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16 February 2024

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SUBJECT: Final Interim Land Use Control Implementation Plan (LUCIP) for the Former Seneca Army Depot in Romulus, NY; EPA Site ID# NYO213820830

Dear Ms. Treinen, Ms. Sweet, and Mr. Sergott:

On behalf of the Army, please find attached for your records the Final Interim LUCIP for the Former Seneca Army Depot, located in Romulus, New York.

If you have any questions about the attached document, please call me at 917-575-1819.

Sincerely,

 Digitally signed by
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FINAL INTERIM LAND USE CONTROL IMPLEMENTATION PLAN

**Open Detonation Grounds
Munitions Response Site**

**Former Seneca Army Depot
Romulus, New York**

PREPARED FOR:

**U.S. Army Corps of Engineers
Engineering And Support Center, Huntsville
5021 Bradford Drive East
Huntsville, Alabama 35805**



**CONTRACT NO. W912DY22D0131
TASK ORDER NO. W912DY22F0374**

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Final Interim Land Use Control Implementation Plan Open Detonation Grounds Munitions Response Site

Former Seneca Army Depot Romulus, New York

Contract No. W912DY22D0131
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Prepared for

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Engineering and Support Center
Huntsville
5021 Bradford Drive East
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TABLE OF CONTENTS

Page

LIST OF TABLES..... ii

LIST OF FIGURES ii

LIST OF APPENDIXES..... iii

LIST OF ACRONYMS AND ABBREVIATIONS iv

ES. EXECUTIVE SUMMARY ES-1

1. INTRODUCTION 1-1

 1.1 SITE LOCATION..... 1-1

 1.2 CURRENT AND FUTURE SITE USE..... 1-1

 1.3 SITE FEATURES..... 1-2

 1.4 SITE HISTORY AND INVESTIGATION SUMMARY..... 1-2

 1.5 SUMMARY OF MEC HAZARDS AND RISKS..... 1-3

2. LAND USE CONTROL DESCRIPTION 2-1

 2.1 INTERIM LUCS..... 2-1

 2.2 DESCRIPTION OF INTERIM LUC..... 2-1

3. LAND USE CONTROL IMPLEMENTATION PROCESS..... 3-1

 3.1 RESPONSIBLE PARTIES..... 3-1

 3.1.1 U.S. Army 3-1

 3.2 IMPLEMENTATION MAINTENANCE AND ENFORCEMENT 3-1

 3.3 REPORTING 3-1

4. REFERENCES 4-1

LIST OF TABLES

- Table 1-1. Summary of Previous Investigations
- Table 1-2. Summary of MEC Hazard Assessment Results
- Table 1-3. Summary of MEC Risk Management Method (RMM) Results

LIST OF FIGURES

- Figure 1-1 Seneca Army Depot Location
- Figure 2-1. OD Grounds MRS Signage and Barrier Locations

LIST OF APPENDIXES

Appendix A. Site Photographs

Appendix B. Educational Awareness Material

Appendix C. Points-Of-Contact List

LIST OF ACRONYMS AND ABBREVIATIONS

%	Percent
Army	U.S. Army
FS	Feasibility Study
ft	Foot (feet)
HA	Hazard assessment
LUC	Land use control
LUCIP	Land Use Control Implementation Plan
MEC	Munitions and explosives of concern
MRS	Munitions Response Site
OB	Open burn
OD	Open detonation
RMM	Risk Management Method
SEAD	Former Seneca Army Depot
USACE	U.S. Army Corps of Engineers
UXO	Unexploded ordnance

ES. EXECUTIVE SUMMARY

The Open Detonation (OD) Grounds Munitions Response Site (MRS) occupies approximately 403 acres and is located within the Former Seneca Army Depot (SEAD) in the Towns of Varick and Romulus in Seneca County, New York. The OD Grounds MRS is located in the northwestern corner of SEAD. From the 1940s until 1999, SEAD used the OD Grounds to destroy excess, obsolete, or unserviceable munitions. SEAD use of the range stopped after the closure of the ammunition mission in 1999; however, after that time the U.S. Army (Army) was permitted to dispose of munitions via open burn (OB) and OD for only those items recovered from investigations and removals at this site. Over the site's 50+ years of use, a wide range of excess, obsolete, or unserviceable munitions types were disposed there. Note that the OB Grounds (also known as SEAD-23; 30.2 acres) is a separate site that was previously addressed and is not included in the calculation of the OD Grounds acreage, nor is it addressed in this Interim Land Use Control Implementation Plan (LUCIP).

The planned future use for OD Grounds MRS is for conservation and passive recreation. Passive recreation refers to a use of the land where there is a limited activity and reduced potential for subsurface soil contact. Based on the Feasibility Study Report (Parsons 2022a), which includes a compilation and evaluation of data from previous investigations and removals at the OD Grounds MRS, unexploded ordnance is present at the surface and subsurface throughout the OD Grounds MRS. Currently, the OD Grounds MRS is within a portion of the former SEAD that has been retained under Army ownership. The Army retained parcel is planned to be turned over to Seneca County Industrial Development Agency after the remedial action is complete at the OD Grounds.

Evidence of trespassing has been observed, indicated by worn walking paths, all-terrain vehicle and snowmobile trails, and pull-off areas from roadways. Paths of cleared trees additionally offer ease of access onto this land by off road vehicle. It is believed that trespassers are unaware of potential munitions and explosives of concern (MEC) hazards as well as property lines, and that unauthorized users may be under the false impression that access is permitted, or without consequences.

A site visit was conducted on 12 October 2023 with the contractor (EA Science, Engineering, and Technology, Inc., PBC) and the U.S. Army Corps of Engineers to help ground-truth site conditions and document evidence of trespassing. Photographs from the site visit are included in **Appendix A**.

This Interim LUCIP has been prepared to implement land use controls (LUCs) in the form of educational awareness to prevent exposure of human receptors to MEC (authorized/unauthorized users, and/or trespassers). While the Comprehensive Environmental Response, Compensation, and Liability Act Proposed Plan is in development to address the MEC hazards of the OD Grounds MRS, this interim LUCIP is intended to implement MEC awareness LUCs in the interim prior to development of a post Record of Decision LUCIP. Therefore, all text herein is pertinent to the Educational Awareness LUC (including the various installation of signage and a locked gate) in order to minimize trespassing that may result in the exposure of human receptors to unexploded ordnance.

The Educational Awareness LUC specifically includes the following:

- The installation of signage along the OD Grounds MRS boundary,
- The installation of signage along the roads surrounding the OD Grounds MRS boundary,
- The installation of physical barriers accompanied by signage along the OD Grounds MRS boundary where the boundary abuts the surrounding road network and evidence of trespassing has been observed
- The installation of a gate and accompanying signage along the OD Grounds MRS boundary at the main entrance road.

This Interim LUCIP is for the OD Grounds MRS, U.S. Environmental Protection Agency Site Identification Number NY0213820830. This interim LUCIP was prepared for the Army in accordance with Services Task Order Contract W912DY22D0131, Delivery Order W912DY22F0374, issued by the U.S. Army Corps of Engineers — Huntsville District.

Report Organization

This Interim LUCIP is organized into the following sections.

- *Section 1—Introduction*
- *Section 2—Land Use Control Description*
- *Section 3—Land Use Controls Implementation Process*
- *Section 4—References*

1. INTRODUCTION

This section provides a detailed description and background information on the Open Detonation (OD) Grounds Munitions Response Site (MRS).

1.1 SITE LOCATION

The OD Grounds MRS occupies approximately 403 acres within the Former Seneca Army Depot (SEAD) in the Towns of Varick and Romulus in Seneca County, New York (**Figure 1-1**). The OD Grounds MRS is accessible through the single vehicle entrance off North South Baseline Road and a network of internal roads. The OD Grounds MRS abuts North Patrol Road to the north and the west. North-South Baseline Road lies to the east of the MRS boundary, and Seneca Army Depot Road lies to the south of the MRS boundary. Two different portions of the OD Grounds MRS are identified: the OD Hill, and the Kickout Area. The OD Hill is an area of elevated topography at the center of the OD Grounds MRS where OD operations occurred. The Kickout Area is the portion of the site surrounding the OD Hill in which blast fragments emanating from OD operations might be found and extends out approximately 2,500 feet (ft) from the center of the OD Grounds MRS. The boundary of the area is not fenced, but a fence exists around a larger area that contains the OD Grounds MRS. Walk-in access or access via an off road vehicle is possible, even though the OD Grounds MRS is generally isolated from the public.

The OD Grounds MRS is located between Seneca Lake and Cayuga Lake in Seneca County and is bordered by New York State Highway 96 on the east, New York State Highway 96A on the west, and sparsely populated farmland to the north and south.

1.2 CURRENT AND FUTURE SITE USE

Currently, the OD Grounds MRS is within a portion of SEAD that has been retained under U.S. Army (Army) ownership. The Seneca County Industrial Development Agency has sold the remaining property surrounding the OD Grounds MRS to a private party for use as a conservation area. This conservation area helps to support the Seneca white deer herd. This herd of white-tailed deer are generally isolated from other deer populations. The Seneca white deer pass on a rare leucistic characteristic that results in an uncharacteristic white coat, and these deer may be found on the current OD Grounds MRS. This rarity encourages illegal hunting and trespassing onto the OD Grounds MRS. Additionally, the OD Hill located at the center of the MRS offers nearly 360 degree unobstructed views of the meadows of the OD Grounds, further enticing illegal hunting. Evidence of illegal access has been observed (indicated by worn vehicle tire paths, as well as cleared areas that may be accessible to all-terrain vehicles, snowmobiles, etc.).

The Army retained OD Grounds parcel is planned to be turned over to Seneca County Industrial Development Agency after the remedial action is complete at the MRS, with the intent to sell the OD Grounds MRS to a private party for use as a conservation area and passive recreation area. Passive recreation refers to a use of the land where there is a limited activity and reduced potential for subsurface soil contact (i.e., does not include playgrounds or ballparks, but may include seasonal hunting and hiking on nature trails). Anticipated conservation and passive recreation may include access for groundwater monitoring, hunting by invitation, and habitat management (e.g., roads and mowing fire breaks, planting, etc.). There are no known drinking water wells or

industrial wells within the OD Grounds MRS. The landowner will control access to the site for habitat improvement activities and for hunting.

1.3 SITE FEATURES

SEAD is located on land in an uplands area which forms a divide separating two of the New York Finger Lakes; Cayuga Lake on the east and Seneca Lake on the west. The OD Grounds MRS is located in the northwestern corner of SEAD at an elevation of approximately 600 ft above mean sea level. Surface water flow from precipitation events at the OD Grounds MRS is controlled by local topography which slopes gently to the east-northeast, as there is little relief on-site other than the OD Hill. In general, surface water flows east making its way into a network of drainage swales throughout the site that eventually lead into Reeder Creek, a sustained surface water body with non-precipitation event flow that is approximately 4 inches deep and 3 ft wide near the OD Grounds MRS. Reeder Creek is approximately 800 ft north-east of OD Hill and flows to the north-northwest. Additionally, there are isolated wetland areas with standing water (predominately south of the OD Hill) present within the OD Grounds MRS. Vegetation at the OD Grounds MRS consists primarily of grassy meadow with some wooded and heavily brushed areas. As a result of past demolition and earth-moving activities, fewer trees are located toward the center of the MRS.

1.4 SITE HISTORY AND INVESTIGATION SUMMARY

Several investigations and munitions and explosives of concern (MEC) removals were completed at the OD Grounds MRS including several investigations that began before the OD Grounds mission ended in 1999. Several phases of investigations/removals were conducted at the site to remove unexploded ordnance (UXO)/MEC in areas with known hazards and to investigate the extent of UXO/MEC and/or munitions constituents contamination. A summary of the activities conducted during these phases is provided below in **Table 1-1**.

Table 1-1. Summary of Previous Investigations

Previous Investigation	Year	Summary
U.S. Army Environmental Hygiene Agency Studies (1984; 1988)	1979-1982	Groundwater samples were analyzed for conventional pollutants and explosives and soil samples were analyzed for extraction procedure toxicity and explosives.
Expanded Site Inspection (Parsons ES 1995)	1993-1994	Geophysics, test pitting, groundwater and surface water sampling conducted.
Archives Search Report (U.S. Army Corps of Engineers [USACE] 1998)	1998	Site inspection, archives search and employee interviews to document previous military use and potential environmental contamination that could remain at SEAD.
Ordnance and Explosives Engineering Evaluation/Cost Analysis Report (Parsons ES 2004)	2000	Characterized the nature and extent of MEC at the OD Ground using geophysical survey techniques and intrusive investigations.
Phase I Geophysical Investigation (Weston 2005)	2003	Geophysical surveys collected using EM61 MK2 towed-array system to identify 14,700 anomalies within open areas between the 1,000-ft and 1,500-ft radius of OD Hill.

Previous Investigation	Year	Summary
Phase II Ordnance and Explosives Removal Activities (Weston 2006)	2003-2005	Reacquired, removed, and disposed of approximately 8,500 MEC/UXO and Munitions Debris items located between the 1,500-ft and 2,500-ft radius from the OD Hill to a depth of 4 ft.
Additional Munitions Response Site Investigation (Parsons 2010)	2010	Topographic and geophysical surveys of portions of the OD Grounds MRS and the collection and analysis of soil samples from test pits and surface locations.
Munitions Response Action (Parsons 2016)	2012-2014	Reacquired, and investigated 14,688 anomalies; used analog methods to remove UXO/ Discarded Military Munitions , and dispose of 15,885 munitions related items located between the 1,500-ft and 2,500-ft radius from the OD Hill to a depth of 4 ft.
MEC Clearance at OD Grounds (Shaw 2012)	2012	Prior to early termination of contract, Digital Geophysical Mapping survey of inner 1,000 ft completed.
Perchlorate Sampling (Parsons 2020)	2018	Perchlorate sampling in soil, groundwater, ditch soil, and surface water.
Feasibility Study (FS) (including Compilation Report) (Parsons 2022a)	2022	Compiled data from all previous investigations to compile a conceptual site model. Risk assessment completed for MEC and munitions constituents based on results of previous investigations. FS summarized the conceptual site model and evaluated remedial alternatives to mitigate risk.
Addendum 1: Supplemental Site Characterization (Parsons 2022b)	2022	Installed and sampled new deep and shallow wells to assess the potential presence of Chemicals of Potential Concern in shallow overburden and deeper bedrock groundwater and investigate groundwater flow direction and rate. Sampled and analyzed surface water and sediment samples in the vicinity of the OD Grounds MRS.
Errata Sheet	2022	An Errata to the FS provides a summary of, and presents a description of, all the elements of the FS Report for the OD Grounds.

1.5 SUMMARY OF MEC HAZARDS AND RISKS

Based on the evidence of MEC and/or munitions debris found, MEC hazards are present at the OD Grounds MRS. These MEC hazards are potentially present throughout the MRS, on either the surface or in the subsurface. MEC hazard assessments (HAs) were performed to qualitatively evaluate the MEC hazards. The MEC HA method generates a score and a corresponding “Hazard Level” ranging from 1 (highest) to 4 (lowest) that provides a qualitative indication of the MEC hazard in each area (these are not quantitative measures of explosive hazards). The results of the MEC HA for the OD Hill and Kickout Area are summarized in **Table 1-2** and the full MEC HA is available in Appendix C1 of the FS (Parsons 2022a).

Table 1-2. Summary of MEC Hazard Assessment Results

Assessment Area	Baseline MEC Hazard Assessment Score	Hazard Level	Potential Explosive Hazard Conditions
OD Hill	845	1	Highest
Kickout Area	695	3	Moderate

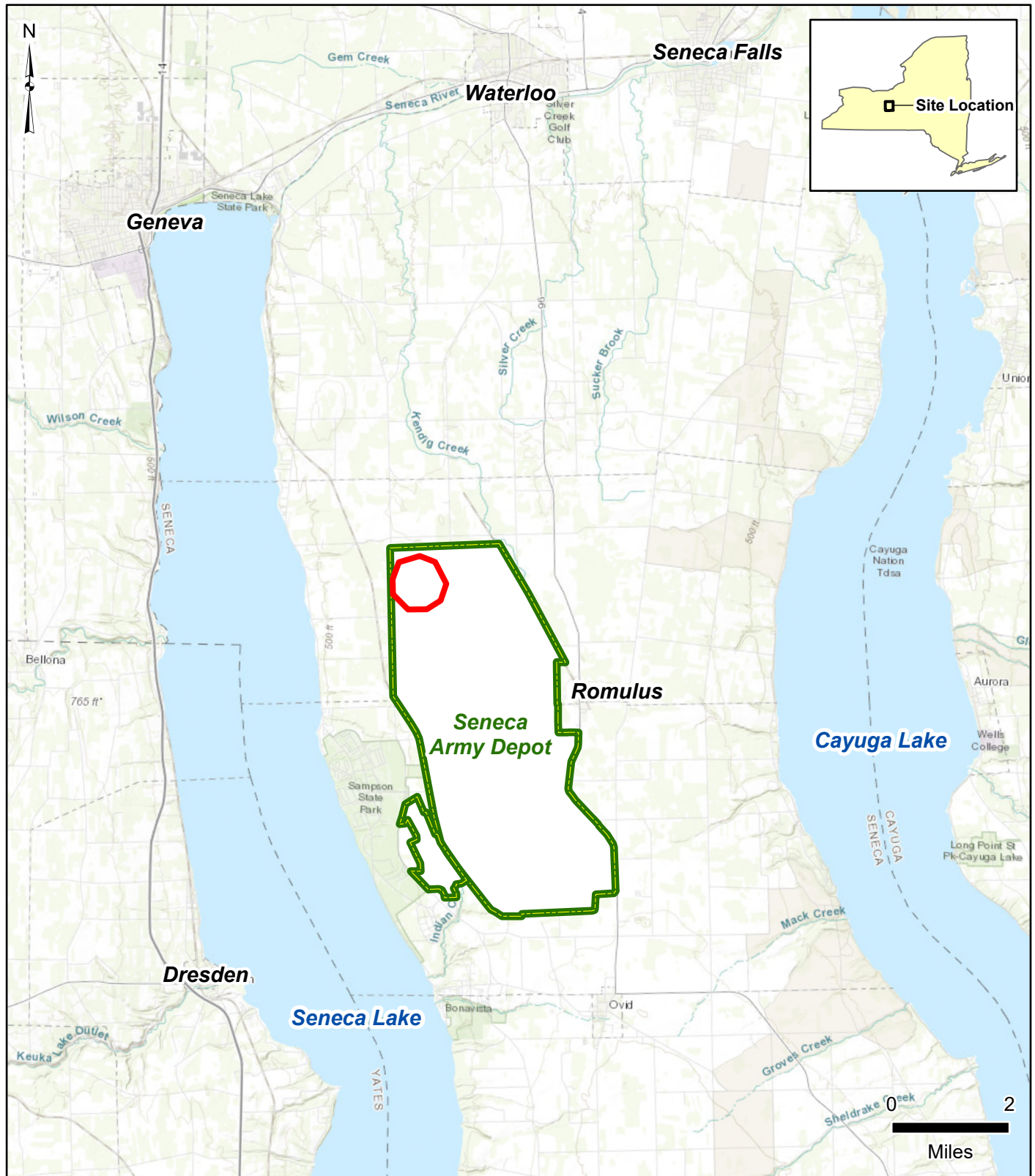
The Army has developed another method for evaluating risks from explosive hazards. This qualitative risk assessment technique hereafter referred to as the Risk Management Method (RMM) is described in the study paper titled, *Decision Logic to Assess Risks Associated with Explosive Hazards, and to Develop Remedial Action Objectives (RAOs) for MRSs* (USACE 2016). The RMM provides an assessment of the explosive hazards associated with MEC at an MRS by evaluating MRS-specific conditions and human issues that affect the likelihood that an MEC accident will occur. The RMM is described in a final study paper that was established as interim guidance by USACE on 3 January 2017 for a 2-year trial period, which was recently extended to 2022 (USACE 2020). The MEC Risk Assessment evaluated the risk associated with MEC exposure considering both current land use conditions and planned future land use conditions at the Kickout Area and the OD Hill. The results of the MEC Risk Assessment are shown in **Table 1-3**. It should be noted that both MEC risk assessment methodologies (i.e., MEC HA and RMM) resulted in evaluation that had similar conclusions for the various alternatives evaluated in the FS and presented in this Proposed Plan. Both the OD Hill and Kickout Area show moderate to high or unacceptable MEC hazard risks. The results of the MEC RMM for MRS are summarized in **Table 1-3** and the full MEC RMM is available in Appendix C2 of the FS (Parsons 2022a).

Table 1-3. Summary of MEC Risk Management Method (RMM) Results



Assessment Area	RMM Conclusions	
	Current Land Use Conditions	Planned Future Land Use Conditions
OD Hill	Unacceptable Risk	Unacceptable Risk
Kickout Area	Unacceptable Risk	Unacceptable Risk

Only human health risks relative to current users/trespassers and MEC are discussed as relevant to the goal of this interim LUCIP. The full quantitative results of the Human Health Risk Assessment and Baseline Ecological Risk Assessment are presented in the FS (Appendix B1, Table 2.80, Parsons 2022a). The Human Health Risk Assessment concluded that unacceptable risk exists from potential exposure to MEC present at the OD Grounds MRS.

**Figure 1-1
Seneca Army Depot Location**



Installation Data

-  OD Grounds
-  Former SEAD Boundary

Data Sources:
EA 2022
ESRI 2023

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2. LAND USE CONTROL DESCRIPTION

This section provides a detailed description of the interim land use controls (LUCs) for the OD Grounds MRS.

2.1 INTERIM LUCS

The selected Educational Awareness LUC for the OD Grounds MRS specifically includes the following:

- The installation of signage along the OD Grounds MRS boundary
- The installation of signage along the roads surrounding the OD Grounds MRS boundary
- The installation of physical barriers accompanied by signage along the OD Grounds MRS boundary where the boundary abuts surrounds roads and potential evidence of trespassing has been observed
- The installation of a gate and accompanying signage along the OD Grounds MRS boundary at the main entrance road.

2.2 DESCRIPTION OF INTERIM LUC

The U.S. Army will implement public educational awareness measures that would involve installation of signs to alert users to potential explosive hazard, the installation physical barriers (accompanied by MEC awareness signage), and a new gate at the entrance road to the OD Grounds MRS. All posted warning signs will be in accordance with Chapter 2 of the Department of the Army Pamphlet 385-63 on Range Safety (2014). Photographic evidence of access is provided in **Appendix A**.

“Boundary Signage” will be posted at the boundary of the OD Grounds MRS at a maximum of 200-ft intervals. Additionally, the boundary will be marked with red paint to ensure that a person cannot enter the MRS without seeing a marked boundary line. Unauthorized access to the OD Grounds MRS will be prohibited, and the prohibition will be posted on boundary signs of the MRS to deter trespassing and alert all users to explosive hazards. Signage will be placed along cleared swatches of forest where unauthorized users may attempt to access the OD Grounds MRS, as well as at areas where illegal access has been observed (indicated by worn vehicle tire paths, as well as cleared or mowed areas that may be accessible to all-terrain vehicles, snowmobiles, etc.). “Boundary Signage” is not displayed on **Figure 2-1** as the required signs will be placed using geographic information systems along the OD Grounds MRS boundary to ensure the signs are placed in 200-ft increments.

“Warning Signage” is to be placed along the roads surrounding the OD Grounds MRS, warning users that a restricted area lies ahead, no unauthorized access is permitted, and that there is an explosive hazard. Signs will be located where evidence of illegal access has been observed (mowing and or worn vehicle tire paths). It is believed that unauthorized users may park along any of the roads surrounding the MRS and walk through private property onto the OD Grounds

MRS. Signage at these areas alert users that they are headed towards a boundary where unauthorized access is prohibited and that explosive danger is present. “Warning Signage” placement is presented on **Figure 2-1** and detailed below.

Jersey barriers accompanied by additional signage will be located at areas along the boundary of the OD Grounds MRS where the MRS abuts surrounding roads, and where evidence of illegal access has been observed (mowing and or worn vehicle tire paths, evidence of access directly from the boundary road onto the OD Grounds MRS). Jersey barrier locations are presented on **Figure 2-1**.

The entrance road, Seneca Army Depot Road, is the planned location for the construction of a locked gate to deter unauthorized access. This road is the only paved entrance to the OD Grounds. “Boundary Signage” will be placed alongside the gate to deter trespassing and alert all users to explosive hazards. An additional “Alert Sign” will be posted at the beginning of the road to alert users that a locked gate lies ahead, encouraging unauthorized users to turn around. A “Warning Sign” will also be posted at the beginning of the road to warn that a restricted area lies ahead, no unauthorized access is permitted, and that there is an explosive hazard. Gate placement and accompanying signage is presented on **Figure 2-1** and detailed below.

Educational awareness material (signage) is presented in **Appendix B**, and signage locations and jersey barrier locations are presented on **Figure 2-1**:

- 120 “Boundary Signs” (**Appendix B**, exhibit B-1) for the boundary of the OD Grounds MRS.
 - 2.9-mile boundary of OD Grounds MRS (rounded to 3.0 miles in the case of extra sign placement depending on vegetation conditions encountered during installation) equates to 15,840 ft. The boundary of 15,840 ft divided by signage placed every 200 ft equates to 79.2 signs, rounded up to 80 signs.
 - An additional volume of 50 percent (%) of “Boundary Signage” will be ordered to allow replacement and upkeep as needed, equaling 39.6 signs, rounded up to 40.
 - 80 required signs plus the additional 40 signs to account for replacement equals a total of 120 “Boundary Signs.”
- 44 “Warning Signs” (**Appendix B**, exhibit B-2) for the surrounding roads of the OD Grounds MRS.
 - 29 signs placed at areas showing evidence of trespassing (mowing and or worn vehicle tire paths) plus additional 50% volume (14.5 signs rounded up to 15 signs) equates to a total of 44 “Warning Signs.”
- 5 jersey barrier locations where the OD Grounds MRS boundary abuts the road and evidence of illegal vehicular access has been observed.

- Aerial imagery and the site visit determined approximately 140 ft of barrier are needed for these areas.
- 37 concrete blocks were identified on the OD Grounds MRS that measured 4 ft by 2.5 ft by 3 ft. These will be beneficially reused as the source of barriers.
- Barriers may be placed with a maximum of 3 ft of space between them (3 ft accounts for the width of various off-road vehicles that may attempt to access the area, including snow mobiles and four wheelers).
- See the following math for an example of calculating estimated materials needed to barrier suggested locations: 1 jersey barrier location requires an estimated 33 ft of barrier; 6 concrete blocks, each 4 ft long, equals 24 ft of coverage. The remaining 9 ft of coverage is spaced out between the 6 concrete blocks (5 spaces between blocks), creating a distance of 1.8 ft between each block, within the maximum 3 ft spacing between barriers.
- 1 locked manual double swing gate (**Appendix B**, exhibit B-3) for the OD Grounds MRS boundary along the entrance road to the OD Grounds MRS, Seneca Army Depot Road.
 - A 20 ft gate is adequate to account for the 18 ft width of the road, and posts for installation outside the width of the road.
 - Approximately 16 ft of grass exists on each side of the road, minus the foot needed for gate post installation equates to 15 ft of space on each side of the gate. 2 concrete blocks (mentioned above) may be placed on each side of the locked gate (4 concrete blocked total) to prevent unauthorized users from driving around the gate.
 - A chain and combination lock will be installed to prevent unauthorized users from opening the gate. The code to the combination lock will be provided to the U.S. Army.
 - 35 ft is a typical turning radius for passenger vehicles, minus the 18 ft width of the existing road, divided by 2 would recommend a minimum of 8.5 ft on each side of the road to allow unauthorized vehicles to turn around at the gate. Approximately 16 ft of grass exists on each side of the road, providing adequate room for a passenger vehicle to turn around. To facilitate vehicles turning around, 8.5 ft on each side of road should be leveled with gravel.
- 1 “Alert Sign” (**Appendix B**, exhibit B-4) at the beginning of the road leading into the OD Grounds MRS (Seneca Army Depot Road) to alert users that a gate lies ahead

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Figure 2-1
OD Grounds MRS Signage and Barrier Locations



Legend

- Former SEAD Boundary
- OD Grounds
- OD Hill

Signage and Barriers

- Warning Signage
- Alert Signage
- Gate
- Jersey Barrier

Notes:
Boundary Signage is not displayed as the required signs will be placed using geographic information systems along the OD Grounds MRS boundary to ensure the signs are placed in 200-ft increments.

Data Sources:
EA 2022
ESRI 2023

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3. LAND USE CONTROL IMPLEMENTATION PROCESS

This section discusses the documentation, implementation, inspection, reporting, and enforcement activities associated with the Educational Awareness LUC. As long as LUCs are in place, the following requirements and activities apply, unless otherwise noted. This Interim LUCIP will be housed in the Administrative Record for SEAD, accessible online at <https://senecaarmydepotar.com>. A Points-of-Contact List is provided in **Appendix C**.

3.1 RESPONSIBLE PARTIES

Included below are the agencies responsible for implementing, maintaining, reporting on, and enforcing the LUCs under the selected remedy.

3.1.1 U.S. Army

The U.S. Army is responsible for the implementation and maintenance of educational awareness materials (including the maintenance of signage and the entrance gate). The U.S. Army is responsible for the implementation of an annual LUC inspection.

3.2 IMPLEMENTATION MAINTENANCE AND ENFORCEMENT

Included below are the roles and responsibilities for implementing, maintaining, and enforcing the Educational Awareness LUC.

The U.S. Army will provide the content and files for the MEC education awareness program elements discussed in Section 2.2. The U.S. Army will inspect signage through an annual LUC inspection to confirm that signs are readable and have not been damaged. The U.S. Army will install and replace damaged signs observed during the annual inspection. The U.S. Army will install jersey barriers and inspect them through an annual LUC inspection to confirm that they have not been moved or damaged. The U.S. Army will install, maintain and inspect the gate at the entrance road to the OD Grounds.

Maintenance of the selected LUC discussed in this document will be included in the post Record of Decision LUCIP for the OD Grounds MRS.

3.3 REPORTING

An annual inspection report will be prepared by the U.S. Army. The report will include a summary of the annual LUC inspections, inspections of the MEC awareness signs, recommendations for repairs/replacement of signs, review of previous year's recommendations for repairs/replacement, and documentation of when they were completed.

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4. REFERENCES

- Department of Defense Explosives Safety Board. 2020. *Technical Paper 18: Minimum Qualifications for Personnel Conducting Munitions and Explosives of Concern-Related Activities*. June 24.
- Department of the Army. 2014. *Pamphlet 385-63, Range Safety*. April.
- Parsons Engineering Science (ES). 1995. *Expanded Site Inspection (ESI), Seven High Priority SWMUs SEADs 4, 16, 17, 24, 25, 26, and 45*. December.
- . 2004. *Final Ordnance and Explosives Engineering Evaluation/Cost Analysis Report, Seneca Army Depot*. February.
- Parsons Corporation (Parsons). 2010. *Additional Munitions Response Site Investigation Report, Seneca Army Depot*. May.
- . 2016. *Draft Completion Report Munitions Response Action at the Open Detonation Grounds (SEAD-45) Seneca Army Depot Activity*. November.
- . 2020. *Letter Report for the OD Grounds Perchlorate Sampling*. April.
- . 2022a. *Final Revision 4 Feasibility Study Report for Open Detonation Grounds Munitions Response Action, Seneca Army Depot Activity*. April.
- . 2022b. *Revised Final, Addendum 1: Supplemental Site Characterization. Open Detonation Grounds. Seneca Army Depot Activity*. April.
- Shaw Environmental & Infrastructure, Inc. (Shaw), 2012. *Draft Work Plan for MEC Clearance at Open Detonation (OD) Grounds, Seneca Army Depot Activity, New York*. March.
- U.S. Army Corps of Engineers (USACE). 1998. *Archives Search Report Findings, Seneca Army Depot, Romulus, Seneca County, New York*. December
- . 2016. *Decision Logic to Assess Risks Associated with Explosive Hazards, and to Develop Remedial Action Objectives (RAOs) for Munition Response Sites (MRS)*. December.
- . 2020. *Trial Period Extension for Risk Management Methodology (RMM) at Formerly Used Defense Sites (FUDS) Military Munitions Response Program (MMRP) Projects*. March.
- United States Army Environmental Hygiene Agency (USAEHA). 1984. *Phase 4 Evaluation of the Open Burning/Open Detonation Grounds. Investigation of Soil Contamination. Hazardous Waste Study No. 37-26-0479-85*.

———. 1988. *Closure of Open Burning/Open Detonation Ground Burning Pads. Hazardous Waste Study No. 37-26-0778-86.*

Weston Solutions, Inc. (Weston). 2005. *Final Site Specific Project Report SEAD 45/115 Open Detonation Grounds Ordnance and Explosives Removal Phase I Geophysical Survey and Cost Estimate, Seneca Army Depot.* March.

———. 2006. *Draft Phase II Ordnance and Explosives Removal Report.* March.

Appendix A
Site Photographs

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Photographic Documentation


Photograph No. 1	Date: 10/12/2023
Direction Photo Taken: N	
Description: Boundary to OD Grounds MRS. Planned locked gate location. Red dashed line indicates potential gate location.	







Photograph No. 2	Date: 10/12/2023
Direction Photo Taken: NE	
Description: Red arrow indicates historic gate left on site. Outside of OD Grounds property. Inset photo shows decrepit sign located across from the historic gate.	







Photograph No. 3	Date: 10/12/2023	
Direction Photo Taken: NE		
Description: Photo of the beginning of the paved road leading to the OD Grounds MRS Boundary. Planned area for “Alert” Signage and “Warning” signage that U.S. Government property lies ahead, explosive danger is present, and that a gate lies ahead, encouraging unauthorized users to turn around.		

Photograph No. 4	Date: 10/12/2023	
Direction Photo Taken: N		
Description: Photo taken along Seneca Army Depot Road, looking north. Photo taken from SEAD 003-R-01. Note the mowed path, and bare soil (indicated by red arrows). Cleared swatch of trees runs directly north toward OD Grounds MRS boundary. Suggested site for Jersey Barriers.		

<p>Photograph No. 5</p>	<p>Date: 10/12/2023</p>	
<p>Direction Photo Taken: N</p>		
<p>Photo taken along Seneca Army Depot Road, looking north. Photo taken from SEAD 003-R-01. Note the corn (feet lot) growing north of SEAD 003-R-01 (indicated by red arrow).</p>		
<p>Photograph No. 6</p>	<p>Date: 10/12/2023</p>	
<p>Direction Photo Taken: N</p>		
<p>Description: Photo taken along Seneca Army Depot Road, looking north. Note the mowed path (indicated by red arrow). Cleared swatch of trees runs directly north toward OD Grounds MRS boundary. Suggested site for “warning” signage. Location is on private property.</p>		

<p>Photograph No. 7</p>	<p>Date: 10/12/2023</p>	
<p>Direction Photo Taken: E</p>		
<p>Description: Photo taken from W. Patrol Road, note the mowed vegetation. Red dashed line approximately indicates OD Grounds MRS boundary. Location is also proposed jersey barrier location.</p>		
<p>Photograph No. 8</p>	<p>Date: 10/12/2023</p>	
<p>Direction Photo Taken: E</p>		
<p>Description: Photo taken from W. Patrol Road of OD Grounds MRS. Note un-mowed vegetation, although the area is cleared of trees. Area is not a candidate for a jersey barrier as evidence of trespassing is not observed.</p>		

<p>Photograph No. 9</p>	<p>Date: 10/12/2023</p>	
<p>Direction Photo Taken: E</p>		
<p>Description: Photo taken from W. Patrol Road of OD Grounds MRS. Note mowed vegetation observed within the OD Grounds MRS boundary (indicated by red arrow).</p>		
<p>Photograph No. 10</p>	<p>Date: 10/12/2023</p>	
<p>Direction Photo Taken: S</p>		
<p>Description: Photo taken from N. Patrol Road (looking at OD Grounds MRS). Note mowed vegetation observed on the OD Grounds MRS. Proposed location for "Boundary Signage" as well as jersey barriers. Red dashed line indicates approximate OD Grounds MRS boundary. Two-track tire marks observed from N. Patrol Road, indicated by inset photo and red arrow.</p>		

<p>Photograph No. 11</p>	<p>Date: 10/12/2023</p>	
<p>Direction Photo Taken: S</p>		
<p>Description: Photo taken from N. Patrol Road (looking at OD Grounds MRS). Note tire tracks observed on the OD Grounds MRS, leading deeper onto OD Grounds MRS property (red arrow). Proposed location for “Boundary Signage” as well as jersey barriers. Inset photo illustrates the large pull off area from N. Patrol Road.</p>		
<p>Photograph No. 12</p>	<p>Date: 10/12/2023</p>	
<p>Direction Photo Taken: W</p>		
<p>Description: Photo taken from North-South Baseline Road looking at private property. Note two tracks in vegetation (indicted by red arrow). Aerial imagery indicates this cleared path runs towards the OD Grounds MRS boundary, approximately 500 feet west of where this photo was taken.</p>		

Photograph No. 13	Date: 10/12/2023	
Direction Photo Taken: SE		
Description: Photo taken on OD Grounds MRS, looking toward SEAD-23 at a potential hunting stand (indicated by red arrow).		

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Appendix B

Educational Awareness Material

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*Exhibit B-1



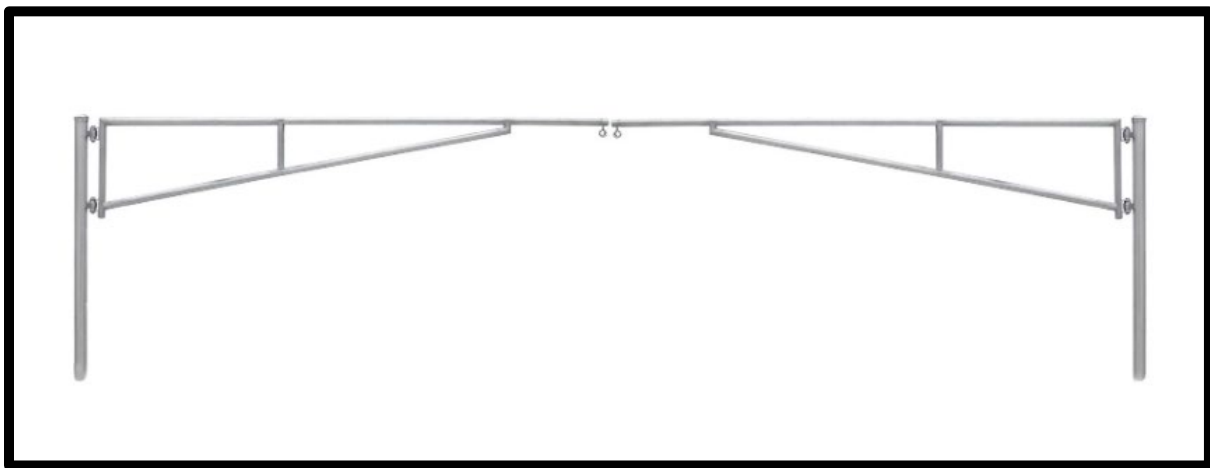
*Coordination with the signage supplier will result in slight modifications to the final design of Exhibit B-1.

*Exhibit B-2



*Coordination with the signage supplier will result in slight modifications to the final design of Exhibit B-2.

***Exhibit B-3**



*Coordination with the materials supplier will result in slight modifications to the final design of Exhibit B-3.

*Exhibit B-4



*Coordination with the signage supplier will result in slight modifications to the final design of Exhibit B-4.

Appendix C
Points-of-Contact List

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Points-of-Contact List

Name	Organization / Title	E-mail	Phone Number
Charles H Heaton, P.E.	CEHNC, COR/PM	Charles.H.Heaton@usace.army.mil	256-895-1657
Chris Gallo	CENAN, Base Environmental Coordinator	Christopher.T.Gallo@usace.army.mil	917-790-8230
Barry Hodges	CEHNC, Technical Manager	Barry.A.Hodges@usace.army.mil	256-895-1894
Tony Isadore	CEHNC, OE Safety Specialist	Anthony.N.Isadore@usace.army.mil	256-895-8098

Notes:

CEHNC = U.S. Army Corps of Engineers – Huntsville District

CENAN = U.S. Army Corps of Engineers – New York District

COR = Contracting Officer's Representative

OE = Ordnance and explosives

P.E. = Professional Engineer

PM = Project Manager

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