South Davis Sewer District

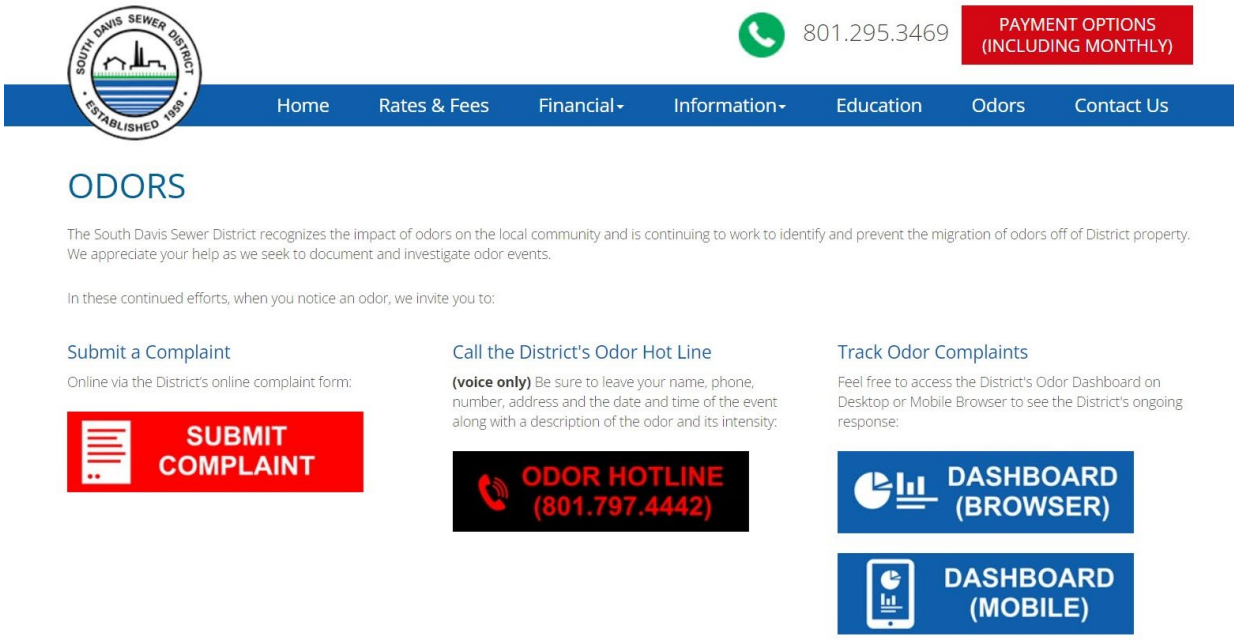
Odor Management Plan

ODOR MANAGEMENT STATEMENT

South Davis Sewer District desires to be a good neighbor for the surrounding community. As such, the District is striving to prevent the migration of odors off District property within available budget constraints and equipment capacity. The District investigates all complaints received about potential odors from its facilities and will utilize a continuous process to identify and mitigate odor sources at District facilities. Citizens are encouraged to report and track odors through the District's online complaint system to help the District determine the source of odors. Citizens wishing to discuss concerns related to odors are invited to meet with the District's Board of Trustees at regular Board meetings.

ODOR RESPONSE PROGRAM

The District has developed an online odor complaint system available through the District's website at sdsd.us/odors and seeks to investigate every odor complaint received in an expeditious and courteous manner to determine the sources and causes of odors from its facilities. The District will receive complaints through submission of an online complaint form or calls to a dedicated odor hotline.



ODOR MITIGATION PROGRAM

Odor Monitoring and Assessment

A. Odor Monitoring Program

The District may place up to four odor monitoring devices in the plant as well as in the surrounding community. As part of the odor monitoring process, the District will:

1. Select monitoring locations;
2. Identify types of monitoring equipment and methods; and
3. Determine frequency and methods for data collection and analysis.

B. Establishment of Odor Threshold Limits

The District may establish an acceptable detection threshold. Despite this, it is important to note that their may still be upsets in processes, and thresholds may be exceeded at times.

Implementation of Control Technologies

The District may evaluate control technologies including, but not limited to, the following:

A. Biological treatment systems
B. Chemical scrubbers
C. Activated carbon filters
D. Enclosures and covers

Operational Practices

The District will work to develop regular maintenance, cleaning and inspection schedules to ensure that potential odor sources are identified and corrective action taken as necessary if changed conditions are identified.

The District will continually update its odor management and mitigation plans. complete plans as they currently stand for odor management are included in Appendix A. Appendix A is a living document and will be updated from time to time as part of the District's continuous process of identifying and mitigating odor sources.

COMMUNITY ENGAGEMENT

The District desires to keep its neighbors informed of ongoing odor mitigation activities and plant upsets that may contribute to the generation of odors. As such, updates will be posted to the District's website on at least a quarterly basis. The District may also schedule public meetings/open houses from time to time as needed and will invite citizens to comment at its regular board meetings.

APPENDIX A: ODOR CONTROL PLANS

Since 2019, the District has completed the following odor control activities at Wasatch Resource Recovery and its south treatment plant (South Plant) in North Salt Lake.

COMPLETED ODOR CONTROL ACTIVITIES

DATE	*DESCRIPTION*	*APPROX COST*	*NOTES*
CAPITAL COSTS*			
Oct 2019	Eliminated Solids and Ammonium Sulfate Storage in Drying Beds	$ 15,000	
Oct 2019	Installed Temporary Cover for Pressate Tank	$ 4,000	
Feb 2020	Misc Projects to Reduce Tank and Line Venting / Installed Blower to Improve Odor Capture from FOG Receiving	$ 12,000	
2020	Retrofitted Seal on Ammonia Scrubber Blower to Make it Gas-Tight	$ 2,000	
2020	Fabricated Fume Hood over Solids Dewatering Presses to Improve Odor Capture	$ 10,000	
2020	Plumbed Ammonia Scrubber Vent into the Foul Air System	$ 20,000	
2020	Added Green Waste to the Biofilter to Bring it Back to Full Depth	$ 15,000	
July 2020	Hired Jacobs Engineering to Complete an Odor Study	$ 39,788	
Sept 2020	South Plant Tower Filter Odor Control Project	$ 75,000	
2020-2021	Control System Changes (Digester Covers)	$ 1,500	
Spring 2021	Purchased and Installed Perimeter and Solids Odor Control Systems	$ 80,000	
Dec 2021	Relocated Foul Air Fan at Solids Dewatering	$ 11,284	
Apr 2022	Eliminated On-Site Storage of Calcium Slurry	N/A	
Feb 2023	Installed Odor Control Perimeter System around Solids Loadout Area	$ 6,000	
Jul 2023	Solids Odor Control System Upgrades	$ 500	
May 2024	Collected and Analyzed Odor Data Using Acrulog Dataloggers (Facility and Neighborhood)	$ 2,600	Reflects instrument costs only.
SUBTOTAL		*$ 294,672*	
O&M COSTS*			
May 2021 to May 2024	QuickAir V	$ 57,000	Added to solids during dewatering process for odor control.
May 2021 to May 2024	QuickAir 0900	$ 27,000	Distributed through odor control perimeter systems.
January 2022 to May 2024	Odor Complaint Review and Response	$ 20,000	
SUBTOTAL		*$ 104,000*	
TOTAL		**$ 398,672**	

*Costs do not include staff time for work completed in-house.

The South Davis Sewer District has determined that the most important course of action going forward is to work on the hydrolysis buffer tank. In a recent inspection, leaks were identified, which are a major cause of the odors in the WRR facility. The leaks are unable to be sealed until an odor scrubber is in place to avoid pressurization and damage to the tank. Work is currently underway to begin this operation, and is intended to be completed by 2024 as practical.

In addition to the odor scrubber system, the District will study the current biofilter, to check for short circuiting and/or blockages.

ADDITIONAL ODOR CONTROL ACTIVITIES

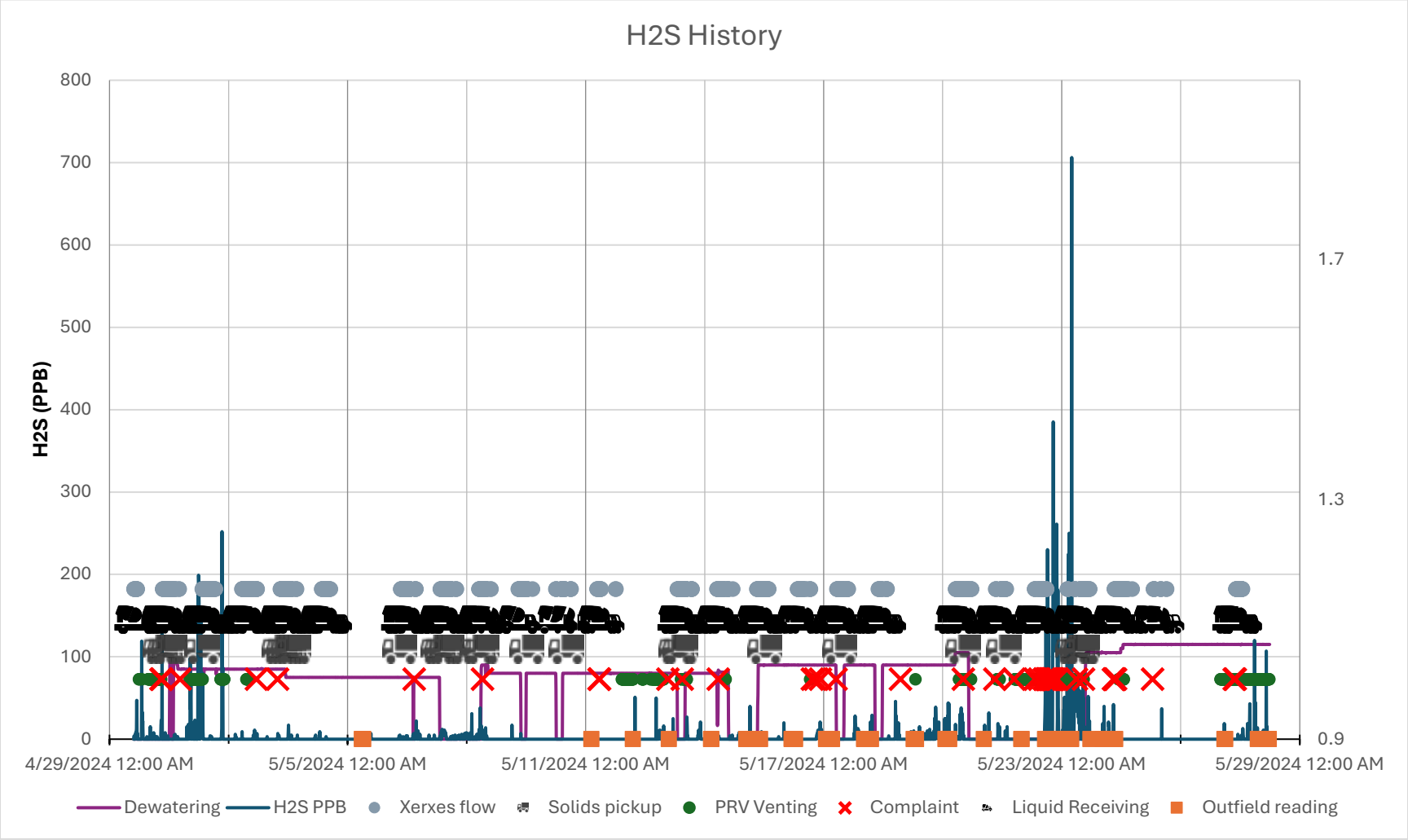
LOCATION	DESCRIPTION	NOTES	EXPECTED COMPLETION
Hydrolysis Buffer Tank (WRR)	Pilot Independent Odor Scrubber/Assess the Need for an Extraction Blower	Equipment needs for this pilot have been identified and work is underway to begin operation.	In Progress
	Collect and Analyze Foul Air Samples	Samples have been collected. Waiting for analysis.	In Progress
	Install Odor Scrubber	Pending successful results of pilot/work with equipment vendors on sizing and media.	End of 2024
	Tighten Bolts/Seal Leaks	Leaks were identified during a recent inspection. They will be sealed once the odor scrubber is in place to avoid pressurization and damage to the tank.	End of 2024
Biofilters (WRR and SP)	Smoke test to look for short-circuiting/blockages.	Smoke bombs have been obtained and smoke testing will be scheduled as soon as possible.	August 2024
	Assess Sprinkler System Coverage	Reinspection due.	August 2024
	Add Filter Media		2025
	Add Macro- and Micronutrient Metering and Injection System		2025
	Provide Temperature Monitoring		2025
	Provide Moisture Monitoring		2025
Dewatering Building (WRR)	Reconnect duct work to biofilter.	This will be done in conjunction with smoke testing to confirm blockages.	2025
Receiving Building (WRR)	Provide Covers for Roll-Offs		TBD
Digestate Tank (WRR)	Check Pressure-Reducing Valve/Vacuum Relief Valve for Calibration and Leakage		September 2024
	Check Bolts/Panel Seams for Leaks and Tighten/Seal as Necessary	Reinspection due.	September 2024
FOG Tank (WRR)	Assess Need for Independent Odor Scrubber	Existing vent line tied to the Xerxes tank and connected to the foul air line from the reception building to the biofilter.	TBD

FOG Unloading (WRR)	Investigate How to Provide Better Seals around Access Hatches		TBD
	Install Valves in Place of Loose Caps Taken by Drivers during Unloading		TBD
Liquid Receiving Tanker Offloading Area (WRR)	Develop Solution to Odors Discharging from the Trench Drain System		TBD
	Investigate Putting a Blower on the Trench Drain Vent (AC Scrubber)		TBD
	Check for Leaks around the Xerxes Transfer Pumps and Bases		TBD
	Install Auto-Closing Valves (Horizontal)		TBD
Digestate Storage and Load-Out (WRR)	Install building to contain digestate (solids) storage and load-out activities.		TBD

Last Update: 07/12/2024

APPENDIX B: ODOR STUDY RESULTS

The following charts and graphs provide an overview of H2S data logging results along with events at the plant and odor complaints received.



	Number of complaints up to 2 hours after event.	Average H2S PPB	Average Max PPB	Max PPB
Xerxes pump transfer	25	24.11	75.48	230
Liquids receiving	49	22.24	70.02	230
PRV venting	37	47.01	121.46	385
Solids pickup	6	15.01	35.83	74.00
Null	7	1.48	6.86	21
All complaints	62	28.88	79.07	385

Readings in Foxboro near complaint	Readings after Xerxes	PRV	Liquids receiving	Solids pickup
15	12	28	14	0