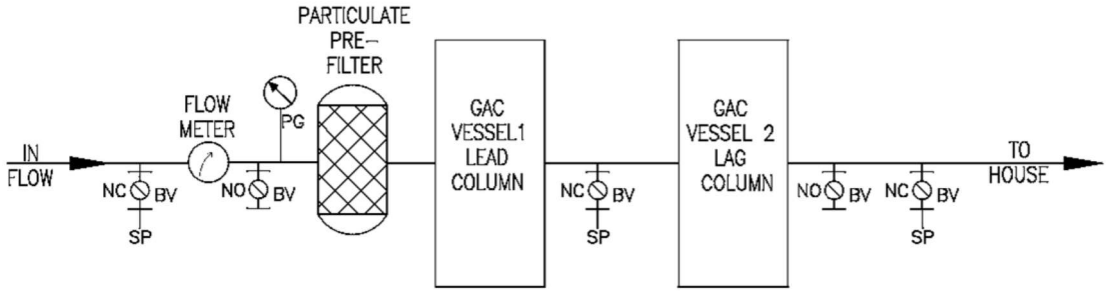
Attachment 2
POET System Conceptual Design



LEGEND

⊘	BALL VALVE
NO	NORMALLY OPEN
NC	NORMALLY CLOSED
SP	SAMPLE PORT
PG	PRESSURE GAUGE

TYPICAL SCHEMATIC

SKETCH

NOT FOR CONSTRUCTION

NOTES

1. A particulate pre-filter is typically used to remove particles and extend the life of the GAC media. The GAC vessels are typically installed in series as a safety measure, with the first vessel functioning as a roughing unit and second vessel functioning as a finishing unit.

2. Reference the attached text for typical GAC size and spec, filter sizes, and similar.

TETRA TECH

PA Department of Environmental Protection
Boyertown LF Project
Gilbertsville, PA

Conceptual Design Sketch
Residential Point of Entry Treatment System

FILE POET Diagram–Rev 1 .dwg

POET Installation

This conceptual design is generally based on treatment of a typical inflow of private residential well with PFAS contamination of approximately 150 ng/Lor less.

Based on the conceptual design each POET system would be comprised of the following components or an equivalent:

Liquid Phase Granular Activated Carbon Filters/Tanks

Two standing liquid phase Granular Activated Carbon (GAC) GAC tanks (10" x 54" or similar size or approximately 2.5 cubic feet each) with virgin Calgon FILTERSORB 600 (F-600) Carbon (or equivalent) will be installed so the source water would run through the first (lead) tank then into the second (lag) and tie back to existing water line. The GAC tanks do not need to backwash and would run without electric power.

Sample Ports

Sample ports will be installed in-line and prior to the lead tank (pre), between lead and lag tank (mid), and after the lag tank (post) for monitoring/performance/maintenance purposes.

Sediment Filter

One 10-micron (um) sediment filter is recommended to filter out particulates from the raw water entering GAC Unit 1.

Use of a transparent/see-through filter casing is preferable for visual observations of the sediment filter.

Pressure Gauge

A $^{1}/_{4}$" liquid filled pressure gauge will be placed before the first GAC tank to monitor for drop of pressure due to build-up of sediment or clog in system.

Water Meter

A $^{3}/_{4}$" mechanical water meter will be installed to record volume in gallons through the POET system. Material will be brass and certified lead free and have direct-read capability.

Piping

Piping will traditionally be CPVC unless conditions require an alternative.