

Distribution System Theory and Operations

Learning Outcomes

Pressure Zone Anatomy

- Convert quickly from hydraulic grade line to pressures
- Understand how a pressure zone is operated given the results of the conversion.

Considerations for operation of drinking water reservoir levels

- Describe the allocation and purpose of volumes in a drinking water reservoir.
- Explain how operation of the level affects water quality.

Pumps and Pumping

- Describe the typical pumps used in a distribution system.
- Perform basic calculations to size pumps.
- Understand and apply pump sizing information to pump curves.

Understanding Control Valves

- List the types of valves found in the distribution system and explain their typical function.
- Explain key components and features of these valves.

When Things Go Wrong

- Explain the most common issues in the distribution system and the required operational response.
- Describe challenges that can result from these issues.

Tualatin Valley Water District's Approach to Distribution System Resiliency

- Explain how redundancy can be achieved in the distribution system.
- Explore how this redundancy provides greater operational resiliency and reduces service disruption.

Changing the System Through Rezoning

- Discuss why portions of a distribution system may need rezoning.
- Explain what considerations and analysis needs to be conducted prior to rezoning.