REMEDIAL DESIGN

MODIFIED STATEMENT OF WORK

OPERABLE UNIT 1

WEST LAKE LANDFILL SUPERFUND SITE

City of Bridgeton, St. Louis County, State of Missouri

EPA Region 7

Modified July 2022

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1. INTRODUCTION

1.1 Purpose of the SOW. This Statement of Work (SOW) sets forth the procedures and requirements for implementing the Remedial Design (RD) work necessary to implement the remedy set forth in the Record of Decision Amendment, West Lake Landfill Site, Bridgeton, Missouri Operable Unit 1 or RODA, dated September 27, 2018.

1.2 Structure of the SOW

- Section 1 (Introduction)
- Section 2 (Community Involvement) sets forth EPA's and Respondents' responsibilities for community involvement.
- Section 3 (Remedial Design) sets forth the process for developing the RD, which includes the submission of specified primary deliverables.
- Section 4 (Reporting) sets forth Respondents' reporting obligations.
- Section 5 (Deliverables) describes the content of the supporting deliverables and the general requirements regarding Respondents' submission of, and EPA's review of, approval of, comment on, and/or modification of, the deliverables.
- Section 6 (Schedules) sets forth the schedule for submitting the primary deliverables, specifies the supporting deliverables that must accompany each primary deliverable, and sets forth the schedule of milestones regarding the completion of the Remedial Design, or RD.
- Section 7 (State Participation) addresses State participation.
- Section 8 (References) provides a list of references, including URLs.

1.3 The Scope of the Remedy for OU-1 is presented in the RODA and includes activities below.

(a) Excavation and stockpiling of overburden in OU-1 Radiological Areas 1 and 2 to access the RIM;

(b) Excavation of RIM from the Areas 1 and 2 of OU-1 that contains combined radium or combined thorium activities greater than 52.9 pCi/g that is located generally within 12 feet of the 2005 topographic surface. Optimization of RIM removal above and below the 12-foot target depth (excavation as deep as 20 feet or as shallow as 8 feet) will be performed during the remedial design (RD) based on criteria set forth in Section 12.0 of the ROD and summarized below:

(1) If RIM greater than 52.9 pCi/g occurs between 12 and 20 feet below the surface, then evaluate and excavate where necessary to achieve long-term effectiveness and permanence objective;

(2) The EPA places a priority on focusing the excavation on the higher activity occurrences of RIM. Therefore, the EPA expects the areas

between 12 and 16 feet will be excavated if they are greater than 1,000 pCi/g;

(3) The EPA also expects to focus the excavation in the areas between 16 to 20 feet on the higher activity occurrences of RIM (greater than 1,000 pCi/g) if it doesn't add significant excavation of non-RIM waste;

(4) Data show that isolated pockets of RIM between 8 and 12 feet only occur in a limited number of areas; and

(5) Not excavating isolated pockets of RIM between 8 and 12 feet will minimize the short-term impacts by reducing the volume of overburden and setback.

(c) Excavation of radiologically impacted soil from the Buffer Zone and/or Lot 2A2 sufficient to reduce concentrations of radionuclides to background in order to allow for unlimited use and unrestricted exposure (UU/UE);

(d) Loading and transport of the RIM and radiologically impacted soil for disposal at an off-site permitted disposal facility;

(e) Regrading of the remaining solid waste materials within Areas 1 and 2 to meet the minimum (5%) and maximum (25%) slope criteria, or other minimum slope if approved by EPA in the 100% Remedial Design;

(f) Installation of a landfill cover over Areas 1 and 2 designed to meet the Resource Conservation and Recovery Act (RCRA) hazardous waste design criteria, municipal waste landfill regulations, and Uranium Mill Tailings Radiation Control Act (UMTRCA) performance and longevity standards;

(g) Design, installation, and maintenance of surface water runoff controls;

(h) Groundwater monitoring;

(i) Landfill gas and radon monitoring and control, in accordance with applicable or relevant and appropriate requirements (ARARs);

(j) Institutional controls (ICs) to prevent land uses that are inconsistent with a closed landfill containing radiological materials; and

(k) Long-term surveillance and maintenance of the landfill cover in Areas 1 and 2 and other remedial components.

1.4 The terms used in this SOW that are defined in the Comprehensive Environmental Response, Compensation, and Liability Act, or CERCLA, in regulations promulgated under CERCLA, or in the Administrative Settlement Agreement and Order on Consent and any amendments (ASAOC), have the meanings assigned to them in CERCLA, in such regulations, or in the ASAOC, except that the term "Paragraph" or "¶" means a paragraph of the SOW, and the term "Section" means a section of the SOW, unless otherwise stated.

2. COMMUNITY INVOLVEMENT

2.1 Community Involvement Responsibilities

(a) EPA has the lead responsibility for developing and implementing community involvement activities at the Site. Previously, EPA developed a Community Involvement Plan (CIP) for the Site. Pursuant to 40 C.F.R. § 300.435(c), EPA shall review the existing CIP and determine whether it should be revised to describe further public involvement activities during the Work that are not already addressed or provided for in the existing CIP, including, if applicable, any Technical Assistance Grant (TAG), any use of the Technical Assistance Services for Communities (TASC) contract, and/or any Technical Assistance Plans (TAP).

(b) If requested by EPA, Respondents shall participate in community involvement activities, including participation in (1) the preparation of information regarding the Work for dissemination to the public, with consideration given to including mass media and/or Internet notification, and (2) public meetings that may be held or sponsored by EPA to explain activities at or relating to the Site. Respondents' support of EPA's community involvement activities may include providing online access to deliverables to (1) any Community Advisory Groups, (2) any Technical Assistance Grant recipients and their advisors, and (3) other entities to provide them with a reasonable opportunity for review and comment. EPA may describe in its CIP Respondents' responsibilities for community involvement activities. All community involvement activities conducted by Respondents at EPA's request are subject to EPA's oversight. Upon EPA's request, Respondents shall establish a community information repository.

(c) **Respondents' CI Coordinator**. If requested by EPA, Respondents shall, within 30 days, designate and notify EPA of Respondents' Community Involvement Coordinator (Respondents' CI Coordinator). Respondents may hire a contractor for this purpose. Respondents' notice must include the name, title, and qualifications of the Respondents' CI Coordinator. Respondents' CI Coordinator is responsible for providing support regarding EPA's community involvement activities, including coordinating with EPA's CI Coordinator regarding responses to the public's inquiries about the Site.

3. REMEDIAL DESIGN

3.1 RD Work Plan. Respondents shall submit a Remedial Design Work Plan (RDWP) for EPA approval. The RDWP must include:

(a) Identification and description of all plans necessary for implementing all RD activities identified in this SOW, in the RDWP, or required by EPA to be conducted to develop the RD;

(b) A description of the overall management strategy for performing the RD, including a proposal for phasing of design and outline considerations for phasing of construction, if applicable;

(c) A description of the potential considerations for guiding the general approach(es) to contracting, construction, operation, maintenance, and monitoring of the Remedial Action (RA) as necessary to implement the Work;

(d) Preliminary RD Schedule;

(e) A description of the qualifications, responsibility and authority of all organizations and key personnel involved with the development of the RD;

(f) Descriptions of any areas of the remedy requiring clarification and/or anticipated problems (e.g., areas where additional information is necessary);

(g) Preliminary description of additional data needed to complete the RD, any evaluation of alternative models for estimating the extent of RIM, any proposed design investigation and recommended timing for the performance of the investigation activities;

(h) Descriptions of any applicable permitting requirements and other regulatory requirements;

(i) Description of plans for obtaining access in connection with the Work, such as property acquisition, property leases, and/or easements; and

(j) List of all supporting deliverables, and a schedule for submittal of each draft deliverable. The list should include any plans necessary for planning, designing, implementing, and monitoring the remedy in the RODA, including those described in ¶ 5.7.

3.2 **Design Criteria Report.** Respondents shall submit a Design Criteria Report (DCR) for EPA approval that defines in detail the technical parameters upon which the design will be based, as described in the *Remedial Design/Remedial Action Handbook*, EPA 540/R-95/059 (June 1995). The DCR will be submitted with the RDWP in accordance with the schedule in ¶ 6.2

3.3 Respondents shall meet with EPA to discuss design issues as directed or determined by EPA.

3.4 **Preliminary Excavation Plan.** Respondents shall submit a Preliminary Excavation Plan and drawings based on the December 21, 2017, 3D Extent of RIM Report, or alternative model as approved by EPA, for EPA comment and approval in accordance with the schedule in ¶ 6.2. The Preliminary Excavation Plan must also include the information below:

(a) An evaluation of location of RIM >52.9 pCi/g originally derived from the data and geostatistical model in the December 21, 2017, 3D Extent of RIM Report, or an alternative model as approved by EPA, for the purpose of selecting additional boring locations for the investigation;

(b) Identification of and evaluation of the optimized excavation locations including;

(1) Isolated pockets between 8 and 12 feet that, if excavated, would require excavation of large volumes of non-RIM waste as overburden and setback;

(2) Higher concentrations of RIM >12 feet and <20 feet to be excavated in order to remove the activity represented by RIM greater than 52.9 pCi/g between the surface and 16 feet;

(c) Preliminary estimates of the radioactivity and volume of RIM to be excavated;

(d) A preliminary estimate of the volume of all other waste that must be excavated to access the RIM;

3.5 Preliminary (30%) RD. Respondents shall submit a Preliminary (30%) RD for EPA's comment in accordance with the schedule in ¶ 6.2. The Preliminary (30%) RD must include:

(a) The approved Design Criteria Report as described in Section 3.2 above and submitted in accordance with the schedule in ¶ 6.2;

(b) A Basis of Design Report, as described in the *Remedial Design/Remedial Action Handbook*, EPA 540/R-95/059 (June 1995), including evaluation of field screening procedures;

(c) The Preliminary Excavation Plan as described in Section 3.4 above and approved by EPA;

(d) Preliminary drawings and specifications;

(e) Identification and descriptions of applicable permits and requirements;

(f) Descriptions of how the design will meet applicable or relevant and appropriate requirements (ARARs) identified in the RODA

(g) A description of how the RA will be implemented in a manner that minimizes environmental impacts in accordance with EPA's *Principles for Greener Cleanups* (Aug. 2009);

(h) A description of monitoring and control measures to be used to protect human health and the environment, such as storm water management, air monitoring and dust suppression, during the RA; and

(i) Preliminary construction schedule

(j) Updates of the supporting deliverables submitted prior to the preliminary (30%) design along with the Loading, Transportation and Off-Site Disposal Plan as described in ¶ 5.7 to be submitted in accordance with the schedule in ¶ 6.2.

3.6 **Design Investigation**. The purpose of the Design Investigation (DI) is to collect additional information necessary to design and implement the RODA remedy by conducting additional field investigations.

(a) **DI Work Plan**. Respondents shall submit a DI Work Plan (DIWP) for EPA approval after receipt of EPA approval of the Preliminary Excavation Plan described in ¶ 3.4 above and in accordance with the schedule in ¶ 6.2. The DIWP must include:

(1) An evaluation and summary of existing data and description of additional data needs including;

(i) Extent of RIM on the Buffer Zone and Lot 2A2 of the Crossroads Industrial Park;

(ii) Additional background characterization to determine statistically valid background concentrations for the Buffer Zone and Lot 2A2;

(iii) Boundary confirmation OU-1/OU-2;

(iv) The extent of historical impacts, if any, in drainage areas and northwest, or NW, surface water body; and

(v) Additional characterization to support the proposed preliminary excavation, including the proposed optimized excavation locations, presented in the preliminary excavation plan described in ¶ 3.4 above.

(2) A field sampling plan as described in ¶ 5.7(d), and submitted in accordance with the schedule in ¶ 6.2, including media to be sampled, contaminants or parameters for which sampling will be conducted, sample locations (including boring locations and sample depths), and number of samples;

(3) Cross references to quality assurance/quality control (QA/QC) requirements set forth in the Quality Assurance Project Plan (QAPP) as described in ¶ 5.7(e) and submitted in accordance with the schedule in ¶ 6.2;

(4) A Data Management Plan as described in ¶ 5.7(g) and in accordance with the schedule in ¶ 6.2; and

(5) A Health and Safety Plan as described in ¶ 5.7(a) and in accordance with the schedule in ¶ 6.2

(b) Meeting or meetings with EPA and the state during the Field Investigation work to determine whether the preliminary data or field screening indicate additional sample collection is warranted.

(c) **DI Evaluation Report**. Following the DI, Respondents shall submit a DI Evaluation Report for EPA comment and approval in accordance with the schedule in ¶ 6.2. This report must include:

(1) Summary of the investigations performed;

(2) Summary of investigation results;

(3) Summary of validated data (i.e., tables and graphics);

(4) Data validation reports and laboratory data reports;

(5) Narrative interpretation of data and results;

(6) Explanation for and depiction of the extent of RIM greater than 7.9 pCi/g based on the design investigation data;

(7) Explanation for and depiction of the extent of RIM greater than 52.9 pCi/g in areas which may not be included in work performed in Section 3.7, Geostatistical Modeling, below;

(8) Photographs documenting the work conducted; and

(9) Conclusions and recommendations for the RD, including the excavation plan and cover design.

(d) EPA may require Respondents to supplement the DI Evaluation Report and/or to perform additional design studies.

3.7 Geostatistical Modeling. The purpose of the Geostatistical Modeling (GM) is to develop estimates of the extent of RIM greater than 52.9 pCi/g combined radium and thorium and of the radioactivity in OU-1, except for areas identified in Section 3.6 (c)7 above in order to design the remedy as described in the RODA.

(a) **Estimate of Extent of RIM**. Respondents shall submit an Estimate of Extent of RIM Technical Memorandum based on geostatistical modeling. The Estimate of Extent of RIM Technical Memorandum will be submitted for EPA comment in accordance with the schedule in Section 6.2 of this document. The Estimate of Extent of RIM Technical Memorandum must include:

(1) Maps or figures representing the estimated spatial extent of RIM > 52.9 pCi/g at depths down to 20 feet below the 2005 ground surface. At a minimum, the spatial extent of RIM must be depicted for depths intervals of 0 to 8 feet, 8 to 12 feet, 12 to 16 feet and 16 to 20 feet (all measured below the 2005 ground surface).

(2) Volume of RIM calculations for the estimated spatial extent of RIM > 52.9 pCi/g at depths down to 20 feet below the 2005 ground surface.

Volumes will be calculated for depth intervals of 0 to 8 feet, 8 to 12 feet, 12 to 16 feet (all measured below the 2005 ground surface). Additional volume estimates will be made at depths from 16 to 20 feet where needed to define the optimization as defined in Section 3.8 (b) below.

(3) A 3-dimensional representation of the estimated RIM >52.9 pCi/g within 20 feet of the 2005 ground surface.

(4) Maps or figures depicting a comparison of the modeled Estimate of Extent of RIM to the Design Investigation (DI) data and Pre-DI data.

(b) **Estimate of Radioactivity.** Respondents shall submit an Estimate of Radioactivity Technical Memorandum based on geostatistical modeling which will be used for optimizing the excavation in accordance with the Section 12.2.2 of the September 27, 2018 ROD Amendment. The Estimate of Radioactivity Technical Memorandum will be submitted for EPA comment in accordance with the schedule in Section 6.2 of this document. The Estimate of Radioactivity Technical Memorandum must include:

(1) Estimates of radioactivity > 52.9 pCi/g at depths down to 20 feet below the 2005 ground surface. At a minimum, radioactivity estimates will be calculated for depth intervals from 0 to 8 feet, 8 to 12 feet, 12 to 16 feet, (based on the 2005 ground surface). Additional estimates of radioactivity will be made at depths from 16 to 20 feet where needed to define the optimization as defined in Section 3.8 (b) below.

(2) Maps or figures representing the estimated extent of radioactivity > 52.9 pCi/g at depths down to 20 feet below the 2005 ground surface. The extent must be depicted for depth intervals of 0 to 8 feet, 8 to 12 feet, 12 to 16 feet and 16 to 20 feet (all measured below the 2005 ground surface).

(3) Estimates of extent and activities in areas greater than 1,000 pCi/g located between 12 and 20 feet below the 2005 ground surface.

3.8 Revised Excavation Plan. Respondents will submit a revised excavation plan and drawings based on the investigation presented in the DI Evaluation Report and the results of the Geostatistical Modeling, including:

(a) Depiction of the Estimate of Extent of RIM > 52.9 pCi/g proposed to be excavated.

(b) Estimates of Radioactivity necessary to demonstrate the excavation has been optimized in accordance with the RODA.

(c) Final design-level delineation and supporting evaluation of the optimized excavation locations considering such factors as;

(1) Isolated pockets between 8 and 12 feet that, if excavated, would require excavation of large volumes of non-RIM waste as overburden and setback;

(2) Higher concentrations of RIM >12 feet and <20 feet to be excavated in order to remove the activity represented by RIM greater than 52.9 pCi/g between the surface and 16 feet;

(d) Final calculations of the volume of RIM to be excavated;

(e) Final estimated volume of all other waste to be excavated as part of the RIM removal;

(f) Final Indicator Kriging Model Report and Final Activity Kriging Model Report, summarizing model methodologies along with the supporting documentation.

3.9 Confirmation Sampling and Analysis Plan. Respondents shall submit a Confirmation Sampling and Analysis Plan which will include actions necessary to confirm the final boundaries of the RIM excavation in Operable Unit 1. The plan shall take into consideration that confirmation sampling will be conducted within survey units no larger than 2,000 square meters. The plan will be submitted in accordance with the schedule in 6.2. This plan shall include:

(a) A Field Sampling Plan. The Field Sampling Plan will include media to be sampled; contaminants or parameters for which sampling will be conducted; sample locations, depth, and number of samples; and type of drilling or sampling equipment that will be used.

(b) A Quality Assurance Project Plan (QAPP), as described in Section 5.7 (e), either as an addendum to the existing approved QAPP or a separate one prepared for this effort. The QAPP will specify data quality objectives for the sampling, quality assurance requirements that must be met for the sampling, and descriptions of corrective actions to be taken if data does not meet the QA/QC requirements.

(c) An Implementation Plan. The Implementation Plan will include a description of the process for and criteria to be used in the decision to modify the RIM excavation boundaries based upon the data collected during confirmation sampling. The Implementation Plan will also provide the overall sequence and estimated durations of the activities described in the plan.

3.10 Pre-Final (90%) RD. Respondents shall submit the Pre-Final (90%) RD for EPA's comment in accordance with the schedule in ¶ 6.2 The Pre-Final (90%) RD must be a continuation and expansion of the Preliminary (30%) RD and address EPA's comments regarding the Preliminary (30%) RD. The Pre-Final (90%) RD must include:

(a) An approved excavation plan based on the design investigation and geostatistical modeling discussed in ¶ 3.8 above;

(b) Pre-final, updated versions of the same elements required for the Preliminary (30%) RD, updated versions of all supplemental documents previously submitted and the supplemental documents listed below as described in ¶ 5.7 that address all EPA comments, including:

(1) Construction Quality Assurance/Quality Control Plan (CQAP/CQCP) as discussed in ¶ 5.7(h) and submitted in accordance with the schedule in ¶ 6.2

(2) ICIAP as discussed in ¶ 5.7(m) and submitted in accordance with the schedule in ¶ 6.2

(3) O&M Plan as discussed in ¶ 5.7(k) and submitted in accordance with the schedule in ¶ 6.2

(4) O&M Manual as discussed in ¶ 5.7(l) submitted in accordance with the schedule in ¶ 6.2

(c) A complete draft set of construction drawings and specifications that are intended to be: (1) ready for certification by a registered professional engineer; (2) suitable for procurement; and (3) follow the most recent Construction Specifications Institute's Master Format (See https://www.csiresources.org/home);

(d) A survey and engineering drawings showing existing Site features, such as property boundaries, easements, and Site conditions;

(e) A specification for photographic documentation of the RA;

3.11 Final (100%) RD. Respondents shall submit the draft Final (100%) RD for EPA review in accordance with the schedule in ¶ 6.2. Respondents shall submit the Final (100%) RD for EPA approval that addresses EPA's comments on the Pre-final RD and must include draft final versions of all RD deliverables. Once all the modifications and revisions to the draft Final (100%) RD have been accepted by EPA, the Final (100%) Design must include the respondent's certification of the Design, including all drawings and specifications, by a Missouri registered professional engineer for formal approval by EPA.

3.12 Emergency Response and Reporting

(a) **Emergency Response and Reporting**. If any event occurs during performance of the Work that causes or threatens to cause a release of Waste Material on, at, or from the Site and that either constitutes an emergency situation or that may present an immediate threat to public health or welfare or the environment, Respondents shall: (1) immediately take all appropriate action to prevent, abate, or minimize the release or threat of release; (2) immediately notify the authorized EPA officer (as specified in ¶ 3.12 (c)) orally; and (3) take such actions in consultation with the authorized EPA officer and in accordance with all

applicable provisions of the Health and Safety Plan, the Emergency Response Plan, and any other deliverable approved by EPA under the SOW.

(b) **Release Reporting**. Upon the occurrence of any event during performance of the Work that Respondents are required to report pursuant to Section 103 of CERCLA, 42 U.S.C. § 9603, or Section 304 of the Emergency Planning and Community Right-to-know Act (EPCRA), 42 U.S.C. § 11004, Respondents shall immediately notify the authorized EPA officer orally.

(c) The "authorized EPA officer" for purposes of immediate oral notifications and consultations under ¶ 3.12(a) and ¶ 3.12(b) is the EPA Project Coordinator, the EPA Alternate Project Coordinator (if the EPA Project Coordinator is unavailable), or the EPA Region 7 Emergency Response Line (if neither EPA Project Coordinator is available).

(d) For any event covered by ¶ 3.12 (a) and ¶ 3.12 (b), Respondents shall: (1) within 14 days after the onset of such event, submit a report to EPA describing the actions or events that occurred and the measures taken, and to be taken, in response thereto; and (2) within 30 days after the conclusion of such event, submit a report to EPA describing all actions taken in response to such event.

(e) The reporting requirements under ¶ 3.12 are in addition to the reporting required by CERCLA § 103 or EPCRA § 304.

3.13 Off-Site Shipments

(a) Respondents may ship hazardous substances, pollutants, and contaminants from the Site to an off-Site facility only if they comply with Section 121(d)(3) of CERCLA, 42 U.S.C. § 9621(d)(3), and 40 C.F.R. § 300.440. Respondents will be deemed to be in compliance with CERCLA § 121(d)(3) and 40 C.F.R. § 300.440 regarding a shipment if Respondents obtain a prior determination from EPA that the proposed receiving facility for such shipment is acceptable under the criteria of 40 C.F.R. § 300.440(b).

(b) Respondents may ship Waste Material from the Site to an out-of-state waste management facility only if, prior to any shipment, they provide notice to the appropriate state environmental official in the receiving facility's state and to the EPA Project Coordinator. This notice requirement will not apply to any off-Site shipments when the total quantity of all such shipments does not exceed 10 cubic yards provided that these Waste Materials do not include RIM. The notice must include the following information, if available: (1) the name and location of the receiving facility; (2) the type and quantity of Waste Material to be shipped; (3) the schedule for the shipment; and (4) the method of transportation. Respondents also shall notify the state environmental official referenced above and the EPA Project Coordinator of any major changes in the shipment plan, such as a decision to ship the Waste Material to a different out-of-state facility. Respondents shall

provide the notice as soon as practicable after the award of the contract and before the Waste Material is shipped.

(c) Respondents may ship Investigation Derived Waste (IDW) from the Site to an off-Site facility only if they comply with Section 121(d)(3) of CERCLA, 42 U.S.C. § 9621(d)(3), 40 C.F.R. § 300.440, *EPA's Guide to Management of Investigation Derived Waste*, OSWER 9345.3-03FS (Jan. 1992), and any IDW-specific requirements contained in the RODA. Wastes shipped off-Site to a laboratory for characterization, and RCRA hazardous wastes that meet the requirements for an exemption from RCRA under 40 CFR § 261.4(e) shipped off site for treatability studies, are not subject to 40 C.F.R. § 300.440.

3.14 Notice of Work Completion

(a) When EPA determines, after EPA's review of the Final (100%) RD under ¶ 3.14(c) that all Work has been fully performed in accordance with this Settlement, with the exception of any continuing obligations as provided in ¶ 3.1414(c)., EPA will provide written notice to Respondents. If EPA determines that any such Work has not been completed in accordance with this Settlement, EPA will notify Respondents, provide a list of the deficiencies, and require that Respondents modify the RDWP if appropriate in order to correct such deficiencies.

(b) Respondents shall implement the modified and approved RDWP and shall submit a modified Final (100%) RD for EPA approval in accordance with the EPA notice. If approved, EPA will issue the Notice of Work Completion.

(c) Issuance of the Notice of Work Completion does not affect the following continuing obligations: (1) obligations under Sections [X**V**] (Access), [**XIII**] (Progress Reports), and [**XVIII**] (Record Preservation) of the ASAOC; (2) any actions required in this scope of work to monitor for or prevent the potential for releases of site-related contaminants until the final remedy is implemented; and (3) reimbursement of EPA's Future Response Costs under Section [**XXII**] (Reimbursement of Response and Oversight Costs) of the ASAOC.

4. REPORTING

4.1 Progress Reports. Respondents shall submit progress reports to EPA and the State on a monthly basis, or as otherwise requested by EPA, from the date of receipt of EPA's approval of the RD Work Plan until issuance of Notice of Work Completion pursuant to ¶ 3.12 unless otherwise directed in writing by EPA's Project Coordinator. The reports must cover all activities that took place during the monthly reporting period, including:

(a) The actions that have been taken toward achieving compliance with the ASAOC;

(b) A summary of all results of sampling, tests, and all other data received or generated by Respondents;

(c) A description of all deliverables that Respondents submitted to EPA;

(d) A description of all activities scheduled for the next month;

(e) A description of anticipated coordination meetings for the next month including number of meetings and topics/documents;

(f) Information regarding percentage of completion, unresolved delays encountered or anticipated that may affect the future schedule for implementation of the Work, and a description of efforts made to mitigate those delays or anticipated delays;

(g) A description of any modifications to the work plans or other schedules that Respondents have proposed or that have been approved by EPA; and

(h) A description of all activities undertaken in support of the CIP during the reporting period and those to be undertaken in the next month.

4.2 Notice of Progress Report Schedule Changes. If the schedule for any activity described in the Progress Reports changes, including activities required to be described under ¶ 4.1(d), Respondents shall notify EPA of such change at least 7 days before performance of the activity.

5. DELIVERABLES

5.1 Applicability. Respondents shall submit deliverables for EPA approval or for EPA comment as specified in the SOW and approved RDWP. If neither is specified, the deliverable does not require EPA's approval or comment. Paragraphs 5.2 (In Writing) through 5.4 (Technical Specifications) apply to all deliverables. Paragraph 5.5 (Certification) applies to any deliverable that is required to be certified. Paragraph 5.6 (Approval of Deliverables) applies to any deliverable that is required to be submitted for EPA approval.

5.2 In Writing. All deliverables under this SOW must be in writing unless otherwise specified.

5.3 General Requirements for Deliverables.

(a) Except as otherwise provided in this ASAOC, Respondents shall direct all deliverables required by this ASAOC to the EPA Project Coordinator at:

Christine Jump
Project Manager
U.S. Environmental Protection Agency
Region 7 - SUPR/REMB

11201 Renner Boulevard
Lenexa, Kansas 66219
913-551-7141
jump.chris@epa.gov

(b) All deliverables provided to the State in accordance with ¶ 7 (State Participation) shall be directed to:

Ryan Seabaugh
Federal Facilities Section
Environmental Remediation Program
Missouri Department of Natural Resources
P.O. Box 176
Jefferson City, MO 65102
573-751-8628
ryan.seabaugh@dnr.mo.gov

(c) All deliverables must be submitted by the deadlines in the RD Schedule in ¶ **6.2**, as applicable. Respondents shall submit all deliverables to EPA and State in electronic format. Technical specifications for sampling and monitoring data and spatial data are addressed in ¶ 5.4. All other deliverables shall be submitted to EPA in the electronic format specified by the EPA Project Coordinator. If any deliverable includes maps, drawings, or other exhibits that are larger than 11" by 17", Respondents shall also provide EPA and State with paper copies of such exhibits.

5.4 Technical Specifications

(a) Sampling and monitoring data should be submitted in an Electronic Data Deliverable (EDD) format in accordance with the approved Data Management Plan and QAPP. Other delivery methods may be allowed if approved by EPA.

(b) Spatial data, including spatially-referenced data and geospatial data, should be submitted: (1) in accordance with the R7 Geospatial Data Deliverables Standard Operating Procedure (SOP 2341.01A); and (2) as unprojected geographic coordinates in decimal degree format using North American Datum 1983 (NAD83) or World Geodetic System 1984 (WGS84) as the datum. If applicable, submissions should include the collection method(s). Projected coordinates may optionally be included but must be documented. Spatial data should be accompanied by metadata, and such metadata should be compliant with the Federal Geographic Data Committee (FGDC) Content Standard for Digital Geospatial Metadata and its EPA profile, the EPA Geospatial Metadata Technical Specification. An add-on metadata editor for ESRI software, the EPA Metadata Editor (EME), complies with these FGDC and EPA metadata requirements and is available at https://www.epa.gov/geospatial/epa-metadata-editor.

(c) Each file must include an attribute name for each site unit or sub-unit submitted. Consult https://www.epa.gov/geospatial/geospatial-policies-and-standards for any further available guidance on attribute identification and naming.

(d) Spatial data submitted by Respondents does not, and is not intended to, define the boundaries of the Site.

5.5 Certification. All deliverables that require compliance with this ¶ 5.5 must be signed by the Respondents' Project Coordinator, or other responsible official of Respondents, and must contain the following statement:

I certify under penalty of law that this document and all attachments 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. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I have no personal knowledge that the information submitted is other than true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

5.6 Approval of Deliverables

(a) **Initial Submissions**

(1) After review of any deliverable that is required to be submitted for EPA approval under the ASAOC or the SOW, EPA shall: (i) approve, in whole or in part, the submission; (ii) approve the submission upon specified conditions; (iii) disapprove, in whole or in part, the submission; or (iv) any combination of the foregoing.

(2) EPA also may modify the initial submission to cure deficiencies in the submission if: (i) EPA determines that disapproving the submission and awaiting a resubmission would cause substantial disruption to the Work; or (ii) previous submission(s) have been disapproved due to material defects and the deficiencies in the initial submission under consideration indicate a bad faith lack of effort to submit an acceptable deliverable.

(b) **Resubmissions**. Upon receipt of a notice of disapproval under ¶ 5.6(a) (Initial Submissions), or if required by a notice of approval upon specified conditions under ¶ 5.6(a), Respondents shall, within 30 days or such longer time as specified by EPA in such notice, correct the deficiencies and resubmit the deliverable for approval. After review of the resubmitted deliverable, EPA may: (1) approve, in whole or in part, the resubmission; (2) approve the resubmission upon specified conditions; (3) modify the resubmission; (4) disapprove, in whole or in part, the resubmission, requiring Respondents to correct the deficiencies; or (5) any combination of the foregoing.

(c) **Implementation**. Upon approval, approval upon conditions, or modification by EPA under ¶ 5.6(a) (Initial Submissions) or ¶ 5.6(b) (Resubmissions), of any deliverable, or any portion thereof: (1) such deliverable, or portion thereof, will be incorporated into and enforceable under the ASAOC; and (2) Respondents shall take any action required by such deliverable, or portion thereof. The implementation of any non-deficient portion of a deliverable submitted or resubmitted under ¶ 5.6(a) or ¶ 5.6(b) does not relieve Respondents of any liability for stipulated penalties under Section [**XX**] (Stipulated Penalties) of the ASAOC, as amended.

5.7 Supporting Deliverables. Respondents shall submit each of the following supporting deliverables for EPA approval, except as specifically provided. Respondents shall develop the deliverables in accordance with all applicable regulations, guidance, and policies (see Section 8 (References)). Respondents shall update each of these supporting deliverables as necessary or appropriate during the course of the Work, and/or as requested by EPA. The supporting deliverables listed below will be submitted in accordance with the schedule included in ¶ 6.2.

(a) **Health and Safety Plan**. The Health and Safety Plan (HASP) describes all activities to be performed to protect on site personnel and area residents from physical, chemical, and all other hazards posed by the Work. Respondents shall develop the HASP in accordance with EPA's Emergency Responder Health and Safety and Occupational Safety and Health Administration (OSHA) requirements under 29 C.F.R. §§ 1910 and 1926. The HASP should cover RD activities and should be, as appropriate, updated to cover activities during the Design Investigation and the RA and updated to cover activities after RA completion. EPA does not approve the HASP but will review it to ensure that all necessary elements are included and that the plan provides for the protection of human health.

(b) **Emergency Response Plan**. The Emergency Response Plan (ERP) must describe site-specific procedures to be used in the event of an accident or emergency at the Site (for example, a fire, water impoundment failure, treatment plant failure, slope failure, etc.). The ERP can build upon existing emergency or incident response planning documents and must, at a minimum, include the following:

(1) Description and contact information for personnel responsible (primary and alternate) for notifications and response elements of the plan, as well as individuals with the authority to commit resources;

(2) Plan and date(s) for meeting(s) with the local community, including local, State, and federal agencies involved in the cleanup, as well as local emergency squads and hospitals;

(3) Spill Prevention, Control, and Countermeasures (SPCC) Plan (if applicable), consistent with the regulations under 40 C.F.R. Part 112,

describing measures to prevent, and contingency plans for, spills and discharges;

(4) Notification activities in accordance with ¶ 3.12(b)**.** (Release Reporting) in the event of a release of hazardous substances requiring reporting under Section 103 of CERCLA, 42 U.S.C. § 9603, or Section 304 of the Emergency Planning and Community Right-to-know Act (EPCRA), 42 U.S.C. § 11004;

(5) Identification of when and how notifications will be made to local emergency responders as well as to the regulatory agencies, including EPA, MDNR, and the Missouri Department of Health and Senior Services (MDHSS), including a notification checklist to be used in the event of an emergency;

(6) Description of appropriate training for any and all potential emergency responders on requirements and implementation of this ERP, and;

(7) A description of all necessary actions to ensure compliance with ¶ 3.12 (Emergency Response and Reporting) in the event of an occurrence during the performance of the Work that causes or threatens a release of Waste Material from the Site that constitutes an emergency or may present an immediate threat to public health or welfare or the environment.

(c) **Site Management Plan.** The site management plan details security provisions and pollution prevention measures to be taken during the RD/RA. Components of the Site Management Plan include:

(1) Methods for controlling access to the site;

(2) Methods for monitoring site conditions during RD/RA;

(3) Description of environmental monitoring to be performed during the RD activities, including items 1 through 6 in ¶ 5.7 (f);

(4) Pollution Control and Mitigation Plan, including demonstration of effectiveness of existing controls for storm water and air media;

(5) Secure waste management, staging or disposal practices; and

(6) Site Management responsibilities.

(d) **Field Sampling Plan**. The Field Sampling Plan (FSP) addresses all sample collection activities. The FSP must be written so that a field sampling team unfamiliar with the project would be able to gather the samples and field information required. Respondents shall develop the FSP in accordance with

Guidance for Conducting Remedial Investigations and Feasibility Studies, EPA/540/G 89/004 (Oct. 1988).

(e) **Quality Assurance Project Plan**. The Quality Assurance Project Plan (QAPP) augments the FSP and addresses sample analysis and data handling regarding the Work. The QAPP must include a detailed explanation of Respondents' quality assurance, quality control, and chain of custody procedures for all treatability, design, compliance, and monitoring samples. Respondents shall develop the QAPP in accordance with *EPA Requirements for Quality Assurance Project Plans*, QA/R-5, EPA/240/B-01/003 (Mar. 2001, reissued May 2006); *Guidance for Quality Assurance Project Plans*, QA/G-5, EPA/240/R 02/009 (Dec. 2002); and *Uniform Federal Policy for Quality Assurance Project Plans*, Parts 1-3, EPA/505/B-04/900A though 900C (Mar. 2005). The QAPP also must include procedures:

(1) To ensure that EPA and their authorized representatives have reasonable access to laboratories used by Respondents in implementing the ASAOC (Respondents' Labs);

(2) To ensure that Respondents' Labs analyze all samples submitted by EPA pursuant to the QAPP for quality assurance monitoring;

(3) To ensure that Respondents' Labs perform all analyses using EPA-accepted methods (i.e., the methods documented in *USEPA Contract Laboratory Program Statement of Work for Inorganic Analysis*, ILM05.4 (Dec. 2006); *USEPA Contract Laboratory Program Statement of Work for Organic Analysis*, SOM01.2 (amended Apr. 2007); and *USEPA Contract Laboratory Program Statement of Work for Inorganic Superfund Methods (Multi-Media, Multi-Concentration)*, ISM01.2 (Jan. 2010)) or other methods acceptable to EPA;

(4) To ensure that Respondents' Labs participate in an EPA-accepted QA/QC program or other program QA/QC acceptable to EPA;

(5) For Respondents to provide EPA with notice at least 28 days prior to any sample collection activity;

(6) For Respondents to provide split samples and/or duplicate samples to EPA upon request;

(7) For EPA to take any additional samples that it deems necessary;

(8) For EPA to provide to Respondents, upon request, split samples and/or duplicate samples in connection with EPA's oversight sampling; and

(9) For Respondents to submit to EPA all sampling and tests results and other data in connection with the implementation of the ASAOC.

(f) **Site Wide Monitoring Plan**. The purpose of the Site Wide Monitoring Plan (SWMP) is to describe the environmental monitoring that will be required during the performance of the RA; to obtain baseline information regarding the extent of contamination in affected media at the Site; to obtain information, through short- and long- term monitoring, about the movement of and changes in contamination throughout the Site, before, during, and after implementation of the RA; to obtain information regarding contamination levels to determine whether the remedial action objectives are achieved; and to obtain information to determine whether to perform additional actions, including further Site monitoring. The SWMP must include:

(1) Description of each of the environmental media to be monitored and the objectives of that monitoring[1];

(2) Description of the data collection parameters, including existing and proposed monitoring devices and locations, schedule and frequency of all monitoring, analytical parameters to be monitored, and analytical methods employed;

(3) Description of how performance data will be analyzed, interpreted, and reported, and/or other Site-related requirements;

(4) Description of verification sampling procedures;

(5) Description of deliverables that will be generated in connection with monitoring, including sampling schedules, laboratory records, monitoring reports, and monthly and annual reports to EPA and State agencies; and

(6) Description of proposed additional monitoring and data collection actions (such as increases in frequency of monitoring, and/or installation of additional monitoring devices in the affected areas) in the event that results from monitoring devices indicate changed conditions (such as higher than expected concentrations or movement of the contaminants of concern).

(g) **Data Management Plan.** The purpose of the Data Management Plan or DMP is to describe the site-wide approach to the collected data, including:

(1) The types of data being collected;

[1] A groundwater monitoring program will be developed in the RD. The groundwater monitoring program will provide data to evaluate the performance of the OU-1 Amended Remedy and to demonstrate that the engineered cover functions as intended and minimizes the potential for precipitation or surface water to infiltrate the waste materials. Development of a site-wide groundwater monitoring plan is currently envisioned to be conducted as part of the OU-3 RI/FS, and will consider the details of the groundwater monitoring developed in the OU-1 RD.

(2) The tools being used to collect, store, manage, and display the data;

(3) The requirements for data documentation, deliverables and presentation;

(4) Descriptions of how the data will be used (i.e. standardized reports, GIS viewers, Models);

(5) Description of Roles and Responsibilities for individuals and organizations responsible for reporting and managing the data;

(6) A flowchart of data transmission and data functions;

(7) Description of the technical resource requirements; and

(8) Site specific procedures/checklists/SOP

(h) **Construction Quality Assurance/Quality Control Plan (CQAP/CQCP)**. The purpose of the Construction Quality Assurance Plan (CQAP) is to describe planned and systemic activities that provide confidence that the RA construction will satisfy all plans, specifications, and related requirements, including data and construction quality objectives. The purpose of the Construction Quality Control Plan (CQCP) is to describe the activities and data used to verify that RA construction has satisfied all plans, specifications, and related requirements, including quality objectives. The CQAP/CQCP must:

(1) Identify, and describe the responsibilities of, the organizations and personnel implementing the CQAP/CQCP;

(2) Describe the PS required to be met to achieve Completion of the RA;

(3) Describe the activities to be performed: (i) to provide confidence that PS will be met; and (ii) to determine whether PS have been met;

(4) Describe verification activities, such as inspections, sampling, testing, monitoring, and production controls, under the CQAP/CQCP;

(5) Describe industry standards and technical specifications used in implementing the CQAP/CQCP;

(6) Describe procedures for tracking construction deficiencies from identification through corrective action;

(7) Describe procedures for documenting all CQAP/CQCP activities; and

(8) Describe procedures for retention of documents and for final storage of documents.

(i) **Loading, Transportation and Off-Site Disposal Plan**. The Loading, Transportation and Off-Site Disposal Plan (LTODP) describes plans to ensure

compliance with ¶ 3.13 (Off-Site Shipments). The LTODP will include procedures for identifying the following items with final requirements to be provided in the Pre-Final (90%) and Final (100%) Design and proof that requirements are met to be provided during the Remedial Action as part of the selection of a transportation and disposal subcontractor, subject to USEPA approval:

(1) Name and location of disposal facility or facilities

(2) If radioactive waste from the site is anticipated to be disposed of in a cell that does not have an NRC license or an equivalent license from an NRC Agreement State, the LTODP shall define the process and requirements to:

(i) ensure the facility is designed and operated to accept the waste while protecting human health and the environment.

(ii) ensure that the community surrounding the disposal facility is informed and provided the opportunity to comment.

(3) Description of RIM or other waste loading and transfer techniques for shipping;

(4) Description of shipping method(s) and containers;

(5) Location and description of loading facility;

(6) Anticipated routes for off-site shipment of Waste Material;

(7) Identification of communities that may be affected, if any, by shipment of Waste Material; and

(8) Description of preliminary plans to minimize impacts, if any, on affected communities.

(j) **Wildlife Hazard Mitigation Plan**. The wildlife hazard mitigation plan (WHMP) shall describe the actions that will be taken to satisfy the FAA's and City of St. Louis's requirements with regard to wildlife hazard management prior to and during the investigation and excavation of waste material. EPA does not approve the WHMP. The WHMP should include, at a minimum the following:

(1) Description of preliminary wildlife studies determined to be necessary

(2) Description of coordination activities with other entities, such as the City of St. Louis, the FAA, the USDA and EPA;

(3) Description of actions and techniques used to mitigate wildlife hazards, including control measures, if necessary, to address potential increase in wildlife populations;

(4) Identification of resources necessary to implement the plan;

(5) Designation of personnel responsible for implementing, coordinating, and overseeing the procedures;

(6) Description of required training or certifications for designated personnel;

(7) Description of weekly, and monthly reports of wildlife populations when putrescible waste is exposed;

(8) Description of contingency plans; and

(9) Any other requirements identified by the FAA or St. Louis Lambert International Airport

(k) **Operation & Maintenance Plan**. The Operation & Maintenance Plan (O&M Plan) describes the requirements for inspecting, operating, maintaining and monitoring the RA. Respondents shall develop the O&M Plan in accordance with *Guidance for Management of Superfund Remedies in Post Construction*, OLEM 9200.3-105 (Feb. 2017). The O&M Plan must include the following additional requirements:

(1) Description of PS required to be met to implement the ROD;

(2) Description of activities to be performed: (i) to provide confidence that PS will be met; and (ii) to determine whether PS have been met;

(3) O&M Reporting. Description of records and reports that will be generated during O&M, such as daily operating logs, laboratory records, records of operating costs, reports regarding emergencies, personnel and maintenance records, monitoring reports, and monthly and annual reports to EPA and State agencies;

(4) Description of corrective action in case of systems failure, including: (i) alternative procedures to prevent the release or threatened release of Waste Material which may endanger public health and the environment or may cause a failure to achieve PS; (ii) analysis of vulnerability and additional resource requirements should a failure occur; (iii) notification and reporting requirements should O&M systems fail or be in danger of imminent failure; and (iv) community notification requirements; and

(5) Description of corrective action to be implemented in the event that PS are not achieved; and a schedule for implementing these corrective actions.

(l) **O&M Manual**. The O&M Manual serves as a guide to the purpose and function of the equipment and systems that make up the remedy. Respondents shall develop the O&M Manual in accordance with *Guidance for Management of Superfund Remedies in Post Construction*, OLEM 9200.3-105 (Feb. 2017).

(m) **Institutional Controls Implementation and Assurance Plan**. The Institutional Controls Implementation and Assurance Plan (ICIAP) describes plans to implement, maintain, and enforce the Institutional Controls (ICs) at the Site. Respondents shall develop the ICIAP in accordance with *Institutional Controls: A Guide to Planning, Implementing, Maintaining, and Enforcing Institutional Controls at Contaminated Sites*, OSWER 9355.0-89, EPA/540/R-09/001 (Dec. 2012), and *Institutional Controls: A Guide to Preparing Institutional Controls Implementation and Assurance Plans at Contaminated Sites*, OSWER 9200.0-77, EPA/540/R-09/02 (Dec. 2012). The ICIAP must include the following additional requirements:

(1) Locations of recorded real property interests (e.g., easements, liens) and resource interests in the property that may affect ICs (e.g., surface, mineral, and water rights) including accurate mapping and geographic information system (GIS) coordinates of such interests; and

(2) Legal descriptions and survey maps that are prepared according to current American Land Title Association (ALTA).

(n) Any other plans required to meet ARARs or necessary for planning, designing, implementing, and monitoring the remedy identified in the RODA.

6. SCHEDULES

6.1 Applicability and Revisions. All deliverables and tasks required under this SOW must be submitted or completed by the deadlines or within the time durations listed in the RD Schedule set forth below. Respondents may submit a proposed revised RD Schedule for EPA approval. Upon EPA's approval, the revised RD Schedule supersedes the RD Schedules set forth below, and any previously-approved RD Schedules.

6.2	**Description of Deliverable, Task**	**¶ Ref.**	**Deadline**
1	RDWP	3.1	Within 90 days of the Effective Date of the Third Amendment to the OU-1 RI/FS ASAOC
2	Design Criteria Report	3.2	Within 90 days of the Effective Date of the Third Amendment to the OU-1 RI/FS ASAOC
3	Emergency Response Plan	5.7 (b)	Within 60 days of the Effective Date of the Third Amendment to the OU-1 RI/FS ASAOC
4	Site Management Plan	5.7 (c)	Within 60 days of the Effective Date of the Third Amendment to the OU-1 RI/FS ASAOC
5	Preliminary Excavation Plan	3.4	Within 45 days of EPA approval of the RDWP and DCR
6	Preliminary (30%) RD	3.5	Within 60 days of EPA approval on Preliminary Excavation Plan
7	LTODP	5.7 (i)	Within 60 days of EPA approval on Preliminary Excavation Plan
8	Design Investigation Workplan	3.6 (a)	Within 45 days of EPA approval on the Preliminary Excavation Plan
9	Field Sampling Plan	5.7 (d)	Within 45 days of EPA approval on the Preliminary Excavation Plan
10	Quality Assurance Project Plan	5.7 (e)	Within 45 days of EPA approval on the Preliminary Excavation Plan
11	Health and Safety Plan	5.7 (a)	Within 45 days of EPA approval on the Preliminary Excavation Plan
12	Data Management Plan	5.7 (g)	Within 45 days of EPA approval on the Preliminary Excavation Plan
13	Wildlife Hazard Mitigation Plan	5.7 (j)	Within 90 days of EPA approval of Design Investigation Workplan
14	Site Wide Monitoring Plan	5.7 (f)	Within 90 days of EPA approval of the Design Investigation Work Plan
15	Design Investigation Evaluation Report	3.3(b)	Within 60 days of receipt of all validated data packages for the Design Investigation or within 120 days of completion of the Design Investigation fieldwork, whichever comes first.
16	Estimate of Extent of RIM Technical Memorandum	3.7(a)	On or before December 9, 2022

17	Estimate of Radioactivity Technical Memorandum	3.7(b)	On or before May 26, 2023 or 120 days after receipt of EPA comments on the Estimate of Extent of RIM Technical Memorandum, whichever is later.
18	Revised Excavation Plan	3.8	Within 30 days of receipt of EPA comments on the Estimate of Radioactivity Technical Memorandum
19	Confirmation Sampling and Analysis Plan	3.9	Within 30 days of submittal of the Revised Excavation Plan to EPA.
20	CQAP/CQCP	5.7 (h)	Within 75 days of EPA approval of Revised Excavation Plan
21	O&M Plan	5.7 (k)	Within 75 days of EPA approval of Revised Excavation Plan
22	O&M Manual	5.7 (l)	Within 75 days of EPA approval of Revised Excavation Plan
23	ICIAP	5.7 (m)	Within 75 days of EPA approval of Revised Excavation plan
24	Pre-final (90%) RD	3.10	Within 75 days of EPA approval of the revised excavation plan
25	Final (100%) RD	3.11	Within 75 days of EPA comments on the Pre-Final (90%) plan
26	PE Sealed Final (100%) RD	3.12	Within 30 days of EPA acceptance of Final (100%) RD

7. STATE PARTICIPATION

7.1 **Copies**. Respondents shall, at any time they send any deliverable or supporting information to EPA, send a copy of such submittal to the State. EPA shall, at any time it sends a notice, authorization, approval, disapproval, or certification to Respondents, send a copy of such document to the State.

7.2 **Review and Comment**. The State will have a reasonable opportunity for review and comment prior to:

(a) Any EPA approval or disapproval under ¶ 5.6 (Approval of Deliverables) of any deliverables that are required to be submitted for EPA approval; and

(b) Any disapproval of, or Notice of Work Completion under, ¶ 3.13 (Notice of Work Completion).

8. REFERENCES

8.1 The following regulations and guidance documents, among others, apply to the Work. Any item for which a specific URL is not provided below is available on one of the two EPA Web pages listed in ¶ 8.2:

(a) A Compendium of Superfund Field Operations Methods, OSWER 9355.0-14, EPA/540/P-87/001a (Aug. 1987).

(b) CERCLA Compliance with Other Laws Manual, Part I: Interim Final, OSWER 9234.1-01, EPA/540/G-89/006 (Aug. 1988).

(c) Guidance for Conducting Remedial Investigations and Feasibility Studies, OSWER 9355.3-01, EPA/540/G-89/004 (Oct. 1988).

(d) CERCLA Compliance with Other Laws Manual, Part II, OSWER 9234.1-02, EPA/540/G-89/009 (Aug. 1989).

(e) Guidance on EPA Oversight of Remedial Designs and Remedial Actions Performed by Potentially Responsible Parties, OSWER 9355.5-01, EPA/540/G-90/001 (Apr.1990).

(f) Guidance on Expediting Remedial Design and Remedial Actions, OSWER 9355.5-02, EPA/540/G-90/006 (Aug. 1990).

(g) Guide to Management of Investigation-Derived Wastes, OSWER 9345.3-03FS (Jan. 1992).

(h) Permits and Permit Equivalency Processes for CERCLA On-Site Response Actions, OSWER 9355.7-03 (Feb. 1992).

(i) National Oil and Hazardous Substances Pollution Contingency Plan; Final Rule, 40 C.F.R. Part 300 (Oct. 1994).

(j) Guidance for Scoping the Remedial Design, OSWER 9355.0-43, EPA/540/R-95/025 (Mar. 1995).

(k) Remedial Design/Remedial Action Handbook, OSWER 9355.0-04B, EPA/540/R-95/059 (June 1995).

(l) EPA Guidance for Data Quality Assessment, Practical Methods for Data Analysis, QA/G-9, EPA/600/R-96/084 (July 2000).

(m) Comprehensive Five-year Review Guidance, OSWER 9355.7-03B-P, 540-R-01-007 (June 2001).

(n) Guidance for Quality Assurance Project Plans, QA/G-5, EPA/240/R-02/009 (Dec. 2002).

(o) Institutional Controls: Third Party Beneficiary Rights in Proprietary Controls (Apr. 2004).

(p) Quality management systems for environmental information and technology programs -- Requirements with guidance for use, ASQ/ANSI E4:2014 (American Society for Quality, February 2014).

(q) Uniform Federal Policy for Quality Assurance Project Plans, Parts 1-3, EPA/505/B-04/900A though 900C (Mar. 2005).

(r) Superfund Community Involvement Handbook, SEMS 100000070 (January 2016), https://www.epa.gov/superfund/community-involvement-tools-and-resources.

(s) EPA Guidance on Systematic Planning Using the Data Quality Objectives Process, QA/G-4, EPA/240/B-06/001 (Feb. 2006).

(t) EPA Requirements for Quality Assurance Project Plans, QA/R-5, EPA/240/B-01/003 (Mar. 2001, reissued May 2006).

(u) EPA Requirements for Quality Management Plans, QA/R-2, EPA/240/B-01/002 (Mar. 2001, reissued May 2006).

(v) USEPA Contract Laboratory Program Statement of Work for Inorganic Analysis, ILM05.4 (Dec. 2006).

(w) USEPA Contract Laboratory Program Statement of Work for Organic Analysis, SOM01.2 (amended Apr. 2007).

(x) EPA National Geospatial Data Policy, CIO Policy Transmittal 05-002 (Aug. 2008), https://www.epa.gov/geospatial/geospatial-policies-and-standards and https://www.epa.gov/geospatial/epa-national-geospatial-data-policy.

(y) Summary of Key Existing EPA CERCLA Policies for Groundwater Restoration, OSWER 9283.1-33 (June 2009).

(z) Principles for Greener Cleanups (Aug. 2009), https://www.epa.gov/greenercleanups/epa-principles-greener-cleanups.

(aa) USEPA Contract Laboratory Program Statement of Work for Inorganic Superfund Methods (Multi-Media, Multi-Concentration), ISM01.2 (Jan. 2010).

(bb) Close Out Procedures for National Priorities List Sites, OSWER 9320.2-22 (May 2011).

(cc) Groundwater Road Map: Recommended Process for Restoring Contaminated Groundwater at Superfund Sites, OSWER 9283.1-34 (July 2011).

(dd) Recommended Evaluation of Institutional Controls: Supplement to the "Comprehensive Five-Year Review Guidance," OSWER 9355.7-18 (Sep. 2011).

(ee) Construction Specifications Institute's Master Format **(current edition)**, available from https://www.csiresources.org/home.

(ff) Updated Superfund Response and Settlement Approach for Sites Using the Superfund Alternative Approach, OSWER 9200.2-125 (Sep. 2012)

(gg) Institutional Controls: A Guide to Planning, Implementing, Maintaining, and Enforcing Institutional Controls at Contaminated Sites, OSWER 9355.0-89, EPA/540/R-09/001 (Dec. 2012).

(hh) Institutional Controls: A Guide to Preparing Institutional Controls Implementation and Assurance Plans at Contaminated Sites, OSWER 9200.0-77, EPA/540/R-09/02 (Dec. 2012).

(ii) EPA's Emergency Responder Health and Safety Manual, OSWER 9285.3-12 (July 2005 and updates), https://www.epaosc.org/_HealthSafetyManual/manual-index.htm.

(jj) Broader Application of Remedial Design and Remedial Action Pilot Project Lessons Learned, OSWER 9200.2-129 (Feb. 2013).

(kk) Guidance for Evaluating Completion of Groundwater Restoration Remedial Actions, OSWER 9355.0-129 (Nov. 2013).

(ll) Groundwater Remedy Completion Strategy: Moving Forward with the End in Mind, OSWER 9200.2-144 (May 2014).

(mm) Guidance for Management of Superfund Remedies in Post Construction, OLEM 9200.3-105 (Feb. 2017), https://www.epa.gov/superfund/superfund-post-construction-completion.

(nn) Radiation Risk Assessment at CERCLA Sites: Q & A, OSWER 9200.4-40, EPA540-R-012-13

(oo) Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM) August 2000, EPA 402-R-97-016

(pp) Multi-Agency Radiation Survey and Assessment of Materials and Equipment (MARSAME), January 2009, 402-R-09-001

(qq) The Multi-Agency Radiological Laboratory Analytical Protocols Manual (MARLAP), July 2004, EPA 402-B-04-001A

8.2 A more complete list may be found on the following EPA Web pages:

Laws, Policy, and Guidance: https://www.epa.gov/superfund/superfund-policy-guidance-and-laws

Test Methods Collections: https://www.epa.gov/measurements/collection-methods

8.3 For any regulation or guidance referenced in the ASAOC or SOW, the reference will be read to include any subsequent modification, amendment, or replacement of such regulation or guidance. Such modifications, amendments, or replacements apply to the Work only after Respondents receive notification from EPA of the modification, amendment, or replacement.