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Drawings

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NOTES

1. ALL EXTERIOR SLOPES SHALL BE CONSTRUCTED AT 3H:1V.
2. LIMITS OF PHASE II CLOSURE MAY BE ADJUSTED AT TIME OF CONSTRUCTION TO COINCIDE WITH AREAS THAT HAVE REACHED FINAL GRADE.
3. STOCKPILES REMOVED BY OWNER FOR PERIMETER CHANNEL GRADING. 1' CONTOUR INTERVALS USED FOR PERIMETER CHANNEL GRADING.
4. CONTRACTOR IS NOT REQUIRED TO GRADE WASTE SLOPES OUTSIDE OF LIMITS OF CLOSURE.
5. SEE LEGEND ON SHEET G-002.



MARK	REVISION PER DEC COMMENTS	DATE	DESCRIPTION
2	REVISED PER DEC COMMENTS	3/2016	
1	ISSUED FOR PERMIT	1/2016	

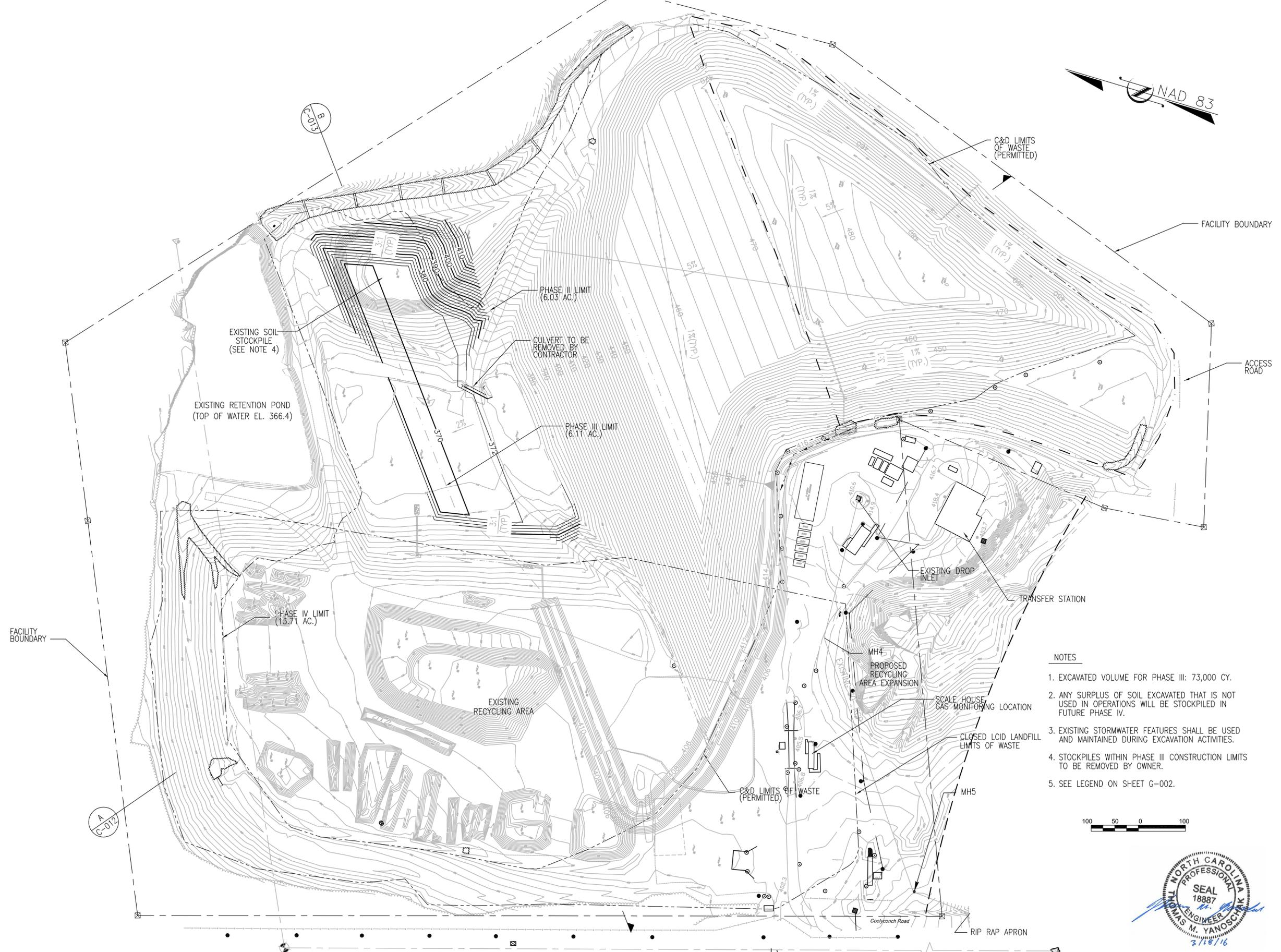
ISSUE DATE: JANUARY 2016	DESIGNED BY: T. YANOSCHAK, P.E.	U.S. ARMY CORPS OF ENGINEERS 100 WEST OGLETHORPE AVENUE SAVANNAH DISTRICT SAVANNAH, GEORGIA
LOCATION NO.: XXXX-XXXX	DRAWN BY: T. YANOSCHAK	HDR ENGINEERING, INC. OF THE CAROLINAS 555 FAYETTEVILLE STREET, SUITE 900 RALEIGH, NORTH CAROLINA 27601
CONTRACT NO.: XXXX-XXXX	CHECKED BY: T. YANOSCHAK, P.E.	
W912HN 12 D 0024	SUBMITTED BY: T. YANOSCHAK, P.E.	
CATEGORY CODE XXX-XX-XX	FILENAME: 00C-02.DGN	
	SIZE:	

FORT BRAGG, NORTH CAROLINA
LAMONT ROAD LANDFILL PHASE III DESIGN

PHASE II FINAL GRADING PLAN

SHEET ID
C-002





NOTES

- EXCAVATED VOLUME FOR PHASE III: 73,000 CY.
- ANY SURPLUS OF SOIL EXCAVATED THAT IS NOT USED IN OPERATIONS WILL BE STOCKPILED IN FUTURE PHASE IV.
- EXISTING STORMWATER FEATURES SHALL BE USED AND MAINTAINED DURING EXCAVATION ACTIVITIES.
- STOCKPILES WITHIN PHASE III CONSTRUCTION LIMITS TO BE REMOVED BY OWNER.
- SEE LEGEND ON SHEET C-002.



MARK	DESCRIPTION	DATE
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DESIGNED BY: T. YANOSCHAK, P.E. DRAWN BY: J. MURRAY, P.E. CHECKED BY: J. MURRAY, P.E. SUBMITTED BY: T. YANOSCHAK, P.E. SIZE: ANSI D	ISSUE DATE: JANUARY 2016 LOCATION NO.: CONTRACT NO.: W912HN12D0024 CATEGORY CODE: XXX-XX-XX	U.S. ARMY CORPS OF ENGINEERS 100 WEST OGLETHORPE AVENUE SAVANNAH DISTRICT SAVANNAH, GEORGIA	HDR ENGINEERING, INC. OF THE CAROLINAS 555 FAYETTEVILLE STREET, SUITE 900 RALEIGH, NORTH CAROLINA 27601
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FORT BRAGG, NORTH CAROLINA
 LAMONT ROAD LANDFILL PHASE III DESIGN
 PHASE III EXCAVATION PLAN

SHEET ID
C-003



MARK	DESCRIPTION	DATE
1	ISSUED FOR PERMIT	1/20/16
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DESIGNED BY: T. YANOSCHAK, P.E.	ISSUE DATE: JANUARY 2016
DRAWN BY: J. MURRAY, P.E.	PROJECTION NO.: XXX-XX-XX
CHECKED BY: J. MURRAY, P.E.	CONTRACT NO.: W912HN 12 D 0024
SUBMITTED BY: T. YANOSCHAK, P.E.	CATEGORY CODE: XXX-XX-XX
FILENAME: 00C-04.DGN	SIZE: 00C-04.DGN

U.S. ARMY CORPS OF ENGINEERS
100 WEST OGLETHORPE AVENUE
SAVANNAH DISTRICT
SAVANNAH, GEORGIA

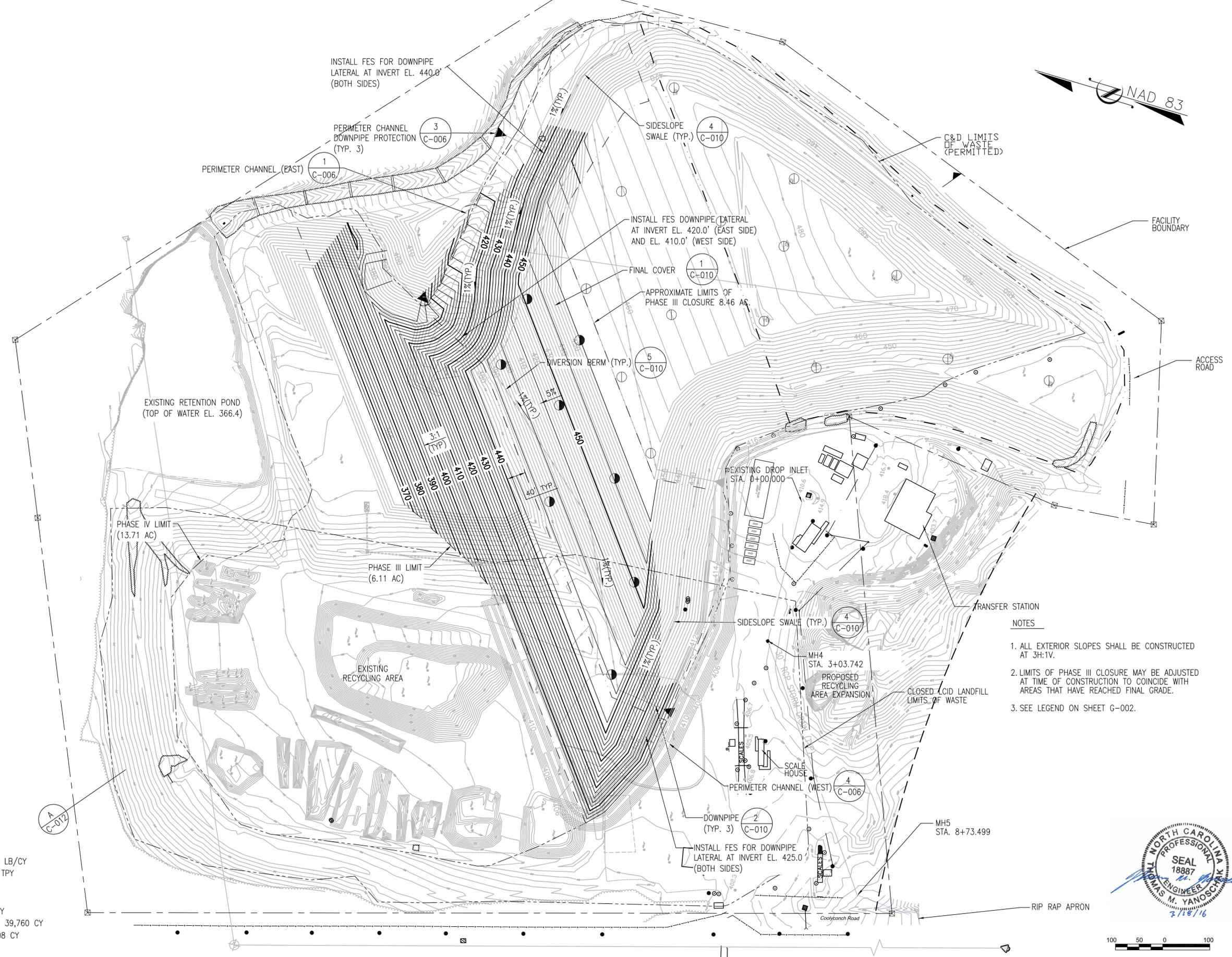
HDR ENGINEERING, INC. OF THE CAROLINAS
555 FAYETTEVILLE STREET, SUITE 900
RALEIGH, NORTH CAROLINA 27601

FORT BRAGG, NORTH CAROLINA
LAMONT ROAD LANDFILL PHASE III DESIGN

PHASE III FINAL GRADING PLAN

SHEET ID
C-004

STATUS



NOTES

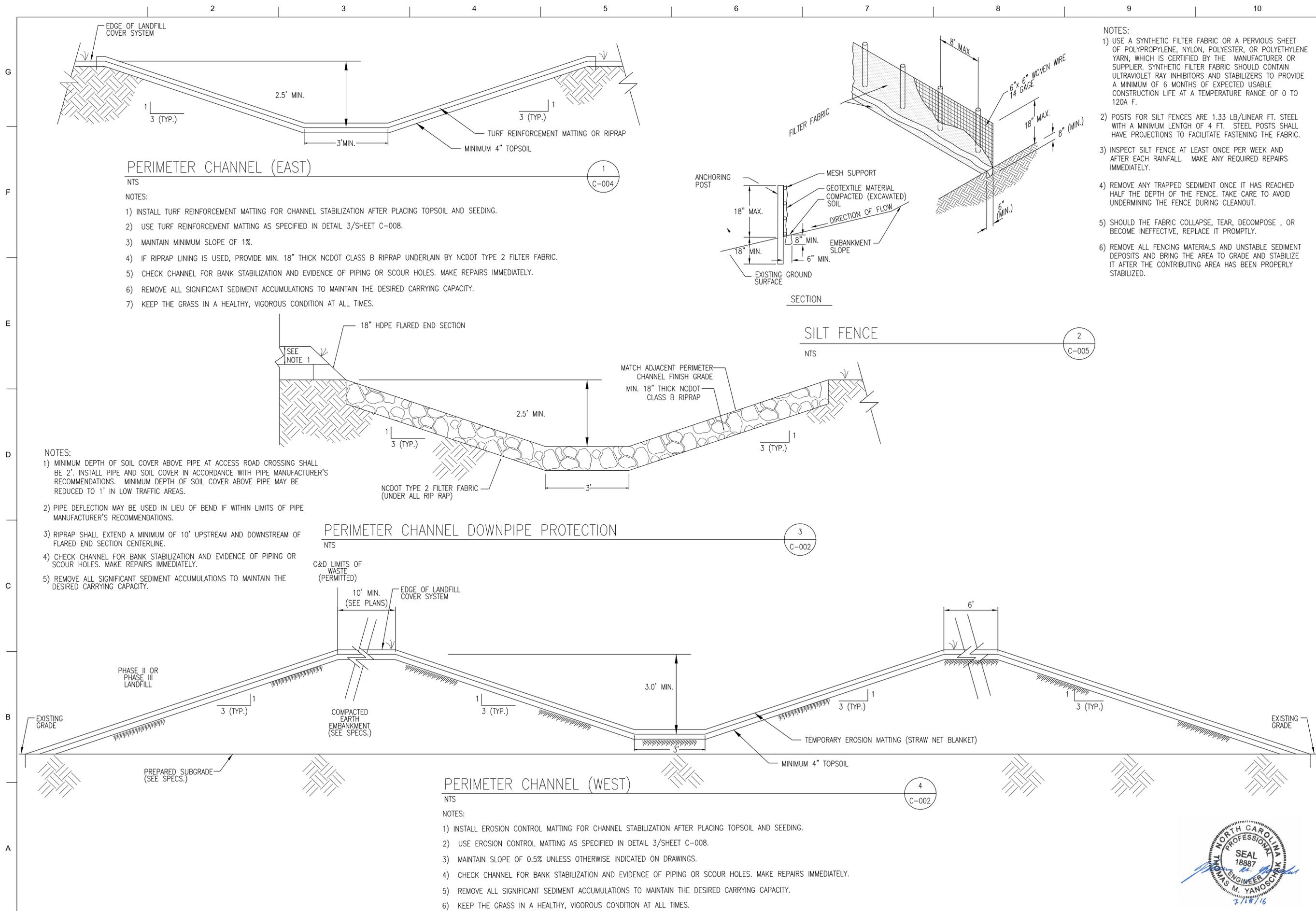
1. ALL EXTERIOR SLOPES SHALL BE CONSTRUCTED AT 3H:1V.
2. LIMITS OF PHASE III CLOSURE MAY BE ADJUSTED AT TIME OF CONSTRUCTION TO COINCIDE WITH AREAS THAT HAVE REACHED FINAL GRADE.
3. SEE LEGEND ON SHEET G-002.



PHASE III CAPACITY

ASSUMPTIONS:
 IN-PLACE DENSITY: 2,339 LB/CY
 REFUSE INTAKE: 110,000 TYP
 GROSS AREA: 6.11 AC.
 GROSS VOLUME: 477,100 CY
 FINAL COVER SYSTEM: 35,332 CY
 DAILY AND INTERMEDIATE COVER: 39,760 CY
 NET OPERATING VOLUME: 402,008 CY
 LIFESPAN: 4.3 YRS

SSDGENSPECSS
 SSSYSTIMSS
 SSSUSERNAMESS



US Army Corps of Engineers

ISSUE DATE:	NOVEMBER 2015	REVISION NO.:	0000	DATE	3/2016
DESIGNED BY:	T. YANOSCHAK, P.E.	CHECKED BY:	J. MURRAY, P.E.	REVISION NO.:	1
DRAWN BY:	J. MURRAY, P.E.	SUBMITTED BY:	T. YANOSCHAK, P.E.	ISSUED FOR PERMIT	1/2016
CONTRACT NO.:	W912HN12D0024	FILENAME:	00C-06.DGN	DESCRIPTION	
CATEGORY CODE:	XXX-XX-XX	SIZE:	A	MARK	

U.S. ARMY CORPS OF ENGINEERS
 100 WEST OGLETHORPE AVENUE
 SAVANNAH DISTRICT
 SAVANNAH, GEORGIA

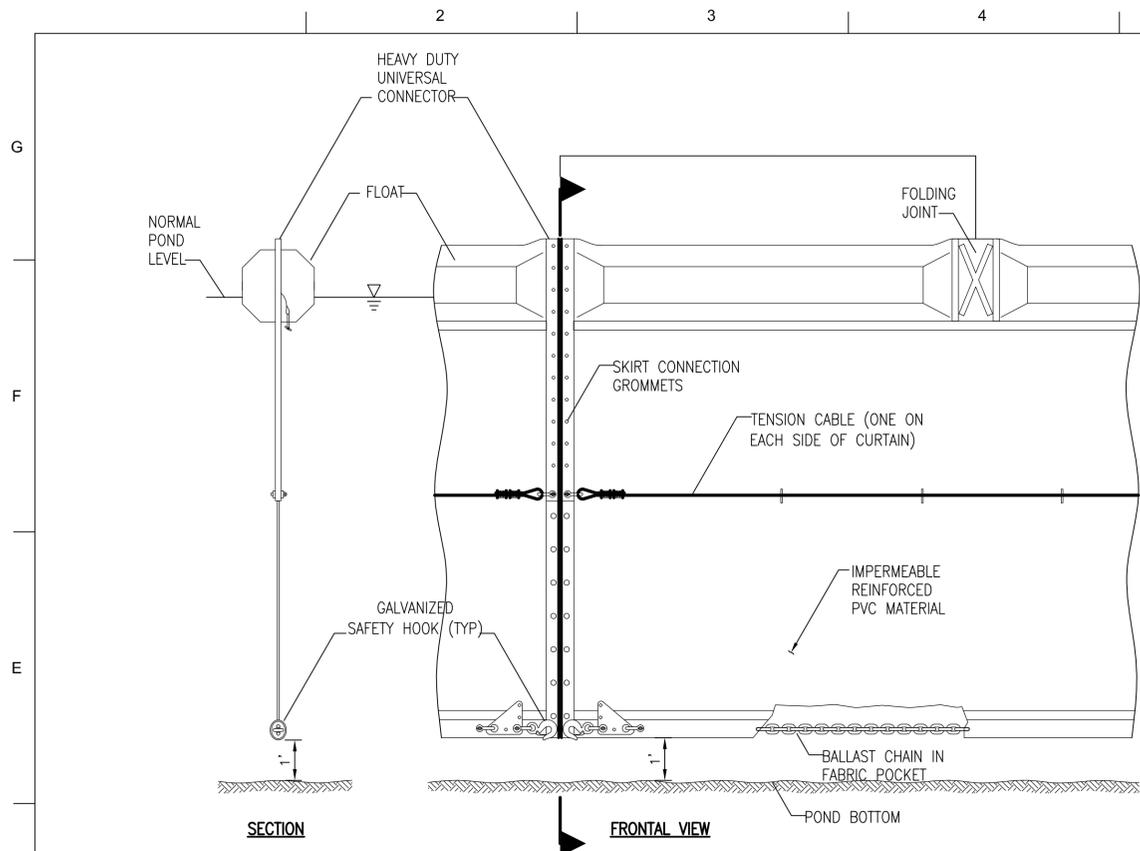
HDR ENGINEERING OF THE CAROLINAS, INC.
 555 PAYETTEVILLE STREET, SUITE 900
 RALEIGH, NORTH CAROLINA 27601

FORT BRAGG, NORTH CAROLINA
 LAMONT ROAD LANDFILL PHASE III DESIGN

EROSION AND SEDIMENT CONTROL DETAILS (1 OF 4)

SHEET ID
C-006

2/18/16



TURBIDITY CURTAIN

NTS

1
C-005

NOTES:

1. CONTRACTOR SHALL INSPECT TURBIDITY CURTAIN ACCORDING TO INSPECTION SCHEDULE AND REPAIR ANY OBSERVED DAMAGE.

TURBIDITY CURTAIN SPECIFICATIONS

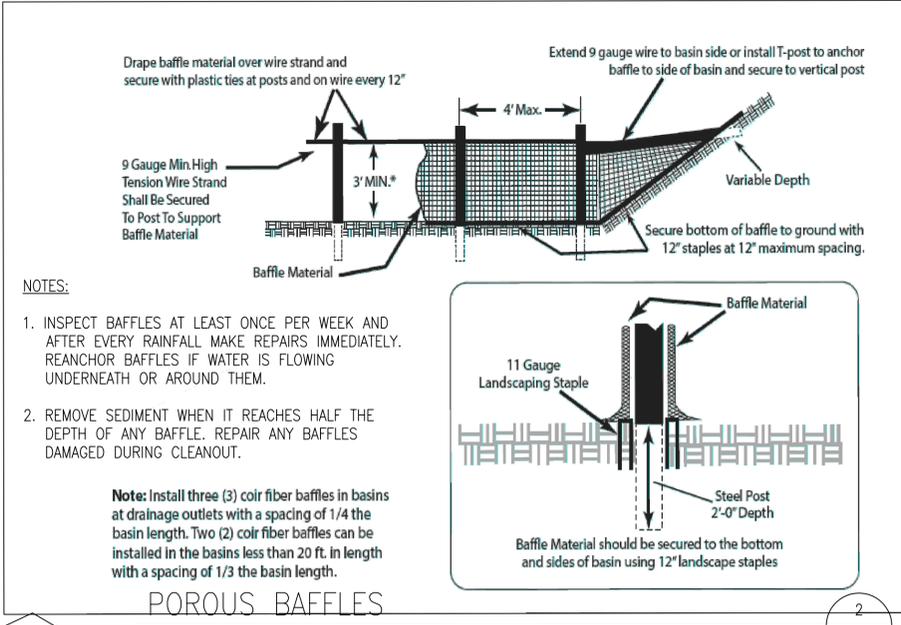
CURTAIN MATERIAL: IMPERMEABLE REINFORCED PVC
 MIN TENSILE STRENGTH - 300 LB/IN
 MIN FABRIC WT. - 13 OZ/SY
 TEAR STRENGTH - 80 LBS
 TENSILE STRENGTH AFTER ABRASION - 200 LB/IN
 RESISTANT TO MARINE GROWTH, ULTRA VIOLET LIGHT, AND MILDEW
 ALL FABRIC SHALL BE HEAT SEALED.

FLOATS: SOLID, CLOSED-CELL, PLASTIC FOAM SEALED IN FABRIC POCKET.
 PROVIDE BUOYANT RATIO > 5
 MAX LENGTH 10'

BALLST CHAIN: NON-CORROSIVE
 2 LB/IN WEIGHT

TENSION CABLE: GALVANIZED OR STAINLESS STEEL WIRE ROPE

MOORING: AS RECOMMENDED BY MANUFACTURER FOR PROPOSED APPLICATION



POROUS BAFFLES

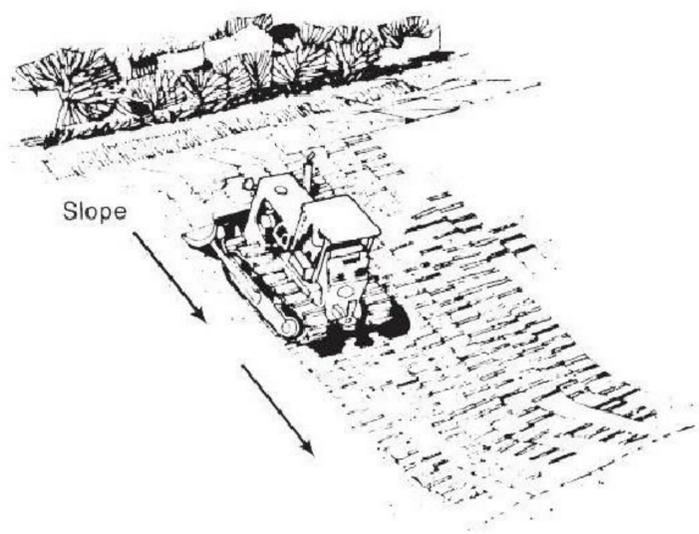
NOTES:

1. INSPECT BAFFLES AT LEAST ONCE PER WEEK AND AFTER EVERY RAINFALL MAKE REPAIRS IMMEDIATELY. REANCHOR BAFFLES IF WATER IS FLOWING UNDERNEATH OR AROUND THEM.

2. REMOVE SEDIMENT WHEN IT REACHES HALF THE DEPTH OF ANY BAFFLE. REPAIR ANY BAFFLES DAMAGED DURING CLEANOUT.

Note: Install three (3) coir fiber baffles in basins at drainage outlets with a spacing of 1/4 the basin length. Two (2) coir fiber baffles can be installed in the basins less than 20 ft. in length with a spacing of 1/3 the basin length.

2
C-005



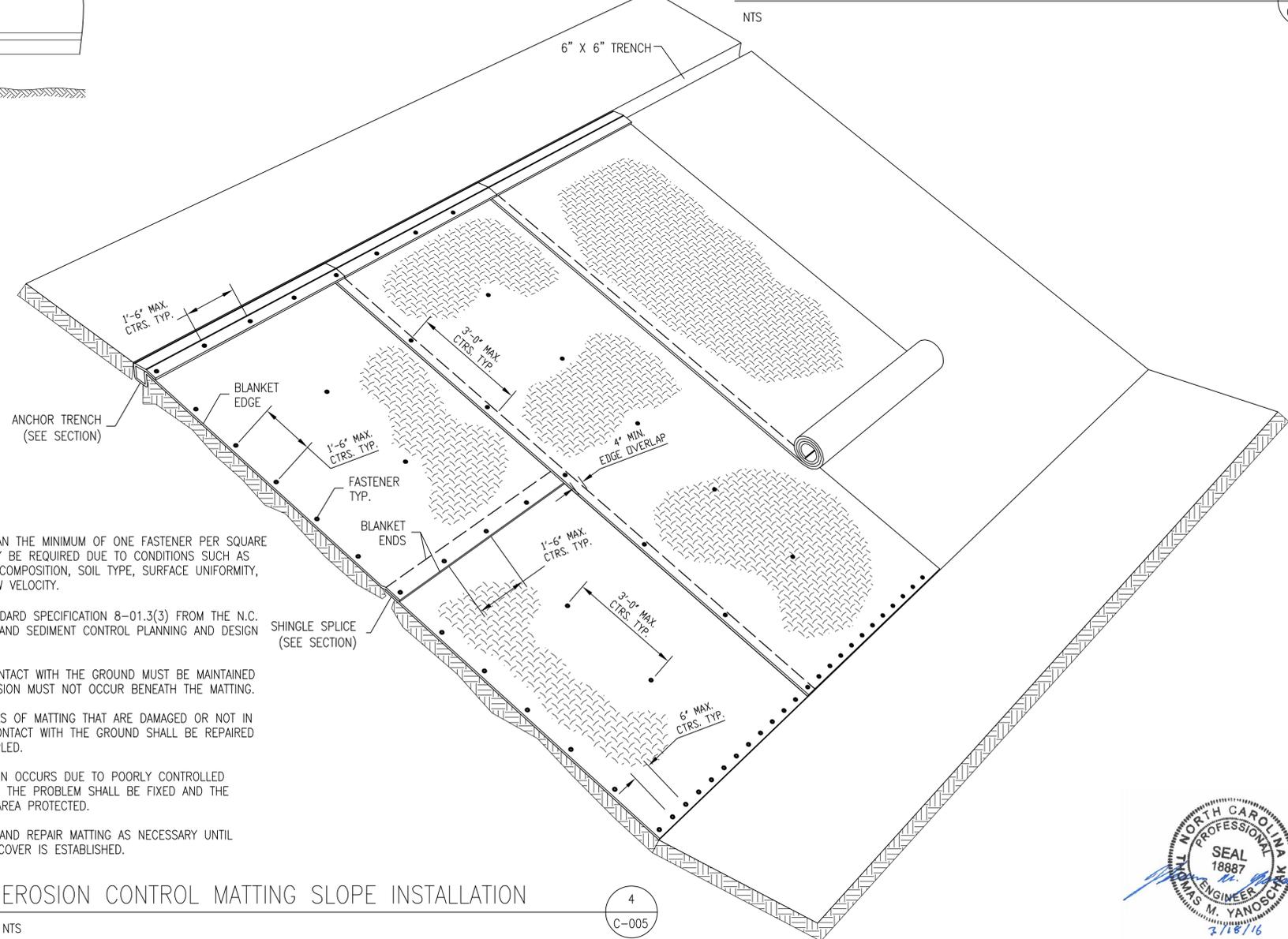
NOTES:

1. OPERATE TRACKED MACHINERY UP AND DOWN SLOPE TO LEAVE HORIZONTAL DEPRESSIONS IN SOIL.
2. DO NOT BACK BLADE DURING FINAL GRADING OPERATIONS PRIOR TO SLOPE STABILIZATION.
3. PERIODICALLY CHECK THE SEEDED SLOPES FOR RILLS AND WASHES. FILL THESE AREAS SLIGHTLY ABOVE THE ORIGINAL GRADE, THEN RESEED AND MULCH AS SOON AS POSSIBLE.

SLOPE TRACKING

NTS

3
C-005



NOTES:

1. MORE THAN THE MINIMUM OF ONE FASTENER PER SQUARE YARD MAY BE REQUIRED DUE TO CONDITIONS SUCH AS BLANKET COMPOSITION, SOIL TYPE, SURFACE UNIFORMITY, AND FLOW VELOCITY.
2. SEE STANDARD SPECIFICATION 8-01.3(3) FROM THE N.C. EROSION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL.
3. GOOD CONTACT WITH THE GROUND MUST BE MAINTAINED AND EROSION MUST NOT OCCUR BENEATH THE MATTING.
4. ANY AREAS OF MATTING THAT ARE DAMAGED OR NOT IN CLOSE CONTACT WITH THE GROUND SHALL BE REPAIRED AND STAPLED.
5. IF EROSION OCCURS DUE TO POORLY CONTROLLED DRAINAGE, THE PROBLEM SHALL BE FIXED AND THE ERODED AREA PROTECTED.
6. MONITOR AND REPAIR MATTING AS NECESSARY UNTIL GROUND COVER IS ESTABLISHED.

EROSION CONTROL MATTING SLOPE INSTALLATION

NTS

4
C-005



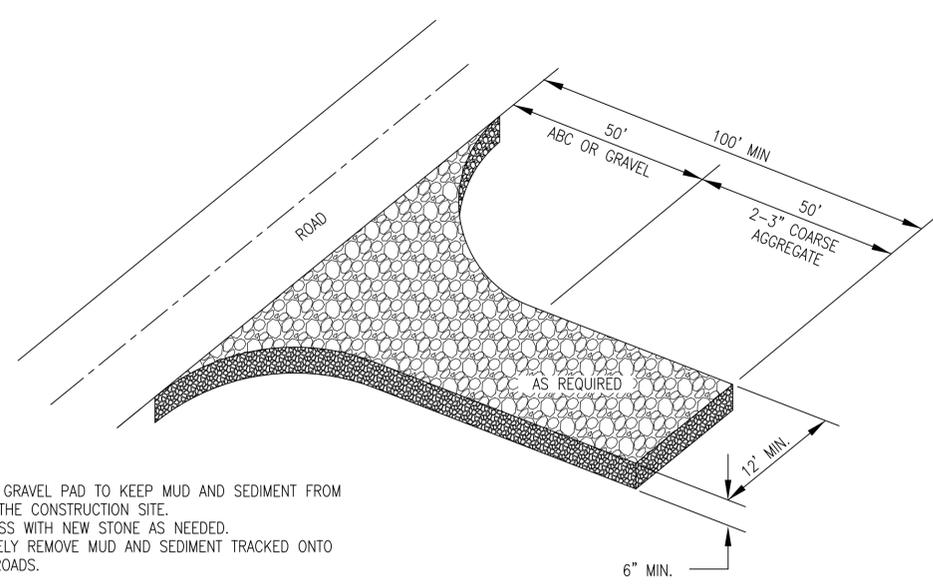
MARK	DESCRIPTION	DATE
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1	ISSUED FOR PERMIT	1/2016

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DRAWN BY: J. MURRAY, P.E.	SOLICITATION NO.: XXXX
CHECKED BY: J. MURRAY, P.E.	CONTRACT NO.: W912HN 12 D 0024
SUBMITTED BY: T. YANOSCHAK, P.E.	CATEGORY CODE: XXX-XX-XX
FILENAME: 00C-07.DGN	SIZE:
U.S. ARMY CORPS OF ENGINEERS 100 WEST OGLETHORPE AVENUE SAVANNAH DISTRICT SAVANNAH, GEORGIA	HDR ENGINEERING, INC. OF THE CAROLINAS 555 PAYETTEVILLE STREET, SUITE 900 RALEIGH, NORTH CAROLINA 27601

FORT BRAGG, NORTH CAROLINA
 LAMONT ROAD LANDFILL PHASE III DESIGN
 EROSION AND SEDIMENT CONTROL DETAILS (2 OF 4)

SHEET ID
C-007

G
F
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D
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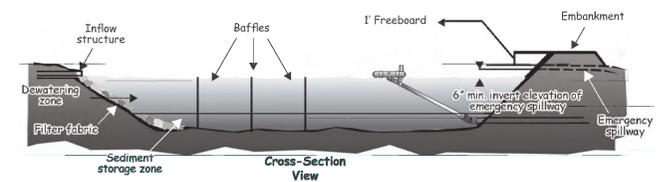
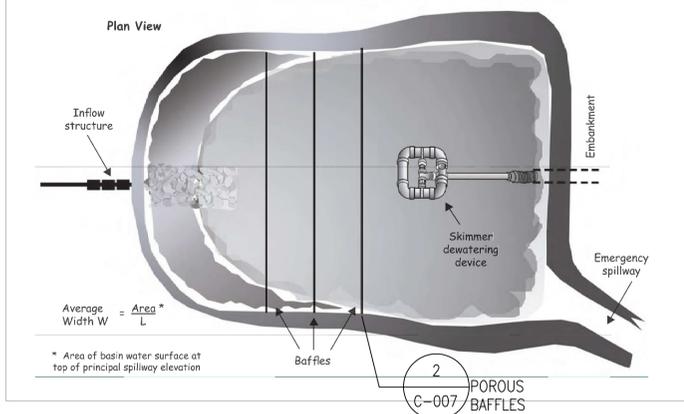


- NOTES:
1. MAINTAIN GRAVEL PAD TO KEEP MUD AND SEDIMENT FROM LEAVING THE CONSTRUCTION SITE.
 2. TOP DRESS WITH NEW STONE AS NEEDED.
 3. IMMEDIATELY REMOVE MUD AND SEDIMENT TRACKED ONTO PUBLIC ROADS.

CONSTRUCTION ENTRANCE/EXIT

NTS

1
C-005



- NOTES:
1. MINIMUM LENGTH: WIDTH RATIO 2:1.
 2. PROVIDE MINIMUM OF 3 POROUS BAFFLES ACROSS EACH TRAP. (SEE STANDARD PRACTICE 6.65, NC E&S PLANNING AND DESIGN MANUAL)
 3. REMOVE SEDIMENT WHEN ACCUMULATED SEDIMENT REACHES 1/2 THE HEIGHT OF THE FIRST BAFFLE.
 4. CONSTRUCT SKIMMER SEDIMENT BASIN IN ACCORDANCE WITH STANDARD PRACTICE 6.64, NC E&S PLANNING AND DESIGN MANUAL.
 5. ANY PROPOSED CHANGES TO BASIN DIMENSIONS SHALL BE PROVIDED TO ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION.
 6. INSPECT BASIN AT LEAST WEEKLY AND AFTER EACH RAIN EVENT 1/2" OR GREATER AND REPAIR IMMEDIATELY.
 7. EXCAVATE SEDIMENT FROM ENTIRE BASIN AND REPAIR BAFFLES AS NEEDED.
 8. ENSURE SKIMMER IS OPERATING PROPERLY. REMOVE OBSTRUCTIONS IMMEDIATELY.
 9. LINE EMERGENCY SPILLWAY WITH IMPERMEABLE GEOTEXTILE.

TABLE 1
SKIMMER BASIN DESIGN PARAMETERS

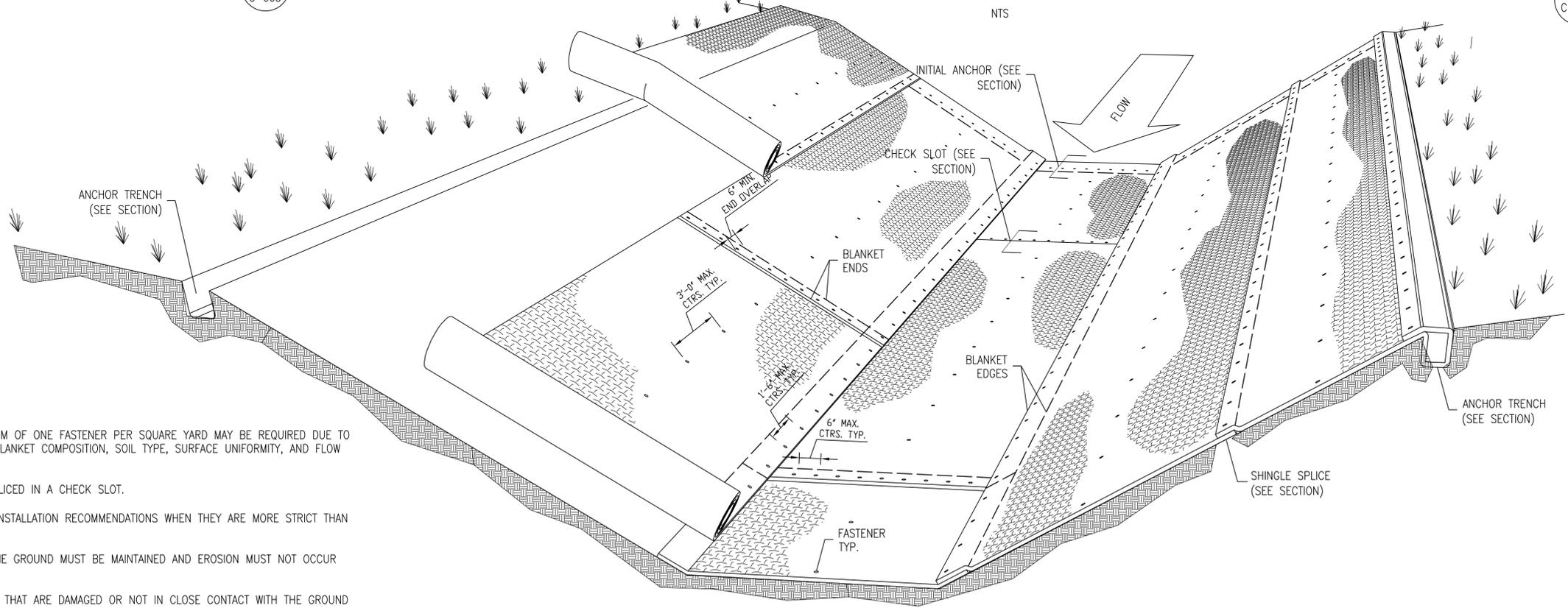
BASIN NO.	DISTURBED DRAINAGE AREA (AC)	MIN. STORAGE VOL. (FT ³)*	Q ₁₀ (CFS)	MIN. SURFACE AREA (SF)**	WEIR LENGTH (FT)	SKIMMER SIZE (IN)	SKIMMER ORIFICE DIAMETER (IN)	DEWATERING TIME (DAYS)	BASIN BOTTOM DIMENSIONS (FT)	PONDED DEPTH (FT)
SB-1	5.8	10,400	27.4	8,900	28.0	2.5	2.5	3	SEE PLANS	2

* 1,800 CF PER ACRE OF DISTURBED AREA.
** 325 SF PER CFS
*** CURRENTLY INSTALLED

SKIMMER SEDIMENT BASIN

NTS

2
C-005

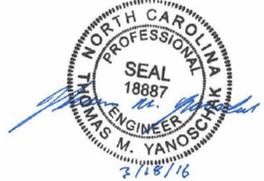
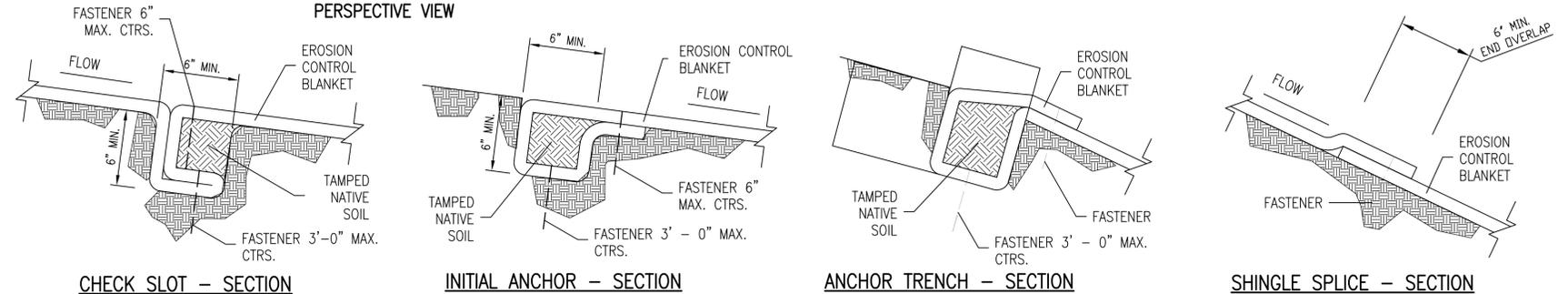


- NOTES:
1. MORE THAN THE MINIMUM OF ONE FASTENER PER SQUARE YARD MAY BE REQUIRED DUE TO CONDITIONS SUCH AS BLANKET COMPOSITION, SOIL TYPE, SURFACE UNIFORMITY, AND FLOW VELOCITY.
 2. ROLL ENDS MAY BE SPLICED IN A CHECK SLOT.
 3. USE MANUFACTURER'S INSTALLATION RECOMMENDATIONS WHEN THEY ARE MORE STRICT THAN THOSE SHOWN.
 4. GOOD CONTACT WITH THE GROUND MUST BE MAINTAINED AND EROSION MUST NOT OCCUR BENEATH THE MATTING.
 5. ANY AREAS OF MATTING THAT ARE DAMAGED OR NOT IN CLOSE CONTACT WITH THE GROUND SHALL BE REPAIRED AND STAPLED.
 6. IF EROSION OCCURS DUE TO POORLY CONTROLLED DRAINAGE, THE PROBLEM SHALL BE FIXED AND THE ERODED AREA PROTECTED.
 7. MONITOR AND REPAIR MATTING AS NECESSARY UNTIL GROUND COVER IS ESTABLISHED.

EROSION CONTROL MATTING CHANNEL INSTALLATION

NTS

3
C-005



DATE	DESCRIPTION	MARK
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DESIGNED BY: T. YANOSCHAK, P.E.	ISSUE DATE: JANUARY 2016
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U.S. ARMY CORPS OF ENGINEERS
100 WEST OGLETHORPE AVENUE
SAVANNAH DISTRICT
SAVANNAH, GEORGIA

HDR ENGINEERING, INC. OF THE CAROLINAS
555 FAYETTEVILLE STREET, SUITE 900
RALEIGH, NORTH CAROLINA 27601

EROSION AND SEDIMENT CONTROL DETAILS (3 OF 4)

SHEET ID
C-008

SEEDING SCHEDULE:

PERMANENT SEEDING:

PERFORM SUMMER SEEDING BETWEEN MARCH 1 THROUGH AUGUST 31.

SEEDING MIX:

- 1. FOXTAIL MILLET: 50 LBS/AC
2. COMMON BERMUDA GRASS (HULLED): 50 LBS/AC
3. GERMAN MILLET: 50 LBS/AC

PERFORM WINTER SEEDING BETWEEN SEPTEMBER 1 THROUGH FEBRUARY 28.

SEEDING MIX:

- 1. ROANE SOFT RED WINTER WHEAT: 50 LBS/AC
2. COMMON BERMUDA GRASS (HULLED): 25 LBS/AC
3. COMMON BERMUDA GRASS (UNHULLED): 25 LBS/AC

TEMPORARY SEEDING:

MARCH 1 THROUGH AUGUST 31:

- 1. GERMAN MILLET: 65 LBS/AC
2. FOXTAIL MILLET: 65 LBS/AC

SEPTEMBER 1 THROUGH FEBRUARY 28:

- 1. ROANE SOFT RED WINTER WHEAT: 120 LBS/AC

MULCHING:

IMMEDIATELY PROTECT SEEDED AREAS AGAINST EROSION BY MULCHING OR PLACING EROSION CONTROL MATTING. USE EROSION CONTROL MATTING OR BONDED FIBER MATRIX WHERE REQUIRED ON DRAWINGS OR IN SPECIFICATIONS.

STRAW MULCH:

- 1. CLEAN, SEED FREE, THRESHED STRAW OF OATS, WHEAT, BARLEY, RYE, OR OTHER LOCALLY AVAILABLE MULCH MATERIAL.
2. SPREAD MULCH IN A CONTINUOUS BLANKET USING 2 TONS/ACRE TO A DEPTH OF 4 TO 5 STRAWS.
3. IMMEDIATELY FOLLOWING SPREADING OF MULCH, SECURE WITH NETTING OR ASPHALT BINDER.
4. APPLY ASPHALT BINDER AT A RATE OF 0.10 GALS PER SQUARE YARD (10 GALS/1,000 SQ FT) OR ANCHOR WITH LIGHTWEIGHT NETS STAPLED OVER MULCH.

WOOD FIBER AND CELLULOSE FIBER MULCH (HYDROSEEDING):

- 1. USE WITH DARK GREEN MARKER DYE.
2. pH: 5
3. MOISTURE CONTENT: 12%
4. WOOD FIBER: 70% MAXIMUM
5. CELLULOSE FIBER: 30% MAXIMUM
6. WATER HOLDING CAPACITY: 1100% MINIMUM
7. APPLY WITH SEED AS PART OF A HYDROSEEDER SLURRY.

EROSION CONTROL MAT:

- 1. ROLLED WOOD EXCELSIOR MATTING
2. ALLOWABLE SHEAR STRESS: 1.75 PSF MINIMUM
3. LONGEVITY: 8 MONTHS
4. TOP NET: PHOTODEGRADABLE POLYPROPYLENE
5. BOTTOM NET: NONE
6. FIBER MATRIX: 100% WOOD EXCELSIOR (0.5 LBS/SY) 80% OF FIBERS 6-INCHES OR MORE.
7. INSTALL PER DETAIL 3/SHEET 10 AND DETAIL 2/SHEET 11 OR MANUFACTURER'S RECOMMENDATIONS.

BONDED FIBER MATRIX (OPTION FOR SLOPES):

- 1. APPLY IN 2-STEP PROCESS AS FOLLOWS:
FIRST PASS - INCLUDE ALL SEED, ALL AMMENDMENTS, AND 1/3 OF MULCH
SECOND PASS - INCLUDE 2/3 OF MULCH AND APPLY IN OPPOSING DIRECTION OF FIRST PASS IF APPLIED BY TOWER.

TURF REINFORCEMENT MAT:

- 1. ROLLED POLYPROPYLENE PRODUCT STABILIZED AGAINST UV AND CHEMICAL DEGRADATION.
2. ALLOWABLE MINIMUM SHEAR STRESS: 6 PSF AND VELOCITY: 16 FT/S
3. LONGEVITY: PERMANENT
4. INSTALL PER DETAIL 3/SHEET 10 AND DETAIL 2/SHEET 11 OR MANUFACTURER'S RECOMMENDATIONS.

SEEDING REQUIREMENTS

NTS

CONSTRUCTION SEQUENCE:

- 1. CONTACT LAND QUALITY AT (910) 433-3300 MINIMUM OF 48 HOURS PRIOR TO BEGINNING CONSTRUCTION.
2. FLAG CONSTRUCTION LIMITS WITH TREE PROTECTION FENCING WHERE SHOWN ON PLANS.
3. INSTALL TURBIDITY CURTAIN IN EXISTING RETENTION POND AS SHOWN ON DRAWINGS.
4. INSTALL SILT FENCE AND CONSTRUCTION ENTRANCES/EXITS AS SHOWN ON PLAN. IMMEDIATELY STABILIZE DISTURBED AREAS LOCATED OUTSIDE OF SILT FENCE WITH MATTING, RIPRAP, MULCH, ETC.
5. OBTAIN SOIL REQUIRED FOR CONSTRUCTION FROM ON-SITE STOCKPILES, MATERIAL EXCAVATED FROM WITHIN PHASE III, OR THE ON-SITE BORROW AREA. STABILIZE SLOPES AND DIVERSIONS BY SEEDING AND INSTALLING EROSION CONTROL MATTING IMMEDIATELY AFTER CONSTRUCTION.
6. INSTALL DRAINAGE CHANNELS AS SHOWN ON DRAWINGS.
7. STABILIZE DISTURBED AREAS AND STOCKPILES WITH PERMANENT SEEDING OR WOOD MULCH. INSTALL EROSION CONTROL MATTING OR BONDED FIBER MATRIX WHERE REQUIRED.
8. AFTER COMPLETION OF CONSTRUCTION, RESTORE CHANNELS, BERMS AND SEDIMENT BASIN TO DESIGN DIMENSIONS. RESTORE VEGETATION AS NEEDED. REMOVE SAFETY FENCING.
9. UPON STABILIZATION OF SITE, REMOVE SILT FENCE.

SEEDBED PREPARATION REQUIREMENTS:

- 1. PROJECT MANAGER (AS DEFINED IN SECTION 01040) TO APPROVE AREA AFTER THE SURFACE IS PREPARED AND PRIOR TO SEEDING. IF AREA IS SEEDED WITHOUT APPROVAL FROM PROJECT MANAGER AND THE PROJECT MANAGER REQUIRES THE AREA TO BE DISTURBED, THE CONTRACTOR SHALL RESEED THE AREA WITHOUT ADDITIONAL COST TO THE OWNER.
2. LIMIT PREPARATION TO AREAS WHICH WILL BE PLANTED SOON AFTER PREPARATION.
3. INSTALL TOPSOIL IN ACCORDANCE WITH SECTION 02260. ON SLOPES STEEPER THAN 5:1 CONTRACTOR SHALL TRACK SLOPE WITH DOZER TO CREATE WATER BARS PERPENDICULAR TO THE SLOPE.
4. LOOSEN SURFACE TO MINIMUM DEPTH OF FOUR (4) IN.
5. REMOVE STONES OVER ONE (1) IN IN ANY DIMENSION, STICKS, ROOTS, RUBBISH AND OTHER EXTRANEIOUS MATTER.
6. APPLY GROUND LIMESTONE AT A MINIMUM RATE OF 2 TONS/AC (3 TONS/AC FOR CLAY SOILS) OR AS RECOMMENDED BY SOIL TESTING.
7. SPREAD LIME UNIFORMLY OVER DESIGNATED AREAS.
8. AFTER APPLICATION OF LIME, PRIOR TO APPLYING FERTILIZER, LOOSEN AREAS TO BE SEEDED WITH DOUBLE DISC OR OTHER SUITABLE DEVICE IF SOIL HAS BECOME HARD OR COMPACTED. CORRECT ANY SURFACE IRREGULARITIES IN ORDER TO PREVENT POCKET OR LOW AREAS WHICH WILL ALLOW WATER TO STAND.
9. APPLY 10-10-10 FERTILIZER AT A RATE OF 800-1200 LB/AC OR AS RECOMMENDED BY SOIL TESTING.
10. DISTRIBUTE FERTILIZER UNIFORMLY OVER AREAS TO BE SEEDED.
10.1. USE SUITABLE DISTRIBUTOR.
10.2. INCORPORATE FERTILIZER INTO SOIL TO DEPTH OF AT LEAST TWO (2) IN.
10.3. REMOVE STONES OR OTHER SUBSTANCES WHICH WILL INTERFERE WITH TURF DEVELOPMENT OR SUBSEQUENT MOWING.
11. GRADE SEEDED AREAS TO SMOOTH, EVEN SURFACE WITH LOOSE, UNIFORMLY FINE TEXTURE.
11.1. ROLL AND RAKE, REMOVE RIDGES AND FILL DEPRESSIONS, AS REQUIRED TO MEET FINISH GRADES.
11.2. FINE GRADE JUST PRIOR TO PLANTING.
12. RESTORE SEEDED AREAS TO SPECIFIED CONDITION IF ERODED OR OTHERWISE DISTURBED BETWEEN FINE GRADING AND PLANTING.
13. IF FERTILIZER OR LIME APPLICATION RATE IS DETERMINED (BY INVOICES SUBMITTED) TO BE LESS THAN THAT SPECIFIED, APPLY ADDITIONAL FERTILIZER AND/OR LIME.
14. PROTECT SEEDED AREAS.

SEEDBED PREPARATION REQUIREMENTS

NTS

EROSION AND SEDIMENT CONTROL NOTES:

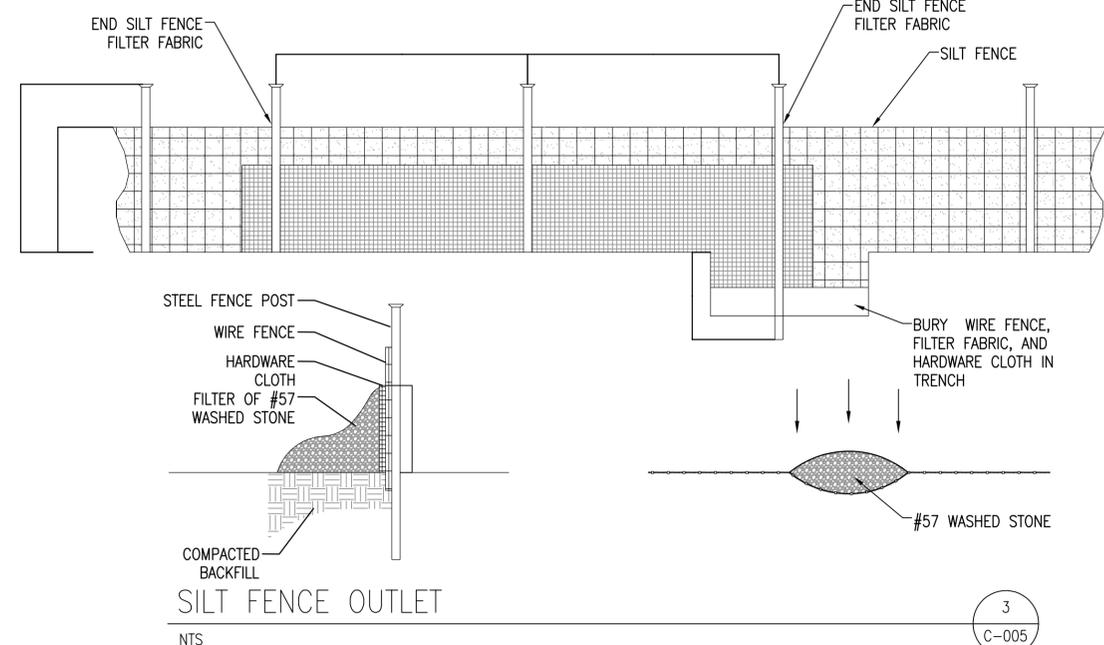
- 1. OPEN BURNING OF TREES, LIMBS, STUMPS AND CONSTRUCTION DEBRIS IS PROHIBITED.
2. SEE GROUND STABILIZATION REQUIREMENTS TABLE THIS SHEET.
3. CONTRACTOR WILL ADD EROSION AND SEDIMENT CONTROL AS NECESSARY TO PREVENT SEDIMENTATION AND DAMAGE TO ADJACENT AREAS AND AS DIRECTED BY THE OWNER'S REPRESENTATIVE.
4. CONTRACTOR WILL INSPECT AND REPAIR, AS NECESSARY, ANY EROSION AND SEDIMENT CONTROL WEEKLY AND FOLLOWING EACH RAIN.
5. EROSION AND SEDIMENT CONTROL WILL BE INSTALLED PRIOR TO CONSTRUCTION AND SHALL BE MAINTAINED UNTIL PERMANENT GROUND COVER IS ESTABLISHED. SEE SPECIFICATIONS.
6. CONTRACTOR IS RESPONSIBLE FOR MONITORING DOWNSTREAM CONDITIONS THROUGHOUT THE CONSTRUCTION PERIOD AND CLEARING ANY DEBRIS AND SEDIMENT RESULTING FROM CONSTRUCTION.
7. EROSION CONTROL FENCING MUST MEET THE REQUIREMENT OF THE DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES, STATE OF NORTH CAROLINA STANDARD SPECIFICATIONS. EROSION CONTROL MEASURES WILL BE MAINTAINED AT ALL TIMES.
8. ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES WILL BE INSTALLED IF DEEMED NECESSARY BY ON-SITE INSPECTION BY THE ENGINEER OR THEIR REPRESENTATIVE.
9. CLEAN SEDIMENT CONTROLS AFTER SEED HAS BEEN ESTABLISHED.
10. INSTALL BONDED FIBER MATRIX OR EXCELSIOR MAT ON ALL VEGETATED SLOPES WHERE SHOWN ON PLANS AND MAT ALONG ALL VEGETATED CHANNELS. MAT SHALL MEET THE REQUIREMENTS OF NCDOT STANDARD SPECIFICATION SECTION 1060. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
11. INSTALL TURF REINFORCEMENT MAT ON BERMS AND CHANNELS WHERE SHOWN ON PLANS.
12. SEE PROJECT SPECIFICATIONS AND DETAILS FOR SEEDING MIXTURES AND SEEDBED PREPARATIONS.
13. MAXIMUM DISTURBED ACREAGE FLOWING TO THE EXISTING RETENTION POND IS APPROXIMATELY 31.6 ACRES.
14. CONTRACTOR SHALL RESTORE GRAVEL ROADS USED BY CONSTRUCTION TRAFFIC TO ORIGINAL CONDITION FOLLOWING COMPLETION OF CONSTRUCTION.
15. CLEAN OUT OF CONCRETE TRUCKS WILL NOT BE PERMITTED ON SITE.

ANNOUNCEMENT OF COMBINED SELF-MONITORING AND SELF-INSPECTION FORM

THE SEDIMENTATION POLLUTION CONTROL ACT WAS AMENDED IN 2006 TO REQUIRE THAT PERSONS RESPONSIBLE FOR LAND-DISTURBING ACTIVITIES INSPECT A PROJECT AFTER EACH PHASE OF THE PROJECT TO MAKE SURE THAT THE APPROVED EROSION AND SEDIMENTATION CONTROL PLAN IS BEING FOLLOWED. RULES DETAILING THE DOCUMENTATION OF THESE INSPECTIONS TOOK EFFECT OCTOBER 1, 2010. TO SIMPLIFY DOCUMENTATION OF SELF-INSPECTION REPORTS AND NPDES SELF-MONITORING REPORTS, A COMBINED FORM IS NOW AVAILABLE. THE NEW FORM WAS DEVELOPED TO SATISFY THE REQUIREMENTS OF THE SEDIMENTATION POLLUTION CONTROL ACT AND THE NPDES STORMWATER PERMIT FOR CONSTRUCTION ACTIVITIES, NCG 010000. BEGINNING AUGUST 1, 2013, THE DIVISION OF ENERGY, MINERAL, AND LAND RESOURCES IS RESPONSIBLE FOR ADMINISTERING BOTH THE SPCA AND THE NPDES STORMWATER PERMIT FOR CONSTRUCTION ACTIVITIES, NCG 010000. THE COMBINED FORM SHOULD MAKE IT EASIER TO COMPLY WITH SELF-INSPECTION REQUIREMENTS. THE COMBINED SELF-MONITORING FORM IS AVAILABLE AS A PDF AND WORD DOCUMENT FROM THE LAND QUALITY WEB SITE, http://portal.ncdenr.org/web/lr/erosion IF YOU HAVE QUESTIONS, PLEASE CONTACT THE LAND QUALITY SECTION AT A DEQ REGIONAL OFFICE.

Table with 3 columns: SITE AREA DESCRIPTION, STABILIZATION TIME FRAME, STABILIZATION TIME FRAME EXCEPTIONS. Rows include PERIMETER DIKES, SWALES, DITCHES AND SLOPES; HIGH QUALITY WATER (HQW) ZONES; SLOPES STEEPER THAN 3:1; SLOPES 3:1 OR FLATTER; ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1.

* "EXTENSIONS OF TIME MAY BE APPROVED BY THE PERMITTING AUTHORITY BASED ON WEATHER OR OTHER SITE-SPECIFIC CONDITIONS THAT MAKE COMPLIANCE IMPRACTICABLE."



- NOTES:
1. INSPECT OUTLETS AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (1/2 INCH OR GREATER) RAINFALL EVENT.
2. CLEAR STONE AND WIRE FENCE OF ANY SEDIMENT OR DEBRIS TO PROVIDE ADEQUATE FLOW FOR SUBSEQUENT RAINS.
3. REPLACE STONE AS NEEDED.

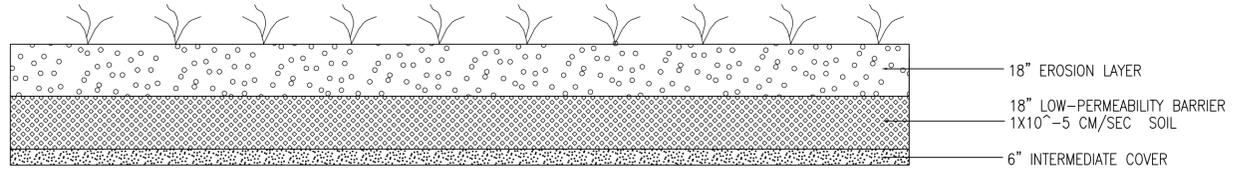


Table with columns: DATE, REVISION PER REG COMMENTS, MARK, DESCRIPTION. Includes dates 3/2016 and 1/2016.

Table with columns: DESIGNED BY, DRAWN BY, CHECKED BY, SUBMITTED BY, FILENAME, ANSID, ISSUE DATE, SOLUTION NO., CONTRACT NO., CATEGORY CODE. Includes names like T. YANOSCHAK, P.E. and J. MURRAY, P.E.

EROSION AND SEDIMENT CONTROL DETAILS (4 OF 4)
FORT BRAGG, NORTH CAROLINA
LAWMONT ROAD LANDFILL PHASE III DESIGN

SHEET ID
C-009

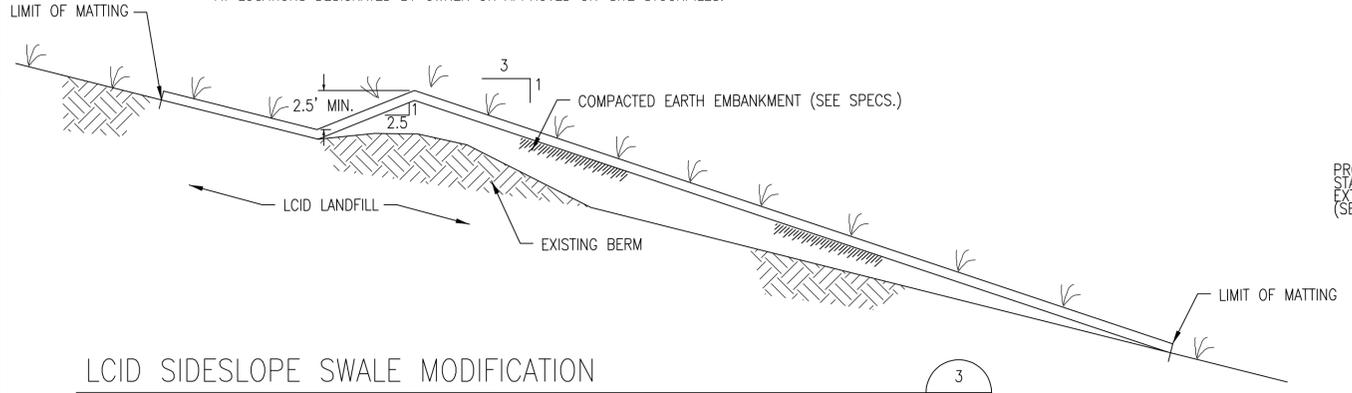


FINAL COVER

NTS

NOTES:

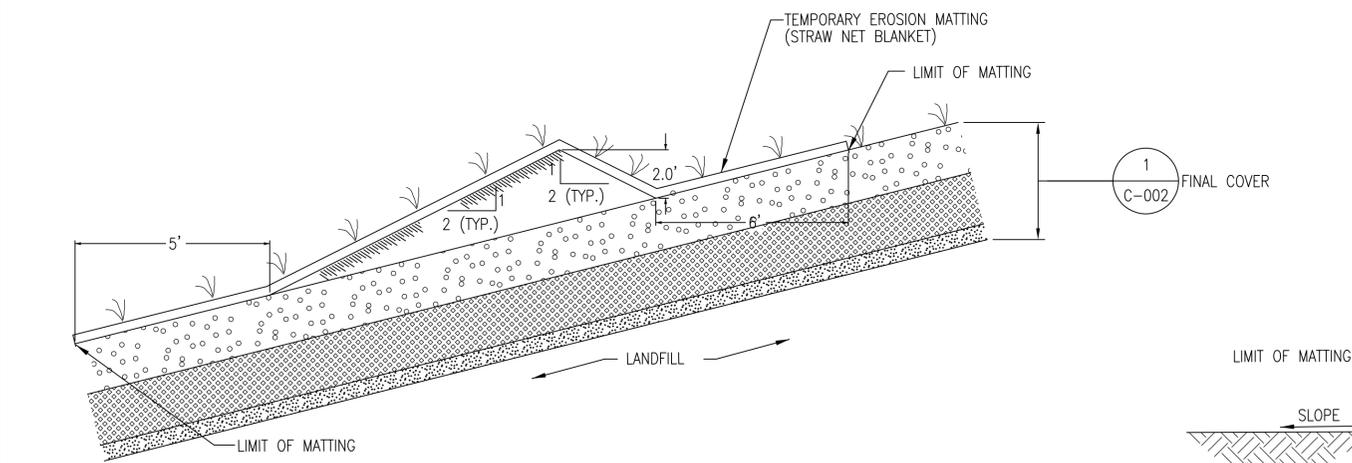
- 1) THE TOP 6 INCHES OF EROSION LAYER SHALL CONSIST OF TOPSOIL CAPABLE OF SUPPORTING VEGETATION.
- 2) LAYER THICKNESS SHALL BE MEASURED PERPENDICULAR TO SLOPE ON LANDFILL SIDESLOPES.
- 3) ALL SOILS REQUIRED FOR FINAL COVER CONSTRUCTION SHALL BE OBTAINED FROM THE FT. BRAGG BORROW PIT AT LOCATIONS DESIGNATED BY OWNER OR APPROVED ON-SITE STOCKPILES.



LCID SIDESLOPE SWALE MODIFICATION

NTS

3
C-002



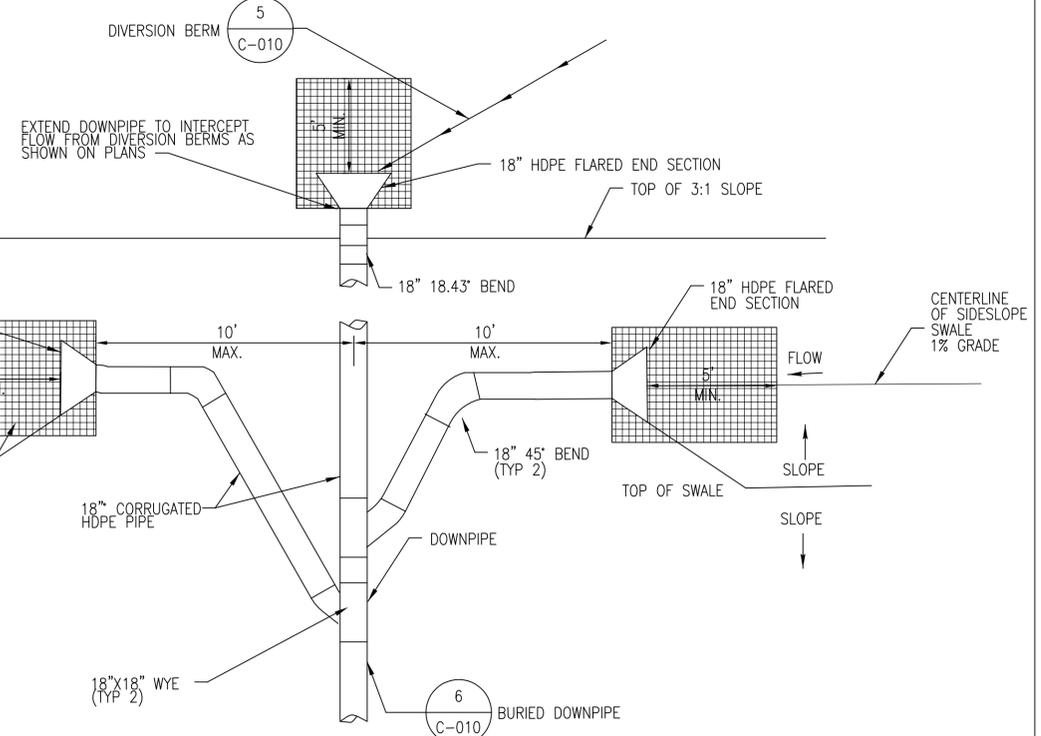
SIDESLOPE SWALE

NTS

NOTES:

- 1) IMMEDIATELY REMOVE ANY OBSTRUCTIONS FROM THE FLOW AREA AND REPAIR THE BERM AS NEEDED.
- 2) CHECK OUTLETS AND MAKE TIMELY REPAIRS AS NEEDED.
- 3) MAINTAIN THE VEGETATION IN A VIGOROUS, HEALTHY CONDITION AT ALL TIMES.

4
C-002



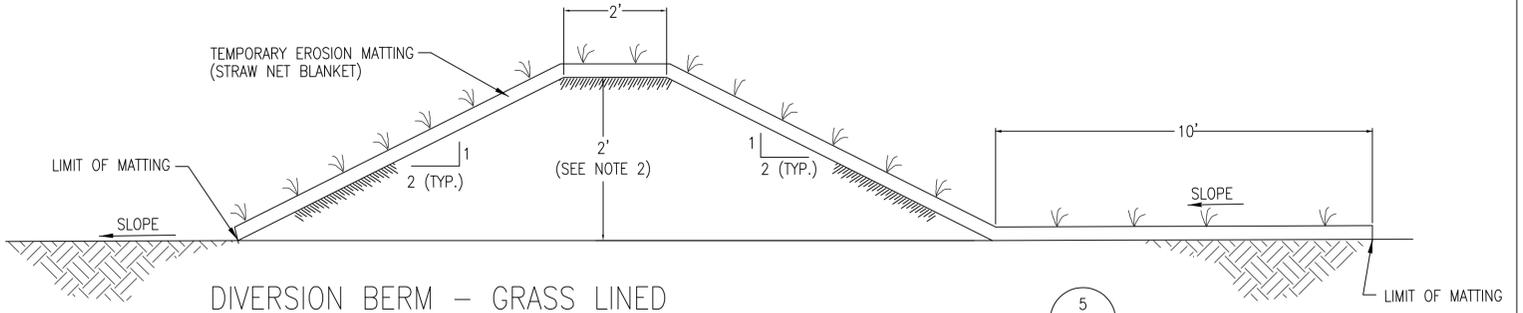
DOWNPIPE

NTS

NOTES:

- 1) ALL PIPE SHALL CONSIST OF DUAL WALL HDPE PIPE WITH SMOOTH INTERIOR.
- 2) ALL PIPE JOINTS SHALL BE WATER TIGHT.
- 3) ADJUST GRADING OF SIDESLOPE SWALE AS NECESSARY TO TRANSITION FLOW INTO FLARED END SECTION.
- 4) FABRIC-FORMED CONCRETE LINING SHALL HAVE AN AVERAGE THICKNESS OF 4-IN. WITH FILTER POINTS INSTALLED ON 8-IN. CENTERS. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
- 5) INSPECT PIPING SYSTEM REGULARLY AND PROMPTLY MAKE NECESSARY REPAIRS.

2
C-002



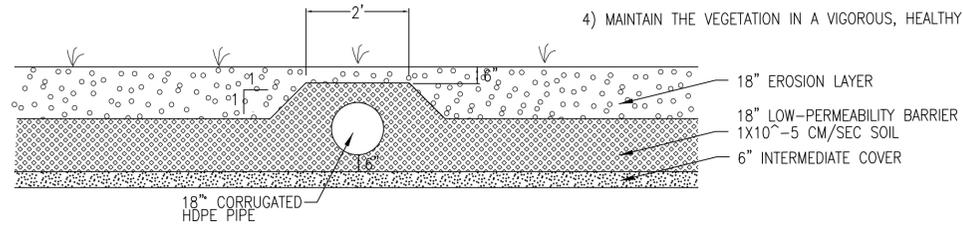
DIVERSION BERM - GRASS LINED

NTS

NOTES:

- 1) CONSTRUCT TOP OF BERM AT CONSTANT ELEVATION BEGINNING 100' FROM DOWNPIPE SUCH THAT BERM HEIGHT IS 3' AT DOWNPIPE.
- 2) IMMEDIATELY REMOVE ANY OBSTRUCTIONS FROM THE FLOW AREA AND REPAIR THE BERM AS NEEDED.
- 3) CHECK OUTLETS AND MAKE TIMELY REPAIRS AS NEEDED.
- 4) MAINTAIN THE VEGETATION IN A VIGOROUS, HEALTHY CONDITION AT ALL TIMES.

5
C-002



BURIED DOWNPIPE

NTS

6
C-010



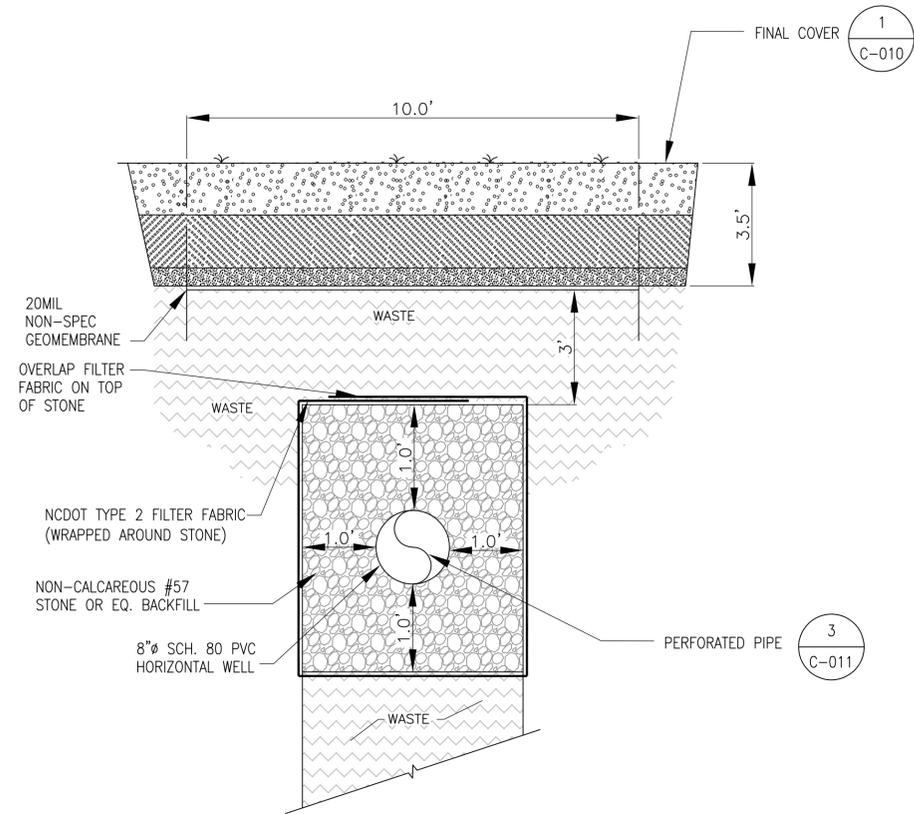
NO.	REVISION PER DEC COMMENTS	ISSUED FOR PERMIT	DATE
2		1	3/2016
1			1/2016

ISSUE DATE: JANUARY 2016	DESIGNED BY: T. YANOSCHAK, P.E.	U.S. ARMY CORPS OF ENGINEERS 100 WEST OGLETHORPE AVENUE SAVANNAH DISTRICT SAVANNAH, GEORGIA
SOLICITATION NO.: XXXX	DRAWN BY: J. MURRAY, P.E.	HDR ENGINEERING, INC. OF THE CAROLINAS 555 FAYETTEVILLE STREET, SUITE 900 RALEIGH, NORTH CAROLINA 27601
CONTRACT NO.: W912HN 12 D 0024	CHECKED BY: J. MURRAY, P.E.	FILENAME: 00C-10.DGN
CATEGORY CODE: XXX-XX-XX	SUBMITTED BY: T. YANOSCHAK, P.E.	SIZE: 11x17

FORT BRAGG, NORTH CAROLINA
LAMONT ROAD LANDFILL PHASE III DESIGN
MISCELLANEOUS DETAILS (1 OF 2)



SHEET ID
C-010

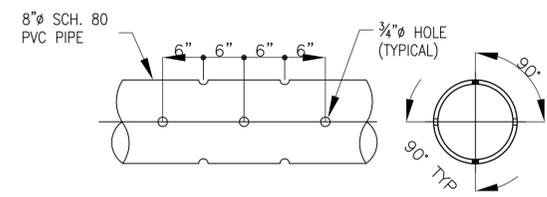


HORIZONTAL GAS WELL TRENCH (FRONT VIEW)

NTS

1
C-002

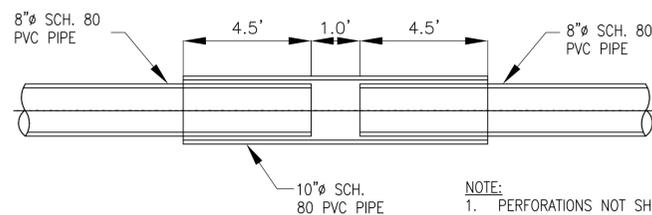
- NOTES:
- 1) CONTRACTOR IS RESPONSIBLE FOR ALL HEALTH AND SAFETY ASPECTS OF ALL CONSTRUCTION ACTIVITIES.
 - 2) HORIZONTAL WELLS SHALL BE INSTALLED AT A MINIMUM FREQUENCY OF 1 PER CLOSURE ACRE.



PERFORATED PIPE

NTS

3
C-011

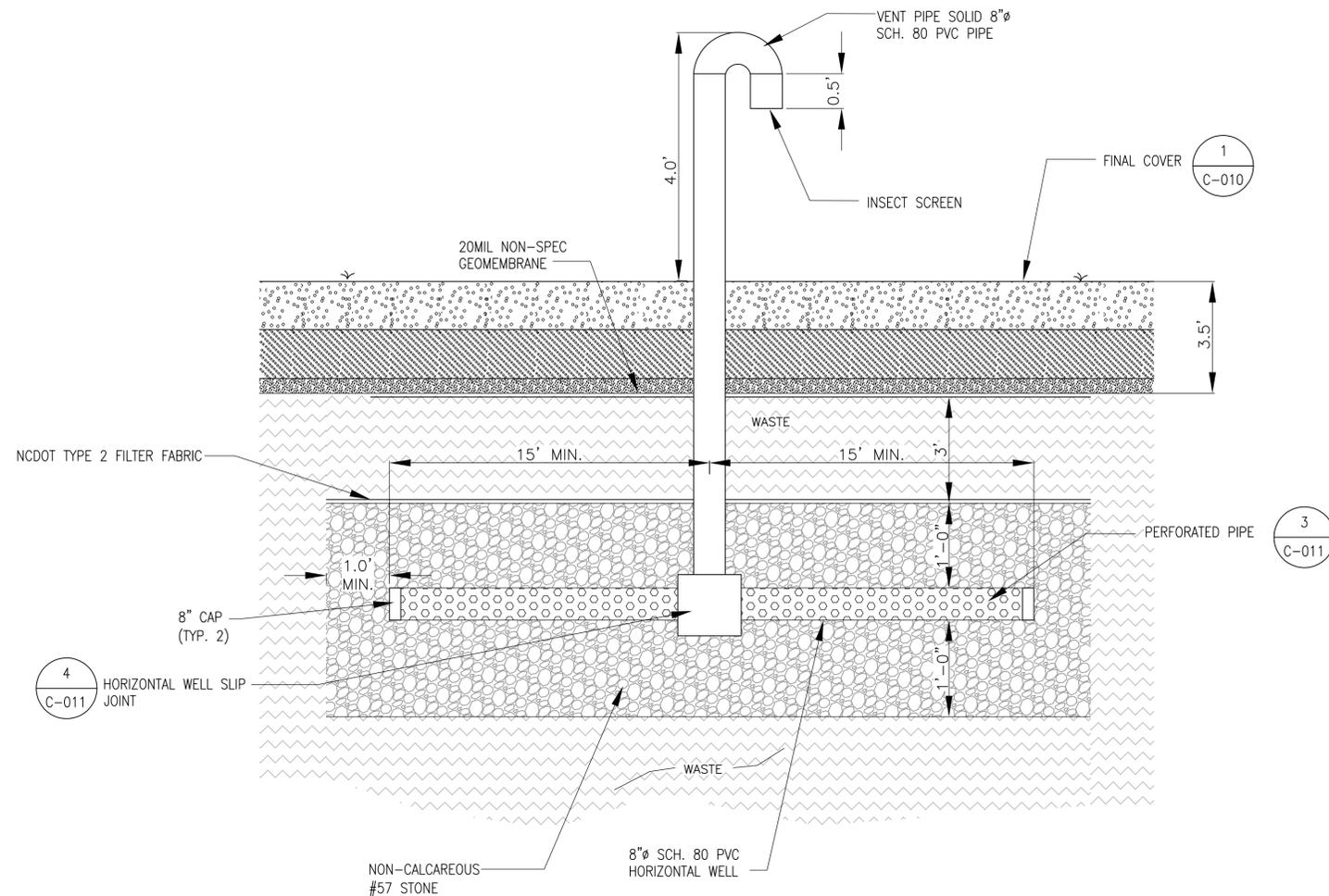


HORIZONTAL WELL SLIP JOINT

NTS

4
C-011

- NOTE:
1. PERFORATIONS NOT SHOWN FOR CLARITY. SEE DETAIL 3 OF THIS SHEET FOR PERFORATED PIPE.



HORIZONTAL GAS WELL TRENCH (SIDE VIEW)

NTS

2
C-002

- NOTES:
- 1) CONTRACTOR IS RESPONSIBLE FOR ALL HEALTH AND SAFETY ASPECTS OF ALL CONSTRUCTION ACTIVITIES.
 - 2) HORIZONTAL WELLS SHALL BE INSTALLED AT A MINIMUM FREQUENCY OF 1 PER CLOSURE ACRE.



US Army Corps of Engineers

MARK	DESCRIPTION	DATE
1 <td>ISSUED FOR PERMIT <td>1/2016</td> </td>	ISSUED FOR PERMIT <td>1/2016</td>	1/2016
2	REVISED PER REG COMMENTS	3/2016

ISSUE DATE: JANUARY 2016	DESIGNED BY: T. YANOSCHAK, P.E.
SOLICITATION NO.: XXXX	DRAWN BY: T. YANOSCHAK, P.E.
CONTRACT NO.: W912HN 12 D 0024	CHECKED BY: J. MURRAY, P.E.
CATEGORY CODE: XXX-XX-XX	SUBMITTED BY: T. YANOSCHAK, P.E.
FILENAME: 00C-11.DGN	SIZE: ANSI D

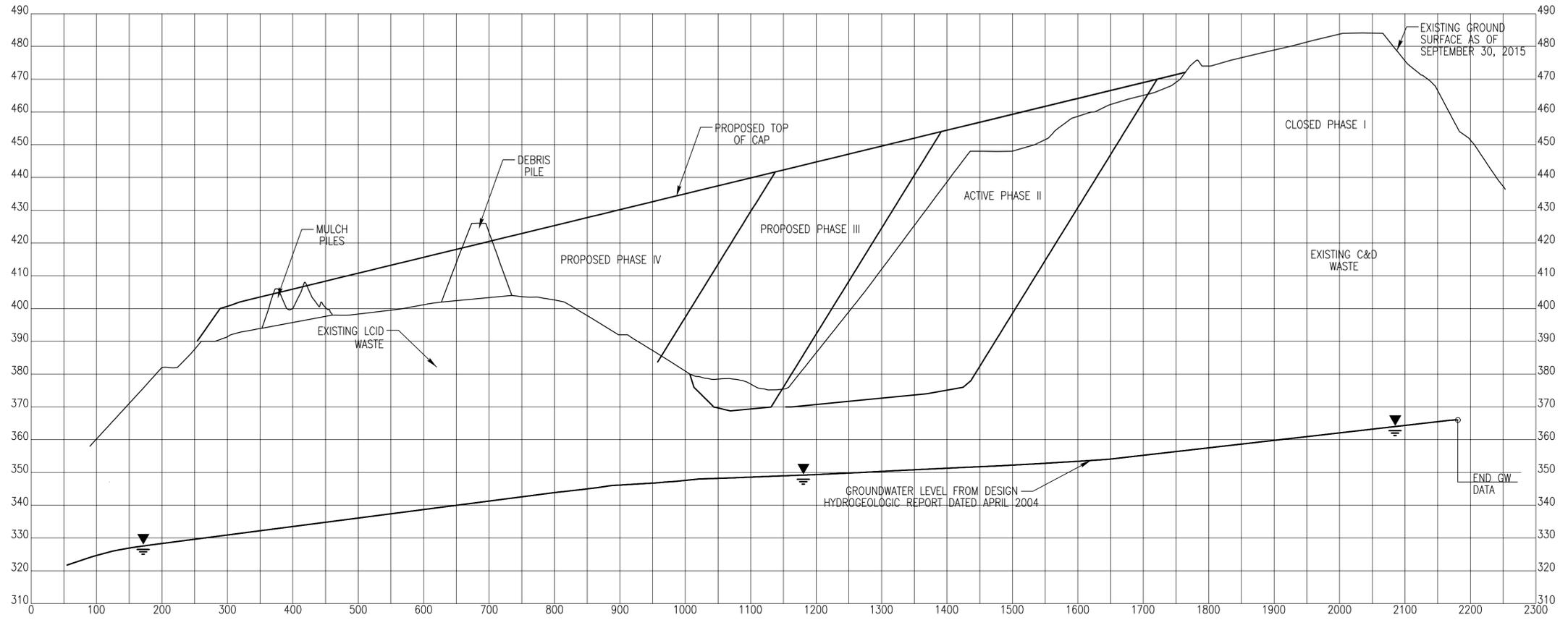
U.S. ARMY CORPS OF ENGINEERS 100 WEST OGLETHORPE AVENUE SAVANNAH DISTRICT SAVANNAH, GEORGIA	HDR ENGINEERING, INC. OF THE CAROLINAS 555 FAYETTEVILLE STREET, SUITE 900 RALEIGH, NORTH CAROLINA 27601
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FORT BRAGG, NORTH CAROLINA LAMONT ROAD LANDFILL PHASE III DESIGN	MISCELLANEOUS DETAILS (2 OF 2)
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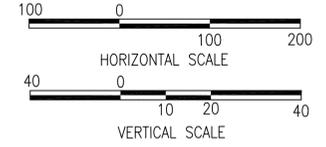
SHEET ID
C-011



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CROSS SECTION A
A
C-002



MARK	DESCRIPTION	DATE
2	REVISED PER DEC COMMENTS	3/2016
1	ISSUED FOR PERMIT	1/2016

DESIGNED BY: T. YANOSCHAK, P.E.	ISSUE DATE: JANUARY 2016
DRAWN BY: J. MURRAY, P.E.	SOLUTION NO.: XXXX
CHECKED BY: J. MURRAY, P.E.	CONTRACT NO.: W912HN 12 D 0024
SUBMITTED BY: T. YANOSCHAK, P.E.	CATEGORY CODE: XXX-XX-XX
FILENAME: 00C-12.DGN	SIZE: ANSI D

U.S. ARMY CORPS OF ENGINEERS
100 WEST OGLETHORPE AVENUE
SAVANNAH DISTRICT
SAVANNAH, GEORGIA

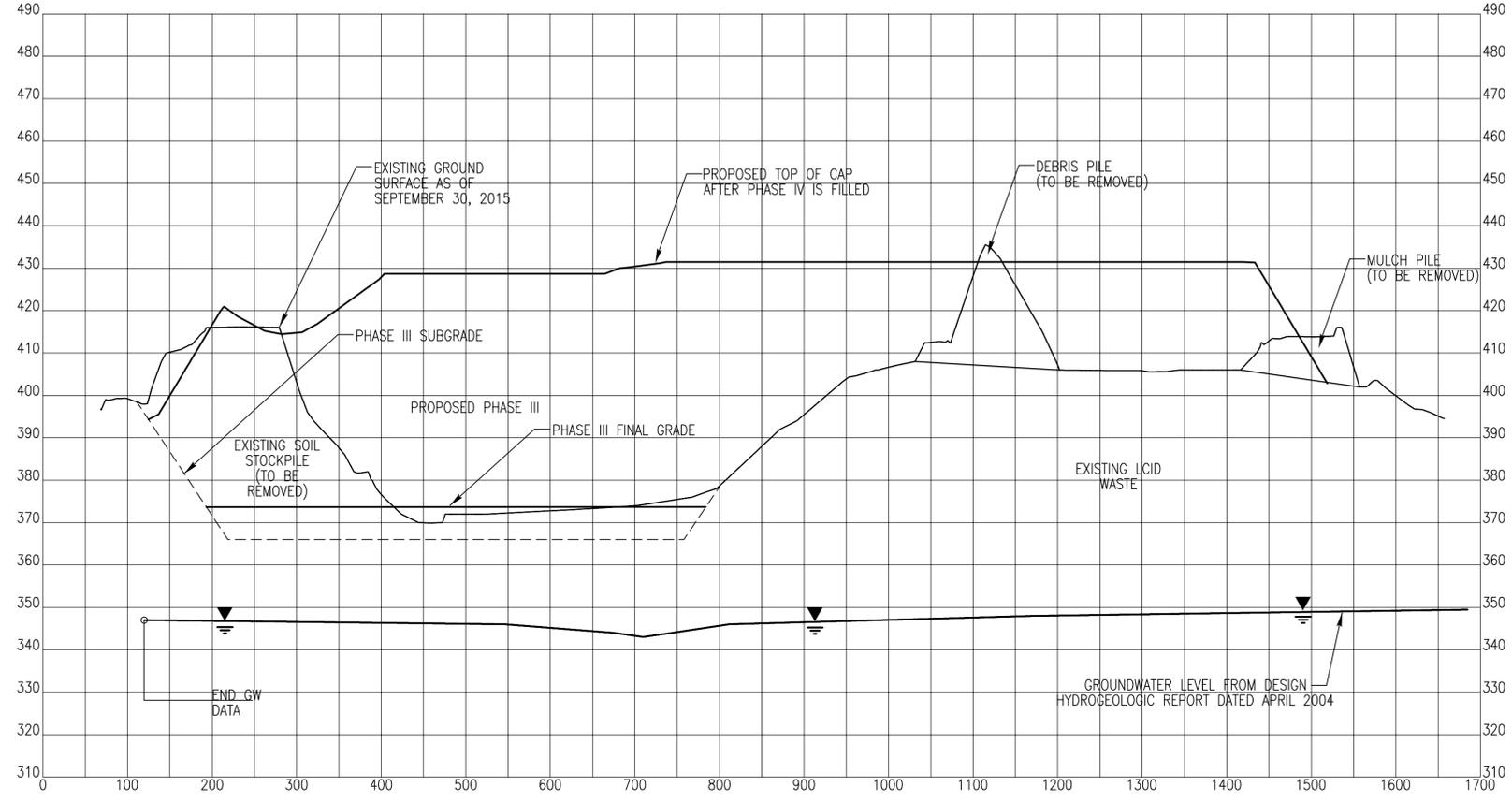
HDR ENGINEERING, INC. OF THE CAROLINAS
555 PAYETTEVILLE STREET, SUITE 900
RALEIGH, NORTH CAROLINA 27601

FORT BRAGG, NORTH CAROLINA
LAMONT ROAD LANDFILL PHASE III DESIGN

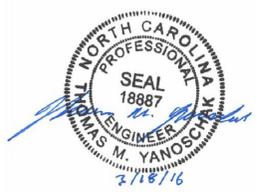
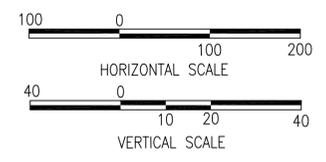
CROSS SECTION (1 OF 2)

SHEET ID
C-012

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D
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CROSS SECTION B
B
C-002



MARK	REVISID PER/DEO COMMENTS	DATE
2		3/2016

DESIGNED BY: T. YANOSCHAK, P.E.	ISSUE DATE: JANUARY 2016
DRAWN BY: J. MURRAY, P.E.	SOLUTION NO.:
CHECKED BY: J. MURRAY, P.E.	CONTRACT NO.:
SUBMITTED BY: T. YANOSCHAK, P.E.	W912HN T2 D 0024
FILENAME: 00C-13.DGN	CATEGORY CODE XXX-XX-XX

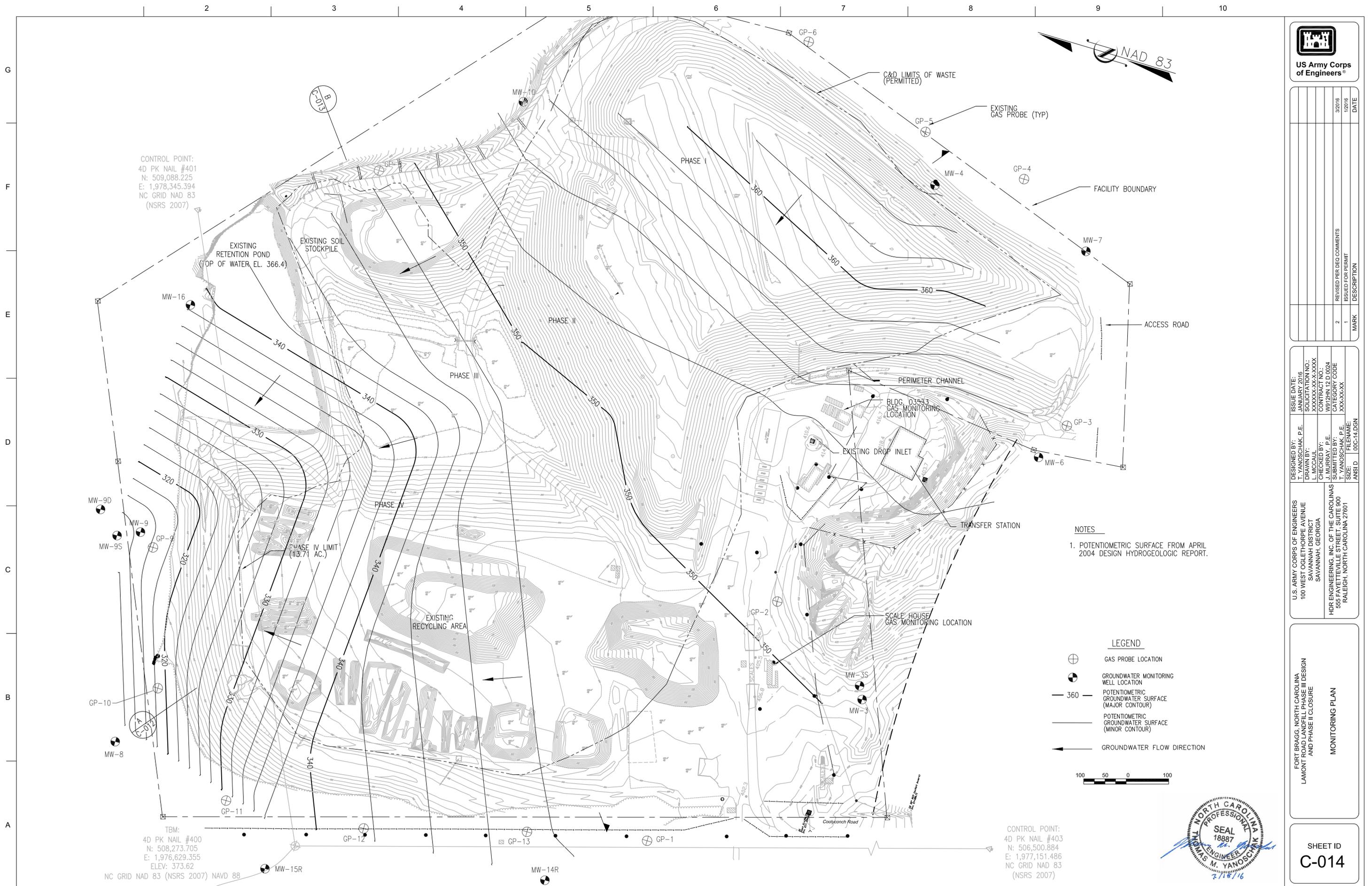
U.S. ARMY CORPS OF ENGINEERS
100 WEST OGLETHORPE AVENUE
SAVANNAH DISTRICT
SAVANNAH, GEORGIA

HDR ENGINEERING, INC. OF THE CAROLINAS
555 PAYETTEVILLE STREET, SUITE 900
RALEIGH, NORTH CAROLINA 27601

FORT BRAGG, NORTH CAROLINA
LAMONT ROAD LANDFILL PHASE III DESIGN

CROSS SECTION

SHEET ID
C-013



CONTROL POINT:
4D PK NAIL #401
N: 509,088.225
E: 1,978,345.394
NC GRID NAD 83
(NSRS 2007)

TBM:
4D PK NAIL #400
N: 508,273.705
E: 1,976,629.355
ELEV: 373.62
NC GRID NAD 83 (NSRS 2007) NAVD 88

CONTROL POINT:
4D PK NAIL #403
N: 506,500.884
E: 1,977,151.486
NC GRID NAD 83
(NSRS 2007)

NOTES
1. POTENTIOMETRIC SURFACE FROM APRIL 2004 DESIGN HYDROGEOLOGIC REPORT.

LEGEND
 ⊕ GAS PROBE LOCATION
 ● GROUNDWATER MONITORING WELL LOCATION
 — 360 — POTENTIOMETRIC GROUNDWATER SURFACE (MAJOR CONTOUR)
 — — POTENTIOMETRIC GROUNDWATER SURFACE (MINOR CONTOUR)
 → GROUNDWATER FLOW DIRECTION



MARK	DESCRIPTION	DATE
2	REVISED PER REG COMMENTS	3/2016
1	ISSUED FOR PERMIT	1/2016

ISSUE DATE: JANUARY 2016	DESIGNED BY: T. YANOSCHAK, P.E.
LOCATION NO.: XXXX-XXXX	DRAWN BY: J. MURRAY, P.E.
CONTRACT NO.: W912HN 12 D 0024	CHECKED BY: J. MURRAY, P.E.
CATEGORY CODE: XXX-XX-XX	SUBMITTED BY: T. YANOSCHAK, P.E.
FILENAME: 00C-14.DGN	SIZE: 00C-14.DGN

U.S. ARMY CORPS OF ENGINEERS
100 WEST OGLETHORPE AVENUE
SAVANNAH DISTRICT
SAVANNAH, GEORGIA

HDR ENGINEERING, INC. OF THE CAROLINAS
555 PAYETTEVILLE STREET, SUITE 900
RALEIGH, NORTH CAROLINA 27601

FORT BRAGG, NORTH CAROLINA
LAMONT ROAD LANDFILL PHASE III DESIGN
AND PHASE II CLOSURE

MONITORING PLAN

SHEET ID
C-014

SSDGENSPECSS
SSSYSTIMSS
SSUSERNAMESS

STATUS