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# YAKIMA TRAINING CENTER PFAS RESPONSE



A quarterly newsletter focused on informing the East Selah, Washington, community on Yakima Training Center's PFAS response



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## Continued POET installations and updates



As 2025 comes to an end, U.S. Army contractors continue construction of point of entry treatment (POET) systems 64 through 70. A total of 51 POET sheds have been constructed throughout the neighborhood and a number of existing spaces have been renovated to house POET systems. Residential POET

construction is anticipated to resume in spring 2026, as the Army expands its resources through additional contractors.

Army contractor ECC and their trade partners will utilize the winter months for fitting the existing POETs with remote monitoring telemetry hardware. The additional infrastructure will equip the Army and its contractors to more closely monitor POET system function and granular activated carbon (GAC) treatment capacity over time. The expanded monitoring capabilities are designed to reduce the level of effort associated with sampling and minimize disturbance to property owners. In addition, ECC will continue routine maintenance and monitoring of existing POETs, with assistance from Culligan Water Supply personnel.

The Army has launched the Open Water Data Portal...

### OpenWaterData.net

as a platform to provide information to the community regarding POET systems, community outreach, CERCLA Remedial Investigation progress, frequently asked questions, and Army contacts. Property owners will be provided more information in the near future.

Additional information with respect to regional water treatment volumes and per- and polyfluoroalkyl substances (PFAS) removal efficiency calculations will be made available in the future.

### Stories in this issue:

- SINGLE-FAMILY POET INSTALLATION UPDATES
- MULTI-CONNECTION POET SYSTEM INSTALLATION UPDATES
- YOUR POET SYSTEM EXPLAINED
- NEW CONTRACT AWARDED TO TREAT RESIDENTIAL WELLS
- ARMY ENTERS TIERED PARTNERING WITH WASHINGTON DEPARTMENT OF ECOLOGY

## Progress for multi-connection POET systems

Army contractor, APTIM, has begun building the first two of nine multi-connection POET systems to remove PFAS and disinfect the groundwater. Each of the multi-connection POET systems will include a treatment building, particle filters, GAC, a water softener, a UV disinfection

system, and flow meters as shown in the picture below. The treatment process used by the



multi-connection POET systems is similar to what is used in the individual POET systems but scaled up in size to account for greater water demand.

APTIM is nearing the completion of the first POET system, shown below, and it is expected to go online in December 2025. The second POET system is expected to go online in the next few months.

APTIM is continuing to work closely with vendors, Pacific Power, and county officials. System designs have been completed for four of the seven remaining multi-connection systems. APTIM is awaiting power upgrades before beginning construction. The remaining three system designs are in progress and will be shared with property owners upon design approval.



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## Your POET system explained



Exterior of a single-family POET system

**SINCE THE START OF THE POET PROGRAM, THE ARMY HAS PRIORITIZED ACTION TO QUICKLY DELIVER INTERIM SOLUTIONS TO THE COMMUNITY OF EAST SELAH.**

Your POET system has been installed but now you have questions, such as:  
 Why is the system so large and complex?  
 Why are the components in that order?  
 What if my water pressure drops?

This guide was prepared to answer these questions and provide landowners with specific information regarding the design and function of Yakima Training Center residential POET systems.

Since the start of the POET program, the Army has focused on actions to quickly deliver interim solutions to East Selah. This means that work done by Army contractors is data-driven with continuous improvements and efficiencies to optimize POET function. These efforts aim to eliminate the potential for POET-related water supply failures, manage data, and streamline the process from preliminary assessment to long-term

monitoring and routine POET maintenance.

ECC and its team of local trade partners initiate the installation process by completing a Conditional Assessment. During the home visit, a representative from each trade evaluates and documents existing conditions related to the plumbing and electrical configurations, previous repairs and/or upgrades, and the existing water supply system components.

Also, the function of all appliances and items that use water are evaluated for different combinations of simultaneous use (e.g., kitchen sink, toilet flush, dishwasher, shower, washing machine, utility sinks, and exterior hose bibbs).

As part of the Conditional Assessment, a water sample is collected for analysis of basic chemical makeup (i.e., hardness, alkalinity, total organic carbon, manganese, iron, iron-reducing bacteria, sulfate-reducing bacteria,

total coliform, E. coli, and hydrogen sulfide gas). The results of this water sample guide the design of the POET system.

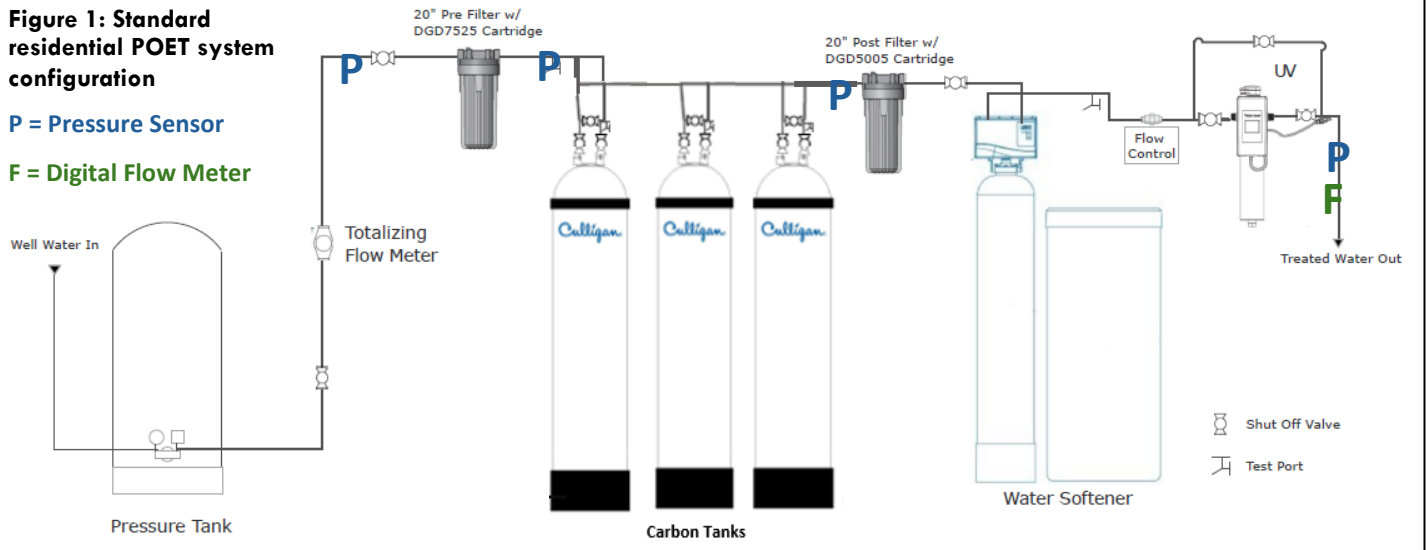
Where bacteria are naturally occurring in groundwater, the POET system is equipped with a chlorine injection pump, and a retention tank if harmful bacteria are detected (i.e., total coliform, E. coli). Bacteria of any kind that enter the granular activated carbon (GAC) vessels may multiply rapidly and lead to biofouling, which diminishes porosity (pore space) between the carbon grains and reduces PFAS treatment capacity. In addition, a location for the POET shed is selected and painted to start the Dig Safe utility clearance process.

As detailed in your pre-construction POET Design Letter, all POETs are equipped with the equipment shown in **Figure 1** below.

**Figure 1: Standard residential POET system configuration**

**P = Pressure Sensor**

**F = Digital Flow Meter**



## The standard POET system is plumbed as follows:

1. Water is pumped from the well to the pressure tank(s).
2. From the pressure tanks, the water volume is captured by the totalizing flow meter, which is placed in the inflow end of the POET, so that the volume of treated water that passes through the water softener during regeneration cycles is captured.
3. Untreated groundwater flows into the pre-GAC sediment filter to remove naturally occurring fine sediment particles. The filter size in this location is 0.45 micrometers ( $\mu\text{m}$ ).
4. From the pre-GAC sediment filter, the water flows through three in-line GAC vessels, circulating from top to bottom and back out the top and into the next vessel. The first vessel in series is designed to capture all of the PFAS and as a result, this vessel will be used up first. Once the treatment capacity is exceeded, water containing PFAS will pass into the second vessel for additional treatment capacity. The process of PFAS passing from one vessel to the next is referred to as breakthrough. Breakthrough is the primary reason for the multi-port samples that are collected throughout the treatment train during monitoring events. Each sample represents the vessel upstream and as a result allows Army contractors to evaluate specific POET function and treatment capacity in multiple locations.
5. From the third GAC vessel, the water passes through a second sediment filter (.05  $\mu\text{m}$ ) to remove any carbon particles remaining from the GAC vessels.
6. From the post-GAC filter, water passes into the water softener. The purpose of the softener is to preserve the life of the UV light, because elevated hardness in regional groundwater will cause scaling of the light window and diminish the treatment capacity of UV rays to kill harmful bacteria. Hardness is a measure of the natural minerals in groundwater, mainly calcium and magnesium, and is expressed as the amount of calcium carbonate in each liter of water. Where hardness is elevated in potable wells, individuals typically report mineral scaling, soap residue buildup, and/or lack of lather when using soaps. As mentioned before, the water softener is positioned after the GAC vessels so that the regeneration cycle outflow that is discharged to the ground does not release PFAS back into the subsurface.
7. From the water softener, the water passes through the UV disinfection unit, where any bacteria that may be present throughout the treatment train are killed by UV rays. The UV light is the final component of all POET systems. The drinking water sample that is collected downstream of the UV light is representative of water entering the home.

### TAILORED CONDITIONS

For homes where unwanted bacteria are present in untreated water (i.e., elevated iron-reducing bacteria), the POET is equipped with a chlorine injection pump. This unit is plumbed directly upstream of the first GAC vessels in order to eliminate/reduce biological contamination inside the GAC vessels by killing off these bacteria before they enter the GAC.

In addition to removing PFAS, the GAC material dechlorinates the water before it is softened; then, no chlorinated water is discharged to the ground during regeneration cycles, and it is not present in finished drinking water. Also, where harmful bacteria are detected in untreated water (i.e., total coliform, E. coli), the POET is equipped with a retention tank, which provides additional contact time for chlorine to kill off harmful bacteria. Retention tank is positioned between the chlorine injection pump and the first GAC vessel.

In some cases, a booster pump (and associated water heater expansion tank) may be necessary to offset diminished water pressure to the residence. Booster pumps are plumbed at the outflow end of the system. Due to the complex design and potential for pressure loss or build up, the POETs have both a pressure release valve and vacuum breaker on the inflow end to minimize each scenario and eliminate the potential for catastrophic failures.

With the Army's development and use of the "Digital Twin", the POETs are being retrofitted with additional pressure sensors and a continuous read digital flow meter. Additional information on the Digital Twin and water data portal will be provided in upcoming YTC Newsletters.

Contractors are continuing to monitor and maintain residential POET systems in accordance with the Army's GAC Vessel Management and Sampling Policy, which was developed and modified from USEPA's Final PFAS National Primary Drinking Water Regulation, May 2025. Long-term POET operation and maintenance and regulatory policies will be presented at the upcoming Open House events at the Selah Civic Center, planned for spring and fall of 2026.

## THE ARMY WANTS TO HEAR FROM YOU

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*The Army is planning to host the next Open House on **April 30, 2026** from **2-5 p.m.** at the **Selah Civic Center.***

*Representatives from the Army and contractors will be there to answer your questions and finalize Right of Entry (ROE) agreements. An ROE allows the Army [and its contractors] to install and maintain a treatment system on private property that may be affected by PFAS from past operations at Yakima Training Center.*

## Contract awarded to treat additional residential wells

The Army has awarded an additional contract to the Ahtna-Arcadis 8(A) JV (AAJV), an Alaska Native Corporation, to install POET systems for residential wells in the East Selah community. The goal is consistent with other similar contracts under which POET systems are already being installed in the area - to provide quality drinking water and adequate water pressure to each residence impacted

by PFAS as a result of historical Army operations.

The contract will include planning, design, installation, operation, and maintenance of residential POET systems as well as continuity in supply of bottled water (where/when applicable.) Initial outreach to property owners with wells that to be equipped with POETs under this new contract will begin in late

2025; and initial property visits to gather information necessary for POET design will begin in early 2026.

While Carson Mackey remains the consistent point of contact at YTC, Jeffery Linn is the primary point of contact with Ahtna and the lead representative for the AAJV team that will be installing POET systems.



Some components in a single-family POET system.

## Army enters tiered partnering with Washington Dept. of Ecology

The Army and Washington Department of Ecology have agreed to participate in Tiered Partnering together in order to foster cooperation and understanding between the agencies. Tiered Partnering is a method used to address complex issues by organizing participants into different tiers based on their roles, responsibilities, or expertise. This approach is intended to foster collaborative dialogue between members of the same tier level and coordinate with other tiers to achieve shared goals. Representatives from Yakima Training Center, Army Environmental Command, and Washington Department of Ecology are meeting monthly with a neutral, third party facilitator to answer each others' questions and plan out future actions related to the PFAS response in the Yakima Training Center and East Selah communities. The next meeting is scheduled for December 17th, 2025.



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