

Special Meeting Agenda

PUD Board of Commissioners

Tuesday, October 13, 2020 10:00 AM

online via webex

Port Townsend, WA 98368



To join online go to: <https://jeffpud.my.webex.com/meet/JPUD>. Follow the instructions to login. Meetings will open 5 minutes before they begin. CALL IN #: Dial 360-379-5833. No additional log-ins needed.

Page



1. Call to Order

2. Agenda Review

3. Public Comment

The public comment period is for any items not specifically listed on the current Agenda or for items listed on the Consent Agenda. The Chair may place time limits on public comments to allow the meeting to be conducted in an efficient and orderly manner. (15 min)

4. Presentations

- 4.1. FCS Electric Meter Replacement Business Case Study 2 - 6
[Jefferson PUD Meter Replacement - Business Case - revised scope budget](#) 
- 4.2. Quilcene Water Tank 7 - 25
[Board Presentation 10-13-20 FINAL.pdf](#) 

5. Discussion

6. Dismiss into Executive Session: RCW 42.30.110 (b), to consider the selection of a site or the acquisition of real estate by lease or purchase when public knowledge regarding such consideration would cause a likelihood of increased price.

7. Adjourn

EXHIBIT A

ELECTRIC METER REPLACEMENT – BUSINESS CASE

Jefferson County Public Utility District No. 1 (PUD) is currently informally receiving vendor information related to replacement of its 19,000+ electric meters. The majority of the existing meters were transferred with other electric utility infrastructure when the PUD purchased the electric utility business from Puget Sound Energy (PSE) in 2013. The existing metering infrastructure includes a portion with Automated Meter Reading (AMR) capabilities while the majority of the meters remain manual read only. The PUD and Landis & Gyr both currently perform meter reading for the system, which costs over \$550,000 annually.

In the summer of 2017, the PUD evaluated an RFP for meter replacement, intending to move to an Advanced Metering Infrastructure (AMI) platform. The PUD Board of Commissioners suspended that project in early March 2018, citing the timing was not right to continue moving forward.

The PUD now desires that an Electric Meter Replacement Business Case (Business Case) be developed to compare the existing meter reading practices with other alternatives including but not limited to AMI. This proposal by FCS GROUP (FCS) is for the development of that Business Case with the assistance of the PUD staff. The tasks required are as follows:

Task 1 | Data Collection/Project Setup

Task Scope: As preliminary effort prior to an official project kick-off meeting, FCS will meet with PUD representatives to:

- ☒ Better understand and document the history of the past meter reading practices;
- ☒ Identify and characterize the possible future engagement of various parties: e.g. Commissioners, internal advisory group/committee, external stakeholders including those vendors who have continued to provide unsolicited proposals to the PUD, known public/citizen proponents and opponents, etc.;
- ☒ Identify the weighted criteria to be used in the evaluation of the meter program alternatives; and
- ☒ Determine initial schedule and major project milestones.

This meeting will be on-site and follow all appropriate social distancing and other safety protocols in place by both the PUD and FCS for the safe conduct of business. During and after this visit, FCS will request a list of information and data encompassing historical meter asset and program cost information. This request will include but not be limited to information that the PUD has been informally receiving from prospective vendors in anticipation of a meter replacement project.

The results of these preliminary efforts will be documented in a draft Project Plan to be reviewed by the PUD and finalized between the parties prior to holding the project kick-off meeting. This Project Plan will be revised as necessary and used as a project management

resource to facilitate the successful completion of this scope of work culminating in a documented “*Jefferson County PUD Electric Meter Replacement – Business Case*”. The Project Plan is also intended to be revised subsequent to this study effort and used as a project management resource to provide continuity between this study and future meter replacement projects.

FCS will use the meter program data provided (and potentially the gaps of data) to prepare the agenda for a project kickoff meeting with the PUD staff. During this meeting, it is anticipated that validation of existing data and assumptions related to any data gaps can be determined. Due to the large number of participants anticipated for this meeting, it will be conducted as an on-line meeting.

The resulting data will be used to document a set of existing performance metrics for use in comparing meter system Business Case alternatives. The existing performance metrics will identify the uniqueness of the PUD’s meter program so that comparison of alternatives will reflect the true needs of the PUD and its electric utility customers.

At the kickoff meeting, FCS will also facilitate discussion by the PUD staff related to the future vision and goals of the meter program. This step is important in order to characterize the level of service anticipated by the PUD for potentially moving to other meter reading platforms.

Prior to or directly following this meeting, FCS will accompany PUD staff to inspect and photograph PUD meter configurations that represent the typical industrial, commercial and residential customer classes. ***(Note: Budget for the preliminary on-site meeting, kickoff meeting and field inspection tour are included within Task 3 in the budget table below.)***

Task Deliverables:

- ☒ **T1a:** A Draft Project Plan in WORD format. To be provided in electronic format only.
- ☒ **T1b:** An excel spreadsheet will be populated with the collected meter program data including assumptions related to data gaps (if any). To be provided in electronic format only.
- ☒ **T1c:** A table of existing performance metrics to be used in the comparison of meter reading alternatives. To be provided in electronic format only.
- ☒ **T1d:** A draft meter program Vision Statement documenting the results of the PUD staff discussion at the kickoff meeting. To be provided in electronic format only.

Task 2 | Business Case Development

Task Scope: The following Business Case alternatives will be characterized and evaluated using information that the PUD has informally received from vendors as well as industry standards and case history related to meter program automation. SWOT analysis will be included for each of these alternatives as well as net present value (NPV) calculations.

- ☒ **Alternative A: Do Nothing (Combination of AMR and Manual Reads - Limited Annual Meter Replacements)**
- ☒ This alternative assumes the PUD continuing its current meter program operational scheme, replacing several hundred meters each year, targeting selected meters for AMR deployment.

- ☒ **Alternative B: Full Meter Replacement – No AMI Platform**
- ☒ This alternative assumes that the PUD moves forward with a project to replace all meters over a 3 to 5 year schedule using the current operational scheme of a combination of manual read and AMR technology. This alternative does not include moving to an AMI platform.
- ☒ **Alternative C: Full Meter Replacement – AMI Platform**
- ☒ This alternative assumes that the PUD moves forward with a full replacement program over a 3 to 5 year schedule with an AMI platform (similar to the proposal in the summer of 2017). For this alternative, it will be important for the PUD to determine the vision and goals of the meter program because there are a wide variation of potential AMI deployment schemes.
- ☒ **Alternative D: Manual Read Only – No AMR or AMI**
- This alternative assumes that the PUD moves to a manual read only program including the necessary staffing and associated vehicles/equipment.

Task Deliverable:

- ☒ **T2a: Technical Memorandum-Meter Program Alternatives Evaluation** – FCS will prepare this memorandum documenting the detailed characteristics of each of the four (4) alternatives, the assumptions and methodology included weighted criteria used for evaluation, and the conclusions reached. This memorandum will first be published in draft form and reviewed following the procedure set forth in the Project Work Plan. Following review, the memorandum will be finalized and appended to the Business Case Report.
- ☒ **T2b: Business Case Report** - FCS will document the study process in a report titled “Jefferson County PUD Electric Meter Replacement Business Case” or other title per PUD direction and prepared in anticipation that it will be used as a general strategic road map for the future of the PUD’s meter program. It is anticipated that this report will be provided in hard copy, bound (20 copies) as well as in electronic format.

Task 3 | Project Meetings

A total of five (5) on-site meetings are included in the budget as well as a line item for additional meeting assistance should that be requested. The anticipated on-site and remote on-line meetings are as follows:

- ☒ Task 1: Preliminary meeting on-site
- ☒ Task 1: Kick-off meeting remote on-line
- ☒ Task 1: Remote on-line meeting to go over results of Task 1 efforts and discuss potential revision of the Project Plan

- ☒ Task 2: Meeting on-site to discuss the draft Technical Memorandum and the potential revision of the Project Plan related to processing the results of the alternatives evaluation
- ☒ Task 2: Public outreach meeting on-site with select stakeholders to present results documented in the Technical Memorandum and receive input related to finalization of the Business Case Report
- ☒ Task 2: Public workshop with PUD Commissioners and staff on-site to present the results of the study and resulting recommendations documented in the draft Business Case Report
- ☒ Task 2: Attend Commissioners meeting on-site related to the adoption of the Business Case Report and participate as appropriate to answer questions

Task 4 | On-Call Support – Meter Replacement

FCS will act as an on-call resource to the PUD for facilitation of the adopted Business Case for future meter replacement projects.

SCHEDULE

Completion of the analysis is based on a variety of issues including the PUD’s availability to respond to FCS information requests. A specific project schedule that meets the PUD’s needs will be developed following discussion at the preliminary and kickoff meetings.

BUDGET

The project budget summary is shown in the table below, made up of the business case budget of \$37,745 and on call budget of \$10,255 for a total proposed budget of \$48,000.

Task	Consultant Hours					Subtotal Hours	Budget
	Executive Consultant	Principal	Senior Analyst	Administrative Support			
<i>Hourly Billing Rates:</i>	\$210	\$270	\$155	\$80			
Task 1: Data Collection	26	3	8	0	37	\$7,510	
Task 2: Business Case Development	44	4	17	0	65	12,955	
Task 3: Project Meetings (5)	20	8	8	0	36	7,600	
Additional Meeting Assistance as Requested	10	8	8	0	10	2,100	
Project Administration	0	6	0	12	18	2,580	
Total Business Case Labor Budget	100	21	33	12	166	\$32,745	
Expenses - 3 nights hotel - mileage - report printing						\$5,000	
TOTAL BUSINESS CASE PROJECT BUDGET	100	21	33	12	166	\$37,745	

September 2020
Jefferson PUD
Electric Meter Replacement Business Case

Task 4: On Call Support - Meter Replacement	40	4	5		49	\$10,255
TOTAL METER REPLACEMENT SUPPORT	140	25	38	12	215	\$ 48,000

Our normal billing practice is to bill based on time and materials actually expended, not to exceed the total budget. We would be more than happy to negotiate the appropriate level of effort for this project, if we have scaled our approach out of line with the PUD's needs and/or expectations.

Jefferson PUD Quilcene Water Tank Project

Board of Commissioners Special Meeting

October 13, 2020

Presented By: Jim Gross, P.E., BHC Consultants

Lance Stevens, P.E., Evergreen Coating Engineers, LLC

Marc Horton, P.E., Washington Project Consultants



Outline

- ▶ Acronyms
- ▶ Definitions
- ▶ Background
- ▶ Project Team
- ▶ Design Requirements and Considerations
- ▶ Design Alternatives
- ▶ Selected Alternative
- ▶ Public Information
- ▶ Construction Funding Support
- ▶ Schedule



Acronyms

- ▶ DOH - Department of Health
- ▶ DWSRF - Drinking Water State Revolving Fund
- ▶ FEMA - Federal Emergency Management Agency
- ▶ Gpm - gallons per minute
- ▶ PIF - Public Infrastructure Fund
- ▶ Psi - pounds per square inch
- ▶ Qa - Annual withdrawal
- ▶ Qi - Instantaneous withdrawal
- ▶ USDA - United States Department of Agriculture
- ▶ USFS - United States Forest Service

Definitions

- ▶ Operational storage (OS) supplies the water system while the pumps supplying the water tank are in “off” status.
- ▶ Equalizing Storage (ES) is used when the source pumping capacity cannot meet the peak hourly demand.
- ▶ Standby Storage (SB) is to provide continued water supply during normal operating conditions.
- ▶ Fire Suppression Storage (FSS) depends on maximum flow rate and duration. Provided fire flow must build and maintain facilities, including storage reservoir, capable of meeting fire flow requirements while maintaining 20psi pressure throughout the distribution system.
- ▶ Dead Storage (DS) is the volume of stored water not available to all consumers at the minimum design pressure.
- ▶ Peak hourly demand means largest hourly volume of water consumed.

Definitions - Water Tank Storage Components

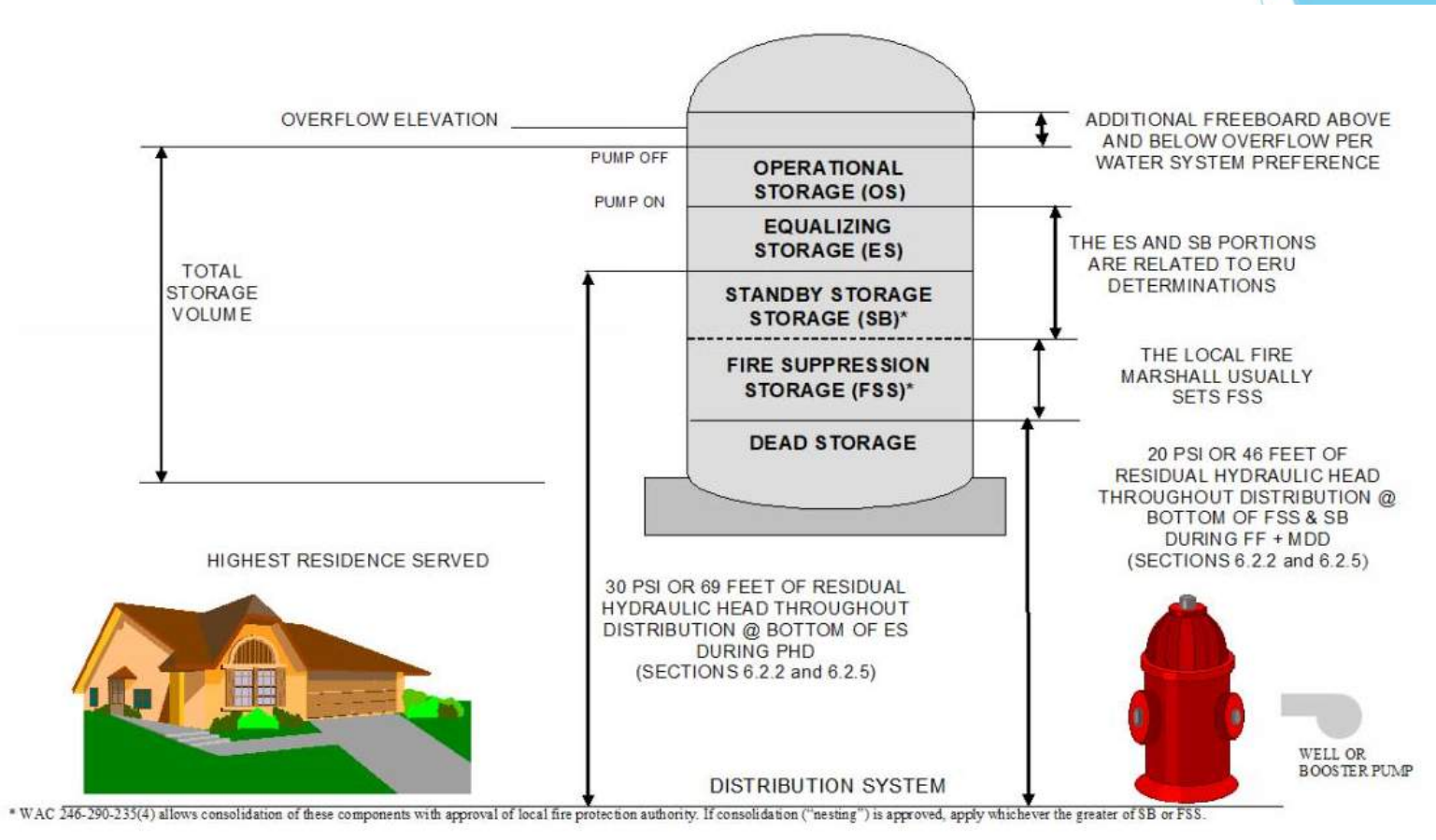
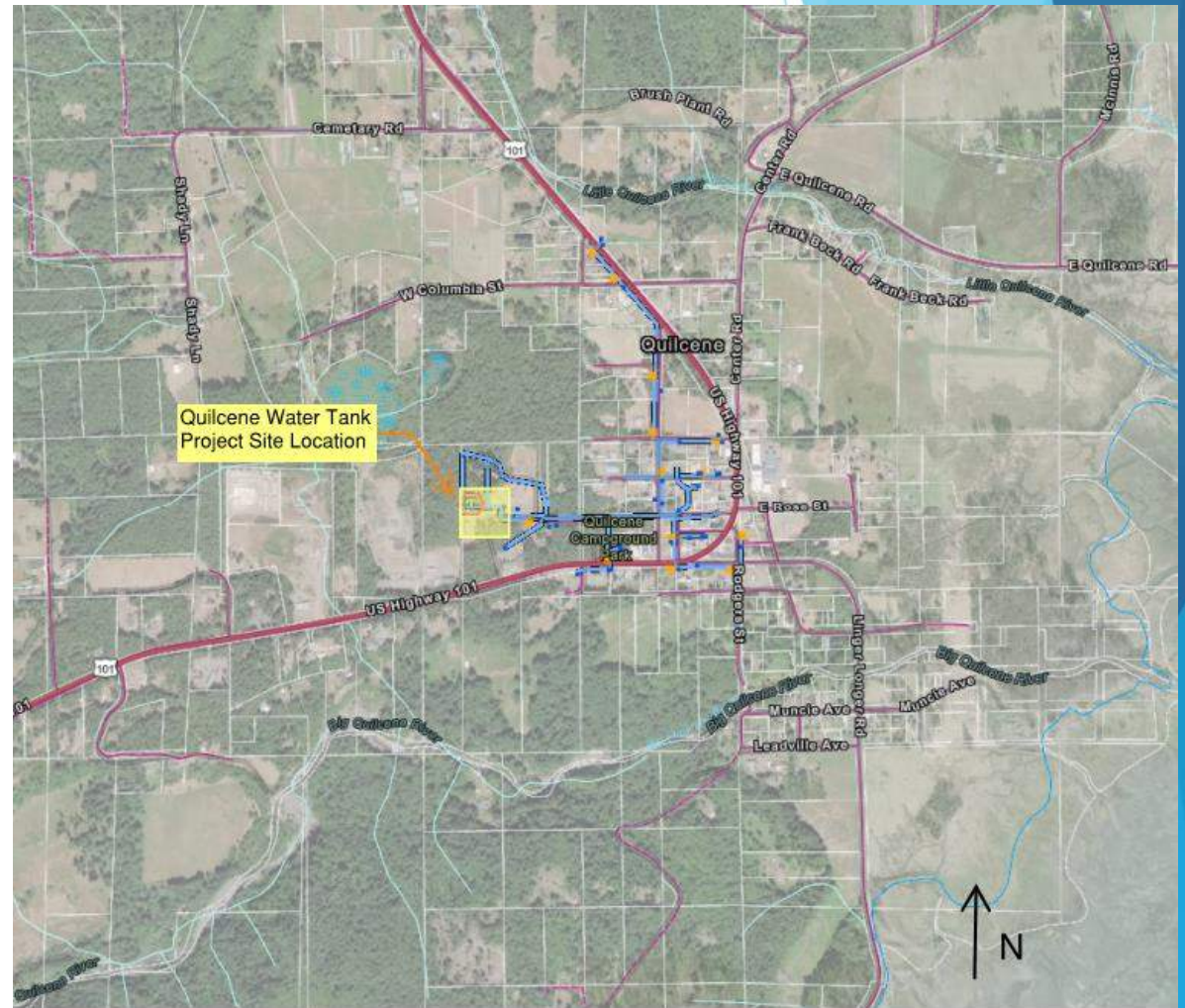


Figure from DOH Water System Design Manual

Background

- ▶ JPUD acquired the Quilcene water system from the USFS in 2005
- ▶ The system included a 30,000-gallon elevated water tank and a 28 gpm well.
 - ▶ 50gpm Qi water right
- ▶ The tank was constructed in 1984 and has several deficiencies:
 - ▶ It does not provide enough storage capacity to meet current requirements, particularly commercial fire flow
 - ▶ It is seismically deficient
 - ▶ The coating system is past its useful life
- ▶ Given deficiencies, JPUD decided to construct a new tank instead of rehabilitating the existing tank
- ▶ JPUD selected BHC Consultants in June 2020 to design a tank to replace this existing tank.



Project Team

- ▶ BHC Consultants
- ▶ Evergreen Coating Engineers
- ▶ Washington Project Consultants
- ▶ Pan Geo
- ▶ Van Aller Surveying



<p><i>Van Aller Surveying</i> P.O. Box 757 • Carlsborg, WA. • 98324 PHONE: (360) 683-3438 FAX: (360) 683-3241</p>	
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Design Requirements and Considerations

- ▶ Must meet design fire flow of 1,000 gpm for 1 hour (60,000 gallons total)
- ▶ Meet Max Buildout Storage Requirements:
 - ▶ Max Day Demand: 38,400 gallons
 - ▶ Fire Flow: 60,000 gallons
 - ▶ Total Storage Required: 98,400 gallons
- ▶ Not exceed water age criteria of maximum turnover of 5 days
- ▶ Long term operating costs and other considerations

Alternatives for New Tank - Steel Elevated Tank



Steel Elevated Tank

Advantages:

- ▶ No dead storage
- ▶ Provides system pressure by gravity

Disadvantages:

- ▶ Initial and life cycle costs
- ▶ Requires recoating
- ▶ Challenging seismic design

Alternatives for New Tank - Steel Standpipe



Steel Standpipe

Advantages:

- ▶ Provides system pressure by gravity
- ▶ Local contractors

Disadvantages:

- ▶ Initial and lifecycle costs
- ▶ Significant dead storage
- ▶ Requires recoating

Alternatives for New Tank - Steel or Concrete Ground Storage Tank and Booster Pump Station



Steel or Concrete Ground Storage Tank and Booster Pump Station

Advantages:

- ▶ No dead storage
- ▶ Operational storage flexibility
- ▶ Seasonally adjustable volume without affecting system pressure
- ▶ Cost

Disadvantages:

- ▶ Requires pumps for system pressure
- ▶ Ongoing maintenance and electricity costs

Water Tank Storage Components

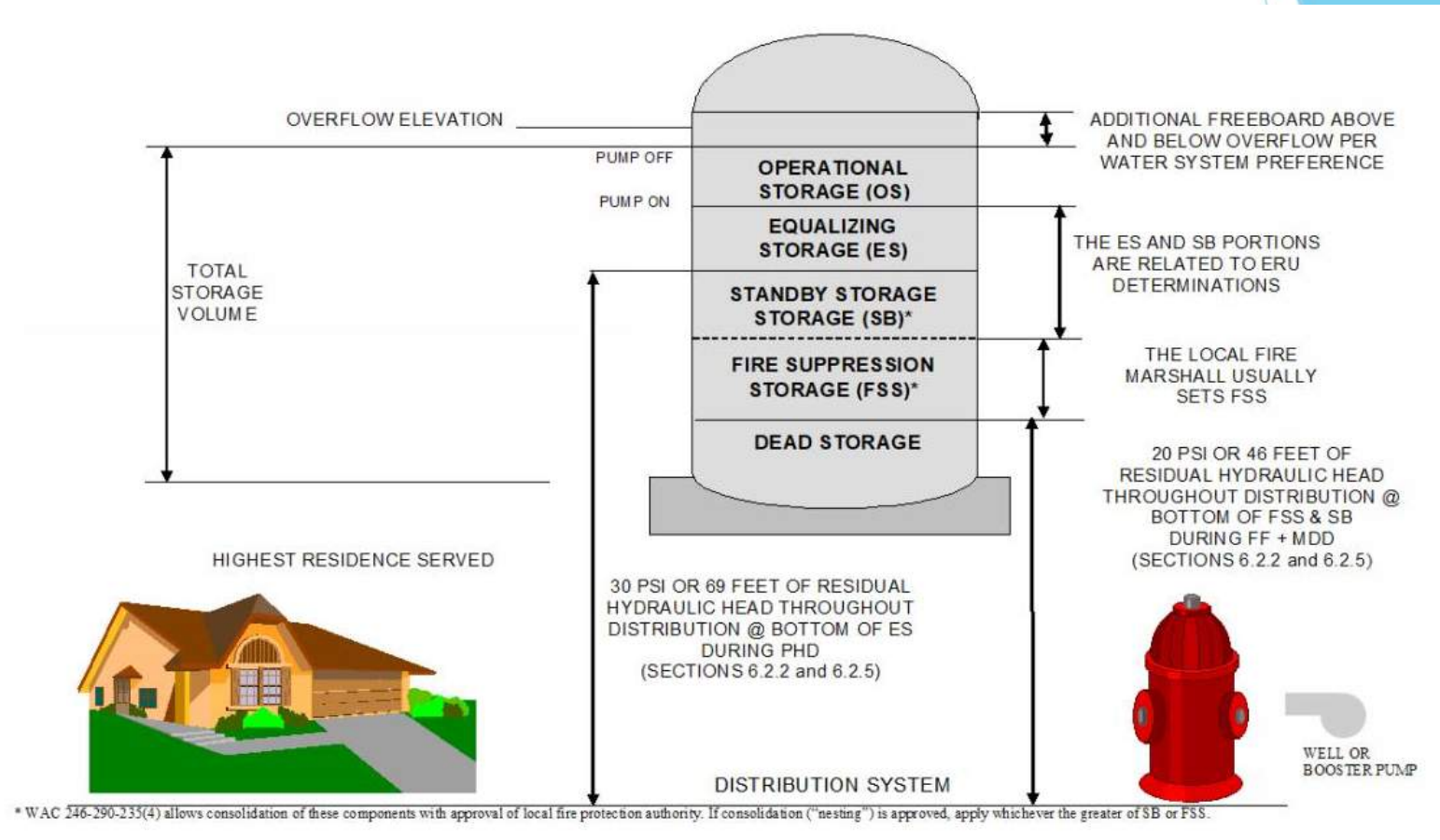


Figure from DOH Water System Design Manual

Steel or Concrete Tank with Booster Station?

Steel

- ▶ Approximately double the cost of concrete to construct
- ▶ Needs to be recoated every 20-25 years
- ▶ Expected lifespan of 100 years

Concrete

- ▶ Half the price of steel to construct
- ▶ May need coatings at some point but not a requirement yet
- ▶ Expected lifespan of 50 years
- ▶ Exterior can be hard to maintain
- ▶ Life cycle costs show long term cost of concrete less than half the cost of steel

Selected Alternative: Concrete tank with Booster Pump Station

This project will consist of constructing:

- ▶ 94,000 gallon concrete tank
- ▶ Booster Pump Station
- ▶ Generator
- ▶ Miscellaneous water main improvements

And demolition and removal of the existing tank



Public Information

- ▶ Website updates
- ▶ Updates to Quilcene School Board, Quilcene Fire Rescue, USFS, Jefferson County Chamber of Commerce, Jefferson County Public Infrastructure Fund Board
- ▶ Commissioner briefings
- ▶ Press releases to PT Leader, Peninsula Daily News and Kitsap Sun

Construction Funding Support

- ▶ Evaluate programs such as:
 - ▶ DOH Drinking Water State Revolving Fund (DWSRF)
 - ▶ USDA Rural Development
 - ▶ FEMA
 - ▶ Public Works Trust Fund

Schedule

Task	2020			2021											
	October	November	December	January	February	March	April	May	June	July	August	September	October	November	December
Design	█														
Permitting			█												
Public Information	█														
Apply for DWSRF	█				Award						Contract				
Bid Advertisement						█									
Contract Award								█							
Construction										█					

NOTE: Permitting timeframe may vary due to National Environmental Policy Act (NEPA) requirements.

Questions?