IDA-32

PM copy
7 June 01

SIOAC-ESL (DDESB-KO/14 Jul 99) (385[A]) 1st End
SUBJECT: Explosives Safety Submission, Ordnance and Explosives (OE) Removal at the Open Burning Grounds, Seneca Army Depot Activity, July 1998

U.S. Army Defense Ammunition Center, McAlester, OK 74501-9053 15 JUL 1999

FOR Commander, U.S. Army Industrial Operations Command, ATTN: AMSIO-SF, Rock Island, IL 61299-6000

1. Reference: 1st End, Defense Ammunition Center, SIOAC-ESL, 18 June 1999, to memorandum, U.S. Army Industrial Operations Command, AMSIO-SF, 13 May 1999, SAB (enclosure 1).

2. Basic correspondence provides Department of Defense Explosives Safety Board (DDESB) approval for the revised explosives safety submission for OE removal at the Open Burning Grounds, and is provided for your information and use.

3. The POC is Ms. Jean Gallagher, SIOAC-ESL, (918) 420-8876, DSN 956-8876; email gallagher@dac-emh2.army.mil.

FOR THE DIRECTOR:

Clifford H Doyle

Encl
as

CLIFFORD H. DOYLE
Safety Manager, Ordnance
Explosives Environmental Division

CF (wo/encls):
Army Safety Office, ATTN: DACS-SF, Chief of Staff, 200 Army Pentagon, Washington, DC 20310-0200
Commander, U.S. Army Engineering and Support Center, Huntsville, ATTN: CEHNC-PM, P.O. Box 1600, Huntsville, AL 35807-4301

DEPARTMENT OF DEFENSE EXPLOSIVES SAFETY BOARD
2461 EISENHOWER AVENUE
ALEXANDRIA, VIRGINIA 22331-0600

14 JUL 1999

DDESB-KO

MEMORANDUM FOR DIRECTOR, US ARMY TECHNICAL CENTER FOR EXPLOSIVES SAFETY (ATTENTION: SIOAC-ESL)

SUBJECT: Explosives Safety Submission, Ordnance and Explosives (OE) Removal at the Open Burning Grounds, Seneca Army Depot Activity, July 1998

References: (a) Memorandum, Department of Defense Explosives Safety Board, DDESB-KO, June 18, 1998, Subject: Safety Submission for the Removal of Ordnance and Explosives (OE) from the Open Burning Grounds, Seneca Army Depot Activity (SEDA), New York

(b) Memorandum, Headquarters, U.S. Army Industrial Operations Command, AMSIO-SF, U.S. Army Defense Ammunition Center, SIOAC-ESL, May 13, 1998, Subject as above (with one endorsement)

Reference (a) provided DDESB approval of the initial safety submission. The DDESB secretariat has reviewed the revised safety submission forwarded by reference (b) with respect to explosives safety criteria. Based on the information submitted, we approve the revised safety submission for removal of OE from the open burning grounds at Seneca Army Depot Activity, New York.

Point of Contact is Mr. Charles A. Cates, DDESB-KO, commercial number: (703) 325-1356 or DSN 221-1356. E-mail address is Charles.Cates@hqda.army.mil.

DANIEL T. TOMPKINS
Colonel, USAF
Chairman

SIOAC-ESL (AMSIO-SF/13 May 99) (385[A]) 1st End
SUBJECT: Explosives Safety Submission, Ordnance and Explosives Removal at the Open Burning Grounds Seneca Army Depot Activity, July 1998

U.S. Army Defense Ammunition Center, McAlester, OK 74501-9053 18 JUN 1999

FOR Chairman, Department of Defense Explosives Safety Board,
ATTN: DDESB-KO, 2461 Eisenhower Avenue, Alexandria, VA 22331-0600

1. References:

a. DOD 6055.9-STD, July 1997, Ammunition and Explosives Safety Standards.

b. AR 385-64, 20 November 1997, U.S. Army Explosives Safety Program.

c. Memorandum, Seneca Army Depot, SIOSE-IE, Subject: Safety Submission for the Removal of Ordnance and Explosives (OE) from the Open Burning Grounds, Seneca Army Depot Activity (SEDA), New York, 8 June 1998.

d. Memorandum, Department of Defense Explosives Safety Board (DDESB), DDESB-KO, Subject: Safety Submission for the Removal of Ordnance and Explosives (OE) from the Open Burning Grounds, Seneca Army Depot Activity (SEDA), New York, 1 October 1998.

2. We have reviewed this revised submission in accordance with the criteria of DOD 6055.9-STD as implemented by AR 385-64, and have granted Army approval. It is provided for Department of Defense Explosives Safety Board (DDESB) review with our recommendation for approval to allow OE removal and lease and/or transfer of property.

3. This submission is a revision to a previously approved submission (ref 1c). Your office approved the original submission 1 October 1998 (ref 1d). However, during the operation, it was determined several changes to the scope and procedures were required so the submission was revised. Change text in this revision appears as bold, italicized text.

a. Interference from a layer of metallic debris in the first 12 inches of soil renders detectors useless. So 12 inches of soil will be removed and sifted; then the detectors will be used to map anomalies. The anomalies will be cleared to a 2-foot depth, but if any are found deeper, they will also be removed.

b. A 37mm MK II projectile was discovered during the surface clearance. Its greater fragmentation distance requires larger separation distances than those used in the original submission. The detection equipment can detect these rounds to a one-foot depth, and the previous most probable munitions (MK II Grenade) to a 2-foot depth.

SIOAC-ESL (AMSIO-SF/13 May ()) 1st End
SUBJECT: Explosives Safety Submission, Ordnance and Explosives Removal at the Open Burning Grounds Seneca Army Depot Activity, July 1998

c. As in the original submission, it is reasonable to assume the OE will be within the first 12 inches since this parcel was a burning ground where items were burned on the surface. The data obtained from this clearance will either prove or disprove this theory. All available evidence indicates the OE is restricted to the top 6-8 inches.

(1) If no OE is found deeper than 1-foot, it is reasonable to conclude the OE hazard has been removed from this parcel. The parcel then will be released for unrestricted use.

(2) However, if any OE is found deeper than 1-foot, another safety submission will be prepared.

4. We will send you the final removal report documenting the types, amounts, and depths of OE recovered.

5. The POC is Ms. Jean Gallagher, SIOAC-ESL, (918) 420-8876, DSN 956-8876, email gallagher@dac-emh2.army.mil.

FOR THE DIRECTOR

Clifford H Doyle

Encl
nc

CLIFFORD H. DOYLE
Safety Manager, Ordnance
Explosives Environmental Division

CF (wo/encl):
Army Safety Office, ATTN: DACS-SF, Chief of Staff, 200 Army Pentagon, Washington, DC 20310-0200
Commander, Industrial Operations Command, ATTN: AMSIO-SF, Rock Island, IL 61299-6000
Commander, U.S. Army Engineering and Support Center Huntsville, ATTN: CEHNC-OE-DC, P.O. Box 1600, Huntsville, AL 35807-4301
Commander, U.S. Army Engineering and Support Center, Huntsville, ATTN: CEHNC-OE-CX, P.O. Box 1600, Huntsville, AL 35807-4301

DEPARTMENT OF THE ARMY
HEADQUARTERS, U.S. ARMY INDUSTRIAL OPERATIONS COMMAND
ROCK ISLAND, IL 61299-6000

AMSIO-SF (385-10d) 13 MAY 1999

MEMORANDUM FOR Director, Defense Ammunition Center, ATTN: SIOAC-ESL, 1C Tree Road, Bldg 35, McAlester, OK 74501-9053

SUBJECT: Explosives Safety Submission, Ordnance and Explosives Removal at the Open Burning Grounds Seneca Army Depot Activity, July 1998

1. The Industrial Operations Command Safety Team recommends approval of the enclosed U.S. Army Corps of Engineers (COE) prepared explosives safety submission (ESS) (encl 1) for your review. As this is the 3rd submission, the COE requests an expeditious review. Their proposed start date for excavation is 14 June 1999.

2. Prior IOC Safety Team comments (encl 2) have been incorporated.

3. The POC is Mrs. Deb Westervelt, AMSIO-SF, DSN 793-2986, E-mail amsio-sf@ioc.army.mil or westerveltd@ioc.army.mil.

2 Encls
as

ROSALENE E. GRAHAM
Chief, Safety/Rad Waste Team

Explosive Safety Submission

Ordnance And Explosives Removal

at the Open Burning Grounds,

Seneca Army Depot Activity,

Romulus, New York

July 1998 -June 1999

Prepared by
US ARMY CORPS OF ENGINEERS
Engineering and Support Center, Huntsville

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A	Maps
B	List of Demilled Items - OB/OD Grounds
C	Excerpts From Work Plan: Scrap Handling
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INTRODUCTION

This Explosive Safety Submission is for the removal of Ordnance and Explosives (OE) from the Open Burning Grounds, Seneca Army Depot Activity (SEDA), New York. It outlines the safety aspects of the plan for cleanup of Unexploded Ordnance (UXO) and OE on property that is owned by the Department Of Defense (DoD).

SEDA is a US Army facility located in Seneca County, New York. SEDA occupies approximately 10,600 acres (Appendix A, Figure 1). It is bounded on the west by State Route 96A and on the east by State Route 96. The cities of Geneva and Rochester are located to the northwest (14 and 50 miles, respectively); Syracuse is 53 miles to the northeast and Ithaca is 31 miles to the south. The surrounding area is generally used for farming.

SEDA was included on the Federal Facilities National Priorities List on 13 July 1989. Consequently, all work to be performed under this contract will be performed according to Comprehensive Environmental Response Compensation and Liability Act (CERCLA) guidance and the "Federal Facility Agreement under CERCLA Section 120 in the matter of Seneca Army Depot, Romulus, New York,".

SEDA was included on the 1995 Base Realignment and Closure List and is due to be closed. The Seneca County Industrial Development Agency (IDA) has prepared a reuse report entitled "Seneca Army Depot Reuse Plan and Implementation Strategy". The majority of the installation will be used for housing developments, industrial development, institutional and conservation/recreation uses upon transfer. The current OB Grounds site will fall within the area designated for "Conservation/Recreation". The intended uses which fall within the definition of "Conservation/Recreation" are: wildlife habitation, wildlife viewing, hiking/walking and picnicking. Although there is currently no plan for establishing camping facilities, the IDA does not wish to restrict such a possibility in the future. Therefore, this ESS is based upon the assumption that the clearance depth to be used will be based upon the Public Access scenario (e.g. surface recreation).

1.0 REASON FOR OE.

Open detonation/open burning operations have been conducted for more than forty years in the munitions destruction area (90 acres) in the northwest portion of the installation. The OB Grounds occupies an area of approximately 30 acres within the southern portion of this site (Appendix A). The Open Burning Grounds is the sole subject of this Explosives Safety Submission. The OD Grounds will be remediated separately.

The burning pads were used from the early 1960's till the late 1980's. During this time, items burned included explosive trash from an old washout plant and fuzes containing lead compounds. Operations were conducted by preparing combustible beds of pallets and wooden boxes and placing ammunition or components to be destroyed on the beds. A trail of propellant was placed on the ground and an electric squib was activated by an operator from a distance.

Originally open burning was conducted directly on the clay ground surface. Due to the seasonally wet nature of the local soils, the individual burn pads were subsequently built up with shale to provide a drier environment in which to perform the munitions burning. The berms around the burn pads were formed by bulldozing the surrounding soils, including those soils which contained residues of the burning process. The base material of the pads is composed of crushed shale which was quarried from a nearby area on SEDA and placed over the till to provide a solid base with good drainage. The burning of munitions was performed at nine burning pads labeled A through H and J. Of the nine burn pads, five are small (A,B,C,D and E; each approximately 70' x 100'). Two are of intermediate size (F and H; each approximately 120' x 210') and two are rather large (G and J; each approximately 200' x 460').

Pads A and J were the first to be abandoned. Pads A and J were only used for trash and rubbish while Pads B, C, D, E, F, G and H were used for explosives and propellants. The practice of open burning was discontinued in 1987. Currently, burning of munitions is done with an open air, steel enclosure located immediately west of Burning Pad D.

2.0 MAPS.

Maps detailing the location and extent of the area of concern and presenting the relevant Public Withdrawal Distances, Q-D Distances, etc., are presented in Appendix A to this submission.

3.0 AMOUNT AND TYPE OF OE.

A list of items that were demilled at the Munitions Destruction Area is included in Appendix B. Examples of items burned at the OB Grounds include various pyrotechnic items and fuzes. The HE items shown on the list (grenades, both hand and rifle), were only detonated at the OD Grounds, so no items of a high explosive nature are to be expected at the OB Grounds (personal communication with Mr. Jim Jones, former supervisor of munitions destruction operations at Seneca; 15 and 19 May 1998).

Three Most Probable Munitions (MPM) were chosen for this site. One was chosen for determination of the required Public Withdrawal Distance. This is the ***37mm MK II Projectile***. ***The Net Explosive Weight (NEW) is 0.527 lbs. of TNT***. The Public Withdrawal Distance (PWD) for this MPM is 1181 feet, which was computed using HNC-ED-CS-S-98-1 (approved by DDESB on 6 April 1998) by Dr. Michelle Crull, USAESC, Huntsville, Engineering Division, Structures Branch, 4-10-98. If an OE item having a greater fragment distance is found, its withdrawal distances will be determined in accordance with the procedures defined in 98-01. Until the appropriate distances are determined by 98-01, the default distances in DoD 6055.9-STD (Chapter 5, Paragraph E.4.a) will be used.

The ***second and third*** MPM was chosen for the purpose of determining the effectiveness of geophysical investigation equipment with respect to both ***ferrous and non-ferrous (pyrotechnic) items***. These are the M17, M19, M21 or M51 series Illuminating Ground Parachute Signal ***and the Mk II Hand Grenade***.

4.0 START DATE.

Work is anticipated to start in ***late May 1999*** beginning with survey work and progressing to intrusive work. Intrusive work should begin by ***14 June***.

5.0 FROST LINE DEPTH.

The design frost depth for this site is 40 inches.

6.0 CLEARANCE TECHNIQUES.

This section presents information concerning the techniques to be used during the removal of OE at this site.

General Progression. OE remediation at the SEDA OB Grounds will take place in the following phases:

o Phase I. The thirty acre site, *including* the existing berms, pads and the low-lying hill, *was* surface cleared of all OE. This surface clearance *was* a visual clearance with instrument assistance, as required.

o Phase II. A Geophysical Test Grid *was* performed to verify that the detection equipment *could* detect the Most Probable Munitions to the required depths. These are two feet for the MK II Grenade and one foot for the Illuminating Signal ***and the 37mm Mk II projectile. Due to a tremendous amount of interference (ferrous and non-ferrous items) in the top soil horizon at the test site, the instrumentation tested poorly with nothing visible above the constant background noise that was picked up. Additionally, in clearing a site at the OB Grounds for placement of the sifting unit, it was noted that all OE-and OE-related scrap occurred in the top 8-9 inches of soil. Consequently, a second effort was made to determine the probabilities of detection at the site. Initially, 12 inches of soil were removed from the surface of the Geophysical Test Plot and the instrumentation was re-run, resulting in a removal of the noise and achievement of much greater probabilities of detection. Using both the EM-61 and the White's Spectrum XLT, the Contractor was able to demonstrate good capability in detecting the three chosen MPM's to at least the depths required.***

o Phase III. The pad berms and the low-lying hill area will be excavated and sifted to remove all OE and scrap. A standard operating procedure for the sifting operations is included in Appendix D of this ESS. The sifted soils will then be stockpiled for remediation as part of a follow-on Hazardous/Toxic and Radiological Waste (HTRW) remediation project. The principle purpose of this HTRW remediation is to remove lead and other heavy metal contamination from the soil.

o Phase IV. Subsequently, the thirty acre site, minus the existing berms and the low-lying hill, will be excavated to a depth of 12 inches and that soil will be sifted. This is to completely remove the layer of interference (in the OB Ground proper, presumably OE-related scrap) that was evident in the completion of the test grid and the clearance of the sifter location.

(1) The 12 inch clearance over the majority of the site is expected to show that all OE is located at less than that depth. For example, if OE is only found in the top six inches, it is reasonable to assume a 1-foot removal was adequate;

(2) Mapping and anomaly sampling of areas deeper than 1-foot is expected to show that no OE is present at a depth greater than that 1-foot horizon.

At such a point, it will be concluded that no additional OE clearance will be required over the remainder of the site. This conclusion will be presented in the Final Report for this project, which will be distributed for review.

b. If OE-contamination does exist below the 1-foot depth, it will be removed. In this case, another ESS will be submitted for approval.

o Phase IX. The Final Report detailing the actual outcome of this project will be provided for information to those who have reviewed and approved this ESS and the remaining portions of the HTRW remediation will be initiated.

Discussion of Project-Specific Procedures.

All surveying activities will be completed with the accompaniment of a UXO escort. Surveying activities will consist of the location of soil excavation points, site grids and verification of payment quantities.

For surface clearance, each grid will be walked and visually checked for the presence of ordnance. Instrument assistance may be used as required. For subsurface clearance, each grid will be divided into 5 foot transects or lanes. Operators will walk each lane with the chosen geophysical instrument. The ch instrument(s) will be capable of detecting the Most Probable Munitions to the proposed depths. All anomalies will be marked with pin flags for retrieval by another team. Anomalies will be dug to a depth of two feet to determine the identity thereof. If anomalies are found to exist below the two foot clearance

NEXT PAGE MISSING

Additionally, the contractor will establish and enforce strict area and site access at the OB site proper. Access into a work site exclusion zone will be limited to contractor personnel specifically authorized to work on site and Corps of Engineers safety personnel. All other personnel will be restricted from entering the exclusion zone or be escorted by contractor or Corps safety personnel.

Disposal operations will be carried out *weekly*. Items which can be moved ***will be consolidated in accordance with "Procedures for Demolition of Multiple Rounds (Consolidated Shots) on Ordnance and Explosives (OE) Sites", dated August 1998 and approved by DDESB on 27 October 1998. Disposal will be carried out at the OD Grounds which is adjacent to the OB site. UXO will be stored in the second magazine while awaiting demo operations***. Items which can not be moved will be blown-in-place, individually.

QA/QC requirements are presented in the Work Plan (see Appendix C, Excerpt 1). Pass/fail criteria are specifically discussed in Sections 8.7.2 through 8.7.4 in the excerpt. Scrap that is collected from this action will be handled as discussed in Sections 2.7.1 and 8.7.5 of the Work Plan (see Appendix C, Excerpt 2).

7.0 ALTERNATE TECHNIQUES. NA.

8.0 QUANTITY-DISTANCES.

The appropriate Quantity-Distances are shown on the site map enclosed in Appendix A of this submission. For ease of review, the distances are repeated here. The rationale for the MPM and citation for the calculation method are presented in Section 3.0 of this submission. In general, team separation distances will be determined by the greater of 200 feet or the K50 (0.9 psi overpressure) distance. The separation distance for all unrelated personnel for an accidental detonation from an OE area will be determined by the greater of 200 feet, the K50 distance or the maximum fragment throw distance. The separation distance for all personnel (related and unrelated) for intentional detonations will be determined by the maximum of 200 feet, the K328 distance or the maximum fragment throw distance. Applying the above principles, the following distances apply:

OE Areas: Minimum of *1181 feet* (this is the maximum fragment range for ***the 37mm Mk II Projectile***).

Magazines: Minimum of 500 feet (Front) and 250 feet (Rear and Sides), IAW Table 9-1 of DoD 6055.9-STD. The back and sides of the existing magazines face the removal site. Therefore, 250 feet will govern for the vast majority of the proposed removal. Note that these distances are for 1.1 explosives; therefore, they exceed the distance requirements ***for the 1.4*** demolition materials to be stored ***in one of the magazines. UXO (Class 1.1) will be stored in the second magazine***.

Intentional Detonations: Minimum of *1181 feet* (via approved calculation).

Sifting Operations: During operation, no non-essential personnel will be allowed within a 400 foot radius of the sifter. ***This is due to the fact that the 1/600 distance for a 37mm Mk II Projectile is less than the separation distance computed based upon the Joint Hazard Classification for the Mk II Hand Grenade, which is 400 feet since the Mk II grenade is a (04)1.1 item. Therefore, the more conservative 400-foot distance will be used.*** Reference should be made to Site Map No. 4 in Appendix A.

9.0 OFF-SITE DISPOSAL. NA.

10.0 TECHNICAL SUPPORT.

No Chemical Warfare Materials (CWM) are suspected at this site. The contractor will positively identify all OE uncovered before items are removed or destroyed. If a suspect CWM is encountered, the Site Safety Officer will stop all operations on site and notify the on site CEHNC representative. The CEHNC Safety Specialist will notify the appropriate Explosive Ordnance Disposal (EOD) Detachment (725th Ordnance Company (EOD) out of Fort Drum) and/or Technical Escort Unit.

11.0 LAND USE RESTRICTIONS.

There will be no reuse restrictions required following this action. The site will be transferred (sometime during the closure process) for use as discussed in the INTRODUCTION, above.

APPENDIX A

MAPS

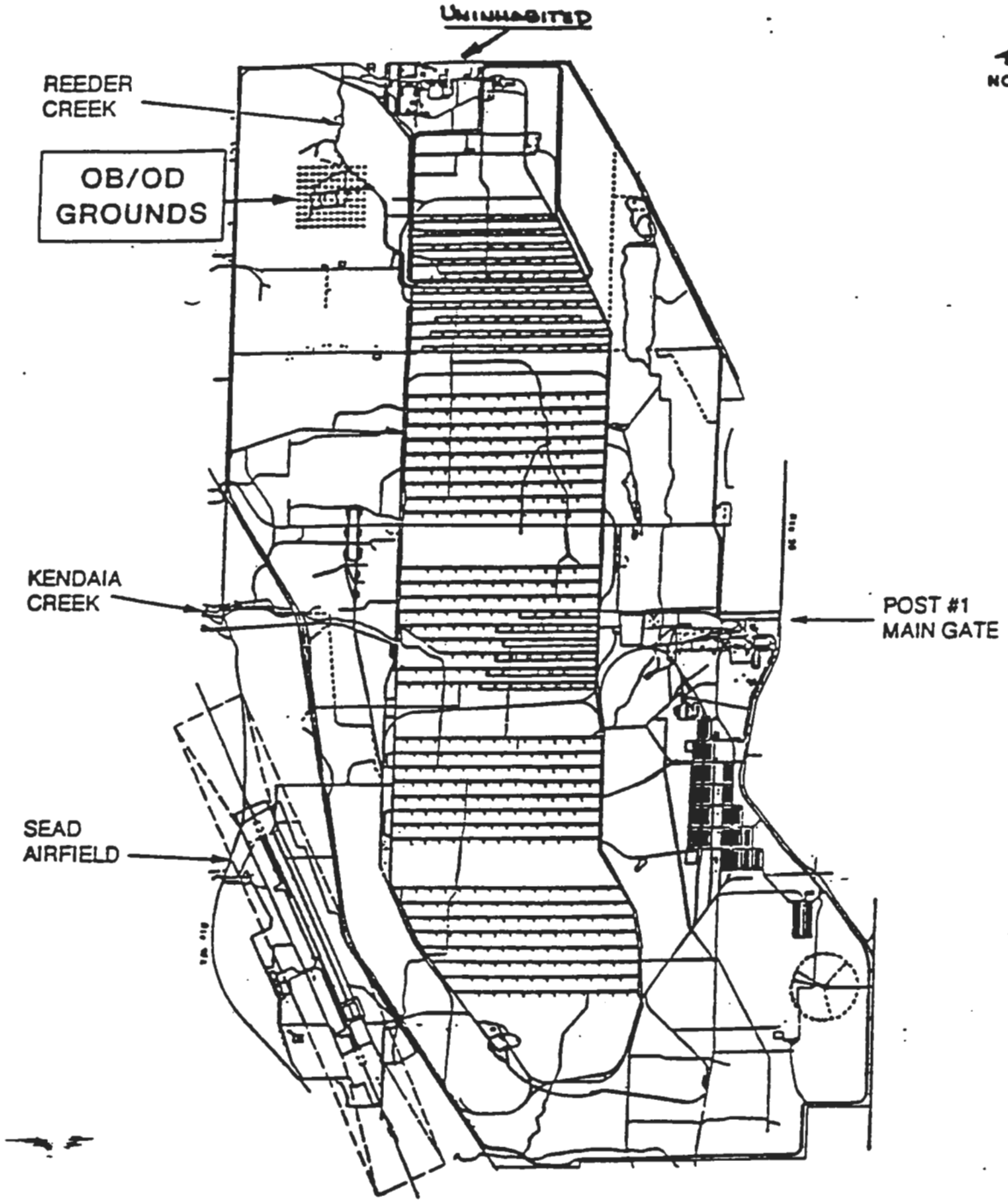
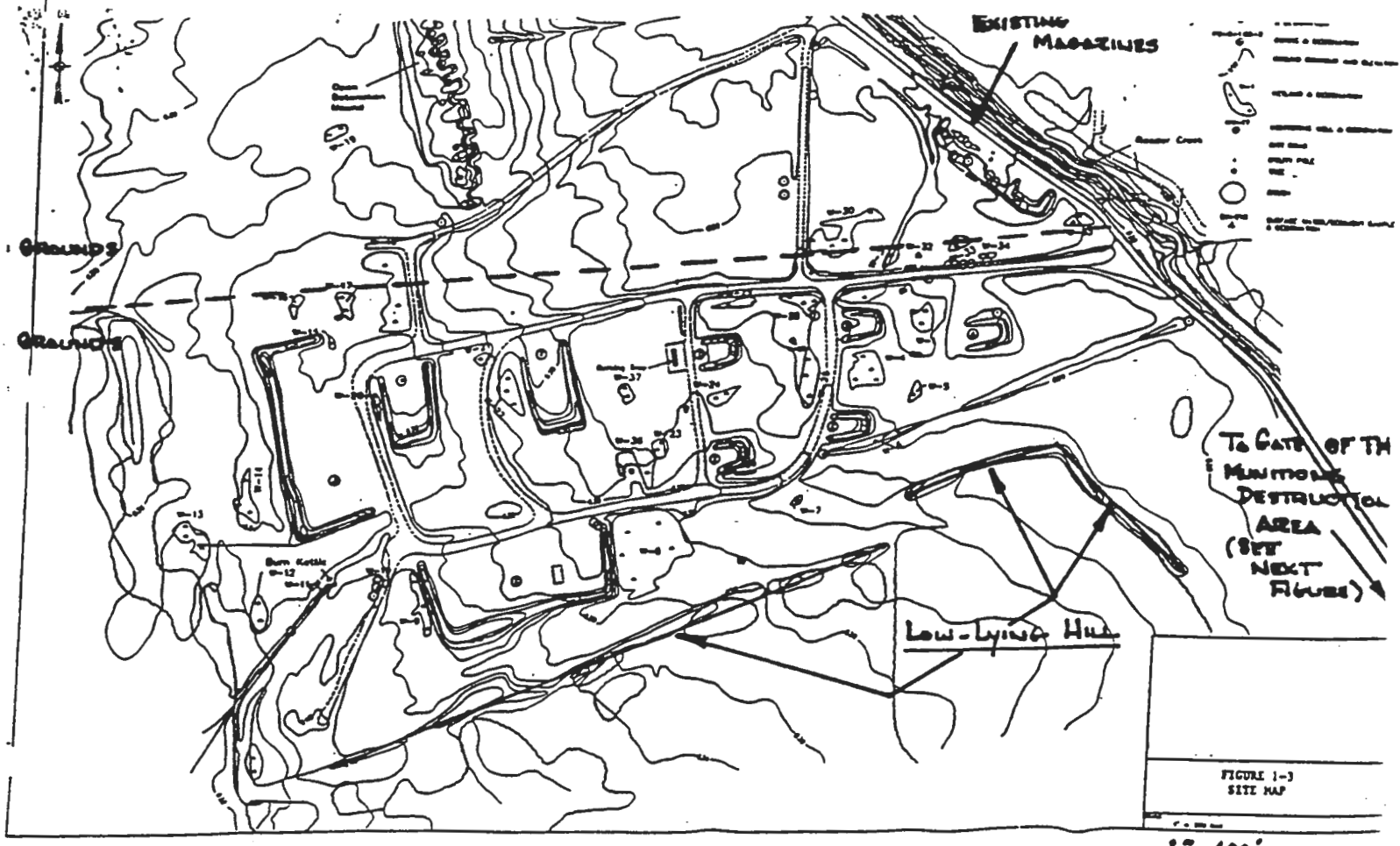


FIGURE 1-2

SENECA ARMY DEPOT MAP

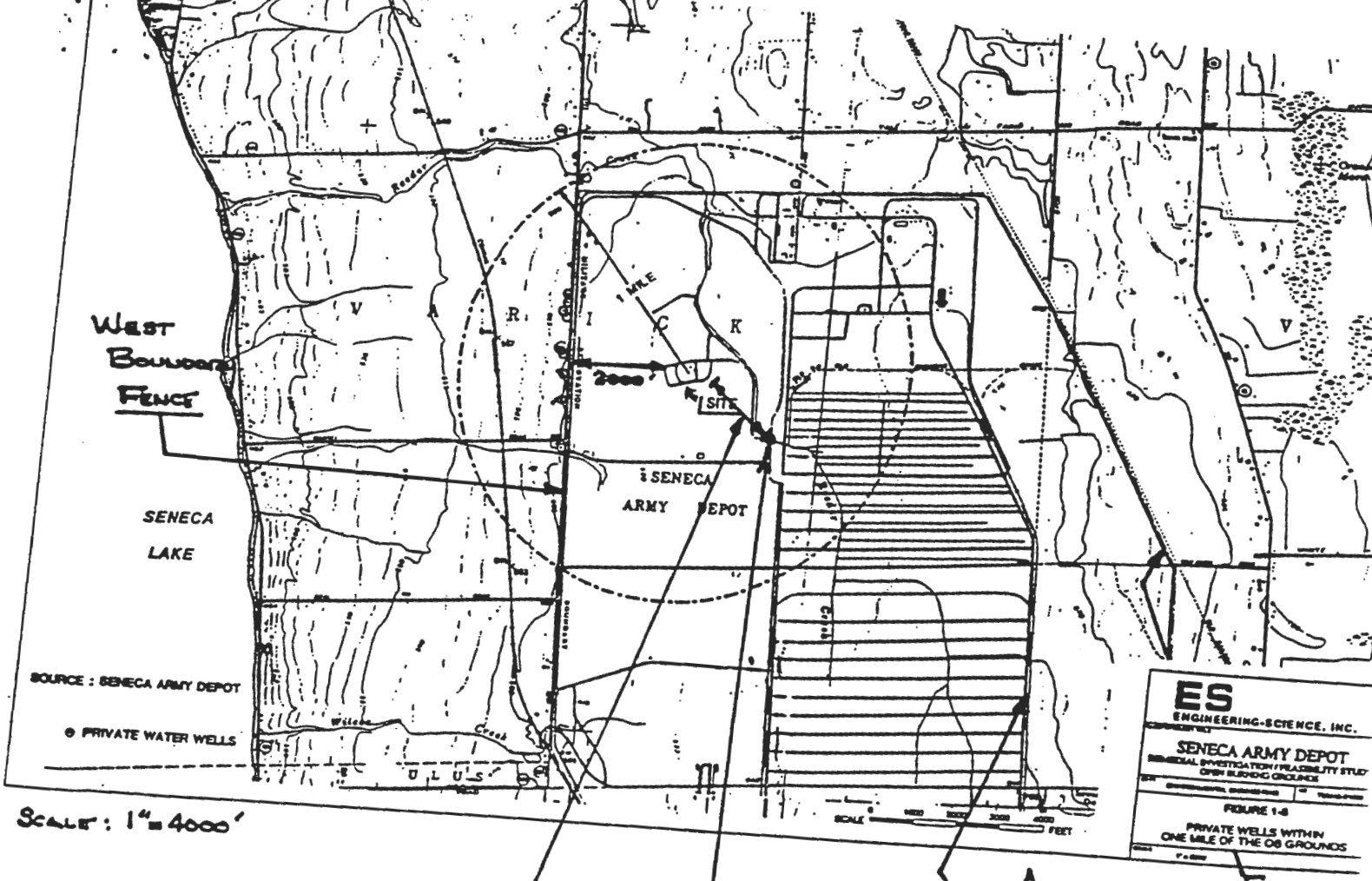
SOURCE: Seneca Army Depot

SCALE 1" = 2000' (APPROXIMATE)



MPM = 37mm Projectile
PWD = 1181 feet

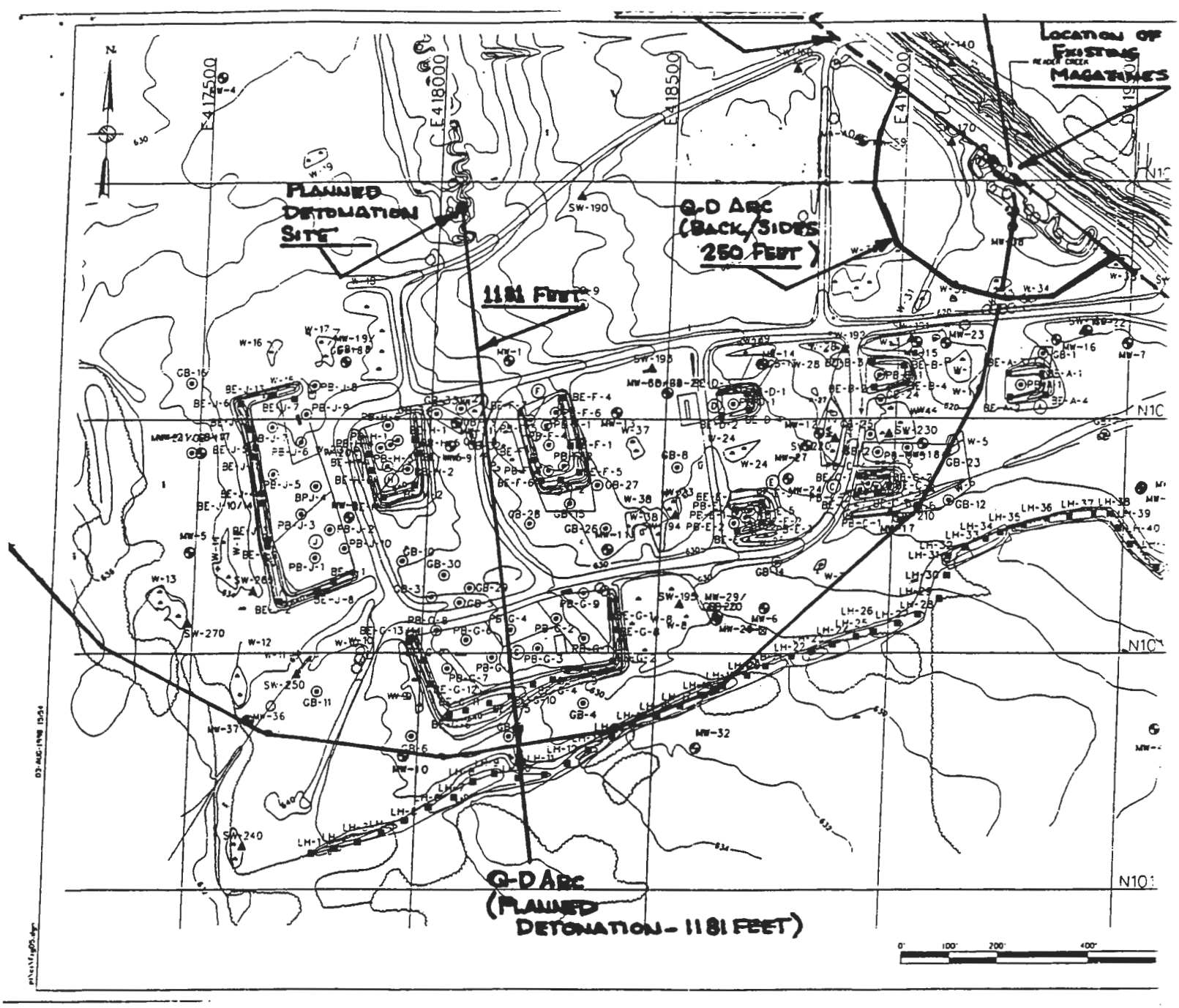
Site Map 1
General Site Layout



(CLOSEST POSSIBLE PRESENCE OF THE "PUBLIC" i.e. NON-UXO QUALIFIED, NON-UXO ESCORTED CONTRACTOR, DEPOT, SECURITY PERSONNEL)

MPM = 37mm PROJECTILE
PWD = 1181 FEET

SITE MAP 2
DISTANCES TO THE NEAREST POSSIBLE PRESENCE OF THE



NOTE: REFER TO SITE MAP 2 TO SEE RELATIONSHIP OF DISTANCES SHOWN HERE TO THE OVERALL OB GROUNDS SITE AND THE NEAREST POSSIBLE PRESENCE OF THE GENERAL PUBLIC.

NOTE: Q-D ARCS FOR ALL OE AREAS ARE NOT SHOWN FOR OBVIOUS REASONS. AS ONE CAN GRASP FROM REFERENCE TO SITE MAP 2, THE SHORTEST DISTANCES TO THE NEAREST POSSIBLE PRESENCE OF THE GENERAL PUBLIC ARE:

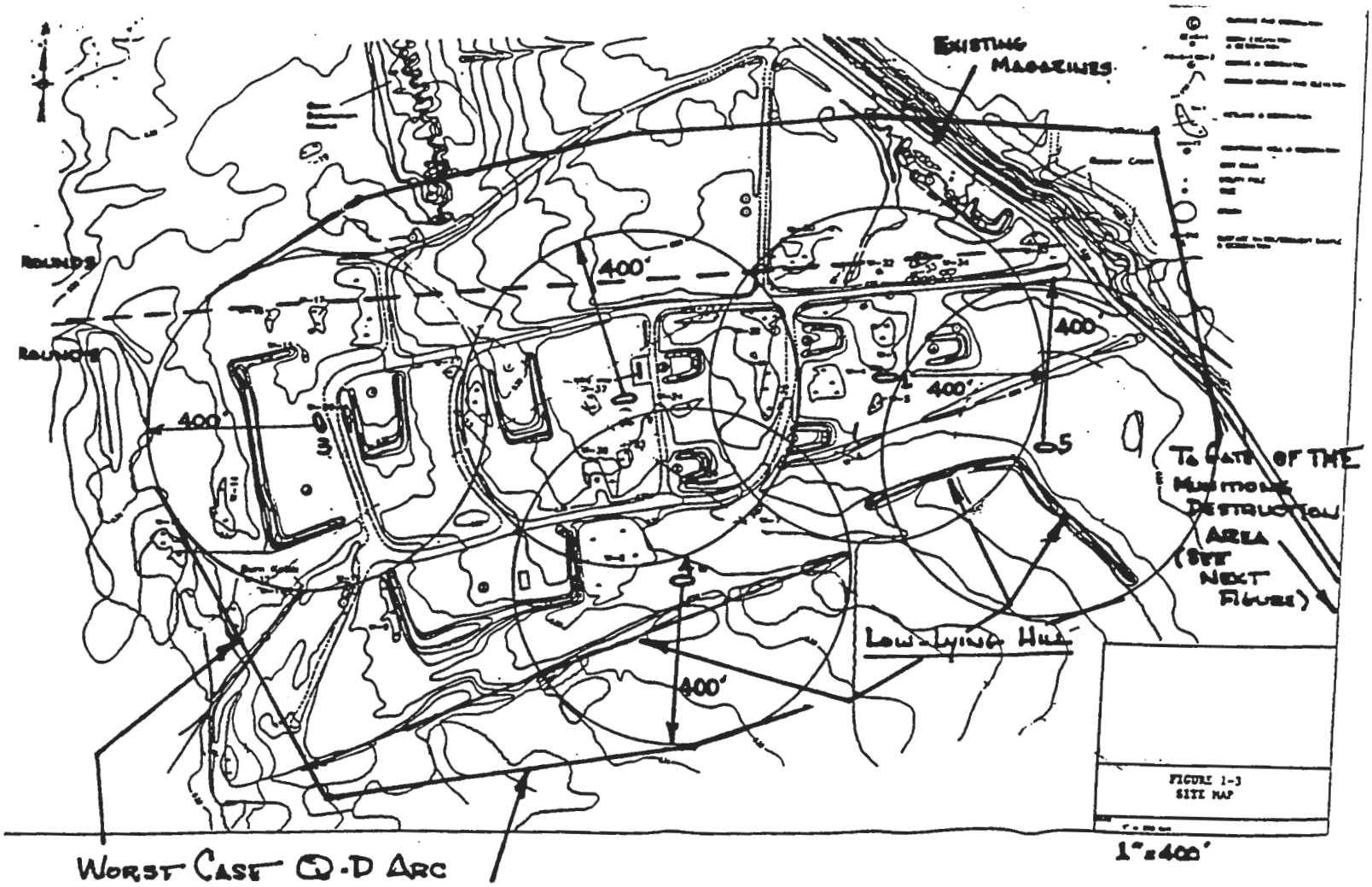
1880 FEET ± TO THE ENTRANCE TO THE MUNITIONS DESTRUCTION AREA FROM THE EXTREME SE PORTION OF THE SITE (IE. EXTREME SE TIP OF THE LOW-LYING HILL)

2000 FEET ± TO THE WEST BOUNDARY FENCE

2000 FEET ± TO THE PATROL ROAD SOUTH OF THE SITE

4000 FEET ± TO THE PATROL ROAD NORTH OF THE SITE

SITE MAP 3
Q-D ARCS FOR MAGAZINE
AND PLANNED DETONATION



WORST CASE Q-D ARC FOR THE SIFTER (>400 FEET FROM ANY AND ALL POSSIBLE SIFTER LOCATIONS)

NOTE: MAP IS INTENDED TO DEMONSTRATE THAT 400' OF Q-D CLEARANCE WILL BE KEPT AROUND THE SIFTER REGARDLESS OF LOCATION. AS THE SIFTER WILL BE CONSTANTLY MOBILE, THERE WILL BE MANY MORE THAN THE FIVE LOCATIONS SHOWN.

MPM = 37mm PROJECTILE BUT IT WOULD BE MORE CONSERVATIVE TO USE A MK II GRENADE WHICH IS AN (04) 1.1 ITEM.

THEREFORE Q-D DISTANCE AROUND SIFTER LOCATION IS 400 FEET AT ALL TIMES OF OPERATION.

SITE MAP 4
SIFTER LOCATIONS AND Q-D ARCS

APPENDIX B

List of Items Demilled

at the SEDA Munitions Destruction Area

ATTACHMENT 2

List of Demilled Items

DRAWING NUMBER or MIL-SPEC	ITEM
73-1-226	Burster, M14
73-1-197	Burster, M19
73-1-202	Burster, M21
73-1-215	Burster, M23
73-2-21	Burster, M24
797832	Burster, M55
73-1-264	Burster, M57
75-1-258	Burster, M40 Series
73-1-226	Burster, M41
73-1-230	Burster, M47
8886484	Burster, M48
8861032	Burster, M71
8434390	Cam, Catapult, Firing
122-47-18	Cap, Blasting Electric
122-47-14	Cap, Blasting Electric

APPENDIX A Cont'd

DRAWING NUMBER or MIL-SPEC	ITEM
18-60-255	Cap, Blasting, Electric, Commercial #6
12-47-05	Cap, Blasting, Electric, #8
Spec. AXS 1234	Cap, Blasting, Electric, #6, 1st, 2nd, 3rd and 4th Delay
30972	Cap, Blasting, Electric, J2, PETN Type 2 and M6
30948	Cap, Blasting, Nonelectric J1, PETN, RDX Type 1 and M7
L-C-4546	Cap, Blasting, Nonelectric #6 and 8
L-C-20496	Cap, Blasting, Nonelectric Tetryl Type A
96713	Cartridge, Activating Device
491836 (Navy)	Cartridge, Activating Device, MK 17, Mod 0
0051-1	Cartridge, Powder Actuated
155	Cartridge, Aircraft, Fire Extinguisher
1796 (Navy)	Cartridge, Bomb, Ejection, MK1, Mod 2 and 3
008	Cartridge, Bomb, Ejection, MK2, Mod 0
-31-1	Cartridge, Bomb, Ejection, M3
.1-2 (Air Force)	Cartridge, Bomb, Ejection, ARD 863-1
7155	Cartridge, Cutting Blade
6478	Cartridge, Delay, XM332
3001	Cartridge, Delay - Hi - Shear Corp.
-33 (Air Force)	Cartridge, Engine Starter, MXU410 and

[M]IL-C-27658	Cartridge, Engine Starter, MXU 129A
[8]0022246	Cartridge, Explosive
[1]026-001	Cartridge, Igniter, Turbojet Engine Type 2
[1]9831	Cartridge, Ignition, M2
[1]92287	Cartridge, Ignition, M2A2
[.]-19-78	Cartridge, Ignition M5A1
[.]-19-71	Cartridge, Ignition, M6
[.]-19-79	Cartridge, Ignition, M8
[.]-19-82	Cartridge, Ignition, M66
83661 (Navy)	Cartridge, Impulse, MK2, Mod 1.
13-40 (Navy)	Cartridge, Impulse, MK24, Mod 0.
18426 (NAVAIR)	Cartridge, Impulse, MK131MOD 0
-1-227	Cartridge, Impulse, M25A1
-1-280	Cartridge, Impulse, M29A2
-1-288	Cartridge, Impulse, M30
-1-290	Cartridge, Impulse, M31A1
[.]1-95-1-11	Cartridge, Impulse, M36
[.]4084	Cartridge, Impulse, M57
[.]3295	Cartridge, Impulse, M67
[.]079	Cartridge, Impulse, MK104, Mod 0
21610	Cartridge, Impulse, M141
21960	Cartridge, Impulse, M150

APPENDIX A Cont'd

DRAWING NUMBER or MIL-SPEC	ITEM
FE 51831	Cartridge, Impulse, M151
1283660	Cartridge, Impulse, ARD 446-1 :
9311660	Cartridge, Impulse, M796
95-1-15	Cartridge, Initiator, M38
95-1-22	Cartridge, Initiator, M46
8593274	Cartridge, Initiator, M70
8594157	Cartridge, Initiator, M73
9465	Cartridge, Initiator, M91
8593512	Cartridge, Initiator, M93
58D46856 (Air Force)	Cartridge, Kit, Bomb
61D14986 (Air Force)	Cartridge, Kit, Parachute
6RS2C3268	Cartridge, Line Throwing Device
2434364	Cartridge, Mine Safety Appliance
78-0-114	Cartridge, Photo Flash, M112 Series
78-0-132	Cartridge, Photo Flash, M121 Series
78-0-134	Cartridge, Photo Flash, M123 Series
78-0-137	Cartridge, Photo Flash, M124 Series
Commercial Cartridge, Powder Actuated Tool, Cal .22 and Cal .30	
P822S7AK	Cartridge, Release Cargo, Parachute, 1.0 sec delay
8258662	Cartridge, Release Cargo, Parachute, 2.0 sec delay
Commercial Cartridge, Set, Escape System-4, MC2	
5-1-17	Cartridge, Thruster, M42
F7365	Cartridge, Thruster, M43
FF7367	Cartridge, Thruster, M44
596708	Cartridge, Thruster, M94
D20674	Cartridge, Thruster, M119
8797470	Cartridge, Thruster, T239
82-0-158	Charge Assembly, Demolition, M37
P216416	Charge Assembly, Demolition, M183
83-0-93	Charge, Demolition Block, M2 and M3
P84025	Charge, Demolition Block, M5
82-13-9	Charge, Demolition Block, M5A1
17476	Charge, Demolition Block, M112
17651	Charge, Demolition Block, M118
17971113	Charge, Demolition Block, 1/4-lb TNT
82-13-24	Charge, Demolition Block, 1/2-lb and 1-lb TNT
MIL-E20308	Charge, Demolition Block, 1-lb Nitro-Starch
84857	Charge, Demolition Chain, M1
4306-5-1	Charge, Demolition Linear, Component of Demo Kit, M2
5234-6	Charge, Demolition Linear, Component of Demo Kit, M2A1 and M6
2-13-23	Charge, Demolition Linear, Component Expl. Kit, Earth Rod
5803	Charge, Demolition, Shaped, M2A1
2-0-120	Charge, Demolition, Shaped, M2A3
M935	Charge, Demolition, Shaped, M3
4943	Charge, Demolition, Shaped, 10-lb
237975	Charge, Demolition, Shaped, 40-lb

APPENDIX A Cont'd

DRAWING NUMBER or MIL-SPEC	ITEM
75-2-214	Fuze, Point Detonating, M78 Series
75-2-251	Fuze, Point Detonating, M21 Series
75-1-195	Fuze, Point Detonating, M82 Series
75-2-374	Fuze, Point Detonating, TZ54 Series
75-2-320	Fuze, Point Detonating, M503 Series
75-2-359	Fuze, Point Detonating, M508 Series
75-2-393	Fuze, Point Detonating, M519 Series
9511100	Safety and Araing Device, Guided Missile XM143
11711435	Fuze, Electronic Time, M587
11711268	Fuze, Electronic Time, M724
25510000	Fuze, Electronic Time, M762
2550850	Fuze, Electronic Time, M767
226630	Fuze, PIBD, XM579
797514	Fuze, Point Detonating, M524E1 NOTE: This SOP does not apply to the basic model Fuze, M524
800197	Fuze, Point Detonating, M525 Series
5-2-393	Fuze, Point Detonating, M526 Series
5-1-195	Fuze, Point Detonating, M527 Series
5-2-141	Fuze, Point Detonating, M535 Series
635555	Fuze, Point Detonating, M557 Series
80696	Fuze, Point Detonating, M572
58605	Fuze, Point Detonating, M739
5332	Fuze, Point Detonating, M739A1
2-236	Fuze, Point Initiating, M90 Series
9755	Fuze, Point Initiating, Base Detonating, M509 Series
525	Fuze, Proximity, M504 Series
0367	Fuze, Proximity, M513 Series
245	Fuze, Proximity, M514 Series
368	Fuze, Proximity, M515 Series
2852	Fuze, Proximity, M517 Series
76900	Fuze, Proximity, M532 Series
16451	Fuze, Proximity, M732
523 (Navy)	Fuze, Rocket, Nose, MK137 Series
783 (Navy)	Fuze, Rocket, Nose, AN-MK149 Series
744 (Navy)	Fuze, Rocket, Nose, MK154 Series
45 (Navy)	Fuze, Rocket, Nose, MK155 Series
5581	Fuze, Rocket, Nose, M414 Series
745	Fuze, Rocket, Point Detonating, M423 and M423A Series
-166	Fuze, Time M84

APPENDIX A Cont'd

DRAWING NUMBER or MIL-SPEC	ITEM
75-3-154	Fuze, Time Superquick, M54
75-3-155	Fuze, Time Superquick, M55
565141	Fuze, MT, MK25 Mod 5 (1390-M257)
253190	Fuze, MT, MK51-4 (1390-M247)
2428426	Fuze, MT, MK342 Mod 0 (1390-M250)
10520791	Fuze, Mechanical Time, M62
10520688	Fuze, Mechanical Time, M63
8594044	Fuze, Mechanical Time, Superquick, M520 Series
9236500	Fuze, Mechanical Time, Superquick, M577
9352381	Fuze, Mechanical Time, Superquick, M577A1
9236701	Fuze, Mechanical Time, Superquick, M582
9352382	Fuze, Mechanical Time, Superquick, M582A1
053001-1	Generator, Gas Pressure, Prop, Actuated
82-0-143	Grenade, Hand, Fragmentation, MK2 Series
75-14-346 PRESSED FIBER BODY, NOT CRITICAL	Grenade, Hand, Offensive, MK3 Series
82-0-1 INERT	Grenade, Hand, Practice, M2182-0-190
82-0-190	Grenade, Hand, Fragmentation, M26 Series
82-0-191 INERT, MAYBE SMALL SEPARATE BLACK POWDER CHARGE	Grenade, Hand, Practice, M50
13-7-4	Grenade, Hand and Rifle: Smoke, WP, M54
82-0-109 NOT CRITICAL	Grenade, Rifle, Smoke, WP, M19 Series
82-0-117 NOT CRITICAL	Grenade, Rifle, Smoke, M22 Series
82-0-139 NOT CRITICAL	Grenade, Rifle, Smoke, Streamer, M23
82-2-204 NOT CRITICAL	Grenade, Rifle, Illuminating, M27 Series
82-0-195	Grenade, Rifle, HEAT, M31
6-9-62 SHAPED CHARGE (ANTI-TANK)	Igniter, Blasting Fuse, M1 & M2
78-0-127	Igniter, Ram Jet Engine, M113
838168	Igniter, Ram Jet Engine, M114
6-2-590	Igniter, Ram Jet Engine, M132
6-2-592	Igniter, Ram Jet Engine, M133
8-0-155	Igniter, Ram Jet Engine, M134 & M135
886428	Igniter, Rocket, M20A1
1-1-454	Ignition Cylinder, Portable, Portable Flame Thrower: M1 (MIL-I-11525) NSN 1375-00-219-8583-M680)
1-14-652	Mine, AP, NM, M14
5738	Mine, AP, Practice, NM, M17
-9-25	Primer, Igniter, M10 Series Mine Fuze
-2-63	Primer, Percussion, M1B1A2
760-1	Primer, Percussion, Cap, MOD, Improved No. 2 or 3
-2-21	Primer, Percussion, Electric MK2A4
592 (Navy)	Primer, Percussion, Electric MK13
7780 (Navy)	Primer, Percussion, Electric MK 13 Mod 1
760 (Navy)	Primer, Percussion, Electric MK 13 Mod 2
32 (Navy)	Primer, Percussion, Electric MK 14 Mod 1
952 (Navy)	Primer, Percussion, MK22 Mod 0 for 40MM Ammunition
589 (Navy)	Primer, Percussion, MK22 Mod 1 for 40MM Ammunition

OD Green only

APPENDIX A Cont'd

DRAWING NUMBER or MIL-SPEC	ITEM
8797968	Signal, Illum, Parachute, M126 and M127 Series
8797996	Signal, Ground, Smk, M128 and M129 Series
8838071	Signal, Illum, Grd, Parachute, M131 Series
78-0-96	Simulator, Proj Air Burst, M74A1
78-0-115	Simulator, Gun Flash, M110
7549246	Simulator, Proj Ground Burst, M115 Series
8835109	Simulator, Hand Grenade, M116 Series
78-0-120	Simulator, Booby Trap, Flash, M117
78-0-122	Simulator, Booby Trap, Illum, M118
78-0-124	Simulator, Booby Trap, Whistling, M119
9322059	Simulator, Flash, Artillery, M21
11745290	Simulator, Launching, Antitank Guided Missile and Rocket, M22
71-13-3	Simulator, Projectile Airburst: Charge Smoke Puff White *
32-5-146	Squib, Electric, M1 Series
75-17-11	Tracer, [illegible] Series
8849014	Tracer, XM10 Series
220866	Fuze, PD, XM716
220867	Fuze, PD, XM717
220850	Fuze, PD, XM719
310347	Fuze, Proximity, M516 Series
27728(S)	Fuze, Proximity, FMU-110/B
27272(S)	Fuze, Proximity, FMU-113

APPENDIX C

Excerpts from Work Plan: Scrap Handling

anomaly, based on the signal strength. Once verified, the UXO technician will continue digging with either the shovel or hand tools. In the event an anomaly is determined to be at a depth greater than that specified in the SOW, SUXOS, in conjunction with the CEHNC OSS, will determine the appropriate action: a) continue the excavation; or b) record the location of the anomaly for pursuing at a later time.

2.6.10.2 Location Recording

The SUXOS will direct and supervise the following operations for UXO/OE encountered.

- Complete a Grid Survey Summary Log Form and an OE Operations Grid Map, examples of these can be found in Appendix E of the generic WP.
- Measure the approximate distance to within one foot from the southwest grid corner to the OE item of concern, and also record the depth at which the item was found.
- If the item is determined to be fuzed, or is otherwise unsafe to move, its location will be marked with crossed pin flags, so that the item may be relocated for BIP demolition.

2.6.10.3 Records

The SUXOS will maintain in a hard bound notebook, a detailed accounting of activities performed at each grid, which will include information pertaining to the following:

- The date and time operations began;
- Team composition and personnel names and positions;
- The date and time operations were completed;
- Any event which impacted on the day's operations; and
- The number of OE located, with the identification, condition, depth, disposition and location recorded on the Grid Survey Summary Log and OE Operations Grid Map.

2.6.10.4 Removal and Disposal of Scrap Metal

A temporary collection point for ORS will be established by the SUXOS or team leader within or adjacent to, each operating grid. During operations, the UXO technicians who uncover an item will inspect it for the presence of explosive hazards. OE items that are free of explosive contamination and do not require venting will be placed in the grid ORS collection point. Upon completion of operations in that grid, the material in the collection point will be collected and loaded into containers, weighed and the weight entered in the team log book. Further inspection of ORS by the QCS and SUXOS will be conducted IAW the QC requirements outlined in Chapter 8 of this WP.

2.6.11 Disposal Operations

All OE-related material containing explosives will be disposed of by detonation utilizing standard demolition procedures as outlined in TM 60A-1-1-31 and the EODT Disposal/Demolition Operations SOP found in Appendix G of this WP. The following paragraphs describe in general the procedures EODT will use to detonate OE related items at the SEDA.

the continued soil removal. Once the area has been cleared for excavation, a one foot lift will be removed and the excavated area will be inspected to determine if any OE have been uncovered. The bucket contents will then be visually inspected prior to dumping, and again after the bucket is dumped. When the EMM has excavated to a depth of approximately one foot over the item, one UXO Specialist (UXOSP) will utilize hand tools and a shovel to investigate the item. During excavation operations, the SSHO will be responsible for periodically inspecting the excavation and ensuring that appropriate safety procedures are used. Any excavation greater than four feet in depth will require guidance and approval of a registered engineer, as stated in the EODT Excavation and Trenching SOP presented in Appendix G to this WP.

2.6.13 Quality Control Inspections

EODT will utilize the QC procedures presented in Chapter 8 of this WP for controlling and measuring the quality of all work performed at SEDA. All QC activities will be performed and documented IAW applicable professional and technical standards, USACE requirements, and project goals and objectives. All site activities and project deliverables will be assessed, documented and reviewed for precision, accuracy and completeness.

2.7 PROJECT CLOSE-OUT

During this phase of each project, EODT will remove its operational capability from the area and will reallocate its personnel and equipment to either other SEDA projects or projects outside the SEDA. In order to clearly estimate the completion of each project, the project SUXOS and PM will closely monitor operational performance throughout the execution of each SOW. The SUXOS will initiate actions to demobilize personnel and equipment once a clear projection can be made of the actual completion date and approval has been granted by the CEHNC PM. Demobilization and close-out activities will be performed by EODT's SUXOS, SSHO, and UXOSP.

2.7.1 Scrap Turn In

Upon completion of the project, all stockpiled, inert ordnance and ORS will be turned in to a local scrap dealer. The procedures outlined in DoD 4160.21.M will be followed and the shipment certified as being free of explosive hazards. A DD Form 1348-1 will be utilized as the Turn-In Documentation, and will include the statement "I certify that the property listed hereon has been inspected by me, and to the best of my knowledge and belief, contains no item of a dangerous nature." The DD Form 1348-1 will be signed by the SUXOS and all turn-in documentation included in the Removal Report.

2.7.2 Break Down Site

This paragraph, the requirements of the SOW and the specifications in Chapter 7 of this WP, will be followed in the break down of the site. All temporary facilities will be removed and the site

it is scheduled by the SUXOS for re-work. In addition, the QCS will conduct an audit of all grid clearance logs and reports as to their completeness.

8.7.3 Scheduled Audits

Due to the planned nature and duration of the project, a QC audit will be conducted by the EODT QCM. This audit will include a surface and subsurface check of an area representing an additional 10% of the work completed. The EODT QCM, assisted by the QCS, will proceed on a pre-determined pattern starting on the opposite side from the QCS's check, which will provide a total combined QC audit of approximately 20%. As with the QCS's check, if the site fails, it is scheduled for re-work. In addition, an inspection of all logs and a check of contractor and subcontractor personnel will be conducted to ensure that they are complying with the WP.

8.7.4 Pass/Fail Criteria

The pass/fail criteria for the final clearance of a site is set by the CEHNC. This criteria specifies that a grid will be failed if one UXO item is found during a QC or QA audit conducted by either EODT or CEHNC personnel. If this occurs, the entire grid will be failed and must be re-surveyed and cleared. Upon completion of the grid re-work, an additional QC or QA audit will be conducted again by the responsible parties. Any failure will be reported to the CEHNC KO, and the EODT QCM, PM and SUXOS.

8.7.5 Ordnance Related Scrap Inspections

When ORS is located on site, it will be inspected by at least two UXO technicians prior to being removed from the grid or sifter area. Whenever ORS is to be placed in a scrap storage container, the QCS and SUXOS will conduct a third and fourth inspection for the presence of explosive components or hazardous residues. In the event that any are discovered, the item will be removed and destroyed and the incident will be recorded and thoroughly discussed at the next daily tailgate safety meeting. The incident will be reviewed by the SUXOS and QCS and a recommended course of action will be presented to the PM, i.e., reprimand or dismissal of the two previous inspectors.

8.8 NON-CONFORMANCE/CORRECTIVE ACTION

Any non-conformance to contractual requirements will be documented and reported. Non-conformance includes:

- Delivery of items or services by EODT that do not meet the contractual requirements;
- Errors made in following work instructions or improper work instructions;
- Unforeseeable or unplanned circumstances that result in items or services that do not meet quality/contractual/technical requirements;
- Technical modifications to the project by individuals that do not have the responsibility and authority; and

STANDARD OPERATING PROCEDURE.120-B
UXO/OEW OPERATIONS - MECHANICAL SCREENING

1.0 PURPOSE

The purpose of this Standard Operating Procedure (SOP) is to outline the minimum safety and health requirements and procedures applicable to the conduct of material separation operations involving the use of mechanical screening equipment.

2.0 SCOPE

This SOP applies to all site personnel, to include EODT, contractor, and subcontractor personnel, and operations involving the separation of material through the use of mechanical screening equipment. This SOP is not intended to contain all requirements needed to ensure regulatory compliance and is generic in nature. Site-specific requirements for blast shields, plexiglass and safety arcs are presented in the figures attached to this SOP when it is added to a Site Safety and Health Plan. Additionally, consult the documents listed in section 3.0 of this SOP for additional compliance issues.

3.0 REGULATORY REFERENCES

The following Occupational Safety and Health Administration (OSHA) standards and U.S. Army Corps of Engineers (USACE) requirements directly apply to the conduct of operations associated with the SOP. In the event other hazards are associated with the conduct of this SOP, consultation of other SOPs and regulatory references may be needed.

- OSHA Construction Industry Standard 29 CFR Part 1926, Subpart O;
- OSHA General Industry Standard 29 CFR Part 1910, Subparts N and O; and
- USACE EM 385-1-1, Sections 16 A and B and Section 17 A.

4.0 RESPONSIBILITIES

4.1 PROJECT MANAGER

The Project Manager shall be responsible for ensuring the availability of the EODT resources needed to implement this SOP, and shall ensure that this SOP is incorporated in the plans, procedures and training for sites where mechanical screening is to be implemented.

4.2 SENIOR UXO SUPERVISOR

The Senior UXO Supervisor (SUXOS) will ensure that this SOP is implemented for screening operations, and that relevant sections of this SOP are discussed in the tailgate safety briefings. Information related to the daily implementation of the SOP is to be is documented in the Site Operational Log maintained by the SUXOS.

4.3 UXO SUPERVISOR

The UXO Supervisor (UXOS) shall be responsible for ensuring the field implementation of this SOP and for implementing the safety and health requirements outlined in section 5.0 of this SOP. In the absence of a SUXOS, the UXOS shall be responsible for implementing the SUXOS responsibilities outlined in para 4.2.

4.4 SITE SAFETY AND HEALTH OFFICER

The Site Safety and Health Officer (SSHO) will be responsible for ensuring that the safety and health hazards and control techniques associated with this SOP are discussed during the initial site hazard training and the daily tailgate safety briefings. The SSHO will also be responsible for daily inspection of site operations and conditions to ensure their initial and continued compliance with this SOP and other regulatory guidelines.

5.0 PROCEDURE

All EODT, contractor, and subcontractor personnel involved in screening operations shall be familiar with the potential safety and health hazards associated with this operation. Additionally, all effected personnel shall also be familiar with the control techniques that will used to reduce or eliminate these hazards.

5.1 SAFETY HAZARDS

The safety and health hazards potentially associated with mechanical screening operations on an ordnance and explosives (OE) site are listed below. For each of the hazards listed, at least one hazard control measure is listed in paragraph 5.2 for the reduction of the operational hazard. At no time will mechanical screening operations be conducted on site without the use and implementation of the appropriate controls measures.

1. Unexploded ordnance (UXO), possibly resulting in heat, fire, fragmentation, and over pressurization hazards;
2. Vehicle traffic and movement
3. Trips and falls (excavations and man lift)
4. Noise;
5. Heavy equipment operations;
6. Dust, with potential for exposure to toxic metals;
7. Stored energy and pinch points; and
8. Engine exhaust.

NEXT PAGE ASSIST

screening process will be shut down immediately. Additionally, if a potential UXO is observed in the screen reject, the UXOSP observing the item will use radio or visual communication to order the immediate shut-sown of the screening operations. Once the process has been halted and secured, the potential UXO item will be inspected by the UXOSPs. If the item is confirmed as being a UXO, the item will be identified and a determination made as to whether the item can be moved. Those items that are unfuzed or safe to move will be removed from the screening equipment and stored for later disposal according to the approved Work Plan (WP). Those items determined to be unsafe to move will be left in place, the CEHNC on-site Safety Specialist will be notified, and the screening operations halted until such time as a resolution can be obtained using the procedures in the approved WP. Those items identified as being OE-related but not UXO will be removed and stored accordingly.

7. Segregation of the oversize materials will be performed according to the following:
   a Debris identified as rocks, roots, shale, etc., will be collected and combined with the screened soil from which they came.
   b. The debris is identified as non-OE scrap that will be disposed of as scrap.
   c. The debris is identified as OE-related scrap or inert OE and must be verified as being free of OE hazards prior to scrap disposal.
   d. The debris is identified as UXO that is unfuzed and safe to move, in which case the item will be removed from the area and destroyed at the existing OD area.
   d. Hazardous UXO identified that cannot be moved, will be brought to the attention of the SUXOS who will immediately notify the USAESCH OSS. The OSS will direct EODT as to the next course of action to be taken.
8. When maintenance/servicing is performed on the sifter or conveyor system, all sources of immediate power or stored energy shall be controlled (refer to lockout/tagout SOP).
9. Screening operations shall be restricted to daylight hours, and once operations begin, only UXO-qualified personnel may enter the safety zone around the sifter operation.
10. All personnel involved in the screening operations shall be informed of the "Kill Switch" location, as well as the procedures for summoning emergency support.

5.2 SAFETY AND PERSONAL PROTECTIVE EQUIPMENT REQUIREMENTS

The following safety measures and personal protective equipment (PPE) shall be used in preventing or reducing exposures associated with screening operations. These requirements will be implemented unless superseded by site specific requirements stated in the SSHP.

1. Hard hats, steel-toe safety boots and protective gloves shall be worn when ever maintenance, adjustment or clearing of the sifter is being performed.
2. Safety glasses shall be worn around screening equipment unless full face respirators are required; and
3. Any of the PPE that will be worn when investigating OE items in the sifter will be secured to the wearer to ensure that it does not fall off and strike suspect UXO items;

4. Hearing protection shall be worn when screening equipment is in operation unless the SSHO has measured and determined the noise levels to be less than 85 decibels on the "A" scale over an 8-hour time-weighted average.

6.0 AUDIT CRITERIA

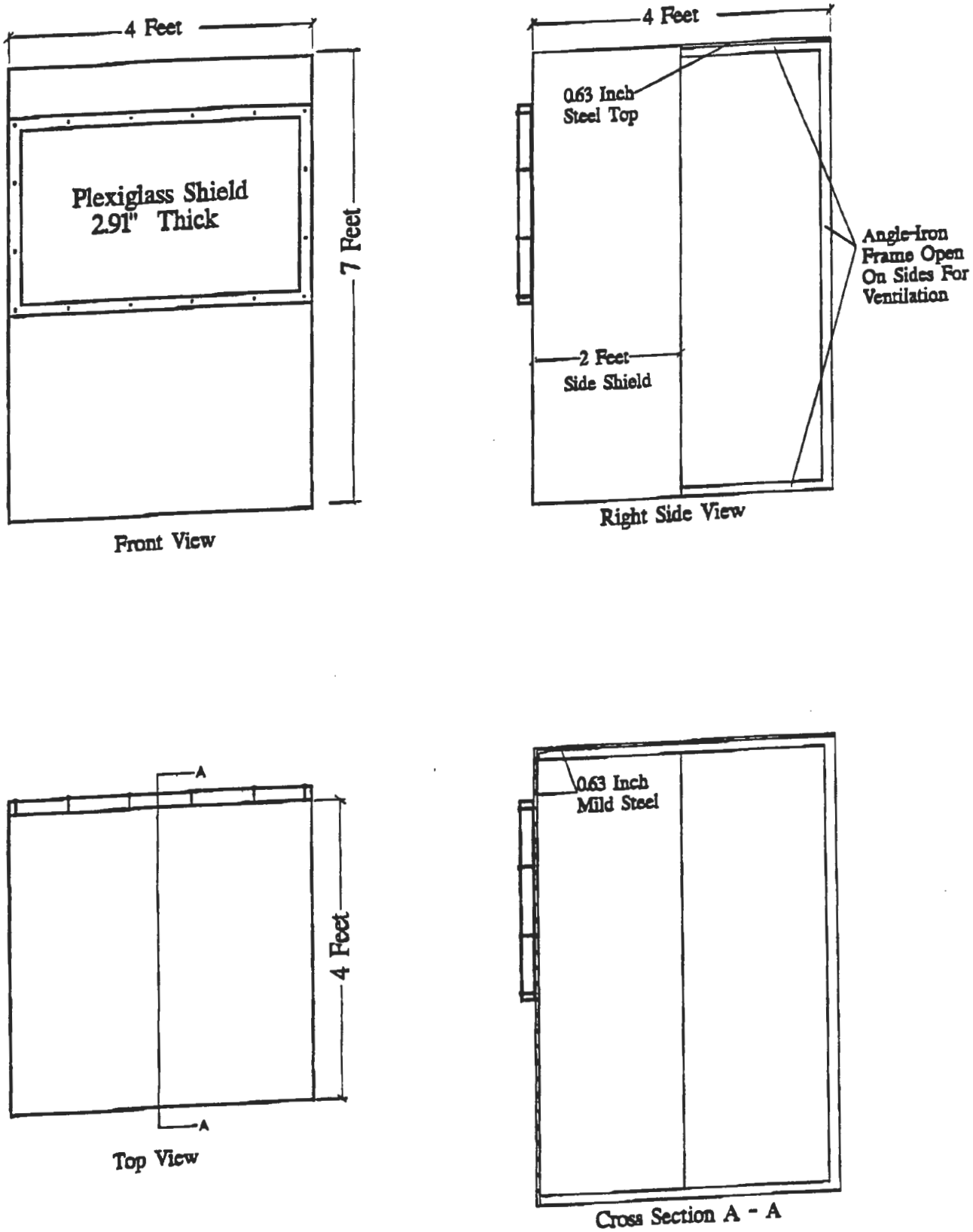
The following items related to screening operations will be audited to ensure compliance with this SOP:

1. The Daily Operational and Safety Logs;
2. The Documentation of Training form for the initial site hazard training;
3. The Documentation of Training form for the Daily Tailgate Safety Briefings; and
4. The Daily Safety Inspection Checklist.

7.0 ATTACHMENTS

No attachments associated with this SOP.

Figure 120B-1. Blast Shielding for Remote Sifter Operator



APPENDIX E

RESPONSES TO PREVIOUS EXTERNAL REVIEW COMMENTS - THIS SUBMISSION

1. **FROM USATCES (Ms. Gallagher)**

2. **FROM DDESB (Mr. Cates)**

SENECA ADA - OB GROUNDS EXPLOSIVES SAFETY SUBMISSION

Comments from USATCES (Ms. Jean Gallagher)

Note: All corrections made in response to Ms. Gallagher's comments are shown in the body of the ESS in underlined, bold italics.

1. Correct reference to Pad "I" at the bottom of first page of Section 1.0. It should read "Pad A". **{DONE}**

2. Add the proper NEW for a 37mm projectile. **{Added in the second paragraph of Section 3.0. Value is 0.527 lbs. of TNT as per Dr. Crull}**

3. Remove the Phase IX discussion. Construction/avoidance support does not require an ESS. **{DONE...Phase X now becomes Phase IX}.**

4. In the third paragraph of the "Discussion of Project Specific Procedures", be absolutely specific about what demo materials are being used. There's a possible question on whether what's proposed is correctly categorized with respect to the explosive class. **{EODT provided an MSDS for the explosives to be used. Ms. Gallagher said that that would be sufficient for what she had in mind}**

5. On page 8, middle paragraph, specify what explosives are being stored in the magazines and what, if anything, will they be paired with? Separation required?? **{EODT has provided. Text was added}**

6. On Page 8, paragraph 3, discuss where OE that is located will be stored during the week while awaiting destruction at the end of the week. **{EODT has provided. Task was added}**

7. In general (I believe it says so in the Work Plan pages that were inserted), why is the excavation equipment only being shielded on the windshields? Shouldn't the shields extend to the sides and back of the cab as well?? **{EODT has provided. As suspected, this was an error and has been corrected to state that equipment barricading will be used over the front, sides and back windows of the equipment}**

8. Site Map 3. Revise to show the Q-D's to the correct scale. **{Done. Was faxed 9 Jun}**

9. Site Map 4. Recommended showing a 400 foot Q-D rectangle around the entire site in order to clean up this map and make it easier to demonstrate the 400 foot sifter clearance. **{Initially agreed but then re-thought the issue. The reason one circle around the entire site was not shown is that we don't want to indicate that we plan to have the entire site shut down while the sifter is in operation within one corner. Later in the project, EODT will be geophysically mapping the already stripped areas for deeper anomalies. They will be able to do this and still maintain the 1181 and 400 foot Q-D's, in many instances. We don't wish to preclude this additional productivity if we don't have to. As such, the map will stay the same. All need to understand that the drawing is meant to demonstrate that the sifter will be mobile and will operate at different areas of the site at different times (as opposed to the original idea of using an immobile sifter that is setup for the duration in one spot). The multiple Q-D arcs are meant to demonstrate that, regardless of the location of the sifter, at any given time the 400 foot Q-D distance will be maintained. No action required}.**

{Ms. Gallagher disagreed with this response to Number 9, so the correct Q-D arc was shown on the map as stated in the responses to her second round of comments}

SENECA ADA - OB GROUNDS EXPLOSIVES SAFETY SUBMISSION

Second Round of Comments from USATCES (Ms. Jean Gallagher)

Note: All corrections made in response to Ms. Gallagher's comments are shown in the body of the ESS in underlined, bold italics.

Following is Jean Gallagher's responses to HNC responses to her original round of comments and our proposed resolutions.

From: gallagher@dac-emh2.army.mil

To: Kevin W Healy

Date: Thu, Jun 10, 1999 3:04 PM

Subject: Re: Seneca Update on Your Comments

Kevin,
I tried calling you, but didn't get an answer. I've looked at what you've sent me and I've got a few comments.

1. Para 6.0, phase VII, subpara b: Recommend deleting everything after the first sentence and adding a statement that you will submit another safety submission if OE is found below the 1-ft depth. That will avoid an argument now over something that may not happen. ***{DONE}***

2. Section titled "Discussion of Project-Specific Procedures", 4th para:
"These are considered flammable oxidizers and ..." The binary explosives are actually considered flammable liquids and oxidizers. ***{CORRECTION MADE}***

3. Para 8.0, last line of para describing magazine QD: delete the words:
"... 1.3 and...". Reason: you've changed the materials to binary explosives and hazard class 1.4B. (I'm assuming the binary explosives won't be stored here. If I'm wrong, that should be added.) ***{DONE}***

4. Appendix D, para 5.2, #5: K24 for 0.527 lbs of TNT is 19.4 ft; the 17.53 ft given here may be for the grenade. You need to use the most restrictive distance. ***{CORRECTION MADE BY EODT}***

5. Site map 3: Are there any other operations going on within this new arc? ***{NO}***

6. Site map 4: Disagree with your response. The map needs to show the maximum area that could be covered by a QD arc, so DDESB can approve the "worst case". I can easily explain that the arc will be changing daily. That arc could be added to site map 3 instead of changing site map 4. ***{SITE MAP NO. 4 WAS REVISED TO SHOW THE 400 FOOT Q-D ARC AROUND THE ENTIRE SITE. THIS IS IN ORDER TO REPRESENT THE WORST CASE, AS REQUESTED.}***

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