

September 23, 2024  
File No. 27224383.01

Mr. Dave Drilling, P.E.  
Engineering Section Chief  
Waste Management Program  
Missouri Department of Natural Resources  
1730 East Elm St.  
Jefferson City, Missouri 65101

Subject: 2024 Post-Closure Cost Updates  
Lee's Summit Sanitary Landfill, Permit Number 109520  
Lee's Summit, Missouri

Dear Mr. Drilling:

On behalf of the City of Lee's Summit, Missouri and the Lee's Summit Resource Recovery Park (RRP), SCS Engineers (SCS) has prepared the attached post-closure cost estimates for the site. Missouri Solid Waste Management Regulation 10 CSR 80 2.030(4)(B)3.D. requires the costs to be updated annually for changes to the design and operations as well as to account for inflation.

The post-closure cost estimate is based on the worksheets and guidance provided in the Waste Management Program's (WMP) Technical Guidance Bulletin for Solid Waste Disposal Area Closure and Post-Closure Plans (September 13, 2002 draft and subsequent modifications). For the Lee's Summit RRP, the post-closure cost estimate is based on the following:

- 81.2 acres of total disposal area closed – 11.9 acres Subtitle D, 69.3 acres non-Subtitle D.
- 15 groundwater monitoring wells.
- Leachate is sent to the Little Blue Valley Sewer District via a direct sewer connection for treatment and disposal.
- The landfill ceased accepting waste in April 2019.
- Phase 3 of the gas system was installed in 2019.
- Closure activities occurred from July 2019 through December 2019 and official closure was approved on August 30, 2024.
- The post-closure cost estimate remains consistent with previous years, assuming the full 30 years of post-closure remain.

The closure and post-closure cost worksheets and referenced documentation are included as an attachment to this letter. The cost estimate totals are in Q2 2024\$.

Closure cost estimate:	\$0
Post-closure cost estimate (30 years):	\$6,226,080
Total:	\$6,226,080



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The totals have been adjusted for inflation as noted on the worksheets to bring the estimated costs to current dollars. The City of Lee's Summit intends to continue using a Contract of Obligation.

Should you have any questions regarding this information, please contact Anastasia at 913-749-0703.

Sincerely,



Anastasia Welch, P.E.  
Vice President  
SCS Engineers



Marilyn Jones  
Senior Project Professional  
SCS Engineers

aw/mj

cc: Mr. Chris Bussen, Resource Recovery Park (electronic copy only)  
Mr. David Lohe, City of Lee's Summit (electronic copy only)  
Mr. Michael Anderson, City of Lee's Summit (electronic copy only)

Enclosures:

Closure and Post-Closure Cost Worksheet  
Sewer Rate Information  
IPD References  
Active Gas Trench Maintenance Cost



MISSOURI DEPARTMENT OF NATURAL RESOURCES  
SOLID WASTE MANAGEMENT PROGRAM  
**CLOSURE AND POST-CLOSURE COST WORKSHEET**

THIS WORKSHEET IS ONLY REQUIRED FOR THOSE FACILITIES THAT ACCEPT WASTE AFTER JAN. 1, 2004. OTHERS MAY USE THE WORKSHEET IF THEY CHOOSE.					
DATE 09/23/2024		NAME OF FACILITY Lee's Summit Resource Recovery Park		PERMIT NUMBER 109520	
TOTAL PERMITTED ACREAGE (INCLUDING UNDEVELOPED AREAS)		TOTAL ACREAGE WITH WASTE IN PLACE (INCLUDING OFFICIALLY CLOSED AREAS)		TOTAL ACREAGE WITH OFFICIAL CLOSURE APPROVAL	
SUBTITLE D 11.9	NON-SUBTITLE D 69.3	SUBTITLE D 11.9	NON-SUBTITLE D 69.3	SUBTITLE D 11.9	NON-SUBTITLE D 69.3
1. How many acres is this financial assurance instrument intended for? <div>acres for closure                      acres for post-closure      81.2</div>					
2. Description of area (cell number, etc.) North section (pre-Subtitle D); South section (Subtitle D)					
3. What is the approved final cover system design? <input checked="" type="checkbox"/> Subtitle D: one foot of compacted clay overlain with a geomembrane, a drainage layer and two feet of vegetative soil.      Both systems are approved <input checked="" type="checkbox"/> Standard soil cover: two feet of compacted clay overlain with one foot of vegetative soil. (If your facility has both subtitle D and non-subtitle D areas, separate worksheets are advisable for these areas to avoid confusion.)					
4. Has an easement been granted to the Missouri Department of Natural Resources for access to and use of the borrow material for cap construction? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No					
5. What is the average round-trip distance from the landfill (or phase) to the borrow area? Round trip distance should be to the nearest ½ mile if less than five miles. If more than five miles, round trip distance should be to the nearest mile. If the department does not have an easement to the borrow area, the round trip haul distance is assumed to be 10 miles. <div>1                      miles</div>					
6. What is the approximate volume of soil remaining in the borrow area? 379,030 Clay (cubic yards) <div>136,200 Vegetative soil (cubic yards)</div>					
7. What is the approved gas control system design? <input checked="" type="checkbox"/> Active extraction system <input type="checkbox"/> Passive venting system <input type="checkbox"/> No gas control system      (see Note 1) If you have an active extraction system, check the appropriate box. <input checked="" type="checkbox"/> a. Required to control gas migration <input type="checkbox"/> b. Required under NSPS <input type="checkbox"/> c. Required by other agency (city, county, etc.) <input type="checkbox"/> d. Specified only by design engineer If you check box "d", is any part of the active gas system constructed at this time? <input type="checkbox"/> Yes <input type="checkbox"/> No    If yes, provide a general description of the portion(s) of the system installed.  Note: Owners of Subtitle D facilities must provide a closure financial assurance instrument for either an active extraction system or a passive venting system. You must provide a closure FAI for an active system only when you are: 1) Required to install the system by the department to control off-site gas migration, or 2) Required to install the system under the Federal New Source Performance Standards, or NSPS, or 3) Required to install the system by another regulatory agency (city, county, etc.). If you own a Subtitle D facility and meet any of the conditions, complete Form A. If you own a Subtitle D facility and do not meet any of these conditions, you are only required to provide a closure FAI for a passive venting system. Complete Form B if you own a non-Subtitle D facility (with a soil cap), you are not required to provide a closure FAI for a gas control system at all unless you also meet at least one of the above conditions. If you have installed any portion of an active gas control system, you must provide post-closure maintenance funds for the portion of the system constructed. Do this by checking the appropriate box on the post-closure cost worksheet and adding that amount to the total.					

8.	How many ground water monitoring wells do you have? 15 wells		
9.	List the primary and secondary wastewater treatment plants used for leachate disposal, and the cost of disposal. (Primary plant) \$ 0.004 per gallon (Secondary Plant) \$ per gallon. <input checked="" type="checkbox"/> Check if the facility discharges directly to a wastewater treatment plant. Little Blue Valley Sewer District, back calculated from Q2 2024\$ to Q2 2004\$		
10.	What is the estimated post-closure leachate generation rate and how was it derived? 340.0 (gal/acre/day) <input type="checkbox"/> HELP model <input checked="" type="checkbox"/> Other (please explain.) (see Note 2)		
<div>Notes: 1. The landfill gas collection and control system was approved by MDNR June 27, 2009. Construction of Phase 3 of the active gas collection and control system was complete in June 2019. 2. The leachate generation rate based on average monthly discharge. Leachate generation rate calculation: (850,000 gal/month) x (12 month/yr) x (1 yr/365 days) x (1/82 acres) = approximately 340 gal/ac/day (340 gal/ac/day) x (365 day/yr) = 124,100 gal/ac/yr 3. The landfill ceased accepting waste in April 2019. The final cover was officially approved on August 30, 2024. Pending approval of the official request for release of the closure funds, this estimate has been completed with zero closure costs.</div>			
OFFICIALLY CLOSED AREAS			
11.	If any areas of the landfill have been officially closed, list the following information.		
Area	North Section	consisting of 69.3 acres received official closure 8/30/2024 , 30	years post-closure.
Area	South Section	consisting of 11.9 acres received official closure 8/30/2024 , 30	years post-closure.
Area		consisting of acres received official closure ,	years post-closure.
Area		consisting of acres received official closure ,	years post-closure.
Area		consisting of acres received official closure ,	years post-closure.

**CLOSURE COSTS****Final Cover System**

Subtitle D (Composite cover)	acres x \$	per acre =	\$ 0.00
	(From Table One)		

Non – Subtitle D (soil cover)	acres x \$	per acre =	\$ 0.00
	(From Table One)		

**Gas Control System**

Active extraction system (Complete Form A and write the amount in the right column.)	\$	0.00
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Passive gas venting system (Complete Form B and write the amount in the right column.)	\$	0.00
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Note: Owners are not required to provide an FAI for an **active** gas system unless required to install the system for one of the reasons listed under section 7 of this worksheet. However, owners of Subtitle D landfills are required to provide an FAI for a **passive** gas system if they do not provide one for an active system.

**Other Critical Design Features**

Include total cost for construction of other critical design features. Attach separate sheet(s) for cost calculations.	\$
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<b>Total Closure Cost (sum of all lines) (2004 Dollars)</b>	<b>\$</b>
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**\* Inflation Update**

Adjust amount from 2004 dollars to present value.

Total closure cost 2004 dollars \$	x current Implicit Price Deflator *	/*Please contact the Solid Waste Management Program, 573-526-5401, for the current IPD
\$		

**POST-CLOSURE COSTS****Inseparable Annual Costs**

Annual landfill inspection and reporting			\$	1,000
Gas monitoring and reporting			\$	4,450
Annual groundwater sampling and analysis cost.	15	wells x 2,000 =	\$	30,000.00
Annual groundwater monitoring system maintenance and statistics cost.			\$	13,700
<input checked="" type="checkbox"/> Leachate system maintenance	\$3,100		\$	3,100.00
(Check if applicable and write this amount in the space provided.)				
<input checked="" type="checkbox"/> Leachate testing	\$2,250		\$	2,250.00
(Check if applicable and write this amount in the space provided.)				
<input checked="" type="checkbox"/> Active gas extraction system maintenance and utilities	\$17,600		\$	17,600.00
(Check if applicable and write this amount in the space provided.)				
<input type="checkbox"/> Passive gas system maintenance	\$1,600		\$	0.00
(Check if applicable and write this amount in the space provided.)				

**Separable Annual Costs**

Cap repair and maintenance	81.2	acres x \$278	=	\$ 22,573.60
		(From Table One)		
<input checked="" type="checkbox"/> Leachate treatment (check if applicable)	81.2	acres x \$0.004	x (Cost per gallon) 124,100	= \$ 40,307.68
			(Gal/Acre/Year)	
<input type="checkbox"/> Leachate hauling (check if applicable)		acres x	x \$0.05 =	\$ 0.00
			(Gal/Acre/Year)	

**Annual Costs for Other Critical Design Features**

Include total annual cost for maintenance of other critical design features. Attach separate sheet(s) for cost calculations. \$ 7,440.00 Active gas trench maintenance

**Total Annual Post- Closure Cost (2004 Dollars)**

\$142,421

**Adjust for Inflation**

x1.4572

Adjust Amount for 2004 dollars to present value

Annual closure cost 2004 Dollars \$ x current Implicit Price Deflator\*/\* Please contact the Solid Waste Management Program, 573-526-5401, for the current IPD = \$

Sum of all annual post – closure costs \$ 207,536.00  
(Reduction. On the sixth anniversary of receiving official closure, a facility can reduce the post-closure FAI by one year's worth of fund.)

**Total Post-Closure Cost**

Annual post-closure costs x 30 years \$ 6,226,080.00

# Sewer Rates 2024

Water Utilities Rate Information x +

cityofls.net/water-utilities/customer-service/rate-information

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How Do I...



Residential	7,001 to 15,000 gals	\$6.06
	> 15,001 gals	\$7.57
Commercial	All Usage	\$6.06

## Sewer Volume Rates

Monthly Quantity Charge  
Rate per 1,000 gallons

Customer Type	Consumption	Rate
Residential	Subject to Winter Sewer Average	\$6.54
Commercial	All Usage	\$6.54

## Hydrant Meter

Meter Size	Deposit	Rate
3/4"	\$200.00	\$5.00 per day + minimum 100 gallons per day @ commercial water rate
2"	\$200.00	\$10.00 per day + minimum 250 gallons per day @ commercial water rate

## Winter Sewer Average

The winter sewer average is calculated using the water usage shown on the January, February and March bills. Sewer billing for the remaining nine months is referred to as the summer sewer average. The summer sewer average is based on winter usage unless actual water usage is less than the average. In that case, customers will be billed for actual usage. New customers receive a default average of 6,500 gallons.

Example: If the average winter usage is 5,500 gallons for January, February and March; from April through December, the bill will be for 5,500 gallons for sewer unless actual usage is less than 5,500 gallons. If 15,500 gallons of water is used in July, the bill will be for 15,500 of water usage but only 5,500 gallons of sewer based on the winter average.

The sewer usage is averaged because a number of customers water quite extensively during the spring, summer and fall seasons. January, February and March are used to average accounts because it is a good estimate of how much water is really used and disposed into the sewer. Almost all usage is indoors and is being directed to the sewer system.

Back Calculate Leachate Cost			
2024 Q2 IPD=	124.984		
2004 Q2 IPD=	85.770		
	0.6862478397		
Rounded Number	0.6862		
2024\$ Leachate Cost	6.54	per 1,000 gallons	
2004\$ leachate cost	4.487748	per 1,000 gallons	
2004\$ leachate cost	0.004487748	per gallon	
Rounded value	0.004	per gallon	

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## Lee's Summit 2024 Post-Closure IPD Numbers

Solid Waste Facilities Financial / X +

dnr.mo.gov/waste-recycling/business-industry/financial-assurance-responsibilities/solid-waste-facilities-instruments

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assurance and liability requirements. This ensures there will be enough funds set aside to close the facility and monitor during any required post-closure period, if needed. These funds must be available until all closure, post-closure care and potential corrective action activities are complete and the department notifies the facility owner or operator that financial assurance is no longer required.

Financial assurance instruments (FAIs) are the actual mechanisms used to demonstrate the facility meets the financial assurance requirements. FAIs include securities such as cash, surety bonds, letters of credit, secured trust funds, etc. The FAI amount required to be provided depends on the location, size, design and type of facility. The department's **Permitted Solid Waste Facilities Financial Assurance Amounts** spreadsheet includes a list of permitted solid waste facilities that currently have FAIs, including the FAI amount.

Disposal Areas

Scrap Tire Processors

Annual Updates

Current IPD

FAI Forms

When calculating the annual inflationary update for FAIs, the owner/ operator will need to use the current Implicit Price Deflator (IPD). The U.S. Department of Commerce, Bureau of Economic Analysis publishes the IPD for the gross domestic product in the **National Income and Product Accounts Table 1.1.9**. The U.S. Department of Commerce revises the IPD for the gross domestic product monthly. This webpage will be updated following the new release.

Current Implicit Price Deflator\*

Quarter/Year	IPD
2nd Quarter 2024	124.984
2nd Quarter 2023	120.444
4th Quarter 2004	85.770

\*These numbers may be used through Sept. 26, 2024.

For yearly updates, divide the current year by the previous year. For cost estimate updates, divide the current year by the 2004 number.

Popular Links

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Division of Environmental Quality

P.O. Box 176

Jefferson City, MO 64102-0176

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10:37 AM  
9/11/2024

Active Gas Trench Maintenance  
City of Lee's Summit  
Lee's Summit RRP

	RATE	x	QUANTITY	UNIT	=	COST
<b>Task 1: Monthly Gas Trench Maintenance</b>						
<b>Personnel</b>						
Technician IV	\$ 70.00	x	4	hours	=	\$ 280.00
<b>Personnel Subtotal:</b>						<b>\$ 280.00</b>
<b>Expenses</b>						
Support Truck - Daily Rate	\$ 40.00	x	1	per day	=	\$ 40.00
Support Truck - Mileage	\$ 0.70	x	100	miles	=	\$ 70.00
Half Day Meal Allowance	\$ 12.00	x	1	per day	=	\$ 12.00
Gem 500	\$ 115.00	x	1	per day	=	\$ 115.00
Miscellaneous Tools	\$ 100.00	x	1	month	=	\$ 100.00
<b>Expenses Subtotal:</b>						<b>\$ 337.00</b>
<b>Task 1 Total:</b>						<b>\$ 620.00</b>
<b>Active Gas Trench Maintenance Total:</b>						<b>\$ 620.00</b>
<b>Active Gas Trench Annual Maintenance Total:</b>						<b>\$ 7,440.00</b>