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ENVIRONMENTAL CONDITIONS REPORT REMEDIATION OF SOLID WASTE
MANAGEMENT UNIT 39 (SWMU 39) TCE PLUME MILLINGTON SUPPACT TN
10/01/2011
LEE & RYAN

ENVIRONMENTAL CONDITIONS REPORT

Remediation of SWMU 39 TCE Plume
NSA Mid-South
Millington, TN 38054

Submitted to:



NAVFAC Midwest
Building 1A, 201 Decatur
Great Lakes, IL 60088

Contract Number: N40083-11-D-0028
Task Order Number: 0001

Submitted by:



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October 2011

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Lee & Ryan does hereby certify that, to the best of its knowledge and belief, the technical data delivered herewith under this contract is complete, accurate, and complies with all requirements of the contract.

PREPARED BY:

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Angelo Dattilo, LPG 10/30/11
(Date)

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ENVIRONMENTAL CONDITIONS REPORT

1.0 Introduction

As part of the U.S. Navy Installation Restoration Program (IRP), Lee & Ryan Environmental Consulting, Inc. (L&R) and TolTest, Inc., (TolTest), prepared this Environmental Conditions Report (ECR) for solid waste management unit (SWMU) 39 located on the south side of Naval Support Activity (NSA) Mid-South (formerly Naval Air Station [NAS] Memphis), Millington, TN (see **Figures 1** and **2**).

The ECR complies with the Contract Task Order described in Solicitation N40083-11-R-0005 and subsequent contract number N40083-11-0028, Part 3.0 Environmental and Natural Resources Protection, Section 3.2 Submittals. Specifically, Part 3.0, Section 3.2, outlines the following guidance to be addressed:

- Provide and maintain protection of natural resources and the surrounding environment during the project.
- Plan and provide for environmental protective measures to control pollution as required throughout the duration of the project.
- Plan and provide for environmental protective measures, as required, to correct conditions that may develop throughout the course of the project.

2.0 General Site Conditions

The SWMU 39 property was traversed by representative of Lee & Ryan, teaming partner, TolTest, subcontractor JBL and NAFVAC representatives during a planned site walk on October 13, 2011 at approximately 11:30 AM. The observations made during said site walk are summarized in the sections below. Site photographs were taken during the site reconnaissance are provided in **Appendix A**.

2.1 Site Description

The subject property, SWMU 39, is approximately 3.90 acres in size and is bordered by Kearsarge Avenue to the west, South Navy Circle to the north, Kittyhawk Avenue to the east, and a working dog training facility to the south (Building S-212). The property in the immediate vicinity of SWMU 39 appeared to be industrial, and a park exists east of Kittyhawk Avenue (see **Figure 3**).

On October 13, 2011, Lee & Ryan and TolTest observed the SWMU 39 property to include a 1-story building structure (Building S-203) with an adjoining asphalt parking area, a concrete foundation that remains from the demolition of former Building S-74 (demolished in 1995), and the remainder of the property was observed to be maintained grass.

The concrete pad is approximately 16,426 square feet in size with the perimeter being approximately 778 feet. The concrete pad is approximately 2.0 feet thick with steel supports for steel beams. As part of this Contract Task Order, the pad will be demolished and disposed off-site at a NAVFAC approved sanitary waste landfill.

2.2 Topography

The subject property and surrounding area was characterized as relatively level with low relief. An apparent swale exists between Building S-203 and the concrete pad. The surface water drainage appears to be south and west to a north-south trending drainage ditch which flows into Big Creek Drainage Canal.

2.3 Potential Receptors

SWMU 39 is located approximately 600 feet east of the nearest off-site residence and approximately 200 feet east of the nearest NAVFAC office at Building S-75. The surface water discharges to the Big Creek Drainage Canal located approximately 1,500 feet south of the subject property.

The two most proximal groundwater production wells are located approximately 2,00 feet north (PW-5), and approximately 2,000 feet north (PW-5) of SWMU 39 (see Figure 2). The wells are screened in the Fort Pillow Aquifer at 1,450 feet below ground surface (BGS), and 1,435 feet BGS, respectively. The Flour Island formation is a confining unit above the screened intervals.

2.4 Site Natural Resources and Surrounding Environment

Lee & Ryan and TolTest identified the natural resources on-site to include planted trees located on-site along Kittyhawk Avenue, soil and groundwater, the park located across Kittyhawk Avenue, and the Big Creek Drainage Canal.

2.5 Environmental Protective Measures to Control Pollution

Environmental protective measures will be implemented throughout the project to protect natural resources on and off-site, and provide protective measures to control pollution in several ways including management of chemicals, erosion control, stormwater management, and vehicular traffic controls during the life of the project.

Lee & Ryan observed five stormwater drains on-site and are shown on **Figure 3**. A warning sign was observed immediately adjacent to the stormwater inlet located near the northeast corner of the concrete pad. The warning sign stated "No Dumping Drains to Creek".

Lee & Ryan and TolTest will cover the stormwater drains during drilling, potassium permanganate (KMnO₄) injection, and during demolition activities. Furthermore, as outlined in the Erosion Control Plan to be included in the Work Plan, the potential for sediment run-off during drilling, injection, demolition, and excavation will be minimized by the use of straw bales, coir logs, silt fencing, and/or other means necessary.

Vehicles will be inspected before mobilizing on-site to minimize the possible release and migration of fluids such as motor oil and transmission fluid. A temporary secondary containment structure will be placed underneath the injection mixing trailer in case of a release of KMnO₄. If dry and dusty conditions exist during any activity, a dust control suppressant or other means of controlling dust will be implemented upon approval of the NAVFAC project manager.

The vehicular traffic and on-site work activities will be conducted in a way to minimize the potential for adverse environmental impacts to occur including damage to Building S-203 and the adjoining parking area, the trees located adjacent to Kittyhawk Avenue, to other vehicular traffic coming into and out of the parking area, and the physical features on-site during mobilization such as the stormwater culvert, stormwater drains, the fire hydrant, and injection and monitoring wells.

A Site Specific Health and Safety Plan will be an attachment to the Work Plan and will address spill mitigation procedures, storage of chemicals, and other related items. An Erosion Control Plan will also be included in the Work Plan and will describe the materials and procedures necessary to minimize the generation of sediment and manage stormwater runoff.

3.0 References

EnSafe/Allen & Hoshall, Assembly F Site Investigation Plan, RCRA Facility Investigation, Confirmatory Sampling Investigation SWMUs 20, 22 and 63, 30 and 39, Revision 1, July 8, 1996.

FIGURE 1

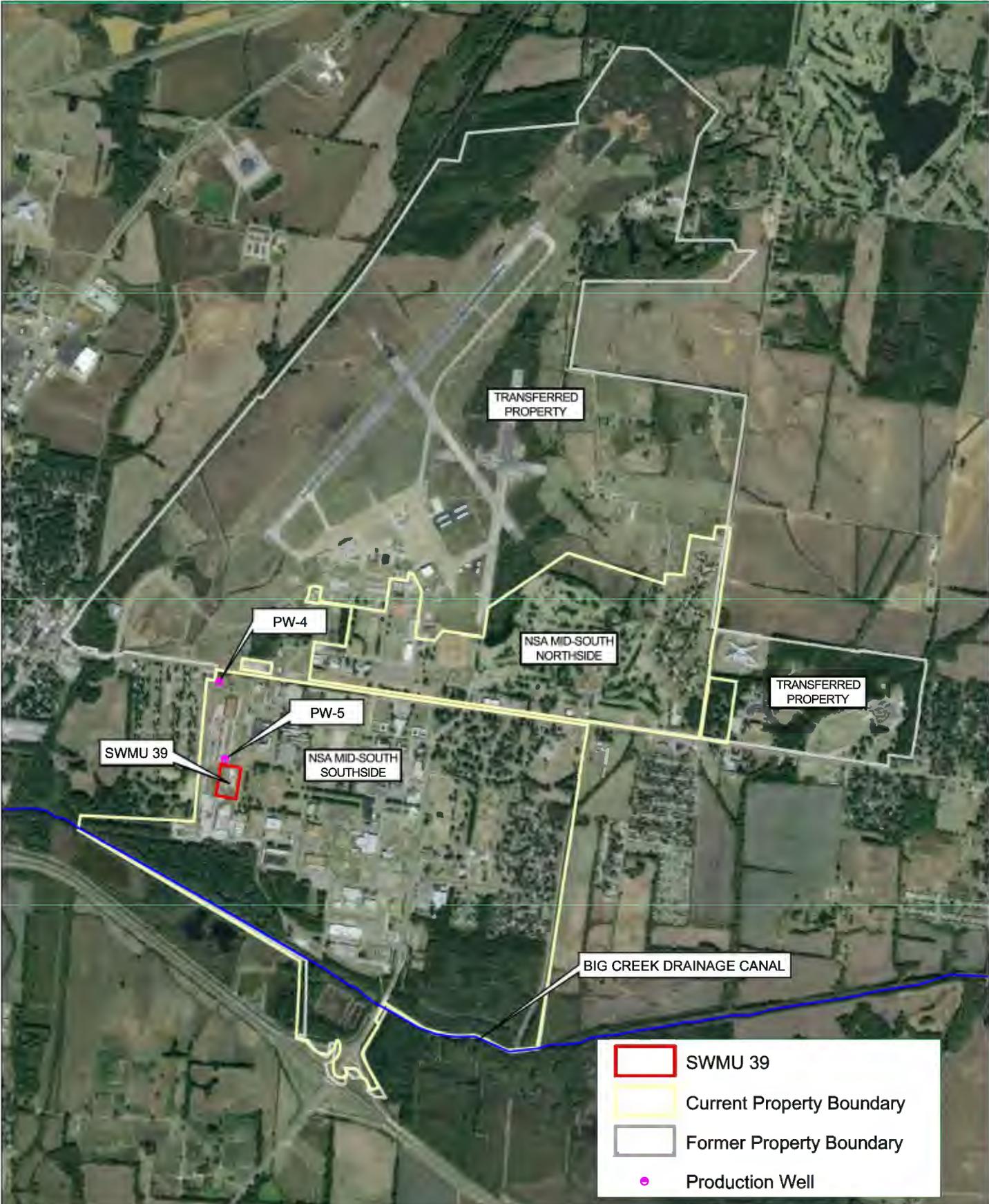
Site Vicinity Map

**Environmental Conditions Report
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FIGURE 2

NAVFAC Base Map

**Environmental Conditions Report
Remediation of SWMU 39 TCE Plume
NSA Mid-South
Millington, TN 38054**



NAVFAC Base Map
SWMU 39
NSA Mid-South
Millington, TN

Date: 10/25/11

Project # 11259

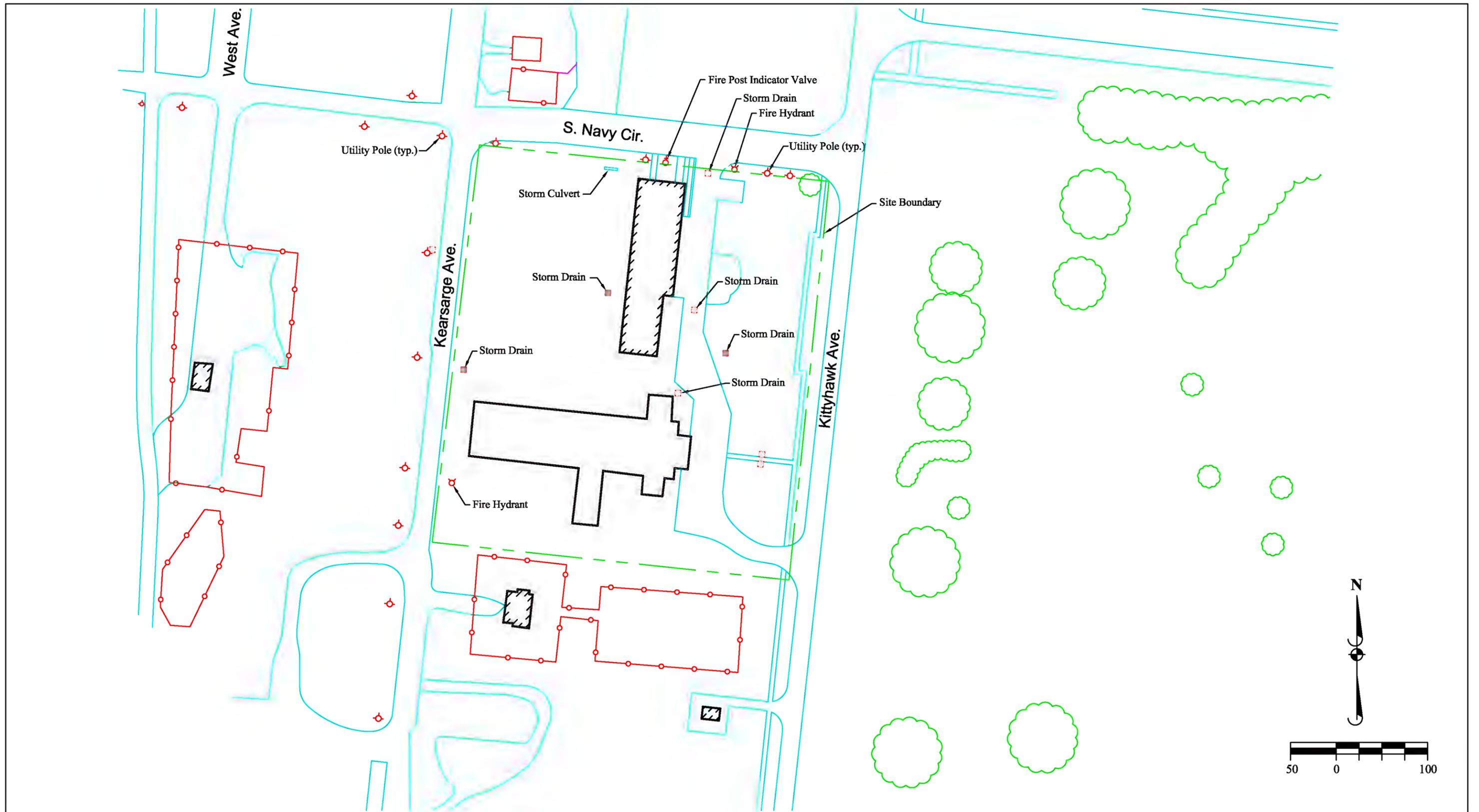
Figure 2

Scale : Not To Scale

FIGURE 3

SWMU 39 Layout Map

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NSA Mid-South
Millington, TN 38054**



LEGEND	
Drawn By:	CW
Checked By:	AD
Date Drawn:	10/25/11
Revised:	-

<u>Symbols and Abbreviations:</u>



SWMU 39
Site Layout Map

SWMU 39
NSA Mid-South
Millington, TN
Scale : 1" = 100'

Figure 3
Project # 11259

APPENDIX A

Site Photographs

**Environmental Conditions Report
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Figure 1:

Photo of north and west side of SWMU 39 looking northeast along Kearsarge Avenue. Note the concrete pad in the foreground.



Figure 2:

Photo of the concrete pad with a stormwater drain in the foreground looking southwest. Note blue circular sign on asphalt.



Figure 3:

The blue sign indicates that stormwater inlet drains to creek.



Figure 4:

View of concrete pad looking east. Note the park area across Kittyhawk Avenue.



Figure 5:
View of concrete pad looking north.



Figure 6:
View of adjacent dog training facility looking south from the west side of the concrete pad.



Figure 7:

View of grassy area between the east side of the concrete pad and building the right. Note the swale on the left.



Figure 8:

View of stormwater drain and injection well located immediately north of the building looking northwest.



Figure 9:

View of stormwater drain looking north along Kearsarge Road that forms the western property boundary.



Figure 10:

View of the Building S-203 and adjoining parking lot that will be the lay down area, looking north.



Figure 11:

View of stormwater drain located on the east side of the building parking lot looking southwest.



Figure 12:

View of a monitoring and injection well located on the north side of the property looking southwest. Note the stormwater culvert to the right.



Figure 13:

View of west side of property looking north along Kearsarge Avenue. Note the entrance ramp to the concrete foundation on the right.



Figure 14:

View of an injection well located on the north side of the property looking south. The well is a circular concrete structure in the foreground, with a dirt path leading away from it. In the background, there is a large blue building and other structures under a clear sky.

