Bull Run
TREATMENT
PROJECTS

Our water: Safe and abundant for generations to come

PORTLAND WATER BUREAU
FROM FOREST TO FAUCET

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Report to Council

Date: June 23, 2022

To: Mayor Ted Wheeler
Commissioner Mingus Mapps
Commissioner Jo Ann Hardesty
Commissioner Carmen Rubio
Commissioner Dan Ryan
Karen Williams, Portland Utility Board Co-chair

From: Gabriel Solmer, Portland Water Bureau Administrator

Subject: Bull Run Treatment Projects Annual Report

This Annual Report updates City Council on the status of the Bull Run Treatment Projects. The report highlights progress over the past fiscal year, including bringing upgraded corrosion treatment online to further reduce the risk of lead at customers' taps and reaching significant design milestones for the planned water filtration facility and related pipelines.

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Our water: Safe and abundant for generations to come

The Portland Water Bureau is making long-term investments with the Bull Run Treatment Projects that will help keep Bull Run water safe and abundant for the nearly one million people who rely on it today and for future generations. The new facilities are needed to protect public health and comply with safe drinking water regulations.

For our health
Making sure our water is safe for everyone.

For our economy
Creating jobs and investing in infrastructure to help our community thrive.

For our future
Providing a more resilient water system and greater protection.

Community values are guiding the Water Bureau's project decisions for these important improvements to the Bull Run water system. This includes ongoing cost management to balance water rate affordability with water quality and resilience goals and adapt to changes in the construction economy. The Water Bureau is also continuing a robust community outreach process to keep customers, neighbors, and other key stakeholders informed.

- Partnered with community liaisons to help raise project awareness and improve outreach to historically underserved communities.
- Held customer focus groups to better understand current information needs and views of the projects.
- Continued customer outreach through monthly e-newsletters, annual water quality report, social media videos, and more.

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Improved Corrosion Control Treatment

In FY2021-22, the Water Bureau finished building the ICCT project. The upgraded treatment is helping reduce the risk of lead at customers' taps making drinking water safer for everyone.

Purpose: Adjusts the chemistry of Bull Run water to make it less corrosive to lead and other metals found in some home and building plumbing.

Schedule: Completed prior to the Oregon Health Authority compliance deadline.

Budget: $20.2M final cost.

Along with helping improve health outcomes, the ICCT project included equity goals for construction contracting and workforce hours.

- More than $4M of hard construction costs contracted with minority- and women-owned firms.
- More than 26,500 workforce hours logged by minority and female apprentices and journey-level tradespeople.
- One percent of contract dollars invested in the City's Community Opportunities and Enhancement Program.

	Apprentice participation	Journey participation
Minority	19.01% (goal: 22%)	24.45% (goal: 22%)
Women	15.02% (goal: 9%)	7.39% (goal: 6%)

Key construction partner McDonald Excavating performed site excavation and underground pipe installation work. The Native-owned business helped identify an alternate way to install critical utility piping that improved safety and reduced risk while working in steep terrain near existing water piping.

"A door gets opened by being a minority contractor," said Mike Logan, project manager for McDonald. "It stays open by doing quality work. That's what we try to do—good, quality work."

Bull Run
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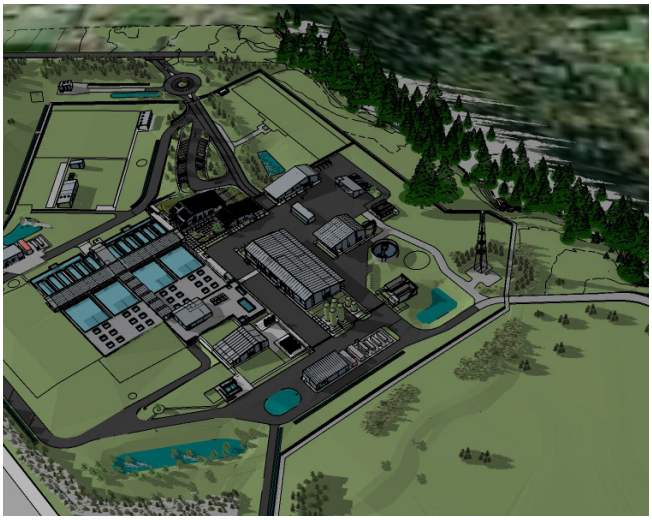
Filtration Facility

In FY2021-22, the Water Bureau reached 60 percent design for the planned water filtration facility. As design moves forward, the Water Bureau will continue to track changes in the construction economy—such as labor shortages and supply chain issues—and take steps to actively manage project costs and risks.



Purpose: Removes *Cryptosporidium* and other potential contaminants from the Bull Run supply and makes the water system more resilient to future water quality risks.

Schedule: On schedule to meet the next compliance milestone with the Oregon Health Authority in October 2022.

Budget: $68.3M spent to date (June 2022) is within budget.

- Reached 60 percent detailed design for the water filtration facility.
- Targeting net-zero energy use for the Administration Building and use of low-carbon concrete for process basins and structures.
- Completed value engineering to identify $40M in cost-control opportunities, including optimizing facility grading and soil reuse and simplifying key structures and reducing building size.
- Continuously evaluating project risks to schedule and cost and taking mitigation actions such as maintaining risk-based contingency.
- Initiated land use permitting process with Multnomah County.
- Continuing to assess opportunities to honor Indigenous culture and lifeways at the site.

Pursuing Envision certification

The Water Bureau is taking a holistic approach to sustainable design that includes pursuing Envision certification for the water filtration facility.

Envision provides third-party certification and a framework for assessing sustainability, resilience, and equity in civil infrastructure.

ENVISION™

The Water Bureau is also participating in the City's sustainable wood pilot and working with Energy Trust of Oregon (energytrust.org) to identify other energy reduction opportunities.

Bull Run TREATMENT PROJECTS | Filtration Pipelines

In FY2021-22, the Water Bureau completed field studies and 30 percent design for new large-diameter pipelines needed to connect the water filtration facility to the existing system. The pipelines will be built to current seismic standards and will improve overall system reliability by allowing aging segments of existing pipe to be retired.

Purpose: Connects future water filtration facility with existing Bull Run water system.

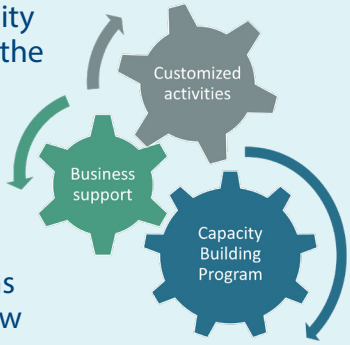
Schedule: On schedule.

Budget: $14.9M spent to date (June 2022) is within budget.

- Reached 30 percent detailed design for the large-diameter water pipelines. Began design of a distribution main to provide filtered water to area customers, including four local water districts.
- Used field data to fine-tune planned routes for new pipelines and reduce the number of intertie facilities needed to connect new and existing pipelines.
- Finalized contract with Construction Manager/General Contractor.
- Completed value engineering to identify $70M in cost-control opportunities, including reducing the amount of planned pipeline.
- Continued outreach to property owners where pipeline easements are planned.
- Initiated land use permitting process with Multnomah County.

Building equity contractor capacity

The Water Bureau kicked off capacity-building and performance management work with four participating equity contractors from the design team.



This included providing firm-specific coaching and process recommendations to help both a new firm and a rapidly growing firm with project planning and delivery. The work also included a performance assessment process for 30 percent design deliverables to identify needs and opportunities.

The equity contractor capacity-building program is managed by Formation Lab, a minority- and women-owned firm.

Budget status

The Water Bureau completed a robust, third-party value engineering process to evaluate cost-control opportunities for the water filtration facility and related pipelines. The resulting scope adjustments are part of the Water Bureau's proactive approach to cost management and include reducing the amount of new pipeline planned for the project and optimizing the onsite reuse of soils at the facility site.

The program funding of $1,483M includes the water filtration facility, related pipelines, and recently completed ICCT project. This amount is the basis for projected water bill impacts from the projects.

To help maintain water rate affordability, the Water Bureau secured a Water Infrastructure Finance and Innovation Act (WIFIA) loan that significantly lowers the cost of investment for ratepayers to build these projects.

The program funding includes:

- Updated scope and cost estimates for the water filtration facility and pipelines that reflect the high cost escalation in the current construction economy.
- Other WIFIA-eligible costs, such as indirect and financing costs.
- Contingency for additional cost escalation given uncertainty of the construction economy. However, that contingency could be at risk of being exceeded if escalation continues its rapid rise.

WIFIA PROGRAM

WIFIA financing benefits Portland ratepayers:

- Low interest rate (1.89%) is locked in for the life of the loan.
- Saves ratepayers at least $247M of debt service over the loan term.
- Flexible repayment schedule means loan payments can begin after customers are getting facility benefits.

	WIFIA application and funding plan	**Current estimated costs (May 2022)**
Capital costs	$840M	$1,194M
Other WIFIA-eligible costs (financing costs, inflation, overhead, and interest)	$233M	$161M
Available contingency	$410M	$128M
Total program funding	**$1,483M**	**$1,483M**

Looking ahead to FY2022-23

A significant amount of work is planned over the next fiscal year, including completing design of the water filtration facility and pipelines, ongoing land use permitting milestones, and preparing for the start of construction. The Water Bureau will continue tracking changes in the construction economy and taking proactive steps to address risks and manage costs.

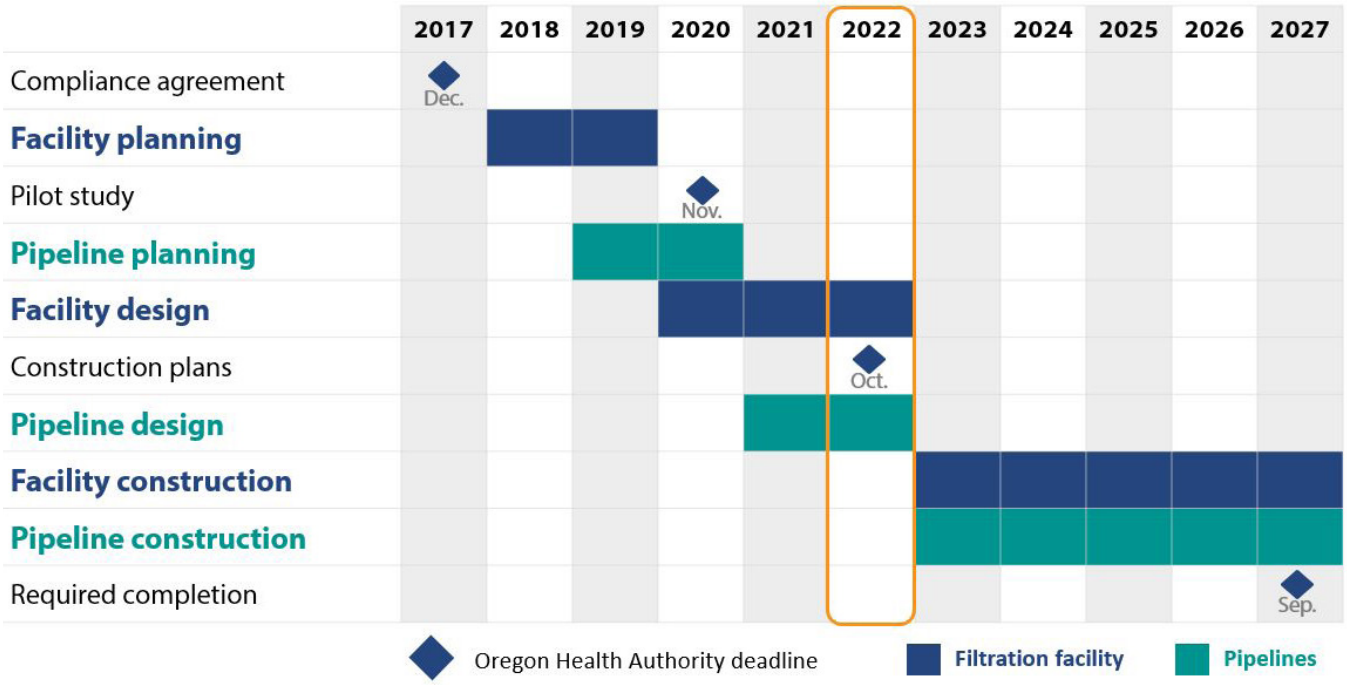
Key project activities are highlighted below.

- Complete detailed design and continue multi-step land use permitting process.
- Collaborate with the contracting community to maximize equity participation in construction.
- Develop sequencing and bid packages to prepare for planned construction start mid-2023.
- Submit final construction plans and schedule to the Oregon Health Authority for compliance deadline.
- Continued engagement with customers, site neighbors, and other key stakeholders.

Upcoming City Council actions:

- Authorizing pipeline easement property acquisition
- Reviewing guaranteed maximum prices
- Receiving annual report

Bull Run Filtration schedule



Once online, the new water filtration facility will enhance resilience of the Bull Run supply, helping Portland comply with drinking water regulations and continue to provide clean and safe water for generations to come.

Design underway 2020-22

Construction expected 2023-27

Filtered water Sept. 2027

Proposed water filtration facility design: view of Administration Building with solar panels, view over filtration basins, view of main entry gate set back from roadway (clockwise from top).

Learn more: portland.gov/bullrunprojects

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