REVISION 0

INTERIM LAND USE CONTROL AND INSPECTION PLAN FOR THE ST. LOUIS DOWNTOWN SITE

ST. LOUIS, MISSOURI

NOVEMBER 6, 2024

U.S. Army Corps of Engineers
St. Louis District Office
Formerly Utilized Sites Remedial Action Program

REVISION 0

INTERIM LAND USE CONTROL AND INSPECTION PLAN FOR THE ST. LOUIS DOWNTOWN SITE

ST. LOUIS, MISSOURI

NOVEMBER 6, 2024

prepared by
U.S. Army Corps of Engineers St. Louis District
Formerly Utilized Sites Remedial Action Program

with assistance from
Leidos, Inc.
under Contract No. W912P923C0012

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF APPENDICES

LIST OF ACRONYMS AND ABBREVIATIONS

COC	contaminant of concern
EMDAR	Environmental Monitoring Data and Analysis Report
FUSRAP	Formerly Utilized Sites Remedial Action Program
LUC	land use control
ROD	record of decision
ROE	right-of-entry
RG	remediation goal
SLDS	St. Louis Downtown Site
SOR_N	net sum of ratios (unitless)
USACE	U.S. Army Corps of Engineers

UNIT ABBREVIATIONS

Both English and metric units are used in this report. The units used in a specific situation are based on common unit usage or regulatory language (e.g., depths are given in feet, and areas are given in square meters). Units included in the following list are not defined at first use in this report.

cm	centimeter(s)
m	meter(s)
m^2	square meter(s)

THIS PAGE INTENTIONALLY LEFT BLANK

1.0 PURPOSE

The purpose of this plan is to provide an interim land use control (LUC) that meets the objectives identified in the following bulleted list until the selected remedy from the *Record of Decision for the St. Louis Downtown Site* (ROD) (USACE 1998) can be completed.

- Assure the protection of the public health and the environment,
- Eliminate or minimize mobility of contaminated soil,
- Advocate for leaving contaminated soil undisturbed at the St. Louis Downtown Site (SLDS). The term "contaminated" refers to the presence of contaminants of concern (COCs) that, at the time of inspection, are assumed to exceed the ROD remediation goals (RGs), necessitating future remedial action,
- Advocate for involving the U.S. Army Corps of Engineers (USACE) in property owner plans that affect such soil, and
- Monitor such soil for evidence of disturbance.

This plan is not an enforcement tool to be used on parcel owners and users; rather, this plan is intended to provide guidance for property owners and users. The term "parcel" refers to an area of land with unique ownership as defined by the St. Louis City Assessor. In addition, some land areas (e.g., most of the roadways) are not assigned a parcel identifier but are treated as parcels for the purpose of this plan. This plan does not repeat general information (e.g., descriptions of site history and the selected remedy) presented in the ROD. For such information, please refer to the ROD.

2.0 SELECTION OF INTERIM LAND USE CONTROL

The radiological COCs applicable to soil at the SLDS are actinium-227, lead-210, protactinium-231, radium-226, radium-228, thorium-228, thorium-230, thorium-232, uranium-234, uranium-235, and uranium-238. Based on the relative proportions of these radionuclides in contaminated soil, alpha and beta radioactivity predominates the decay emissions. Because alpha and beta radioactivity are easily shielded by thin layers of materials or a layer of air 3 cm thick for alpha radioactivity and 1 m thick for beta radioactivity, inhalation and ingestion of contaminated soil are pathways of concern. Thus, the interim LUC targets controlling the pathways of inhalation and ingestion. These pathways become viable with disturbance of the soil but are not viable with the soil in its current configuration. The interim LUC is based on keeping the soil undisturbed to the maximum extent practicable.

3.0 INTERIM LAND USE CONTROL IMPLEMENTATION

Following identification of contaminated soil on an owner's parcel, the USACE will author a letter to the owner of the identified parcel. The letter will include a figure showing the area, advise that the area should remain undisturbed, and request notification of the USACE if plans to disturb the soil (e.g., to build or demolish a structure) are being made. Each parcel's status will be confirmed prior to mailing these letters. Letters will be sent annually to maintain the situational awareness with the owner; advise them of changes, such as remediation or additional evaluation demonstrating that the RGs are met; and notify them that documentation is being prepared that allows the property to be used without restrictions (or, in the rare case, with restrictions). Copies of letters sent to parcel owners will be maintained as part of the permanent file.

An active list of all parcels at the SLDS that have been identified as having contaminated soil will be developed and updated whenever new sample results indicate contaminated soil. The USACE will request that each owner of these parcels grant right-of-entry (ROE) to the USACE and its contractors and maintain renewal of the ROE until remediation is complete. Properties that do not have a current ROE may be inspected from an adjacent public property or property with a current ROE if the area of interest can be adequately evaluated. Parcels where remediation is complete will be removed from the list. The inspections will not include areas of contamination on Mallinckrodt LLC property.

The USACE and/or its contractors will perform inspections of parcels with contaminated soil prior to remediation to confirm the soil remains undisturbed. Parcels undergoing remediation will not be inspected. Scheduling of these inspections will meet the following requirements:

- A current ROE existing for the parcel that requires physical access to perform the inspection;
- USACE staff participating in no less than 90 percent of the in-person inspections each quarter;
- Inspections occurring at least quarterly; and
- Photograph(s) of the area with contaminated soil being taken during the in-person inspection of the property. Soil disturbances that are not within the area of contaminated soil should be noted in the comments or remarks sections but not photographed out of respect for privacy.

The field team consisting of two or more individuals from the USACE and/or Leidos staff will carry the current ROEs for properties being visited that day in case questions arise with owners or managers at a property. The following courtesy will be extended by the USACE inspector, or lead contractor inspector, to on-site personnel or managers before inspecting the area of contaminated soil.

- For a business, the field team will check in at the central office (if applicable) and notify the contact of the inspection. The discussion should remind the contact of the ROE for the inspection being performed that day.
- The USACE inspector, or lead contractor inspector if a USACE inspector is not available, may use judgment on conditions where the notification would not be of benefit (e.g., a street or location where the access to the required area is remote [e.g., City Property (DT-2)] from the central office).

4.0 RECORDKEEPING

Appendix A contains a blank inspection form for use in recording the results of inspections. Completed copies of this form may be combined into a logbook. Equivalent forms may be reproduced on a digital tablet for completion consistent with USACE consent.

- Blocks 1 and 3 of the form are designed to be completed prior to the inspection because that information will not be available in the field.
    - The “FUSRAP property #” is the identifier designated by the Formerly Utilized Sites Remedial Action Program (e.g., vicinity property [DT-2] or DT-9).

  - The "basis for identification of soil being contaminated" is intended to include the following:
    - The identifiers of stations with net sum of ratios (SOR_N) values exceeding 1 that do not meet 100-m^2 average value on the subject property,
    - A description of the area where multiple stations with an SOR_N exceeding 1 exist rather than listing each existing station, or
    - A reference to the property with the preceding condition where the estimated extent of contamination continues beyond the boundary of the property with the preceding condition.
  - The size of the area, vertical depth, and timing of planned remediation represent estimates that may change as more information is gathered and planning occurs.
  - The map of the area of contamination should be at a scale that includes identifiable features, such as buildings, railroad tracks, and adjacent roadways, to provide a clear understanding of the general location.
- Block 2 is designed to be completed during the inspection.
- The "Comments" section is for documenting relevant information that is not captured in Blocks 1 through 3.
- Block 4 contains a limited amount of repeated information from Sheet 1 to provide context for the photograph(s) and remarks in Block 5. Photographs of areas with contaminated soil are added following return to the office and remarks are added to bring any necessary attention to features on the photographs.
- Appendix A contains Sheets 1 through 4, but the actual number of sheets used on a property could be as few as two or as many as needed.
- The inspection form will be completed and reviewed as soon as practicable, but no later than 7 working days from the inspection.
- The verification contractor will annually compile these electronic files and deliver them to the USACE for the permanent file, using the same schedule as the annual Environmental Monitoring Data and Analysis Reports (EMDARs).

If an inspection identifies soil disturbance at areas with contaminated soil, the USACE is to be informed immediately by phone if a USACE staff member is not present. Document in the "Comments" section the time and date of the USACE notification and any follow-on actions identified by the USACE.

The annual SLDS EMDARs shall contain a brief summary of these interim LUC inspections and a blank copy of the first page of Appendix A as an example. The annual SLDS Environmental Monitoring Implementation Calendar Year plan shall contain a brief statement regarding the requirement to conduct these inspections. The completed inspection forms would not be part of the EMDARs.

5.0 REFERENCES

USACE 1998. U.S. Army Corps of Engineers St. Louis District. *Record of Decision for the St. Louis Downtown Site.* St. Louis, Missouri. Final. October 1998.

THIS PAGE INTENTIONALLY LEFT BLANK

FIGURE

THIS PAGE INTENTIONALLY LEFT BLANK

Path: U:\GPS\SLDS\INTERIM LAND USE CONTROL AND INSPECTION PLAN\Figure 1 St Louis Downtown Site.mxd

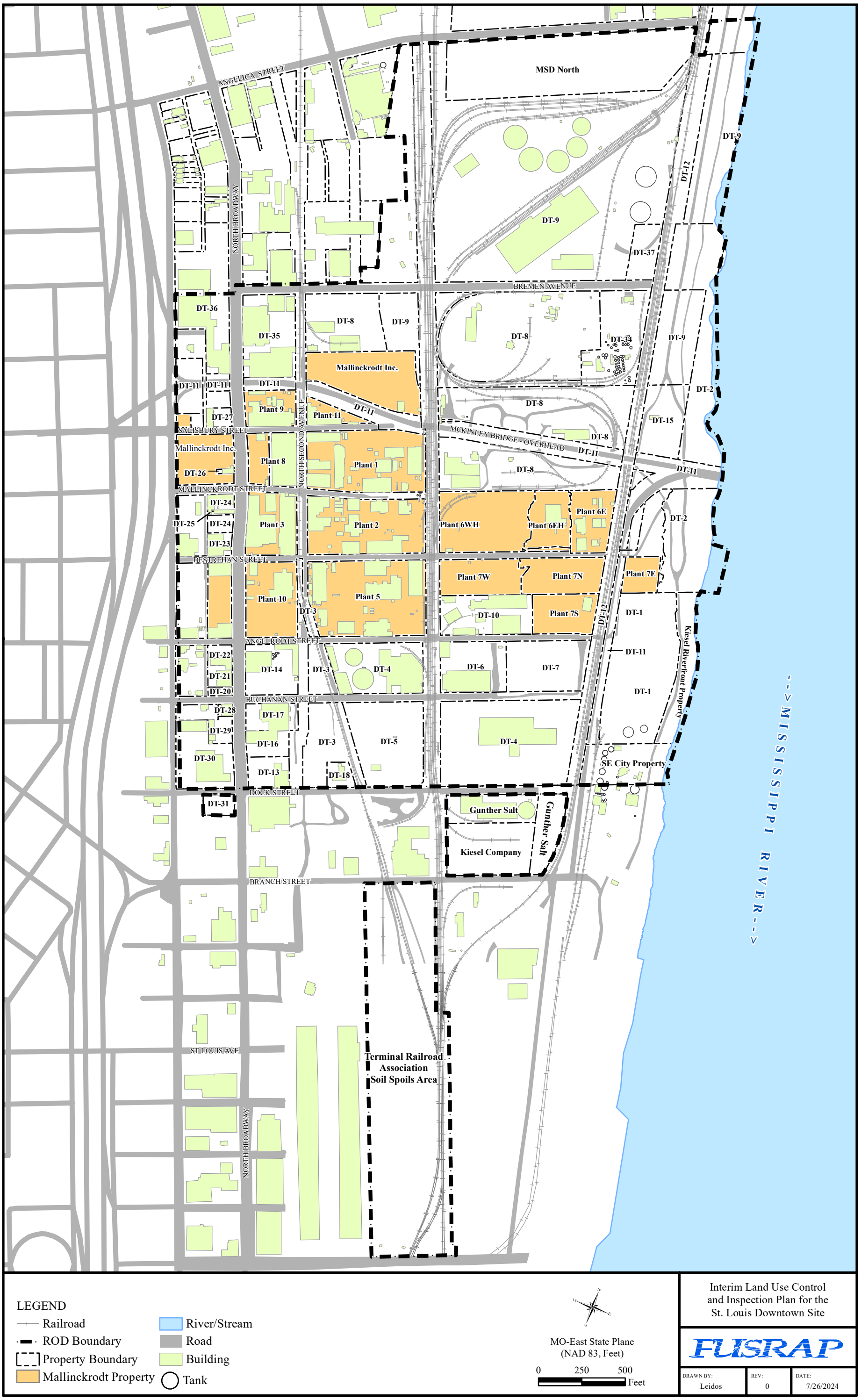

Figure 1. St. Louis Downtown Site

APPENDIX A

FORM FOR FUSRAP INTERIM CONTROL CONFIRMATION THAT CONTAMINATED SOIL IS UNDISTURBED

THIS PAGE INTENTIONALLY LEFT BLANK

Block 1

Project: FUSRAP Interim Control Confirmation that Contaminated Soil is Undisturbed	**District**: St. Louis USACE	**Sheet** 1 of (blank)
	Inspection Type: ☐ In-Person	
Property Type: ☐ Non-Residential Public Area ☐ Commercial/Industrial		
Right of Entry? ☐ Yes ☐ No ☐ Not Applicable (NA)	**City Parcel #:**_____	
FUSRAP Property #:		
Basis for Identification of Soil Being Contaminated:_____		
Size of Area to Remain Undisturbed: ____ m^2	**Vertical Location:** ☐ Surface ☐ Subsurface ☐ Both	
Planned Remediation Timing: _____ Quarter of Year _____		

Block 2

Date:			**USACE Personnel:**
Quarter: ☐ 1st ☐ 2nd ☐ 3rd ☐ 4th			**Contractor Personnel:**
Yes	**No**	**NA**	**Item**
			Has there been a change in property owner since the last visit?
			If in-person inspection, was the manager contacted during the visit?
			Is there any soil disturbance in or around the area of contaminated soil?
Soil disturbance caused by: ☐ Human activity ☐ Nature. Describe in the comments the evidence for human or nature.			
Material providing stability of the soil: ☐ Vegetation ☐ Pavement ☐ Rip Rap ☐ None ☐ Other (specify):_____			

Comments: _____

Block 3. Map of Area of Contamination:	↑ Approx. North	Scale: ☐ Rough ☐ Actual 1 inch ≈ _____ feet

Recorded By/Date: _____ QA By/Date: _____

Form Version 6-14-2024

Block 4	**Project**: FUSRAP Interim Control Confirmation that Contaminated Soil is Undisturbed	**Sheet** [blank] of (blank)
	FUSRAP Property #:	**Date:**

Block 5: Photograph(s) of Area of Contamination:

Remarks:

Recorded By/Date: _____ QA By/Date: _____

Form Version 6-14-2024

Block 4	**Project**: FUSRAP Interim Control Confirmation that Contaminated Soil is Undisturbed	**Sheet** 3 of (blank)
	FUSRAP Property #:	**Date:**

Block 5. Photograph(s) of Area of Contamination:

Remarks:

Recorded By/Date: _____

QA By/Date: _____

Form Version 6-14-2024

Block 4	**Project**: FUSRAP Interim Control Confirmation that Contaminated Soil is Undisturbed	**Sheet** 4 of (blank)
	FUSRAP Property #:	**Date:**

Block 5. Photograph(s) of Area of Contamination:

Remarks:

Recorded By/Date: _____

QA By/Date: _____

Form Version 6-14-2024