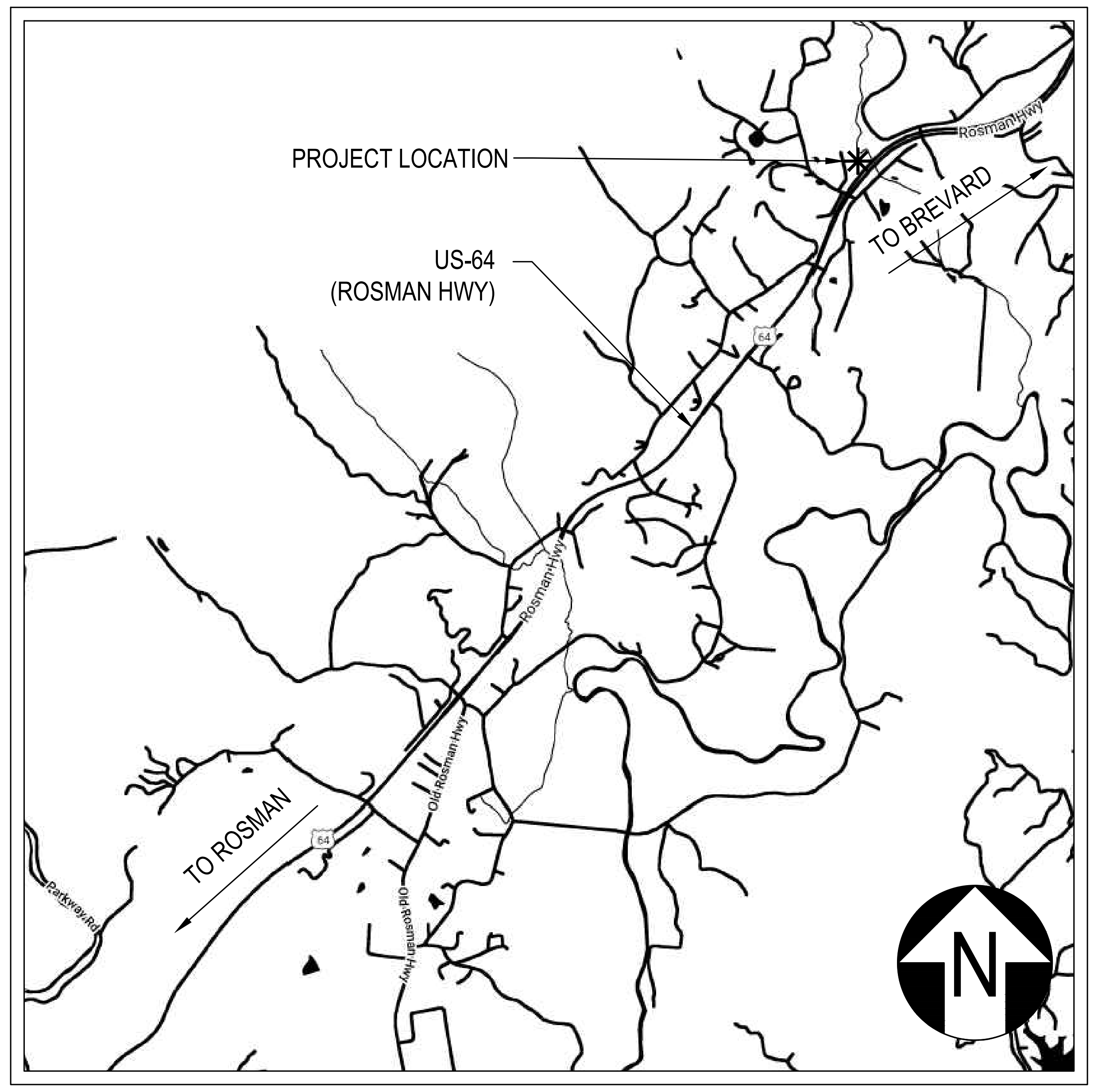
SRP-D-ARP-0028

CONSTRUCTION PLANS
FOR THE
TOWN OF ROSMAN AND CITY OF BREVARD WATERLINE INTERCONNECT

TRANSYLVANIA COUNTY, NORTH CAROLINA

FEBRUARY 13, 2024



LOCATION MAP
NOT TO SCALE

PREPARED FOR:
TRANSYLVANIA COUNTY
101 S. BROAD STREET
BREVARD, NC 28712
&
TOWN OF ROSMAN
6 MAIN STREET
ROSMAN, NC 28772
&
CITY OF BREVARD
95 WEST MAIN STREET
BREVARD, NC 28712

SHEET INDEX

SHEET NO.	DESCRIPTION
-	COVER SHEET
C-1	WATERLINE PLAN & PROFILE
C-2	EROSION CONTROL PLAN
C-3	DETAILS
C-4	DETAILS
C-5	DETAILS

REVISIONS

REVISION AND ISSUE NO.	SHEET NO.	DESCRIPTION	DATE
A - ISSUE 1	ALL	PERMIT SUBMITTAL	02/13/2024
B - ISSUE 1	ALL	PERMIT RESUBMITTAL	03/07/2024
B - ISSUE 2	ALL	PERMIT RESUBMITTAL	04/18/2024
B - ISSUE 3	ALL	DWI SUBMITTAL	06/17/2024
B - ISSUE 4	ALL	NCDOT REVISIONS	07/30/2024
C - ISSUE 1	ALL	Bid Set	08/08/2024

EARTHWORK SPECIFICATIONS:

1.Clearing and Grubbing

Clearing and grubbing shall consist of clearing the surface of the ground of the designated areas of all trees, logs, snags, brush, undergrowth, heavy growth of grass, weeds, fence structures, debris and rubbish of any nature, natural obstructions such as objectionable soil material unsatisfactory for foundations. It shall also consist of grubbing of stumps, roots foundations and disposal of all such material. All holes remaining after the grubbing operation in embankment areas and in excavation areas less than two (2) feet in depth, shall have sides broken down and leveled if necessary to flatten out slopes, refilled with acceptable material that is properly compacted in layers by tampers, rollers or construction equipment.

Burning on site is not permitted without written approval of the local governing authorities having jurisdiction.

2.Existing trees and area outside of grading limits line

Trees and vegetation to be saved shall be protected from damage by a fence barricade prior to, or during, clearing operations. Trees to be saved shall be designated by the owner. No trees are to be removed from the area outside the limits of grading or from specifically designated areas within the construction areas. If, in the opinion of the engineer, a contractor damages a tree not to be removed, the contractor will be fined a predetermined amount for each damaged tree. The contractor shall also be responsible for all costs associated in removing the damaged trees from the site.

3.Fill

All vegetation such as roots, brush, heavy growth of grass, topsoil, all decayed vegetable matter, rubbish, and other unsuitable material within the area upon which fill is to be placed shall be stripped or be otherwise removed before the fill operation is started. In no case shall unsuitable material remain in or under the fill area. Sloped ground surface steeper than one vertical to four horizontal, on which fill is to be placed, shall be placed, stepped or benched in such a manner that the fill to be placed shall be 95 percent of the maximum laboratory dry density according to standard proctor (AASHTO T99, ASTM D-698). Moisture content shall be within 3 percent of the optimum moisture content. Proof-roll the areas to be filled or on which structures are to be placed. A loaded dump truck or other rubber tired equipment shall be used proof-rolling. Overlapping passes of a vehicle should be made across the site in one direction and then perpendicular to the original direction of rolling.

Any yielding, pumping or soft areas should be cut out and replaced with fill compacted as described herein.

The proposed fill should be limited to soils classified in accordance with ASTM D-2487 as GM, GC, SW, SM, SC, ML and CL. Soil classified as PT, OH, OL, CH and MH are not satisfactory as compacted fill.

Fills and embankments shall be constructed at the locations and to the lines and grades indicated on construction plans. The slope shall not exceed two feet horizontal to one foot vertical. The completed fill shall correspond to the shape of the typical sections indicated on the construction plans. Material removed from the excavation shall be used in forming the fill. Fill material shall be reasonably free from roots, other organic material, trash and stones having maximum dimensions greater than 6 inches (4 inches in trenches for utilities). No frozen material will be permitted in the fill. Stones having a maximum dimension of 4 inches will not be permitted in the upper six inches of fill or embankment or utility trench. The material shall be placed in successive horizontal layers not more than 8 inches thick, unless otherwise noted, in loose depth for the width of the cross-section and shall be compacted to at least 95 percent of the maximum laboratory dry density according to standard proctor (ASTM D-698, AASHTO T-99). Moisture shall be within 3 percent of the optimum moisture content. The top 12 inches of the paving, parking and/or roadway sub-grade shall be compacted to 95 percent of the maximum dry density (standard proctor). Each lift shall be rolled with a vibratory roller, a sheepsfoot roller, or a loaded rubber tired dump truck, scraper or loader. If the soil is to dry, a water truck with spreader bar or spray hose shall be used to bring the soil to the proper moisture range. The water shall be thoroughly and properly mixed with the soil prior to compaction.

Storm drain pipes shall be placed on a firm bottom and hand tamped to shore up the pipe. A cushion of soil shall be tamped above the crown of the pipe in accordance with the pipe manufacturer's recommendations so that the heavier compaction equipment can then be used to bring the soil to a density as described above for fill areas.

If soils investigation report is provided, then follow the recommendations of the report if they exceed the recommendations of these specifications.

4.Topsoil

Unless otherwise specified, areas designated for grading operations that contain a blanket of topsoil shall be stripped and placed in convenient stockpiles for later use as a topsoil blanket on the new graded areas specified herein, or as designated. Topsoil shall be stripped from all areas designated to receive fill. The stripping of material for topsoil shall be carefully determined and only the quantity required shall be stockpiled. Material stockpiled shall be stored in a satisfactory manner to afford proper drainage. When grading operations permit, instead of stockpiling, the topsoil shall be hauled and spread directly on the areas designated to receive topsoil.

5.Rock excavation

If rock is encountered, clear away earth to expose material. Notify owner and receive written instructions prior to excavation. Remove rock to a depth of 6 inches below and 8 inches on each side of pipes in trenches. A measurement of the extent of rock to be removed shall be made. Rock excavation shall be paid for in accordance with agreement with the owner.

CONSTRUCTION NOTES:

1. The drawings and specifications are intended to cover a complete project, ready to use, and all items necessary for a complete and workable job shall be furnished and installed. Any discrepancy shall be immediately reported to the owner or his representative.
2. All work shall comply with all applicable local, state, and federal codes. The contractor, at his expense shall obtain all necessary licenses and permits, unless already obtained by the owner.
3. The contractor shall coordinate location and installation of all underground utilities and appurtenances to minimize disturbing curbing, paving and all other utilities.
4. The existing utilities shown are for the contractor's convenience only. There may be other utilities not shown on these drawings. The utilities shown are based on the best available information and surface evidence where available. The engineer assumes no responsibility for the location of the utilities shown. It shall be the contractor's responsibility to verify the locations of all utilities within the limits of work. All damage made to existing utilities by the contractor shall be the sole responsibility of the contractor.
5. Deviations from these plans and specifications without prior consent of the engineer and the municipality may be cause for the work to be unacceptable.
6. All materials shall be new unless used or salvaged materials are authorized by the owner.
7. The contractor shall furnish and maintain all necessary barricades around the work and shall provide protection against water damage and soil erosion.
8. All work shall be performed in a finished and workmanlike manner to the entire satisfaction of the owner, and in accordance with the best-recognized trade practices.
9. The contractor shall provide sheeting and shoring for all trench construction in accordance with OSHA guidelines.
10. All pipe lengths shown are to the centerline of the structures unless specifically noted.
11. Pipes (storm and sanitary sewer) shall be laid on smooth, continuous grades with no visible bends at the joints.
12. Bedding requirements specified herein are to be considered as minimum required for relatively dry stable earth conditions. Additional bedding shall be required for rock trenches to provide such additional bedding as required to properly construct work.
13. All storm drainage inlet structures shall have metal ring and cover for access.
14. All angles shown are 90 degrees unless shown otherwise.
15. All grades shown are finished grades. Contractor shall verify dimensions, grades, and existing elevations prior to construction.
16. Concrete curbs shall be constructed in accordance with the details shown on plans. Materials, equipment, methods of construction and workmanship shall conform to state D.O.T. standard specifications.
17. All concrete shall have 3000-PSI compressive strength after 28 days, with a maximum slump of four (4) inches, unless specified otherwise.
18. All exposed concrete shall have a fine hair broomed finish.
19. Parking and driveway base course and asphaltic concrete surface and prime materials, equipment, methods for construction and workmanship shall conform to state D.O.T. standard specifications.
20. Contractor to field verify all storm, sanitary, water and other utilities locations and inverts prior to installation of any utilities. Notify engineer prior to proceeding with any work if discrepancies found.
21. Contractor shall notify the proper local authorities 24 hours prior to any road being closed for construction, including but not limited to local newspaper, radio station, fire department, county sheriff's department, ambulance service, and county emergency agency. All traffic control shall conform to the requirements of NCDOT.
22. All fence damaged during construction shall be replaced with like materials in a workmanlike manner and in accordance with standard fence construction practices at the contractor's expense.
23. Contractor shall be responsible for any damage to existing roads during construction and shall repair road per requirements of NCDOT. No open cuts of existing roads shall be allowed except were indicated on the drawings or where specific permission is granted by NCDOT.

SOIL EROSION AND SEDIMENT CONTROL NOTES:

1. Provisions to prevent erosion of the soil from the site shall conform to the requirements of the "North Carolina Sedimentation Pollution Control Act of 1973" as shown herein and stipulated in the "Erosion and Sediment Control Planning and Design Manual". Installation shall be in a manner so as to minimize erosion of the disturbed areas and prevent sediment from leaving the site.
2. The contractor shall incorporate all temporary and permanent erosion control measures into the project at the earliest practicable time during construction. The erosion control measures detailed hereon shall be continued until permanent drainage structures have been installed and until grass on planted shoulders and slopes is sufficiently established to be an effective erosion deterrent. The sediment removed from the control structures shall be evenly distributed outside construction limits. Disposed sediment shall be permanently grassed.
3. Temporary and permanent vegetative cover shall be installed in accordance with the requirements of Chapter 6, Section 10 - Temporary Seeding, and Section 11 - Permanent Seeding of the "Planning and Design Manual" as described in note no. 1 above.
4. The contractor shall not restrict the use of silt fences or any other means of erosion control to the locations shown on these plans. Moreover, the contractor should constantly be aware of minimizing soil erosion and use erosion control means accordingly. The contractor shall promptly repair, improve or add erosion control measures as required by the local reviewing agency.
5. Divert all runoff to the erosion control devices shown on the drawings.
6. Provide daily maintenance of erosion control devices to maintain their function at all times.
7. Any disturbed area left exposed for a period greater than fourteen (14) days shall be stabilized with mulch or temporary seeding.
8. All silt fences must be installed immediately following clearing. No grading shall be performed until silt fence installation is complete.
9. Additional sediment control measures may be required based on actual field conditions as per local governing authorities.
10. All erosion control measures shall be checked and maintained daily.
11. Maximum cut and fill slopes shall be two (2) foot horizontal to one (1) foot vertical, unless otherwise noted.
12. Erosion control measures will be maintained at all times. If full implementation of the approved plan does not provide for effective erosion control, additional erosion and sediment control measures shall be implemented to control or treat the sediment source.
13. The escape of sediment from the site shall be prevented by the installation of erosion and sediment control measures and practices prior to, or concurrent with, land-disturbing activities.

PROJECT NOTES:

OWNER:

Transylvania County		Town of Rosman		City of Brevard
101 S. Broad Street	&	6 Main Street	&	95 West Main Street
Brevard, NC 28712		Rosman, NC 28772		Brevard, NC 28712

ENGINEER:
High Country Engineering, PC (C-3347)
81 Central Avenue
Asheville, North Carolina 28801
T:828-230-4511
Contact: Jacob D. Gray, PE
Email: jgray@hcepc.net

1. Proposed use is for Public Water Infrastructure.
2. Project Coordinates: 35.198611° N, 82.781111° W
3. The receiving water courses as classified by the NCDEQ for this project are:
   - 3.1. Cathey's Creek, Stream Index 6-16-(9.5), Class: C; Tr; HQW
4. Total disturbed area= ±1.20 acres. Total new impervious area = ±0.00 acres (0.00%).
5. Topographical information obtained from survey by Cameron Baker, PLS # L-4920 of Associated Land Surveyors and Planners, PC.
6. Contour interval is 2 feet.
7. This property is shown on F.I.R.M. panel number 3700857400J, dated October 2, 2009 and a portion of the development is located within a special flood hazard zone "X".
8. The location of underground utilities shown is approximate based on surface field evidence and information supplied by utility agencies. The survey makes no certification as to the completeness of the locations shown. Appropriate utility companies should be contacted for verification of locations prior to any construction activity.
9. The contractor shall verify the invert elevations of all existing storm and sanitary sewer structures prior to commencement of waterline construction.
10. Contractor shall notify the engineer and owner/developer of any information found in the field that is different from what is shown on these design plans.

IF YOU DIG
NORTH CAROLINA
CALL US FIRST!
811
N.C. ONE CALL CENTER
IT'S THE LAW!

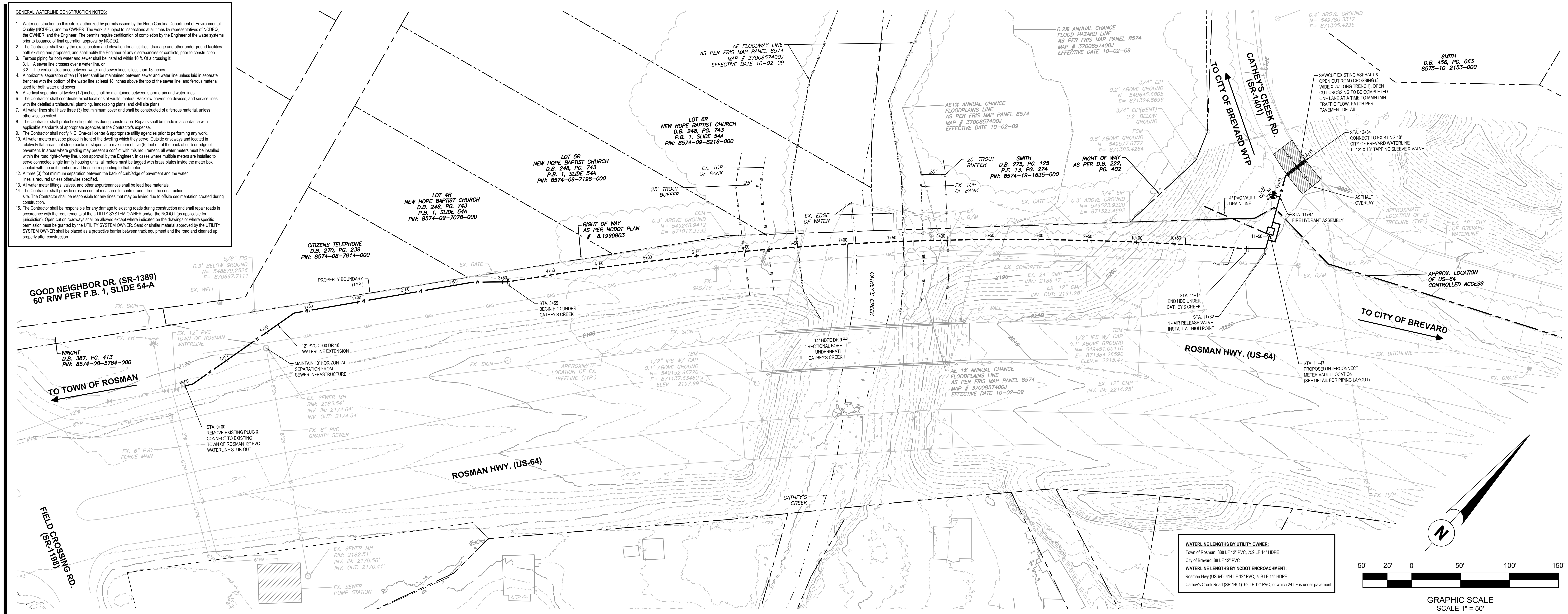
HIGH COUNTRY ENGINEERING, P.C.
81 CENTRAL AVENUE
ASHEVILLE, NORTH CAROLINA 28801
T: 828.230.4511
F: 828.348.5040
FIRM NO.: C-3347

SEAL
047761
JACOB D. GRAY

CONSTRUCTION PLANS
FOR THE
TOWN OF ROSMAN AND CITY OF BREVARD WATERLINE INTERCONNECT
TRANSYLVANIA COUNTY, NORTH CAROLINA

GENERAL WATERLINE CONSTRUCTION NOTES:

1. Water construction on this site is authorized by permits issued by the North Carolina Department of Environmental Quality (NCDEQ), and the OWNER. The work is subject to inspections at all times by representatives of NCDEQ, the OWNER, and the Engineer. The permits require certification of completion by the Engineer of the water systems prior to issuance of final operation approval by NCDEQ.
2. The Contractor shall verify the exact location and elevation for all utilities, drainage and other underground facilities both existing and proposed, and shall notify the Engineer of any discrepancies or conflicts, prior to construction.
3. Ferrous piping for both water and sewer shall be installed within 10 ft. Of a crossing if:
   - 3.1. A sewer line crosses over a water line, or
   - 3.2. The vertical clearance between water and sewer lines is less than 18 inches.
4. A horizontal separation of ten (10) feet shall be maintained between sewer and water line unless laid in separate trenches with the bottom of the water line at least 18 inches above the top of the sewer line, and ferrous material used for both water and sewer.
5. A vertical separation of twelve (12) inches shall be maintained between storm drain and water lines.
6. The Contractor shall coordinate exact locations of vaults, meters. Backflow prevention devices, and service lines with the detailed architectural, plumbing, landscaping plans, and civil site plans.
7. All water lines shall have three (3) feet minimum cover and shall be constructed of a ferrous material, unless otherwise specified.
8. The Contractor shall protect existing utilities during construction. Repairs shall be made in accordance with applicable standards of appropriate agencies at the Contractor's expense.
9. The Contractor shall notify N.C. One-call center & appropriate utility agencies prior to performing any work.
10. All water meters must be placed in front of the dwelling which they serve. Outside driveways and located in relatively flat areas, not steep banks or slopes, at a maximum of five (5) feet off of the back of curb or edge of pavement. In areas where grading may present a conflict with this requirement, all water meters must be installed within the road right-of-way line, upon approval by the Engineer. In cases where multiple meters are installed to serve connected single family housing units, all meters must be tagged with brass plates inside the meter box labeled with the unit number or address corresponding to that meter.
12. A three (3) foot minimum separation between the back of curb/edge of pavement and the water lines is required unless otherwise specified.
13. All water meter fittings, valves, and other appurtenances shall be lead free materials.
14. The Contractor shall provide erosion control measures to control runoff from the construction site. The Contractor shall be responsible for any fines that may be levied due to offsite sedimentation created during construction.
15. The Contractor shall be responsible for any damage to existing roads during construction and shall repair roads in accordance with the requirements of the UTILITY SYSTEM OWNER and/or the NCDOT (as applicable for jurisdiction). Open-cut on roadways shall be allowed except where indicated on the drawings or where specific permission must be granted by the UTILITY SYSTEM OWNER. Sand or similar material approved by the UTILITY SYSTEM OWNER shall be placed as a protective barrier between track equipment and the road and cleaned up properly after construction.



WATERLINE LENGTHS BY UTILITY OWNER:

Town of Rosman: 388 LF 12" PVC, 759 LF 14" HDPE

City of Brevard: 88 LF 12" PVC

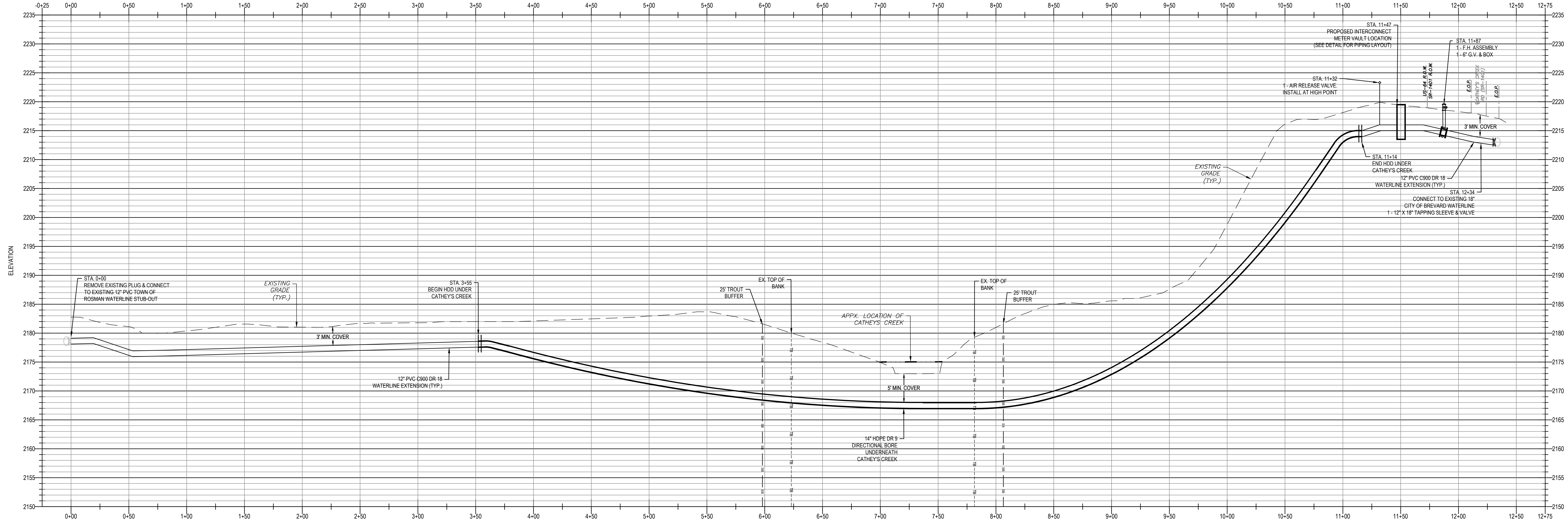
WATERLINE LENGTHS BY NCDOT ENCROACHMENT:

Rosman Hwy (US-64): 414 LF 12" PVC, 759 LF 14" HDPE

Cathey's Creek Road (SR-1401): 62 LF 12" PVC, of which 24 LF is under pavement

50' 25' 0 50' 100' 150'

GRAPHIC SCALE
SCALE 1" = 50'



WATERLINE PROFILE

H. SCALE: 1"=50'
V. SCALE: 1"=10'

IF YOU DIG
NORTH CAROLINA
CALL US FIRST!
811
N.C. ONE CALL CENTER
IT'S THE LAW!

CONSTRUCTION PLANS FOR:

TOWN OF ROSMAN AND CITY OF BREVARD WATERLINE INTERCONNECT
for
TRANSYLVANIA COUNTY

Transylvania County, North Carolina

#	DATE	REVISION DESCRIPTION
A	02/13/2024	Issue 1 - Permit Submittal
B	03/07/2024	Issue 1 - Permit Resubmittal
B	04/18/2024	Issue 2 - Permit Resubmittal
B	06/17/2024	Issue 3 - DWI Submittal
B	07/30/2024	Issue 4 - NCDOT Revisions
C	08/08/2024	Issue 1 - Bid Set

HIGH COUNTRY
ENGINEERING

HIGH COUNTRY ENGINEERING, P.C.
81 CENTRAL AVENUE
ASHEVILLE, NORTH CAROLINA 28801
T: 828.230.4511
NC FIRM NO.: C-3347

SEAL
047761
JACOB D. GRAY

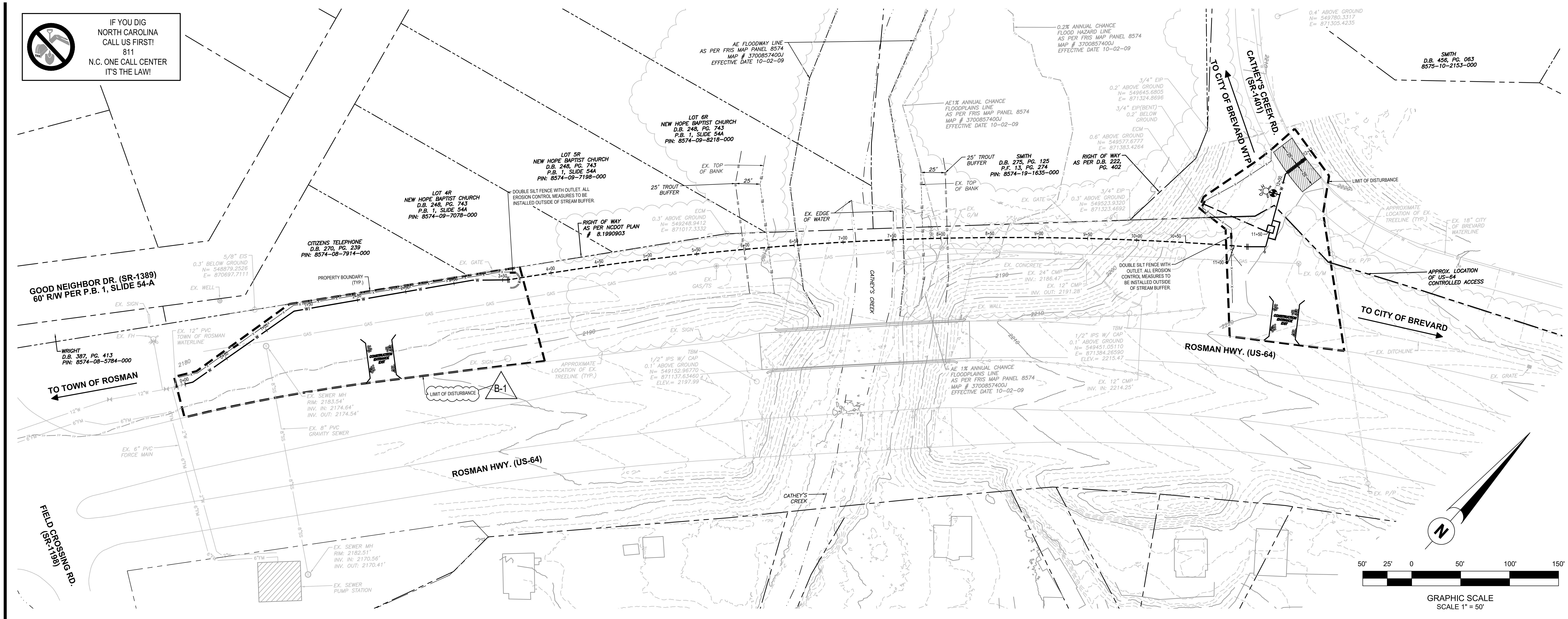
TOR & COB WATERLINE INTERCONNECT

SHEET TITLE:

WATERLINE PLAN & PROFILE

PROJECT NO.: TRA012
SHEET NO.: C-1 of 5
DATE: 08/08/2024
ISSUE No. C-1

IF YOU DIG
NORTH CAROLINA
CALL US FIRST!
811
N.C. ONE CALL CENTER
IT'S THE LAW!



Major Elements of DWQ Construction General Permit - August 4, 2011

This document contains the major elements of the recently-revised North Carolina Division of Water Quality (DWQ) Construction General Permit (NCG01) with emphasis on those elements that differ from the previous permit (expiration on August 2, 2011). Since the summary list below cannot contain details of every change, the complete permit should be used to assure full implementation. See: http://portal.ncdenr.org/web/wq/ws/su/construction.

1) Ground Stabilization*.

Site Area Description	Stabilization Time Frame	Stabilization Time Frame Exception
Perimeter dikes, swales, ditches, and slopes	7 days	None
High Quality Water (HQW) Zones	7 days	None
Slopes steeper than 3:1	7 days	If slopes are 10' or less in length and are not steeper than 2:1, 14 days are allowed
Slopes 3:1 or flatter than 4:1	14 days	7 days for slopes greater than 50' in length
All other areas with slopes flatter than 4:1	14 days	None (except for perimeters and HQW Zones)

* Extensions of time may be approved by the permitting authority based on weather or other site-specific conditions that make compliance impracticable. (Section 11.B(2)(b))

2) Building Wastes Handling

- No paint or liquid wastes in stream or storm drains.
- Dedicated areas for demolition, construction and other wastes must be located 50' from storm drains and streams unless no reasonable alternatives available.
- Earthen- material stockpiles must be located 50' from storm drains and streams unless no reasonable alternatives available.
- Concrete materials must be controlled to avoid contact with surface waters, wetlands, or buffers.

3) Discharges to Federally- listed Waters

- Requirements are the same as in previous permit.
- The permit allows reduction from the 20-acre minimum if the director of DWQ determines that other BMPs provide equivalent protection.

4) Inspections

- Same weekly inspection requirements.
- Same rain gauge & inspection after 0.5" rain event.
- Inspections are only required during "normal business hours".
- Inspection reports must be available on-site during business hours unless a site-specific exemption is approved.
- Records must be kept for 3 years and available upon request.
- Electronically-available records may be substituted under certain conditions.

5) Implementation of New Permit Conditions

- Projects permitted under the previous permit can continue to follow conditions of approved application.
- Complete applications received prior to august 3, 2011 can follow conditions of approved application.
- Applications received after August 2, 2011 must comply with new permit conditions.

6) Conditions in Erosion & Sedimentation Control Plans*

- Designation on the plans where the 7 and the 14-day ground stabilization requirements of the NPDES permit apply.
- Designation on the plans where basins that comply with the surface-withdrawal requirements of the NPDES permit are located.

7) Building Wastes Handling

- No paint or liquid wastes in stream or storm drains.
- Dedicated areas for demolition, construction and other wastes located 50' from the storm drains and streams unless no reasonable alternatives are available.
- Earthen-material stockpiles located 50' from storm drains unless no reasonable alternatives available.
- Concrete materials must be controlled to avoid contact with surface waters, wetlands, or buffers.

8) Sediment Basins

- Outlet structures must withdraw from basin surface unless drainage area is less than 1 acre.
- Use only DWQ-approved flocculants.

*In order for the E&SC plan to satisfy the conditions of the Construction General Permit, it must identify areas were the ground stabilization requirements apply and the location of the basins where the surface-withdrawal requirements apply.

Document prepared by the Division of Water Quality

EROSION CONTROL CONSTRUCTION SEQUENCE

GENERAL: ALL EROSION CONTROL MEASURES ARE TO BE PERFORMED IN STRICT ACCORDANCE WITH REQUIREMENTS OF THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY, LAND QUALITY SECTION. THE FOLLOWING CONSTRUCTION SEQUENCE SHALL BE COMPLIED WITH FOR ALL WORK.

1. Install all pertinent perimeter erosion control devices and mark surface water buffer prior to any ground disturbance.
2. Install construction entrance at entrance to site.
3. Install all erosion and sedimentation control measures in areas as designated on the plans
4. Obtain Certificate of Compliance through on-site inspection by a representative of NCDEQ, Land Quality Section
5. Perform directional bores as directed on plans.
6. Perform trenching, utility installation, backfill and compaction as directed on the plans.
7. Establish seeding according to NPDES table on plans. Seed and mulch denuded areas within 14 days on disturbed flat areas and 7 days on all perimeter dikes, swales, ditches, perimeter slopes steeper than 3 feet horizontal to 1 foot vertical. Ground cover shall be required as soon as practicable but in any event within 14 or 7 calendar days from the last land disturbing activity.

   All seeding shall be maintained, watered, etc., until permanent vegetative ground cover is established over all disturbed areas.

   All slopes 2:1 or steeper shall be covered by erosion control matting.
8. Maintain all soil and erosion control measures for duration of the construction project and until permanent ground cover is established.
9. Perform final restoration of disturbed areas and install permanent grassing/landscaping.
10. Remove all temporary erosion control devices after permanent seeding is established.
11. Request Final Approval by NCDEQ, Land Quality Section and obtain Certificate of Compliance.

EROSION CONTROL IS FIELD PERFORMANCE BASED AND ADDITIONAL SILT FENCES, TEMPORARY SEDIMENT BASINS AND ALL OTHER MEASURES MAY NEED TO BE ADDED IN ADDITION TO THE APPROVED PLAN AS NECESSARY. MEASURES SHOWN CAN AND SHOULD BE ADJUSTED TO ASSURE MAXIMUM PROTECTION OF SITE.

NORTH CAROLINA DEQ - LAND QUALITY SECTION
NPDES INSPECTION REQUIREMENTS

THE CONTRACTOR SHALL MAKE INSPECTIONS OF THE SITE DURING AND AFTER THE INSTALLATION OF EROSION CONTROL FACILITIES; THE COMPLETION OF EACH PHASE OF CLEARING AND GRADING; THE INSTALLATION OF STORM DRAINAGE FACILITIES; THE COMPLETION OF CONSTRUCTION; IMMEDIATELY AFTER EACH RAINFALL EVENT; AND CONTINUALLY UNTIL PERMANENT GROUND COVER IS ESTABLISHED.

THE SITE INSPECTION SHALL DOCUMENT THE INSTALLATION OF ALL REQUIRED FACILITIES; THE COMPLETION OF ALL GRADING AND GROUND COVER; THE MAINTENANCE OF ALL FACILITIES; AND ANY DEVIATIONS FROM THE APPROVED PLANS.

AT A MINIMUM, THE DOCUMENTATION SHALL BE PROVIDED USING **DEMLR Monitoring Form Revision 08012013** PROVIDED AT LEAST **WEEKLY** TO THE ENGINEER.

DEMLR Monitoring Form Revision 08012013 can be found at the following web address: http://deq.nc.gov/about/divisions/energy-mineral-land-resources/erosion-sediment-control/forms. Under subheading, "Self-inspection and Self-Monitoring Combined Form".

SOIL EROSION AND SEDIMENT CONTROL NOTES:

1. Provisions to prevent erosion of the soil from the site shall conform to the requirements of the "North Carolina Sedimentation Pollution Control Act of 1973" as shown herein and stipulated in the "Erosion and Sediment Control Planning and Design Manual". Installation shall be in a manner so as to minimize erosion of the disturbed areas and prevent sediment from leaving the site.
2. The contractor shall incorporate all temporary and permanent erosion control measures into the project at the earliest practicable time during construction. The erosion control measures detailed hereon shall be continued until permanent drainage structures have been installed and until grass on planted shoulders and slopes is sufficiently established to be an effective erosion deterrent. The sediment removed from the control structures shall be evenly distributed outside construction limits. Disposed sediment shall be permanently grassed.
3. Temporary and permanent vegetative cover shall be installed in accordance with the requirements of Chapter 6, Section 10 - Temporary Seeding, and Section 11 - Permanent Seeding of the "Planning and Design Manual" as described in note no. 1 above.
4. The contractor shall not restrict the use of silt fences or any other means of erosion control to the locations shown on these plans. Moreover, the contractor should constantly be aware of minimizing soil erosion and use erosion control means accordingly. The contractor shall promptly repair, improve or add erosion control measures as required by the local reviewing agency.
5. Divert all runoff to the erosion control devices shown on the drawings.
6. Provide daily maintenance of erosion control devices to maintain their function at all times.
7. Disturbed areas shall be stabilized at the end of each work day. No work shall take place during period of wet weather or periods of predicted wet weather. Work within riparian buffers shall be resored at the end of each work day. Restoration shall utilize native grass seed mixes and fertilizers shall not be used. Erosion control matting shall be 100% biodegradable such as coconut coir fabric.
8. No clearing or grading shall be performed until silt fence installation is complete.
9. Additional sediment control measures may be required based on actual field conditions as per local governing authorities.
10. All erosion control measures shall be checked and maintained daily.
11. Maximum cut and fill slopes shall be two (2) foot horizontal to one (1) foot vertical, unless otherwise noted.
12. Erosion control measures will be maintained at all times. If full implementation of the approved plan does not provide for effective erosion control, additional erosion and sediment control measures shall be implemented to control or treat the sediment source.
13. The escape of sediment from the site shall be prevented by the installation of erosion and sediment control measures and practices prior to, or concurrent with, land-disturbing activities.

EMERGENCY & EROSION CONTROL CONTACT:
LARRY REECE
(828) 884-3100

EROSION CONTROL LEGEND

SYM.	DEVICE NAME	SYM.	DEVICE NAME
PS	PERMANENT SEEDING	——x——	SILT FENCE
TS	TEMPORARY SEEDING	■	NON-EROSIVE OUTLET
M	MULCHING	●	INLET PROTECTION
RECP	ROLLED EROSION CONTROL PRODUCTS	▲	OUTLET PROTECTION
SR	SURFACE ROUGHENING	▨	7 DAY STABILIZATION REQUIRED

GROUND STABILIZATION SCHEDULE

SITE, AREA DESCRIPTION	STABILIZATION TIMEFRAME	STABILIZATION TIMEFRAME EXEMPTION
Perimeter, dikes, swales, ditches and slopes	7 Days	None
High Quality Water (HQW) Zones	7 Days	None
Slopes steeper than 3:1	7 Days	If Slopes are 10' or less in length and are not steeper than 2:1, 14 days are allowed.
Slopes 3:1 or flatter	14 Days	7 Days for Slopes greater than 50 feet in length
All other areas with slopes flatter than 4:1	14 Days	None (except for perimeters and HQW Zones)

CONSTRUCTION PLANS FOR:

TOWN OF ROSMAN AND CITY OF BREVARD WATERLINE INTERCONNECT
for
TRANSYLVANIA COUNTY

Transylvania County, North Carolina

#	DATE	REVISION DESCRIPTION
A	02/13/2024	Issue 1 - Permit Submittal
B	03/07/2024	Issue 1 - Permit Resubmittal
B	04/18/2024	Issue 2 - Permit Resubmittal
B	06/17/2024	Issue 3 - DWI Submittal
B	07/30/2024	Issue 4 - NCDOT Revisions
C	08/08/2024	Issue 1 - Bid Set

HIGH COUNTRY
ENGINEERING

HIGH COUNTRY ENGINEERING, P.C.
81 CENTRAL AVENUE
ASHEVILLE, NORTH CAROLINA 28801
T: 828.230.4511
NC FIRM NO.: C-3347

SEAL 047761
JACOB D. GRAY

TOR & COB WATERLINE INTERCONNECT

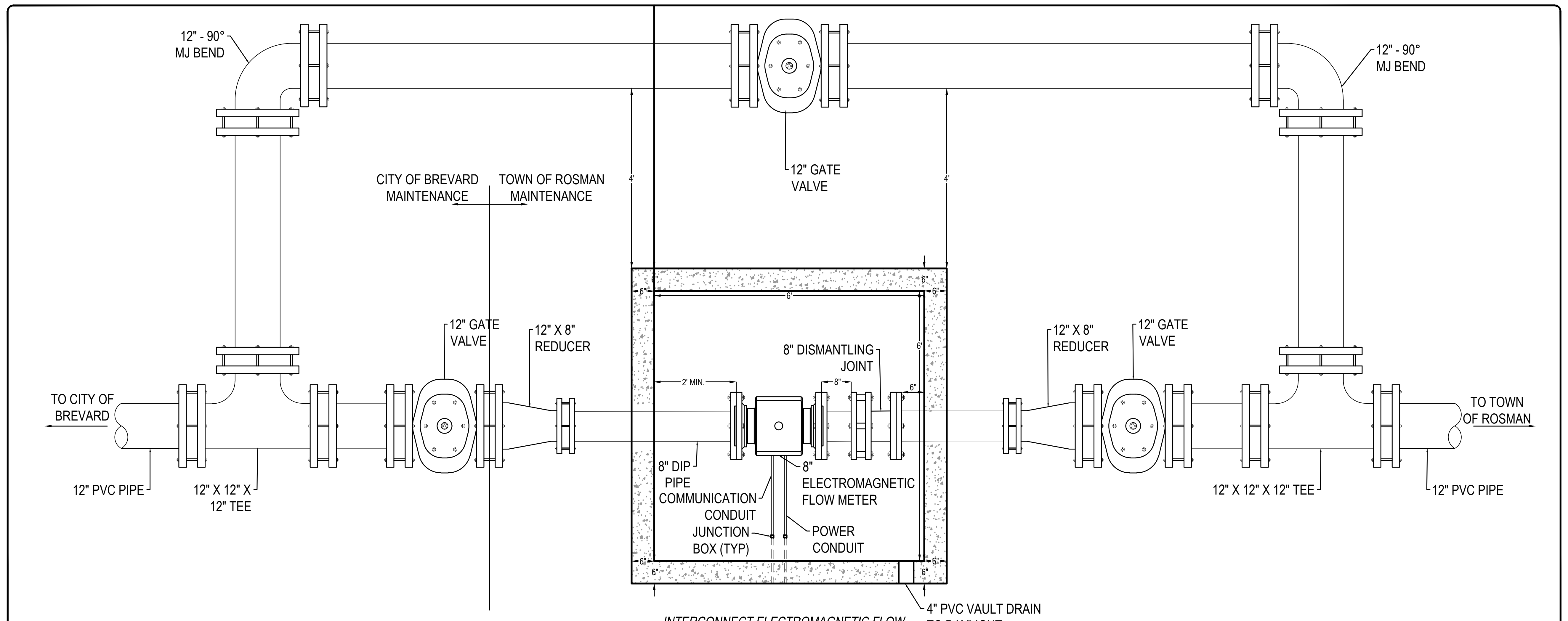
SHEET TITLE:
EROSION CONTROL PLAN

PROJECT NO.
TRA012

SHEET NO.
C-2
of 5

DATE:
08/08/2024

ISSUE No. C-1

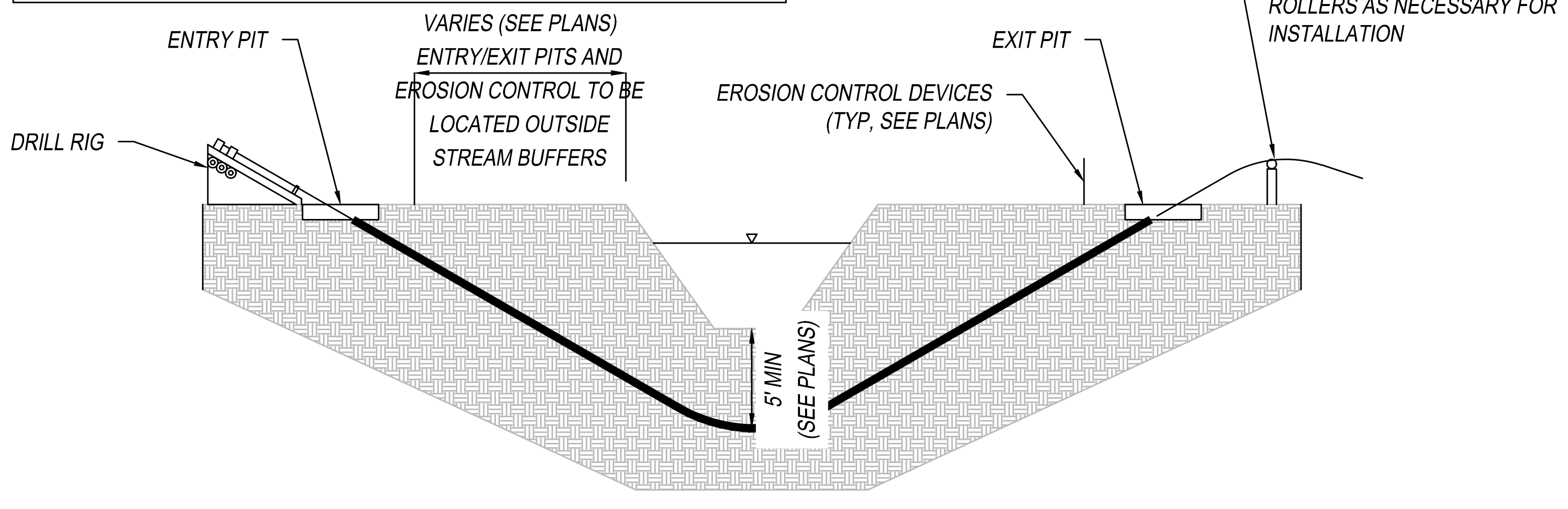


INTERCONNECT ELECTROMAGNETIC FLOW METER VAULT DETAIL

SCALE: 1"=2'

NOTES:

1. EROSION CONTROL DEVICES SHALL BE IN PLACE PRIOR TO EXCAVATION OF ENTRY/EXIT PITS.
2. SITUATE ENTRY/EXIT PITS OUTSIDE OF STREAM BUFFERS
3. CONTRACTOR RESPONSIBLE FOR DEWATERING OPERATIONS
4. DRILLING FLUID SHALL NOT EXIT ENTRY/EXIT PITS
5. PILOT HOLE SHALL BE DRILLED FROM ENTRY TO EXIT PIT
6. UPON SUCCESSFUL COMPLETION OF PILOT HOLE, BORE HOLE TO BE REAMEDED TO MIN. 25% GREATER THAN OUTSIDE DIAMETER OF CARRIER PIPE.
7. PIPE SHALL BE PULLED BACK THROUGH THE BORE HOLE.
8. FOLLOWING INSTALLATION, ENTRY/EXIT PITS SHALL BE SHALL BE BROUGHT BACK TO PRE-CONSTRUCTION GRADE, COMPACTED, AND SEEDED PER THE TEMPORARY AND PERMANENT SEEDING SCHEDULES.

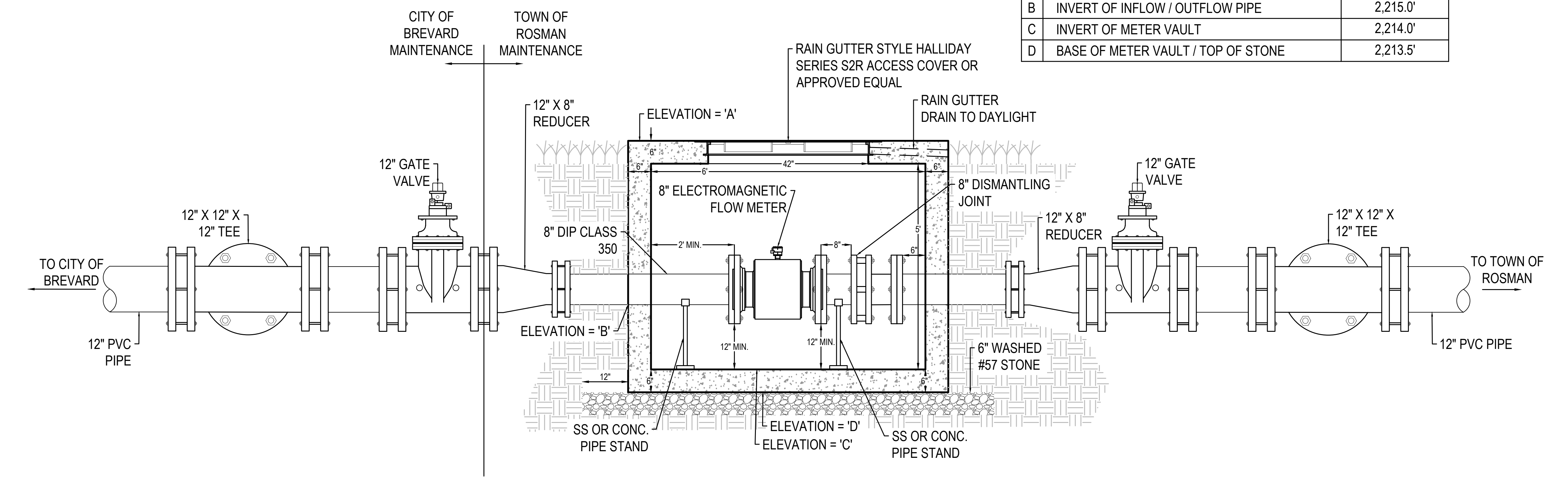


HORIZONTAL DIRECTIONAL DRILL

NOT TO SCALE

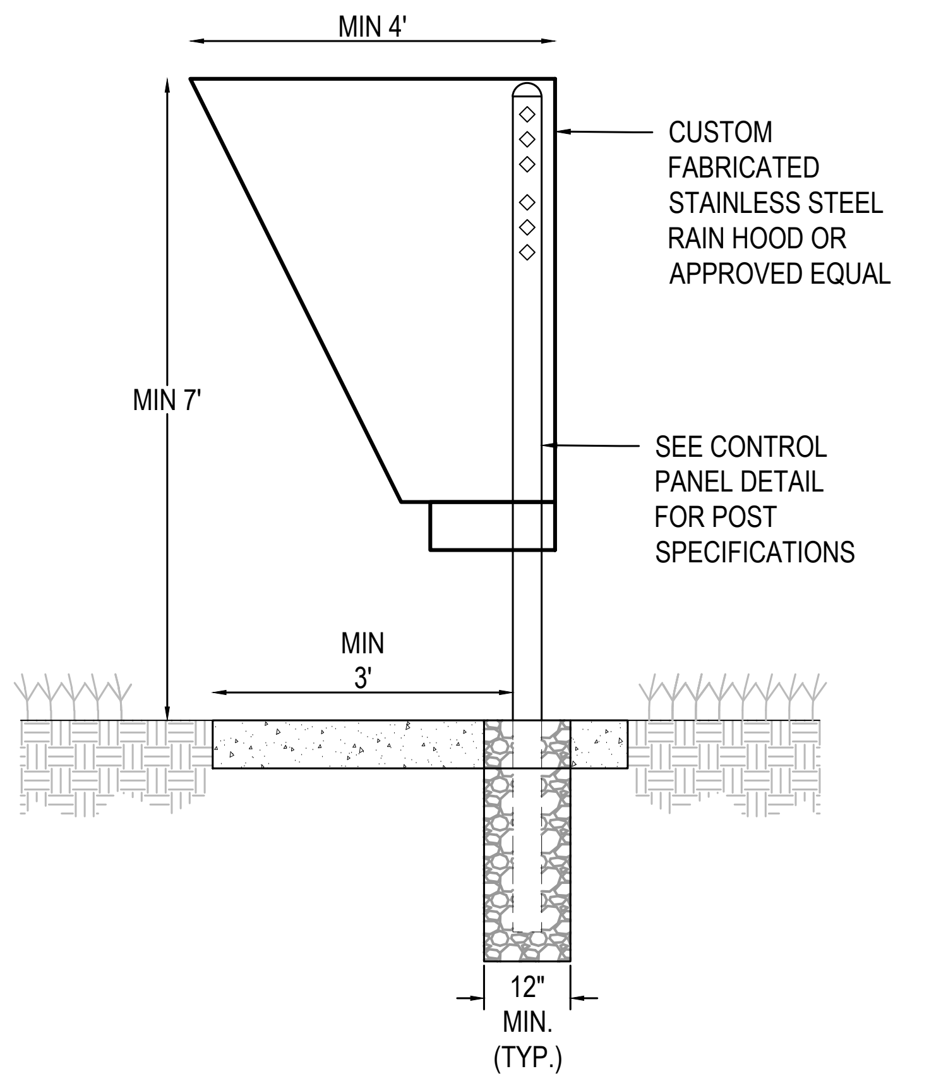
MAG METER VAULT ELEVATION TABLE

	DESCRIPTION	ELEVATION (FT)
A	GROUND ELEVATION / TOP OF METER VAULT	2,219.5'
B	INVERT OF INFLOW / OUTFLOW PIPE	2,215.0'
C	INVERT OF METER VAULT	2,214.0'
D	BASE OF METER VAULT / TOP OF STONE	2,213.5'



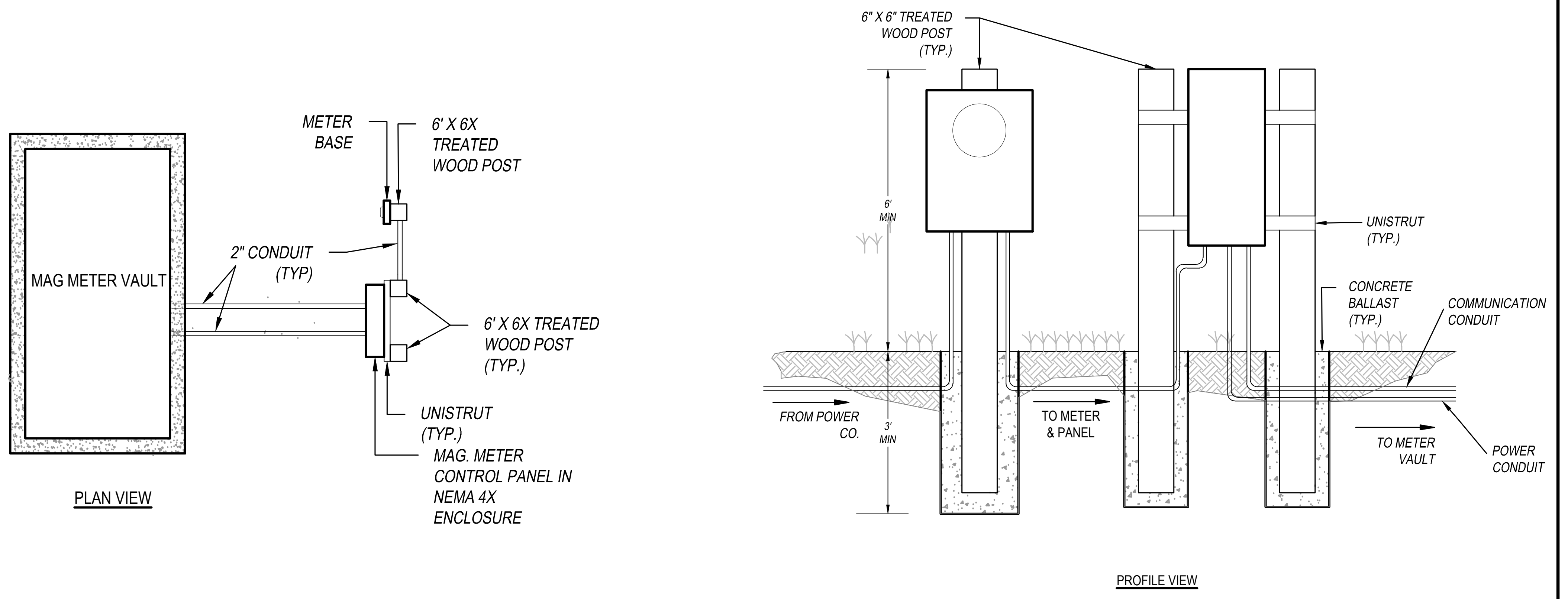
INTERCONNECT ELECTROMAGNETIC FLOW METER VAULT SECTION

SCALE = 1"=2'



STAINLESS STEEL RAIN HOOD

NOT TO SCALE



PLAN VIEW

PROFILE VIEW

ELECTROMAGNETIC FLOW METER CONTROL PANEL DETAIL

NOT TO SCALE

CONSTRUCTION PLANS FOR:

TOWN OF ROSMAN AND CITY OF BREVARD WATERLINE INTERCONNECT

for

TRANSYLVANIA COUNTY

Transylvania County, North Carolina

#	DATE	REVISION DESCRIPTION
A	02/13/2024	Issue 1 - Permit Submittal
B	03/07/2024	Issue 1 - Permit Resubmittal
B	04/18/2024	Issue 2 - Permit Resubmittal
B	06/17/2024	Issue 3 - DWI Submittal
B	07/30/2024	Issue 4 - NCDOT Revisions
C	08/08/2024	Issue 1 - Bid Set

HIGH COUNTRY
ENGINEERING

HIGH COUNTRY ENGINEERING, P.C.
81 CENTRAL AVENUE
ASHEVILLE, NORTH CAROLINA 28801
T: 828.230.4511
NC FIRM NO.: C-3347

SEAL
047761
JACOB D. GRAY

TOR & COB WATERLINE INTERCONNECT

SHEET TITLE:

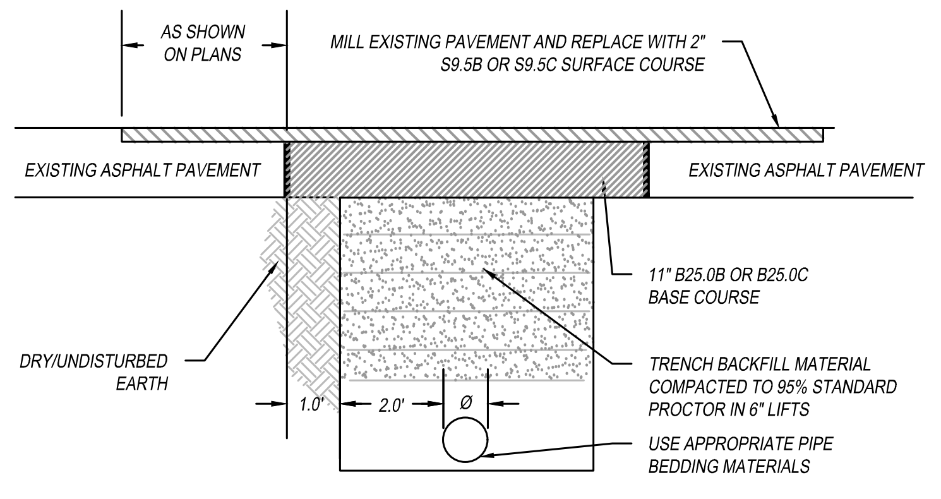
DETAILS

PROJECT NO.
TRA012

SHEET NO.
C-3
of 5

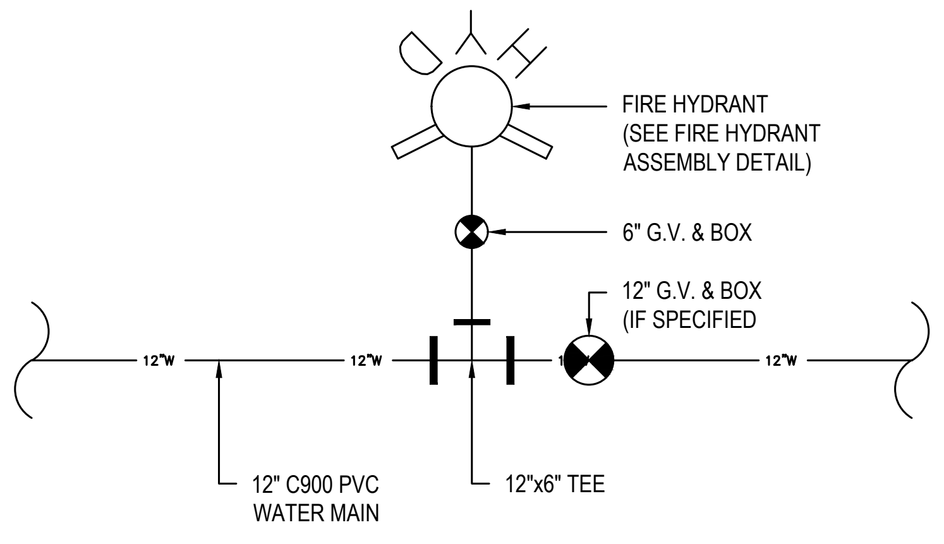
DATE:
08/08/2024

ISSUE No. C-1



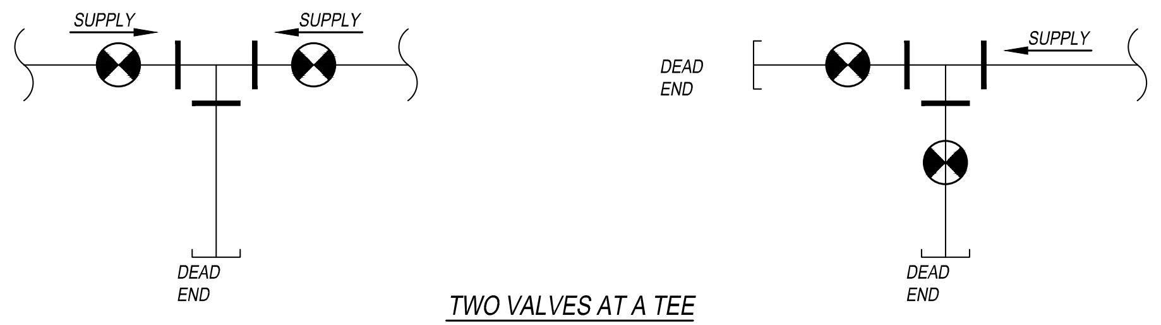
PAVEMENT REPAIR AND RESURFACING FOR NCDOT ROADS

NOT TO SCALE



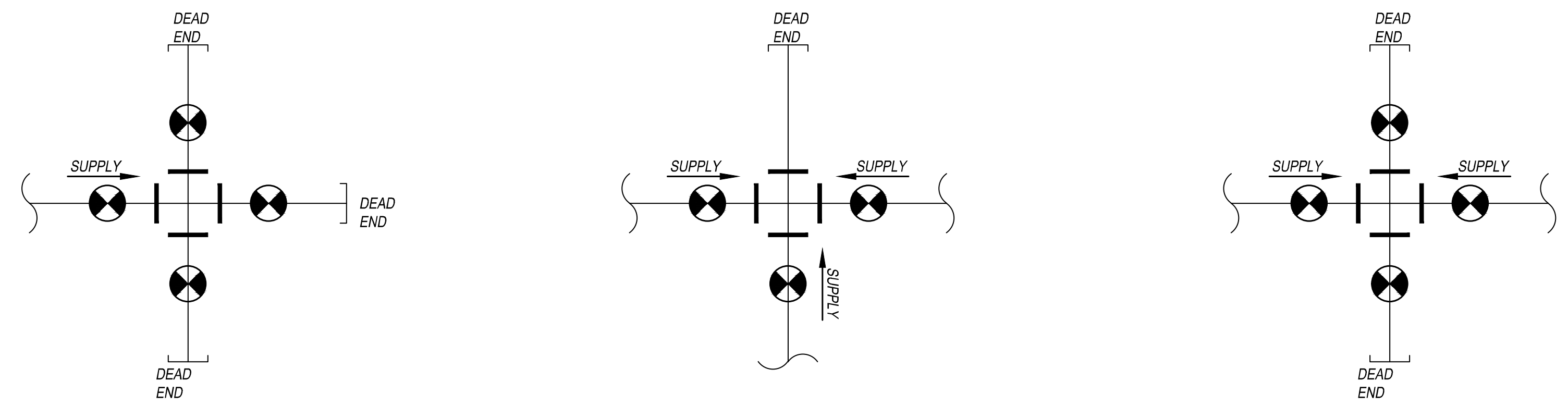
TYP. FIRE HYDRANT ASSEMBLY CONNECTION

NOT TO SCALE



TWO VALVES AT A TEE

NOTES:
1. WHEN THERE IS ONLY ONE SUPPLY LEG FEEDING TWO DEAD END LEGS, PLACE VALVES ON DEAD END LEGS.
2. WHEN THERE ARE TWO SUPPLY LEGS FEEDING ONE DEAD END LEG, PLACE VALVES ON SUPPLY LEGS.
3. WHEN ALL THREE LEGS ARE SUPPLY, ENGINEER'S CHOICE.
4. ON HYDRANT TEE, ONE VALVE IS ALWAYS ON HYDRANT LEG.

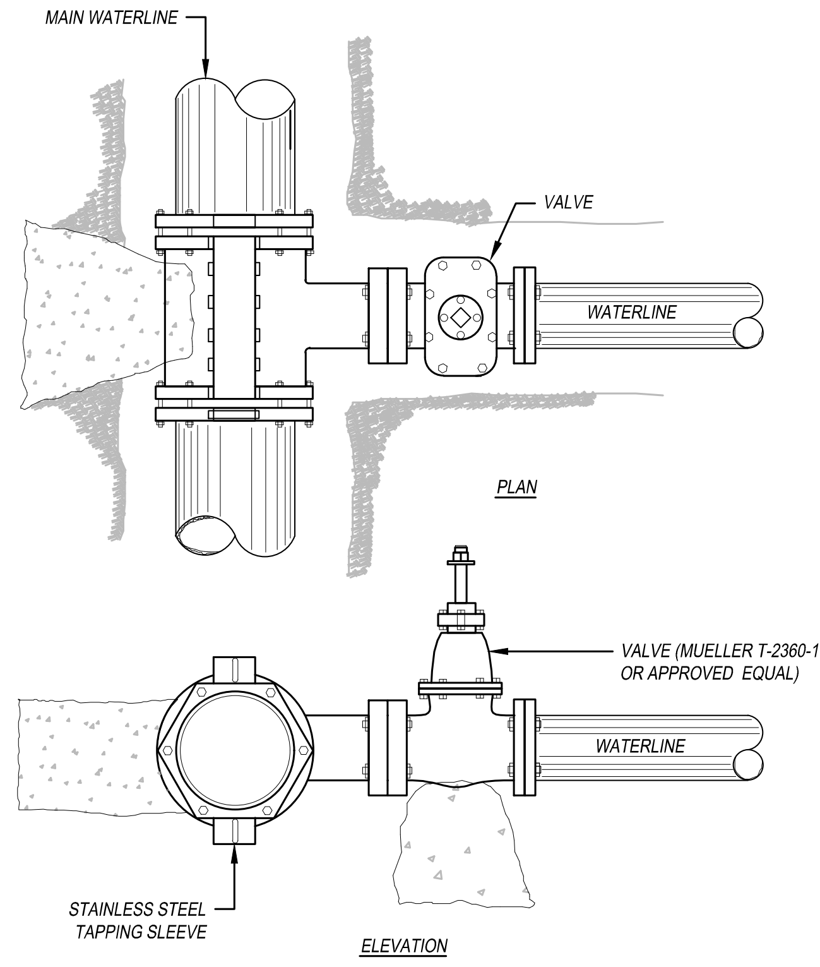


NOTES:
1. WHEN THERE IS ONLY ONE SUPPLY AND THREE DEAD END LEGS, PLACE VALVES ON DEAD END LEGS
2. WHEN THERE ARE THREE SUPPLY LEGS AND ONE DEAD END LEG, PLACE VALVES ON SUPPLY LEGS.
3. WHEN THERE ARE TWO SUPPLY LEGS AND TWO DEAD END LEGS, PLACE VALVES ON ALL FOUR LEGS.
4. WHEN ONE LEG AT AN INTERSECTION IS A HYDRANT LEG, VALVE MUST BE PLACED ON A HYDRANT LEG. VALVING ON REMAINING LEGS TO BE PLACED AS THOUGH THEY MAKE UP A TEE.
5. A "SUPPLY LEG" IS CONNECTED TO THE TREATED WATER SOURCE BY PIPING EQUAL AND OR GRATER THAN ITS SIZE AND SEPARATE FROM THE TEE OR CROSS BEING CONSIDERED.

THREE AND FOUR VALVES AT AN INTERSECTION

TYPICAL VALVE CONFIGURATION

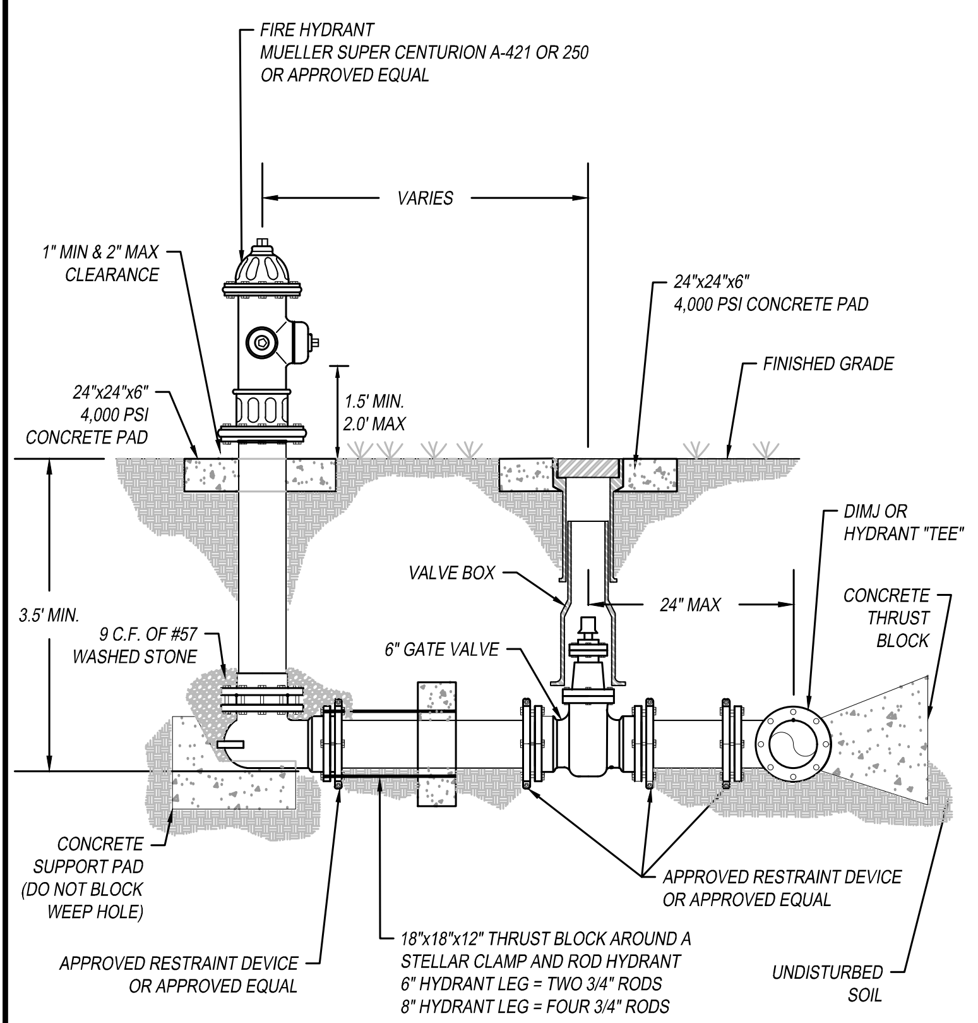
NOT TO SCALE



NOTES:
1. TAPPING SLEEVE SHALL BE MUELLER #H-304SS OR APPROVED EQUAL.
2. APPROVED RESILIENT SEAT TAPPING VALVE.
3. SOLID CONCRETE OR BRICK BLOCKING WILL BE USED AS FOOTING FOR DUCTILE IRON PIPE.
4. CONCRETE WILL NOT CONTACT BOLTS OR ENDS OF MECHANICAL JOINT FITTINGS.
5. SEE "THRUST BLOCKING" DETAIL FOR APPROPRIATE DIMENSIONS.
6. ALL FITTINGS AND APPURTENANCES SHALL BE RESTRAINED JOINT.

TAPPING SLEEVE AND VALVE

NOT TO SCALE

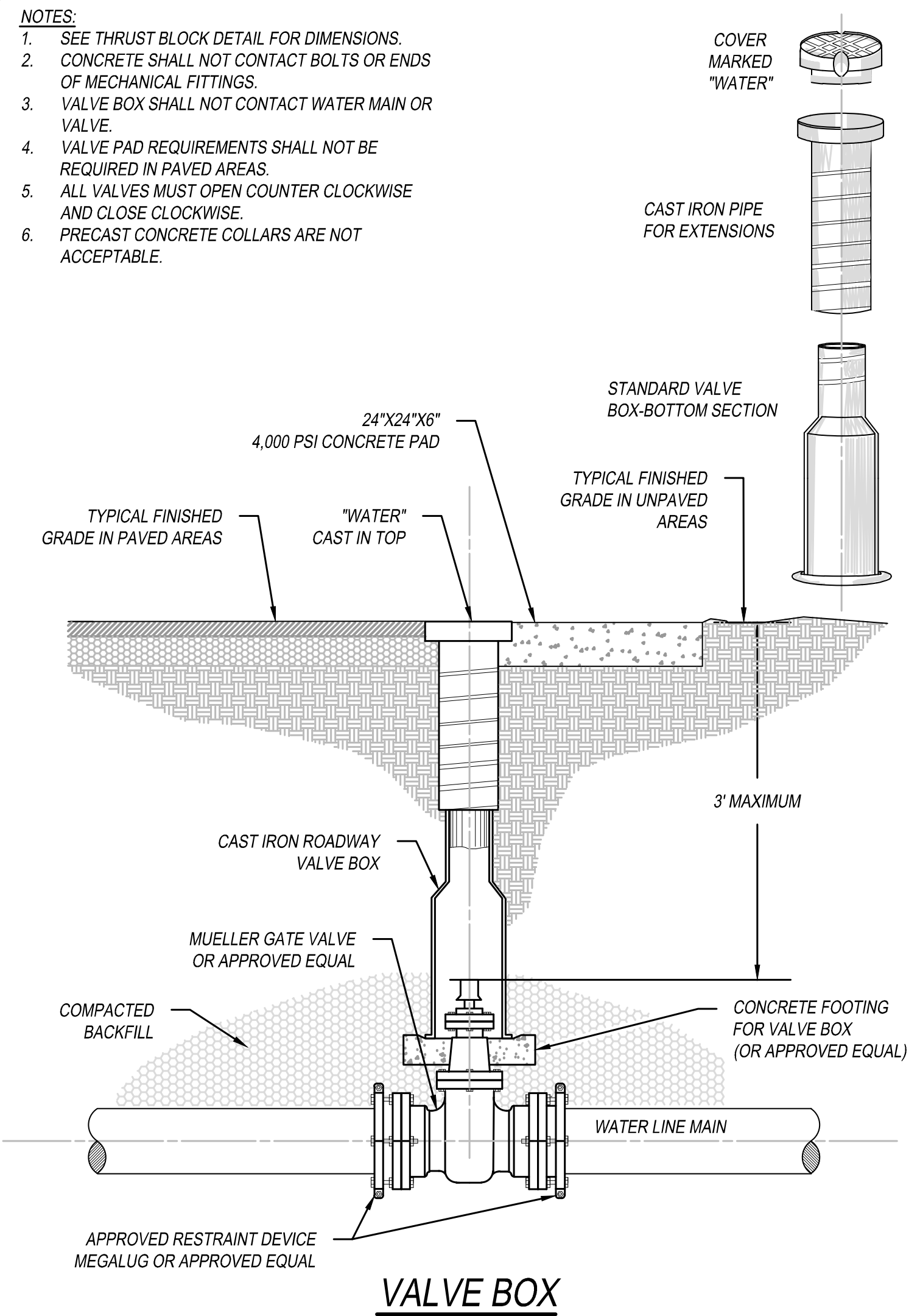


NOTES:
1. HYDRANT TO BE PLACED WITH PUMPER NOZZLE FACING THE TRAVEL/FIRE LAND.
2. TOP OF BLOCKING TO BE 2" FROM HYDRANT WEEP HOLES.
3. HYDRANT TEE MAY BE SUBSTITUTED FOR D.I.P. NIPPLE AND RODDING TO VALVE.

FIRE HYDRANT ASSEMBLY

NOT TO SCALE

NOTES:
1. SEE THRUST BLOCK DETAIL FOR DIMENSIONS.
2. CONCRETE SHALL NOT CONTACT BOLTS OR ENDS OF MECHANICAL FITTINGS.
3. VALVE BOX SHALL NOT CONTACT WATER MAIN OR VALVE.
4. VALVE PAD REQUIREMENTS SHALL NOT BE REQUIRED IN PAVED AREAS.
5. ALL VALVES MUST OPEN COUNTER CLOCKWISE AND CLOSE CLOCKWISE.
6. PRECAST CONCRETE COLLARS ARE NOT ACCEPTABLE.



VALVE BOX

NOT TO SCALE

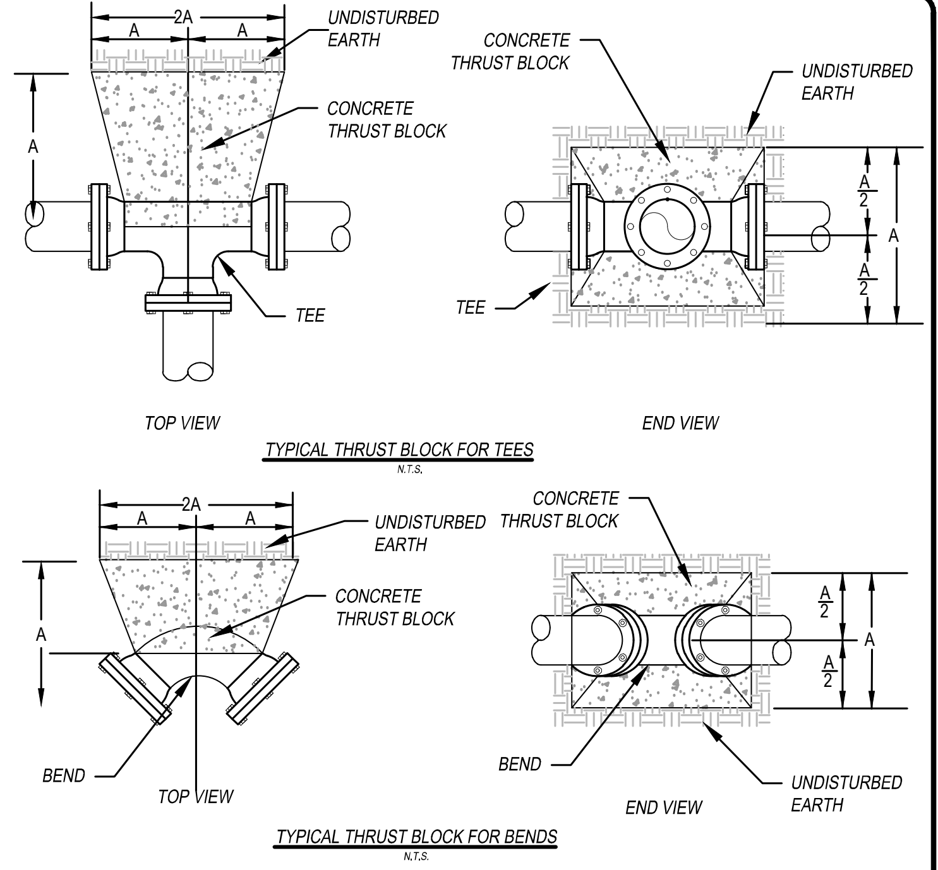


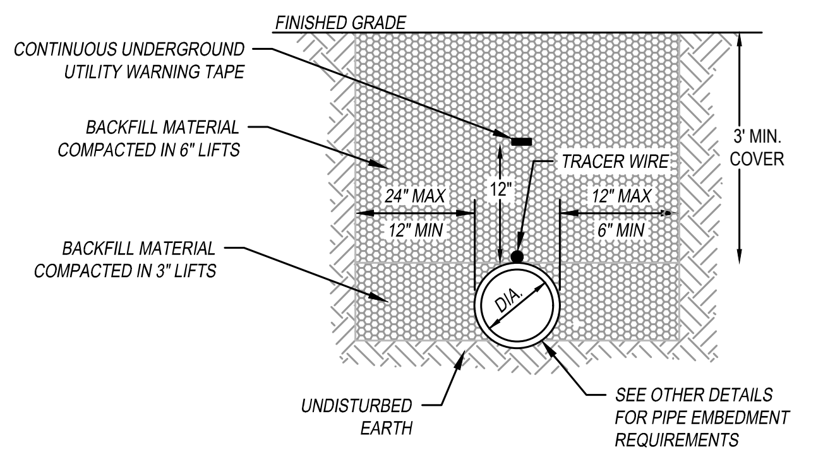
TABLE OF "A" DIMENSIONS (IN FEET)

BEND		90°	45°	22.5°	11.25°	TEE
PIPE SIZE	6"	1.4	1.1	1.0	1.0	1.2
	8"	1.9	1.5	1.5	1.5	1.6
	10"	2.4	1.8	1.8	1.8	2.0
	12"	2.8	2.1	2.0	2.0	2.4
	16"	3.8	2.8	2.5	2.5	2.8
	24"	5.6	4.2	3.0	3.0	4.5

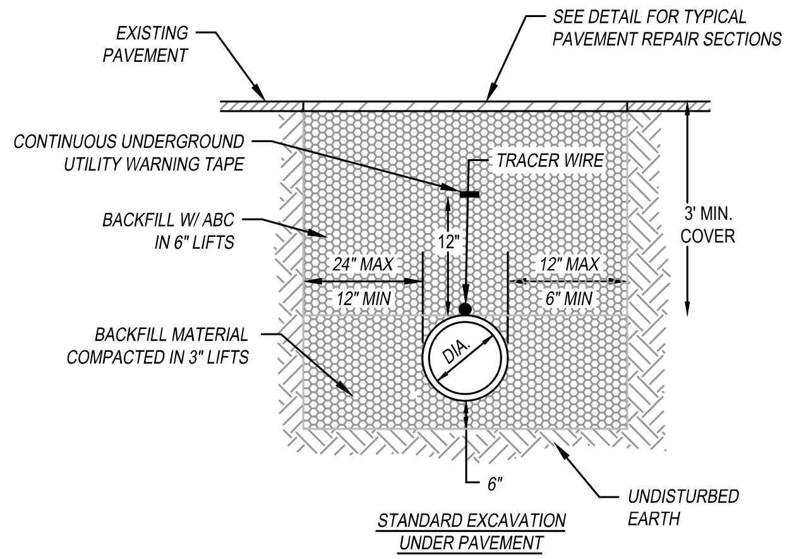
NOTES:
1. ALL FITTINGS MUST BE RESTRAINED WITH MEGA LUGS.
2. FITTING JOINTS SHALL BE KEPT FREE OF CONCRETE. A LAYER OF POLYETHYLENE PLASTIC SHALL BE PLACED BETWEEN THE FITTING AND THE CONCRETE.
3. NO CONCRETE SHALL COVER BOLTS OR GLANDS.
4. PRE-CAST THRUST BLOCKS ARE NOT ACCEPTABLE.
5. CONCRETE SHALL HAVE 3,000 P.S.I. COMPRESSIVE STRENGTH.

THRUST BLOCKING

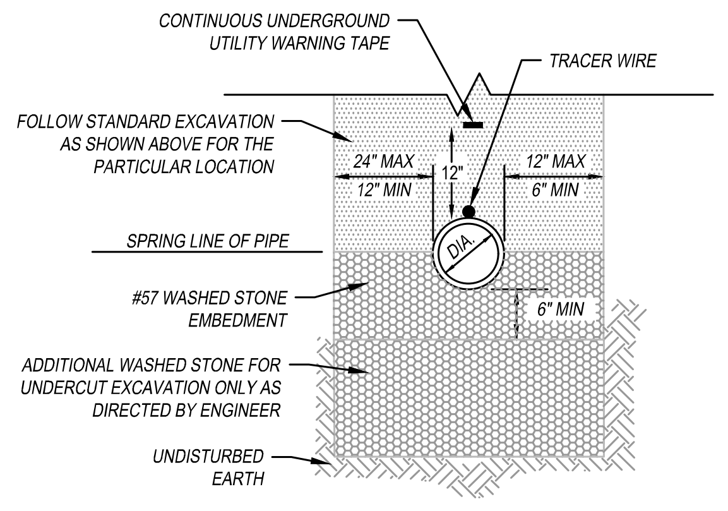
NOT TO SCALE



STANDARD EXCAVATION OUTSIDE PAVEMENT



STANDARD EXCAVATION UNDER PAVEMENT

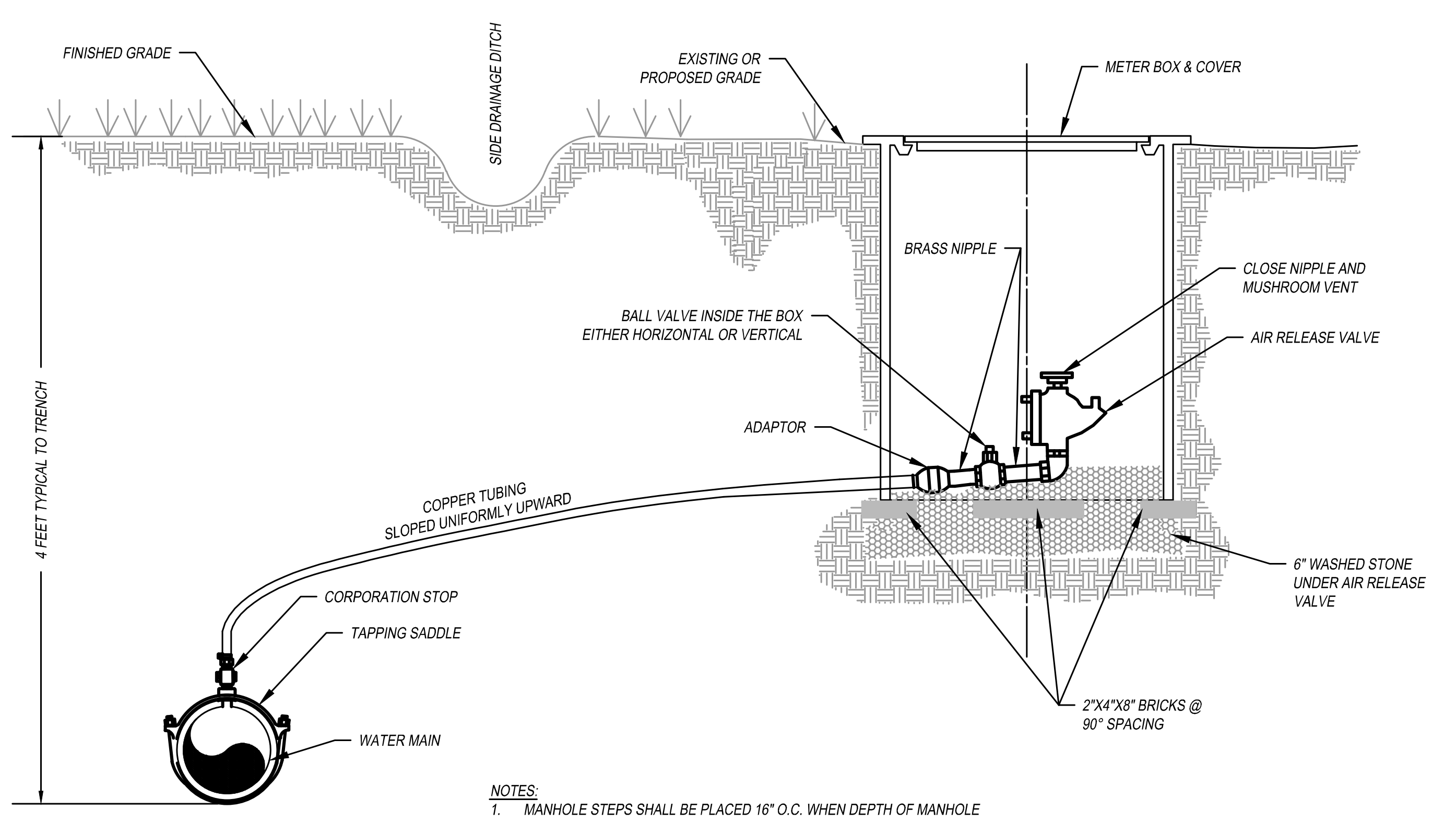


UNDERCUT EXCAVATION IN WET OR ROCKY CONDITIONS

NOTES:
1. CONSTRUCTION OF TRENCHES SHALL BE IN ACCORDANCE WITH THE LATEST OSHA REGULATIONS. CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLIANCE WITH ALL APPLICABLE REGULATIONS.
2. TRENCHES EXCAVATED OUTSIDE OF EXISTING ROAD SHALL BE BACKFILLED WITH COMMON BACKFILL MATERIAL CONSISTING OF EXCAVATED MATERIALS EXCEPT HIGHLY ORGANIC SILTS AND CLAYS AND TAMPED THOROUGHLY. FILL SHALL BE DEPOSITED IN SUCCESSIVE, UNIFORM, APPROXIMATELY HORIZONTAL LAYERS. MATERIAL SHALL BE FREE OF ROOTS, STONES, AND DEBRIS. ALL MATERIAL SHALL HAVE AN IN-PLACE DENSITY OF AT LEAST 85% OF MAXIMUM DRY DENSITY (STANDARD PROCTOR) OR AS APPROVED BY THE ENGINEER. COMMON BACKFILL SHALL NOT CONTAIN STONE BLOCKS, BROKEN CONCRETE, MASONRY RUBBLE, OR OTHER SIMILAR MATERIALS. IT SHALL HAVE PHYSICAL PROPERTIES SUCH THAT IT CAN BE READILY SPREAD AND COMPACTED DURING FILLING. SNOW, ICE, AND FROZEN SOIL WILL NOT BE PERMITTED.
3. NO BOULDERS OR STONES IN EXCESS OF 4" IN SIZE SHALL BE USED AS PART OF THE INITIAL BACKFILL.
4. PIPE BEDDING MATERIAL SHALL BE #57 WASHED STONE.
5. BELL HOLES NOT SHOWN
6. INSTALL 12 GAUGE INSULATED TRACER WIRE FOR ALL WATERLINES.
7. MINIMUM COVER ON TOP OF PIPE IS 3 FEET.

TYPICAL WATERLINE TRENCH DETAIL

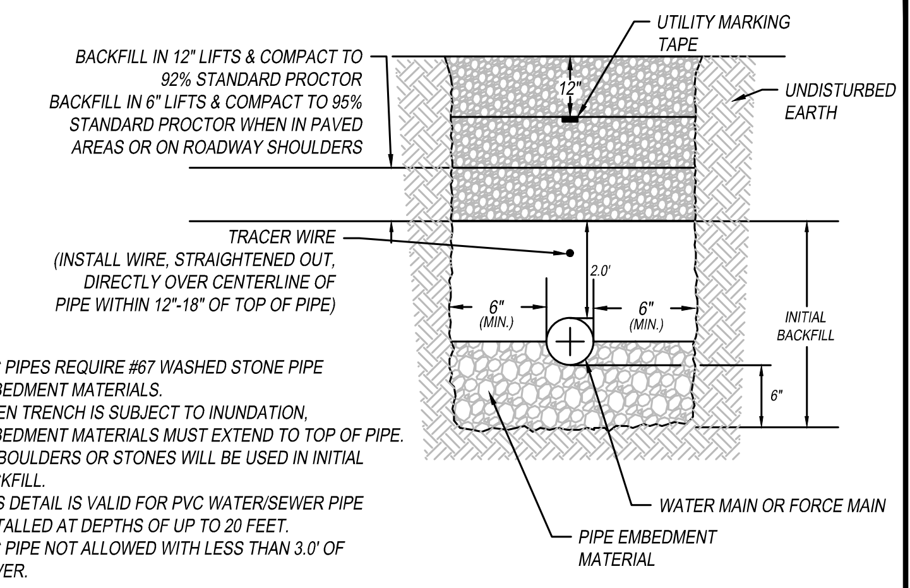
NOT TO SCALE



NOTES:
1. MANHOLE STEPS SHALL BE PLACED 16" O.C. WHEN DEPTH OF MANHOLE EXCEEDS 5 FEET.
2. OFFSET MANHOLE OPENING AND VALVE TO ALLOW ADEQUATE ACCESS/REPAIR SPACE..
3. ALL OPENINGS SHALL BE SEALED WITH WATERPROOF NON-SHRINKING GROUT.

AIR RELEASE VALVE

NOT TO SCALE



NOTES:
1. PVC PIPES REQUIRE #67 WASHED STONE PIPE EMBEDMENT MATERIALS.
2. WHEN TRENCH IS SUBJECT TO INUNDATION, EMBEDMENT MATERIALS MUST EXTEND TO TOP OF PIPE.
3. NO BOULDERS OR STONES WILL BE USED IN INITIAL BACKFILL.
4. THIS DETAIL IS VALID FOR PVC WATER/SEWER PIPE INSTALLED AT DEPTHS OF UP TO 20 FEET.
5. PVC PIPE NOT ALLOWED WITH LESS THAN 3.0' OF COVER.

PVC PIPE TRENCH DETAIL

NOT TO SCALE

CONSTRUCTION PLANS FOR:

TOWN OF ROSMAN AND CITY OF BREVARD WATERLINE INTERCONNECT
for
TRANSYLVANIA COUNTY

Transylvania County, North Carolina

#	DATE	REVISION DESCRIPTION
A	02/13/2024	Issue 1 - Permit Submittal
B	03/07/2024	Issue 1 - Permit Resubmittal
B	04/18/2024	Issue 2 - Permit Resubmittal
B	06/17/2024	Issue 3 - DWI Submittal
B	07/30/2024	Issue 4 - NCDOT Revisions
C	08/08/2024	Issue 1 - Bid Set

HIGH COUNTRY
ENGINEERING

HIGH COUNTRY ENGINEERING, P.C.
81 CENTRAL AVENUE
ASHEVILLE, NORTH CAROLINA 28801
T: 828.230.4511
NC FIRM NO.: C-3347

SEAL
047761
JACOB D. GRAY

TOR & COB WATERLINE INTERCONNECT

SHEET TITLE:
DETAILS

PROJECT NO. TRA012

SHEET NO. C-4 of 5

DATE: 08/08/2024

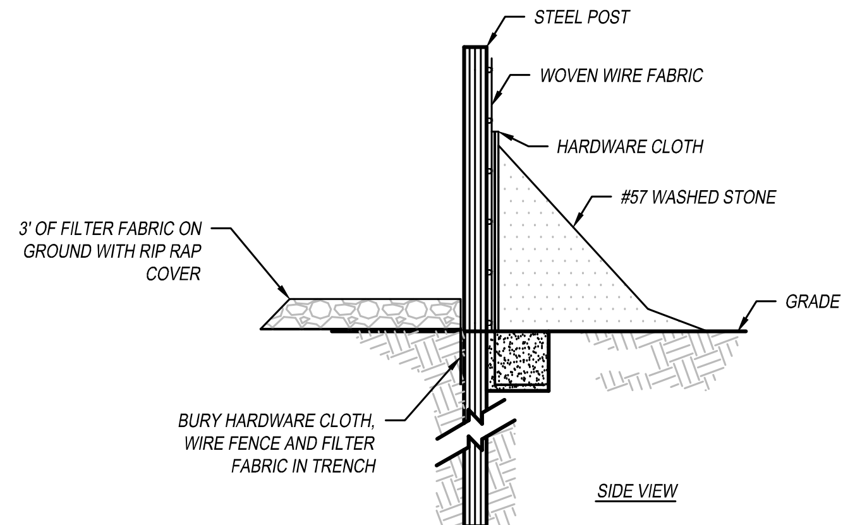
ISSUE No. C-1

DEFINITION
AN OUTLET WITHIN THE SILT FENCE PERIMETER WHERE OUTLET STORM FLOW MUST BE STABILIZED AGAINST EROSION.

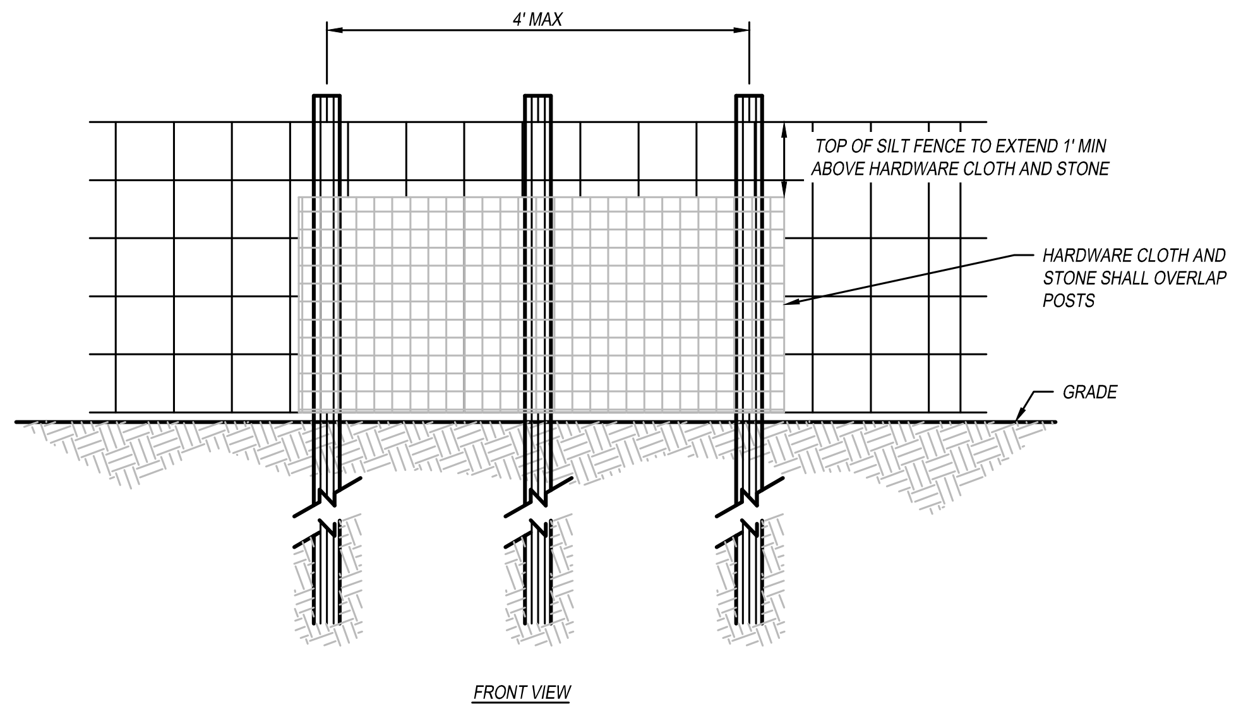
PURPOSE
TO DETAIN AND PROVIDE A CONTROLLED RELEASE AREA FOR SEDIMENT LADEN WATER RUNOFF.

INSTALLATION
- PLACE STABILIZED OUTLET EVERY 200' OF SILT FENCE.
- POSTS WITHIN OUTLET SHALL BE SET 2' MAX O.C.
- PROVIDE A RIP RAP OUTLET APRON ACCORDING TO DETAIL.
- INSTALL HARDWARE CLOTH AND WASHED STONE FILTER

MAINTENANCE
- INSPECT BARRIERS AT THE END OF EACH WORKING DAY, OR AFTER EACH RAIN, AND REPAIR OR CLEAN AS NECESSARY.
- REMOVE SEDIMENT FROM BARRIER WHEN TWO-THIRDS FULL.
- DISPOSE OF SEDIMENT SO THAT IT WILL NOT ENTER THE BARRIER AGAIN AND STABILIZE IT WITH VEGETATION.
- REPLACE FILTER FABRIC WHEN DETERIORATED.
- DESIGN LIFE OF A SYNTHETIC SILT FENCE IS APPROXIMATELY 6 MONTHS.
- MAINTAIN UNTIL THE PROJECT IS VEGETATED OR OTHERWISE STABILIZED.
- REMOVE BARRIERS AND ACCUMULATED SEDIMENT AND STABILIZE THE EXPOSED AREA WHEN THE PROJECT IS STABILIZED.



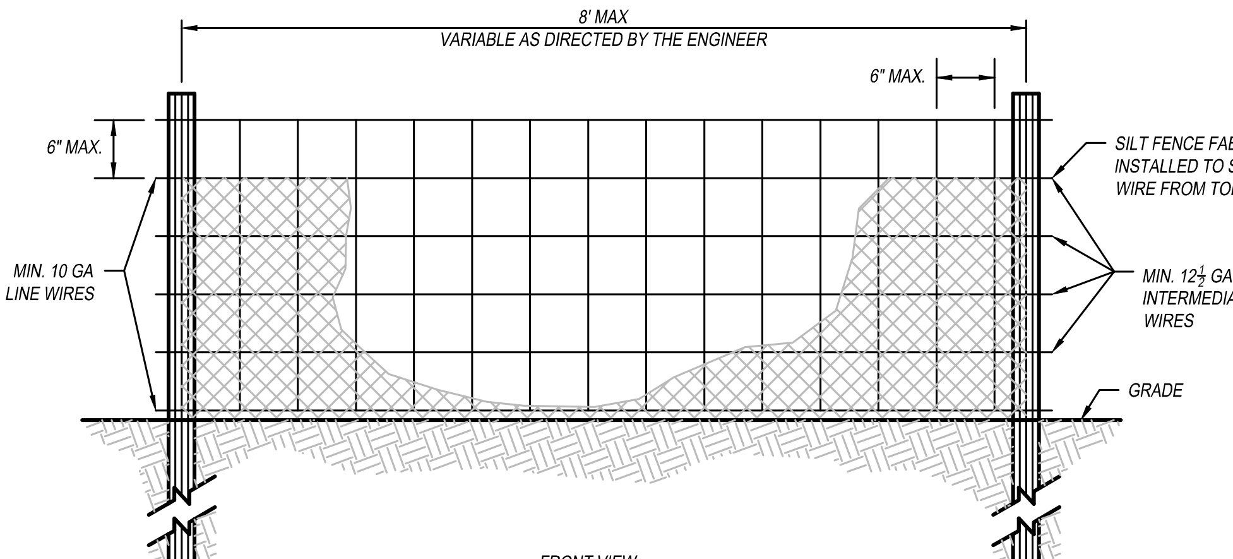
SIDE VIEW



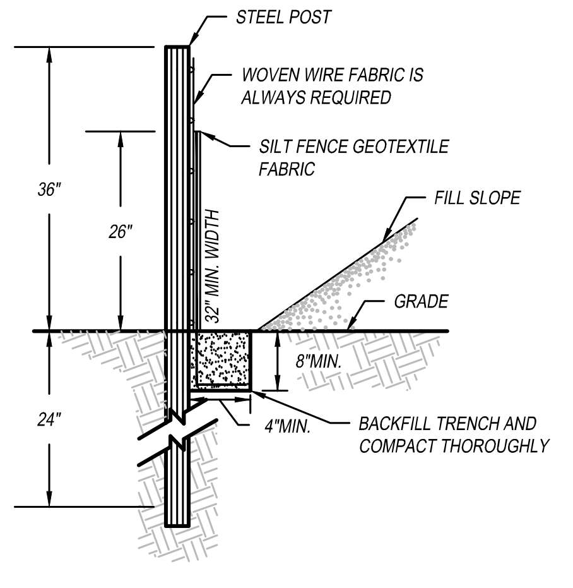
FRONT VIEW

NON-EROSIVE OUTLET

NOT TO SCALE



FRONT VIEW



SIDE VIEW

DEFINITION
A TEMPORARY SEDIMENT CONTROL MEASURE CONSISTING OF FABRIC BURIED AT THE BOTTOM, STRETCHED, AND SUPPORTED BY POSTS.

PURPOSE
TO RETAIN SEDIMENT FROM SMALL DISTURBED AREAS BY REDUCING THE VELOCITY OF SHEET FLOWS TO ALLOW SEDIMENT DEPOSITION.

INSTALLATION
- INSTALL ACCORDING TO APPROVED PLAN
- DO NOT PLACE IN WATERWAYS OR AREAS OF CONCENTRATED FLOW
- ONLY INSTALL IN AREAS WHERE SHEET FLOW CONDITIONS EXISTS
- DRAINAGE AREA NOT TO EXCEED 1/2 ACRE PER 100 FEET OF FENCE
- VERIFY FABRIC BY INSPECTION OF FABRIC WITH A NAME PRINTED EVERY 100 FEET OF SILT FENCE

MAINTENANCE
- INSPECT BARRIERS AT THE END OF EACH WORKING DAY, OR AFTER EACH RAIN, AND REPAIR OR CLEAN AS NECESSARY.
- REMOVE SEDIMENT FROM BARRIER WHEN TWO-THIRDS FULL.
- DISPOSE OF SEDIMENT SO THAT IT WILL NOT ENTER THE BARRIER AGAIN AND STABILIZE IT WITH VEGETATION.
- REPLACE FILTER FABRIC WHEN DETERIORATED.
- DESIGN LIFE OF A SYNTHETIC SILT FENCE IS APPROXIMATELY 6 MONTHS.
- MAINTAIN UNTIL THE PROJECT IS VEGETATED OR OTHERWISE STABILIZED.
- REMOVE BARRIERS AND ACCUMULATED SEDIMENT AND STABILIZE THE EXPOSED AREA WHEN THE PROJECT IS STABILIZED.

NOTES
- SILT FENCING SHALL MEET THE REQUIREMENT OF SECTION 6.62 - SEDIMENT FENCE OF THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES EROSION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL, LATEST EDITION.
- POSTS SHALL BE A MINIMUM OF 5 FEET LONG, SPACED A MAXIMUM OF SIX FEET APART.T
- THE FILTER FABRIC SHALL BE INSTALLED WITH A MINIMUM OF 5 INCHES OF THE BOTTOM BURIED.
- SILT FENCING SHALL BE INSTALLED PRIOR TO ANY GRADING OR CONSTRUCTION.

TEMPORARY SEDIMENT FENCE

NOT TO SCALE

DEFINITION
CONTROLLING RUNOFF AND EROSION ON DISTURBED AREAS BY ESTABLISHING PERENNIAL VEGETATIVE COVER WITH SEED.

PURPOSE
TO REDUCE EROSION AND DECREASE SEDIMENT YIELD FROM DISTURBED AREAS, TO PERMANENTLY STABILIZE SUCH AREAS IN A MANNER THAT IS ECONOMICAL, ADAPTS TO SITE CONDITIONS, AND ALLOWS SELECTION OF THE MOST APPROPRIATE PLANT MATERIALS.

INSTALLATION
- APPLY ACCORDING TO APPROVED PLANS.
- IF POSSIBLE, USE CONVENTIONAL PLANTING METHODS.
- CHECK THE TAG ON THE BAG OF SEED TO VERIFY TYPE AND GERMINATION OF THE SEED TO BE PLANTED AND THE DATE OF THE TEST.
- SCARIFY, PIT OR TRENCH SEALED OR CRUSTED SOIL
- FERTILIZE BASED ON SOIL TESTS OR AS SHOWN IN TABLE.
- APPLY AGRICULTURAL LIME AS PRESCRIBED BY SOIL TESTS OR AT A RATE OF 1 TON TO 2 TONS PER ACRE.
- APPLY SEED BY HAND, CYCLONE SEEDER, DRILL OR HYDRO-SEEDER. SEED PLANTED WITH A DRILL SHOULD BE PLANTED 1/2" TO 1" DEEP.
- IRRIGATION SHOULD BE USED TO SUPPLEMENT RAINFALL, BUT NOT TO THE POINT TO CAUSE EROSION.

MAINTENANCE
- RESEED AREAS WHERE AN ADEQUATE STAND OF TEMPORARY VEGETATION FAILS TO EMERGE OR WHERE A POOR STAND EXISTS.
- APPLY ONE TON OF AGRICULTURAL LIME AS INDICATED BY SOIL TEST OR EVERY 4 TO 6 YEARS.
- MOW BERMUDA AND BAHIA AS DESIRED. MOW SERICEA LESPEDEZA ONLY AFTER FROST TO ENSURE SEEDS ARE MATURE.
- MAINTAIN 6" OR MORE OF TOP GROWTH.

NOTES
- GRADING AND SHAPING REQUIRED WHERE FEASIBLE AND PRACTICAL.
- CRITICAL AREA: DISTURBED LAND THAT IS EITHER HIGHLY ERODED OR HIGHLY ERODIBLE. TYPICALLY ADJACENT TO NATURAL AREAS, LESS FORMAL AND HAVING LOWER MAINTENANCE REQUIREMENTS THAN GRASSED LAWN AREAS.
- SEEDING PREPARATION: NOT REQUIRED WHERE HYDRAULIC SEEDING AND FERTILIZING EQUIPMENT IS TO BE USED WITH CONVENTIONAL SEEDING.

SLOPE / SEED BED
3:1 OR FLATTER / 4" - 6" DEPTH
3:1 TO 2:1 / 1" - 4" DEPTH
2:1 OR STEEPER / HAND TOOLED TRENCHES (6"-8" APART)

- FOR INDIVIDUAL PLANTS PREPARE SOIL BY EXCAVATING SOIL, OPENING FURROWS, OR DIBBLE PLANTING.
- NO-TILL SEEDING , WITH APPROPRIATE EQUIPMENT, IS PERMISSIBLE INTO ANNUAL COVER CROPS IF THE PLANTING IS DONE AFTER THE COVER CROP HAS MATURED OR IF THE TEMPORARY COVER STAND IS SPARSE ENOUGH TO ALLOW ADEQUATE GROWTH OF THE PERMANENT SPECIES.
- TAKE SOIL SAMPLES FROM SEVERAL AREAS FOR EFFICIENT CHEMICAL APPLICATION AND OPTIMUM PLANT HEALTH.
- MULCH IS REQUIRED ON ALL SLOPES STEEPER THAN 3 PERCENT, IN THE BOTTOM OF SPILLWAYS, ON ROADBANKS, AND WHEN SEEDING IS DONE TOO LATE IN THE FALL OR WINTER FOR GERMINATION TO BE EXPECTED BEFORE SPRING. REFER TO MULCHING DETAIL FOR EXACT SPECIFICATIONS.
- SOIL RETENTION BLANKETS, EROSION CONTROL NETTING, OTHER MANUFACTURE MATERIALS OR BLOCK SOD MAY BE REQUIRED IN ADDITION TO MULCH ON UNSTABLE SOILS AND CONCENTRATED FLOW AREAS.

ANCHOR STRAW OR HAY MULCH IMMEDIATELY AFTER APPLICATION WITH ONE OF THE FOLLOWING METHODS:
- SPRAY WITH EMULSIFIED ASPHALT
- PRESS INTO THE SOIL WITH A ROLLER, PACKER DISK, ETC.
- APPLY SYNTHETIC TACKIFIERS OR BINDERS
- ADD RYE OR WHEAT SEED TO FALL AND WINTER PLANTINGS
- INSTALL 1"X1" MESH NETTING
- WOOD CELLULOSE AND WOOD FIBER MULCH IS SELF-ANCHORING.

NON-NATIVE SPECIES

		OPTIMAL PLANTING DATES		
COMMON NAME	BROADCAST SEEDING RATES lbs/acre	MOUNTAINS	PIEDMONT	SUN/SHADE TOLERANT
KY 31 TALL FESCUE	100 lbs	8/15-5/1	9/1-4/15	SUN/MOD. SHADE
KY BLUE GRASS	15 lbs	8/15-5/1	NOT RECOMMENDED	SUN
HARD FESCUE	15 lbs	8/1-6/1	NOT RECOMMENDED	SHADE

NOTE:
USE MANUFACTURERS RECOMMENDED FERTILIZATION/LIMESTONE RATES OR FROM A SOIL TEST.

NATIVE SPECIES

		OPTIMAL PLANTING DATES		
COMMON NAME	SEEDING RATES*	MOUNTAINS	PIEDMONT	SUN/SHADE TOLERANT
SWITCHGRASS	3.5 lbs	12/1-4/15	NOT RECOMMENDED	SUN
INDIAN GRASS	7.0 lbs	12/1-4/15	12/1-4/1	SUN
DEERTONGUE	6.0 lbs	5/1-4/15	5/1-4/1	SUN & SHADE
BIG BLUESTEM	7.0 lbs	12/1-4/15	12/1-4/1	SUN
LITTLE BLUESTEM	7.0 lbs	12/1-4/15	NOT RECOMMENDED	SUN
SWEET WOOREED	2.5 lbs	12/1-4/15	12/1-4/1	SUN & MOD. SHADE
RICE CUTGRASS	6.0 lbs	12/1-4/15	12/1-4/1	SUN
SOFT RUSH	2.5 lbs	12/1-5/15 8/15-10/15	12/1-5/1 9/1-11/1	SUN
SHALLOW SEDGE	2.5 lbs	12/1-5/15 8/15-10/15	12/1-5/1 9/1-11/1	SUN
FOX SEDGE	2.5 lbs	12/1-5/15 8/15-10/15	12/1-5/1 9/1-11/1	SUN

NOTE:
* WHEN MIXED WITH 3 OTHER VARIETIES. SEE NC DEQ TABLE 6.11.c FOR ALL SEEDING RATES.
* USE MANUFACTURERS RECOMMENDED FERTILIZATION/LIMESTONE RATES OR FROM A SOIL TEST.

PERMANENT SEEDING

NOT TO SCALE

PS

DEFINITION
PLANTING RAPID-GROWING, ANNUAL GRASSES OR SMALL GRAINS TO PROVIDE INITIAL, TEMPORARY COVER FOR EROSION CONTROL ON DISTURBED AREAS.

PURPOSE
TO TEMPORARILY STABILIZE DENUDED AREAS THAT WILL NOT BE BROUGHT TO FINAL GRADE FOR A PERIOD OF MORE THAN 21 CALENDAR DAYS.

INSTALLATION
- INSTALL ALL EROSION CONTROL MEASURES PRIOR TO APPLYING TEMPORARY VEGETATION.
- GRADING AND SHAPING ARE NOT REQUIRED IF SLOPES CAN BE PLANTED WITH A HYDROSEEDER OR HAND SEEDED.
- SEEDBED PREPARATION IS NOT REQUIRED IF SOIL IS LOOSE AND NOT SEALED.
- WHEN THE SOIL IS SEALED, IT SHOULD BE PITTED, TRENCHED OR SCARIFIED TO PROVIDE A PLACE FOR SEED TO LODGE AND GERMINATE.
- APPLY AGRICULTURAL LIME AT RATES RECOMMENDED BY SOILS REPORT OR A MINIMUM OF 1500 LBS/ACRE.
- FERTILIZE LOW FERTILITY SOILS BY ADDING AND MIXING INTO SOIL PRIOR TO PLANTING AT THE RATE OF 500-700 POUNDS PER ACRE OF 10-10-10 FERTILIZER OR EQUIVALENT.
- IT IS IMPERATIVE THAT YOU CHECK THE TAG ON THE BAG OF SEED TO VERIFY TYPE AND GERMINATION OF THE SEED TO BE PLANTED.
- APPLY SEED BY HAND, CYCLONE SEEDER, DRILL OR HYDRO-SEEDER. SEED PLANTED WITH A DRILL SHOULD BE PLANTED 1/2" TO 1' DEEP.

MAINTENANCE
RESEED AREAS WHERE SEEDLING EMERGENCE IS POOR, OR WHERE EROSION OCCURS, AS SOON AS POSSIBLE. DO NOT MOW AND PROTECT FROM TRAFFIC AS MUCH AS POSSIBLE.

NOTES
- SEEDING DATES MAY BE ALTERED TO FIT TEMPERATURE VARIATIONS AND LOCAL CONDITIONS.
- UNUSUAL SITE CONDITIONS MAY REQUIRE HEAVIER SEEDING RATES.
- SEEDINGS FOR JANUARY AND FEBRUARY FOLLOW NCDENR RECOMMENDATIONS
- USE 2 TONS OF HAY OR STRAW PER ACRE (IF NECESSARY)

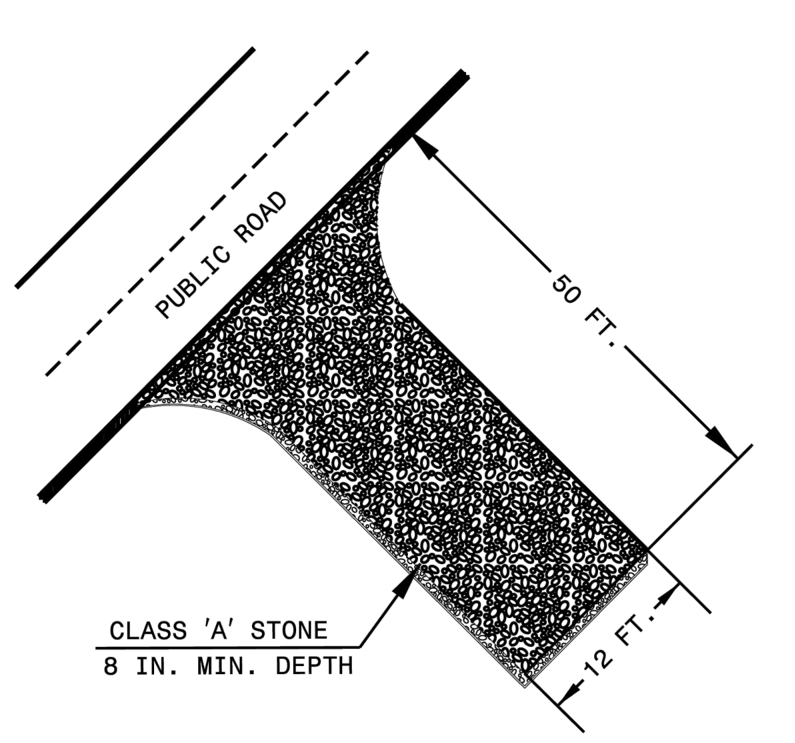
TEMPORARY SEEDING SCHEDULE

DATE RANGE	SEEDING MIXTURE	RATE (LB./ACRE)
FEB. 1 - MAY 15	RYE (GRAIN)	120
	ANNUAL LESPEDEZA	50
MAY 15 - AUG. 15	GERMAN MILLET	40
AUG. 15 - DEC. 31	RYE (GRAIN)	120

TEMPORARY SEEDING

NOT TO SCALE

TS



NOTES

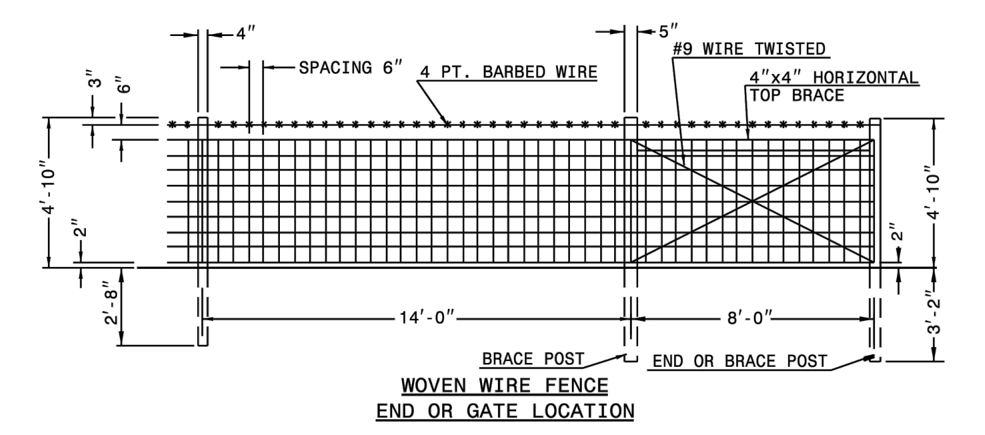
1. PROVIDE TURNING RADIUS SUFFICIENT TO ACCOMMODATE LARGE TRUCKS.
2. LOCATE ENTRANCES TO PROVIDE FOR UTILIZATION BY ALL CONSTRUCTION VEHICLES.
3. MUST BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR DIRECT FLOW OF MUD ONTO STREETS. PERIODIC TOPDRESSING WITH STONE WILL BE NECESSARY.
4. ANY MATERIAL TRACKED ONTO THE ROADWAY MUST BE CLEANED UP IMMEDIATELY.
5. LOCATE GRAVEL CONSTRUCTION ENTRANCE AT ALL POINTS OF INGRESS AND EGRESS UNTIL SITE IS STABILIZED. PROVIDE FREQUENT CHECKS OF THE DEVICE AND TIMELY MAINTENANCE.
6. NUMBER AND LOCATION OF CONSTRUCTION ENTRANCES TO BE DETERMINED BY THE ENGINEER.
7. USE CLASS 'A' STONE OR OTHER COARSE AGGREGATE APPROVED BY THE ENGINEER.
8. INSTALL CONSTRUCTION ENTRANCES IN A WAY TO PREVENT VEHICLES FROM BYPASSING CONSTRUCTION ENTRANCE LEAVING PROJECT SITE.

NOTE: PLACE GEOTEXTILE FOR DRAINAGE BENEATH STONE

1-24
STATE OF
NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

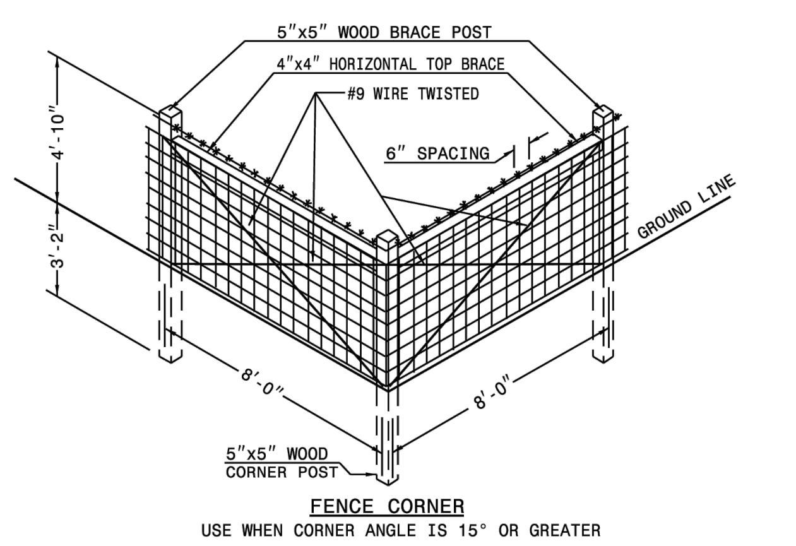
ROADWAY STANDARD DRAWING FOR
GRAVEL CONSTRUCTION ENTRANCE

SHEET 1 OF 1
1607.01

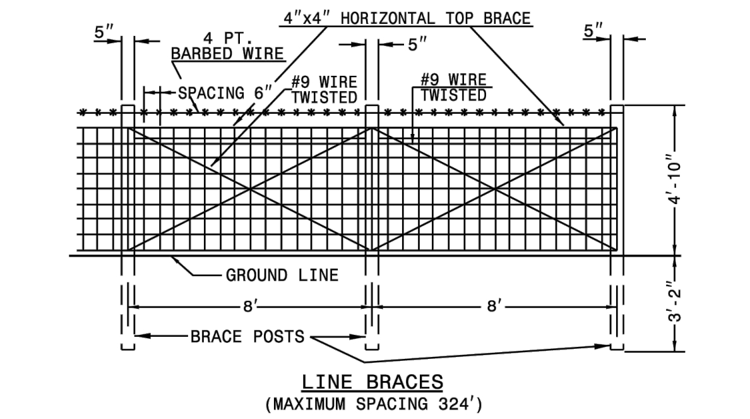


WOVEN WIRE FENCE
END OR GATE LOCATION

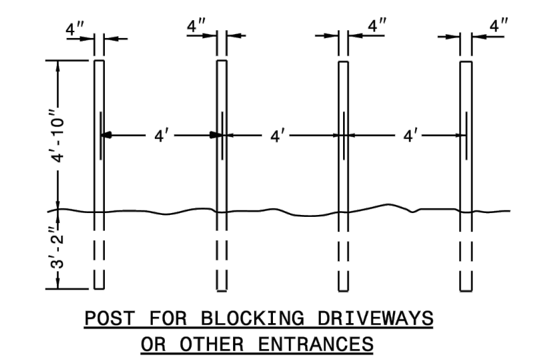
ERECT LINE BRACES BETWEEN END, CORNER OR GATE POSTS AT INTERVALS NOT EXCEEDING 324 FEET. THIS MAXIMUM INTERVAL MAY BE REDUCED BY THE ENGINEER ON CURVES WHERE THE DEGREE OF CURVATURE IS GREATER THAN 3 DEGREES.
PLACE LINE BRACES AT THE END OF EACH ROLL OR PIECE OF WOVEN WIRE.



FENCE CORNER
USE WHEN CORNER ANGLE IS 15° OR GREATER



LINE BRACES
(MAXIMUM SPACING 324')
PLACE THE BRACE WIRE AROUND THE POST. DRAW WIRE TAUT BY TWISTING BETWEEN EACH POST. THIS APPLIES TO ALL BRACE WIRES. NOTCH POSTS FOR BRACES.
PLACE TWO GALVANIZED 12d OR THREE GALVANIZED 10d ON ALL BRACES AT EACH END.



POST FOR BLOCKING DRIVEWAYS
OR OTHER ENTRANCES
INSTALL IN ADDITION TO FENCE WHERE SHOWN IN PLANS OR WHERE DIRECTED BY THE ENGINEER

1-24
STATE OF
NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR
WOVEN WIRE FENCE
WITH WOOD POST

SHEET 1 OF 4
866.02

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.

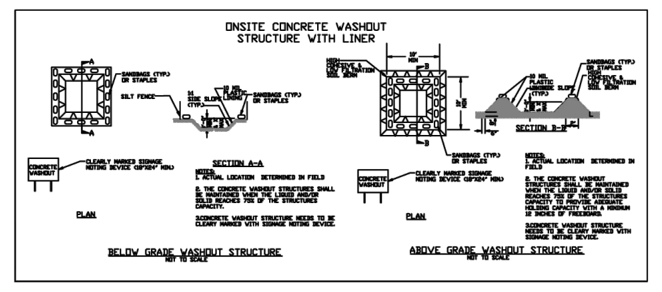
LITTER, BUILDING MATERIAL AND LAND CLEARING WASTE
1. Never bury or burn waste. Place litter and debris in approved waste containers.
2. Provide a sufficient number and size of waste containers (e.g dumpster, trash receptacle) on site to contain construction and domestic wastes.
3. Locate waste containers 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



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

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.

(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 (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. 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.

PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING

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]

PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING

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.

NCG01 SELF-INSPECTION, RECORDKEEPING AND REPORTING

EFFECTIVE: 04/01/19

CONSTRUCTION PLANS FOR:

TOWN OF ROSMAN AND CITY OF BREVARD WATERLINE INTERCONNECT
for
TRANSYLVANIA COUNTY

Transylvania County, North Carolina

#	DATE	REVISION DESCRIPTION
A	02/13/2024	Issue 1 - Permit Submittal
B	03/07/2024	Issue 1 - Permit Resubmittal
B	04/18/2024	Issue 2 - Permit Resubmittal
B	06/17/2024	Issue 3 - DWI Submittal
B	07/30/2024	Issue 4 - NCDOT Revisions
C	08/08/2024	Issue 1 - Bid Set

HIGH COUNTRY
ENGINEERING

HIGH COUNTRY ENGINEERING, P.C.
81 CENTRAL AVENUE
ASHEVILLE, NORTH CAROLINA 28801
T: 828.230.4511
NC FIRM NO.: C-3347

SEAL
047761
JACOB D. GRAY

TOR & COB WATERLINE INTERCONNECT

SHEET TITLE:
DETAILS

PROJECT NO.
TRA012

SHEET NO.
C-5 of 5

DATE:
08/08/2024

ISSUE No. C-1