

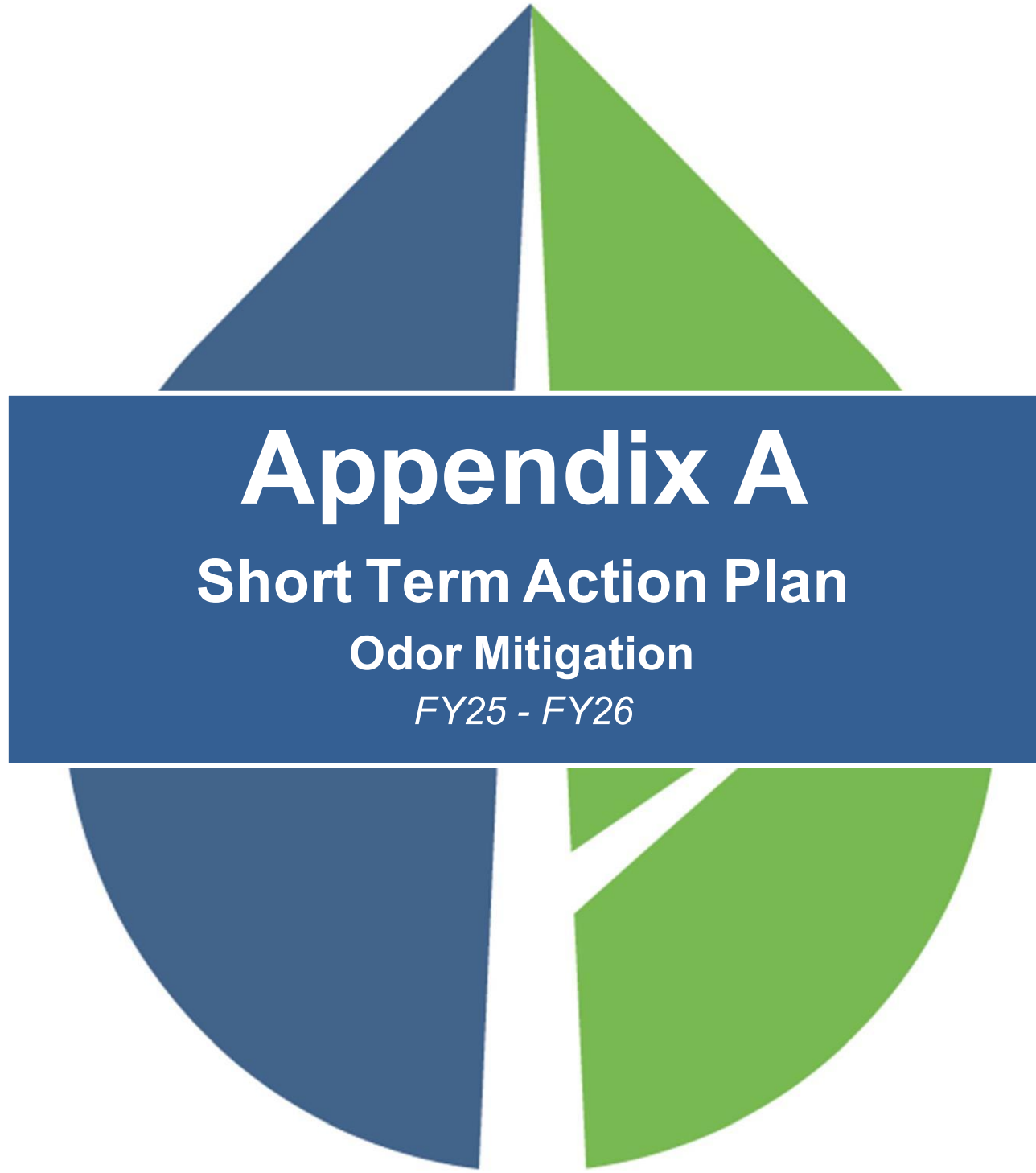


# Appendix

## FY26 Mid-Year Report

*July 1, 2025 - December 31, 2025*





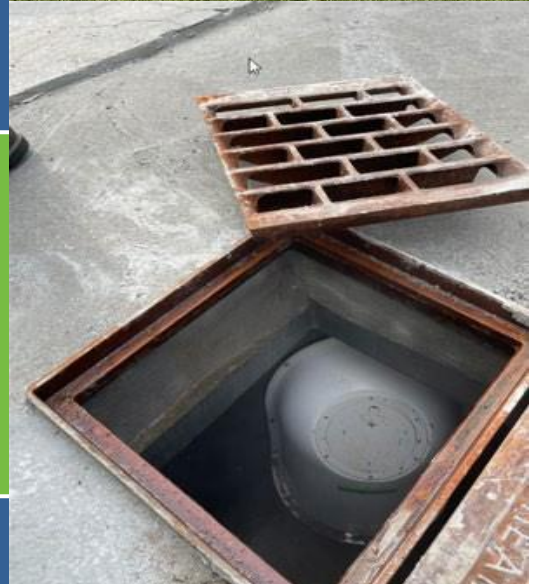
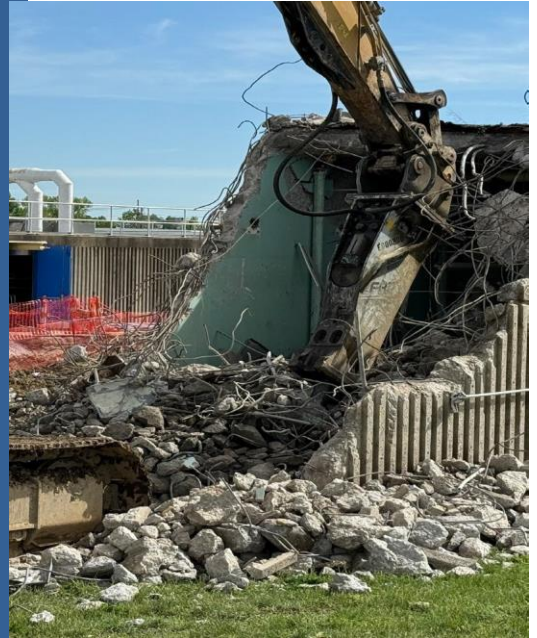
# Appendix A

## Short Term Action Plan

### Odor Mitigation

*FY25 - FY26*

**ODOR MITIGATION  
SHORT-TERM ACTION PLAN  
FY25 – FY26  
Submitted October 14, 2024**



## **Background**

Pursuant to the provisions of the Second Amended Agreed Board Order No. 21-01 with the Louisville Metro Air Pollution Control Board, MSD submits this Short-Term Action Plan. Louisville and Jefferson County Metropolitan Sewer District (MSD) is a regional utility for wastewater, storm water, and flood protection services. MSD manages three utilities in one (**#3UtilitiesInOne**) to provide efficient, effective services to protect the region's people and property. On September 18, 2024, MSD entered the Second Amended Agreed Board Order (ABO) with the Louisville Metro Air Pollution Control Board to focus on odor mitigation in its water quality treatment centers and collections systems. Although odors are a natural part of wastewater and managing it can be challenging, MSD is committed to improving odors within the communities it serves. MSD can only address odors that are within their purview and responsibility. As part of this Short-Term Action Plan, MSD provides a summary of activities conducted during July 1, 2023 and June 30, 2024 to provide additional details on our progress to date. This period represents Fiscal Year 24 for MSD. MSD Fiscal Years start July 1 of each year and conclude on June 30 of the following year.

### **Fiscal Year 24 (FY24) Update**

In FY24, MSD focused on customer communications, odor response, catch basin inspections, catch basin replacements, and other projects as outlined in this section.

#### **Customer Communications**

This summer MSD focused its efforts on communications and community outreach with its clAIRity program. MSD sent letters, sent post cards, participated in a segment on MetroTV, presented at the mayor's press conference, and ran an op-ed in the Courier Journal to inform the community on how to contact us, how we respond to odor complaints, and to provide updates on current and future projects for odor mitigation. MSD clAIRity meetings (a total of five were scheduled in 2024; three already conducted and the remaining two scheduled for later October) engaged with customers and answered odor related questions. MSD also reached out to the church community to further communicate with the neighborhoods most impacted. MSD continues to maintain its clAIRity webpage with information pertinent to odors. As is outlined in the ABO, MSD will look for additional opportunities to further enhance its existing webpage and engagement opportunities.

#### **Odor Response**

MSD actively responds to odor complaints received from the community. Concerns related to odors are received by phone call, MSD clAIRity webpage, Metro 311, Smell My City, and e-mail. MSD reviews concerns and creates a service request in our system for our employees to investigate. MSD strives to respond within 24 hours from receipt of an odor complaint. This summer MSD changed its protocol when responding to odor reports. If a customer calls to report an odor and provides their name and number, MSD contacts the customer to confirm receipt of the odor report and provide an update on the findings and actions taken. Some of the actions MSD takes to respond to odor concerns include flushing sewer mains and manholes, cleaning and deodorizing catch basins, and replacing missing or damaged catch basin plugs. In addition to these activities performed on site, MSD takes actions to improve odors by adjusting chemical feeds and replacing filter media at our pump stations and treatment facilities.

#### **Catch Basins**

Catch basins are curbside openings that collect rainwater and direct it to separate storm or combined sewer systems. As part of its regular maintenance, MSD cleans and maintains catch basins in the combined system. On average MSD cleans nearly 2,300 catch basins a month. Catch basins, especially in the combined system, that are untrapped can allow odors to escape to ambient air. MSD estimates that it has roughly 20,000 catch basins in its combined system.

**Catch Basin Inspections**

As part of its odor mitigation efforts in FY24, MSD inspected 5,281 catch basins in the combined system and identified those that required repairs and those that should be replaced. Roughly 22% of the catch basins inspected were identified for replacement. The number of catch basin replacements identified by neighborhood is listed in Table B-1. Please note that some of the numbers below differ from the original reports. With a focus placed on maximizing spend on replacing catch basins that could allow odors to escape, further investigations identified additional replacements in some areas and a reduction in others.

Neighborhood	# Inspected	# Identified for Replacement
Park DuValle	319	20
California (including Maple Street)	925	75
Chickasaw	746	79
Shawnee	1142	174
Taylor Berry	817	43
Russell	1332	747
<b>Total</b>	<b>5,281</b>	<b>1,138</b>

Table B-1

**Catch Basin Replacements**

MSD is actively working to bid, award, and complete catch basin replacements. In FY24, MSD expended \$374,000 to replace twenty catch basins identified in Park DuValle. Replacements in the California neighborhood also began with 15 of the 75 identified catch basins being replaced at roughly \$300,000.

**Projects**

**New Biosolids Facility**

MSD is updating its facility to include Thermal Hydrolysis Process (THP) technology as part of the U.S. EPA and the Kentucky Energy and Environment Cabinet Consent Decree requirement to improve the ability to treat biosolids at the Morris Forman Water Quality Treatment Center (MFWQTC). THP is a process technology applied in wastewater treatment plants with anaerobic digestion. Thermal hydrolysis exposes sewage sludge to high temperature and pressure to make solids more digestible. The new process will minimize the need to landfill solids and will provide some reduction in odor emissions to neighboring communities. This is a multi-year project projected to be completed in FY28. This year contractors started demolition activities on-site.

**Sedimentation Basin Rehabilitation**

MSD continued its primary sedimentation rehabilitation project that is part of the U.S. EPA and the Kentucky Energy and Environment Cabinet consent decree requirement. The project includes rehabilitating and replacing the primary sedimentation basins at the MFWQTC. Both influent and effluent channels, the east headworks influent channel, the aerated channel, the bypass channel, will be covered. The improvements to the primary sedimentation basins and the covering of key assets will assist with containing odors and decrease odor emissions in this area of the treatment facility. This is a multi-year project in progress and is projected to be completed in FY26.

**Grand Avenue Pump Station**

The Grand Avenue Pump Station is at the east end of the Morris Forman service area. This pump station has a dual-bed carbon adsorber system to control odors. Sampling conducted during the Odor Control Master Plan developed by AECOM (identified as pump station #2), indicated that the system was meeting performance requirements, but odor and hydrogen sulfide (H<sub>2</sub>S) levels were elevated. MSD investigated the unit and determined the carbon media had reached the end of its useful life. In FY24, MSD replaced the carbon media and levels returned to acceptable ranges. The carbon media for the dual-bed carbon adsorber system was added to the Preventative Maintenance (PM) schedule and will be tested every two years to evaluate its effectiveness and replace if necessary.

In addition to the two year PM, a 6-month check of the system’s differential pressure will also be conducted to determine if we are experiencing saturation or clogging indicating the need for a more immediate media change. No further action is required or planned at the Grand Avenue Pump Station.

**FY25 – FY26 Planned Projects**

This Short-Term Action Plan outlines the projects planned for fiscal years 2025 and 2026. This plan covers odor mitigation activities from July 1, 2024 through June 30, 2026. The projects listed in this Short-Term Action Plan are part of MSD’s capital budget that was reviewed and approved by the MSD Board on May 28, 2024. Following finalization of the ABO, the MSD Board was updated on the projects outlined in this Short-Term Action Plan. Any project listed in section I.A.1. of the ABO and not identified in this Short-Term Action Plan will be addressed in the Medium-Term or Long-Term Action Plan. This Short-Term Action Plan is organized into the same four categories as outlined in the ABO which are Treatment, Collection System, Pump Stations, and Catch Basins.

Historical data on odor complaints illustrates that odors are most prevalent in the combined system where both wastewater and stormwater are carried in the same pipes. The combined system is served by the MFWQTC and is designated by the yellow boundary lines in Figure 1. The MFWQTC treats on average 100 million gallons per day. The western part of the service area served by the MFWQTC has reported the highest frequency of odor concerns. MSD’s focus for this Short-Term Action Plan will be on the areas most impacted as indicated by the red circle in Figure 2.

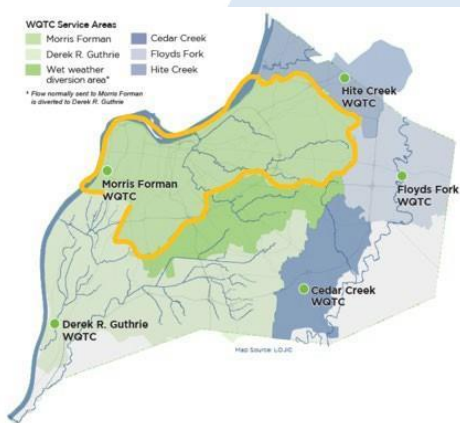


Figure 1

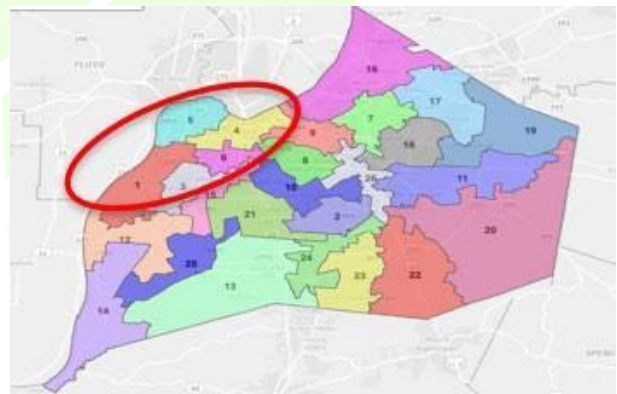


Figure 2

**I. Treatment**

The treatment category covers projects specific to our Water Quality Treatment Centers (WQTCs). MSD operates five WQTCs in Jefferson County. Wastewater travels from homes, businesses, and properties to these centers before being released into local waterways (Figure 1). The respective WQTC for each project is noted in parentheses in Tables T-1 and T-2. Table T-1 outlines the capital expenditures and projected start and end dates for the planned projects that are part of our consent decree work with the U.S. EPA and the Kentucky Energy Environment Cabinet that support our odor mitigation efforts. Table T-2 outlines the additional odor projects not related to the consent decree with estimated expenditures and projected start and end dates.

<b>Consent Decree Projects</b>	<b>FY25-FY26 Estimated Expenditures (millions)</b>	<b>Projected Start Date</b>	<b>Projected End Date</b>
1. New Biosolids Facility (Morris Forman)	\$60.0	In Progress	9/30/2028
2. Sedimentation Basin Rehabilitation (Morris Forman)	\$11.5	In Progress	12/31/2025

Table T-1

**1. New Biosolids Handling Facility / Thermal Hydrolysis Pretreatment (THP)**

MSD will continue developing its new biosolids processing facility using the Thermal Hydrolysis Process (THP) at the MFWQTC. The project team plans to finalize the THP system design and side stream parameters with the engineer of record in FY25. This is a multi-year project that aims to improve solids handling and reduce odor emissions at the plant and surrounding areas. The final project will include an ammonia scrubber placed upstream of the existing odor control device and a carbon absorber placed downstream. At project completion and after all components are in service and acclimated, performance testing will be conducted on the odor control device to determine effectiveness and next steps, if needed. The project is expected to be completed in FY29 with expenditures of \$60 million for FY25 and FY26. The total estimated cost for the life of the project is \$255 million.

**2. Sedimentation Basin Rehabilitation**

MSD will continue its consent decree work with the U.S. EPA and the Kentucky Energy and Environment Cabinet for the primary sedimentation rehabilitation at the MFWQTC. As stated in the FY24 Update, this project includes rehabilitating and replacing the primary sedimentation basins and covering key assets. This project will contain odorous air and send it to the existing Biological Odor Control (BOC) system for treatment. This project started in FY20 and is expected to be completed in FY26. At project completion and after all components are in service and acclimated, performance testing will be conducted on the BOC to determine effectiveness and next steps, if needed. The projected expenditure for FY25 and FY26 is \$11.5 million, with a total estimated cost of \$46 million over the life of the project.

<b>Projects (Not Consent Decree related)</b>	<b>FY25-FY26 Estimated Expenditures (millions)</b>	<b>Projected Start Date</b>	<b>Projected End Date</b>
A. Southwest Pump Station Gas Monitoring and Odor Control	\$0.8	In Progress	6/30/2025
B. Odor Management Plan (Derek R. Guthrie)	\$0.2	In Progress	12/31/2024
C. Hydrogen Sulfide (H <sub>2</sub> S) Removal – Digester Gas (Morris Forman)	\$8.0	In Progress	6/30/2026
D. Dissolved Air Flotation Thickener (DAFT) Rehabilitation (Morris Forman)	\$18.1	In Progress	12/31/2026

Table T-2

**A. Southwest Pump Station Gas Monitoring and Odor Control**

MSD is finalizing a new odor control system at the Southwest Pump Station (SWPS). This system uses a biotrickling filter to treat odorous air, replacing the old carbon adsorption system. In addition to the areas treated by the previous system, the new system includes odorous air from Splitter Structure No. 1 (SP1) and the Dumpster Room. Currently in the acclimation phase, it is designed to remove 99% of inlet hydrogen sulfide when completed. A gas monitoring system will track hydrogen sulfide levels at the inlet and outlet. This technology will help mitigate odors and reduce impacts on the Bells Lane community. At project completion and after all components are in service and acclimated, performance testing will be conducted on the odor control device to determine effectiveness and next steps, if needed. This project began in 2021 and is projected to be completed by June 2025 with an estimated expenditure of \$800,000 in FY25 and \$2.84 million for the project's life.

**B. Odor Control Management Plan (Derek R. Guthrie)**

MSD contracted with AECOM to conduct a study of odors in our treatment centers and collection systems. Phase 2 of the Odor Control Management Plan work focuses on Derek R. Guthrie in the southern part of our service territory. Consistent with the prior plan developed for the MFWQTC, AECOM will evaluate current performance, identify potential odor sources, evaluate existing odor control systems, conduct sampling, and develop recommendations for treatment technologies. This plan will help identify odor problem areas and suggest solutions, guiding our approach to odor control around the Derek Guthrie Water Quality Treatment Center (DRGWQTC). The project is expected to be complete by December 31, 2024 with an estimated expenditure of \$200,000. Once finalized, MSD will review AECOM's recommendations, develop a response, and prioritize actions within budget constraints. MSD will reevaluate the need for identified actions as system improvements occur.

**C. Hydrogen Sulfide (H<sub>2</sub>S) Removal – Digester (Morris Forman)**

The MFWQTC has four anaerobic digesters which use naturally occurring microorganisms in the digesters' oxygen free environment to break down organic matter. As the organic matter breaks down, digester gas is produced. Recent sampling found high hydrogen sulfide (H<sub>2</sub>S) levels present in the digester gas. To comply with the Federally Enforceable District Origin Operation Permit (FEDOOP), MSD will install a Hydrogen Sulfide Removal System that reduces the hydrogen sulfide concentrations in the digester gas prior to end use. This hydrogen sulfide adsorption system will utilize three (3) or four (4) vessels containing media. As the digester gas passes through the approximately 50,000 pounds of media in each vessel, the hydrogen sulfide in the digester gas reacts with the media. The goal of this project would be to reduce hydrogen sulfide concentrations in the digester gas which will allow use of digester gas to supplement fuel for dryers and reduce the amount of gas flared. The project is expected to be complete by June 30, 2026, with an estimated expenditure of \$8 million.

**D. Dissolved Air Flotation Thickener (DAFT) Rehabilitation (Morris Forman)**

The Dissolved Air Flotation Thickener (DAFT) system and its Main Equipment Building (MEB) exhaust at the MFWQTC have been identified as odor sources. MSD will perform a rehabilitation of the DAFT and MEB exhaust. This project will evaluate and determine the best odor mitigation technologies for this area. Improving odors in this process will enhance overall air quality at the MFWQTC. Once the odor device is in service, performance testing will confirm if it meets design specifications. MSD will monitor for odors once the project is complete to determine effectiveness and next steps, if needed. The total spend through FY24 is \$950,000. The projected expenditure in FY25 & FY26 is \$18.1 million. The project will continue through the end of December 2026 (FY27) and will have expenses in the Medium-Term Action Plan. Total estimated expenditures for the life of the project are \$20 million.

**II. Collection System**

The collection system routes wastewater from homes, businesses, and industries to Water Quality Treatment Centers (WQTCs). MSD operates both combined and separate sewer systems. This Short-Term Action Plan focuses activities on the combined systems. Table C-1 lists the projects to be

completed in this Action Plan within the collection system with estimated expenditures and projected start and end dates.

Projects	FY25 – FY26 Estimated Expenditures	Projected Start Date	Projected End Date
E. Western Outfall Sewer Shed Studies	\$200,000	7/1/2024	6/30/2025
F. Ohio River Force Main Technology Study	\$50,000	7/1/2025	6/30/2026
G. Grand Avenue Pump Station Chemical Use Study	\$50,000	1/1/2025	6/30/2026

Table C-1

**E. Western Outfall Sewer Shed Studies**

The Western Outfall, a gravity sewer starting in the southwestern central business district, runs west along Broadway toward the Ohio River and then runs south to the MFWQTC. MSD has experienced high odor complaints in this system. AECOM documented in the Odor Control Master Plan that this system tends to run at positive pressure, which causes an increase in the release of odorous air. MSD will conduct a study to determine if changing the pressure in the system to negative will minimize the escape of odorous air. MSD will install a temporary unit along the gravity sewer line to create negative pressure conditions. In addition to the pressure study, MSD will develop a wastewater odor model using the WATS (Wastewater Aerobic / Anaerobic Transformations in Sewers) sewer process model. WATS simulates changes in conditions (i.e., aerobic, anoxic, and anaerobic) within the sewer system to determine the impact on odors. The WATS model will be used to run what-if scenarios to determine the effectiveness of different treatment methods. MSD will review recommendations from both the negative pressure pilot study and the WATS model to identify next steps. Further actions for system improvements will be prioritized within budget constraints. The Western Outfall studies outlined above are projected to be completed in FY25 with an expenditure of \$200,000.

**F. Ohio River Force Main Technology Study**

The Ohio River Force Main runs between the Ohio River and I-71 beginning near US 42 and I-265 and discharges to the Ohio River Interceptor (ORI) in downtown Louisville at Hancock and Main. After discharging into the ORI, wastewater flow is conveyed west towards the MFWQTC for treatment. Previously, MSD utilized the WATS modeling to identify treatment method(s) and location(s) for the Ohio River Force Main. From the result, MSD installed an oxygen injection facility at the Barbour Lane Pump Station and currently feeds Bioxide (calcium nitrate) at Mockingbird Valley to treat part of the force main. MSD will update the WATS model and collaborate with consultant(s) to evaluate the effectiveness of the current treatment practices and explore additional options for increased results further down the force main. MSD will review recommendations and determine the next steps. Further actions identified for system improvements will be prioritized within budget constraints. The Ohio River Force Main Technology Study is projected to be completed in FY26 with \$50,000.

**G. Grand Avenue Pump Station Chemical Use Study**

AECOM recommended a pilot study at the Grand Avenue Pump Station in the Morris Forman Odor Control Master Plan. Currently, Bioxide (calcium nitrate) is used at the Grand Avenue Pump station to minimize sulfides in the Grand Avenue Force Main. Although Bioxide is effective for some part of the sewer system, MSD desires to improve odors further down the force main. The chemical use study will explore alternative chemicals at the Grand Avenue Pump Station and identify options that may be more effective at reducing sulfides and deterring the formation of hydrogen sulfide in the sewer system and provide a larger impact further down the main. MSD will review recommendations and determine the next steps. Further actions identified for system improvements will be prioritized within

budget constraints. The Grand Avenue Pump Station Chemical Use Study is projected to be completed in FY26 with \$50,000.

### **III. Pump Stations**

Pump stations are utilized in gravity sewer systems to lift (pump) wastewater to a higher elevation when the route followed by a gravity sewer would require the sewer to be laid at an insufficient slope or at an impractical depth. Lift stations vary in size and type depending upon the quantity of wastewater to be handled and the height it must be lifted. Some MSD pump stations have been identified as sources of odor. Table C-2 lists the project that will be performed in the short-term at an MSD pump station with estimated expenditure and projected start and end dates.

<b>Projects</b>	<b>FY25 – FY26 Estimated Expenditures</b>	<b>Projected Start Date</b>	<b>Projected End Date</b>
H. Starkey Pump Station - Evaluate options for odor mitigation technology	\$50,000	7/1/2025	6/30/2026

Table C-2

#### **H. Starkey Pump Station - Evaluate options for odor mitigation technology**

The Starkey Pump Station (PS) is on the northern end of the Morris Forman service area, east of downtown and currently lacks odor control technology. Starkey PS has a small footprint with a large volume of air being ventilated which can lead to an increase in odors. Unfortunately, there is limited space for a traditional carbon or biological odor control solution at this pump station. MSD will engage with consultant(s) to assess potential options for odor control treatment systems. MSD will review recommendations and determine the next steps. Further actions identified for system improvements will be prioritized within budget constraints. The Starkey Pump Station project to evaluate odor mitigation technology is projected to be completed in FY26 with a \$50,000 expenditure.

### **IV. Catch Basins**

MSD will continue to inspect the catch basins in the combined system with a focus on the target areas identified in Figure 2. MSD will also continue its work to rehabilitate and replace the catch basins listed below in Table CB-1 with estimated expenditures and projected start and end dates.

<b>Projects</b>	<b>FY25-FY26 Replacement #</b>	<b>FY25 – FY26 Estimated Expenditures (millions)</b>	<b>Projected Start Date</b>	<b>Projected End Date</b>
I. Catch Basin Inspections	N/A	\$0.6	Ongoing	N/A
J. Catch Basin Replacements				
1. California Neighborhood *	60	\$1.3	In Progress	6/30/2025
2. Chickasaw Neighborhood*	79	\$1.2	1/1/2025	12/31/2025
3. Shawnee Neighborhood	174	\$3.0	10/1/2024	6/30/2025
4. Taylor Berry Neighborhood	43	\$0.86	12/1/2024	12/31/2025
5. East Market (Nulu)**	19	\$0.40	10/15/2024	12/31/2024

Table CB-1

\*Grant funded

\*\*Part of Louisville Metro downtown beautification project.

**I. Catch Basin Inspections**

MSD is actively inspecting catch basins within the combined system to determine repair needs and identify those for replacement. Repairs are scheduled for completion by MSD field crews while replacement work is bundled into smaller jobs to bid out to contractors. MSD plans to inspect roughly 4,200 catch basins per year. These inspections are the first step to reducing odors from catch basins located at the edge of customer properties.

**J. Catch Basin Replacements**

Catch basin replacements in fiscal years 2025 and 2026 will be targeted for completion as outlined in Table CB-1. These replacements will include installing trapped catch basins to deter odors from escaping the sewer system.

1. California Neighborhood: In the California neighborhood, 925 catch basins were inspected, and 75 were identified for replacement. In FY24, 15 catch basins were replaced, and the remaining 60 will be replaced in FY25 with an estimated expenditure of \$1.3 million.
2. Chickasaw: In the Chickasaw neighborhood, 746 catch basins were inspected, and 79 were identified for replacement in FY25 and FY26, with an estimated expenditure of \$1.2 million.

The replacements in the California and Chickasaw neighborhoods are grant-funded, which could impact their timing.

3. Shawnee: In the Shawnee neighborhood, 1,142 catch basins were inspected, and 174 were identified for replacement in FY25, with an estimated expenditure of \$3.0 million.
4. Taylor Berry: In the Taylor Berry neighborhood, 817 catch basins were inspected, and 43 were identified for replacement in FY25 and FY26, with an estimated expenditure of \$860,000.
5. East Market (Nulu): Louisville Downtown Development initiated a beautification project in the Nulu area of East Market. To align with this effort and to minimize multiple traffic disruptions for construction work, 19 catch basins in this area will be replaced as part of this project in FY25, with an estimated expenditure of \$400,000.

MSD expects to see a decrease in customer odor complaints specific to these catch basins that will now be trapped. However, trapped catch basins that are dry can still release odors. Therefore, MSD will periodically inspect the catch basins and add water as needed to contain odors.

**V. Summary**

While sewer odors will never be completely eliminated, MSD is committed to reducing their impact on the community. Odor mitigation has been made a priority, with significant funding allocated for the next few years. This Short-Term Action Plan estimates spending over \$71 million on consent decree projects (Table S-1) and nearly \$35 million on projects not related to the consent decree (Table S-2) that support odor mitigation over the next two fiscal years. Several projects listed in this Action Plan span multiple years, and the estimated expenditures in Tables S-1 and S-2 are totals for fiscal years 2025 and 2026 only.

**Summary of Estimated Expenditures  
FY25 – FY26**

Category	Short-Term Action Plan Projects <u>Consent Decree Related</u>		FY25 - FY26 Estimate Expenditures (millions)
Treatment	1	New Biosolids Facility (Morris Forman)	\$60.00
	2	Sedimentation Basin Rehabilitation (Morris Forman)	\$11.50
		<b>TOTAL</b>	<b>\$71.50</b>

Table S-1

Category	Short-Term Action Plan Projects		FY25 - FY26 Estimated Expenditures (millions)
Treatment	A	Southwest Pump Station Gas Monitoring and Odor Control	\$0.80
	B	Odor Management Plan (Derek R. Guthrie)	\$0.20
	C	Hydrogen Sulfide (H <sub>2</sub> S) Removal- Digester Gas (Morris Forman)	\$8.00
	D	Dissolved Air Flotation Thickener (DAFT) Rehabilitation (Morris Forman)	\$18.10
Collection System	E	Western Outfall Sewer Shed Studies	\$0.20
	F	Ohio River Force Main Technology Study	\$0.05
	G	Grand Avenue Pump Station Chemical Use Study	\$0.05
Pump Stations	H	Starkey Pump Station - Evaluate options for odor mitigation technology	\$0.05
Catch Basins	I	Catch Basin Inspections	\$0.60
	J	California Neighborhood Catch Basin Replacements	\$1.30
		Chickasaw Neighborhood Catch Basin Replacements	\$1.20
		Shawnee Neighborhood Catch Basin Replacements	\$3.00
		Taylor Berry Neighborhood Catch Basin Replacements	\$0.86
		East Market (Nulu)	\$0.40
		<b>TOTAL</b>	<b>\$34.81</b>

Table S-2

### **Conclusion**

MSD is committed to completing the projects as outlined in this plan. However, significant increases in project costs, contractor availability, material shortages, or other extenuating factors could impact the timing of these projects. MSD will document any variations to this Short-Term Action Plan in its Mid-Year and Annual reports as changes are identified. A Mid-Year Report will be provided by March 31 of each year, covering progress made between July 1st and December 31st of the prior year. An Annual Report will be provided by September 30 for both fiscal years 2025 and 2026. MSD enhanced its customer communications and odor response efforts during the 2025 Odor Season. MSD will continue to actively respond to odor concerns and explore opportunities to expand its community engagement for the upcoming 2026 Odor Season.





# Appendix B

## Annual Report

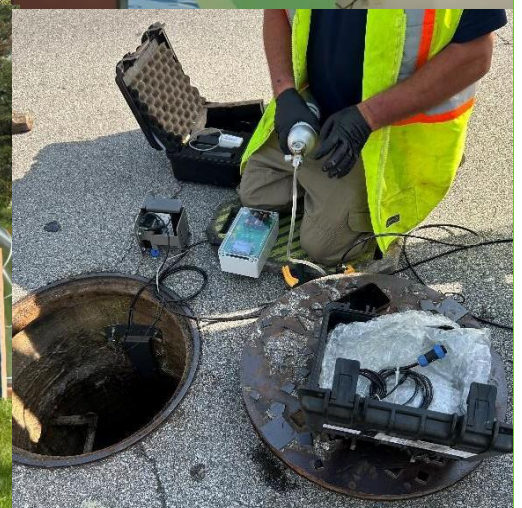
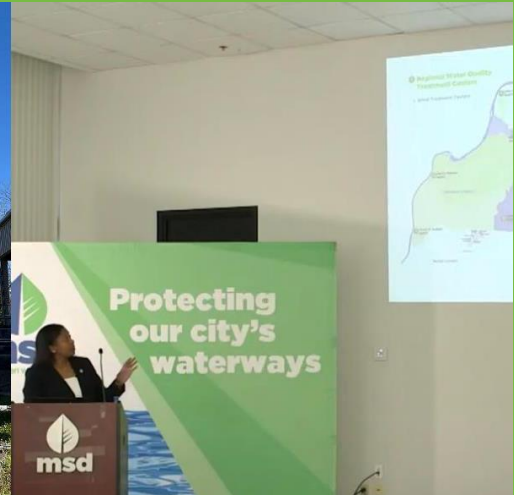
July 1, 2024 – June 30, 2025



# Annual Report

## Odor Mitigation

*Reporting from July 1, 2024 - June 30, 2025*



# Table of Contents

<b>Background</b> .....	<b>3</b>
<b>Community Engagement</b> .....	<b>3</b>
<b>Odor Response</b> .....	<b>4</b>
<b>Wastewater Flow Data</b> .....	<b>4</b>
<b>Short-Term Action Plan Project Updates</b> .....	<b>5</b>
<i>Treatment</i> .....	<b>6</b>
<i>Collection System</i> .....	<b>9</b>
<i>Catch Basins</i> .....	<b>10</b>
<i>Additional Project</i> .....	<b>12</b>
<b>Conclusion</b> .....	<b>12</b>
<b>Appendix</b> .....	
<i>Short-Term Action Plan</i> .....	<b>Appendix A</b>
<i>Mid-Year Report</i> .....	<b>Appendix B</b>
<i>Monthly clAIRity Reports</i> .....	<b>Appendix C</b>
<i>Community Meeting Agendas</i> .....	<b>Appendix D</b>
<i>Management Response: Odor Control Master Plan (Derek Guthrie)</i> .....	<b>Appendix E</b>
<i>Project Certification Letter: Odor Control Mater Plan (Derek Guthrie)</i> .....	<b>Appendix F</b>
<i>Project Certification Letter: Western Outfall Sewer Shed Studies</i> .....	<b>Appendix G</b>
<i>Project Certification Letter: California Catch Basin Replacements</i> .....	<b>Appendix H</b>
<i>Customer Notification Letter</i> .....	<b>Appendix I</b>

## **Background**

As part of MSD’s ongoing efforts to mitigate odors in the community, MSD entered into the Second Amended Agreed Board Order No. 21-01 (Agreed Order) with the Louisville Metro Air Pollution Control Board on September 18, 2024. Although odors are a natural part of wastewater and are known for intensifying as temperatures increase, MSD is committed to reducing odors in the surrounding community.

The Agreed Order outlines MSD’s responsibilities for developing Action Plans, maintaining a dedicated odor webpage, coordinating community meetings, and providing Mid-Year and Annual Progress Reports. On October 14, 2024, MSD submitted its two-year Short-Term Action Plan, outlining intended odor mitigation efforts between July 1, 2024, to June 30, 2026. The plan was made available for public comment on MSD’s odor webpage. No comments were received, and the Action Plan was finalized following the 30-day comment period. Pursuant to the Agreed Order, MSD submitted its Mid-Year report on March 31, 2025, detailing community engagement activities and progress made on Action Plan items between July 1, 2024, and December 31, 2024, which was posted to the dedicated webpage. The Action Plan and Mid-Year Report were submitted to the Louisville / Jefferson County Mayor, Louisville / Jefferson County Metro Council, MSD Board, Louisville Metro Air Pollution Control Board, and the Louisville Metro Air Pollution Control District, and a copy can be found in Appendix A and B.

Pursuant to the Agreed Board Order, MSD submits its Annual Report covering efforts from July 1, 2024, to June 30, 2025. This report will be posted on MSDs odor webpage and delivered to the Louisville / Jefferson County Mayor’s Office, Metro Council Members, APCD, and MSD Board.

## **Community Engagement**

During FY25, MSD continued its focus on community engagement with its clAIRity program. The clAIRity program is utilized to inform the community of its progress on odor mitigation efforts and to foster engagement. MSD hosted in-person and virtual clAIRity meetings for the public to ensure all community members have an opportunity to attend. MSD also participated in Metro Council district meetings and neighborhood meetings which included local churches. In addition to the meetings, MSD provided written monthly odor updates to the Louisville / Jefferson County Major’s office and to Metro Council Members. The clAIRity monthly updates can be found in Appendix C.

### ***Community Meetings***

MSD held five clarity meetings this fiscal year (focus placed on odor season months June – October) and had a total of 47 attendees. The meetings are designed to update the community on outreach efforts, odor response, and odor mitigation projects. Recordings of the meetings are available on YouTube. The community clAIRity meeting agendas can be found in Appendix D. The table below provides the date, location, address, and the number of attendees for each meeting.

<b>Date</b>	<b>Location</b>	<b>Address</b>	<b># Attendees</b>
August 27, 2024	Shawnee Library	3912 W. Broadway	7
October 15, 2024	MSD Central Maintenance Facility	3050 Commerce Center Pl.	1
October 24, 2024	Norton Healthcare Goodwill Opportunity Center	2820 W. Broadway	6
April 22, 2025	MSD New Office	1600 W Hill St.	5
June 24, 2025	MSD New Office	1600 W Hill St.	28

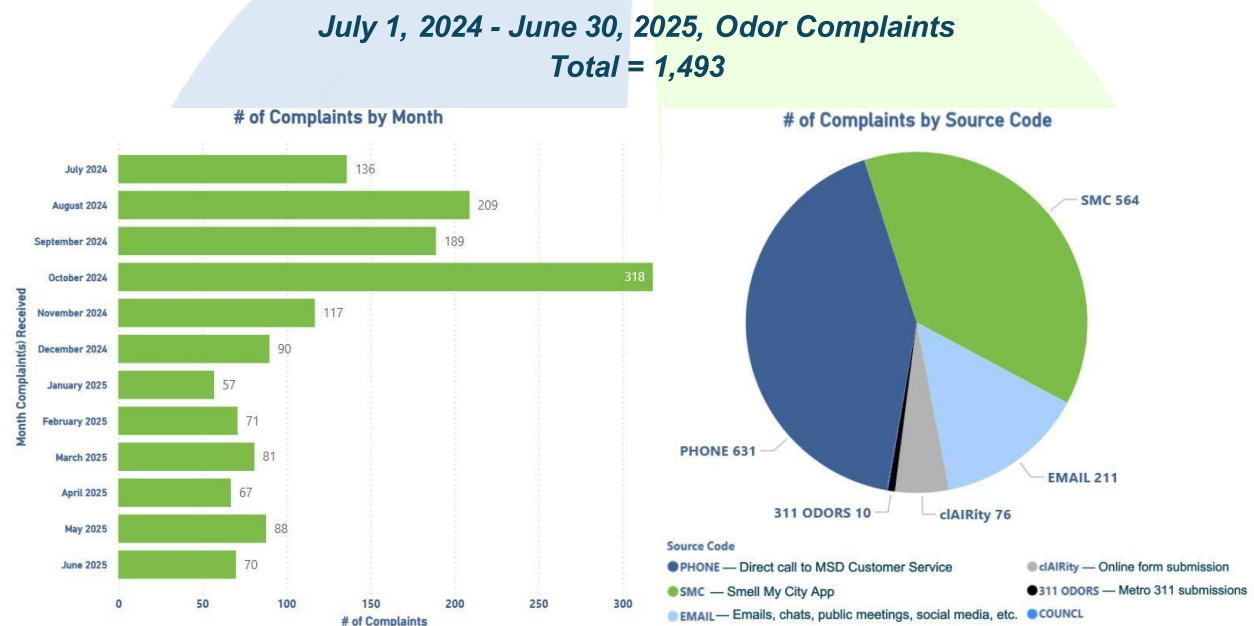
The clAIRity meetings provide an opportunity for all participants to ask questions and give feedback. Pursuant to the Agreed Order, all questions were answered during the meetings, however, they did not rise to the level of substantive change required for documentation. There are three more clAIRity

meetings scheduled for calendar year 2025. The meetings will be held at 1600 W. Hill Street at 6pm on August 28<sup>th</sup>, October 14<sup>th</sup>, and October 30<sup>th</sup>. cIAIRity meetings will continue in calendar 2026 but have yet to be scheduled.

## Odor Response

Improving odor mitigation response is one of MSD’s top priorities. To more effectively alert customers of a potential increase in odors, MSD has designated June through October as “Odor Season” and developed additional response activities specific to this period when odors are more prevalent. These activities are outlined in the Odor Response Standard Operating Procedures (SOP) available on the odor webpage.

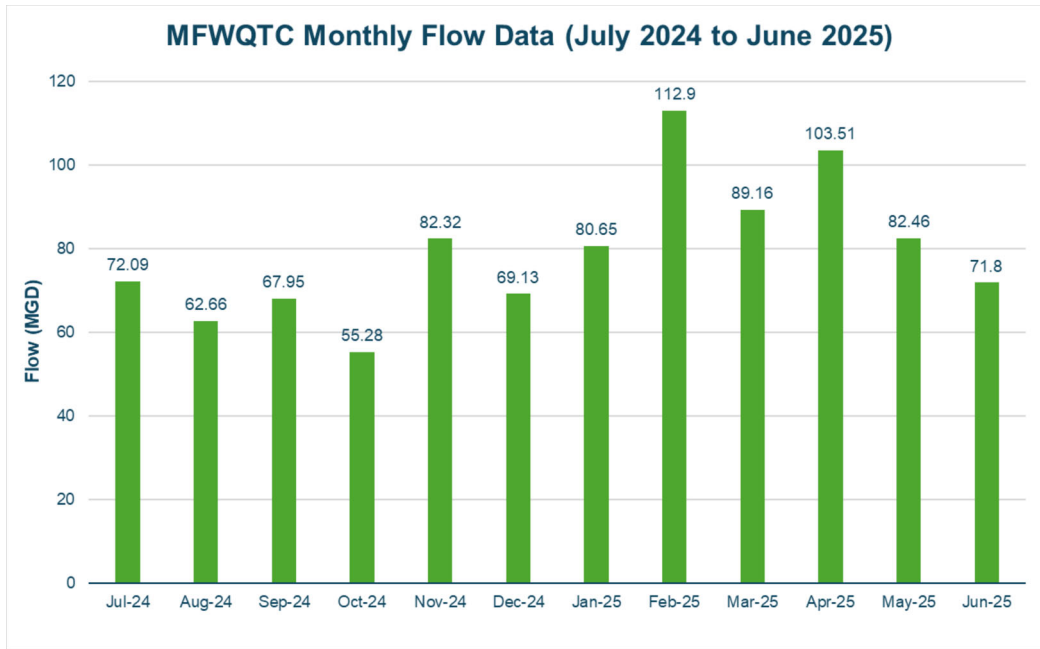
MSD continues to track and respond to odor complaints received daily and strives to respond to all odor complaints within 24 hours. A new Odor Complaints Tracker is available on the odor webpage and contains a log of all the reported complaints. MSD developed a dashboard for the odor complaints, data can now be searched by date, street name, and Metro Council District. In FY25, a total of 1,493 odor complaints were submitted. Below is a bar chart of the complaints by month and a pie chart indicating how the complaints were received.



During this reporting period, MSD worked to improve the customer experience related to odors. Customer call backs, letters, on-site meetings, and updates to online reporting functionality were implemented. In fact, in FY25, MSD performed 265 follow-up odor calls and sent 837 letters to customers in response to their odor reports and provided written monthly odor updates to the Louisville / Jefferson County Mayor’s office and to Metro Council Members.

## Wastewater Flow Data

This flow data represents the monthly flow entering the Morris Forman Water Quality Treatment Center (MFWQTC) during the period covered by this report.



The annual flow for FY25 was 79.16 million gallons per day (MGD).

### **Short-Term Action Plan Project Updates**

This Annual Report includes updates on the Short-Term Action Plan projects that were completed, in progress, or projected to start during the reporting period. For each project, the scope and annual update are provided and organized by category. The scopes outlined in the report were lifted verbatim from the Short-Term Action Plan, ensuring consistency with the original framework. The only new content introduced in this report is the annual update, which reflects the latest progress and developments. These projects are listed in the table below. The identifiers listed correspond to those established in the Short-Term Action Plan which can be found on MSD’s odor webpage. A comprehensive list of all projects in the Short-Term Action Plan is provided in the conclusion.

<b>Category</b>	<b>Identifier</b>	<b>Project</b>
Treatment	1	New Biosolids Facility (Morris Forman)
Treatment	2	Sedimentation Basin Rehabilitation (Morris Forman)
Treatment	A	Southwest Pump Station Gas Monitoring and Odor Control
Treatment	B	Odor Management Plan (Derek R. Guthrie)
Treatment	C	Hydrogen Sulfide (H2S) Removal – Digester Gas (Morris Forman)
Treatment	D	Dissolved Air Flotation Thickener (DAFT) Rehabilitation (Morris Forman)
Collection System	E	Western Outfall Sewer Shed Studies
Collection System	G	Grand Avenue Pump Station Chemical Use Study
Catch Basins	I	Catch Basins Inspections
Catch Basins	J1	California Neighborhood
Catch Basins	J3	Shawnee Neighborhood
Catch Basins	J4	Taylor Berry Neighborhood
Catch Basins	J5	East Market (Nulu)

## ***Treatment***

### **1. New Biosolids Handling Facility / Thermal Hydrolysis Pretreatment (THP)**

#### Scope

MSD will continue developing its new biosolids processing facility using the Thermal Hydrolysis Process (THP) at the Morris Forman Water Quality Treatment Center (MFWQTC). The project team plans to finalize the THP system design and sidestream parameters with the engineer of record in FY25. This is a multi-year project that aims to improve solids handling and reduce odor emissions at the plant and surrounding areas. The final project will include an ammonia scrubber placed upstream of the existing odor control device and a carbon absorber placed downstream. At project completion and after all components are in service and acclimated, performance testing will be conducted on the odor control device to determine effectiveness and next steps, if needed.

#### Annual Update

During the period of July 1, 2024, through June 30, 2025, the final shop drawings and submittals for all major long-lead equipment and materials were submitted by the Design-Builder and reviewed by the MSD. The first part of the period centered around the demolition and relocation of existing facilities, including the Sodium Hypochlorite Building, Thickened Sludge Holding Tanks, Cake Loadout, and underground storage tanks. Construction began on several new process areas of the Thermal Hydrolysis Process (THP), including THP Electrical Building (Area 15), Sidestream Treatment (Area 85), Boiler Building (Area 45), Cake Receiving (Area 30), and THP (Area 40). Construction of a new cake loadout facility, including startup and commissioning, two stainless steel cake silos, and a storage warehouse was completed. The rehabilitation of Digester #3 was completed, which included pressure washing of the interior concrete surface; repair of interior concrete; coating of interior walls and floors with a protective epoxy; replacement of the mixing system; and installation of a new fixed cover. The remodeling of the second floor of the Administration Building was completed to transform the former laboratory area into a new office space. Work began and construction progressed on the solids screening facility, including solids handling odor control upgrades, a fixed cover for Digester #4, and replacement of the centrifuges and the miscellaneous electrical and instrumentation conduits that will support the operation of the new processes. During the period covered by this report, MSD expended \$87.76 million. As of June 30, 2025, this project is approximately 38% complete.

### **2. Sedimentation Basin Rehabilitation**

#### Scope

MSD will continue its consent decree work with the U.S. EPA and the Kentucky Energy and Environment Cabinet for the primary sedimentation rehabilitation at the MFWQTC. This project includes rehabilitating and replacing the primary sedimentation basins and covering key assets. This project will contain odorous air and send it to the existing Biological Odor Control (BOC) system for treatment. This project started in FY20 and is expected to be completed in FY26. At project completion and after all components are in service and acclimated, performance testing will be conducted on the BOC to determine effectiveness and next steps, if needed.

#### Annual Update

The rehabilitation and commissioning of the equipment in the South Pump Station was completed, along with repairs of the influent aerated channel and primary effluent channel. The repairs on the primary effluent channel included the installation of new air headers and diffusers, as well as the knee walls within the

channel that support the new gates and stop logs. Startup for all pumps, augers, gates, and travelling bridges for Sedimentation Basins 3 and 4 was also completed, along with the installation of new odor control equipment. The contractor began demolition of the North Pump Station and Sedimentation Basins 1 and 2, and a majority of the rehabilitation was completed. Concrete pavement was placed at the North Pump Station roadway and a new fiber line was rerouted to provide permanent communication to the primary systems, and a majority of the equipment was installed at Sedimentation Basins 1 and 2. During the period covered by this report, MSD expended \$36.48 million. As of June 30, 2025, this project is approximately 88.9% complete.

## **A. Southwest Pump Station Gas Monitoring and Odor Control**

### Scope

MSD is finalizing a new odor control system at the Southwest Pump Station (SWPS). This system uses a biotrickling filter to treat odorous air, replacing the old carbon adsorption system. In addition to the areas treated by the previous system, the new system includes odorous air from Splitter Structure No. 1 (SP1) and the Dumpster Room. It is designed to remove 99% of inlet hydrogen sulfide when completed. A gas monitoring system will track hydrogen sulfide levels at the inlet and outlet. This technology will help mitigate odors and reduce impacts on the Bells Lane community. At project completion and after all components are in service and acclimated, performance testing will be conducted on the odor control device to determine effectiveness and next steps, if needed.

### Annual Update

During the first half of the reporting period, the installing contractor worked with the equipment manufacturer to make adjustments that improved the performance of the biotrickling filter/bioscrubber. These adjustments included fine-tuning the nutrient feed, freshwater cycle frequency and duration, and the recirculation frequency and duration. In June 2025, performance testing and training were conducted. During the period covered by this report, MSD expended \$292,000. As of June 30, 2025, the project is over 95% complete, however, completion of the system has been postponed due to unforeseen shipping delays. The projected completion date is October 31, 2025.

## **B. Odor Control Management Plan (Derek R. Guthrie)**

### Scope

MSD contracted with AECOM to conduct a study of odors in our treatment centers and collection systems. Phase 2 of the Odor Control Management Plan work focuses on Derek R. Guthrie in the southern part of our service territory. Consistent with the prior plan developed for the MFWQTC, AECOM will evaluate current performance, identify potential odor sources, evaluate existing odor control systems, conduct sampling, and develop recommendations for treatment technologies. This plan will help identify odor problem areas and suggest solutions, guiding our approach to odor control around the Derek Guthrie Water Quality Treatment Center (DRGWQTC). Once finalized, MSD will review AECOM's recommendations, develop a response, and prioritize actions within budget constraints. MSD will reevaluate the need for identified actions as system improvements occur.

### Annual Update

This project was completed on December 31, 2024, as outlined in the Mid-Year Report (Appendix B). The final AECOM report can be found on the odor webpage under Mitigation Projects and the Management Response is included in Appendix E. Pursuant to the Second Amended Air Pollution Control Board Order

No. 21-01, section I.C.4, MSD completed a Project Certification letter and submitted it to the MSD Board during the January 27, 2025, board meeting; a copy of the letter can be found in Appendix F.

### **C. Hydrogen Sulfide (H<sub>2</sub>S) Removal – Digester Gas (Morris Forman)**

#### Scope

The MFWQTC has four anaerobic digesters which use naturally occurring microorganisms in the digesters' oxygen free environment to break down organic matter. As the organic matter breaks down, digester gas is produced. Recent sampling found high hydrogen sulfide (H<sub>2</sub>S) levels present in the digester gas. To comply with the Federally Enforceable District Origin Operation Permit (FEDOOP), MSD will install a Hydrogen Sulfide Removal System that reduces the hydrogen sulfide concentrations in the digester gas prior to end use. This hydrogen sulfide adsorption system will utilize three (3) or four (4) vessels containing media. As the digester gas passes through approximately 50,000 pounds of media in each vessel, the hydrogen sulfide in the digester gas reacts with the media. The goal of this project would be to reduce hydrogen sulfide concentrations in the digester gas which will allow use of digester gas to supplement fuel for dryers and reduce the amount of gas flared.

#### Annual Update

Between July 1, 2024, and December 31, 2024, the detailed design documents were finalized, the design documents were advertised, a pre-bid meeting occurred at the project site, bids were opened, and a contractor was selected for the project. Bids were opened on August 20, 2024, and a Notice to Proceed was issued on November 4, 2024. A pre-construction meeting took place between the Owner (Louisville MSD), Engineer, and Contractor on November 22, 2024. The Contractor then proceeded to compile and submit shop drawings for materials with long lead times such as the digester gas plug valves and the prefabricated electrical building. Between January 1, 2025, and June 30, 2025, the Contractor began work to demolish the abandoned equipment, install the buried utilities, excavate, and install electrical handholes and duct banks, and prepare the site for the installation of the large equipment concrete foundation pads. During the period covered by this report, MSD expended \$2.02 million and as of June 30, 2025, the project is approximately 38.5% complete.

### **D. Dissolved Air Flotation Thickener (DAFT) Rehabilitation (Morris Forman)**

#### Scope

The Dissolved Air Flotation Thickener (DAFT) system and its Main Equipment Building (MEB) exhaust at the MFWQTC have been identified as odor sources. MSD will perform a rehabilitation of the DAFT and its MEB exhaust. This project will evaluate and determine the best odor mitigation technologies for this area. Improving odors in this process will enhance overall air quality at the MFWQTC. Once the odor device is in service, performance testing will confirm if it meets design specifications. MSD will monitor for odors once the project is complete to determine effectiveness and next steps, if needed.

#### Annual Report

The design consultant worked on the 90% detailed design submittal and presented the design in December of 2024. Additional scope was added to the project during this period which included an odor control system for the DAFT room. The additional scope also included the demolition of an abandoned area that will now be the location for the new odor control equipment. The updated design for this project was completed in the first quarter of the year (2025) and was posted for bid on May 6, 2025. During the reporting period, MSD expended \$531,769. As of June 30, 2025, the design for the project is complete but construction has yet to commence.

## ***Collection System***

### **E. Western Outfall Sewer Shed Studies**

#### Scope

The Western Outfall, a gravity sewer starting in the southwestern central business district, runs west along Broadway toward the Ohio River and then runs south to the MFWQTC. MSD has experienced high odor complaints along this system. AECOM documented in the Odor Control Master Plan that this system tends to run at positive pressure, which causes an increase in the release of odorous air. MSD will conduct a study to determine if changing the pressure in the system to negative will minimize the escape of odorous air. MSD will install a temporary unit along the gravity sewer line to create negative pressure conditions. In addition to the pressure study, MSD will develop a wastewater odor model using the WATS (Wastewater Aerobic / Anaerobic Transformations in Sewers) sewer process model. WATS simulates changes in conditions (i.e., aerobic, anoxic, and anaerobic) within the sewer system to determine the impact on odors. The WATS model will be used to run what-if scenarios to determine the effectiveness of different treatment methods. MSD will review recommendations from both the negative pressure pilot study and the WATS model to identify next steps. Further actions for system improvements will be prioritized within budget constraints.

#### Annual Update

#### ***Pressure Study***

Pressure studies were performed along the Western Outfall in an effort to minimize the escape of odorous air. The original scope was to perform two pressure study tests; however, MSD expanded the scope to include two additional tests in an effort to provide more information for the analysis. Studies were conducted at 24<sup>th</sup> and 45<sup>th</sup> Street, Maple Street, Varble Avenue, and Shawnee Park. Maple Street is at the eastern end of the outfall while Varble is far west. These locations were selected due to their proximity to odor concern areas, low traffic conditions, and ease of access. Letters were distributed to those properties that could be negatively impacted, notifying our customers of potential odors during testing. As an example, a copy of the letter sent to customers on 45<sup>th</sup> Street can be found in Appendix I. During the tests, a fan system was ducted to a manhole to exhaust air from the sewer. The pressure in the sewer was monitored upstream and downstream to determine if a negative pressure could be maintained and to determine the zone of influence. Successful capturing of air to maintain a negative pressure would allow for the treatment of odorous air prior to release into the atmosphere. During this reporting period, MSD expended \$26,500. As of June 30, 2025, this pressure study is complete. A copy of the Project Certification Letter can be found in Appendix G.

#### ***WATS Sewer Process Model***

The WATS sampling plan and campaign were completed for the Western Outfall sewer between the intersection of South 16<sup>th</sup> Street and West Breckenridge Street and the intersection of Broadway and Southwestern Parkway. The sampling campaign included flow composite, vapor phase sulfide, liquid phase dissolved sulfide, temperature, and pH sampling. Analyses of the liquid samples were performed by third-party laboratories and included testing for BOD, COD, ffCOD (filtered and floc COD), VFA (volatile fatty acids), and others. Hydraulic model information for this portion of the Western Outfall was also obtained and the sewer process model used to estimate sulfide generation was developed. Calibration of the sewer process model has begun, using the laboratory analyses and field data obtained from the sampling campaign. During the period covered by this report, MSD expended \$477,549. As of June 30, 2025, this

project is complete. The Project Certification Letter was presented to the MSD board on September 22, 2025, and a copy of the letter can be found in Appendix G.

## **G. Grand Avenue Pump Station Chemical Use Study**

### Scope

The Grand Avenue Pump Station is at the east end of the Morris Forman service area. This pump station currently uses Bioxide (calcium nitrate) to minimize sulfides in the Grand Avenue Force Main. Although Bioxide is effective for some part of the sewer system, MSD desires to improve odors further down the force main. The chemical use study will explore alternative chemicals at the Grand Avenue Pump Station and identify options that may be more effective at reducing sulfides and deterring the formation of hydrogen sulfide in the sewer system. At Project Completion, MSD will review recommendations and determine next steps. The Grand Avenue Pump Station Chemical Use Study is projected to be completed in FY26 with a total expenditure of \$50,000.

### Annual Update

In FY25, the contractor completed the liquid sampling and testing of the force main. The contractor has begun work on providing recommendations for alternatives on odor and corrosion control treatment and chemical feed technologies. During the period covered by the report, MSD expended \$7,000 and the project is 22% complete.

## **Catch Basins**

### **I. Catch Basin Inspections**

#### Scope

MSD is actively inspecting catch basins within the combined system to determine repair needs and identify those for replacement. Repairs are scheduled for completion by MSD field crews while replacement work is bundled into smaller jobs to bid out to contractors. MSD plans to inspect roughly 4,200 catch basins per year. These inspections are the first step to reducing odors from catch basins located at the edge of customer properties.

#### Annual Update

Prior to July 1, 2024, a total of 5,281 catch basins were inspected and 1,002 were identified for replacement. During the period covered by this report, MSD continued to inspect catch basins in the neighborhoods most impacted. An additional 7,090 were inspected and 1,560 were identified for replacement. During the period covered by this report, a total of \$822,288 was expended, to perform inspections. The total inspected to date is 12,371 with 2,562 replacements identified. The table below provides details by neighborhood.

CATCH BASIN INSPECTIONS COMPLETED			
Neighborhood	# Inspected	Inspection Status	# Identified for Replacement
<b>Prior to July 1, 2024</b>			
Park DuValle	319	Completed	20
California (3 phases)	925	Completed	72*
Chickasaw	746	Completed	79
Shawnee	1,142	Completed	176*
Taylor Berry	817	Completed	14*
Russel	1,332	Completed	641*
<b>TOTALS:</b>	<b>5,281</b>		<b>1,002</b>
<b>July 1, 2024 – June 30, 2025</b>			
Old Louisville	1,176	Completed	271*
Limerick	246	Completed	108*
Park Hill	564	Completed	177*
Parkland	434	Completed	158*
East Market / Nulu	284	Completed	71
Cherokee Triangle	319	Completed	85
Central Business District	1,516	Completed	282*
W Main Street	142	Completed	9
Portland	1,364	Completed	366*
Wyandotte	457	Completed	33
Beechmont	420	<b>In Progress</b>	TBD
Algonquin	168	<b>In Progress</b>	TBD
<b>TOTALS:</b>	<b>7,090</b>		<b>1,560</b>
<b>GRAND TOTALS:</b>	<b>12,371</b>		<b>2,562</b>

\*The number of catch basins initially identified for replacement has changed due to a more extensive review of the inspection results. TBD = Inspections in this neighborhood are in progress and a final replacement number is yet to be determined.

## J. Catch Basin Replacements

### Scope

Catch basin replacements in FY25 will be targeted for completion in identified neighborhoods. These replacements will include installing trapped catch basins to deter odors from escaping the sewer system.

1. California Neighborhood: In the California neighborhood, 925 catch basins were inspected, and 72 were identified for replacement.
2. Shawnee: In the Shawnee neighborhood, 1,142 catch basins were inspected, and 176 were identified for replacement.
3. Taylor Berry: In the Taylor Berry neighborhood, 817 catch basins were inspected, and 14 were identified for replacement.
4. East Market (Nulu): In the East Market neighborhood, 284 catch basins were inspected, and 19 were initially identified for replacement in the original scope. After a more extensive review of the inspection results, an additional 52 catch basins were identified for replacement.

MSD expects to see a decrease in customer odor complaints specific to these catch basins that will now be trapped. However, trapped catch basins that are dry can still release odors. Therefore, MSD will periodically inspect the catch basins and add water as needed to contain odors.

Annual Update

The total number of catch basins replaced in the Park DuValle, California, East Market (Nulu) and Shawnee neighborhoods are in the table below. All twenty of the catch basins identified in Park DuValle were completed in early 2024.

CATCH BASIN REPLACEMENTS		
Neighborhood	# To Replace	# Replaced
Park DuValle	20	20
California (3 phases)	72	72
East Market (Nulu)	71	19
Shawnee	176	172
<b>TOTALS:</b>	<b>339</b>	<b>283</b>

- Park DuValle: As reported in the Mid-Year Report, all 20 catch basins identified for replacement were completed in FY24.
- California Neighborhood: In FY24, 15 catch basins were replaced, and the remaining 57 were completed in FY25. During the period covered by this report, MSD expended \$1.3 million, and all catch basins identified in the California Neighborhood are now complete. A copy of the Project Certification Letter can be found in Appendix H.
- East Market (Nulu): Thirteen (13) catch basins were replaced in the first half of FY25 and 6 were replaced within the past six months. The replacements were initially expected for completion in the first quarter of 2025, per the Mid-Year Report, however, construction remains in progress due to the 52 additional catch basins identified for replacement. During the period covered by this report MSD expended a total of \$264,600.
- Shawnee: During the first half of FY25, 20 catch basins were replaced and 152 catch basins replaced within the last 6 months. MSD expended \$2.21 million during the period covered by this report. Project expected to be complete by the end of the calendar year.

***Additional Project***

*Main Diversion Biofilter*

As was reported in the Mid-Year Report, MSD completed a project at the Main Diversion to improve odors. A biofilter at the grit structure was identified as a source of odors at this site. The biofilter had exceeded its useful life and required replacement. The drainage team conducted a site visit and developed a comprehensive plan to remove the existing material and weeds, wash down the filter bed, and install new material. Additionally, the team installed soaker houses to improve its performance in reducing odors in the vicinity of the Main Diversion. This project offers multiple benefits, including reduced costs, minimal maintenance, less odors, improved air quality, and supports sustainability and eco-friendly operations.

**Conclusion**

Reducing odors and their impact on the community is one of MSD’s top priorities. This Annual Report outlines the progress MSD made during the first year of the Short-Term Action Plan and the requirements

set forth in the Second Amended Agreed Board Order. It highlights MSD’s efforts to improve community engagement and odor response activities and provides updates on the projects that were identified in the Short-Term Action Plan that were scheduled to start, in progress, or completed during the reporting period.

MSD prioritized community engagement by hosting clAIRity meetings to share updates and provide the public with an opportunity to ask questions. Odor complaints were addressed through follow-up letters, call backs, and online reporting. MSD also developed a dashboard to track odor complaints, making them easier to search and categorize. The clAIRity program webpage is regularly updated by MSD to ensure the public remains up to date with all of MSD’s odor mitigation efforts. MSD continues to focus its efforts to address community concerns and is dedicated to mitigating odors within the community.

Although this report focuses on the projects scheduled to start during the reporting period (July 1, 2024 – June 30, 2025), the table below summarizes the progress, budget, and expenditures to date for all projects identified in the Short-Term Action Plan. This table will serve as a visualization of project progress until an “electronic dashboard visualization” can be developed, as outlined in Section II A of the Agreed Order

This Annual Report was presented to the MSD Board on September 22, 2025. Following the presentation to the MSD Board, the report is being distributed to the recipients (as identified in Section IV of the Agreed Order) and will be posted to the odor webpage prior to the September 30, 2025, deadline.

Short-Term Action Plan Projects – Annual Update							
Category	Identifier	Project	FY25 – FY26 Budget (millions)	FY25 Annual Expenditures (millions)	% Complete	Projected Completion Date	Status
Treatment	1	New Biosolids Facility (Morris Forman) – Consent Decree Project	\$60.0	\$87.76	38%	30-Sep-28	Under Construction
Treatment	2	Sedimentation Basin Rehabilitation (Morris Forman) – Consent Decree Project	\$11.50	\$36.48	88.9%	31-Aug-25	Under Construction
Treatment	A	Southwest Pump Station Gas Monitoring and Odor Control	\$0.80	\$0.292	95%	31-Oct-25	Awaiting operation and maintenance procedures.
<b>Treatment</b>	<b>B</b>	<b>Odor Management Plan (Derek R. Guthrie)</b>	<b>\$0.20</b>	<b>\$0.242</b>	<b>100%</b>	<b>N/A</b>	<b>Complete</b>
Treatment	C	Hydrogen Sulfide (H2S) Removal – Digester Gas (Morris Forman)	\$8.00	\$2.02	38.5%	31-Jul-26	Under Construction
Treatment	D	Dissolved Air Flotation Thickener (DAFT) Rehabilitation (Morris Forman)	\$18.10	\$0.532	0%	30-Apr-27	Design is complete but construction has yet to begin.
<b>Collection System</b>	<b>E</b>	<b>Western Outfall Sewer Shed Studies</b>	<b>\$0.43</b>	<b>\$0.504</b>	<b>100%</b>	<b>30-Jun-25</b>	<b>Complete</b>
Collection System	F	Ohio River Force Main Technology Study	\$0.05	\$0.00	0%	30-Jun-26	Projected start July 1, 2025
Collection System	G	Grand Avenue Pump Station Chemical Use Study	\$0.0325	\$0.007	22%	30-Jun-26	Construction has yet to begin
Pump Station	H	Starkey Pump Station – Evaluate options for odor mitigation technology	\$0.05	\$0.00	0%	30-Jun-26	Projected start October 1, 2025
Catch Basins	I	Catch Basin Inspections	\$0.60	\$0.822	NA	N/A	This work will continue annually throughout the service area.
<b>Catch Basins</b>	<b>J1</b>	<b>California Neighborhood Catch Basin Replacements</b>	<b>\$1.30</b>	<b>\$1.30</b>	<b>100%</b>	<b>30-Jun-25</b>	<b>Complete</b>
Catch Basins	J2	Chickasaw Neighborhood Catch Basin Replacements	\$1.20	\$0.00	0%	31-Dec-25	Projected to start this calendar year
Catch Basins	J3	Shawnee Neighborhood Catch Basin Replacements	\$3.00	\$2.21	97%	31-Dec-25	Under Construction
Catch Basins	J4	Taylor Berry Neighborhood Catch Basin Replacements	\$0.86	\$0.015	0%	31-Dec-25	Inspections are complete but construction has yet to begin.
Catch Basins	J5	East Market (Nulu) Catch Basin Replacements	\$0.40	\$0.265	27%	TBD	Under Construction



# Appendix C

## Monthly cIAIRity Reports

## **MSD's cAIRity Update – June 13, 2025**

*MSD's cAIRity Program is our ongoing work to mitigate the natural odor related to organic materials that decompose as a part of wastewater treatment and management. This monthly brief provides updates on the status of various projects under the cAIRity initiative over the past month.*

### **MSD Crews in Action This Odor Season**

As summer heat sets in, MSD is taking proactive steps to manage seasonal sewer odors during what we call "Odor Season," which typically runs from June through October. Warmer, drier conditions can cause parts of our 160-year-old combined sewer system to dry out, allowing odors to escape from catch basins and manholes. This year, we've launched new preventive maintenance schedules to regularly flush and clean catch basins and manholes where odor is frequently reported throughout the season.

In addition to our field crews' work of cleaning and deodorizing catch basins, using water trucks to rehydrate dry areas, and coordinating hydrant flushing with Louisville Water, we're also exploring new odor-reduction methods. As part of this effort, Webster Environmental Associates (WEA) recently conducted a pressure test on 45th Street, a location with frequent odor complaints and convenient access. Using a fan system to draw air out of the sewer, WEA monitored pressure changes to evaluate whether this technique could help reduce odors long-term.

### **Stay Connected: cAIRity Community Meeting Schedule**

There are four more cAIRity community meetings this year, and each is an opportunity to share your experience, ask questions and hear directly from MSD experts about the steps we're taking to manage odors and improve air quality. Mark your calendar to join us virtually or in-person at MSD's new office (1600 W. Hill Street in the Park Hill neighborhood):

- Tuesday, June 24 | 6–7 p.m.
- Thursday, August 28 | 6–7 p.m.
- Tuesday, October 14 | 6–7 p.m.
- Thursday, October 30 | 6–7 p.m.

MSD is also available to existing meetings hosted by faith based organizations, nonprofits and neighborhood groups across the community. If you'd like to schedule a conversation with MSD at your next group meeting, please contact us at [CustomerRelations@LouisvilleMSD.org](mailto:CustomerRelations@LouisvilleMSD.org).

For more details or to report an odor, visit [LouisvilleMSD.org/odor](https://LouisvilleMSD.org/odor) or call 502.540.6000.

### **May Weather and Odor Reports**

In May our community received 4.33 inches of total precipitation, a 29 percent decrease from last May's 6.07 inches and a 16 percent decrease from the 20-year average of 5.16 inches. MSD responded to 85 service requests related to odor throughout May, up from 54 in April. The requests came from 21 different ZIP codes, and each resulted in an MSD crew investigating and responding as appropriate. For the majority of service calls, MSD crews on-site cleaned, deodorized and flushed with water the nearby sewer mains, catch basins or manhole covers where necessary.

#### **About MSD**

The Louisville/Jefferson County Metropolitan Sewer District (MSD) works to achieve and maintain clean, environmentally safe waterways for a healthy and vibrant community. More than 670 employees provide wastewater management, drainage and flood protection services across the 376 square miles of Louisville Metro and wastewater service in portions of Bullitt and Oldham Counties. In addition to operating and maintaining Louisville Metro's sewer system, floodwall system, water quality treatment centers and flood pumping stations, MSD invests in hundreds of infrastructure improvement projects each year, plants more than 1,000 trees and other vegetation annually to enhance water filtration and reduce runoff and provides numerous outreach programs to inform and educate the community about protecting our waterways.

## MSD's cAIRity Update – July 15, 2025

*MSD's cAIRity Program is our ongoing work to mitigate the natural odor related to organic materials that decompose as a part of wastewater treatment and management. This monthly brief provides updates on the status of various projects under the cAIRity initiative over the past month.*

### **Odor Mitigation Projects Continue in Several Neighborhoods**

MSD is taking targeted action in neighborhoods where odor concerns are most frequent, combining engineering analysis and infrastructure upgrades to address the issue at its source.

We're currently exploring opportunities for odor mitigation along the Western Outfall, a large sewer line which runs underneath Broadway from downtown to Shawnee Park. MSD contracted Webster Environmental Associates (WEA) to conduct pressure tests at key points along the line to evaluate the potential for long-term odor control. Using a fan system to draw air from the sewer system, WEA monitored pressure changes to help assess whether this method could help reduce odor in the future.

MSD also is continuing the systematic investments to replace outdated and "untrapped" catch basins. In the California neighborhood, the final phase of a \$1.3 million project to replace 75 catch basins is now complete. This is part of a larger \$6.4 million effort to replace 400 catch basins across additional neighborhoods including Shawnee, Taylor Berry and West Main Street by December 2025. Another 1,000 catch basins have been identified for future replacement in Old Louisville, Limerick, Park Hill and Parkland.

### **Stay Engaged with MSD**

MSD hosted its second cAIRity community meeting of the year on Tuesday, June 24, continuing open dialogue around odor concerns and air quality. These meetings offer a space to share your experience, ask questions and hear directly from MSD experts about the steps we're taking to address odors in your neighborhood. There are still three opportunities to join the conversation, virtually or in person, at MSD's new office (1600 W. Hill Street in the Park Hill neighborhood):

- Thursday, August 28 | 6–7 p.m.
- Tuesday, October 14 | 6–7 p.m.
- Thursday, October 30 | 6–7 p.m.

MSD is available to join existing meetings hosted by faith-based organizations, nonprofits and neighborhood groups across the community. To schedule a conversation at your next group meeting, contact us at [CustomerRelations@LouisvilleMSD.org](mailto:CustomerRelations@LouisvilleMSD.org).

To learn more or report an odor, visit [LouisvilleMSD.org/odor](https://LouisvilleMSD.org/odor) or call 502.540.6000.

### **June Weather and Odor Reports**

In June our community received 3.1 inches of total precipitation, up 74 percent from last June's 1.78 inches. MSD responded to 70 service requests related to odor throughout June, down from 85 in May. The requests came from 19 ZIP codes, and each resulted in an MSD crew investigating and responding as appropriate. For the majority of service calls, MSD crews on-site cleaned, deodorized and flushed with water the nearby sewer mains, catch basins or manholes where necessary.

#### **About MSD**

The Louisville/Jefferson County Metropolitan Sewer District (MSD) works to achieve and maintain clean, environmentally safe waterways for a healthy and vibrant community. More than 670 employees provide wastewater management, drainage and flood protection services across the 376 square miles of Louisville Metro and wastewater service in portions of Bullitt and Oldham Counties. In addition to operating and maintaining Louisville Metro's sewer system, floodwall system, water quality treatment centers and flood pumping stations, MSD invests in hundreds of infrastructure improvement projects each year, plants more than 1,000 trees and other vegetation annually to enhance water filtration and reduce runoff and provides numerous outreach programs to inform and educate the community about protecting our waterways.

## MSD's cIAIRity Update – August 15, 2025

*MSD's cIAIRity Program is our ongoing work to mitigate the natural odor related to organic materials that decompose as a part of wastewater treatment and management. This monthly brief provides updates on the status of various projects under the cIAIRity initiative over the past month.*

### MSD Reduces Rate Increase

After hearing from the community during the public comment period, MSD's Board approved a reduced rate increase for fiscal year 2026, 3.9 percent instead of the originally proposed 4.9 percent. This change makes the average monthly increase for Jefferson County customers \$3.11, while still funding critical projects to protect public health, safety and local waterways.

Under the approved FY26 budget, MSD will invest more than \$302 million in 181 capital-improvement projects across the service area. Ninety percent of the capital budget supports work required or mandated to meet federal and state environmental standards. Several of these projects will support ongoing odor mitigation efforts, including the major multi-year project to modernize the Morris Forman Water Quality Treatment Center. MSD's long-range capital plans over the next five years include more than \$49 million committed to replacing hundreds of outdated catch basins that are contributors to ambient odor across several Louisville neighborhoods.

The increase will take effect on September 1, 2025. MSD offers several options for income-eligible households who need assistance, including the Drops of Kindness partnership with Louisville Water, Emergency Wastewater Rate Assistance Program and Senior Citizen Discount.

To learn more, view the full budget or explore assistance options, visit [LouisvilleMSD.org/PayMyBill](http://LouisvilleMSD.org/PayMyBill).

### Join MSD to Discuss Odor Management

MSD is hosting the third of five cIAIRity community meetings on Thursday, August 28, continuing open dialogue around odor concerns within the community. These meetings offer a space to share your experience, ask questions and hear directly from MSD experts about the steps we're taking to address odors in your neighborhood. There are three opportunities remaining to join the conversation, virtually or in person, at MSD's new office (1600 W. Hill Street in the Park Hill neighborhood):

- Thursday, August 28 | 6–7 p.m.
- Tuesday, October 14 | 6–7 p.m.
- Thursday, October 30 | 6–7 p.m.

MSD is available to join existing meetings hosted by faith-based organizations, nonprofits and neighborhood groups across the community. To schedule a conversation at your next group meeting, contact us at [CustomerRelations@LouisvilleMSD.org](mailto:CustomerRelations@LouisvilleMSD.org).

To learn more or report an odor, visit [LouisvilleMSD.org/odor](http://LouisvilleMSD.org/odor) or call 502.540.6000.

### July Weather and Odor Reports

In July our community received 5.93 inches of total precipitation, up 30 percent from the 30-year average of 4.56 inches. MSD responded to 73 service requests related to odor throughout July, up from 70 in June. The requests came from 26 ZIP codes, and each resulted in an MSD crew investigating and responding as appropriate. For the majority of service calls, MSD crews on-site cleaned, deodorized and flushed with water the nearby sewer mains, catch basins or manholes where necessary.

#### About MSD

The Louisville/Jefferson County Metropolitan Sewer District (MSD) works to achieve and maintain clean, environmentally safe waterways for a healthy and vibrant community. More than 670 employees provide wastewater management, drainage and flood protection services across the 376 square miles of Louisville Metro and wastewater service in portions of Bullitt and Oldham Counties. In addition to operating and maintaining Louisville Metro's sewer system, floodwall system, water quality treatment centers and flood pumping stations, MSD invests in hundreds of infrastructure improvement projects each year, plants more than 1,000 trees and other vegetation annually to enhance water filtration and reduce runoff and provides numerous outreach programs to inform and educate the community about protecting our waterways.

## MSD's cAIRity Update – September 15, 2025

MSD's cAIRity Program is our ongoing work to mitigate the natural odor related to organic materials that decompose as a part of wastewater treatment and management. This monthly brief provides updates on the status of various projects under the cAIRity initiative over the past month.

### Odor Mitigation Projects Continue in Several Neighborhoods

“Untrapped” and outdated catch basins can be a source of odor in the sewer system. To address this, MSD is carrying out an extensive, multi-year program to inspect and replace catch basins across several Louisville neighborhoods. These improvements not only help reduce odor but also strengthen our overall infrastructure.

- West Main Street: Inspections of all 142 catch basins are complete, with 9 identified for replacement. The work to replace all 9 catch basins began in July and concluded in August, at a total cost of \$132,030.
- Park Hill: Inspections of all 564 catch basins are complete, with 177 identified for replacement. Phase 1 is currently underway to replace 23 catch basins.

### Stay Connected: cAIRity Community Meeting Schedule

MSD hosted its third cAIRity community meeting of the year on Thursday, August 28, continuing open dialogue around odor concerns and air quality. These meetings offer a space to share your experience, ask questions and hear directly from MSD experts about the steps we're taking to address odors in your neighborhood. There are two opportunities left this year to join the conversation, virtually or in person at MSD's new office (1600 W. Hill Street in the Park Hill neighborhood):

- Tuesday, October 14 | 6–7 p.m.
- Thursday, October 30 | 6–7 p.m.

MSD representatives are also available to attend existing meetings hosted by faith-based organizations, nonprofits or neighborhood groups across the community. If you'd like to schedule a conversation with MSD at your next group meeting, please contact us at [CustomerRelations@LouisvilleMSD.org](mailto:CustomerRelations@LouisvilleMSD.org).

For more details or to report an odor, visit [LouisvilleMSD.org/odor](https://LouisvilleMSD.org/odor) or call 502.540.6000.

### August Weather and Odor Reports

In August our community received 1.45 inches of total precipitation, down 59 percent from the 30-year average of 3.53 inches. The lack of rain skyrocketed odor reports during the month of August, with MSD receiving 178 service requests, up from 73 in July. The requests came from 27 ZIP codes, and each resulted in an MSD crew investigating and responding as appropriate. For the majority of service calls, MSD crews on-site cleaned, deodorized and flushed with water the nearby sewer mains, catch basins or manholes where necessary.

These periods of dry weather can increase sewer odors when the large, 160-year-old combined sewer system and catch basin inlets start to dry up and let odors escape. Throughout Odor Season MSD is continuing to increase the number of crews in areas that are experiencing heightened odors. On top of the construction work to address odors, you will see our team cleaning and deodorizing catch basins, putting water in the system through water trucks and continuing our partnership with Louisville Water to turn on hydrants where it can help the situation.

#### About MSD

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700 West Liberty Street | Louisville, KY 40203-1911  
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## MSD's cIAIRity Update – October 15, 2025

*MSD's cIAIRity Program is our ongoing work to mitigate the natural odor related to organic materials that decompose as a part of wastewater treatment and management. This monthly brief provides updates on the status of various projects under the cIAIRity initiative over the past month.*

### Projects at MSD Pump Stations Helping Mitigate Odor

Some MSD pump stations can be a contributor to ambient odor resulting from the natural decomposition of organic materials. We are systematically assessing these facilities and making improvements where possible to minimize the impact of odor.

At the Southwestern Pump Station, MSD is finalizing the install of a new odor-control system designed to remove 99% of hydrogen sulfide odors. We have performance tested the system and provided training to employees on its operation. This project, which began in 2021, is expected to be completed by October 31, 2025. Meanwhile, work at the Starkey Pump Station began October 1 to evaluate odor sources and test potential mitigation strategies. This study will help MSD identify long-term solutions to reduce odor impacts in nearby neighborhoods.

These facilities are part of a comprehensive flood protection system that also includes floodwalls, floodgates and other infrastructure. This system protects more than 200,000 residents, 87,000 homes and \$24 billion in property. Regular updates ensure these stations continue to safeguard our neighborhoods while also reducing community impacts.

### Don't Miss the Last cIAIRity Community Meeting of 2025

MSD hosted the second-to-last cIAIRity Community Meeting of the year on Tuesday, October 14, continuing open dialogue around odor concerns and air quality. These meetings create space to share your experience, ask questions and hear directly from MSD experts about the steps we're taking to address odors in your neighborhood.

Be sure to join us at the cIAIRity Community Meeting on Thursday, October 30, our last scheduled gathering this year, either virtually or in person at MSD's new office (1600 W. Hill Street in the Park Hill neighborhood) from 6 to 7 p.m.

MSD representatives are also available to attend meetings hosted by faith-based organizations, nonprofits, or neighborhood groups across the community. To schedule a conversation with MSD at your next group meeting, please contact us [CustomerRelations@LouisvilleMSD.org](mailto:CustomerRelations@LouisvilleMSD.org).

For more details or to report an odor, visit [LouisvilleMSD.org/odor](https://LouisvilleMSD.org/odor) or call 502.540.6000.

### September Odor Reports

In September our community received 4.17 inches of total precipitation, up 16 percent from the 30-year average of 3.61 inches. MSD responded to 206 service requests related to odor throughout September, up from 178 in August. The requests came from 30 ZIP codes, and each resulted in an MSD crew investigating and responding as appropriate. For the majority of service calls, MSD crews on-site cleaned, deodorized and flushed with water the nearby sewer mains, catch basins or manholes where necessary.

#### About MSD

The Louisville/Jefferson County Metropolitan Sewer District (MSD) works to achieve and maintain clean, environmentally safe waterways for a healthy and vibrant community. More than 670 employees provide wastewater management, drainage and flood protection services across the 376 square miles of Louisville Metro and wastewater service in portions of Bullitt and Oldham Counties. In addition to operating and maintaining Louisville Metro's sewer system, floodwall system, water quality treatment centers and flood pumping stations, MSD invests in hundreds of infrastructure improvement projects each year, plants more than 1,000 trees and other vegetation annually to enhance water filtration and reduce runoff and provides numerous outreach programs to inform and educate the community about protecting our waterways.



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## MSD's cIAIRity Update – November 14, 2025

*MSD's cIAIRity Program is our ongoing work to mitigate the natural odor related to organic materials that decompose as a part of wastewater treatment and management. This monthly brief provides updates on the status of various projects under the cIAIRity initiative over the past month.*

### Odor Season Progress You Can Measure

As temperatures cool and we move out of 2025's peak odor season, it's evident that our ongoing investments and proactive response are making a measurable difference.

From January through October 2025, odor reports are down 31% compared to the same period last year. This progress is supported by \$83 million invested to upgrade our combined sewer system and wastewater treatment facilities, along with the replacement of 313 catch basins identified as odor sources by year's end. To help control odors during dry spells, our crews pumped 243,000 gallons of water into the system, while responding to each of the 1,052 odor reports, from all parts of the community, between January and October.

Our work doesn't stop when the temperatures cool, our team monitors and responds to system needs year-round, because odor management is a continuous commitment. Every dollar spent, every catch basin replaced and every call answered reflects our dedication to making life better for the people we serve.

As part of this commitment, MSD hosted five cIAIRity community meetings during odor season, providing residents with the opportunity to learn more about our ongoing odor-reduction efforts. These meetings allowed attendees to hear directly from MSD officials, share experiences and learn more about the steps being taken to address odor issues across the community. Feedback from these small-group discussions is important in helping shape our future actions.

In addition to MSD-hosted community meetings, our team continues to welcome the opportunity to engage with church groups, nonprofit organizations and other community stakeholders who would like to learn more about our cIAIRity program initiatives. To request a visit, please reach out to [CustomerRelations@LouisvilleMSD.org](mailto:CustomerRelations@LouisvilleMSD.org).

For more information or to report an odor, visit [LouisvilleMSD.org/odor](https://LouisvilleMSD.org/odor) or call 502.540.6000.

### October Odor Reports

A wetter-than-normal October helped to flush our system of underground pipes. The community received 7.13 inches of total precipitation, nearly double the 30-year average of 3.65 inches for October. MSD responded to 161 service requests related to odor throughout the month, down from 206 in September. The requests came from 25 ZIP codes, and each resulted in an MSD crew investigating and responding as appropriate. For the majority of service calls, MSD crews on-site cleaned, deodorized and flushed with water the nearby sewer mains, catch basins or manholes where necessary.

#### About MSD

The Louisville/Jefferson County Metropolitan Sewer District (MSD) works to achieve and maintain clean, environmentally safe waterways for a healthy and vibrant community. More than 670 employees provide wastewater management, drainage and flood protection services across the 376 square miles of Louisville Metro and wastewater service in portions of Bullitt and Oldham Counties. In addition to operating and maintaining Louisville Metro's sewer system, floodwall system, water quality treatment centers and flood pumping stations, MSD invests in hundreds of infrastructure improvement projects each year, plants more than 1,000 trees and other vegetation annually to enhance water filtration and reduce runoff and provides numerous outreach programs to inform and educate the community about protecting our waterways.

## **MSD's cIAIRity Update – December 15, 2025**

*MSD's cIAIRity Program is our ongoing work to mitigate the natural odor related to organic materials that decompose as a part of wastewater treatment and management. This monthly brief provides updates on the status of various projects under the cIAIRity initiative over the past month.*

### **Continuing Modernization of MSD Treatment Facilities**

It's been a year of significant progress at the Morris Forman Water Quality Treatment Center – the community's largest, serving more than two-thirds of Louisville households – as our team kept operations running smoothly while moving forward with several major odor-reduction and facility-improvement projects.

Work continued on the long-term Biosolids Processing Solution Project, including the installation of two new Thermal Hydrolysis Process (THP) units in October and November. Crews installed new equipment to make the dewatering process more efficient, and upgraded storage areas, electrical buildings and a fully powered warehouse to enhance day-to-day operations. Beyond the THP project, MSD brought two primary sedimentation basins back online in December after significant rehabilitation work, improving overall treatment performance. Looking ahead to 2026, the focus will shift to bringing the new THP systems into operation, completing remaining basin work and continuing improvements that support safety, reliability and long-term odor reduction.

At the Bells Lane Wet Weather Treatment Plant, this December marked the completion of odor-control upgrades and improvements to electrical systems, while also beginning demolition on the area supply duct work as part of an ongoing improvement project.

### **Catch Basin Replacement Program Makes Strides in 2025**

MSD made significant progress in reducing ambient odors throughout 2025 by replacing untrapped catch basins across several neighborhoods in our community. Over the course of the year, MSD replaced 259 catch basins, including 176 in Shawnee, 18 in California (bringing to 72 the total replacements in that neighborhood), 23 in Park Hill, 14 in Taylor Berry, 9 along West Main Street and 19 in NuLu as part of the Main Street beautification project. In the past two years, MSD has invested more than \$5 million to replace untrapped catch basins, directly improving neighborhood air quality and reducing odor sources. Work will continue into 2026, beginning with 69 additional catch basin replacements in the Chickasaw neighborhood.

### **November Odor Reports**

MSD responded to 105 service requests related to odor throughout the month, down from 120 in October – despite a drier month with 2.03 inches of total precipitation, down 41 percent from the 30-year average. The odor reports came from 22 ZIP codes, and each resulted in an MSD crew investigating and responding as appropriate. For the majority of service calls, MSD crews on-site cleaned, deodorized and flushed with water the nearby sewer mains, catch basins or manholes where necessary.

For more information or to report an odor, visit [LouisvilleMSD.org/odor](http://LouisvilleMSD.org/odor) or call 502.540.6000.

#### **About MSD**

The Louisville/Jefferson County Metropolitan Sewer District (MSD) works to achieve and maintain clean, environmentally safe waterways for a healthy and vibrant community. More than 670 employees provide wastewater management, drainage and flood protection services across the 376 square miles of Louisville Metro and wastewater service in portions of Bullitt and Oldham Counties. In addition to operating and maintaining Louisville Metro's sewer system, floodwall system, water quality treatment centers and flood pumping stations, MSD invests in hundreds of infrastructure improvement projects each year, plants more than 1,000 trees and other vegetation annually to enhance water filtration and reduce runoff and provides numerous outreach programs to inform and educate the community about protecting our waterways.



# Appendix D

## Community Meeting Agendas

## Community Meeting Agenda

- Meeting date:** Thursday, August 28, 1-2 p.m.  
**Location:** MSD's New Office - 1600 W. Hill Street, Louisville, KY, 40210
- Purpose:** Provide updates about MSD's continued efforts to mitigate odor and engage the community through the cIAIRity program.

### Welcome

### About MSD and the cIAIRity Program

#### What Causes Sewer Odors?

- Information MSD-related odors compared to non-MSD sources

#### Mitigation Methods

- Approaches MSD uses to combat odors

#### Water Quality Treatment Centers

- Information regarding MSD's treatment centers, with a focus on the improvements underway at Morris-Forman WQTC

#### The Combined Sewer System

- Providing an understanding of differences between combined and separate sewer systems, and how that can impact odor.

#### Outside Factors

- How dry weather and water consumption levels impact odor

#### MSD's Ongoing Responses and Outreach

- An update of MSD's current responses to odor reports, how it is engaging in the community, and how the public can report concerns to MSD

#### Q&A

- MSD will facilitate a discussion period; meeting attendees may ask questions verbally or by submitting questions in writing on provided cards

#### Meeting Conclusion

- MSD representatives are also available before and after the meeting to speak directly with customers.

## Community Meeting Agenda

- Meeting date:** Tuesday, October 14, 6-7 p.m.  
**Location:** MSD's New Office - 1600 W. Hill Street, Louisville, KY, 40210
- Purpose:** Provide updates about MSD's continued efforts to mitigate odor and engage the community through the cAIRity program.

### Welcome

### About MSD and the cAIRity Program

#### What Causes Sewer Odors?

- Information MSD-related odors compared to non-MSD sources

#### Odor Reports & Combine Sewer System Overview

- A look at current odor reports and an overview of our combined sewer system

#### Potential Odor Pathways

- Overview of potential sewer odor pathways in the home and how to reduce them

#### Water in the System

- The importance water plays in the sewer system

#### Mitigation Methods

- Approaches MSD uses to combat odors at MSD facilities and in the field

#### Short Term Action Plan

- Update on MSD's investments across four key areas – treatment facilities, collection systems, pump stations and catch basins – to reduce wastewater odors across the community

#### Q&A

- MSD will facilitate a discussion period; meeting attendees may ask questions verbally or by submitting questions in writing on provided cards

#### Meeting Conclusion

- MSD representatives are also available before and after the meeting to speak directly with customers

For more information or to report an odor,  
visit [LouisvilleMSD.org/odor](http://LouisvilleMSD.org/odor) or call 502.540.6000.

## Community Meeting Agenda

- Meeting date:** Thursday, October 30, 6-7 p.m.  
**Location:** MSD's New Office - 1600 W. Hill Street, Louisville, KY, 40210
- Purpose:** Provide updates about MSD's continued efforts to mitigate odor and engage the community through the cAIRity program.

### Welcome

### About MSD and the cAIRity Program

#### What Causes Sewer Odors?

- Information MSD-related odors compared to non-MSD sources

#### Water Quality Treatment Centers

- Information regarding MSD's treatment centers, with a focus on the improvements underway at Morris-Forman WQTC

#### Odor Reports & Combine Sewer System Overview

- A look at current odor reports and an overview of our combined sewer system

#### Potential Odor Pathways

- Overview of potential sewer odor pathways in the home and how to reduce them

#### Water in the System

- The importance water plays in the sewer system

#### Mitigation Methods

- Approaches MSD uses to combat odors at MSD facilities and in the field

#### Short Term Action Plan

- Update on MSD's investments across four key areas – treatment facilities, collection systems, pump stations and catch basins – to reduce wastewater odors across the community

#### Q&A

- MSD will facilitate a discussion period; meeting attendees may ask questions verbally or by submitting questions in writing on provided cards

#### Meeting Conclusion

- MSD representatives are also available before and after the meeting to speak directly with customers



# Appendix E

## Project Certification Letter: Shawnee Neighborhood Catch Basin Replacements



700 West Liberty Street | Louisville, KY 40203-1911  
Phone: 502.540.6000 | LouisvilleMSD.org

November 17, 2025

MSD Board  
700 West Liberty Street  
Louisville, Kentucky 40203

Subject: Capital Project Certification  
Second Amended Air Pollution Control Board Order No. 21-01  
Odor Mitigation Short-Term Action Plan  
Item #J5 – Shawnee Neighborhood Catch Basin Replacements

Attention MSD Board:

Pursuant to the Second Amended Air Pollution Control Board Order No. 21-01, section I.C.4, upon completion of any project included in an Action Plan, MSD shall complete a Capital Project Certification and submit a copy to the MSD Board at its next regularly scheduled Board Meeting.

The following project outlined in the Odor Mitigation Short-Term Action Plan that was submitted on October 14, 2024, is complete:

***Shawnee Neighborhood Catch Basin Replacements***

MSD engaged Basham Construction to replace untrapped catch basins with trapped catch basins in the Shawnee Neighborhood Area as part of our ongoing odor mitigation initiative. A total of 1,142 catch basins were inspected, resulting in the replacement of 176 basins to improve air quality and system performance in the area.

I certify that this document and all attached were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted.

Sincerely,

James A. Parrott  
Executive Director  
Louisville / Jefferson County Metropolitan Sewer District

cc: Kellie Watson, MSD  
Kimberly Reed, MSD  
Brian Bingham, MSD



# Appendix F

## Project Certification Letter: Taylor/Berry Neighborhood Catch Basin Replacements



700 West Liberty Street | Louisville, KY 40203-1911  
Phone: 502.540.6000 | LouisvilleMSD.org

November 17, 2025

MSD Board  
700 West Liberty Street  
Louisville, Kentucky 40203

Subject: Capital Project Certification  
Second Amended Air Pollution Control Board Order No. 21-01  
Odor Mitigation Short-Term Action Plan  
Item #J5 – Taylor/Berry Neighborhood Catch Basin Replacements

Attention MSD Board:

Pursuant to the Second Amended Air Pollution Control Board Order No. 21-01, section I.C.4, upon completion of any project included in an Action Plan, MSD shall complete a Capital Project Certification and submit a copy to the MSD Board at its next regularly scheduled Board Meeting.

The following project outlined in the Odor Mitigation Short-Term Action Plan that was submitted on October 14, 2024, is complete:

***Taylor/Berry Catch Basin Replacements***

MSD engaged Allterrain Paving & Contracting to replace untrapped catch basins with trapped catch basins in the East Market (Nulu) Area as part of our ongoing odor mitigation initiative. A total of 817 catch basins were inspected, resulting in the replacement of 14 basins to improve air quality and system performance in the area.

I certify that this document and all attached were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted.

Sincerely,

Tony Parrott  
Executive Director  
Louisville / Jefferson County Metropolitan Sewer District

cc: Kellie Watson, MSD  
Kimberly Reed, MSD  
Brian Bingham, MSD



# Appendix G

**Project Certification Letter:**  
*Southwest Pump Station Gas Monitoring and  
Odor Control*



700 West Liberty Street | Louisville, KY 40203-1911  
Phone: 502.540.6000 | LouisvilleMSD.org

November 22, 2025

MSD Board  
700 West Liberty, Street  
Louisville, Kentucky 40203

Subject: Capital Project Certification  
Second Amended Air Pollution Control Board Order No. 21-01  
Odor Mitigation Short-Term Action Plan  
Item #B – Southwest Pump Station Gas Monitoring and Odor Control

Attention MSD Board:

Pursuant to the Second Amended Air Pollution Control Board Order No. 21-01, section I.C.4, upon completion of any project included in an Action Plan, MSD shall complete a Capital Project Certification and submit a copy to the MSD Board.

The following project outlined in the Odor Mitigation Short-Term Action Plan that was submitted on October 14, 2024, is complete:

***Southwest Pump Station Gas Monitoring and Odor Control***

MSD engaged Webster Environmental Associates and Jacobs Engineering MSD to design and install a new odor control system at the Southwest Pump Station (SWPS). This system uses a biotrickling filter to treat odorous air, replacing the old carbon adsorption system. It is designed to remove 99% of inlet hydrogen sulfide when completed. A gas monitoring system will track hydrogen sulfide levels at the inlet and outlet. This technology will help mitigate odors and reduce impacts on the Bells Lane community. The objective of this initiative was to support odor control efforts. What date are we using as the completion date?

I certify that this document and all attached were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted.

Sincerely,

James A. Parrott  
Executive Director  
Louisville / Jefferson County Metropolitan Sewer District

cc: Kellie Watson, MSD  
Kimberly Reed, MSD  
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