PNWS AWWA SPRING CONFERENCE

Cascade Groundwater Alliance

A Brand New* Drinking Water Source and Supply



Jeremy Hudson, Heather Pina, and Jeff Fuchs
May 2026

CASCADE GROUNDWATER ALLIANCE
GRESHAM + ROCKWOOD

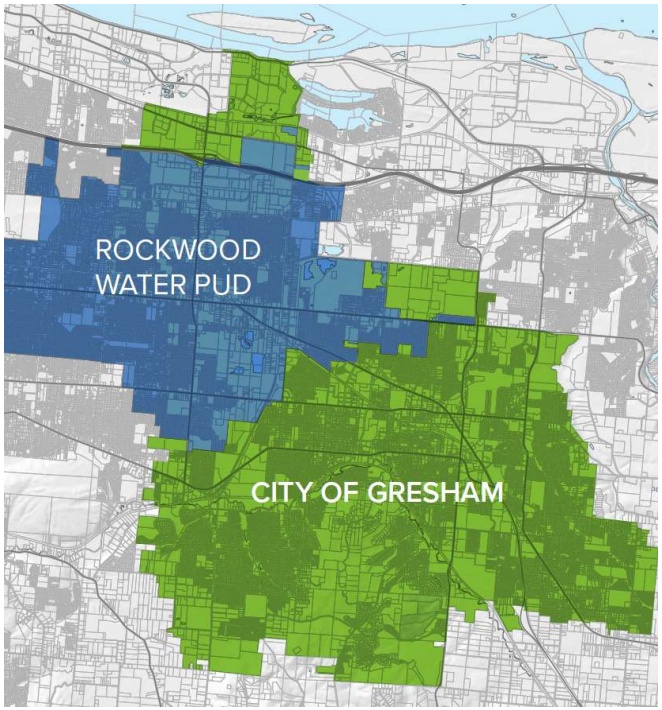
CITY OF GRESHAM

Rockwood Water People's Utility District

Jacobs

consor

Agenda



- Overview: New Water Supply
- Planning the System Improvements
- Designing and Building the System
- Changing Sources: From Design to Startup
- Lessons Learned
- Closing



Overview:
New Water Supply

Overview

- Partnership: Cascade Groundwater Alliance
- Customer Base: 140,000 people
- Water Demands Max. Day:
  - 2027: 23.2 MGD
  - 2050: 28.5 MGD
- Changing Sources:
  - *from* City of Portland + supplemental groundwater – with chloramines
  - *to* 100% groundwater – free chlorine
  - Manganese filtration
- Total Program Cost: $165M → WIFIA & bonds



Big Picture – Program Overview

New water delivered in May 2026



1

Water storage tank rehabilitation



2

New water tanks



3

Groundwater treatment plants



5

New wells
(4 existing)



2

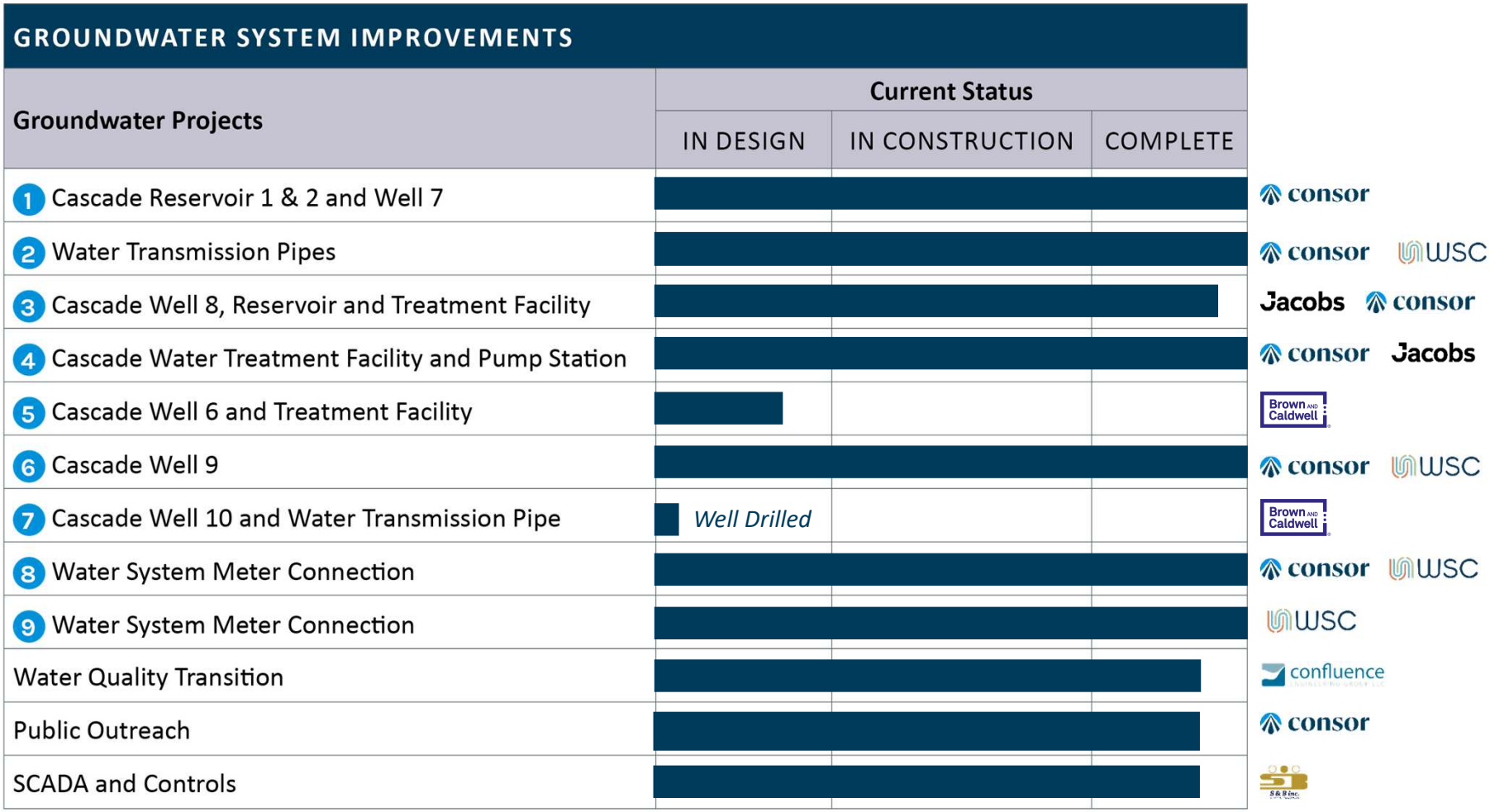
New pump stations



10.8

Miles of large diameter water pipe

Project Status



The Team

Owner

Cascade Groundwater Alliance
Gresham · Rockwood

Rockwood Water People's Utility District

City of Gresham Oregon

Lead Engineers

consor

WSC

Jacobs

confluence
Engineering Group LLC

S & B inc.
Stead & Associates

Brown and Caldwell

Kennedy Jenks

Contractors

Rotschy Inc.

Emery & Sons Construction Group, LLC

MEI Group
Moore Excavation, Inc.

TAPANI INC.



Planning System Improvements

Integrated Master Plan

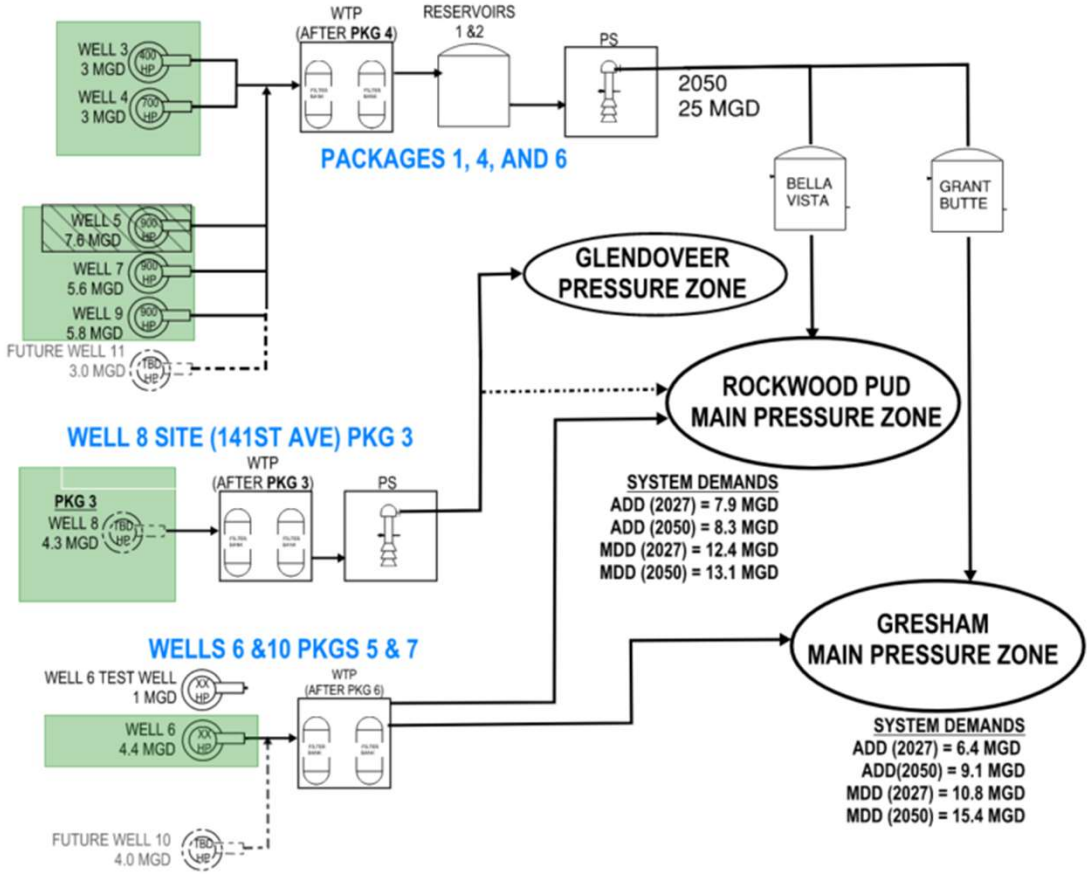
- Integrated Master Plan – set the stage in 2020
- Defined system configuration and capacity goals
- Identified 9 packages to build the program in phases
- Shared the workload
  - Each utility manages half the improvement packages



Groundbreaking Package 1

Supply Analysis & Operational Planning

- Designed for 2050 demands and provided for future capacity
- 30 MGD at start up
- 45 MGD available (Build-Out)
- Package 4 serves main pressure zones
- Package 3, 5, and 7 serve “satellite” zones



Water Quality Planning

1. Flushed both systems
2. Surface water → groundwater with chloramines
    - Added ammonia to the groundwater
3. Lowered terminal reservoir levels
4. Turned off the ammonia
5. Filled reservoirs and continued moving water through the system
6. Chloramines → free-chlorine



Hydrant flushing



Designing and Building the System

Program-Wide Construction & Engineering Challenges

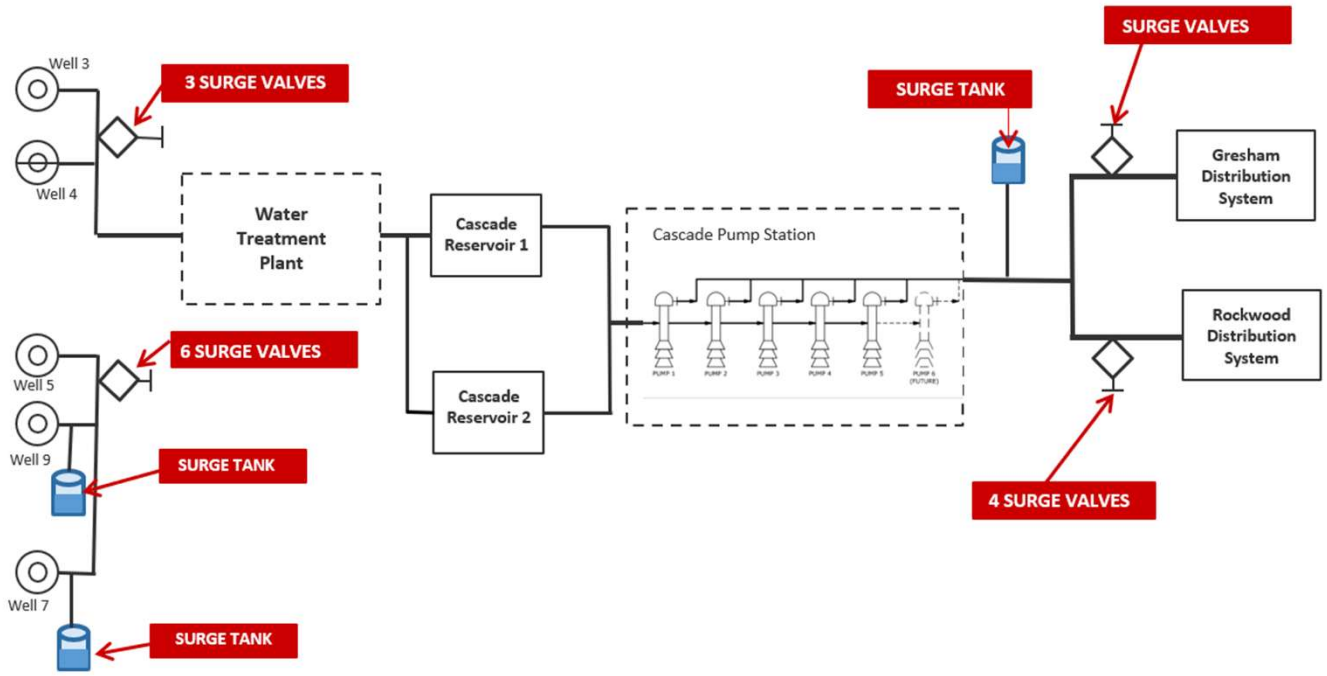




- Multiple projects delivered in parallel – introducing challenges
- Construction within active and operational systems
- Tight coordination across projects and contracts
- Sequencing and timing drove risk

Late-Stage Surge Analysis & Long Lead Times

- Surge analysis completed late in design
- System-wide surge mitigation requirements identified
- Additional multi-package design coordination required
- Equipment lead times longer than anticipated



Key Takeaway from the Surge / Lead-Time Lesson

- Treat surge analysis as an early, program-level decision
- Late surge analysis reduced visibility into procurement and lead-time impacts
- Long lead times are volatile and can drive cost and schedule risk
- Sequencing and timing matter as much as design



Startup

- Flexible overall approach to startup for each project and the system
  - How many wells do you need to meet demand?
  - When can you shut down specific wells and rely on others?
- Expect startup issues – water quality, power supply, equipment
- Coordinate across teams
- Be agile



Package 6 – Well 9 Startup

Working with multiple owners, engineers, contractors…

- Add float to the schedule
- Assume things will take longer than anticipated
- Plan for lead-times
  - electrical panels, generator, surge tanks, CARVs
- Preselect critical equipment – OSHG & Filters
- Establish consistent design standards
- One SCADA designer/integrator across all projects
- We are all successful together



Package 4 – Control Cabinets

HP1

Creative solutions

E.g., 42” Dia. steel pipe required change in approach

Challenge

- Anticipated long lead-time for pipe and fittings
- Advertised a contract to pre-purchase
- No bids

Solution

- Included pipe in prime contract
- Contractor proposed building WTP in 3 phases
- Built sections of WTP building that we could
- Maintained schedule while waiting for pipe
- Finished building once pipe was installed



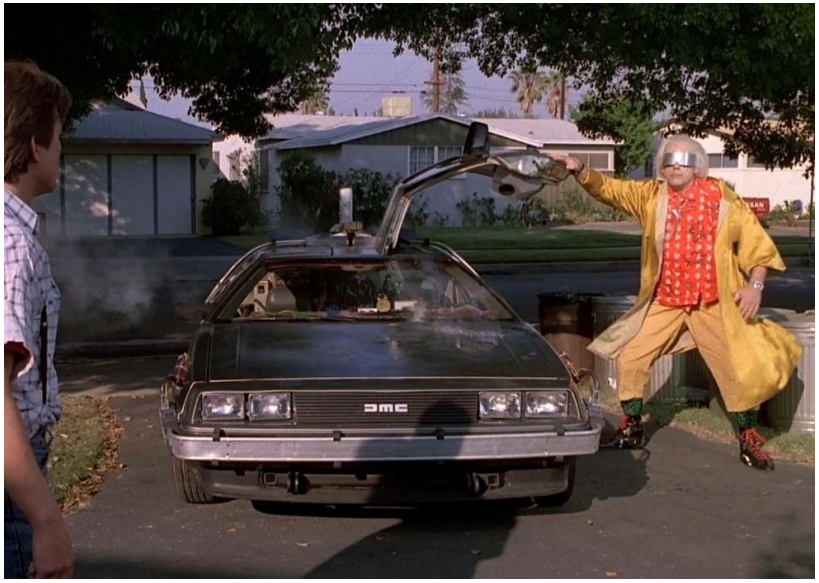


What We'd Tell Ourselves on Day One

BU1

What We'd Tell Ourselves on Day One

- Build flexibility into delivery and operations
- Can we do our own inspections?
- Rehab vs new facilities
- Transition from planning → engineering → construction → operations



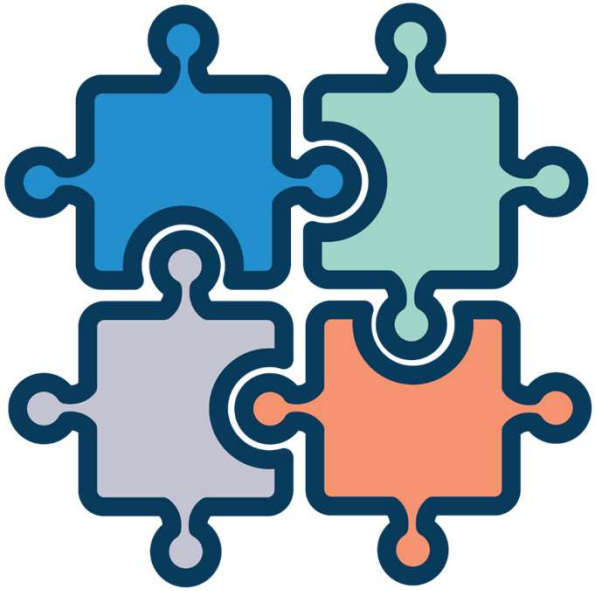
Still from *Back to the Future*



Closing

Keys to Success

- Solid Planning
- Collaborative Approach & Sharing Responsibilities
- Design each project to be part of the full system
- Learn and improve along the way
- Be creative about procurement



Questions

Contact info:

Jeremy Hudson – RWPUD

jhudson@rwpud.org

Heather Pina – Consor

Heather.pina@consoreng.com

Jeff Fuchs – Consor

Jeff.Fuchs@consoreng.com

