



GARRETT & MOORE
 Engineering for the Power and Waste Industries
 1029 West South Street
 Raleigh, NC 27603
 www.Garrett-Moore.com

BEAUFORT COUNTY

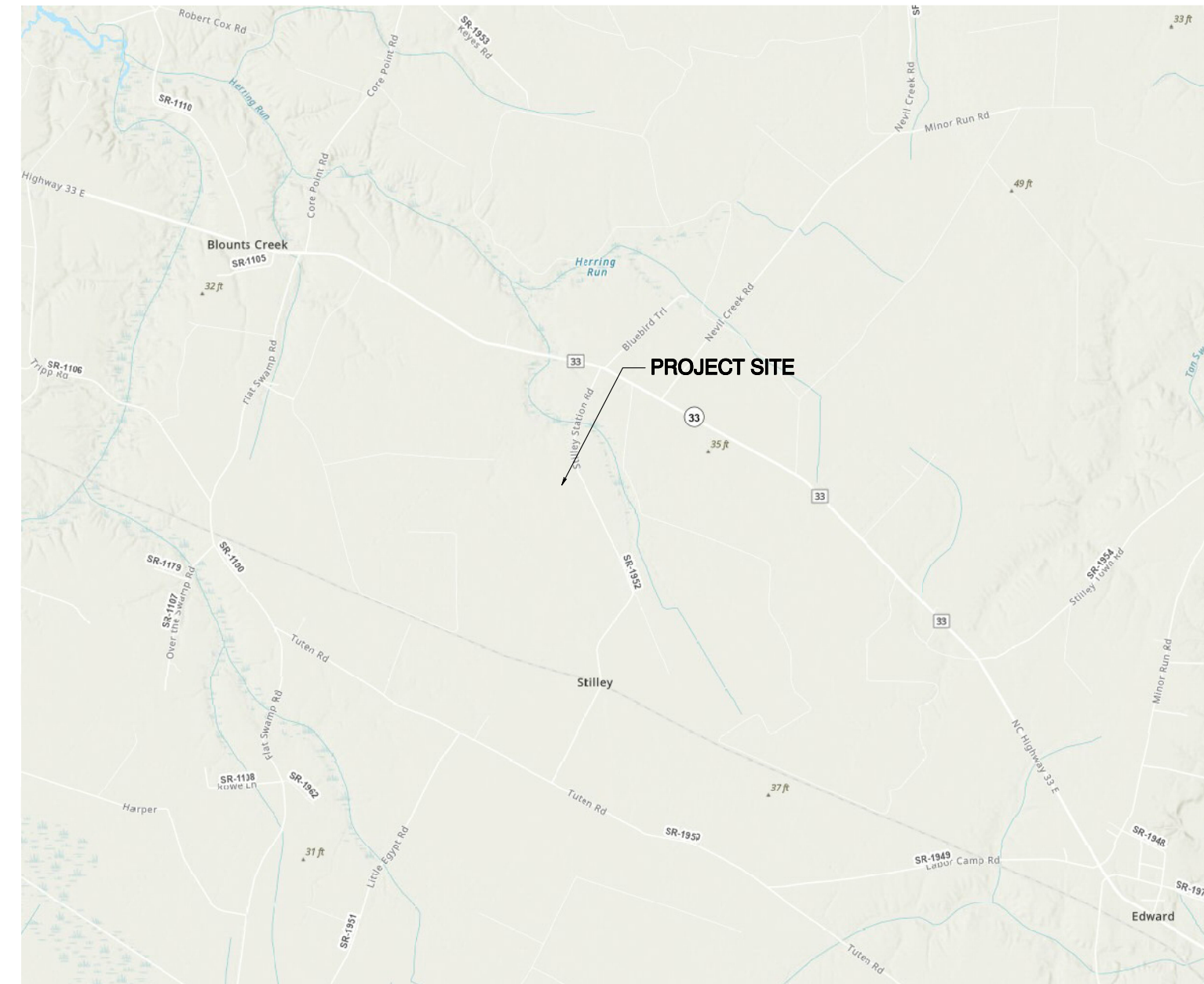
STILLEY STATION
 CONVENIENCE SITE

COVER SHEET

SHEET
 S-0

BEAUFORT COUNTY STILLEY STATION CONVENIENCE SITE

LOCATION MAP



INDEX OF DRAWINGS

CIVIL SITE DRAWINGS

- S-1 SITE PLAN
- S-2 EXISTING CONDITIONS
- EC-1 EROSION AND SEDIMENT CONTROL PHASE I
- EC-2 EROSION AND SEDIMENT CONTROL PHASE II
- ~~EC-3 EROSION AND SEDIMENT CONTROL PHASE III~~
- ~~EC-4 EROSION AND SEDIMENT CONTROL PHASE IV~~
- S-3 FINAL GRADING PLAN
- S-4 DETAIL GRADING PLAN
- D-1 - D-4 DETAILS
- EC-5 - EC-8 EROSION CONTROL DETAILS
- SD-1 STANDARD DETAILS

STRUCTURAL DRAWINGS

- S1.1 RETAINING WALL PLAN
- S1.2 MATERIAL CANOPY AND CANOPY AT CUSTOMER AREA BUILDING PLANS
- S1.3 MATERIAL CANOPY AND CANOPY AT CUSTOMER AREA BUILDING PLANS
- S1.4 FOUNDATION PLANS PLAN NOTES AND SCHEDULES
- S2.1 FOOTING SECTION AND DETAILS
- S2.2 FOOTING SECTION AND DETAILS
- S3.1 CANOPY PLAN DETAIL AND SECTIONS
- S4.1 STRUCTURAL NOTES DESIGN CRITERIA AND SCHEDULES

ELECTRICAL DRAWINGS

- E1 ELECTRICAL SITE PLAN
- E2 ELECTRICAL SITE PLAN
- E3 ELECTRICAL DETAILS
- E4 ELECTRICAL RISERS
- E5 ELECTRICAL NOTES & SCHEDULES

WASTEWATER TREATMENT AND DISPERSAL SYSTEM

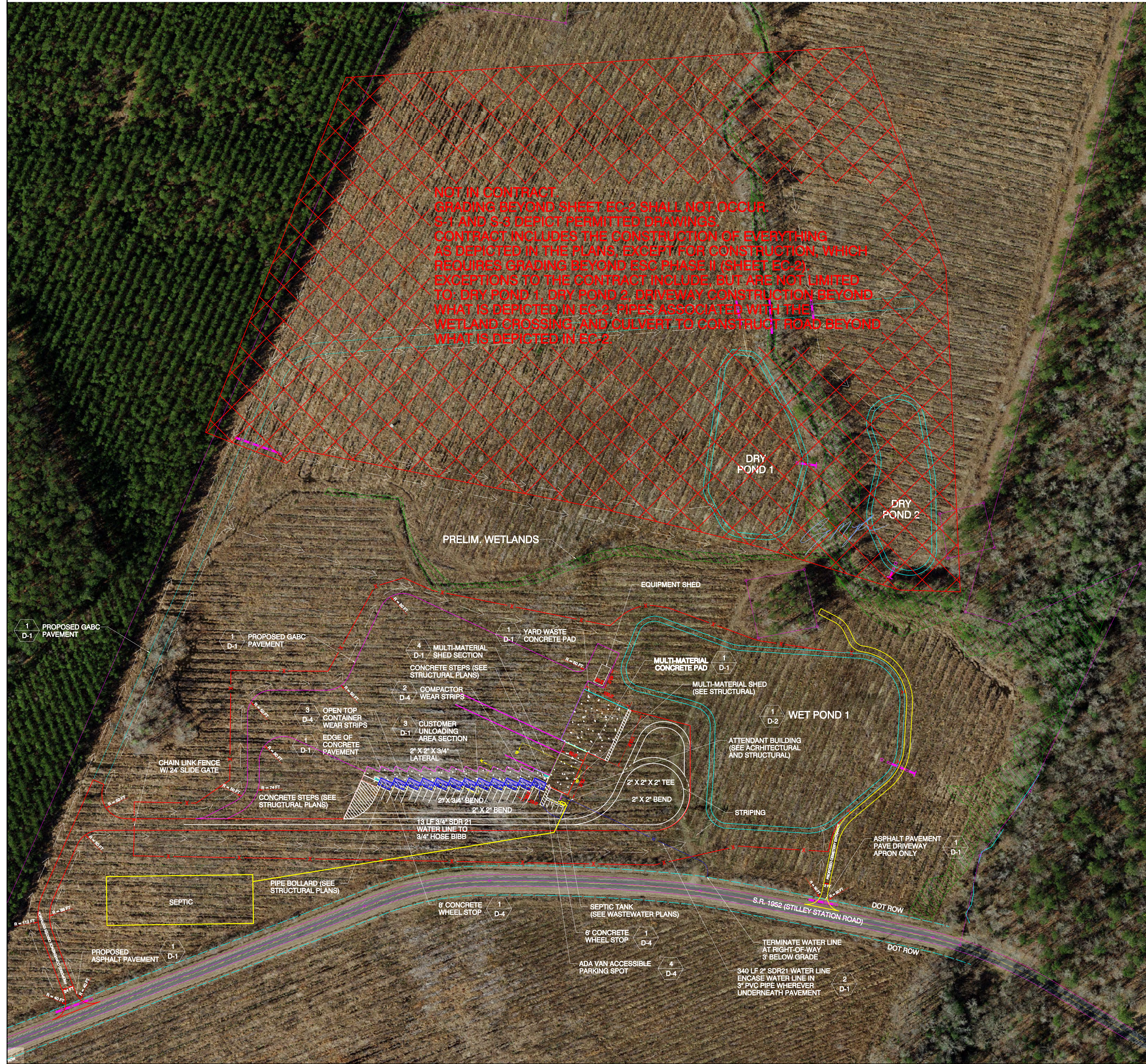
- 1 AOWE SITE/SYSTEM SUMMARY SPECIFICATIONS
- 2 SEPTIC LAYOUT 150' SCALE
- 3 SEPTIC LAYOUT 60' SCALE

ARCHITECTURAL DRAWINGS

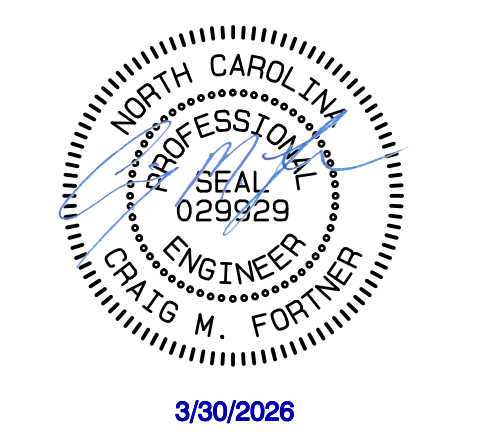
- T1.1 TITLE SHEET
- A1.1 BUILDING PLANS
- A1.2 BUILDING PLANS
- A2.1 EXTERIOR ELEVATIONS
- A3.1 BUILDING SECTION

MARCH 2026

Path: C:\Users\lgminer\Desktop\Projects\Beaufort County\CADD\STILLEY STATION SITE MIRROR PLAN 03-30-26.pro Plot Date/Time: Tue Mar 31, 2026 / 11:34:23



NOT IN CONTRACT.
 GRADING BEYOND SHEET EC-2 SHALL NOT OCCUR
 S-1 AND S-3 DEPICT PERMITTED DRAWINGS.
 CONTRACT INCLUDES THE CONSTRUCTION OF EVERYTHING
 AS DEPICTED IN THE PLANS, EXCEPT FOR CONSTRUCTION, WHICH
 REQUIRES GRADING BEYOND ESG PHASE II (SHEET EC-2).
 EXCEPTIONS TO THE CONTRACT INCLUDE, BUT ARE NOT LIMITED
 TO: DRY POND 1, DRY POND 2, DRIVEWAY CONSTRUCTION BEYOND
 WHAT IS DEPICTED IN EC-2, PIPES ASSOCIATED WITH THE
 WETLAND CROSSING, AND CULVERT TO CONSTRUCT ROAD BEYOND
 WHAT IS DEPICTED IN EC-2.



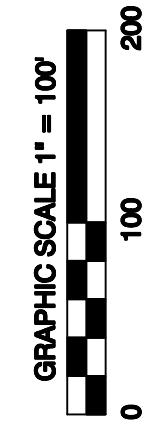
GARRETT & MOORE
 Engineering for the Power and Waste Industries
 1029 West South Street
 Raleigh, NC 27603
 www.Garrett-Moore.com

BEAUFORT COUNTY
STILLEY STATION CONVENIENCE SITE

SITE PLAN

GRAPHIC SCALE 1" = 100'
 0 100 200
SHEET S-1

Path: C:\Users\lginner\Desktop\Projects\Beaufort County\CADD\STILLEY STATION SITE MIRROR PLAN 03-26-26.pro Plot Date/Time: Mon Mar 30 2026 / 17:25:37



GRAPHIC SCALE 1" = 100'

**SHEET
S-2**

EXISTING CONDITIONS

BEAUFORT COUNTY

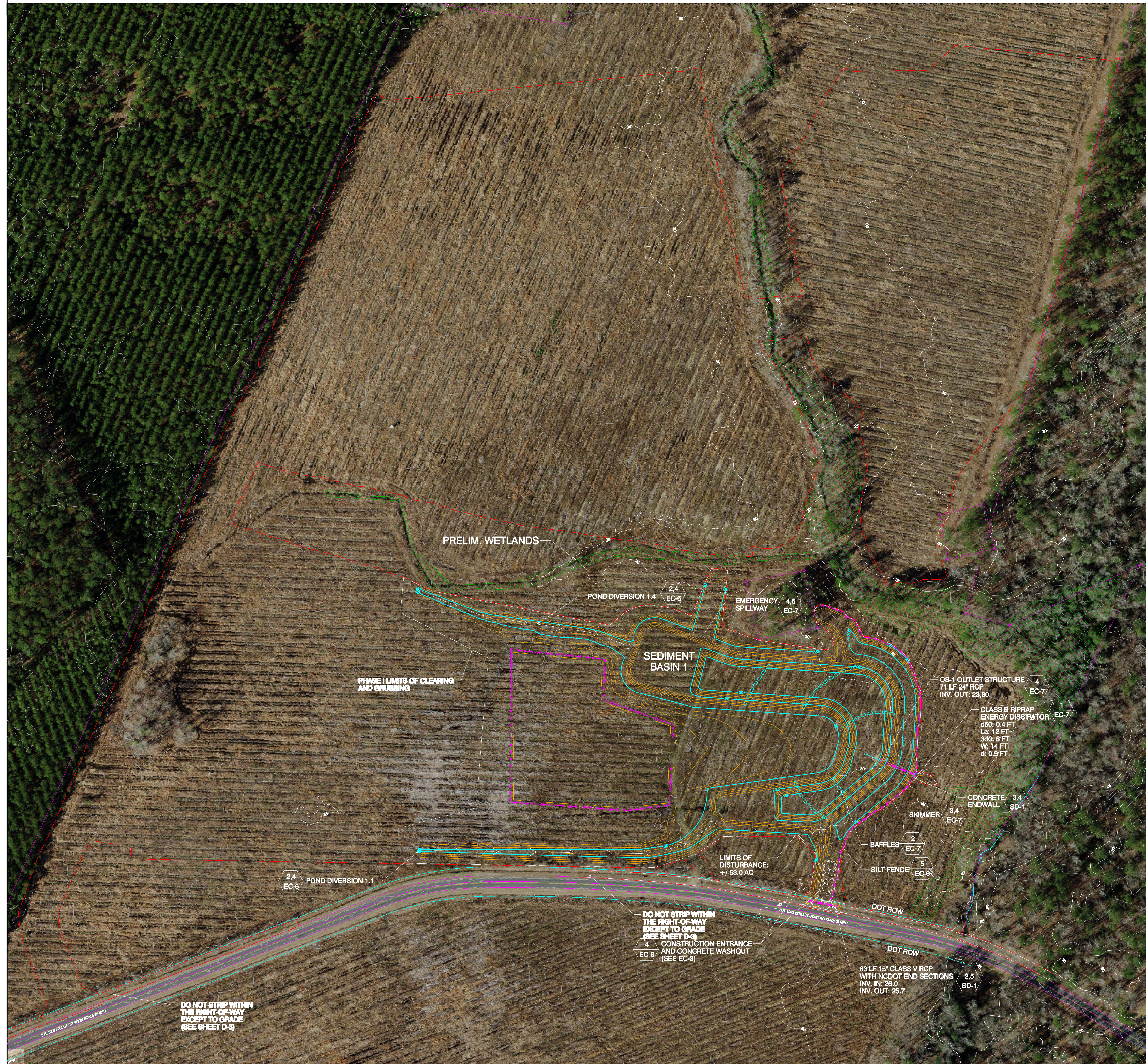
**STILLEY STATION
CONVENIENCE SITE**

**GARRETT
& MOORE**
Engineering for the Power and Waste Industries
1029 West South Street
Raleigh, NC 27603
www.Garrett-Moore.com

3/30/2026

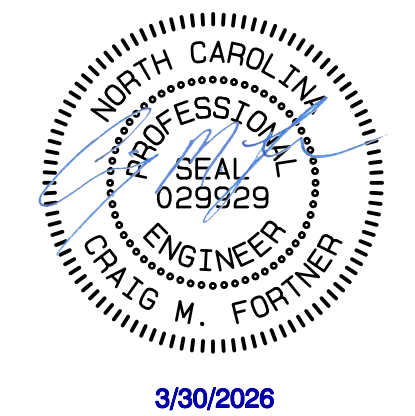
PROFESSIONAL
ENGINEER
SEAL
029929
CRAIG M. FORTNER
NORTH CAROLINA

Path: C:\Users\lgminer\Desktop\Projects\Beaufort County\CADD\STILLEY STATION SITE MIRROR PLAN 03-26-26.prn Plot Date/Time: Mon Mar 30, 2026 / 17:26:58



CONSTRUCTION SEQUENCE:

1. OBTAIN LAND DISTURBANCE PERMIT.
2. INSTALL NCG01 CONSTRUCTION ENTRANCE AND PERIMETER FENCING.
3. INSTALL SEDIMENT FENCE FOR STOCKPILE.
4. EXCAVATE SEDIMENT BASIN 1 AND INSTALL OS-1 AND EMERGENCY SPILLWAY. ATTACH SKIMMER.
5. EXCAVATE DIVERSIONS.
6. PERMANENTLY SEED DIVERSIONS, BERM, AND EMERGENCY SPILLWAY.
7. PROCEED TO PHASE II.



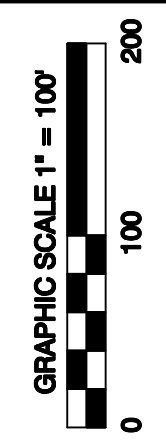
3/30/2026

GARRETT & MOORE
 Engineering for the Power and Waste Industries
 1029 West South Street
 Raleigh, NC 27603
 www.Garrett-Moore.com

BEAUFORT COUNTY

STILLEY STATION
CONVENIENCE SITE

EROSION AND SEDIMENT
CONTROL PHASE I



SHEET
EC-1

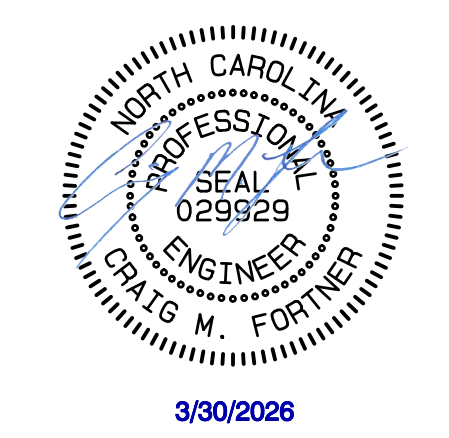
Path: C:\Users\lginner\Desktop\Projects\Beaufort County\CADD\STILLEY STATION SITE MIRROR PLAN 03-26-26.pro Plot Date/Time: Mon Mar 30 2026 / 17:28:23



CONSTRUCTION SEQUENCE:

COMPLETE PHASE I PRIOR TO PHASE II.

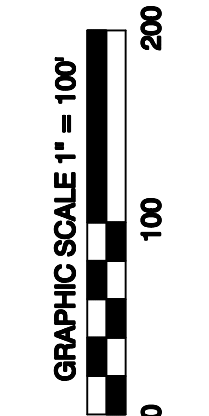
1. EXCAVATE DIVERSIONS AND APPLY ROLLED EROSION CONTROL PRODUCT WHERE DEPICTED.
2. INSTALL SILT FENCE FOR PHASE II STOCKPILE.
3. INSTALL NCG01 CONSTRUCTION ENTRANCE AND PHASE II SILT FENCE.
4. CONTINUE EXCAVATING SEDIMENT BASIN 1 AND STOCKPILING.
5. PAVE AND GRADE SITE TO PHASE II ELEVATIONS.
6. APPLY TEMPORARY AND PERMANENT SEEDING TO DISTURBED AREAS IN ACCORDANCE WITH NCG01 MATERIALS HANDLING ON SHEET EC-3.
7. PROCEED TO PHASE III.



GARRETT & MOORE
 Engineering for the Power and Waste Industries
 1029 West South Street
 Raleigh, NC 27603
 www.Garrett-Moore.com

BEAUFORT COUNTY
STILLEY STATION CONVENIENCE SITE

EROSION AND SEDIMENT CONTROL PHASE II



SHEET EC-2

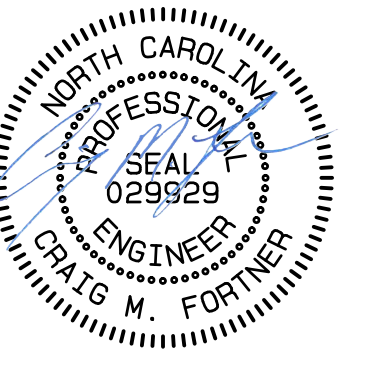
Path: C:\Users\lgminer\Desktop\Projects\Beaufort County\CADD\STILLEY STATION SITE MIRROR PLAN 03-26-26.pro Plot Date/Time: Mon Mar 30, 2026 / 17:31:05



CONSTRUCTION SEQUENCE:

COMPLETE PHASE II PRIOR TO PHASE III.

1. INSTALL SILT FENCE FOR PHASE III STOCKPILE.
2. INSTALL PHASE III SILT FENCE
3. EXCAVATE SEDIMENT BASIN 2, EMERGENCY SPILLWAY, ATTACH SKIMMER, AND INSTALL BAFFLES.
4. INSTALL CULVERT; EXCAVATE PHASE III DIVERSIONS.
5. PAVE AND GRADE SITE TO PHASE III ELEVATIONS.
6. APPLY TEMPORARY AND PERMANENT SEEDING TO DISTURBED AREAS IN ACCORDANCE WITH NCG01 MATERIALS HANDLING ON SHEET EC-3.
7. PROCEED TO PHASE IV.



3/30/2026



GARRETT & MOORE

Engineering for the Power and Waste Industries
 1029 West South Street
 Raleigh, NC 27603
 www.Garrett-Moore.com

BEAUFORT COUNTY

STILLEY STATION
CONVENIENCE SITE

EROSION AND SEDIMENT
CONTROL PHASE III



SHEET
EC-3

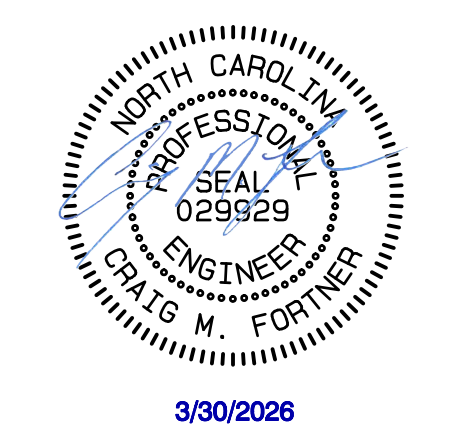
Path: C:\Users\lginner\Desktop\Projects\Beaufort County\CADD\STILLEY STATION SITE MIRROR PLAN 03-26-26.pro Plot Date/Time: Mon Mar 30 2026 / 17:32:31



CONSTRUCTION SEQUENCE:

COMPLETE PHASE III PRIOR TO PHASE IV.

1. INSTALL SILT FENCE FOR PHASE IV STOCKPILE.
2. INSTALL PHASE IV SILT FENCE.
3. EXCAVATE SEDIMENT BASIN 3, EMERGENCY SPILLWAY, ATTACH SKIMMER, AND INSTALL BAFFLES.
4. INSTALL CULVERTS, EXCAVATE PHASE IV DIVERSIONS.
5. PAVE AND GRADE SITE TO PHASE IV ELEVATIONS.
6. APPLY TEMPORARY AND PERMANENT SEEDING TO DISTURBED AREAS IN ACCORDANCE WITH NCC01 MATERIALS HANDLING ON SHEET EC-3.
7. ONCE FINAL ELEVATIONS ARE ACHIEVED AND SITE IS STABILIZED, REMOVE SEDIMENT FROM SEDIMENT BASINS.
8. ONCE FINAL ELEVATIONS ARE ACHIEVED AND SITE IS STABILIZED, REMOVE SEDIMENT FROM SEDIMENT BASINS.
9. CONTACT DEMLR FOR FINAL INSPECTION AND APPROVAL TO CLOSE ESC PERMIT.
10. UPON APPROVAL, REMOVE SILT FENCE AND CONVERT THE SEDIMENT BASINS TO POST-CONSTRUCTION PONDS BY REMOVING BAFFLES AND SKIMMERS.



GARRETT & MOORE
 Engineering for the Power and Waste Industries
 1029 West South Street
 Raleigh, NC 27603
 www.Garrett-Moore.com

BEAUFORT COUNTY

**STILLEY STATION
 CONVENIENCE SITE**

**EROSION AND SEDIMENT
 CONTROL PHASE IV**

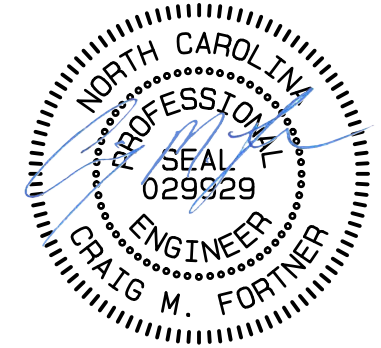
GRAPHIC SCALE 1" = 100'

**SHEET
 EC-4**

Path: C:\Users\lgminer\Desktop\Projects\Beaufort County\CADD\STILLEY STATION SITE MIRROR PLAN 03-30-26.pro Plot Date/Time: Tue Mar 31 2026 / 11:36:04



NOT IN CONTRACT.
 GRADING BEYOND SHEET EC-2 SHALL NOT OCCUR
 S-1 AND S-3 DEPICT PERMITTED DRAWINGS.
 CONTRACT INCLUDES THE CONSTRUCTION OF EVERYTHING
 AS DEPICTED IN THE PLANS, EXCEPT FOR CONSTRUCTION, WHICH
 REQUIRES GRADING BEYOND ESC PHASE II (SHEET EC-2).
 EXCEPTIONS TO THE CONTRACT INCLUDE, BUT ARE NOT LIMITED
 TO: DRY POND 1, DRY POND 2, DRIVEWAY CONSTRUCTION BEYOND
 WHAT IS DEPICTED IN EC-2, PIPES ASSOCIATED WITH THE
 WETLAND CROSSING, AND CULVERT TO CONSTRUCT ROAD BEYOND
 WHAT IS DEPICTED IN EC-2.



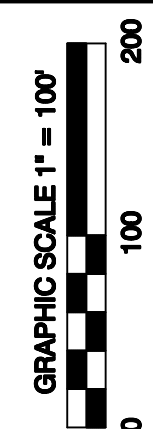
3/30/2026

GARRETT & MOORE
 Engineering for the Power and Waste Industries
 1029 West South Street
 Raleigh, NC 27603
 www.Garrett-Moore.com

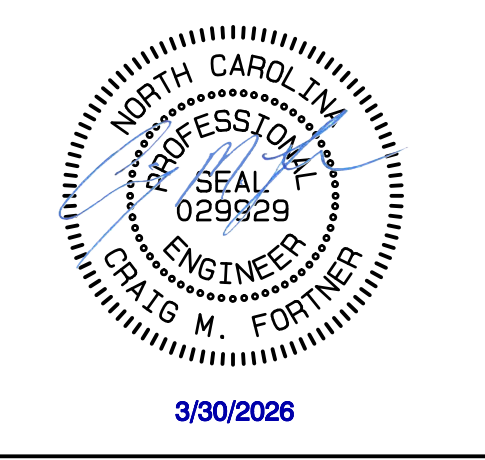
BEAUFORT COUNTY

STILLEY STATION
 CONVENIENCE SITE

FINAL GRADING PLAN



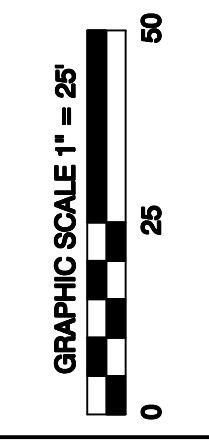
SHEET
 S-3



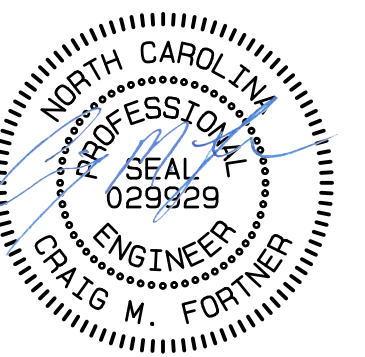
GARRETT & MOORE
 Engineering for the Power and Waste Industries
 1029 West South Street
 Raleigh, NC 27603
 www.Garrett-Moore.com

BEAUFORT COUNTY
STILLEY STATION
CONVENIENCE SITE

DETAIL GRADING PLAN



SHEET S-4



3/30/2026

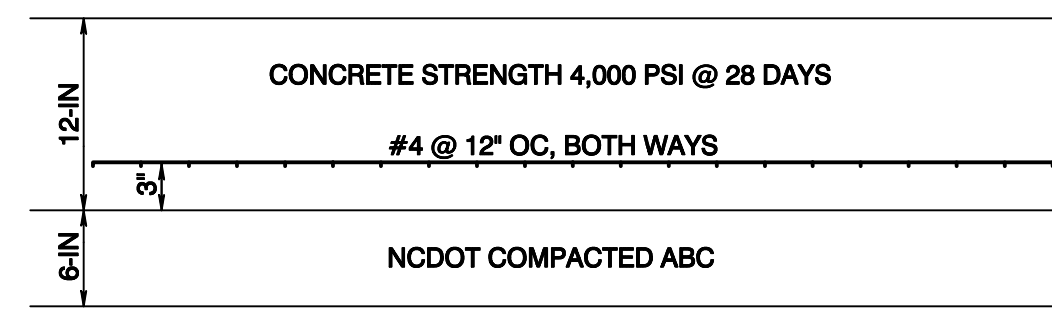
GARRETT & MOORE
 Engineering for the Power and Waste Industries
 1029 West South Street
 Raleigh, NC 27603
 www.Garrett-Moore.com

BEAUFORT COUNTY

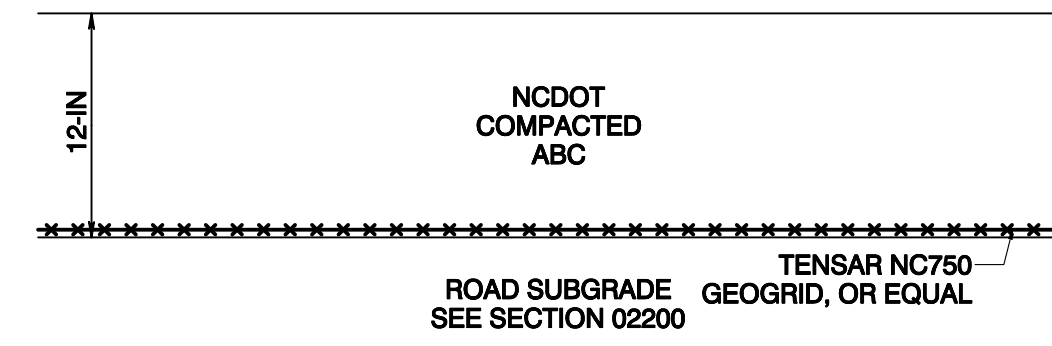
STILLEY STATION
 CONVENIENCE SITE

DETAILS

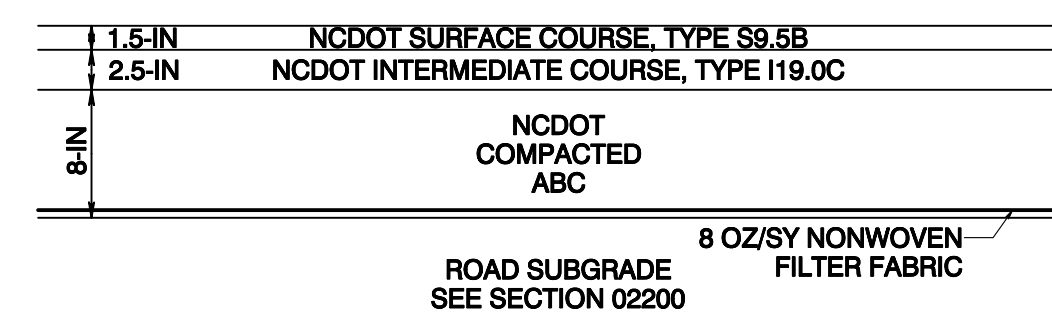
SHEET
 D-1



CONCRETE PAVEMENT

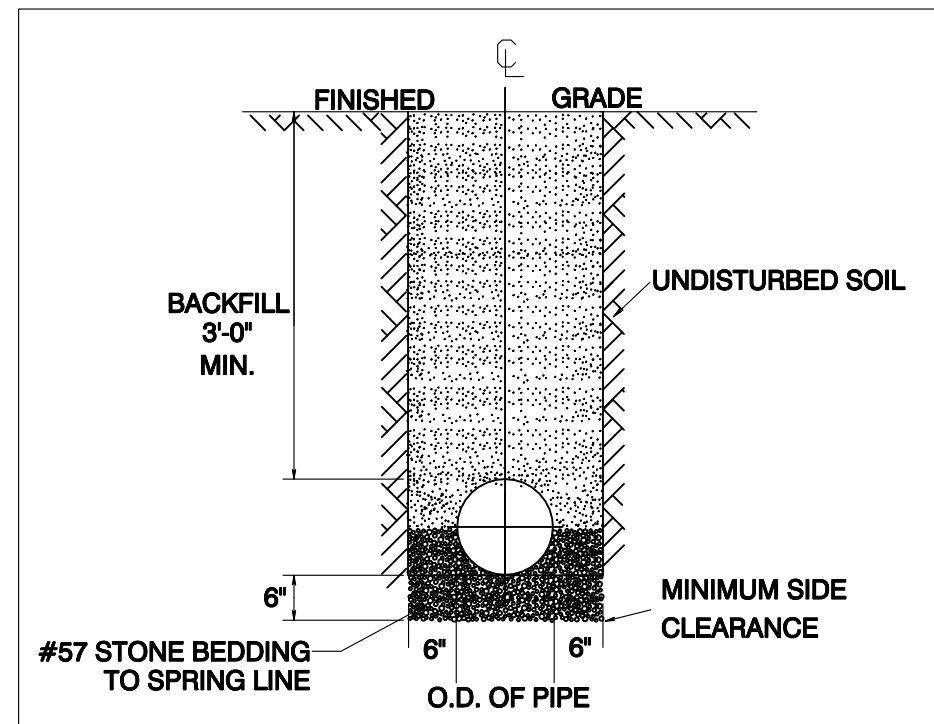


ABC PAVEMENT



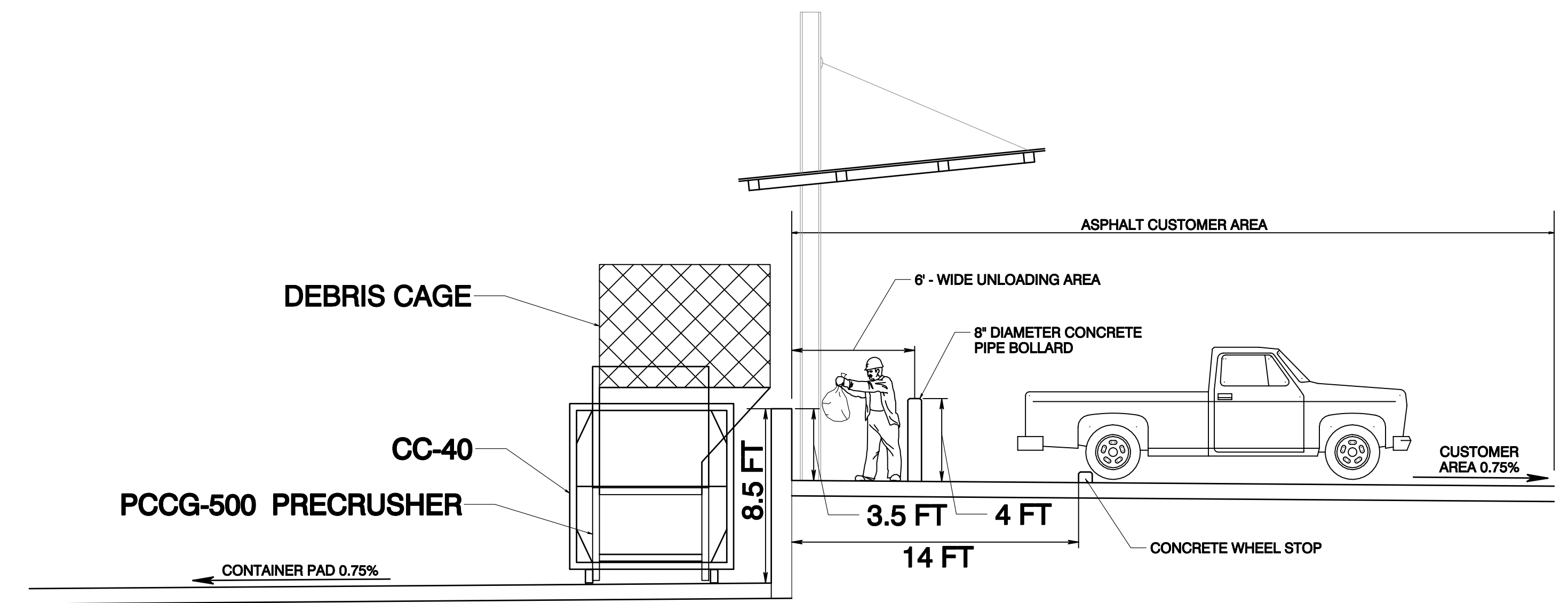
ASPHALT PAVEMENT

PAVEMENT SECTIONS 1
 N.T.S.

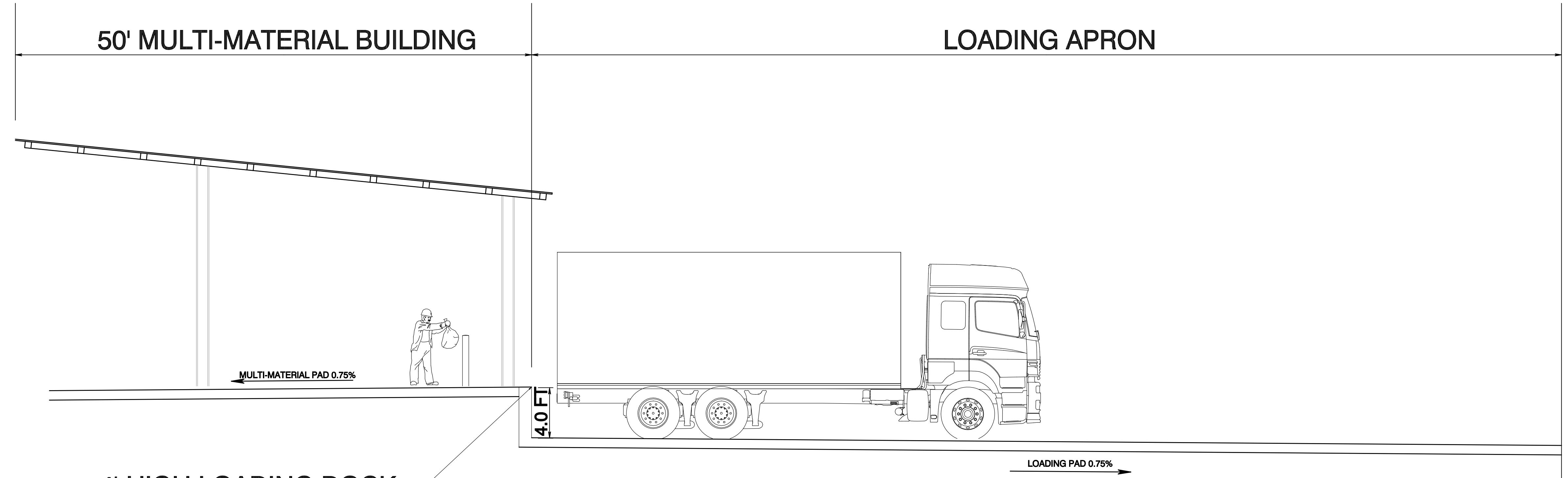


- NOTES:
1. Trenches requiring shoring and bracing, dimensions shall be taken from the inside face of the shoring and bracing.
 2. No rocks or boulders 4" or larger to be used in backfill.
 3. All backfill material shall be suitable native material.
 4. Backfill shall be tamped in 6" lifts.
 5. Achieve 95% compaction in backfill.

UTILITY TRENCH AND BACKFILL 2
 N.T.S.



SECTION A-A' - CUSTOMER UNLOADING AREA SECTION 3
 N.T.S.

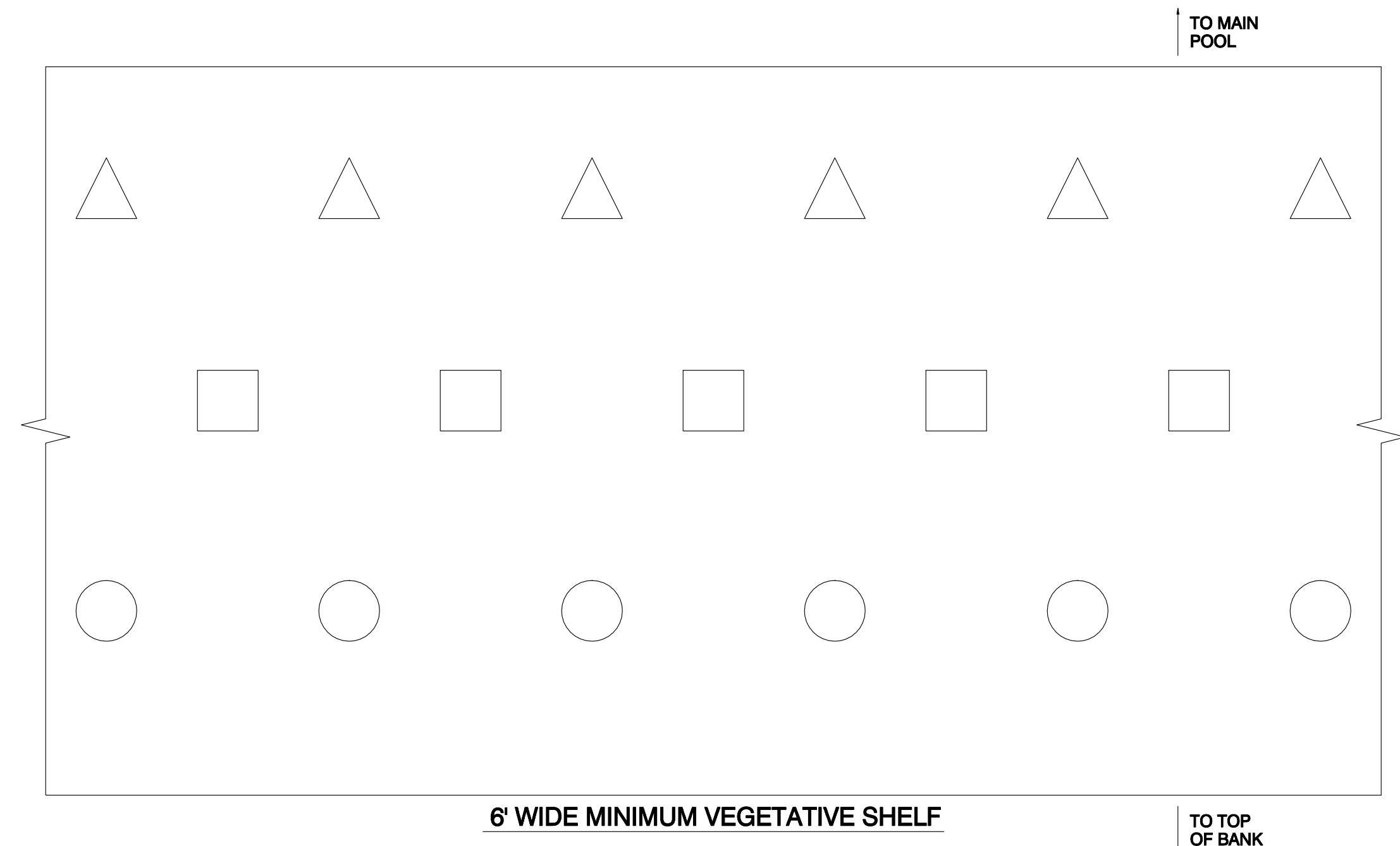


SECTION B-B' - MULTI-MATERIAL PAD SECTION 4
 N.T.S.



PLAN VIEW
1" = 40'

WET POND DETAIL SHEET 1
AS DEFINED -



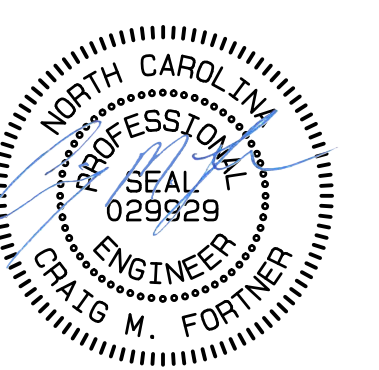
LEGEND

- — SWAMP MILKWEED (MINIMUM 2' SPACING ON CENTER)
- — WHITE TURTLEHEAD (MINIMUM 2' SPACING ON CENTER)
- △ — DWARF JOE PYE WEED (MINIMUM 2' SPACING ON CENTER)

NOTES:

- PLANT AT A MINIMUM DENSITY OF 50 PLANTS PER 200 SF (51.5 PLANTS PER 200 SF SHOWN).
- DO NOT USE WETLAND SEED MIX.
- SEED EMBANKMENT WITH BERMUDA OR CENTIPEDE.

PLANTING PLAN
1" = 1'



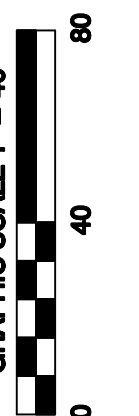
3/30/2026

GARRETT & MOORE
Engineering for the Power and Waste Industries
1029 West South Street
Raleigh, NC 27603
www.Garrett-Moore.com

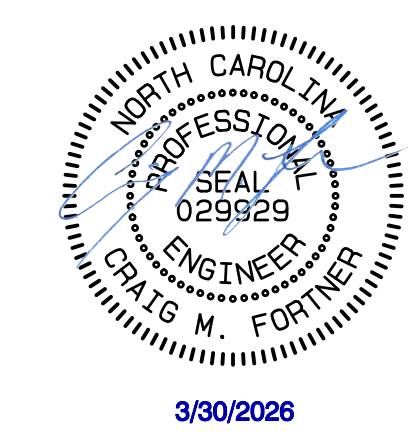
BEAUFORT COUNTY

STILLEY STATION
CONVENIENCE SITE

DETAILS



SHEET
D-2

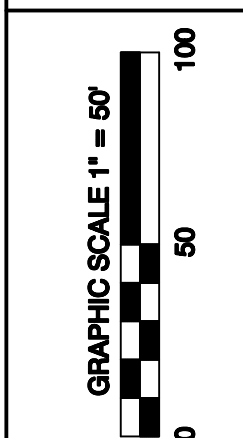


GARRETT & MOORE
 Engineering for the Power and Waste Industries
 1029 West South Street
 Raleigh, NC 27603
 www.Garrett-Moore.com

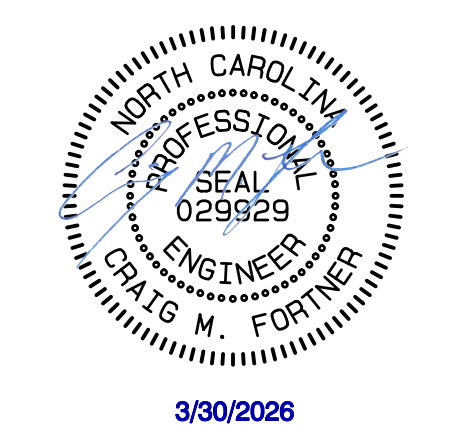
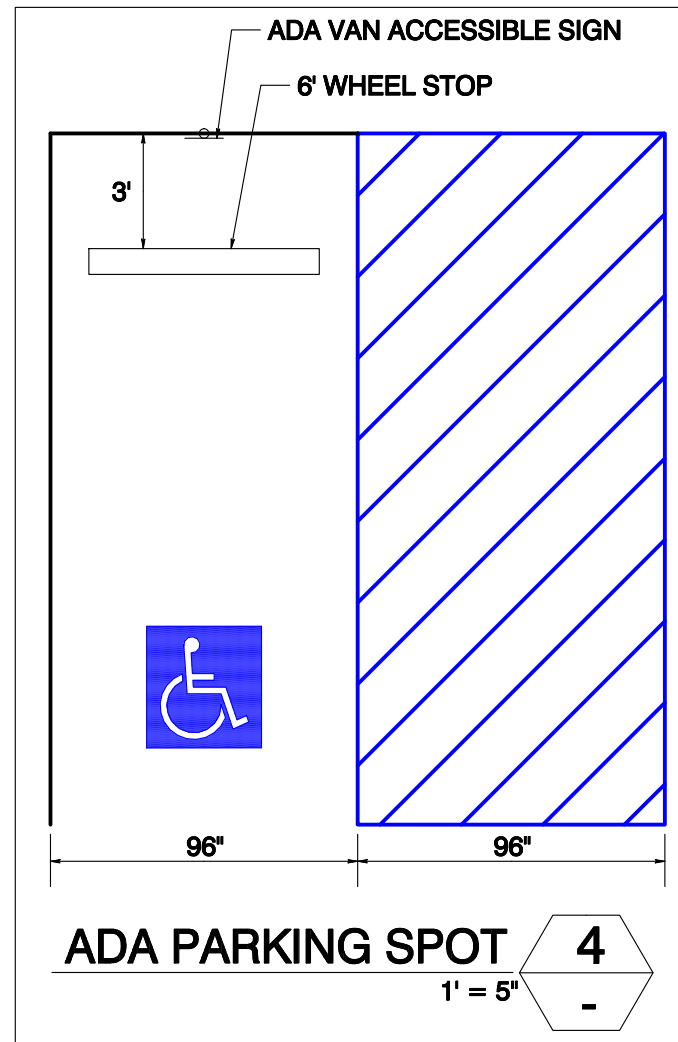
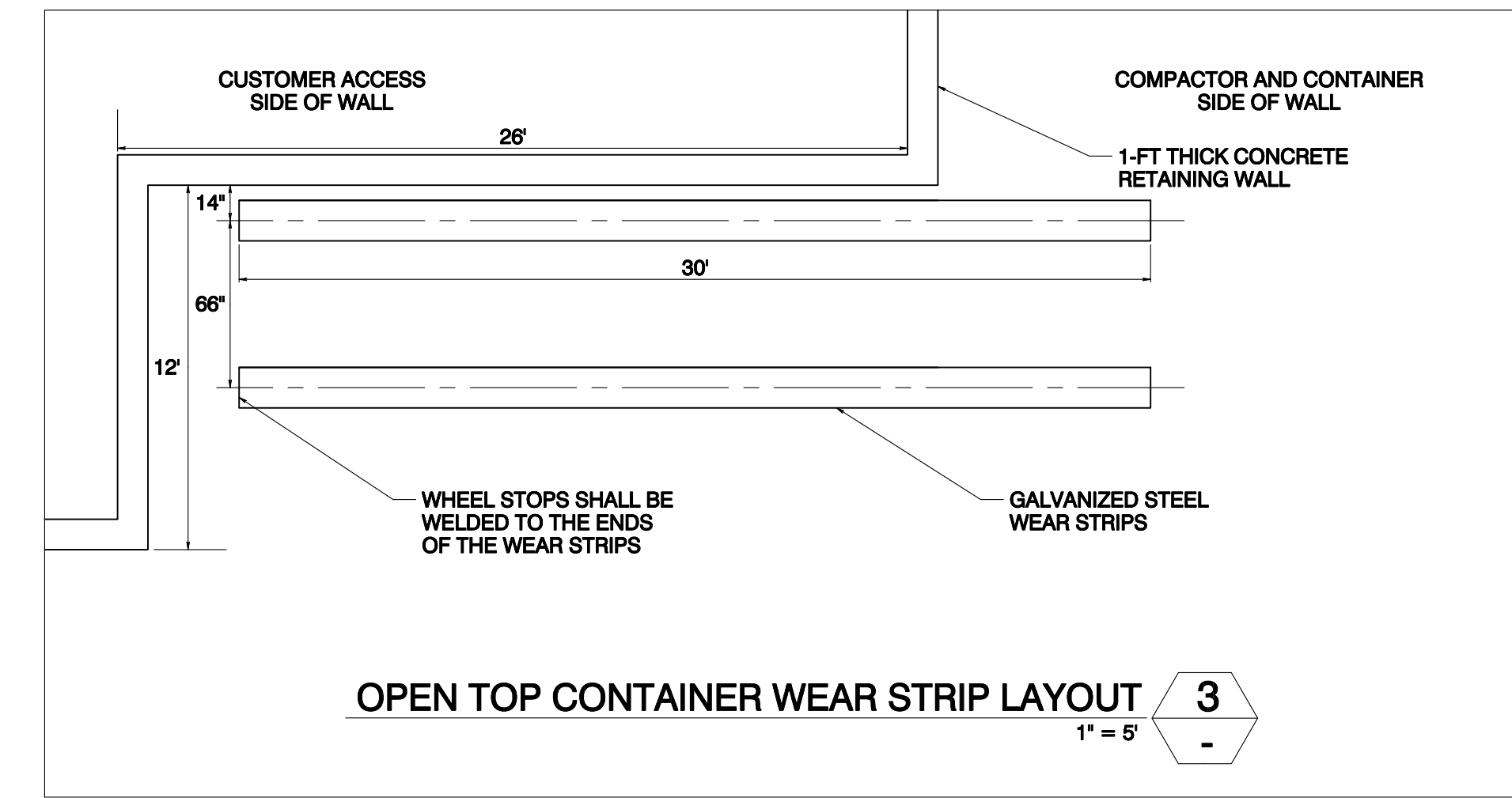
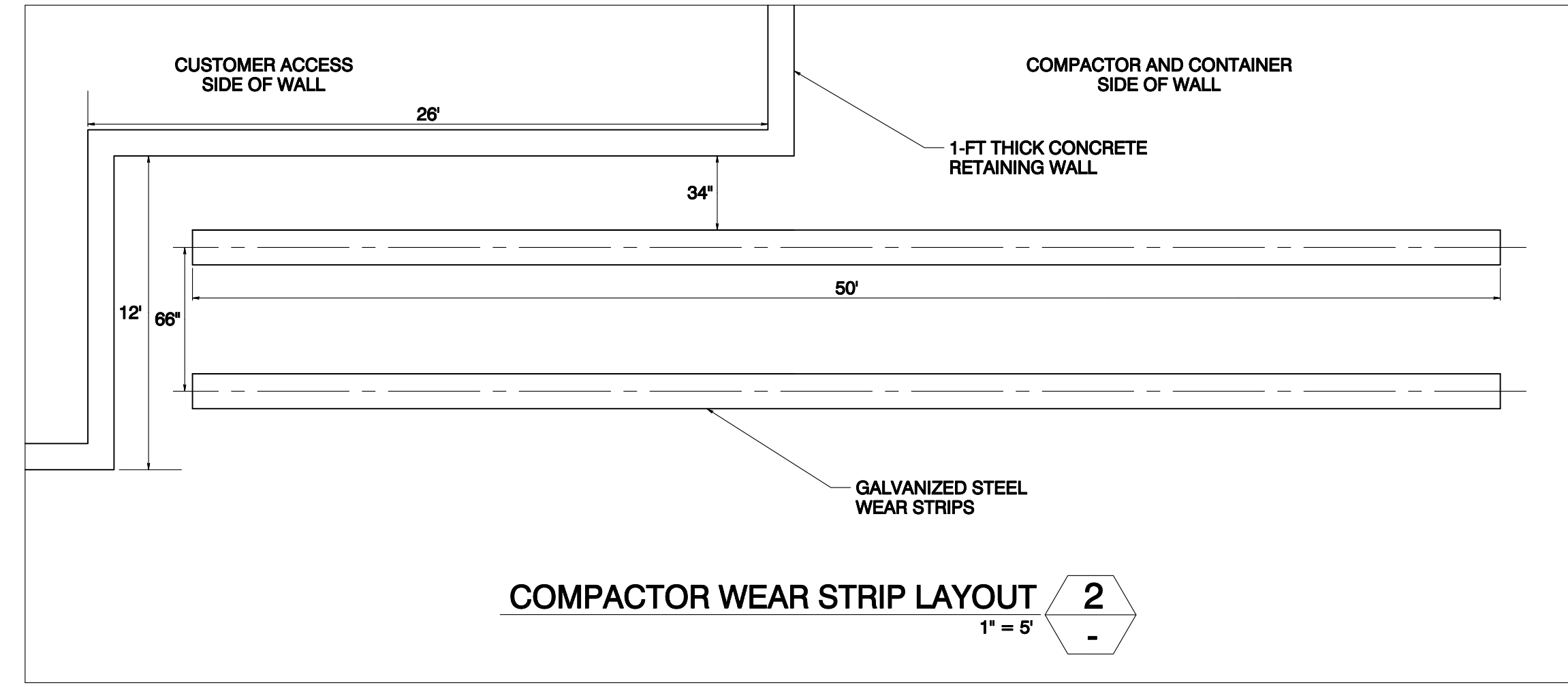
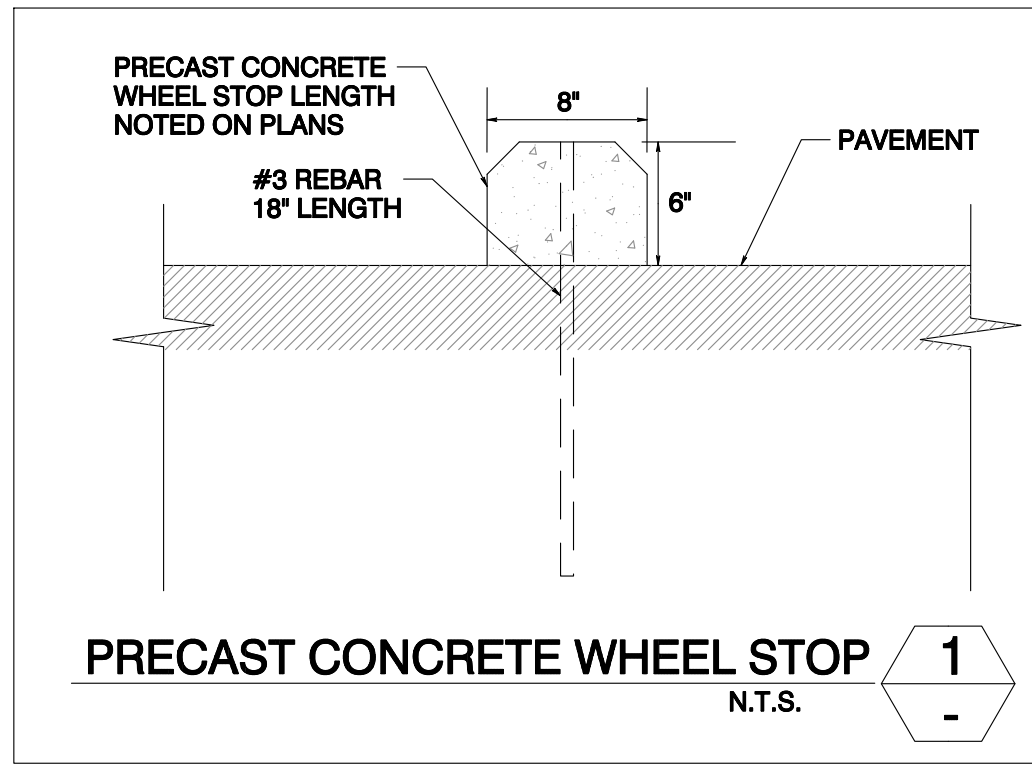
BEAUFORT COUNTY

STILLEY STATION
 CONVENIENCE SITE

DETAILS



SHEET
 D-3

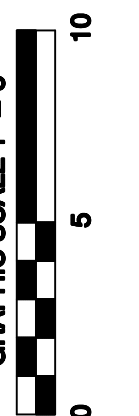


GARRETT & MOORE
Engineering for the Power and Waste Industries
1029 West South Street
Raleigh, NC 27603
www.Garrett-Moore.com

BEAUFORT COUNTY

STILLEY STATION
CONVENIENCE SITE

DETAILS



SHEET
D-4

Date: **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 feet 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
<ul style="list-style-type: none"> Temporary grass seed covered with straw or other mulches and tackifiers. Hydroseeding Roller erosion control products with or without temporary grass seed Appropriately applied straw or other mulch Plastic sheeting 	<ul style="list-style-type: none"> 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 Roller erosion control products with grass seed

POLYACRYLAMIDES (PAMS) AND FLOCCULANTS

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

EQUIPMENT AND VEHICLE MAINTENANCE

- Maintain vehicles and equipment to prevent discharge of fluids.
- Provide drip pans under any stored equipment.
- Identify leaks and repair as soon as feasible, or remove leaking equipment from the project.
- Collect all spent fluids, store in separate containers and properly dispose as hazardous waste (recycle when possible).
- Remove leaking vehicles and construction equipment from service until the problem has been corrected.
- 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

- Never bury or burn waste. Place litter and debris in approved waste containers.
- Provide a sufficient number and size of waste containers (e.g. dumpster, trash receptacle) on site to contain construction and domestic wastes.
- Locate waste containers at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
- 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.
- Cover waste containers at the end of each workday and before storm events or provide secondary containment. Repair or replace damaged waste containers.
- Anchor all lightweight items in waste containers during times of high winds.
- Empty waste containers as needed to prevent overflow. Clean up immediately if containers overflow.
- Dispose waste off-site at an approved disposal facility.
- On business days, clean up and dispose of waste in designated waste containers.

PAINT AND OTHER LIQUID WASTE

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

PORTABLE TOILETS

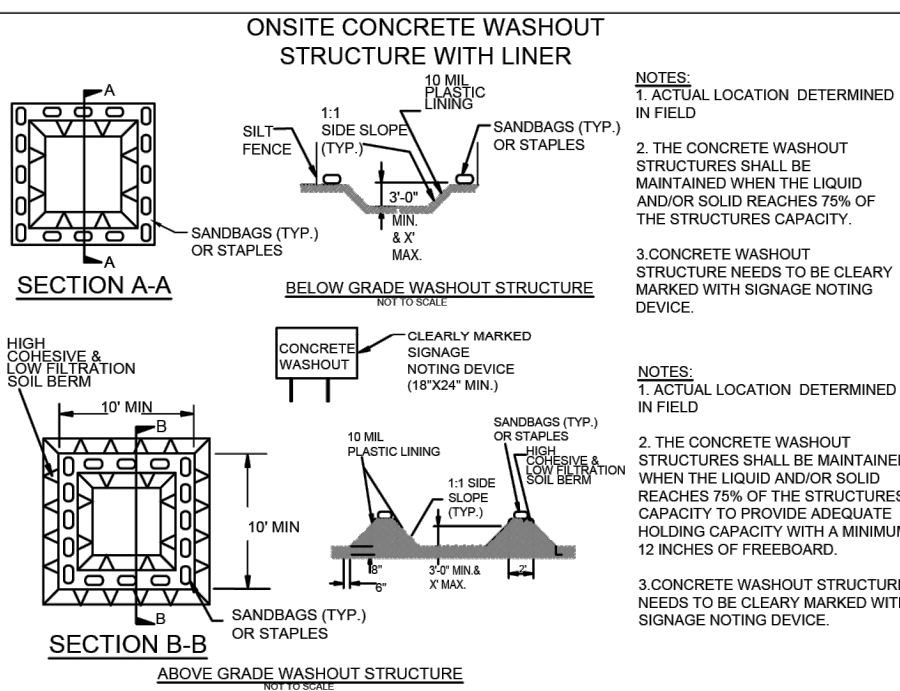
- Install portable toilets on level ground, at least 50 feet away from storm drains, streams or wetlands unless there is no alternative reasonably available. If 50 foot offset is not attainable, provide relocation of portable toilet behind silt fence or place on a gravel pad and surround with sand bags.
- Provide staking or anchoring of portable toilets during periods of high winds or in high foot traffic areas.
- 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

- 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.
- Protect stockpile with silt fence installed along toe of slope with a minimum offset of five feet from the toe of stockpile.
- Provide stable stone access point when feasible.
- 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.

HAZARDOUS AND TOXIC WASTE

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



CONCRETE WASHOUTS

- Do not discharge concrete or cement slurry from the site.
- Dispose of, or recycle, hardened concrete residue in accordance with local and state solid waste regulations and at an approved facility.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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

- Store and apply herbicides, pesticides and rodenticides in accordance with label restrictions.
- 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.
- Do not store herbicides, pesticides and rodenticides in areas where flooding is possible or where they may spill or leak into runs, stormwater drains, ground water or surface water. If a spill occurs, clean area immediately.
- Do not stockpile these materials onsite.

Date: **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:

- The EASC 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 EASC plan authority has approved these items.
- 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.
- 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.
- Vegetated, upland areas of the site 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.
- Velocity dissipation devices such as check dams, sediment traps, and riprap are provided at the discharge points of all dewatering devices, and
- 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.

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 on holiday periods, and no individual-day rainfall information is available, record the cumulative rain measurement for those unattended days (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) EASC 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 (SDOs)	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. Indication 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 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.	1. Identification of the following shall be made: 1) Actions taken to clean up or stabilize sediment that has left the site limits 2) Description, Evidence and date of corrective actions taken 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.	1. If the stream or wetland has increased visible sedimentation or 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 2) Records of required reports to the appropriate Division Regional Office per Part III, Section C, Item(2)(a) of this permit 1. The phase of grading (installation of perimeter EASC 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 assurance that they will be provided as soon as possible.
(6) Ground Stabilization Measures	After each phase of grading.	1. The phase of grading (installation of perimeter EASC 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 assurance that they will be provided as soon as possible.

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

PART III SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION B: RECORDKEEPING

1. EASC Plan Documentation

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

Item to Document	Document Requirements
(a) Each EASC measure has been installed and does not significantly deviate from the locations, dimensions and relative elevations shown on the approved EASC plan.	Initial and date each EASC measure on a copy of the approved EASC plan or complete, date and sign an inspection report that lists each EASC measure shown on the approved EASC plan. This documentation is required upon the initial installation of the EASC measures are modified after initial installation.
(b) A phase of grading has been completed.	Initial and date a copy of the approved EASC 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 EASC plan.	Initial and date a copy of the approved EASC 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 EASC measures have been performed.	Complete, date and sign an inspection report.
(e) Corrective actions have been taken to EASC measures.	Initial and date a copy of the approved EASC 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 EASC 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:

- This General Permit as well as the Certificate of Coverage, after it is received.
- 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-NCI 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]

PART III SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION C: OCCURRENCES THAT MUST BE REPORTED

Permittees shall report the following occurrences:

- Visible sediment deposition in a stream or wetland.
- 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).
- 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.
- Anticipated bypasses and unanticipated bypasses.
- 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 Timeframe (After Discovery) and Other Requirements
(a) Visible sediment	<ul style="list-style-type: none"> 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 caused, 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	<ul style="list-style-type: none"> 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)]	<ul style="list-style-type: none"> 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)]	<ul style="list-style-type: none"> 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(i)(7)]	<ul style="list-style-type: none"> Within 24 hours, an oral or electronic notification. The notification shall include information about the date, time, nature, volume and location of the noncompliance, and its cause; 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 recurrence of the noncompliance. [40 CFR 122.41(i)(6)]. Division staff may waive the requirement for a written report on a case-by-case basis.

NCG-01 GROUND COVER & MATERIALS HANDLING

NCG-01 SELF INSPECTION

Date: _____ Page: _____

CONSIDERATIONS FOR CONSTRUCTION SCHEDULING

CONSTRUCTION ACTIVITY	SCHEDULE CONSIDERATION
CONSTRUCTION ACCESS: Construction entrance, construction routes, equipment parking areas.	First land-disturbing activity. Stabilize bare areas immediately with gravel and temporary vegetation as construction takes place.
SEDIMENT TRAPS AND BARRIERS: Basin traps, sediment fences, and outlet protection.	Install principal basins after construction site is accessed. Install additional traps and barriers as needed during grading.
RUNOFF CONTROL: Diversions, perimeter dikes, water bars, and outlet protection.	Install key practices after principal sediment traps and before land grading. Install additional runoff-control measures during grading.
RUNOFF CONVEYANCE SYSTEM: Stabilize streambanks, storm drains, channels, inlet and outlet protection, and slope drains.	Where necessary, stabilize streambanks as early as possible. Install principal runoff conveyance system with runoff-control measures. Install remainder of system after grading.
LANDING CLEARING AND GRADING: Site preparation- cutting, filling and grading, sediment traps, barriers, diversions, drains, and surface roughening.	Begin major clearing and grading AFTER principal sediment and key runoff-control measures are installed. Clear borrow and disposal areas only as needed. Install additional control measures as grading progresses. Mark trees and buffer areas for preservation.
SURFACE STABILIZATION: Temporary and permanent seeding, mulching, sodding and riprap.	Apply temporary or permanent stabilization measures immediately on all disturbed areas where work is delayed or complete.
BUILDING CONSTRUCTION: Buildings, utilities, and paving.	Install necessary additional erosion and sedimentation control practices as work takes place.
LANDSCAPE AND FINAL STABILIZATION: Topsoiling, trees and shrubs, permanent seeding, mulching, sodding, and riprap.	Last construction phase: Stabilize all open areas, including borrow and spoil areas. Remove and stabilize all temporary control areas.

Note: The above are the main aspects of a typical construction sequence in general terms. A detailed Construction Sequence should be site specific based on your project and site needs. As a minimum, the construction sequence schedule should show the following:

- The erosion and sedimentation control practices to be installed,
- Principal development activities,
- What measures should be in place before other activities are begun, and
- Compatibility with the general construction schedule of the contract.

Many timely construction techniques can reduce the erosion potential of a site, such as (1) shaping earthen fills to prevent overflows and (2) constructing temporary diversions ahead of anticipated storms. These types of activities cannot be put on the construction sequence schedule, but should be used whenever possible.

CONSTRUCTION SEQUENCING

Date: _____ Page: _____

SPACING GUIDE FOR SLOPE BREAKS

SLOPE	SPACING (FT)	
	2:1	20
Steep Slopes	3:1	35
	4:1	45
	15-25%	50
Long Slopes	10-15%	80
	6-10%	125
	<3%	300

Use slope breaks, such as diversions, wattles, or benches, as appropriate, to reduce the length of cut-and-fill slope to limit sheet and rill erosion and prevent gullying.

MAINTENANCE:

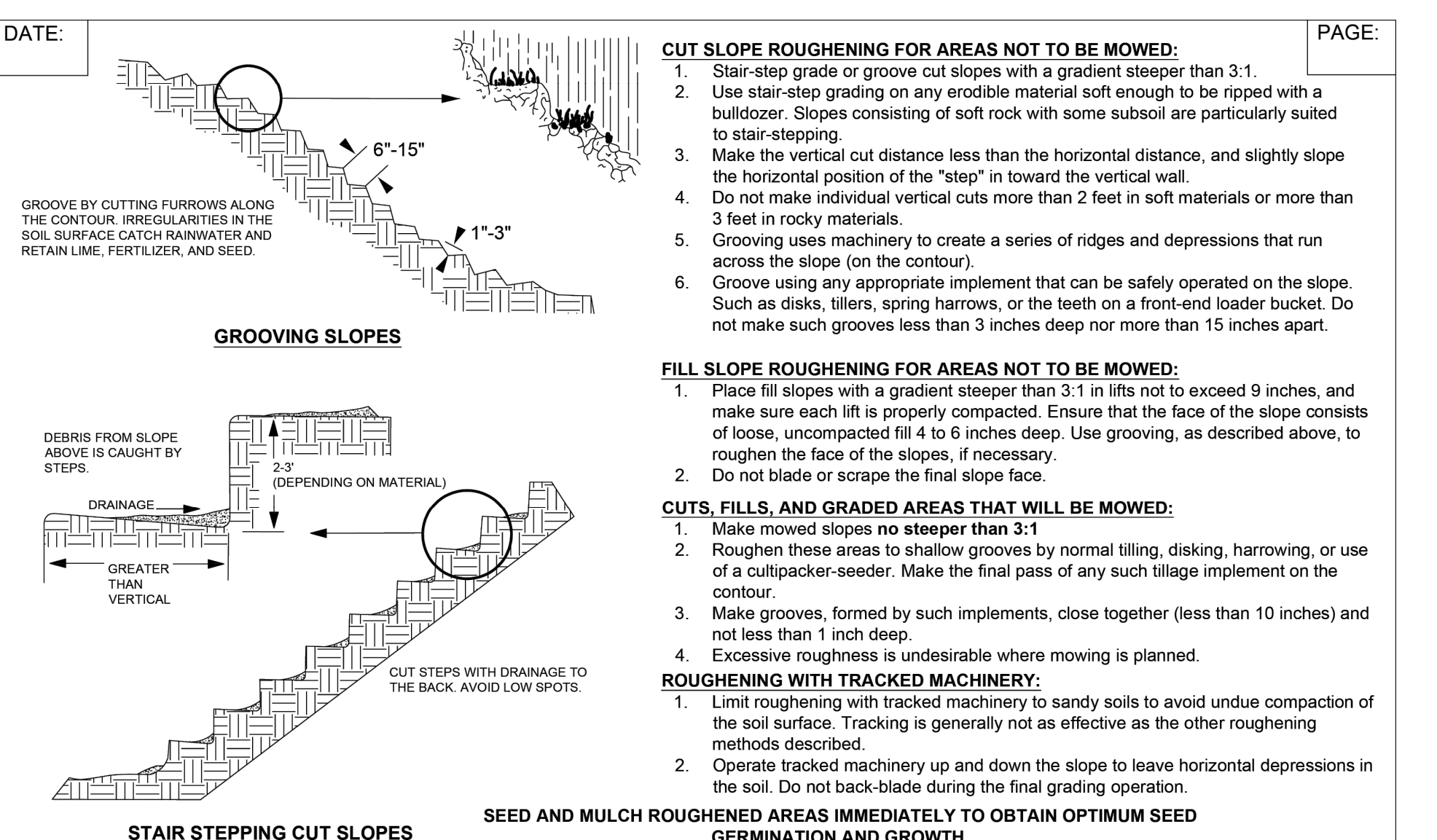
- Periodically check all graded areas and the supporting erosion and sedimentation control practices, especially after heavy rainfalls.
- Promptly remove all sediment from diversions and other water-disposal practices.
- If washouts or breaks occur, repair immediately.
- Prompt maintenance of small eroded areas before they become significant gullies is an essential part of an effective erosion and sedimentation control plan.

LAND GRADING

Date: _____ Page: _____

NOTES:

- Construct and maintain all erosion and sediment control practices and measures in accordance with the approved sedimentation control plan and construction schedule.
- Remove good topsoil from areas to be graded and filled, and preserve it for use in finishing the grading of all critical areas. Scarify areas to be topsoiled to a minimum depth of 2 inches before placing topsoil.
- Clear and grub areas to be filled by removing trees, vegetation, roots, or other objectionable material that would affect the planned stability of the fill.
- Ensure that fill material is free of brush, rubbish, rocks, logs, stumps, building debris, and other materials inappropriate for constructing stable fills.
- Place all fill in layers not to exceed 9 inches in thickness, and compact the layers as required to reduce erosion, slippage, settlement, or other related problems.
- Do not incorporate frozen, soft, mucky, or highly compressible materials into fill slopes.
- Do not place fill on a frozen foundation, due to possible subsidence and slippage.
- Keep diversions and other water conveyance measures free of sediment during all phases of development.
- Handle seeps or springs encountered during construction in accordance with approved methods (subsurface drain).
- Permanently stabilize all graded areas immediately after final grading is completed on each area in the grading plan. Apply temporary stabilization measures on all graded areas when work is to be interrupted or delayed for 30 days or longer.
- Show topsoil, stockpiles, borrow areas, and spoil areas on the plans, and make sure they are adequately protected from erosion. Include final stabilization of these areas in the plan.



SURFACE ROUGHENING

REVISION HISTORY

3/30/2026

GARRETT & MOORE

Engineering for the Power and Waste Industries

1029 West South Street
Raleigh, NC 27603
www.Garrett-Moore.com

BEAUFORT COUNTY

STILLEY STATION CONVENIENCE SITE

EROSION CONTROL DETAILS

SHEET EC-5

Material	Rate Per Acre	Quality	Notes
Straw	1-2 tons	Dry, unchopped, unweathered, avoid weeds.	Should come from wheat or oats, spread by hand or machine, must be tacked down.
Wood Chips	5-6 tons	Air dry	Treat with 12 lbs nitrogen/ton. Apply with mulch blower, chip handler, or by hand. Not for use in fine turf.
Wood Fiber	0.5-1 tons	Also referred to as wood cellulose. May be hydroseeded. Do not use in hot, dry weather.	Apply with mulch blower, chip handler, or by hand. Do not use asphalt tack.
Bark	35 cubic yards	Air dry, shredded or chipped.	Apply with mulch blower, chip handler, or by hand. Do not use asphalt tack.
Corn Stalks	4-6 tons	Cut or shredded to 4-8 inch lengths.	Apply with mulch blower or by hand. Not for use in fine turf.
Seoidea Lespedeza seed-bearing stems	1-3 tons	Green or dry; should contain mature seed.	
Nets and Mats*			
Julie net	Cover area	Heavy, uniform, woven of single jute yarn.	Withstands waterflow. Best when used with organic mulch.
Fiberglass net	Cover area	Withstands waterflow. Best when used with organic mulch.	
Exosior (wood fiber net)	Cover area	Withstands waterflow.	
Fiberglass roving	0.5-1 tons	Continuous fibers of drawn glass bunched together with a non-toxic agent.	Apply with a compressed air ejector. Tack with emulsified asphalt at a rate of 25-35 gal/1,000 sq. ft.
Chemical Stabilizers**			
Aquatan Acrospray Curazol AK Perfoseal SB Terra Task Crust 500 Genesys 743 M-145	Follow Manufacturer's specifications		Not beneficial to plant growth.

*Refer to Practice No. 6-30, Grass Lined Channels in the NC DEQ EABC Planning and Design Manual
**Use of trade names does not imply endorsement of product.

MULCHING Effective Date: 9/1/2023 In accordance with the 2013 Design Manual Updates

Weight (lb)	Mean Spherical Diameter (ft)	Length (ft)	Rectangular Shape Width/Height (ft)
50	0.8	1.4	0.5
100	1.1	1.8	0.6
150	1.3	2.0	0.7
300	1.6	2.6	0.9
500	1.9	3.0	1.0
1000	2.2	3.7	1.3
1500	2.6	4.7	1.5
2000	2.8	5.4	1.8
4000	3.6	6.0	2.0
6000	4.0	6.9	2.3
8000	4.5	7.6	2.5
20,000	6.1	10.0	3.3

Size of Riprap stones

Riprap	Erosion Control
Class 1	Class A
Class 2	Class B

Notes:

- Prepare the subgrade for riprap and filter to the required lines and grades shown on the plans.
- Compact any fill required in the subgrade to a density approximating that of the surrounding undisturbed material or overfill depressions with riprap.
- Remove brush, trees, stumps, and other objectionable material.

Sand and Gravel Filter Blanket:

- Place the filter blanket immediately after the ground foundation is prepared.
- When using gravel, spread filter stone in a uniform layer to the specified depth.
- When more than one layer of filter material is used, spread the layers with minimal mixing.

Synthetic Filter Fabric:

- Place the cloth filter directly on the prepared foundation.
- Overlap the edges by at least 12 inches, and space anchor pins every 3 feet along the overlap.
- Bury the upstream end of the cloth a minimum of 12 inches below ground and bury the lower end of the cloth or over lap with the next section as required.
- If damage occurs while placing riprap, remove the riprap, and repair the sheet by adding another layer of filter material with a minimum overlap of 12 inches around the damaged area. If damage is extensive, remove and replace the entire sheet.
- If placing large stones or machine placing is difficult, a 4 inch layer of fine gravel or sand may be needed to protect the filter cloth.

Maintenance:

In general, once a riprap installation has been properly designed and installed it requires very little maintenance. Riprap should be inspected periodically for scour or dislodged stones. Control of weed and brush growth may be needed in some locations.

RIP RAP Effective Date: 9/1/2023 In accordance with the 2013 Design Manual Updates

Construction:	Maintenance:
<ol style="list-style-type: none"> Clear the entrance and exit area of all vegetation, roots, and other objectionable material and properly grade it. Place the gravel to the specific grade and dimensions shown on the plans, and smooth it. Provide drainage to carry water to a sediment trap or other suitable outlet. Use geotextile fabrics in order to improve stability of the foundation in locations subject to seepage or high water table. 	<ol style="list-style-type: none"> Inspect all measures at least weekly and after each rainfall of 1.0 inch or greater. Make any required repairs immediately. Maintain the gravel pad in a condition to prevent mud or sediment from leaving the construction site. This may require periodic topdressing with 2-inch stone. Sediment on roadways is to be removed immediately by broom and shovel, either by manual or mechanical means, and not to be washed off where it has the potential to enter a stream, drainage way or storm drain system.

TEMPORARY GRAVEL CONSTRUCTION ENTRANCE/EXIT Effective Date: 9/1/2023 In accordance with the 2013 Design Manual Updates

Species	Rate (lb/acre)
Rye (grain)	120
Annual Lespedeza (Kobe in Piedmont and Coastal Plain, Korean in Mountains)	50

TEMPORARY SEEDING RECOMMENDATIONS FOR LATE WINTER AND EARLY SPRING

Seeding Mixture

Notes:

- Spread mulch uniformly by hand, or with a mulch blower.
- When spreading straw mulch by hand, divide the area to be mulched into sections of approximately 1,000 ft², and place 70-90 lb. of straw (1/2 to 2 bales) in each section to facilitate uniform distribution.
- After spreading, no more than 20% of the ground surface should be visible.
- In hydroseeding operations a green dye, added to the slurry, assures a uniform application.

ANCHORED ORGANIC MULCH

- Straw mulch must be anchored immediately after spreading.
- A tractor-drawn implement designed to punch mulch into the soil or a mulch anchoring tool provides maximum erosion control with straw. A regular farm disk, weighted and set nearly straight, may substitute, but will not do a job comparable to the mulch anchoring tool. The disk should not be sharp enough to cut the straw. These methods are limited to slopes no steeper than 3:1, where equipment can operate safely.
- Application of liquid mulch binders and tackifiers should be heaviest at the edges of areas and at crests of ridges and banks, to resist into the mulch as it is being blown onto the soil. Applying straw and binder together is the most effective method.
- Emulsified asphalt should be applied at 0.10 gallons per square yard (10 gal/1,000 ft²). Heavier applications cause straw to "stew" over rills. Use Rapid setting (RS) or CSS) designated asphalt in traffic areas to prevent unbound asphalt from being picked up on shoes and causing damage to rags, clothes, etc.
- Synthetic binders may be used as recommended by the manufacturer.
- Lightweight plastic, cotton, jute, wire or paper nets may be stapled over the mulch according to the manufacturer's recommendations.
- For small areas where other methods cannot be used, peg and twine anchoring can be used. Drive 8-10 inch wooden pegs to within 3 inches of the soil surface every 4 feet in all directions. Stakes can be driven before or after straw. Secure mulch by stretching twine between pegs in a criss-cross pattern. Turn twine two or more times around each peg.
- Eye Green may be used to anchor mulch in fall plantings, and German Millet in spring. Broadcast at 15 lb/acre before applying mulch.

CHEMICAL MULCHES

- May be effective for soil stabilization if used between May 1 and June 15, or Sept. 15 and Oct. 15, provided that they are used on slopes no steeper than 4:1, and that proper seedbed preparation has been accomplished, including surface roughening where required.
- Chemical mulches cannot be used to bind other mulches, or with wood fiber in a hydroseeded slurry at any time. Follow the manufacturer's recommendations for application.

FIBERGLASS ROVING

- Spread uniformly over the area at a rate of 0.25 to 0.35 lbs/yd². Anchor with asphalt immediately after application, at a rate of 0.25 to 0.35 gal/yd².
- As a channel lining, and at other sites of concentrated flow, the roving mat must be further anchored to prevent undermining.
- It may be secured with stakes placed at intervals no greater than 10 feet along the drainage way, and randomly throughout its width, but not more than 4 feet apart.
- As an option to staking, the roving can be buried to a depth of 5 inches at the upgrade and end at intervals of 50 feet along the length of the channel.

NETS AND MATS

- Nests alone generally provide little moisture conservation benefits and only limited erosion protection. Therefore, typically use in conjunction with an organic mulch such as straw.
- Except when wood fiber slurry is used, netting should always be installed over the mulch. Wood fiber may be sprayed on top of an installed net.
- Mats, including "exosior" (wood fiber) blankets, are considered protective mulches and may be used alone.
- Place the matting in firm contact with the soil, and staple securely.

TEMPORARY SEEDING Effective Date: 9/1/2023 In accordance with the 2013 Design Manual Updates

Class	Weight	Length	Width
Class 1	5-200 lb	2'-4"	5'-15"
Class 2	25-250 lb	2'-4"	5'-15"

Notes:

- At a minimum, grass-lined channels should carry peak runoff from the 10-year storm without eroding. Increase the capacity according to the potential damage if flood hazard exists.
- If design velocity of the channel to be vegetated by seeding exceeds 2 feet per second, a temporary channel liner is required.
- Channel side slopes should be 3:1 or flatter to aid in the establishment of vegetation and for maintenance. V-shaped channels along roadways should have side slopes of 6:1 or flatter for safety.
- Remove all trees, brush, stumps, and other objectionable material from the foundation area, and dispose of properly. Excavate the channel, and shape it to neat lines and dimensions shown on the plans plus a 0.2 foot overcut around the channel perimeter to allow for bulking during seedbed preparations and sod buildup.
- Remove and properly dispose of all excess soil so that the surface water may enter the channel freely.
- The procedure used to establish grass in the channel will depend upon the severity of the conditions and selection of species. Protect the channel with mulch or a temporary liner sufficient to withstand anticipated velocities during the establishment period.

Maintenance:

- During the establishment period, check grass-lined channels after every rainfall.
- After grass is established, periodically check the channel. Check after heavy rainfall events and immediately make any necessary repairs.
- Check the channel outlet and all road crossings for bank stability and evidence of piping or scour holes.
- Remove all significant sediment accumulations to maintain the designed carrying capacity.
- Keep grass in a healthy, vigorous condition at all times.

GRASS-LINED CHANNELS Effective Date: 9/1/2023 In accordance with the 2013 Design Manual Updates

Slope	Slope Length (ft)	Max. Area (ft ²)
<2%	100	10,000
2 to 5%	75	7,500
5 to 10%	50	5,000
10 to 20%	25	2,500
>20%	15	1,500

Notes:

- Construct the sediment barrier of standard strength or extra strength synthetic fiber fabrics.
- Ensure that the height of the sediment fence does not exceed 24 inches above the ground. (Higher fences may impound volumes of water sufficient to cause failure of the structure)
- Construct the filter fabric from a continuous roll out to the length of the barrier to avoid joints. When joints are necessary, securely fasten the filter cloth only at a support post with 4 feet minimum overlap to the next post.
- Support standard strength filter fabric by wire mesh fastened securely to the upslope side of the posts. Extend the wire mesh support to the bottom of the trench. Fasten the wire reinforcement, then fabric on the upslope side of the fence post. Wire or plastic zip ties should have a minimum 50 pound tensile strength.
- When a wire mesh support fence is used, space posts a maximum of 8 feet apart. Supports should be driven securely into the ground a minimum of 24 inches. Wire mesh should be a minimum 14-gauge with 6 inch mesh spacing.
- Extra strength filter fabric with 6 foot post spacing does not require a wire mesh support fence. Securely fasten the filter fabric directly to posts. Wire or plastic zip ties should have a minimum of 50 pound tensile strength.
- Excavate the trench approximately 4 inches wide and 8 inches deep along the proposed line of the posts and upslope from the barrier.
- Place 12 inches of fabric along the bottom and side of the trench.
- Backfill the trench with soil placed over the filter fabric and compact. Thorough compaction of the backfill is critical to silt fence performance.
- Do not attach filter fabric to existing trees.
- Do not place across ditches, streams, or any other areas of concentrated flow.

SEDIMENT FENCE Effective Date: 9/1/2023 In accordance with the 2013 Design Manual Updates

Species	Rate
Centipede	5 lbs/acre
Indian Woodoats	1.5-2.5 lbs/acre*
Virginia Wild Rye	4-6 lbs/acre*

TEMPORARY SEEDING RECOMMENDATIONS FOR SUMMER

Seeding Mixture

Notes:

- Depending upon mix with other species. See table 6.11 d from Chapter 6 of the NC Erosion and Sediment Control Planning and Design Manual.

Seeding Dates

Coastal or Eastern Piedmont for Centipede- Sept. 1 - May 1
Coastal and Piedmont for Indian Woodoats and Virginia Wild Rye- Feb 15 - April 1
Mountains for Indian Woodoats and Virginia Wild Rye- March 1 - May 15

Maintenance:

Significant maintenance may be required to obtain desired cover.

PERMANENT SEEDING Effective Date: 9/1/2023 In accordance with the 2013 Design Manual Updates

Species	Rate
Hard Fescue	15 lbs/acre
Switchgrass	2.5-3.5 lbs/acre*
Indian Grass	5-7 lbs/acre*
Big Bluestem	5-7 lbs/acre*
Indian Woodoats	1.5-2.5 lbs/acre*
Virginia Wild Rye	4-6 lbs/acre*

TEMPORARY SEEDING RECOMMENDATIONS FOR LATE WINTER AND EARLY SPRING

Seeding Mixture

Notes:

- Permanent seeding, sodding or other means of stabilization are required when all construction work is completed according to the NPDES timeframes table.
- A North Carolina Department of Agriculture soils test (or equal) is highly recommended to be obtained for all areas to be seeded, sodded or planted.
- Soil banks should be seeded with a permanent groundcover. Soil blankets may be used in lieu of nurse crops.
- Mat, tack or crimp mulch, as needed to stabilize seeded areas until root establishment. Mulch must cover at least 80% of the soil surface.
- Ground cover shall be maintained until permanent vegetation is established and stable against accelerated erosion.

ROLLED EROSION CONTROL PRODUCTS Effective Date: 9/1/2023 In accordance with the 2013 Design Manual Updates

Notes:	Maintenance:
<ol style="list-style-type: none"> Clear the entrance and exit area of all vegetation, roots, and other objectionable material and properly grade it. Place the gravel to the specific grade and dimensions shown on the plans, and smooth it. Provide drainage to carry water to a sediment trap or other suitable outlet. Use geotextile fabrics in order to improve stability of the foundation in locations subject to seepage or high water table. 	<ol style="list-style-type: none"> Inspect all measures at least weekly and after each rainfall of 1.0 inch or greater. Make any required repairs immediately. Should the fabric of a sediment fence collapse, tear, decompose, or become ineffective, replace it promptly. Remove sediment deposits as necessary to provide adequate storage volume for the next rain and reduce pressure on the fence. Take care to avoid undermining the fence during cleanups. Remove all fencing materials and unstable sediment deposits and bring area to grade and stabilize after the contributing drainage area has been properly stabilized.

EROSION CONTROL SHEET EC-6 Effective Date: 11/13/2020



GARRETT & MOORE
Engineering for the Power and Waste Industries
1029 West South Street
Raleigh, NC 27603
www.Garrett-Moore.com



3/30/2026

GARRETT & MOORE
 Engineering for the Power and Waste Industries
 1029 West South Street
 Raleigh, NC 27603
 www.Garrett-Moore.com

BEAUFORT COUNTY

STILLEY STATION
 CONVENIENCE SITE

EROSION CONTROL
 DETAILS

SHEET
 EC-7

DATE: _____ PAGE: _____

PIPE OUTLET TO FLAT AREA NO WELL-DEFINED CHANNEL

PIPE OUTLET TO WELL-DEFINED CHANNEL

NOTES:

- Compact any fill required in the subgrade to the density of the surrounding undisturbed material. Low areas in the subgrade on undisturbed soil may also be filled by increasing the riprap thickness.
- The riprap and gravel filter must conform to the specified grading limits shown on the plans.
- Filter cloth, when used, must meet design requirements, and be properly protected from punching or tearing during installation. Repair any damage by removing the riprap and placing another piece over the damaged area. If the damage is extensive, replace the entire filter cloth.
- All connecting joints should overlap so the top layer is above the downstream layer a minimum of 1 foot.
- The minimum thickness of the riprap should be 1.5 times the maximum stone diameter but not less than 6".
- Riprap may be field stone or rough quarry stone. It should be hard, angular highly weather-resistant and well graded.
- Construct the apron on zero grade with no overfill at the end. Make the top of the riprap at the downstream end level with the receiving area or slightly below it.
- Ensure that the apron is properly aligned with the receiving stream and preferably straight throughout its length. If a curve is needed, place in the upper section of the apron.

MAINTENANCE:

- Inspect outlet structures at least weekly and after each rainfall of 1.0 inch or greater.
- Check outlets for erosion around or below riprap and for if stones have been dislodged. Make repairs immediately to prevent further damage.

SEE SHEET EC-6, DETAIL 1 FOR RIPRAP INSTALLMENT, GRADATION, ETC.

Effective Date: 9/1/2023
 In accordance with the 2013 Design Manual Updates

DATE: _____ PAGE: _____

NOTES:

- Use matting made of 100% coconut fiber (coir) twine woven into high strength matrix.
- Staples should be made of 0.125 inch diameter, new steel wire formed into a 'U' shape not less than 12 inches in length with a throat of 1 inch in width. The staples anchor the porous baffles into the sides and bottom of the basin.
- Grade the basin so that the bottom is level front to back and side to side.
- Install the coir fiber baffles immediately upon excavation of the basins.
- Install posts across the width of the sediment trap.
- Steel posts should be driven to a depth of 24 inches and spaced in a maximum of 4 feet apart. The top of the fabric should be a minimum of 6 inches higher than the invert of the spillway. Tops of the baffles should be a minimum of 2 inches lower than the top of the earthen embankment.
- Install 3 coir fiber baffles in basins at drainage outlets with a spacing of 1/4 the basin length. 2 coir fiber baffles can be installed in the basins less than 20 feet in length with a spacing of 1/3 the basin length.
- Attach a 9-gauge high tension wire strand to the steel posts at a height of 6 inches above the spillway elevation with plastic ties or wire fasteners to prevent sagging. If the temporary sediment basin will be converted to a permanent stormwater basin of a greater depth, the baffle height should be based on the pool depth during use as a temporary sediment basin.

MAINTENANCE:

- Inspect all measures at least weekly and after each rainfall of 1.0 inch or greater and repair immediately.
- Maintain access to baffles. If the fabric collapses, tears, decomposes, or becomes ineffective, replace immediately.
- Remove sediment deposits when it reaches half full. Replace if baffle fabric is damaged during clean-out operations. Sediment depth should never exceed half the designed storage depth.

Effective Date: 9/1/2023
 In accordance with the 2013 Design Manual Updates

3 SKIMMER

Figure 6.64a Schematic of a skimmer, from Pennsylvania Erosion and Sediment Pollution Control Manual, March, 2000.

OUTLET STRUCTURES DETAILS

DATE: _____ PAGE: _____

NOTES:

- Install temporary sediment basins to the approved design. If the basin will eventually be converted to a permanent SCM device, the basin must function as a temporary sediment basin and meet the following parameters until completion of the project.
 - Maximum Drainage Area: 100 acres
 - Minimum Sediment Storage Volume: 1800 cubic feet per acre of disturbed area
 - Minimum Surface Area: 430 square feet per cfs of Q_{10} peak inflow
 - Minimum dewatering time: 48 hours
- Clear, grub, and strip topsoil from areas under the embankment to remove trees, vegetation, roots, and other objectionable material. Delay clearing the pool area until the dam is complete. Stockpile all topsoil or soil containing organic matter for use on the outer shell of the embankment to facilitate vegetative establishment.
- Place temporary sediment control measures before the basin and stabilize as needed.
- Excavate a cut-off trench along the center line of the earth fill embankment. Cut trench to stable soil material, but in no case make it less than 2 feet deep with maximum side slope no steeper than 1:1. Compaction requirements are the same as those for the embankment.
- Extend the cut-off trench into both abutments to at least the elevation of the rear crest.
- Keep the trench dry during backfilling and compaction operations.
- Fill material should be clean mineral soil, free of roots, woody vegetation, rocks, and other objectionable material. Areas of approved fill should be shown on the plans.
- Soilify areas on which fill is to be placed prior to placing. Ensure that fill material contains sufficient moisture so it can be formed by hand into a ball without crumbling. If water can be squeezed out of the ball, it is too wet for proper compaction.
- Place fill material in 6 to 8 inch continuous layers over the entire length of fill area and compact.
- Construct the embankment to an elevation 10% higher than the design height to allow for settling.
- Securely attach the riser to the barrel or barrel slab to make a watertight structural connection. All connections should be made using approved watertight assemblies.
- If riser structure is to be used, couple the skimmer arm directly into the embankment 1 foot from the bottom of the basin.
- The arm pipe connecting the skimmer to the riser shall have a minimum length of 6 feet.
- Place barrel and riser on a firm, smooth foundation of impervious soil.
- Do not use previous material such as sand, gravel, or crushed stone as backfill around the pipe or anti-float collars.
- Place fill material around the pipe spillway 4-6 inch layers, and compact 4' under and around the pipe to at least the same density as the adjacent embankment.
- Place a maximum depth of 2 feet of compacted backfill over the pipe spillway before connecting it with any construction equipment.
- Anchor riser in place by concrete or other satisfactory means to prevent flotation.
- In no case should the pipe conduit be installed by cutting a trench through the dam after the embankment is complete.
- Install the emergency spillway in undisturbed soil.
- Discharge water into the basin in a manner to prevent erosion.
- Construct basin so that the disturbed area is minimized, divert surface water from bare areas and complete the embankment before the area is cleared.
- Stabilize the emergency spillway embankment and all other disturbed areas above the crest of the principal spillway immediately after construction.
- Seal and place matting for erosion control on interior and exterior side slopes.
- Install Porous Baffles as specified on following sheets.

MAINTENANCE:

- Inspect all measures at least weekly and after each rainfall of 1.0 inch or greater. Make any repairs immediately.
- Remove sediment and restore basin to its original dimensions when it accumulates to one-half the design depth.
- Place removed sediment in an area with sediment control measures to ensure no loss of sediment off-site.
- Check the embankment, spillways, and outlet for erosion damage, and inspect the embankment for piping and settlement.
- Remove all trash and other debris from the riser and pool area.

Effective Date: 9/1/2023
 In accordance with the 2013 Design Manual Updates

OUTLET STRUCTURE DATA TABLE

STRUCTURE ID	OS-1	OS-2	OS-3
A: INVERT	20.00	23.60	23.60
B: DIAMETER	4.0'	4.0'	3.0'
C: INVERT	24.00	23.60	23.60
D: DIAMETER	24"	24"	24"
E: WEIR DIMENSION	24"	24"	24"
F: WEIR DIMENSION	24"	24"	24"
G: STRUCTURE WIDTH	48"	48"	48"
H: STRUCTURE DEPTH	48"	48"	48"
I: STRUCTURE WALL	6" MIN	6" MIN	6" MIN
J: RISER INVERT	28.00	28.00	27.00
K: INVERT	24.00	-	-
L: DIAMETER	4.0'	-	-
M: INVERT	-	26.50	25.25
N: DIMENSIONS:	-	18" W X 6" H	15" W X 3" H
ANTI-FLOAT SIZE	5'X5'X1.5'	4'X4'X1.5'	4'X4'X1'
ANTI-FLOAT WEIGHT	5,625 LB	3,600 LB	2,400 LB
SKIMMER SIZE	2'	1.5'	1.5'

NOTES:

- SEE SHEET EC-8 FOR OUTLET STRUCTURE CONSTRUCTION
- ANTI-FLOTATION FOOTING ASSUMES A CONCRETE DENSITY OF 150 PCF

SEDIMENT BASIN SIZING

ID	SEDIMENT BASIN 1	SEDIMENT BASIN 2	SEDIMENT BASIN 3
REQUIRED SURFACE AREA AT POND BOTTOM [SQFT]	34,900	1,140	1,110
REQUIRED VOLUME AT RISER ELEV. [CUFT]	480,500	178,600	90,700
REQUIRED SURFACE AREA AT RISER ELEV. [SQFT]	93,800	48,300	32,400
REQUIRED VOLUME AT SPILLWAY ELEV. [CUFT]	583,300	228,300	124,400
REQUIRED SURFACE AREA AT SPILLWAY ELEV. [SQFT]	104,600	51,000	34,800
SPILLWAY LENGTH [FT]	40	30	30
SPILLWAY SIDE SLOPES	3:1	3:1	3:1
SPILLWAY INVERT	29.00	29.00	28.00
BERM WIDTH [FT]	10	10	10
BERM ELEV.	30.00	30.00	29.00
POND BOTTOM ELEV.	20.0	23.6	23.6
SEDIMENT CLEANOUT ELEV.*	27.0	27.0	26.5
REQUIRED SURFACE AREA AT CLEANOUT ELEV. [SQFT]	92,000	48,000	31,200

NOTES:

- * SEDIMENT CLEANOUT ELEVATION SHALL BE MARKED ON A STAKE IN ALL FOREBAYS AND ON OUTLET STRUCTURE

DATE: _____ PAGE: _____

NOTES:

- SEE SEDIMENT BASIN SIZING TABLE (THIS SHEET) FOR SPILLWAY LENGTHS AND DEPTHS, SIDE SLOPES, BERM WIDTHS, ETC.
- SPILLWAY DEPTH IS THE DIFFERENCE BETWEEN THE SPILLWAY INVERT AND BERM ELEVATION.
- UPON FINISHING CONSTRUCTION OF THE SPILLWAY, PERMANENTLY SEED TO ESTABLISH SOIL TO PREVENT EROSION.
- IF, DURING CONSTRUCTION, EROSION OF THE SPILLWAY OCCURS, RE-ESTABLISH THE SPILLWAY AND BERM. THEN, RESEED. CONTACT THE ENGINEER IF PROBLEM PERSISTS.
- SEE SEDIMENT BASIN DETAIL (THIS SHEET) FOR SECTION VIEW

Effective Date: 9/1/2023
 In accordance with the 2013 Design Manual Updates

DATE: _____ PAGE: _____

NOTES:

- Use matting made of 100% coconut fiber (coir) twine woven into high strength matrix.
- Staples should be made of 0.125 inch diameter, new steel wire formed into a 'U' shape not less than 12 inches in length with a throat of 1 inch in width. The staples anchor the porous baffles into the sides and bottom of the basin.
- Grade the basin so that the bottom is level front to back and side to side.
- Install the coir fiber baffles immediately upon excavation of the basins.
- Install posts across the width of the sediment trap.
- Steel posts should be driven to a depth of 24 inches and spaced in a maximum of 4 feet apart. The top of the fabric should be a minimum of 6 inches higher than the invert of the spillway. Tops of the baffles should be a minimum of 2 inches lower than the top of the earthen embankment.
- Install 3 coir fiber baffles in basins at drainage outlets with a spacing of 1/4 the basin length. 2 coir fiber baffles can be installed in the basins less than 20 feet in length with a spacing of 1/3 the basin length.
- Attach a 9-gauge high tension wire strand to the steel posts at a height of 6 inches above the spillway elevation with plastic ties or wire fasteners to prevent sagging. If the temporary sediment basin will be converted to a permanent stormwater basin of a greater depth, the baffle height should be based on the pool depth during use as a temporary sediment basin.

MAINTENANCE:

- Inspect all measures at least weekly and after each rainfall of 1.0 inch or greater and repair immediately.
- Maintain access to baffles. If the fabric collapses, tears, decomposes, or becomes ineffective, replace immediately.
- Remove sediment deposits when it reaches half full. Replace if baffle fabric is damaged during clean-out operations. Sediment depth should never exceed half the designed storage depth.

Effective Date: 9/1/2023
 In accordance with the 2013 Design Manual Updates

DATE: _____ PAGE: _____

NOTES:

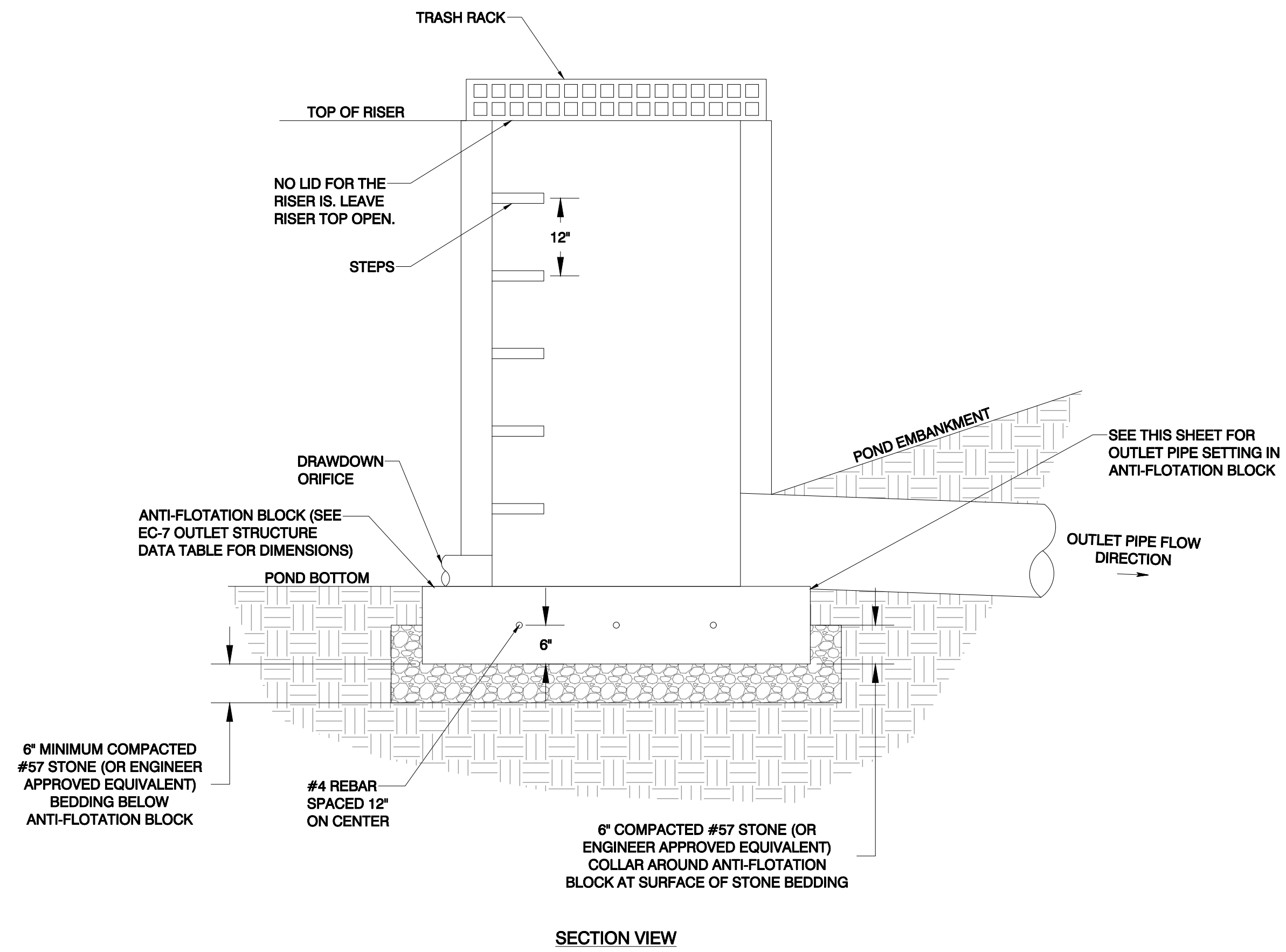
- Inspect outlet structures at least weekly and after each rainfall of 1.0 inch or greater.
- Check outlets for erosion around or below riprap and for if stones have been dislodged. Make repairs immediately to prevent further damage.

Effective Date: 9/1/2023
 In accordance with the 2013 Design Manual Updates

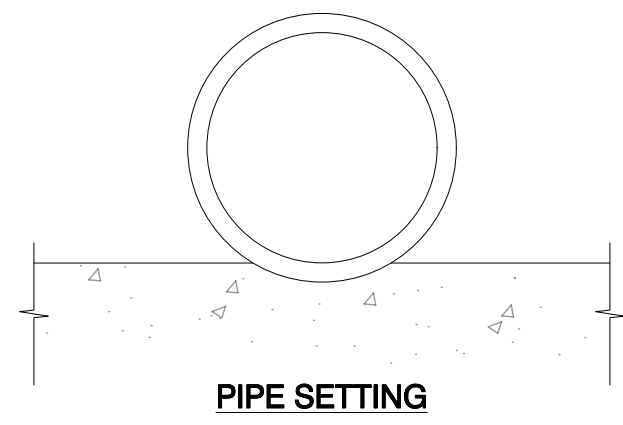


3/30/2026

GARRETT & MOORE
 Engineering for the Power and Waste Industries
 1029 West South Street
 Raleigh, NC 27603
 www.Garrett-Moore.com



SECTION VIEW



PIPE SETTING

NOTES:

- SEE SEDIMENT BASIN SIZING TABLE AND OUTLET STRUCTURE DATA TABLE (SHEET EC-7) FOR RISER SIZING, INVERTS, ETC.
- TRASH RACK MUST BE APPROVED BY ENGINEER.
- USE CLASS B CONCRETE THROUGHOUT.
- PRECAST CONCRETE RISER SHOP DRAWING TO BE PROVIDED BY CONTRACTOR FOR ENGINEER APPROVAL, OR CONTRACTOR MAY INSTALL THE OUTLET STRUCTURE BY MONOLITHIC POUR.
- SET OUTLET PIPE IN ANTI-FLOTATION SLAB AS SHOWN (THIS SHEET). ENSURE THE ANTI-FLOTATION BLOCK IS FLUSH WITH DESIGNED INVERT.
- IF RISER IS GREATER THAN 3.5', PROVIDE STEPS 12" ON CENTER.

1 CONCRETE OUTLET STRUCTURE CONSTRUCTION DETAILS
 N.T.S

BEAUFORT COUNTY

STILLEY STATION
 CONVENIENCE SITE

EROSION CONTROL
 DETAILS

SHEET
 EC-8



3/30/2026

GARRETT & MOORE
 Engineering for the Power and Waste Industries
 1029 West South Street
 Raleigh, NC 27603
 www.Garrett-Moore.com

BEAUFORT COUNTY

STILLEY STATION
 CONVENIENCE SITE

STANDARD DETAILS

SHEET
 SD-1

NOTES:
 1. INSTALL ALL STEPS PROTRUDING 4" FROM INSIDE FACE OF STRUCTURE WALL.
 2. STEPS DIFFERING IN DIMENSIONS, CONFIGURATION, OR MATERIALS FROM THOSE SHOWN MAY ALSO BE USED PROVIDED THE CONTRACTOR HAS FURNISHED THE ENGINEER WITH DETAILS OF THE PROPOSED STEPS AND HAS RECEIVED WRITTEN APPROVAL FROM THE ENGINEER FOR THE USE OF SUCH STEPS.

CAST IRON
 PLAN: 1" x 9 1/8"
 SIDE ELEVATION: 1 1/2" x 9 1/8"
 ELEVATION: 1'-0" x 1 1/2"

REINFORCING STEEL
 PLAN: 12" x 9 1/8"
 SIDE ELEVATION: 1 1/2" x 9 1/8"
 ELEVATION: 12" x 1 1/2"

SECTION A-A: POLYPROPYLENE PLASTIC, #3 DEFORMED STEEL ROD

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.
 ROADWAY STANDARD DRAWING FOR DRAINAGE STRUCTURE STEPS
 SHEET 1 OF 1
840.66

GENERAL NOTES:
 I.D. = THE MAXIMUM HORIZONTAL INSIDE DIAMETER DIMENSION.
 O.D. = THE MAXIMUM HORIZONTAL OUTSIDE DIAMETER DIMENSION.
 H = THE FILL HEIGHT MEASURED VERTICALLY AT ANY POINT ALONG THE PIPE FROM THE TOP OF THE PIPE TO THE TOP OF THE EMBANKMENT AT THAT POINT.

DO NOT OPERATE HEAVY EQUIPMENT OVER ANY PIPE CULVERT UNTIL THE PIPE CULVERT HAS BEEN PROPERLY BACKFILLED AND COVERED WITH AT LEAST 3 FEET OF APPROVED MATERIAL. REFER TO HOBY PIPE MATERIAL SELECTION GUIDE AND STANDARD SPECIFICATIONS FOR ALLOWABLE PIPE FILL HEIGHTS AND PIPE SPECIFICATIONS.

APPROVED SUITABLE LOCAL MATERIAL.
 TAKE CARE TO FULLY COMPACT HAUNCH ZONE OF PIPE BACKFILL.
 LOOSELY PLACED SELECT MATERIAL CLASS III OR CLASS II, TYPE 1 FOR PIPE BEDDING. LEAVE SECTION DENSELY BENCH PIPE UNCOMPACTED AS PIPE SEATING AND BACKFILL WILL ACCOMPLISH COMPACTION.

SPRINGLINE OF PIPE
 SELECT BACKFILL MATERIAL CLASS III OR CLASS II, BELOW SPRINGLINE.
 UNDISTURBED EARTH MATERIAL.
 SELECT MATERIAL CLASS V OR VI FOR FOUNDATION CONDITIONING. ENCAPSULATE WITH TYPE IV GEOTEXTILE AS DIRECTED BY THE ENGINEER.

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.
 ROADWAY STANDARD DRAWING FOR METHOD OF PIPE INSTALLATION RIGID PIPE
 SHEET 2 OF 2
300.01

CONCRETE ENDWALL FOR SINGLE AND DOUBLE PIPE CULVERTS 15" THRU 48" PIPE - 90° SKEW

GENERAL NOTES:
 CHAMFER ALL CORNERS 1" OR HAVE A RADIUS OF 1".
 PLACE 2 #6 "Y" BARS IN THE TOP OF ALL ENDWALL FOR PIPE CULVERTS 42" AND OVER WITH A MINIMUM OF 3" COVER AND A LENGTH OF 6" LESS THAN ENDWALL LENGTH.
 CONSTRUCT BOTTOM SLAB WITH FORMS.
 DO NOT INTERPRET WALL THICKNESS (T) SHOWN FOR THE THICKNESS ACCEPTABLE, BUT IS USED IN COMPUTING ENDWALL QUANTITIES.
 WHEN THE CONTRACTOR ELECTS TO USE A CONSTRUCTION JOINT AT THE BOTTOM OF THE PIPE, PLACE BAR "X" DOWELS IN THE BASE AS SHOWN ON PLANS. SPACE BARS APPROXIMATELY ON 12" CENTERS UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
 WHEN THE CONTRACTOR ELECTS TO USE A CONSTRUCTION JOINT AT THE BOTTOM OF THE PIPE AND POUR THE BASE SEPARATELY LEAVE THE POUR ROUGH.
 USE CLASS "B" CONCRETE.

PIPE DIA.	SINGLE PIPE				DOUBLE PIPE										
	15"	18"	24"	30"	36"	42"	48"	15"	18"	24"	30"	36"	42"	48"	
LOC.	X	X	X	X	X	Y	Y	X	X	X	X	X	X	Y	Y
BARS	X	X	X	X	X	Y	Y	X	X	X	X	X	X	Y	Y
QTY.	2	2	3	3	4	4	5	2	2	3	3	4	4	5	5
M	2	2	3	3	4	4	5	2	2	3	3	4	4	5	5
QTY.	2	2	3	3	4	4	5	2	2	3	3	4	4	5	5
TOTAL LBS.	9	9	14	14	19	19	25	12	12	19	19	23	23	27	27

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.
 ROADWAY STANDARD DRAWING FOR CONCRETE ENDWALL FOR SINGLE AND DOUBLE PIPE CULVERTS 15" THRU 48" PIPE - 90° SKEW
 SHEET 1 OF 3
838.01

DRIVEWAY TYPICAL SECTION
 20'-0" MIN. DRIVE PIPE
 VARIABLE FROM 12'-0" TO 16'-0"

ISOMETRIC OF END PIPE TREATMENT
 USE AT LOCATIONS AS DIRECTED BY THE ENGINEER

GENERAL NOTES:
 ALL DIMENSIONS GIVEN ARE FOR MINIMUM CONDITIONS. PROPER ENGINEERING JUDGEMENT MUST BE USED IN DETERMINING DRIVEWAY LOCATIONS, WIDTHS, AND PIPE LENGTHS.
 FACTORS SUCH AS VEHICLE TURNING RADIUS, TRAFFIC VOLUMES, DRIVEWAY SKEW, OFFSET DISTANCE OF PIPE FROM EDGE OF PAVEMENT, PIPE DEPTHS, AND DESIGN SPEED SHOULD BE CONSIDERED IN DETERMINING DRIVEWAY WIDTHS.

NOTE:
 1. THESE AREAS ARE TO BE USED TO BLEND THE INTERSECTING SLOPES TO THE PROPOSED DITCH.

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.
 ROADWAY STANDARD DRAWING FOR DRIVEWAY PIPE CONSTRUCTION USING NO SPECIAL END SECTIONS
 SHEET 1 OF 1
310.10