

# Dennis Phase 1 Wastewater Pumping Station No. 4 (PS4)

Planning Board Meeting

*September 15, 2025*



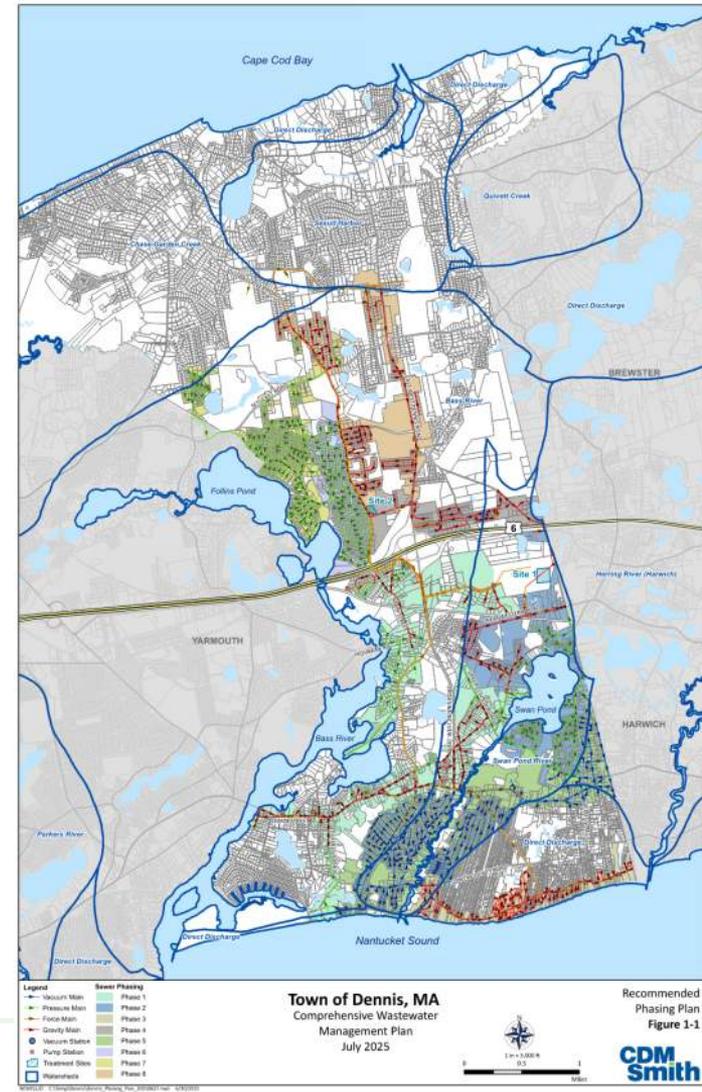
**CDM  
Smith**

# Agenda

- Overview of Dennis' Wastewater Program
- Water Resource Recovery Facility (WRRF)
- Phase 1 Wastewater Collection System
- Pumping Station No. 4 (PS4)
- Questions

# Wastewater Program – Phasing Plan

- Per Approved CWMP
- 8 Phases
- 40-Year Program
- 100 miles of pipelines
- 22 pumping stations
- Central WRRF



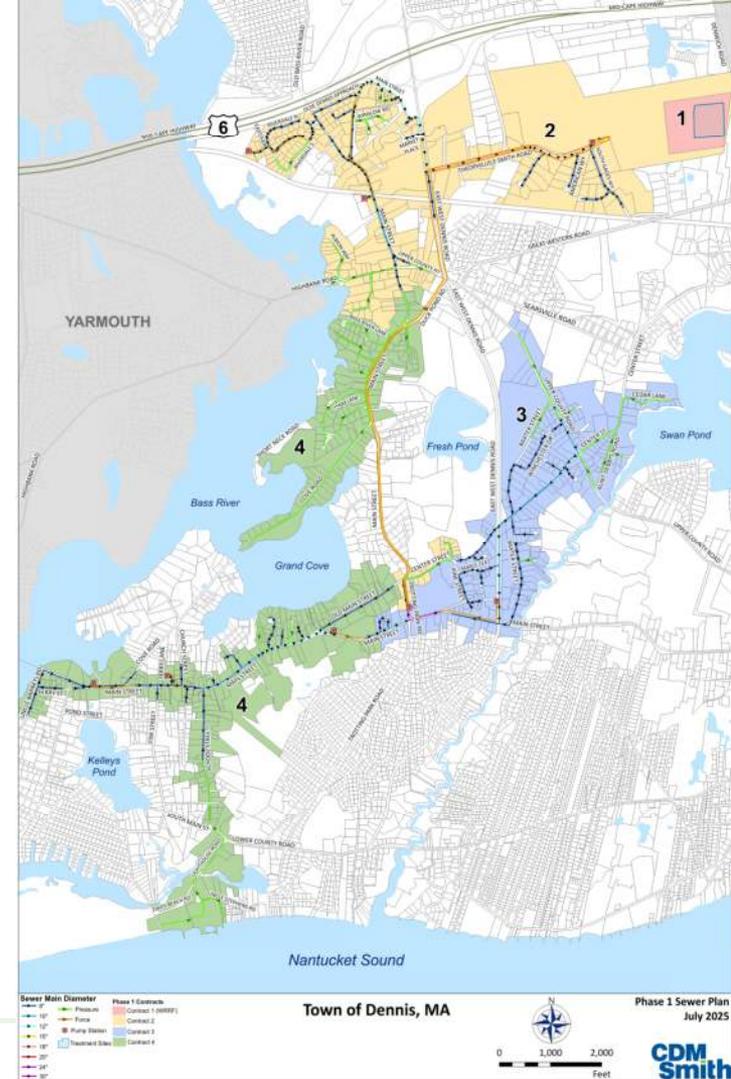
# WRRF Location Plan



# Collection System – Phase 1

- 10.5 miles of gravity sewers
- 6 miles of pressure sewers
- 8 pumping stations
- 6.4 miles of force main
- 3 construction contracts

Contract	Connections	Connected Area (ac)
2	320	480
3	285	270
4	418	260



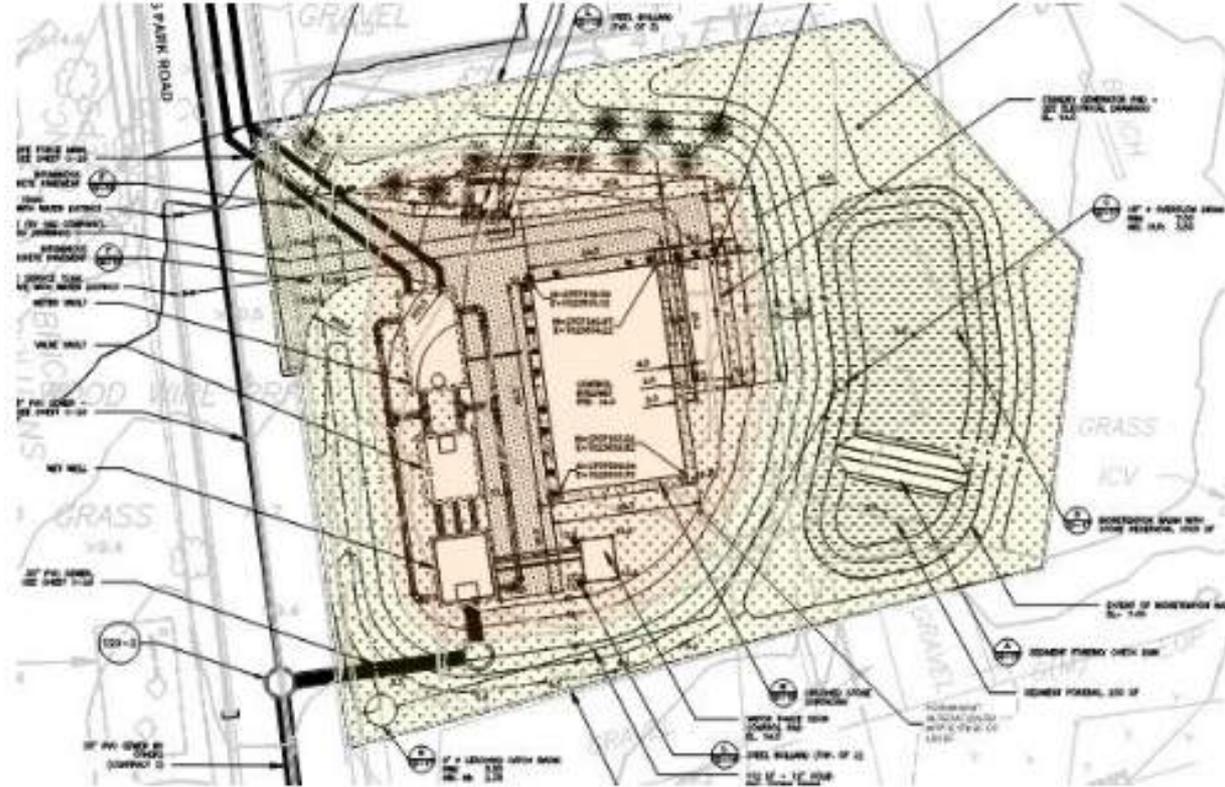
# Pumping Station No. 4 (PS4) - Location

- North of Ezra Baker School parking lot
- Contract No. 2 – Robert B. Our Co., Inc.



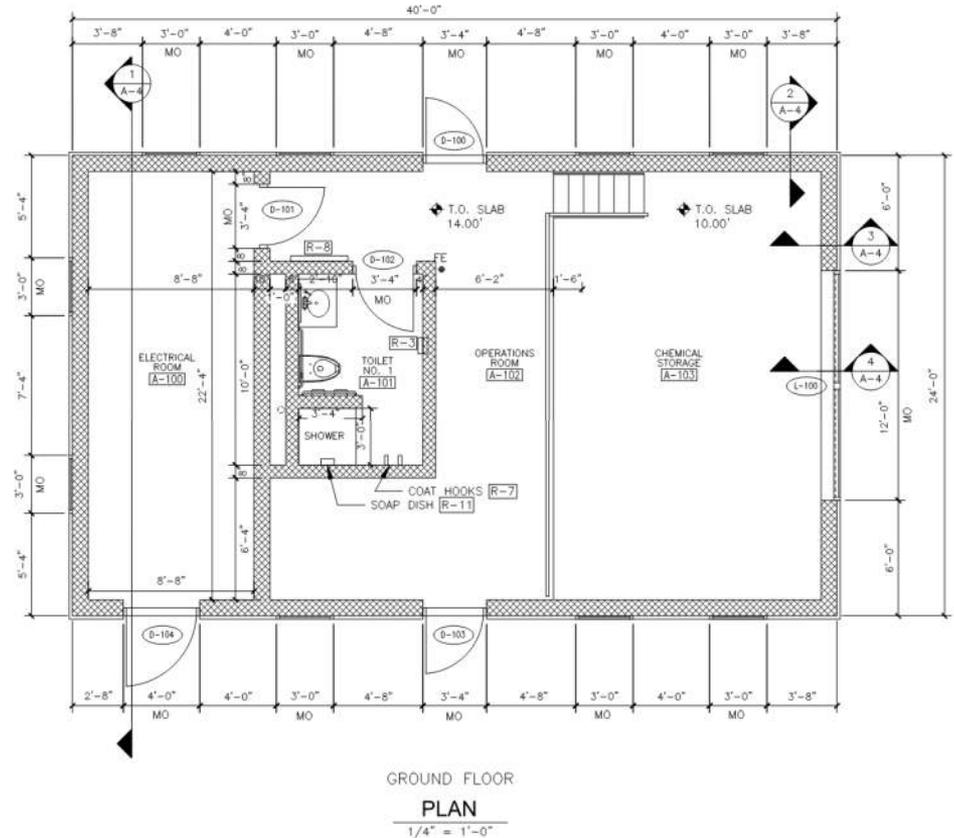
# Pumping Station No. 4 (PS4) – Site Plan

- Control Building (24' x 40')
- Emergency generator
- Odor control skid
- Buried structures:
  - Wet well
  - Valve vault
  - Meter vault
- Bioretention basin

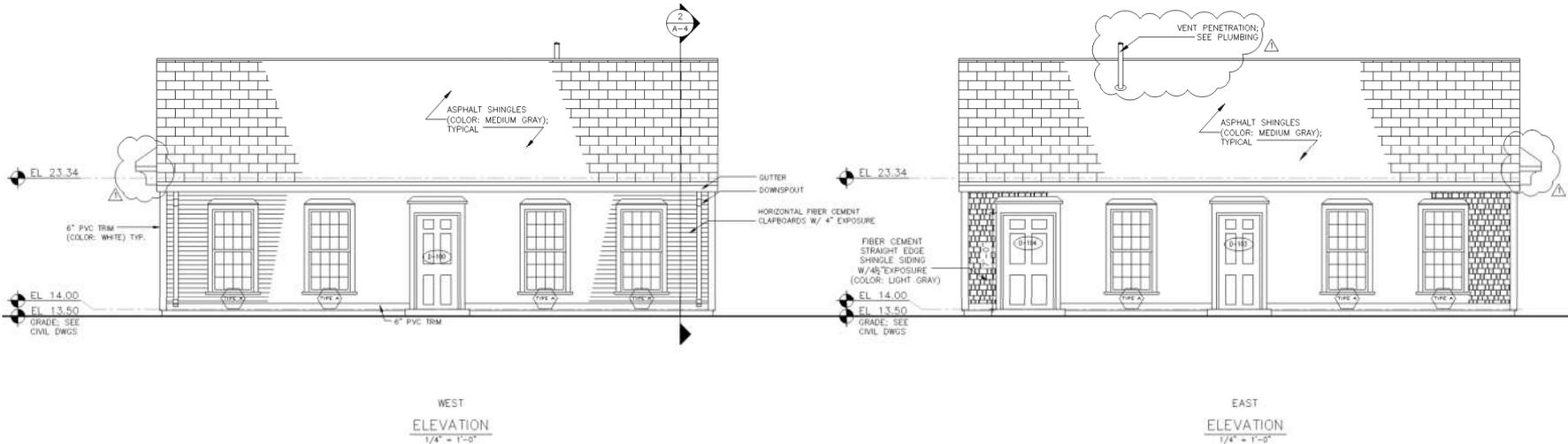


# Pumping Station No. 4 (PS4) – Floor Plan

- Control Building (24' x 40')
- Operations room
- Electrical room
- Chemical storage
- Bathroom



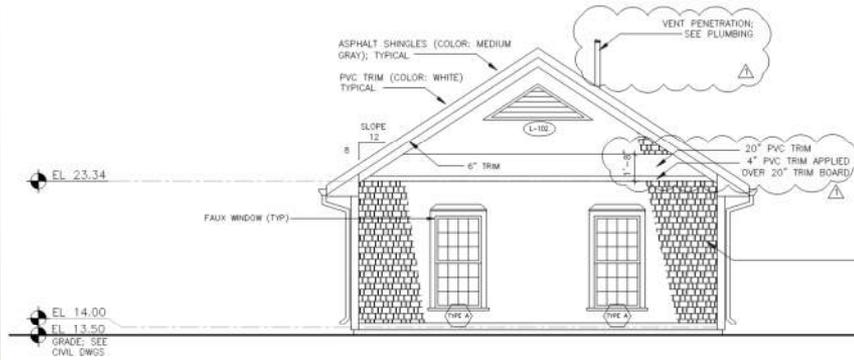
# Pumping Station No. 4 (PS4) – Elevations



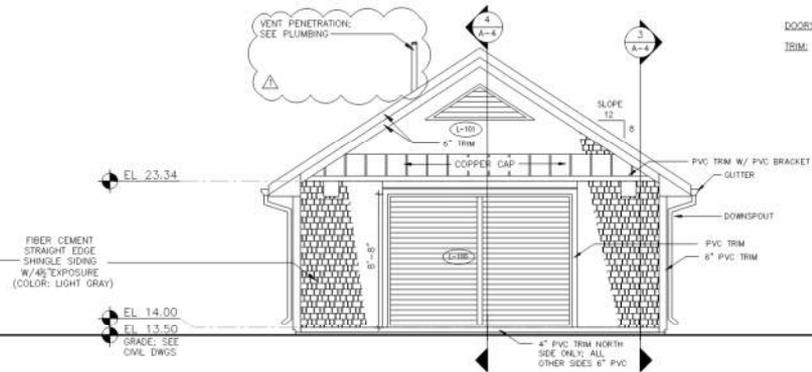
## MATERIALS LEGEND:

<u>SIDING:</u>	LIGHT GRAY FIBER CEMENT CLAPBOARDS AND LIGHT GRAY FIBER CEMENT SHINGLES.
<u>ROOF:</u>	MEDIUM GRAY ASPHALT SHINGLES
<u>WINDOWS:</u>	3'X6' DOUBLE HUNG AND FIXED WHITE ALUMINUM CLAD WOOD - ANDERSEN OR EQUAL
<u>DOORS AND LOUVERS:</u>	ALUMINUM, CHARCOAL
<u>TRIM:</u>	WHITE, PVC

# Pumping Station No. 4 (PS4) – Elevations (cont.)



SOUTH  
ELEVATION  
1/4" = 1'-0"



NORTH  
ELEVATION  
1/4" = 1'-0"

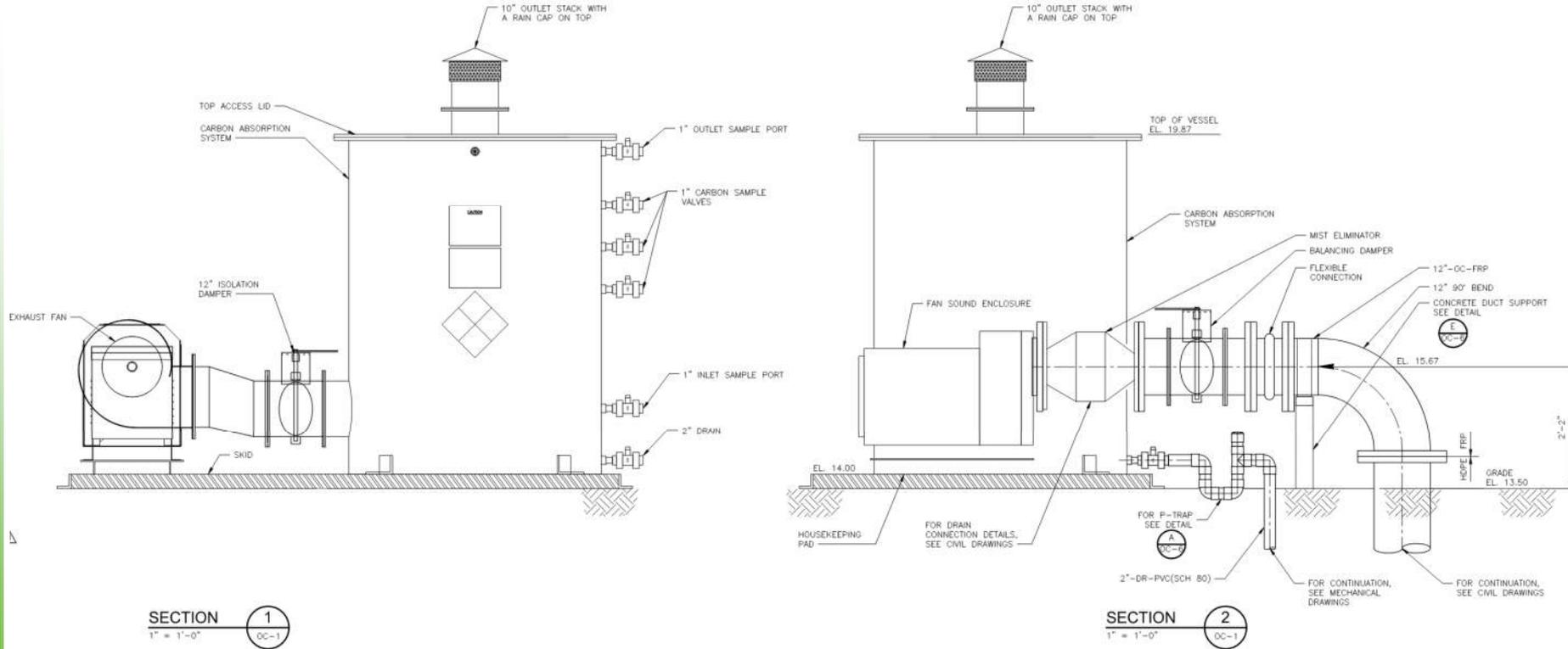
- ROOF: MEDIUM GRAY
- WINDOWS: 3'x6' DOUB WHITE ALUM ANDERSEN, C
- DOORS AND LOUVERS: ALUMINUM, C
- TRIM: WHITE, PVC

# Pumping Station No. 4 (PS4) – Odor Control

- Carbon adsorption system
- 4.5-ft diameter
- 3-ft depth
- Max. capacity = 900 cfm
- Hydrogen sulfide removal:
  - $\geq 99$  percent
  - 0-10 ppm inlet =  $< 0.1$  ppm
  - $> 10$  ppm inlet =  $< 1\%$
- Typical inlet concentration is 3-5 ppm

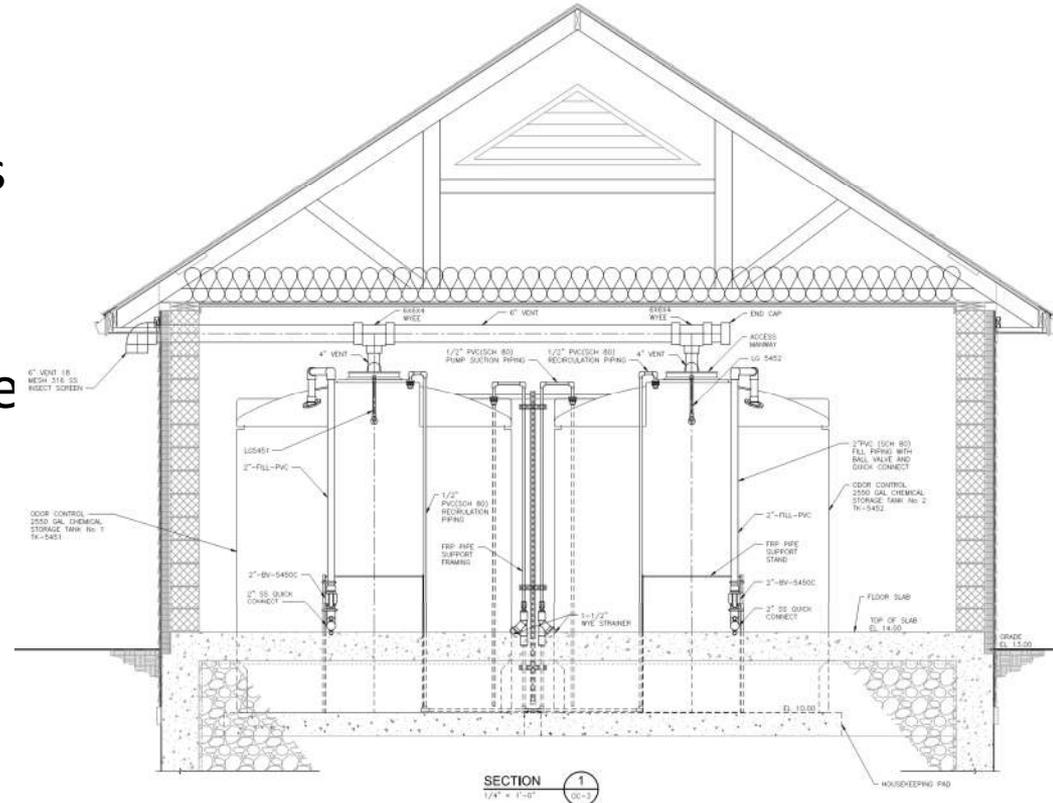


# Pumping Station No. 4 (PS4) – Odor Control (cont.)



# Pumping Station No. 4 (PS4) – Odor Control (cont.)

- Chemical storage:
  - 2 double-wall HDPE tanks
  - 2,550 gallons each
  - Bioxide (calcium nitrate)
- Injected into dual 14" force mains
- Prevents sulfide buildup and odor issues at WRRF





# Questions