

The background features a dark blue gradient with a starry night sky. On the left side, there are several technical diagrams, including circular gauges with numerical scales (40, 150, 160, 170, 180, 190, 200, 220, 230, 240, 250, 260) and various circular arrows indicating flow or rotation. At the bottom, a silhouette of a mountain range is visible against the dark sky.

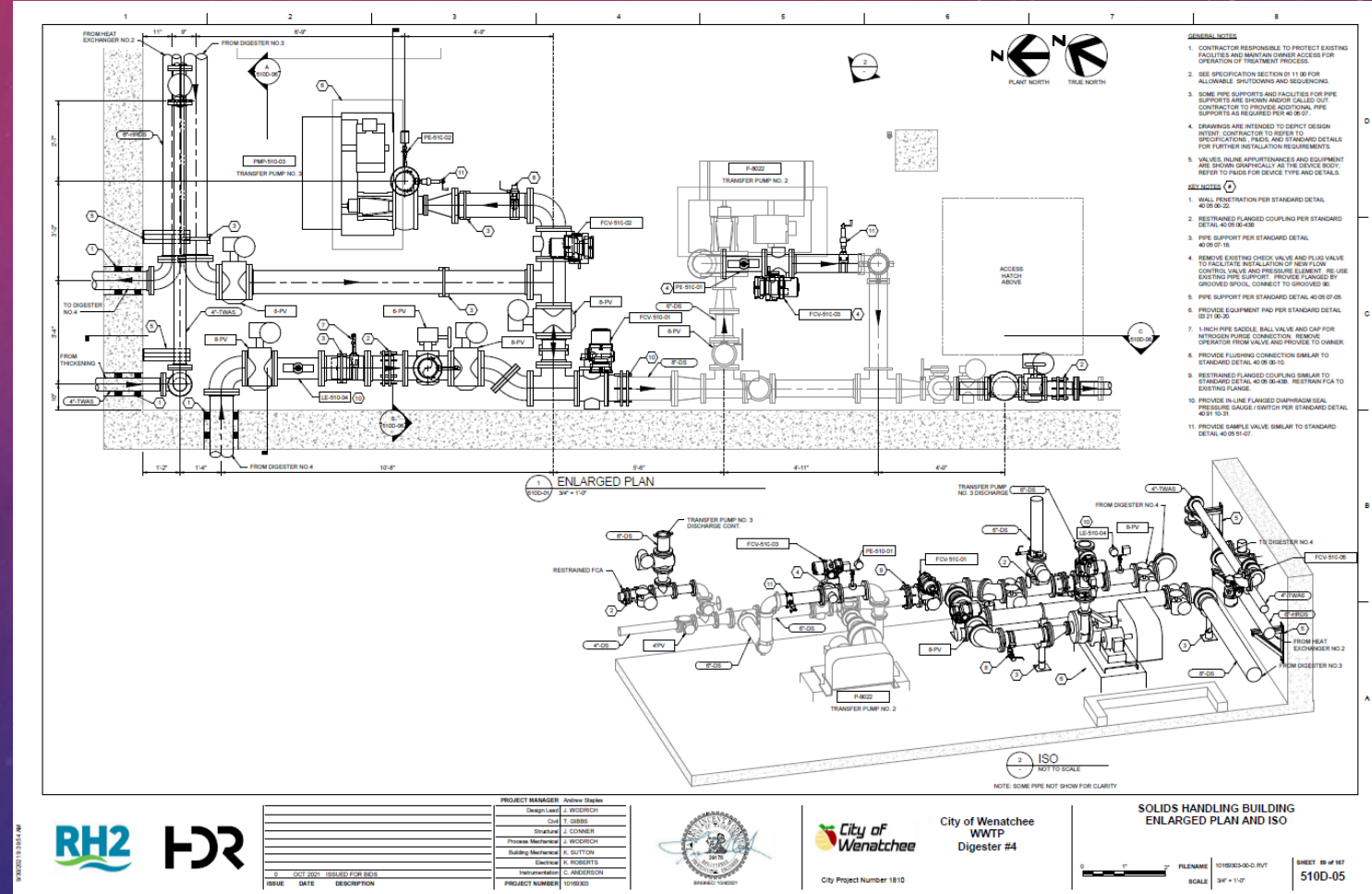
REVIEWING BUILDING PLANS FOR CROSS CONNECTION CONTROL

JESSICA SHAW, DEPUTY PUBLIC WORKS DIRECTOR-UTILITIES

CITY OF WENATCHEE, WA

WHY REVIEW PLANS?

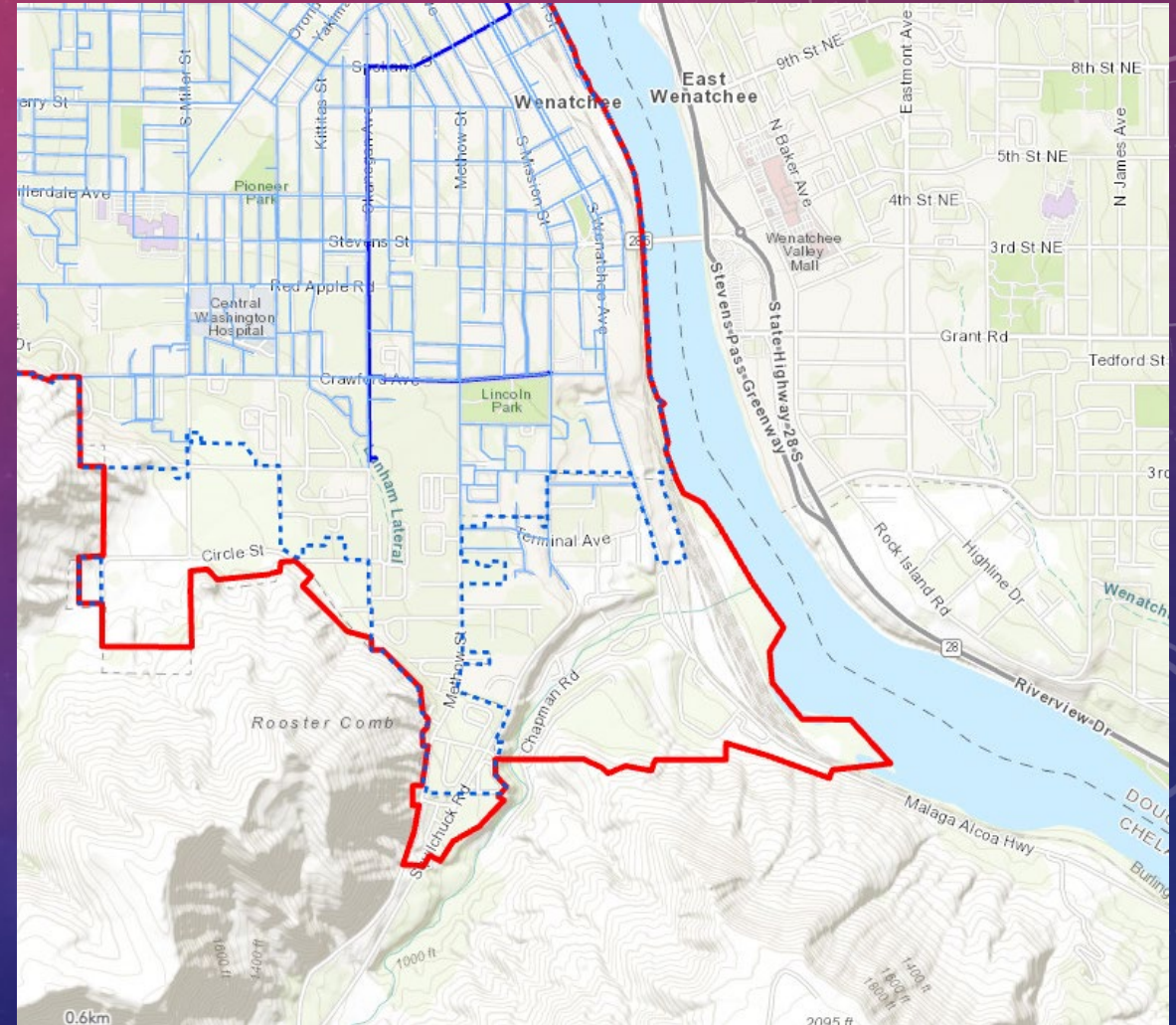
- Safe Drinking Water
- Correct backflow preventer
- Establish a good routine of testing
- CCC Education – designers, contractors, plumbers and you
- Element 2: Evaluating new & existing services (WA)



COORDINATION WITH THE JURISDICTION HAVING AUTHORITY (JHA)

WAC 246-290-490 (1)(d)

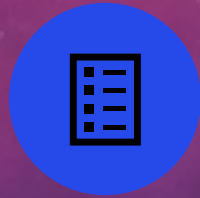
Under this section, purveyors are not responsible for eliminating or controlling cross-connections within the consumer's water system. Under chapter [19.27](#) RCW, the responsibility for cross-connection control within the consumer's water system, i.e., within the property lines of the consumer's premises, lies with the authority having jurisdiction.



PLAN REVIEW PROCESS



Communication



Plan Review



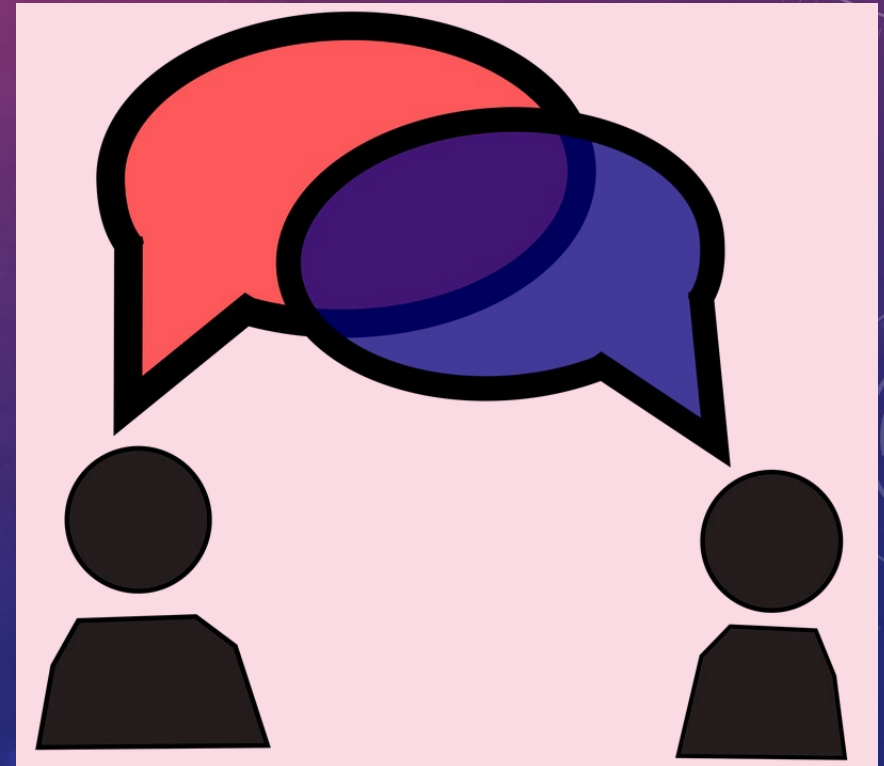
Inspections



Enforcement

COMMUNICATION

- Permitting Software - Smartgov
- Plan Review Software – BlueBeam
- Excel Spreadsheet
- Email
- Meetings



Permit #: BPR-23-035 Status: ISSUED Contact: BOYER MOUNTAIN DOOR & POOL INC Site Address: 994 RACINE SPRINGS DR
 Type: BPR-POOL Project Name: SWIFT SPRINGS PH II Contractor: BOYER MTN DOOR & POOL INC WENATCHEE, WA 98801

Display Worklist: Administrative Review Final

Cycle Information

Cycle Number: 1 Cycle State: Complete Cycle Start: 02/28/2023






















Act Reqd	Next Cycle	Appvd in Cycle	Name	Workflow Step Status	Status Date	StatusBy	Assigned	Due Date	Required	Hours
<input type="checkbox"/>	<input type="checkbox"/>	1	ENVIRONMENTAL	APPROVED*	02/28/2023	Jenni Rayson	ENVIRONMENTAL	03/07/2023	Required for Approval	0
<input type="checkbox"/>	<input type="checkbox"/>	1	PLANNING	APPROVED*	03/07/2023	Mia Bretz	CURRENT PLANNING	03/07/2023	Required for Approval	0
<input type="checkbox"/>	<input type="checkbox"/>	1	BUILDING	APPROVED W/CONDITIONS*	03/07/2023	Chris Hanson	BUILDING REVIEW	03/07/2023	Required for Approval	0

Step Maintenance

Total Hours: 0.00

Permit #: BPR-23-035 Status: ISSUED Contact: BOYER MOUNTAIN DOOR & POOL INC Site Address: 994 RACINE SPRINGS DR
 Type: BPR-POOL Project Name: SWIFT SPRINGS PH II Contractor: BOYER MTN DOOR & POOL INC WENATCHEE, WA 98801

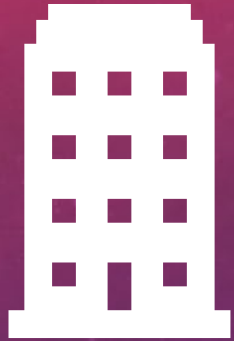
Expand Display Compress Display

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 <input type="text" value="1"/>	POOL- REINFORCEMENT SETBACKS	<input checked="" type="checkbox"/>	<input type="checkbox"/>						Request		
 <input type="text" value="2"/>	PLUMB-GROUND	<input checked="" type="checkbox"/>	<input type="checkbox"/>						Request		
 <input type="text" value="3"/>	POOL-FENCE ENCLOSURE	<input checked="" type="checkbox"/>	<input type="checkbox"/>						Request		
 <input type="text" value="4"/>	POOL-ACCESS ALARMS	<input checked="" type="checkbox"/>	<input type="checkbox"/>						Request		
 <input type="text" value="5"/>	POOL-AUTO COVER	<input checked="" type="checkbox"/>	<input type="checkbox"/>						Request		
 <input type="text" value="6"/>	PW-BACKFLOW ASSEMBLY - POOL/SPA FILL	<input checked="" type="checkbox"/>	<input type="checkbox"/>						Request		
 <input type="text" value="7"/>	POOL-FINAL	<input checked="" type="checkbox"/>	<input type="checkbox"/>						Request		

[Add](#)

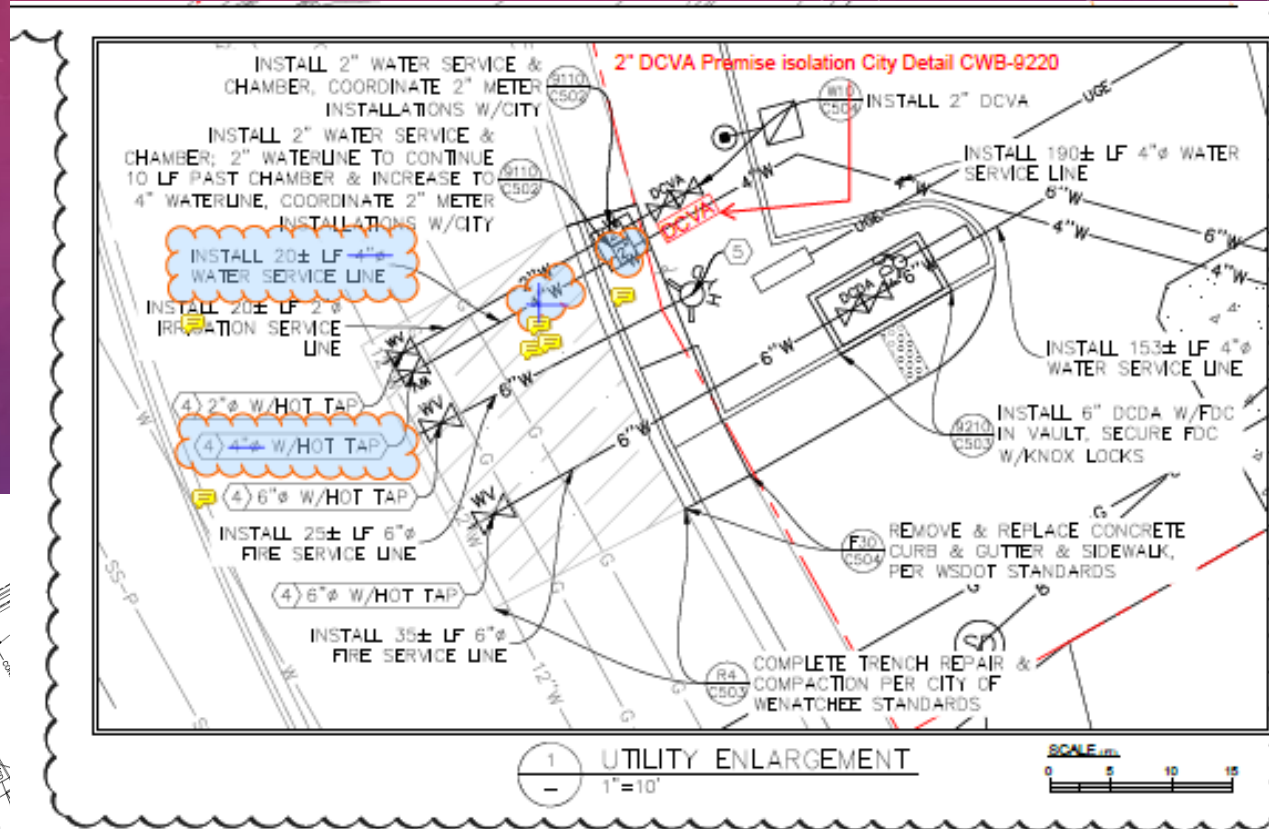
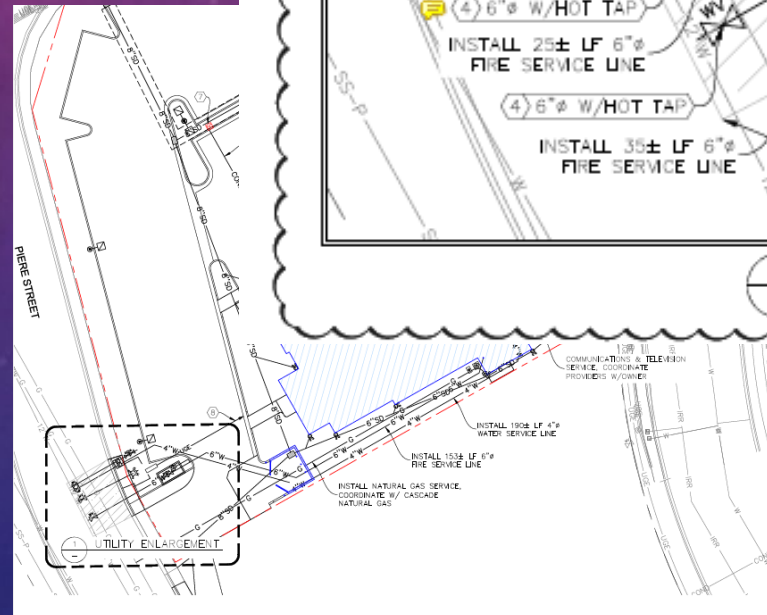
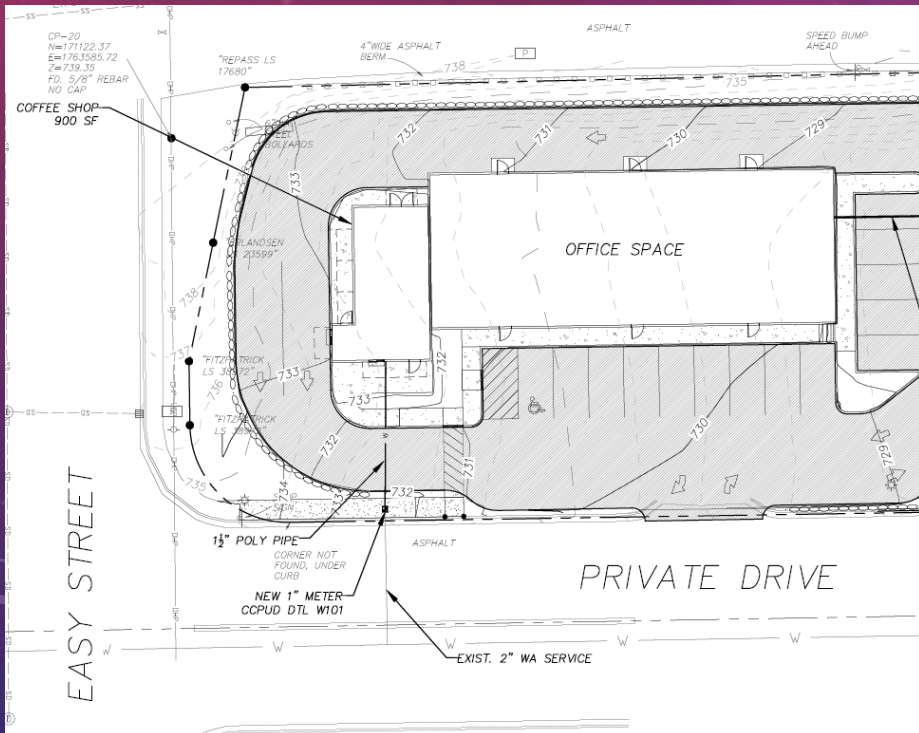
Total Hours: 0.00

What Types of Plans Should the CCS Review?



PLANS COME IN ALL SHAPES AND SIZES

- For premise, a site plan, civil plan, or civil site improvements may be adequate.
- In-premise, plumbing plan as well as equipment lists



REVIEWING PLANS – STEP 1

WHAT IS THE USE OF THE WATER SERVICE?

- Premise Isolation
 - Severe & High Health Hazard
 - Multi-story buildings over 30 feet
 - Mobile home parks
 - Multi-tenant commercial buildings
 - Fire lines and private hydrants
 - Non-residential



REVIEWING PLANS – STEP 3

IN-PREMISE OR FIXTURE/EQUIPMENT PROTECTION

- Landscape irrigation
- Fire sprinkler systems
- Boiler/hot water loops



COMMERCIAL BUILDING PLANS

- Restaurants
- Retail
- Grocery Stores
- Medical
- Hardware/home improvement





Chemical Feed



Ice Cream Scoop Washer



Industrial Washing Machine



Medical Equipment Washer



Hot Water Loop & Boiler



Grinder

COMMON COMMERCIAL EQUIPMENT

- Ice machine
- Water filtration system
- Post-mix pop, bar guns
- Espresso machine
- Commercial coffee brewer
- Commercial ice tea brewer
- Dish washer, ware washer, glass washer
- Ovens with steam option or self-cleaning
- Food steamer/ steam table
- Ice cream/gelato machine
- Pasta cooker
- Smoker
- Pressure washers
- Chemical feed systems



INDUSTRIAL BUILDING PLANS

- Usually the most complicated plans
- Industrial wastewater treatment or pretreatment systems
- Premise Isolation at a minimum
- Internal isolation of process water from domestic water

PUBLIC FACILITIES

- Schools, government offices, public works yards, lift stations, parks, pools,...
- Range from simple office buildings to more complex
- Premise Isolation at a minimum



MULTI-FAMILY BUILDING PLANS

- Duplexes
- Apartments
- Cottages
- Mobile Home Parks
- Townhomes



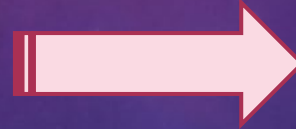
RESIDENTIAL BUILDING PLANS



- Radiant floor heat
- Fountain, pond, water feature
- Pool or hot tub
- Landscaping
- Fire sprinkler system

TENANT IMPROVEMENTS & CHANGES OF USE

- Less likely to have well drawn plans compared to new construction
- May not trigger a building permit
- Business License reviews may catch more than building permits



HOME BUSINESSES



REVIEWING PLANS – STEP 3

ARE THE BACKFLOW ASSEMBLIES SHOWN IN THE PLANS?

- Location
- Type of backflow assembly
- Installation details



PRE-APPROVED PLANS AND STANDARDS

NOTES:

1. TYPICAL LOCATION IS AT OR NEAR THE PROPERTY LINE, AT BACK OF WATER METER CHAMBER.
2. COVER SHALL NOT EXCEED MORE THAN 2" ABOVE GRADE WHEN VALVE IS NOT IN TRAFFIC AREA.
3. SLOPE PAVEMENT AWAY FROM COVER.
4. VALVE LID SHALL BE OF ADEQUATE HEIGHT TO PROVIDE MIN. 4" CLEARANCE TO G, S & Y VALVE WHEN VALVE IS FULLY OPEN.
5. VALVES SHALL BE AS MANUFACTURED BY UTILITY VALVE OR APPROVED EQUAL AND SHALL BE STRUCTURALLY DESIGNED FOR THE PROPOSED INSTALLATION.
6. BACK-FLOW VALVE AND ASSEMBLY MUST APPEAR ON CURRENT DEPT. OF HEALTH'S APPROVED VALVE LISTING.
7. RESTRAIN CHECK DETECTOR WITH MESA-LUGS, RESTRAINED JOINT PIPE, OR SHOCKLE RODS BACK TO WATER MAIN AS REQUIRED.
8. BOTTOMLESS VALVES MUST PROVIDE CONCRETE SUPPORT FOUNDATIONS FOR PIPE SUPPORTS.
9. ASSEMBLY SHALL BE MAINTAINED BY OWNER WITH A TEST DONE UPON INSTALLATION AND ANNUALLY THEREAFTER BY A CERTIFIED BACK-FLOW ASSEMBLY TESTER (SMC). A COPY OF EACH ANNUAL TEST REPORT MUST BE SENT TO THE CITY OF WENATCHEE.
10. WATER SERVICE SHALL NOT BE PLACED IN SERVICE UNTIL AFTER DOUBLE CHECK DETECTOR ASSEMBLY IS INSPECTED, TESTED AND APPROVED BY CITY REPRESENTATIVE.
11. ALLOWANCE FOR THERMAL EXPANSION WITHIN THE PREMISES.
12. AN ALTERNATE LOCATION MAY BE ALLOWED BY THE WATER PURVISOR.
13. CONCRETE THROUST RESTRAINT LOCATED OUTSIDE THE VALVE ARE NOT REQUIRED WITH A NEW WATER MAIN TAP AND FULLY RESTRAINED JOINTS HAVE BEEN INSTALLED TO THE VALVE A MINIMUM OF 10-FEET DOWNSTREAM OF THE DOUBLE CHECK DEVICE.

STANDARD DETAIL
DOUBLE CHECK VALVE
PREMISES ISOLATION

City of Wenatchee

NO.	DATE	REVISION	BY	APP'D.
W-210				
1 OF 1				

wenatcheewa.gov/government/public-works/public-works-pre-approved-plans-and-policies

City of Wenatchee... Backflow Assembly... Wenatchee, WA | H... 2019SWMMW - Fr... USGS Current Cond... Online Professional... APPS https://elements.wenatcheewa.gov/elements/water-services-requests

Utility Services Request Form (Water, Sewer, Stormwater)

Water:

- [Policy W-1 Water Line Easement](#)
- [Water Plans Full Package 2023](#)
- [W-100 Fire Hydrant Specifications](#)
- [W-110 Filling New Water Mains](#)
- [W-120 Water and Sewer Spacing and Clearance](#)
- [W-150 Carrier Pipe](#)
- [W-200A Fire Service Double Check Detector Assembly](#)
- [W-200B Fire Service Standalone Fire Department Connection](#)
- [W-210 Double Check Valve Premises Isolation](#)
- [W-230 Hot Box Enclosure Back Flow Assembly](#)
- [W-250A Water Box Chamber Water Meter Services](#)
- [W-250B Single Meter Service](#)
- [W-250C Double Meter Service](#)
- [W-250D 3, 4 and 6 Inch Water Meter Chamber](#)
- [W-310 Concrete Slope Anchor](#)
- [W-400 Combo Air Valve](#)
- [How to Winterize a Backflow Assembly](#)
- [Installing a Double Check Valve Assembly \(DCVA\)](#)
- [Installing a Reduced Backflow Assembly \(RPBA\)](#)

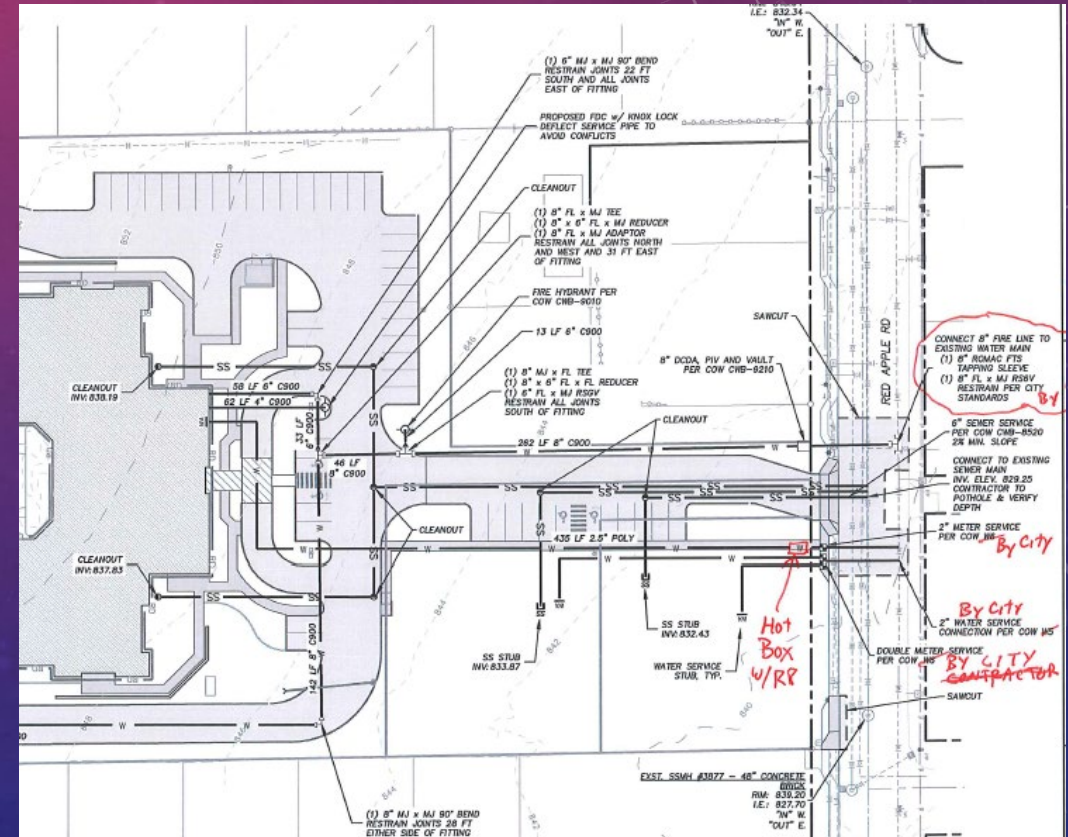
***Water Forms, Applications & Reports**

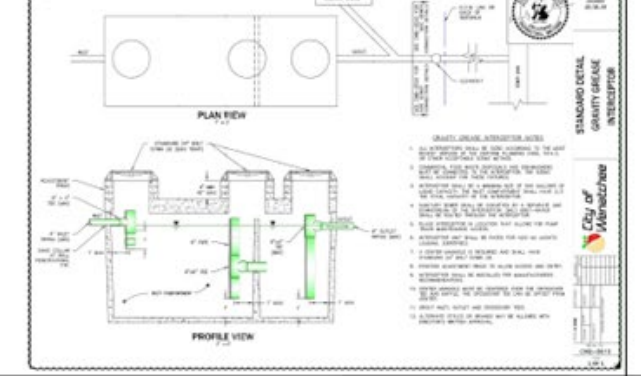
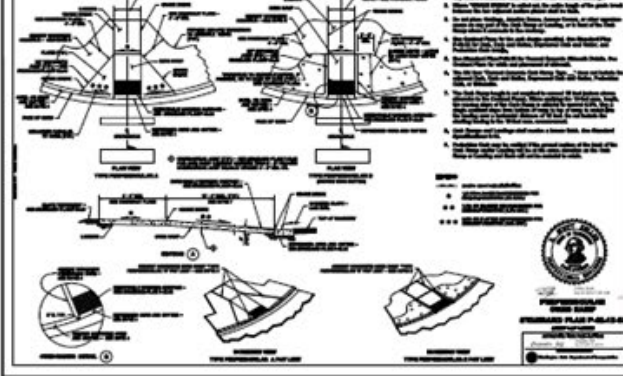
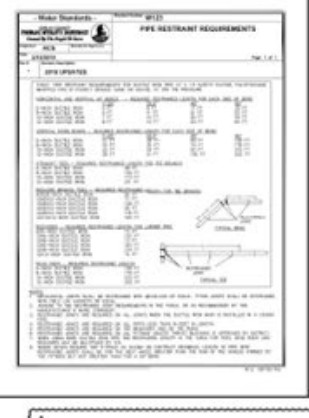
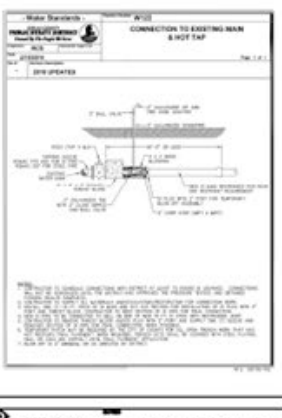
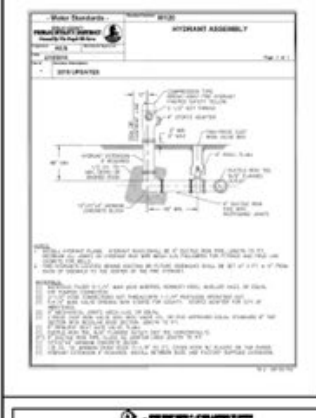
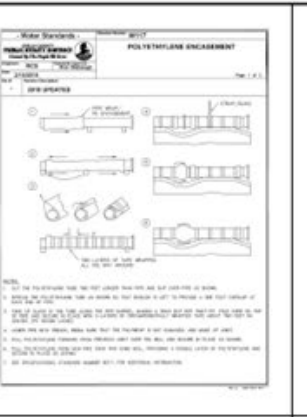
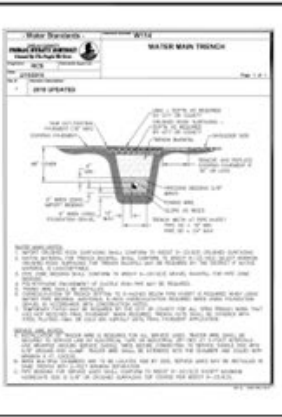
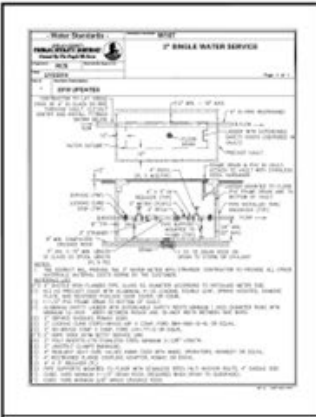
- [Cross Connection Blank Test Report Form](#)
- [Hydrant Valve Application](#)
- [Irrigation Check List](#)
- [Maintenance Log for Grease Traps & Interceptors](#)
- [Utility Services Request Form \(Water, Sewer, Stormwater\)](#)
- [2022 Water Quality Report](#)
- [Water Use Efficiency - 2021 Annual Performance Report](#)
- [Backflow Assembly Testers List](#)

https://www.wenatcheewa.gov/government/public-works/public-works-pre-approved-plans-and-policies

REVISED PLANS vs PERMIT CONDITIONS

- Problems
 - Revised plans can be challenging to get owners/engineers to submit
 - Permit conditions are often overlooked






BOB PARR
 BOB PARR, P.E.
 REGISTERED PROFESSIONAL ENGINEER
 STATE OF CALIFORNIA
 No. 19808
 Exp. 08/31/2025

ENGINEERING ARCHITECT
 1801 17TH STREET, SUITE 100
 SAN DIEGO, CA 92161
 TEL: 619.444.5566
 FAX: 619.444.5567
 WWW.MCCANAEENGINEERING.COM

PROJECT: **SEWER MAIN**
 NO. 17TH STREET TO
 INTERSECTION WITH MAIN
 EASTSIDE CANALS

DATE: **12/19/18**
 PLAN SCALE: **1" = 16'**
 DRAWN BY: **SEM**
 FILE NO.: **2018-18**
 SHEET NO.: **C4.1**

IMPROVING BONES AND
 ONE-CALL NUMBER
811
 ONLY THE BURNING DAYS
 ABOVE YOU GO

MCCANNA ENGINEERING
 1801 17TH STREET
 SAN DIEGO, CA 92161
 TEL: 619.444.5566
 WWW.MCCANAEENGINEERING.COM

REVIEWING PLANS – STEP 4

COMMUNICATING REQUIREMENTS OR CONDITIONS

- Language matters.
- Standard Requirements/Conditions
 - Call for an inspection (When? & Who?)
 - Backflow Assembly Test – Before or after the inspection?
- Opportunities
 - Pre-application meetings
 - Pre-submittal meetings
 - Pre-construction meetings
 - Check-in with contractor/owner



INSPECTIONS & INITIAL TESTS

- Inspect promptly – Don't wait for final
- Have a list of what to check
- Require the initial test as a permit condition
- Communicate corrections



LOCATION, LOCATION, LOCATION





INSPECTION RESULTS

301 Yakima Street, Suite 100, Wenatchee WA 98801
509-888-3244

Report run on 03-28-2023





































Application # BPC-19-124	Application Type BPC-NEW
Parcel # 232034857052	Site Address 1229 WALLA WALLA AVE WENATCHEE

Inspector	Inspection Type	Date	Status	Comments
James Frost	PW-BACKFLOW ASSEMBLY - HOT WATER RECIRCULATION	11-Aug-21	Complete	

Task Description	Status	Comments
MINIMUM 1", DRAIN SHALL BE PROVIDED.	Pending	
Correction(s) :	Description	Status Status Date
PROPER SIDE CLEARANCE AND HEIGHT, PROPER PLACEMENT OF ASSEMBLY FOR TESTING.	Pending	
Correction(s) :	Description	Status Status Date
General Observations	Pending	
Correction(s) :	Description	Status Status Date
DRAIN PIPE AND ASSEMBLY SUPPORTED.	Pending	
Correction(s) :	Description	Status Status Date
BACKFLOW ASSEMBLY TEST COMPLETED.	Pending	
Correction(s) :	Description	Status Status Date
THERMAL EXPANSION PROVIDED.	Pending	
Correction(s) :	Description	Status Status Date

Permit #: BPC-17-167  Alerts Status: CLOSED Contact: A & A CONSTRUCTION & DEVELOPMENT INC Site Address: 25 N WORTHEN ST
 Type: BPC-NEW Project Name: HILTON GARDEN INN Contractor: A & A CONSTRUCTION & DEVELOPMENT WENATCHEE, WA 98801

Expand Display Compress Display

Display Order	Inspection Type	Req	Deferred	Reason	Display Date	Primary Inspector	Inspection Status	State	Results	Has Actions	Has Corrections
6				REINSPECTION	03/29/2019	Dave Nichols	FAILED	Requires Re-Inspection			 
6				REINSPECTION	03/28/2019	Dave Nichols	FAILED	Requires Re-Inspection			 
6				REINSPECTION	03/27/2019	Dave Nichols	FAILED	Requires Re-Inspection			 
6				REINSPECTION	03/26/2019	Dave Nichols	FAILED	Requires Re-Inspection			 
6				REINSPECTION	03/25/2019	Dave Nichols	FAILED	Requires Re-Inspection			 
6				REINSPECTION	03/21/2019	Dave Nichols	FAILED	Requires Re-Inspection			 
6				REINSPECTION	03/20/2019	Dave Nichols	FAILED	Requires Re-Inspection			 
6				REQUESTED	03/19/2019	Dave Nichols	FAILED	Requires Re-Inspection			 
6	PW-GREASE INTERCEPTOR INSTALLATION	<input checked="" type="checkbox"/>	<input type="checkbox"/>	REQUESTED	03/29/2019	Paula Salter	APPROVED	Complete			 
6	MECHANICAL-TYPE I/II HOOD	<input checked="" type="checkbox"/>	<input type="checkbox"/>	REINSPECTION	03/18/2019	Dave Nichols	APPROVED	Complete			
6				REQUESTED	01/04/2019	Scott York	PARTIAL APPROVAL	Requires Re-Inspection			 
6	PW-BACKFLOW ASSEMBLY - PREMISE	<input checked="" type="checkbox"/>	<input type="checkbox"/>	REINSPECTION	04/22/2019	Jessica Shaw	APPROVED	Complete			 
6				REQUESTED	03/29/2019	Jessica Shaw	PARTIAL APPROVAL	Requires Re-Inspection			 
6	PW-BACKFLOW ASSEMBLY - IN-PREMISE	<input checked="" type="checkbox"/>	<input type="checkbox"/>	REQUESTED	03/29/2019	Jessica Shaw	APPROVED	Complete			
6	PW-BACKFLOW ASSEMBLY - IRRIGATION	<input checked="" type="checkbox"/>	<input type="checkbox"/>	REQUESTED	04/22/2019	Jessica Shaw	APPROVED	Complete			 

ENFORCEMENT

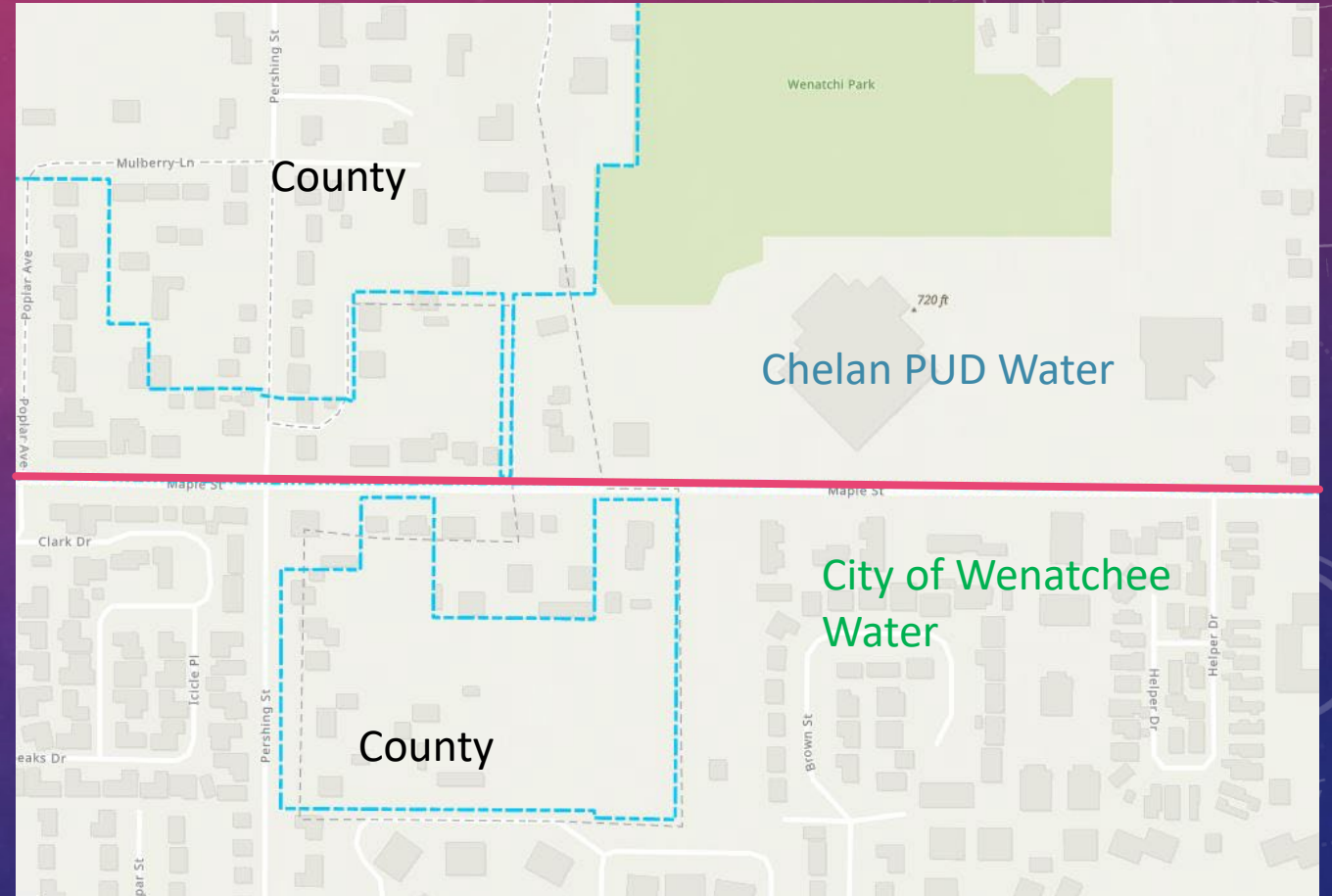


- Corrections not completed – wrong backflow preventer, wrong location, no drain on an RPBA, missing ladder from a vault, no supports, no initial test, failed test, etc...
- Enforcement Options
 - No certificate of occupancy
 - No water service
 - Fines



COORDINATING WITH UTILITIES & BUILDING DEPARTMENTS

- Have a plan & method for communication
- Clear responsibilities
- Standards
- Point of contact



PLAN REVIEW WRAP-UP

- Safe Drinking Water
- Element 2: Evaluating new & existing services
- Correct backflow preventer in the correct location
- Establish a good routine of testing
- CCC Education – designers, contractors, plumbers and you





THANK YOU!

JSHAW@WENATCHEEWA.GOV

Photo by Paula Salter