



Missouri Department of dnr.mo.gov

NATURAL RESOURCES

Michael L. Parson, Governor

Carol S. Comer, Director

January 13, 2020

Mr. Justin Barker, Project Manager
Superfund Division
United States Environmental Protection Agency, Region 7
11201 Renner Boulevard
Lenexa, Kansas 66219

RE: Review of Updated Remedial Design Work Plan, West Lake Landfill Operable Unit 2,
Inactive Landfill, Bridgeton Missouri, revised October 15, 2019

Dear Mr. Barker:

The Missouri Department of Natural Resources' (Department) Federal Facilities Section in coordination with the Department's Waste Management Program has reviewed the above referenced document revision and associated materials.

Thank you for giving us the opportunity to review and provide feedback on this material. If you have any questions or need further clarification, please contact me by phone at (573) 751-8628, or by written correspondence at P.O. Box 176, Jefferson City, MO 65102.

Sincerely,

ENVIRONMENTAL REMEDIATION PROGRAM

Ryan Seabaugh, P.E.
Federal Facilities Section

RS:rl

c: Ms. Christine Jump, Remedial Project Manager, EPA Region 7 (Email)
Mr. Tom Mahler, Remedial Project Manager, EPA Region 7 (Email)
Mr. Chris Nagel, Director, Waste Management Program (Email)

General Comments

1. During the course of our review it was apparent that a significant number of previous comments were either not addressed or were insufficiently addressed within the plan documents. Some, but not all examples are reflected in this comment letter.

Comment: Fully address all previous comments.

2. Citations are not written accurately, and some are misidentified.

Comment: Review and correct citations throughout the document.

3. To the extent that revisions and additions to the work plan necessitate more detail/revisions to the QAPP, FSP and other associated documents, they need to be incorporated into those documents.

Comment: Sufficiently incorporate work plan comments throughout other planning documents as needed.

Comments on the Remedial Design Work Plan West Lake Landfill Site Operable Unit 2 (OU-2) Bridgeton Missouri, October 15, 2019

4. Section 1.0 Introduction, page 1: *"As stated above, the Closed Demolition and Bridgeton Landfills will continue to be managed according to their respective permit requirements and should not be subject to further CERCLA action as outlined in the OU-2 ROD."* This statement is inconsistent with statements within the work plan attempting to encompass institutional and engineering controls for the deferred areas within the scope of work for the Inactive Sanitary Landfill remedy.

Comment: Replace "and should not be subject to further CERCLA action as outlined in the OU-2 ROD" with "unless such actions no longer meet the performance objectives of the ROD for protection of human health and the environment."

5. Section 2.2.1 Landfill Cap performance standards, page 5: *"The minimum sloping requirement of 5% shall be incorporated into the design"* The 2008 ROD determined that the 5% sloping requirement was "not appropriate," and therefore by definition not an ARAR. Language should acknowledge that it is not a requirement for this remedy, and explain why 5% slope is being selected for design.

Comment: Revise the language to acknowledge that it is not a requirement for this remedy, and evaluate slope selection for design.

6. Section 2.2.3 Surface Water Runoff Controls, page 6: *"These features will be designed to accommodate the 24-hour, 25-year storm as required by the MDNR Solid Waste Regulations (10 CSR 80-3.010(8)(B)1.F.(III))"* The statement substantially modifies the cited ARAR.

Comment: Insert "at least" after the word "accommodate."

7. Section 2.2.3 Surface Water Runoff Controls, page 6: *“The analysis method for determining stormwater run-on/run-off will use the Rational Method. Watershed areas and runoff coefficients will be determined.”*

Comment: Explain why the Rational Method is being utilized and include strengths and weaknesses compared to other methods in the RD.

8. Section 2.2.4 Landfill Gas Monitoring and Control, page 6: *“The MDNR Solid Waste Regulations (2004) [10 CSR 80-3.010(14)(C)(2)B.] state that decomposition gases...”* The citation is incorrect.

Comment: Correct the citation.

9. Section 2.2.4 Landfill Gas Monitoring and Control, page 6: *“A general overview of a GCCS design that would be anticipated is provided in Figure 2-1.”* The cited figure is a general detail of an individual gas collection well, and does not provide a general gas collection and control system that was requested.

Comment: Add additional information to provide a general overview of the landfill gas control system design, and explain how the gas control system could be sufficiently applied to a cap design that also prevents unwanted impacts to the underlying waste materials.

10. Section 2.2.5 Institutional Controls, page 7: *“The institutional controls apply for not only the Inactive Sanitary Landfill but for all of OU-2 as specified in the ROD.”* This statement does not appear to be consistent with the ROD and conflicts with other statements found in this submittal.

Comment: Delete.

11. Section 2.2.6 Monitoring and Maintenance, page 7: *“Monitoring and maintenance applies for not only the Inactive Sanitary Landfill but for all of OU-2 as specified in the ROD.”* This statement does not appear to be consistent with the ROD and conflicts with other statements found in this submittal.

Comment: Delete.

12. Section 4.0 Design Investigations, Item 4., Page 12: *“A slope stability analysis will be conducted in general accordance with 10 CSR 80-3 (17) E and F to better understand current site conditions and...”* The stated citation does not exist.

Comment: Correct the citation.

13. Section 4.0 Design Investigations, Item 7., page 13: *“If the aerial surveys do not provide appropriate and accurate information, up to three borings may be conducted to characterize the area.”* The degree in which it is appropriate is subjective, and it’s not clear how “accuracy” will be determined. An additional line of evidence should be developed to support “accuracy.”

Comment: Replace “up to” with “initially,” and replace “may” with “will.”

14. Section 4.0 Design Investigations, Item 8., page 13: Groundwater wells should be spaced sufficiently around the unit to establish baseline groundwater conditions entering and leaving the inactive landfill area. No explanation has been provided on justifying 8 samples, nor does it refer to timing of the samples.

Comment: Develop a groundwater performance monitoring plan sufficient to meet requirements and ARARs.

15. Section 5.0 Applicable or Relevant and Appropriate Requirements, all: Section 5.0 does not include portions of Table 6-1 nor adequately cover ARARs in general.

Comment: Adequately summarize and discuss all ARARs in this section.

16. Section 6.0 Conceptual Design and Design Criteria, page 18: *"Figure A-6 shows potential cover sampling locations."* Figure A-6 could not be found.

Comment: Include Figure A-6.

17. Section 6.1 Conceptual Design, page 18: *"The proposed cap (detailed on Appendix A Figure A-1) is consistent with the requirements outlined in the ROD."* Given that the cover has not yet been designed and interim steps are necessary to complete a remedial design that meets requirements and ARARs, it seems premature to state that any specific detail provided in the work plan meets requirements.

Comment: Delete.

18. Section 6.1 Conceptual Design, page 18: *"Those findings, as well as information and data for consideration of the effects of waste relocation, will be discussed with MDNR/USEPA."* The evaluation should be performed and included as part of the remedial design.

Comment: Incorporate geotechnical, slope stability, effects of waste relocation into the work plan as an evaluation comparing to requirements and ARARs, and delete the cited statement.

19. 6.2 Design Criteria, page 19: *"The design criteria to be used as a basis for the design of the remedy were identified based on the requirements of the ARARs presented in Section 5 and..."*

Comment: Include the ROD in the description of the basis for design.

20. Table 6-1 Design Basis and Design Criteria: Table 6-1 is inadequate.

Comment 20-1: Correct citations and revise the design criteria descriptions as follows:
Slope and slope stability

- 10 CSR 80-3.010 (17)(B) 3. Restricts final side slopes to 25% unless it has been demonstrated in a detailed slope stability analysis that the slopes can be constructed and maintained throughout the entire operational life and post-closure period of the landfill
- 10 CSR 80-3.010 (17)(B) 7. Requires the final slope for the top of the sanitary landfill to have a minimum slope of 5% , which has been identified in the ROD as not appropriate

- 10 CSR 80-3.010 (17)(B) 8. Requires a shear failure analysis where intermediate and final side slopes exceed 25%
- 10 CSR 80-3.010 (17)(C) 3. Prohibits final side slopes exceeding thirty-three and one-third percent
- 10 CSR 80-3.010 (17)(C) 5. Requires provisions for slope stability for installation of final cover systems.

Cover

- 10 CSR 80-3.010 (17)(C) 11. Requires the compacted clay portion to consist of soils classified under the Unified Soil Classification System as CH, CL, ML, SC or MH.

Decision for landfill gas system

- 10 CSR 80-3.010 (14) (B) 2. Plans to assess the need for gas control systems.
- 10 CSR 80-3.010 (14) (C) 4. Implementation of a methane monitoring program capable of detecting decomposition gas migration... to ensure that the standards of paragraph (14)(C)2. are met.
- 10 CSR 80-3.010 (14) Landfill gas monitoring and control.

Stormwater

- Replace 10 CSR 80-3(8)F. with 10 CSR 80-3.010(8)
- Add 10 CSR 20-6.200 – Cited in the ROD

Groundwater

- Add 10 CSR 80-3.010(8)

Other

- Add 40 CFR Part 141 – Cited in the ROD
- Add 10 CSR 60-4.010 – Cited in the ROD
- Add 10 CSR 80-3.010 (17) A. –Cited in the ROD
- Include intermediate and remedial action ARARs such as would be necessary for regrading or leachate and contact water management.
- Include OM&M ARARs and requirements such as 10 CSR 80-2.030 cited in the ROD
- Include ARARs and requirements relevant to Institutional and Engineering Controls on site such as 10 CSR 23-3.010 cited in the ROD
- Add air monitoring including 40 CFR 50 cited in the ROD
- NESHAP 40 CFR subpart T – Not in ROD, explain why this is included
- Sufficiently include ROD citations that affect design criteria such as minimum 2% slope.

Comment 20-2: Incorporate references and discussion as appropriate into Section 2.2 of the work plan and throughout all associated documents.

**Comments on the Remedial Design Environmental Quality Assurance Project Plan
West Lake Landfill Site Operable Unit 2 (OU-2)
Bridgeton Missouri, October 15, 2019**

General Comments:

21. Revisions in this document do not appear to satisfy a significant number of previous comments. Examples include comments 52, 57, and 69.

Comment: Revise the QAPP to satisfy all previous comments.

Specific Comments:

22. Section 1.2 Testing of Potential Borrow Areas, page 2: The Minimum Frequency column in the table appears to include a typo and the Test Requirement column does not reflect regulatory requirements. The laboratory methods discussed in this section are not linked with the corresponding ASTM methods listed in Section 8.0 as requested in the original comment.

Comment: Correct the table with appropriate testing frequencies and requirements per ARARs, and include ASTM methods for each of the laboratory methods.

23. Section 1.7 SLOPE STABILITY VERIFICATION ALONG WESTERN PORTION OF THE INACTIVE SANITARY LANDFILL, page 5: This section does not adequately describe how the evaluation is designed to meet ARARs or performance objectives.

Comment: Provide detail on how this proposed slope stability plan will meet ARARs and other performance objectives.

24. Section 1.8 SAMPLING AND ANALYSES OF SELECTED GROUNDWATER MONITORING WELLS, page 6: This section does not adequately describe how the selected wells and monitoring data will meet objectives and ARARs.

Comment: Provide detail on how this proposed groundwater monitoring plan will meet ARARs and other performance objectives.

25. Section 2.0 Data Quality Objectives:

Comment: Add discussion in this section to specifically include the types of analytical and geotechnical data that will be produced during the RD and how this specific data will be used in the design to help make or support decisions.

26. Section 5.5 EVALUATION OF STORMWATER CONVEYANCE AND LEACHATE PUMPING WELL STRUCTURES, page 14: Add collection and analysis of stormwater, leachate, and conveyance water sufficient to meet objectives, ARARs, and associated plans.

27. Section 5.7 SAMPLING AND ANALYSES OF SELECTED GROUNDWATER MONITORING WELLS, page 14: This section does not adequately describe how the selected wells and monitoring data will meet objectives and ARARs.

Comment: Provide detail on how this proposed groundwater monitoring plan will meet ARARs and other performance objectives.

**Comments on the Remedial Environmental Sampling and Analysis Plan
West Lake Landfill Site Operable Unit 2 (OU-2)
Bridgeton Missouri, October 15, 2019**

28. Response to Comment 77 – Section 6.0 Analysis of Existing Western Slope, page 6: The original comment requested to replace the phrase “a geotechnical sampling investigation may be implemented” with “a separate work plan will be developed for approval to implement a geotechnical sampling investigation”.

Comment: Revise the entire plan to satisfy all original comments, and all other new comments on associated documents.