ID 00653

WORK PLAN FOR DEMOLITION/CONSTRUCTION DEBRIS LANDFILL COVER SWMU 60 – NORTHSIDE LANDFILL NAVAL SUPPORT ACTIVITY MID-SOUTH MILLINGTON, TENNESSEE

REVISION: 1

CONTRACT NUMBER: N62467-89-D-0318
CTO-094

Prepared for:

Department of the Navy
Southern Division
Naval Facilities Engineering Command
North Charleston, South Carolina

Prepared by:

EnSafe Inc.
5724 Summer Trees Drive
Memphis, Tennessee 38134
(901) 372-7962

April 30, 1999

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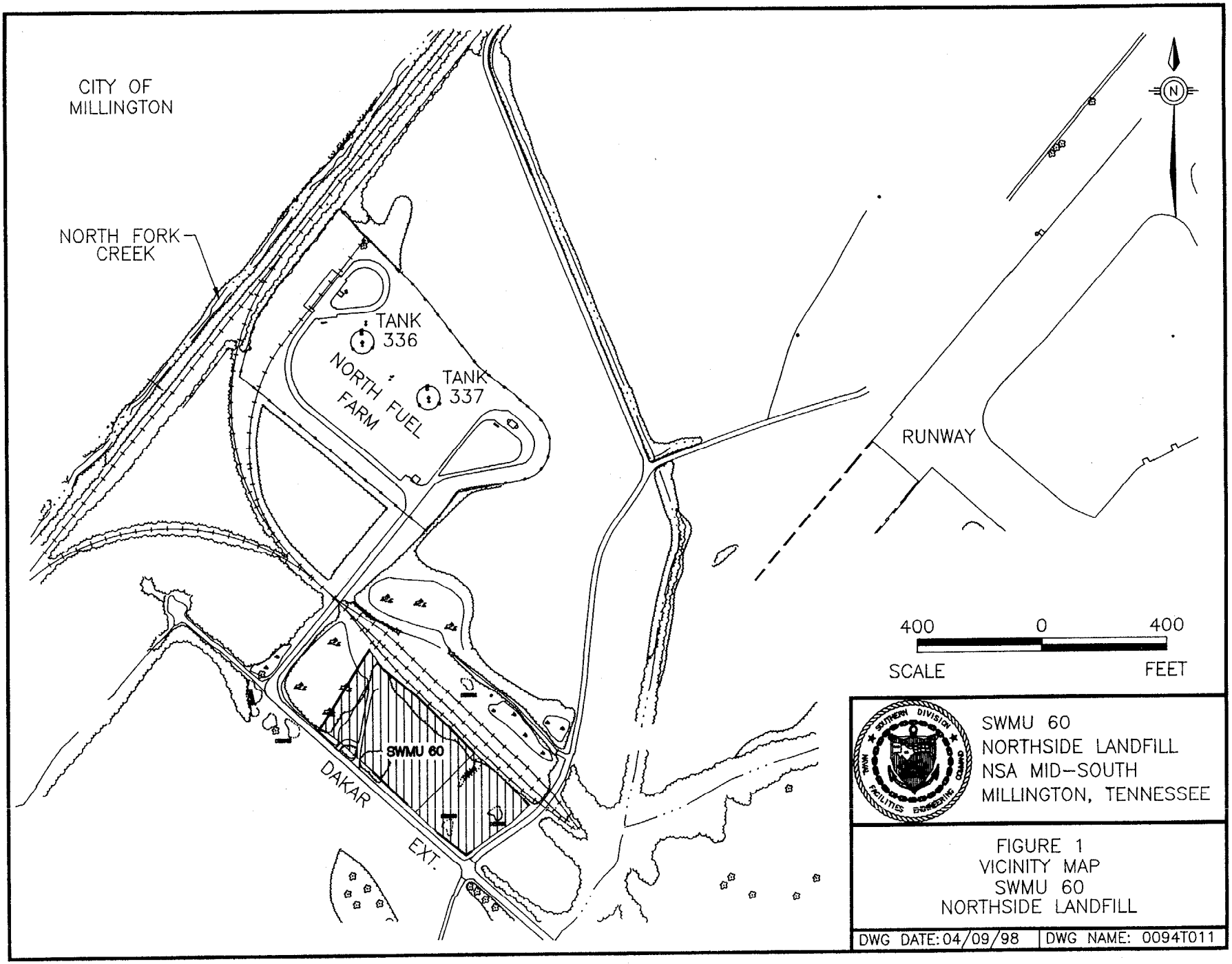
1.0 INTRODUCTION

This work plan has been developed for closure of the Northside Landfill Solid Waste Management Unit (SWMU 60) in accordance with the Tennessee Department of Environment and Conservation (TDEC) Division of Solid Waste Management (DSWM) requirements. TDEC has requested the landfill be covered with a minimum of 1 foot of soil to support vegetative growth and prevent storm water from pooling on the landfill. This plan outlines a scope of work that will be implemented by the Navy's Environmental Detachment Charleston (Contractor) to address vegetative growth, storm water runoff, and erosion control for the Northside Landfill located southeast of the NSA Mid-South main runway and north of Daker Street Extended (Figure 1, Vicinity Map). There are no buildings or structures at SWMU 60 because it is in the runway "clear zone."

According to the 1990 RCRA Facility Assessment, the Northside Landfill was used from 1951 to 1986 as a disposal area for rubbish and debris such as construction material, paper, metal scrap, ashes, leaves, and bones. In 1980, an abandoned storage tank containing petroleum was discovered at the site, presumably aboveground. Other than this tank, there are no reports or evidence that the site was used for disposal of any materials other than construction debris. Since SWMU 60 was closed before March 18, 1990, it is not considered an "existing facility" and would not be regulated under the current rules. Thus, the rules in effect during its operation, the 1971 and /or 1982 rules, apply, which do not specifically address demolition/construction debris (Class IV) landfills.

According to the April 1998 SWMU 60 RCRA Facility Investigation (RFI) Report, hand-auger samples were collected from 0 to 1 foot below ground surface (bgs) at 26 locations across the landfill area. Three samples were also collected from the 2 to 3 foot bgs interval. Buried debris was not encountered at any sample location, indicating there is between 1 and 3 feet of cover on the landfill.


CITY OF
MILLINGTON
NORTH FORK
CREEK
TANK
336
TANK
337
NORTH FUEL
FARM
RUNWAY
SWMU 60
DAKAR
EXT.
N
400
0
400
SCALE
FEET
SOUTHERN DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
SWMU 60
NORTHSIDE LANDFILL
NSA MID-SOUTH
MILLINGTON, TENNESSEE
FIGURE 1
VICINITY MAP
SWMU 60
NORTHSIDE LANDFILL
DWG DATE: 04/09/98
DWG NAME: 0094T011

Based on this information and a September 1998 site visit, DSWM has determined that the existing cover over the debris is adequate, but an additional foot of soil should be placed on the landfill to promote vegetative growth and storm water runoff.

2.0 SITE PREPARATION

2.1 Clearing and Grubbing

The area where fill and cover is to be placed at SWMU 60 is currently sparsely vegetated with grass, small saplings, and a few medium-sized trees (4 to 6-inches in diameter).

- The Contractor will clear away trees, brush, shrubs, grass, and other vegetation and/or obstructions, as indicated on Sheet 3 of the Drawings, that interfere with construction.

- All small vegetation will be stockpiled for spreading outside the landfill on the southeast side of the site where disposed activities were not indicated by a previous geophysical survey.

- Stumps and other large vegetation will be stockpiled for removal to a construction debris landfill.

- Clearing and grubbing will only be conducted in the area proposed for grading. Care will be exercised by the Contractor to ensure that no damage occurs to existing trees and vegetation outside the proposed fill limits.

- Clearing and grubbing will not begin until the designated temporary erosion control devices (Section 2.2) are properly installed.

2.2 Temporary Erosion Control

The contractor is responsible for preventing site erosion from entering surrounding water conveyances, and maintaining integrity of silt fences and straw hay bales. Erosion control devices will be in place prior to clearing, grubbing, tree removal, grading, or ditch excavation. Erosion control devices will be checked periodically and after each rain event for damage and silt buildup, and will be cleaned and/or replaced as needed.

2.2.1 Silt Fence

- Silt fencing and/or straw bale barriers will be placed around the construction area as indicated on the Drawings, which include details of silt fence construction.

- The silt fence filter fabric will be made of durable and pervious type material such as propylene, nylon, or polyester.

- The filter fabric will contain ultraviolet ray inhibitors and stabilizers.

- The height of the silt fence will not exceed 3 feet.

- The silt fence shall conform to the requirements shown in Table 1.

Table 1
Fabric Requirements

Property	Test	Minimum Requirements
Filtering Efficiency	VTM-51	75%
Tensile Strength at 20% elongation	VTM-52	30 lbs./liner Inch
Flow Rate	VTM-51	0.3 gal./sq.ft./min

2.2.2 Straw Bale Check Dams

For temporary erosion control inside ditches, the silt fence will be replaced with staked straw bale check dams (construction detail provided in Drawings).

- Check dams will be constructed of straw bales placed in a single row, with the ends tightly abutted.

- Each bale will be securely anchored in the ground with stakes or rebar.

- All bales will be either wire-bound or string-tied.

3.0 DUST CONTROL

The contractor will conduct operations and maintain the site so as to minimize the creation and dispersion of dust. Dust control will be used during clearing, transport, compaction, grading, and final cover placement.

- The Contractor will apply water to unpaved road surfaces with equipment consisting of a tank truck and spray bar.

- The Contractor will apply clean water to roads, free of oil and other deleterious material at least twice per day during dry weather.

- The water will be dispersed through nozzles on the spray bar to keep areas damp without creating nuisance conditions, such as ponding or mud.

4.0 COVER MATERIAL

The Contractor will be responsible for obtaining and transporting cover material from an offsite source. The material will be approved by NSA Mid-South or their representative.

- Soil will be fertile, friable natural surface soil from a well-drained site capable of sustaining vigorous plant growth.
- Soil will be free of subsoil, brush, stumps, and extraneous matter.
- Soil will not be spread while in a muddy condition.
- Soil will be placed in 6-inch lifts, as needed.
- Soil will be placed in dry weather after all pools of water have been removed.
- Soil will be fine-graded to eliminate rough and low areas to ensure positive drainage.
- Level profiles and contours will be maintained as depicted in the Drawings.
- The surface will be raked until smooth.
- Stones, roots, grass, weeds, debris, and other foreign material will be removed while spreading.
- The soil will be placed to a depth of at least 1 foot in all areas indicated in the Drawings.

5.0 GAS MIGRATION CONTROL

As stated earlier, activities at this landfill were limited to the disposal of rubbish and debris, materials not known to emit methane gas and thus cause gas pockets or gas build-up under landfill caps. This minimal potential for gas build-up limits the need to vent landfills containing these materials, and under the Tennessee regulation Specific Requirements for Class I, II, II and IV Disposal Facilities, Gas Migration Control Standards (TCA 1200-1-7-.04 (5) (c)) gas venting is not required for Class IV construction debris landfills. Based on this information, gas vents for this landfill will not be required.

6.0 FERTILIZING, SEEDING, AND MULCHING

6.1 Fertilizing

The Contractor will fertilize all disturbed areas with a commercially available fertilizer that meets the following requirements:

- Fertilizer will be applied at a rate of 10 pounds per 100 square feet, and incorporated into the top 3 to 4 inches of soil.

- It will conform to applicable State fertilizer laws, and be a 16-4-8 formulation, of which 50% of the nitrogen is insoluble nitrate.

- It will be granulated so that 80% is held on a 16-mesh screen, uniform in composition, dry and free flowing.

6.2 Seeding

Grass seed will conform to Federal Specifications JJJ-S-181 and will satisfy the following requirements:

Table 2
Seed Requirements

Seed	Min % Pure Seed	Min % Germination and Hard Seed	Max % Weed Seed
Bermuda (hulled)	95%	85%	0.25%
Italian Rye	90%	90%	0.25%

Seed will be applied to all disturbed areas at the following rate:

Table 3
Seeding Rate

Seed	Rate of Application
Bermuda (hulled)	3 pounds per 1,000 sq ft
Italian Rye	4 pounds per 1,000 sq ft

6.3 Mulching

Mulch will consist of hay, straw, or an erosion control mat, applied in adequate amounts to control erosion over all seeded areas.

7.0 DITCH RECONSTRUCTION

Two previously constructed ditches at the north and south sides of the landfill convey storm water eastward. The south ditch runs parallel to Dakar Street Extended and the north ditch runs parallel to the railroad tracks. These ditches have been silted in, and the culverts east of the landfill, which connect the ditches to the east side of Patrol Road, are partially plugged by silt. The ditches shown on the Drawings will require cleanout and regrading as indicated. The culverts will also require cleanout, and a third culvert will be added under the landfill access road to connect the

ditch west of the landfill to the ditch running along Dakar Street Extended. The added culvert will be a 35-foot-long, 18-inch diameter pipe.

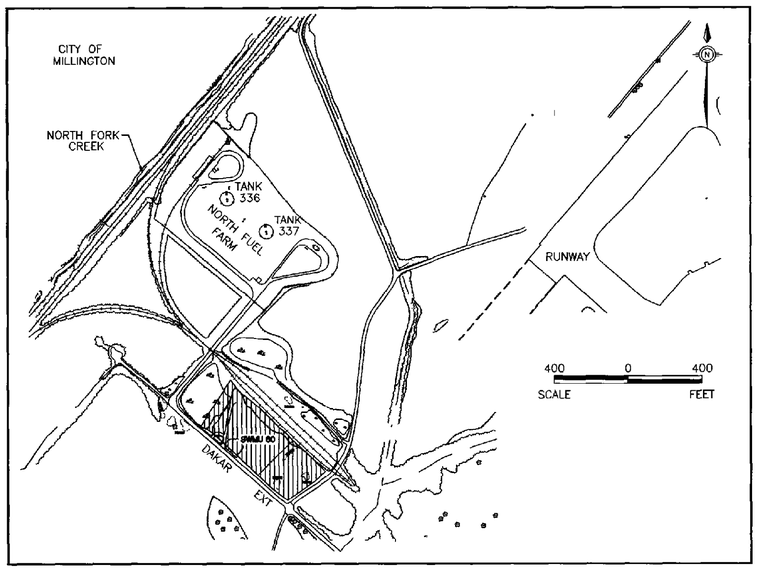
8.0 HEALTH AND SAFETY

Before site activities begin, the contractor will prepare and submit a Health and Safety Plan that complies with applicable OSHA, Southern Division, and NSA Mid-South requirements.

DEMOLITION/CONSTRUCTION
DEBRIS LANDFILL COVER
SWMU 60 - NORTHSIDE LANDFILL
NAVAL SUPPORT ACTIVITY MID-SOUTH
MILLINGTON, TENNESSEE

PREPARED FOR

DEPARTMENT OF THE NAVY
SOUTHERN DIVISION
NAVAL FACILITIES
ENGINEERING COMMAND
NORTH CHARLESTON, SOUTH CAROLINA



VICINITY MAP

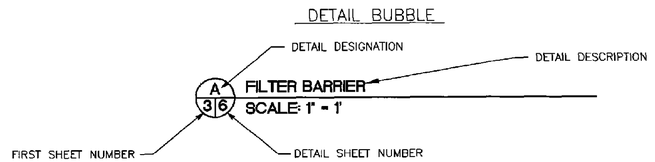
PREPARED BY

ENSAFE

800-588-7962
MEMPHIS, TENNESSEE
CHARLESTON,SC; CINCINNATI,OH; DALLAS,TX; JACKSON,TN; KNOXVILLE,TN; LANCASTER,PA; NASHVILLE,TN; NORFOLK,VA; PADUCAH,KY; PENSACOLA,FL; RALEIGH,NC; COLOGNE, GERMANY

APRIL 1999

INDEX TO DRAWINGS	
SHEET NO.	INDEX TO DRAWINGS
1	COVER SHEET
2	EXISTING CONDITIONS
3	FINAL CONTOURS
4	CROSS SECTIONS A-A', B-B'
5	CROSS SECTION C-C', D-D'
6	DETAIL SHEET



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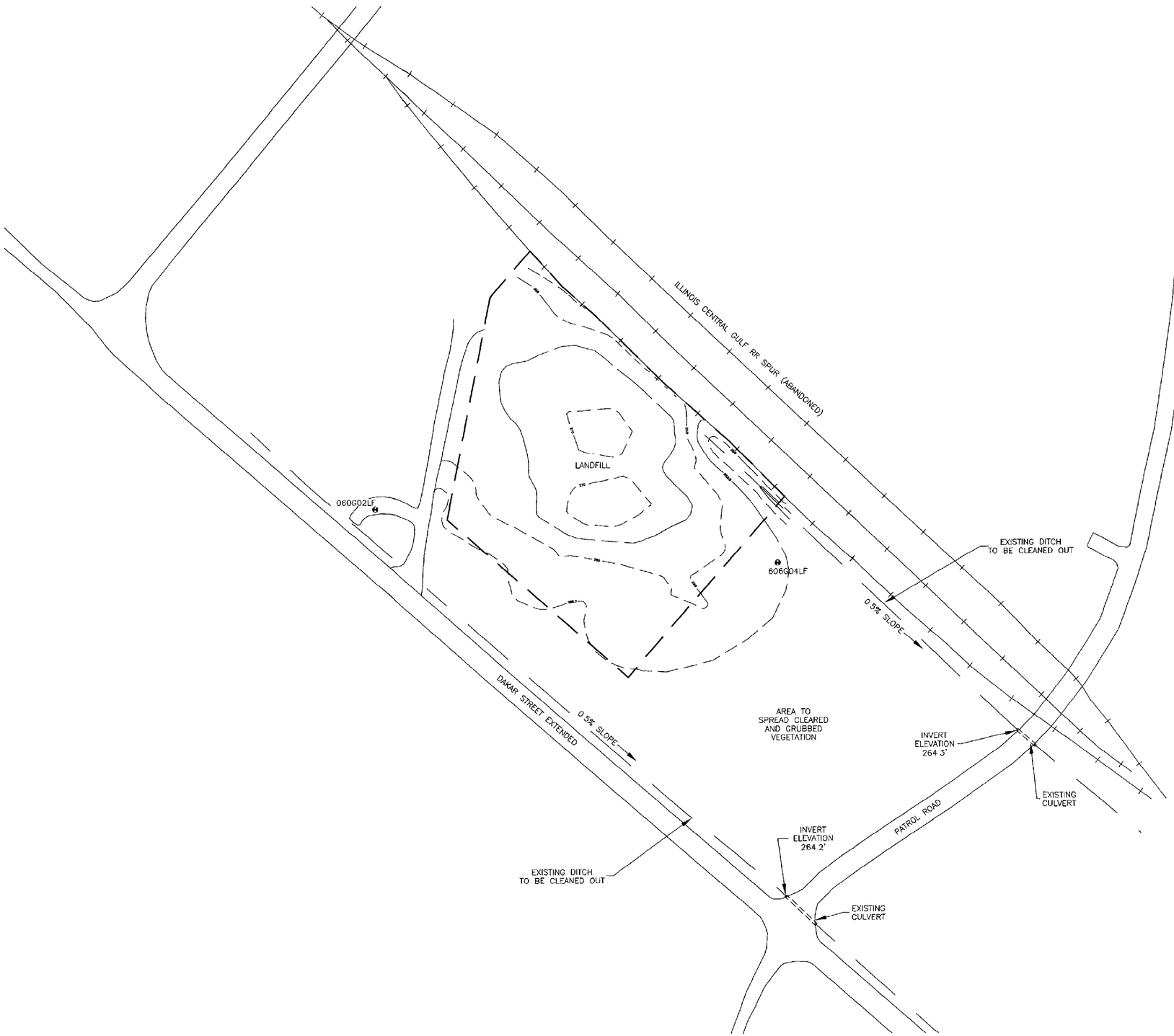
0094010

00453BIX



50 0 50
SCALE FEET

NOTE EXISTING DITCHES ARE TO BE CLEANED OUT AND SET TO A GRADE TO ACHIEVE A 0.5% SLOPE TO THE INVERT ELEVATION OF THE CULVERTS

LEGEND
- ⊕ – MONITORING WELL
- ——— – ESTIMATED LANDFILL EXTENT
- — — – EXISTING CONTOURS – INTERVAL 0.5 FT

REVISION		
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SWMU 60
NORTHSIDE LANDFILL
NSA MID-SOUTH
MILLINGTON, TENNESSEE

EXISTING CONDITIONS
NORTHSIDE LANDFILL

Dr by CTRIPLETT	Tr by NAME	
Ck by CBARNETT	App by LANDERSON	Sheet 2
Date 04/02/99	DWG Name 00941005	Of 6

ILLINOIS CENTRAL GULF RR SPUR (ABANDONED)

STRAW BALE CHECK DAM (D 3|6)

ACCESS ROAD

LANDFILL

060G02LF
268.85' AT
TOP OF
CONCRETE PAD

606G04LF

DITCH (B 3|6)

SILT FENCE (C 3|6)

CULVERT (A 3|6)

DAKAR STREET EXTENDED

EXISTING DITCH
TO BE CLEANED OUT

0.5% SLOPE

EXISTING DITCH
TO BE CLEANED OUT

0.5% SLOPE

LEGEND
- ⊖ – MONITORING WELL
- RAILROAD
- SILT FENCE/ STRAW BALE CHECK DAM
- ESTIMATED LANDFILL EXTENT
- EXISTING CONTOURS – INTERVAL 0.5 FT
- PROPOSED CONTOURS – INTERVAL 0.5 FT
- AREAS TO BE CLEARED AND GRUBBED

20 0 20
SCALE FEET

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NORTHSIDE LANDFILL
NSA MID-SOUTH
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FINAL CONTOURS
NORTHSIDE LANDFILL

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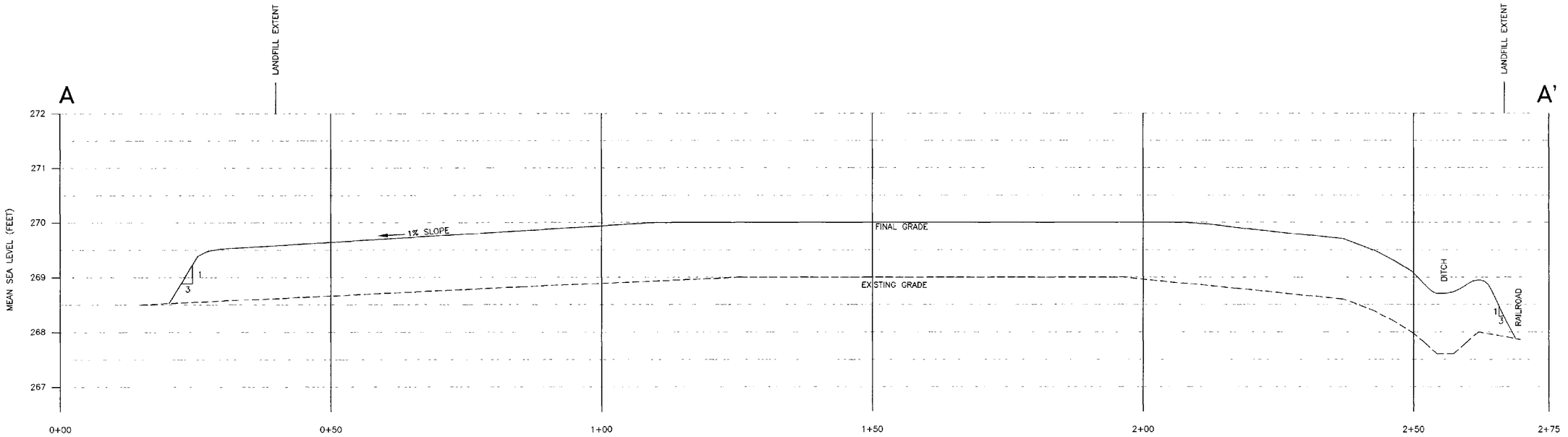
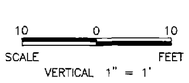
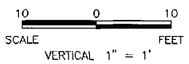
Date 04/02/99	DWG Name 0094T004	Of 6



SECTION A-A'



SECTION B-B'



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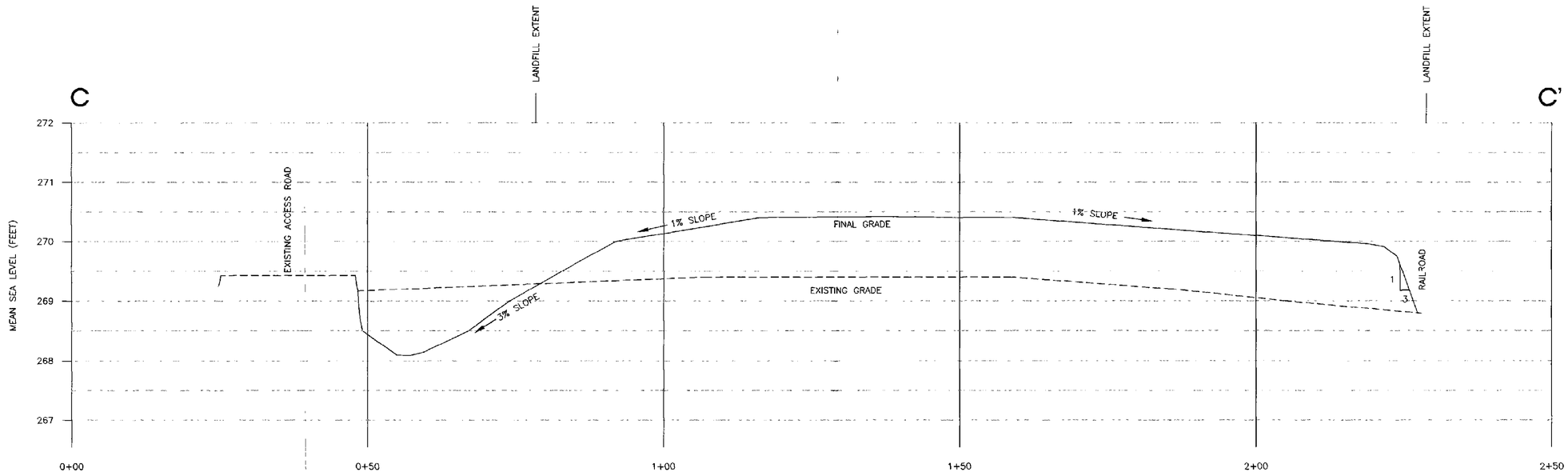
SWMU 60
NORTHSIDE LANDFILL
NSA MID-SOUTH
MILLINGTON, TENNESSEE

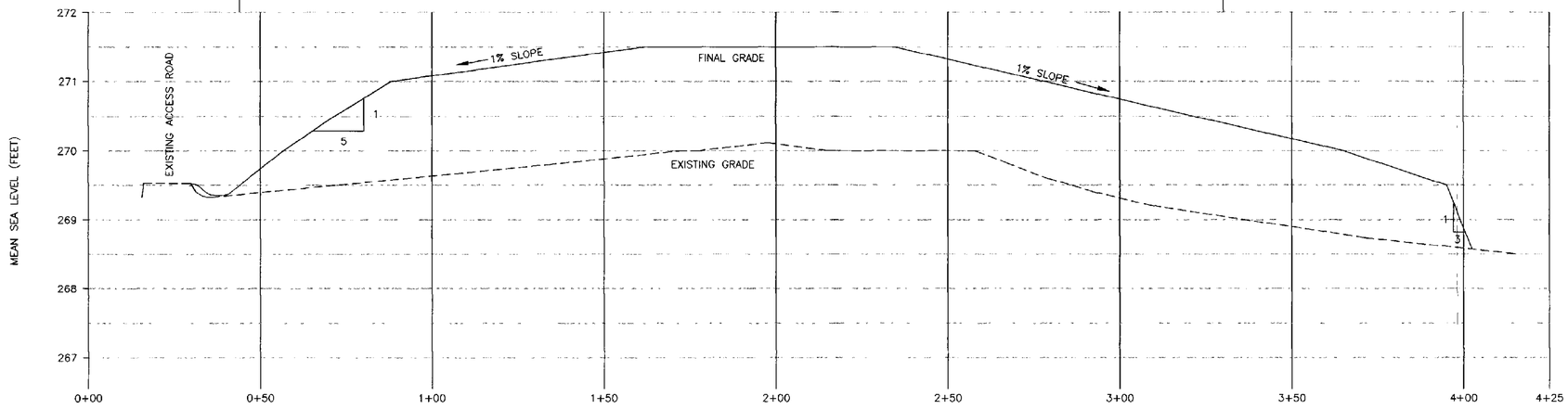
CROSS SECTIONS
A-A' AND B-B'
NORTHSIDE LANDFILL

Dr by C TRIPLETT	Tr by	
Ck by C BARNETT	App by L ANDERSON	Sheet 4
Date 04/01/99	DWG Name 094T006	Of 6



SECTION C-C'

10 0 10
SCALE FEET
VERTICAL 1" = 1'



SECTION D-D'

5 0 5
SCALE FEET
VERTICAL 1" = 1'

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SWMU 60
NORTHSIDE LANDFILL
NSA MID-SOUTH
MILLINGTON, TENNESSEE

CROSS SECTIONS
C-C' AND D-D'
NORTHSIDE LANDFILL

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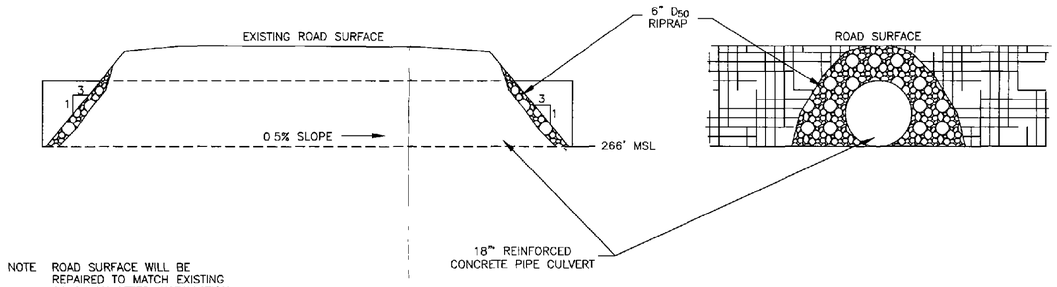
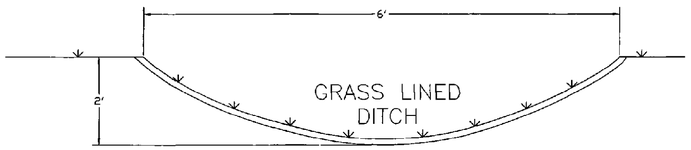
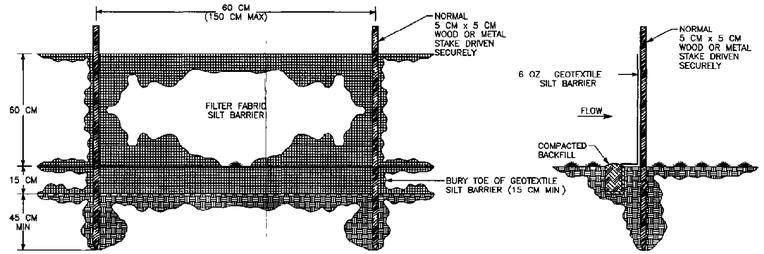


NOTE ROAD SURFACE WILL BE REPAIRED TO MATCH EXISTING CONDITION AFTER INSTALLATION OF CULVERT

A 2|7 **CULVERT**
NOT TO SCALE



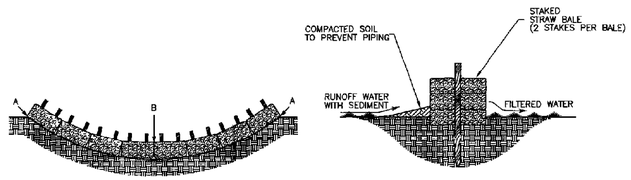
B 2|7 **DITCH**
NOT TO SCALE



FRONT VIEW SIDE VIEW

C 3|7 **SILT FENCE**
NOT TO SCALE

NOTE
1 ALL SURFACE WATER MUST DRAIN THROUGH SEDIMENT CONTROL STRUCTURES SUCH AS THE SILT FENCE



FRONT VIEW SIDE VIEW

NOTES
1 POINTS A SHOULD BE HIGHER THAN POINT B
2 STRAW BALES SHALL BE ENTRENCHED TO A DEPTH OF 10 CM BELOW GROUND SURFACE
3 BUTT ENDS OF BALES TOGETHER TIGHTLY AND FILL SPACES REMAINING BETWEEN BALES WITH LOOSE STRAW

D 3|7 **STRAW BALE CHECK DAM**
NOT TO SCALE

REVISION		
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Rev Number 000	Rev Date 00/00/00	Rev By NAME
Rev Number 000	Rev Date 00/00/00	Rev By NAME
Rev Number 000	Rev Date 00/00/00	Rev By NAME
Rev Number 000	Rev Date 00/00/00	Rev By NAME

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SWMU 60
NORTHSIDE LANDFILL
NSA MID-SOUTH
MILLINGTON, TENNESSEE

DETAIL SHEET
NORTHSIDE LANDFILL

Dr by C TRIPLETT	Tr by		
Ck by C BARNETT	App by L ANDERSON	Sheet	6
Date 04/01/99	DWG Name 094T009	Of	6