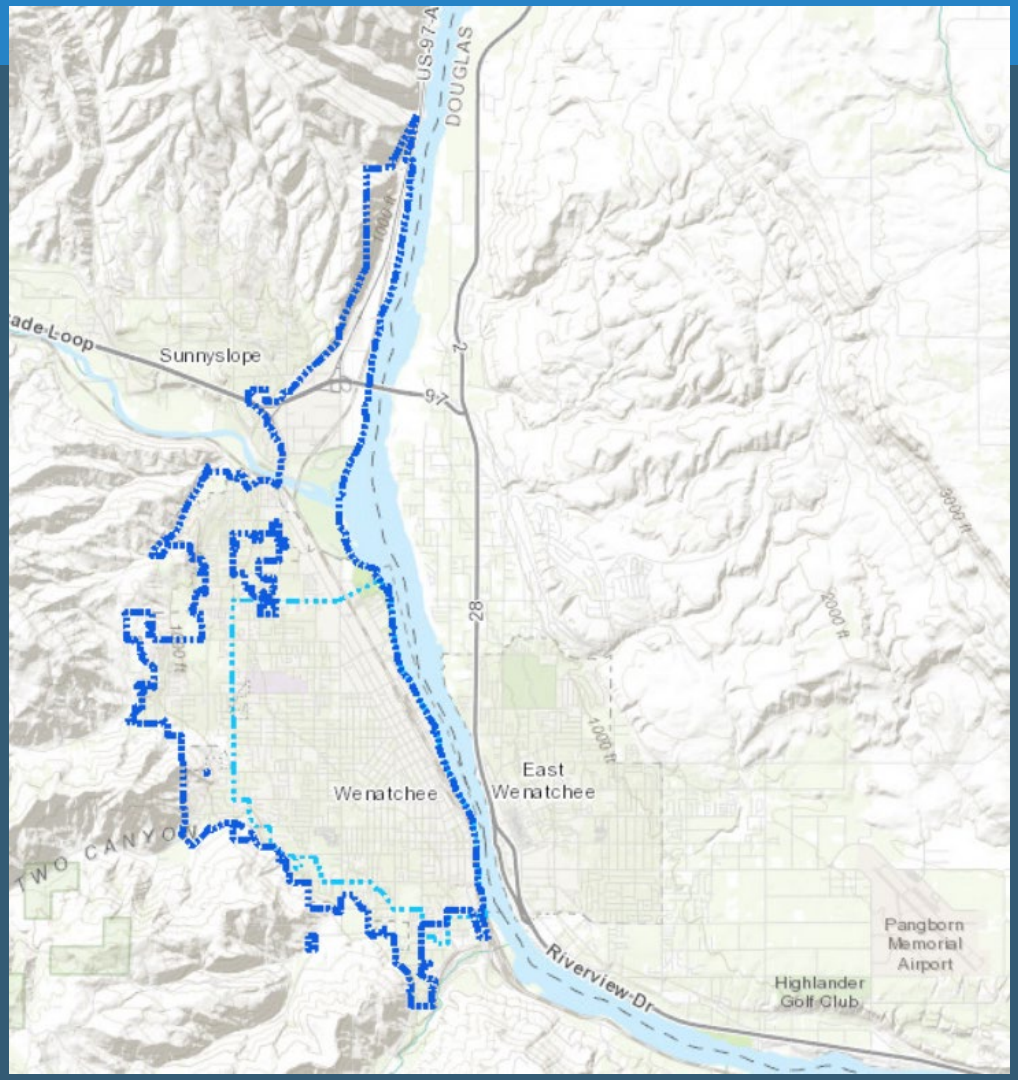
CITY OF WENATCHEE WATER LATE 1800S

In August of 1900, the City voted to replace the public water-wagon with a waterworks system including a pump in the Columbia River, pipes and a 57,000 gallon reservoir.

CITY OF WENATCHEE WATER - 2023



Service Connections – 7,769

SFR	5,795
MFR	888
Commercial	1,086

15 MG of storage (4 reservoirs)

ADD	4.0 MGD
MDD	8.1 MGD

CITY OF WENATCHEE
CROSS CONNECTION CONTROL PROGRAM

- Updated Code
- Cross Connection Control Specialist(s)
- Coordination with Building Department
- Service Connection Evaluations
  - On-site surveys
  - Building Plan Review & Inspections
  - Review of Business Licenses

PROGRAM TYPES

Combination vs. Premise Isolation

WAC 246-290-490

(3) Minimum Elements

(c) Element 2

The purveyor shall develop and implement procedures and schedules for evaluating new and existing service connections to assess the degree of hazard posed by the consumer's premises to the purveyor's distribution system and notifying the consumer within a reasonable time frame of the hazard evaluation results.

WAC 246-290-490 ELEMENT 2…

At a minimum, the program shall meet the following:

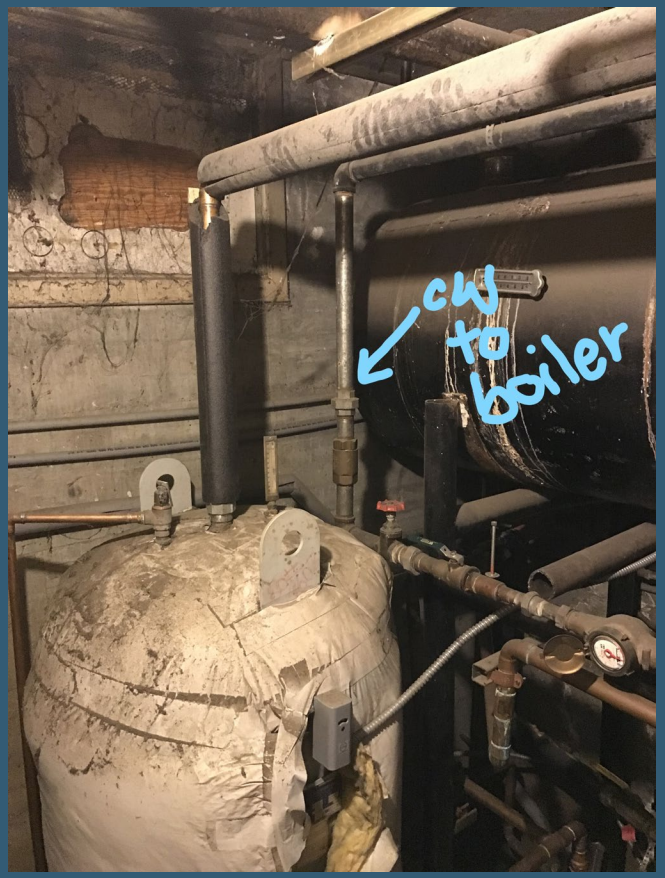
(i) Initial evaluation before water service is provided for new connections;

(ii) Initial evaluation of existing connections in accordance with a schedule acceptable to DOH

(iii) Periodic reevaluations on an acceptable schedule and whenever there is a change in use.

WAYS TO EVALUATE SERVICES

- Building Plan Review
- Review Business Licenses
- On-site inspection of new installations
- On-site survey of existing services
- Customer-completed surveys

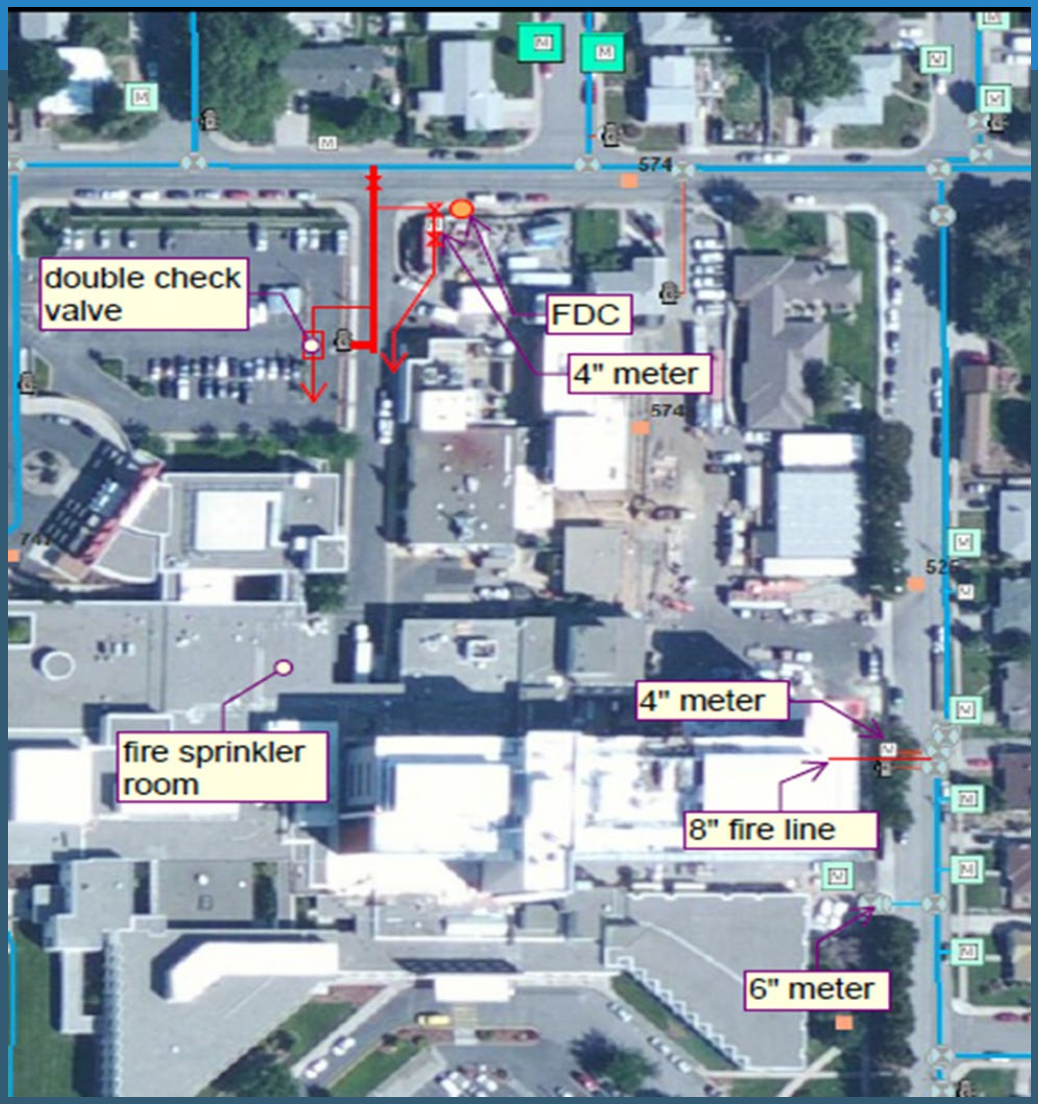


INITIAL EVALUATION BEFORE SERVICE IS PROVIDED

- Business License Review
- Building Plan Reviews

HOME BUSINESSES

HOSPITAL CROSS CONNECTION



INSPECTION OF NEW INSTALLATIONS

ANYTHING WRONG WITH THIS INSTALLATION?

PREPARING FOR ON-SITE SURVEYS

- Have a plan
  - Target Customer List
  - Permitting Process
  - Jurisdiction
  - Installation Inspections
  - Initial Backflow Assembly Test
  - Compliance Timeline
- Forms & Informational Brochures
- How are you going to explain the importance of CCC?

BEFORE YOU LEAVE THE OFFICE…

- Notify the customer and set a time & location to meet
- Find out who owns the building or site
- Consider safety equipment needs
- Review Information on the property
  - Water services
  - Water use history
  - Compliance history
  - Tenants

WHAT TO BRING TO A SURVEY

- Identification
- Survey form
- Educational brochures
- Clipboard
- Pen
- Camera
- Flashlight
- Safety vest
- Extra set of eyes

CONDUCTING ON-SITE SURVEYS

START AT THE METER

1. Check the meter chamber.
2. Are there any connections before the building? (fountains, wash areas, irrigation, fire systems)
3. Where does the water enter the building?
4. Follow the branches if necessary.
5. Ask about water-connected equipment and activities.

WHAT TO LOOK FOR…

- High hazards – medical equipment, chemicals
- Low hazards such as fire lines and domestic irrigation systems
- Listen to the customers troubles and stories
- Look for places to install backflow preventers

Post Office (New City Hall)

No cold water in the break room.

AFTER THE SURVEY

- Follow-up information
- Setting deadlines for corrections
  - Low Hazard vs. High Hazard

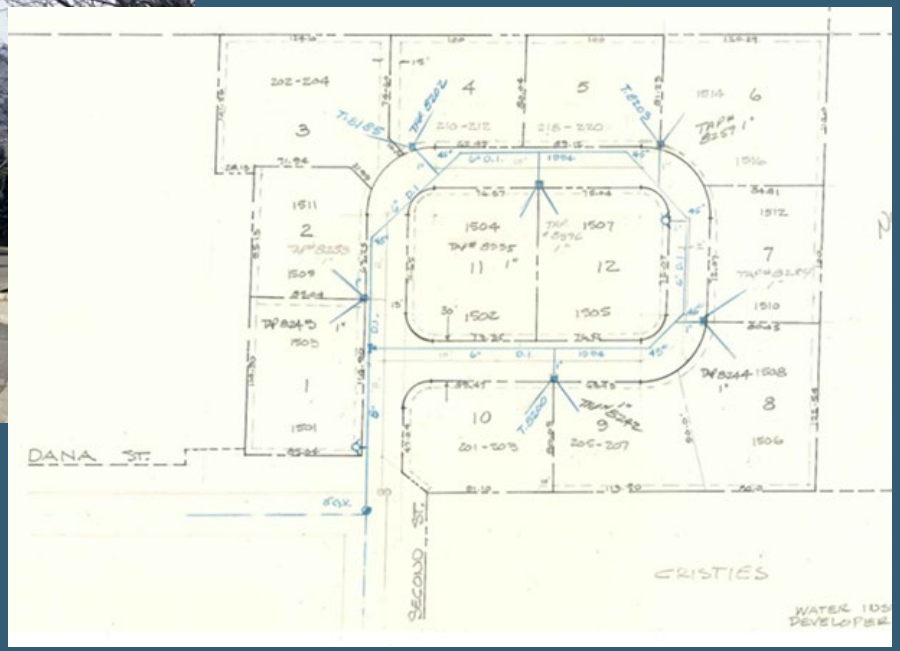
PERIODIC RE-EVALUATIONS & CHANGES OF USE

- Triggered by business license or building plan
- High hazard sites or likely to make plumbing changes or add equipment
- Other priorities such as an auxiliary source of water (ie irrigation)

CUSTOMER-COMPLETED SURVEYS

- Mailer or online survey
- Phone survey
- Neighborhood meeting followed by either customer-completed or on-site survey

DANA STREET
IRRIGATION CROSS CONNECTION



- Property maintenance person completed the survey
- Indicated no backflow valves and irrigation not connected to domestic water

RESULTS OF ON-SITE SURVEY

Double Check Valve Assembly

ADVANTAGES OF ON-SITE SURVEYS

- Survey skills are very useful when investigating a backflow incident
- CCS may already have knowledge of the facility's plumbing or similar facilities
- Familiarity with the customer
- Customer may actually recognize that there has been a backflow incident

SOCIAL MARKETING STRATEGIES

- Face-to Face with customers is the most effective communication method
- Personalize correspondence
- Commitment – when do think you could have the backflow preventer installed by?
- Positive feedback

SURVEY LESSONS LEARNED

- On-site surveys
  - Most reliable way to get accurate information
  - Connect with the customer
  - Opportunity to provide CCC education
  - Learning opportunity & experience for CCS

HISTORY OF BACKFLOW INCIDENTS IN WENATCHEE

- Mostly limited to the customer's drinking water system

- Sources of Contamination
  - Irrigation systems
  - Boilers & hot water recycling systems
  - Dental equipment

- Complaints that led to the discovery of a backflow event primarily have been received on a Friday.

NIGHTMARE ON WORTHEN STREET
1:58 PM ON FRIDAY, MARCH 22ND

DCVA Vault at PUD Parking Lot on Worthen Street

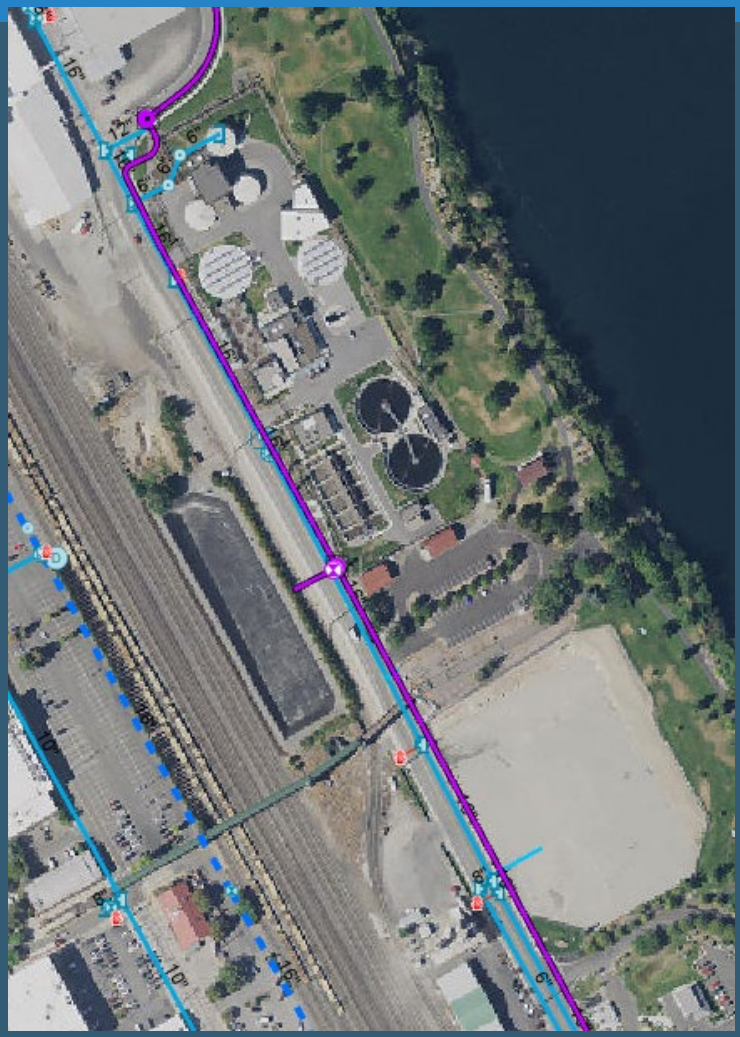
MAP OF IRRIGATION SYSTEM

2007-2009 RIVERSIDE DRIVE & WORTHEN STREET IMPROVEMENT PROJECTS

- Future reclaimed water system installed for irrigation of waterfront properties near the wastewater treatment plant.
- Drinking water used to supply irrigation system on an interim basis.
- Existing irrigation services were tapped into the new irrigation system (included irrigation to the PUD Parking Lot).
- RPDA installed at entry point to the irrigation system.

WHERE WAS THE BLUE WATER COMING FROM?

- Checked taps before the 8” RPDA (entry point to irrigation system) – no blue water
- Checked taps on the irrigation system upstream and downstream of the DCVA in the PUD parking lot – no blue water
- Collected samples
- Tested the RPDA and then shutoff the irrigation system at the entry point.



TEST RESULTS

- 8” RPDA initial test failed on both the main assembly and the detector assembly. Both were repaired and passed.
- Water Tests: bacteria, pH, & herbicides
  - Sample from 3/22 -Total Coliform Positive/E.coli negative
  - Triggered City’s Coliform Response Plan – all follow-up tests were satisfactory
  - pH = 6 (City water pH = 6.8)
  - Herbicide results negative

INTERVIEWS

- Developed a list of people to interview: City & PUD Parks staff and nearby businesses
- Reached out to water operators from other cities

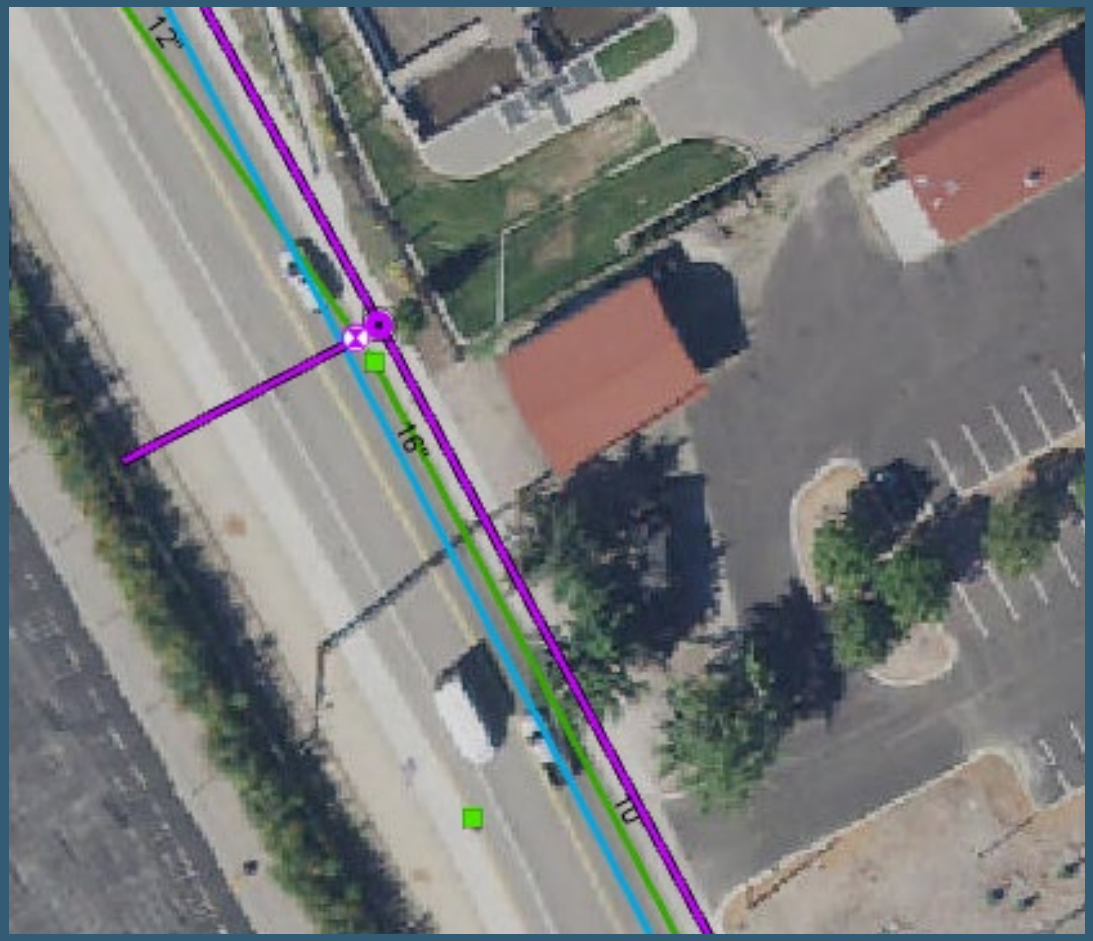
The blue water was only found at the DCVA in the PUD parking lot on 3/22.

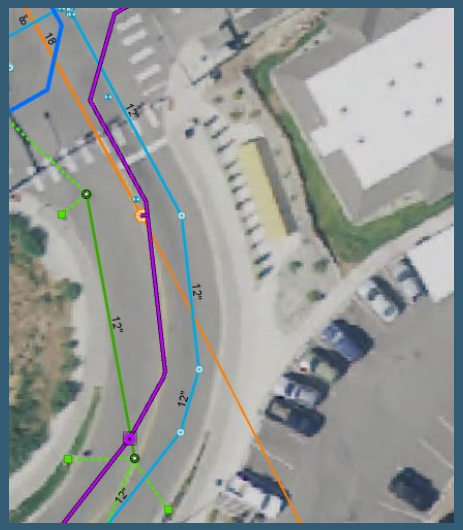
Friday, March 29th, a witness came forward.

CRIME SCENE

WORTHEN STREET AT THE PUD PARKING LOT ENTRANCE

CROSS CONNECTIONS EVERYWHERE!





LESSONS LEARNED

- Review Building Plans and Business Licenses.
- Train staff to field phone calls and investigate complaints.
- Encourage customers to call in water complaints and call-back if not resolved.
- Survey, survey, and survey again (preferably on-site).
- Be prepared for emergencies. They do happen!

QUESTIONS