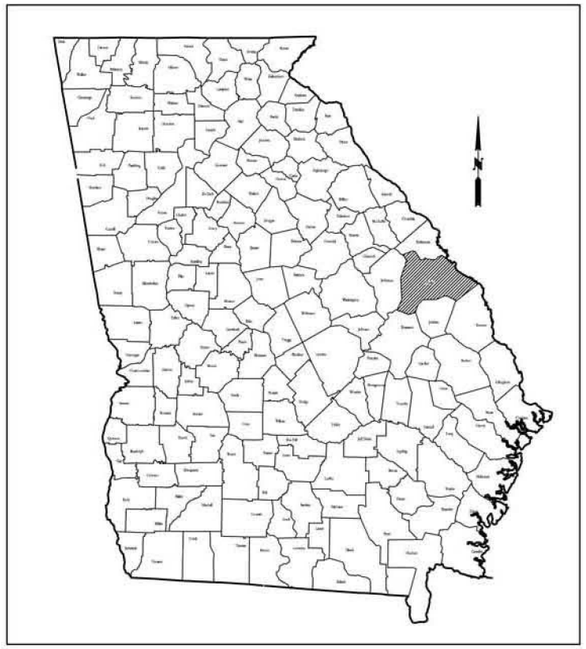


Burke County Location
N.T.S.

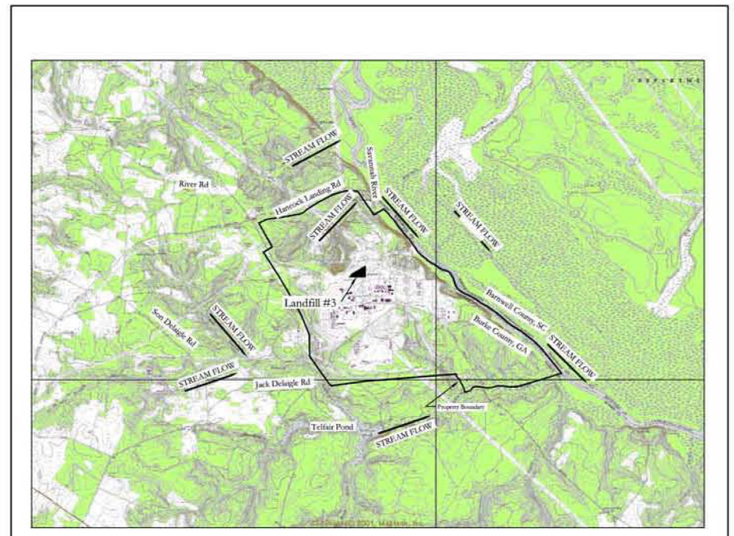
Plant Vogtle Landfill #3: Design and Operational Plan

Responsible Official:
W. F. Kitchens
Plant Vogtle General Manager
Southern Nuclear Operating Co., Inc.
7821 River Road
Waynesboro, GA 30830
706-826-4278

Corporate Contact:
Rachel G. Bauman
Southern Nuclear Operating Co., Inc.
40 Inverness Center Parkway
P. O. Box 1295
Birmingham, AL 35201
205-992-7025

Property Owner:
Georgia Power Company
P. O. Box 4545
Atlanta, GA 30302
404-526-6526

Consultant:
Kurt R. Batsel, PE
GA PE #16594
The Dextra Group, LLC
4665 Lower Roswell Road, #154
Marietta, GA 30068
770-578-9696



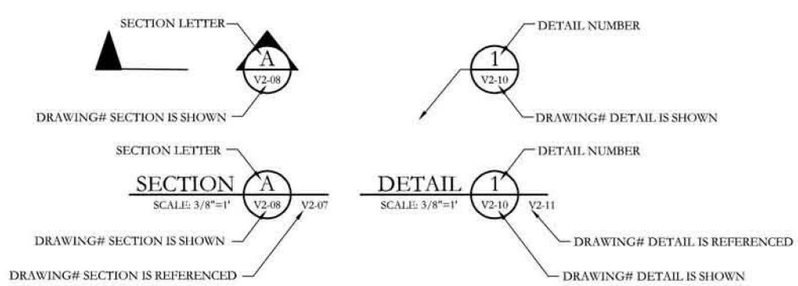
DRIVING DIRECTIONS TO SITE:

FROM ATLANTA/AUGUSTA: Take I-20 east to Augusta. In Augusta, take I-520 (Bobby Jones Expressway - Exit 196A) south to SR 56. Take SR 56 south approximately 13 miles to SR 23. Take SR 23 south approximately 6 miles to Ebenezer Church Road. Turn left on Ebenezer Church Road and go approximately 6 miles to site entrance.

Site Location
1" = 1 Mile

INDEX OF DRAWINGS

V3-00	TITLE PAGE
V3-01	EXISTING SITE TOPOGRAPHY
V3-02	TRENCHING SEQUENCE
V3-03	EXISTING AND FINAL SITE TOPOGRAPHY
V3-04	TRENCH CROSS SECTIONS
V3-05	TRENCH CROSS SECTIONS AND DETAILS
V3-06	DESIGN & OPERATIONAL INFORMATION
V3-07	METHANE MONITORING PROGRAM
V3-08	CLOSURE & POST-CLOSURE CARE PLAN
V3-09	GROUNDWATER/SURFACE WATER MONITORING
V3-10	GROUNDWATER/SURFACE WATER MONITORING
V3-11	EROSION & SEDIMENT CONTROL PLAN
V3-12	EROSION & SEDIMENT CONTROL DETAILS I
V3-13	EROSION & SEDIMENT CONTROL DETAILS II
V3-14	MISCELLANEOUS DETAILS



REV.	DATE	DESCRIPTION	BY	ENG.	APPR
3	12/31/04	Updated Procedures	GHA		

SUPERSEDES: REVISIONS:

PROJECT NO.:SNOC-01-DOV-02 FILENAME: V3-Cover.dwg

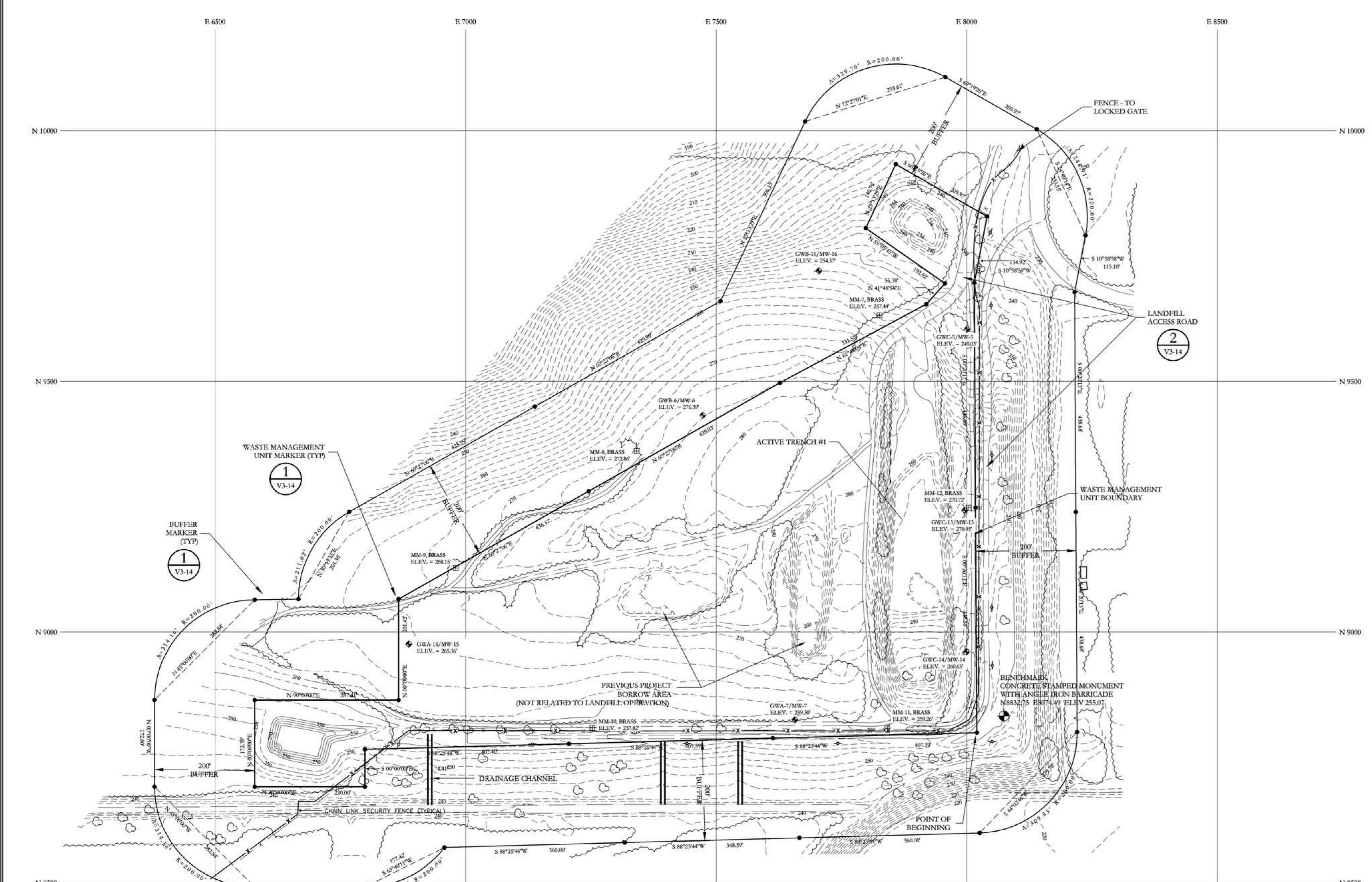
THE DEXTRA GROUP, INC.
4665 LOWER ROSWELL ROAD, #154
MARIETTA, GEORGIA 30068

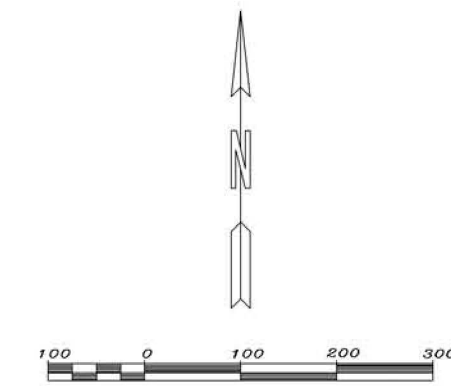
THIS DRAWING IS THE PROPERTY OF THE DEXTA-GROUP, LLC AND ALL INFORMATION CONTAINED THEREIN IS TO BE KEPT CONFIDENTIAL BY THE RECIPIENT THEREOF AND NOT TO BE DISCLOSED TO ANY OTHER PERSON, FIRM OR CORPORATION WITHOUT THE EXPRESSED WRITTEN CONSIDERATION OF THE DEXTRA-GROUP, LLC. THIS DRAWING SHALL NOT BE USED DIRECTLY OR INDIRECTLY EXCEPT IN CONNECTION WITH THE DEXTRA-GROUP, LLC WORK. ALL RIGHTS OF DESIGN OR INVENTION DISCLOSED IN THE DRAWING ARE EXPRESSLY RESERVED BY THE DEXTRA-GROUP, LLC. RECIPIENT SHALL NOT REPRODUCE IN WHOLE OR PART ANY SECTION OF THIS DRAWING AND AGREES UPON NOTIFICATION BY THE DEXTRA-GROUP, LLC TO RETURN THIS DRAWING AND ALL COPIES THEREOF TO THE DEXTRA-GROUP, LLC.

Southern Nuclear Operating Co., Inc.
Title Page
Plant Vogtle Landfill #3

REF.	DWG. NUMBER	TITLE
REFERENCE DRAWING		

DRAWN BY:	DATE:	DRAWING NUMBER
JF	10/19/01	V3-00
CHECKED BY:	SCALE: None	





Map produced by BEI Aerial Mapping, Peachtree City, GA

BEI PROJECT #1010805

DATE OF PHOTOGRAPHY: 8/22/2001

LEGEND

	POWER POLE
	TREELINE
— —150— —	EXISTING CONTOUR
——x——	FENCE
MM-7	METHANE WELL
GWC-5/MW-5	GROUNDWATER MONITORING WELL
•	WASTE MANAGEMENT UNIT/BUFFER BOUNDARY MARKER

LANDFILL WASTE MANAGEMENT UNIT PROPERTY DESCRIPTION

Beginning at a benchmark for this site which is a concrete stamped monument with an angle iron barricade, located at local grid N8832.75, E8074.49, and set at Elevation 255.07, thence going S58 °19'47"W a distance of 63.48' to a point, this being the POINT OF BEGINNING, thence going S88°25'44"W a distance of 1222.17' to a point; thence going Due South a distance of 74.41' to a point; thence going Due West a distance of 220.00' to a point; thence going Due North a distance of 172.79' to a point; thence going Due East a distance of 287.41' to a point; thence going Due North a distance of 200.00' to a point; thence going N60°27'6"E a distance of 878.07' to a point; thence going N61 ° 48'9"E a distance of 331.58' to a point; thence going N41 °48'54"E a distance of 55.38' to a point; thence going N55 °5'45"W a distance of 192.92' to a point; thence going N25°13'29"E a distance of 140.76' to a point; thence going S60 ° 19'26"E a distance of 209.97' to a point, thence going S10°58'58"W a distance of 134.92' to a point; thence going S0°20'13"E a distance of 897.19' to a point; such point being the POINT OF BEGINNING; said property encompassing 17.77 acres.

GROUND WATER WELL AS-BUILT DATA TABLE

GW WELL NUMBER	NORTHING	EASTING	TOP OF CASING ELEV (FT, MSL)	GW ELEV 6/15/04 (FT, MSL)
GWC-5/MW-5	9604.3004	7999.3327	251.96	204.20
GWB-6/MW-6	9432.4753	7473.2531	278.87	232.38
GWA-7/MW-7	8826.2243	7657.8853	261.33	230.46
GWC-13/MW-13	9242.6820	7996.2997	273.08	233.49
GWC-14/MW-14	8960.6518	7999.6737	262.88	210.77
GWA-15/MW- 15	8976.1153	6886.5411	268.15	224.91
GWB-16/MW-16	9720.2971	7705.1490	256.95	DRY

REF.	DWG. NUMBER	TITLE

REFERENCE DRAWING

REV.	DATE	DESCRIPTION	BY	ENG.	APPR
3	12/31/04	Updated Procedures	GHA		

SUPERSEDES: REVISIONS:

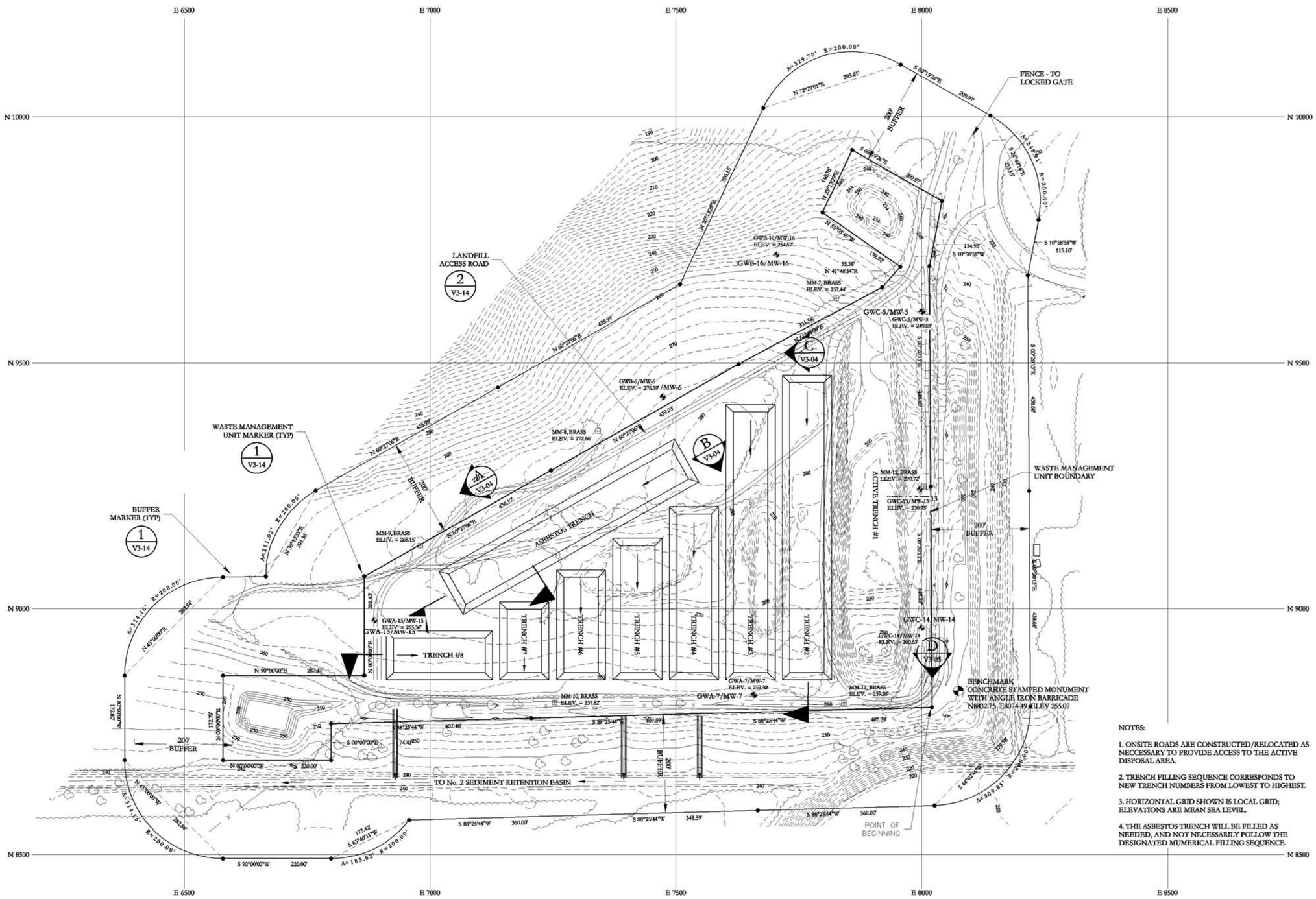
PROJECT NO.:SNOC-01-DOV-02 FILENAME: V3-01 Initial topo.dwg

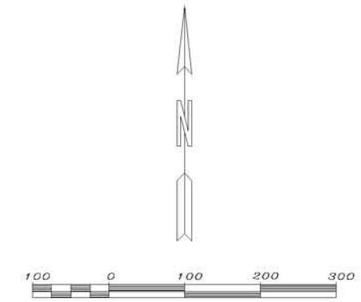
THE DEXTRA GROUP, INC.
4665 LOWER ROSWELL ROAD, #154
MARIETTA, GEORGIA 30068

THIS DRAWING IS THE PROPERTY OF THE DEXTA-GROUP, LLC AND ALL INFORMATION CONTAINED THERON IS TO BE KEPT CONFIDENTIAL BY THE RECIPIENT THEROF AND NOT TO BE DISCLOSED TO ANY OTHER PERSON, FIRM OR CORPORATION WITHOUT THE EXPRESSED WRITTEN CONSIDERATION OF THE DEXTRA-GROUP, LLC. THIS DRAWING SHALL NOT BE USED DIRECTLY OR INDIRECTLY EXCEPT IN CONNECTION WITH THE DEXTRA-GROUP, LLC WORK. ALL RIGHTS OF DESIGN OR INVENTION DISCLOSED IN THE DRAWING ARE EXPRESSLY RESERVED BY THE DEXTRA-GROUP, LLC. RECIPIENT SHALL NOT REPRODUCE IN WHOLE OR PART ANY SECTION OF THIS DRAWING AND AGREES UPON NOTIFICATION BY THE DEXTRA-GROUP, LLC TO RETURN THIS DRAWING AND ALL COPIES THEROF TO THE DEXTRA-GROUP, LLC.

Southern Nuclear Operating Co., Inc.
Existing Site Topography
Plant Vogtle Landfill #3

DRAWN BY:	DATE:	DRAWING NUMBER
JF	10/19/01	V3-01
CHECKED BY:	SCALE: None	





Map produced by BEI Aerial Mapping, Peachtree City, GA

BEI PROJECT #1010805

DATE OF PHOTOGRAPHY: 8/22/2001

LEGEND

- POWER POLE
- TREELINE
- 150 — EXISTING CONTOUR
- FENCE
- MM-9, BRASS ELEV. = 268.15' — METHANE WELL
- GWC-5/MW-5 — GROUNDWATER MONITORING WELL
- WASTE MANAGEMENT UNIT/BUFFER BOUNDARY MARKER

LANDFILL WASTE MANAGEMENT UNIT PROPERTY DESCRIPTION

Beginning at a benchmark for this site which is a concrete stamped monument with an angle iron barricade, located at local grid N8832.75, E8074.49, and set at Elevation 255.07, thence going S58 °19'47"W a distance of 63.48' to a point, this being the POINT OF BEGINNING, thence going S88°25'44"W a distance of 1222.17' to a point; thence going Due South a distance of 74.41' to a point; thence going Due West a distance of 220.00' to a point; thence going Due North a distance of 172.79' to a point; thence going Due East a distance of 287.41' to a point; thence going Due North a distance of 200.00' to a point; thence going N60°27'6"E a distance of 878.07' to a point; thence going N61 ° 48'9"E a distance of 331.58' to a point; thence going N41 °48'54"E a distance of 55.38' to a point; thence going N55 °5'45"W a distance of 192.92' to a point; thence going N25°13'29"E a distance of 140.76' to a point; thence going S60 ° 19'26"E a distance of 209.97' to a point, thence going S10°58'58"W a distance of 134.92' to a point; thence going S0°20'13"E a distance of 897.19' to a point; such point being the POINT OF BEGINNING; said property encompassing 17.77 acres.

NOTES:

1. ONSITE ROADS ARE CONSTRUCTED/RELOCATED AS NECCESSARY TO PROVIDE ACCESS TO THE ACTIVE DISPOSAL AREA.

2. TRENCH FILLING SEQUENCE CORRESPONDS TO NEW TRENCH NUMBERS FROM LOWEST TO HIGHEST.

3. HORIZONTAL GRID SHOWN IS LOCAL GRID; ELEVATIONS ARE MEAN SEA LEVEL.

4. THE ASBESTOS TRENCH WILL BE FILLED AS NEEDED, AND NOT NECESSARILY FOLLOW THE DESIGNATED NUMERICAL FILLING SEQUENCE.

REV.	DATE	DESCRIPTION	BY	ENG.	APPR
3	12/31/04	Updated Procedures	GHA		

SUPERSEDES: REVISIONS:

PROJECT NO:SNOC-01-DOV-02 FILENAME: V3-02 Trenching Sequence.dwg

THE DEXTRA GROUP, INC.
4665 LOWER ROSWELL ROAD, #154
MARIETTA, GEORGIA 30068

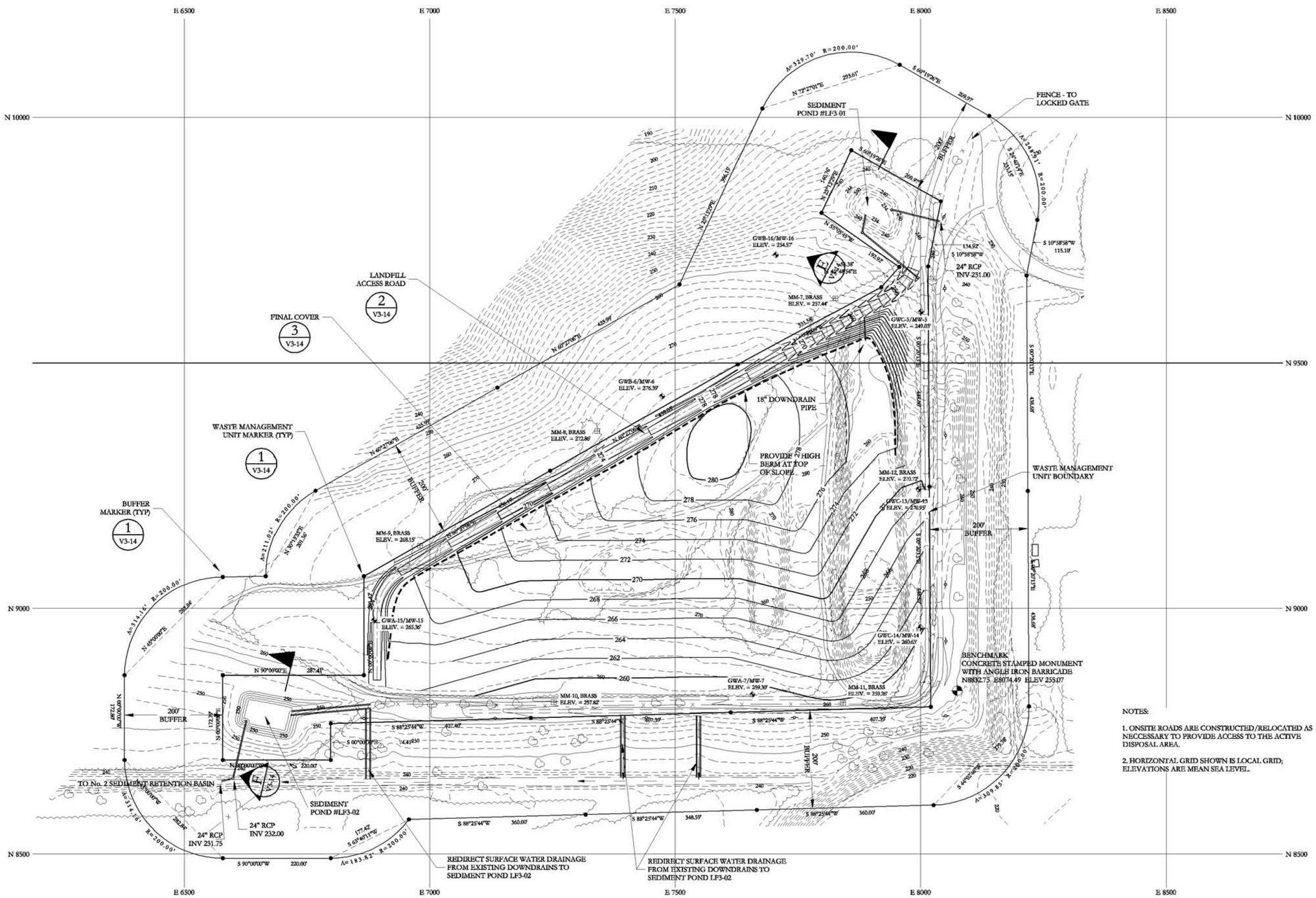
"THIS DRAWING IS THE PROPERTY OF THE DEXTRA GROUP, LLC, AND ALL INFORMATION CONTAINED THEREON IS TO BE KEPT CONFIDENTIAL BY THE RECIPIENT THEREOF AND NOT TO BE DISCLOSED TO ANY OTHER PERSON, FIRM OR CORPORATION WITHOUT THE EXPRESSED WRITTEN CONSIDERATION OF THE DEXTRA GROUP, LLC. THIS DRAWING SHALL NOT BE USED DIRECTLY OR INDIRECTLY EXCEPT IN CONNECTION WITH THE DEXTRA GROUP, LLC WORK. ALL RIGHTS OF DESIGN OR INVENTION DISCLOSED IN THE DRAWING ARE EXPRESSLY RESERVED BY THE DEXTRA GROUP, LLC. RECIPIENT SHALL NOT REPRODUCE IN WHOLE OR PART ANY SECTION OF THE DRAWING AND AGREES UPON NOTIFICATION BY THE DEXTRA GROUP, LLC TO RETURN THIS DRAWING AND ALL COPIES THEREOF TO THE DEXTRA GROUP, LLC.

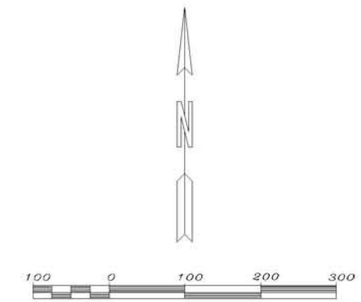
REF.	DWG. NUMBER	TITLE

REFERENCE DRAWING

Southern Nuclear Operating Co., Inc.
Trenching Sequence
Plant Vogtle Landfill #3

DRAWN BY:	DATE:	DRAWING NUMBER
JF	10/19/01	V3-02
CHECKED BY:	SCALE:	
	None	





Map produced by BEI Aerial Mapping, Peachtree City, GA

BEI PROJECT #1010805

DATE OF PHOTOGRAPHY: 8/22/2001

LEGEND

- POWER POLE
- TREELINE
- 150 — EXISTING CONTOUR
- FENCE
- MM-8, BRASS ELEV. = 272.86' — METHANE WELL
- GWC-5/MW-5 — GROUNDWATER MONITORING WELL
- WASTE MANAGEMENT UNIT/BUFFER BOUNDARY MARKER
- 250 — PROPOSED CONTOUR

LANDFILL WASTE MANAGEMENT UNIT PROPERTY DESCRIPTION

Beginning at a benchmark for this site which is a concrete stamped monument with an angle iron barricade, located at local grid N8832.75, E8074.49, and set at Elevation 255.07, thence going S58 °19'47"W a distance of 63.48' to a point, this being the POINT OF BEGINNING, thence going S88°25'44"W a distance of 1222.17' to a point; thence going Due South a distance of 74.41' to a point; thence going Due West a distance of 220.00' to a point; thence going Due North a distance of 172.79' to a point; thence going Due East a distance of 287.41' to a point; thence going Due North a distance of 200.00' to a point; thence going N60°27'67"E a distance of 878.07' to a point; thence going N61 ° 48'9"E a distance of 331.58' to a point; thence going N41 °48'54"E a distance of 55.38' to a point; thence going N55 °5'45"W a distance of 192.92' to a point; thence going N25°13'29"E a distance of 140.76' to a point; thence going S60 ° 19'26"E a distance of 209.97' to a point, thence going S10°58'58"W a distance of 134.92' to a point; thence going S0°20'13"E a distance of 897.19' to a point; such point being the POINT OF BEGINNING; said property encompassing 17.77 acres.

NOTES:

1. ONSITE ROADS ARE CONSTRUCTED/RELOCATED AS NECCESSARY TO PROVIDE ACCESS TO THE ACTIVE DISPOSAL AREA.

2. HORIZONTAL GRID SHOWN IS LOCAL GRID; ELEVATIONS ARE MEAN SEA LEVEL.

REV.	DATE	DESCRIPTION	BY	ENG.	APPR
3	12/31/04	Updated Procedures	GHA		

SUPERSEDES: REVISIONS:

PROJECT NO.SNOC-01-DOV-02 FILENAME: V3-03 Final Topo.dwg

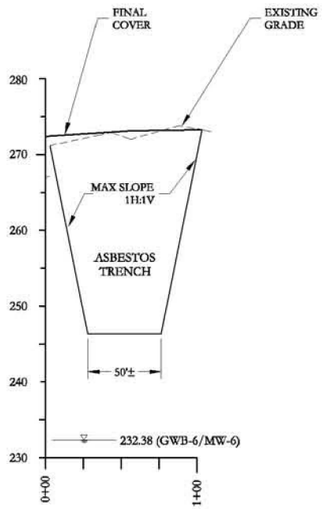
THE DEXTRA GROUP, INC.
4665 LOWER ROSWELL ROAD, #154
MARIETTA, GEORGIA 30068

THIS DRAWING IS THE PROPERTY OF THE DEXTRA-GROUP, LLC AND ALL INFORMATION CONTAINED THEREON IS TO BE KEPT CONFIDENTIAL BY THE RECIPIENT THEREOF AND NOT TO BE DISCLOSED TO ANY OTHER PERSON, FIRM OR CORPORATION WITHOUT THE EXPRESSED WRITTEN CONSIDERATION OF THE DEXTRA-GROUP, LLC. THIS DRAWING SHALL NOT BE USED DIRECTLY OR INDIRECTLY EXCEPT IN CONNECTION WITH THE DEXTRA-GROUP, LLC WORK. ALL RIGHTS OF DESIGN OR INVENTION DISCLOSED IN THIS DRAWING ARE EXPRESSLY RESERVED BY THE DEXTRA-GROUP, LLC. RECIPIENT SHALL NOT REPRODUCE IN WHOLE OR PART ANY SECTION OF THIS DRAWING AND AGREES UPON NOTIFICATION BY THE DEXTRA-GROUP, LLC TO RETURN THIS DRAWING AND ALL COPIES THEREOF TO THE DEXTRA-GROUP, LLC.

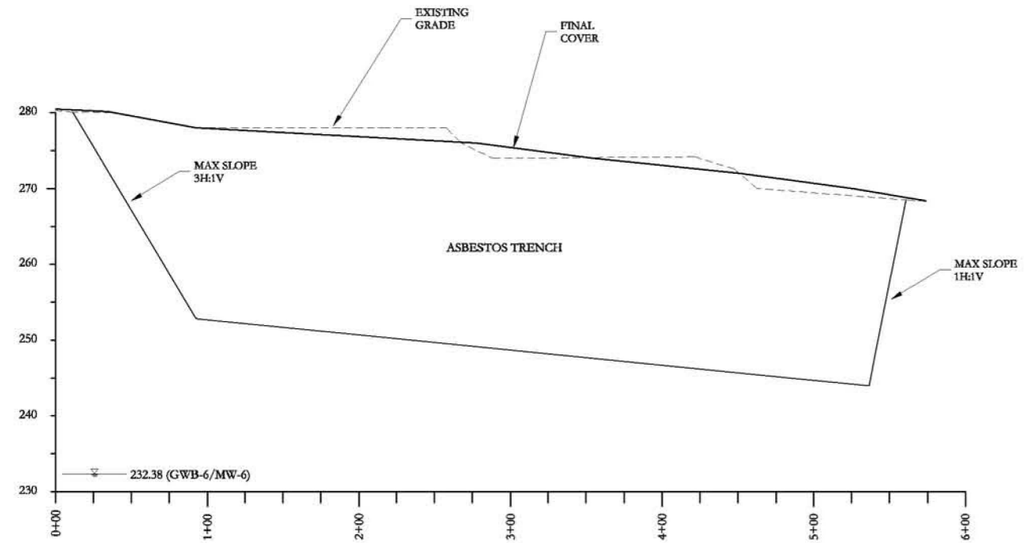
Southern Nuclear Operating Co., Inc.
Existing and Final Site Topography
Plant Vogtle Landfill #3

REF.	DWG. NUMBER	TITLE
REFERENCE DRAWING		

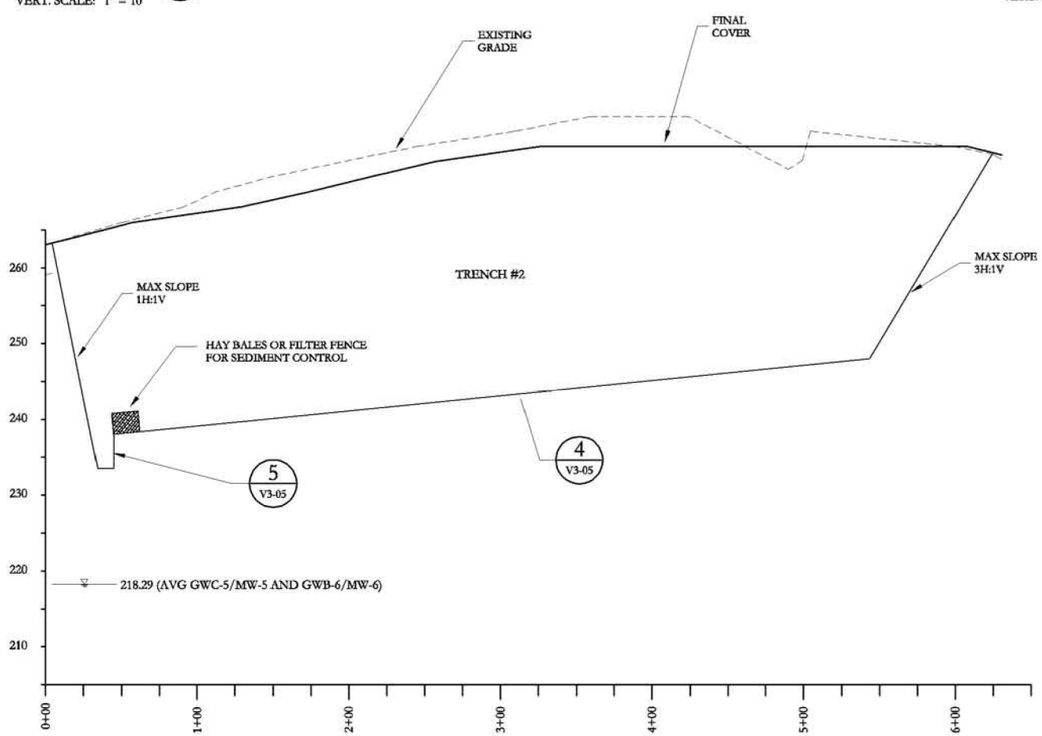
DRAWN BY: JF	DATE: 10/19/01	DRAWING NUMBER
CHECKED BY:	SCALE: None	V3-03



SECTION A
HORZ. SCALE: 1" = 50'
VERT. SCALE: 1" = 10'
V3-04 V3-02



SECTION B
HORZ. SCALE: 1" = 50'
VERT. SCALE: 1" = 10'
V3-04 V3-02



SECTION C
HORZ. SCALE: 1" = 50'
VERT. SCALE: 1" = 10'
V3-04 V3-02

LEGEND

- FINAL GRADE
- EXISTING GRADE
- LIMIT OF TRENCH EXCAVATION
- WATER TABLE (6/15/04)

REV.	DATE	DESCRIPTION	BY	ENG.	APPR
3	12/31/04	Updated Procedures	GHA		

SUPERSEDES: REVISIONS:

PROJECT NO.:SNOC-01-DOV-02 FILENAME: V3-04 Trench Cross-secs.dwg

THE DEXTRA GROUP, INC.
4665 LOWER ROSWELL ROAD, #154
MARIETTA, GEORGIA 30068

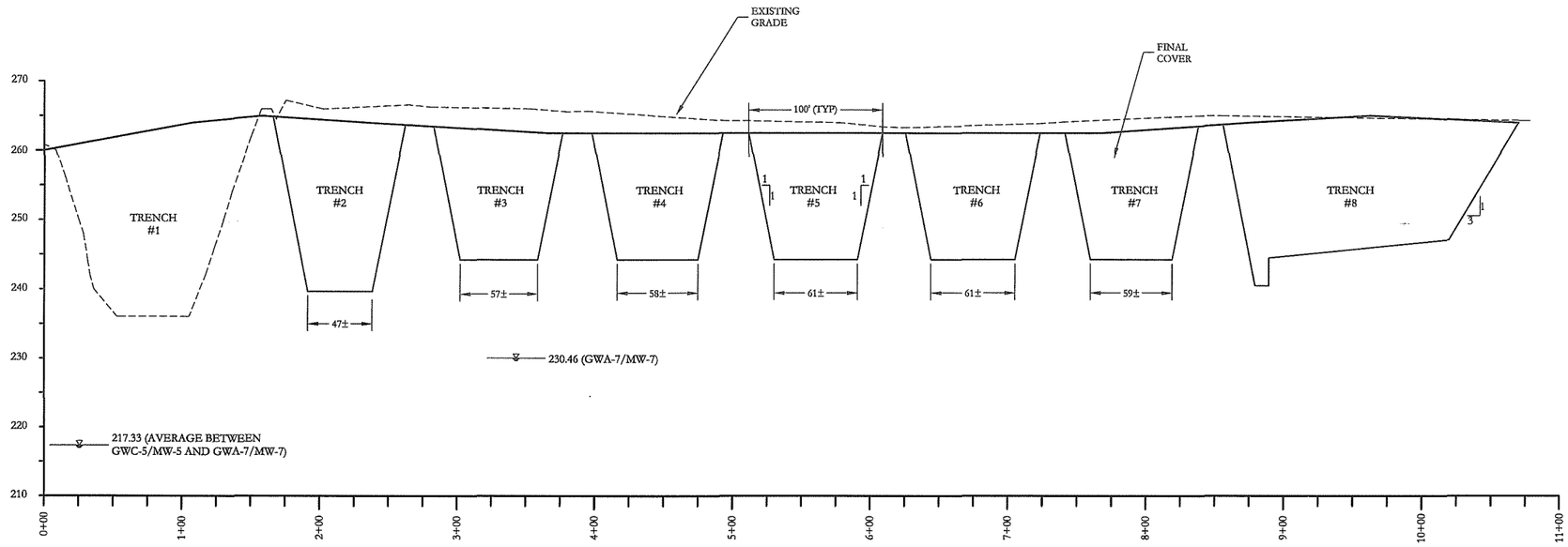
THIS DRAWING IS THE PROPERTY OF THE DEXTRA GROUP, LLC AND ALL INFORMATION CONTAINED THEREON IS TO BE KEPT CONFIDENTIAL. IT THE RECIPIENT THEREOF AND NOT TO BE DISCLOSED TO ANY OTHER PERSON, FIRM OR CORPORATION WITHOUT THE EXPRESSED WRITTEN CONSIDERATION OF THE DEXTRA GROUP, LLC. THIS DRAWING SHALL NOT BE USED DIRECTLY OR INDIRECTLY EXCEPT IN CONNECTION WITH THE DEXTRA GROUP, LLC WORK. ALL RIGHTS OF DESIGN OR INVENTION DISCLOSED IN THE DRAWING ARE EXPRESSLY RESERVED BY THE DEXTRA GROUP, LLC. RECIPIENT SHALL NOT REPRODUCE IN WHOLE OR PART ANY SECTION OF THE DRAWING AND AGREES UPON NOTIFICATION BY THE DEXTRA GROUP, LLC TO RETURN THIS DRAWING AND ALL COPIES THEREOF TO THE DEXTRA GROUP, LLC.

Southern Nuclear Operating Co., Inc.
Trench Cross Sections
Plant Vogtle Landfill #3

REF.	DWG. NUMBER	TITLE

REFERENCE DRAWING

DRAWN BY:	DATE:	DRAWING NUMBER
JF	10/19/01	V3-04
CHECKED BY:	SCALE: None	



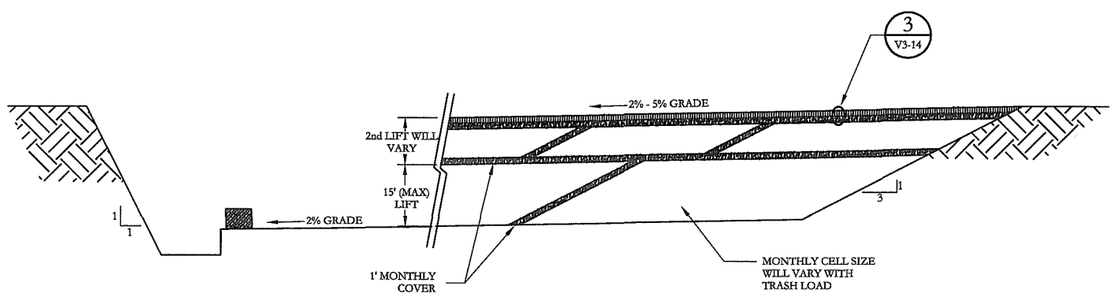
SECTION D

HORZ. SCALE: 1" = 50'
VERT. SCALE: 1" = 10'

V3-05 V3-02

LEGEND

- FINAL GRADE
- EXISTING GRADE
- LIMIT OF TRENCH EXCAVATION
- WATER TABLE (6/15/04)

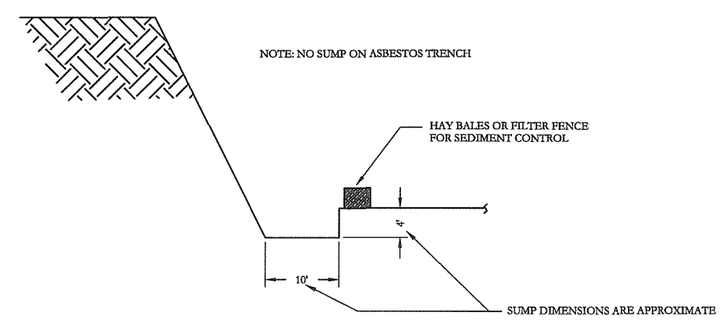


TYPICAL OPERATION FOR TRENCHES 1-8

DETAIL 4

N.T.S

V3-05 V3-04



TYPICAL SUMP FOR DRAINAGE COLLECTION

DETAIL 5

N.T.S

V3-05 V3-04

REV.	DATE	DESCRIPTION	BY	ENG.	APPR.
3	12/31/04	Updated Procedures	GHA		

SUPERSEDES: REVISIONS:

PROJECT NO.:SNOC-01-DOV-02 FILENAME: V3-05 Cross-secs & Details.dwg

THE DEXTRA GROUP, INC.
4665 LOWER ROSWELL ROAD, #154
MARIETTA, GEORGIA 30068

THIS DRAWING IS THE PROPERTY OF THE DEXTRA-GROUP, LLC AND ALL INFORMATION CONTAINED THEREON IS TO BE KEPT CONFIDENTIAL BY THE RECIPIENT THEREOF AND NOT TO BE DISCLOSED TO ANY OTHER PERSON, FIRM OR CORPORATION WITHOUT THE EXPRESSED WRITTEN CONSIDERATION OF THE DEXTRA-GROUP, LLC. THIS DRAWING SHALL NOT BE USED DIRECTLY OR INDIRECTLY EXCEPT IN CONNECTION WITH THE DEXTRA-GROUP, LLC WORK. ALL RIGHTS OF DESIGN OR INVENTION DISCLOSED IN THE DRAWING ARE EXPRESSLY RESERVED BY THE DEXTRA-GROUP, LLC. RECIPIENT SHALL NOT REPRODUCE IN WHOLE OR PART ANY SECTION OF THIS DRAWING AND AGREES UPON NOTIFICATION BY THE DEXTRA-GROUP, LLC TO RETURN THIS DRAWING AND ALL COPIES THEREOF TO THE DEXTRA-GROUP, LLC

Southern Nuclear Operating Co., Inc.
Trench Cross Sections & Details
Plant Vogtle Landfill #3

REF.	DWG. NUMBER	TITLE

REFERENCE DRAWING

DRAWN BY:	DATE:	DRAWING NUMBER
JF	10/19/01	V3-05
CHECKED BY:	SCALE: None	

DESIGN & OPERATIONAL INFORMATION

1. Landfill #3 is used to dispose of post-construction waste. This includes inert wastes, construction and demolition wastes limited to untreated lumber, brick, concrete, wallboard, insulation, metal siding, plumbing fixtures, and other inert building materials, earth-like products such as unusable sacks of concrete mix, packing material such as wood, plastic, cardboard, paper, and pallets. Asbestos containing wastes are also accepted, provided the material is disposed in a trench specifically designated to accept asbestos. Refer to Item #23 for the Prohibited Waste Plan.

2. Volume calculations

a. Total volume of waste and cover ..... 189,066 CY
b. Soil volume for cover ..... 38,371 CY

1. Available on-site ..... 19,145 CY
2. Imported ..... 19,226 CY

c. Solid waste volume (compacted) ..... 124,832 CY
d. Asbestos waste volume (compacted) ..... 25,863 CY

Area of Site

a. Total .....17.8 ACRES
b. Usable ..... 12.6 ACRES

Estimated Life of Site ..... 48 YEARS

3. Waste is to be dumped from trucks into the landfill trenches beginning at the north end of the active (open) trench, except for Trench #8 that will be filled from the west end and the Asbestos Trench that will be filled from the east end.

4. Using a bulldozer (966 Caterpillar dozer or equivalent), waste will be spread and compacted into 15-foot maximum lifts while maintaining a sufficient slope on the waste working surface. Materials placed in the landfill will be compacted to the least practical volume, except that asbestos waste will be handled as described in Item 29.

5. Asbestos-containing waste will be covered with 6 inches of earth immediately upon placement in the asbestos trench. Landfill operations will consist of monthly cells. Monthly cover will be placed in one-foot layers for the months in which trenches are used. Daily cover is not required because the nature of the waste (non-putrescible construction debris and office waste) does not pose potential problems with disease vectors, odor, blowing litter, fire, or scavenging. In addition, appropriate steps will be taken to control disease vectors if needed. These steps will be appropriate for the protection of human health and the environment.

6. Monthly, a minimum one-foot layer of intermediate soil cover will be placed over the exposed working surface of the waste for those trenches used in that month.

7. Final cover will be placed over each trench within one month after it is filled with waste.

8. Soil from the excavated trench will be stockpiled near the active trench. These soil stockpiles will be of sufficient quantity for the monthly intermediate cover and for fire protection needs. A minimum of 25 cubic yards of soil will be kept within 200 feet of the working surface of waste at all times for fire extinguishing purposes. Silt fencing will be placed along the lower elevations of the monthly soil stockpiles. Since trenches will be backfilled with only 12 % of the original material removed, there will always be a large volume of material on hand for intermediate cover and fire protection.

9. The Chemistry Manager is responsible for overall supervision of the landfill to ensure permit compliance with the environmental aspects of its operation.

10. Landfill operations shall be conducted in daylight hours only.

11. Diversions around the perimeter of the active trench will be created as needed to minimize stormwater run-on to the site. The site shall be graded and drained to minimize erosion, and to drain water from the surface of the landfill. Runoff water from active trenches will flow down the 1 % trench-grade slope, through the filter fence (hay bales may be used), into a collection sump. Freestanding water in the collection sump will be pumped into the adjacent storm drainage ditch and flow to one of the Sediment Ponds (LF3-01 or LF3-02) within the project boundary. In addition to these localized surface water control measures, overall site surface water is managed under a site surface water management plan. Filled trenches and disturbed areas shall be grassed except for roads and active trenches.

When the first lift of an active trench reaches within 5 feet of the runoff collection sump, the active monthly waste cell will be closed (1-foot minimum layer of cover) and the collection sump, along with the remaining portion of the trench, will be backfilled with earth up to the elevation of the top of the first lift. To accommodate runoff from the second lift of the trench, a new runoff collection sump will be excavated out of this fill material according to the dimensions indicated on Detail 5 (Dwg. No. V3-05).

12. All grass seed will be labeled in accordance with U.S. Department of Agriculture rules and regulations under the current Federal Seed Act. Planting to establish vegetative cover will occur within two weeks of final grading of the trench ground cover, or in disturbed areas that will remain exposed for more than three months. The following procedures will be followed:

a. The following seeding schedule will be the minimum amounts applied to establish vegetation on the closed trenches and other disturbed areas:

1. Between April 1 and August 31, 40 pounds of Sericea Lespedeza, 20 pounds of Pensacola Bahia grass, 20 pounds of Bermuda grass, and 50 pounds of brown-top millet grass per acre.

2. Between September 1 and March 31, 80 pounds of Sericea Lespedeza, 50 pounds of annual rye, and 112 pounds of Abuzzic rye per acre.

b. The ground surface should be shaped, if necessary, so that equipment can be used safely and efficiently during seedbed preparation, fertilization, seeding, mulching and maintenance of the vegetation. No slopes will be steeper than 3 to 1 grading. All roots and loose rocks that would interfere with seeding or maintenance shall be removed from the surface prior to seeding.

c. If needed, a finely ground agricultural limestone shall be spread evenly on the ground surface at the rate of 1 to 2 tons per acre prior to scarifying the ground in preparation of seeding.

d. Seed shall be applied in the quantities as shown in these specifications during the proper planting season. Fertilizer shall be applied of the 10-10-10 grade within a range of 600 to 1200 pounds per acre. The fertilizer should be spread with an agricultural seed spreader, cultipacker or other appropriate equipment.

e. Non-seed bearing hay mulch shall be spread at the rate of 2 tons per acre. Mulch shall be applied within 24 hours after seeding. Mulch shall be applied with blower mulching equipment or other spreading equipment designed for this purpose, or by hand. If necessary, anchor mulch using "packer disk" or disk harrowing equipment, plastic mesh/netting, or synthetic tackifiers or binders.

f. Sufficient water shall be applied slowly over a three week period after the application of mulch to establish a good stand of grass. Sixty days after the application of seed and mulch, 100 to 300 pounds of ammonium nitrate shall be spread over each acre.

g. Alternate grassing specifications may be used upon EPD's approval.

13. Standard surveying practice will be utilized to establish or verify coordinates and elevations at any time.

14. A Groundwater and Surface Water Monitoring Program has been implemented. See Dwgs. No. V3-10 and V3-11 for the program description. In addition, surface water monitoring is conducted at the Plant under the Plant's National Pollutant Discharge Elimination System (NPDES) permit, and covers all of the Plant's operations.

15. Due to the innocuous nature of the waste disposed, leachate collection or treatment will not be conducted.

16. Due to the presence of landfill gases generated at the landfill, a long-term methane gas monitoring program has been implemented. This monitoring is conducted in accordance with the EPD approved Methane Gas Monitoring Program, dated September 2000, and any updates as applicable. See Dwg. No. V3-07 for program description.

17. A bulldozer (966 Caterpillar or equivalent) will be assigned to the landfill and will be utilized to perform most trenching and filling procedures. If equipment is needed for some other purpose, it will be obtained on a temporary basis. A water truck, portable water tank, or other appropriate watering equipment will also be available as needed.

18. A backup bulldozer will not be permanently assigned to the landfill.

19. A special, separate asbestos trench will be provided at the landfill. The trench will be clearly marked with warning signs and access is limited to authorized personnel. A sign will be posted at the landfill entrance to indicate the direction to the asbestos disposal area or the active trench.

20. The landfill will not be used after normal hours. Access to the landfill is controlled through authorized use of the landfill for plant operations. The landfill is accessed through a locking gate and access to the landfill is controlled through authorized use of the landfill for plant operations only.

21. Any waste or litter discovered outside of the trenches will be placed in a trench. Fencing or other methods to control litter are not needed because wind-blown litter is not a problem due to the lack of litter producing material in the waste.

22. Dust control will be provided by water trucks, portable tanks, or other appropriate equipment as needed.

23. PROHIBITED WASTE PLAN

Each load of waste will be inspected prior to transport to the landfill, and after placement of each load in a trench, to ensure that prohibited waste is not disposed of in the landfill. An inspection checklist similar to the one shown below will be used to document the inspection.

a. The following wastes are acceptable for disposal in the landfill. Typically, only asbestos waste will be disposed of in the Asbestos Trench:

* Inert Waste - Waste that will not or is not likely to cause leachate of environmental concern. Such waste is limited to earth-like products, concrete, cured asphalt, rock, bricks, yard trimmings, stumps, limbs and leaves.
* Construction and Demolition Waste - Waste limited to untreated lumber, brick, concrete, wallboard, insulation, metal siding, plumbing fixtures and other inert building materials. This waste may result form building materials and rubble from construction, remodeling, repair, and demolition operations on pavement, buildings and other structures.
* Asbestos-Containing Waste - Waste that is in part, or totally, composed of asbestos, a non-burning mineral that occurs in fibrous form and is classified as a hazard to health. This waste may include insulation, transite board, gasket material, and broken cement-asbestos fill sheets removed from the cooling towers. This material will be disposed of in a trench specifically designed to accept asbestos-containing waste.
* Inert Industrial Solid Waste - Waste limited to inert materials such as unusable sacks of concrete mix.
* Packing Material - Waste such as wood, cardboard, paper and pallets
* Other Material - Other waste material will be authorized by the Environmental Specialist on a case- by-case basis.

b. The following wastes are prohibited for disposal in the landfill:

* Non-Inert Construction and Demolition Waste
* Non-Inert Industrial Waste
* Biomedical Waste - any waste that contains pathological waste, biological waste, or discarded medical equipment, but does not include such waste that has been stabilized using an Isolyzer TM type treatment system.
* Putrescible Waste - waste that quickly decomposes by microorganisms. Examples of putrescible waste include, but are not necessarily limited to, kitchen waste, animal manure, refuse, dead animals, garbage, and waste that is contaminated by such materials (such as waste from office areas containing food containers). At Plant Vogtle, waste such as food, liquids, coffee grounds, and waste from the site cafeteria and office areas must be disposed of in separate dumpsters that are NOT disposed of in the site landfill.
* Hazardous Waste
* Radioactive Waste
* Free Liquid Waste
* PCB-Containing Waste
* Sanitary (sewage) Waste
* Non-Inert Industrial Waste - waste such as expired chemicals and products, spent light bulbs, spent batteries, exhausted desiccant, resin and carbon, oil clean-up debris, chemical spill clean-up debris, and spent oil and hydraulic filters.
* Other Waste - such as asphalt shingles, electronic circuit boards, scrap tires, and television or CRT monitors.

c. If prohibited waste is noted in a load prior to disposal in the landfill, it will be removed and the responsible personnel will be notified.

d. If prohibited waste is observed in the landfill trench after disposal, the waste will be removed from the trench and the responsible personnel will be notified immediately (prohibited waste disposed of in the landfill may require notification to EPD).

e. The Site Environmental Specialist will be contacted with any questions about waste that may be prohibited from disposal in the landfill.

f. In accordance with record keeping requirements (see Item 36) a filing system will be used (manual or electronic) to store records, including the inspection checklist, for inspection by EPD upon request. Inspection checklists and data sheets generated from the environmental monitoring of the landfill will be forwarded to the Chemistry Environmental Specialist and to Document Control for lifetime retention.

Approved By: L. A. Kochery	Vogtle Electric Generating Plant	Procedure Number 49300-C	Rev 2
Date Approved: 08/15/2002	OPERATION OF SITE SOLID WASTE LANDFILL (NO. 3) AND SPECIAL REQUIREMENTS FOR THE ASBESTOS TRENCH	Page Number 1 of 1	

DATA SHEET 1

PROHIBITED WASTE INSPECTION CHECKLIST

Date of load and dump inspection _____
Landfill Number #2 or #3 (Circle one)
Waste Trench Number _____
General description of waste to be taken to the landfill _____

Prohibited Wastes Observed	Prior to dumping		After dumping	
Radioactive Waste	[ ] yes	[ ] no	[ ] yes	[ ] no
Hazardous Waste (solvents, paints, etc.)	[ ] yes	[ ] no	[ ] yes	[ ] no
Biomedical Waste	[ ] yes	[ ] no	[ ] yes	[ ] no
Industrial Waste (light bulbs, batteries, chemicals, etc)	[ ] yes	[ ] no	[ ] yes	[ ] no
Asphalt Roofing Shingles	[ ] yes	[ ] no	[ ] yes	[ ] no
Putrescible Waste (food, food containers, refuse, etc)	[ ] yes	[ ] no	[ ] yes	[ ] no
Oil Filters or Oily Debris	[ ] yes	[ ] no	[ ] yes	[ ] no
Wastes containing free liquids	[ ] yes	[ ] no	[ ] yes	[ ] no
PCB Waste (capacitors, fluorescent light ballast, etc)	[ ] yes	[ ] no	[ ] yes	[ ] no
Prohibited C&D Waste (treated wood, lead sheets, etc)	[ ] yes	[ ] no	[ ] yes	[ ] no

Describe in detail any prohibited waste checked above observed prior to dumping at the landfill
_____

Describe in detail any prohibited waste checked above observed in the landfill cell after dumping
_____

If prohibited waste observed in the landfill, enter date of notification to Environmental Specialist: _____/_____

Additional Information _____

Inspection completed by _____

Printed September 10, 2002 at 16:10

24. First aid will be available at the Vogtle Electric Generating Plant (VEGP) Administrative building.

25. Communication at the site will be by two-way radio or cellular telephone.

26. All employee facilities will be provided at the VEGP. Employee facilities include rest rooms, drinking water, telephone, first aid and office space.

27. No solid waste material recovery operations will be performed.

28. No on-site solid waste processing such as shredding will be performed.

29. SPECIAL WASTE HANDLING:

a. The planned asbestos trench will be located within the western portion of the landfill as indicated on Sheet V3-02. The trench will be designated for asbestos waste exclusively. The trench will be marked with warning signs and access will be limited to authorized personnel.

b. Asbestos waste will be covered with at least 6 inches of earth immediately after each addition into the asbestos trench.

c. There is to be no runoff water collection sump for the asbestos trench.

d. Material containing asbestos shall be handled and disposed of in accordance with 29 CFR 1926.1101 and Plant Procedure 00265-C.

e. The landfill operator and personnel handling and disposing of asbestos and asbestos containing material must follow requirements of 29 CFR 1926.1101 and Plant Procedure 00265-C.

f. Visible emissions to the outside air are prohibited during the collection, processing, packing, transporting or deposition of asbestos containing material.

g. Asbestos containing waste shall be sealed in leak-proof containers and labeled with the words "Caution - Contains Asbestos Fibers - Avoid Opening or Breaking Container - Breathing Asbestos is Hazardous to Your Health" or other similar wording as specified in Plant Procedure 00265-C.

h. Asbestos-containing waste shall be disposed of in such a manner as not to destroy the integrity of the asbestos-containing material containers prior to the placement of cover material.

i. Filling and closing of the asbestos trench will be conducted in the same manner as the non-asbestos trenches, except for the special waste handling and cover procedures described above. The perimeter of the asbestos trench will be bermed to prevent stormwater run-on from entering the trench. Stormwater that directly enters the open fill areas within the asbestos trench will be allowed to accumulate and percolate within the trench. A minimum of one foot of 'freeboard' in the asbestos trench will be maintained at all times to allow adequate storage volume for the 25-year, 24-hour storm (6.8 inches of water directly falling in the open trench).

30. Zoning approval was confirmed during site acceptability review.

31. Site acceptability conditions:

a. The site is approved for disposal of the waste described in Item 23.

b. A minimum five-foot vertical separation shall be maintained between groundwater and the waste.

c. All landfill activities will be conducted in accordance with the Rules for Solid Waste Management, Chapter 391-3-4 and variances granted by EPD.

32. Construction Certification: Written certification by a professional engineer licensed to practice in Georgia will be submitted to the EPD to certify that the facility has been constructed in accordance with the approved permit. This process shall be repeated for each subsequent major construction phase, including but not limited to, new cells or trenches, additional monitoring wells, sediment ponds, leachate treatment systems, modifications adding a new solid waste handling process, and application of final cover.

33. Air Criteria: The landfill operations will not violate any applicable requirements developed under a State Implementation Plan (SIP) approved or promulgated by the U.S. EPA. Open burning of solid waste, except for the infrequent burning of land clearing debris, diseased trees or debris from emergency cleanup operations, shall not be conducted.

34. Environmental Protection: The landfill shall be operated in such manner as to prevent air, land, or water pollution, and public health hazards.

35. Prohibited Acts: The landfill shall be operated and maintained to prevent open burning, scavenging, and the open dumping of wastes.

36. Record Keeping: As it becomes available, the following information will be recorded and retained at the VEGP site near the landfill in an operating record, or in an alternative location approved by the Director:

a. Any location restriction demonstration required under Rule 391-3-4-.05;

b. Inspection records, training procedures, and notification procedures required in section (c) of Rule 391-3-4;

c. Gas monitoring results from monitoring and any remediation plans required under Rule 391-3-4;

d. Any MSWLF unit design documentation for placement of leachate or gas condensate in a MSWLF unit as required under Rule 391-3-4;

e. Any demonstration, certification, finding, monitoring, testing, or analytical data as required by Rule 391-3-4-.11 and -.12;

f. Closure and post-closure care plans and any monitoring, testing, or analytical data as required by Rule 391-3-4-.11 and -.12;

g. Any cost estimates and financial assurance documentation required by Rule 391-3-4-.13.

REV.	DATE	DESCRIPTION	BY	ENG.	APPR
3	12/31/04	Updated Procedures	GHA		

SUPERSEDES: REVISIONS:

PROJECT NO.SNOC-01-DOV-02 FILENAME: V3-06 Operational Narrative

THE DEXTRA GROUP, INC.
4665 LOWER ROSWELL ROAD, #154
MARIETTA, GEORGIA 30068

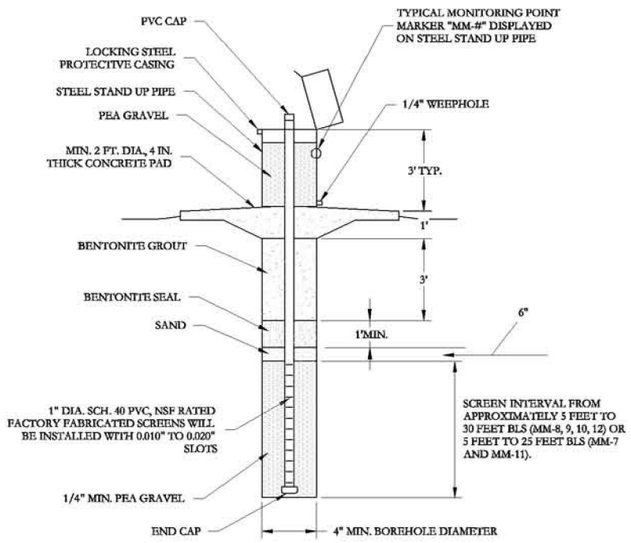
THIS DRAWING IS THE PROPERTY OF THE DEXTRA GROUP, LLC AND ALL INFORMATION CONTAINED THEREON IS TO BE KEPT CONFIDENTIAL BY THE RECIPIENT THEREOF AND NOT TO BE DISCLOSED TO ANY OTHER PERSON, FIRM OR CORPORATION WITHOUT THE EXPRESSED WRITTEN CONSIDERATION OF THE DEXTRA GROUP, LLC. THIS DRAWING SHALL NOT BE USED DIRECTLY OR INDIRECTLY EXCEPT IN CONNECTION WITH THE DEXTRA GROUP, LLC WORK. ALL RIGHTS OF DESIGN OR INVENTION DISCLOSED IN THE DRAWING ARE EXPRESSLY RESERVED BY THE DEXTRA GROUP, LLC. RECIPIENT SHALL NOT REPRODUCE IN WHOLE OR PART ANY SECTION OF THE DRAWING AND AGREES UPON NOTIFICATION BY THE DEXTRA GROUP, LLC TO RETURN THIS DRAWING AND ALL COPIES THEREOF TO THE DEXTRA GROUP, LLC.

Southern Nuclear Operating Co., Inc.
Design and Operational Information
Plant Vogtle Landfill #3

REF.	DWG. NUMBER	TITLE

REFERENCE DRAWING

DRAWN BY: JF	DATE: 10/19/01	DRAWING NUMBER
CHECKED BY:	SCALE: None	V3-06



TYPICAL METHANE MONITOR WELL

DETAIL 6 (V3-07) V3-07
N.T.S

Methane Gas Monitoring Program:

1. Objectives

This Methane Gas Monitoring Program has been developed for the private solid waste landfill #3 operated by Southern Nuclear Operating Company at Plant Vogtle in Waynesboro, Georgia (Burke County). The objective of this monitoring program, as required by the Georgia Environmental Protection Division (EPD), is to detect the lateral movement of potentially explosive gases in the subsoil and along man-made migration pathways toward nearby on-site structures. The information gathered from the gas monitoring stations will be used to evaluate the potential explosive hazard associated with the accumulation of methane gas in concentrations between the methane gas flammability limits (5 to 15 percent by volume).

2. Monitoring System Design and Construction

Site Environmental Setting

Given the relatively high ability of the shallow soil units to readily transmit any accumulated landfill gas, perimeter monitor wells are screened from approximately 5 feet to 30 feet bls (MM-8, 9, 10, 12) or 5 feet to 25 feet bls (MM-7 and MM-11) and are considered adequate for identifying any lateral gas migration. No man-made gas migration pathways are known to exist at the landfill.

Monitoring System Description

The monitoring system consists of 6 new monitor wells (designations MM-7 through MM-12) at locations around the perimeter of the landfill. The wells were installed with a screened interval at approximately 5 feet to 30 feet bls (MM-8, 9, 10, 12) or 5 feet to 25 feet bls (MM-7 and MM-11). The locations of the wells that will comprise the monitor well network for landfill #3 are shown in Dwg. No.V3-02.

Monitoring System Design and Construction

Prior to installing the new monitor wells, on-site methane screening using bar punch holes was conducted to assist in selecting final locations for the new wells. The objective of the screening was to prevent installation of the monitor wells into waste cells and ensure that suitable locations adjacent to the waste cells were selected. All new monitor wells are constructed of commercially available, 1-inch inside diameter, flush-threaded Schedule 40 PVC casing and Number 10-20 slot screen. The screen length is 25 or 30 feet and set to monitor an elevation of approximately 5 feet to 25 or 30 feet bls. Material used to construct the filter pack consisted of commercially available, chemically inert, well rounded, dimensionally stable, pea gravel. The gravel pack extends to the top of the well screen, followed by six inches of coarse sand. One foot of chemically inert bentonite pellets were used to seal the annular space above the filter pack. Three to five feet of cement and bentonite mixture were placed above the bentonite seal. A mounded concrete pad with a minimum radius of two feet was placed at the surface. Each well has a protective steel stand-up cover with a protective cap and lock to prevent tampering. Detail 6 (Dwg. No. V3-07) shows a typical methane monitoring well and monitoring point marker. A table that summarizes methane well as-built construction information is provided below.

METHANE MONITOR WELL AS-BUILT DATA TABLE

METHANE MONITOR WELL	N	E	BOLT El ft msl	TOTAL DEPTH El ft msl
MM-7	9631.6193	7826.0659	257.56	232.56
MM-8	9361.2699	7341.2712	272.99	242.99
MM-9	9127.9166	6980.2829	268.32	238.32
MM-10	8809.0679	7253.0077	257.95	227.95
MM-11	8808.1725	7841.8269	259.39	234.39
MM-12	9248.4436	8003.8302	270.86	240.86

Monitoring in Onsite Structures

For all structures within 300 feet of the landfill boundary, methane screening of indoor air will be conducted. Monitoring in onsite structures will be conducted at times when dilution of indoor air is minimized and the concentration of soil gas is expected to be at its highest concentration, such as after a building has been closed for the weekend or overnight and when the soil surface has been wet or frozen for several days. Currently, there are no onsite structures in the vicinity of landfill #3.

3. Gas Monitoring Procedures

The wells will be monitored in accordance with the following schedule:

* Wells will be monitored quarterly until a demonstration can be made to EPD that methane migration from the Plant Vogtle landfill presents no threat.

* Each monitoring event will include observations for stressed vegetation due to methane gas movement.

* Monitoring in, beneath, and around site structures will be a part of each screening event. The are no applicable structures at the Plant Vogtle landfill #3.

4. Quality Assurance and Control Procedures

The following quality assurance and quality control procedures will be implemented:

* Sampling will not be performed if conditions conducive to decreasing gas concentrations are present (e.g. subsurface gas pressure less than atmospheric pressure). In this case, sampling will be delayed until such conditions pass.

* Sampling must be conducted when gas pressures are at a maximum. Subsurface gas pressures have a diurnal cycle and generally are at a maximum during the afternoon. Therefore, sampling will be conducted after 12:00 noon.

* Gas production will vary with changes in seasons and climatic conditions. Each sampling event must be conducted under the same conditions, as near as possible, as the preceding event. Therefore, the operator will review the log of the time and conditions which existed during the preceding sampling event and attempt to emulate those conditions as exactly as possible during subsequent events.

5. Evaluation and Reporting of Monitoring Results

Interpretation of Quarterly Sampling for Methane Gas

* Methane gas concentrations shall not exceed 25 percent of the lower explosive limit (LEL) value (1.25 %) for gases in facility structures.

* Methane gas concentrations shall not exceed the lower explosive limit for methane at facility boundaries(5 %).

Reporting of Quarterly Monitoring Events

Methane monitoring results will be reported on EPD Form SWM-19/Report and signed by a Professional Engineer registered in the State of Georgia. The report will be submitted to EPD within fifteen (15) days of testing and completed in accordance with the instructions contained in EPD Guidance document, dated May 23, 1995 and titled: METHANE MONITORING AT MUNICIPAL SOILD WASTE FACILITIES. The facility permit number (017-007D(L)(I)) will be included in the headings of all monitoring reports. If reports are returned from EPD that are incomplete or improperly prepared, a corrected report will be resubmitted within thirty (30) days.

Response to Validated Finding of Methane Gas Migration

If a validated finding of methane gas migration occurs, a contingency plan will be implemented consisting of the following steps:

1. Verification of explosive gas concentrations by immediate retesting.

2. Upon verification of readings above 25 percent of the LEL in facility structures or the LEL at facility boundaries, immediate notification of EPD and local public safety authorities such as the local health district, fire department, and law enforcement shall be given, as appropriate.

3. The monitoring frequency of the subject monitoring stations will be increased from quarterly monitoring to monthly monitoring until such time that the problem is corrected or determined not to pose a significant threat to the environment, public heath and safety.

4. The need for methane gas control systems will be assessed upon validated findings of methane gas migration and appropriate recommendations implemented. This assessment and recommended remedy will be submitted to EPD in the form of a remediation plan within 60 days of a validated finding of methane gas migration.

6. Methane Gas Safety Guidelines

The following guidelines will be followed by personnel when sampling at the landfill in areas with confirmed levels of potentially dangerous gases:

* No person will enter a vault or a trench on a landfill without first checking for the presence of methane gas. The person will also wear a safety harness with a second person standing by to pull him or her to safety. Anyone installing wells in a landfill will wear a safety rope to prevent falling in the bore hole. Open holes will be covered when they are left unattended.

* Smoking will be prohibited on the landfill where drilling, excavating, or installation of equipment is taking place or where gas is venting from the landfill.

* Collected gas from a mechanically evacuated system should always be cleared to minimize air pollution and any potential explosive or fire hazard.

* Methane gas in a concentration of 5 to 15 percent is an explosive mixture. Gas accumulations should be monitored in enclosed structures to insure that explosive conditions are avoided and, if detected, appropriate action is taken to avoid a source of ignition and to vent the structure.

All personnel working on a landfill will be provided training regarding the danger posed by landfill gases. Personnel operating safety equipment around the landfill will be thoroughly trained in its use and have a clear understanding of the meaning of observations made with the monitoring equipment. Monitoring equipment must be periodically calibrated to ensure continued accuracy in the results.

REV.	DATE:	DESCRIPTION	BY	ENG.	APPR
3	12/31/04	Updated Procedures	GHA		

SUPERSEDES: REVISIONS:

PROJECT NO.:SNOC-01-DOV-02 FILENAME: V3-07 Methane Monitoring.dwg

THE DEXTRA GROUP, INC.
4665 LOWER ROSWELL ROAD, #154
MARIETTA, GEORGIA 30068

THIS DRAWING IS THE PROPERTY OF THE DEXTRA-GROUP, LLC AND ALL INFORMATION CONTAINED THEREON IS TO BE KEPT CONFIDENTIAL BY THE RECIPIENT THEREOF AND NOT TO BE DISCLOSED TO ANY OTHER PERSON, FIRM OR CORPORATION WITHOUT THE EXPRESSED WRITTEN CONSIDERATION OF THE DEXTRA-GROUP, LLC. THIS DRAWING SHALL NOT BE USED DIRECTLY OR INDIRECTLY EXCEPT IN CONNECTION WITH THE DEXTRA-GROUP, LLC WORK. ALL RIGHTS OF DESIGN OR INVENTION DISCLOSED IN THE DRAWING ARE EXPRESSLY RESERVED BY THE DEXTRA-GROUP, LLC. RECIPIENT SHALL NOT REPRODUCE IN WHOLE OR PART ANY SECTION OF THE DRAWING AND AGREES UPON NOTIFICATION BY THE DEXTRA-GROUP, LLC TO RETURN THE DRAWING AND ALL COPIES THEREOF TO THE DEXTRA-GROUP, LLC.

Southern Nuclear Operating Co., Inc.
Methane Monitoring Program
Plant Vogtle Landfill #3

REF.	DWG. NUMBER	TITLE
REFERENCE DRAWING		

DRAWN BY:	DATE:	DRAWING NUMBER
JF	10/19/01	V3-07
CHECKED BY:	SCALE: None	

CLOSURE PLAN

The owner of this disposal site, Georgia Power Company, shall close this site in a manner that minimizes the need for further maintenance and minimizes the post-closure release of leachate to ground or surface waters or other pollutants to the extent necessary to protect human health and the environment. At a minimum, closure will consist of:

* The placement of a final cover consisting of one foot of compacted clean earth overlain by at least 18 inches of compacted, low-permeability soil (minimum 10 -5 cm/s) and a minimum 6-inch vegetative topsoil layer not later than one month following placement of waste within the final lift of each trench.

* Grading of the site to minimize runoff onto the disposal site to prevent erosion and to drain water from the surface of the site.

* The establishment of a permanent vegatative cover.

1. FINAL COVER

Upon closure, all waste received at the site shall be spread, consolidated and covered in accordance with the cover and capping system specified in the Design & Operational Plan to prevent the attraction of disease vectors, minimize the production of odors and prevent blowing litter. Should the site be closed prior to attaining the final grades, all uncovered disposal areas shall be capped in the manner specified in the Design & Operational Plan, and an as-built plan of the site will be submitted to the Georgia Department of Natural Resources' Environmental Protection Division (EPD). Final cover, grading, surface water management controls and erosion and sedimentation controls shall be constructed for individual trenches as they are filled, no later than one month following placement of waste within the final lift of each trench.

The site and final cover shall be graded to prevent erosion by diverting runoff away from the disposal area and draining water from the site. All minimum slopes shall maintain a rate of grade greater than 3 % on the trench caps and the maximum slopes will not exceed a rate of grade of 33 %. Thus the maximum slope gradient shall not exceed 1 vertical to 3 horizontal. Silt fencing shall be located around disturbed areas during cap construction activities.

The final cap cover will consist of one foot of compacted clean earth overlain by at least 18 inches of compacted, low-permeability soil (minimum 10 -5 cm/s) and 6 inches of soil capable of supporting vegetation. The final cover will be compacted to preclude any excess infiltration of surface water, prevent attraction of disease vectors, minimize production of odor, and prevent blowing litter.

It should be noted the wastes disposed of at this facility are construction and demolition debris and non-putrescible office waste materials which are not susceptible to the aforementioned hazards. Material to be used for final cover will be obtained either from a borrow area on the Plant property, or from outside sources as needed. Cover must be substantially free of rock fragments that are greater than 3 inches in diameter. For a detail of the final cover see Detail 3 on Dwg. No. V3-12.

2. VEGETATION METHODS

Upon closure, all disturbed areas shall be grassed within two weeks of final cover placement in accordance with the vegetative cover procedures outlined on Dwg. No. V3-06, Item 12.

3. SOURCES OF FINAL COVER

The one-foot soil layer will be provided by trench excavation, or from an approved borrow area on the Plant property. The low-permeability soil layer may be obtained from outside sources, if needed.

4. EQUIPMENT NEEDED

Necessary equipment will be made available to ensure that closure requirements are executed correctly and efficiently.

5. SEDIMENT POND CLEAN-OUT

Sediment will be removed when storage volume has been reduced by one-third.

6. EROSION & SEDIMENTATION CONTROLS

Upon closure, all ponds, ditches, diversion berms, culverts, rip-rap, silt fence, and other drainage serving disturbed areas, but not already built, shall be constructed and placed. All drainage pipes shall be cleaned to allow unobstructed flow of storm water.

7. SURVEY CONTROL

All areas within which waste has been disposed shall be located to the best of the owner's ability and surveyed by a Licensed Surveyor. This survey showing the limits of waste disposal shall be shown as an "As-Built" on the Design and Operational Plan. An accurate legal description of the Landfill Waste Management Unit boundaries will be included in the notice of closure and property deed.

8. CONSTRUCTION QUALITY ASSURANCE

The following items present the minimum cover installation and testing procedures that will be implemented during construction of the final cover and closure features at the landfill.

a. The compacted soil, low-permeability soil and topsoil cover layers are to be free of rock, debris, organic material and other foreign matter. The maximum rock size is not to exceed 3 inches in diameter for the topsoil (erosion) layer and 3/8 inches in diameter for the low-permeability (infiltration) layer. Installation of the low-permeability layer should be accomplished by systematically placing and compacting the material in no more than 6-inch lifts. The moisture content of the low-permeability material should be controlled at the direction of the engineer, to ensure that the material meets the required density.

b. A maximum of 5 acres shall be worked at any one time. An area of this size shall be fully completed, with the erosion layer, prior to commencing cap construction activities in the next area. Sequencing of construction should be established to ensure the efficient progression of construction activities.

c. Visual inspections of the materials entering the site should be performed for changes in color or texture, in addition to any foreign debris, organic matter and rocks.

d. If necessary, clay will be mixed by disc harrowing or an equivalent method to provide a homogenous consistency. Clod sizes should not exceed 3 inches in diameter prior to compaction.

e. Density tests on the clay layer and moisture tests will be conducted as shown on Table 1 for each compacted lift on a maximum 200-foot grid pattern. Undisturbed samples using a thin-walled tube sampler will also be taken at a minimum frequency of one sample per 40,000 square feet per lift on a 200-foot grid pattern. A decreased sampling frequency may be applied based on the variability and overall quality of the borrow soils. Laboratory tests on the resulting undisturbed samples are to be performed by an independent testing lab.

TABLE 1
MUNICIPAL SOLID WATE LANDFILL
CLOSURE CONSTRUCTION QUALITY ASSURANCE REQUIREMENTS

ITEM	TESTING	FREQUENCY
BORROW SOURCE	GRAIN SIZE (ASTM D-422)	2,000 CY < OR = 3/4 INCH
	MOISTURE CONTENT (ASTM D-2216)	2,000 CY
	ATTERBERG LIMITS (ASTM D-4318)	5,000 CY
	MOISTURE-DENSITY CURVE (ASTM D-698 OR D-1557)	5,000 CY AND ALL CHANGES IN MATERIAL
	PERMEABILITY (remold) (EM 1110-2-1906, APPENDIX 7, SECTION 1 OR ASTM D-5084)	10,000 CY < OR = 1.0 x 10-5 CM/SEC
CLAY LAYER DURING CONST	DRY DENSITY (ASTM D-2922 OR D-1556)	1 TEST/10,000 SF/LIFT 1 TEST/LIFT/200 LF OF SIDE SLOPE
	MOISTURE CONTENT (ASTM D-2216)	4 TESTS/40,000 SF/LIFT
CLAY LAYER LAB TESTING	*PERMEABILITY (ASTM D-5084)	1 TEST/40,000 SF/LIFT < OR = 1.0 x 10-5 CM/SEC 1 TEST/LIFT/800 LF OF S.S.
	*DRY DENSITY (ASTM D-2922)	1 TEST/40,000 SF/LIFT 1 TEST/LIFT/800 LF OF S.S.
	*MOISTURE CONTENT (ASTM D-2216)	1 TEST/40,000 SF/LIFT 1 TEST/LIFT/800 LF OF S.S.

f. Upon extraction of an undisturbed sample, the sidewalls of the remaining hole should be scored and the hole properly filled with clay or a soil/bentonite mixture and hand tamped. A density test should be performed at the sample location. The repaired hole should also be void of any flaws detrimental to permeability, such as gaps, cracks, rocks, roots and miscellaneous debris.

g. If in-situ density tests do not meet the minimum requirements, additional tests should be performed to determine the extent of the failed area. The failed area will then be re-compacted. The area should then be retested to demonstrate that the specific requirements are met. This procedure may have to be repeated, as necessary, to demonstrate that the minimum requirements are met.

h. If a permeability sample fails to meet the minimum hydraulic conductivity requirements, at least five samples should be obtained in the immediate vicinity of the failed test. Should the replicate samples confirm failure of the clay, the area of failure should be localized and reconstructed. This area should then be retested.

9. NOTIFICATION OF CLOSURE

Within 30 days of final lift placement in the final waste trench and prior to closure, the EPD will be notified of the date of the projected closure. Signs shall be posted as to the date of closure. The EPD will be provided with a certification signed by a Professional Engineer, registered in the state of Georgia, to verify that compliance with the closure requirements have been satisfied, as stated in the Rules for Solid Waste Management, Chapter 391-3-4-.11(6). The closure certification will be completed on forms provided by the EPD. If certification is accepted by the EPD, the director will issue the Closure Certificate and establish the beginning of the post-closure care period, as stated in the Rules for Solid Waste Management, Chapter 391-3-4-.11(7). Upon closure, the property deed and legal description shall be filed at the Burke County Courthouse in accordance with the Rules for Solid Waste Management, Chapter 394-3-4-11 (4) and (5). An accurate legal description of the Landfill Waste Management Unit boundaries will be included in the notice of closure and property deed.

10. CLOSURE CERTIFICATION

Upon completion of the final closure construction, written certification that the landfill's closure is in accordance with EPD's Rules for Solid Waste Management, Chapter 391-3-4 shall be provided from a Professional Engineer registered in the State of Georgia, as specified in Chapter 391-3-4-.11(6), to verify that compliance with the closure requirements have been satisfied. The closure certification will be completed on forms provided by the EPD, according to Chapter 391-3-4-.11(7).

11. CLOSURE COSTS

Closure costs for the facility are listed below. These costs were estimated for closure at the most expensive point in the life of the facility and based on the construction to be accomplished by a third party. The grassing estimate assumes that the grass seed, mulch, and fertilizer will be applied simultaneously by hydroseeding. The final cap unit price includes the cost for materials, transportation, placement and grading of the final cover.

PLANT VOGTLE LANDFILL #3 CLOSURE COSTS AT
MOST EXPENSIVE POINT (2.7 acres)

ITEM	QUANTITY	UNIT COST	TOTAL COST
6" Topsoil	2,180 cu yd	$3.50/ cu yd	$ 7,630
18" Compacted Clay	6,540 cu yd	$6.00/ cu yd	$39,240
12" Soil	4,360 cu yd	$3.50/ cu yd	$15,260
CQA	117,610 sf	$0.04/ s.ft	$ 4,700
Silt Fence	1,000 ft	$3.00/ ft	$ 3,000
Vegetation	2.7 acre	$1,500/ acre	$ 4,050
Clean Sediment Ponds	2	$6,000	$12,000
Refuse Limits Survey	1	$6,000	$6,000
Additional E & S Control	n/a	$2,000	$2,000
Engineer's Certification	1	$5,000	$5,000
TOTAL			$ 98,880

POST-CLOSURE CARE PLAN

Post-Closure Care will be conducted after completion and certification of closure to protect human health and the environment. In addition, the owner will submit an as-built plan to the EPD. Post-Closure Care will continue for a minimum of thirty years unless appropriate demonstration is made by the owner, and approved by the EPD, to reduce the Post-Closure Care period. Such demonstration may be based on the nature of the landfilled waste and on environmental monitoring results. Post-Closure Care shall consist of at least the following:

1. POST-CLOSURE USE OF THE PROPERTY

At this time, no specific post-closure use of the property is identified. Post-Closure use of the property shall not be allowed to disturb the integrity of the final cover or any other components of the containment system or the function of the monitoring systems, unless the EPD determines that:

a. The activities will not increase the potential threat to human health or the environment.

b. The activities are necessary to reduce a threat to human health or the environment.

2. GROUNDWATER AND SURFACE WATER MONITORING SCHEDULE

Groundwater and Surface Water Monitoring will take place on a semi-annual basis. For a complete description of the Groundwater and Surface Water Monitoring Program, see Dwgs. No. V3-10 and V3-11.

3. ROUTINE INSPECTION

Throughout the Post-Closure Care period, the site shall be inspected on a quarterly basis to ensure that the integrity and effectiveness of the final cover material is maintained as required by EPD Rules for Solid Waste Management, Chapter 391-3-4-.07(i), 391-3-4-.12, and the facility's permit conditions. Any areas in which the slope of the final cover is not encouraging runoff of surface waters will be repaired. Any areas of the final cap noted to be damaged from the effects of erosion, vehicular traffic, etc., will be repaired immediately.

Throughout the Post-Closure Care period, the ponds, all ditches, pipes, culverts, rip-rap, silt fence and other drainage structures shall be inspected and maintained according to this Design and Operational Plan. Erosion control structures shall be maintained so as to prevent damage to the final cover. Such structures shall include, but will not be limited to silt fence, haybales, and rip-rap.

Throughout the Post-Closure Care period, all areas lacking proper vegetation shall be grassed and maintained according to the vegetative cover procedures outlined on Drawing V3-06, Item 12.

4. SEDIMENT POND MAINTENANCE

Ponds LF3-01 and LF3-02 will be maintained in accordance with the Manual for Erosion and Sediment Control in Georgia. Sediment will be removed when storage volume is reduced by one-third.

5. LIMITED ACCESS

Access to the landfill will be limited to personnel required to perform the Post-Closure Care.

6. METHANE GAS MONITORING

The Methane Gas Monitoring Program will be maintained. See Dwg. No. V3-07 for program description.

7. POST-CLOSURE CERTIFICATION

Following completion of the Post-Closure Care period, the EPD Director will be notified that certification, signed by a Georgia registered Professional Engineer verifying that Post-Closure care has been completed in accordance with the Post-Closure procedures, has been placed in the operating record.

8. POST-CLOSURE CARE COSTS

The Post-Closure Care costs for the facility are estimated below. These costs will be updated yearly for inflation as reflected in the facility's Financial Responsibility documentation. The Post-Closure cover repair costs are based on 10% of the total area of the site per year. The total area of the site is 12.7 acres, thus 10 % is 1.27 acres. The grassing estimate assumes the grass seed, mulch, and fertilizer will be applied simultaneously by hydroseeding.

PLANT VOGTLE LANDFILL #3 POST-CLOSURE COSTS

ITEM	ANNUAL QUANTITY	UNIT COST	ANNUAL TOTAL COST	DURATION	LIFETIME TOTAL COST
Final Cover Maintenance	3,080 cu yd	$3.50/ cu yd	$ 10,780	30 years	$ 323,400
Grassing	1.27 acre	$1,500/ acre	$ 1,905	30 years	$ 57,150
Sediment Pond Cleanout	0.2 events	$ 6,000/event	$ 1,200	30 years	$ 36,000
Additional E & S Control	2 events	$2,000/event	$4,000	30 years	$120,000
Inspection	4 events	$300	$1,200	30 years	$36,000
Methane Monitoring	4 events	$1,500/event	$6,000	30 years	$180,000
Groundwater Monitoring	2 events	$10,000/event	$20,000	30 years	$600,000
Surface Water Monitoring	2 events	$ 2,500/event	$ 5,000	30 years	$ 150,000
Groundwater Assessment Monitoring	1 event	$2,000/event	$2,000	30 years	$ 60,000
TOTAL			$56,085		$1,562,550

REV.	DATE	DESCRIPTION	BY	ENG.	APPR.
3	12/31/04	Updated Procedures	GHA		

SUPERSEDES: REVISIONS:

PROJECT NO.:SNOC-01-DOV-02 FILENAME: V3-08 Closure & PC Care Plan.dw

THE DEXTRA GROUP, INC.
4665 LOWER ROSWELL ROAD, #154
MARIETTA, GEORGIA 30068

THIS DRAWING IS THE PROPERTY OF THE DEXTRA-GROUP, LLC AND ALL INFORMATION CONTAINED THERON IS TO BE KEPT CONFIDENTIAL BY THE RECIPIENT THEREOF AND NOT TO BE DISCLOSED TO ANY OTHER PERSON, FIRM OR CORPORATION WITHOUT THE EXPRESSED WRITTEN CONSIDERATION OF THE DEXTRA-GROUP, LLC. THIS DRAWING SHALL NOT BE USED DIRECTLY OR INDIRECTLY EXCEPT IN CONNECTION WITH THE DEXTRA-GROUP, LLC WORK. ALL RIGHTS OF DESIGN OR INVENTION DISCLOSED IN THE DRAWING ARE EXPRESLY RESERVED BY THE DEXTRA-GROUP, LLC. RECIPIENT SHALL NOT REPRODUCE IN WHOLE OR PART ANY SECTION OF THE DRAWING AND AGREES UPON NOTIFICATION BY THE DEXTRA-GROUP, LLC TO RETURN THIS DRAWING AND ALL COPIES THEREOF TO THE DEXTRA-GROUP, LLC.

Southern Nuclear Operating Co., Inc.
Closure & Post-Closure Care Plan
Plant Vogtle Landfill #3

REF.	DWG. NUMBER	TITLE
REFERENCE DRAWING		

DRAWN BY: JF
DATE: 10/19/01
CHECKED BY:
SCALE: None
DRAWING NUMBER V3-08

GROUNDWATER & SURFACE WATER MONITORING PROGRAM:

The proposed ground water monitoring system is based on the following characteristics of Plant Vogtle Landfill #3:

* The waste stream has a low pollution potential.

* The underlying sediments contain water-bearing zones that occupy confined, semi-confined, and perched hydrogeologic units zones of low hydraulic conductivity. The sediments consist of sands, silty sands, clayey sands and marl limestone interfaces.

* The landfill is located within the central portion of the Plant site, which comprises over 3000 acres.

1. Monitor Well Network

The groundwater monitoring network consists of 7 permanent monitor wells located along the boundaries of Landfill #3 (Dwg. No.V3-01). The wells are located outside of, but as close as practical to, the waste disposal areas. The wells are screened within the uppermost water-producing zones underlying the landfill. The wells were constructed by a driller that has a valid and current bond with the Water Well Standards Advisory Council, and well installation was performed under the supervision of a professional geologist registered in Georgia.

2. Monitor Well Construction

The Site Suitability Report (dated 10/31/01) details the well construction materials and development, including:

- Drillers
- Date/time of construction
- Drilling method
- Well location (nearest 0.5 ft)
- Borehole diameter and well casing diameter
- Well depth (nearest 0.5 ft)
- Drilling and lithologic logs
- Casing materials
- Screen materials and design
- Casing and screen joint type
- Screen slot size/length
- Filter pack material/size
- Filter pack volume
- Filter pack placement method
- Sealant materials
- Sealant volume
- Sealant placement method
- Surface seal design/construction
- Well development procedure
- Protective well cap
- Top of casing elevation and ground surface elevation (nearest 0.01 ft)
- Detailed well drawing, including dimensions (see also Dwg. No. V3-10, Detail 7)

Well Abandonment

The procedures in the "Manual for Groundwater Monitoring, September 1991" will be followed for abandonment of groundwater monitoring wells.

3. Detection Monitoring Sampling and Analyses

Sampling Frequency and Analyses

Sampling frequency will be semi-annual (June and December each year). A minimum of four independent samples from each well will be collected and analyzed for the Chapter 391-3-4-.14 Appendix I constituents (Table 1, Dwg. No. V3-10) during the first semi-annual sampling event at approximately 6 to 8 week intervals. One sample from each well will be collected and analyzed during subsequent semi-annual sampling events. In accordance with Chapter 391-3-4, the parameter list and future sampling frequency may be adjusted based on the sampling and analytical results. Any proposed changes in sampling frequency or analyses will be submitted to EPD for approval.

Ground water elevations shall be measured in each well immediately prior to purging each time ground water is sampled. Ground water elevation measurements shall be taken within a period of time short enough to avoid temporal variations in ground water flow, which could preclude accurate determination of ground water flow rate and direction. The rate and direction of groundwater flow will be evaluated for each sampling event, and a potentiometric surface map that reflects these measurements shall be submitted with the sampling and analyses results. This map shall be prepared and sealed by a qualified ground water scientist.

Sample Collection

Well Evacuation and Purging

All aspects of sampling and analysis will conform to the EPD Rules for Solid Waste Management, Chapter 391-3-4. The following sections are based on the EPD document "Manual For Groundwater Monitoring," (September 1991), which outlines the appropriate procedures for evacuation and sampling of wells. Preservation procedures and handling times for ground water samples are listed in Table 2 (Dwg. No. V3-10). All field activities including well evacuation and sampling procedures will be recorded in a dedicated field logbook.

Well Preparation

Static water level will be measured and recorded at each monitor well prior to purging for each sampling event. The measurements will be made with either a clean steel tape, or an electronic water level detector. Water levels will be reported to the nearest 0.10 feet based on a fixed point on the top of the well casing which has been surveyed to establish vertical and horizontal control (top of casing). If changes in the water levels indicate a change in the groundwater flow direction, the monitoring plan will be reviewed to determine whether modifications to the plan are required.

Groundwater samples will be collected after the wells are properly purged according to the EPA document entitled "Low-Flow Purging & Sampling of Groundwater Monitor Wells (Bulletin AQD023)". The wells will be purged and sampled using low flow pumps (QED Sample Pro or equivalent) equipped with Teflon® bladders. Purge rates will be matched to the recovery rates of the wells, verified by periodic depth to water measurements to determine draw-down during purging. Purging will be conducted until at least three consecutive stable readings of pH, conductivity, and turbidity are recorded. Groundwater samples will then be collected directly into pre-preserved sample containers supplied by the laboratory. Final measurements of pH, conductivity, and turbidity are performed to verify that these parameters remained stable during sampling. All field instruments are calibrated in the field daily prior to use and at the conclusion of each sampling event. Evacuation and purging equipment that is reused will be decontaminated with a non-phosphate detergent wash (Alconox® or equivalent), followed by a tap water rinse, and a final distilled water rinse. The following step-by-step instructions will be followed.

Equipment Assembly

1. Place a plastic sheet around the well as a work area. Unlock protective well casing.

2. Place the steel measuring tape and electronic water level indicator on the plastic sheet. The water level indicator and tape shall be pre-cleaned and wrapped in foil.

3. Don new disposable, latex, surgical gloves. Unlock and remove well cap and place top-down on a corner of the plastic sheet.

Water Level Measurement

1. Use the electronic water level indicator or the steel tape to measure the distance from the measurement point to the top of the water in feet (nearest 0.10 feet).

2. Use the steel tape to measure the distance from the measurement point to the bottom of the well in feet, or use total depth data provided by the operator.

3. Subtract #1 from #2 to obtain the height (h) in feet of water in the well.

4. Clean the steel measuring tape and electronic water level indicator by rinsing with isopropanol, hexane or other site suitable rinse followed by distilled water. Wrap in clean foil for use on the next well. Do not use isopropanol or hexane if it is a suspected contaminant.

Well Evacuation and Sampling Procedures

1. Attach and secure polyethylene tubing to the low-flow pump. As the pump is slowly lowered into the well, secure the safety drop cable, tubing, and electrical lines to each other using nylon stay-ties.

2. Pump, safety cable, tubing, and electrical lines should be lowered slowly into the well to a depth corresponding to the center of the saturated screen section of the well. The pump intake should be kept above the bottom of the well to prevent mobilization of any sediment that may be present in the bottom of the well.

3. Measure the water level again with the pump in the well before starting the pump. Start pumping water from the well at a rate of 100 to 400 milliliters per minute (mL/min). Avoid surging. Observe air bubbles displaced from discharge tube to assess progress of steady pumping until water arrives at the surface. The pumping rate should cause little or no water level drawdown in the well (less than 0.2 ft) and the water level should stabilize. Water level measurements should be made continuously. Precautions should be taken to avoid pump suction loss or air entrainment. Pumping rates should, if needed, be reduced to the minimum capabilities of the pump to avoid pumping the well dry and ensure stabilization of indicator parameters. If the recharge rate of the well is very low, purging should be interrupted so as not to cause the drawdown within the well to advance below the pump intake but the operator should attempt to maintain a steady flow rate with the pump to the extent practicable.

4. While purging the well, monitoring of in-line water quality indicator parameters should be performed for pH, conductivity and turbidity which must be collected every three to five minutes until all parameters have stabilized.

5. Once stabilization has been documented, volatile organic compound (VOC) parameter samples should be immediately collected first and directly into pre-preserved and pre-labeled sample containers. In general, 24 hours shall be allowed for well water stabilization prior to sampling. However, this period may be decreased if recharge is rapid and water is clear of sediment. All sample containers should be filled to the top without headspace by allowing the pump discharge to flow gently down the inside of the container with minimal turbulence. Do not leave samples in the sun. They should be placed in the ice chest as soon as possible. Proper handling and preservation procedures are provided in Table 3.

If a sample is to be collected for dissolved metals, collect this sample next, also without headspace.

For samples with preservatives take great care that the acids and salts in the bottles do not contact the gloves and thus pass to other caps and bottles. Do not allow the bailer to touch any sample bottles, or allow any rope end or gloved fingers to contact the sample well water while pouring.

6. Carry all remaining sample bottles to the ice chest where they should be labeled, placed in zip-loc bags, and iced down.

7. The labels shall contain:
   Name of facility
   Date and time of sample collection
   Sample description (monitor well ID)
   Samplers' name(s)
   Parameters of analysis

Each sample bottle shall be marked with an identification number using media resistant to water.

8. After collection of the samples, the tubing from the pump should be properly discarded or dedicated to the well for re-sampling by handling the tubing inside the well.

9. Replace the well cap. Lock the protective well casing.

10. Any used material (used gloves, rope, tubing, etc.) should be rolled up and placed in a large container for proper disposal.

11. Proceed to the next well. Repeat all steps.

Extra sets of sample bottles will be provided in case of breakage or accidental contamination.

Split Samples

In cases where split samples are needed for comparative analysis, the following procedures will be used. The parallel splitting procedure will be used to minimize sample handling:

* Line up the two sample bottles for a given analysis and remove caps. safet

* Fill one sample bottle approximately ½ full, then fill the second sample bottle approximately ½ full, alternating until the two sample bottles are completely filled. Cap the bottles as usual.

* Repeat this procedure until all sample bottles for a given well are filled for both parties.

Sample Handling and Preservation

* Samples prepared for metals analyses will be acidified as outlined in Table 2 using pre-preserved sample containers provided by the laboratory.

* All sample bottles will be filled to the top, capped with a Teflon® seal, and be placed on ice immediately after sampling. On arrival at the laboratory they will be transferred to a refrigerator. Samples for volatile organic analysis will be filled to the top without headspace. Special vials with septum caps will be used.

* Sample delivery to the laboratory will be in the shortest possible time after collection. If delay is incurred it will be entered in the field logbook along with the time increment.

* Trip Blank - One of each type of sample bottle shall be filled at the laboratory with Type II reagent grade water, transported to the site, and returned to the laboratory for analysis. One trip blank per sampling event is recommended. The sampler shall not open trip blanks.

* Equipment Blank - To ensure that a non-dedicated sampling device has been effectively cleaned (in the laboratory or field), the device will be filled (or pumped through) with Type II reagent grade water, transferred to the sample bottle(s), and returned to the laboratory for analysis. At a minimum, one equipment blank will be prepared during each day of sampling.

* Any item which contacts either the inside of the well casing or the well water will be kept in a clean container and handled only with hands gloved with disposable, latex, surgical gloves. All equipment used for evacuation and purging will be decontaminated prior to use in each well. When applicable, sampling will begin with the least contaminated well.

4. Field and Laboratory Quality Assurance/Quality Control

Quality assurance/quality control data will be collected to help evaluate the monitoring program results. An equipment blank will be taken at least once each day that ground water monitor wells are sampled. Distilled water will be transported to the site and handled like a sample. The water will be poured into the sampling equipment, and sample bottles will be filled using identical techniques used to collect and prepare the ground water samples. Analysis of the blank can be an indication of sampling error. The blank test results will not be used to correct the sample results, but will be reported. If contaminants are detected in the blank, the source of contamination shall be identified and corrective measures, including re-sampling, shall be initiated.

A trip blank will also be prepared by the laboratory, transported to the site with the other sample containers, and returned to the laboratory for analyses for volatile organic compounds. The trip blank will be handled in the same manner as the samples.

All field instruments will be calibrated in the field daily prior to use and at the conclusion of each sampling event.

The selected analytical laboratory will use procedures to adequately evaluate the usability of the data. These will include QC analyses and use of statistical procedures to monitor and document performance, and to implement effective corrective measures (e.g. instrument maintenance, calibration, operator training). Data from QC samples (e.g. blanks, spiked samples) will be used as measures of performance or as indicators of potential sources of cross-contamination, but will not be used to alter or correct analytical data. The laboratory report will identify and discuss the significance of any QA/QC analyses that exceed performance criteria. These data will be submitted to the EPD with the ground water monitoring sample results.

Custody and control procedures will be implemented for sample collection and analyses activities. As few people as possible will handle the samples. The sampler(s) will be responsible for collected samples, and will be able to attest to the integrity of samples until transfer. The sample containers will be kept in a secure location during storage and transportation to the laboratory. A chain-of-custody form will be used to document the handling of samples from the moment of collection until receipt at the laboratory. The form will include the facility name, date of sampling, the name of the sampler(s), the sample ID number and a word description of each sample. Several bottles collected for different parameters may have the same ID number if they contain samples from one sampling point (well). Each transfer of custody will be recorded on the form with an appropriate signature, date, and time. The samples will be sealed if they are shipped. The shipping entity will sign the custody form and a bill of lading will be secured.

5. Groundwater Analyses Evaluation

To determine if ground water quality has been adversely affected by the landfill, the monitor well sample results will be compared to the background sample results. Several inherent variabilities may be considered.

* The sampling technique will vary somewhat from event to event even under ideal conditions.
* The aquifer will contain a certain quantity of pre-existing elements.
* The laboratory analyses can vary slightly.

Within a reasonable period of time after completing sampling and analyses, Southern Nuclear Operating Company, Inc. (SNC) will determine whether there has been a significant increase in constituent concentrations in down gradient, or compliance, well samples over samples representative of background water quality using one of the following statistical methods. The statistical test will be conducted separately for each constituent in each well. SNC will specify in the operating record which method was used.

* A parametric analysis of variance (ANOVA) followed by multiple comparisons procedures to identify statistically significant evidence of contamination. The method must include estimation and testing of the contrasts between each compliance well's mean and the background mean levels for each constituent.

* An analysis of variance (ANOVA) based on ranks followed by multiple comparisons procedures to identify statistically significant evidence of contamination. The method must include estimation and testing of the contrasts between each compliance well's median and the background median levels for each constituent.

* A tolerance or prediction interval procedure in which an interval for each constituent is established from the distribution of the background data, and the level of each constituent in each compliance well is compared to the upper tolerance or prediction limit.

* A control chart approach that gives control limits for each constituent.

* Another statistical test method that meets the performance standards of Chapter 391-3-4.-14 paragraph (19). SNC will place a justification for this alternative in the operating record and request approval from the EPD prior to using it. The justification will demonstrate that the alternative method meets the performance standards of Chapter 391-3-4.-14 paragraph (19).

If SNC determines that there is a statistically significant increase over background for one or more analyzed constituents, a notice will be placed in the operating record within 14 days. The notice will indicate which constituents have shown statistically significant changes from background levels. SNC will inform the Director that this notice was placed in the operating record. In addition, SNC will a) establish an assessment monitoring program meeting the requirements of paragraphs (20) through (33) of Chapter 391-3-4.-14 within 90 days, b) demonstrate that a source other than the landfill unit caused the contamination, or c) demonstrate that the statistically significant increase resulted from an error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality. In the case of b) and c) above, a report documenting either demonstration shall be submitted to the Director for approval.

SNC will notify the EPD of any measurement, sampling or analytical deviation documentation that has been placed in the operating record.

6. Surface Water Monitoring

Surface water of the landfill sediment ponds will also be monitored. Sampling of the pond effluent will be conducted concurrent with ground water sampling activities if a discharge from the pond is present at the time of the groundwater sampling. For each sampling event conducted during the semi-annual monitoring period and during which time a pond discharge is present, one sample of the pond effluent will be collected and analyzed for the same parameters as the ground water samples. Sampling frequency and sample collection, handling and preservation will be conducted as applicable and as detailed above for ground water sampling activities, with the exception that surface water samples will be collected as grab samples using decontaminated sample collection containers. The surface water grab samples will be collected using either the laboratory supplied containers or with other appropriate decontaminated sample collection containers and then placed in the laboratory supplied containers for transport to the laboratory.

Based on the results of the initial semi annual sampling of ground water and surface water, subsequent surface water analyses may be reduced to focus on parameters of concern detected in the ground water and/or surface water samples. Any proposed revisions to the surface water analyses will be presented to EPD for approval.

It should be noted that the Plant also conducts an overall surface water monitoring program to maintain compliance with its NPDES permit.

7. Reporting

All results shall be submitted to the Georgia Environmental Protection Division at:

EPD Commercial & Industrial Solid Waste
244 International Parkway, Suite 104
Atlanta, Georgia 30354
Phone: (404) 362-2696

REF.	DWG. NUMBER	TITLE
REFERENCE DRAWING		

REV.	DATE	DESCRIPTION	BY	ENG.	APPR
3	12/31/04	Updated Procedures	GHA		

SUPERSEDES: REVISIONS:

PROJECT NO.:SNOC-01-DOV-02 FILENAME: V3-09 Water Monitoring.dwg

THE DEXTRA GROUP, INC.
4665 LOWER ROSWELL ROAD, #154
MARIETTA, GEORGIA 30068

THIS DRAWING IS THE PROPERTY OF THE DEXTRA-GROUP, LLC AND ALL INFORMATION CONTAINED THEREON IS TO BE KEPT CONFIDENTIAL BY THE RECIPIENT THEREOF AND NOT TO BE DISCLOSED TO ANY OTHER PERSON, FIRM OR CORPORATION WITHOUT THE EXPRESSED WRITTEN CONSIDERATION OF THE DEXTRA-GROUP, LLC. THIS DRAWING SHALL NOT BE USED DIRECTLY OR INDIRECTLY EXCEPT IN CONNECTION WITH THE DEXTRA-GROUP, LLC WORK. ALL RIGHTS OF DESIGN OR INVENTION DISCLOSED IN THE DRAWING ARE EXPRESSLY RESERVED BY THE DEXTRA-GROUP, LLC. RECIPIENT SHALL NOT REPRODUCE IN WHOLE OR PART ANY SECTION OF THIS DRAWING AND AGREES UPON NOTIFICATION BY THE DEXTRA-GROUP, LLC TO RETURN THIS DRAWING AND ALL COPIES THEREOF TO THE DEXTRA-GROUP, LLC.

Southern Nuclear Operating Co., Inc.
Groundwater/Surface Water Monitoring
Plant Vogtle Landfill #3

DRAWN BY:	DATE:	DRAWING NUMBER
JF	10/19/01	V3-09
CHECKED BY:	SCALE:	
	None	

TABLE 1

Appendix I to Part 40 CFR Part 258: Constituents for Detection Monitoring (1)
Plant Vogtle, Burke County, Georgia

INORGANIC CONSTITUENTS	EPA METHOD
Antimony	7040/7041
Arsenic	7060/7061A
Barium	7080/7081
Beryllium	7090/7091
Cadmium	7130/7131
Chromium	7190/7191
Cobalt	7200/7201
Copper	7210/7211
Lead	7420/7421
Nickel	7520
Selenium	7740/7741
Silver	7760A/7761
Thallium	7840/7841
Vanadium	7910/7911
Zinc	7950/7951
ORGANIC CONSTITUENTS	EPA METHOD
Acetone	8260
Acrylonitrile	8260
Benzene	8260
Bromochloronmethane	8260
Bromodichloromethane	8260
Bromoform; Tribromomthane	8260
Carbon disulfide	8260
Carbon Tetrachloride	8260
Chlorobenzene	8260
Chloroethane; Ethyl Chloride	8260
Chloroform; Trichloromethane	8260
Dibromochloromethane, Chlorodibromomethane	8260
1,2-Dibromo-3-chloropropane; DBCP	8260
1,2-Dibromoethane; Ethylene dibromide; EDB	8260
0-Dichlorobenzene; 1,2-Dichlorobenzene	8260
p-Dichlorobenzene; 1,4-Dichlorobenzene	8260
trans-1,4-Dichloro-2-butene	8260
1,1-dichloroethane; Ethylidene chloride	8260
1,2-dichloroethane; Ethylene dichloride	8260
1,1-dichloroethlene; 1,1-Dichloroethene; Vinylidene chloride	8260
cis-1,2-Dichloroethylene; cis-1,2-Dichloroethene	8260
trans-1,2-Dichloroethlene; trans-1,2-Dichloroethene	8260
1,2-dichlorpropane; Propylene dichloride	8260
cis-1,3-dchlorptropene	8260
trans-1,3-Dichloropropene	8260

TABLE 1

Appendix I to Part 40 CFR Part 258: Constituents for Detection Monitoring (1)
Plant Vogtle, Burke County, Georgia

ORGANIC CONSTITUENTS	EPA METHOD
Ethylbenzene	8260
2-Hexanone; Methyl butyl ketone	8260
Methyl Bromide; Bromomethane	8260
Methyl Chloride; Chloromethane	8260
Methylene bromide; Dibromomethane	8260
Methylene Chloride; Dichloromethane	8260
Methyl ethyl ketone; MEK; 2-Butanone	8260
Methyl iodide; Iodomethane	8260
4-Methyl-2-pentanone; Methyl isobutyl ketone	8260
Styrene	8260
1,1,1,2-Tetrachloroethane	8260
1,1,2,2-tetrachloroethane	8260
Tetrachloroethylene Ternachloroethene; Perchloroethylene	8260
Toluene	8260
1,1,1-trichloroethane; Methylchloroform	8260
1,1,2-trichloroethane	8260
Trichloroethylene; Trichloroethene	8260
Trichlorofluoromethane; CFC-11	8260
1,2,3-Trichloropropane	8260
Vinyl acetate	8260
Vinyl Chloride	8260
Xylenes	8260

(1) This list contains 47 volatile organics for which possible analytical procedures provided in EPA Report SW-846 "Test Methods for Evaluating Solid Waste", third edition, November 1986, as revised December 1987, include Method 8260; and 15 metals for which SW-846 provides either Method 6010 or a method from the 7000 series of methods.

(2) Common names are those widely used in government regulations, scientific publications, and commerce; synonyms exist for many chemicals.

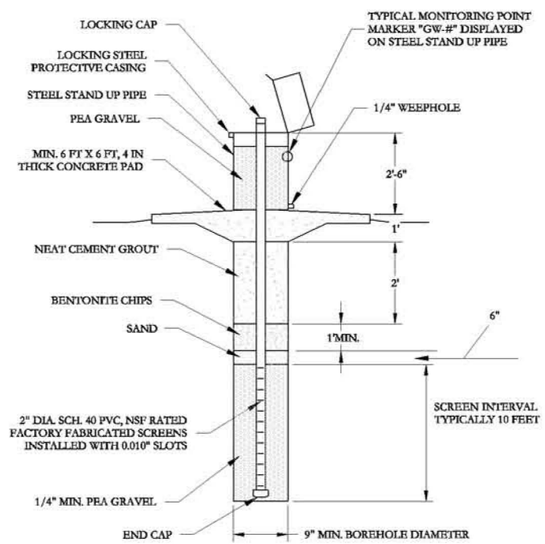
GROUND WATER WELL AS-BUILT DATA TABLE

GW WELL NUMBER	NORTHING	EASTING	TOP OF CASING ELEV (FT. MSL)	GW ELEV 6/15/04 (FT. MSL)
GWC-5/MW-5	9604.3004	7999.3327	251.96	204.20
GWB-6/MW-6	9432.4753	7473.2531	278.87	232.38
GWA-7/MW-7	8826.2243	7657.8853	261.33	230.46
GWC-13/MW-13	9242.6820	7996.2997	273.08	233.49
GWC-14/MW-14	8960.6518	7999.6737	262.88	210.77
GWA-15/MW- 15	8976.1153	6886.5411	268.15	224.91
GWB-16/MW-16	9720.2971	7705.1490	256.95	DRY

TABLE 2

Ground Water Preservation and Handling
Plant Vogtle, Burke County, Georgia

Parameter	EPA Method	Digestion Vol. Req. (mL)	Collection Volume (mL)	Preservative/Holding Time
Total Recoverable Metals	6010 or 7000 Series	100	600	HNO3 to pH <2; 6 months
Dissolved Metals	6010 or 7000 Series	100	600	Filter on site; 6 months HNO3 to pH <2
Suspended	6010 or 7000 Series	100	600	Filter on site; 6 months
Total	6010 or 7000 Series	100	600	HNO3 to pH <2; 6 months
Volatile Organics	8260	Not Applicable Glass, Teflon-lined septa or caps recomm.	69 mL for one analysis	Cool 4°C; 7-14 days (extract in 5 days)



TYPICAL GROUNDWATER MONITOR WELL

DETAIL 7 (V3-10 / V3-09)
N.T.S

REV.	DATE	DESCRIPTION	BY	ENG.	APPR.
3	12/31/04	Updated Procedures	GHA		

SUPERSEDES: REVISIONS:
PROJECT NO.SNOC-01-DOV-02 FILENAME: V3-10 Water Monitoring.dwg

THE DEXTRA GROUP, INC.
4665 LOWER ROSWELL ROAD, #154
MARIETTA, GEORGIA 30068

THIS DRAWING IS THE PROPERTY OF THE DEXTRA-GROUP, LLC AND ALL INFORMATION CONTAINED THEREON IS TO BE KEPT CONFIDENTIAL BY THE RECIPIENT THEREOF AND NOT TO BE DISCLOSED TO ANY OTHER PERSON, FIRM OR CORPORATION WITHOUT THE EXPRESSED WRITTEN CONSIDERATION OF THE DEXTRA-GROUP, LLC. THIS DRAWING SHALL NOT BE USED DIRECTLY OR INDIRECTLY EXCEPT IN CONNECTION WITH THE DEXTRA-GROUP, LLC WORK. ALL RIGHTS OF DESIGN OR INVENTION DISCLOSED IN THE DRAWING ARE EXPRESSLY RESERVED BY THE DEXTRA-GROUP, LLC. RECIPIENT SHALL NOT REPRODUCE IN WHOLE OR PART ANY SECTION OF THE DRAWING AND AGREES UPON NOTIFICATION BY THE DEXTRA-GROUP, LLC TO RETURN THE DRAWING AND ALL COPIES THEREOF TO THE DEXTRA-GROUP, LLC.

Southern Nuclear Operating Co., Inc.
Groundwater/Surface Water Monitoring
Plant Vogtle Landfill #3

REF.	DWG. NUMBER	TITLE
REFERENCE DRAWING		

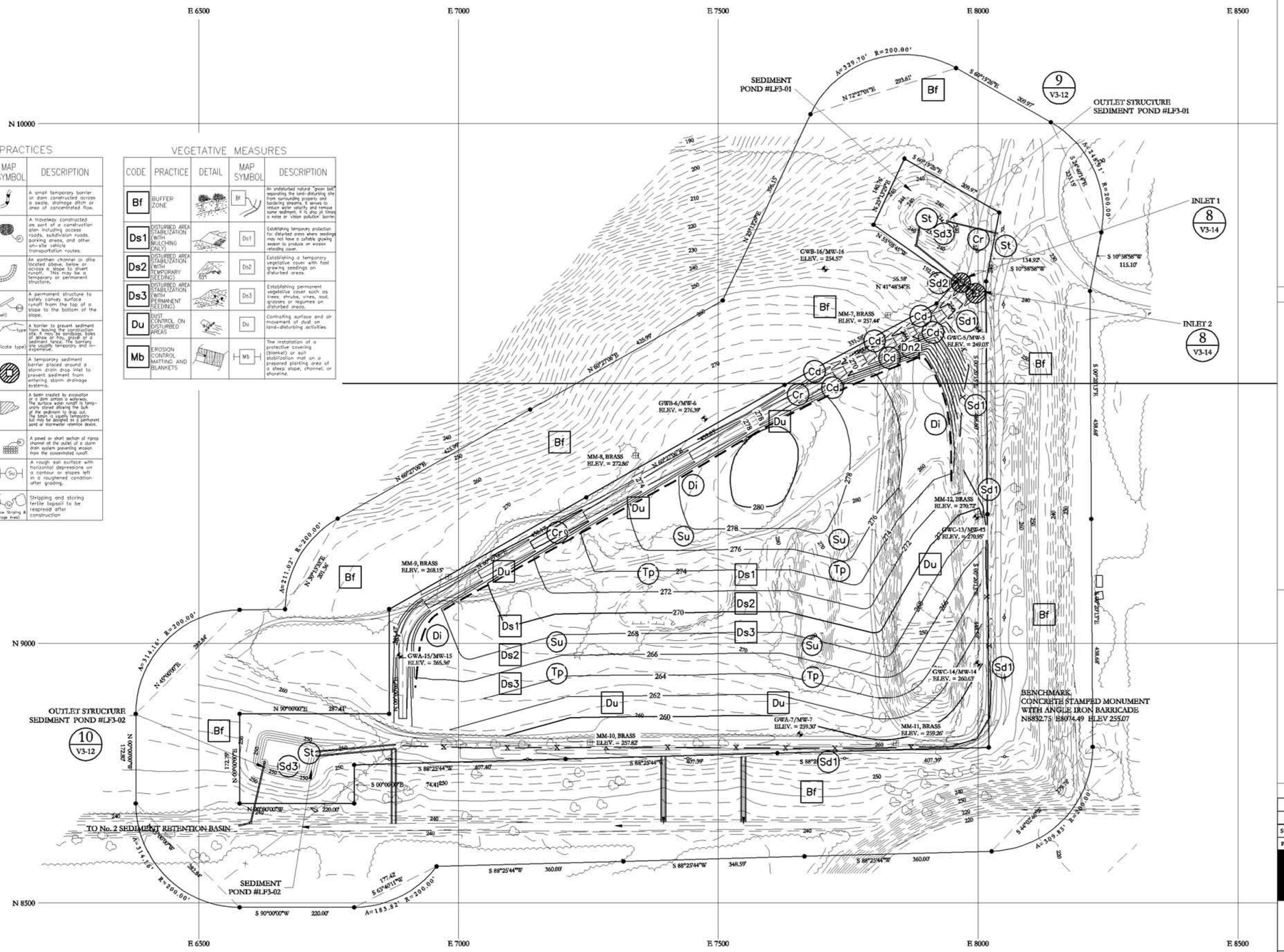
DRAWN BY:	DATE:	DRAWING NUMBER
JF	10/19/01	V3-10
CHECKED BY:	SCALE: None	

STRUCTURAL PRACTICES

CODE	PRACTICE	DETAIL	MAP SYMBOL	DESCRIPTION
Cd	CHECKDAM			A small temporary barrier or dam constructed across a swale, drainage ditch or area of concentrated flow.
Cr	CONSTRUCTION ROAD STABILIZATION			A traveleway constructed as part of a construction plan including access roads, subdivision roads, parking areas, and other on-site vehicle transportation routes.
Di	DIVERSION			An earthen channel or dike located above, below or across a slope to divert runoff. This may be a temporary or permanent structure.
Dn2	PERMANENT DOWNDRAIN STRUCTURE		(label)	A permanent structure to safely convey surface runoff from the top of a slope to the bottom of the slope.
Sd1	SEDIMENT BARRIER		(Indicate type)	A barrier to prevent sediment from leaving the construction site. It may be sandbags, bales of straw or hay, gravel or a silt fence. The barriers are usually temporary and inexpensive.
Sd2	INLET SEDIMENT TRAP			A temporary sediment barrier placed around a storm drain drop inlet to prevent sediment from entering storm drainage systems.
Sd3	TEMPORARY SEDIMENT BASIN			A basin created by excavation or a dam across a waterway. The surface water runoff is temporarily stored allowing the bulk of the sediment to drop out. The basin is usually temporary but may be designed as a permanent pond or stormwater retention device.
St	STORMDRAIN OUTLET PROTECTION			A paved or short section of riprap channel at the outlet of a storm drain system preventing erosion from the concentrated runoff.
Su	SURFACE ROUGHENING			A rough soil surface with horizontal depressions on a contour or slopes left in a roughened condition after grading.
Tp	TOPSOILING		(Show Stripping & Storage Area)	Stripping and storing fertile topsoil to be respread after construction

VEGETATIVE MEASURES

CODE	PRACTICE	DETAIL	MAP SYMBOL	DESCRIPTION
Bf	BUFFER ZONE		Bf	An undisturbed natural "green belt" separating the land-disturbing site from surrounding property and bordering streams. It serves to reduce water velocity and remove some sediment. It is also at times a noise or visual pollution barrier.
Ds1	DISTURBED AREA STABILIZATION (WITH MULCHING ONLY)		Ds1	Establishing temporary protection for disturbed areas where seedings may not have a suitable growing season to produce an erosion retarding cover.
Ds2	DISTURBED AREA STABILIZATION (WITH TEMPORARY SEEDING)		Ds2	Establishing a temporary vegetative cover with fast growing seedings on disturbed areas.
Ds3	DISTURBED AREA STABILIZATION (WITH PERMANENT SEEDING)		Ds3	Establishing permanent vegetative cover such as trees, shrubs, vines, sod, grasses or legumes on disturbed areas.
Du	DUST CONTROL ON DISTURBED AREAS		Du	Controlling surface and air movement of dust on land-disturbing activities.
Mb	EROSION CONTROL MATTING AND BLANKETS		Mb	The installation of a protective covering (blanket) or soil stabilization mat on a prepared planting area of a steep slope, channel, or shoreline.



100 0 100 200 300

Map produced by BEI Aerial Mapping, Peachtree City, GA

BEI PROJECT #1010805

DATE OF PHOTOGRAPHY: 8/22/2001

LEGEND

- POWER POLE
- TREELINE
- 150 — EXISTING CONTOUR
- FENCE
- MM-8, BRASS ELEV. = 272.86' — METHANE WELL
- GWC-5/MW-5 — GROUNDWATER MONITORING WELL
- WASTE MANAGEMENT UNIT/BUFFER BOUNDARY MARKER
- 250 — PROPOSED CONTOUR

REV.	DATE	DESCRIPTION	BY	ENG.	APPR.
3	12/31/04	Updated Procedures	GHA		

SUPERSEDES: REVISIONS:

PROJECT NO.:SNOC-01-DOV-02 FILENAME: V3-11 E&S Plan.dwg

THE DEXTRA GROUP, INC.
4665 LOWER ROSWELL ROAD, #154
MARIETTA, GEORGIA 30068

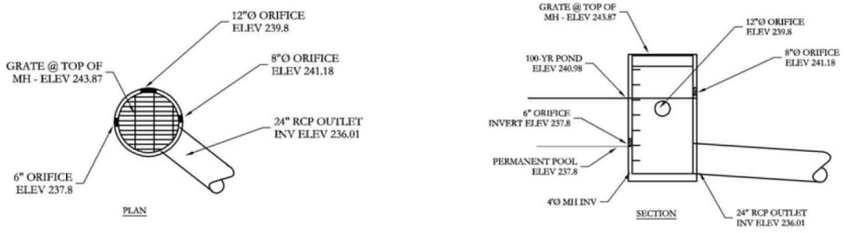
THIS DRAWING IS THE PROPERTY OF THE DEXTRA GROUP, LLC AND ALL INFORMATION CONTAINED THEREON IS TO BE KEPT CONFIDENTIAL BY THE RECIPIENT THEREOF AND NOT TO BE DISCLOSED TO ANY OTHER PERSON, FIRM OR CORPORATION WITHOUT THE EXPRESSED WRITTEN CONSIDERATION OF THE DEXTRA GROUP, LLC. THIS DRAWING SHALL NOT BE USED DIRECTLY OR INDIRECTLY EXCEPT IN CONNECTION WITH THE DEXTRA GROUP, LLC WORK. ALL RIGHTS OF DESIGN OR INVENTION DISCLOSED IN THE DRAWING ARE EXPRESSLY RESERVED BY THE DEXTRA GROUP, LLC. RECIPIENT SHALL NOT REPRODUCE IN WHOLE OR PART ANY SECTION OF THE DRAWING AND AGREES UPON NOTIFICATION BY THE DEXTRA GROUP, LLC TO RETURN THIS DRAWING AND ALL COPIES THEREOF TO THE DEXTRA GROUP, LLC.

REF.	DWG. NUMBER	TITLE

REFERENCE DRAWING

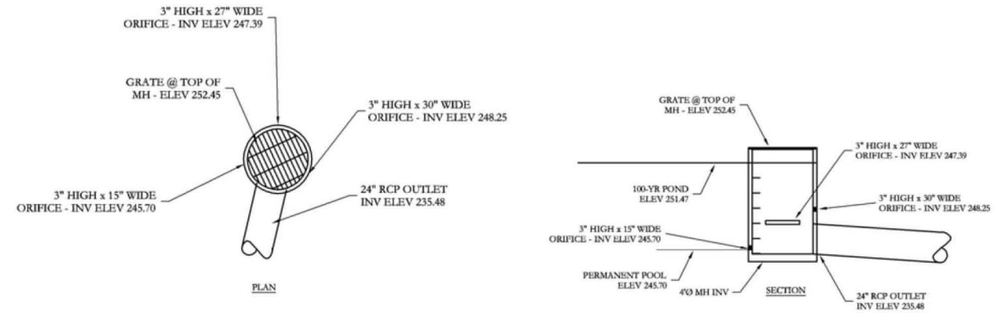
Southern Nuclear Operating Co., Inc.
Erosion & Sediment Control Plan
Plant Vogtle Landfill #3

DRAWN BY:	DATE:	DRAWING NUMBER
JF	10/19/01	V3-11
CHECKED BY:	SCALE: None	



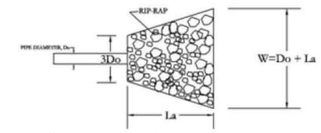
OUTLET STRUCTURE - POND #LF3-01

AS-BUILT DETAIL (9) 1" = 5'-0" (V3-12) V3-11



OUTLET STRUCTURE - POND #LF3-02

AS-BUILT DETAIL (10) 1" = 5'-0" (V3-12) V3-11

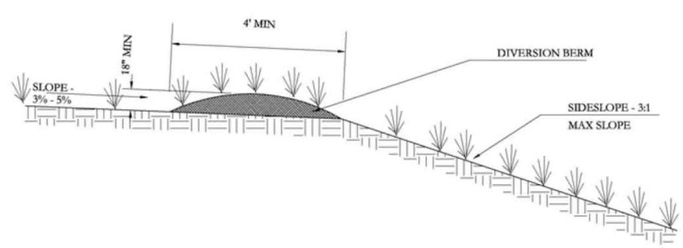


CMP SIZE	La	W	THICKNESS OF APRON	D.O.T. RIP-RAP NO.
12"	9'	10'	7"	3
15"	10'	11'	7"	3
18"	12'	14'	8"	3
24"	15'	20'	11"	3
30"	21'	25'	14"	3
36"	27'	30'	16"	3
48"	34'	35'	21"	3
54"	40'	45'	24"	3
60"	42'	47'	24"	3
*SPILLWAY	100'	40'	24"	3

*SPILLWAY RIP-RAP SHALL BE UNDERLAIN WITH TREVIRA 1114 OR APPROVED EQUAL.

MAINTENANCE: INSPECT RIPRAP OUTLET STRUCTURES AFTER HEAVY RAINS TO SEE IF ANY EROSION AROUND OR BELOW THE RIPRAP HAS TAKEN PLACE OR IF STONES HAVE BEEN DISLODGED. IMMMEDIATELY MAKE ALL NEEDED REPAIRS TO PREVENT FURTHER DAMAGE.

(St) STORMWATER OUTLET PROTECTION



NOTE:
BERM TO BE USED OVER INTERMEDIATE COVER AND OVER FINAL COVER TO DIRECT SURFACE WATER DRAINAGE AWAY FROM SIDESLOPES.

(Di) DIVERSION BERM

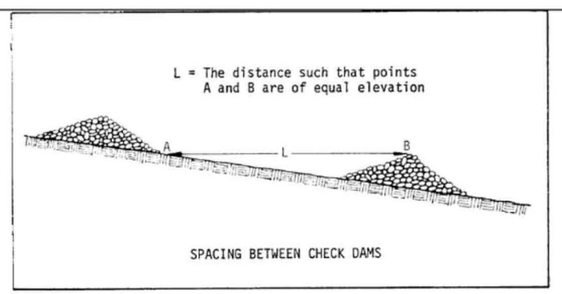
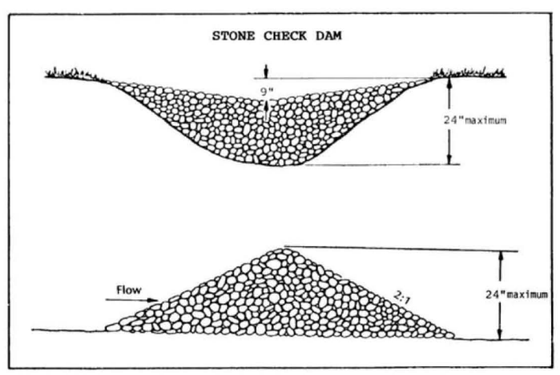


Figure 6-1.1

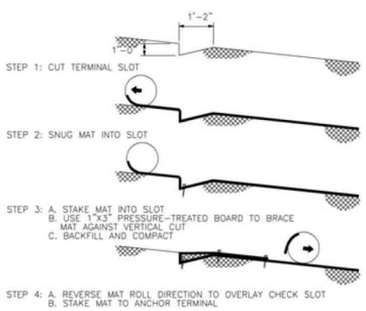


MAINTENANCE: PERIODIC INSPECTION AND REQUIRED MAINTENANCE MUST BE PROVIDED. SEDIMENT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 1/2 THE ORIGINAL DAM HEIGHT OR BEFORE. IF THE AREA IS TO BE MOWED, CHECK DAMS SHALL BE REMOVED ONCE FINAL STABILIZATION HAS OCCURRED. OTHERWISE, CHECK DAMS MAY REMAIN IN PLACE PERMANENTLY. AFTER REMOVAL, THE AREA BENEATH THE DAM SHALL BE SEEDED AND MULCHED IMMEDIATELY.

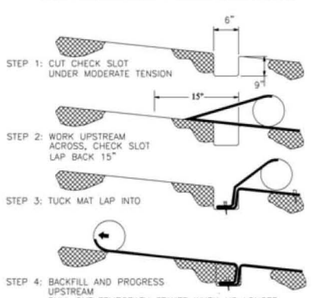
(Cd-S) CHECK DAM - STONE

GaSWCC (Amended - 1995) 6-14

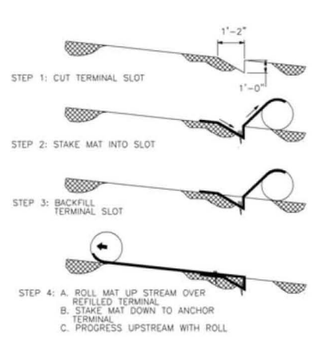
UPSTREAM TERMINAL

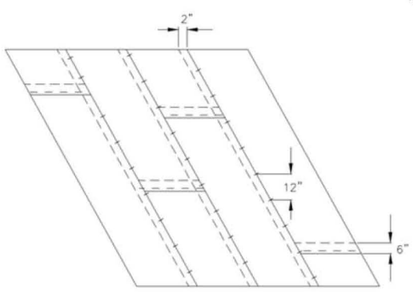


TRANSVERSE CHECK SLOT



DOWNSTREAM TERMINAL





NOTES:

1. CONCENTRATED FLOW AREAS, ALL SLOPES STEEPER THAN 2.5H:1V AND WITH A HEIGHT OF TEN FEET OR GREATER AND CUTS AND FILLS WITHIN STREAM BUFFERS SHALL BE STABILIZED WITH THE APPROPRIATE EROSION CONTROL MATTING OR BLANKETS.

2.PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING APPLICATION OF LIME, FERTILIZER & SEED.

3. BEGIN AT TOP OF SLOPE BY ANCHORING BLANKET IN A 6" x 6" TRENCH. BACKFILL AND COMPACT TRENCH AFTER STAPLING.

4. MINIMUM 2" OVERLAP ON PARALLEL BLANKETS. MINIMUM 6" OVERLAP WHEN SPLICING DOWNSLOPE. STAPLES TO BE PLACED AT 12" INTERVALS.

5. MAINTENANCE: ALL EROSION CONTROL BLANKETS AND MATTING SHOULD BE INSPECTED PERIODICALLY FOLLOWING INSTALLATION, PARTICULARLY AFTER RAINSTORMS TO CHECK FOR EROSION AND UNDERMINING. ANY DISLOCATION OR FAILURE SHOULD BE REPAIRED IMMEDIATELY. IF WASHOUTS OR BREAKAGE OCCURS, REINSTALL THE MATERIAL AFTER REPAIRING DAMAGE TO THE SLOPE OR DITCH. CONTINUE TO MONITOR THESE AREAS UNTIL THEY BECOME PERMANENTLY STABILIZED.

(Mb) EROSION CONTROL MATTING AND BLANKETS

REV.	DATE	DESCRIPTION	BY	ENG.	APPR
3	12/31/04	Updated Procedures	GHA		

SUPERSEDES: REVISIONS:

PROJECT NO.:SNOC-01-DOV-02 FILENAME: V3-12 E&SDetails.dwg

THE DEXTRA GROUP, INC.
4665 LOWER ROSWELL ROAD, #154
MARIETTA, GEORGIA 30068

THIS DRAWING IS THE PROPERTY OF THE DEXTRA GROUP, LLC AND ALL INFORMATION CONTAINED THEREON IS TO BE KEPT CONFIDENTIAL BY THE RECIPIENT THEREOF AND NOT TO BE DISCLOSED TO ANY OTHER PERSON, FIRM OR CORPORATION WITHOUT THE EXPRESSED WRITTEN CONSIDERATION OF THE DEXTRA GROUP, LLC. THIS DRAWING SHALL NOT BE USED DIRECTLY OR INDIRECTLY, EXCEPT IN CONNECTION WITH THE DEXTRA GROUP, LLC WORK. ALL RIGHTS OF DESIGN OR INVENTION DISCLOSED IN THE DRAWING ARE EXPRESSLY RESERVED BY THE DEXTRA GROUP, LLC. RECIPIENT SHALL NOT REPRODUCE IN WHOLE OR PART ANY SECTION OF THIS DRAWING AND AGREES UPON NOTIFICATION BY THE DEXTRA GROUP, LLC TO RETURN THIS DRAWING AND ALL COPIES THEREOF TO THE DEXTRA GROUP, LLC.

Southern Nuclear Operating Co., Inc.
Erosion & Sediment Control Details I
Plant Vogtle Landfill #3

REF.	DWG. NUMBER	TITLE

REFERENCE DRAWING

DRAWN BY: JF | DATE: 10/19/01 | CHECKED BY: | SCALE: None

DRAWING NUMBER V3-12

Dn2 Downdrain (Permanent)

Downdrains are structures used to safely convey surface runoff from a higher to a lower position on the slope. Temporary downdrains are usually placed on the surface of natural soils or well-compacted soils, rather than entrenching them into the soil on the slope. A variety of materials can be used; the most common is non-perforated corrugated plastic or flexible tubing. Other materials such as Triangle Silt Dikes or other open channel materials can also be configured to serve as downdrains.

Construction design:

Pipe diameter is determined by the acreage drained as provided in Table 1.

Table 1. Downdrain Pipe Sizing Criteria

Maximum Drainage Area per Pipe (acre)	Pipe Diameter (inches)
0.3	10
0.5	12
1.0	18

Inlet:

The inlet is usually at a depression point in a berm or at ends of sediment barriers (Sd1). The outlet apron must be to sloped to minimize erosion and not to form scour pockets at the discharge end of the pipe. The inlet is often constructed of sheet metal. A "Tee" or an "L" is often used. The berm over the inlet must have dimensions as: 18 inches depth over the top of the pipe, 4 feet top width and 3:1 side slopes. If necessary, add a trash rack to prevent the inlet from choking with debris.

Barrel:

The barrel of the downdrain can be oriented directly downslope, but more beneficial is to slant the downdrain. If the barrel empties directly into a receiving stream, adjust the angle so as not to intercept at a 90-degree angle. All pipe section connections must be watertight. The barrel must be securely anchored to the earth at an interval not to exceed 10-feet.

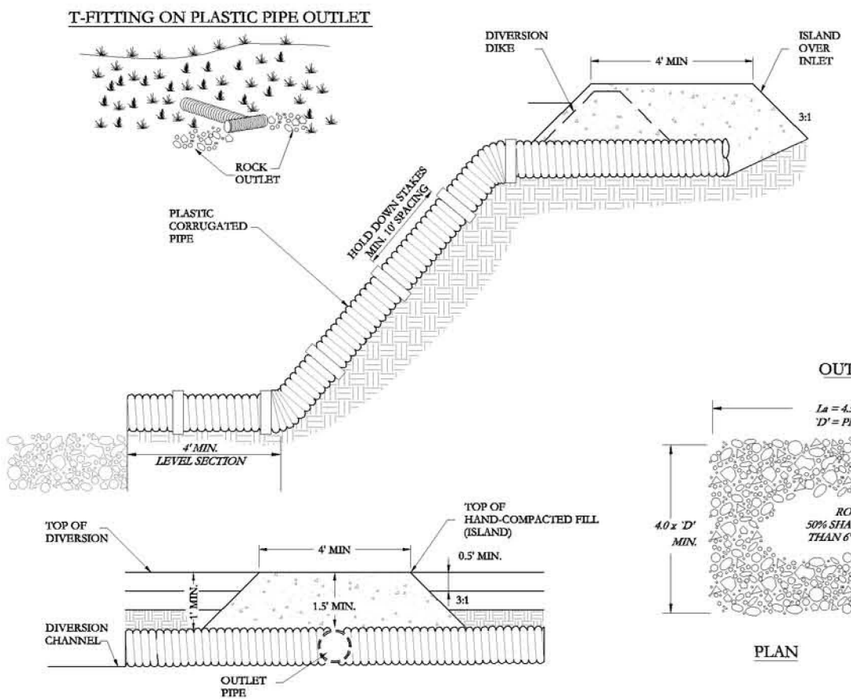
Outlet and Energy Dissipater:

The outlet must extend a distance of 4 feet, in a level plane beyond the slope. If the discharge outlet is not into a stream, an energy dissipater (St) is required to prevent scour hole formation.

Maintenance:

Inspect inlet structure after every rain to insure that the inlet is not clogged with trash. Inspect the outlet structure to insure that erosion around or below the riprap is not taking place. Make repairs as needed.

Remove the temporary downdrain after construction is completed and the site is stabilized.



Dn2 PERMANENT DOWNDRAIN

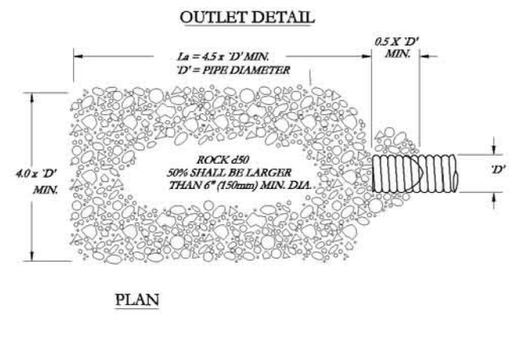
St Energy Dissipater

Energy Dissipater are installed at the outlets of downdrains, road culverts, and paved channel sections that convey water that has erosive velocity. The energy dissipater absorbs the energy and releases the water with a lower erosive potential.

Construction Specifications:

Energy Dissipaters are often constructed in the form of rip rap barriers over filter fabric. A 6-inch gravel subbase is desirable to prevent the rip rap from puncturing the filter fabric. The thickness of the rip rap should be no less than 1.5 times the diameter of the stone. The apron should extend out beyond the end of the outlet for a distance of 4.5 (feet) times the diameter of the pipe (inches). If the velocity is great, a geogtid can be installed as an apron cover to reduce rip rap scour and dislocation.

Other energy dissipaters include flaps hinged over the top of the downdrain, a "Tee" or gabion baskets.



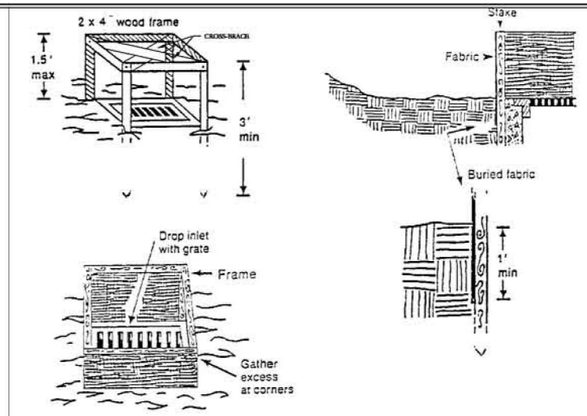


Figure 6-14.1 – Fabric and supporting frame for inlet protection

1. For stakes, use 2 x 4 inch wood (preferred) or equivalent metal with a minimum length of 3 feet.

2. Space stakes evenly around the perimeter of the inlet a maximum of 3 feet apart, and securely drive them into the ground, approximately 18 inches deep.

3. To provide needed stability to the installation, frame with 2 x 4 inch wood strips around the crest of the overflow area at a maximum of 1.5 feet above the drop inlet crest.

4. Place the bottom 12 inches of the fabric in a trench and backfill the trench with at least 4 inches of crushed stone or 12 inches of compacted soil.

5. Fasten fabric securely to the stakes and frame. Joints must be overlapped to the next stake.

6. The top of the frame and fabric must be well below the ground elevation downslope from the drop inlet to keep runoff from bypassing the inlet. It may be necessary to build a temporary dike on the down slope side of the structure to prevent bypass flow.

MAINTENANCE REQUIREMENTS:
THE TRAP SHALL BE INSPECTED PERIODICALLY AND REPAIRS MADE AS NEEDED. SEDIMENT SHALL BE REMOVED WHEN THE SEDIMENT HAS ACCUMULATED TO HALF THE HEIGHT OF THE TRAP. SEDIMENT SHALL BE REMOVED FROM CURB INLET PROTECTION IMMEDIATELY. FOR EXCAVATED INLET SEDIMENT TRAPS, SEDIMENT SHALL BE REMOVED WHEN HALF OF THE SEDIMENT STORAGE CAPACITY HAS BEEN LOST TO SEDIMENT ACCUMULATION.

SEDIMENT SHALL NOT BE WASHED INTO THE INLET. IT SHALL BE REMOVED FROM THE SEDIMENT TRAP AND DISPOSED OF AND STABILIZED SO THAT IT WILL NOT ENTER THE INLET AGAIN. WHEN THE CONTRIBUTING DRAINAGE AREA HAS BEEN PERMANENTLY STABILIZED, ALL MATERIALS AND ANY SEDIMENT SHALL BE REMOVED AND SALVAGED OR DISPOSED OF PROPERLY. THE DISTURBED AREA SHALL BE BROUGHT TO PROPER GRADE, THEN SMOOTHED AND COMPACTED. APPROPRIATELY STABILIZE ALL DISTURBED AREAS AROUND THE INLET.

GaSWCC (Amended - 1995) 6-70

Sd2-F INLET SEDIMENT TRAP-FILTER FABRIC WITH SUPPORTING FRAME

MATERIALS - TOPSOIL SHOULD BE FRIABLE AND LOAMY, FREE OF DEBRIS, OBJECTIONABLE WEEDS AND STONES AND CONTAIN NO TOXIC SUBSTANCE THAT MAY BE HARMFUL TO PLANT GROWTH. A pH RANGE OF 5.0 - 7.5 IS ACCEPTABLE. SOLUBLE SALTS SHOULD NOT EXCEED 500 ppm.

TESTING - FIELD EXPLORATION SHOULD BE MADE TO DETERMINE WHETHER THE QUANTITY AND QUALITY OF SURFACE SOIL JUSTIFIES STRIPPING.

STRIPPING - STRIPPING SHOULD BE CONFINED TO THE IMMEDIATE CONSTRUCTION AREA. A 4-6 INCH STRIPPING DEPTH IS COMMON, BUT MAY VARY DEPENDING ON THE PARTICULAR SOIL.

TOPSOIL pH - IF pH IS <6.0, LIME SHALL BE APPLIED AND INCORPORATED WITH THE TOPSOIL TO ADJUST THE pH TO 6.5 OR HIGHER. TOPSOILS CONTAINING SOLUBLE SALTS GREATER THAN 500 ppm SHALL NOT BE USED.

STOCKPILES - LOCATION OF STOCKPILES SHOULD NOT OBSTRUCT NATURAL DRAINAGE OR CAUSE OFF-SITE ENVIRONMENTAL DAMAGE. STOCKPILES SHALL BE CONTAINED BY SEDIMENT BARRIERS TO PREVENT SEDIMENTATION ON ADJACENT AREAS AND SHALL BE STABILIZED IN ACCORDANCE WITH SPECIFICATIONS Dn1 AND Dn2.

SITE PREPARATION

Topsoiling - WHEN TOPSOILING, MAINTAIN ALL NEEDED EROSION CONTROL PRACTICES.

Grading - GRADES ON THE AREAS TO BE TOPSOILED WHICH HAVE BEEN PREVIOUSLY ESTABLISHED SHALL BE MAINTAINED.

Liming - SOIL TESTS SHOULD BE USED TO DETERMINE THE pH OF THE SOIL. WHERE THE pH OF THE SOIL IS 5.0 OR LESS OR COMPOSED OF HEAVY CLAYS, AGRICULTURAL LIMESTONE SHALL BE SPREAD AT THE RATE OF 100 POUNDS PER 1000 SF. LIME SHALL BE DISTRIBUTED UNIFORMLY OVER DESIGNATED AREAS AND WORKED INTO THE SOIL IN CONJUNCTION WITH TILLAGE OPERATIONS AS DESCRIBED BELOW.

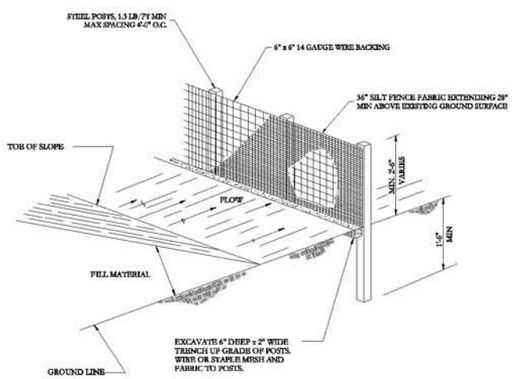
Bonding - USE ON OF THE FOLLOWING METHODS TO INSURE BONDING OF TOPSOIL AND SUBSOIL:

1. TILLING: AFTER THE AREAS TO BE TOPSOILED HAVE BEEN BROUGHT TO GRADE ND IMMEDIATELY PRIOR TO DUMPING AND SPREADING THE TOPSOIL, THE SUBGRADE SHALL BE LOOSED BY DISCING OR SCARIFYING TO A DEPTH OF AT LEAST 3 INCHES TO PERMIT BONDING OF THE TOPSOIL TO THE SUBSOIL.

2. TRACKING - PASSING A BULLDOZER OVER THE ENTIRE SURFACE AREA OF THE SLOPE TO LEAVE HORIZONTAL DEPRESSIONS.

APPLYING TOPSOIL - TOPSOIL SHOULD BE HANDLED ONLY WHEN IT IS DRY ENOUGH TO WORK WITHOUT DAMAGING SOIL STRUCTURE. A UNIFORM APPLICATION OF 5 INCHES (UNSETTLED) IS RECOMMENDED, BUT MAY BE ADJUSTED AT THE DISCRETION OF THE ENGINEER OR LANDSCAPE ARCHITECT.

Tp TOPSOILING



NOTE:
FENCE SHALL BE PLACED AT ALL LOCATIONS WHERE NATURAL GROUND SLOPES AWAY FROM CONSTRUCTION.

FABRIC REQUIREMENTS:

1. TENSILE STRENGTH (LBS MINIMUM PER ASTM D4632): WARP = 260, FILL = 180
2. ELONGATION (% MAXIMUM, PER ASTM D4632): 40%
3. APPARENT OPENING SIZE (MAX SIEVE SIZE PER ASTM D4751): #50
4. FLOW RATE (GAL/MIN/SF, PER GDOT-87): 70
5. ULTRAVIOLET STABILITY (% REQ'D OF INITIAL MINIMUM TENSILE STRENGTH, AFTER 300 HOUR WEATHERING IN ACCORDANCE WITH ASTM D4355): 80%
6. BURSTING STRENGTH (MINIMUM PSI PER ASTM D3786): 175
7. MINIMUM FABRIC WIDTH: 36 INCHES

Sd1-C TYPICAL SILT FENCE

REV.	DATE	DESCRIPTION	BY	ENG.	APPR
3	12/31/04	Updated Procedures	GHA		

SUPERSEDES: REVISIONS:

PROJECT NO.:SNOC-01-DOV-02 FILENAME: V3-13 E&S Details.dwg

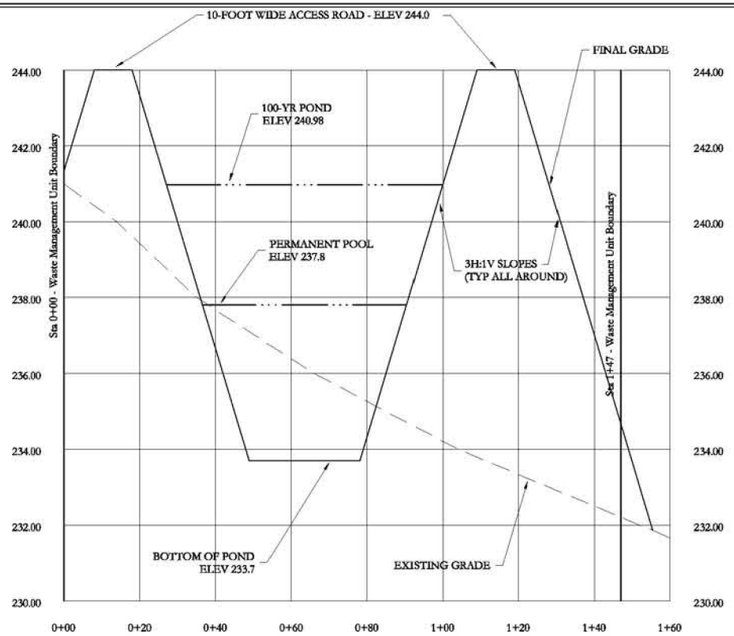
THE DEXTRA GROUP, INC.
4665 LOWER ROSWELL ROAD, #154
MARIETTA, GEORGIA 30068

THIS DRAWING IS THE PROPERTY OF THE DEXTRA GROUP, LLC AND ALL INFORMATION CONTAINED THEREON IS TO BE KEPT CONFIDENTIAL BY THE RECIPIENT THEREOF AND NOT TO BE DISCLOSED TO ANY OTHER PERSON, FIRM OR CORPORATION WITHOUT THE EXPRESSED WRITTEN CONSIDERATION OF THE DEXTRA GROUP, LLC. THIS DRAWING SHALL NOT BE USED DIRECTLY OR INDIRECTLY EXCEPT IN CONNECTION WITH THE DEXTRA GROUP, LLC WORK. ALL RIGHTS OF DESIGN OR INVENTION DISCLOSED IN THE DRAWING ARE EXPRESSLY RESERVED BY THE DEXTRA GROUP, LLC. RECIPIENT SHALL NOT REPRODUCE IN WHOLE OR PART ANY SECTION OF THIS DRAWING AND AGREES UPON NOTIFICATION BY THE DEXTRA GROUP, LLC TO RETURN THIS DRAWING AND ALL COPIES THEREOF TO THE DEXTRA GROUP, LLC.

Southern Nuclear Operating Co., Inc.
Erosion & Sediment Control Details II
Plant Vogtle Landfill #3

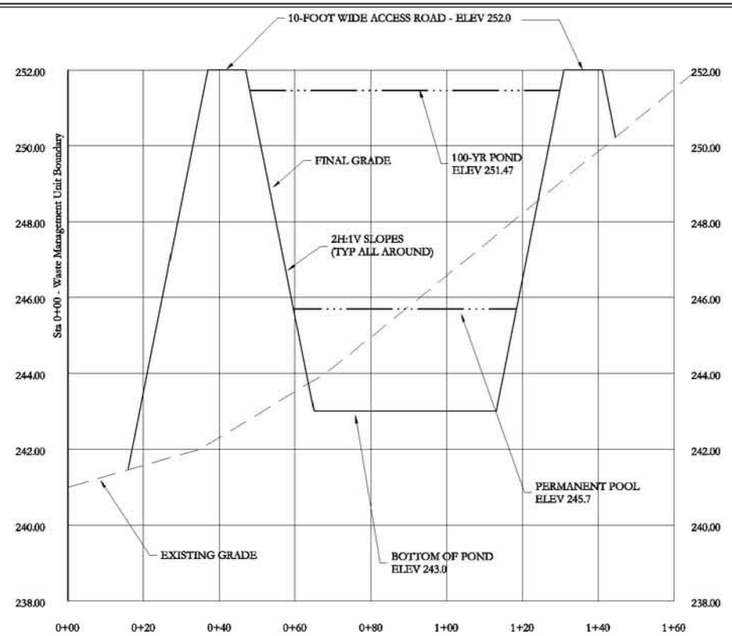
REF.	DWG. NUMBER	TITLE
REFERENCE DRAWING		

DRAWN BY:	DATE:	DRAWING NUMBER
JF	10/19/01	V3-13
CHECKED BY:	SCALE: None	



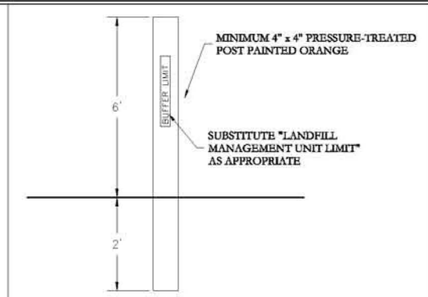
SECTION THROUGH POND LF3-01

SECTION E V3-14 V3-03
HORZ. SCALE: 1" = 20'
VERT. SCALE: 1" = 2'



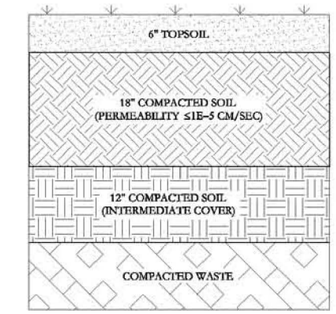
SECTION THROUGH POND LF3-02

SECTION F V3-14 V3-03
HORZ. SCALE: 1" = 20'
VERT. SCALE: 1" = 2'



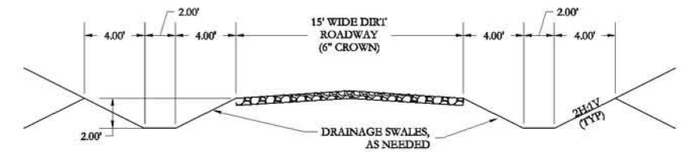
BUFFER OR LANDFILL MANAGEMENT UNIT MARKER

DETAIL 1 V3-14 V3-01, V3-02, V3-03
N.T.S



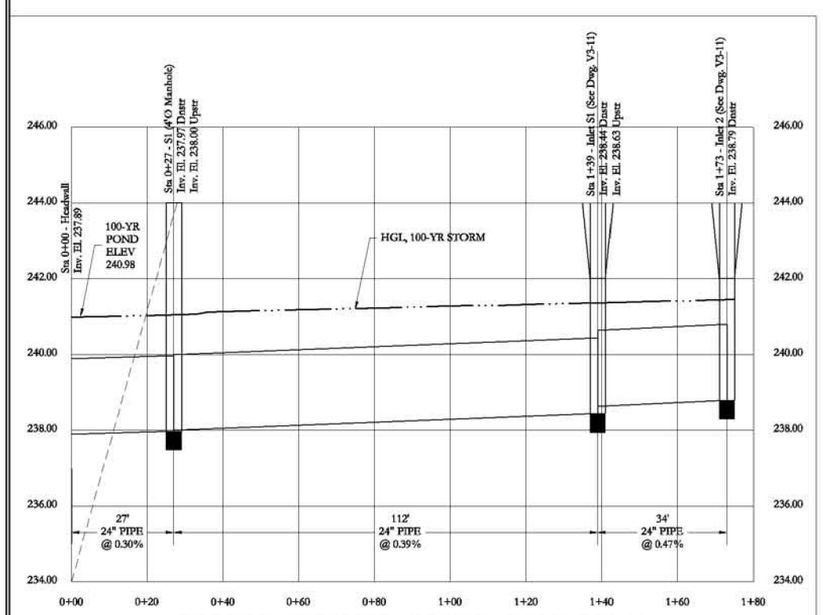
FINAL COVER

DETAIL 3 V3-14 V3-05
N.T.S



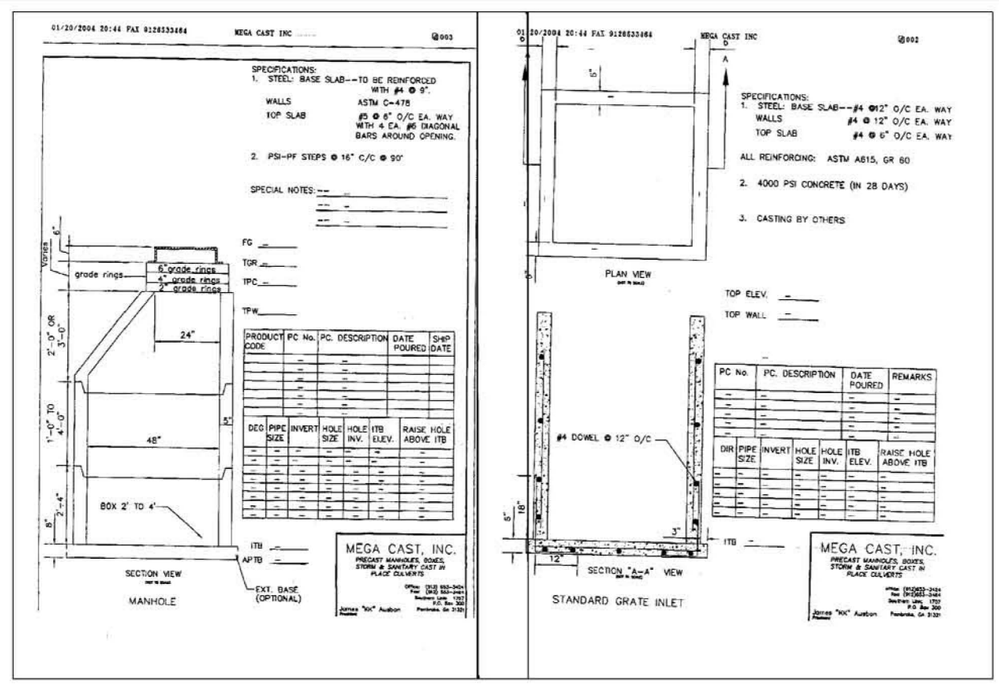
LANDFILL ACCESS ROAD

DETAIL 2 V3-14 V3-01, V3-02, V3-03
1"=5'-0"



PROFILE, STORMDRAIN PIPE - POND LF3-01

HORZ. SCALE: 1"=20'
VERT. SCALE: 1"=2'



DROP INLET

DETAIL 8 V3-14 V3-11
N.T.S

REF.	DWG. NUMBER	TITLE
	REFERENCE DRAWING	

REV.	DATE	DESCRIPTION	BY	ENG.	APPR
3	12/31/04	Updated Procedures	GHA		

SUPERSEDES: REVISIONS:
PROJECT NO.:SNOC-01-DOV-02 FILENAME: V3-14 Details.dwg

THE DEXTRA GROUP, INC.
4665 LOWER ROSWELL ROAD, #154
MARIETTA, GEORGIA 30068

THIS DRAWING IS THE PROPERTY OF THE DEXTRA GROUP, LLC AND ALL INFORMATION CONTAINED THEREON IS TO BE KEPT CONFIDENTIAL BY THE RECIPIENT THEREOF AND NOT TO BE DISCLOSED TO ANY OTHER PERSON, FIRM OR CORPORATION WITHOUT THE EXPRESSED WRITTEN CONSIDERATION OF THE DEXTRA GROUP, LLC. THIS DRAWING SHALL NOT BE USED DIRECTLY OR INDIRECTLY EXCEPT IN CONNECTION WITH THE DEXTRA GROUP, LLC WORK. ALL RIGHTS OF DESIGN OR INVENTION DISCLOSED IN THE DRAWING ARE EXPRESSLY RESERVED BY THE DEXTRA GROUP, LLC. RECIPIENT SHALL NOT REPRODUCE IN WHOLE OR PART ANY SECTION OF THIS DRAWING AND AGREES UPON NOTIFICATION BY THE DEXTRA GROUP, LLC TO RETURN THE DRAWING AND ALL COPIES THEREOF TO THE DEXTRA GROUP, LLC.

Southern Nuclear Operating Co., Inc.
Miscellaneous Details
Plant Vogtle Landfill #3

DRAWN BY:	DATE:	DRAWING NUMBER
JF	10/19/01	V3-14
CHECKED BY:	SCALE: None	