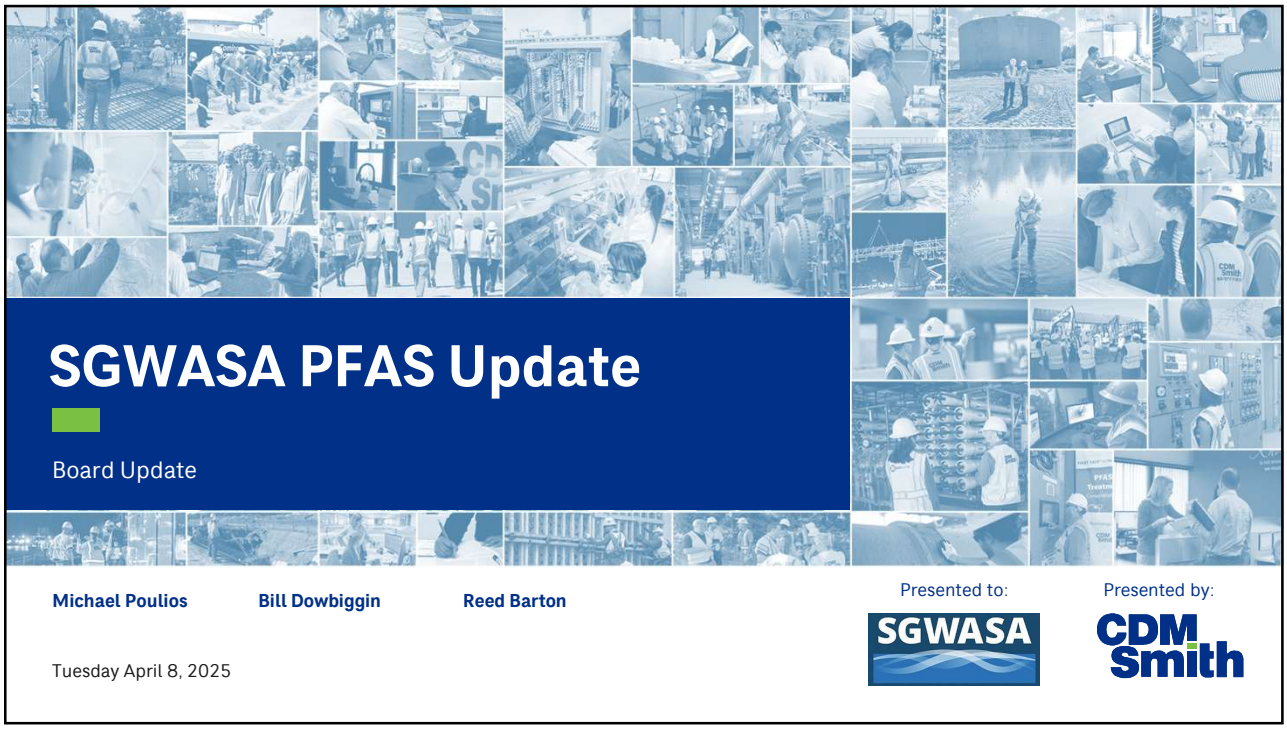

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Introduction

Reed Barton, PE, Assoc. DBIA	Bill Dowbiggin, PE, BCEE, PMP, ENV SP	Michael Poulios, PE, PMP



2

Regulatory Update

April 2024 — Final PFAS Rule

April 2027 — Initial Monitoring Deadline

April 2029 — Compliance Deadline

- **Initial monitoring** requires quarterly monitoring over 12-month period
- **Compliance monitoring** requires annual quarterly monitoring, unless approved for reduced monitoring (starts July 2028)
- **Reduced monitoring** only after 3 years of reliable and consistent quarterly samples below trigger levels and MCLs

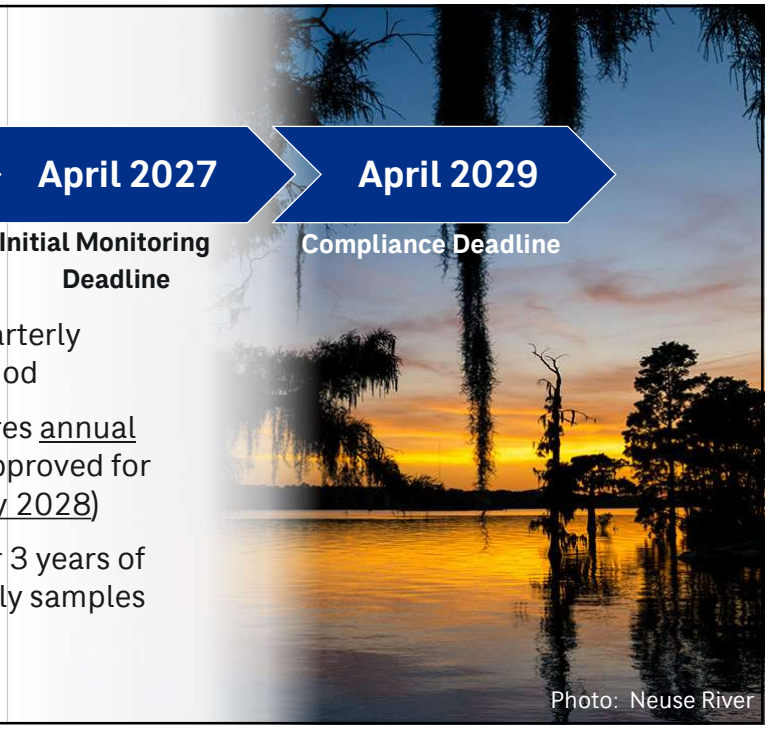
Photo: Neuse River

3

PFAS Regulations

PFAS	MCL (ng/L or ppt*)	Significant Figure Requirement	Rounding for Reporting Example
PFOA	4.0	2	Running annual average value (RAA) of 4.04 ng/L = round to 4.0 ng/L = **Compliance** RAA of 4.05 ng/L = round to 4.1 ng/L = **Exceedance**
PFOS	4.0		
PFNA	10	1	RAA of 14.9 ng/L = round to 10 ng/L = **Compliance** RAA of 15.0 ng/L = round to 20 ng/L = **Exceedance**
PFHxS	10		
GenX	10		
PFNA, PFHxS, GenX, and PFBS (Mixture)	HI Value of 1 (Unitless)	1	RAA of 1.49 = round to 1 = **Compliance** RAA of 1.50 = round to 2 = **Exceedance**

Maximum Contaminant Level (nanograms per liter or parts per trillion)

HI denominators are called Health-Based Water Concentrations (HBWC)

$$\frac{\text{GenX}}{10} + \frac{\text{PFBS}}{2000} + \frac{\text{PFNA}}{10} + \frac{\text{PFHxS}}{10} = \text{Hazard Index (HI)}$$

(all concentrations in ppt or ng/L)

HI MCL only applies for any mixture containing two or more of the four PFAS. *See next page for HI examples.*

4

4

SGWASA Raw Water Data

PFAS Compound	MCL	Average (ng/L)
PFOA	4	10.19
PFOS	4	26.14
PFBA	N.R.	1.67
PFBS	H.I. Value of 1	1.74
PFHxS	10	3.25
PFNA	10	0.59

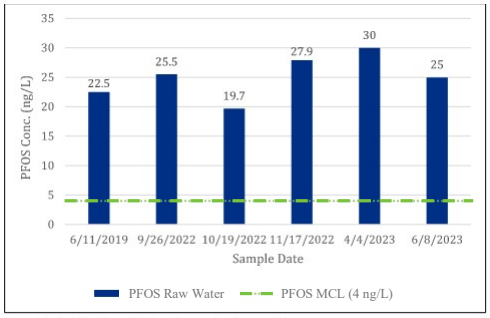

Figure 2-3. PFOS Raw Water Concentration vs. Time

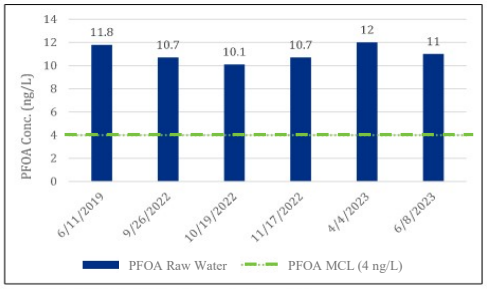

Figure 2-2. PFOA Raw Water Concentration vs. Time

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Proven PFAS treatment technologies

Granular Activated Carbon (GAC)

Ion Exchange Resin / Sorbents

Novel Sorbents

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Granular Activated Carbon (GAC) Contactors

Figure Title: GAC Contactors at the Pittsboro WTP (2022).

7

7

Pilot Update

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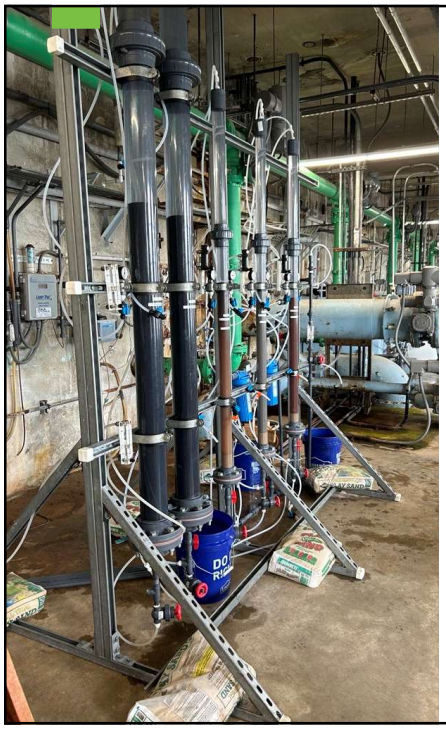
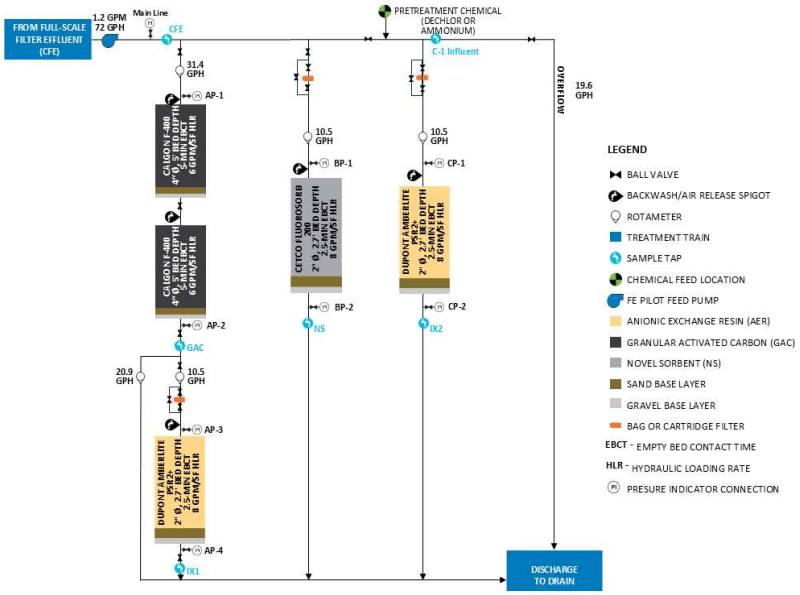


PFAS Pilot Summary

- Received $500K grant from SRF to perform
- Testing
  - Granular activated carbon (GAC)
  - Anion exchange resin (AER)
  - Novel sorbent (NS)
- Pilot Objectives
  - 10-month PFAS pilot study
  - Best treatment based on cost and treatment efficacy.
  - 20-year life cycle costs analysis

9

Process Flow Diagram



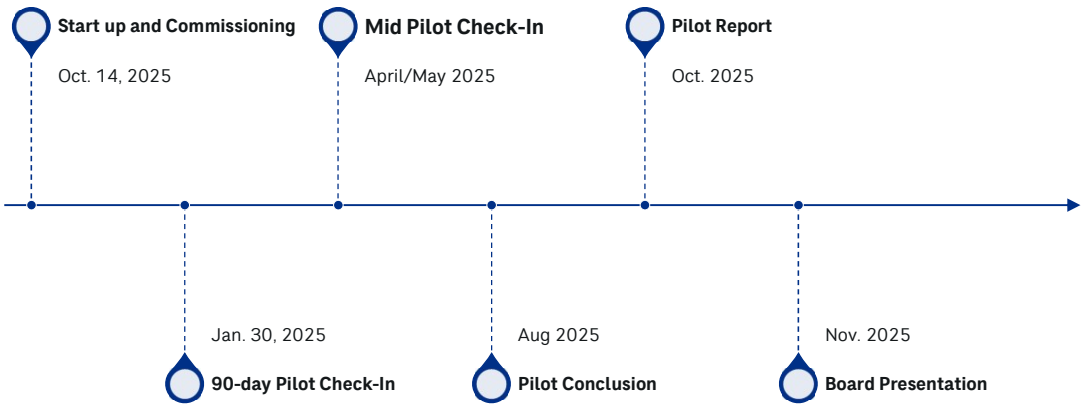
10

Pilot Status Update

- Pilot Operation
  - Up and running in Oct. 2024
  - Successful collaboration
  - Successfully removing PFAS!
- Design Phase
  - SL-2023-134 funding approved for design activities
  - Future SRF funding needs
  - Design and filter optimization scope and fee in progress

11

Pilot Schedule



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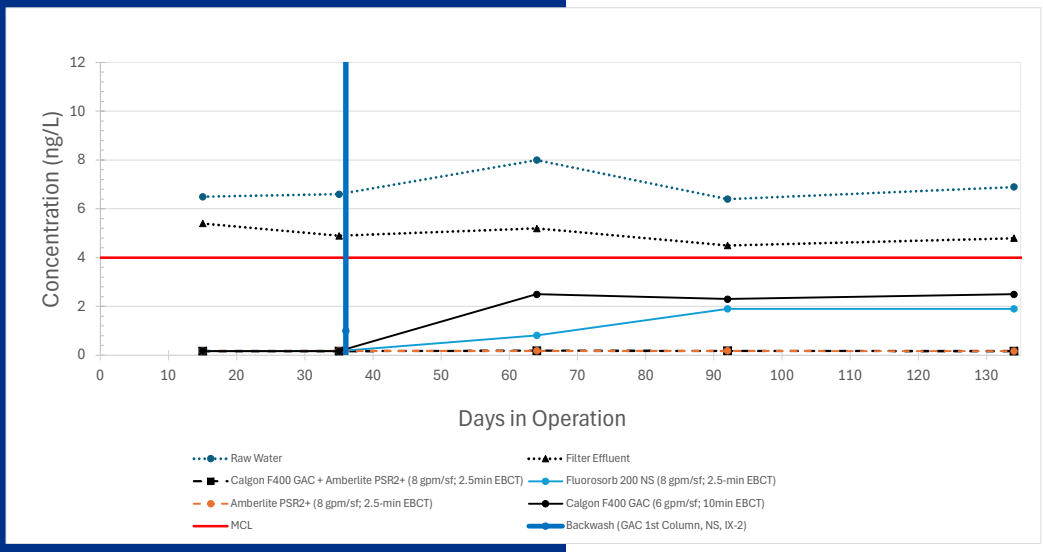
12

PFOA



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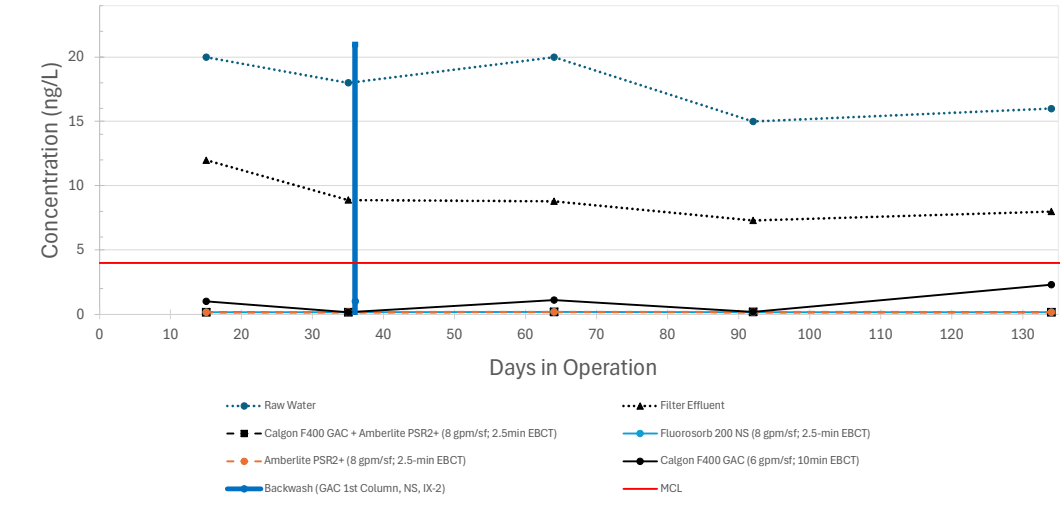
PFOS



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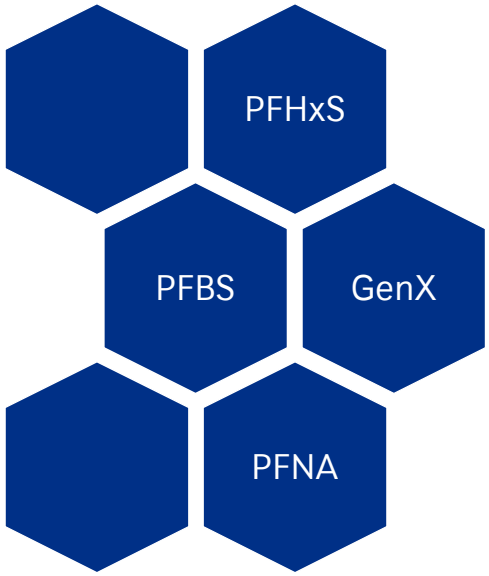
Other Regulated PFAS Pilot Summary

- Either non-detect or below MCL in **raw water** samples.
- Non-detect or below laboratory reporting limit in **post pilot water** samples.



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Funding Update

16

Funding Sources

Total Project Cost

- $26 M Planning Budget
- Pilot study to estimate treatment costs only
- Preliminary design to provide first engineer's opinion of costs.

SL 2023-134

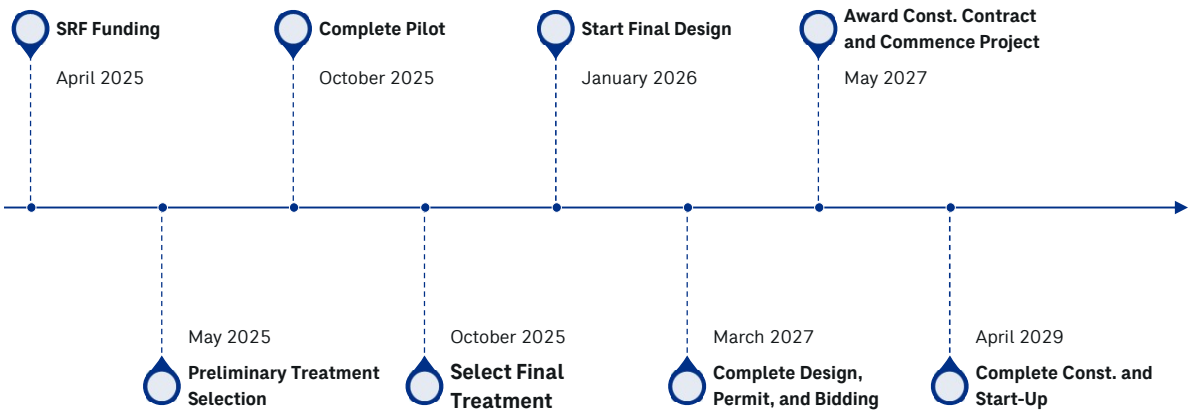
- $4,925,000 secured
- Approved to use for planning and engineering design

Future SRF Funding

- CDM to prepare Spring Application

17

Project Schedule



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19