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FINAL TECHNICAL MEMORANDUM WORK PLAN SUPPLEMENTAL NATURAL RESOURCE  
ASSESSMENT FOR SITE 12 POND REMEDIAL INVESTIGATION/FEASIBILITY STUDY  
WORK PLAN NAS BRUNSWICK ME  
5/1/2013  
USA ENVIRONMENTAL INC

**FINAL**

**TECHNICAL MEMORANDUM WORK PLAN**

**SUPPLEMENTAL NATURAL RESOURCE ASSESSMENT**  
**FOR**  
**SITE 12 POND RI/FS WORK PLAN**

**FORMER NAVAL AIR STATION BRUNSWICK**  
**BRUNSWICK, MAINE**

**Submitted to:**



**Naval Facilities Engineering Command Mid-Atlantic**  
**9742 Maryland Avenue**  
**Norfolk, Virginia 23511**

**Submitted by:**  
**USA Environmental, Inc.**  
**720 Brooker Creek Boulevard, Suite 204**  
**Oldsmar, Florida 34677**

**Navy Munitions Response Actions (MRA)**  
**Contract No. N62470-11-D-8007**  
**Task Order WE01**

**May 2013**

**Reviewed by:**

  
**Robert Crownover**  
**Director of Safety and Quality**



**Final Technical Memorandum Work Plan  
Supplemental Natural Resource Assessment for  
Site 12 Pond RI/FS Work Plan – May 2013**





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## LIST OF ACRONYMS

2	AHA	Activity Hazard Analysis
3	APP	Accident Prevention Plan
4	BRAC	Base Realignment and Closure
5	CD	compact disc
6	CFR	Code of Federal Regulation
7	CHSM	Corporate Health and Safety Manager
8	CPR	Cardiopulmonary Resuscitation
9	CTO	Contract Task Order
10	DDESB	Department of Defense Explosives Safety Board
11	DEP	Department of Environmental Protection
12	DMM	Discarded Military Munition
13	DoD	Department of Defense
14	DSQ	Director of Safety and Quality
15	EOD	Explosive Ordnance Disposal
16	EPA	Environmental Protection Agency
17	ESS	Explosives Safety Submission
18	ft	Feet
19	GIS	Geographical Information System
20	GPS	Global Positioning System
21	HAZWOPER	Hazardous Waste Operations and Emergency Response
22	IAW	In Accordance With
23	ISO	Industry Standard Object
24	m	meter
25	MEC	Munitions and Explosives of Concern
26	MPPEH	Material Potentially Presenting an Explosive Hazard
27	NAVFAC	Naval Facilities Engineering Command
28	NAS	Naval Air Station
29	OSHA	Occupational Safety and Health Administration
30	PM	Project Manager
31	PMO	Project Management Office
32	POC	Point of Contact
33	RPM	Remedial Project Manager
34	SOP	Standard Operating Procedure
35	SOW	Statement of Work
36	TP	Technical Paper
37	U.S.	United States
38	USA	USA Environmental, Inc.
39	USACE	U.S. Army Corps of Engineers
40	UXO	Unexploded Ordnance
41	UXOQCS	Unexploded Ordnance Quality Control Specialist

- |   |         |                                    |
|---|---------|------------------------------------|
| 1 | UXOSO   | Unexploded Ordnance Safety Officer |
| 2 | UXOTII  | Unexploded Ordnance Technician II  |
| 3 | UXOTIII | Unexploded Ordnance Technician III |
| 4 | WP      | Work Plan                          |

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## CHAPTER 1. INTRODUCTION

### 1.1 GENERAL INFORMATION

Under the Navy Munitions Response Action contract N62472-11-D-8007, Contract Task Order WE01, USA Environmental, Inc. (USA) will be conducting a remedial investigation and feasibility study (RI/FS) to assess the potential hazard to human health and the environment related to possible munitions and explosives of concern (MEC) that may be present within the Site 12 Pond. This pond is located adjacent to the historic Site 12 Explosives and Ordnance Disposal (EOD) area at the former Naval Air Station (NAS) Brunswick, Brunswick, Maine. Refer to Appendix A Figures A-1 and A-2 for the general location and site maps. The presence of MEC in and around the pond is suspected due to the EOD activities conducted just west of the pond.

Per the contract statement of work (SOW), the Site 12 Pond RI includes a bottom profile survey and geophysical survey of the pond, in order to generate a bottom profile with identified locations of metallic anomalies, which could include MEC. It is anticipated that investigation of the anomalies and possible future hazard mitigation efforts could involve pumping down the pond and/or dredging in order to remove the metallic anomalies. In order to confirm pumping and/or dredging activities will not adversely affect potential plant and animal species of concern, a natural resource assessment is to be conducted. The natural resources survey is a screening level effort designed to identify sensitive plant and animal species that utilize the pond and to delineate wetlands and other habitats of potential threatened or endangered species. Note that the goal of the study is not to complete a full biological inventory. MEDEP will be notified by email at least two weeks before going into the field for each assessment so that MEDEP may attend if schedules allow.

Prior to the survey, USA's subcontractor, Parsons Government Services, Inc. (Parsons), reviewed the Environmental Impact Statement for the Disposal and Reuse of Naval Air Station Brunswick (Navy, 2010). The review focused on Appendix F, Ecological Communities and Wetland Resources and Appendix G, Wetland Functional Assessment. In addition, Parsons has reviewed the regulations pertaining to wetland alterations in the Maine Natural Resources Protection Act. These are:

- 1) the Act itself - Title 38 M.R.S.A. Section 480a - 480s,
- 2) the Wetland Protection Rules – Department of Environmental Protection (DEP) Regulations Chapter 310 and,
- 3) the Permit By Rule Standards - DEP Regulations Chapter 305.

Parsons' scientists conducted an initial site visit in October 2012. During the site visit, they observed that wetlands appear to occur at the northwest corner of the Site 12 pond that curve to the west into the Site 12 EOD area. Wetlands also occur at the south end of the pond where an access road acts as somewhat of a dam. The wetlands continue on the side of the road opposite the pond. Jurisdictional characterizations will be conducted to determine the extent of the wetlands and the likelihood that they are jurisdictional. As part of the initial site walk, Parsons' scientists also observed that the pond is unlikely to contain significant populations of fish or wildlife.

### 1.2 SCOPE

The following summarizes the scope of the supplemental natural resource assessment, which is detailed in chapter 3.

The natural resource assessment consists of a biological and wetland survey of the Site 12 pond and a 20-meter buffer from the edge of the water. The biological survey will not focus on particular populations of species. Plants and vertebrates observed and collected during surveys will be identified to the species level. Aquatic macroinvertebrates collected will be identified to the extent deemed practicable by the biologist and classified to the family taxonomic level, at a minimum.

1 It is imperative that data be collected during the growing season to ensure that plant species are properly  
2 identified, animal and aquatic macroinvertebrate species that may be present are thoroughly  
3 documented, and adequate wetland indicators are present. In addition, multiple collection trips  
4 throughout the growing season are needed as some animal and plant species are present seasonally.  
5 Three data collection trips are planned during the growing season of 2013. The observation periods for  
6 the spring, summer, and fall are early June, late July, and late September, respectively.

7 The spring survey will involve the following:

- 8 • A full wetland delineation of the site
- 9 • A vegetation survey of the site
- 10 • Day and night amphibian and reptile surveys
- 11 • Avian survey
- 12 • Fish/crayfish survey
- 13 • Aquatic macroinvertebrate survey
- 14 • Mammal observation.

15 The summer survey will involve the following:

- 16 • A verification of the wetland delineation from the spring survey
- 17 • Recording vegetation that was not present or not easily identifiable in the spring
- 18 • Day and night amphibian and reptile surveys to record species that were not observed during the  
19 spring survey
- 20 • Avian survey to record species that were not observed during the spring survey
- 21 • Fish/crayfish survey to record species that were not observed during the spring survey
- 22 • Aquatic macroinvertebrate survey to record species that were not observed during the spring  
23 survey
- 24 • Mammal observation to record species that were not observed during the spring survey.

25 The fall survey will involve:

- 26 • A final re-verification of previous wetland delineation of the site
- 27 • Recording vegetation that was not present or not easily identifiable in the previous two surveys
- 28 • Day and night amphibian and reptile surveys to record species that were not observed during the  
29 previous two surveys
- 30 • Avian survey to record species that were not observed during the previous two surveys
- 31 • Aquatic macroinvertebrate survey to record species that were not observed during the previous  
32 two surveys
- 33 • Mammal observation to record species that were not observed during the previous two surveys.

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## CHAPTER 2. TECHNICAL MANAGEMENT PLAN

### 2.1 PROJECT PERSONNEL

#### 2.1.1 Field Teams

**Biological and Wetland Survey:** Parsons will provide professional services to USA. For each of the three survey periods, Parsons will mobilize two biologists. USA will provide one Unexploded Ordnance Technician II (UXOTII) for anomaly avoidance and survey coordination.

The UXOTII for the biological survey will report directly to the USA project manager (PM). Figure 2-1 identifies the Task Order project team.

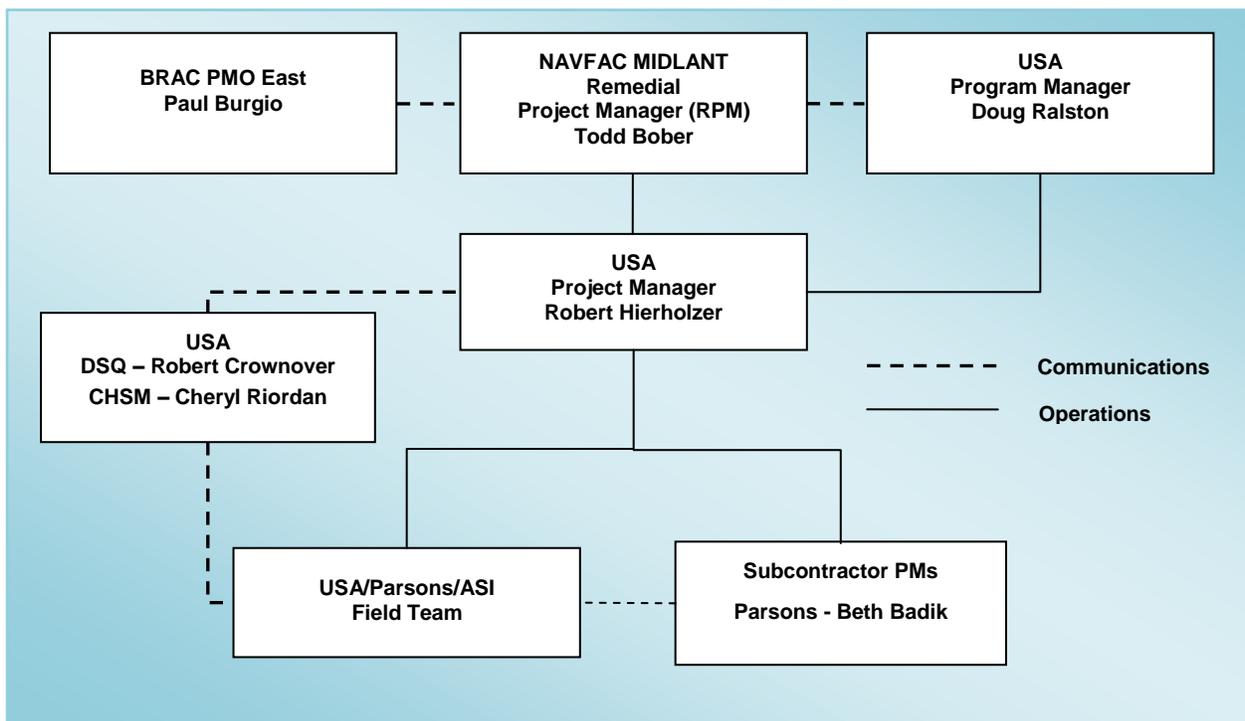


Figure 2-1: Project Team Organization

#### 2.1.2 USA UXO Field Personnel

All USA UXO personnel will meet the requirements set forth in the Department of Defense (DoD) Explosives Safety Board (DDESB) Technical Paper 18 (TP-18), Minimum Qualifications for UXO Technicians and Personnel. USA field personnel on this project have completed the training requirements found in Table 2-1, as required for their specific responsibilities. Additional site-specific training in accordance with (IAW) Occupational Safety and Health Administration (OSHA) 29 CFR 1910.120 for Hazardous Waste Operations and Emergency Response (HAZWOPER), as well as Engineer Manual 385-1-1 (U.S. Army Corps of Engineers Safety and Health Requirements Manual), will be provided to all personnel prior to their mobilization. Additionally, all USA field personnel will participate in a Medical Surveillance Program, with the latest exam occurring within 12 months of field operations.

1

**Table 2-1: Personnel Training**

Training Course	Personnel Attending
40-Hour HAZWOPER Training	All personnel who have not previously received this training or who do not qualify for certification through documented experience or training equivalent to that in paragraphs (e)(1) through (e)(4) of 29 CFR 1910.120.
8-Hour Refresher Course	All site personnel, except those who have completed their initial 40-Hour HAZWOPER training within the past year.
First Aid and Cardiopulmonary Resuscitation (CPR) Training	At least two site personnel will have current first aid and CPR training.

2 **2.2 COMMUNICATION AND REPORTING**

3 **2.2.1 Project Communications**

4 Communications for this project will follow the organizational relationships depicted in Figure 2-1. All  
5 communications between USA and the Navy will be through the USA PM, Technical Manager, or  
6 Contracting Officer. Communication directly between USA and other Government entities associated with  
7 this project will occur only when directed by the Navy. The USA teams will use radios to communicate  
8 while conducting the pond survey. Backup emergency communications will be by cellular telephone.

9 **2.2.2 Records Management**

10 2.2.2.1 Project Records

11 USA will maintain hard copies of primary project records at the USA Corporate Office in Oldsmar, Florida.  
12 Such records will include the Task Order SOW and any modifications, substantive correspondence, draft  
13 submittals, responses to comments and final submittals, and correspondence received from the Navy or  
14 other agencies. USA will retain electronic versions of working products within the USA Oldsmar network  
15 server. Access to all servers is password controlled. USA will retain historical records and documents,  
16 previous study reports, and related items in the USA PM's office. The Geographical Information System  
17 (GIS) Manager will retain GIS information on the Oldsmar GIS Server during the course of the project.  
18 Passwords limit access to only those individuals manipulating the data. USA will provide copies of this  
19 data to the Navy on compact disk (CD), as required by the SOW.

20 2.2.2.2 Field Records

21 During field activities, USA will maintain records in the field, with copies sent weekly to the project files in  
22 Oldsmar, Florida. Following completion of the fieldwork, USA will deliver all files to the project files in  
23 Oldsmar, Florida. Such records will include daily summary sheets, and related field and daily logs.

24 USA will maintain a detailed digital account of MEC and other items of environmental concern (e.g.,  
25 drums, stained soil, unnatural odors, etc.) encountered during operations. This accounting will include the  
26 unique identifying number, location of the item, and a digital photograph as part of the official project  
27 record. Specific details regarding the items found will include specific nomenclature, type fuzing,  
28 condition, external markings, etc. This data will be stored in a digital dig sheet and the project digital  
29 database.

30 USA will maintain a field logbook to record site activities and field data in a neat and legible manner.  
31 Logbooks will be bound and pages consecutively numbered. USA personnel will make logbook entries in  
32 indelible ink. USA will enter the following information during the course of the safety support activities:

- 1 • Date and team location
- 2 • Personnel and work performed
- 3 • Equipment and instrument checks
- 4 • Injuries and/or illnesses
- 5 • Changes to work instructions
- 6 • Coordination with EOD for MEC/Material Potentially Presenting an Explosive Hazard (MPPEH)
- 7 disposal, if MEC/MPPEH is encountered.
- 8 • Work stoppage
- 9 • Visitors
- 10 • Other relevant events
- 11 • Signature of the UXO technician.

12 USA personnel may supplement logbooks and records by using preprinted forms (e.g., safety inspection  
13 forms, tailgate safety briefings, etc). These forms help to ensure uniformity of activities being conducted,  
14 inspected, and reviewed. Copies of these Contractor forms are located in Appendix C of this Work Plan  
15 (WP). All handwritten records and logbook entries will be scanned into an acceptable digital form and  
16 submitted as part of the digital data package.

### 17 **2.3 SCHEDULE**

18 As provided in Figure 2-2, USA has prepared a project schedule for the Contract Task Order (CTO).  
19 Work associated with the Site 12 Pond RI is shown in more detail than the other activities covered under  
20 the CTO. Field activities are highlighted in green.

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1 **CHAPTER 3. FIELD INVESTIGATION PLAN**

2 **3.1 SAFETY**

3 The Accident Prevention Plan (APP) for the RI WP is provided under separate cover. The APP is  
4 applicable and includes Activity Hazard Analyses (AHAs) for work to be performed during the  
5 supplemental survey.

6 In addition to adhering to the APP, the Naval Facilities Engineering Command (NAVFAC) Contractor  
7 Safety Self-Evaluation Checklist is to be reviewed and applicable sections completed by the USA UXO  
8 technician. The checklist is located in Appendix C.

9 The 2010 Explosives Safety Submission (ESS) for MEC Investigation/Removal Action at the Site 12 EOD  
10 Area had one Correction dated August 2011, as prepared by Tetra Tech NUS, Inc. USA prepared  
11 Amendment 1 to the ESS to address the Pond RI/FS intrusive activities as well as the proposed  
12 modification to investigate the 20 acres around the pond. Therefore, until it is approved by the DDESB,  
13 the existing ESS, which covers UXO avoidance, is still in effect.

14 **3.2 FACILITY POINT OF CONTACT**

15 The facility point of contact (POC) is Robert (Bob) LeClerc, P.E., Navy Caretaker Site Office, (207) 406-  
16 2290 (Office), (207) 263-6736 (Mobile).

17 The field team is to “check-in” with Mr. LeClerc, upon mobilization. When the sampling effort is complete,  
18 Mr. LeClerc is to be contacted to review what was done and what marking devices remain in the field.

19 For emergencies or other issues that may arise, Mr. LeClerc is to be contacted, in addition to other  
20 necessary emergency response entities. He needs to remain informed of ongoing activities and any  
21 situations that may arise.

22 **3.3 GENERAL SITE PRACTICES**

23 All operational activities at the site will be performed under the supervision and direction of qualified UXO  
24 personnel. Non-UXO qualified personnel will be prohibited from performing operations unless they are  
25 escorted and supervised by an UXOTII or higher. Throughout operations, USA will strictly adhere to the  
26 following general practices. Detailed safety precautions and procedures are contained in the APP.

27 **3.3.1 Work Hours**

28 Where possible work will be performed during the normal working hours of 0700 and 1730 hours. No  
29 single work day will exceed 10 hours. The biological survey will include night-time operations as  
30 described below. The POC will be informed of the actual schedule after review of site conditions and  
31 anticipated weather. If the POC deems it appropriate, the Brunswick Police may be notified that nighttime  
32 work is scheduled at the site.

33 **3.3.2 Site Access**

34 USA will control access into Site 12 and will limit access to only those personnel necessary to accomplish  
35 the specific operations or who have a specific purpose and authorization to be on the site. All inquiries  
36 from outside sources will be referred to the Remedial Project Manager (RPM). No hazardous operations  
37 will be conducted when unauthorized persons are in the vicinity.

38 **3.3.3 Handling of MEC**

39 Non-UXO site personnel will be emphatically instructed and closely supervised to ensure they do not  
40 handle any MEC/MPPEH. USA will not conduct MEC/MPPEH demolition and disposal during the  
41 supplemental investigation. Navy EOD is to be called in for this purpose.

---

**--THIS POLICY WILL BE STRICTLY ENFORCED--**

**3.3.4 Safety Training/Briefing**

USA will routinely conduct the following two distinct safety meetings and briefings:

- Daily tailgate safety briefing
- Visitors' safety briefing.

**3.3.5 Daily Tailgate Safety Briefing**

The tailgate safety briefing will focus on the specific hazards anticipated at the work site during that day's operations and the safety measures that will be used to eliminate or mitigate those hazards. It will also refer to other operations within the area whose proximity may have safety ramifications. As work progresses and team locations change within a site, or from site to site, any corresponding changes in ingress/egress routes and emergency evacuation routes will also be reviewed during this tailgate briefing. This briefing will be conducted by the UXO TII.

**3.3.6 Visitors' Safety Briefing**

Site visitors must receive a safety briefing by the UXO TII prior to entering the operating area. All visitors entering must sign in on the Visitors' Log.

**3.4 GENERAL DESCRIPTION OF THE POND AREA OF INVESTIGATION**

The Site 12 Pond investigation area consists of several distinct features or segments, described as follows and as shown in Figure 4, Appendix A.

1. North Pond Area: At the time of the site visit, this section was separated from the southern pond by an area of emergent wetland. This section of the pond is further removed from the historic demolition areas than the rest of the site and is less likely to contain MEC.
2. South Pond Area: Most of the area of investigation falls within this area, and is the most likely area to contain MEC as it is adjacent to the historic demolition berms within the Site 12 EOD area. Trees were pushed into the pond during land clearing activities associated with the Site 12 EOD operations. Portions of trees, such as the root balls, are visible from the shoreline.
3. North Emergent Wetland Area: When the pond water elevation is higher, the emergent wetland is submerged, linking the north and south pond areas. During the site visit, USA conducted reconnaissance transects surveys utilizing a White's DFX 300 all metals detector. The anomaly count was very low. Unless the surface water elevation is higher, and this area is submerged, it will be addressed using hand-held detectors during the follow-on RI.
4. Western Exposed Shoreline: This area is comprised of the land between the eastern boundary of the previous Site 12 investigation area down to and including the peat moss mat located along much of the water's edge. Site visit transects revealed very few surface or subsurface anomalies. Some of this area may be submerged if the surface water elevation is higher during the supplemental survey work.
5. Eastern Exposed Shoreline: The majority of the east shoreline is steep and rocky. The steep slopes are less likely to retain material that may have been placed there. This, along with the greater distance from the Site 12 EOD berms, makes it the least probable area of the site to contain MEC. The site visit shoreline transect revealed very few surface or subsurface anomalies.
6. Pond Area Debris Piles: These debris piles are not to be confused with the previously investigated "debris pile" north of the Site 12 EOD area. The pond area debris piles include several areas of consolidated heavy debris, such as concrete with reinforcing steel, metal

1 grating, wire/cable, piping etc. One debris pile is covered in soil and vegetation and is  
2 located on the south edge of the north emergent wetland. A second debris pile is partially  
3 exposed and is located on the west bank of the southern half of the pond. At the southern tip  
4 of the pond, debris piles extend into the water, and are relatively extensive. Due to the  
5 amount of metal in these areas, investigation requires manual visual inspection of the  
6 contents in order to determine the presence of MEC. Debris pile inspection will be conducted  
7 during the follow-on RI.

8 7. South Emergent Wetland Area: It is expected that this area will not be submerged, and will  
9 be included in the forthcoming modification to investigate the 20 acres surrounding the pond.

### 10 **3.5 NATURAL RESOURCES SURVEY**

11 This section documents the approach and methods that will be used to survey the natural resources  
12 present at the Site 12 pond, and to determine the extent of potentially jurisdictional surface waters (i.e.,  
13 the wetland delineation). The survey team will be escorted at all times by a UXOTII for anomaly  
14 avoidance in accordance with Standard Operating Procedure (SOP) 01.

#### 15 **3.5.1 Global Positioning System**

16 A handheld Trimble GeoExplorer 6000 series Global Positioning System (previously and hereafter  
17 referred to as "GPS") will be used to document the location of natural resources. In addition, the GPS will  
18 be used to document the sampling points taken and wetland boundary determined during the wetland  
19 delineation. The GPS data collected will be processed using ArcGIS 10 and ArcGIS will be used to  
20 create the necessary maps to depict the locations of the vegetative communities, species observed,  
21 wetland data points, and extent of wetland boundaries.

#### 22 **3.5.2 MEC Avoidance**

23 The UXOTII will bury a small industry standard object (ISO), in an anomaly-free area, to a depth of 7  
24 times the diameter of the object. The location of the ISO will be flagged and noted in the field record.  
25 Utilizing the buried ISO as a test item, the UXOTII will conduct an instrument test of the Whites DFX 300,  
26 which will be used for anomaly avoidance, at the beginning and end of each day. If an instrument fails to  
27 detect the ISO, that instrument will be taken out of service and a replacement instrument will be tested  
28 and utilized. At least one back-up instrument will be provided for this reason.

#### 29 **3.5.3 Equipment Decontamination**

30 To prevent foreign bacteria and other biological microorganisms from being transferred between aquatic  
31 environments, equipment will be decontaminated. Upon initial arrival to NAS Brunswick and before entry  
32 into Site 12, the natural resources investigation team will soak all equipment (e.g., nets, buckets, augers,  
33 waders) that will come into contact with the water in a 10% bleach solution for 15 minutes. Location of a  
34 janitorial sink for disposal of the solution will be coordinated with the Navy. After completing the natural  
35 resource assessment, investigation team personnel will use the same procedure to decontaminate  
36 equipment.

#### 37 **3.5.4 Species of Concern**

38 Species of Concern (i.e., federally and state-listed threatened and endangered species) are not expected  
39 to be present within the Site 12 pond study area. If a species of concern is observed, it will be  
40 photographed, the location will be recorded with the GPS, and the appropriate regulatory agency will be  
41 notified.

#### 42 **3.5.5 Vegetative Survey**

43 A survey and report of the habitat type(s) present at Site 12 pond and adjacent areas will be provided.  
44 The habitat type(s) will be surveyed by experienced biologists and classified based on vegetation and

1 landscape. An experienced botanist will use a grid survey strategy to identify vegetation in the study  
2 area. It is anticipated that the primary grid will be approximately 60 meters by 330 meters. Twelve  
3 transects running east/west will be surveyed every 15 meters resulting in 60 sampling points. Other grids  
4 may be nested with the primary grid to ensure all strata of vegetation are captured. An electronic version  
5 of the grid will be placed on the GPS. The GPS will be used to locate the sampling points. At each  
6 sampling point, vegetation will be surveyed based on the type of vegetation. Herbaceous vegetation will  
7 be identified within a 1.5-m radius from the center of the sampling point. Saplings and shrubs will be  
8 identified within a 4.5-m radius from the center of the sampling point. Trees and vines will be identified  
9 within a 9-m radius from the center of the sampling point. Vegetation will be field identified to species, if  
10 possible. Vegetation that cannot be identified in the field will be pressed and identified by a botanist using  
11 regionally appropriate keys. Vegetation collected for identification purposes only do not require a  
12 collection permit.

### 13 **3.5.6 Vertebrate Animal Survey**

14 A visual encounter survey for vertebrate animals will be conducted, with an emphasis on amphibians.  
15 Visual encounter surveys will be conducted by at least two experienced biologists walking through the  
16 riparian area of the pond. The visual surveys at the site will be conducted during the three survey trips.  
17 Both day and night surveys will be conducted during the survey trips. Night surveys are necessary as  
18 many amphibian species are crepuscular (i.e., active at dawn and dusk) and nocturnal night surveys will  
19 entail coordination with the facility to ensure all appropriate security measures are followed. Access to  
20 the site at night will be coordinated with the POC at the former NAS. The animals encountered during the  
21 visual surveys will be identified to species and photographed when possible. The visual encounter  
22 surveys will be supplemented with dip-netting, trail cameras, the presence of the animal scat or tracks,  
23 and auditory identification, when appropriate.

24 Although a viable fish population is not likely to be present within the Site 12 pond, a hook and line survey  
25 will also be conducted to identify any ichthyofauna that may be present. The hook and line survey will be  
26 conducted in concurrence with the three survey trips. In addition to the hook and line survey, six minnow  
27 traps (0.25 inch mesh and 1 inch opening) baited with partially-opened canned cat food will be set during  
28 each phase of the survey. The traps will be placed at different locations around the pond that best  
29 represent the habitat diversity present. The traps will be set during the beginning of each survey,  
30 checked every 12 hours, and re-baited as necessary. Individuals collected will be identified using  
31 physical attributes, counted, and released. It is anticipated that the experienced biologist will be able to  
32 identify individuals. However, if individuals are unable to be identified in the field, a representative of  
33 each species will be photographed in detail for later identification; if necessary, the species will be  
34 preserved for future identification. The early spring and mid-spring survey will be conducted over a period  
35 of 36 to 48 hours. The late spring survey, which will include the wetland delineation, will be conducted  
36 over a period of 3 days.

37 Species observed will be documented and the location of the species will be recorded with the GPS.  
38 These data will be included in the mapping generated by ArcGIS 10.

### 39 **3.5.7 Aquatic Macroinvertebrate Animal Survey**

40 Littoral macroinvertebrates will be collected using a D-net. Sample collections will consist of a composite  
41 of at least six 1-meter sweep of the pond substrate. To dislodge the macroinvertebrates and facilitate  
42 collection the lake bottom will be firmly bumped while sweeping at least 10 times. If rocky or cobble  
43 substrates are present, the substrate will be rinsed inside the D-net to remove individuals clinging to the  
44 substrate from a ¼ meter square areas. (Samples may be composited from more than one rockycobble  
45 area.) Individuals will be picked from the samples collected and preserved for later identification.

46 In addition to the macroinvertebrate survey using the D-net, six baited minnow traps will be set to  
47 determine if a crayfish population is present. These will be the same six minnow traps mentioned above.  
48 If individuals are unable to be identified in the field, a representative of each species will be  
49 photographed, when possible, for later identification. Otherwise, they will be preserved for later  
50 identification.

1 If the initial survey results in identifying any sensitive species or species of concern, the Navy would  
2 evaluate the need to survey for zooplankton and phytoplankton. An amended letter work plan with  
3 appropriate SOPs would be prepared and distributed electronically at that time.

#### 4 **3.5.8 Wetland Delineation**

5 A wetland delineation will be conducted to determine if any of the waters present at the Site 12 pond are  
6 potentially under the jurisdiction of the U.S. Army Corps of Engineers (USACE), MEDEP and/or U.S.  
7 Environmental Protection Agency (USEPA) (the term "potentially" is used because only the USACE and  
8 USEPA can determine which waters are jurisdictional). Coordination with the Maine Department of  
9 Environmental Protection will occur prior to conducting site work. Experienced, qualified wetland  
10 biologists will conduct the survey using the techniques outlined in the USACE Field Guide for Wetlands  
11 Delineation Manual (1987) and in the Regional Supplement to the Corps of Engineers Wetland  
12 Delineation Manual: North-central and Northeast Region (2012). Wetland determinations are based on  
13 three criteria: soils, hydrology, and vegetation. The extent of the wetland delineation will be based on the  
14 conditions of the soil and hydrology observed during the field investigation. It may be necessary to  
15 extend the delineation outside the boundary of Site 12 to document connectivity to a relatively permanent  
16 surface water feature. The delineation will not extend off the boundary of the former NAS. The  
17 appropriate data will be recorded on the Northeast Regional Wetland Determination Data Form. Upland  
18 and wetland data points will be chosen to collect information on soils, hydrology, and vegetation. The  
19 number of data points collected will depend on the extent of the wetland and vegetative communities and  
20 will be determined by the wetland biologist during the delineation. At least one wetland data point and  
21 one corresponding upland data point will be collected for each vegetative community.

22 Soils and hydrology will be evaluated by taking 12- to 18-in. core samples using an auger-style core  
23 sampler that pulls 2-in.-diameter soil samples. USA will provide UXO avoidance support during the core  
24 collection, and any other potentially intrusive work. The UXO technician will conduct a visual and  
25 handheld detection instrument survey of the location to verify no metallic anomalies will be encountered.  
26 If an anomaly is detected in the initial location, a nearby anomaly-free alternate location will be selected.  
27 Soils will be keyed using a Munsell Soil Color Chart, and hydrology will be determined based on the  
28 presence of water in the soil and other hydrological indicators listed on the data form. The presence of  
29 wetland vegetation will follow the guidance on the data form. Generally, herbaceous vegetation will be  
30 identified within a 1.5-m radius from the center of the sampling point. Saplings and shrubs will be  
31 identified within a 4.5-m radius from the center of the sampling point. Trees and vines will be identified  
32 within a 9-m radius from the center of the sampling point. Vegetation cover, dominance, and indicator  
33 status will be listed on the data form.

34 Once data points have been collected and recorded on data forms, the boundary of the wetland will be  
35 determined. GPS points will be taken along the delineated boundary and this information will be  
36 portrayed on aerial photography using ArcGIS 10.

#### 37 **3.6 BIOLOGICAL AND WETLAND SURVEY ANALYTICAL APPROACH**

38 A wetland and surface water delineation will be conducted at the Site 12 pond to determine the extent of  
39 the wetland boundaries.

40 If observation data collected during the natural resources survey of the Site 12 pond indicate that Federal  
41 or state regulations apply to the degradation of the habitat, then the test pitting and the remedial options  
42 will be developed in a manner that complies with regulations.

#### 43 **3.6.1 Biological Survey Information Inputs**

44 The biological survey data inputs will include the following:

45 Sub-meter GPS data will be collected during the wetland delineation and natural resource survey to  
46 depict the boundaries of wetlands and surface water, wetland data collection points, the boundaries of  
47 vegetative communities, and points where observations of animal species occurred.

1 Wetland data: soils data, hydrology data, and vegetative data as depicted in Version 2.0 of the Northeast  
2 Regional Supplement to the USACE Wetland Delineation Manual.

3 Animal species survey data:

- 4 • Visual observation of the actual animal/upland invertebrates
- 5 • Observations of the presence of the animal (e.g., scat or tracks), observation of the animal on  
6 motion sensor trail camera, or audible vocalization of the animal (e.g., birds and frogs). Fish and  
7 macroinvertebrate species collected will be identified, counted, and recorded in the field, where  
8 possible. If field identification is not possible, a representative individual of the species will be  
9 photographed, when possible, for later identification. Otherwise, they will be preserved for later  
10 identification.
- 11 • Vegetative Species Data: Visual observation and identification in the field. When vegetative  
12 species cannot be identified in the field, a specimen will be pressed, and identified by a trained  
13 botanist.

#### 14 **3.6.2 Biological Survey Acceptance Criteria**

15 Parsons will provide field biologist to provide scientific review of the collected data to ensure accurate  
16 determinations on the presence of species for the natural resources survey. If the subject matter expert  
17 and regulators deem that adequate data have been collected to determine the presence of the animal  
18 and plant species, then the data will be considered satisfactory.

19 Likewise, an experienced wetland scientist will determine the appropriate number of data points needed  
20 to delineate the boundaries of the surface waters. The wetland scientist will follow the guidelines set forth  
21 in Version 2.0 of the Northeast Regional Supplement to the USACE Wetland Delineation Manual to  
22 ensure regulators have all the information needed to make a jurisdictional determination on the surface  
23 waters present.

#### 24 **3.7 INTERIM REPORT**

25 A letter report (or technical memorandum) will be prepared following each phase of the biological survey  
26 conducted to address habitat, vegetation, and wildlife. The interim letter reports will be provided  
27 electronically to the Navy for distribution to the stakeholders. Each technical memorandum will provide a  
28 summary of the results of the survey, and will specify the details of the upcoming phase. A separate  
29 wetland delineation report will be provided electronically to the Navy for distribution to the stakeholders.  
30 All memorandums will be provided in draft format for review. The final reports will incorporate review  
31 comments after all the phases of the survey are complete. A summary of each phase of the survey and  
32 the results will be included in the RI Report. In the event that the scope of subsequent surveys change  
33 based on interim results, this would be documented in the interim report.

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1 **APPENDIX A. FIGURES**

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3 This appendix contains the figures for this project.

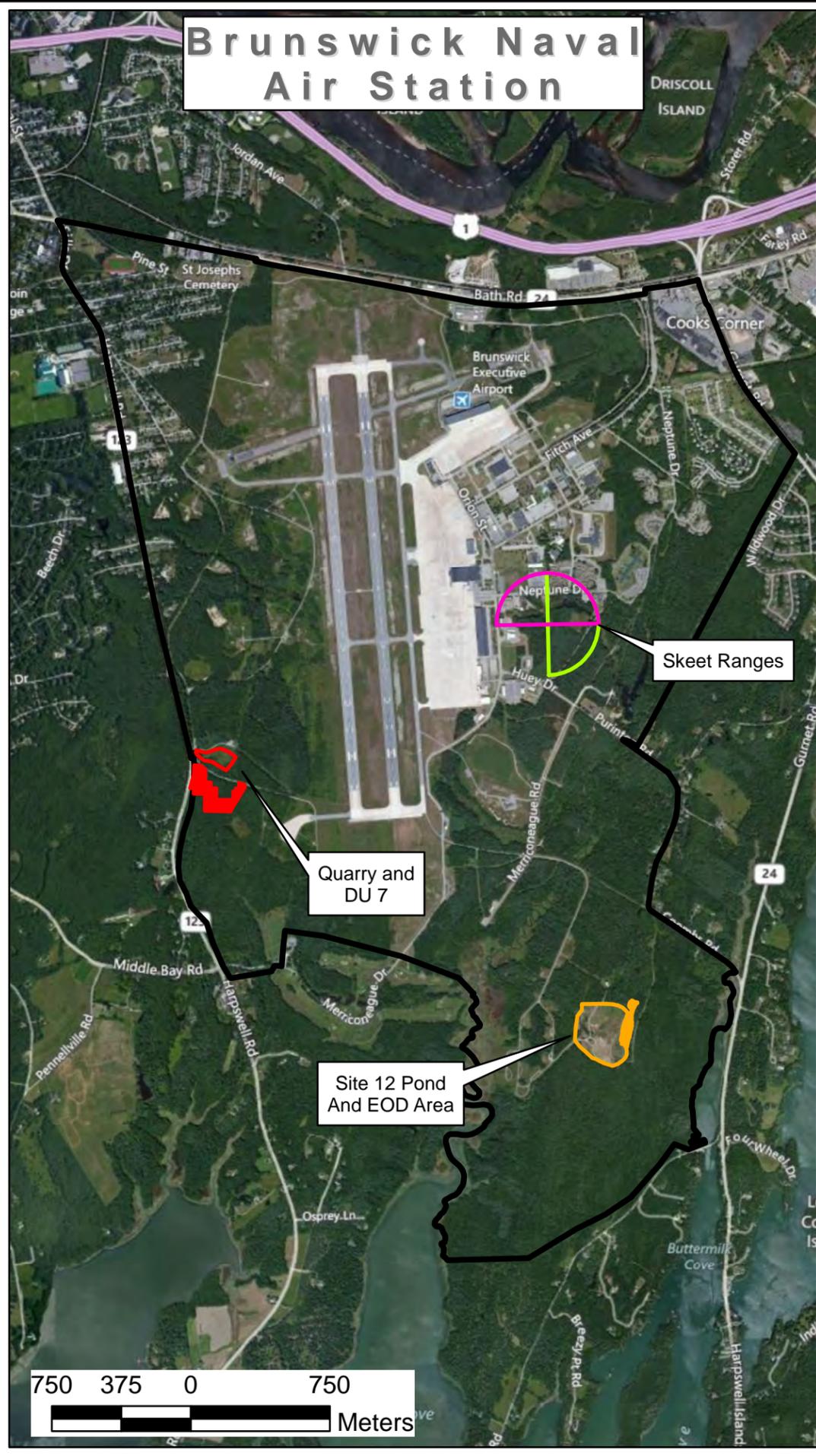
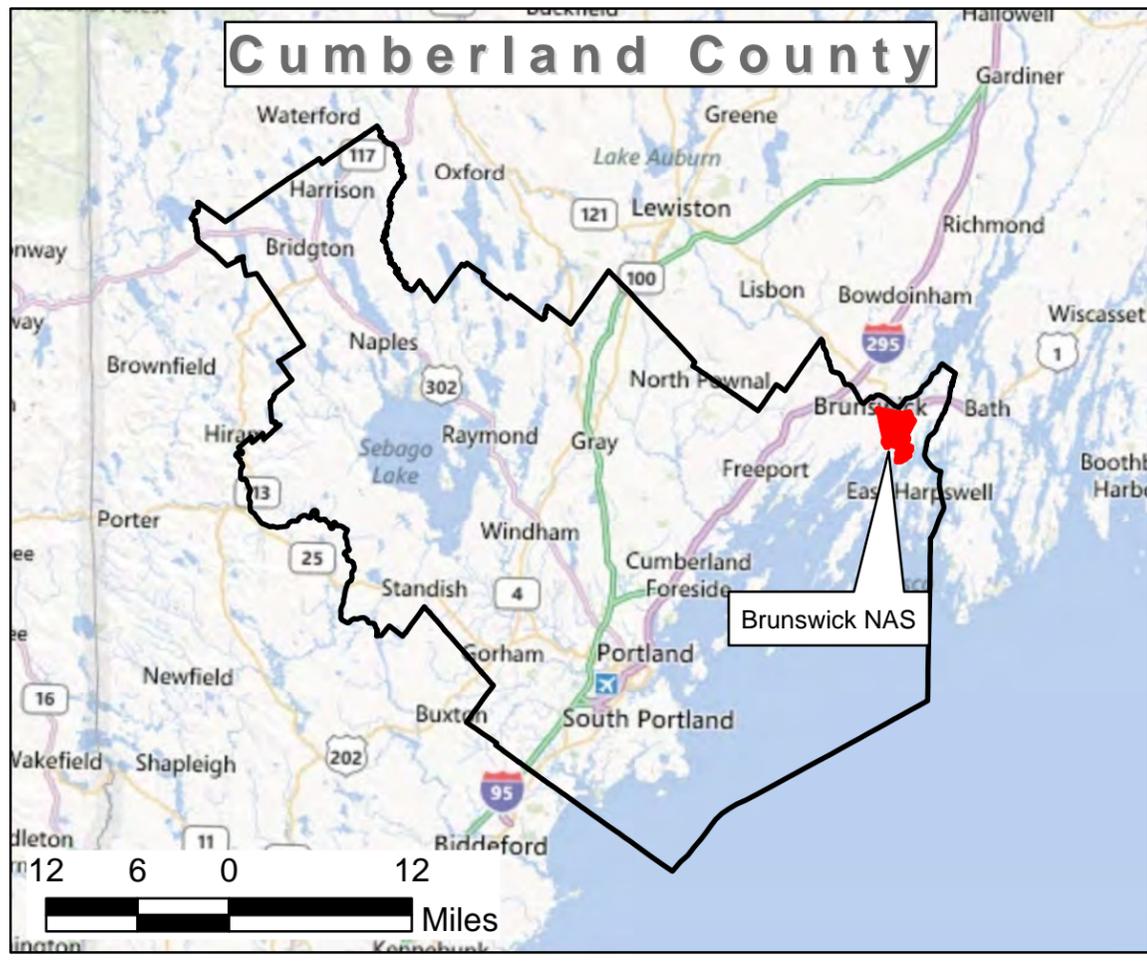
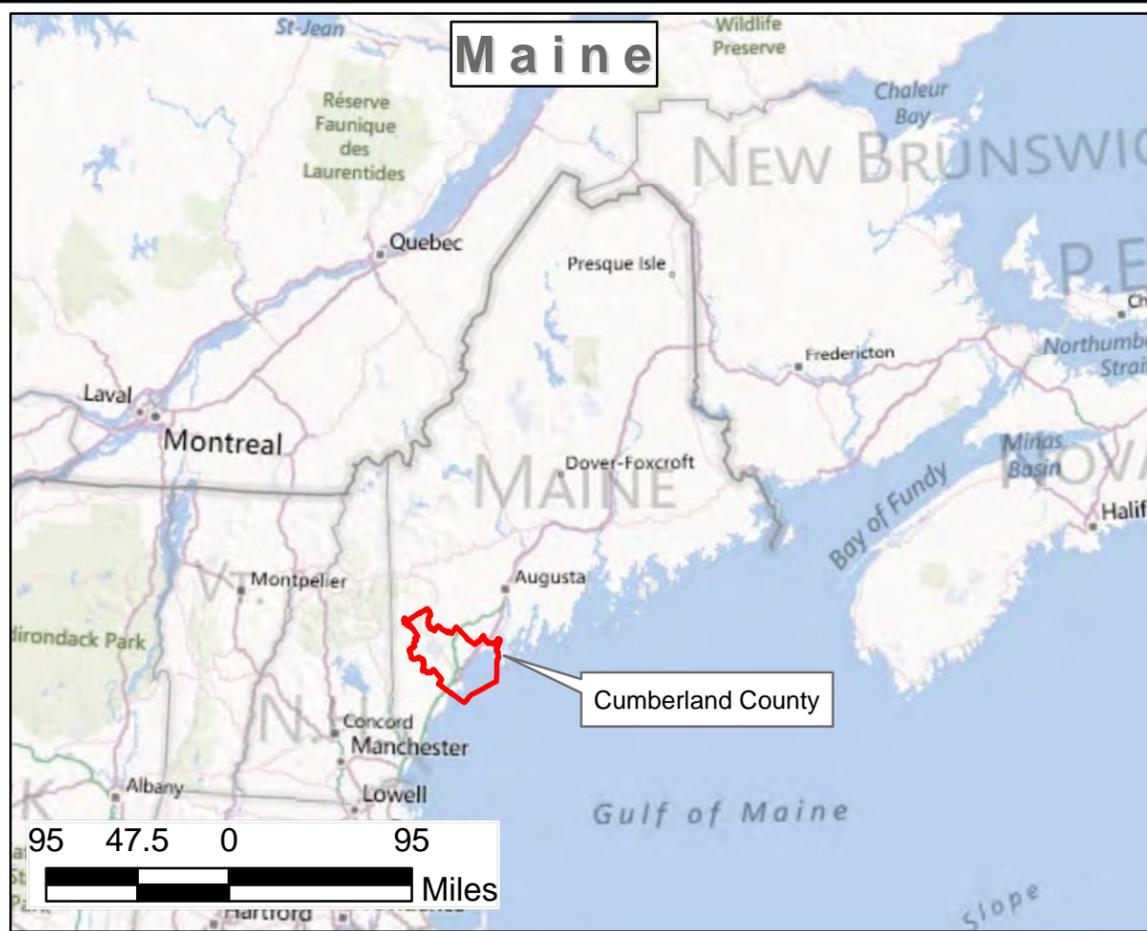
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Scale Varies

Data is projected to the UTM Coordinate System:  
Zone 19 North, NAD83, Units in Meters.

**NAS Brunswick, Maine**

**Figure 1**

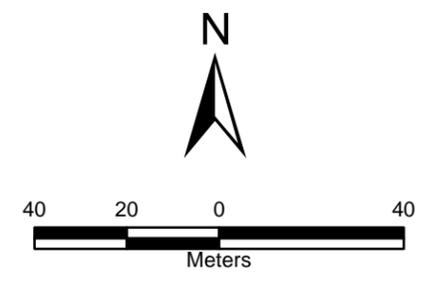
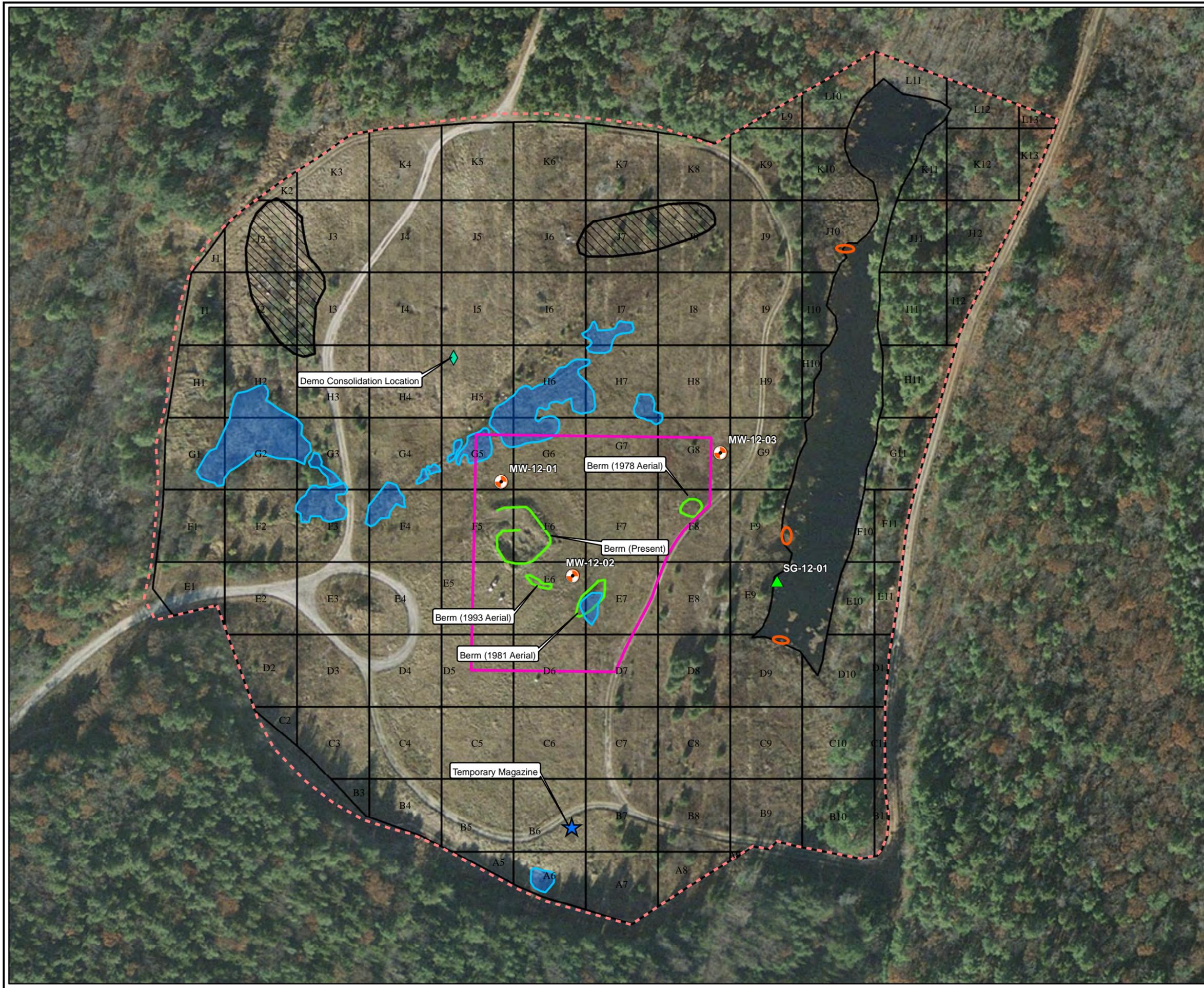
**NAS Brunswick Site Location Map**

**Legend**

- Skeet Range - post-1950
- Skeet Range - pre-1950
- Quarry
- Quarry/ DU 7
- Site 12 EOD Area
- Site 12 Pond
- Brunswick NAS Boundary

<i>USA Environmental, Inc.</i>			
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Checked By:	Date Drawn: 10-26-2012		
Submitted By: RH	Revision Date:		
Path:		S:\Brunswick NAS\MXD\Work Plan\Fig1_NAS Brunswick Site Location Map.mxd	





Data is projected to the UTM Coordinate System:  
NAD 1983 UTM Zone 19N

Brunswick Site 12 Area

## Figure 2

# Site 12 EOD Area And Pond Site Map

NAS Brunswick, Maine

### Legend

- Monitoring Well
- Staff Gauge
- Temporary Magazine
- Demo Consolidation Location
- Berm Location
- Previously Identified Wetlands
- Proposed Land Use Boundary & Area of Interest (23.79 ac.)
- Steep Rocky Slope
- 100' x 100' Grid System
- DU2 - Berm Area (Not in Current Contract)
- Debris Pile

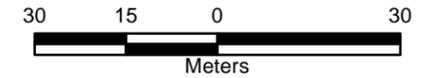
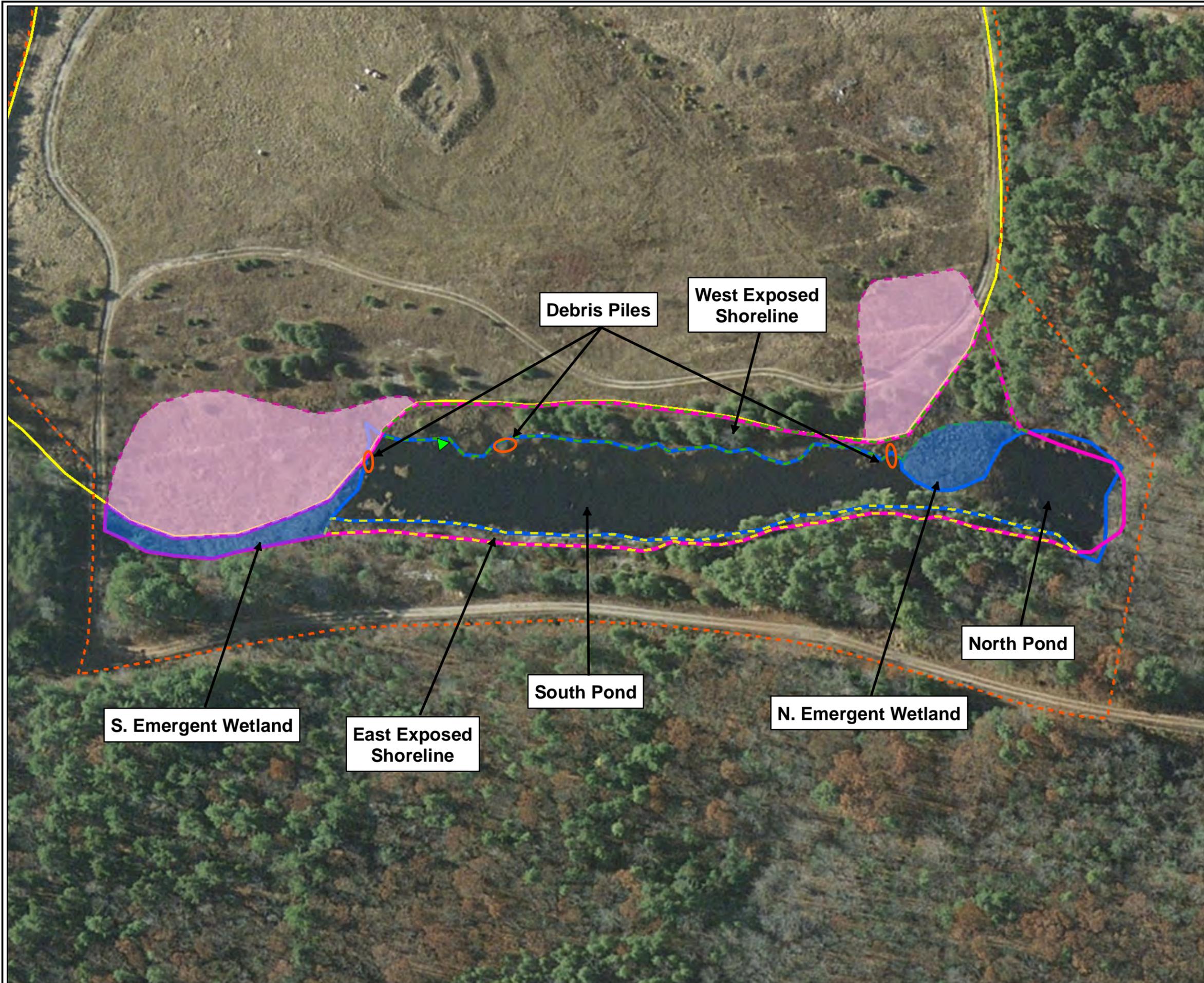
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Checked By:	Date Drawn: 4/10/2013	
Submitted By:	Revision Date:	

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Data is projected to the UTM Coordinate System:  
NAD 1983 UTM Zone 19N

Brunswick Site 12 Area

## Figure 4

# Site 12 Pond Investigation Areas

NAS Brunswick, Maine

### Legend

- Staff Gauge
- Debris Pile
- Emergent Wetlands
- Pond
- Pond Investigation Area
- Previous Sample Area Boundary
- Proposed Land Use Control Boudary
- West Exposed Shoreline
- East Exposed Shoreline
- Pond Investigation Area Previously Cleared

*USA*  
*Environmental, Inc.*



Drawn By: CLH      Scale: 1 inch = 30 meters      Rev:

Checked By:      Date Drawn: 12/19/2012

Submitted By:      Revision Date:



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Plan\Site 12\Fig 4\_Site 12 Pond  
Investigation Areas.mxd





- 1 **APPENDIX B. POINTS OF CONTACT**  
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3 This appendix contains the Points of Contact applicable to the project:

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**EMERGENCY REFERENCE  
 LOCAL POINTS OF CONTACT  
 FORMER NAS BRUNSWICK, BRUNSWICK, MAINE**

CONTACT	PHONE NUMBER
Emergency Number for Fire, Police, and Ambulance	9-1-1
Fire Department (non-emergency): Central Station 21 Town Hall Place Brunswick, Maine 04011-2003	(207) 725-5541
Police Department (non-emergency): 28 Federal Street Brunswick, Maine 04011	(207) 725-5521
Mid Coast Hospital	(207) 373-3635
Site Point of Contact Navy Caretaker Site Office, Robert LeClerc	(207) 263-6736
NAVFAC MIDLANT Remedial Project Manager (RPM): Todd Bober	(215) 897-4911
BRAC PMO NE Environmental Coordinator: Paul Burgio	(215) 897-4903
EOD Support: EODMU TWELVE DET Newport 1176 Howell Street BLDG 119 Code 0032 Newport, RI 02841-1708	(401) 832-3301
Former NAS Brunswick Point of Contact (POC): Robert Leclerc, P.E. Navy Caretaker Site Office 119 Purinton Road Brunswick, Maine 04011	207 406-2290
National Response Center	(800) 424-8802
NORTHERN NEW ENGLAND POISON CENTER	(800) 222-1222
WorkCare	(800) 455-6155 ext. 109

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**PROJECT CONTACT INFORMATION**

<b>Name</b>	<b>Title/Role</b>	<b>Organization</b>	<b>Telephone Number (Optional)</b>	<b>E-Mail Address or Mailing Address</b>
Todd Bober	Remedial Project Manager (RPM)	NAVFAC MIDLANT 4911 South Broad Street Philadelphia, PA 19112	215-897-4911	todd.bober@navy.mil
Paul Burgio	BRAC Environmental Coordinator	Navy BRAC PMO NE 4911 South Broad Street Philadelphia, PA 19112	(215) 897-4903	paul.burgio@navy.mil
Steve Levesque	Executive Director Midcoast Regional Redevelopment Authority (207) 798-6512 (207) 841-9955 Cell	MRRA Hangar 6 2 Pegasus St., Suite 1, Unit 200 Brunswick, ME 04011	Phone: 207-798-6512	<a href="http://www.mrra.us">www.mrra.us</a>
Michael Green	MRP Senior Technical Advisor	NAVFAC Atlantic Attn: Code EV32 6506 Hampton Blvd., LRA Bldg. A Norfolk, VA 23508	757-322-8108	mike.green@navy.mil
Robert LeClerc	Former NAS Brunswick Point of Contact (POC)	Navy Caretaker site Office Bldg. 53, 119 Purinton Rd Brunswick, ME 04011	207-263-6736	Robert.leclerc@navy.mil----
Carolyn LePage	Technical Advisor to BASCE	LePage Environmental Services 731 Hotel Road Auburn, ME 04210	207-777-1049	calepage@adelphia.net
Jennifer Wright	Environmental Technical Support	NAVFAC Atlantic Attn: Code EV32 6506 Hampton Blvd Norfolk, VA 23508-1278 Jen (Code EV32JW)	757-322-8428	Jennifer.H.Wright@navy.mil

<b>Name</b>	<b>Title/Role</b>	<b>Organization</b>	<b>Telephone Number (Optional)</b>	<b>E-Mail Address or Mailing Address</b>
Joe Gallant	Safety & Construction Oversight Manager	NAVFAC PWD Maine Portsmouth Naval Shipyard Building 65, Floor 2 Portsmouth, NH 03804-5000		
David Barclift	Navy BRAC PMO NE Technical Support	Navy BRAC PMO NE 4911 South Broad Street Philadelphia, PA 19112	215-897-4913	david.barclift@navy.mil
Michael Daly	Remedial Project Manager	US Environmental Protection Agency - Region I OSSR07-3 5 Post Office Square, Suite 100 Boston, MA 02109-3912	617-918-1386	Daly.Mike@epamail.epa.gov
Claudia Sait	Remedial Project Manager	Maine Department of Environmental Protection Bureau of Remediation & Waste Management State House, Station 17 Augusta, ME 04333-0017	207-287-7713	claudia.b.sait@maine.gov
Chris Evans	Project Hydrogeologist	Maine Department of Environmental Protection Bureau of Remediation & Waste Management State House, Station 17 Augusta, ME 04333-0017	207-441-5181	Gordon.C.Evans@maine.gov
Lt. John Corkey	Officer in Charge	EODMU TWELVE DET Newport 1176 Howell Street BLDG 119 Code 0032 Newport, RI, 02841-1708	Desk (401) 832-3302	
Robert Hierholzer	Remedial Contractor PM	USA Environmental	Desk (813) 343-6339 Cell (813) 505-5220	rhierholzer@usatampa.com

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**DAILY SITE REPORT**

SECTION 1 GENERAL INFORMATION					
Project Name:		Customer(s) Name:		Report No.:	
Contract No.:		TO No.:	Completion Date:	Location:	Date of Report:
SUXOS Name:		Telephone No.:		Email Address:	
Site Manager's Name:		Telephone No.:		Email Address:	
Customer POC Name:		Telephone No.:		Email Address:	
Project Web Portal Address:					
SECTION 2 WEATHER					
Temp: High / Low		Precipitation / Humidity		Wind:	Work Impact / Remarks:
SECTION 3 USA ASSIGNED PERSONNEL					
Position:	No. Assigned:	No. Present:	Position:	No. Assigned:	No. Present:
Site Manager			UXOT II		
SUXOS			UXOT I		
UXOQCS					
UXOSO					
UXOT III					
SECTION 4 SUBCONTRACTOR ASSIGNED PERSONNEL					
Position:	No. Assigned:	No. Present:	Position:	No. Assigned:	No. Present:
SECTION 5 SUBCONTRACTOR / RENTAL HEAVY EQUIPMENT ONSITE					
Description:	Quantity:	Operational:	Owner:	Remarks:	
SECTION 6 TASK(S) PERFORMED					
Task Performed:	Acres/Grids:	Transects:	Re-Acquire:	Digs:	Other:
Surface					
Subsurface					
DGM / GIS					
Devegetation					
Demolition					
Survey					
Support					

SECTION 7 WORK DETAILS					
Acres/Grids:	Transects:	Re-Acquire:	Digs:	Remarks:	
SECTION 8 SAFETY DATA					
1) Were safety inspections held? <input type="checkbox"/> Y <input type="checkbox"/> N		2) Was HW found or recovered today? <input type="checkbox"/> Y <input type="checkbox"/> N			
General <input type="checkbox"/> Tailgate <input type="checkbox"/> Task Specific <input type="checkbox"/>		Type:			
3) Were there any accidents? <input type="checkbox"/> Y <input type="checkbox"/> N		4) Was a "Competent Person" required? <input type="checkbox"/> Y <input type="checkbox"/> N			
1 <sup>st</sup> Aid <input type="checkbox"/> Clinic <input type="checkbox"/> Hospital <input type="checkbox"/>		Type:			
5) Were there any near misses? <input type="checkbox"/> Y <input type="checkbox"/> N		6) Was PPE up or down graded today? <input type="checkbox"/> Y <input type="checkbox"/> N			
Brief Description:		Changed to:			
SECTION 9 QUALITY CONTROL DATA					
1) Were QC inspections held? <input type="checkbox"/> Y <input type="checkbox"/> N		2) Was a QA submittal made today? <input type="checkbox"/> Y <input type="checkbox"/> N			
Site <input type="checkbox"/> MEC <input type="checkbox"/> DGM <input type="checkbox"/> Other <input type="checkbox"/>		Submitted by:			
3) Were there any failures? <input type="checkbox"/> Y <input type="checkbox"/> N		4) Was a Stop Work or CAR issued? <input type="checkbox"/> Y <input type="checkbox"/> N			
Minor <input type="checkbox"/> Major <input type="checkbox"/> Critical <input type="checkbox"/>		Issued by:			
5) Were there any corrections? <input type="checkbox"/> Y <input type="checkbox"/> N		6) Was a Form 948 issued? <input type="checkbox"/> Y <input type="checkbox"/> N			
Brief Description:		Issued for:			
SECTION 10 MPPEH / MDAS					
No. of MPPEH items found.		Lbs. of MDAS recovered.			
No. of MPPEH items consolidated.		Lbs. of MDAS placed in a "sealed" container.			
SECTION 11 MEC / UXO SUMMARY					
Type:	Quantity:	Live:	Practice:	Unknown:	Location:
Projectiles					
Grenades					
Rockets					
Bombs					
Mines					
Missiles					
Pyrotechnics					
ICM / Submunitions					
SECTION 12 DEMOLITION OPERATIONS					
Location:	No. of Items Destroyed:	Remarks:			

SECTION 13		DAILY COMMENTS	
<b>CUSTOMER/REGULATORY INSTRUCTIONS ISSUED:</b>			
SECTION 14		SIGNATURE BLOCKS	
Type or Print SUXOS Name:	Signature:	Date:	
Type or Print Site Manager's Name:	Signature	Date:	
<b>CC to:</b>			
Government Representative <input type="checkbox"/>	Project Manager <input type="checkbox"/>	Customer Representative <input type="checkbox"/>	
<b>Other – Specify:</b>			

**Note:** Sections 2 through 13 above may have additional information found in inspection forms, preprinted forms, information sheets, or tabulated data sets (i. e., Sign-In / Sign-out Log, MEC Summary Log, Demolitions Records, QC Inspection Form, Safety Inspection Form). Attach additional information or continuation sheets to this report as needed.

**TAILGATE SAFETY BRIEFING**

Date:

Location:

Time:

AM  PM

Team #:

<b>1. Reason for Briefing:</b>		
<input type="checkbox"/> Daily Safety Briefing	<input type="checkbox"/> New Site Procedure	
<input type="checkbox"/> Initial Safety Briefing	<input type="checkbox"/> New Site Information	
<input type="checkbox"/> New Task Briefing	<input type="checkbox"/> Review of Site Information	
<input type="checkbox"/> Periodic Safety Meeting	<input type="checkbox"/> Other (Specify):	
<b>2. Personnel Attending:</b>		
Name	Signature	Position
<b>3. Briefing Given By:</b>		
Name	Signature	Position
<b>4. Topics: ( Check All That Apply )</b>		
<input type="checkbox"/> Site Safety Personnel	<input type="checkbox"/> Decontamination Procedures	
<input type="checkbox"/> Site/Work Area Description	<input type="checkbox"/> Emergency Response/Equipment	
<input type="checkbox"/> Physical Hazards	<input type="checkbox"/> On-Site Injuries/Illnesses	
<input type="checkbox"/> Chemical/Biological Hazards	<input type="checkbox"/> Reporting Procedures	
<input type="checkbox"/> Heat/Cold Stress	<input type="checkbox"/> Directions to Medical Facility	
<input type="checkbox"/> Work/Support Zones	<input type="checkbox"/> Drug and Alcohol Policies	
<input type="checkbox"/> PPE	<input type="checkbox"/> Medical Monitoring	
<input type="checkbox"/> Safe Work Practices	<input type="checkbox"/> Evacuation/Egress Procedures	
<input type="checkbox"/> Air Monitoring	<input type="checkbox"/> Communications	
<input type="checkbox"/> Task Training	<input type="checkbox"/> Confined Spaces	
<input type="checkbox"/> MEC Precautions	<input type="checkbox"/> Other:	
<b>5. Remarks:</b>		

**CONTRACTOR SAFETY SELF- EVALUATION CHECKLIST**



PWD/ROICC/OICC/FSC OFFICE:

DATE:

FINAL OVERALL SCORE:

CONTRACTOR:

CONTRACT% COMPLETE:

TOTAL MONTHLY MAN-HOURS:

CONTRACT TITLE:

QC MANAGER:

TOTAL CUMULATIVE MAN-HOURS:

SUPERINTENDENT:

PERSON COMPLETING INSPECTION:

SITE SAFETY HEALTH OFFICER (SSHO):

SSHO LEVEL: (CIRCLE REQUIRED LEVEL) (1), (2), (3), (4), (5), (6)

QUESTIONS ANSWERED "NO" ARE BE ENTERED INTO THE SITE SAFETY AND OCCUPATIONAL HEALTH DEFICIENCY TRACKING SYSTEM FOR CORRECTION (REFER TO EM 385-1-1 01.A.12.d)

**PREPARATORY PHASE/ ORM PLANNING**

1	(Yes) (No) (N/A)	ACCEPTED ACCIDENT PREVENTION PLAN (APP) OR ABBREVIATED (APP) ON-SITE and UPDATED TO REFLECT CURRENT MANAGEMENT?
2	(Yes) (No) (N/A)	APPLICABLE UFGS 013526 AVAILABLE IN SITE ?
3	(Yes) (No) (N/A)	COMPETENT PERSON EMPLOYED FULL TIME AS SITE SAFETY AND HEALTH OFFICER (SSHO) UNLESS SPECIFIED DIFFERENTLY IN THE CONTRACT ?
4	(Yes) (No) (N/A)	SSHO ON - SITE AT ALL TIMES WHEN WORK IS BEING PERFORMED ?
5	(Yes) (No) (N/A)	SAFETY INSPECTIONS/AUDITS CONDUCTED BY COMPETENT PERSON, OF THE WORK SITE, MATERIAL, AND EQUIPMENT DOCUMENTED IN WRITING AND AVAILABLE ON REQUEST?
6	(Yes) (No) (N/A)	SAFETY AND HEALTH BULLETIN BOARD ERECTED IN AREA COMMONLY ACCESSED AND IN CLEAR VIEW OF THE ON-SITE WORKERS?
7	(Yes) (No) (N/A)	SAFETY AND OCCUPATIONAL HEALTH DEFICIENCY TRACKING SYSTEM ESTABLISHED and UPDATED DAILY (REFER TO EM 385-1-1 01.A.12.d)?
8	(Yes) (No) (N/A)	QUALIFIED PERSON CONDUCTING/DOCUMENTING ALL TRAINING, MEETINGS AND INDOCTRINATION FOR NEW EMPLOYEES?
9	(Yes) (No) (N/A)	ACTIVITY HAZARD ANALYSIS (AHA) with COMPETENT PERSON IDENTIFIED and PROOF OF QUALIFICATIONS ATTACHED and ACCEPTED BY GOVERNMENT DESIGNATED AUTHORITY FOR EACH WORK ACTIVITY ON SITE?
10	(Yes) (No) (N/A)	WORK NOT STARTED UNTIL ACTIVITY HAZARD ANALYSIS REVIEWED BY CONTRACTOR, SUBCONTRACTOR(S) AND GOVERNMENT ON-SITE REPRESENTATIVES DURING PREPARATION and INITIAL PHASE MEETING?
11	(Yes) (No) (N/A)	ARE REQUIRED WEEKLY SAFETY MEETINGS FOR ALL WORKERS TO REVIEW PAST ACTIVITES, PLAN FOR NEW OR CHANGED OPERATIONS, REVIEW ahA'S BY TRADE, ESTABLISH SAFE WORKING PROCUDRES FOR UPCOMING HAZARDS, PROVIDE SAFETY AND HEALTH TRAINING BEING HELD AND DOCUMENTED?
12	(Yes) (No) (N/A)	ARE REQUIRED MONTHLY SAFETY MEETINGS FOR ALL SUPERVISORS ON THE PROJECT LOCATION TO REVIEW PAST ACTIVITES, PLAN FOR NEW OR CHANGED OPERATIONS, REVIEW ahA'S BY TRADE, ESTABLISH SAFE WORKING PROCUDRES FOR UPCOMING HAZARDS, PROVIDE SAFETY AND HEALTH TRAINING BEING HELD AND DOCUMENTED?
13	(Yes) (No) (N/A)	WRITTEN HAZARD COMMUNICATION PROGRAM SUBMITTED and IMPLEMENTED IAW EM 385 SECTION 06.B.01 ?
14	(Yes) (No) (N/A)	MSDS FOR EACH HAZARDOUS SUBSTANCE MAINTAINED WITH SITE MAP ATTACHED?
15	(Yes) (No) (N/A)	PRIME CONTRACTOR ASSURING SUBCONTRACTOR COMPLIANCE WITH REQUIREMENTS OF EM-385-1-1?
		Other? Extra Credit?

**OFFICE TRAILER/SIGNAGE/GENERAL**

16	(Yes) (No) (N/A)	OFFICE AND STORAGE TRAILERS ANCHORED?
17	(Yes) (No) (N/A)	EMERGENCY PHONE NUMBERS POSTED?
18	(Yes) (No) (N/A)	TEMPORARY PROJECT FENCING WHICH EXTENDS FROM GRADE LEVEL TO A MINIMUM OF 48IN. ABOVE GRADE? (UNLESS GDA DETERMINES OTHERWISE BASED ON RISK ANALYSIS)
19	(Yes) (No) (N/A)	SIGNS WARNING OF THE PRESENCE OF CONSTRUCTION HAZARDS AND REQUIRING UNAUTHORIZED PERSONS TO KEEP OUT POSTED ON THE FENCING EVERY 150 FEET?
20	(Yes) (No) (N/A)	CONTRACTOR AWARE OF IMMEDIATE NOTIFICATION FOR ALL INJURIES REQUIRED BY PWD/ROICC/OICC/FSC OFFICE?
21	(Yes) (No) (N/A)	EMERGENCY PLANS IN CASE OF FIRE OR OTHER EMERGENCY PREPARED IN WRITING AND REVIEWED?
22	(Yes) (No) (N/A)	DRINKING WATER WITH DISPOSABLE CUPS AND A WASTE RECEPTACLE AVAILABLE?
23	(Yes) (No) (N/A)	TOILET FACILITIES WITH WASHING FACILITIES AVAILABLE?
24	(Yes) (No) (N/A)	HIGHLY VISIBLE MAP DELINEATING BEST ROUTE TO NEAREST MEDICAL FACILITY POSTED ON SAFETY BULLETIN BOARD?
25	(Yes) (No) (N/A)	FIRST-AID KIT, TYPE III, 16 UNIT, and ONE POCKET MOUTH PIECE OR CPR BARRIER PROVIDED AND MAINTAINED WITH INVENTORY LOG AVAILABLE?
26	(Yes) (No) (N/A)	ALL EMPLOYEES ON SITE WEARING AS A MINIMUM SHORT SLEEVE SHIRT, LONG PANTS, LEATHER OR OTHER PROTECTIVE WORK SHOES OR BOOTS
27	(Yes) (No) (N/A)	EVERY FLOOR, WORKING PLACE AND PASSAGEWAY KEPT FREE FROM PROTRUDING NAILS, SPLINTERS, LOOSE BOARDS, CLUTTER AND UNNECESSARY HOLES AND OPENING?
28	(Yes) (No) (N/A)	WORK AREAS INSPECTED DAILY FOR ADEQUATE HOUSEKEEPING AND RECORDED ON DAILY SAFETY INSPECTION REPORT?
29	(Yes) (No) (N/A)	TRAFFIC CONTROL AROUND SITE ADEQUATE?
		Other? Extra Credit?

**FIRE PREVENTION**

30	(Yes) (No) (N/A)	WRITTEN FIRE PREVENTION PLAN ON SITE AND USED TO BRIEF EMPLOYEES?
31	(Yes) (No) (N/A)	FIRE EXTINGUISHERS AVAILABLE, FULLY CHARGED, EASILY VISIBLE WITHIN 75 FEET FOR LOW HAZARD AREAS?
32	(Yes) (No) (N/A)	FIRE EXTINGUISHERS INSPECTED MONTHLY, RECORDED ON TAGS, AND INITIALED?
33	(Yes) (No) (N/A)	FUEL STORED IN SAFETY CANS LABELED/LISTED and PAINTED RED WITH YELLOW BAND AND CONTENTS INDICATED?
34	(Yes) (No) (N/A)	ARE HOT WORK PERMITS BEING OBTAINED FOR WELDING, CUTTING OR OPERATING OTHER FLAME-PRODUCING/SPARK PRODUCING DEVICES FROM THE FIRE DEPARTMENT?
35	(Yes) (No) (N/A)	ARE FIRE WATCHES PROVIDED?
		Other? Extra Credit?

**PPE**

36	(Yes) (No) (N/A)	WORKERS WEARING SAFETY-TOED LEATHER SHOES OR BOOTS MEETING ASTM F 2412 - 05 AND F 2413 - 05 ?
37	(Yes) (No) (N/A)	HARD HATS BEING WORN PROPERLY AND MEETING ANSI Z89.1?
38	(Yes) (No) (N/A)	ARE WORKERS INVOLVED IN ACTIVITIES THAT SUBJECT HANDS TO INJURY USING HAND PROTECTION APPROPRIATE FOR THE HAZARD?
39	(Yes) (No) (N/A)	SAFETY GLASSES USED WHERE APPROPRIATE?
40	(Yes) (No) (N/A)	HEARING PROTECTION WHERE APPROPRIATE? (IF YOU NEED TO YELL TO CONVERSE HEARING PROTECTION IS REQUIRED)
41	(Yes) (No) (N/A)	WORKERS WEARING RESPIRATORS WHERE APPROPRIATE?
42	(Yes) (No) (N/A)	IMPALEMENT PROTECTION PROVIDED WHERE PERSONNEL COULD WORK ABOVE VERTICAL IMPALEMENT HAZARD (Rebar etc.)?
43	(Yes) (No) (N/A)	ARE PROTECTIVE LEG CHAPS WORN BY WORKERS WHO OPERATE CHAIN SAWS?
44	(Yes) (No) (N/A)	HIGH VISIBILITY APPAREL BEING WORN WHEN WORKERS ON SITE ARE EXPOSED TO VEHICULAR OR EQUIPMENT TRAFFIC AT UP TO 45 MPH, THERE IS LIMITED OR REDUCED VISIBILITY FOR WORKERS AROUND MOBILE/HEAVY EQUIPMENT OR WORKERS ARE WORKING CLOSE TO VEHICULAR TRAFFIC WITH NO PROTECTIVE BARRIERS?
		OTHER? EXTRA CREDIT?

SCAFFOLD SAFETY		
45	(Yes) (No) (N/A)	HAS A SITE-SPECIFIC FALL PROTECTION AND PREVENTION PLAN and AHA BEEN ACCEPTED BY THE GDA PRIOR TO COMMENCING WORK IN ELEVATED AREAS?
46	(Yes) (No) (N/A)	ALL ERECTION, MOVING, DISMANTLING, OR ALTERING OF SCAFFOLD SYSTEMS UNDER THE SUPERVISION OF A COMPETENT PERSON?
47	(Yes) (No) (N/A)	COMPETENT PERSON USING A COLOR-CODED TAGGING SYSTEM? ( GREEN = INSPECTED & SAFE TO USE) ( RED = SCAFFOLD IS UNSAFE TO USE)
48	(Yes) (No) (N/A)	PLANKS OVERLAPPED NOT LESS THAN 6" OR MORE THAN 12" OVER END SUPPORTS WITH TOE BOARDS IN PLACE?
49	(Yes) (No) (N/A)	SCAFFOLD PINNED PROPERLY AND ALL CROSS BRACING IN PLACE?
50	(Yes) (No) (N/A)	SCAFFOLD HEIGHT 4 TIMES SMALLEST BASE DIMENSION AND SYSTEM IS SECURED TO STRUCTURE?
51	(Yes) (No) (N/A)	ALL GUARDRAILS ARE IN PLACE?
52	(Yes) (No) (N/A)	FULL WORK PLATFORM OR DECKS AT EACH WORKING LEVEL WITH NO CRACKS/SPLITS?
53	(Yes) (No) (N/A)	WORK PLATFORM OR DECK SECURELY FASTENED TO THE SCAFFOLD?
54	(Yes) (No) (N/A)	SAFE ACCESS PROVIDED TO EACH WORKING LEVEL?
55	(Yes) (No) (N/A)	IS SCAFFOLD SYSTEM PLUMB AND LEVEL?
56	(Yes) (No) (N/A)	SUSPENDED SCAFFOLD SYSTEMS USING INDEPENDENT PERSONAL FALL ARREST SYSTEM?
57	(Yes) (No) (N/A)	PERSONNEL PROHIBITED FROM RIDING ON MANUALLY PROPELLED SCAFFOLDS?
		Other? Extra Credit?
FALL PROTECTION		
58	(Yes) (No) (N/A)	HAS SITE-SPECIFIC FALL PROTECTION AND PREVENTION PLAN BEEN ACCEPTED?
59	(Yes) (No) (N/A)	WORKERS USING FALL PROTECTION EQUIPMENT USING "BUDDY SYSTEM" TO BEGIN RESCUE OF FALLEN WORKER IF REQUIRED
60	(Yes) (No) (N/A)	ALL WORKERS ABOVE 6 FOOT FALL PROTECTION THRESHOLD PROTECTED FROM FALLING TO LOWER LEVEL?
61	(Yes) (No) (N/A)	ARE EMPLOYEES TRAINED FOR FALL PROTECTION SYSTEMS IN USE?
62	(Yes) (No) (N/A)	HAS THE CONTRACTOR DESIGNATED A COMPETENT PERSON FOR FALL PROTECTION?
63	(Yes) (No) (N/A)	IS A WRITTEN RESCUE PLAN (IAW ANSI Z359.2) BEEN PREPARED AND MAINTAINED WHEN WORKERS ARE WORKING AT HEIGHTS ?
64	(Yes) (No) (N/A)	IS A FULL BODY HARNESS USED?
65	(Yes) (No) (N/A)	ALL WORKERS ALOFT TIED OFF AT ALL TIMES (100%) TO STRUCTURAL ELEMENT CAPABLE OF SUPPORTING 5,000 LBS?
66	(Yes) (No) (N/A)	HAVE STANDARD GUARDRAILS BEEN PROVIDED WHERE NEEDED?
67	(Yes) (No) (N/A)	ACCESS TO WORK AREAS GREATER THAN 20 FEET HIGH PROVIDED WITH A STAIR SYSTEM?
68	(Yes) (No) (N/A)	HAVE HORIZONTAL LIFE LINES IF USED BEEN DESIGNED AND INSTALLED UNDER SUPERVISION OF A QUALIFIED PERSON?
		OTHER? EXTRA CREDIT?
LADDER SAFETY		
69	(Yes) (No) (N/A)	LADDERS EXTEND 3' ABOVE LANDING PLATFORM AND TIED TO STRUCTURE?
70	(Yes) (No) (N/A)	ARE LADDERS USED WITH HAND TOOLS ONLY?
71	(Yes) (No) (N/A)	ARE LADDER BASE DISTANCES FROM STRUCTURE 1/4 HEIGHT?
72	(Yes) (No) (N/A)	ALL FLOOR OPENINGS EITHER COVERED OR SURROUNDED BY A GUARDRAIL?
73	(Yes) (No) (N/A)	ELECTRICIANS NOT USING CONDUCTIVE LADDERS?
74	(Yes) (No) (N/A)	STAIRWAYS PROVIDED ON ALL STRUCTURES OVER 20' DURING CONSTRUCTION/WITH GUARDRAIL?
75	(Yes) (No) (N/A)	ALL FLIGHTS OF STAIRS WITH 4 OR MORE RISERS HAVE STANDARD STAIR RAILINGS OR HANDRAILS
76	(Yes) (No) (N/A)	PORTABLE STEP LADDERS OVER 20' NOT USED ON THE SITE?
77	(Yes) (No) (N/A)	ARE LADDERS PROPERLY USED?
		OTHER? EXTRA CREDIT?
EXCAVATIONS		
78	(Yes) (No) (N/A)	HAS EXCAVATION/TRENCHING PLAN IN ACCORDANCE WITH (SECTION 25.A.01 a - n) BEEN SUBMITTED AND ACCEPTED BY THE GDA PRIOR TO BEGINNING OPERATIONS?
79	(Yes) (No) (N/A)	COMPETENT PERSON ABLE TO DEMONSTRATE TRAINING, EXPERIENCE AND KNOWLEDGE OF SOIL ANALYSIS: PROTECTIVE SYSTEMS AND REQUIREMENTS OF 29 CFR 1926 SUBPART P AND HAS AUTHORITY TO STOP WORK WHEN REQUIRED?
80	(Yes) (No) (N/A)	COMPETENT PERSON INSPECTED AND DOCUMENTED EXCAVATION DAILY?
81	(Yes) (No) (N/A)	HIGH VISIBILITY APPAREL WORN BY ALL WORKERS EXPOSED TO VEHICLE TRAFFIC OR WORKING AROUND EQUIPMENT
82	(Yes) (No) (N/A)	HYDRAULIC EXCAVATORS, WHEEL/TRUCK/BACKHOE LOADERS USED TO TRANSPORT OR HOIST LOADS WITH RIGGING COMPLY WITH EM 385 SECTION 16 "S" AND HAVE AHA SPECIFIC TO THESE OPERATIONS?
83	(Yes) (No) (N/A)	WRITTEN PROOF OF QUALIFICATION OF EQUIPMENT OPERATORS, RIGGERS INVOLVED IN HOISTING, TRANSPORTING OPERATIONS?
84	(Yes) (No) (N/A)	OPERATIONAL TEST PERFORMED AS DESCRIBED IN 16.F?
85	(Yes) (No) (N/A)	MANUFACTURERS OPERATING MANUAL WITH EQUIPMENT?
86	(Yes) (No) (N/A)	PROPER USE OF RIGGING, INCLUDING POSITIVE LATCHING DEVICES?
87	(Yes) (No) (N/A)	INSPECTION OF RIGGING
88	(Yes) (No) (N/A)	BARRICADE SWING RADIUS OF EQUIPMENT AND LOAD?
89	(Yes) (No) (N/A)	OVER 4' DEEP MUST HAVE A LADDER WITHIN 25' AND TWO MEANS OF EGRESS?
90	(Yes) (No) (N/A)	HAS PROPER SLOPE OR TRENCH BOX/SHORING BEEN PROVIDED?
91	(Yes) (No) (N/A)	IS WATER CONTROLLED/REMOVED?
92	(Yes) (No) (N/A)	IS EXCAVATED MATERIAL AT LEAST 2' BACK FROM TRENCH EDGE?
93	(Yes) (No) (N/A)	HAS SAFE ACCESS/PROTECTION BEEN PROVIDED TO PREVENT PERSONNEL, VEHICLES, AND EQUIPMENT FROM FALLING INTO EXCAVATIONS?
94	(Yes) (No) (N/A)	PERIMETER PROTECTION THAT MEETS CLASS I or CLASS II or CLASS III REQUIREMENTS PROVIDED?
		OTHER? EXTRA CREDIT?

ELECTRICAL			
95	(Yes) (No) (N/A)	HAS A SKETCH OF TEMPORARY POWER DISTRIBUTION SYSTEMS BEEN SUBMITTED /ACCEPTED BY GDA?	
96	(Yes) (No) (N/A)	ELECTRICAL WORK PERFORMED BY QUALIFIED PERSONNEL WITH VERIFIABLE CREDENTIALS?	
97	(Yes) (No) (N/A)	ENERGIZED WORK PERMIT SUBMITTED TO GDA PRIOR TO ANY WORK ON ENERGIZED LINES ON EQUIPMENT AND IAW NFPA70E AND EM 385 I.E.. 02 C(1) - (8)	
98	(Yes) (No) (N/A)	ARE ARC FLASH REQUIREMENTS KNOWN AND ADHERED TO?	
99	(Yes) (No) (N/A)	ARE TEMPORARY POWER PANEL AND RECEPTACLES PROTECTED FROM WEATHER?	
100	(Yes) (No) (N/A)	GFCI'S IN USE FOR SITE TOOLS - APPLIES TO EXISTING OUTLETS IN RENOVATION PROJECTS AS WELL?	
101	(Yes) (No) (N/A)	TEMPORARY LIGHTS INSULATED FROM SUPPORTS PROPERLY WITH ALL LAMPS WORKING AND GUARDED?	
102	(Yes) (No) (N/A)	OVERHEAD POWER LINES IN AREA, OPERATIONS PROHIBITED UNLESS MAINTAINING PROPER CLEARANCE DISTANCES?	
103	(Yes) (No) (N/A)	HAS HAZARDOUS ENERGY CONTROL PROGRAM BEEN SUBMITTED AND ACCEPTED BY GDA? (OLD LOCK OUT/TAG OUT )	
104	(Yes) (No) (N/A)	VERTICAL CLEARANCE OF TEMPORARY WIRING OF AT LEAST 10 FEET MAINTAINED ?	
105	(Yes) (No) (N/A)	ALL FLEXIBLE CORDS INSPECTED AT LEAST DAILY? DOCUMENTED?	
106	(Yes) (No) (N/A)	FLEXIBLE CORDS NOT SPLICED EXCEPT HARD SERVICE CORDS # 12 OR LARGER WITH MOLDED OR VULCANIZED SPLICES BY QUALIFIED ELECTRICIAN?	
		OTHER? EXTRA CREDIT?	
CRANES			
107	(Yes) (No) (N/A)	BEFORE CRANE/HOISTING EQUIPMENT IS PLACED IN SERVICE HAS IT BEEN INSPECTED, TESTED, AND CERTIFIED IN WRITING BY A COMPETENT PERSON TO BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION AND THE REQUIREMENTS OF EM 385?	
108	(Yes) (No) (N/A)	CRANE OPERATOR DESIGNATED QUALIFIED AND PROOF OF QUALIFICATION IN WRITING PROVIDED TO THE GDA?	
109	(Yes) (No) (N/A)	PROJECT HAS ADEQUATE MEANS FOR MONITORING LOCAL WEATHER CONDITIONS, INCLUDING A WIND-INDICATING DEVICE?	
110	(Yes) (No) (N/A)	ARE EM 385-1-1 16.D.08 (AT THE BEGINNING OF EACH SHIFT) START UP INSPECTIONS PERFORMED BY OPERATOR AND SUBMITTED WITH DRI?	
111	(Yes) (No) (N/A)	HAS THE PERIODIC INSPECTION BEEN PERFORMED PRIOR TO USE ON SITE IAW EM 385-1-1, TABLE 16-1 AND 16.D.10?	
112	(Yes) (No) (N/A)	IS CRANE EQUIPPED WITH ANTI TWO-BLOCK DEVICE IF REQUIRED?	
113	(Yes) (No) (N/A)	IS THE CRANE LEVEL AND ON FIRM GROUND AND OUTRIGGERS IN USE WITH APPROPRIATE CRIBBING?	
114	(Yes) (No) (N/A)	IAW 16.G.09 WHEN CRANE IS OPERATED WITHIN 20 FOOT OF POWER LINES (OPERATING WORK ZONE IS AREA 360 DEGREES AROUND CRANE) HAS A DETERMINATION BEEN MADE THAT ALL POWER LINES ARE ENERGIZED?	
115	(Yes) (No) (N/A)	IAW TABLE 16-3 CRANE NOT ALLOWED TO WORK CLOSER THAN 10 FOOT OF ENERGIZED POWER LINES (DEPENDING ON ACTUAL VOLTAGE OF LINES	
116	(Yes) (No) (N/A)	IS CRANE SIDE LOADING PROHIBITED?	
117	(Yes) (No) (N/A)	ARE RIGGING CABLES AND SLINGS INSPECTED BY A COMPETENT PERSON BEFORE EACH SHIFT?	
118	(Yes) (No) (N/A)	ARE WORKERS PROTECTED FROM THE CRANE SWING RADIUS AND PREVENTED FROM PASSING UNDER THE LOAD?	
		OTHER? EXTRA CREDIT?	
CONFINED SPACE			
119	(Yes) (No) (N/A)	ALL CONFINED SPACE WORK IAW EM 385 SECTION 34.A.06?	
120	(Yes) (No) (N/A)	IS CONFINED SPACE COMPETENT PERSON (CSCP), IN WRITING, IDENTIFIED?	
121	(Yes) (No) (N/A)	IS ATMOSPHERE BEING MONITORED?	
122	(Yes) (No) (N/A)	IS SPACE BEING VENTILATED?	
123	(Yes) (No) (N/A)	ARE ENTRANTS, ATTENDANTS AND ENTRY SUPERVISOR PROPERLY TRAINED?	
124	(Yes) (No) (N/A)	IS RESCUE/RETRIEVAL SYSTEM IN PLACE FOR PERMIT REQUIRED CONFINED PLACES?	
125	(Yes) (No) (N/A)	ARE ENTRY PERMITS POSTED AT POINT OF ENTRY AND SIGNED BY ENTRY SUPERVISOR?	
126	(Yes) (No) (N/A)	IS THE POINT OF ENTRY POSTED "DANGER CONFINED SPACE"?	
127	(Yes) (No) (N/A)	HAS BLANKING OR LOCKING OUT OF SYSTEMS TAKEN PLACE?	
		OTHER? EXTRA CREDIT?	
ROOFING			
128	(Yes) (No) (N/A)	HAS STRUCTURAL ANALYSIS OF THE ROOF BEEN CONDUCTED BY A QUALIFIED PERSON ?	
129	(Yes) (No) (N/A)	HAS COMPETENT PERSON COMPLETED A DAILY INSPECTION?	
130	(Yes) (No) (N/A)	HAS COMPETENT PERSON DEVELOPED A FALL PROTECTION PLAN, SUBMITTED/ACCEPTED BY GDA?	
131	(Yes) (No) (N/A)	ARE KETTLES AT LEAST 25 FEET AWAY FROM BUILDINGS?	
132	(Yes) (No) (N/A)	IS KETTLE ATTENDANT WEARING PROPER PPE AT ALL TIMES?	
133	(Yes) (No) (N/A)	ARE TWO FIRE EXTINGUISHERS AT THE KETTLE?	
134	(Yes) (No) (N/A)	ARE SKYLIGHTS AND ROOF PENETRATIONS COVERED OR BARRICADED APPROPRIATELY?	
135	(Yes) (No) (N/A)	HAS THE ROOF BEEN EVALUATED FOR ITS ABILITY TO SUPPORT THE INTENDED CONSTRUCTION LOADS?	
136	(Yes) (No) (N/A)	IF WARNING LINES ON LOW SLOPED ROOFS ARE USED, ARE THEY PROPERLY INSTALLED/MAINTAINED?	
137	(Yes) (No) (N/A)	ARE FUEL CYLINDERS A MINIMUM OF 10' FROM OPEN FLAME?	
		OTHER? EXTRA CREDIT?	
EQUIPMENT			
138	(Yes) (No) (N/A)	ALL MACHINERY OR EQUIPMENT INSPECTED DAILY, WHEN IN USE, BY COMPETENT PERSONS?	
139	(Yes) (No) (N/A)	ARE OPERATORS TRAINED AND AUTHORIZED TO OPERATE POWERED INDUSTRIAL TRUCKS, LIFT TRUCKS, AND SIMILAR EQUIPMENT?	
140	(Yes) (No) (N/A)	MOBILE EQUIPMENT EQUIPPED WITH BACKUP ALARMS? ROLLOVER CAGES/ MOVING PARTS ADEQUATELY GUARDED?	
141	(Yes) (No) (N/A)	ARE EQUIPMENT OPERATIONS MAINTAINING SAFE CLEARANCE FROM ELECTRICAL POWER LINES?	
142	(Yes) (No) (N/A)	MODIFICATIONS MEET MANUFACTURER INSTRUCTIONS (I.E., LIFTING PERSONNEL WITH FORKLIFT - (NOT ALLOWED BY MANY MANUFACTURERS)?	
143	(Yes) (No) (N/A)	ARE SAFETY LASHINGS PROVIDED FOR HIGH PRESSURE HOSE CONNECTIONS, I.E., AIR COMPRESSORS?	
144	(Yes) (No) (N/A)	ARE WORKERS CLEAR OF BLIND SPOTS ASSOCIATED WITH MOBILE CONSTRUCTION EQUIPMENT?	
145	(Yes) (No) (N/A)	ARE DAILY WALK AROUND INSPECTIONS OF AERIAL LIFTS PERFORMED AND DOCUMENTED BY QUALIFIED OPERATORS?	
146	(Yes) (No) (N/A)	DO AERIAL LIFTS HAVE BASKET/PLATFORM WITH GUARDRAIL?	
147	(Yes) (No) (N/A)	WORKERS NOT EXTENDING OVER GUARDRAIL OF AERIAL LIFTS?	
148	(Yes) (No) (N/A)	ARE ARTICULATING BOOM PLATFORMS (JLG TYPE) USED WITH FULL BODY HARNESS ATTACHED TO PROPER ATTACHMENT POINTS ON BOOM OR BASKET?	
149	(Yes) (No) (N/A)	ARE DUMP TRUCK CHECKLISTS BEING USED AND COPIES KEPT ON SITE?	
150	(Yes) (No) (N/A)	INSPECTION, MAINTENANCE, AND REPAIRS TO CONVEYORS PERFORMED IAW MANUFACTURER'S RECOMMENDATIONS BY QUALIFIED PERSONNEL?	
151	(Yes) (No) (N/A)	EXPOSED MOVING MACHINERY PARTS MECHANICALLY OR ELECTRICALLY GUARDED?	
152	(Yes) (No) (N/A)	WHEN TWO OR MORE CONVEYING SYSTEMS ARE INTERFACED ARE ADEQUATE GUARDING AND SAFETY DEVICES IN PLACE?	
		OTHER? EXTRA CREDIT?	

TREE MAINTENANCE AND REMOVAL		
153	(Yes) (No) (N/A)	ALL TREE MAINTENANCE OR REMOVAL PERFORMED UNDER THE DIRECTION OF A QUALIFIED TREE WORKER?
154	(Yes) (No) (N/A)	ONLY QUALIFIED LINE-CLEARANCE TREE TRIMMER OR LINE-CLEARANCE TRAINEE ASSIGNED TO WORK IN CLOSE PROXIMITY TO ELECTRICAL HAZARDS?
155	(Yes) (No) (N/A)	TREE WORKERS IN A BUCKET OR WORK PLATFORM USING FALL PROTECTION
156	(Yes) (No) (N/A)	ALL TREE WORK OPERATIONS ABOVE 12 FOOT HAVE A 2ND WORKER IN THE AREA
157	(Yes) (No) (N/A)	PRIOR TO FELLING OPERATIONS HAS WORK AREA BEEN CLEARED AND ESCAPE ROUTE PLANNED?
158	(Yes) (No) (N/A)	ALL EMPLOYEES WORKING FROM THE UPHILL SIDE WHENEVER POSSIBLE?
DEMOLITION		
159	(Yes) (No) (N/A)	HAS DEMOLITION PLAN, BASED ON ENGINEERING, LEAD, AND ASBESTOS SURVEY BY A REGISTERED PROFESSIONAL ENGINEER BEEN ACCEPTED?
160	(Yes) (No) (N/A)	WASTE NOT BEING DROPPED > 6' UNLESS IN AN ENCLOSED CHUTE AND AREA SECURED FROM TRAFFIC?
161	(Yes) (No) (N/A)	FOR BUILDING DEMOLITION, HAS NOTIFICATION BEEN MADE TO STATE HAVING JURISDICTION?
162	(Yes) (No) (N/A)	ARE NAILS REMOVED FROM SCRAP LUMBER/MATERIALS?
163	(Yes) (No) (N/A)	FRAGMENTATION OF GLASS CONTROLLED?
164	(Yes) (No) (N/A)	MATERIAL CHUTES AT AN ANGLE GREATER THAN 45° FROM THE HORIZONTAL ENCLOSED?
		OTHER? EXTRA CREDIT?
ABATEMENT		
165	(Yes) (No) (N/A)	HAS ABATEMENT PLAN BEEN SUBMITTED AND ACCEPTED?
166	(Yes) (No) (N/A)	IS INDEPENDENT AIR MONITORING BEING PERFORMED AS REQUIRED INSIDE AND OUTSIDE BARRIERS?
167	(Yes) (No) (N/A)	IS CONTAINMENT IN PLACE WITHOUT INTEGRITY COMPROMISE?
168	(Yes) (No) (N/A)	ARE EMPLOYEES UTILIZING APPROPRIATE PPE?
169	(Yes) (No) (N/A)	IF NEGATIVE AIR IS USED, ARE FANS USED CONTINUOUSLY AND MONITORED FOR PRESSURE DIFFERENTIAL?
170	(Yes) (No) (N/A)	HAS BASELINE BEEN PERFORMED AND NECESSARY FINAL CLEARANCE READINGS TAKEN?
171	(Yes) (No) (N/A)	ARE INSPECTIONS BY INDEPENDENT PQP PERFORMED PRIOR TO BARRIER REMOVAL?
172	(Yes) (No) (N/A)	IS WASTE MATERIAL PROPERLY CONTAINERIZED AND STORED?
173	(Yes) (No) (N/A)	ARE AIR MONITORING RESULTS PROVIDED TO GDA?
174	(Yes) (No) (N/A)	ARE WASTE SHIPMENT RECORDS PROVIDED TO GDA?
		OTHER? EXTRA CREDIT?
WATERFRONT ACTIVITIES		
175	(Yes) (No) (N/A)	WORK OVER OR NEAR WATER AND THE DISTANCE TO WATER SURFACE IS LESS THAN 25 FEET OR MORE AND THE WATER DEPTH IS LESS THAN 10 FEET ARE FALL PROTECTION REQUIREMENTS FOLLOWED? (PFDs NOT REQUIRED)
176	(Yes) (No) (N/A)	WORK OVER OR NEAR WATER AND THE DISTANCE TO WATER SURFACE IS 25 FEET OR MORE ARE FALL PROTECTION REQUIREMENTS FOLLOWED?
177	(Yes) (No) (N/A)	MARINE FALL PROTECTION RAILING TYPE A or TYPE B PROVIDED FOR VESSEL DECKS 6 FT OR MORE ABOVE ADJACENT DECKS, DOCKS, OR OTHER HARD SURFACES?
178	(Yes) (No) (N/A)	PFD's WORN BY PERSONNEL IN AREAS WHERE DECK PERIMETER IS NOT PRESENT
179	(Yes) (No) (N/A)	IS A RESCUE SKIFF AVAILABLE?
180	(Yes) (No) (N/A)	ARE EMERGENCY LIFE RINGS AVAILABLE?
181	(Yes) (No) (N/A)	IF DIVING OPERATIONS ARE TAKING PLACE, HAS A DIVE PLAN BEEN SUBMITTED AND ACCEPTED BY THE DDC?
182	(Yes) (No) (N/A)	IF DIVING, IS FIRST-AID KIT, OXYGEN RESUSCITATION SYSTEM, (30 MINUTE SUPPLY), AND A STOKES LITTER OR BACKBOARD WITH FLOATATION CAPABILITY ON SITE?
183	(Yes) (No) (N/A)	DOES DIVE TEAM CONSIST OF PROPER NUMBER AND QUALIFICATIONS FOR EMPLOYEES?
184	(Yes) (No) (N/A)	HAND RAILS USED FOR FALL PROTECTION ON ALL MARINE VESSELS FOR CONTRACTS AWARDED SINCE MARCH 2007
185	(Yes) (No) (N/A)	MARINE (VESSEL) DECKS 6 FEET OR MORE ABOVE OTHER SURFACES HAVE TYPE A OR TYPE B FALL PROTECTION PROVIDED?
		OTHER? EXTRA CREDIT?
SCORING: Total applicable for each category = X (where X includes responses for category of "Yes" and "No" but does not include N/A)		
Total with "Yes" responses for each category = Y * SCORE EQUATION = Y/X *		
SCORE FOR EACH CATEGORY:		
	1. PREPARATORY PHASE: _____	7. LADDER SAFETY: _____ 13.EQUIPMENT: _____
	2. OFFICE TRAILER: _____	8. EXCAVATIONS: _____ 14. TREE MAINTENANCE : _____
	3. FIRE PREVENTION: _____	9. ELECTRICAL: _____ 15. DEMOLITION: _____
	4. PPE : _____	10. CRANES: _____ 16: ABATEMENT: _____
	5. SCAFFOLD SAFETY: _____	11. CONFINED SPACES: _____ 17: WATERFRONT: _____
	6. FALL PROTECTION: _____	12. ROOFING: _____
OVERALL RATING OF CHECKLIST EQUALS LOWEST RATING FOR ANY ONE CATEGORY: _____		
QUESTIONS ANSWERED "NO" ARE BE ENTERED INTO THE SITE SAFETY & OCCUPATIONAL HEALTH DEFICIENCY TRACKING SYSTEM (REFER TO EM 385-1-1 01.A.12.d)		
ALTERATION OR CHANGING OF THIS FORM IS NOT AUTHORIZED		
COMMENTS:		

1                                    **APPENDIX D. STANDARD OPERATING PROCEDURES**

2    This appendix contains the following Standard Operating Procedure (SOP) for use on this project:

- 3            •    SOP 1 MEC Avoidance.

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**1. TITLE PAGE**

FINAL

STANDARD OPERATING PROCEDURE

FOR

**MEC AVOIDANCE**

**SOP 1**

SUPPLEMENTAL NATURAL RESOURCE ASSESSMENT

SITE 12 POND AREA

FORMER NAVAL AIR STATION BRUNSWICK  
BRUNSWICK, MAINE

USA ENVIRONMENTAL, INC.

May 2013

PROCEDURE No.: SOP 1  
DESCRIPTION: MEC AVOIDANCE  
REVISION No.: FINAL  
DATE: MAY 2013  
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PROCEDURE No.: SOP 1  
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## 2. REFERENCES

- Naval Ordnance Safety and Security Activity (NOSSA) Instruction 8023.11B
- Accident Prevention Plan (APP)
- 29 Code of Federal Regulations 1910, Occupational Safety and Health Standards
- Chief of Naval Operations Instruction (OPNAVINST) 3500.39C
- United States Army Corps of Engineers (USACE), Engineer Manual (EM) 385-1-1, Safety and Health Requirements Manual

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### 3. ACRONYMS AND ABBREVIATIONS

AHA	Activity Hazard Analysis
APP	Accident Prevention Plan
DGM	Digital Geophysical Mapping
DU	Decision Unit
EM	Engineer Manual
GSV	Geophysical System Verification
ISO	Industry Standard Object
IVS	Instrument Verification Strip
MEC	Munitions and Explosives of Concern
MPPEH	Material Potentially Presenting an Explosive Hazard
NAS	Naval Air Station
NOSSA	Naval Ordnance Safety and Security Activity
OPNAVINST	Naval Operations Instruction
PDA	Personal Digital Assistant
PPE	personal protective equipment
SOP	Standard Operating Procedure
SSHP	Site Safety and Health Plan
TSD	Team Separation Distance
USA	USA Environmental, Inc.
USACE	United States Army Corps of Engineers
UXO	Unexploded Ordnance
WP	Work Plan

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**4. RECORD OF DEVELOPMENT, REVIEW, VALIDATION AND APPROVAL**

This standard operating procedure (SOP) contains the procedures and other information that will be needed by USA Environmental, Inc. (USA) Unexploded Ordnance (UXO)-qualified personnel to conduct munitions and explosives of concern (MEC) and material potentially presenting an explosive hazard (MPPEH), avoidance procedures during the activities at the former Naval Air Station (NAS), Brunswick, ME. By their signatures, the undersigned certify that this SOP is approved for implementation at Brunswick and will be used to direct avoidance operations.

Developed by:

\_\_\_\_\_  
James Walden  
Project Quality Control Manager

\_\_\_\_\_  
Date

Reviewed by:

\_\_\_\_\_  
Robert Hierholzer  
Project Manager

\_\_\_\_\_  
Date

\_\_\_\_\_  
*TBD*  
UXO Safety Officer

\_\_\_\_\_  
Date

Approved by:

\_\_\_\_\_  
Robert Crownover  
Director of Safety and Quality

\_\_\_\_\_  
Date

This standard operating procedure (SOP) expires at the conclusion of project activities and will require a review and approval process prior to reissue. A full review of the SOP is required annually to ensure the document remains current. Revision will be made as operational and/or guidance changes occur. The review and approval process must also be conducted prior to implementing any changes to this SOP.

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## **7. PROCEDURES**

### **7.1 PURPOSE**

The purpose of this Standard Operating Procedure (SOP) is to provide USA employees and subcontractors with the minimum procedures and safety and health requirements applicable to conduct and observe MEC avoidance procedures during operations within the Site 12 EOD Area on the former NAS Brunswick.

### **7.2 SCOPE**

This SOP applies to all USA site personnel, including contractor and subcontractor personnel, involved in the conduct and adherence to MEC avoidance procedures during the activities within the Site 12 EOD Area on the former NAS Brunswick. This SOP is not a stand-alone document and should be used together with Work Plans, other USA SOPs, the APP, applicable Federal, State, local regulations, and contract restrictions and guidance. Consult the documents listed in Section 2 of this SOP for additional compliance issues.

### **7.3 MEC/MPPEH BASIC SAFETY PRECAUTIONS**

The following basic safety precautions will be observed while conducting MEC avoidance procedures.

- Do not touch or disturb MEC items, mark their location with a red pin flag and avoid them.
- Avoid the forward portions of munitions employing proximity fuzing.
- Do not expose electrically fired munitions to radio, cell phone or satellite phone transmissions within 25-ft.
- Do not collect souvenirs.
- Do not smoke except in designated areas.
- Do not carry fire- or spark-producing devices into the exclusion zone (EZ).
- Prohibit non-essential personnel from encroaching the site.
- Suspend all operations immediately upon approach of an electrical storm.

### **7.4 MEC AVOIDANCE**

MEC avoidance operations may be required in support of the installation of survey markers and other non-MEC field activities requiring intrusive activities or access by non-UXO qualified personnel (e.g., biologists and visitor access to the EZ).

If MEC items are encountered during the activities listed above, the UXO Technician will place a red pin flag near the item, record identification and location information in the Personal Digital Assistant (PDA), take a photograph, advise all personnel of the item's location and avoid the items throughout the conduct of the activity. Under no circumstances will MEC be handled.

#### **7.4.1 Avoidance Procedures for Location Surveys and Soil Sampling**

MEC encountered will be marked, avoided, and recorded as stated above. Prior to driving stakes for wetland delineation or marking of other biological features, the UXO Technician will search the location with a handheld metal detector. Any subsurface anomaly will be assumed to be MEC and an alternate anomaly-free location will be chosen.

## 7.5 WORK CLOTHING AND FIELD SANITATION

Work clothing will be appropriate for the conditions encountered. In most cases, this will be Level D personal protective equipment (PPE), which includes the following.

- Short- or long-sleeved cotton coveralls or work clothing will be worn.
- Footwear is sturdy work boots or rubber boots as appropriate (i.e., lug sole and of sufficient height for ankle support). UXO personnel will not wear steel-toe safety boots when using metal detectors.
- Safety glasses.
- Inclement weather gear as required.

The team will be outfitted with field decontamination equipment, which will consist of containers of water, paper towels, and soap. Good housekeeping and decontamination measures will be practiced.

## 7.6 QUALITY CONTROL

The only specific quality control metrics for the MEC avoidance task are to perform a check on the all-metals detector to ensure it is functioning properly and conduct a communications check. The team will ensure all other equipment needed for the supported task is functional prior to entering the work area.

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**8. HAZARD ANALYSIS/RISK ASSESSMENT AND HAZARD CONTROL BRIEF**

The hazard analysis matrix (Table 1) lists the existing and potential hazards associated with conducting the MEC avoidance task along with methods to mitigate the hazards.

**Table 1: Hazard Analysis Matrix**

<b>Activity</b>	<b>Hazard</b>	<b>Triggering Events</b>	<b>Initial Risk Index</b>	<b>Hazard Mitigation</b>	<b>Final Risk Index</b>
MEC Avoidance	Slips, Trips or Falls	Climbing; debris, holes, or crevasses obstructed from view by vegetation.	C/III/4	Personnel will assess their surroundings prior to proceeding with field activities. Ensure footing at all times.	D/IV/5
	Hot Weather	Seasonal weather patterns.	C/III/4	Heat stress monitoring, cool drinking water, work-rest schedule, and cool shelter for breaks.	D/IV/5
	Cold Weather	Seasonal weather patterns	C/III/4	Minimize exposure to cold temperatures, water and wind by wearing layered clothing and wet weather gear Keeping the feet dry (carry extra socks) Monitor team members for signs of cold stress disorder in accordance with the APP	D/IV/5
	Biological	Biting/stinging insects.	C/III/4	Wear long sleeve garments and apply repellent to exposed skin as needed.	D/IV/5
	MPPEH	MPPEH reacts to impact by equipment, tools or personnel.	C/II/3	All personnel will receive a safety briefing prior to commencing site activities A UXO-qualified person will escort all non-UXO-qualified personnel and will strictly adhere to the directions of the UXO-qualified escort. UXO-qualified person will locate an anomalous-free area with the metal detector, prior to digging or placing a pin flag into the ground.	D/III/5
	Weather or Natural Disaster Emergency	Meteorological or environmental event	C/II/3	Account for all team personnel and, if required, implement the emergency response procedures outlined in the APP.	C/IV/5

## 8.1 HAZARD CONTROL BRIEF

All personnel will attend the tailgate safety briefing given by the Team Leader, on the existing and potential hazards within the Site 12 EOD Area prior to commencing any activities in this area. The Activity Hazard Analysis (AHA), in Appendix A of the APP (for the activities the team will perform), will be reviewed and signed by all team personnel.

Personnel will be cognizant of the surroundings at all times and remain observant of their footing as they traverse the Site 12 EOD Area. All personnel will be aware of the signs of cold stress as described in Section 9.14 of the APP and be able to recognize the onset of thermal stress disorders (cold or heat) in themselves and their team members.

Wear long sleeve clothing and apply insect repellent as warranted to mitigate the impact of biting/stinging insects.

The potential for encountering MPPEH in and around the pond is low. The UXO-qualified escort will make observations and provide guidance on areas that may have a higher potential of encountering MPPEH. If the wetland delineation work carries out west of the pond towards the historic EOD area, the chance of encountering MPPEH increases. All personnel will adhere to the direction of the UXO-qualified escort at all times.

In the event of severe weather, account for all team personnel; and follow the Emergency Response Plan in Section 10.2 of the Site Safety and Health Plan (SSHP).

## 9. DIAGRAMS

The Site 12 EOD and Pond Area site map is located in Appendix A of the supplemental work plan. Teams will be provided maps of the overall project site and evacuation routes.

## 10. EQUIPMENT

The UXO technician providing MEC avoidance escort services will be equipped with the following:

- Handheld all-metals detector
- Red pin flags for marking suspected MEC items
- Logbook and PDA for recording data
- Camera
- Communications equipment

Safety equipment required includes the following:

- First-aid kit
- Level D PPE
- Inclement weather gear as needed

## 11. EMERGENCY RESPONSE PROCEDURES

In the case of an emergency, the procedures detailed in the SSHP, Section 10.2, will be followed. A copy of the SSHP is maintained in all project site vehicles.