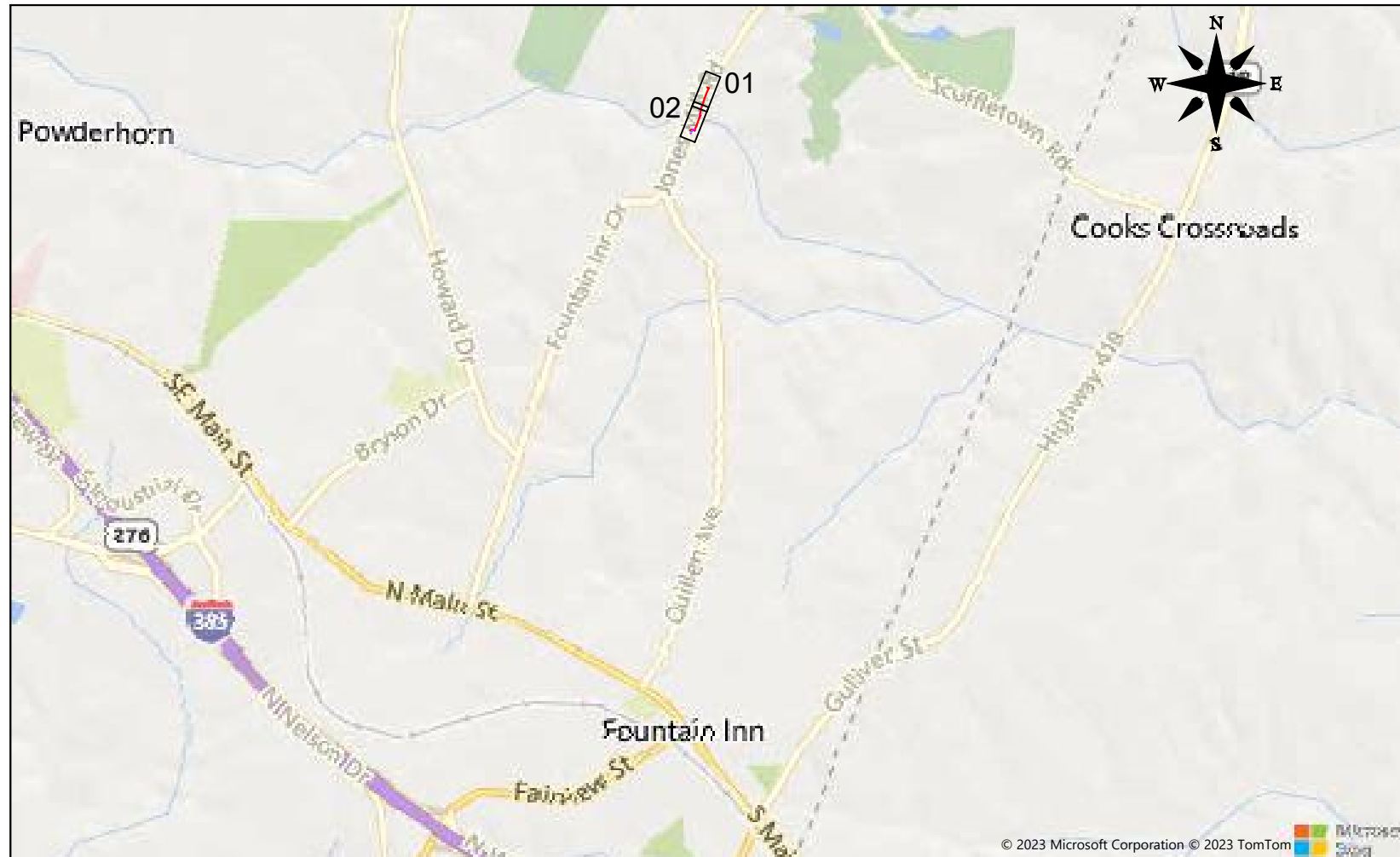


GENERAL NOTE: CALL BEFORE YOU DIG.
UTILITY LOCATIONS ARE NOT ACCURATE.
ALL UTILITY LOCATIONS ARE THE
RESPONSIBILITY OF THE CONTRACTOR.
FOR UTILITY LOCATION MARKS PLEASE
CONTACT S.C. ONE-CALL AT 811.



SCALE = 1":2500'

MAP INDEX

Fountain Inn Natural Gas

NATURAL GAS SYSTEM IMPROVEMENTS

PROJECT NO.: 22309

Jones Mill Rd & Durbin Creek Bridge

Fountain Inn, South Carolina

August, 2023

PREPARED BY:



HEATH AND ASSOCIATES, INC.

108 W. Warren Street, Suite 300

Shelby, North Carolina 28150

License Number: F-1035

I HAVE PLACED MY SIGNATURE AND SEAL ON THE DESIGN DOCUMENTS SUBMITTED SIGNIFYING THAT I ACCEPT RESPONSIBILITY FOR THE DESIGN OF THE SYSTEM. FURTHER, I CERTIFY TO THE BEST OF MY KNOWLEDGE AND BELIEF THAT THE DESIGN IS CONSISTENT WITH THE REQUIREMENTS OF TITLE 48, CHAPTER 14 OF THE CODE OF LAWS OF SC, 1976 AS AMENDED, PURSUANT TO REGULATION 72-300ET SEQ. (IF APPLICABLE), AND IN ACCORDANCE WITH THE TERMS AND CONDITIONS OF SCR100000.

1. COVER SHEET
2. CONSTRUCTION NOTES 01-02
3. GAS SPECIFICATIONS 01-02
4. EROSION CONTROL NOTES 01-09
5. TRAFFIC CONTROL NOTES 01-03
6. PLAN SHEETS 01-02
7. BORE SHEET 01

THIS DRAWING IS FOR
PREVIEWING THE PROJECT VIA
THE INTERNET. OBTAIN SEALED
DRAWINGS FOR BIDDING
PURPOSES.

GENERAL CONSTRUCTION NOTES

1. THE PIPELINE WILL BE INSTALLED WITH A MINIMUM OF 36" OF COVER THROUGHOUT THE ENTIRE PROJECT. PIPELINE INSTALLED BETWEEN THE EDGE OF PAVEMENT AND THE PARALLEL DRAINAGE DITCHES SHALL BE INSTALLED WITH A MINIMUM OF 42" OF COVER. CERTAIN LOCATIONS, SUCH AS ROAD CROSSINGS, HAVE A GREATER SPECIFIED DEPTH.
2. THE PIPELINE WILL BE INSTALLED WITH A MINIMUM OF 60" OF COVER UNDER ALL ROADWAYS WHETHER THE PIPELINE IS INSTALLED BY OPEN TRENCHING OR BORING.
3. PIPELINE APPURTENANCES, MARKERS, SIGNS, ETC. SHALL BE INSTALLED AT LEAST 5' BEHIND THE FAR EDGE OF THE DITCH LINE THROUGHOUT THE ENTIRE PROJECT AREA.
4. ALL ROAD CROSSINGS SCHEDULED TO BE BORED SHALL BE MADE BY AUGER, MOLE, OR DIRECTIONAL BORING; NO WATER JET BORES WILL BE PERMITTED. SCDOT PAVEMENT FOR ROADWAYS SCHEDULED TO BE BORED WILL NOT BE CUT WITHOUT SECURING WRITTEN PERMISSION FROM THE SCDOT.

ALL SCDOT ROADS SHALL BE BORED. CERTAIN PRIVATE GRAVEL/SOIL ROADWAYS MAY BE OPEN CUT. CONTRACTOR TO MAINTAIN AN OPEN LANE FOR TRAFFIC ON CERTAIN ROADWAYS AND DRIVEWAYS WHEN OPEN TRENCHING (SEE SPECIFIC INSTRUCTIONS FOR EACH ROAD).

WHEN EQUIPMENT IS NOT IN USE (INCLUDES OVERNIGHT/NON-WORKING HOURS) ON SCDOT ROADWAYS/RIGHT-OF-WAY, STORE MATERIAL AND EQUIPMENT NOT CLOSER THAN 15 FEET FROM THE NEAR EDGE OF THE ADJACENT TRAVEL LANE WHEN SPACE IS AVAILABLE. WHENEVER SPACE IS LIMITED, AND THE 15-FOOT CLEAR DISTANCE IS NOT AVAILABLE, STORE MATERIAL AND EQUIPMENT AT THE GREATEST POSSIBLE DISTANCE FROM THE NEAR EDGE OF THE TRAVEL LANE AND SUPPLEMENT THE COMPLETE LENGTH OF THE STORAGE AREA WITH PORTABLE PLASTIC DRUMS SPACED AT 5-FOOT INTERVALS.

5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGES AND/OR PENALTIES RESULTING FROM ALL NON-COMPLIANCE WITH FEDERAL, STATE AND LOCAL PERMITS AND ENCROACHMENT AGREEMENTS.
6. TRACER WIRE TO BE BURIED WITH THE POLYETHYLENE PIPE SHALL BE AWG 12, SINGLE CONDUCTOR SOLID COPPER WITH 600 VOLT INSULATION DESIGNED TO MEET N.E.C. REQUIREMENTS FOR BURIED SERVICE. IT SHALL BE BURIED SIX TO TWELVE (6"-12") INCHES ABOVE THE PIPELINE.
7. A NUMBER OF UTILITIES AND DRAINAGE STRUCTURES HAVE BEEN IDENTIFIED AND ARE SHOWN ON THE PLANS DUE TO THEIR SIGNIFICANCE. OTHER UTILITIES AND DRAINAGE STRUCTURES ARE PRESENT ALONG THE ROUTE OF THE PROPOSED GAS MAINS AND HAVE NOT BEEN SHOWN ON THE PLANS. THE LOCATION OF THE UTILITIES AND DRAINAGE STRUCTURES WILL INFLUENCE THE EXACT PLACEMENT OF THE NEW GAS MAINS. THE CONTRACTOR IS RESPONSIBLE FOR ALL UTILITY LOCATIONS, MARKINGS, AND DAMAGE ON THE PROJECT.
8. THE ALIGNMENT OF THE PIPELINE IS DETAILED ON THE PLAN SHEETS. IN GENERAL THE CONTRACTOR MAY VARY THIS HORIZONTAL ALIGNMENT ±2' TO AVOID OTHER UTILITIES OR DRAINAGE STRUCTURES. THE PIPELINE SHALL BE INSTALLED A MINIMUM OF 3' FROM THE TRAVEL LANE EDGE OF PAVEMENT. IF THE PRESENCE OF THE UTILITIES AND/OR DRAINAGE STRUCTURES REQUIRE THE GAS MAINS TO BE LOCATED OUTSIDE OF THE RANGES ABOVE, CONTACT THE ENGINEER FOR APPROVAL.
9. SOME DRAINAGE CULVERTS ARE NOT DEPICTED ON THESE DRAWINGS. CONTRACTOR SHOULD AVOID UNPROTECTED CONTACT BETWEEN CULVERT AND INSTALLED GAS PIPE.
 - a. AT MANY PLACES, RIGHT-OF-WAY IS ADEQUATE TO ALLOW CONTRACTORS TO GO AROUND END OF CULVERTS.
 - b. CONTRACTOR MAY CROSS BENEATH CULVERTS AS DESIRED, UNLESS SPECIFICALLY REQUESTED NOT TO BY THE INSPECTOR. A MINIMUM OF 24" SEPARATION BETWEEN THE GAS LINE AND THE CULVERT MUST BE MAINTAINED.
 - c. CROSSING OVER CULVERTS ON THIS PROJECT SHALL NOT BE PERMITTED.
10. SOME AREAS WILL REQUIRE CLEARING. THE CONTRACTOR IS RESPONSIBLE FOR ALL NEEDED CLEARING, MINIMUM 6' EACH SIDE OF PIPE, AND PROPER DISPOSAL OF BRUSH AND TIMBER. ALL COMPENSATION TO THE CONTRACTOR SHALL BE INCORPORATED IN THE UNIT PRICE FOR INSTALLING PIPE.
11. IT IS ANTICIPATED THAT SOME CONSTRUCTION LOCATIONS WILL HAVE ROCKY CONDITIONS WHICH DO NOT MEET THE SPECIFICATIONS FOR ROCK PAYMENT, BUT DO PRESENT A HAZARD TO THE PIPELINE. WHERE THE SOIL REMOVED FROM THE TRENCH IS UNSUITABLE FOR PIPELINE BEDDING BUT THE CONTRACTOR IS NOT BEING COMPENSATED FOR ROCK REMOVAL, THE OWNER WILL PROVIDE EITHER A SUITABLE BEDDING MATERIAL OR ROCK SHIELD AND COSTS ASSOCIATED WITH TRANSPORTATION TO THE CONSTRUCTION SITE AREA. THE CONTRACTOR IS TO INCLUDE STORAGE SPACE, SHORT DISTANCE (PROJECT WIDE) TRANSPORTATION, AND INSTALLATION OF THE BEDDING MATERIAL OR ROCK SHIELD IN OTHER BID ITEMS. NO OTHER COMPENSATION WILL BE MADE FOR ROCKY CONDITIONS WHICH DO NOT MEET THE REQUIREMENTS FOR ROCK REMOVAL PAYMENT.

PRESSURE TESTING

THE PIPELINE IS TO BE PIGGED AND TESTED IN SECTIONS DETERMINED BY FING. PIPE JOINS MADE AFTER TESTING ARE TO BE SOAP BUBBLE TESTED. ALL GAS LINE TESTING SHALL OCCUR AT THE TIME OF CONSTRUCTION. A DESIGNATED REPRESENTATIVE FROM FING SHALL BE NOTIFIED TO WITNESS TESTING PRIOR TO ACCEPTANCE.

1. A MINIMUM OF TWO "PIG" RUNS SHALL BE REQUIRED. THE FINAL PIG RUN MUST BE CLEAN AND DRY.
2. ALL POLYETHYLENE MAINS SHALL BE TESTED AT 187.5 psig FOR 8 HOURS USING COMPRESSED AIR OR NITROGEN. JOINING NEW PIPE TO EXISTING PIPE WILL BE FOLLOWED BY SOAP BUBBLE TESTING.
3. ALL DIRECTIONAL BORES (SPECIFIED OR NOT) SHALL BE PRE TESTED AT 100 psig FOR 2 HOURS AFTER PIPE INSTALLATION BUT BEFORE CONNECTION TO OTHER PIPE, THEN RETESTED WITH ADJOINING PIPE AFTER CONNECTION.
4. CONTRACTOR TO SUPPLY ALL LABOR, MATERIALS, AND TESTING EQUIPMENT. ALL TESTS SHALL BE RECORDED ON A CHART AND PROVIDED TO FING FOR APPROVAL.

CLEANUP

THE CONTRACTOR WILL BE REQUIRED TO MAINTAIN CLEANUP ON A DAILY BASIS. CLEANUP SHALL BE STARTED IMMEDIATELY IN CONJUNCTION WITH THE START OF CONSTRUCTION AND SHALL CONTINUOUSLY FOLLOW AS CLOSE AS POSSIBLE TO THE PIPE LAYING AND BACKFILLING OPERATIONS. STREETS, SIDEWALKS, ETC., WILL BE WASHED OR SWEEPED ON A DAILY BASIS. UNTIMELY CLEANUP OF PIPELINE CONSTRUCTION MAY RESULT IN THE SUSPENSION OF NEW CONSTRUCTION, IF DEEMED NECESSARY BY THE ENGINEER AND/OR OWNER.

ONE-CALL NOTES

THE CONTRACTOR IS RESPONSIBLE FOR CALLING THE LOCAL 'ONE-CALL' SERVICE (811) PRIOR TO CONSTRUCTION. SEVERAL UTILITIES IN THE PROJECT AREA MAY NOT BE MEMBERS OF A 'ONE-CALL' SERVICE. THESE COMPANIES MUST BE GIVEN SUFFICIENT NOTICE PRIOR TO CONSTRUCTION, IN ORDER TO MARK THEIR LINES.

GENERAL CONSTRUCTION NOTES 01

NOTES ON THIS PAGE APPLY TO ALL PLAN SHEETS

HORIZONTAL DIRECTIONAL DRILLING NOTES

1. THE SPECIFIED BORE HAS APPROXIMATE FOOTAGE REQUIRED TO MAKE THE BORE. THE CONTRACTOR WILL BE PAID A LUMP SUM FOR THE DIRECTIONAL BORE SPECIFIED ON THE PLAN DETAIL SHEETS, REGARDLESS OF THE ACTUAL FOOTAGE BORED. PAYMENT IS CONTINGENT UPON COMPLETION OF CROSSING WITH THE PIPE IN CONDITION ACCEPTABLE TO THE ENGINEER. NO ADDITIONAL PAYMENT WILL BE MADE FOR ROCK ENCOUNTERED DURING THE DIRECTIONAL BORE.
2. EXIT AND ENTRANCE PITS SHOULD BE SUFFICIENT SIZE TO CONTAIN THE DRILLING MUD AND SPOILS. PITS MUST BE NO LESS THAN 5' FROM THE EDGE OF PAVEMENT AND NO LESS THAN 10' FROM THE ENDS OF GUARD RAILS.
3. DETERGENTS ARE NOT TO BE USED TO LUBRICATE THE PIPE DURING PULLBACK WITHOUT APPROVAL OF THE ENGINEER.
4. DRILL HEAD SHOULD BE MONITORED AND LOCATION MAPPED DURING THE DRILLING OPERATION. AN AS BUILT PLAN AND PROFILE OF THE DIRECTIONAL BORE SHALL BE SUPPLIED TO THE ENGINEER.
5. PIPE USED IN DIRECTIONAL BORE SHALL BE WELDED IF STEEL, OR BUTT FUSED IF POLYETHYLENE. BACKREAM HOLE DIAMETERS SHOULD MATCH PIPE DIAMETERS AS FOLLOWS:

PIPE OUTSIDE DIAMETER (inches)	REAMER MAXIMUM DIAMETER (inches)	REAMER MINIMUM DIAMETER (inches)
8.625	14	10
6.625	12	8
4.5	8	6
2.375	6	4

6. TWO STRANDS OF TRACER WIRE ARE TO BE INSTALLED WITH DIRECTIONALLY BORED POLYETHYLENE PIPE. TRACER WIRE SHALL BE COPPER CLAD STEEL OR SINGLE STRAND HARD COPPER, AWG 8 OR LARGER DIAMETER, WITH 600 VOLT POLYETHYLENE INSULATION MEETING CODE REQUIREMENTS FOR UNDERGROUND USE, AND MINIMUM TENSILE STRENGTH OF 500 POUNDS. TRACER WIRE SHALL BE FREE OF SPLICES IN BORE PATH. COPPER CLAD STEEL WIRE WILL REQUIRE APPROPRIATE CONNECTORS DESIGNED FOR COPPER CLAD STEEL WIRE.
7. AN HDPE WEAK LINK SHALL BE INSTALLED BETWEEN THE SWIVEL AND THE LEADING END OF POLYETHYLENE PIPE TO PREVENT OVERSTRESSING OF THE PIPE. USE REDUCERS AS NECESSARY. MAXIMUM WEAK LINK DIAMETERS ARE AS FOLLOWS:

PIPE OUTSIDE DIAMETER (inches)	WEAK LINK MAXIMUM DIAMETER (inches)	WEAK LINK WALL (SDR)	PULL FORCE (lbf) NOT TO EXCEED
8.625	6.625	11	33,800
6.625	4.5	11	19,942
4.5	3.5	11	9,200
2.375	1.66	11	2,562

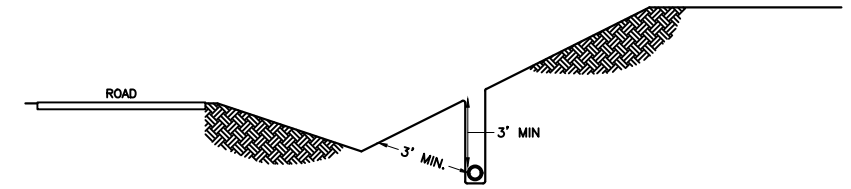
8. PIPE ROLLERS, SKATES, OR OTHER PROTECTIVE DEVICES SHALL BE USED TO PREVENT DAMAGE TO THE PIPE FROM THE EDGES OF THE PIT OR SUB-STRUCTURES DURING PULL-IN. ROLLERS SHALL BE USED UNDER PIPE TO PROTECT THE PIPE FROM GOUGES, ELIMINATE GROUND DRAG, AND REDUCE THE PULL-IN FORCE.
9. AN ADDITIONAL FIFTEEN FEET (15') OF PIPE SHALL BE PULLED THROUGH THE EXIT PIT, EXPOSED, AND EXAMINED FOR DAMAGE.
10. INSTALLATION OF THE PIPE SHOULD BE PLANNED SO BOTH THE FINAL BACKREAM AND THE PULL BACK CAN BE COMPLETED IN THE SAME DAY.
11. CONTRACTOR IS RESPONSIBLE FOR DISPOSAL OF EXCESS DRILLING FLUID. SPOILS AND DRILLING FLUID ARE NOT PERMITTED TO BE DISPOSED INTO STREAMS OR INTO STORM, SANITARY, OTHER DRAINAGE SYSTEMS. DISPOSAL SHOULD COMPLY WITH LOCAL ORDINANCES, REGULATIONS, AND ENVIRONMENTALLY SOUND PRACTICES.
12. CONTRACTOR MUST PROVIDE A WRITTEN CONTINGENCY PLAN FOR CLEAN UP OF SURFACE SEEPAGE OF DRILLING FLUID AND SPOILS BEFORE BEGINNING ANY PORTION OF PROJECT.
13. PIPE INSTALLED BY DIRECTIONAL BORING SHALL BE ALLOWED TO RECOVER OVERNIGHT BEFORE CONNECTION TO OTHER PIPE.
14. PIPE INSTALLED BY DIRECTIONAL BORING SHOULD BE PIGGED AND PRESSURE TESTED ONCE AS A SEPARATE UNIT AFTER PIPE INSTALLATION AND AGAIN AS PART OF THE OTHER INSTALLATION.
15. CONTRACTOR IS RESPONSIBLE FOR RESTORATION OF ANY SUBSURFACE UTILITIES DAMAGED DURING BORING, BACKREAMING, AND OTHER OPERATIONS.
16. IF A DRILL HOLE MUST BE ABANDONED, THE HOLE SHOULD BE FILLED WITH GROUT OR CEMENT TO PREVENT FUTURE SUBSIDENCE.
17. THE CONTRACTOR MAY UTILIZE DIRECTIONAL BORING TECHNIQUES IN AREAS OTHER THAN WHERE SPECIFIED AT HIS OPTION. THE CONTRACTOR SHALL BE PAID THE PRICE FOR INSTALLING THE PIPE PLUS ANY UNIT ITEMS AVOIDED AS A RESULT OF USING DIRECTIONAL BORING IN THE OPTIONAL AREAS (ITEMS SUCH AS SLICK BORING, ASPHALT CUTS, EC BLANKETS, ETC).

RIGHT- OF- WAY

ALL PIPELINE INSTALLATION AND ALL ROADWAY CROSSINGS WILL BE MADE IN THE SCDOT RIGHT-OF-WAY. TEMPORARY CONSTRUCTION EASEMENT WILL BE ACQUIRED BY FING TO HELP FACILITATE THE DIRECTIONAL BORE INSTALLATION. THE PLANS DETAIL THE PIPELINE ALIGNMENT AND INSTALLATION DETAILS.

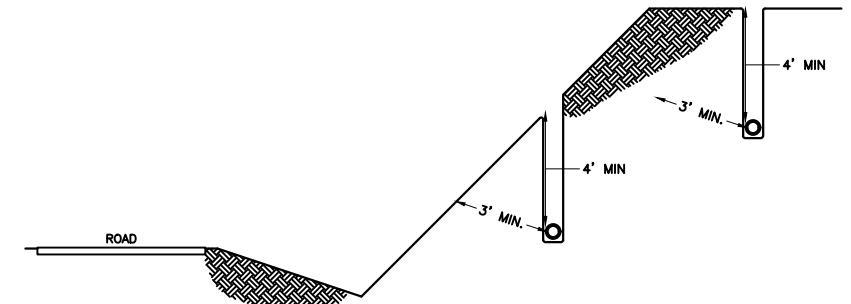
PIPE COVER DETAILS

MINIMUM COVER WHEN TOP OF PIPE IS BELOW DITCHLINE ELEVATION



MINIMUM COVER REQUIRED IS 3' VERTICALLY FROM DITCH CENTERLINE SIDE OF THE TRENCH AND 3' DIAGONALLY TO SLOPE SURFACE

MINIMUM COVER WHEN TOP OF PIPE IS ABOVE DITCHLINE ELEVATION



MINIMUM COVER REQUIRED IS 4' VERTICALLY FROM DITCH CENTERLINE SIDE OF THE TRENCH AND 3' DIAGONALLY TO SLOPE SURFACE

THIS DRAWING IS FOR PREVIEWING THE PROJECT VIA THE INTERNET. OBTAIN SEALED DRAWINGS FOR BIDDING PURPOSES.

REVISIONS:

8/17/2023 1:33:49 PM



FOUNTAIN INN
JONES MILL RD &
DURBIN CREEK BRIDGE

NATURAL GAS SYSTEM IMPROVEMENTS
FOUNTAIN INN NATURAL GAS
FOUNTAIN INN, SOUTH CAROLINA

DRAWN	CMD	SCALE	NONE
DATE DRAWN	06/09/2023	PROJECT NO.	22309
APPROVED		SHEET	CONSTRUCTION NOTES 01

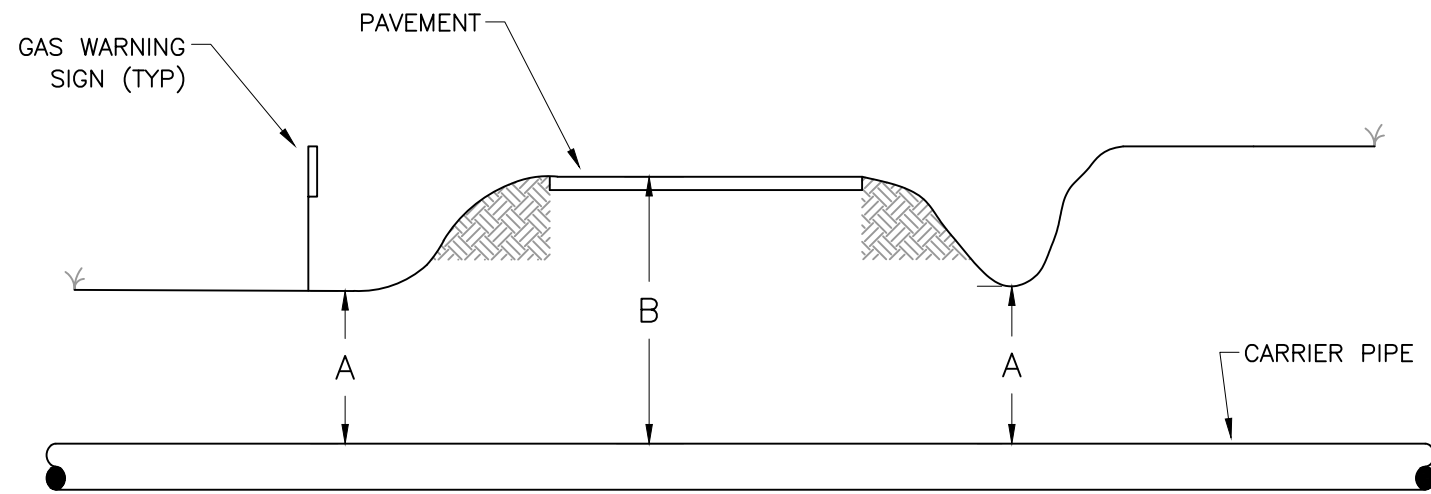
GENERAL CONSTRUCTION NOTES 02

NOTES ON THIS PAGE APPLY TO ALL PLAN SHEETS

PLAN SHEET LEGEND

<u>UTILITIES</u>		<u>BOUNDARIES, PROPERTY & MISC.</u>
NEW NATURAL GAS LINE		PROPERTY LINE
NEW NATURAL GAS VALVE		FENCE
NEW NATURAL GAS STOPPER FITTING		GUARD RAIL
NEW NATURAL GAS REDUCER		TREE/ SHRUB
NEW NATURAL GAS END CAP		HEDGES
NEW NATURAL GAS PIPELINE MARKER		CULVERT
NEW NATURAL GAS ANODE		CATCH BASIN
NEW NATURAL GAS CASING		ROW MARKER
NEW NATURAL GAS VENT PIPE		ROW LINE
REGULATOR STATION		PERMANENT UTILITY EASEMENT
EXISTING NATURAL GAS LINE		WATERBODY/FLOWLINE
EXISTING NATURAL GAS VALVE		DIRECTION OF FLOW
WATER LINE		BORE PIT ENTRANCE/EXIT
SANITARY SEWER		
WATER METER/HAND HOLE (HH)/VALVE		<u>EROSION CONTROL</u>
HYDRANT		CULVERT/ CATCH BASIN INLET PROTECTION
LIGHT POLE/UTILITY POLE/PED./FIBER MH		EC BLANKET
STONE PILLAR/CABLE BOX/ELEC. BOX		SILT FENCE
CONC. SLAB/POWERLINE TOWER		ROCK CHECK DAM/WATTLE
SIGN		LIMITS OF DISTURBANCE

THIS DRAWING IS FOR
PREVIEWING THE PROJECT VIA
THE INTERNET. OBTAIN SEALED
DRAWINGS FOR BIDDING
PURPOSES.



DIMENSIONS

FOR HIGHWAY CROSSINGS VIA HDD/BORE* (DUAL AND SINGLE LANE ROUTES)

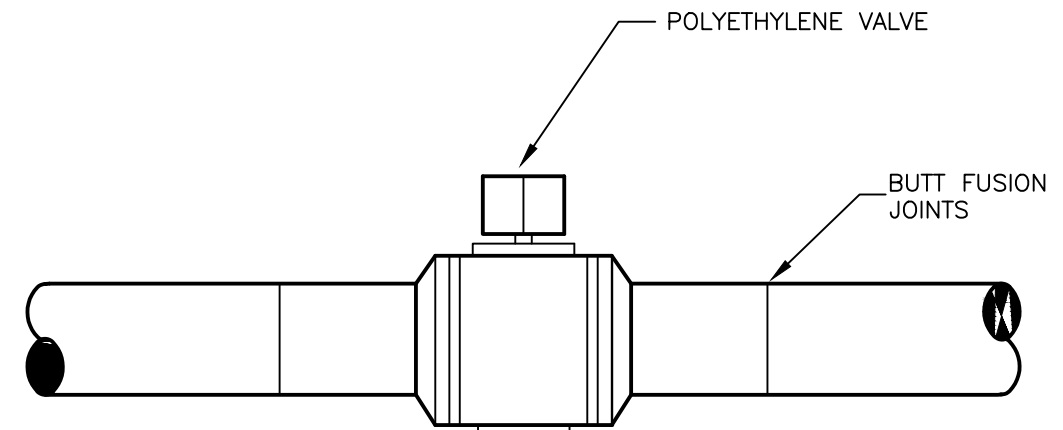
"A" = 4 FEET MINIMUM

"B" = 5 FEET OR AS SPECIFIED ON PLANS, WHICHEVER IS DEEPER

* BORE VIA PIERCING TOOL OR OTHER DRY BORE METHOD

TYPICAL ROAD CROSSING DETAILS

DRAWING A



VALVES:

8" - PE 4710, SDR 11, KEROTEST POLYBALL FULL PORT VALVE OR APPROVED EQUAL

NOTES:

1. SEE DRAWING "C" FOR VALVE BOX DETAILS
2. VALVES TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS.
3. PULL SLACK (UNCUT) TRACER WIRE UP INTO VALVE BOX & COIL MIN. OF 18" IN TOP.

PLASTIC VALVE DETAIL

THIS DRAWING IS FOR PREVIEWING THE PROJECT VIA THE INTERNET. OBTAIN SEALED DRAWINGS FOR BIDDING PURPOSES.

DRAWING B

REVISIONS:

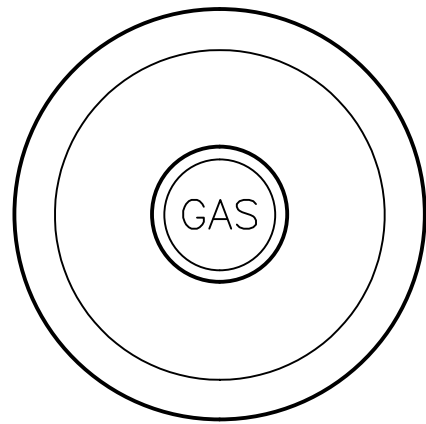
8/17/2023 1:33:50 PM



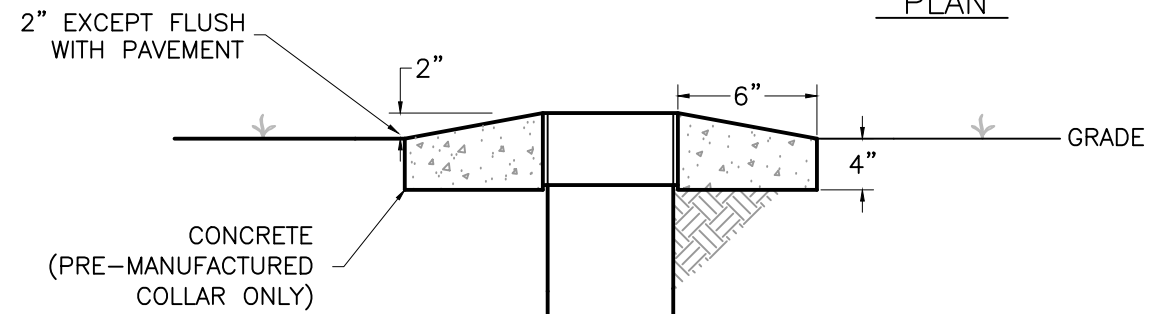
FOUNTAIN INN
JONES MILL RD &
DURBIN CREEK BRIDGE

NATURAL GAS SYSTEM IMPROVEMENTS
FOUNTAIN INN NATURAL GAS
FOUNTAIN INN, SOUTH CAROLINA

DRAWN CMD	SCALE NONE
DATE DRAWN 06/09/2023	PROJECT NO. 22309
APPROVED	SHEET GAS SPECIFICATIONS 01



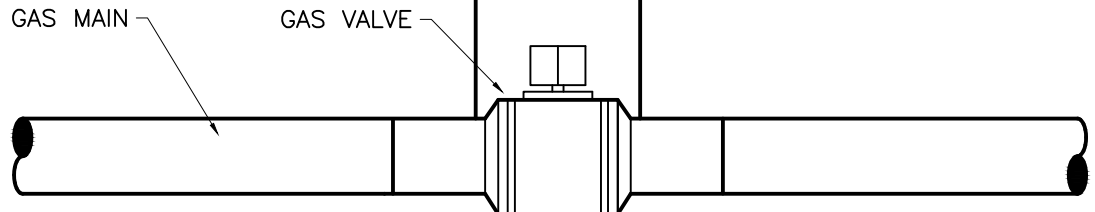
PLAN



SECTION

HIGHLINE 111133-05 PLASTIC VALVE BOX (SCREW TYPE) WITH CAST IRON LID & WORD "GAS" CAST ON LID, OR APPROVED EQUAL.

VALVE BOX SUPPORTED INDEPENDENTLY OF THE VALVE & GAS LINE. SOIL AROUND BOX MUST BE TAMPED BEFORE POURING CONCRETE.



UNDERGROUND VALVE BOX DETAIL

THIS DRAWING IS FOR PREVIEWING THE PROJECT VIA THE INTERNET. OBTAIN SEALED DRAWINGS FOR BIDDING PURPOSES.

DRAWING C

REVISIONS:
8/17/2023 1:33:50 PM



FOUNTAIN INN
JONES MILL RD &
DURBIN CREEK BRIDGE

NATURAL GAS SYSTEM IMPROVEMENTS
FOUNTAIN INN NATURAL GAS
FOUNTAIN INN, SOUTH CAROLINA

DRAWN	CMD	SCALE	NONE
DATE DRAWN	06/09/2023	PROJECT NO.	22309
APPROVED		SHEET	GAS SPECIFICATIONS 02

EROSION CONTROL NOTES

EROSION CONTROL NOTES

SPECIAL CONDITIONS (CONT.)

- CONSTRUCTION SPOIL SHALL BE PREVENTED FROM ENTERING CULVERTS BY PROPER INSTALLATION OF ENVIRONMENTAL CONTROLS AS DESCRIBED ON THE "EROSION CONTROL NOTES" PLAN SHEETS.
- WHERE TRENCH LINE IS NEAR BOTTOM OF DITCH LINE AT INLET OR OUTLET OF CULVERT (CONCENTRATED FLOW), DITCH SHALL BE LINED WITH EROSION CONTROL FABRIC AT LEAST 10' ALONG EACH FLOW CHANNEL.
- WHERE TRENCH LINE IS AT OR NEAR BOTTOM OF DITCH LINE (WITHIN 4' ELEVATION) AND DITCH LINE IS AT 2% SLOPE OR STEEPER, DITCH SHALL BE LINED WITH EROSION CONTROL FABRIC.
- CONTRACTOR IS TO HAVE CHECK DAMS, SEDIMENT TRAPS, AND SEDIMENT FENCES IN PLACE AT ANY DOWN SLOPE LOCATION BEFORE BEGINNING PIPE INSTALLATION. EROSION CONTROL MEASURES MAY BE TEMPORARILY REMOVED AS NECESSARY TO FACILITATE PIPELINE INSTALLATION, AND THEN PROMPTLY REPLACED.
- ALL DISTURBED AREAS SHALL BE MULCHED AND TACKED WITHIN FIVE (5) WORKING DAYS OR SEVEN (7) CALENDAR DAYS FOLLOWING PIPELINE INSTALLATION, OR PIPELINE INSTALLATION MUST CEASE UNTIL MULCH AND TACK ARE INSTALLED. ALL STRAW OR OTHER MULCH WHICH BLOWS AWAY OR WASHES AWAY BEFORE PERMANENT GROUND COVER IS ESTABLISHED MUST BE REPLACED AND TACKED DOWN WITHIN FIVE (5) WORKING DAYS OR SEVEN (7) CALENDAR DAYS.
- JUTE (OR OTHER MATERIAL) NETTING IS AN ACCEPTABLE SUBSTITUTE FOR ASPHALT TACKING OF STRAW. THIS NETTING IS NOT A PAY ITEM AND IS INCLUDED IN THE COST PER LINEAR FOOT OF PIPE THE SAME AS OTHER TACK, SUCH AS ASPHALT EMULSION. IF ASPHALT EMULSION IS NOT USED, AN ACCEPTABLE SUBSTITUTE MUST BE USED IN ITS PLACE WHICH WILL NOT DEGRADE IN PERFORMANCE PRIOR TO ESTABLISHMENT OF PERMANENT GROUND COVER. SPRAYED ON POWDERED CELLULOSE MAY BE ACCEPTABLE AS TEMPORARY TACK ON OTHER MULCH, BUT WILL NOT BE ACCEPTED AS MULCH MATERIAL.
- FAILURE TO INSTALL TACK WITHIN THE TIME SPECIFIED WILL RESULT IN PROJECT SHUT DOWN. NO ADDITIONAL PIPE INSTALLATION WILL BE ALLOWED UNTIL ALL EROSION PREVENTION AND SEDIMENTATION CONTROL MEASURES ARE PROPERLY INSTALLED, INCLUDING TACK.
- WHERE SPECIFIED ON DRAWINGS, EROSION CONTROL BLANKETS SHOULD BE NORTH AMERICAN GREEN SC150 STRAW/COCONUT FIBER MATTING. NO OTHER MATTING WILL BE ACCEPTED UNLESS PRE-APPROVED BEFORE BID OPENING. BLANKET SHOULD BE INSTALLED USING STAPLE PATTERN SHOWN ON DRAWING EC-6.

SPECIAL CONDITIONS

1. **GENERAL INFORMATION.** EROSION AND SEDIMENT CONTROL PROCEDURES SHALL BE INCLUDED IN THIS PROJECT. THEY SHALL INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING SECTIONS. THE CONTRACTOR SHALL ENSURE THAT ALL SEDIMENTATION FEATURES ARE IN PLACE PRIOR TO CONSTRUCTION AS NECESSARY AND DESCRIBED IN SECTIONS 3, 4, 5, AND 6. CONTRACTOR SHALL REMOVE THESE FEATURES AS GROUND COVER IS ESTABLISHED WITH APPROVAL OF THE ENGINEER, OWNER'S REPRESENTATIVE, AND/OR CONTROLLING AUTHORITIES. ALL COSTS OF EROSION CONTROL MEASURES SHALL BE INCLUDED IN THE PRICE TO INSTALL PIPE PER LINEAR FOOT EXCEPTING PAY ITEM(S) FOR STONE MATERIAL (GRAVEL, RIP RAP), EXCELSIOR WATTLES, AND THE INSTALLATION OF EROSION CONTROL BLANKET WHERE REQUIRED BY SPECIFICATION, SITE CONDITIONS (WITH APPROVAL OF OWNER), OR LOCAL AUTHORITY.

STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN SEVEN (7) CALENDAR DAYS AFTER WORK HAS CEASED.

CONTRACTOR TO PROVIDE SILT FENCE AND/OR OTHER CONTROL DEVICES, AS MAY BE REQUIRED, TO CONTROL SOIL EROSION DURING UTILITY CONSTRUCTION. ALL DISTURBED AREAS SHALL BE CLEANED, GRADED, AND STABILIZED WITH GRASSING IMMEDIATELY AFTER THE UTILITY INSTALLATION.

THE CONTRACTOR MUST TAKE NECESSARY ACTION TO MINIMIZE THE TRACKING OF MUD ONTO THE PAVED ROADWAY CONSTRUCTION AREAS. THE CONTRACTOR SHALL DAILY REMOVE MUD/SOIL FROM PAVEMENT, AS MAY BE REQUIRED.

CONTRACTOR WILL CONSTRUCT TEMPORARY DIVERSION BERMS AND/OR DITCHES AS NEEDED DURING CONSTRUCTION TO PROTECT WORK AREAS FROM UPSLOPE RUNOFF AND/OR TO DIVERT SEDIMENT LADEN WATER TO APPROPRIATE TRAPS OR STABLE OUTLETS.

2. **SEED AND MULCH.** THIS WORK INCLUDES THE FINAL PREPARATION OF THE GROUND, DISTRIBUTION OF FERTILIZERS, LIME, MULCH, AND SEED OVER THE ENTIRE AREA DISTURBED BY CONSTRUCTION ACTIVITIES INCLUDING THE RESTORATION OF TRENCHES, DITCHES, AND OTHER DAMAGED AREAS. PRIOR TO COMMENCING THE SOIL DISTURBING ACTIVITIES, CONTRACTOR SHOULD HAVE SUFFICIENT EROSION CONTROL MATERIALS ON SITE TO PROTECT AT LEAST ONE DISTURBED ACRE PER MILE OF 6" OR SMALLER PIPE INSTALLATION, 1.5 DISTURBED ACRE PER MILE OF LARGER DIAMETER PIPE, OR 4 DISTURBED ACRES PER MILE OF RIGHT-OF-WAY CLEARING.

THE SEED MIXTURE SHALL BE AS SPECIFIED BELOW:

<u>AUGUST 16 TO APRIL 30</u>	<u>LB/ACRE</u>	<u>MAY 1 TO AUGUST 15</u>	<u>LB/ACRE</u>
KENTUCKY 31 FESCUE	80	KENTUCKY 31 FESCUE	80
SERICEA LESPEDEZA	20	SERICEA LESPEDEZA	20
KOBE LESPEDEZA	50	KOBE LESPEDEZA	10
RYE GRAIN	120	RYE GRAIN	15
GERMAN MILLET	40	GERMAN MILLET	40
		SUDAN GRASS	50

THE FOLLOWING FERTILIZERS SHALL BE ADDED TO THE SOIL:

GROUND AGRICULTURAL LIMESTONE (FINE)	2 TONS/ACRE
10-10-10	1000 LBS/ACRE

MIX FERTILIZER WITH SOIL TO A DEPTH OF 4"-6" BY DISKING OR OTHER APPROVED METHOD.

MULCH THE ENTIRE AREA (WELL DISTRIBUTED, 80-85% COVERAGE) WITH A DRY STRAW (PREFERABLY WHEAT OR OAT) FREE OF NOXIOUS WEEDS AT A RATE OF 2 TONS/ACRE. MULCH SHALL BE REASONABLY BRIGHT IN COLOR AND SHALL NOT BE MUSTY, MOLDY, CAKED, DECAYED, OR DUSTY. ALL MULCH MUST BE TACKED. TACK MULCH WITH EMULSIFIED ASPHALT AT THE RATE OF 0.10 GAL/SY (10 GAL/1000SF) OR APPROVED EQUAL. RYE GRAIN IS AN ACCEPTABLE SUBSTITUTE FOR TACKING OF STRAW AT 15 LB/ACRE TO BE SEEDED PRIOR TO MULCH APPLICATION FROM AUGUST 16 TO NOVEMBER 1. RYE GRAIN FOR TACKING IS IN ADDITION TO RYE GRAIN INCLUDED IN THE MIX IN PREVIOUS SEED MIXTURE LANGUAGE. JUTE (OR OTHER MATERIAL) NETTING IS AN ACCEPTABLE SUBSTITUTE FOR TACKING OF STRAW. NOTE THAT THIS NETTING IS NOT A PAY ITEM AND IS INCLUDED IN THE COST PER LINEAR FOOT OF PIPE THE SAME AS OTHER TACK. IF ASPHALT EMULSION IS NOT USED, AN ACCEPTABLE SUBSTITUTE MUST BE USED IN ITS PLACE WHICH WILL NOT DEGRADE IN PERFORMANCE PRIOR TO ESTABLISHMENT OF PERMANENT GROUND COVER. SPRAYED ON POWDERED CELLULOSE MAY BE ACCEPTABLE AS TEMPORARY TACK ON OTHER MULCH, BUT WILL NOT BE ACCEPTED AS MULCH MATERIAL.

3. **RIPRAP FOR SLOPE PROTECTION.** RIPRAP FOR SLOPE PROTECTION SHALL BE USED AT ALL STREAM CROSSINGS AND SHALL BE PLACED ON THE STREAM EMBANKMENTS WHERE SHOWN. RIPRAP FOR SLOPE PROTECTION SHALL BE CLASS 1 WEIGHING FROM 5 TO 200 POUNDS OF WHICH 30% SHALL WEIGH A MINIMUM OF 60 POUNDS AND NO MORE THAN 10% SHALL WEIGH LESS THAN 15 POUNDS EACH. RIPRAP SHALL BE HARD ANGULAR WEATHER RESISTANT STONE WITH A SPECIFIC GRAVITY OF 2.5 OR GREATER. RIPRAP SHALL BE PLACED AT A THICKNESS OF 1.5 TIMES THE MAXIMUM STONE DIAMETER AND SHALL BE EMBEDDED AT THE BASE OF THE SLOPE IN A KEYWAY. A FILTER BLANKET OF SAND AND GRAVEL 6" THICK SHALL BE PLACED BETWEEN THE RIPRAP STONES AND THE SOIL.

4. **DITCH PROTECTION.**

RIPRAP

RIPRAP SHALL BE USED FOR DITCH EROSION AND FLOW CONTROL ON SLOPES OF GREATER THAN 5%. THE RIPRAP SHALL BE PLACED AS SHOWN ON THE DRAWING "EC-4". THIS SHALL REMAIN UNTIL THE GRASS HAS A GOOD ROOT MAT AND THEN SHALL BE REMOVED WHEN DIRECTED BY THE ENGINEER AND SEEDING AS ABOVE.

ROCK CHECK DAMS

ROCK CHECK DAMS SHALL BE PLACED AS INDICATED ON THE CONSTRUCTION DRAWINGS. THESE SHALL BE IN PLACE PRIOR TO TRENCH INSTALLATION IN ANY AREA WHERE WATER WILL FLOW FROM DISTURBED AREAS VIA THE ROCK CHECK DAM LOCATION. ROCK CHECK DAMS MAY BE TEMPORARILY REMOVED AND REPLACED IMMEDIATELY THEREAFTER TO FACILITATE PIPELINE INSTALLATION. RIPRAP FOR ROCK CHECK DAMS SHALL BE 4 TO 15-INCH HARD ANGULAR WEATHER RESISTANT STONE, AND UPSTREAM FACE OF CHECK DAM SHOULD BE SIX INCHES OF #57 STONE AS A FILTER.

EXCELSIOR WATTLES

EXCELSIOR WATTLES MAY BE USED FOR DITCH EROSION AND FLOW CONTROL ON SLOPES LESS THAN 2.5% IN PLACE OF ROCK CHECK DAMS. ON SLOPES OF 2% - 2.5% EXCELSIOR WATTLES SHALL HAVE A MAXIMUM SPACING OF 75 FEET AND FOR SLOPES OF LESS THAN 2% THEY SHALL HAVE A MAXIMUM SPACING OF 100 FEET. EXCELSIOR WATTLES MAY ALSO BE USED AS INLET PROTECTION TO ROADWAY DRAINAGE CULVERTS.

THE PROJECT EROSION CONTROL MEASURES HAVE BEEN DESIGNED TO UTILIZE RIPRAP AND GRAVEL FOR CHECK DAMS AND INLET PROTECTION. IT IS ANTICIPATED THAT SOME OF THE CHECK DAMS AND INLET PROTECTION CAN BE BETTER ADDRESSED USING WATTLES. BECAUSE OF THE SIGNIFICANT PRICE DIFFERENCE, THE CONTRACTOR SHALL ONLY BE ALLOWED TO UTILIZE THE WATTLES UPON APPROVAL OF THE INSPECTOR ON A CASE BY CASE BASIS. INSTALLATION OF WATTLES WITHOUT PRIOR AUTHORIZATION SHALL NOT QUALIFY FOR PAYMENT.

WATTLES SHALL MEET THE FOLLOWING SPECIFICATIONS:

100% CURLED WOOD (EXCELSIOR) FIBERS	
MINIMUM DIAMETER	12 IN.
MINIMUM DENSITY	2.5 LB/FT ³ +/- 10%
NET MATERIAL	SYNTHETIC
NET OPENINGS	1 IN. X 1 IN.
NET CONFIGURATION	TOTALLY ENCASED
MINIMUM WEIGHT	20 LB. +/- 10% PER 10 FT. LENGTH

ANCHORS: STAKES SHALL BE USED AS ANCHORS.

WOODEN STAKES:

PROVIDE HARDWOOD STAKES A MINIMUM OF 2 FEET LONG WITH A 2 IN. X 2 IN. NOMINAL SQUARE CROSS SECTION. ONE END OF THE STAKE MUST BE SHARPENED OR BEVELED TO FACILITATE DRIVING DOWN INTO THE UNDERLYING SOIL.

PROVIDE STAPLES MADE OF 0.125" DIAMETER NEW STEEL WIRE FORMED INTO A "U" SHAPE NOT LESS THAN 12" IN LENGTH WITH A THROAT OF 1" IN WIDTH.

CONSTRUCTION METHODS:

WATTLES SHALL BE SECURED TO THE SOIL BY WIRE STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT AND AT THE END OF EACH SECTION OF WATTLE. A MINIMUM OF 4 STAKES SHALL BE INSTALLED ON THE DOWNSTREAM SIDE OF THE WATTLE WITH A MAXIMUM SPACING OF 2 LINEAR FEET ALONG THE WATTLE. INSTALL A MINIMUM OF 2 STAKES ON THE UPSTREAM SIDE OF THE WATTLE. STAKES SHALL BE DRIVEN INTO THE GROUND A MINIMUM OF 10 INCHES WITH NO MORE THAN 2 INCHES PROJECTING FROM THE TOP OF THE WATTLE. DRIVE STAKES AT AN ANGLE AS SHOWN ON DRAWING "EC-11".

ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES. OVERLAP ADJOINING SECTIONS OF WATTLES A MINIMUM OF 6 INCHES.

INSTALLATION OF MATTING SHALL BE IN ACCORDANCE WITH DRAWINGS "EC-11" AND "EC-6" AND SHALL BE STRAW/COCONUT FIBER MATTING (NORTH AMERICAN GREEN SC150).

5. **SILT FENCE.** SILT FENCES SHALL BE PLACED AS INDICATED ON THE CONSTRUCTION DRAWINGS. THESE SHALL BE IN PLACE PRIOR TO TRENCH INSTALLATION, OR CLEARING ACTIVITIES, IN ANY AREA WHERE WATER WILL FLOW FROM DISTURBED AREAS TO THE SILT FENCE LOCATION. SILT FENCES MAY BE TEMPORARILY REMOVED AND REPLACED IMMEDIATELY THEREAFTER TO FACILITATE PIPELINE INSTALLATION. SILT FENCE SHALL BE PLACED BETWEEN THE TOP OF THE SLOPE AND THE EDGE OF THE CREEK THROUGHOUT THE DISTURBED AREA. THE SILT FENCE SHALL EXTEND FIVE (5') FEET INTO THE UNDISTURBED AREA TO ENSURE SEDIMENTS ARE TRAPPED AS DESIRED. SILT FENCES SHALL BE PLACED SO THAT THE LOWER TWELVE (12") INCHES OF FABRIC IS PLACED BELOW THE SURFACE OF THE GROUND. POSTS SHALL BE DRIVEN TO A DEPTH OF TWENTY-FOUR (24") INCHES AND SHALL BE SPACED AT SIX (6') FOOT INTERVALS MAXIMUM. SEDIMENT FENCE FABRIC MUST HAVE A MINIMUM OF 85% FILTERING EFFICIENCY. TENSILE STRENGTH OF FABRIC AT 20% MAXIMUM ELONGATION IS TO BE 30 LB/LINEAR INCH FOR STANDARD STRENGTH FABRIC AND 50 LB/LINEAR INCH FOR HIGH STRENGTH FABRIC. WHEN DOUBLE ROW SILT FENCE IS SPECIFIED ON THE PLANS, THE SAME DESIGN, MATERIAL, INSPECTION, MAINTENANCE, AND CONSTRUCTION REQUIREMENTS ARE APPLICABLE. DOUBLE ROW SILT FENCE SHALL HAVE A MINIMUM SPACING OF 3 FEET AND A MAXIMUM SPACING OF 5 FEET BETWEEN THE TWO ROWS.

AFTER GROUND COVER HAS BEEN ESTABLISHED AND APPROVED BY THE ENGINEER OR OWNER'S REPRESENTATIVE, THE SILT FENCE SHALL BE REMOVED AND THE REMAINING DISTURBED AREAS SEEDING AS ABOVE.

6. **TEMPORARY SEDIMENT TRAPS.** INSTALL TEMPORARY SEDIMENT TRAPS IN BAR DITCHES PRIOR TO STREAM CROSSINGS WHERE THE SHOULDER OF THE ROAD HAS BEEN DISTURBED BY CONSTRUCTION ACTIVITY. THESE SEDIMENT TRAPS SHALL BE EXCAVATED TO BE A MINIMUM OF ONE (1') FOOT BELOW THE LOWEST LEVEL OF THE EXISTING DITCH. THEY SHOULD BE TWO (2') FEET WIDE AND TEN (10') FEET LONG AT THE BOTTOM OF THE TRAP WITH 2:1 SIDES. AT THE DOWNSTREAM END OF THE TRAP, A GRAVEL FILTER DAM SHALL BE PLACED TO THE TOP OF THE DITCH. THIS GRAVEL DAM SHALL BE A MINIMUM OF ONE (1') FOOT AT ITS TOP ELEVATION WHEN MEASURED ALONG THE FLOW LINE OF THE DITCH. AFTER GROUND COVER HAS BEEN ESTABLISHED AND APPROVED BY THE ENGINEER OR OWNER'S REPRESENTATIVE, THE GRAVEL SHALL BE REMOVED AND THE SEDIMENT TRAP FILLED, COMPACTED, AND SEEDING AS ABOVE.

7. **MAINTENANCE OF SEDIMENT CONTROL FACILITIES.** THE CONTRACTOR SHALL INSPECT THE FACILITIES PERIODICALLY (MINIMUM ONCE PER WEEK) AND AFTER EACH RAIN. SEDIMENT SHALL BE REMOVED FROM SEDIMENT TRAPS AND PROPERLY DISPOSED OF AFTER THE EXCAVATED AREA HAS FILLED TO ITS ORIGINAL LEVEL. SEDIMENT, MULCH AND DEBRIS SHALL BE REMOVED FROM ABOVE RIPRAP CHECK DAMS AND/OR WATTLES AND PROPERLY DISPOSED OF WHEN SEDIMENT ACCUMULATION HAS REACHED 6" DEPTH OR 1/3 OF CAPACITY, WHICHEVER IS LESS. SILT FENCES SHALL BE RECONSTRUCTED AS NECESSARY BY RE-STAKING OR REPLACEMENT AS NEEDED.

ALL EROSION CONTROL DEVICES SHALL BE PROPERLY MAINTAINED DURING ALL PHASES OF CONSTRUCTION UNTIL THE COMPLETION OF ALL CONSTRUCTION ACTIVITIES AND ALL DISTURBED AREAS HAVE BEEN STABILIZED. ADDITIONAL CONTROL DEVICES MAY BE REQUIRED DURING CONSTRUCTION IN ORDER TO CONTROL EROSION AND/OR OFFSITE SEDIMENTATION. ALL TEMPORARY CONTROL DEVICES SHALL BE REMOVED ONCE CONSTRUCTION IS COMPLETE AND THE SITE IS STABILIZED.

AFTER CONSTRUCTION ACTIVITIES BEGIN, INSPECTIONS MUST BE CONDUCTED AT A MINIMUM OF AT LEAST ONCE EVERY CALENDAR WEEK, WITH NO TIME PERIOD BETWEEN INSPECTIONS EXCEEDING 9 DAYS, AND MUST BE CONDUCTED UNTIL FINAL STABILIZATION IS REACHED ON ALL AREAS OF THE CONSTRUCTION SITE. IT IS RECOMMENDED THAT BMPs BE ASSESSED BY THE CONTRACTOR WITHIN 24 HOURS OF THE END OF A STORM EVENT OF 1/2-INCH OR GREATER, AS WELL AS DURING THE FIRST RAIN EVENT AFTER THE INITIATION OF CONSTRUCTION ACTIVITIES, AFTER THE INSTALLATION OF BMPs.

8. **GRASS MATTING/EROSION CONTROL BLANKETS.** GRASS MATTING OR EROSION CONTROL BLANKETS MAY BE REQUIRED TO ADEQUATELY STABILIZE THE DITCHES DISTURBED BY CONSTRUCTION OF GAS LINES IN DITCH LINES OF OVER 2% SLOPE. CONTRACTOR SHOULD PLAN TO INSTALL GRASS MATTING OR EROSION CONTROL MATTING WHEREVER THE TRENCH IS LESS THAN 4" ELEVATION HIGHER THAN THE PARALLEL BOTTOM OF EXISTING DRAINAGE DITCH LINE. SHOULD THE ABOVE PROCEDURES, INCLUDING SEED AND MULCH, NOT STABILIZE THE DISTURBED DITCH LINE, THE CONTRACTOR SHALL USE A GRASS MATTING AS DIRECTED BY THE ENGINEER, OWNER'S REPRESENTATIVE, OR CONTROLLING AUTHORITY. THIS MATTING SHALL BE INSTALLED PER MANUFACTURER'S INSTRUCTIONS AND SHALL BE OF SUFFICIENT LENGTH AND WIDTH TO ELIMINATE EROSION OF THE DITCH LINE. A PRE-SEEDING MANUFACTURED NETTING MAY BE USED IF OF SUFFICIENT SHEAR STRENGTH FOR SOIL TYPE, WATER FLOW, AND SLOPE. SUBMIT PRODUCT INFORMATION TO THE ENGINEER OR OWNER'S REPRESENTATIVE FOR APPROVAL.

SOME AREAS OF THE PROJECT MAY BE STEEP ENOUGH TO REQUIRE THE EXTRA EROSION PROTECTION OFFERED BY STRAW/COCONUT FIBER MATTING (NORTH AMERICAN GREEN SC150). IN ADDITION, ANY DISTURBED AREA WITHIN 50' OF A STREAM BED SHALL BE PROTECTED BY STRAW/COCONUT FIBER MATTING (NORTH AMERICAN GREEN SC150). BLANKET SHALL BE INSTALLED USING A MINIMUM OF THREE STAPLES PER YARD WITH THE WATER FLOW AND THREE STAPLES PER YARD ACROSS THE FLOW. THE NUMBER OF SQUARE YARDS OF NORTH AMERICAN GREEN SC150 LISTED IN THE PROPOSAL ARE REQUIRED TO FULFILL THE SPECIFICATIONS ON THE DRAWINGS. THE ENGINEER OR OWNER'S REPRESENTATIVE MAY REQUIRE ADDITIONAL MATTING INSTALLATION DURING THE PROJECT. ADDITIONAL INSTALLATION WILL BE PAID AT THE UNIT PRICE IN THE CONTRACT PROPOSAL.

CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT EROSION CONTROL BLANKET AND NECESSARY STAPLES/STAKES ARE ON SITE AND READY FOR INSTALLATION PRIOR TO SOIL DISTURBING OR CLEARING ACTIVITIES.

9. **CONSTRUCTION SEQUENCE.** TRENCH FILLING AND TAMPING SHALL KEEP UP WITH TRENCH OPENING OPERATION. PROPER GROUND COVER (SEED, STRAW, MULCH, TACK, GRASS MATTING, FILTER BLANKET AND RIPRAP) SHALL BE APPLIED TO TRENCH AND ADJACENT SPOIL AREA AS SOON AS POSSIBLE AFTER TRENCH OPENING OR OTHER GROUND DISTURBANCE. UNLESS SHORTER TIME FRAMES ARE SPECIFIED ON CONSTRUCTION DRAWINGS, TEMPORARY OR PERMANENT GROUND COVER MUST BE IN PLACE AND FUNCTIONAL (I.E., PROPERLY TACKED MULCH, HEALTHY GROWING VEGETATION, OR EROSION CONTROL MAT PROPERLY STAPLED) WITHIN 7 CALENDAR DAYS FOLLOWING ANY GROUND DISTURBANCE. PROVISIONS FOR PERMANENT GROUND COVER MUST BE ACCOMPLISHED ON EXPOSED SLOPES WITHIN 7 CALENDAR DAYS; WITHIN 7 CALENDAR DAYS IN SENSITIVE WATERSHEDS; AND IN REMAINING AREAS WITHIN 7 CALENDAR DAYS. DISTURBED AREAS LEFT INACTIVE BETWEEN ANY PHASE OF GRADING SHALL BE TEMPORARY SEEDING WITHIN 5 WORKING DAYS OR 7 CALENDAR DAYS, WHICHEVER IS SHORTER. BOTH TEMPORARY AND PERMANENT SEEDING IS TO USE PERMANENT SEED MIXTURE LISTED IN SECTION 2.

10. **SEDIMENT CONTROL INSPECTOR.** THE PERSON RESPONSIBLE FOR INSPECTION AND MAINTENANCE OF EROSION CONTROL METHODS AND DEVICES MUST HAVE COMPLETED THE CERTIFIED EROSION PREVENTION AND SEDIMENT CONTROL INSPECTOR (CEPSCI) TRAINING AND HAVE CURRENT CERTIFICATION.

THIS DRAWING IS FOR PREVIEWING THE PROJECT VIA THE INTERNET. OBTAIN SEALED DRAWINGS FOR BIDDING PURPOSES.

EROSION CONTROL NOTES

STANDARD NOTES

1. IF NECESSARY, SLOPES, WHICH EXCEED EIGHT (8) VERTICAL FEET SHOULD BE STABILIZED WITH SYNTHETIC OR VEGETATIVE MATS, IN ADDITION TO HYDROSEEDING. IT MAY BE NECESSARY TO INSTALL TEMPORARY SLOPE DRAINS DURING CONSTRUCTION. TEMPORARY BERMS MAY BE NEEDED UNTIL THE SLOPE IS BROUGHT TO GRADE.
2. STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN SEVEN (7) DAYS AFTER WORK HAS CEASED, EXCEPT AS STATED BELOW.
 - WHERE STABILIZATION BY THE 7TH DAY IS PRECLUDED BY SNOW COVER OR FROZEN GROUND CONDITIONS STABILIZATION MEASURES MUST BE INITIATED AS SOON AS PRACTICABLE.
 - WHERE CONSTRUCTION ACTIVITY ON A PORTION OF THE SITE IS TEMPORARILY CEASED, AND EARTH-DISTURBING ACTIVITIES WILL BE RESUMED WITHIN 7 DAYS, TEMPORARY STABILIZATION MEASURES DO NOT HAVE TO BE INITIATED ON THAT PORTION OF THE SITE.
3. AFTER CONSTRUCTION ACTIVITIES BEGIN, INSPECTIONS MUST BE CONDUCTED AT A MINIMUM OF AT LEAST ONCE EVERY CALENDAR WEEK, WITH NO TIME PERIOD BETWEEN INSPECTIONS EXCEEDING 9 DAYS, AND MUST BE CONDUCTED UNTIL FINAL STABILIZATION IS REACHED ON ALL AREAS OF THE CONSTRUCTION SITE. IT IS RECOMMENDED THAT BMPs BE ASSESSED BY THE CONTRACTOR WITHIN 24 HOURS OF THE END OF A STORM EVENT OF 1/2-INCH OR GREATER, AS WELL AS DURING THE FIRST RAIN EVENT AFTER THE INITIATION OF CONSTRUCTION ACTIVITIES, AFTER THE INSTALLATION OF BMPs. IF PERIODIC INSPECTION OR OTHER INFORMATION INDICATES THAT A BMP HAS BEEN INAPPROPRIATELY OR INCORRECTLY INSTALLED, THE PERMITTEE MUST ADDRESS THE NECESSARY REPLACEMENT OR MODIFICATION REQUIRED TO CORRECT THE BMP WITHIN 48 HOURS OF IDENTIFICATION.
4. PROVIDE SILT FENCE AND/OR OTHER CONTROL DEVICES, AS MAY BE REQUIRED, TO CONTROL SOIL EROSION DURING UTILITY CONSTRUCTION. ALL DISTURBED AREAS SHALL BE CLEANED, GRADED, AND STABILIZED WITH GRASSING IMMEDIATELY AFTER THE UTILITY INSTALLATION. FILL, COVER, AND TEMPORARY SEEDING AT THE END OF EACH DAY ARE RECOMMENDED. IF WATER IS ENCOUNTERED WHILE TRENCHING, THE WATER SHOULD BE FILTERED TO REMOVE ANY SEDIMENTS BEFORE BEING PUMPED BACK INTO ANY WATERS OF THE STATE.
5. ALL EROSION CONTROL DEVICES SHALL BE PROPERLY MAINTAINED DURING ALL PHASES OF CONSTRUCTION UNTIL THE COMPLETION OF ALL CONSTRUCTION ACTIVITIES AND ALL DISTURBED AREAS HAVE BEEN STABILIZED. ADDITIONAL CONTROL DEVICES MAY BE REQUIRED DURING CONSTRUCTION IN ORDER TO CONTROL EROSION AND/OR OFFSITE SEDIMENTATION. ALL TEMPORARY CONTROL DEVICES SHALL BE REMOVED ONCE CONSTRUCTION IS COMPLETE AND THE SITE IS STABILIZED.
6. THE CONTRACTOR MUST TAKE NECESSARY ACTION TO MINIMIZE THE TRACKING OF MUD ONTO PAVED ROADWAY(S) FROM CONSTRUCTION AREAS AND THE GENERATION OF DUST. THE CONTRACTOR SHALL DAILY REMOVE MUD/SOIL FROM PAVEMENT, AS MAY BE REQUIRED.
7. RESIDENTIAL SUBDIVISIONS REQUIRE EROSION CONTROL FEATURES FOR INFRASTRUCTURE AS WELL AS FOR INDIVIDUAL LOT CONSTRUCTION. INDIVIDUAL PROPERTY OWNERS SHALL FOLLOW THESE PLANS DURING CONSTRUCTION OR OBTAIN APPROVAL OF AN INDIVIDUAL PLAN IN ACCORDANCE WITH SC REG. 72-300 ET SEQ. AND SCR100000.
8. TEMPORARY DIVERSION BERMS AND/OR DITCHES WILL BE PROVIDED AS NEEDED DURING CONSTRUCTION TO PROTECT WORK AREAS FROM UPSLOPE RUNOFF AND/OR TO DIVERT SEDIMENT-LADEN WATER TO APPROPRIATE TRAPS OR STABLE OUTLETS.
9. ALL WATERS OF THE STATE (WOS), INCLUDING WETLANDS, ARE TO BE FLAGGED OR OTHERWISE CLEARLY MARKED IN THE FIELD. A DOUBLE ROW OF SILT FENCE IS TO BE INSTALLED IN ALL AREAS WHERE A 50-FOOT BUFFER CAN'T BE MAINTAINED BETWEEN THE DISTURBED AREA AND ALL WOS. A 10-FOOT BUFFER SHOULD BE MAINTAINED BETWEEN THE LAST ROW OF SILT FENCE AND ALL WOS.
10. LITTER, CONSTRUCTION DEBRIS, OILS, FUELS, AND BUILDING PRODUCTS WITH SIGNIFICANT POTENTIAL FOR IMPACT (SUCH AS STOCKPILES OF FRESHLY TREATED LUMBER) AND CONSTRUCTION CHEMICALS THAT COULD BE EXPOSED TO STORM WATER MUST BE PREVENTED FROM BECOMING A POLLUTANT SOURCE IN STORM WATER DISCHARGES.
11. IF APPLICABLE, A COPY OF THE SWPPP, INSPECTION RECORDS, AND RAINFALL DATA MUST BE RETAINED AT THE CONSTRUCTION SITE OR A NEARBY LOCATION EASILY ACCESSIBLE DURING NORMAL BUSINESS HOURS, FROM THE DATE OF COMMENCEMENT OF CONSTRUCTION ACTIVITIES TO THE DATE THAT FINAL STABILIZATION IS REACHED.
12. INITIATE STABILIZATION MEASURES ON ANY EXPOSED STEEP SLOPE (3H:1V OR GREATER) WHERE LAND-DISTURBING ACTIVITIES HAVE PERMANENTLY OR TEMPORARILY CEASED, AND WILL NOT RESUME FOR A PERIOD OF 7 CALENDAR DAYS.
13. MINIMIZE SOIL COMPACTION AND, UNLESS INFEASIBLE, PRESERVE TOPSOIL.
14. MINIMIZE THE DISCHARGE OF POLLUTANTS FROM EQUIPMENT AND VEHICLE WASHING, WHEEL WASH WATER, AND OTHER WASH WATERS. WASH WATERS MUST BE TREATED IN A SEDIMENT BASIN OR ALTERNATIVE CONTROL THAT PROVIDES EQUIVALENT OR BETTER TREATMENT PRIOR TO DISCHARGE.
15. MINIMIZE THE DISCHARGE OF POLLUTANTS FROM DEWATERING OF TRENCHES AND EXCAVATED AREAS. THESE DISCHARGES ARE TO BE ROUTED THROUGH APPROPRIATE BMPS (SEDIMENT BASIN, FILTER BAG, ETC.).
16. THE FOLLOWING DISCHARGES FROM SITES ARE PROHIBITED:
 - WASTEWATER FROM WASHOUT OF CONCRETE, UNLESS MANAGED BY AN APPROPRIATE CONTROL;
 - WASTEWATER FROM WASHOUT AND CLEANOUT OF STUCCO, PAINT, FORM RELEASE OILS, CURING COMPOUNDS AND OTHER CONSTRUCTION MATERIALS;
 - FUELS, OILS, OR OTHER POLLUTANTS USED IN VEHICLE AND EQUIPMENT OPERATION AND MAINTENANCE; AND
 - SOAPS OR SOLVENTS USED IN VEHICLE AND EQUIPMENT WASHING.
17. IF EXISTING BMPS NEED TO BE MODIFIED OR IF ADDITIONAL BMPS ARE NECESSARY TO COMPLY WITH THE REQUIREMENTS OF THIS PERMIT AND/OR SC'S WATER QUALITY STANDARDS, IMPLEMENTATION MUST BE COMPLETED BEFORE THE NEXT STORM EVENT WHENEVER PRACTICABLE. IF IMPLEMENTATION BEFORE THE NEXT STORM EVENT IS IMPRACTICABLE, THE SITUATION MUST BE DOCUMENTED IN THE SWPPP (IF APPLICABLE) AND ALTERNATIVE BMPS MUST BE IMPLEMENTED AS SOON AS REASONABLY POSSIBLE.
18. FOR PROJECTS THAT DISTURB 1 ACRE OR MORE, A PRE-CONSTRUCTION CONFERENCE MUST BE HELD FOR EACH CONSTRUCTION SITE WITH AN APPROVED ON-SITE SWPPP PRIOR TO THE IMPLEMENTATION OF CONSTRUCTION ACTIVITIES. FOR NON-LINEAR PROJECTS THAT DISTURB 10 ACRES OR MORE THIS CONFERENCE MUST BE HELD ON-SITE UNLESS THE DEPARTMENT HAS APPROVED OTHERWISE.

PERMANENT WATER QUALITY

SOIL DISTURBANCE ASSOCIATED WITH THIS PROJECT CONSISTS OF EXCAVATING A TRENCH. SOIL WILL BE RETURNED TO TRENCH AND TAMPED IN PLACE, ALMOST IMMEDIATELY AFTER ITS REMOVAL (SAME DAY), GROUND COVER (FERTILIZER, LIME, SEED, STRAW, TACK; BLANKET AS NEEDED OR SPECIFIED) IS TO BE IN PLACE OVER THE TAMPED SOIL AS SOON AS PRACTICABLE, AND NO LONGER THAN SEVEN (7) DAYS FOLLOWING DISTURBANCE. GENERAL TOPOGRAPHY, WATER FLOW CHARACTERISTICS, AND INFILTRATION RATES WILL BE ESSENTIALLY THE SAME AFTER THE PROJECT IS COMPLETE AND PERMANENT GROUND COVER IS ESTABLISHED AS WHAT EXISTS PRIOR TO BEGINNING THE PROJECT.

PIPELINE IS TO BE INSTALLED PARALLEL TO SCDOT HIGHWAY DITCH LINE. CHECK DAMS OR WATTLES WILL BE INSTALLED IN SCDOT DITCH LINES TO SLOW WATER FLOW AND COLLECT SEDIMENT FLOWING FROM THE PROJECT UNTIL ADEQUATE GROUND COVER IS IN PLACE. SEDIMENT FENCES AND EROSION CONTROL BLANKET WILL BE INSTALLED NEAR STREAM CHANNELS. SOME EPHEMERAL CHANNELS WILL BE DIRECTIONALLY BORED; EROSION CONTROL BLANKET WILL BE INSTALLED ACROSS EPHEMERAL CHANNELS WHICH ARE CROSSED BY TRENCHING. IF PRESENT, ALL INTERMITTENT AND PERENNIAL STREAMS WILL BE CROSSED BY DIRECTIONAL BORING. ALL CHANNEL TRENCHING WILL BE PERFORMED IN THE DRY.

WATER LEAVING THE PROJECT AS SHEET FLOW WILL PASS THROUGH AREAS OF NATURAL VEGETATION WHICH WILL SLOW THE FLOW, ALLOWING SEDIMENT TO SETTLE PRIOR TO REACHING WATER BODIES OR CHANNELS. THE VEGETATED AREAS WILL ALSO PROVIDE RETENTION, ALLOWING INFILTRATION OF STORM WATER INTO THE SOIL.

SWPPP CERTIFICATION STATEMENT

I HAVE PLACED MY SIGNATURE AND SEAL ON THE DESIGN DOCUMENTS SUBMITTED SIGNIFYING THAT I ACCEPT RESPONSIBILITY FOR THE DESIGN OF THE SYSTEM. FURTHER, I CERTIFY TO THE BEST OF MY KNOWLEDGE AND BELIEF THAT THE DESIGN IS CONSISTENT WITH THE REQUIREMENTS OF TITLE 48, CHAPTER 14 OF THE CODE OF LAWS OF SC, 1976 AS AMENDED, PURSUANT TO REGULATION 72-300ET SEQ. (IF APPLICABLE), AND IN ACCORDANCE WITH THE TERMS AND CONDITIONS OF SCR100000.

NAME: _____

SIGNATURE: _____

TITLE: _____

DATE: _____

THIS DRAWING IS FOR
PREVIEWING THE PROJECT VIA
THE INTERNET. OBTAIN SEALED
DRAWINGS FOR BIDDING
PURPOSES.

REVISIONS:

8/17/2023 1:33:51 PM

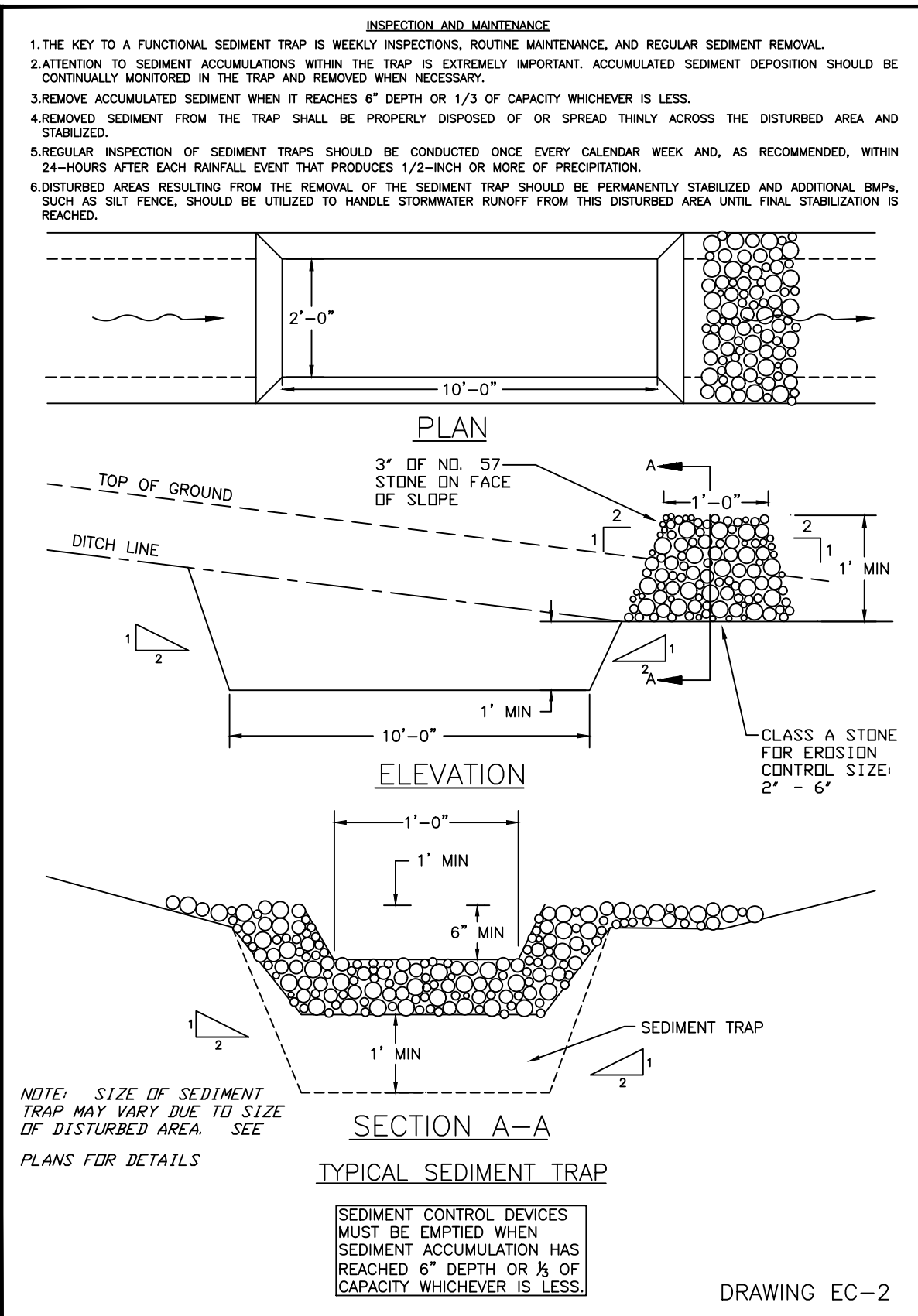
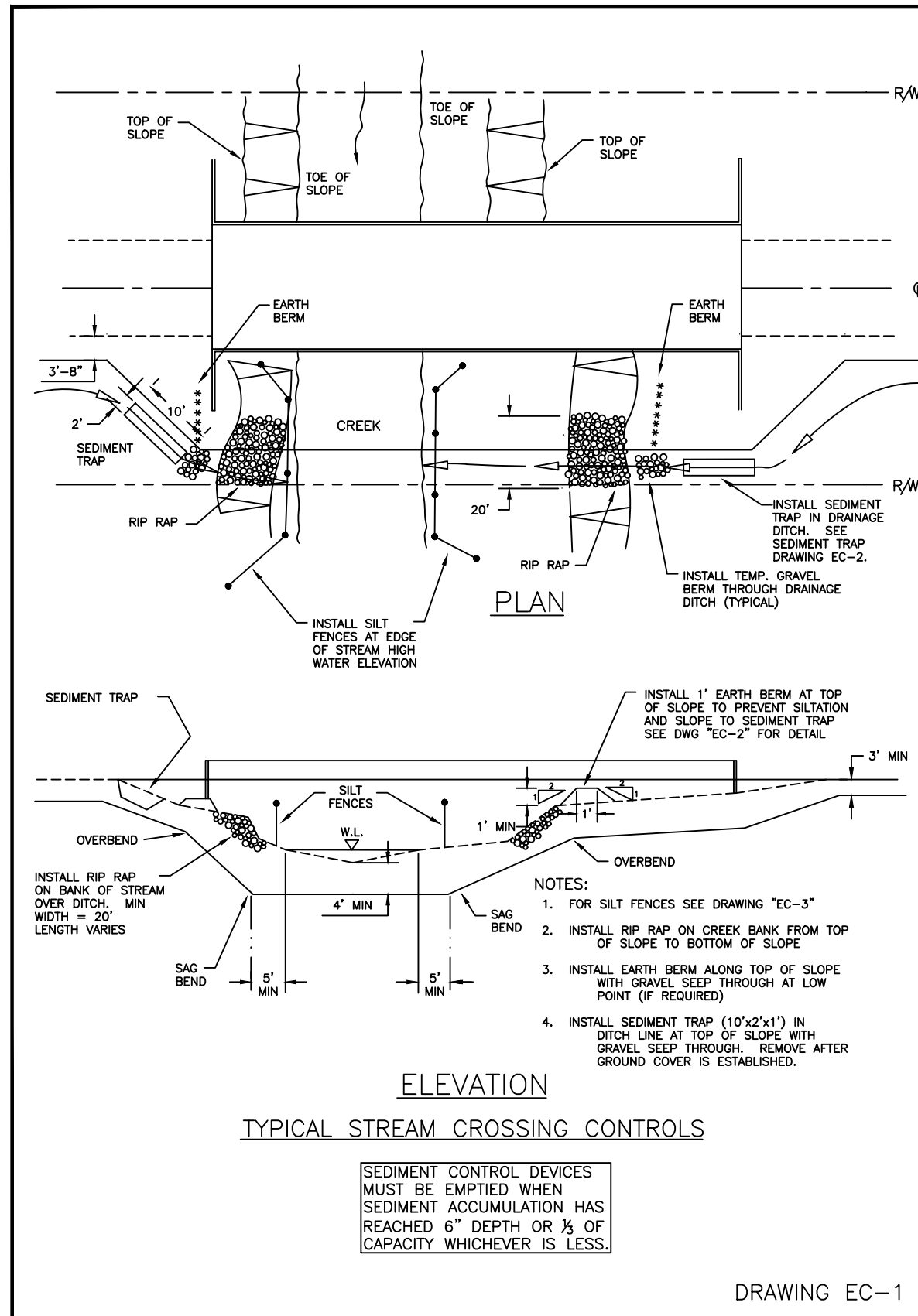


FOUNTAIN INN
JONES MILL RD &
DURBIN CREEK BRIDGE

NATURAL GAS SYSTEM IMPROVEMENTS
FOUNTAIN INN NATURAL GAS
FOUNTAIN INN, SOUTH CAROLINA

DRAWN CMD	SCALE NONE
DATE DRAWN 06/09/2023	PROJECT NO. 22309
APPROVED	SHEET EROSION CONTROL NOTES 02

EROSION CONTROL NOTES



- INSPECTION AND MAINTENANCE**
1. THE KEY TO A FUNCTIONAL SEDIMENT TRAP IS WEEKLY INSPECTIONS, ROUTINE MAINTENANCE, AND REGULAR SEDIMENT REMOVAL.
 2. ATTENTION TO SEDIMENT ACCUMULATIONS WITHIN THE TRAP IS EXTREMELY IMPORTANT. ACCUMULATED SEDIMENT DEPOSITION SHOULD BE CONTINUALLY MONITORED IN THE TRAP AND REMOVED WHEN NECESSARY.
 3. REMOVE ACCUMULATED SEDIMENT WHEN IT REACHES 6" DEPTH OR 1/3 OF CAPACITY WHICHEVER IS LESS.
 4. REMOVED SEDIMENT FROM THE TRAP SHALL BE PROPERLY DISPOSED OF OR SPREAD THINLY ACROSS THE DISTURBED AREA AND STABILIZED.
 5. REGULAR INSPECTION OF SEDIMENT TRAPS SHOULD BE CONDUCTED ONCE EVERY CALENDAR WEEK AND, AS RECOMMENDED, WITHIN 24-HOURS AFTER EACH RAINFALL EVENT THAT PRODUCES 1/2-INCH OR MORE OF PRECIPITATION.
 6. DISTURBED AREAS RESULTING FROM THE REMOVAL OF THE SEDIMENT TRAP SHOULD BE PERMANENTLY STABILIZED AND ADDITIONAL BMPs, SUCH AS SILT FENCE, SHOULD BE UTILIZED TO HANDLE STORMWATER RUNOFF FROM THIS DISTURBED AREA UNTIL FINAL STABILIZATION IS REACHED.

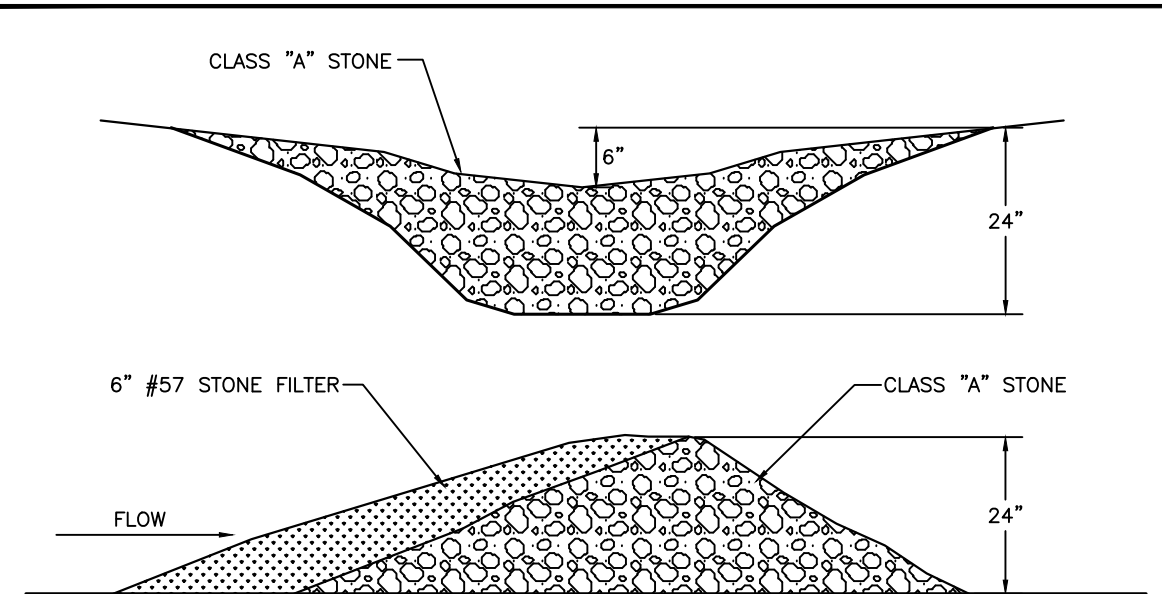
THIS DRAWING IS FOR PREVIEWING THE PROJECT VIA THE INTERNET. OBTAIN SEALED DRAWINGS FOR BIDDING PURPOSES.

EROSION CONTROL NOTES

TYPICAL SEDIMENT FENCES

SILT FENCES SHALL BE COMPLIANT WITH SCDHEC STANDARD DRAWING
NO. SC-03 ON SHEET "EROSION CONTROL NOTES 09"

DRAWING EC-3



MAINTENANCE

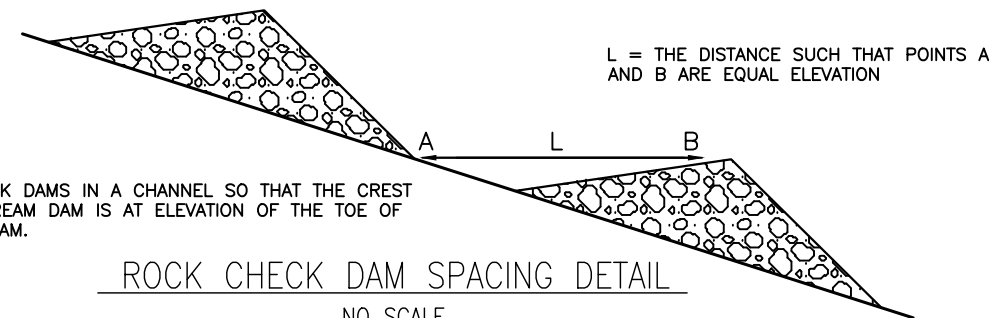
INSPECT CHECK DAMS AND CHANNELS FOR DAMAGE AFTER EACH RUNOFF EVENT

ANTICIPATE SUBMERGENCE AND DEPOSITION ABOVE THE CHECK DAM AND EROSION FROM HIGH FLOWS AROUND THE EDGES OF THE DAM. CORRECT ALL DAMAGES IMMEDIATELY. IF SIGNIFICANT EROSION OCCURS BETWEEN DAMS, INSTALL A PROTECTIVE RIP-RAP LINER IN THAT PORTION OF THE CHANNEL.

REMOVE SEDIMENT ACCUMULATED BEHIND THE DAMS AS NEEDED TO PREVENT DAMAGE TO THE CHANNEL VEGETATION. ALLOW THE CHANNEL TO DRAIN THROUGH THE STONE CHECK DAM, AND PREVENT LARGE FLOW FROM THE CARRYING SEDIMENT OVER THE DAM. ADD STONES TO DAMS AS NEEDED TO MAINTAIN DESIGN HEIGHT AND CROSS SECTION.

ROCK CHECK DAM DETAIL

NO SCALE



NOTE
SPACE CHECK DAMS IN A CHANNEL SO THAT THE CREST OF DOWNSTREAM DAM IS AT ELEVATION OF THE TOE OF UPSTREAM DAM.

ROCK CHECK DAM SPACING DETAIL

NO SCALE

ROCK CHECK DAM FOR SEDIMENT CONTROL BAR DITCHES

SEDIMENT CONTROL DEVICES
MUST BE EMPTIED WHEN
SEDIMENT ACCUMULATION HAS
REACHED 6" DEPTH OR 1/3 OF
CAPACITY WHICHEVER IS LESS.

DRAWING EC-4

**THIS DRAWING IS FOR
PREVIEWING THE
PROJECT VIA THE
INTERNET. OBTAIN
SEALED DRAWINGS FOR
BIDDING PURPOSES.**

REVISIONS:

8/17/2023 1:33:51 PM

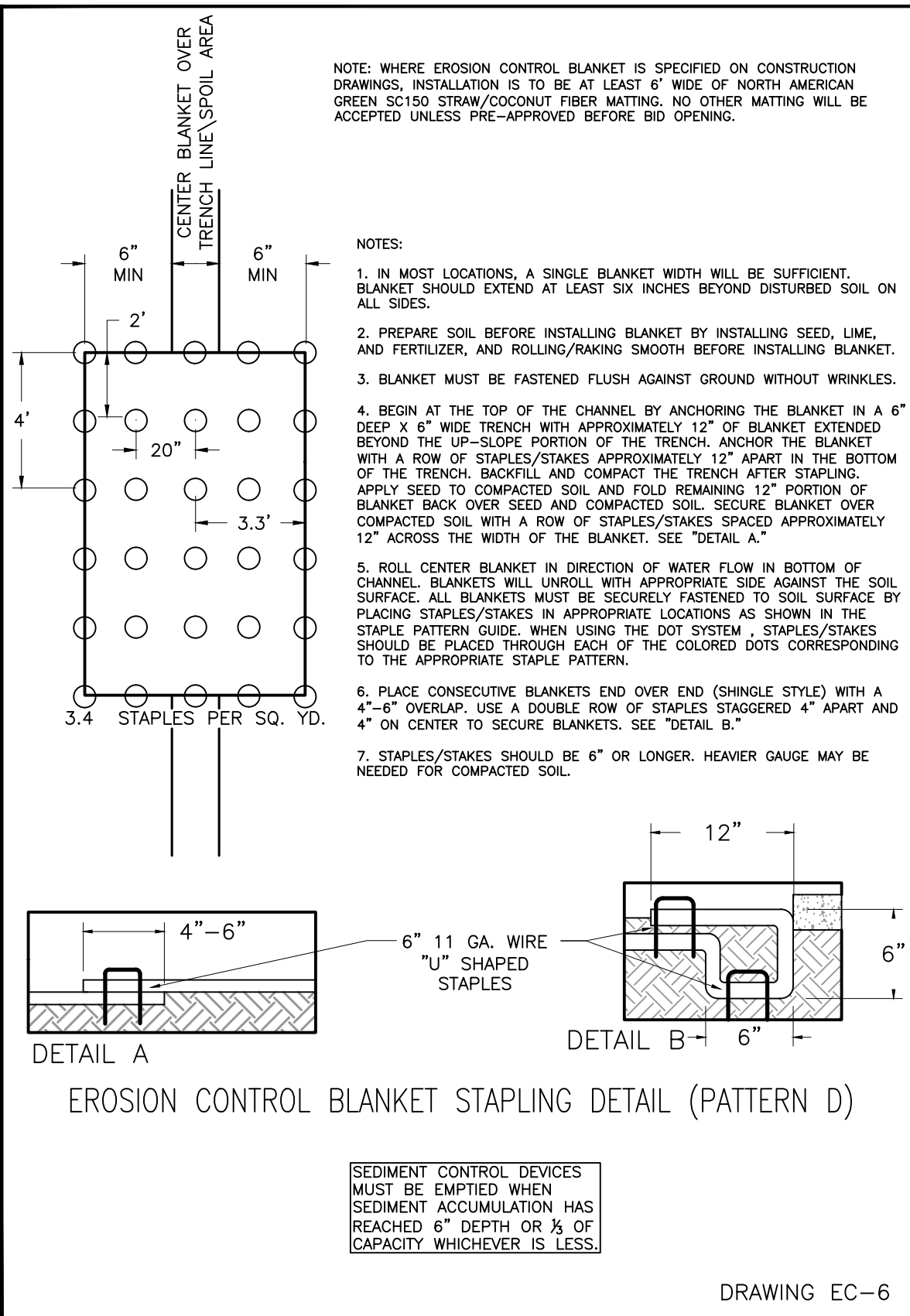
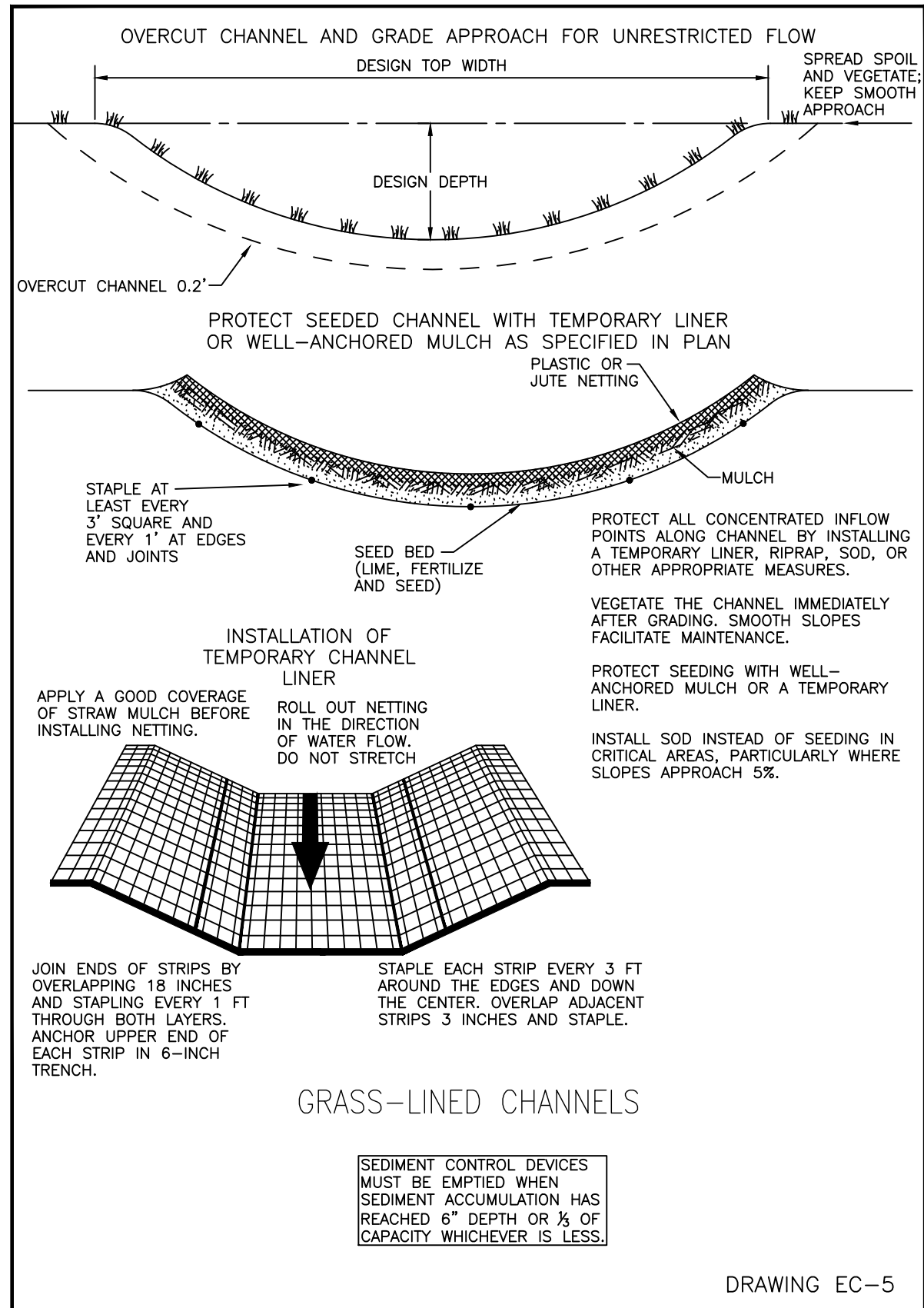


FOUNTAIN INN
JONES MILL RD &
DURBIN CREEK BRIDGE

NATURAL GAS SYSTEM IMPROVEMENTS
FOUNTAIN INN NATURAL GAS
FOUNTAIN INN, SOUTH CAROLINA

DRAWN CMD	SCALE NONE
DATE DRAWN 06/09/2023	PROJECT NO. 22309
APPROVED	SHEET EROSION CONTROL NOTES 04

EROSION CONTROL NOTES



NOTE: WHERE EROSION CONTROL BLANKET IS SPECIFIED ON CONSTRUCTION DRAWINGS, INSTALLATION IS TO BE AT LEAST 6" WIDE OF NORTH AMERICAN GREEN SC150 STRAW/COCONUT FIBER MATTING. NO OTHER MATTING WILL BE ACCEPTED UNLESS PRE-APPROVED BEFORE BID OPENING.

- NOTES:
1. IN MOST LOCATIONS, A SINGLE BLANKET WIDTH WILL BE SUFFICIENT. BLANKET SHOULD EXTEND AT LEAST SIX INCHES BEYOND DISTURBED SOIL ON ALL SIDES.
 2. PREPARE SOIL BEFORE INSTALLING BLANKET BY INSTALLING SEED, LIME, AND FERTILIZER, AND ROLLING/RAKING SMOOTH BEFORE INSTALLING BLANKET.
 3. BLANKET MUST BE FASTENED FLUSH AGAINST GROUND WITHOUT WRINKLES.
 4. BEGIN AT THE TOP OF THE CHANNEL BY ANCHORING THE BLANKET IN A 6" DEEP X 6" WIDE TRENCH WITH APPROXIMATELY 12" OF BLANKET EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE BLANKET WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" PORTION OF BLANKET BACK OVER SEED AND COMPACTED SOIL. SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" ACROSS THE WIDTH OF THE BLANKET. SEE "DETAIL A."
 5. ROLL CENTER BLANKET IN DIRECTION OF WATER FLOW IN BOTTOM OF CHANNEL. BLANKETS WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL BLANKETS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING THE DOT SYSTEM, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
 6. PLACE CONSECUTIVE BLANKETS END OVER END (SHINGLE STYLE) WITH A 4"-6" OVERLAP. USE A DOUBLE ROW OF STAPLES STAGGERED 4" APART AND 4" ON CENTER TO SECURE BLANKETS. SEE "DETAIL B."
 7. STAPLES/STAKES SHOULD BE 6" OR LONGER. HEAVIER GAUGE MAY BE NEEDED FOR COMPACTED SOIL.

THIS DRAWING IS FOR PREVIEWING THE PROJECT VIA THE INTERNET. OBTAIN SEALED DRAWINGS FOR BIDDING PURPOSES.

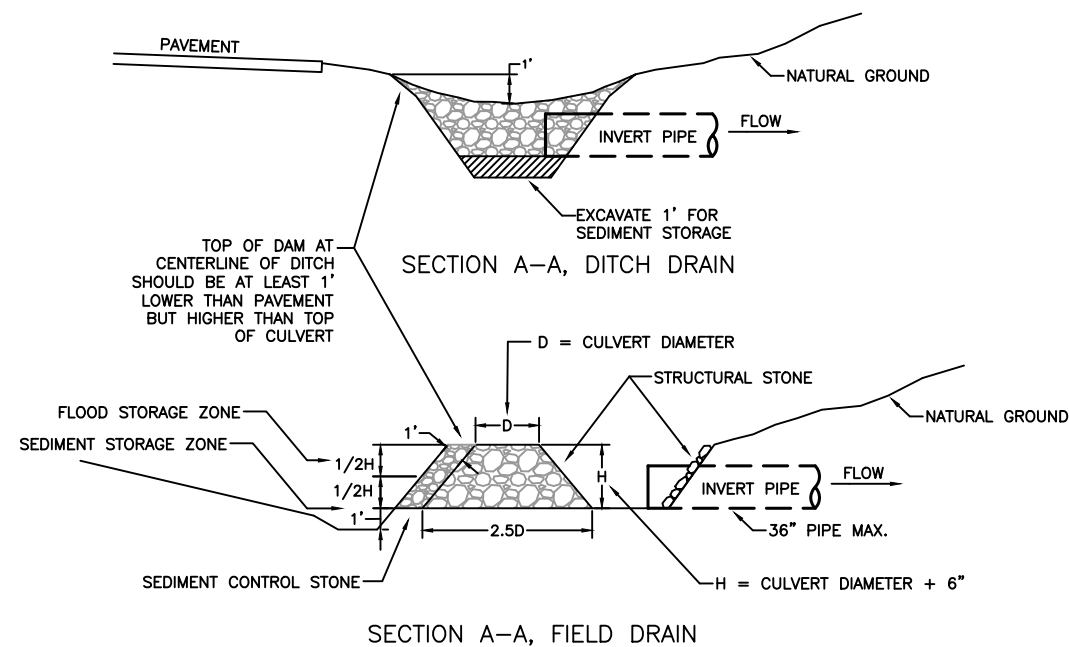
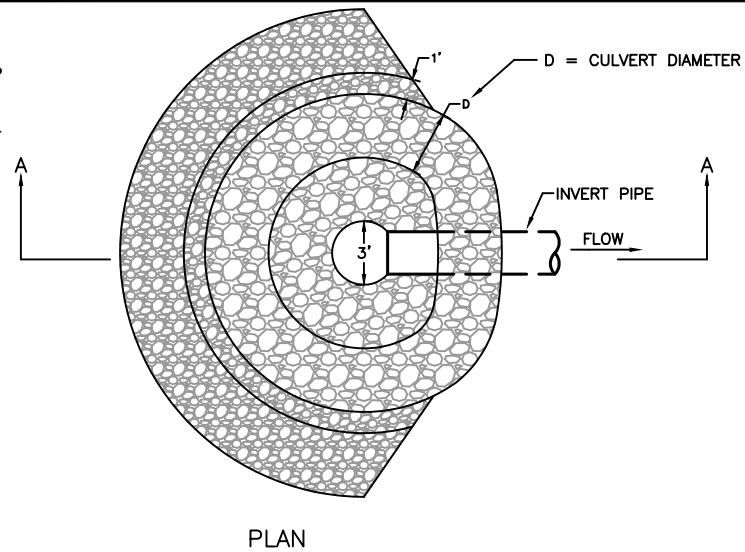
EROSION CONTROL NOTES

NOTE:

STRUCTURAL STONE SHALL BE PAID AT PRICE PER TON FOR RIP RAP.

SEDIMENT CONTROL STONE SHALL BE NO. 5 OR NO. 57 STONE AND SHALL BE PAID FOR AT THE PRICE PER TON FOR GRAVEL.

DIMENSIONS ARE MINIMUM ACCEPTABLE UNLESS OTHERWISE SPECIFIED BY THE ENGINEER.



INSPECTION AND MAINTENANCE

1. THE KEY TO FUNCTIONAL CULVERT INLET PROTECTION IS WEEKLY INSPECTIONS, ROUTINE MAINTENANCE, AND REGULAR SEDIMENT REMOVAL.
2. REGULAR INSPECTION OF CULVERT INLET PROTECTION SHOULD BE CONDUCTED ONCE EVERY CALENDAR WEEK AND, AS RECOMMENDED, WITHIN 24-HOURS AFTER EACH RAINFALL EVENT THAT PRODUCES 1/2-INCH OR MORE OF PRECIPITATION.
3. ATTENTION TO SEDIMENT ACCUMULATIONS IS EXTREMELY IMPORTANT. ACCUMULATED SEDIMENT SHOULD BE CONTINUALLY MONITORED IN THE TRAP AND REMOVED WHEN ACCUMULATED SEDIMENT REACHES 6" DEPTH OR 1/3 OF CAPACITY WHICHEVER IS LESS.
4. REMOVED SEDIMENT FROM THE INLET PROTECTION SHALL BE PROPERLY DISPOSED OF OR SPREAD THINLY ACROSS THE DISTURBED AREA AND STABILIZED.
5. CULVERT INLET PROTECTION SHOULD BE REMOVED AFTER THE CONTRIBUTING DRAINAGE AREA HAS BEEN COMPLETELY STABILIZED. PERMANENT VEGETATION SHOULD REPLACE AREAS FROM WHERE INLET PROTECTION HAS BEEN REMOVED.

CULVERT INLET PROTECTION

SEDIMENT CONTROL DEVICES MUST BE EMPTIED WHEN SEDIMENT ACCUMULATION HAS REACHED 6" DEPTH OR 1/3 OF CAPACITY WHICHEVER IS LESS.

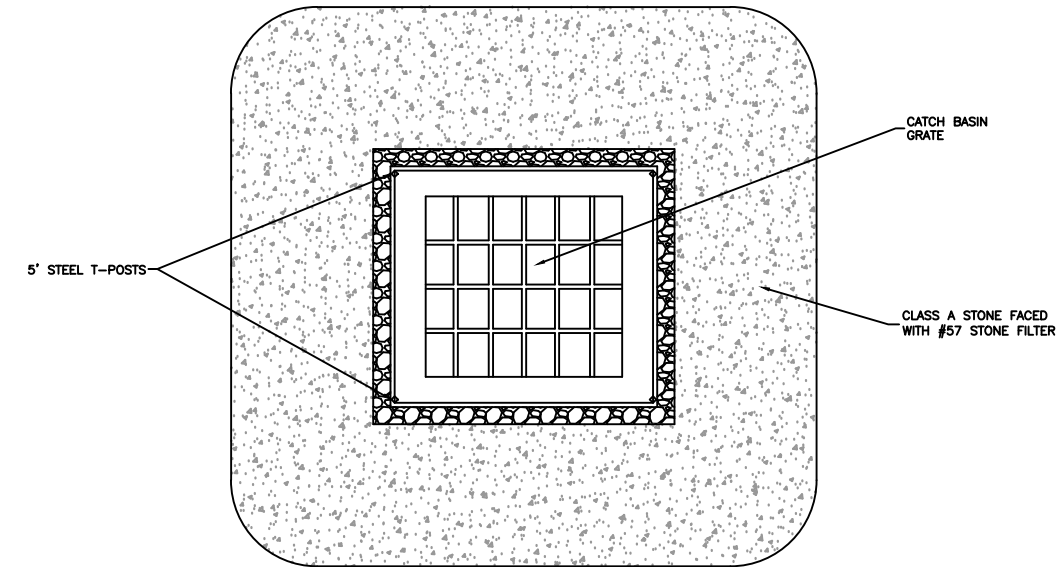
DRAWING EC-7

MAINTENANCE:

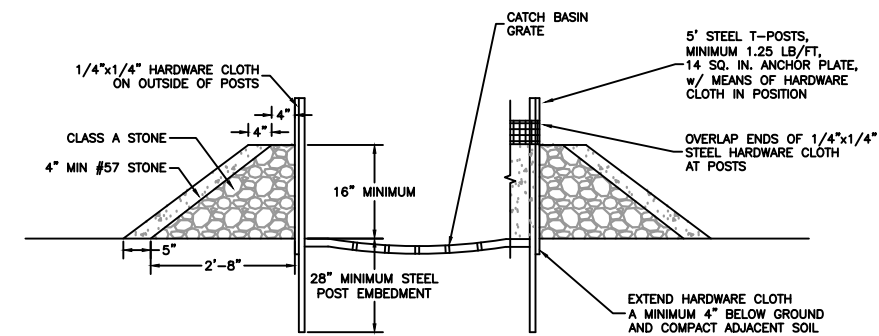
INSPECT ROCK INLET SEDIMENT TRAP FOR DAMAGE WEEKLY AND AFTER EACH RUNOFF EVENT.

ANTICIPATE SUBMERGENCE AND DEPOSITION OUTSIDE THE STONE FILTER AND EROSION FROM LATERAL FLOW IN FRONT OF STONE. CORRECT ALL DAMAGES IMMEDIATELY. IF SIGNIFICANT EROSION OCCURS, INSTALL PROTECTIVE LINER IN ERODED CHANNEL.

REMOVE SEDIMENT ACCUMULATED AROUND THE TRAP AS NEEDED TO PREVENT DAMAGE TO VEGETATION AND WHEN IT EXCEEDS 6" DEPTH OR 1/3 OF CAPACITY WHICHEVER IS LESS. ALLOW DRAINAGE THROUGH THE SEDIMENT TRAP, AND PREVENT LARGE FLOW FROM CARRYING SEDIMENT OVER THE STONE. ADD STONE AS NEEDED TO MAINTAIN DESIGN HEIGHT AND CROSS SECTION.



PLAN VIEW



ELEVATION CROSS SECTION VIEW

CATCH BASIN PROTECTION

SEDIMENT CONTROL DEVICES MUST BE EMPTIED WHEN SEDIMENT ACCUMULATION HAS REACHED 6" DEPTH OR 1/3 OF CAPACITY WHICHEVER IS LESS.

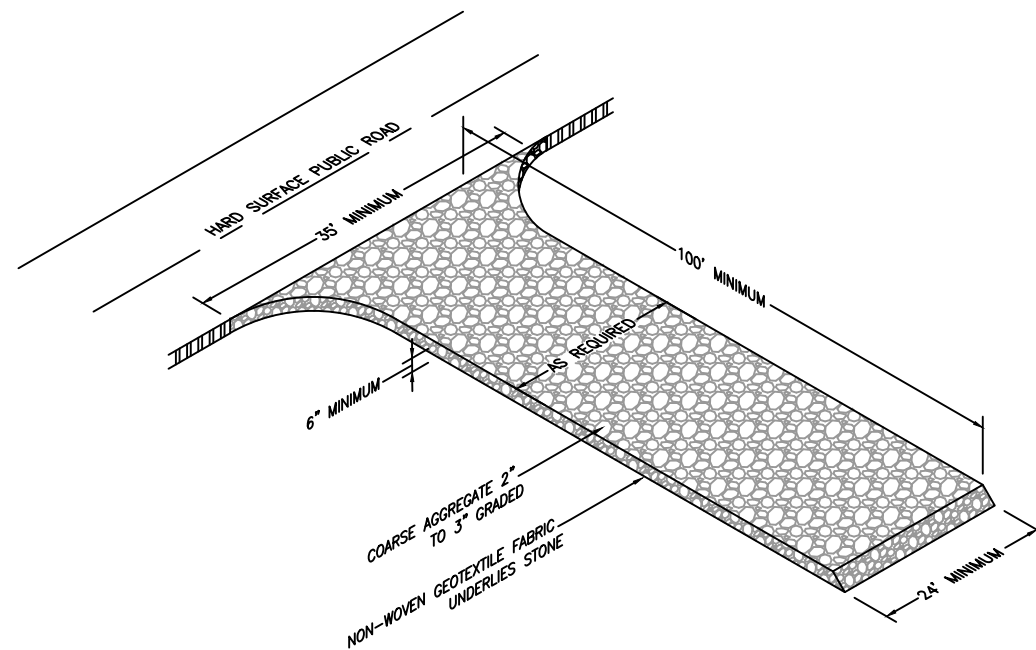
DRAWING EC-8

THIS DRAWING IS FOR PREVIEWING THE PROJECT VIA THE INTERNET. OBTAIN SEALED DRAWINGS FOR BIDDING PURPOSES.

EROSION CONTROL NOTES

INSPECTION AND MAINTENANCE

1. THE KEY TO FUNCTIONAL CONSTRUCTION ENTRANCES IS WEEKLY INSPECTIONS, ROUTINE MAINTENANCE, AND REGULAR SEDIMENT REMOVAL.
2. REGULAR INSPECTIONS OF CONSTRUCTION ENTRANCES SHALL BE CONDUCTED ONCE EVERY CALENDAR WEEK AND, AS RECOMMENDED, WITHIN 24-HOURS AFTER EACH RAINFALL EVENT THAT PRODUCES 1/2-INCH OR MORE OF PRECIPITATION.
3. DURING REGULAR INSPECTIONS, CHECK FOR MUD AND SEDIMENT BUILDUP AND PAD INTEGRITY. INSPECTION FREQUENCIES MAY NEED TO BE MORE FREQUENT DURING LONG PERIODS OF WET WEATHER.
4. RESHAPE THE STONE PAD AS NECESSARY FOR DRAINAGE AND RUNOFF CONTROL.
5. WASH OR REPLACE STONES AS NEEDED AND AS DIRECTED BY SITE INSPECTOR. THE STONE IN THE ENTRANCE SHOULD BE WASHED OR REPLACED WHENEVER THE ENTRANCE FAILS TO REDUCE THE AMOUNT OF MUD BEING CARRIED OFF-SITE BY VEHICLES. FREQUENT WASHING WILL EXTEND THE USEFUL LIFE OF THE STONE PAD.
6. IMMEDIATELY REMOVE MUD AND SEDIMENT TRACKED OR WASHED ONTO ADJACENT IMPERVIOUS SURFACES BY BRUSHING OR SWEEPING. FLUSHING SHOULD ONLY BE USED WHEN THE WATER CAN BE DISCHARGED TO A SEDIMENT TRAP OR BASIN.
7. DURING MAINTENANCE ACTIVITIES, ANY BROKEN PAVEMENT SHOULD BE REPAIRED IMMEDIATELY.
8. CONSTRUCTION ENTRANCES SHOULD BE REMOVED AFTER THE SITE HAS REACHED FINAL STABILIZATION. PERMANENT VEGETATION SHOULD REPLACE AREAS FROM WHICH CONSTRUCTION ENTRANCES HAVE BEEN REMOVED, UNLESS AREA WILL BE CONVERTED TO AN IMPERVIOUS SURFACE TO SERVE POST-CONSTRUCTION.



ACCESS ROADS

CONSTRUCTION ENTRANCE - ENTRY TO THE CONSTRUCTION AREA FROM PUBLIC PAVED ROADS MUST BE STABILIZED TO MINIMIZE EROSION, RETAIN A NEAT APPEARANCE, AND CLEAN EQUIPMENT TIRES BEFORE ENTERING PUBLIC ROAD

GRAVEL CONSTRUCTION ENTRANCE

SEDIMENT CONTROL DEVICES MUST BE EMPTIED WHEN SEDIMENT ACCUMULATION HAS REACHED 6" DEPTH OR 1/3 OF CAPACITY WHICHEVER IS LESS.

DRAWING EC-9

WEIGHTED INLET TUBES

WEIGHTED INLET TUBES ARE SEDIMENT TUBES CAPABLE OF STAYING IN PLACE WITHOUT EXTERNAL STABILIZATION MEASURES AND MAY HAVE A WEIGHTED INNER CORE OR OTHER WEIGHTED MECHANISM TO KEEP THEM IN PLACE

MATERIALS

PROPERTY	TEST METHOD	VALUE
Diameter	Field Measured	6.0 inch to 12.0 inch.
Mass per Unit Length	Field Measured	6 inch = 6lbs/ft minimum. 12 inch = 12lbs/ft minimum.
Fiber Length	Field Measured	80% of the fiber materials at least 4 inches in length.
Length per Tube	Field Measured	6 foot minimum.
Netting Unit Weight	Certified	0.35 oz/ft minimum.

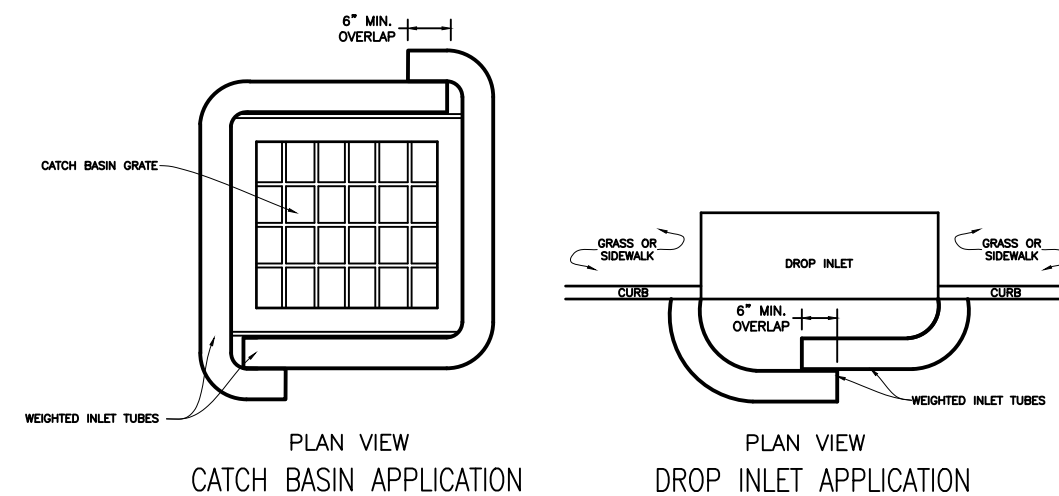
WEIGHTED INLET TUBES WILL BE SUPPLIED BY THE CONTRACTOR

INSTALLATION

1. INSTALL WEIGHTED INLET TUBES BY LAYING THEM FLAT ON THE GROUND WITH NO GAPS BETWEEN UNDERLYING SURFACES AND THE BOTTOM OF THE INLET TUBE.
2. LAP THE ENDS OF ADJACENT INLET TUBES A MINIMUM OF 6" TO PREVENT FLOW AND SEDIMENT FROM PASSING THROUGH THE FIELD JOINT.
3. NEVER STACK SEDIMENT TUBES ON TOP OF ONE ANOTHER.

INSPECTION AND MAINTENANCE

1. INSPECT EVERY 7 CALENDAR DAYS AND WITHIN 24-HOURS AFTER EACH STORM THAT PRODUCES 1/2-INCHES OR MORE OF RAIN. HANDLE ANY DAMAGE OR NEEDED REPAIRS IMMEDIATELY.
2. INSPECT AFTER INSTALLATION FOR GAPS THAT MAY PERMIT SEDIMENT TO ENTER THE STORM DRAINAGE SYSTEM.
3. REMOVE SEDIMENT WHEN IT REACHES APPROXIMATELY 1/3 THE HEIGHT OF THE INLET FILTER.
4. REMOVE, MOVE, AND/OR REPLACE AS REQUIRED TO ADAPT TO CHANGING CONSTRUCTION SITE CONDITIONS.
5. REMOVE INLET TUBES FROM THE SITE WHEN THE FUNCTIONAL LONGEVITY IS EXCEEDED AS DETERMINED BY THE ENGINEER, INSPECTOR OR MANUFACTURER'S REPRESENTATIVE.
6. DISPOSE OF INLET TUBES NO LONGER IN USE AT AN APPROPRIATE RECYCLING OR SOLID WASTE FACILITY.
7. REMOVE ALL CONSTRUCTION MATERIAL AND SEDIMENT AND DISPOSE OF THEM PROPERLY.



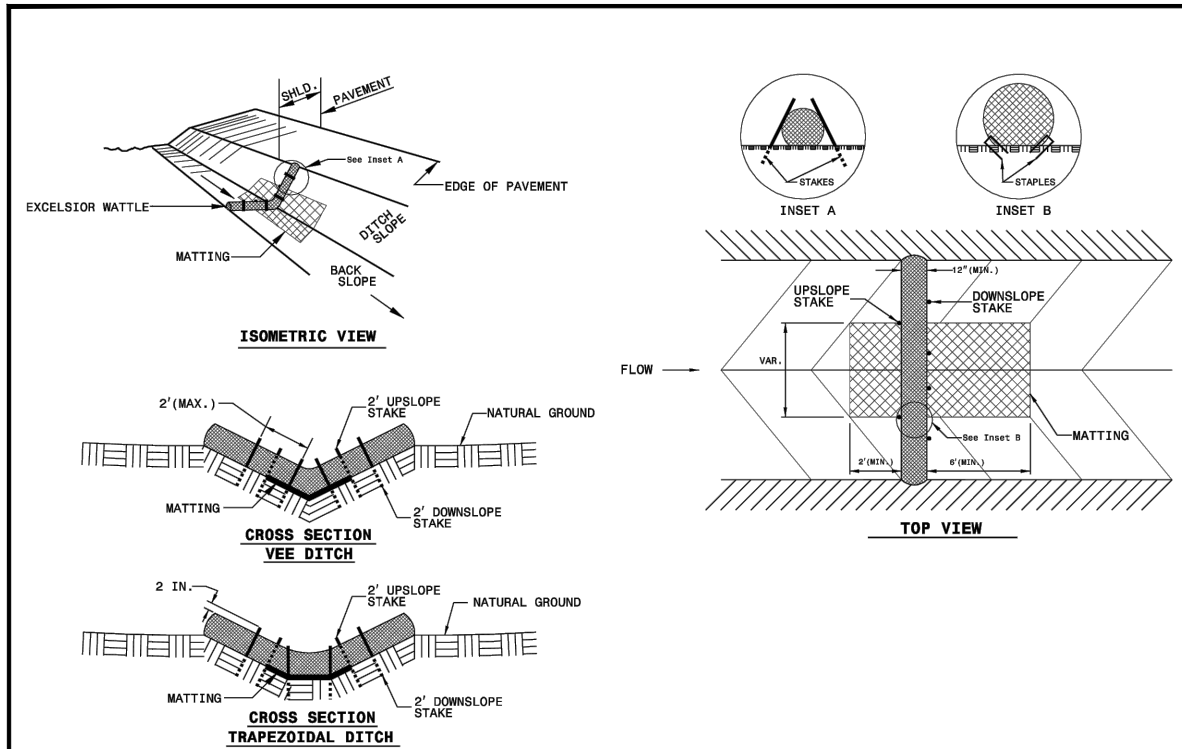
DROP INLET / CATCH BASIN PROTECTION IN PAVED AREAS

SEDIMENT CONTROL DEVICES MUST BE EMPTIED WHEN SEDIMENT ACCUMULATION HAS REACHED 3" DEPTH OR 1/3 OF CAPACITY WHICHEVER IS LESS.

DRAWING EC-10

THIS DRAWING IS FOR PREVIEWING THE PROJECT VIA THE INTERNET. OBTAIN SEALED DRAWINGS FOR BIDDING PURPOSES.

EROSION CONTROL NOTES



INSTALLATION NOTES

- USE MINIMUM 12 IN. DIAMETER EXCELSIOR WATTLE.
- USE 2 FT WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.
- ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.
- INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.
- PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE. FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.
- INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.
- INSTALL MATTING PER DWG EC-6.

INSPECTION AND MAINTENANCE

1. THE KEY TO FUNCTIONAL WATTLES IS WEEKLY INSPECTIONS, ROUTINE MAINTENANCE, AND REGULAR SEDIMENT REMOVAL.
2. REGULAR INSPECTIONS OF WATTLES SHALL BE CONDUCTED ONCE EVERY CALENDAR WEEK AND, AS RECOMMENDED, WITHIN 24-HOURS AFTER EACH RAINFALL EVENT THAT PRODUCES 1/2-INCH OR MORE OF PRECIPITATION.
3. ATTENTION TO SEDIMENT ACCUMULATIONS IN FRONT OF THE WATTLES IS EXTREMELY IMPORTANT. ACCUMULATED SEDIMENT SHOULD BE CONTINUALLY MONITORED AND REMOVED WHEN NECESSARY.
4. REMOVE ACCUMULATED SEDIMENT WHEN IT REACHES 6" DEPTH OR 1/3 THE HEIGHT OF THE WATTLE WHICHEVER IS LESS.
5. REMOVED SEDIMENT SHALL BE PROPERLY DISPOSED OF OR SPREAD THINLY ACROSS DISTURBED AREA AND STABILIZED.
6. LARGE DEBRIS, TRASH, AND LEAVES SHOULD BE REMOVED FROM IN FRONT OF WATTLES WHEN FOUND AND DISPOSED OF PROPERLY.
7. IF EROSION CAUSES THE EDGES TO FALL TO A HEIGHT EQUAL TO OR BELOW THE HEIGHT OF THE WATTLE, REPAIRS SHOULD BE MADE IMMEDIATELY TO PREVENT RUNOFF FROM BYPASSING THE WATTLE.
8. WATTLES SHOULD BE REMOVED AFTER THE CONTRIBUTING DRAINAGE AREA HAS BEEN COMPLETELY STABILIZED. PERMANENT VEGETATION SHOULD REPLACE AREAS FROM WHICH WATTLES HAVE BEEN REMOVED.

EXCELSIOR WATTLE

SEDIMENT CONTROL DEVICES MUST BE EMPTIED WHEN SEDIMENT ACCUMULATION HAS REACHED 6" DEPTH OR 1/3 THE HEIGHT OF THE WATTLE WHICHEVER IS LESS.

DRAWING EC-11

CONSTRUCTION SEQUENCE SECTION

1. RECEIVE LAND DISTURBANCES OF LESS THAN 1 ACRE APPROVAL/ACKNOWLEDGEMENT RESPONSE FROM SCDHEC.
 2. IF APPLICABLE, HOLD A PRE-CONSTRUCTION MEETING (MAY BE OFF-SITE DUE TO LINEAR NATURE OF PROJECT).
 3. IF APPLICABLE, NOTIFY CONTROLLING AUTHORITIES 48 HOURS PRIOR TO BEGINNING LAND-DISTURBING ACTIVITIES.
 4. INSTALLATION OF CONSTRUCTION ENTRANCE(S) IS NOT APPLICABLE WHERE PROJECT PARALLELS AND IS ADJACENT TO ROADWAYS. CONTRACTOR IS TO SWEEP PAVED ROADWAYS DAILY WITH A POWER BROOM. WHERE WORK LEAVES EDGE OF ROADWAY AND PROCEEDS CROSS COUNTRY, A CONSTRUCTION ENTRANCE WILL BE CONSTRUCTED.
 5. BRUSH CLEARING ONLY AS NECESSARY FOR INSTALLATION OF PERIMETER CONTROLS AND EROSION CONTROL MEASURES WHERE WORK IS WITHIN CLEARED ROAD RIGHT-OF-WAY. WHERE CLEARING IS REQUIRED FOR CONSTRUCTION, CLEAR 6' EACH SIDE OF PIPELINE.
 6. INSTALLATION OF PERIMETER CONTROLS (E.G., SILT FENCES).
 7. INSTALLATION OF EROSION CONTROL MEASURES AS NECESSARY. THE MEASURES CAN INCLUDE SEDIMENT TRAPS, SILT FENCE, ROCK CHECK DAMS, WATTLES, CULVERT INLET PROTECTION, AND CATCH BASIN PROTECTION. ALL DOWN SLOPE MEASURES ARE TO BE IN PLACE BEFORE EXCAVATION. MEASURES MAY BE TEMPORARILY REMOVED AS NECESSARY TO INSTALL PIPELINE, THEN PROMPTLY REPLACED.
 8. ADDITIONAL BRUSH CLEARING OF THE DEPARTMENT OF TRANSPORTATION RIGHT-OF-WAY AS NECESSARY.
 9. BEGIN EXCAVATION OF DITCH FOR PIPE, INSTALL PIPE, BACKFILL, AND FINISH GROUND TO ROUGH GRADE. ALL STREAM CHANNELS CROSSED BY DIRECT BURY WILL BE INSTALLED PER DRAWING EC-1 ON EROSION CONTROL NOTES 03 OR AS SHOWN ON DETAIL DRAWINGS SPECIFIC TO THAT CROSSING. ONLY HIGHWAY DITCHLINES ARE CURRENTLY SPECIFIED TO BE CROSSED BY DIRECT BURY.
 10. INSTALL ADDITIONAL EROSION CONTROL MEASURES AS NECESSARY. THE MEASURES CAN INCLUDE SEDIMENT TRAPS, SILT FENCE, ROCK CHECK DAMS, WATTLES, CULVERT INLET PROTECTION, CATCH BASIN PROTECTION, AND EROSION CONTROL BLANKET.
 11. INSTALL OR ACHIEVE PERMANENT/FINAL STABILIZATION.
 12. MAINTAIN ALL EROSION CONTROL MEASURES; IF NECESSARY, MODIFICATION OF EROSION CONTROL MEASURES WILL BE CONSIDERED TO ADDRESS ADDITIONAL EROSION ISSUES.
 13. REMOVE TEMPORARY SEDIMENT & EROSION CONTROL MEASURES AS THE AREAS OF THE LINEAR PROJECT BECOME ESTABLISHED. ALL AREAS WILL NOT BE ESTABLISHED AT THE SAME TIME.
- NOTE: MAINTENANCE OF SEDIMENT AND EROSION CONTROL MEASURES WILL CONTINUE UNTIL THE LINEAR PROJECT IS PERMANENTLY STABILIZED AND THE CONTROLS ARE REMOVED.

THIS DRAWING IS FOR PREVIEWING THE PROJECT VIA THE INTERNET. OBTAIN SEALED DRAWINGS FOR BIDDING PURPOSES.

REVISIONS:

8/17/2023 1:33:53 PM



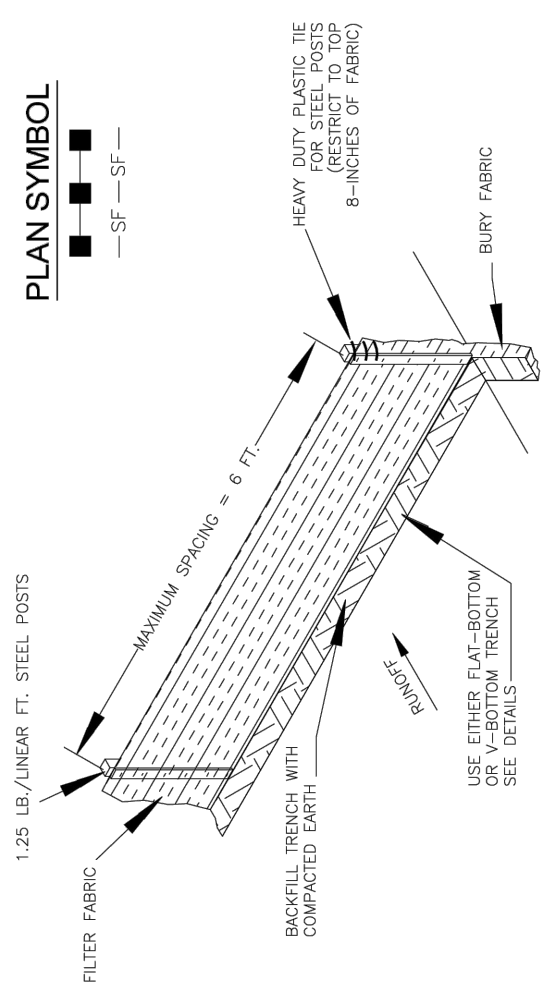
FOUNTAIN INN
JONES MILL RD &
DURBIN CREEK BRIDGE

NATURAL GAS SYSTEM IMPROVEMENTS
FOUNTAIN INN NATURAL GAS
FOUNTAIN INN, SOUTH CAROLINA

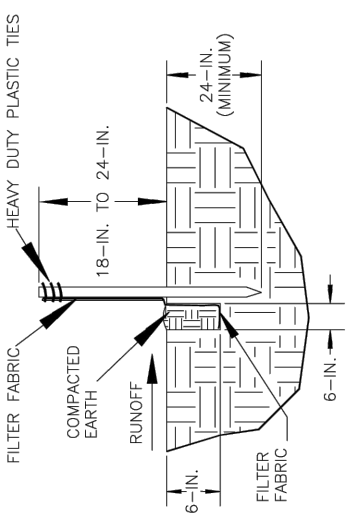
DRAWN	CMD	SCALE	NONE
DATE DRAWN	06/09/2023	PROJECT NO.	22309
APPROVED		SHEET	EROSION CONTROL NOTES 08

EROSION CONTROL NOTES

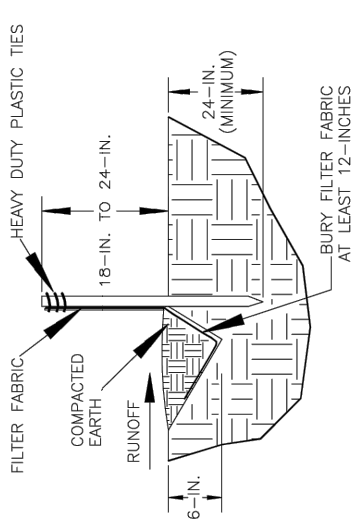
SILT FENCE INSTALLATION



FLAT-BOTTOM TRENCH DETAIL



V-SHAPED TRENCH DETAIL



PLAN SYMBOL



SILT FENCE — GENERAL NOTES

1. Do not place silt fence across channels or in other areas subject to concentrated flows. Silt fence should not be used as a velocity control BMP. Concentrated flows are any flows greater than 0.5 cfs.
2. Maximum sheet or overland flow path length to the silt fence shall be 100-feet.
3. Maximum slope steepness (normal [perpendicular] to the fence line) shall be 2:1.
4. Silt fence joints, when necessary, shall be completed by one of the following options:
 - Wrap each fabric together at a support post with both ends fastened to the post, with a 1-foot minimum overlap;
 - Overlap silt fence by installing 3-feet passed the support post to which the new silt fence roll is attached. Attach old roll to new roll with heavy-duty plastic ties; or,
 - Overlap entire width of each silt fence roll from one support post to the next support post.
5. Attach filter fabric to the steel posts using heavy-duty plastic ties that are evenly spaced within the top 8-inches of the fabric.
6. Install the silt fence perpendicular to the direction of the stormwater flow and place the silt fence the proper distance from the toe of steep slopes to provide sediment storage and access for maintenance and cleanout.
7. Install Silt Fence Checks (Tie-Backs) every 50–100 feet, dependent on slope, along silt fence that is installed with slope and where concentrated flows are expected or are documented along the proposed/installed silt fence.

**South Carolina Department of
Health and Environmental Control**

SILT FENCE

STANDARD DRAWING NO. SC-03 Page 1 of 2
FEBRUARY 2014
DATE
NOT TO SCALE

SILT FENCE — POST REQUIREMENTS

1. Silt Fence posts must be 48-inch long steel posts that meet, at a minimum, the following physical characteristics:
 - Composed of a high strength steel with a minimum yield strength of 50,000 psi.
 - Include a standard "T" section with a nominal face width of 1.38-inches and a nominal "T" length of 1.48-inches.
 - Weigh 1.25 pounds per foot (\pm 8%)
2. Posts shall be equipped with projections to aid in fastening of filter fabric.
3. Steel posts may need to have a metal soil stabilization plate welded near the bottom when installed along steep slopes or installed in loose soils. The plate should have a minimum cross section of 17-square inches and be composed of 15 gauge steel, at a minimum. The metal soil stabilization plate should be completely buried.
4. Install posts to a minimum of 24-inches. A minimum height of 1- to 2-inches above the fabric shall be maintained, and a maximum height of 3 feet shall be maintained above the ground.
5. Post spacing shall be at a maximum of 6-feet on center.

SILT FENCE — FABRIC REQUIREMENTS

1. Silt fence must be composed of woven geotextile filter fabric that consists of the following requirements:
 - Composed of fibers consisting of long chain synthetic polymers of at least 85% by weight of polyolefins, polyesters, or polyamides that are formed into a network such that the filaments or yarns retain dimensional stability relative to each other;
 - Free of any treatment or coating which might adversely alter its physical properties after installation;
 - Free of any defects or flaws that significantly affect its physical and/or filtering properties; and,
 - Have a minimum width of 36-inches.

2. Use only fabric appearing on SC DOT's Qualified Products Listing (QPL), Approval Sheet #34, meeting the requirements of the most current edition of the SC DOT Standard Specifications for Highway Construction.
3. 12-inches of the fabric should be placed within excavated trench and toed in when the trench is backfilled.
4. Filter Fabric shall be purchased in continuous rolls and cut to the length of the barrier to avoid joints.
5. Filter Fabric shall be installed at a minimum of 24-inches above the ground.

SILT FENCE — INSPECTION & MAINTENANCE

1. The key to functional silt fence is weekly inspections, routine maintenance, and regular sediment removal.
2. Regular inspections of silt fence shall be conducted once every calendar week and, as recommended, within 24-hours after each rainfall event that produces 1/2-inch or more of precipitation.
3. Attention to sediment accumulations along the silt fence is extremely important. Accumulated sediment should be continually monitored and removed when necessary.
4. Remove accumulated sediment when it reaches 1/3 the height of the silt fence.
5. Removed sediment shall be placed in stockpile storage areas or spread across disturbed area. Stabilize the removed sediment after it is relocated.
6. Check for areas where stormwater runoff has eroded a channel beneath the silt fence, or where the fence has sagged or collapsed due to runoff overtopping the silt fence. Install checks/tie-backs and/or reinstall silt fence, as necessary.
7. Check for tears within the silt fence, areas where silt fence has begun to decompose, and for any other circumstance that may render the silt fence ineffective. Removed damaged silt fence and reinstall new silt fence immediately.
8. Silt fence should be removed within 30 days after final stabilization is achieved and once it is removed, the resulting disturbed area shall be permanently stabilized.

**South Carolina Department of
Health and Environmental Control**

SILT FENCE

STANDARD DRAWING NO. SC-03 PAGE 2 of 2
FEBRUARY 2014
DATE
GENERAL NOTES

THIS DRAWING IS FOR
PREVIEWING THE
PROJECT VIA THE
INTERNET. OBTAIN
SEALED DRAWINGS FOR
BIDDING PURPOSES.

REVISIONS:

8/17/2023 1:33:54 PM



FOUNTAIN INN
JONES MILL RD &
DURBIN CREEK BRIDGE

NATURAL GAS SYSTEM IMPROVEMENTS
FOUNTAIN INN NATURAL GAS
FOUNTAIN INN, SOUTH CAROLINA

DRAWN CMD	SCALE NONE
DATE DRAWN 06/09/2023	PROJECT NO. 22309
APPROVED	SHEET EROSION CONTROL NOTES 09

REFERENCES

FLAGGING OPERATIONS
GENERAL NOTES

(ALL NOTES, SPECIFICATIONS AND REQUIREMENTS ON THIS STANDARD DRAWING APPLY TO ALL SUBSEQUENT STANDARD DRAWINGS REGARDING FLAGGING OPERATIONS UNLESS OTHERWISE NOTED)

FLAGGING OPERATIONS -

1. KEY FEATURES RELEVANT TO FLAGGING OPERATIONS:

- APPROACH TAPER** - THIS IS A ONE-LANE TWO-WAY TAPER PLACED IN THE TRAVEL LANE WHERE THE WORK ACTIVITY TAKES PLACE. THIS TAPER PRECEDES THE BUFFER SPACE AND THE WORK ACTIVITY AREA. THE LENGTH OF THIS TAPER MAY VARY FROM 50 FEET TO 100 FEET. INSTALL AND MAINTAIN NO LESS THAN FIVE (5) TRAFFIC CONTROL DEVICES EQUALLY SPACED AT 10' TO 25' INTERVALS AS NECESSARY TO CORRESPOND WITH THE LENGTH OF THE TAPER.
- DOWNSTREAM TAPER** - THIS TAPER, PLACED IN THE TRAVEL LANE WHERE THE WORK ACTIVITY TAKES PLACE, FOLLOWS THE WORK ACTIVITY AREA AND SERVES AS THE TERMINATION AREA FOR THE CLOSURE OF THE TRAVEL LANE. THE LENGTH OF THIS TAPER MAY VARY FROM 50 FEET TO 100 FEET. INSTALL AND MAINTAIN NO LESS THAN FIVE (5) TRAFFIC CONTROL DEVICES IN THIS TAPER.
- FLAGGER STATION** - THIS IS THE SPECIFIC LOCATION OF THE FLAGGER.
- CLOSED LANE FLAGGER** - THIS FLAGGER IS STATIONED ADJACENT TO THE FIRST TRAFFIC CONTROL DEVICE IN THE APPROACH TAPER WHO CONTROLS THE TRAFFIC THAT REQUIRES RELOCATION FROM THE TRAVEL LANE BEING CLOSED TO TRAFFIC.
- OPEN LANE FLAGGER** - THIS FLAGGER IS STATIONED 100 FEET BEYOND THE LAST TRAFFIC CONTROL DEVICE IN THE DOWNSTREAM TAPER WHO CONTROLS THE TRAFFIC OPERATING IN THE TRAVEL LANE REMAINING OPEN TO TRAFFIC.
- SIDE ROAD FLAGGER** - THIS FLAGGER IS STATIONED ON AN INTERSECTING SIDE ROAD AND CONTROLS THE SIDE ROAD TRAFFIC ENTERING INTO THE ROADWAY WHERE THE WORK ACTIVITY AREA IS LOCATED.
- BUFFER SPACE** - THIS AREA IS LOCATED BETWEEN THE DOWNSTREAM END OF THE APPROACH TAPER AND THE NEAREST LIMITS OF THE WORK ACTIVITY AREA AND MAY PROVIDE SOME RECOVERY SPACE FOR AN ERRANT VEHICLE. THE PRESENCE OF PERSONNEL, TOOLS, MATERIALS, EQUIPMENT, WORK VEHICLES, ETC. WITHIN THE LIMITS OF THE BUFFER SPACE IS PROHIBITED. HOWEVER, WHEN THE MINIMUM DISTANCE REQUIREMENTS FOR THE BUFFER SPACE ARE UNAVAILABLE, A TRUCK MOUNTED ATTENUATOR MAY TEMPORARILY ENCR OACH UPON THE BUFFER SPACE IN ACCORDANCE WITH THE REQUIREMENTS SPECIFIED IN THE SECTION BELOW ENTITLED, "BUFFER SPACE", WHEN APPROVED BY THE ENGINEER.

WORK ACTIVITY AREA - PERSONNEL, MATERIALS, EQUIPMENT, WORK VEHICLES, ETC. ARE PRESENT WITHIN THIS AREA TO CONDUCT THE WORK.

LIMITS OF THE WORK ACTIVITY AREA - THIS IS THE BOUNDARY OF THE WORK ACTIVITY AREA FIRST ENCOUNTERED, FROM EITHER DIRECTION, BY MOTORISTS PASSING BY THE WORK ACTIVITY AREA IN THE ADJACENT TRAVEL LANE OPEN TO TRAFFIC AND CONTROLLED BY THE FLAGGERS.

APPROACH LANE - TRAFFIC APPROACHES AN INTERSECTION OR A SPECIFIC LOCATION IN THIS TRAVEL LANE.

DEPARTURE LANE - TRAFFIC DEPARTS FROM AN INTERSECTION OR A SPECIFIC LOCATION IN THIS TRAVEL LANE.

MAINLINE APPROACH - THIS IS AN APPROACH TO THE WORK ACTIVITY AREA ON THE ROADWAY WHERE THE WORK ACTIVITY AREA IS LOCATED.

SIDE ROADS - THESE ROADS INTERSECT THE ROADWAY ON WHICH THE WORK ACTIVITY AREA IS LOCATED.

LIMITS OF THE INTERSECTION - THE LIMITS OF OR THE PHYSICAL AREA WITHIN AN INTERSECTION IS DEFINED BY THE LOCATION OF STOP BARS WHEN PRESENT. WHEN STOP BARS ARE ABSENT, THE LIMITS OF OR THE PHYSICAL AREA WITHIN AN INTERSECTION IS DEFINED BY THE LOCATION POINTS WHERE THE CORNER RADI BETWEEN ADJACENT ROADWAY APPROACHES TIE TO THE EDGE OF PAVEMENT OR THE EDGE OF TRAVEL LANE ADJACENT TO THE EDGE OF PAVEMENT OF EACH ROADWAY.

2. INSTALL, CONDUCT AND MAINTAIN FLAGGING OPERATIONS IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS, THE STANDARD DRAWINGS, THE MUTCD AND THE "SOUTH CAROLINA FLAGGER'S HANDBOOK" UNLESS OTHERWISE DIRECTED BY THE DEPARTMENT. INSTALL ALL SIGNS RELATIVE TO A FLAGGING OPERATION PRIOR TO INITIATION OF THE OPERATION AND REMOVE OR COVER ALL SIGNS IMMEDIATELY UPON TERMINATION OF THE OPERATION. EQUIP EACH FLAGGER WITH A 24" x 24" STOP/SLOW PADDLE MOUNTED ON A RIGID HANDLE WITH A MINIMUM LENGTH OF 7 FEET. THE DEPARTMENT PROHIBITS THE USE OF FLAGS EXCEPT DURING EMERGENCY SITUATIONS.
3. LANE CLOSURES FOR FLAGGING OPERATIONS ARE RESTRICTED TO A MAXIMUM DISTANCE OF 2 MILES UNLESS OTHERWISE APPROVED BY THE ENGINEER. THE WORK LIMITS WILL COMPLY WITH THE CONTRACT AND SHALL REQUIRE THE ENGINEER'S APPROVAL PRIOR TO BEGINNING THE WORK.
4. INSTALL AND MAINTAIN THE PROPER ARRAY OF ADVANCE WARNING SIGNS FOR EACH "MAINLINE APPROACH" WHEN A FLAGGING OPERATION IS IN PLACE AND ACTIVE. WHEN NECESSARY TO RELOCATE THE "FLAGGER STATION" WHILE ACTIVELY MAINTAINING THE FLAGGING OPERATION, INSTALL AN ADDITIONAL ARRAY OF ADVANCE WARNING SIGNS AT THE LOCATION RELATIVE TO THE NEW "FLAGGER STATION" AND REMOVE THE ORIGINAL ARRAY OF ADVANCE WARNING SIGNS IMMEDIATELY UPON COMPLETION OF THE RELOCATION OF THE FLAGGER TO THE NEW "FLAGGER STATION".
5. INSTALL ALL ADVANCE WARNING SIGNS IMMEDIATELY PRIOR TO INITIATING A FLAGGING OPERATION AND REMOVE OR COVER ALL SIGNS IMMEDIATELY UPON TERMINATION OF THE OPERATION.
6. MAINTAIN TWO-WAY RADIO COMMUNICATIONS BETWEEN ALL FLAGGERS.

NIGHTTIME FLAGGING OPERATIONS -

1. EACH FLAGGER SHALL WEAR SAFETY APPAREL IN COMPLIANCE WITH THE REQUIREMENTS OF ANSI/ISEA 107 STANDARD PERFORMANCE FOR CLASS 3 RISK EXPOSURE, LATEST REVISION, WHEN CONDUCTING NIGHTTIME FLAGGING OPERATIONS.
2. ILLUMINATE EACH "FLAGGER STATION" WITH ANY COMBINATION OF PORTABLE LIGHTS, STANDARD ELECTRIC LIGHTS, EXISTING STREET LIGHTS, ETC. THAT WILL PROVIDE A MINIMUM ILLUMINATION LEVEL OF 108 lx OR 10 fc WHEN CONDUCTING NIGHTTIME FLAGGING OPERATIONS.
3. SUPPLEMENT EACH ARRAY OF ADVANCE WARNING SIGNS ON EACH "MAINLINE APPROACH" WITH A TRAILER MOUNTED CHANGEABLE MESSAGE SIGN. THESE CHANGEABLE MESSAGE SIGNS ARE NOT REQUIRED ON THE "SIDE ROADS" INTERSECTING THE ROADWAY WHERE THE "WORK ACTIVITY AREA" IS LOCATED. ALSO, THESE CHANGEABLE MESSAGE SIGNS ARE NOT REQUIRED DURING DAYTIME FLAGGING OPERATIONS UNLESS OTHERWISE DIRECTED BY THE STANDARD DRAWINGS. INSTALL THE CHANGEABLE MESSAGE SIGNS IN ADVANCE OF THE ADVANCE WARNING SIGN ARRAYS. THE MESSAGES SHOULD BE "PREPARE TO STOP", "FLAGGER AHEAD". A TRUCK MOUNTED CHANGEABLE MESSAGE SIGN IS NOT AN ACCEPTABLE ALTERNATIVE TO A TRAILER MOUNTED CHANGEABLE MESSAGE SIGN DURING NIGHTTIME FLAGGING OPERATIONS.
4. UTILIZE PORTABLE PLASTIC DRUMS OR 42" OVERSIZED TRAFFIC CONES IN PLACE OF 36" STANDARD TRAFFIC CONES DURING NIGHTTIME FLAGGING OPERATIONS.

BUFFER SPACE -

1. THE MINIMUM DISTANCE REQUIREMENTS FOR THE "BUFFER SPACE" ARE BASED UPON THE LEGAL POSTED REGULATORY SPEED LIMIT OF THE ROADWAY PRIOR TO BEGINNING THE WORK.

SPEED LIMIT	DISTANCES
LOW SPEED ≤ 35 MPH	200 FEET
INTERMEDIATE SPEED 40 - 50 MPH	300 FEET
HIGH SPEED 55 MPH	400 FEET

2. THE PRESENCE OF PERSONNEL, TOOLS, MATERIALS, EQUIPMENT, WORK VEHICLES, ETC. WITHIN THE LIMITS OF THE "BUFFER SPACE" IS PROHIBITED. A TRUCK MOUNTED ATTENUATOR IS THE ONLY WORK VEHICLE THAT MAY TEMPORARILY ENCR OACH UPON THE "BUFFER SPACE" IN ACCORDANCE WITH THE CONDITIONS SPECIFIED IN THE FOLLOWING NOTE WHEN APPROVED BY THE ENGINEER. SEE NOTE NO. 3.
3. WHEN THE MINIMUM DISTANCE REQUIREMENTS FOR THE "BUFFER SPACE" ARE UNAVAILABLE DUE TO FIELD CONDITIONS, IT MAY BE NECESSARY FOR A TRUCK MOUNTED ATTENUATOR TO TEMPORARILY ENCR OACH UPON THE "BUFFER SPACE" WHEN APPROVED BY THE ENGINEER. A TRUCK MOUNTED ATTENUATOR IS THE ONLY VEHICLE PERMITTED TO TEMPORARILY ENCR OACH UPON THE "BUFFER SPACE" AND THIS ENCR OACHMENT IS ONLY PERMITTED WHEN ALL REASONABLE OPTIONS TO AVOID DOING SO HAVE BEEN EXHAUSTED. WHEN ENCR OACHMENT UPON THE "BUFFER SPACE" IS APPROVED BY THE ENGINEER, MINIMIZE THE TIME DURATION OF THE ENCR OACHMENT BY REMOVAL OF THE TRUCK MOUNTED ATTENUATOR FROM THE "BUFFER SPACE" AT THE FIRST OPPORTUNITY THE MINIMUM DISTANCE REQUIREMENTS FOR THE "BUFFER SPACE" BECOME AVAILABLE.

SIGNS AND TRAFFIC CONTROL DEVICES -

1. MEASURE THE ADVANCE WARNING SIGN LOCATIONS FOR EACH APPROACH FROM THE "FLAGGER STATION" LOCATED ON THAT APPROACH.
2. INSTALL THE ADVANCE WARNING SIGNS AS SPACING INTERVALS BASED UPON THE POSTED REGULATORY SPEED LIMIT OF THE ROADWAY PRIOR TO BEGINNING ANY WORK. THE ADVANCE WARNING SIGN SPACING INTERVALS INDICATED ARE FOR NORMAL CONDITIONS. ADJUSTMENTS TO THESE DISTANCES MAY BE NECESSARY DUE TO EXISTING SIGNS, INTERSECTING ROADWAYS, HORIZONTAL AND/OR VERTICAL ALIGNMENTS OR OTHER SIGHT DISTANCE RESTRICTIONS. SEE TABLE A.
3. INSTALL ADVANCE WARNING SIGNS MOUNTED ON PORTABLE SIGN SUPPORTS NO LESS THAN 4 FEET FROM THE NEAR EDGE OF THE SIGN TO THE NEAR EDGE OF AN ADJACENT TRAVEL LANE ON ROADWAYS WITH EARTH SHOULDERS AND NO LESS THAN 6 FEET FROM THE NEAR EDGE OF THE SIGN TO THE NEAR EDGE OF AN ADJACENT TRAVEL LANE ON ROADWAYS WITH PAVED SHOULDERS. WHEN CURB & GUTTER IS PRESENT, INSTALL THE SIGN NO LESS THAN 2 FEET FROM THE NEAR EDGE OF THE SIGN TO THE FACE OF THE CURB.
4. ALL SIGNS MOUNTED ON PORTABLE SIGN SUPPORTS SHALL HAVE A MINIMUM MOUNTING HEIGHT OF 5 FEET FROM THE GROUND TO THE BOTTOM OF THE SIGN. ALL SIGNS MOUNTED ON GROUND MOUNTED U-CHEMEL OR SQUARE STEEL TUBE POSTS SHALL HAVE A MINIMUM MOUNTING HEIGHT OF 7 FEET FROM THE GRADE ELEVATION OF THE NEAR EDGE OF THE ADJACENT TRAVEL LANE TO THE BOTTOM OF THE SIGN UNLESS OTHERWISE DIRECTED BY THE DEPARTMENT. MOUNT ALL SIGNS STRAIGHT AND LEVEL AND WITH THE FACE OF THE SIGNS PERPENDICULAR TO THE SURFACE OF THE ROADWAY.
5. REFLECTORIZE ORANGE ADVANCE WARNING SIGNS AND ANY ORANGE AREAS OF A MULTI-COLORED ADVANCE WARNING SIGN WITH A FLUORESCENT ORANGE COLORED PRISMATIC RETROREFLECTIVE SHEETING. REFLECTORIZE WHITE REGULATORY SIGNS AND ANY WHITE AREAS OF A MULTI-COLORED ADVANCE WARNING SIGN WITH A WHITE COLORED PRISMATIC RETROREFLECTIVE SHEETING.
6. ALL TRAFFIC CONTROL DEVICES SHALL COMPLY WITH THE REQUIREMENTS OF NCHRP REPORT 350 OR THE AASHTO MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) AND SHALL REQUIRE APPROVAL BY THE DEPARTMENT. ONLY THOSE TRAFFIC CONTROL DEVICES INCLUDED ON THE "APPROVED PRODUCTS LIST FOR TRAFFIC CONTROL DEVICES IN WORK ZONES" ARE CONSIDERED ACCEPTABLE FOR USE. THIS LIST MAY BE ACCESSED ON THE DEPARTMENT'S WEB SITE AT: www.scdot.org.
7. REFLECTORIZATION OF 36" TRAFFIC CONES USED DURING DAYLIGHT HOURS IS NOT REQUIRED. IN THE EVENT A DAYTIME FLAGGING OPERATION EXTENDS INTO THE NIGHTTIME HOURS, REPLACE ALL 36" TRAFFIC CONES WITH EITHER PORTABLE PLASTIC DRUMS OR 42" OVERSIZED TRAFFIC CONES. REFLECTORIZE ALL PORTABLE PLASTIC DRUMS AND 42" OVERSIZED TRAFFIC CONES WITH TYPE III OR GREATER FLEXIBLE MICROPRISMATIC RETROREFLECTIVE SHEETING UNLESS OTHERWISE DIRECTED BY THE DEPARTMENT.
8. DELINEATE THE TANGENT AREA OF THE LANE CLOSURE WITH THE NECESSARY TRAFFIC CONTROL DEVICES TO MINIMIZE ENCR OACHMENT BY MOTORISTS INTO THE CLOSED TRAVEL LANE UNLESS OTHERWISE DIRECTED BY THE ENGINEER. ON ROADWAYS WITH POSTED REGULATORY SPEED LIMITS OF 35 MPH OR LESS, INSTALL THE TRAFFIC CONTROL DEVICES AT SPACING INTERVALS OF 25 FEET. ON ROADWAYS WITH POSTED REGULATORY SPEED LIMITS OF 40 MPH OR GREATER, INSTALL THE TRAFFIC CONTROL DEVICES AT SPACING INTERVALS OF 50 FEET. SEE TABLE B.

ADVANCE WARNING ARROW PANEL -

1. DURING FLAGGING OPERATIONS, AN ADVANCE WARNING ARROW PANEL SHALL OPERATE IN THE "FOUR CORNERS" CAUTION MODE WHEN LOCATED WITHIN OR IN BETWEEN THE LIMITS OF THE ADVANCE WARNING SIGN ARRAYS SPECIFIC TO A FLAGGING OPERATION. OPERATION OF AN ADVANCE WARNING ARROW PANEL IN AN ARROW, CHEVRON OR ANY OTHER TYPE OF CAUTION MODE OTHER THAN THE "FOUR CORNERS" CAUTION MODE WHEN LOCATED WITHIN OR IN BETWEEN THE LIMITS OF THE ADVANCE WARNING SIGN ARRAYS AS SPECIFIED HEREIN IS PROHIBITED.
2. ALL ADVANCE WARNING ARROW PANELS SHALL COMPLY WITH THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, LATEST EDITION. THE SPECIFIC LOCATION OF AN ADVANCE WARNING ARROW PANEL MAY REQUIRE ADJUSTMENTS DUE TO HORIZONTAL AND/OR VERTICAL ALIGNMENT OR OTHER SIGHT DISTANCE RESTRICTIONS.

TRUCK MOUNTED ATTENUATOR -

1. A TRUCK MOUNTED ATTENUATOR IS OPTIONAL. UTILIZATION OF A TRUCK MOUNTED ATTENUATOR SHOULD BE CONSIDERED WHEN THE MINIMUM DISTANCE REQUIREMENTS FOR THE "BUFFER SPACE" ARE UNAVAILABLE DUE TO FIELD CONDITIONS. HOWEVER, A TRAILER MOUNTED ADVANCE WARNING ARROW PANEL MAY BE UTILIZED IN PLACE OF A TRUCK MOUNTED ATTENUATOR DURING TRAFFIC CONTROL SETUPS FOR WORK ACTIVITIES SUCH AS ASPHALT CONCRETE PLACEMENT OPERATIONS WHEN APPROVED BY THE ENGINEER.
2. WHEN UTILIZING A TRUCK MOUNTED ATTENUATOR, ENSURE THE TRUCK HAS THE CORRECT GROSS VEHICULAR WEIGHT (GVW) REQUIRED FOR THE TYPE OF TRUCK MOUNTED ATTENUATOR BEING UTILIZED. A DIRECT TRUCK MOUNTED TRUCK MOUNTED ATTENUATOR, A UNIT MOUNTED AND ATTACHED TO BRACKETS OR SIMILAR DEVICES CONNECTED TO THE FRAME OF THE TRUCK, REQUIRES A TRUCK WITH A MINIMUM GVW OF 15,000 POUNDS (ACTUAL WEIGHT) UNLESS OTHERWISE DIRECTED BY THE DEPARTMENT. A TRAILER TOWED TRUCK MOUNTED ATTENUATOR, A TRAILER TYPE UNIT TOWED FROM BEHIND AND ATTACHED TO THE FRAME OF THE TRUCK VIA A PINNLE HOOK / HITCH, REQUIRES A TRUCK WITH A MINIMUM GVW OF 10,000 POUNDS (ACTUAL WEIGHT) UNLESS OTHERWISE DIRECTED BY THE DEPARTMENT. IF THE ADDITION OF SUPPLEMENTAL WEIGHT TO THE VEHICLE AS BALLAST IS NECESSARY, CONTAIN THE MATERIAL WITHIN A STRUCTURE CONSTRUCTED OF STEEL. CONSTRUCT THIS STEEL STRUCTURE TO HAVE A MINIMUM OF FOUR (4) SIDES AND A BOTTOM. A TOP IS OPTIONAL. BOLT THIS STRUCTURE TO THE FRAME OF THE TRUCK. UTILIZE A SUFFICIENT NUMBER OF FASTENERS FOR ATTACHMENT OF THE STEEL STRUCTURE TO THE FRAME OF THE TRUCK TO ENSURE THE STRUCTURE WILL NOT SEPARATE FROM THE FRAME OF THE TRUCK DURING AN IMPACT UPON THE TRUCK MOUNTED ATTENUATOR. UTILIZE EITHER DRY LOOSE SAND OR STEEL REINFORCED CONCRETE FOR BALLAST MATERIAL WITHIN THE STEEL STRUCTURE TO ACHIEVE THE NECESSARY WEIGHT. THE BALLAST MATERIAL SHALL REMAIN CONTAINED WITHIN THE CONFINES OF THE STEEL STRUCTURE IN ITS ENTIRETY AND SHALL NOT PROTRUDE FROM THE STEEL STRUCTURE IN ANY MANNER.
3. LOCATE THE TRUCK MOUNTED ATTENUATOR APPROXIMATELY 100 FEET IN ADVANCE OF THE "WORK ACTIVITY AREA" UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
4. PROVIDE, INSTALL AND MAINTAIN THE TRUCK MOUNTED ATTENUATOR AS SPECIFIED BY THE STANDARD SPECIFICATIONS AND AS DIRECTED BY THE ENGINEER.

GENERAL -

1. CONDUCT THE WORK IN SUCH A MANNER SO AS NOT TO ENCR OACH ONTO THE ADJACENT TRAVEL LANE OPEN TO TRAFFIC. INSTALL, MAINTAIN AND ADJUST THE TRAFFIC CONTROL DEVICES AS NECESSARY TO ENSURE PROPER DELINEATION OF THE WORK AREA.
2. IF WORK IS BEING CONDUCTED AT TWO DIFFERENT LOCATIONS AT THE SAME TIME, SEPARATE THE TWO LOCATIONS BY NO LESS THAN 2 MILES FROM THE LAST TRAFFIC CONTROL DEVICE IN THE "DOWNSTREAM TAPER" OF THE FIRST LANE CLOSURE TO THE FIRST TRAFFIC CONTROL DEVICE IN THE "APPROACH TAPER" OF THE SECOND LANE CLOSURE ENCOUNTERED BY A MOTORIST UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
3. THE DEPARTMENT RESERVES THE RIGHT TO RESTRICT WORK OPERATIONS AND/OR WITHHOLD THE MONTHLY ESTIMATE IF THE TRAFFIC CONTROL IS NOT PROPERLY INSTALLED AND MAINTAINED AS DIRECTED BY THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, THE STANDARD DRAWINGS, THE PLANS AND/OR THE ENGINEER.

TABLE A

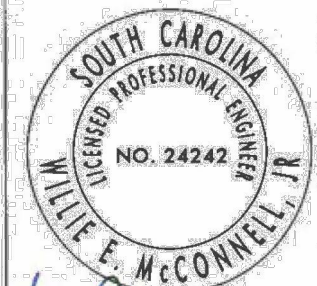
SIGN PLACEMENT INTERVALS	
SPEED LIMIT	*
≤ 35 MPH LOW SPEED	200
40 - 50 MPH INTERMEDIATE SPEED	350
55 MPH HIGH SPEED	500

* REGULATORY POSTED SPEED LIMIT PRIOR TO BEGINNING WORK

TABLE B

TRAFFIC CONTROL DEVICE SPACING INTERVALS WORK ACTIVITY / BUFFER SPACE AREAS	
SPEED LIMIT	SPACING INTERVALS
≤ 35 MPH	25 FEET
40 - 55 MPH	50 FEET

WORK ZONE TRAFFIC
CONTROL ENGINEER



Willie E. McConnell, Jr.
SIGNATURE

6/1/2019
DATE

5			
4			
3			
2			
1	4-27-18	WEM	REVISED FLAGGING OPERATIONS NOTE 1
0	1-14-15	JCS	NEW DRAWING
#	DATE	CHK	DESCRIPTION



SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION
DESIGN STANDARDS OFFICE
955 PARK STREET
ROOM 405
COLUMBIA, SC 29201

STANDARD DRAWING

FLAGGING
OPERATIONS
TWO-LANE TWO-WAY
PRIMARY &
SECONDARY ROUTES

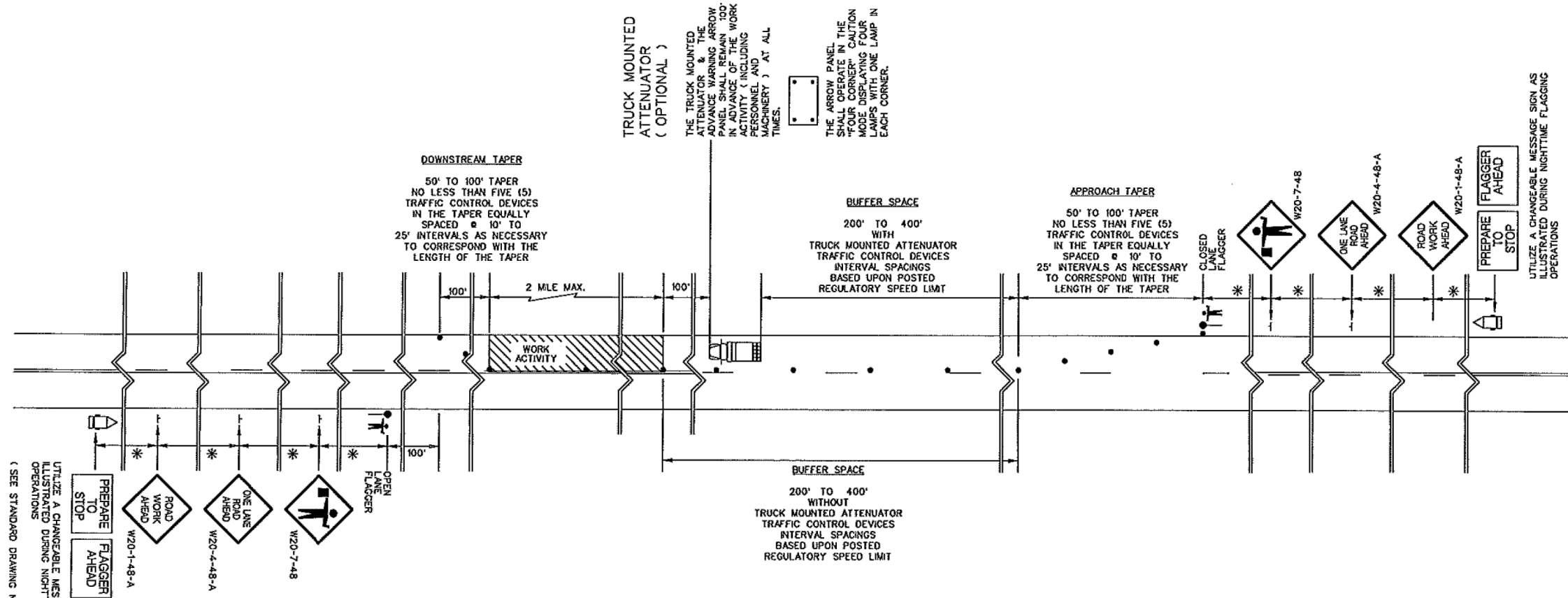
610-005-00

EFFECTIVE LETTING DATE JAN 2019

THIS DRAWING IS NOT TO SCALE

DRAWING 610-005-10 NOTES

1. SEE STANDARD DRAWING NO. 610-005-00 FOR ALL GENERAL NOTES AND REQUIREMENTS.



UTILIZE A CHANGEABLE MESSAGE SIGN AS ILLUSTRATED DURING NIGHTTIME FLAGGING OPERATIONS
(SEE STANDARD DRAWING NO. 610-005-00)

TABLE A

SIGN PLACEMENT INTERVALS	
SPEED LIMIT	*
# < 35 MPH LOW SPEED	200
# 40 - 50 MPH INTERMEDIATE SPEED	350
# 55 MPH HIGH SPEED	500

* REGULATORY POSTED SPEED LIMIT PRIOR TO BEGINNING WORK

TABLE B

TRAFFIC CONTROL DEVICE SPACING INTERVALS WORK ACTIVITY / BUFFER SPACE AREAS	
SPEED LIMIT	SPACING INTERVALS
< 35 MPH	25 FEET
40 - 55 MPH	50 FEET

REFERENCES

WORK ZONE TRAFFIC CONTROL ENGINEER



Willie E. McConnell
SIGNATURE

7/27/15
DATE

6			
5			
4			
3			
2			
1			
0	1-15-15	JCS	NEW DRAWING
#	DATE	CHK	DESCRIPTION



SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION
DESIGN STANDARDS OFFICE
955 PARK STREET
ROOM 405
COLUMBIA, SC 29201

STANDARD DRAWING

FLAGGING OPERATIONS
TWO-LANE TWO-WAY ROADWAYS
WITHOUT INTERSECTIONS

610-005-10

EFFECTIVE LETTING DATE | JAN 2016

THIS DRAWING IS NOT TO SCALE

JONES MILL RD. CROSSING

(STA. 0+18)

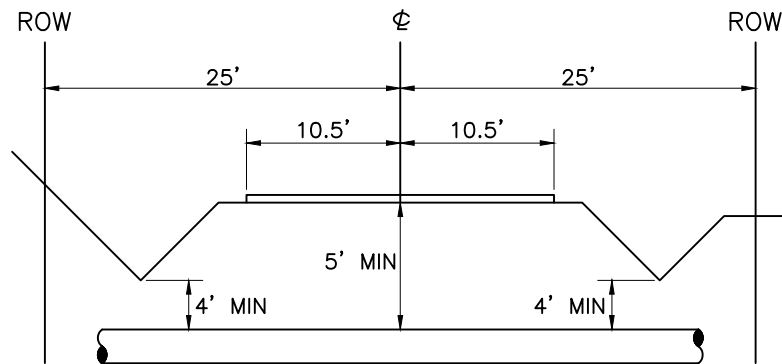
LOOKING SOUTHWEST

ENCROACHMENT CRITERIA

State Route No. S-23-191
 County GREENVILLE
 Milepoint — To —
 Road Width 21'
 R.O.W. Width 50'
 Cathodic Protection N/A
 Road Crossing YES
 (If Yes, see road crossing criteria below)

ROAD CROSSING CRITERIA

Crossing Deflection Angle 90°
 Encasement Pipe Material —
 Encasement Pipe Size —
 Carrier Pipe Size 4"
 Carrier Pipe Material HDPE
 Height of Fill Over Pipe 5'
 Top Of Pipe Below Bottom Of Ditch 4'
 Length of Bore 36'
 Bore Pit To Be No Less Than 5' From E.P.



JONES MILL RD. CROSSING

(STA. 10+75)

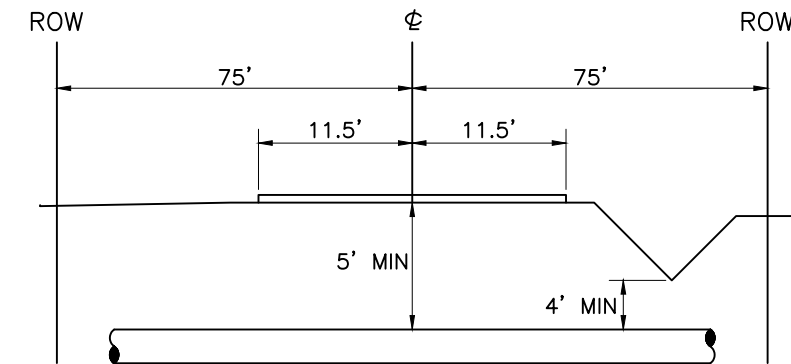
LOOKING SOUTHWEST

ENCROACHMENT CRITERIA

State Route No. S-23-191
 County GREENVILLE
 Milepoint — To —
 Road Width 23'
 R.O.W. Width 150'
 Cathodic Protection N/A
 Road Crossing YES
 (If Yes, see road crossing criteria below)

ROAD CROSSING CRITERIA

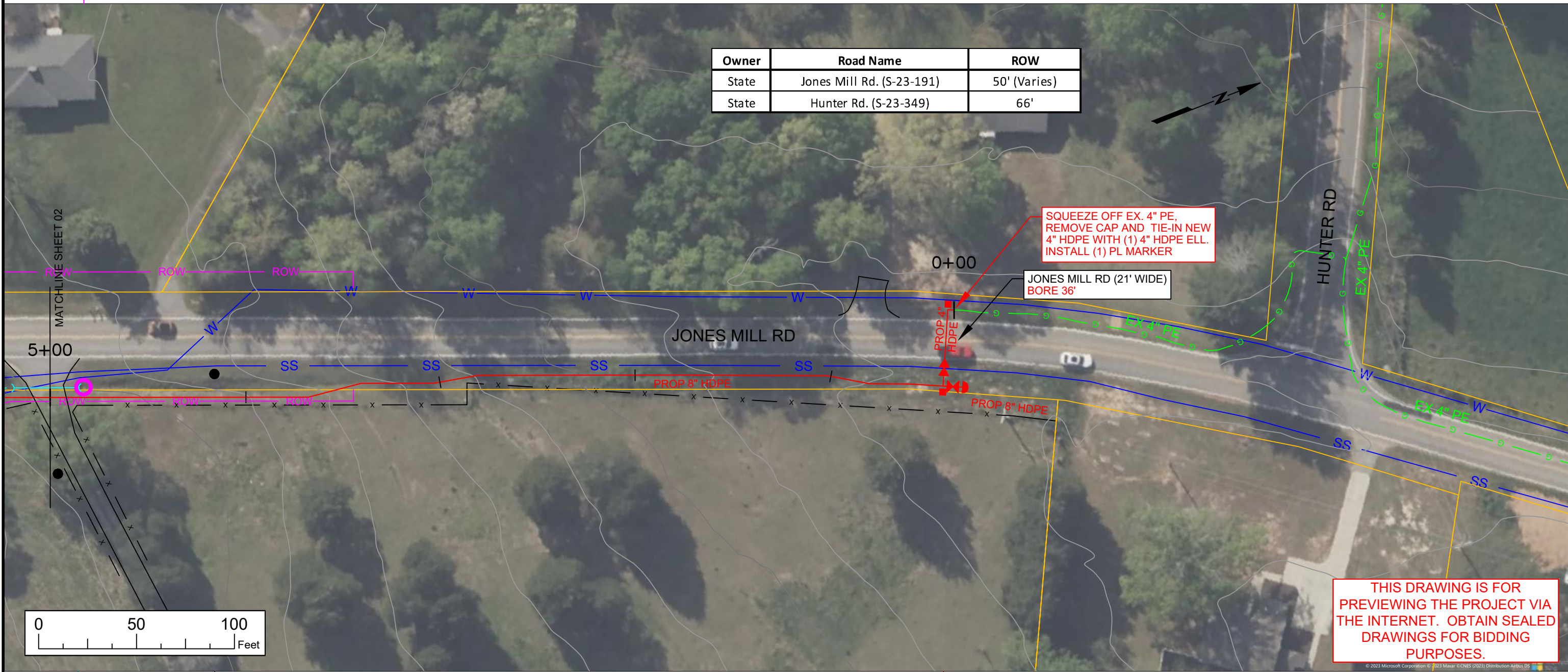
Crossing Deflection Angle 66°
 Encasement Pipe Material —
 Encasement Pipe Size —
 Carrier Pipe Size 4"
 Carrier Pipe Material HDPE
 Height of Fill Over Pipe 5'
 Top Of Pipe Below Bottom Of Ditch N/A
 Length of Bore 38'
 Bore Pit To Be No Less Than 5' From E.P.



THIS DRAWING IS FOR
 PREVIEWING THE PROJECT VIA
 THE INTERNET. OBTAIN SEALED
 DRAWINGS FOR BIDDING
 PURPOSES.

INSTALL CULVERT INLET PROTECTION
PER DWG EC-7

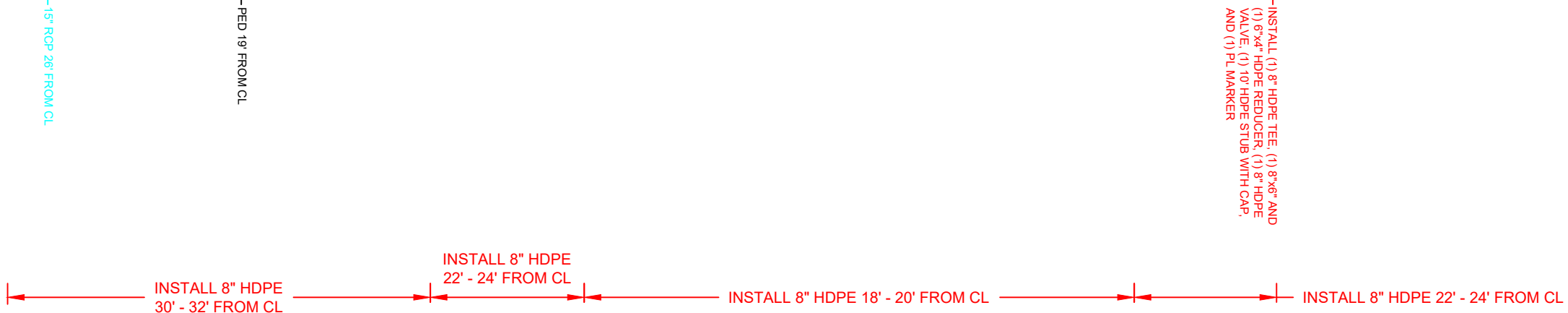
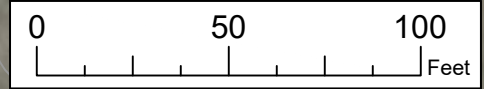
Owner	Road Name	ROW
State	Jones Mill Rd. (S-23-191)	50' (Varies)
State	Hunter Rd. (S-23-349)	66'



SQUEEZE OFF EX. 4" PE,
REMOVE CAP AND TIE-IN NEW
4" HDPE WITH (1) 4" HDPE ELL.
INSTALL (1) PL MARKER

JONES MILL RD (21' WIDE)
BORE 36'

THIS DRAWING IS FOR
PREVIEWING THE PROJECT VIA
THE INTERNET. OBTAIN SEALED
DRAWINGS FOR BIDDING
PURPOSES.



INSTALL CULVERT INLET PROTECTION
PER DWG EC-7

INSTALL SILT FENCE
PER DWG EC-3

INSTALL SILT FENCE
PER DWG EC-3

Owner	Road Name	ROW
State	Jones Mill Rd. (S-23-191)	Varies

SQUEEZE OFF EX. 4" PE,
REMOVE CAP AND TIE-IN NEW
4" HDPE WITH (1) 4" HDPE ELL.
INSTALL (1) PL MARKER.

JONES MILL RD (23' WIDE)
BORE 38'

INSTALL (1) 8" HDPE TEE, (1) 8"x6"
AND (1) 6"x4" HDPE REDUCER, (1) 8"
HDPE VALVE AND (1) PL MARKER.

INSTALL EROSION CONTROL
BLANKET PER DWG EC-6

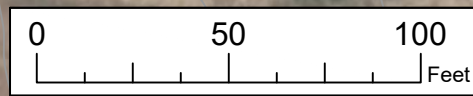
INSTALL 8" HDPE GOING WEST,
MIN 5' NORTH OF SIGN.

FING WILL PROVIDE
TEMPORARY CONSTRUCTION
EASEMENT TO STRING PIPE.

TEMPORARILY REMOVE FENCE
POSTS AND OR GATE, AS WELL
AS LOGS, TO CLEAR AREA FOR
BORE PIT LOCATION.

TEMPORARILY REMOVE FENCE TO CLEAR
AREA FOR BORE PIT LOCATION.
CONSTRUCT TEMPORARY FENCE AS
NECESSARY. FING WILL PROVIDE
TEMPORARY CONSTRUCTION EASEMENT.

THIS DRAWING IS FOR
PREVIEWING THE PROJECT VIA
THE INTERNET. OBTAIN SEALED
DRAWINGS FOR BIDDING
PURPOSES.



- INSTALL (1) 8" HDPE CAP
- 19' ASP DW OPEN CUT 19'
- 18" RCP 23' FROM CL
- 21' ASP DW OPEN CUT 21'
- SIGN 26' FROM CL
- 15" RCP 36' FROM CL
- INSTALL (1) 8" HDPE ELL
- INSTALL (1) PL MARKER
- INSTALL (1) PL MARKER
- INSTALL (1) PL MARKER
- INSTALL (2) 8" HDPE ELLS
- TREE GO AROUND
- 15' ASP DW BORE 21'

INSTALL 8" HDPE (APPROX. 80')
16' FROM CL

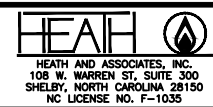
INSTALL 8" HDPE 3' INSIDE SCDOT ROW VIA HDD. SEE SHEET "BORE 01".

INSTALL 8" HDPE
30' - 32' FROM CL

INSTALL 8" HDPE
3' INSIDE SCDOT ROW

REVISIONS:

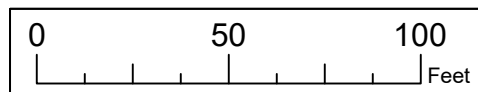
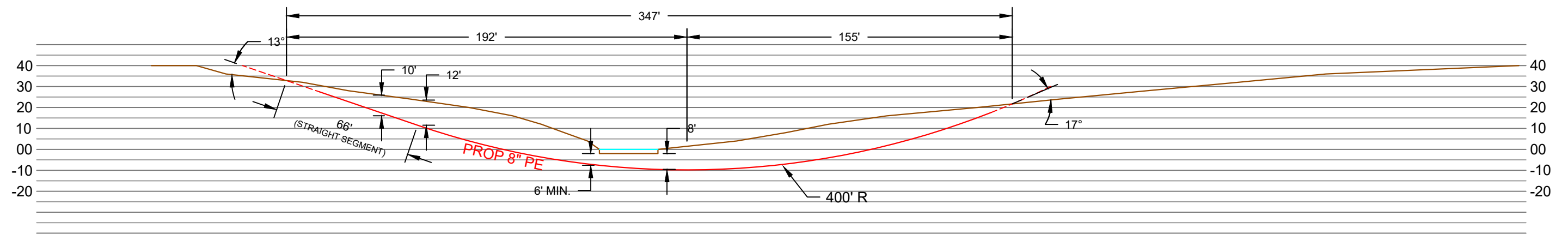
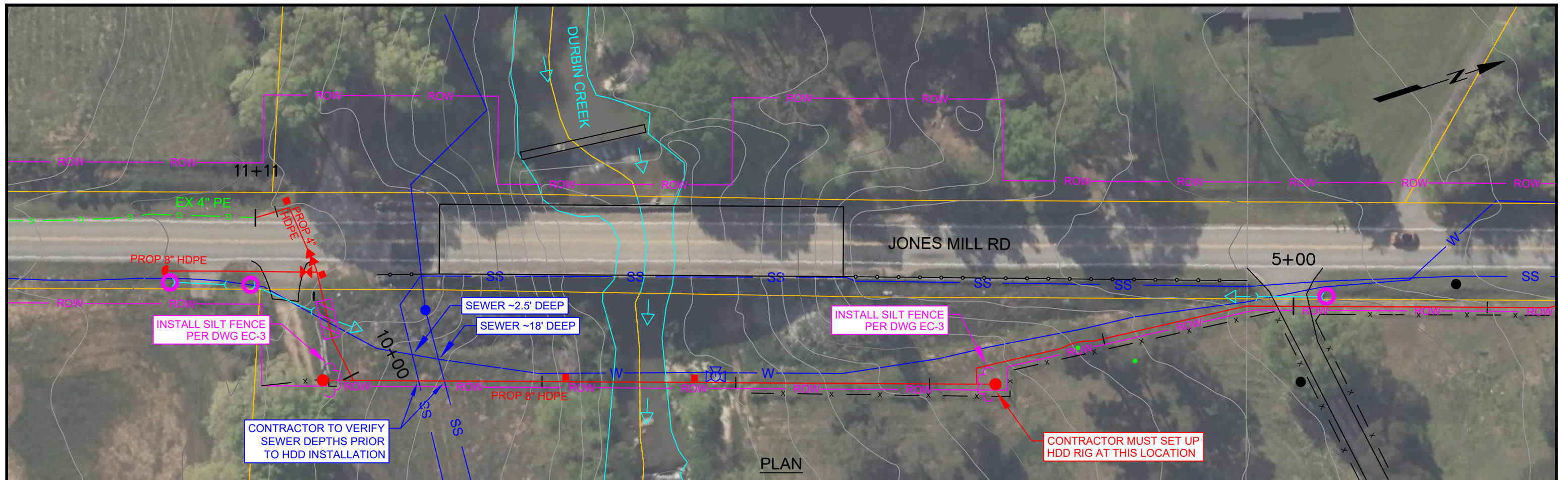
8/17/2023 1:34:04 PM



FOUNTAIN INN
JONES MILL RD &
DURBIN CREEK BRIDGE

NATURAL GAS SYSTEM IMPROVEMENTS
FOUNTAIN INN NATURAL GAS
FOUNTAIN INN, SOUTH CAROLINA

DRAWN CMD	SCALE SEE GRAPHIC
DATE DRAWN 06/09/2023	PROJECT NO. 22309
DRAWING NAME	SHEET 02 OF 02



THIS DRAWING IS FOR PREVIEWING THE PROJECT VIA THE INTERNET. OBTAIN SEALED DRAWINGS FOR BIDDING PURPOSES.

REVISIONS:

8/17/2023 1:34:05 PM



FOUNTAIN INN
JONES MILL RD &
DURBIN CREEK BRIDGE

NATURAL GAS SYSTEM IMPROVEMENTS
FOUNTAIN INN NATURAL GAS
FOUNTAIN INN, SOUTH CAROLINA

DRAWN CMD	SCALE SEE GRAPHIC
DATE DRAWN 06/09/2023	PROJECT NO. 22309
DRAWING NAME	SHEET BORE 01