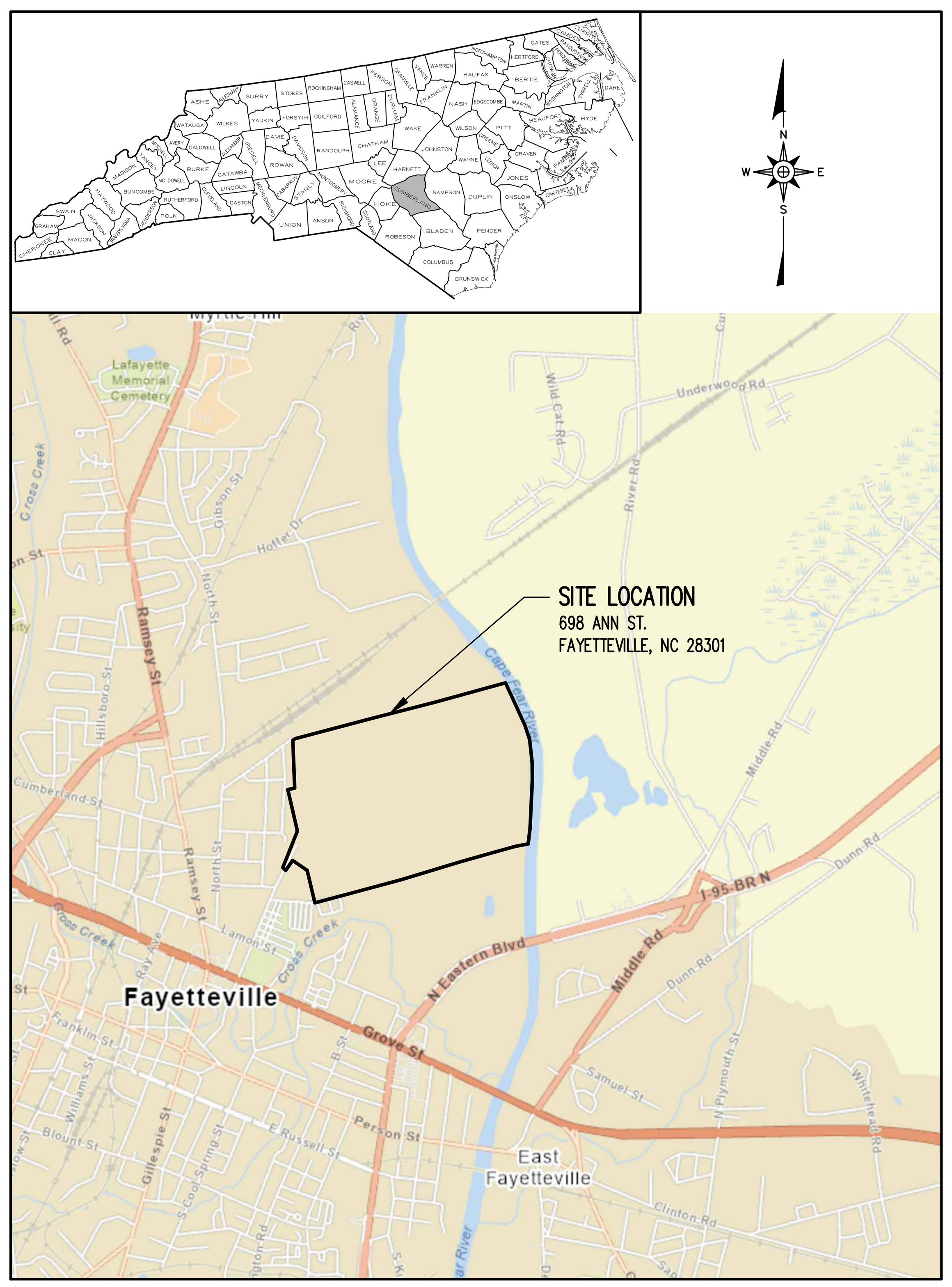
CUMBERLAND COUNTY
NORTH CAROLINA

CUMBERLAND COUNTY, NORTH CAROLINA
CUMBERLAND COUNTY SOLID WASTE MANAGEMENT

ANN STREET MSW LANDFILL SEDIMENT POND IMPROVEMENTS

BID ISSUE

OCTOBER 2024



SITE LOCATION MAP
NOT TO SCALE

STANDARD SECTION LOCATION
CALLOUT (SHEET AND DETAIL)

AA / S1 — SECTION REFERENCED; SHEET WHERE SECTION IS PRESENTED

STANDARD DETAIL CALLOUT

1 / S1 — DETAIL REFERENCED; SHEET WHERE DETAIL IS PRESENTED

STANDARD DETAIL LABEL AND CALLOUT

DETAIL TITLE
DETAIL
SCALE AS SHOWN
1 / S1 — DETAIL REFERENCED; SHEET WHERE DETAIL IS PRESENTED

STANDARD REVISION
CALLOUT (SHEET AND DETAIL)

1 — SHEET SET REVISION NUMBER

SEAL
NORTH CAROLINA PROFESSIONAL ENGINEER
SEAL 023002
STACEY A. SMITH
10/14/2024
Signed by: Stacey A. Smith
3369FBA008BB445...

SEAL
NORTH CAROLINA PROFESSIONAL ENGINEER
SEAL 054367
JESSE C. LI
10/14/2024
DocuSigned by: Jesse C. Li
C5ECC95C937E4AC...

REV.	DATE	DESCRIPTION

SAFETY NOTE:
Contractor shall be solely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection.

NC LIC. NO. F-1370 (ENGINEERING)
SC COA NO. C01488
SMITH+GARDNER
14 N. Boylan Avenue, Raleigh NC 27603 | 919.828.0577
1526 Richland St., Columbia SC 29201

811
Know what's below.
Call before you dig.

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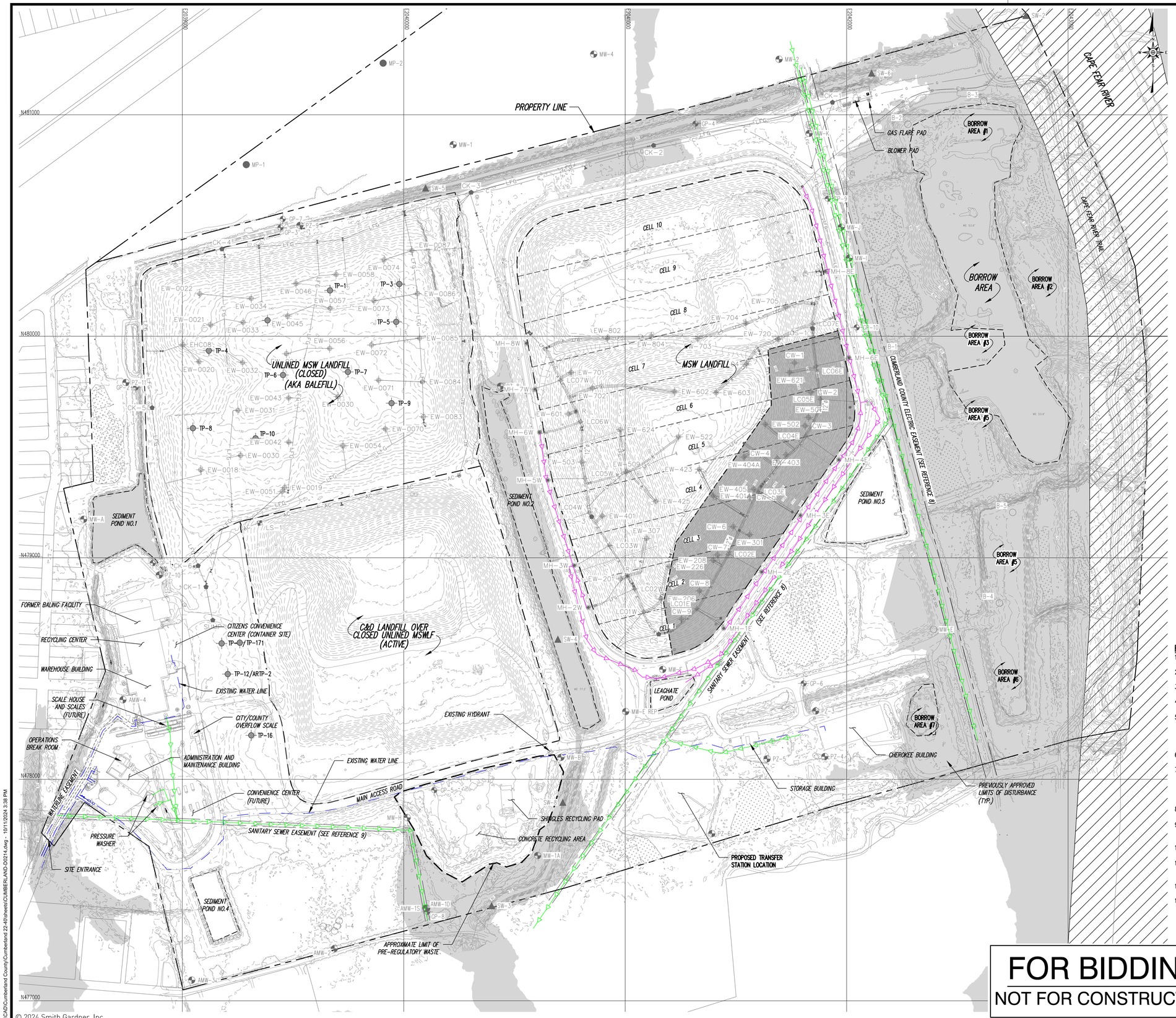
NOT FOR CONSTRUCTION



LEGEND

- EXISTING CONTOUR (SEE REFERENCE 1)
- PROPERTY LINE (SEE REFERENCE 2)
- STREAM (APPROXIMATE)
- APPROXIMATE EXISTING WASTE LIMITS
- LIMIT OF FUTURE WASTE PLACEMENT
- PREVIOUSLY APPROVED LIMITS OF DISTURBANCE (SEE REFERENCE 12)
- EXISTING SEWER LINE
- EXISTING LEACHATE LINE
- EXISTING WATER LINE
- EXISTING LANDFILL GAS LINE (SEE REFERENCE 5)
- EXISTING COMPRESSED AIR LINE
- EXISTING CONDENSATE LINE
- EXISTING COMPRESSED AIR AND CONDENSATE LINE
- EXISTING FORCEMAIN
- FINAL COVER LIMITS (SEE REFERENCE 11)
- FLOOD ZONE AE (SEE REFERENCE 9)
- FLOODWAY (SEE REFERENCE 9)
- WETLANDS (SEE REFERENCE 8)
- EW-720 — LFG EXTRACTION WELL (SEE REFERENCE 5)
- CW-1 — LFG CAP WELL (SEE REFERENCE 5)
- LCO5E — LEACHATE CLEANOUT (SEE REFERENCE 5)
- TP-1 — TEST PIT (SEE REFERENCE 4)
- GP-1 — GAS MONITORING PROBE (SEE REFERENCE 4)
- MW-1 — MONITORING WELL (SEE REFERENCE 4)
- I-1 — INJECTION WELL (SEE REFERENCE 5)
- SW-1 — STORMWATER MONITORING POINT (SEE REFERENCE 4)
- CS-1 — CONDENSATE SUMP (SEE REFERENCE 5)
- CK-1 — CONDENSATE KNOCKOUT (SEE REFERENCE 5)
- EXISTING LEACHATE COLLECTION PIPE CLEANOUT
- SEWER MANHOLE
- LEACHATE MANHOLE
- FIRE HYDRANT
- BACKFLOW PREVENTER

REFERENCES

1. SITE TOPOGRAPHY DATED MARCH 12, 2024 BY UAS AERIAL TOPOGRAPHY PREFORMED BY SMITH GARDNER INC.
2. PERIMETER BOUNDARY INFORMATION DATED MAY 26, 2022 BY JOYNER KEENY, FAYETTEVILLE, NC.
3. LANDFILL GAS WELL LOCATION PROVIDED BY SCS ENGINEERS, PC, DRAWING TITLED ANN STREET C&D LANDFILL FACILITY PLAN.
4. TEST PIT LOCATIONS PROVIDED BY SCS ENGINEERS, P.C. DRAWING TITLED TEST PIT SITE PLAN.
5. EXISTING LANDFILL GAS SYSTEM LOCATIONS DIGITIZED BASED ON "AS-BUILT EXISTING CONDITIONS" DATED SEPTEMBER 2019, "AS-BUILT SITE PLAN" DATED APRIL 2020; PREPARED BY SCS ENGINEERS. WITH SUPPLEMENTS FOR CAD DRAWING TITLED 2021-11-08 BLOWER AND FLARE PAD AS-BUILT MAP; PREPARED FEI CIVIL ENGINEERS AND LAND SURVEYORS; DATED OCT. 11, 2021.
6. MCNAMEE GAS TRANSMISSION LINE FROM SURVEY CONDUCTED BY SURVEYING SOLUTIONS OF YOUNGSVILLE, NC; DATED JUNE 21, 2022.
7. SANITARY SEWER EASEMENT AND CUMBERLAND COUNTY UTILITY EASEMENT FROM CUMBERLAND COUNTY DEED BOOK 932, PAGE 471. EASEMENT DIGITIZED FROM DRAWING TITLED "CAMPBELL COMPANY 20' SANITARY SEWER EASMT", PROVIDED BY THE CITY OF FAYETTEVILLE PUBLIC WORKS COMMISSION. DATED 04/07/1971.
8. WETLAND LOCATIONS PROVIDED BY 4D SOLUTIONS DRAWING TITLED "WETLANDS MAP OF THE ANN STREET LANDFILL", DATED APRIL 13, 2020.
9. FLOOD PLAIN INFORMATION PROVIDED BY NORTH CAROLINA FLOOD RISK INFORMATION SYSTEM. SEE FEMA FLOODPLAIN MAP PANEL 0447, MAP NUMBER 3720044700K, DATED 06/18/07.
10. FINAL COVER LIMITS INFORMATION PROVIDED BY SCS ENGINEERING, PC, DRAWING TITLED "FINAL GRADING PLAN", DATED MAY 2019.
11. ALL POINT FEATURES FOR WATER, SEWER, AND LEACHATE INFRASTRUCTURE FROM FIELD SURVEYS CONDUCTED BY SMITH GARDNER, INC., DATED 12/07/2023, 12/20/2023, AND 01/15/2024.
12. WATER LINES IN ENTRANCE AREA FROM DRAWING TITLED "ANN STREET LANDFILL SITE ENTRANCE IMPROVEMENTS" BY SCS ENGINEERS, PC, DATED APRIL 2020.
13. LEACHATE FORCEMAIN LOCATION BETWEEN PS-1 AND PS-2 FROM DRAWING TITLED "TOPOGRAPHY BASE MAP OF A PORTION OF THE ANN STREET LANDFILL FEBRUARY 2018 FOR CUMBERLAND COUNTY SOLID WASTE MANAGEMENT" BY JOYNER KEENY, PLLC, DATED 03/29/2018.

FOR BIDDING
NOT FOR CONSTRUCTION

0 200' 400' 600'

PREPARED FOR:

CUMBERLAND COUNTY
NORTH CAROLINA

PREPARED BY:

NC LIC. NO. F-1370 (ENGINEERING)
SC COA NO. C01488

SMITH+ GARDNER
ENGINEERS
14 N. Boylan Avenue, Raleigh NC 27603 | 919.828.0577
1526 Richland St., Columbia SC 29201

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023002 ENGINEER STACY A. SMITH
10/17/2024
Signed by: Stacy A. Smith 3369FBA0A...

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 054367 ENGINEER JESSE C. LI
10/17/2024
Docusigned by: Jesse C. Li C56CC95C5...

REV.	DATE	DESCRIPTION

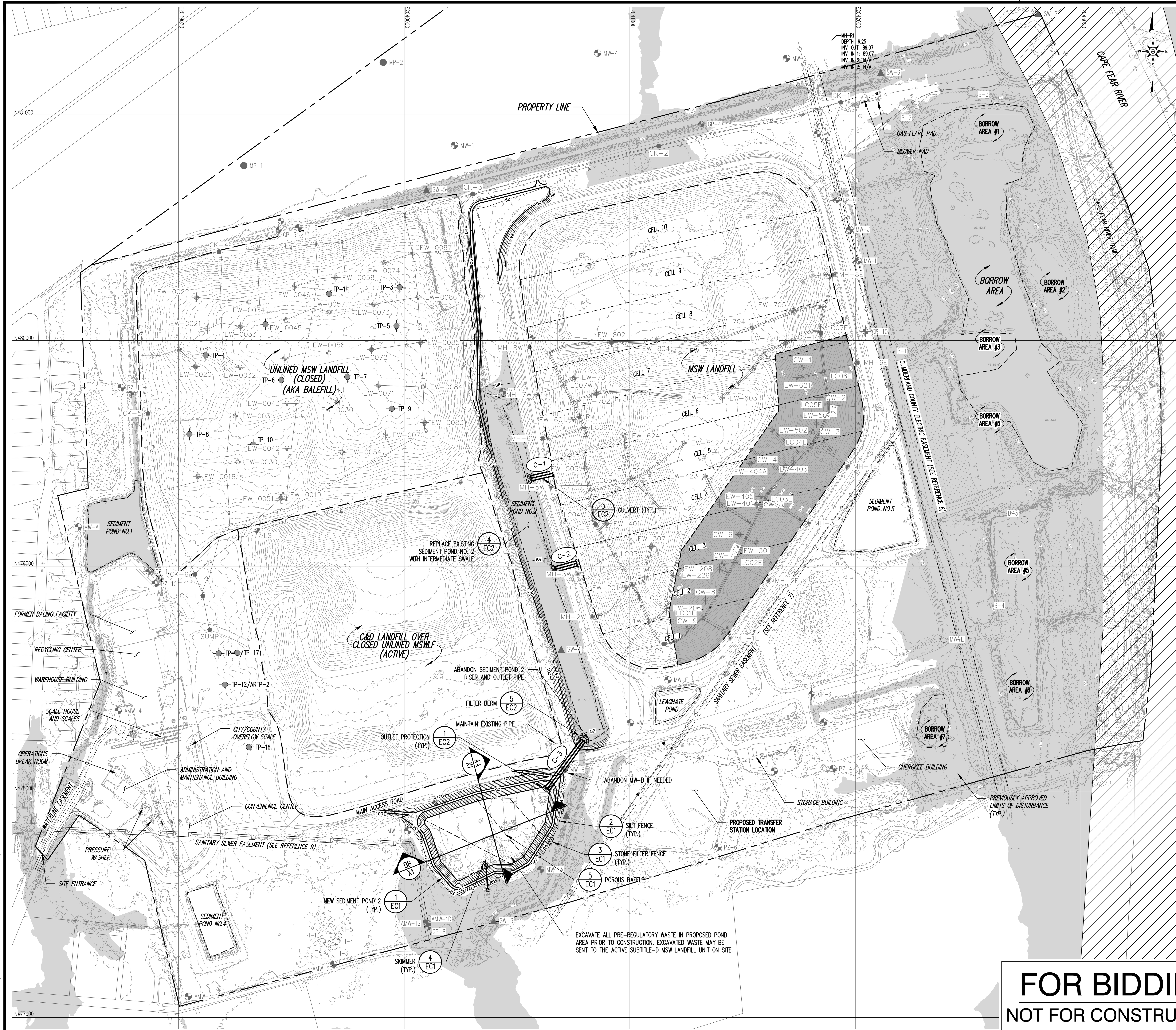
PROJECT TITLE:

CUMBERLAND COUNTY ANN STREET MSW LANDFILL SEDIMENT POND IMPROVEMENTS

DRAWING TITLE:

EXISTING CONDITIONS

DESIGNED: S.A.S.	PROJECT NO: CUMBERLAND 22-40
DRAWN: R.V.M.	SCALE: AS SHOWN
APPROVED: JCL	DATE: OCT. 2024
FILENAME: CUMBERLAND-D0214	
SHEET NUMBER: 2	DRAWING NUMBER: S1



LEGEND

— 890 —	EXISTING CONTOUR (SEE REFERENCE 1)
	PROPERTY LINE (SEE REFERENCE 2)
	STREAM (APPROXIMATE)
	APPROXIMATE EXISTING WASTE LIMITS
	LIMIT OF FUTURE WASTE PLACEMENT
	PREVIOUSLY APPROVED LIMITS OF DISTURBANCE (SEE REFERENCE 12)
	EXISTING SEWER LINE
	EXISTING LEACHATE LINE
	EXISTING WATER LINE
— LFG —	EXISTING LANDFILL GAS LINE (SEE REFERENCE 5)
— A —	EXISTING COMPRESSED AIR LINE
— C —	EXISTING CONDENSATE LINE
— AC —	EXISTING COMPRESSED AIR AND CONDENSATE LINE
— FM —	EXISTING FORCEMAIN
	POROUS BAFFLE
	FINAL COVER LIMITS (SEE REFERENCE 11)
	FLOOD ZONE AE (SEE REFERENCE 9)
	FLOODWAY (SEE REFERENCE 9)
	WETLANDS (SEE REFERENCE 8)
EW-720	LFG EXTRACTION WELL (SEE REFERENCE 5)
CW-1	LFG CAP WELL (SEE REFERENCE 5)
LC05E	LEACHATE CLEANOUT (SEE REFERENCE 5)
TP-1	TEST PIT (SEE REFERENCE 4)
GP-1	GAS MONITORING PROBE (SEE REFERENCE 4)
MW-1	MONITORING WELL (SEE REFERENCE 4)
I-1	INJECTION WELL (SEE REFERENCE 5)
SW-1	STORMWATER MONITORING POINT (SEE REFERENCE 4)
CS-1	CONDENSATE SUMP (SEE REFERENCE 5)
CK-1	CONDENSATE KNOCKOUT (SEE REFERENCE 5)
	EXISTING LEACHATE COLLECTION PIPE CLEANOUT

REFERENCES

1. SITE TOPOGRAPHY PREFORMED ON MARCH 21, 2024, BY SMITH GARDNER INC.
2. PERIMETER BOUNDARY INFORMATION DATED MAY 26, 2022 BY JOYNER KEENY, FAYETTEVILLE, NC.
3. LANDFILL GAS WELL LOCATION PROVIDED BY SCS ENGINEERS, PC, DRAWING TITLED "ANN STREET C&D LANDFILL FACILITY PLAN" .
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8. WETLAND LOCATIONS PROVIDED BY 4D SOLUTIONS DRAWING TITLED "WETLANDS MAP OF THE ANN STREET LANDFILL", DATED APRIL 13, 2020.
9. FLOOD PLAIN INFORMATION PROVIDED BY NORTH CAROLINA FLOOD RISK INFORMATION SYSTEM. SEE FEMA FLOODPLAIN MAP PANEL 0447, MAP NUMBER 3720044700K, DATED 06/18/07.
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11. WATER MAIN AND SANITARY SEWER LINE DIGITIZED FROM TERRADYNE ENERGY SYSTEMS DRAWING TITLE " WATER & SEWER LAYOUT CUMBERLAND COUNTY LANDFILL – ANN ST. SITE", DATED NOV. 29, 1991.
12. PREVIOUSLY APPROVED LIMITS OF DISTURBANCE DIGITIZED FROM DRAWING TITLED "SITE DEVELOPMENT PLAN"; PROVIDED BY CDM SMITH, DATED 2/13/17.
13. WATER MAIN AND SANITARY SEWER LINE DIGITIZED FROM TERRADYNE ENERGY SYSTEMS DRAWING TITLE " WATER & SEWER LAYOUT CUMBERLAND COUNTY LANDFILL – ANN ST. SITE", DATED NOV. 29, 1991.
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15. LEACHATE FORCEMAIN LOCATION BETWEEN PS-1 AND PS-2 FROM DRAWING TITLED "TOPOGRAPHY BASE MAP OF A PORTION OF THE ANN STREET LANDFILL FEBRUARY 2018 FOR CUMBERLAND COUNTY SOLID WASTE MANAGEMENT" BY JOYNER KEENY, PLLC, DATED 03/29/2018.
16. CONTRACTOR TO VERIFY LOCATION OF EXISTING UTILITIES PRIOR TO BEGINNING CONSTRUCTION ACTIVITIES.

FOR BIDDING
NOT FOR CONSTRUCTION

0 200' 400' 600'

PREPARED FOR:

CUMBERLAND COUNTY NORTH CAROLINA

PREPARED BY:

NC LIC. NO. F-1370 (ENGINEERING)
SC COA NO. C01488

SMITH+ GARDNER ENGINEERS

14 N. Boylan Avenue, Raleigh NC 27603 | 919.828.0577
1526 Richland St., Columbia SC 29201

SEAL: NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 023002 STACEY A. SMITH 10/11/2024

SEAL: NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 054367 JESSE C. LI 10/11/2024

REV.	DATE	DESCRIPTION

PROJECT TITLE:

CUMBERLAND COUNTY
ANN STREET MSW LANDFILL
SEDIMENT POND IMPROVEMENTS

DRAWING TITLE:

SITE DEVELOPMENT PLAN

DESIGNED: S.A.S.	PROJECT NO: CUMBERLAND 22-40
DRAWN: R.V.M.	SCALE: AS SHOWN
APPROVED: JCL	DATE: OCT. 2024
FILENAME: CUMBERLAND-D0215	
SHEET NUMBER: 3	DRAWING NUMBER: S2

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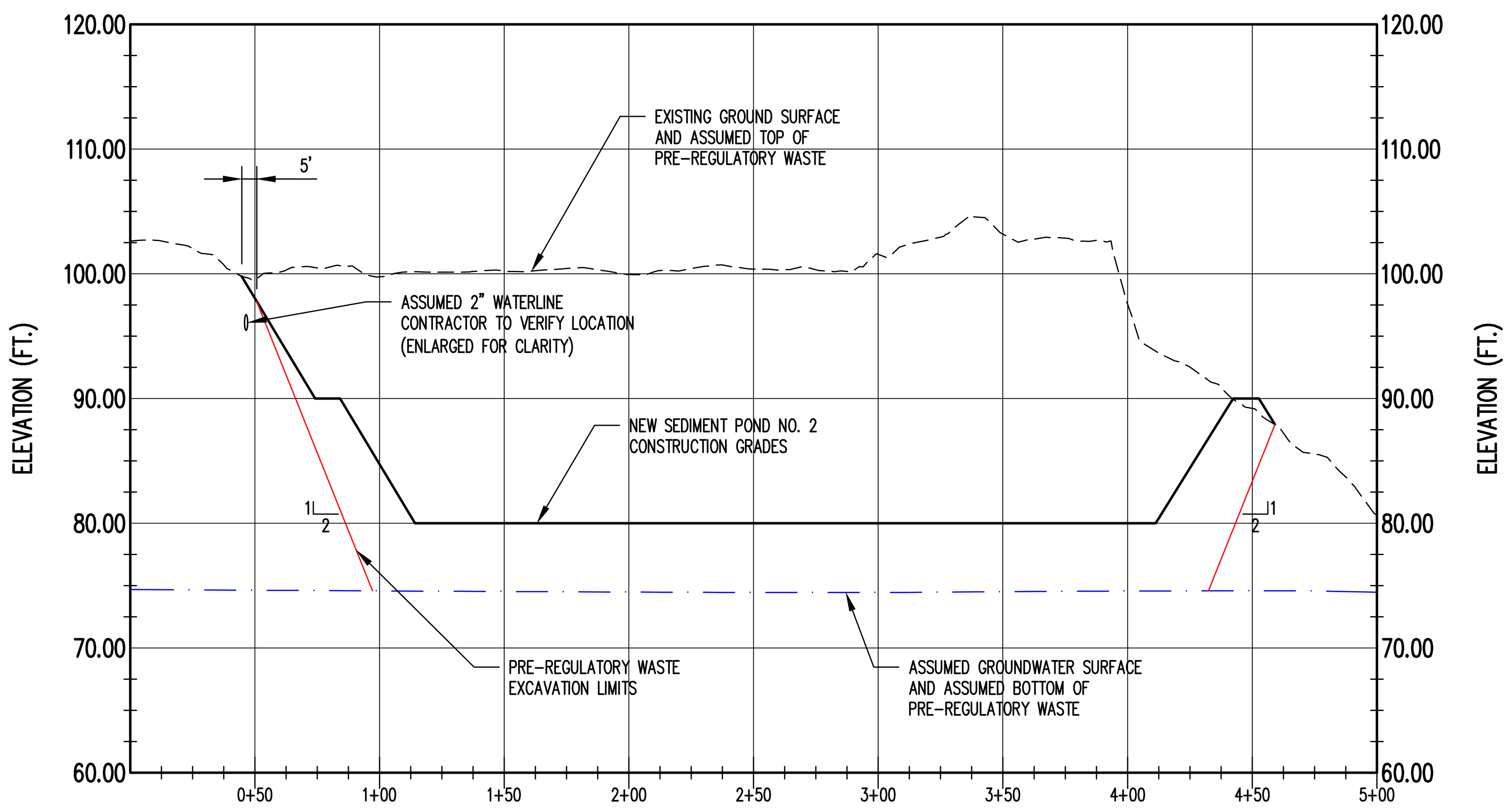
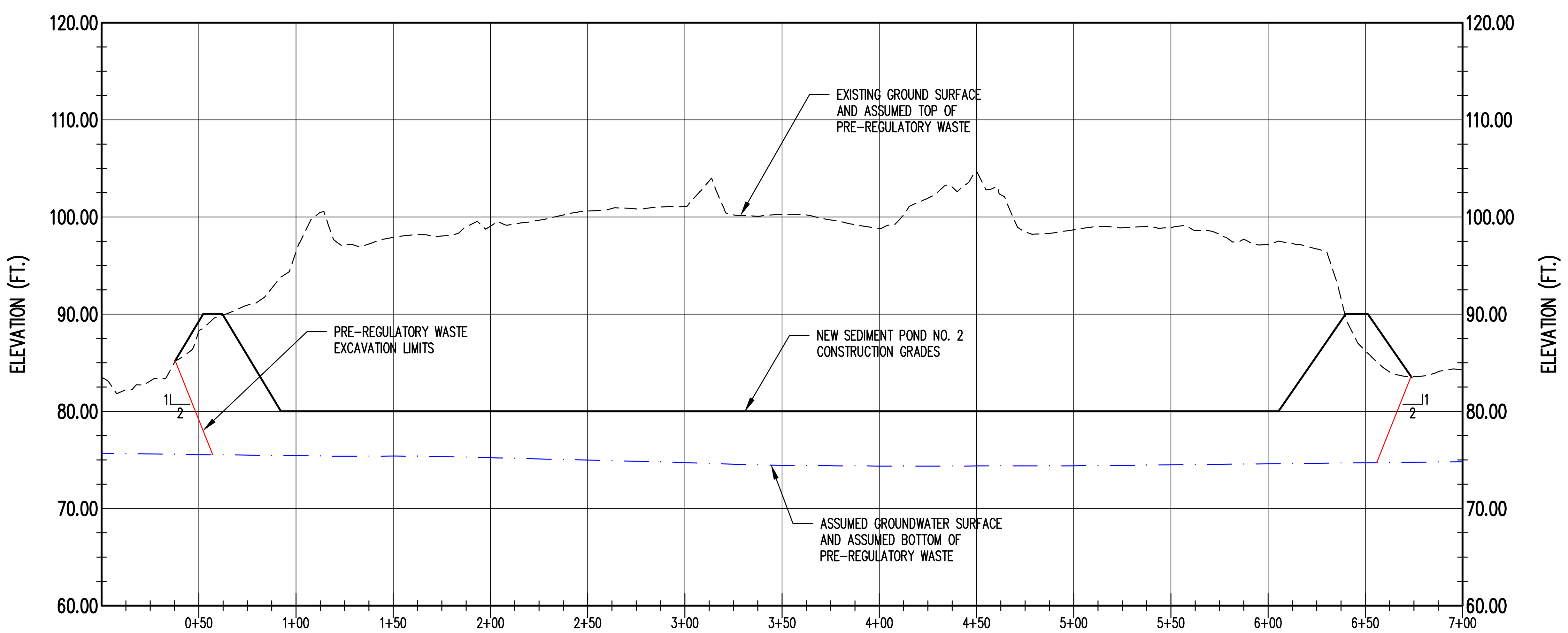


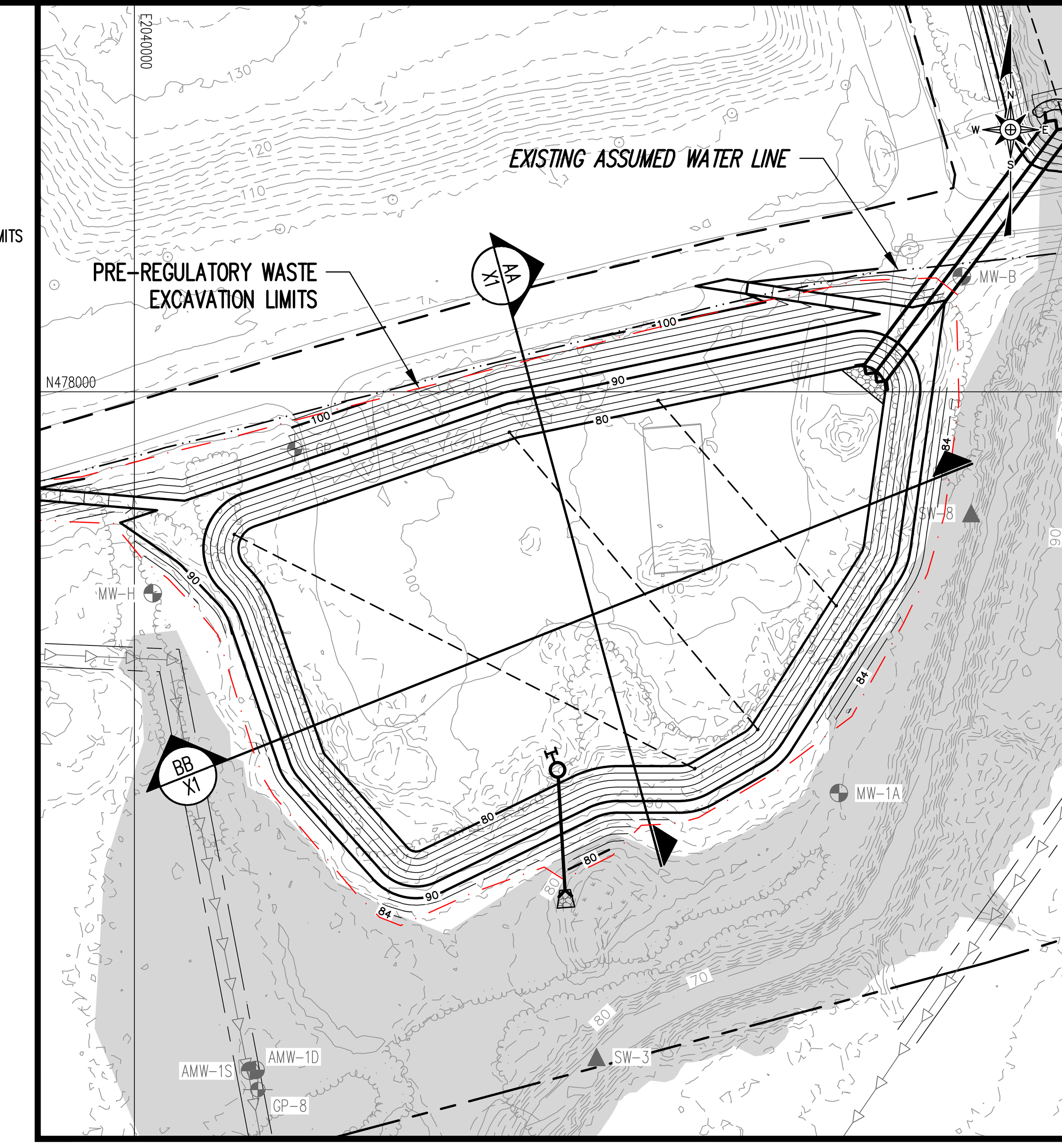
SECTION AA / X1
SCALE: AS SHOWN



SECTION BB / X1
SCALE: AS SHOWN

LEGEND – PLAN

- EXISTING CONTOUR (SEE REFERENCE 1)
- PROPERTY LINE (SEE REFERENCE 2)
- STREAM (APPROXIMATE)
- APPROXIMATE EXISTING WASTE LIMITS
- PRE-REGULATORY WASTE EXCAVATION LIMITS
- LIMIT OF FUTURE WASTE PLACEMENT
- PREVIOUSLY APPROVED LIMITS OF DISTURBANCE (SEE REFERENCE 12)
- EXISTING SEWER LINE
- EXISTING LEACHATE LINE
- EXISTING WATER LINE
- POROUS BAFFLE
- FLOOD ZONE AE (SEE REFERENCE 9)
- WETLANDS (SEE REFERENCE 8)
- GP-1 GAS MONITORING PROBE (SEE REFERENCE 4)
- MW-1 MONITORING WELL (SEE REFERENCE 4)
- SW-1 STORMWATER MONITORING POINT (SEE REFERENCE 4)



0 100' 200' 300'

LEGEND – SECTION

- EXISTING GROUND SURFACE (SEE REFERENCE 1)
- PROPOSED SURFACE
- PRE-REGULATORY WASTE EXCAVATION LIMITS
- GROUNDWATER SURFACE

REFERENCES

1. SITE TOPOGRAPHY PREFORMED ON MARCH 21, 2024, BY SMITH GARDNER INC.
2. GROUNDWATER SURFACE FROM DRAWING TITLED "LONG TERM SEASONAL HIGH POTENTIOMETRIC SURFACE MAP" PREPARED BY SMITH GARDNER, INC.

0 10' 20' 30'

0 50' 100' 150'

N477000

PREPARED FOR:
CUMBERLAND COUNTY NORTH CAROLINA

PREPARED BY:
NC LIC. NO. F-1370 (ENGINEERING)
SC COA NO. C01488
SMITH+GARDNER ENGINEERS
14 N. Boylan Avenue, Raleigh NC 27603 | 919.828.0577
1526 Richland St., Columbia SC 29201

SEAL: NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 023002 — STACEY A. SMITH — 10/11/2024
SEAL: NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 054367 — JESSE C. LI — 10/11/2024

REV.	DATE	DESCRIPTION

PROJECT TITLE:
CUMBERLAND COUNTY ANN STREET MSW LANDFILL SEDIMENT POND IMPROVEMENTS

DRAWING TITLE:
CROSS SECTIONS

DESIGNED: S.A.S.	PROJECT NO: CUMBERLAND 22-40
DRAWN: R.V.M.	SCALE: AS SHOWN
APPROVED: JCL	DATE: OCT. 2024
FILENAME: CUMBERLAND-D0215	
SHEET NUMBER: 4	DRAWING NUMBER: X1

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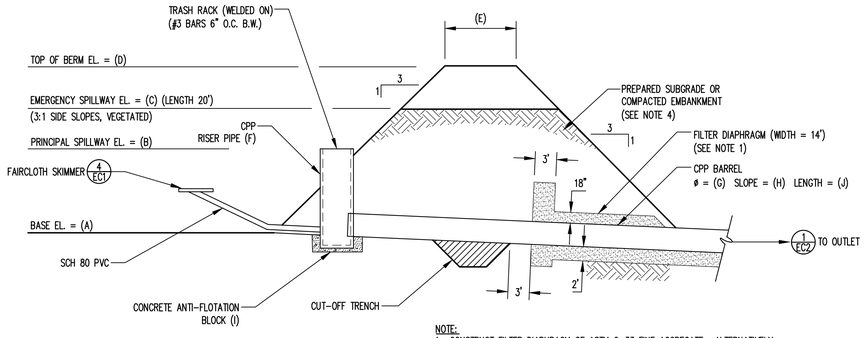
NOT FOR CONSTRUCTION

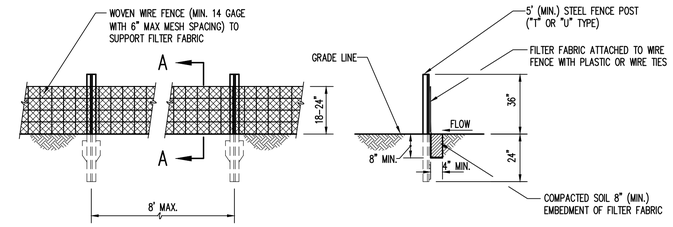


NOTE:
1. CONSTRUCT FILTER DIAPHRAGM OF ASTM C-33 FINE AGGREGATE. ALTERNATIVELY, USE TWO (2) (3'X3') HDPE (OR EQUAL) ANTI-SEEPAGE COLLARS.

SEDIMENT BASIN SCHEDULE										
BASIN	A (FT)	B (FT)	C (FT)	D (FT)	E (FT)	F (IN)	G (IN)	H (%)	J (FT)	SKIMMER
2 (NEW)	80	86	89	90	10	36	18	1.0	100	8"ø

TYPICAL SEDIMENT BASIN CROSS SECTION

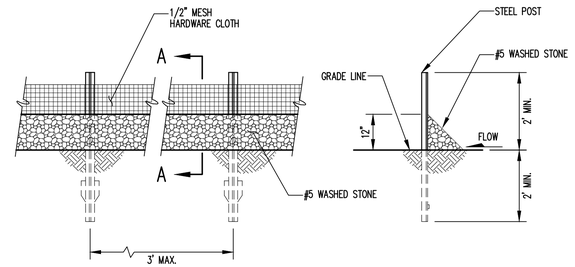
DETAIL 1 / EC1 — NOT TO SCALE



ELEVATION — SECTION A–A

SILT FENCE

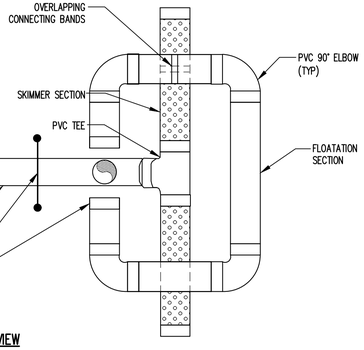
DETAIL 2 / EC1 — NOT TO SCALE



ELEVATION — SECTION A–A

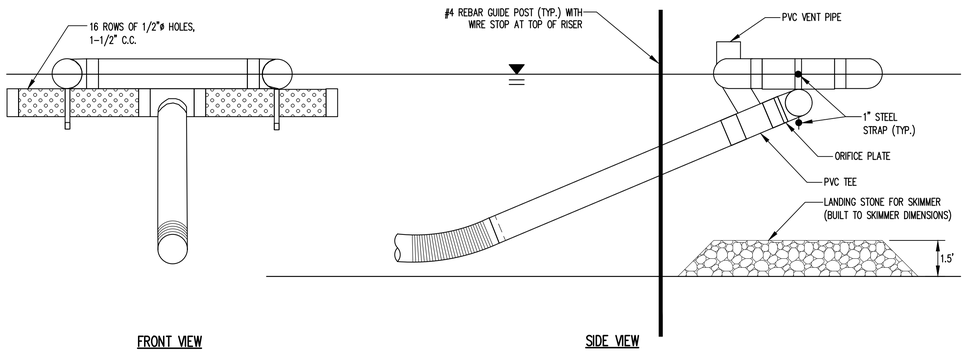
STONE FILTER FENCE

DETAIL 3 / EC1 — NOT TO SCALE



PLAN VIEW

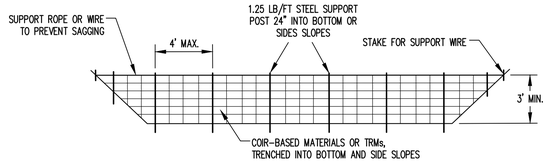
NOTES:
1. ALL PVC PIPES ARE TO BE 8" ID, SCHEDULE 40, UNLESS OTHERWISE NOTED.
2. ALL JOINTS OF THE FLOATATION SECTION SHALL BE SOLVENT WELDED. JOINTS OF SKIMMER SECTION NEED NOT BE WATER-TIGHT.
3. FLEXIBLE DRAIN PIPE IS TO BE ATTACHED TO THE POND OUTLET STRUCTURE WITH WATER-TIGHT CONNECTIONS.
4. ORIFICE TO BE SIZED ACCORDING TO STORAGE VOLUME TO DRAIN POND IN 72 TO 120 HOURS. SEE SCHEDULE.
5. FAIRCLOTH TYPE OR EQUIVALENT SKIMMER TO BE USED.



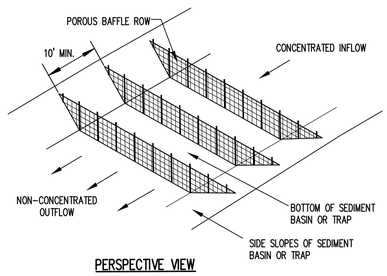
FRONT VIEW — SIDE VIEW

SKIMMER

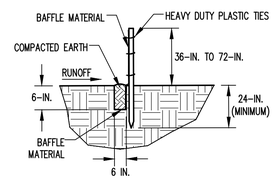
DETAIL 4 / EC1 — NOT TO SCALE



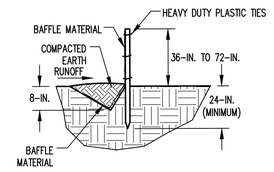
CROSS SECTION VIEW



PERSPECTIVE VIEW



FLAT-BOTTOM TRENCH DETAIL



V-SHAPED TRENCH DETAIL

BAFFLES – POST REQUIREMENTS
1. POROUS BAFFLE POSTS MUST BE 60-INCH TO 96-INCH LONG STEEL POSTS THAT MEET, AT A MINIMUM, THE FOLLOWING PHYSICAL CHARACTERISTICS.
   - COMPOSED OF A HIGH STRENGTH STEEL WITH A MINIMUM YIELD STRENGTH OF 50,000 PSI.
   - INCLUDE A STANDARD "T" SECTION WITH A NOMINAL FACE WIDTH OF .39-INCHES AND A NOMINAL "T" LENGTH OF 1.48-INCHES.
2. POSTS SHALL BE EQUIPPED WITH PROJECTIONS TO AID IN FASTENING OF BAFFLE MATERIAL.
3. INSTALL POSTS TO A MINIMUM OF 24-INCHES. A MINIMUM HEIGHT OF 1- TO 2- INCHES ABOVE THE FABRIC SHALL BE MAINTAINED, AND A MAXIMUM HEIGHT OF 3 FEET SHALL BE MAINTAINED ABOVE THE GROUND.

BAFFLES – MATERIAL REQUIREMENTS
1. BAFFLE MATERIAL MUST BE COMPOSED OF COIR-BASED MATERIALS OR TURF REINFORCEMENT MATTING (TRM) THAT CONSISTS OF THE FOLLOWING REQUIREMENTS:
   - HAVE A LIGHT PENETRATION (% OPENINGS) BETWEEN 10-35%;
   - FREE OF LOOSE STRAW MATERIAL;
   - HAVE A MINIMUM TENSILE STRENGTH OF 145 LB/FT; AND,
   - HAVE A MINIMUM WIDTH OF 48-INCHES.
2. 12-INCHES OF THE FABRIC SHOULD BE PLACED WITHIN EXCAVATED TRENCH AND TOED IN WHEN THE TRENCH IS BACKFILLED OR BAFFLE MATERIAL MAY BE STAPLED INTO GROUND BY USING 12-INCH STAPLES WITH A MAXIMUM SPACING OF 12-INCHES.
3. BAFFLE MATERIAL SHALL BE PURCHASED IN CONTINUOUS ROLLS AND CUT TO THE WIDTH OF THE SEDIMENT BASIN OR TRAP TO AVOID JOINTS.

BAFFLES – INSPECTION AND MAINTENANCE
1. REGULAR INSPECTIONS OF POROUS BAFFLES SHALL BE CONDUCTED ONCE EVERY CALENDAR WEEK AND, AS RECOMMENDED, WITHIN 24-HOURS AFTER EACH RAINFALL EVEN THAT PRODUCES 1/2-INCH OR MORE OF PRECIPITATION.
2. REMOVE ACCUMULATED SEDIMENT WHEN IT REACHES 1/3 THE HEIGHT OF THE BAFFLE ROW OR WHEN IT REACHES THE CLEAN-OUT HEIGHT OF THE SEDIMENT BASIN OR TRAP, WHICHEVER IS REACHED FIRST.
3. REMOVED SEDIMENT SHALL BE PLACED IN STOCKPILE STORAGE AREAS OR SPREAD THINLY ACROSS DISTURBED AREA. STABILIZE THE REMOVED SEDIMENT AFTER IT IS RELOCATED.
4. POROUS BAFFLES SHOULD BE REMOVED WITHIN 30 DAYS AFTER FINAL STABILIZATION IS ACHIEVED AND ONCE IT IS REMOVED, THE RESULTING DISTURBED AREA SHALL BE PERMANENTLY STABILIZED.

POROUS BAFFLE

DETAIL 5 / EC1 — NOT TO SCALE

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PREPARED FOR:

CUMBERLAND COUNTY
NORTH CAROLINA

PREPARED BY:

NC LIC. NO. P-1370
SC COA NO. C01488

SMITH+ GARDNER
ENGINEERS
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SEAL

NORTH CAROLINA PROFESSIONAL SEAL 023002 ENGINEER STACY A. SMITH
10/1/2024
Signed by: Stacy A. Smith
3369FBA0088847...

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 054367 ENGINEER JESSE C. LI
10/1/2024
Document signed by: Jesse C. Li
C5ECC95C...

REV.	DATE	DESCRIPTION

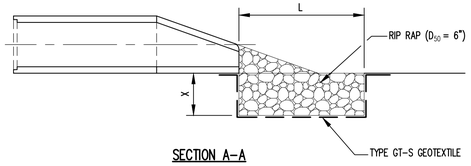
PROJECT TITLE:

**CUMBERLAND COUNTY
ANN STREET MSW LANDFILL
SEDIMENT POND IMPROVEMENTS**

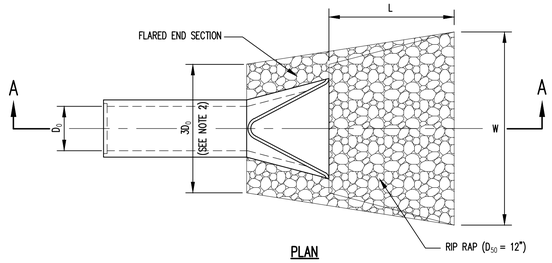
DRAWING TITLE:

EROSION AND SEDIMENTATION CONTROL DETAILS (SHEET 1 OF 3)

DESIGNED: S.A.S.	PROJECT NO: CUMBERLAND 22-40
DRAWN: R.V.M.	SCALE: AS SHOWN
APPROVED: JCL	DATE: OCT. 2024
FILENAME: CUMBERLAND-D0216	
SHEET NUMBER: 5	DRAWING NUMBER: EC1



SECTION A–A

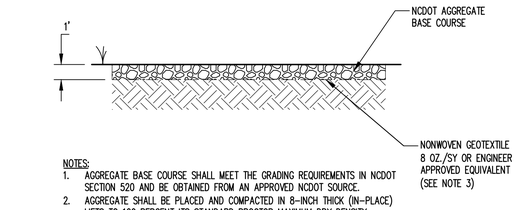


PLAN

NOTE:
1. D_0 REFERS TO THE MINIMUM REQUIRED AVERAGE STONE SIZE
2. FOR MORE THAN ONE PIPE, EXTEND RIP RAP 1.0' MIN. BEYOND OUTSIDE EDGES OF PIPES.
3. EXTEND RIP RAP ACROSS ENTIRE CHANNEL WIDTH.

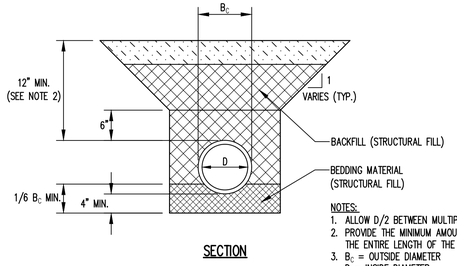
RIP RAP OUTLET PROTECTION SCHEDULE					
PIPE	D_0 (FT)	L (FT)	W (FT)	D_{50} (FT)	X (FT)
C–1 (PER PIPE)	2	12	14	0.75	1
C–2 (PER PIPE)	2	13	15	0.5	1
C–3 (PER PIPE)	3	22	25	0.75	1
NEW BASIN 2	1.5	10	12	0.5	1

RIP RAP OUTLET PROTECTION
DETAIL 1 EC2
NOT TO SCALE



NOTES:
1. AGGREGATE BASE COURSE SHALL MEET THE GRADING REQUIREMENTS IN NCDOT SECTION 520 AND BE OBTAINED FROM AN APPROVED NCDOT SOURCE.
2. AGGREGATE SHALL BE PLACED AND COMPACTED IN 8-INCH THICK (IN-PLACE) LIFTS TO 100 PERCENT ITS STANDARD PROCTOR MAXIMUM DRY DENSITY.
3. GEOTEXTILE SHALL HAVE A MINIMUM GRAB TENSILE STRENGTH OF 180 LBS, MINIMUM PUNCTURE RESISTANCE OF 75 LBS, TRAPEZOIDAL TEAR OF 75 LBS, AND AOS OF LESS THAN 0.6 MM.

ALL–WEATHER ACCESS
DETAIL 2 EC2
NOT TO SCALE



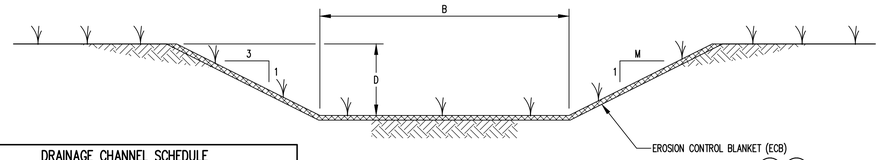
SECTION

CULVERT SCHEDULE						
NO.	NO. OF PIPES	SIZE/TYPE	LENGTH (FT)	INV. IN (FT)	INV. OUT (FT)	SLOPE (%)
C–1	3	24"ø CPP	95	87	86	1
C–2	3	24"ø CPP	95	85	84.6	0.4
C–3	3	36"ø CPP	270	82	80.9	0.4

NOTES:
1. ALLOW D/2 BETWEEN MULTIPLE CULVERTS
2. PROVIDE THE MINIMUM AMOUNT OF BACKFILL COVER ALONG THE ENTIRE LENGTH OF THE PROPOSED CULVERTS.
3. B_c = OUTSIDE DIAMETER
   D = INSIDE DIAMETER

TYPICAL CULVERT CROSS SECTION
DETAIL 3 EC2
NOT TO SCALE

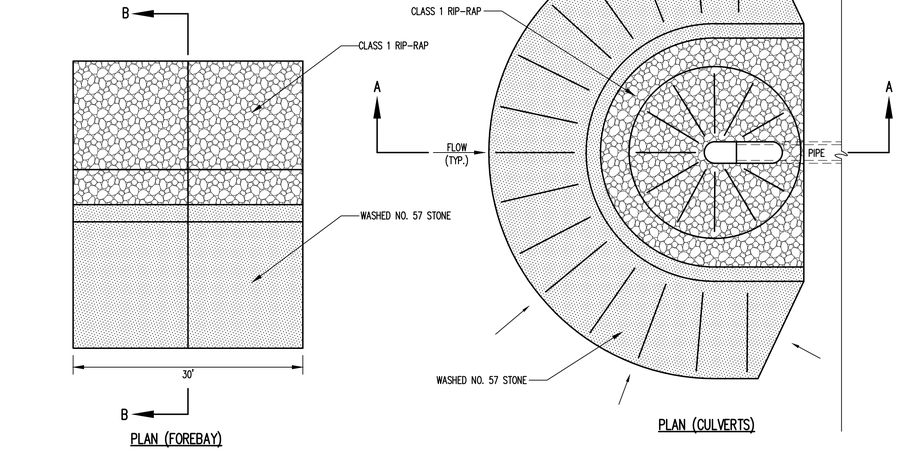
FOR BIDDING
NOT FOR CONSTRUCTION



DRAINAGE CHANNEL SCHEDULE				
DRAINAGE CHANNEL NO.	B	M	D	LINING
INTERMEDIATE SWALE	130 (MIN.)	2	4 (MIN.)	GRASS
PERIMETER ROAD CHANNEL (EXISTING)	3	2	3	ECB

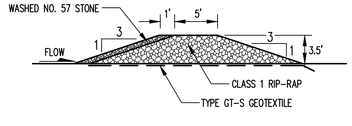
GRASS LINED CHANNELS

DRAINAGE CHANNEL DETAIL 4 EC2
NOT TO SCALE

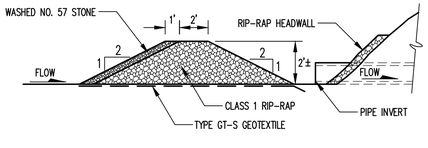


PLAN (FOREBAY)

PLAN (CULVERTS)



SECTION B–B (FOREBAY)



SECTION A–A (CULVERTS)

FILTER BERM
DETAIL 5 EC2
NOT TO SCALE

PREPARED FOR:
CUMBERLAND COUNTY
NORTH CAROLINA

PREPARED BY:
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Signed by: Stacey A. Smith 3369FBA0B8B445...

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 054367 ENGINEER JESSE C. LI
10/8/2024
Docusigned by: Jesse C. Li C5ECC95C9...

REV.	DATE	DESCRIPTION

PROJECT TITLE:
CUMBERLAND COUNTY
ANN STREET MSW LANDFILL
SEDIMENT POND IMPROVEMENTS

DRAWING TITLE:
EROSION AND SEDIMENTATION CONTROL DETAILS
(SHEET 2 OF 3)

DESIGNED: S.A.S.	PROJECT NO: CUMBERLAND 22-40
DRAWN: B.V.M.	SCALE: AS SHOWN
APPROVED: JCL	DATE: OCT. 2024
FILENAME: CUMBERLAND-D0216	
SHEET NUMBER: 6	DRAWING NUMBER: EC2

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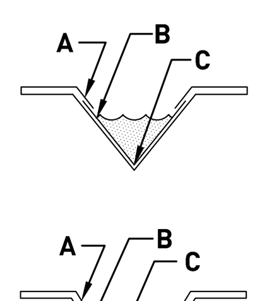
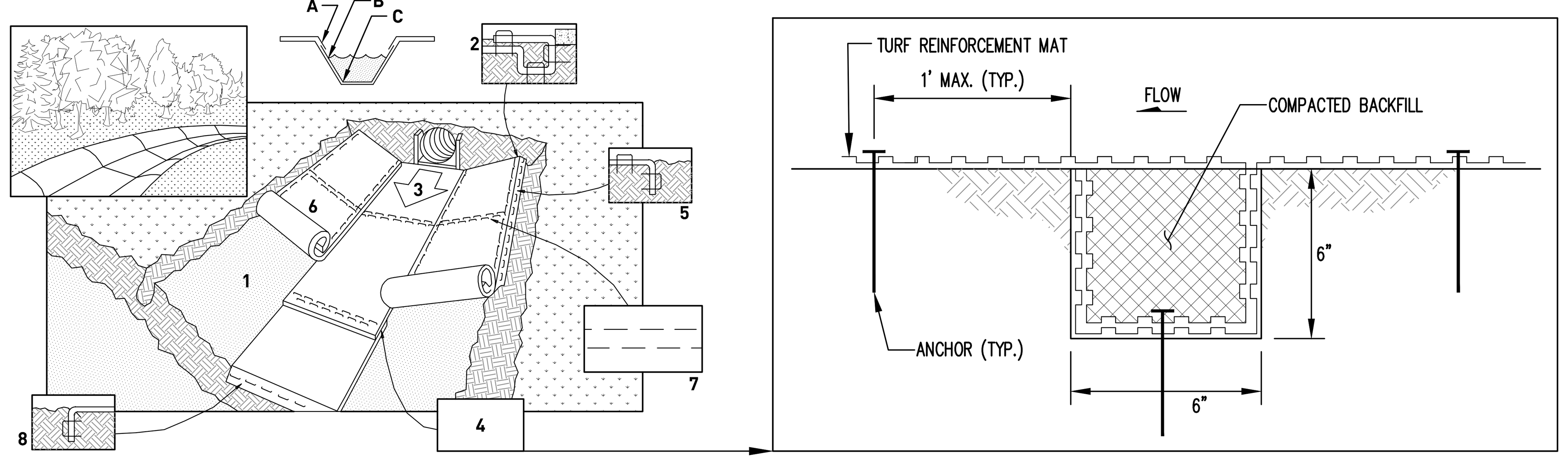
GENERAL EROSION AND SEDIMENTATION CONTROL NOTES

1. ALL EROSION AND SEDIMENTATION CONTROL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE NORTH CAROLINA EROSION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL AS WELL AS APPLICABLE REGULATIONS.
2. AN EROSION AND SEDIMENT CONTROL (E&SC) PERMIT AND A CERTIFICATE OF COVERAGE (COC) MUST BE OBTAINED BEFORE ANY LAND DISTURBING ACTIVITIES OCCUR.
3. EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE ESTABLISHED PRIOR TO, OR AS SOON AS PRACTICAL THEREAFTER, ANY LAND CLEARING OR CONSTRUCTION ACTIVITIES MAY BEGIN. THE CONTRACTOR SHALL FOLLOW THE FOLLOWING SCHEDULE:
   A. FLAG THE CLEARING LIMITS AND IDENTIFY ANY TREE PROTECTION AREAS WITH THE OWNER.
   B. INSTALL TEMPORARY GRAVEL CONSTRUCTION ENTRANCE/EXIT (WHERE NECESSARY).
   C. CLEAR THE VEGETATED PORTION OF THE SITE AND INSTALL SILT AND STONE FILTER FENCING (WHERE REQUIRED) PRIOR TO STRIPPING/GRUBBING.
   D. ONLY STRIP/GRUB AREAS REQUIRED FOR INSTALLATION OF STRUCTURES, BERMS AND DRAINAGE CHANNELS. OTHER AREAS WILL BE STRIPPED/GRUBBED ONCE SEDIMENT BASINS ARE COMPLETED.
   E. COMPLETE INSTALLATION OF SEDIMENT BASINS.
   F. PERFORM EARTHWORK AS REQUIRED FOR CONSTRUCTION. INSTALL DRAINAGE AND EROSION AND SEDIMENTATION CONTROL MEASURES AS AREAS ARE BROUGHT TO GRADE.
   G. PERFORM FINE GRADING AND ESTABLISH PERMANENT VEGETATION ON COMPLETED AREAS.
   H. AFTER STABILIZATION, REMOVE SILT FENCING AND OTHER TEMPORARY MEASURES AS DIRECTED BY THE OWNER AND INSTALL PERMANENT VEGETATION ON THE DISTURBED AREAS.
4. ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE CONSTRUCTED ACCORDING TO THE CONTRACT DRAWINGS AND SPECIFICATIONS.
5. SELF-INSPECTIONS FOR EROSION AND SEDIMENTATION CONTROL MEASURES ARE TO BE PERFORMED AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND WITHIN 24 HOURS OF EVERY RAIN EVENT OF GREATER THAN 1 INCH. ANY NEEDED REPAIRS SHALL BE MADE IMMEDIATELY TO MAINTAIN MEASURES AS DESIGNED. ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE MAINTAINED AS SPECIFIED IN THE CONSTRUCTION DETAILS ON THIS PLAN. MAINTENANCE SHALL INCLUDE, BUT NOT BE LIMITED TO:
   A. THE REMOVAL AND SATISFACTORY DISPOSAL OF TRAPPED OR DEPOSITED SEDIMENTS FROM BASINS, TRAPS, BARRIERS, FILTERS, AND/OR DRAINAGE FEATURES/DEVICES;
   B. REPLACEMENT OF FILTER FABRICS USED FOR SILT FENCES UPON LOSS OF EFFICIENCY; AND
   C. REPLACEMENT OF ANY OTHER COMPONENTS WHICH ARE DAMAGED OR CANNOT SERVE THE INTENDED USE.
6. SOIL STABILIZATION SHALL BE ACHIEVED ON ANY AREA OF THE SITE WHERE LAND-DISTURBING ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED ACCORDING TO THE FOLLOWING SCHEDULE:
   A. ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3H:1V) SHALL BE PROVIDED TEMPORARY OR PERMANENT STABILIZATION WITH GROUND COVER AS SOON AS PRACTICABLE BUT IN ANY EVENT WITHIN 7 CALENDAR DAYS FROM THE LAST LAND-DISTURBING ACTIVITY.
   B. ALL OTHER DISTURBED AREAS SHALL BE PROVIDED TEMPORARY OR PERMANENT STABILIZATION WITH GROUND COVER AS SOON AS PRACTICABLE BUT IN ANY EVENT WITHIN 14 CALENDAR DAYS FROM THE LAST LAND-DISTURBING ACTIVITY.
   C. BASINS, TRAPS, CHANNELS, AND DIVERSIONS SHALL BE LINED WITH ANCHORED ROLLED EROSION PRODUCTS OR RIP RAP AND/OR VEGETATED UPON CONSTRUCTION.
   D. PERMANENT GROUND COVER FOR ALL DISTURBED AREAS SHALL BE ESTABLISHED WITHIN 15 WORKING DAYS OR 90 CALENDAR DAYS (WHICHEVER IS SHORTER) FOLLOWING COMPLETION OF CONSTRUCTION OR DEVELOPMENT.
7. A COPY OF THE APPROVED EROSION AND SEDIMENTATION CONTROL PLAN, THE CERTIFICATE OF APPROVAL, AND LETTER OF APPROVAL ARE TO BE KEPT ON SITE (BY OWNER).
8. THE NPDES PERMIT (WITH A MINIMUM OF 30 DAYS OF SELF-INSPECTION REPORTS) ARE TO BE KEPT ON SITE AND A RAIN GAUGE IS TO BE INSTALLED AND MAINTAINED FOR RECORD KEEPING UNTIL THE PROJECT IS CLOSED OUT BY THE LAND QUALITY SECTION REGIONAL OFFICE.
9. UPON PROJECT COMPLETION, THE PERMITTEE SHALL CONTACT DEMLR TO CLOSE OUT THE EROSION AND SEDIMENTATION CONTROL PLAN.

CRITICAL POINTS
A. OVERLAPS AND SEAMS
B. PROJECTED WATER LINE
C. CHANNEL BOTTOM/SIDE SLOPE VERTICES

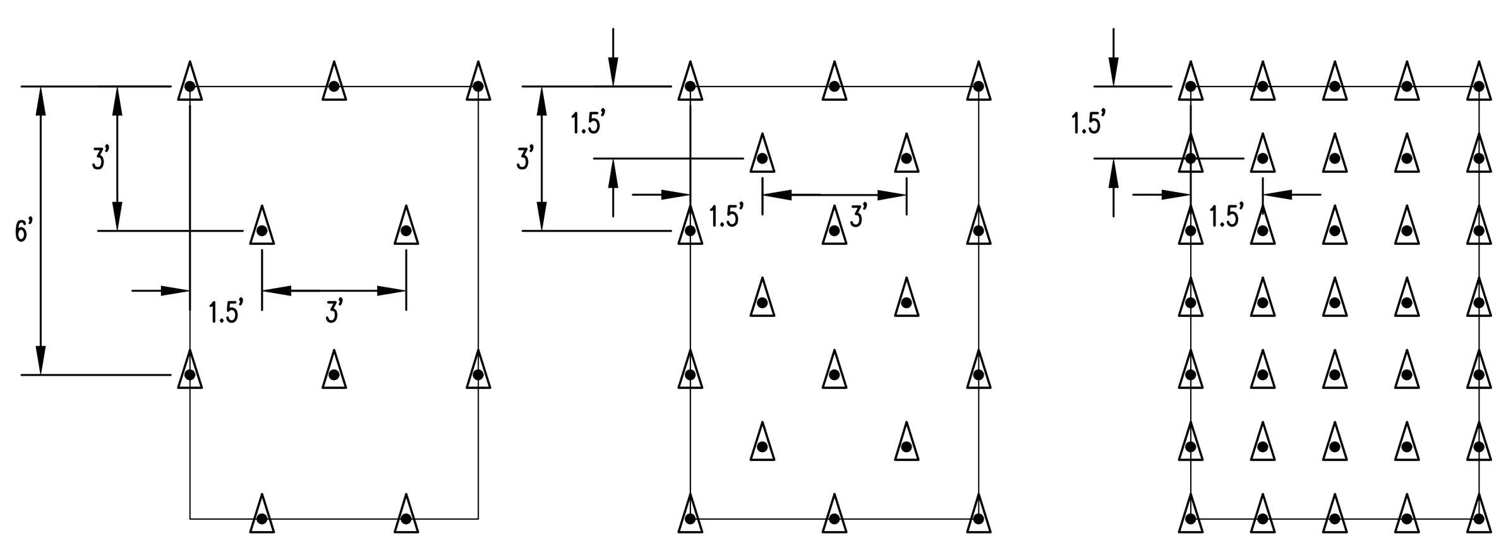


NOTE:
HORIZONTAL STAPLE SPACING SHOULD BE ALTERED IF NECESSARY TO ALLOW STAPLES TO SECURE THE CRITICAL POINTS ALONG THE CHANNEL SURFACE. REFER TO GENERAL STAPLE PATTERN GUIDE FOR CORRECT STAPLE RECOMMENDATIONS FOR CHANNELS.



RECP INSTALLATION NOTES:
1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING APPLICATION OF LIME, FERTILIZER, AND SEED.
2. BEGIN AT THE TOP OF THE CHANNEL BY ANCHORING THE BLANKET IN A 12" DEEP x 6" WIDE TRENCH (6" DEEP ON CAP). BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
3. ROLL CENTER BLANKET IN DIRECTION OF WATER FLOW ON BOTTOM OF CHANNEL.
4. INSTALL AN INTERMEDIATE ANCHOR TRENCH AT THE START OF A NEW ROLL OF RECP. THE END OF THE UPSTREAM BLANKET SHALL BE OVERLAPPED 12" OVER THE ANCHOR (SEE ATTACHED).
5. FULL LENGTH EDGE OF BLANKETS AT TOP OF SIDE SLOPES MUST BE ANCHORED IN 6" DEEP x 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
6. BLANKETS ON SIDE SLOPES MUST BE OVERLAPPED 4" OVER THE CENTER BLANKET AND STAPLED.
7. INSTALL ANCHOR SLOTS AT 30 FT MAXIMUM INTERVALS. ANCHOR SLOTS ARE 12" DEEP x 6" WIDE (6" DEEP ON CAP).
8. THE TERMINAL END OF THE BLANKETS MUST BE ANCHORED IN A 12" DEEP x 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
9. STAPLE LOCATIONS SHALL BE MARKED AND APPROVED BY OWNER'S REPRESENTATIVE PRIOR TO STAPLE INSTALLATION.

RECP CHANNEL INSTALLATION
DETAIL 1/EC3 — NOT TO SCALE



PATTERN A — PATTERN B — PATTERN C (18" O.C.)

RECP STAPLE LAYOUT
DETAIL 2/EC3 — NOT TO SCALE

SEEDING SCHEDULE		
MATERIAL	SEED TYPE	APPLICATION RATE
LIME	–	4,000 LBS/ACRE
FERTILIZER (10–10–10)	–	1,000 LBS/ACRE
SEED PERMANENT (SEE NOTE 4)	KENTUCKY 31 TALL FESCUE SERICEA LESPEDEZA KOBE LESPEDEZA SEASONAL NURSE CROP	250 LBS/ACRE 30 LBS/ACRE 10 LBS/ACRE SEE NOTE 2
TEMPORARY	SEASONAL NURSE CROP	SEE NOTE 2
MULCH	–	4,000–5,000 LBS/ACRE
BINDER	–	400 GALLONS/ACRE

NOTES:
1. APPLICATION RATES AND/OR CHEMICAL ANALYSIS SHALL BE CONFIRMED OR ESTABLISHED BY A SOIL TEST.
2. USE SEASONAL NURSE CROP IN ACCORDANCE WITH SEEDING DATES AS STATED BELOW:
   APRIL 15 – AUGUST 15: 10 LBS/ACRE GERMAN MILLET OR 15 LBS/ACRE SUDANGRASS
   AUGUST 16 – APRIL 14: 25 LBS/ACRE RYE (GRAIN)
3. FROM SEPTEMBER 1 – MARCH 1, USE UNSCARIFIED SERICEA SEED.

SPECIFICATIONS:

1. GENERAL:

THE CONTRACTOR SHALL ESTABLISH A SMOOTH, HEALTHY, UNIFORM, CLOSE STAND OF GRASS FROM THE SPECIFIED SEED. PRIOR TO REVEGETATION, THE CONTRACTOR SHALL ADEQUATELY TEST THE SOILS TO BE REVEGETATED TO ENSURE THE ADEQUACY OF THE SPECIFIED REQUIREMENTS. ANY MODIFICATIONS TO THESE REQUIREMENTS DEEMED NECESSARY AFTER THE REVIEW OF SOIL TEST RESULTS, SHALL BE AT THE CONTRACTOR'S SOLE EXPENSE. THE ENGINEER WILL PERFORM THE OBSERVATIONS TO DETERMINE WHEN SUCCESSFUL REVEGETATION IS ACHIEVED.

2. SOIL PREPARATION:

A. LIMIT PREPARATION TO AREAS WHICH WILL BE PLANTED SOON AFTER PREPARATION.
B. LOOSEN SURFACE TO MINIMUM DEPTH OF FOUR (4) INCHES.
C. REMOVE STONES, STICKS, ROOTS, RUBBISH AND OTHER EXTRANEOUS MATTER OVER THREE (3) INCHES IN ANY DIMENSION.
D. SPREAD LIME UNIFORMLY OVER DESIGNATED AREAS AT THE RATE SPECIFIED IN THE SEEDING SCHEDULE.
E. 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.
F. DISTRIBUTE FERTILIZER UNIFORMLY OVER AREAS TO BE SEEDED AT THE RATE SPECIFIED IN THE SEEDING SCHEDULE.
   (1) USE SUITABLE DISTRIBUTOR.
   (2) INCORPORATE FERTILIZER INTO SOIL TO DEPTH OF A LEAST TWO (2) INCHES.
   (3) REMOVE STONES OR OTHER SUBSTANCES WHICH WILL INTERFERE WITH TURF DEVELOPMENT OR SUBSEQUENT MOWING.
G. GRADE SEEDED AREAS TO SMOOTH, EVEN SURFACE WITH LOOSE, UNIFORMLY FINE TEXTURE.
   (1) ROLL AND RAKE, REMOVE RIDGES AND FILL DEPRESSIONS, AS REQUIRED TO MEET FINISH GRADES.
   (2) FINE GRADE JUST PRIOR TO PLANTING.

3. SEEDING:

A. USE APPROVED MECHANICAL POWER DRIVEN DRILLS OR SEEDERS, MECHANICAL HAND SEEDERS, OR OTHER APPROVED EQUIPMENT.
B. DISTRIBUTE SEED EVENLY OVER ENTIRE AREA AT THE RATE SPECIFIED IN THE SEEDING SCHEDULE.
C. STOP WORK WHEN WORK EXTENDS BEYOND MOST FAVORABLE PLANTING SEASON FOR SPECIES DESIGNATED, OR WHEN SATISFACTORY RESULTS CANNOT BE OBTAINED BECAUSE OF DROUGHT, HIGH WINDS, EXCESSIVE MOISTURE, OR OTHER FACTORS.
D. RESUME WORK ONLY WHEN FAVORABLE CONDITION DEVELOPS, OR AS DIRECTED BY THE ENGINEER.
E. LIGHTLY RAKE SEED INTO SOIL FOLLOWED BY LIGHT ROLLING OR CULTIPACKING.
F. IMMEDIATELY PROTECT SEEDED AREAS AGAINST EROSION BY MULCHING OR PLACING ROLLED EROSION CONTROL PRODUCTS, WHERE APPLICABLE.
   (1) SPREAD MULCH IN A CONTINUOUS BLANKET AT THE RATE SPECIFIED IN THE SEEDING SCHEDULE.
   (2) IMMEDIATELY FOLLOWING SPREADING MULCH, SECURE WITH EVENLY DISTRIBUTED BINDER AT THE RATE SPECIFIED IN THE SEEDING SCHEDULE.
   (3) FOR SLOPES NOT STEEPER THAN 3H:1V AND AS AN OPTION TO USING BINDER TO SECURE MULCH, USE A MULCH ANCHORING TOOL OPERATED ALONG THE CONTOUR OF THE SLOPE.

4. MAINTENANCE:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL SEEDED AREAS THROUGH THE END OF HIS WARRANTY PERIOD. THE CONTRACTOR SHALL PROVIDE, AT HIS EXPENSE, PROTECTION OF ALL SEEDED AREAS AGAINST DAMAGE AT ALL TIMES UNTIL ACCEPTANCE OF THE WORK. MAINTENANCE SHALL INCLUDE, BUT NOT BE LIMITED TO, THE FOLLOWING ITEMS:

A. REGRADE AND REVEGETATE ALL ERODED AREAS UNTIL ADEQUATELY STABILIZED BY GRASS.
B. REMULCH WITH NEW MULCH IN AREAS WHERE MULCH HAS BEEN DISTURBED BY WIND OR MAINTENANCE OPERATIONS SUFFICIENTLY TO NULLIFY ITS PURPOSE. ANCHOR AS REQUIRED TO PREVENT DISPLACEMENT.
C. REPLANT BARE AREAS USING SAME MATERIALS SPECIFIED.

VEGATIVE STABILIZATION
DETAIL 3/EC3 — NOT TO SCALE

FOR BIDDING
NOT FOR CONSTRUCTION

GENERAL NOTES
1. THE SITE IS REQUIRED TO OBTAIN A NPDES CONSTRUCTION STORMWATER CERTIFICATE OF COVERAGE (COC) PRIOR TO INITIATING THE PROJECT.
2. THE SITE IS REQUIRED TO FILE A NOTICE OF TERMINATION FOR THE COC AFTER THE PROJECT IS FINISHED.

MAINTENANCE OF EROSION AND SEDIMENTATION FEATURES

ROLLED EROSION CONTROL PRODUCT

1. INSPECT ROLLED EROSION CONTROL PRODUCTS AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (GREATER THAN 1.0 INCH) RAIN FALL EVENT REPAIR IMMEDIATELY.
2. GOOD CONTACT WITH THE GROUND MUST BE MAINTAINED, AND EROSION MUST NOT OCCUR BENEATH THE RECP.
3. ANY AREAS OF THE RECP THAT ARE DAMAGED OR NOT IN CLOSE CONTACT WITH THE GROUND SHALL BE REPAIRED AND STAPLED.
4. IF EROSION OCCURS DUE TO POORLY CONTROLLED DRAINAGE, THE PROBLEM SHALL BE FIXED AND THE ERODED AREA PROTECTED.
5. MONITOR AND REPAIR THE RECP AS NECESSARY UNTIL GROUND COVER IS ESTABLISHED.

SILT FENCE

1. INSPECT SEDIMENT FENCES AT LEAST ONCE A WEEK AND AFTER EACH RAINFALL. MAKE ANY REQUIRED REPAIRS IMMEDIATELY.
2. SHOULD THE FABRIC OF A SEDIMENT FENCE COLLAPSE, TEAR, DECOMPOSE, OR BECOME INEFFECTIVE, REPLACE IT PROMPTLY.
3. REMOVE SEDIMENT DEPOSITS AS NECESSARY TO PROVIDE ADEQUATE STORAGE VOLUME FOR THE NEXT RAIN AND TO REDUCE PRESSURE ON THE FENCE. TAKE CARE TO AVOID UNDERMINING THE FENCE DURING CLEANOUT.
4. REMOVE ALL FENCING MATERIALS AND UNSTABLE SEDIMENT DEPOSITS AND BRING THE AREA TO GRADE AND STABILIZE IT AFTER THE CONTRIBUTING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.

SEDIMENT BASIN

1. INSPECT SEDIMENT BASINS AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (GREATER THAN 1.0 INCH) RAINFALL EVENT AND REPAIR IMMEDIATELY. REMOVE SEDIMENT AND RESTORE THE BASIN TO ITS ORIGINAL DIMENSIONS WHEN SEDIMENT ACCUMULATES TO ONE-HALF THE HEIGHT OF THE FIRST BAFFLE. PULL THE SKIMMER TO ONE SIDE SO THAT THE SEDIMENT UNDERNEATH IT CAN BE EXCAVATED. EXCAVATE THE SEDIMENT FROM THE ENTIRE BASIN, NOT JUST AROUND THE SKIMMER OR FIRST CELL. MAKE SURE VEGETATION GROWING IN THE BOTTOM OF THE BASIN DOES NOT HOLD DOWN THE SKIMMER.
2. REPAIR THE BAFFLES IF THEY ARE DAMAGED. RE-ANCHOR THE BAFFLES IF WATER IS FLOWING UNDERNEATH OR AROUND THEM.
3. IF THE SKIMMER IS CLOGGED WITH TRASH AND THERE IS WATER IN THE BASIN, USUALLY PULLING ON THE ROPE WILL MAKE THE SKIMMER BOB UP AND DOWN AND DISLODGE THE DEBRIS AND RESTORE FLOW. IF THIS DOES NOT WORK, PULL THE SKIMMER TO THE SIDE OF THE BASIN AND REMOVE THE DEBRIS. ALSO CHECK THE ORIFICE INSIDE THE SKIMMER TO SEE IF IT IS CLOGGED; IF SO REMOVE DEBRIS.
4. IF THE SKIMMER ARM OR BARREL PIPE IS CLOGGED, THE ORIFICE CAN BE REMOVED AND THE OBSTRUCTION CLEARED WITH A PLUMBER'S SNAKE OR BY FLUSHING WITH WATER. BE SURE TO REPLACE THE ORIFICE BEFORE REPOSITIONING THE SKIMMER.
5. CHECK THE EMBANKMENT, SPILLWAYS, AND OUTLET FOR EROSION DAMAGE, AND INSPECT THE EMBANKMENT FOR PIPING AND SETTLEMENT. MAKE ALL NECESSARY REPAIRS IMMEDIATELY. REMOVE ALL TRASH AND OTHER DEBRIS FROM THE SKIMMER AND POOL AREAS.
6. FREEZING WEATHER CAN RESULT IN ICE FORMING IN THE BASIN. SOME SPECIAL PRECAUTIONS SHOULD BE TAKEN IN THE WINTER TO PREVENT THE SKIMMER FROM PLUGGING WITH ICE.

CHANNELS, DIVERSION BERMS, SWALES, ETC.

1. INSPECT CHANNELS, DIVERSION BERMS, SWALES, ETC. AT REGULAR INTERVALS AS WELL AS AFTER MAJOR RAINS, AND MAKE REPAIRS PROMPTLY. CHECK GRASS AND RECP LINED CHANNELS AFTER EVERY RAINFALL UNTIL THE ESTABLISHMENT OF A GOOD STAND OF VEGETATION.
2. GIVE SPECIAL ATTENTION TO THE OUTLET AND INLET SECTIONS AND OTHER POINTS WHERE CONCENTRATED FLOW ENTERS. CAREFULLY CHECK STABILITY AT ROAD CROSSINGS AND LOOK FOR INDICATIONS OF PIPING, SCOUR HOLES, OR BANK FAILURES.
3. MAKE REPAIRS IMMEDIATELY AND REMOVE ALL SIGNIFICANT SEDIMENT ACCUMULATIONS TO MAINTAIN THE DESIGNED CARRYING CAPACITY.
4. MAINTAIN ALL VEGETATION IN (AS APPLICABLE) AND ADJACENT TO THE CHANNEL IN A HEALTHY, VIGOROUS CONDITION.

CULVERTS, DOWN PIPES, ETC.

1. INSPECT CULVERTS AND DOWN PIPES AFTER EACH RAINFALL UNTIL ALL AREAS ADJOINING THE CULVERT OR DOWN PIPE ARE PERMANENTLY STABILIZED.
2. REPAIR ALL DAMAGE NOTED IN INSPECTIONS IMMEDIATELY.
3. AFTER THE SLOPES ARE STABILIZED, PERFORM PERIODIC INSPECTION INCLUDING INSPECTION AFTER MAJOR STORM EVENTS.

MAINTENANCE OF EROSION AND SEDIMENTATION FEATURES
DETAIL 4/EC3 — NOT TO SCALE

PREPARED FOR:
CUMBERLAND COUNTY
NORTH CAROLINA

PREPARED BY:
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SEAL
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 023002 — 10/11/2024

SEAL
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 054367 — 10/14/2024

REV.	DATE	DESCRIPTION

PROJECT TITLE:
CUMBERLAND COUNTY
ANN STREET MSW LANDFILL
SEDIMENT POND IMPROVEMENTS

DRAWING TITLE:
EROSION AND SEDIMENTATION CONTROL DETAILS
(SHEET 3 OF 3)

DESIGNED:	S.A.S.	PROJECT NO:	CUMBERLAND 22-40
DRAWN:	R.V.M.	SCALE:	AS SHOWN
APPROVED:	JCL	DATE:	OCT. 2024
FILENAME:	CUMBERLAND-D0216		
SHEET NUMBER:	7	DRAWING NUMBER:	EC3

PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION A: SELF-INSPECTION

Self-inspections are required during normal business hours in accordance with the table below. When adverse weather or site conditions would cause the safety of the inspection personnel to be in jeopardy, the inspection may be delayed until the next business day on which it is safe to perform the inspection. In addition, when a storm event of equal to or greater than 1.0 inch occurs outside of normal business hours, the self-inspection shall be performed upon the commencement of the next business day. Any time when inspections were delayed shall be noted in the Inspection Record.

Inspect	Frequency (during normal business hours)	Inspection records must include:
(1) Rain gauge maintained in good working order	Daily	Daily rainfall amounts. If no daily rain gauge observations are made during weekend or holiday periods, and no individual-day rainfall information is available, record the cumulative rain measurement for those un-attended days (and this will determine if a site inspection is needed). Days on which no rainfall occurred shall be recorded as "zero." The permittee may use another rain-monitoring device approved by the Division.
(2) E&SC Measures	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	1. Identification of the measures inspected, 2. Date and time of the inspection, 3. Name of the person performing the inspection, 4. Indication of whether the measures were operating properly, 5. Description of maintenance needs for the measure, 6. Description, evidence, and date of corrective actions taken.
(3) Stormwater discharge outfalls (SDCs)	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	1. Identification of the discharge outfalls inspected, 2. Date and time of the inspection, 3. Name of the person performing the inspection, 4. Evidence of indicators of stormwater pollution such as oil sheen, floating or suspended solids or discoloration, 5. Indication of visible sediment leaving the site, 6. Description, evidence, and date of corrective actions taken.
(4) Perimeter of site	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	If visible sedimentation is found outside site limits, then a record of the following shall be made: 1. Actions taken to clean up or stabilize the sediment that has left the site limits, 2. Description, evidence, and date of corrective actions taken, and 3. An explanation as to the actions taken to control future releases.
(5) Streams or wetlands onsite or offsite (where accessible)	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	If the stream or wetland has increased visible sedimentation or a stream has visible increased turbidity from the construction activity, then a record of the following shall be made: 1. Description, evidence and date of corrective actions taken, and 2. Records of the required reports to the appropriate Division Regional Office per Part III, Section C, Item (2)(a) of this permit.
(6) Ground stabilization measures	After each phase of grading	1. The phase of grading (installation of perimeter E&SC measures, clearing and grubbing, installation of storm drainage facilities, completion of all land-disturbing activity, construction or redevelopment, permanent ground cover). 2. Documentation that the required ground stabilization measures have been provided within the required timeframe or an assurance that they will be provided as soon as possible.

NOTE: The rain inspection resets the required 7 calendar day inspection requirement.

SECTION B: RECORDKEEPING

1. E&SC Plan Documentation

The approved E&SC plan as well as any approved deviation shall be kept on the site. The approved E&SC plan must be kept up-to-date throughout the coverage under this permit. The following items pertaining to the E&SC plan shall be kept on site and available for inspection at all times during normal business hours.

Item to Document	Documentation Requirements
(a) Each E&SC measure has been installed and does not significantly deviate from the locations, dimensions and relative elevations shown on the approved E&SC plan.	Initial and date each E&SC measure on a copy of the approved E&SC plan or complete, date and sign an inspection report that lists each E&SC measure shown on the approved E&SC plan. This documentation is required upon the initial installation of the E&SC measures or if the E&SC measures are modified after initial installation.
(b) A phase of grading has been completed.	Initial and date a copy of the approved E&SC plan or complete, date and sign an inspection report to indicate completion of the construction phase.
(c) Ground cover is located and installed in accordance with the approved E&SC plan.	Initial and date a copy of the approved E&SC plan or complete, date and sign an inspection report to indicate compliance with approved ground cover specifications.
(d) The maintenance and repair requirements for all E&SC measures have been performed.	Complete, date and sign an inspection report.
(e) Corrective actions have been taken to E&SC measures.	Initial and date a copy of the approved E&SC plan or complete, date and sign an inspection report to indicate the completion of the corrective action.

2. Additional Documentation to be Kept on Site

In addition to the E&SC plan documents above, the following items shall be kept on the site and available for inspectors at all times during normal business hours, unless the Division provides a site-specific exemption based on unique site conditions that make this requirement not practical:

(a) This General Permit as well as the Certificate of Coverage, after it is received.

(b) Records of inspections made during the previous twelve months. The permittee shall record the required observations on the Inspection Record Form provided by the Division or a similar inspection form that includes all the required elements. Use of electronically-available records in lieu of the required paper copies will be allowed if shown to provide equal access and utility as the hard-copy records.

3. Documentation to be Retained for Three Years

All data used to complete the e-NOI and all inspection records shall be maintained for a period of three years after project completion and made available upon request. [40 CFR 122.41]

SECTION C: REPORTING

1. Occurrences that Must be Reported

Permittees shall report the following occurrences:

(a) Visible sediment deposition in a stream or wetland.

(b) Oil spills if:
- They are 25 gallons or more,
- They are less than 25 gallons but cannot be cleaned up within 24 hours,
- They cause sheen on surface waters (regardless of volume), or
- They are within 100 feet of surface waters (regardless of volume).

(c) Releases of hazardous substances in excess of reportable quantities under Section 311 of the Clean Water Act (Ref: 40 CFR 110.3 and 40 CFR 117.3) or Section 102 of CERCLA (Ref: 40 CFR 302.4) or G.S. 143-215.85.

(d) Anticipated bypasses and unanticipated bypasses.

(e) Noncompliance with the conditions of this permit that may endanger health or the environment.

2. Reporting Timeframes and Other Requirements

After a permittee becomes aware of an occurrence that must be reported, he shall contact the appropriate Division regional office within the timeframes and in accordance with the other requirements listed below. Occurrences outside normal business hours may also be reported to the Department's Environmental Emergency Center personnel at (800) 858-0368.

Occurrence	Reporting Timeframes (After Discovery) and Other Requirements
(a) Visible sediment deposition in a stream or wetland	• ***Within 24 hours***, an oral or electronic notification. • ***Within 7 calendar days***, a report that contains a description of the sediment and actions taken to address the cause of the deposition. Division staff may waive the requirement for a written report on a case-by-case basis. • If the stream is named on the NC 303(d) list as impaired for sediment-related causes, the permittee may be required to perform additional monitoring, inspections or apply more stringent practices if staff determine that additional requirements are needed to assure compliance with the federal or state impaired-waters conditions.
(b) Oil spills and release of hazardous substances per Item 1(b)-(c) above	• ***Within 24 hours***, an oral or electronic notification. The notification shall include information about the date, time, nature, volume and location of the spill or release.
(c) Anticipated bypasses [40 CFR 122.41(m)(3)]	• ***A report at least ten days before the date of the bypass, if possible***. The report shall include an evaluation of the anticipated quality and effect of the bypass.
(d) Unanticipated bypasses [40 CFR 122.41(m)(3)]	• ***Within 24 hours***, an oral or electronic notification. • ***Within 7 calendar days,*** a report that includes an evaluation of the quality and effect of the bypass.
(e) Noncompliance with the conditions of this permit that may endanger health or the environment[40 CFR 122.41(l)(7)]	• ***Within 24 hours***, an oral or electronic notification. • ***Within 7 calendar days***, a report that contains a description of the noncompliance, and its causes; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time noncompliance is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. [40 CFR 122.41(l)(6). • Division staff may waive the requirement for a written report on a case-by-case basis.

PART II, SECTION G, ITEM (4)
DRAW DOWN OF SEDIMENT BASINS FOR MAINTENANCE OR CLOSE OUT

Sediment basins and traps that receive runoff from drainage areas of one acre or more shall use outlet structures that withdraw water from the surface when these devices need to be drawn down for maintenance or close out unless this is infeasible. The circumstances in which it is not feasible to withdraw water from the surface shall be rare (for example, times with extended cold weather). Non-surface withdrawals from sediment basins shall be allowed only when all of the following criteria have been met:

(a) The E&SC plan authority has been provided with documentation of the non-surface withdrawal and the specific time periods or conditions in which it will occur. The non-surface withdrawal shall not commence until the E&SC plan authority has approved these items,
(b) The non-surface withdrawal has been reported as an anticipated bypass in accordance with Part III, Section C, Item (2)(c) and (d) of this permit,
(c) Dewatering discharges are treated with controls to minimize discharges of pollutants from stormwater that is removed from the sediment basin. Examples of appropriate controls include properly sited, designed and maintained dewatering tanks, weir tanks, and filtration systems,
(d) Vegetated, upland areas of the sites or a properly designed stone pad is used to the extent feasible at the outlet of the dewatering treatment devices described in Item (c) above,
(e) Velocity dissipation devices such as check dams, sediment traps, and riprap are provided at the discharge points of all dewatering devices, and
(f) Sediment removed from the dewatering treatment devices described in Item (c) above is disposed of in a manner that does not cause deposition of sediment into waters of the United States.

NORTH CAROLINA Environmental Quality

NCG01 SELF-INSPECTION, RECORDKEEPING AND REPORTING

EFFECTIVE: 04/01/19

PREPARED FOR:
CUMBERLAND COUNTY
NORTH CAROLINA

PREPARED BY:
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10/7/2024
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10/10/2024
Signed by: Jesse C. Li, P.E., ENGINEER, JESSE C. LI
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REV.	DATE	DESCRIPTION

PROJECT TITLE:
CUMBERLAND COUNTY
ANN STREET MSW LANDFILL
SEDIMENT POND IMPROVEMENTS

DRAWING TITLE:
NPDES
SELF INSPECTION

DESIGNED: S.A.S.	PROJECT NO.: CUMBERLAND 22-40
DRAWN: P.V.M.	SCALE: AS SHOWN
APPROVED: JCL	DATE: OCT. 2024
FILENAME: CUMBERLAND-D0216	
SHEET NUMBER: 8	DRAWING NUMBER: SN1

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GROUND STABILIZATION AND MATERIALS HANDLING PRACTICES FOR COMPLIANCE WITH THE NCG01 CONSTRUCTION GENERAL PERMIT

Implementing the details and specifications on this plan sheet will result in the construction activity being considered compliant with the Ground Stabilization and Materials Handling sections of the NCG01 Construction General Permit (Sections E and F, respectively). The permittee shall comply with the Erosion and Sediment Control plan approved by the delegated authority having jurisdiction. All details and specifications shown on this sheet may not apply depending on site conditions and the delegated authority having jurisdiction.

SECTION E: GROUND STABILIZATION

Required Ground Stabilization Timeframes

Site Area Description	Stabilize within this many calendar days after ceasing land disturbance	Timeframe variations
(a) Perimeter dikes, swales, ditches, and perimeter slopes	7	None
(b) High Quality Water (HQW) Zones	7	None
(c) Slopes steeper than 3:1	7	If slopes are 10' or less in length and are not steeper than 2:1, 14 days are allowed
(d) Slopes 3:1 to 4:1	14	-7 days for slopes greater than 50' in length and with slopes steeper than 4:1 -7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed
(e) Areas with slopes flatter than 4:1	14	-7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed unless there is zero slope

Note: After the permanent cessation of construction activities, any areas with temporary ground stabilization shall be converted to permanent ground stabilization as soon as practicable but in no case longer than 90 calendar days after the last land disturbing activity. Temporary ground stabilization shall be maintained in a manner to render the surface stable against accelerated erosion until permanent ground stabilization is achieved.

GROUND STABILIZATION SPECIFICATION

Stabilize the ground sufficiently so that rain will not dislodge the soil. Use one of the techniques in the table below:

Temporary Stabilization	Permanent Stabilization
• Temporary grass seed covered with straw or other mulches and tackifiers • Hydroseeding • Rolled erosion control products with or without temporary grass seed • Appropriately applied straw or other mulch • Plastic sheeting	• Permanent grass seed covered with straw or other mulches and tackifiers • Geotextile fabrics such as permanent soil reinforcement matting • Hydroseeding • Shrubs or other permanent plantings covered with mulch • Uniform and evenly distributed ground cover sufficient to restrain erosion • Structural methods such as concrete, asphalt or retaining walls • Rolled erosion control products with grass seed

POLYACRYLAMIDES (PAMS) AND FLOCCULANTS

1. Select flocculants that are appropriate for the soils being exposed during construction, selecting from the *NC DWR List of Approved PAMS/Flocculants*.
2. Apply flocculants at or before the inlets to Erosion and Sediment Control Measures.
3. Apply flocculants at the concentrations specified in the *NC DWR List of Approved PAMS/Flocculants* and in accordance with the manufacturer's instructions.
4. Provide ponding area for containment of treated Stormwater before discharging offsite.
5. Store flocculants in leak-proof containers that are kept under storm-resistant cover or surrounded by secondary containment structures.

EQUIPMENT AND VEHICLE MAINTENANCE

1. Maintain vehicles and equipment to prevent discharge of fluids.
2. Provide drip pans under any stored equipment.
3. Identify leaks and repair as soon as feasible, or remove leaking equipment from the project.
4. Collect all spent fluids, store in separate containers and properly dispose as hazardous waste (recycle when possible).
5. Remove leaking vehicles and construction equipment from service until the problem has been corrected.
6. Bring used fuels, lubricants, coolants, hydraulic fluids and other petroleum products to a recycling or disposal center that handles these materials.

LITTER, BUILDING MATERIAL AND LAND CLEARING WASTE

1. Never bury or burn waste. Place litter and debris in approved waste containers.
2. Provide a sufficient number and size of waste containers (e.g dumpster, trash receptacle) on site to contain construction and domestic wastes.
3. Locate waste containers at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
4. Locate waste containers on areas that do not receive substantial amounts of runoff from upland areas and does not drain directly to a storm drain, stream or wetland.
5. Cover waste containers at the end of each workday and before storm events or provide secondary containment. Repair or replace damaged waste containers.
6. Anchor all lightweight items in waste containers during times of high winds.
7. Empty waste containers as needed to prevent overflow. Clean up immediately if containers overflow.
8. Dispose waste off-site at an approved disposal facility.
9. On business days, clean up and dispose of waste in designated waste containers.

PAINT AND OTHER LIQUID WASTE

1. Do not dump paint and other liquid waste into storm drains, streams or wetlands.
2. Locate paint washouts at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
3. Contain liquid wastes in a controlled area.
4. Containment must be labeled, sized and placed appropriately for the needs of site.
5. Prevent the discharge of soaps, solvents, detergents and other liquid wastes from construction sites.

PORTABLE TOILETS

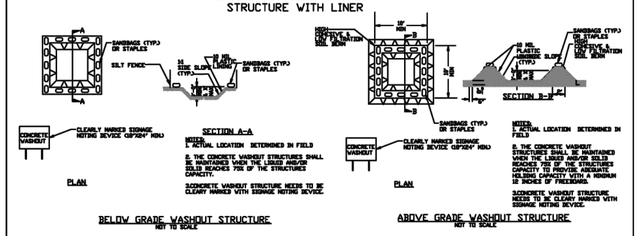
1. Install portable toilets on level ground, at least 50 feet away from storm drains, streams or wetlands unless there is no alternative reasonably available. If 50 foot offset is not attainable, provide relocation of portable toilet behind silt fence or place on a gravel pad and surround with sand bags.
2. Provide staking or anchoring of portable toilets during periods of high winds or in high foot traffic areas.
3. Monitor portable toilets for leaking and properly dispose of any leaked material. Utilize a licensed sanitary waste hauler to remove leaking portable toilets and replace with properly operating unit.

EARTHEN STOCKPILE MANAGEMENT

1. Show stockpile locations on plans. Locate earthen-material stockpile areas at least 50 feet away from storm drain inlets, sediment basins, perimeter sediment controls and surface waters unless it can be shown no other alternatives are reasonably available.
2. Protect stockpile with silt fence installed along toe of slope with a minimum offset of five feet from the toe of stockpile.
3. Provide stable stone access point when feasible.
4. Stabilize stockpile within the timeframes provided on this sheet and in accordance with the approved plan and any additional requirements. Soil stabilization is defined as vegetative, physical or chemical coverage techniques that will restrain accelerated erosion on disturbed soils for temporary or permanent control needs.

NORTH CAROLINA Environmental Quality

ONSITE CONCRETE WASHOUT STRUCTURE WITH LINER



CONCRETE WASHOUTS

1. Do not discharge concrete or cement slurry from the site.
2. Dispose of, or recycle settled, hardened concrete residue in accordance with local and state solid waste regulations and at an approved facility.
3. Manage washout from mortar mixers in accordance with the above item and in addition place the mixer and associated materials on impervious barrier and within lot perimeter silt fence.
4. Install temporary concrete washouts per local requirements, where applicable. If an alternate method or product is to be used, contact your approval authority for review and approval. If local standard details are not available, use one of the two types of temporary concrete washouts provided on this detail.
5. Do not use concrete washouts for dewatering or storing defective curb or sidewalk sections. Stormwater accumulated within the washout may not be pumped into or discharged to the storm drain system or receiving surface waters. Liquid waste must be pumped out and removed from project.
6. Locate washouts at least 50 feet from storm drain inlets and surface waters unless it can be shown that no other alternatives are reasonably available. At a minimum, install protection of storm drain inlet(s) closest to the washout which could receive spills or overflow.
7. Locate washouts in an easily accessible area, on level ground and install a stone entrance pad in front of the washout. Additional controls may be required by the approving authority.
8. Install at least one sign directing concrete trucks to the washout within the project limits. Post signage on the washout itself to identify this location.
9. Remove leavings from the washout when at approximately 75% capacity to limit overflow events. Replace the tarp, sand bags or other temporary structural components when no longer functional. When utilizing alternative or proprietary products, follow manufacturer's instructions.
10. At the completion of the concrete work, remove remaining leavings and dispose of in an approved disposal facility. Fill pit, if applicable, and stabilize any disturbance caused by removal of washout.

HERBICIDES, PESTICIDES AND RODENTICIDES

1. Store and apply herbicides, pesticides and rodenticides in accordance with label restrictions.
2. Store herbicides, pesticides and rodenticides in their original containers with the label, which lists directions for use, ingredients and first aid steps in case of accidental poisoning.
3. Do not store herbicides, pesticides and rodenticides in areas where flooding is possible or where they may spill or leak into wells, stormwater drains, ground water or surface water. If a spill occurs, clean area immediately.
4. Do not stockpile these materials onsite.

HAZARDOUS AND TOXIC WASTE

1. Create designated hazardous waste collection areas on-site.
2. Place hazardous waste containers under cover or in secondary containment.
3. Do not store hazardous chemicals, drums or bagged materials directly on the ground.

NCG01 GROUND STABILIZATION AND MATERIALS HANDLING

EFFECTIVE: 04/01/19

PREPARED FOR:
CUMBERLAND COUNTY
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REV.	DATE	DESCRIPTION

PROJECT TITLE:
CUMBERLAND COUNTY
ANN STREET MSW LANDFILL
SEDIMENT POND IMPROVEMENTS

DRAWING TITLE:
GROUND STABILIZATION

DESIGNED: S.A.S.	PROJECT NO: CUMBERLAND 22-40
DRAWN: R.V.M.	SCALE: AS SHOWN
APPROVED: JCL	DATE: OCT. 2024
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SHEET NUMBER: 9	DRAWING NUMBER: SN2

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