

**2019 JRPS LANDFILL INSPECTION REPORT**

**CITY UTILITIES OF SPRINGFIELD, MISSOURI**

**PREPARATION DATE:**

**January 10, 2020**

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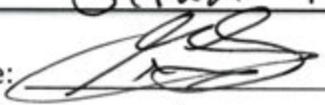
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## JRPS LANDFILL INSPECTION REPORT CERTIFICATION

Gerad Fox, Missouri Professional Engineer, License Number 2013019048, has prepared the 2019 JRPS Landfill Inspection Report herein as required 40 CFR Section 257.84.

Name: Gerad Fox

Signature: 

Date: 1/10/2020

Affix Seal Here:



## **1. WEEKLY LANDFILL INSPECTIONS REVIEW**

A City Utilities of Springfield MO (CU) qualified person performed weekly landfill visual inspections of the JRPS landfill each week in the year 2019. Inspections were completed using a Landfill Inspection Checklist prepared by CU. Inspection items include:

- Visible settlement or depressions
- Visible sign of structural weakness
- Proper function/maintenance of run-off system
- Condition present that may disrupt operation
- Surface water percolation minimized
- Adequate vegetation (Capped Areas)
- Visible erosion
- Transverse, longitudinal, or desiccation cracks
- Cap system maintained and operational (Capped Areas)
- Proper placement of waste (Uncapped Areas)
- Dust controlled
- Transverse, longitudinal, or desiccation cracks
- Visible depressions, bulges, sloughs, or slides
- Visible animal burrows
- Presence of leachate collection
- Visible sign of leachate leaving system

During this process each weekly Landfill Inspection Checklist was reviewed along with the corrective action(s) taken for each condition noted on the weekly Landfill Inspection Checklist. CU performed the weekly inspections at least every 7 days as required by the Coal Combustion Residual (CCR) rule. No major issues were reported on the weekly inspections. For the first four months of 2019 it was consistently noted on the inspection forms that minor visible erosion was present, however; due to wet conditions CU delayed correction of these to avoid causing further damage. Correction of the visible erosion was completed in April 2019. Overall the weekly landfill inspections and process appears to be functional and appropriate in ensuring the JRPS landfill is operating properly.

## **2. ANNUAL LANDFILL INSPECTION REVIEW**

On January 6, 2020 a CU qualified professional engineer performed an annual inspection on the JRPS Landfill. The inspection was completed using the Landfill Inspection Checklist – Annual form. The annual inspection checklist is attached to this report. Inspection items include:

- Visible settlement or depressions
- Visible sign of structural weakness
- Proper function/maintenance of run-off system

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- Condition present that may disrupt operation
- Surface water percolation minimized
- Adequate vegetation (Capped Areas)
- Visible erosion
- Transverse, longitudinal, or desiccation cracks
- Cap system maintained and operational (Capped Areas)
- Proper placement of waste (Uncapped Areas)
- Dust controlled
- Transverse, longitudinal, or desiccation cracks
- Visible depressions, bulges, sloughs, or slides
- Visible animal burrows
- Presence of leachate collection
- Visible sign of leachate leaving system
- Review of available operating records
- Review results of weekly inspections
- Review previous annual inspections
- Any visible sign of stress/malfunction of unit or structures
- Any visible changes in geometry
- Approx. volume of CCR in unit
- Liner system maintained and operational

The JRPS landfill appears to be in good working/operating condition. Results of the inspection checklist attached show no actual or potential structural weakness present in or around the JRPS landfill that will disrupt the operation and safety of the CCR unit. Since the last annual inspection, CU has maintained adequate vegetation on the temporary and final capped portions of the JRPS landfill. There are some areas on the west and southwest sides of the capped portion of the landfill that were reseeded in 2019 that have achieved the minimum 70% coverage however additional vegetation would be beneficial to prevent visible erosion. A work order has been generated to seed this area this spring to establish more growth. The water run-off system appears to be working properly in the capped areas with minimal ponding or visible signs of surface water. No fugitive dust was observed during the inspection. Upon inspection the leachate collection system is in good working condition at the time of the inspection. In May 2019 there was an electrical issue with the leachate pumps causing them to trip offline. Leachate continued to flow to the sanitary sewer system via the back-up gravity line until the leachate pump system was restored. The temporary cap that was completed in 2017 on the top of the JRPS landfill remains in place. On June 3, 2019 documentation was placed in the operating record that the remaining capacity will be utilized in the foreseeable future as part of City Utilities Initiation of Closure Extension demonstration. This project will be planned with City Utilities' budgetary and operational availability.

## 2019 JRPS Landfill Inspection Report

The landfill operating records were reviewed. The landfill operating record includes daily amount of ash hauled to the landfill as well as records of any maintenance activities including but not limited to; final cover placement, seeding and mowing, outfall water releases, soil cement application, and state inspection reports. As this landfill is temporarily closed, no ash was added to the landfill in 2019. It was also noted that in August 2019 the landfill permit modification had been approved. This landfill permit modification was a result of the static slope stability analysis that was completed by Anderson Engineering and submitted to MDNR on October 1, 2018. MDNR deemed the static slope stability analysis to be satisfactory and on June 3, 2019 an official permit modification request to approve the as-built slopes on JRPS landfill based on the slope stability study was submitted. CU received MDNR approval of the landfill permit modification on August 2, 2019.

As stated in the Weekly Inspection Report Review section of this report, the weekly landfill inspections were reviewed, verified and determined to be satisfactory.

The CCR rule states that any geometry changes since the last annual inspection and the previous annual inspections reports are to be reviewed as part of this report. No geometry changes have occurred since the 2018 Annual Inspection.

As part of this annual inspection, CU is required to estimate the amount of CCR within the JRPS landfill. CU performed a landfill survey in December 2018. The permitted capacity of the JRPS landfill is 1,859,987 cubic yards if all permitted landfill lifts are completed. At the time of the survey the JRPS landfill has approximately 1,552,000 cubic yards of CCR within the landfill leaving the remaining volume of approximately 308,000 cubic yards available for CCR placement.

In conclusion the JRPS landfill appears to be in good working condition with no unresolved major issues. CU continues to watch for visible erosion during heavy rainfall events and plans to remedy the situation as quickly and practicably possible. Additionally, CU will continue to look for and address any animal burrows that become active this spring. As stated above, I recommend reseeded the areas where vegetation is less established on the west and southeast sides of the landfill during the spring seeding season.

APPENDIX A  
(Annual Landfill Inspection Checklist)



**LANDFILL INSPECTION CHECKLIST-ANNUAL INSPECTION BY PROFESSIONAL ENGINEER**

The CCR landfill is visually examined by a licensed professional engineer as required by §257.84 and is recorded in the facility’s operating record as required by § 257.105.

ID: JRPS Landfill	Date Inspected: 1/6/2020	Inspector: Gerad Fox	
	<b>YES</b>	<b>NO</b>	<b>COMMENTS</b>
<b>CAPPED (INACTIVE)</b>			
A. Visual settlement or depressions?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
B. Visible sign of structural weakness?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
C. Proper function/maintenance of run-off system?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
D. Condition present that may disrupt operation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
E. Surface water percolation minimized?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
F. Adequate vegetation?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
G. Visible erosion?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
H. Transverse, longitudinal, or desiccation cracks?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
I. Cap system maintained and operational?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See Note Below
J. Visible animal burrows?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
<b>UNCAPPED (ACTIVE)</b>			
A. Visible settlement?	<input type="checkbox"/>	<input type="checkbox"/>	N/A-No portion of landfill is uncapped
B. Signs of structural weakness?	<input type="checkbox"/>	<input type="checkbox"/>	N/A-No portion of landfill is uncapped
C. Proper function/maintenance of run-off system?	<input type="checkbox"/>	<input type="checkbox"/>	N/A-No portion of landfill is uncapped
D. Condition present that may disrupt operation?	<input type="checkbox"/>	<input type="checkbox"/>	N/A-No portion of landfill is uncapped
E. Proper placement of waste?	<input type="checkbox"/>	<input type="checkbox"/>	N/A-No portion of landfill is uncapped
F. Surface water percolation minimized?	<input type="checkbox"/>	<input type="checkbox"/>	N/A-No portion of landfill is uncapped
G. Dust controlled?	<input type="checkbox"/>	<input type="checkbox"/>	N/A-No portion of landfill is uncapped
H. Visible erosion?	<input type="checkbox"/>	<input type="checkbox"/>	N/A-No portion of landfill is uncapped
I. Transverse, longitudinal, or desiccation cracks?	<input type="checkbox"/>	<input type="checkbox"/>	N/A-No portion of landfill is uncapped
J. Visible depressions, bulges, sloughs, or slides?	<input type="checkbox"/>	<input type="checkbox"/>	N/A-No portion of landfill is uncapped
K. Visible animal burrows?	<input type="checkbox"/>	<input type="checkbox"/>	N/A-No portion of landfill is uncapped
<b>LEACHATE COLLECTION</b>			
A. Presence of leachate collection?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
B. Visible sign of leachate leaving system?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

**LANDFILL INSPECTION CHECKLIST (continued)**

	YES	NO	COMMENTS
<b>ADDITIONAL ANNUAL INSPECTION ITEMS</b>			
A. Review of available operating records?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
B. Review results of weekly inspections?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
C. Review previous annual inspections?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
D. Any visible sign of stress/malfunction of unit or structures?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
E. Any visible changes in geometry?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
F. Approx. volume of CCR in unit? 1,552,000 CY			
G. Liner system maintained and operational?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

**ADDITIONAL COMMENTS:**

Note: A temporary cap system was completed in 2017 on the top of the JRPS landfill and it remains in place. On June 3, 2019, as required under 40 CFR Part 257.102(e)(2)(ii), City Utilities provided documentation to extend initiation of closure for another two years in the operating record. The demonstration documents that the remaining capacity will be utilized in the foreseeable future. Final closure will be planned with City Utilities' budgetary and operational availability.

Inspector Signature and Seal: