Technical Memorandum

To: NSA Mid-South Public Works Department Environmental Division

From: Philip E. Atkinson, EnSafe Inc.

Date: April 18, 2003

Re: Foundation Sampling and Removal Work Plan — Buildings N-121 and 757, Naval Support Activity (NSA) Mid-South, Millington, Tennessee

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Introduction

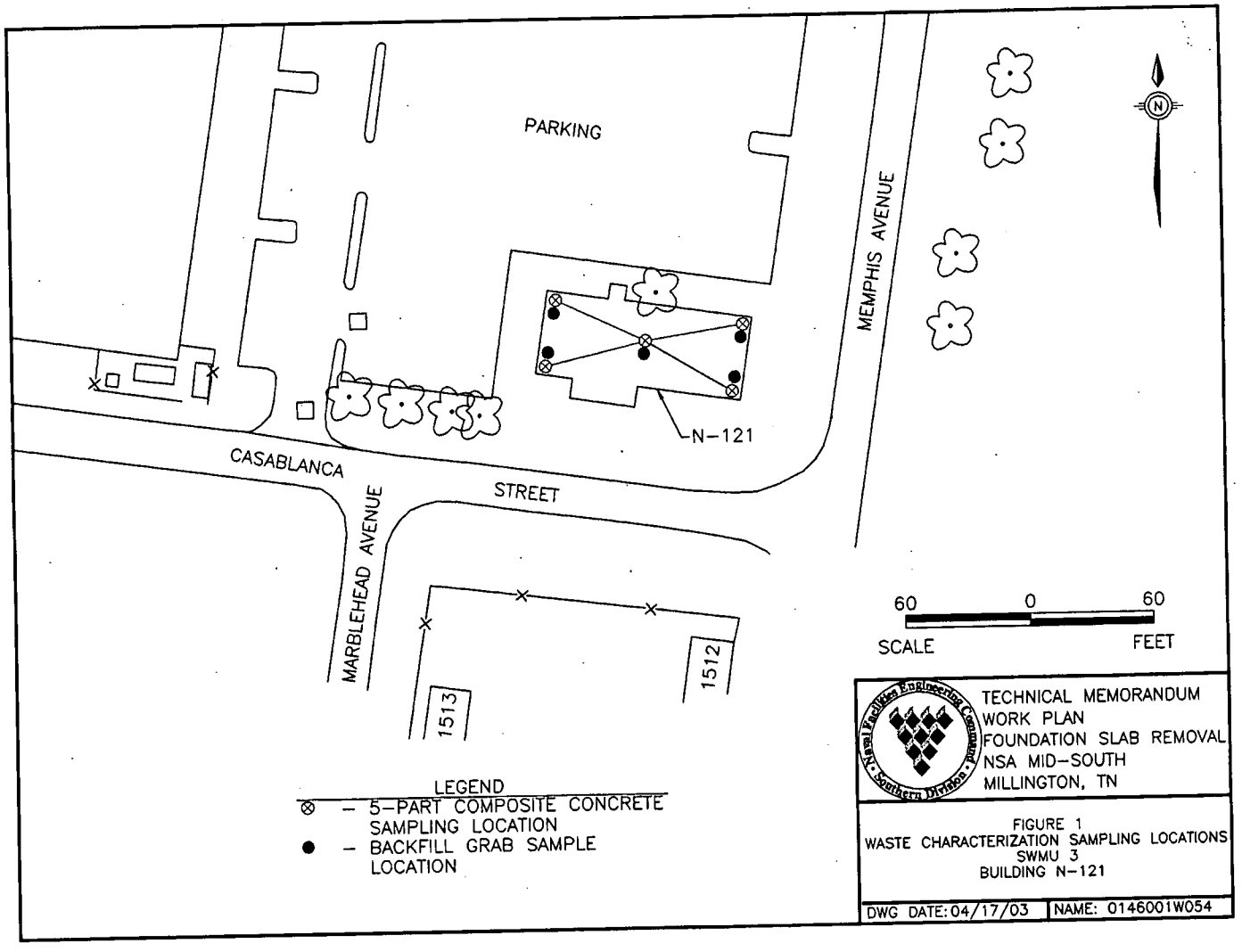
This abbreviated work plan outlines the approach and procedures for sampling and removing the concrete building slabs and backfill material at Buildings N-121 (SWMU 3) and 757 (SWMU 19) located on NSA Mid-South Northside. The *Voluntary Corrective Action Work Plan, Assembly F, SWMU 19 — Underground Waste Tank 1648* (EnSafe, May 1999) and the *Technical Memorandum — Abbreviated Work Plan — Building N-121 Soil Sampling* (EnSafe, November 2000) summarize the site histories of these SWMUs and detail the soil removal and sampling activities which will be conducted following building slab and backfill removal. EnSafe Inc. will conduct the waste characterization sampling, and EnSafe Ops. will conduct the slab demolition and removal and site restoration activities. Building N-121 and 757 slabs are shown on Figures 1 and 2, respectively. Work activities will be conducted in accordance with Section 01575 Temporary Environmental Controls (January 2003) provided by NSA Mid-South.

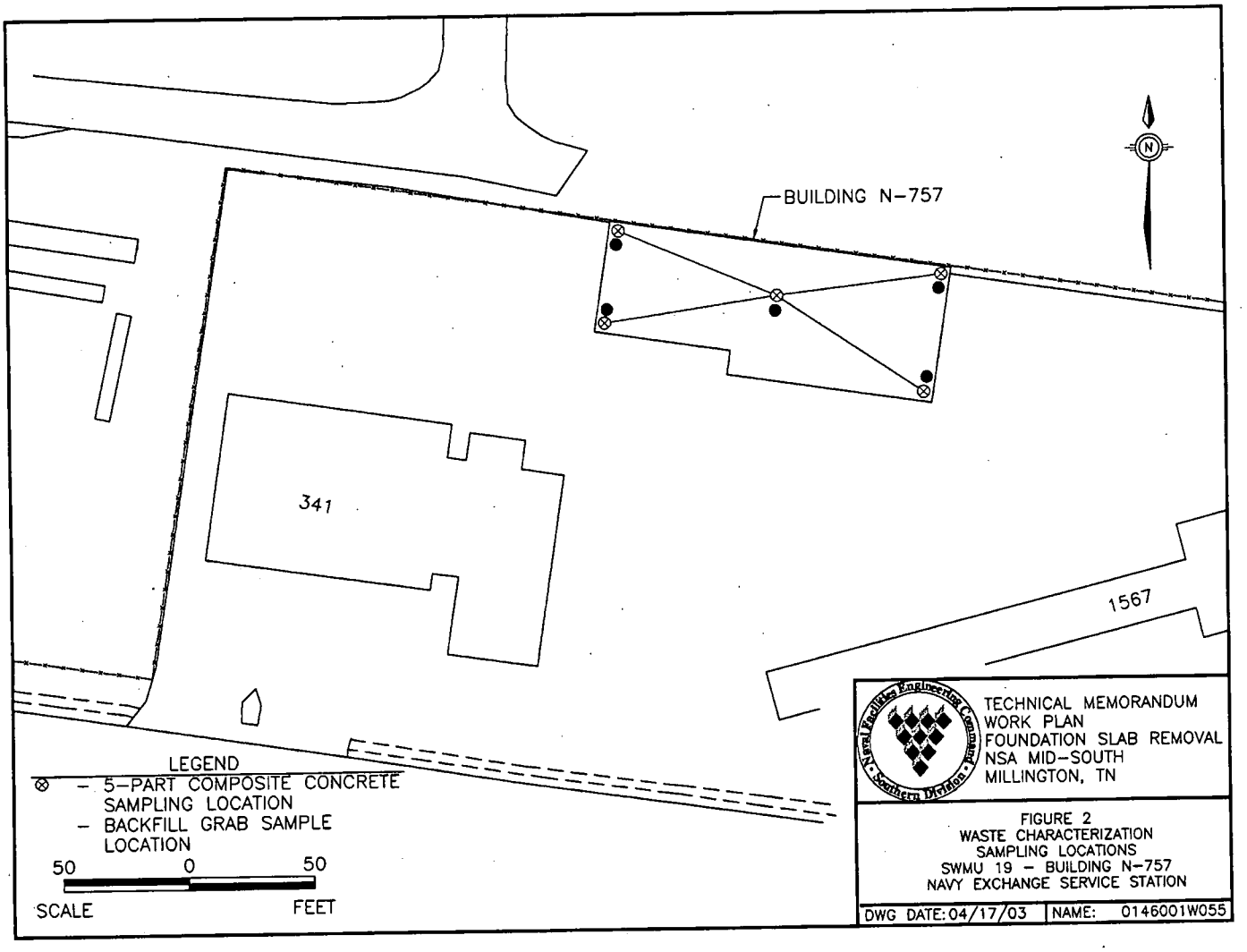
Waste Characterization Sampling and Analysis

Concrete Slabs

Each concrete foundation will be sampled for landfill disposal classification prior to removal. A back-hoe with a breaker attachment will be used to break the concrete. Five grab samples will be collected from each concrete foundation and composited into one five-part composite sample. The samples will be placed into laboratory-prepared containers and delivered to Environmental Testing and Consulting, Inc. for analysis. Proposed five-part composite concrete sampling locations are shown on Figures 1 and 2 for sites N-121 and 757, respectively.

The two composite samples will be analyzed for Appendix IX metals, volatile organic compounds (VOCs), pesticides, and organophosphorus (Op) pesticides via methods 6010B, 8260B, 8081, and 8141, respectively. If VOCs and the pesticides are not detected in the concrete and metals are below NSA Mid-South's reference concentrations (RCs), the concrete will be transported to a


PARKING
MEMPHIS AVENUE
N-121
CASABLANCA
STREET
MARBLEHEAD AVENUE
1513
1512
60
0
60
SCALE
FEET
LEGEND
⊗ – 5-PART COMPOSITE CONCRETE SAMPLING LOCATION
● – BACKFILL GRAB SAMPLE LOCATION
TECHNICAL MEMORANDUM
WORK PLAN
FOUNDATION SLAB REMOVAL
NSA MID-SOUTH
MILLINGTON, TN
FIGURE 1
WASTE CHARACTERIZATION SAMPLING LOCATIONS
SWMU 3
BUILDING N-121
DWG DATE: 04/17/03
NAME: 0146001W054


BUILDING N-757
N
341
1567
LEGEND
⊗ – 5-PART COMPOSITE CONCRETE SAMPLING LOCATION
– BACKFILL GRAB SAMPLE LOCATION
50 0 50
SCALE FEET
Naval Facilities Engineering Command
Southern Division
TECHNICAL MEMORANDUM
WORK PLAN
FOUNDATION SLAB REMOVAL
NSA MID-SOUTH
MILLINGTON, TN
FIGURE 2
WASTE CHARACTERIZATION
SAMPLING LOCATIONS
SWMU 19 – BUILDING N-757
NAVY EXCHANGE SERVICE STATION
DWG DATE: 04/17/03
NAME: 0146001W055

construction debris landfill for disposal. However, if VOCs or pesticides are detected or if metals concentrations exceed NSA Mid-South's RC, then the samples collected will be analyzed for TCLP metals, pesticides, and/or VOCs if these concentrations may exceed the TCLP limit[1]. These analyses will determine if the concrete will be disposed of in a hazardous or non-hazardous waste landfill.

Backfill Material

Following concrete sampling, the backfill material beneath each concrete slab will be sampled for landfill disposal classification. Five grab samples will be collected from the backfill material beneath each slab and submitted for laboratory analysis. Proposed backfill sampling locations are displayed on Figures 1 and 2 for sites N-121 and 757, respectively.

These samples will be analyzed for Appendix IX metals, VOCs, pesticides, and Op pesticides. The samples collected from N-757 will also be analyzed for gasoline range organics (GRO) and extractable petroleum hydrocarbons (EPH). If VOCs and the pesticides are not detected in the backfill, metals concentrations are below the RCs, and the sum of the GRO and EPH results are below 100 parts per million[2] (ppm), then the backfill will be used as fill material at NSA Mid-South. However, if VOCs or pesticides are detected or if metals concentrations exceed the RCs, then the samples will be analyzed for TCLP metals, pesticides, and/or VOCs if the concentrations may exceed the TCLP limit. These analyses will determine if the backfill will be disposed of in a hazardous or non-hazardous waste landfill.

Slab and Backfill Removal

The concrete slabs and backfill will be excavated by EnSafe Ops and placed directly into dump trucks for transport to a disposal facility as determined by the waste characterization sampling results. The removal areas, shown on Figures 1 and 2, are 4,340 and 7,040 square feet

[1] *40 CFR 261.24, Appendix II - Method 1311 Toxicity Characteristic Leaching Procedure, Paragraph 1.0, Scope and Application,* states "If a total analysis of the waste demonstrates that individual contaminants are not present in the waste, or that they are present but at such low concentrations that the appropriate regulatory thresholds could not possibly be exceeded, the TCLP need not be run."

[2] The Tennessee Department of Environment and Conservation Division of Underground Storage Tanks most stringent soil cleanup level is 100 ppm for total petroleum hydrocarbons (GRO and EPH).

at N-121 and 757, respectively. If the concrete and backfill have different disposal requirements, then they will be segregated before being loaded into the dump trucks for disposal. Assuming the concrete is 6 inches thick, approximately 100 and 160 cubic yards (yd^3) of concrete will be generated from N-121 and 757, respectively; assuming the backfill is 1 foot thick, approximately 200 yd^3 and 325 yd^3 of backfill will be generated from N-121 and 757, respectively.

Erosion Control Measures and Permits

Because these sites are less than one acre, a storm water permit will not be required. However, erosion control measures will be maintained throughout the project. Each foundation will be covered with plastic sheeting from the time that the slab is broken until project completion. This will deter rainwater from entering the foundation backfill and underlying native soil. Additional erosion control measures deemed necessary will be implemented during work activities.

Prior to removal activities, a dig permit will be requested from the NSA Mid-South Public Works Department, and Tennessee One-Call will be contacted to locate underground utilities in the area.

Site Restoration

N-121

Following fulfillment of the sampling requirements outlined in the *Technical Memorandum — Abbreviated Work Plan — Building N-121 Soil Sampling* (EnSafe, November 2000), the excavated area at N-121 will be backfilled with clean, fertile soil and smoothly graded. If little to no over-excavation is required, then backfilling may not be necessary since the N-121 slab is at a higher elevation than the surrounding areas. A grass seed mixture will be applied at a rate of 100 pounds per acre with an overlying layer of straw.

N-757

Following fulfillment of the sampling requirements outlined in the *Voluntary Corrective Action Work Plan, Assembly F, SWMU 19 — Underground Waste Tank 1648* (EnSafe, May 1999) the excavated area at N-757 will be backfilled with crushed limestone to grade.