MIDDLE FORK NEW RIVER GREENWAY REACH 3

MIDDLE FORK SOUTH FORK NEW RIVER - BLUE RIDGE CONSERVANCY
WATAUGA COUNTY, NORTH CAROLINA
LAT: 36.160517, LONG: -81.645426

PROJECT DIRECTORY

PROJECT SPONSOR

BLUE RIDGE CONSERVANCY	WENDY PATOPRSTY MIDDLE FORK GREENWAY DIRECTOR WENDY@BLUERIDGECONSERVANCY.ORG

DESIGN TEAM

ENGINEER

JENNINGS ENVIRONMENTAL PLLC	GREG JENNINGS, PHD, PE PRESIDENT GREG@JENNINGSENV.COM

SURVEYOR

MICHELLE FISH SURVEYING	MICHELLE FISH PROFESSIONAL LAND SURVEYOR MICHELLEFISHSURVEYING@GMAIL.COM

CONSTRUCTION

CONTRACTOR

TO BE DETERMINED

PROPERTY OWNER(S)

PIN	OWNER
2818960853000, 2818973649000	BLUE RIDGE CONSERVANCY
2818974835000, 2818988488000	WATAUGA COUNTY
2818989056000, 2818977790000	KIM WHITENER

SHEET INDEX

NOT FOR CONSTRUCTION

CONSTRUCTION BID PLANS

August 13, 2025

Know what's below.
Call before you dig

REV	DESCRIPTION	CHECKED BY: DB	DRAWN BY: CP
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MIDDLE FORK NEW RIVER GREENWAY REACH 3
MIDDLE FORK SOUTH FORK NEW RIVER - BLUE RIDGE CONSERVANCY
WATAUGA COUNTY, NORTH CAROLINA

CONSTRUCTION BID PLANS
COVER SHEET
NOT FOR CONSTRUCTION

Jennings Environmental

JENNINGS ENVIRONMENTAL, PLLC
7 SAMUEL ASHE DRIVE
ASHEVILLE, NC 28805
LICENSE: P-1932

DATE: 8/13/2025
SCALE (34"X22"): 1" = 4000'
SCALE (17"X11"): 1" = 8000'

0 4000 8000
SCALE IN FEET

SHEET NUMBER
E1.1

GENERAL PROJECT NOTES AND SPECIFICATIONS

1. DEFINITIONS:
   1.1. CONSTRUCTION DOCUMENTS: THE CONTRACT AND APPLICABLE DRAWINGS, DETAILS, SPECIFICATIONS, PERMIT(S), AND/OR ANY OTHER DOCUMENTS (MEETING MINUTES, PUNCH LISTS, BID TABS, ETC.) FOR COMPLETE INFORMATION ABOUT THE REQUIRED WORK. ANY ONE OF THESE PARTS MAY NOT CONTAIN ALL OF THE INFORMATION REQUIRED TO COMPLETE THE PROJECT WORK.
   1.2. ENGINEER: JENNINGS ENVIRONMENTAL PLLC

2. THE WORK ON THIS PROJECT SHALL ADHERE TO THE FOLLOWING SPECIFICATIONS, STANDARDS AND/OR REGULATIONS:
   2.1. NC DEMLR'S "EROSION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL" (2013)
   2.2. NC DEMLR'S CONSTRUCTION GENERAL PERMIT NUMBER NCG01000
   2.3. GENERAL, REGIONAL AND SPECIAL CONDITIONS OF USACE'S 404 NATIONWIDE PERMIT NUMBER 27
   2.4. GENERAL AND SPECIAL CONDITIONS OF NCDWR'S 401 WATER QUALITY CERTIFICATION 4134
   2.5. THE CONSTRUCTION DOCUMENTS

3. ALL EXISTING UTILITIES MAY NOT BE SHOWN. SOME LOCATIONS MAY BE APPROXIMATE. CONTRACTOR SHALL NOTIFY 'NC811' (811) OR (1-800-632-4949) AT LEAST 3 FULL BUSINESS DAYS PRIOR TO BEGINNING CONSTRUCTION OR EXCAVATION TO HAVE EXISTING UTILITIES LOCATED. CONTRACTOR SHALL CONTACT ANY LOCAL UTILITIES THAT PROVIDE THEIR OWN LOCATOR SERVICES INDEPENDENT OF 'NC811'. REPORT ANY DISCREPANCIES TO THE ENGINEER IMMEDIATELY. ANY UTILITIES SHOWN ON THE CONSTRUCTION DOCUMENTS ARE FOR INFORMATIONAL PURPOSES ONLY AND IN NO WAY RELIEVES THE CONTRACTOR FROM COORDINATING, VERIFYING, AND PROTECTING EXISTING UTILITIES.

4. ALL UTILITIES SHALL BE PROTECTED AND REMAIN ACTIVE UNLESS OTHERWISE NOTED. CONTRACTOR IS RESPONSIBLE FOR COORDINATING CONSTRUCTION ACTIVITIES WITH THE APPROPRIATE UTILITY COMPANIES FOR ANY REQUIRED RELOCATIONS (I.E. POWER POLES, METERS, FITTINGS, ETC.).

5. THE CONTRACTOR IS RESPONSIBLE FOR THE PROJECT AREA UNTIL COMPLETION AND FINAL ACCEPTANCE BY THE ENGINEER AND PROJECT OWNER. THE CONTRACTOR SHALL CONFINE ALL ACTIVITIES, INCLUDING EQUIPMENT STORAGE, TO THE LIMITS OF DISTURBANCE, STAGING AREAS, AND DESIGNATED CONSTRUCTION ACCESS POINTS.

6. THE MANNER IN WHICH THE CONTRACTOR DEALS WITH PEOPLE AND THEIR PROPERTIES WHILE PERFORMING THIS WORK IS EXTREMELY IMPORTANT. THEREFORE, THE CONTRACTOR AND THE CONTRACTOR'S REPRESENTATIVES SHALL MANIFEST A SPIRIT OF FRIENDLINESS AND COOPERATION WHEN DEALING WITH PROPERTY OWNERS AND THE GENERAL PUBLIC WHILE PERFORMING WORK ON THE SITE.

7. EXTREME CARE AND DILIGENCE SHALL BE EXERCISED BY THE CONTRACTOR TO ASSURE THE SAFETY OF PERSONS, ANIMALS, AND PROPERTY. IF AT ANY TIME THE OWNER OR ENGINEER DETERMINES THAT THE CONTRACTOR'S METHODS OR EQUIPMENT ARE INADEQUATE FOR SECURING THE SAFETY OF THE CONTRACTOR'S EMPLOYEES OR THE PUBLIC, THE DESIGNATED REPRESENTATIVE MAY DIRECT THE CONTRACTOR TO TAKE SPECIFIC ACTIONS TO ENSURE SAFETY. THE CONTRACTOR SHALL IMPROVE METHODS AS DEEMED APPROPRIATE BY THE DESIGNATED REPRESENTATIVE WITHOUT ADDITIONAL COST TO THE PROJECT OWNER, SO AS TO ASSURE COMPLIANCE WITH SAFETY CONCERNS. FAILURE OF THE DESIGNATED REPRESENTATIVE TO MAKE THIS DEMAND SHALL NOT RELIEVE THE CONTRACTOR OF ANY OBLIGATION TO ENSURE THE SAFE CONDUCT OF ITS WORK.

8. THE CONTRACTOR SHALL MAINTAIN ALL LIGHTS, GUARDS, SIGNS, TEMPORARY PASSAGES, OR OTHER PRECAUTIONS NECESSARY FOR THE SAFETY OF ALL PERSONS. THE CONTRACTOR SHALL ABIDE BY ALL SAFETY RULES AND CONSTRUCTION CONDITIONS REQUIRED BY GOVERNMENTAL AUTHORITIES AND OTHER ENTITIES, INCLUDING RAILROADS, SO THE PUBLIC IS SAFEGUARDED FROM ACCIDENTS AND DELAYS. GUARDS AND FLAGS REQUIRED BY GOVERNMENTAL OR RAILROAD AUTHORITIES SHALL BE PROVIDED AT THE CONTRACTOR'S EXPENSE, UNLESS DIRECTED OTHERWISE BY THE DESIGNATED REPRESENTATIVE. CONTRACTOR SHALL AT NO TIME COMPROMISE EITHER SAFETY OR ENVIRONMENTAL REQUIREMENTS.

9. THE CONTRACTOR SHALL ONLY USE ACCESS PATHS AND STAGING AREAS SHOWN ON THE DRAWINGS. ANY ALTERNATE ACCESS PLANNED BY THE CONTRACTOR SHALL BE APPROVED BY THE ENGINEER AND PROJECT OWNER PRIOR TO USE. ANY ADDITIONAL AREA ADDED TO THE PROJECT MUST HAVE A REVISED ESC PLAN APPROVAL PRIOR TO UTILIZING THE AREA.

10. NO NON-PERMITTED FILL IN WETLANDS MAY OCCUR. ALL EXCESS SOILS FROM STABILIZATION AND GRADING WORK SHALL BE PLACED IN DESIGNATED AREAS ON THE SITE.

11. SITE SHOULD BE “STORM READY” AT THE END OF EACH WORK DAY AND WORK WEEK.

TOPOGRAPHIC NOTES AND SPECIFICATIONS

12. HORIZONTAL DATUM IS NAD83(2011) & VERTICAL DATUM IS NAVD88. ALL COORDINATES ARE BASED ON NAD83(2011) AND ALL ELEVATIONS ARE BASED ON NAVD88.

13. THE DESIGN ELEVATIONS AND GRADES SHOWN IN THE DRAWINGS ARE BASED ON THE EXISTING GROUND SURFACE FROM THE AUGUST 2023 SURVEY, ADDITIONAL GROUND ELEVATIONS SHOWN ARE SUPPLEMENTED WITH NORTH CAROLINA SPATIAL DATA DOWNLOAD QL1/QL2 LIDAR. ALL COMPUTATIONS OF CUT AND FILL ARE BASED ON THE EXISTING GROUND SURFACE. DISCREPANCIES BETWEEN THE EXISTING GROUND SURFACE AND FIELD CONDITIONS AT THE TIME OF CONSTRUCTION CAN RESULT IN VARIATIONS OF TOTAL EXCAVATED QUANTITIES. THESE VARIATIONS SHALL BE CONSIDERED INCIDENTAL TO CONSTRUCTION.

STREAM RESTORATION NOTES AND SPECIFICATIONS

14. FIELD CONDITIONS MAY REQUIRE ADAPTATION OF THE DESIGN AND/OR DETAILS PROVIDED IN THE DRAWINGS. MINOR VARIATION(S) OR ADAPTATION(S) OF THE PROPOSED WORK SHOWN IN THE DRAWINGS AND DETAILS ARE CONSIDERED INCIDENTAL TO THE WORK. THE ENGINEER WILL WORK WITH THE CONTRACTOR TO ADDRESS ANY FIELD CHANGES.

15. IN-STREAM ROCK STRUCTURES MAY BE SUBSTITUTED WITH WOOD STRUCTURES WITH WRITTEN APPROVAL FROM THE ENGINEER.

16. THE CONTRACTOR SHALL MARK THE LOCATIONS OF BANK STABILIZATION STRUCTURES USING SURVEY GRADE GPS EQUIPMENT FOR REVIEW BY THE ENGINEER BEFORE BEGINNING EXCAVATION AND GRADING.

17. CONTRACTOR SHALL MINIMIZE, TO THE MAXIMUM EXTENT POSSIBLE, IMPACTS TO ADJACENT SIGNIFICANT TREES.

18. CONTRACTOR SHALL USE AN EXCAVATOR WITH A HYDRAULIC THUMB TO INSTALL BANK STABILIZATION STRUCTURES.

19. DESIGN ELEVATIONS SHALL BE CONSTRUCTED WITHIN 0.1' (VERTICAL). WIDTHS AND DEPTHS MUST FALL WITHIN RANGES SHOWN IN THE DRAWINGS AND DETAILS.

20. IF THE EXISTING GROUND IS LESS THAN 0.2' HIGHER THAN THE PROPOSED BANKFULL ELEVATION, IT IS NOT NECESSARY TO EXCAVATE TO THE PROPOSED ELEVATIONS AND GRADES IN THE CONSTRUCTION DOCUMENTS.

21. BANK STABILIZATION STRUCTURES SHALL BE INSTALLED AS SHOWN IN THE DRAWINGS AND DETAILS. ALL STRUCTURES SHALL BE FINISHED TO A SMOOTH SURFACE IN ACCORDANCE WITH THE LINES, GRADES AND ELEVATIONS SHOWN IN THE DRAWINGS AND DETAILS. THE FINISHED STRUCTURE SLOPES AND GRADES SHALL BE WITHIN 0.1' OF DESIGN ELEVATIONS.

22. AFTER THE STRUCTURE IS COMPLETE AND NORMAL FLOW IS RESTORED TO THE CHANNEL, SOME ADJUSTMENT TO THE STRUCTURE OR ADDITIONAL STABILIZATION MEASURE MAY BE NECESSARY TO ACHIEVE THE DESIRED FUNCTION.

23. THE GRADED RIVER BANKS SHALL BE STABILIZED AS SOON AS POSSIBLE BY TEMPORARY AND PERMANENT SEEDING, ADDING STRAW MULCH TO BARE SOIL AND INSTALLING EROSION CONTROL MATTING AS SHOWN IN THE DRAWINGS AND DETAILS. PRIOR TO INSTALLING THE EROSION CONTROL MATTING, PREPARE THE SOIL SURFACE BY LOOSENING 3 - 6” OF SOIL OR APPLYING 3 - 6” OF TOPSOIL TO THE DESIGN ELEVATIONS AND APPLY TEMPORARY AND PERMANENT SEED AND THEN STRAW MULCH. SEED SHALL BE BROADCAST EVENLY OVER THE AREA USING A BROADCAST SPREADER PRIOR TO COVERING WITH THE EROSION CONTROL MATTING. THE MATTING SHALL BE ROLLED OUT IN THE DIRECTION OF ANTICIPATED RUNOFF. INSTALL MATTING IN ACCORDANCE WITH THE DETAIL INCLUDED IN THE DRAWINGS. MATTING USED FOR STREAMBANK STABILIZATION MUST BE CERTIFIED WEED-FREE STRAW OR OTHER NATURAL WEED-FREE / NON-PROPAGATING VEGETATIVE MATERIALS. REWORKING OF AREAS THAT DO NOT ESTABLISH VEGETATION OR BECOME UNSTABLE SHALL BE NECESSARY IF THE MATTING SEPARATES FROM THE SOIL.

24. TOPSOIL SHALL BE REMOVED FROM EXCAVATION AND FILL AREAS PRIOR TO EXCAVATION AND GRADING AND RE-APPLIED TO AREAS AFTER ROUGH GRADING IS COMPLETE. 2 - 4” OF TOPSOIL SHALL BE PLACED ON DISTURBED AREAS TO THE ELEVATIONS AND GRADES INCLUDED IN THE DRAWINGS.

25. HYDRIC SOILS FROM THE DISTURBED WETLAND AREA(S) WILL BE STOCKPILED SEPARATE FROM OTHER STOCKPILED SOILS AT THE SITE. THESE SOILS WILL BE PLACED WITHIN RESTORED WETLAND AREAS AND/OR PLACED WITHIN CONSTRUCTED WETLAND AREAS. RESTORATION DESIGN WILL ENHANCE EXISTING WETLAND HYDROLOGY AND DISTURBED WETLAND AREAS WILL BE SEEDED WITH A NATIVE WETLAND MIX AND WHERE AVAILABLE THE SEED MIX WILL INCLUDE HERBACEOUS WETLAND POLLINATOR SPECIES.

EROSION AND SEDIMENTATION CONTROL NOTES AND SPECIFICATIONS

26. ALL CONSTRUCTION ACTIVITIES SHALL ADHERE TO THE CONDITIONS AND REQUIREMENTS OF NCDEMLR'S NG01 CONSTRUCTION GENERAL PERMIT.

27. ALL TREES, UTILITIES AND OTHER SITE FEATURES SHALL BE PROTECTED UNLESS MARKED FOR REMOVAL OR RELOCATION.

28. ALL WETLANDS AND STREAMS LOCATED WITHIN 50 FEET OF THE CONSTRUCTION AREA ON THE PROJECT SITE SHALL BE CLEARLY MARKED (EXAMPLE- ORANGE FABRIC FENCING) PRIOR TO ANY LAND DISTURBING ACTIVITIES AND MUST BE MAINTAINED ON THE PROPERTY UNTIL THE PROJECT PHASE IS COMPLETED [15A NCAC 02H .0506 (B)(2)].

29. THE CONTRACTOR SHALL USE A STANDARD CONSTRUCTION ENTRANCE AT ALL SITE ACCESS POINTS TO PREVENT SEDIMENT FROM BEING TRACKED ONTO PUBLIC ROADS.

30. THE CONTRACTOR SHALL USE TEMPORARY SILT FENCE ALONG THE DOWNSLOPE SIDE OF ALL STAGING AREAS AND TEMPORARY STOCK PILE AREAS.

31. THE TURBIDITY IN THE RECEIVING WATERS SHALL NOT EXCEED 50 NEPHELOMETRIC TURBIDITY UNITS (NTU) IN STREAMS NOT DESIGNATED AS TROUT WATERS AND 10 NTU IN STREAMS, LAKES, OR RESERVOIRS DESIGNATED AS TROUT WATERS, AS DESCRIBED IN 15A NCAC 02B .0200. APPROPRIATE SEDIMENT AND EROSION CONTROL PRACTICES MUST BE USED TO MEET THIS STANDARD. [15A NCAC 02B .0211 (21)].

32. EQUIPMENT SHALL BE WELL-MAINTAINED, CLEANED PRIOR TO MOBILIZATION, AND CHECKED DAILY FOR LEAKS OF PETROLEUM PRODUCTS. FUELING, LUBRICATION AND GENERAL EQUIPMENT MAINTENANCE SHOULD NOT TAKE PLACE WITHIN 50 FEET OF A WATERBODY OR WETLANDS TO PREVENT CONTAMINATION BY FUEL AND OILS. [15A NCAC 02H .0506 (B)(3) AND 15A NCAC 02B.0211(12)].

33. CONSTRUCTION SHALL BE TIMED TO OCCUR DURING TIMES OF LOW FLOW.

34. THE DESIGNER OR HIS DESIGNEE SHALL SUPERVISE THE INSTALLATION OF IN-STREAM STRUCTURES. [15A NCAC 02H .0506(B)(1) AND (2)].

35. A TEMPORARY DIVERSION AND/OR PUMP AROUND SYSTEM SHALL BE USED DURING ALL STREAM RESTORATION AND STABILIZATION WORK AS SHOWN IN THE DETAILS. TEMPORARY PUMP AROUND SYSTEM SHALL BE USED AT PROJECT SITES WHERE THE WATERSHED SIZE IS LESS THAN 2 SQUARE MILES.

36. THE STREAM BANKS, IN-STREAM STRUCTURES, AND WORK AREA MUST BE STABILIZED AT THE END OF EACH DAY BEFORE THE TEMPORARY IN-STREAM DIVERSIONS AND/OR PUMP AROUND SYSTEM(S) ARE REMOVED AND FLOW IS RETURNED TO THE FULL CHANNEL.

37. EROSION CONTROL MATTING THAT INCORPORATES PLASTIC MESH AND/OR PLASTIC TWINE SHALL NOT BE USED ALONG STREAMBANKS OR WITHIN WETLANDS. DISTURBED AREAS SHOULD BE SEEDED, MULCHED, AND/OR MATTED AS SOON AS POSSIBLE, PREFERABLY AT THE END OF EACH WORKDAY. [15A NCAC 02B .0201]

38. IF BORROW OR WASTE MATERIAL IS REQUIRED OR GENERATED DURING GRADING OPERATIONS, AN APPROVED EROSION AND SEDIMENT CONTROL PERMIT MUST BE SECURED FOR THE BORROW OR WASTE MATERIAL SITE PRIOR TO INITIATION OF ANY LAND DISTURBING ACTIVITY. [15A NCAC 04B .0110].

QUANTITIES AND MATERIALS NOTES AND SPECIFICATIONS

39. THE CONTRACTOR SHALL FURNISH ALL MATERIALS NECESSARY TO COMPLETE THE PROPOSED WORK UNLESS OTHER PROVISIONS HAVE BEEN AGREED UPON PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL DELIVER ALL MATERIALS TO THE DESIGNATED ACCESS POINTS AND STAGING AREAS. MATERIAL QUANTITIES, DIMENSIONS AND SIZES SHALL CONFORM TO THE NOTES AND SPECIFICATIONS PROVIDED IN THE CONSTRUCTION DOCUMENTS. THE ENGINEER MAY INSPECT AND APPROVE ALL MATERIALS PRIOR TO CONSTRUCTION. IF MATERIALS DO NOT MEET THE MINIMUM REQUIREMENTS SPECIFIED IN THE CONSTRUCTION DOCUMENTS, THE ENGINEER SHALL REJECT THE MATERIALS.

40. COSTS INCURRED DUE TO PROJECT DELAYS RESULTING FROM FAILURE OF THE CONTRACTOR TO MEET THE REQUIREMENTS OF THE CONSTRUCTION DOCUMENTS SHALL BE THE EXPENSE OF THE CONTRACTOR. QUANTITIES LISTED ARE ESTIMATES ONLY AND SHALL BE CONFIRMED BY THE CONTRACTOR.

41. THE EROSION CONTROL MEASURES DEPICTED ON THE DRAWINGS SHALL BE INSTALLED AS NEEDED TO KEEP ALL SEDIMENT ON SITE AND OUT OF STREAMS AND WETLANDS. ADDITIONAL EROSION CONTROL MEASURES (ABOVE THOSE SHOWN ON THE DRAWINGS) MAY BE REQUIRED IN ORDER TO KEEP ALL SEDIMENT ON SITE AND OUT OF STREAMS AND WETLANDS. THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE PROJECT OWNER AND ENGINEER PRIOR TO INSTALLATION OF ADDITIONAL EROSION CONTROL MEASURES.

42. ANY ADDITIONAL GRADING OTHER THAN WHAT IS SHOWN ON THE PLANS SHALL REQUIRE PRIOR APPROVAL FROM THE PROJECT OWNER AND ENGINEER.

43. THE USE OF ANY BRAND NAMES/MANUFACTURERS OR MODELS IS INTENDED SOLELY TO DENOTE THE QUALITY STANDARD OF THE DESIRED PRODUCT. ANY USE OF BRAND NAMES IS NOT INTENDED TO RESTRICT BIDDERS TO A SPECIFIC BRAND, MAKE, MANUFACTURER, OR NAME. THE BRAND NAMES / MANUFACTURERS OF MODELS ARE INTENDED TO CONVEY THE GENERAL STYLE, TYPE, CHARACTER, AND QUALITY OF PRODUCT. EQUIVALENT PRODUCTS WILL BE ACCEPTABLE IF THE PROJECT OWNER OR ENGINEER HAS GIVEN APPROVAL OF THE SPECIFIC PRODUCT IN WRITING.

44. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND PROVIDING STORAGE AREAS FOR CONSTRUCTION MATERIALS AND EQUIPMENT. THE MATERIAL AND EQUIPMENT STORAGE SHALL COMPLY WITH THE CONSTRUCTION DOCUMENTS AND ALL LOCAL, STATE AND FEDERAL REGULATIONS THROUGHOUT THE CONSTRUCTION PERIOD. THE CONTRACTOR SHALL RESTORE THE STORAGE AREA TO ITS ORIGINAL (OR BETTER) CONDITION UPON COMPLETION OF THE PROJECT OR UPON SUCH TIME AS DIRECTED BY THE PROJECT OWNER AND ENGINEER. SUCH RESTORATION SHALL BE AT NO ADDITIONAL COST TO THE PROJECT OWNER.

45. THE CONTRACTOR SHALL WARRANTY ALL MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF ACCEPTANCE OF BY THE PROJECT OWNER AND SHALL REPLACE ANY PORTIONS THAT FAIL DUE TO FAULTY MATERIALS OR WORKMANSHIP, AT NO ADDITIONAL COST TO THE PROJECT OWNER. A SIX (6) MONTH AND ELEVEN (11) MONTH INSPECTION WILL BE PERFORMED DURING THE WARRANTY PERIOD. THE CONTRACTOR SHALL IMMEDIATELY REPAIR ALL ITEMS DETERMINED BY THE PROJECT OWNER OR AUTHORIZED REPRESENTATIVE TO BE DEFECTIVE UPON NOTIFICATION. THE CONTRACTOR SHALL IMMEDIATELY REPAIR OR REPLACE FAILED ITEMS UPON NOTIFICATION BY THE PROJECT OWNER. SEASONALLY INSTALLED ITEMS SHALL BE REPAIRED OR REPLACED DURING THE NEXT AVAILABLE INSTALLATION PERIOD. ITEMS REPAIRED OR REPLACED UNDER THIS PROVISION SHALL HAVE AN ADDITIONAL ONE (1) YEAR WARRANTY PERIOD FROM THE NEW DATE OF ACCEPTANCE. AREAS AND/OR OTHER WORK DISTURBED WHILE ACCESSING AND/OR REPAIRING/REPLACING WARRANTY COVERED ITEMS SHALL BE STABILIZED.

APPROVED BY: GJ | CHECKED BY: DB | DRAWN BY: CP

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MIDDLE FORK SOUTH FORK NEW RIVER - BLUE RIDGE CONSERVANCY
WATAUGA COUNTY, NORTH CAROLINA

CONSTRUCTION BID PLANS
GENERAL PROJECT NOTES AND SPECIFICATIONS
NOT FOR CONSTRUCTION

Jennings Environmental
JENNINGS ENVIRONMENTAL, PLLC
7 SAMUEL ASHE DRIVE
ASHEVILLE, NC 28805
LICENSE: P-1932

DATE: 8/13/2025
SCALE (34"X22"): NTS
SCALE (17"X11"): NTS

NOT TO SCALE

SHEET NUMBER
E1.2

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	• PERMANENT GRASS SEED COVERED WITH STRAW OR OTHER MULCHES AND TACKIFIERS • GEOTEXTILE FABRICS SUCH AS PERMANENT SOIL REINFORCEMENT MATTING • HYDROSEEDING • SHRUBS OR OTHER PERMANENT PLANTINS 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

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.

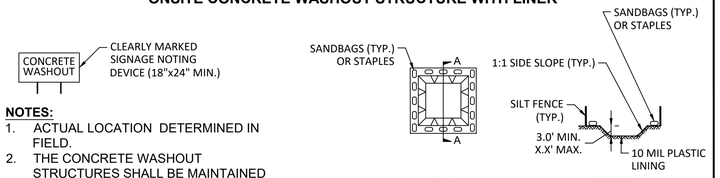
PORTABLE TOILETS

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

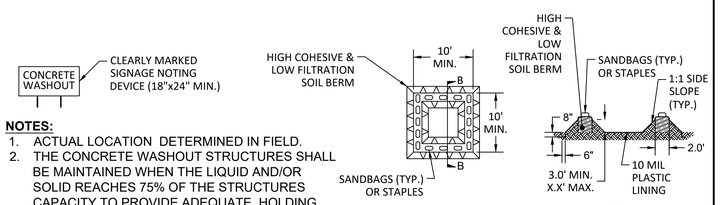
1. SHOW STOCKPILE LOCATIONS ON PLANS. LOCATE EARTHEN-MATERIAL STOCKPILE AREAS AT LEAST 50 FEET AWAY FROM STORM DRAIN INLETS, SEDIMENT BASINS, PERIMETER SEDIMENT CONTROLS AND SURFACE WATERS UNLESS IT CAN BE SHOWN NO OTHER ALTERNATIVES ARE REASONABLY AVAILABLE.
2. PROTECT STOCKPILE WITH SILT FENCE INSTALLED 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.

ONSITE CONCRETE WASHOUT STRUCTURE WITH LINER



NOTES:
1. ACTUAL LOCATION DETERMINED IN FIELD.
2. THE CONCRETE WASHOUT STRUCTURES SHALL BE MAINTAINED WHEN THE LIQUID AND/OR SOLID REACHES 75% OF THE STRUCTURES CAPACITY.
3. CONCRETE WASHOUT STRUCTURE NEEDS TO BE CLEARY MARKED WITH SIGNAGE NOTING DEVICE.

BELOW GRADE WASHOUT STRUCTURE
NOT TO SCALE



NOTES:
1. ACTUAL LOCATION DETERMINED IN FIELD.
2. THE CONCRETE WASHOUT STRUCTURES SHALL BE MAINTAINED WHEN THE LIQUID AND/OR SOLID REACHES 75% OF THE STRUCTURES CAPACITY TO PROVIDE ADEQUATE HOLDING CAPACITY WITH A MINIMUM 12 INCHES OF FREEBOARD.
3. CONCRETE WASHOUT STRUCTURE NEEDS TO BE CLEARY MARKED WITH SIGNAGE NOTING DEVICE.

ABOVE GRADE WASHOUT STRUCTURE
NOT TO SCALE

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.

APPROVED BY: GJ	CHECKED BY: DB	DRAWN BY: CP

REV	DESCRIPTION	APPRV
:	:	:

MIDDLE FORK NEW RIVER GREENWAY REACH 3
MIDDLE FORK SOUTH FORK NEW RIVER - BLUE RIDGE CONSERVANCY
WATAUGA COUNTY, NORTH CAROLINA

CONSTRUCTION BID PLANS
NCG01 CONSTRUCTION GENERAL PERMIT
NOT FOR CONSTRUCTION

Jennings Environmental
JENNINGS ENVIRONMENTAL, PLLC
7 SAMUEL ASHE DRIVE
ASHEVILLE, NC 28805
LICENSE: P-1932

DATE: 8/13/2025
SCALE (34"X22"): NTS
SCALE (17"X11"): NTS

NOT TO SCALE

SHEET NUMBER
E1.3

PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION A: SELF-INSPECTION

SELF-INSPECTIONS ARE REQUIRED DURING NORMAL BUSINESS HOURS IN ACCORDANCE WITH THE TABLE BELOW. WHEN ADVERSE WEATHER OR SITE CONDITIONS WOULD CAUSE THE SAFETY OF THE INSPECTION PERSONNEL TO BE IN JEOPARDY, THE INSPECTION MAY BE DELAYED UNTIL THE NEXT BUSINESS DAY ON WHICH IT IS SAFE TO PERFORM THE INSPECTION. IN ADDITION, WHEN A STORM EVENT OF EQUAL TO OR GREATER THAN 1.0 INCH OCCURS OUTSIDE OF NORMAL BUSINESS HOURS, THE SELF-INSPECTION SHALL BE PERFORMED UPON THE COMMENCEMENT OF THE NEXT BUSINESS DAY. ANY TIME WHEN INSPECTIONS WERE DELAYED SHALL BE NOTED IN THE INSPECTION RECORD.

INSPECT	FREQUENCY (DURING NORMAL BUSINESS HOURS)	INSPECTION RECORDS MUST INCLUDE:
(1) RAIN GUAGE MAINTAINED IN GOOD WORKING ORDER	DAILY	DAILY RAINFALL AMOUNTS. IF NO DAILY RAIN GUAGE 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. INDICATION OF STORMWATER POLLUTION SUCH AS OIL SHEEN, FLOATING OR SUSOENDED 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(l0(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.

APPROVED BY: GJ | CHECKED BY: DB | DRAWN BY: CP

REV	DESCRIPTION	APPRV
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MIDDLE FORK NEW RIVER GREENWAY REACH 3
MIDDLE FORK SOUTH FORK NEW RIVER - BLUE RIDGE CONSERVANCY
WATAUGA COUNTY, NORTH CAROLINA

CONSTRUCTION BID PLANS
NCG01 CONSTRUCTION GENERAL PERMIT
NOT FOR CONSTRUCTION

Jennings Environmental

JENNINGS ENVIRONMENTAL, PLLC
7 SAMUEL ASHE DRIVE
ASHEVILLE, NC 28805
LICENSE: P-1932

DATE: 8/13/2025
SCALE (34"X22"): NTS
SCALE (17"X11"): NTS

NOT TO SCALE

SHEET NUMBER
E1.4

LEGEND

PLAN LEGEND

- DESIGN STREAM CENTERLINE
- DESIGN BANKFULL
- DESIGN MAJOR CONTOUR
- DESIGN MINOR CONTOUR
- FPT — DESIGN FLOODPLAIN TOE
- EXISTING STREAM CENTERLINE
- TOB — EXISTING TOP OF BANK
- BB — EXISTING BOTTOM OF BANK
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- EXISTING WETLAND
- PROPERTY LINE
- RIGHT OF WAY
- ROAD & PATH EDGE
- BRIDGE OUTLINE
- BUILDING FOOTPRINT
- OHE — OVERHEAD ELECTRIC LINE
- UTILITY POLE
- FO — FIBER OPTIC LINE
- W — WATER LINE
- Ⓦ WATER STRUCTURE
- FWAY — FEMA FLOODWAY
- 100YR — 100 YR. FEMA FLOODPLAIN
- 500YR — 500 YR. FEMA FLOODPLAIN

STRUCTURE LEGEND

- DESIGN CONSTRUCTED RIFFLE
- DESIGN BOULDER RIFFLE
- DESIGN TOE WOOD
- DESIGN BOULDER TOE
- DESIGN BOULDER J-HOOK
- DESIGN BOULDER VANE ARM
- FLOODPLAIN DEPRESSION
- ROCK LINED SWALE
- EXISTING CULVERT
- EXISTING RIPRAP

PROFILE LEGEND

- DESIGN STREAM THALWEG
- DESIGN BANKFULL
- EXISTING GROUND
- BOULDER STRUCTURE

EROSION AND SEDIMENTATION CONTROL LEGEND

- LOD — LIMITS OF DISTURBANCE
- SF — SILT FENCE
- TD — TEMPORARY IN-STREAM DIVERSION
- TB — TROUT BUFFER
- STAGING AND STORAGE AREA
- STABILIZED CONSTRUCTION ENTRANCE
- CONSTRUCTION ACCESS ROUTE
- TEMPORARY FORD CROSSING
- EROSION CONTROL MATTING

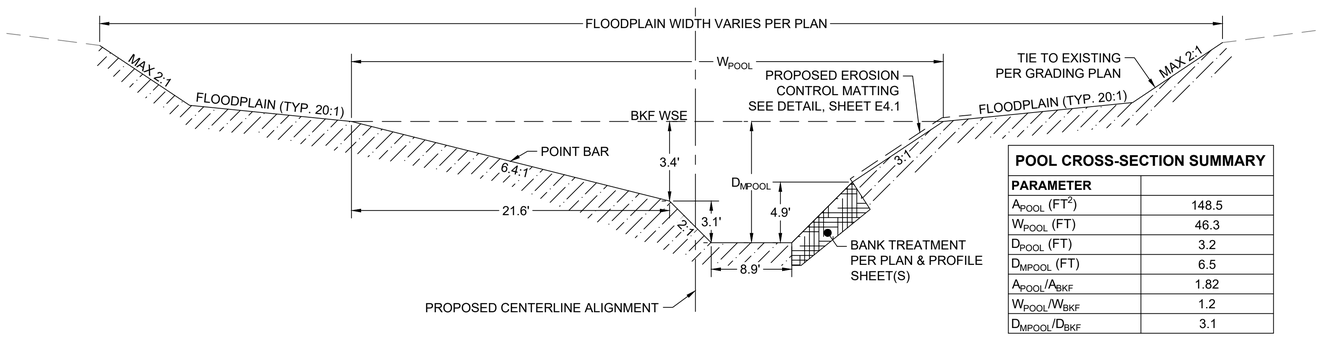
RE-VEGETATION LEGEND

- ZONE 1 - STREAMBANKS
- ZONE 2 - RIPARIAN BUFFER
- ZONE 3 - OVERHEAD DISTRIBUTION LINE

TYPICAL SECTIONS

RIFFLE CROSS-SECTION SUMMARY			
PARAMETER		**PARAMETER**	
A_{BKF} (FT^2)	81.6	A_{IB} (FT^2)	27.5
W_{BKF} (FT)	38.6	W_{IB} (FT)	18.0
D_{BKF} (FT)	2.1	D_{IB} (FT)	1.5
D_{MAX} (FT)	3.7	D_{MAX-IB} (FT)	2.1
W/D	18.3	W_{IB}/D_{IB}	11.8
D_{MAX}/D_{BKF}	1.75	D_{MAX-IB}/D_{IB}	1.37
S_O (FT/FT)	.005	A_{IB}/A_{BKF}	0.34

TYPICAL RIFFLE CROSS SECTION — NOT TO SCALE



POOL CROSS-SECTION SUMMARY	
PARAMETER	
A_{POOL} (FT^2)	148.5
W_{POOL} (FT)	46.3
D_{POOL} (FT)	3.2
D_{MPOOL} (FT)	6.5
A_{POOL}/A_{BKF}	1.82
W_{POOL}/W_{BKF}	1.2
D_{MPOOL}/D_{BKF}	3.1

TYPICAL POOL CROSS SECTION — NOT TO SCALE

TYPICAL CROSS-SECTION NOTES

1. CONSTRUCT CROSS-SECTIONS TO THE LINES, ELEVATIONS AND GRADES SHOWN ON THE PLAN, PROFILE, AND DETAILS.
2. INSTALL STREAM RESTORATION STRUCTURES IN PROPOSED CHANNEL TO THE ELEVATIONS AND GRADES SHOWN ON THE PLAN, PROFILE AND DETAILS. RE-DRESSING OF CHANNEL AND BANKFULL BENCH/FLOODPLAIN WILL LIKELY BE REQUIRED FOLLOWING INSTALLATION OF IN-STREAM STRUCTURES AND SHALL BE CONSIDERED INCIDENTAL TO CONSTRUCTION.
3. INSTALL EROSION CONTROL MATTING ON ALL GRADED OR DISTURBED STREAMBANKS.

APPROVED BY: GJ | CHECKED BY: DB | DRAWN BY: CP

REV	DESCRIPTION	APPRV
-	-	-

MIDDLE FORK NEW RIVER GREENWAY REACH 3
MIDDLE FORK SOUTH FORK NEW RIVER - BLUE RIDGE CONSERVANCY
WATAUGA COUNTY, NORTH CAROLINA

CONSTRUCTION BID PLANS
LEGEND & TYPICAL SECTIONS
NOT FOR CONSTRUCTION

Jennings Environmental
JENNINGS ENVIRONMENTAL, PLLC
7 SAMUEL ASHE DRIVE
ASHEVILLE, NC 28805
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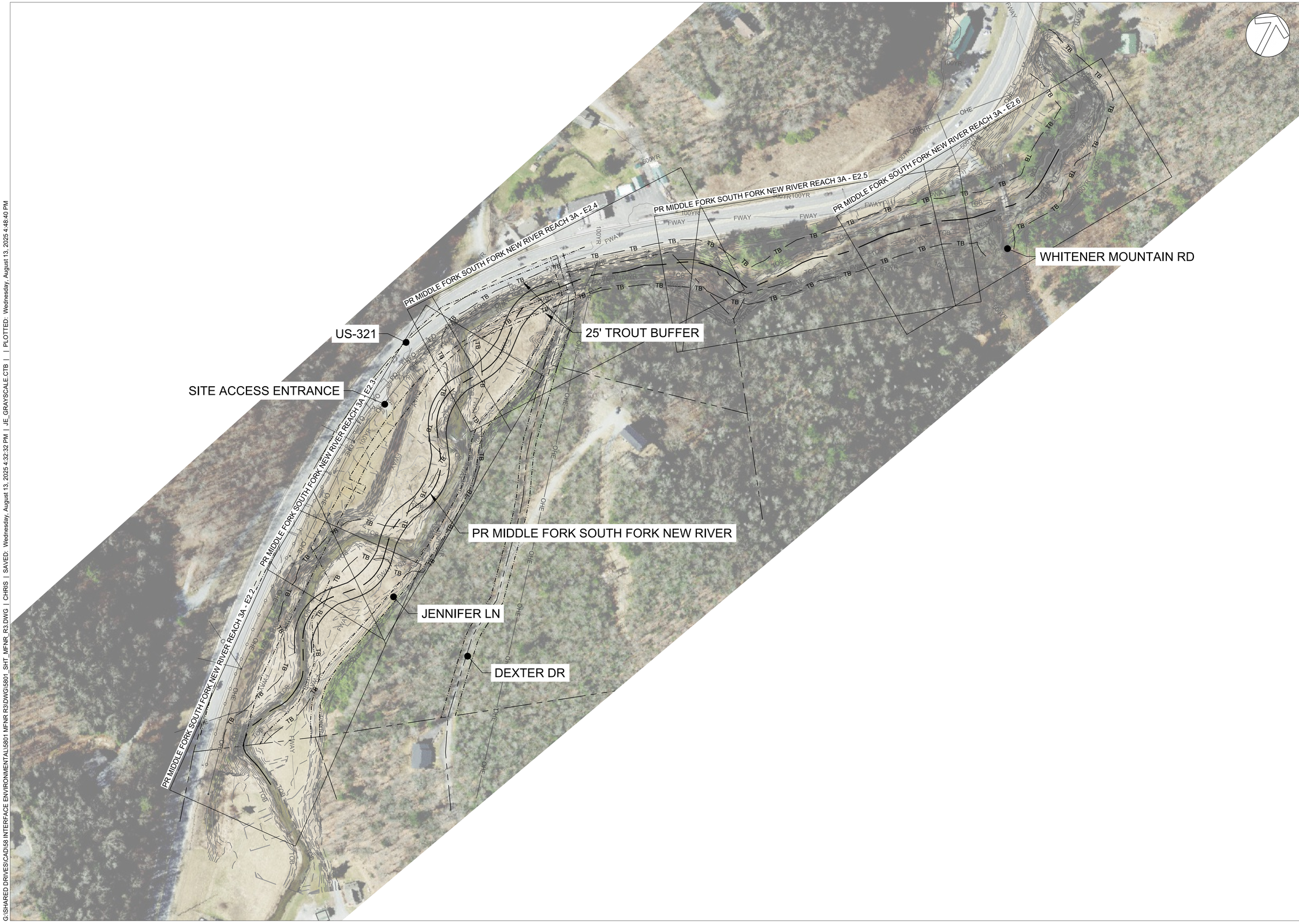
NOT TO SCALE

SHEET NUMBER
E1.5



APPROVED BY: GJ | CHECKED BY: DB | DRAWN BY: CP

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MIDDLE FORK NEW RIVER GREENWAY REACH 3
MIDDLE FORK SOUTH FORK NEW RIVER - BLUE RIDGE CONSERVANCY
WATAUGA COUNTY, NORTH CAROLINA

CONSTRUCTION BID PLANS
OVERALL SITE PLAN
NOT FOR CONSTRUCTION

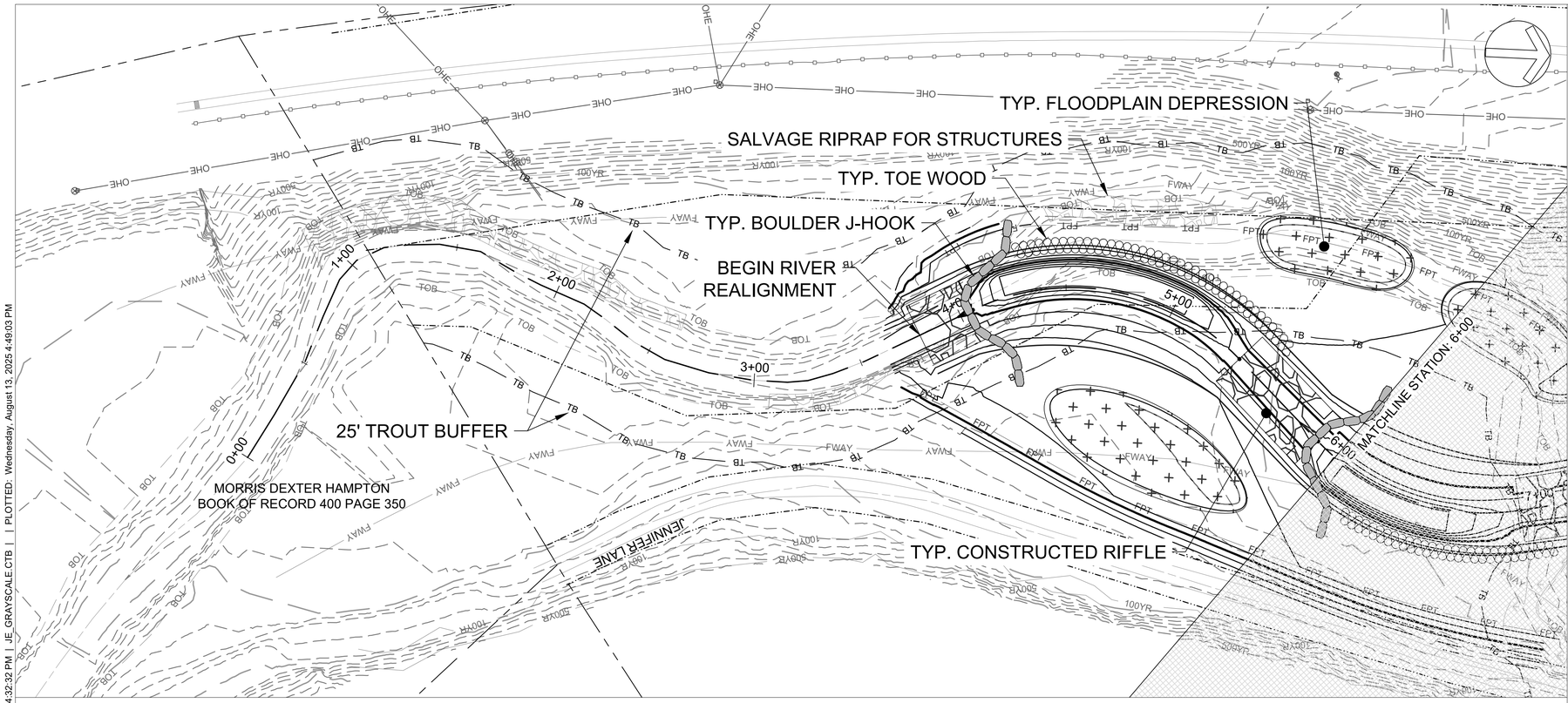
Jennings Environmental

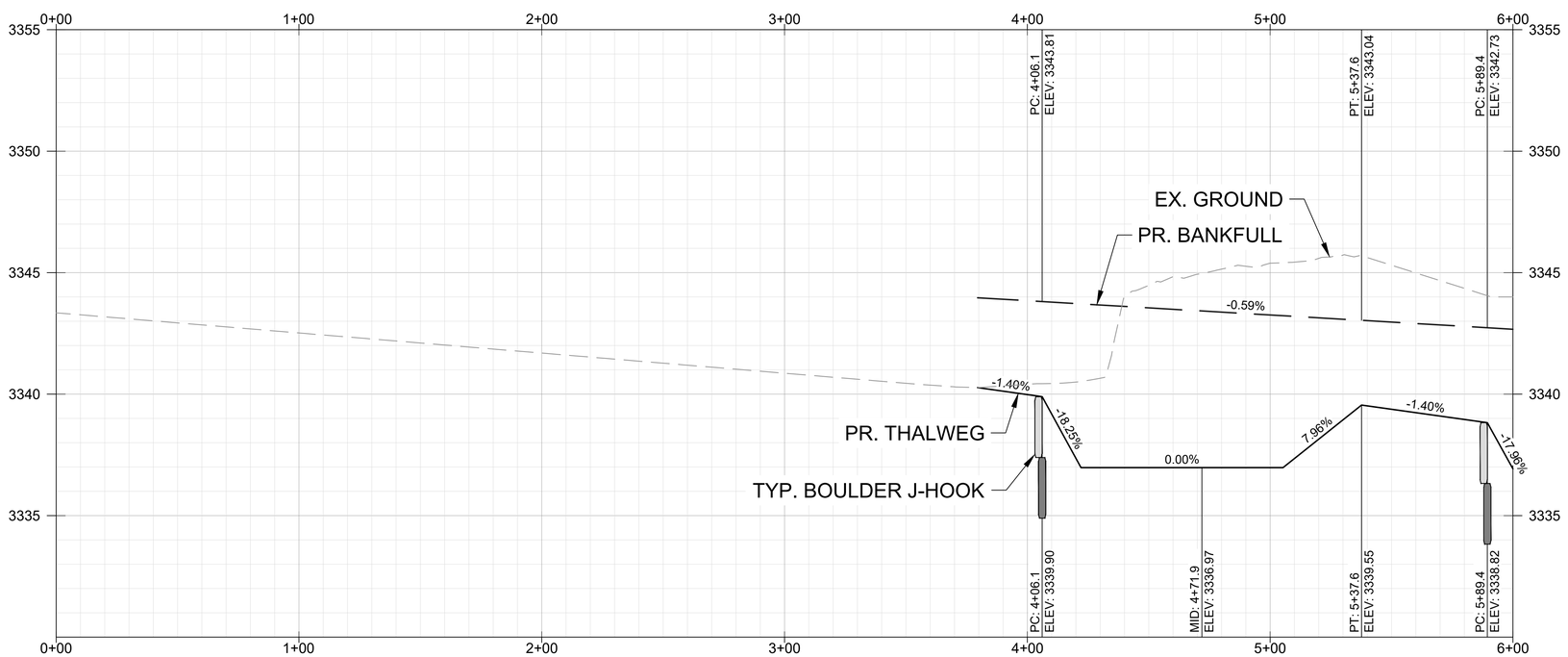
JENNINGS ENVIRONMENTAL, PLLC
7 SAMUEL ASHE DRIVE
ASHEVILLE, NC 28805
LICENSE: P-1932

DATE: 8/13/2025
SCALE (34"X22"): 1" = 100'
SCALE (17"X11"): 1" = 200'

0 100 200
SCALE IN FEET

SHEET NUMBER
E2.1





PR MIDDLE FORK SOUTH FORK NEW RIVER REACH 3A - SCALE: HOR 1" = 30'; VERT 1" = 3'

NOTES:

1. CONTRACTOR TO IDENTIFY AND PROTECT EX. UTILITIES.
2. DISTURBANCE OF VEGETATION SHALL BE KEPT TO MINIMUM EXTENT PRACTICAL TO COMPLETE WORK.
3. RESTORE ACCESS PATHS AND STORAGE AREA(S) TO ORIGINAL CONDITION AS DIRECTED BY THE PROJECT OWNER AND ENGINEER.
4. ON-SITE ROCK MATERIAL MAY BE REUSED FOR STRUCTURES, AT THE DIRECTION OF THE ENGINEER.
5. TOE PROTECTION TO EXTEND MIN. 10' INTO DOWNSTREAM RIFFLE BANK. TOE WOOD CAN BE BE REPLACED WITH BOULDER TOE, AT THE APPROVAL OF THE ENGINEER.

STREAM DETAILS KEY:

SHEET E4.1
- STREAMBANK GRADING
- EROSION CONTROL MATTING

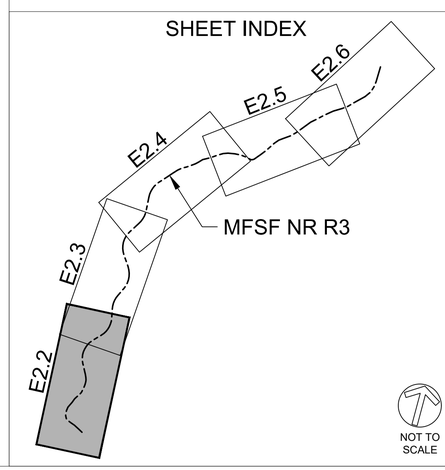
SHEET E4.2
- CONSTRUCTED RIFFLE

SHEET E4.3
- BOULDER RIFFLE
- BOULDER VANE ARM

SHEET E4.4
- BOULDER J-HOOK
- ROCK LINED SWALE

SHEET E4.5
- TOE WOOD PROTECTION
- BOULDER TOE PROTECTION

SHEET INDEX



NOT TO SCALE

APPROVED BY: GJ	CHECKED BY: DB	DRAWN BY: CP

REV	DESCRIPTION	APPRV
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MIDDLE FORK NEW RIVER GREENWAY REACH 3
MIDDLE FORK SOUTH FORK NEW RIVER - BLUE RIDGE CONSERVANCY
WATAUGA COUNTY, NORTH CAROLINA

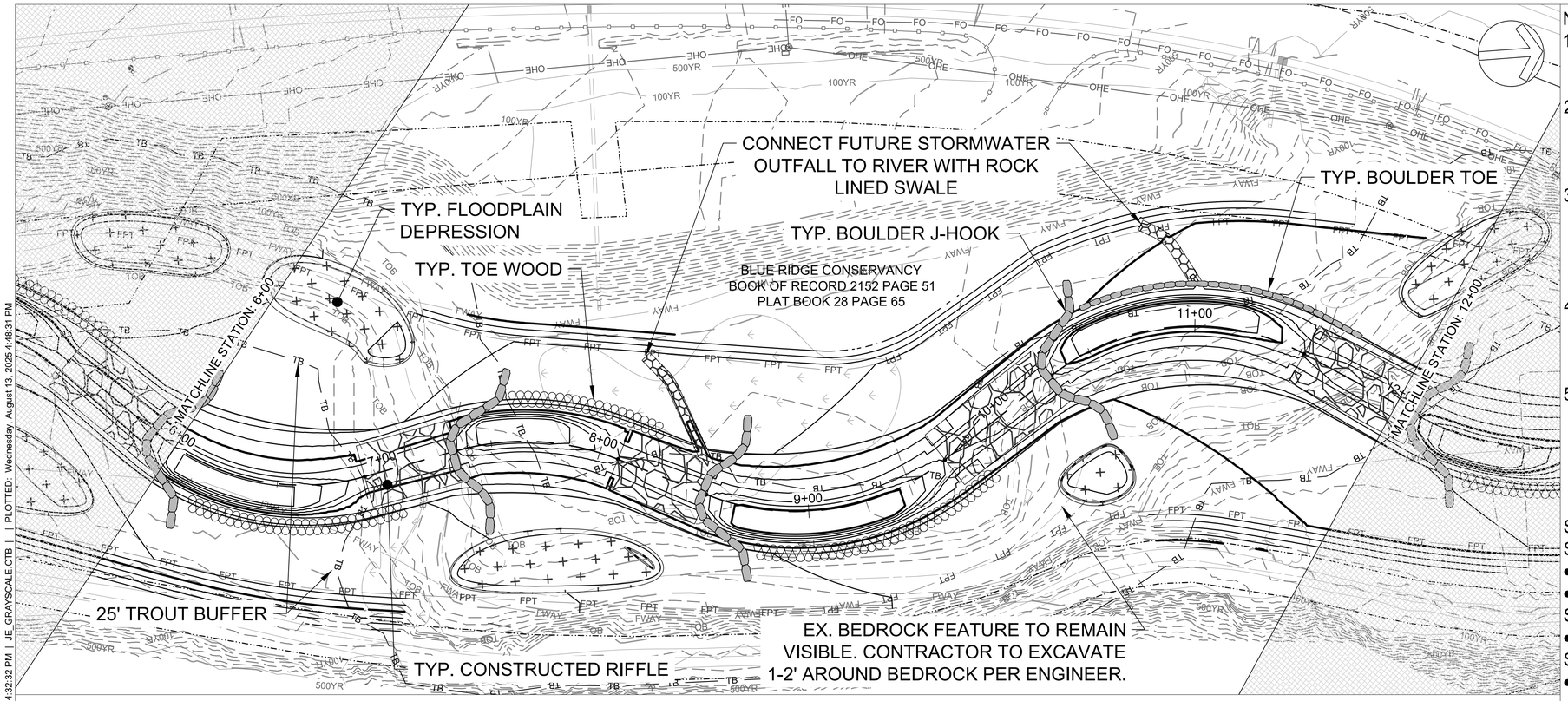
CONSTRUCTION BID PLANS
PR MIDDLE FORK SOUTH FORK NEW RIVER REACH 3
STA 0+00-6+00
NOT FOR CONSTRUCTION

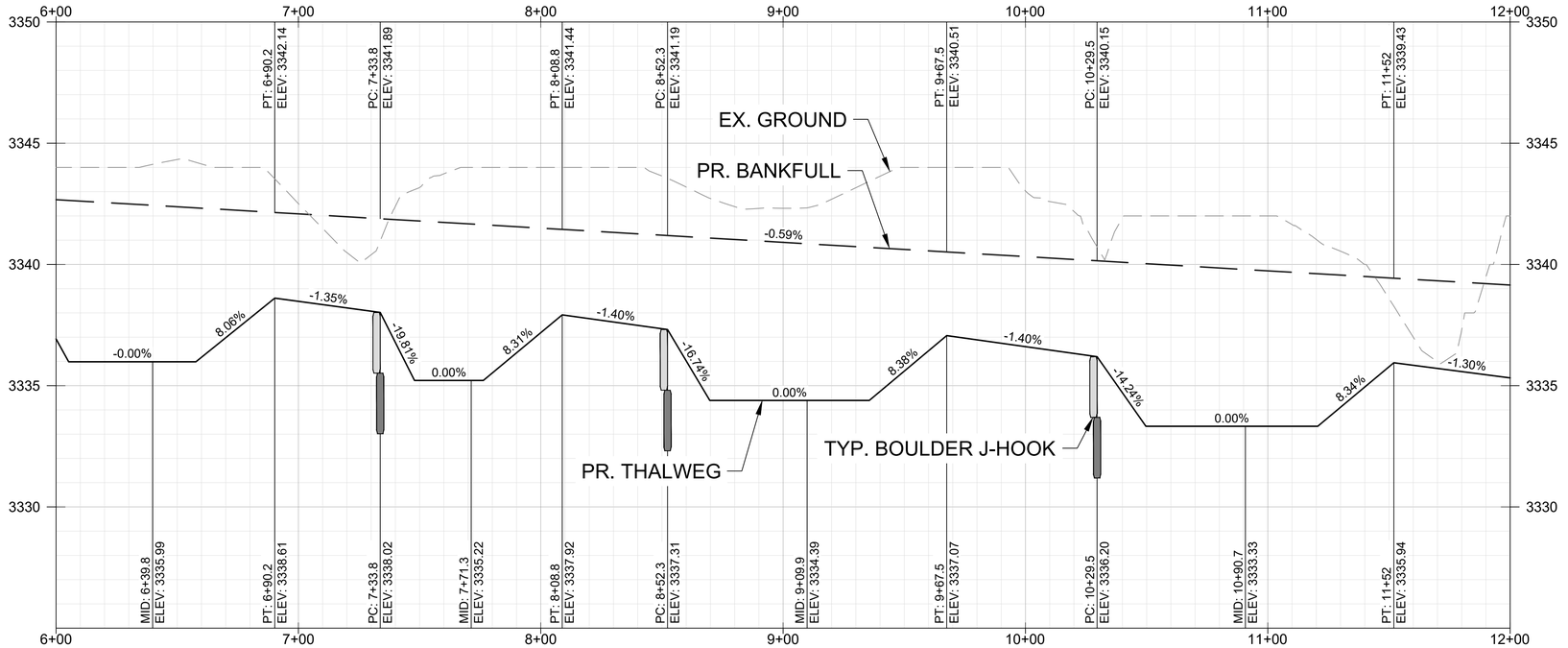
Jennings Environmental
JENNINGS ENVIRONMENTAL, PLLC
7 SAMUEL ASHE DRIVE
ASHEVILLE, NC 28805
LICENSE: P-1932

DATE: 8/13/2025
SCALE (34"X22"): 1" = 30'
SCALE (17"X11"): 1" = 60'

0 30 60
SCALE IN FEET

SHEET NUMBER
E2.2





PR MIDDLE FORK SOUTH FORK NEW RIVER REACH 3A - SCALE: HOR 1" = 30'; VERT 1" = 3'

NOTES:

1. CONTRACTOR TO IDENTIFY AND PROTECT EX. UTILITIES.
2. DISTURBANCE OF VEGETATION SHALL BE KEPT TO MINIMUM EXTENT PRACTICAL TO COMPLETE WORK.
3. RESTORE ACCESS PATHS AND STORAGE AREA(S) TO ORIGINAL CONDITION AS DIRECTED BY THE PROJECT OWNER AND ENGINEER.
4. ON-SITE ROCK MATERIAL MAY BE REUSED FOR STRUCTURES, AT THE DIRECTION OF THE ENGINEER.
5. TOE PROTECTION TO EXTEND MIN. 10' INTO DOWNSTREAM RIFFLE BANK. TOE WOOD CAN BE BE REPLACED WITH BOULDER TOE, AT THE APPROVAL OF THE ENGINEER.

STREAM DETAILS KEY:

SHEET E4.1
- STREAMBANK GRADING
- EROSION CONTROL MATTING

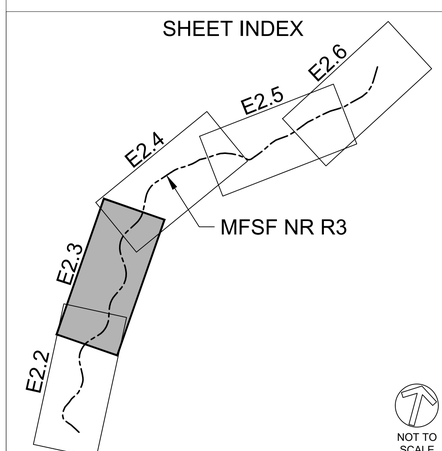
SHEET E4.2
- CONSTRUCTED RIFFLE

SHEET E4.3
- BOULDER RIFFLE
- BOULDER VANE ARM

SHEET E4.4
- BOULDER J-HOOK
- ROCK LINED SWALE

SHEET E4.5
- TOE WOOD PROTECTION
- BOULDER TOE PROTECTION

SHEET INDEX



NOT TO SCALE

APPROVED BY: GJ	CHECKED BY: DB	DRAWN BY: CP

REV	DESCRIPTION	APPRV
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MIDDLE FORK NEW RIVER GREENWAY REACH 3
MIDDLE FORK SOUTH FORK NEW RIVER - BLUE RIDGE CONSERVANCY
WATAUGA COUNTY, NORTH CAROLINA

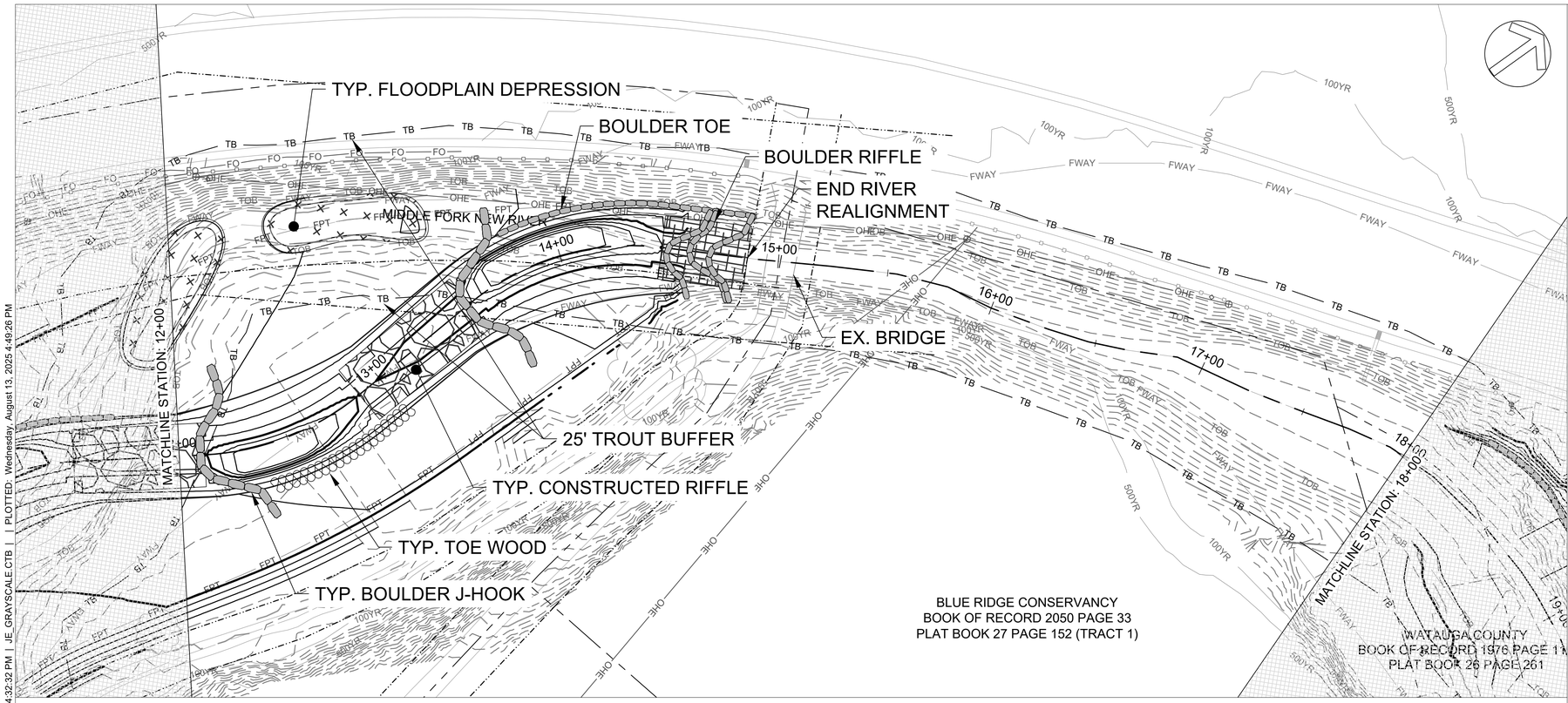
CONSTRUCTION BID PLANS
PR MIDDLE FORK SOUTH FORK NEW RIVER REACH 3
STA 6+00-12+00
NOT FOR CONSTRUCTION

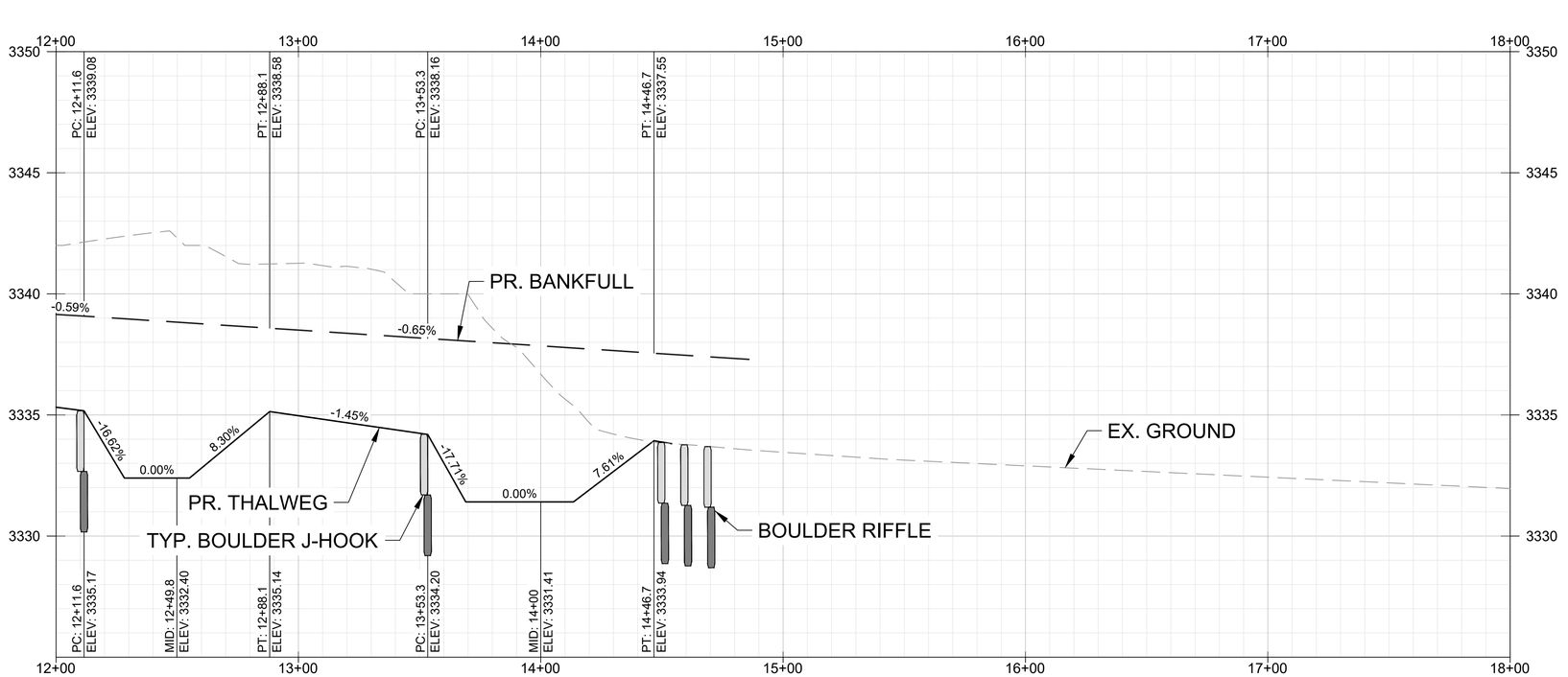
Jennings Environmental
JENNINGS ENVIRONMENTAL, PLLC
7 SAMUEL ASHE DRIVE
ASHEVILLE, NC 28805
LICENSE: P-1932

DATE: 8/13/2025
SCALE (34"X22"): 1" = 30'
SCALE (17"X11"): 1" = 60'

0 30 60
SCALE IN FEET

SHEET NUMBER
E2.3





PR MIDDLE FORK SOUTH FORK NEW RIVER REACH 3A - SCALE: HOR 1" = 30'; VERT 1" = 3'

NOTES:

1. CONTRACTOR TO IDENTIFY AND PROTECT EX. UTILITIES.
2. DISTURBANCE OF VEGETATION SHALL BE KEPT TO MINIMUM EXTENT PRACTICAL TO COMPLETE WORK.
3. RESTORE ACCESS PATHS AND STORAGE AREA(S) TO ORIGINAL CONDITION AS DIRECTED BY THE PROJECT OWNER AND ENGINEER.
4. ON-SITE ROCK MATERIAL MAY BE REUSED FOR STRUCTURES, AT THE DIRECTION OF THE ENGINEER.
5. TOE PROTECTION TO EXTEND MIN. 10' INTO DOWNSTREAM RIFFLE BANK. TOE WOOD CAN BE BE REPLACED WITH BOULDER TOE, AT THE APPROVAL OF THE ENGINEER.

STREAM DETAILS KEY:

SHEET E4.1
- STREAMBANK GRADING
- EROSION CONTROL MATTING

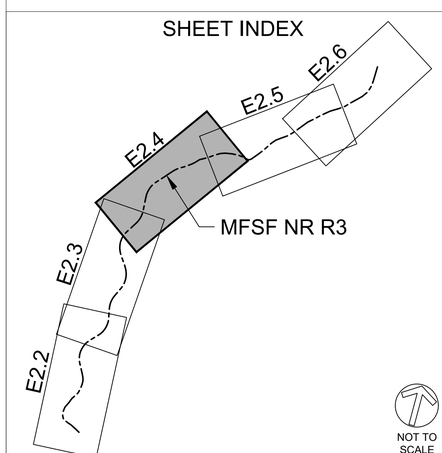
SHEET E4.2
- CONSTRUCTED RIFFLE

SHEET E4.3
- BOULDER RIFFLE
- BOULDER VANE ARM

SHEET E4.4
- BOULDER J-HOOK
- ROCK LINED SWALE

SHEET E4.5
- TOE WOOD PROTECTION
- BOULDER TOE PROTECTION

SHEET INDEX



NOT TO SCALE

APPROVED BY: GJ	CHECKED BY: DB	DRAWN BY: CP	
REV	DESCRIPTION		APPRV
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MIDDLE FORK NEW RIVER GREENWAY REACH 3
MIDDLE FORK SOUTH FORK NEW RIVER - BLUE RIDGE CONSERVANCY
WATAUGA COUNTY, NORTH CAROLINA

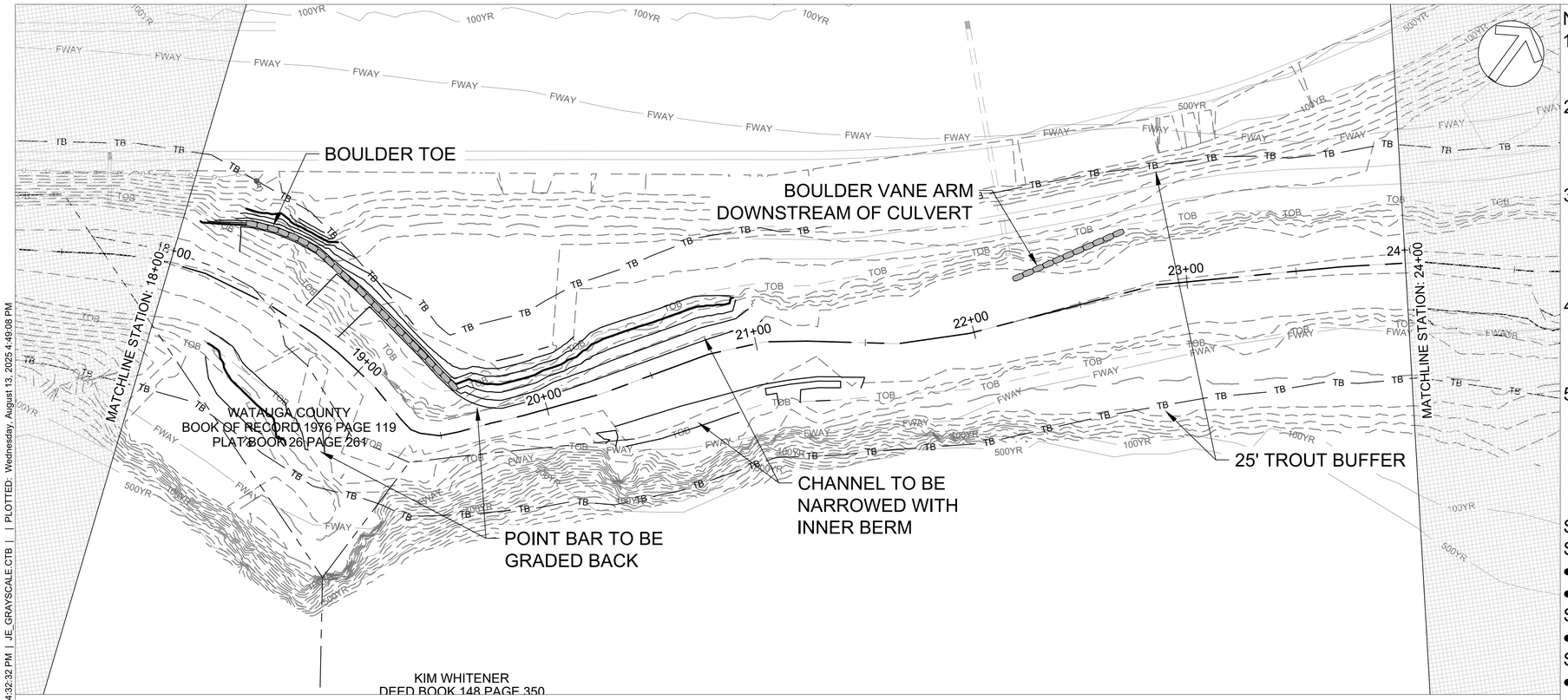
CONSTRUCTION BID PLANS
PR MIDDLE FORK SOUTH FORK NEW RIVER REACH 3
STA 12+00-18+00
NOT FOR CONSTRUCTION

Jennings Environmental
JENNINGS ENVIRONMENTAL, PLLC
7 SAMUEL ASHE DRIVE
ASHEVILLE, NC 28805
LICENSE: P-1932

DATE: 8/13/2025
SCALE (34"X22"): 1" = 30'
SCALE (17"X11"): 1" = 60'

0 30 60
SCALE IN FEET

SHEET NUMBER
E2.4



PR MIDDLE FORK SOUTH FORK NEW RIVER REACH 3A - SCALE: HOR 1" = 30'; VERT 1" = 3'

NOTES:

1. CONTRACTOR TO IDENTIFY AND PROTECT EX. UTILITIES.
2. DISTURBANCE OF VEGETATION SHALL BE KEPT TO MINIMUM EXTENT PRACTICAL TO COMPLETE WORK.
3. RESTORE ACCESS PATHS AND STORAGE AREA(S) TO ORIGINAL CONDITION AS DIRECTED BY THE PROJECT OWNER AND ENGINEER.
4. ON-SITE ROCK MATERIAL MAY BE REUSED FOR STRUCTURES, AT THE DIRECTION OF THE ENGINEER.
5. TOE PROTECTION TO EXTEND MIN. 10' INTO DOWNSTREAM RIFFLE BANK. TOE WOOD CAN BE BE REPLACED WITH BOULDER TOE, AT THE APPROVAL OF THE ENGINEER.

STREAM DETAILS KEY:

SHEET E4.1
- STREAMBANK GRADING
- EROSION CONTROL MATTING

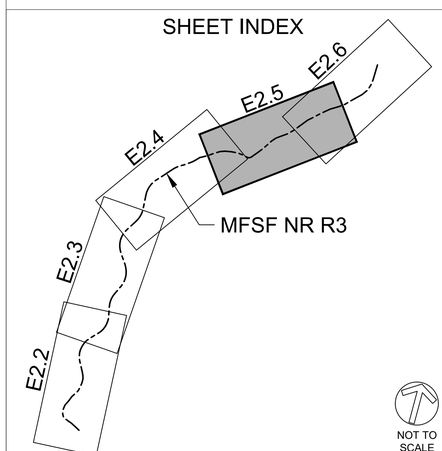
SHEET E4.2
- CONSTRUCTED RIFFLE

SHEET E4.3
- BOULDER RIFFLE
- BOULDER VANE ARM

SHEET E4.4
- BOULDER J-HOOK
- ROCK LINED SWALE

SHEET E4.5
- TOE WOOD PROTECTION
- BOULDER TOE PROTECTION

SHEET INDEX



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MIDDLE FORK NEW RIVER GREENWAY REACH 3
MIDDLE FORK SOUTH FORK NEW RIVER - BLUE RIDGE CONSERVANCY
WATAUGA COUNTY, NORTH CAROLINA

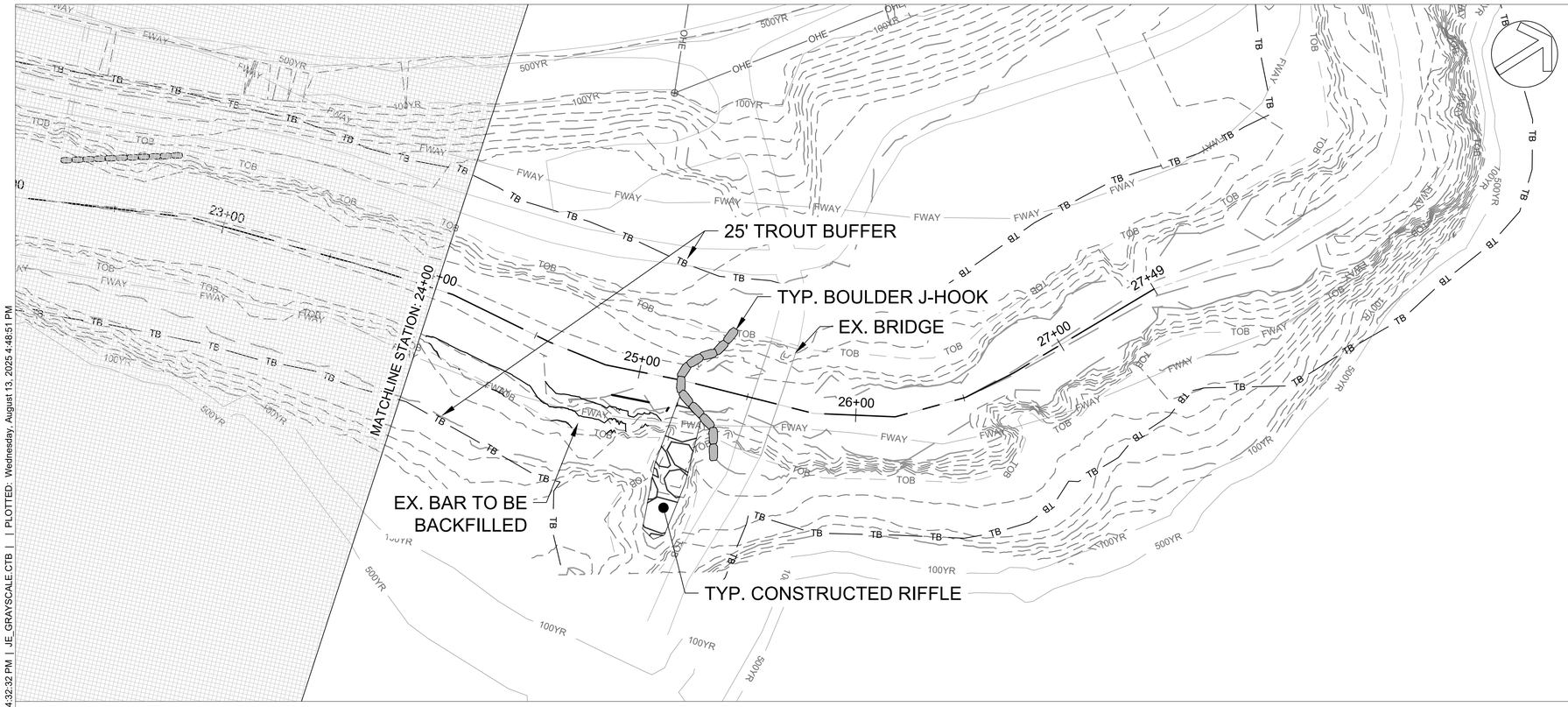
CONSTRUCTION BID PLANS
PR MIDDLE FORK SOUTH FORK NEW RIVER REACH 3
STA 18+00-24+00
NOT FOR CONSTRUCTION

Jennings Environmental
JENNINGS ENVIRONMENTAL, PLLC
7 SAMUEL ASHE DRIVE
ASHEVILLE, NC 28805
LICENSE: P-1932

DATE: 8/13/2025
SCALE (34"X22"): 1" = 30'
SCALE (17"X11"): 1" = 60'

0 30 60
SCALE IN FEET

SHEET NUMBER
E2.5



PR MIDDLE FORK SOUTH FORK NEW RIVER REACH 3A - SCALE: HOR 1" = 30'; VERT 1" = 3'

NOTES:

1. CONTRACTOR TO IDENTIFY AND PROTECT EX. UTILITIES.
2. DISTURBANCE OF VEGETATION SHALL BE KEPT TO MINIMUM EXTENT PRACTICAL TO COMPLETE WORK.
3. RESTORE ACCESS PATHS AND STORAGE AREA(S) TO ORIGINAL CONDITION AS DIRECTED BY THE PROJECT OWNER AND ENGINEER.
4. ON-SITE ROCK MATERIAL MAY BE REUSED FOR STRUCTURES, AT THE DIRECTION OF THE ENGINEER.
5. TOE PROTECTION TO EXTEND MIN. 10' INTO DOWNSTREAM RIFFLE BANK. TOE WOOD CAN BE BE REPLACED WITH BOULDER TOE, AT THE APPROVAL OF THE ENGINEER.

STREAM DETAILS KEY:

SHEET E4.1
- STREAMBANK GRADING
- EROSION CONTROL MATTING

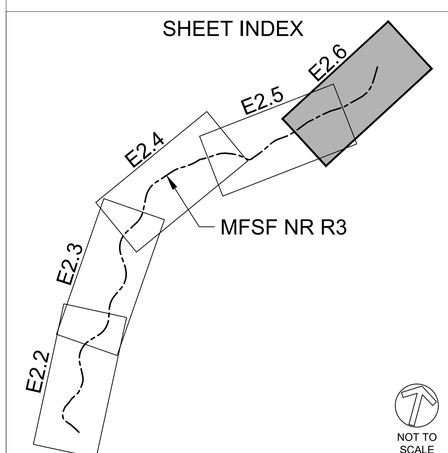
SHEET E4.2
- CONSTRUCTED RIFFLE

SHEET E4.3
- BOULDER RIFFLE
- BOULDER VANE ARM

SHEET E4.4
- BOULDER J-HOOK
- ROCK LINED SWALE

SHEET E4.5
- TOE WOOD PROTECTION
- BOULDER TOE PROTECTION

SHEET INDEX



APPROVED BY: GJ	CHECKED BY: DB	DRAWN BY: CP
REV	DESCRIPTION	APPRV
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MIDDLE FORK NEW RIVER GREENWAY REACH 3
MIDDLE FORK SOUTH FORK NEW RIVER - BLUE RIDGE CONSERVANCY
WATAUGA COUNTY, NORTH CAROLINA

CONSTRUCTION BID PLANS
PR MIDDLE FORK SOUTH FORK NEW RIVER REACH 3
STA 24+00-27+49
NOT FOR CONSTRUCTION

Jennings Environmental
JENNINGS ENVIRONMENTAL, PLLC
7 SAMUEL ASHE DRIVE
ASHEVILLE, NC 28805
LICENSE: P-1932

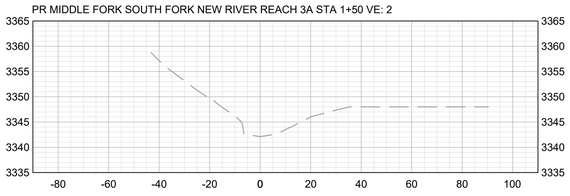
DATE: 8/13/2025
SCALE (34"X22"): 1" = 30'
SCALE (17"X11"): 1" = 60'

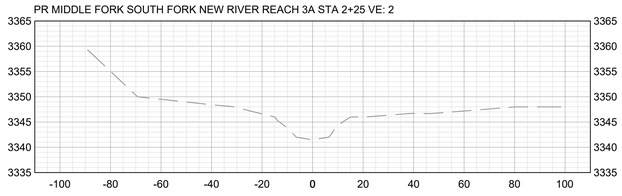
0 30 60
SCALE IN FEET

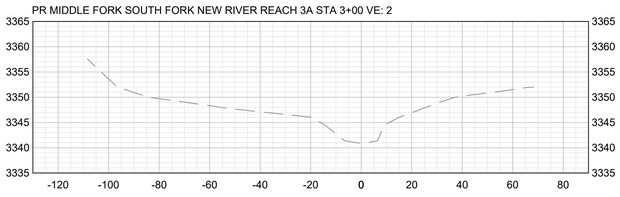
SHEET NUMBER
E2.6

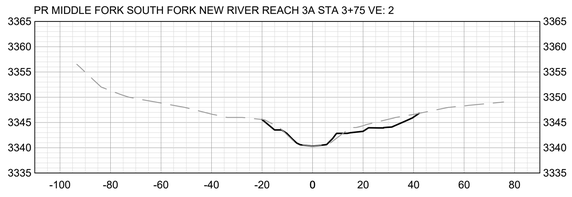
SECTION LEGEND

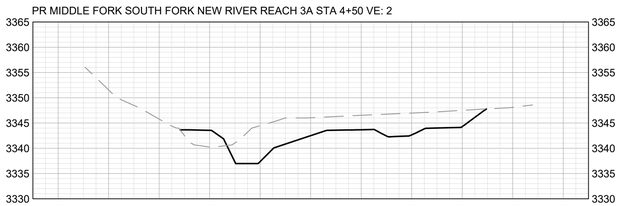
DESIGN SURFACE
EXISTING GROUND

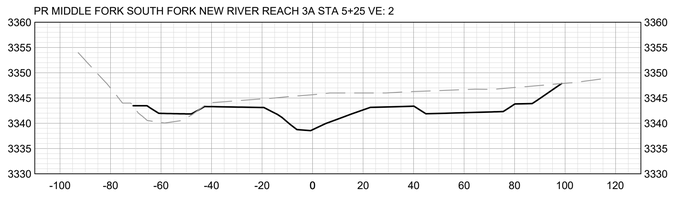


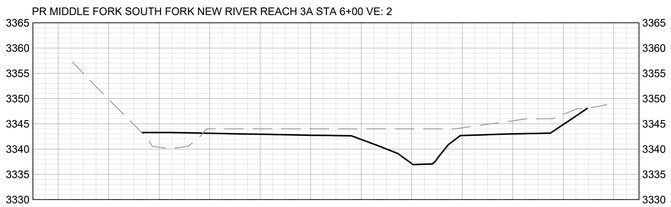


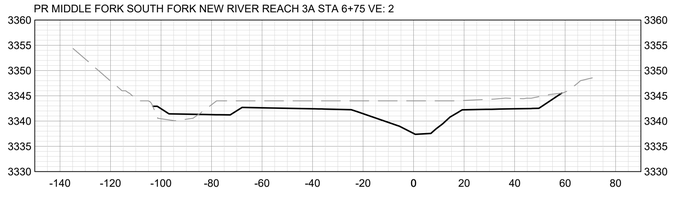


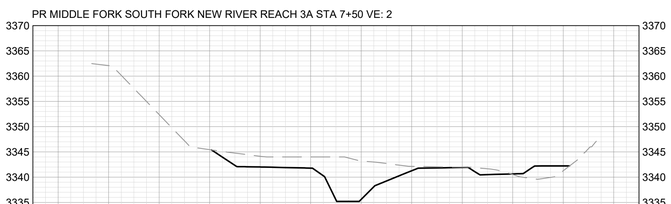


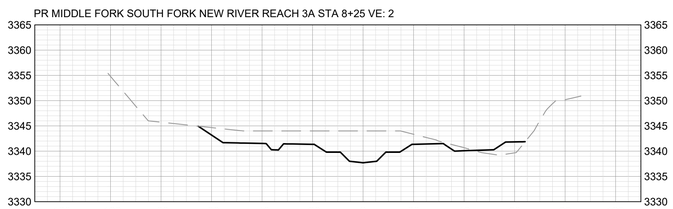












REV	DESCRIPTION	CHECKED BY: DB	DRAWN BY: CP	APPRV
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APPROVED BY: GJ

MIDDLE FORK NEW RIVER GREENWAY REACH 3
MIDDLE FORK SOUTH FORK NEW RIVER - BLUE RIDGE CONSERVANCY
WATAUGA COUNTY, NORTH CAROLINA

CONSTRUCTION BID PLANS
SECTION VIEWS
NOT FOR CONSTRUCTION

Jennings Environmental

JENNINGS ENVIRONMENTAL, PLLC
7 SAMUEL ASHE DRIVE
ASHEVILLE, NC 28805
LICENSE: P-1932

DATE: 8/13/2025
SCALE (34"X22"): 1" = 30'
SCALE (17"X11"): 1" = 60'

0 30 60
SCALE IN FEET

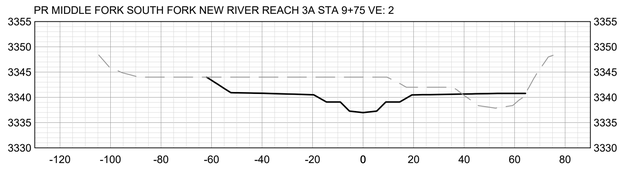
SHEET NUMBER
E3.1

SECTION LEGEND

DESIGN SURFACE
EXISTING GROUND

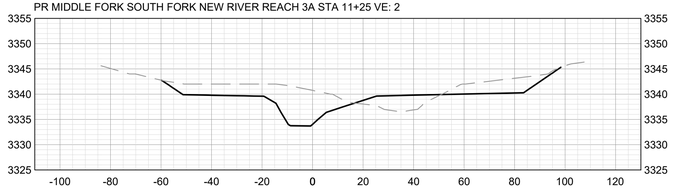
PR MIDDLE FORK SOUTH FORK NEW RIVER REACH 3A STA 9+00 VE: 2

PR MIDDLE FORK SOUTH FORK NEW RIVER REACH 3A STA 9+75 VE: 2



PR MIDDLE FORK SOUTH FORK NEW RIVER REACH 3A STA 10+50 VE: 2

PR MIDDLE FORK SOUTH FORK NEW RIVER REACH 3A STA 11+25 VE: 2



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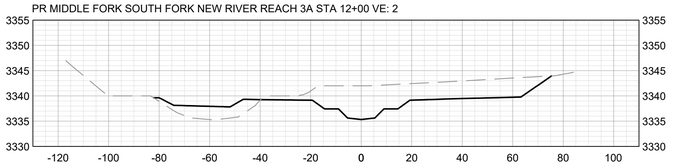

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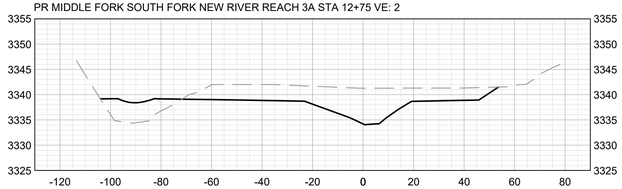
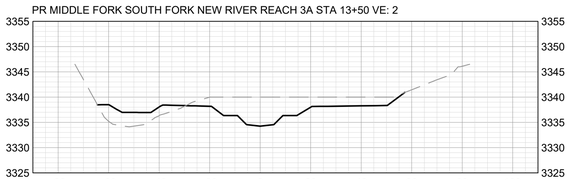
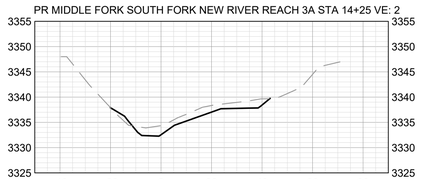


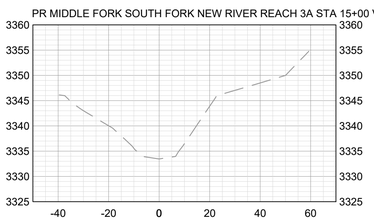
PR MIDDLE FORK SOUTH FORK NEW RIVER REACH 3A STA 13+50 VE: 2



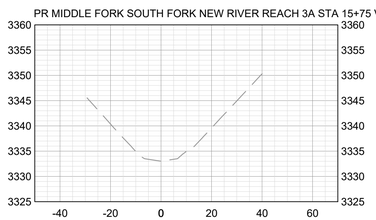
PR MIDDLE FORK SOUTH FORK NEW RIVER REACH 3A STA 14+25 VE: 2



PR MIDDLE FORK SOUTH FORK NEW RIVER REACH 3A STA 15+00 VE: 2



PR MIDDLE FORK SOUTH FORK NEW RIVER REACH 3A STA 15+75 VE: 2



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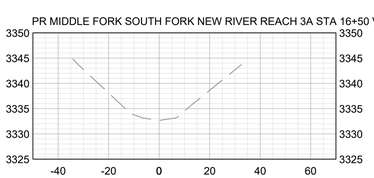
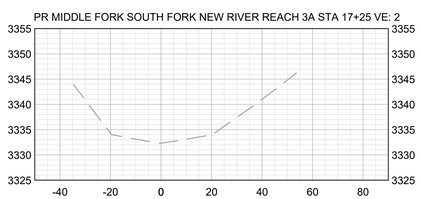


PR MIDDLE FORK SOUTH FORK NEW RIVER REACH 3A STA 17+25 VE: 2



APPROVED BY: GJ	CHECKED BY: DB	DRAWN BY: CP

REV	DESCRIPTION	APPRV
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MIDDLE FORK NEW RIVER GREENWAY REACH 3
MIDDLE FORK SOUTH FORK NEW RIVER - BLUE RIDGE CONSERVANCY
WATAUGA COUNTY, NORTH CAROLINA

CONSTRUCTION BID PLANS
SECTION VIEWS
NOT FOR CONSTRUCTION

Jennings Environmental

JENNINGS ENVIRONMENTAL, PLLC
7 SAMUEL ASHE DRIVE
ASHEVILLE, NC 28805
LICENSE: P-1932

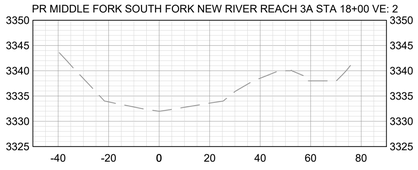
DATE: 8/13/2025
SCALE (34"X22"): 1" = 30'
SCALE (17"X11"): 1" = 60'

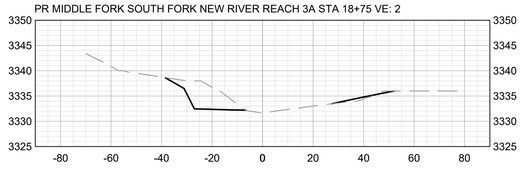
0 30 60
SCALE IN FEET

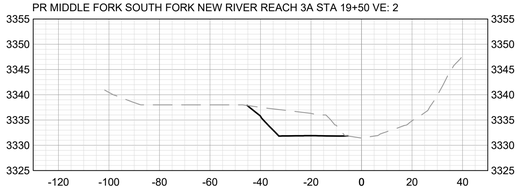
SHEET NUMBER
E3.2

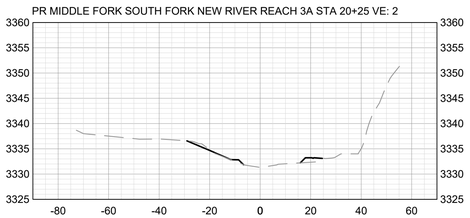
SECTION LEGEND

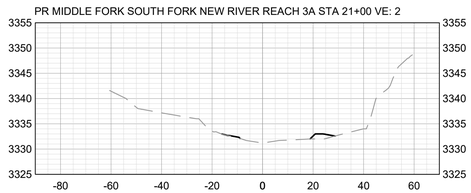
DESIGN SURFACE
EXISTING GROUND

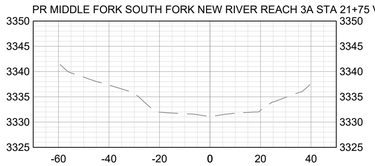


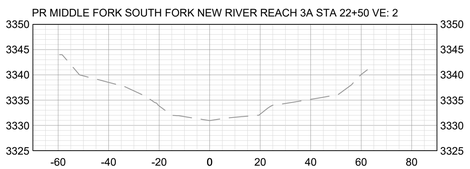


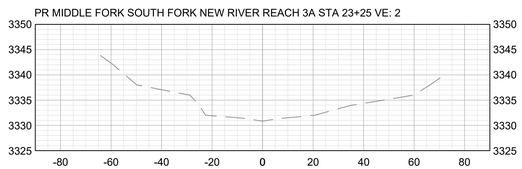


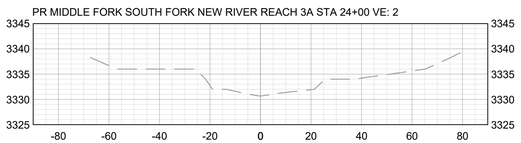


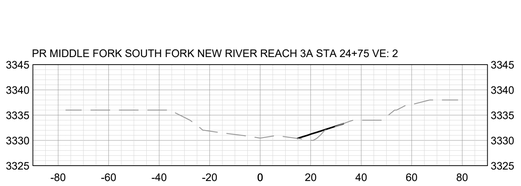


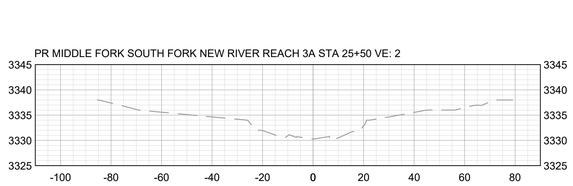












APPROVED BY: GJ	CHECKED BY: DB	DRAWN BY: CP

REV	DESCRIPTION	APPRV
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MIDDLE FORK NEW RIVER GREENWAY REACH 3
MIDDLE FORK SOUTH FORK NEW RIVER - BLUE RIDGE CONSERVANCY
WATAUGA COUNTY, NORTH CAROLINA

CONSTRUCTION BID PLANS
SECTION VIEWS
NOT FOR CONSTRUCTION

Jennings Environmental

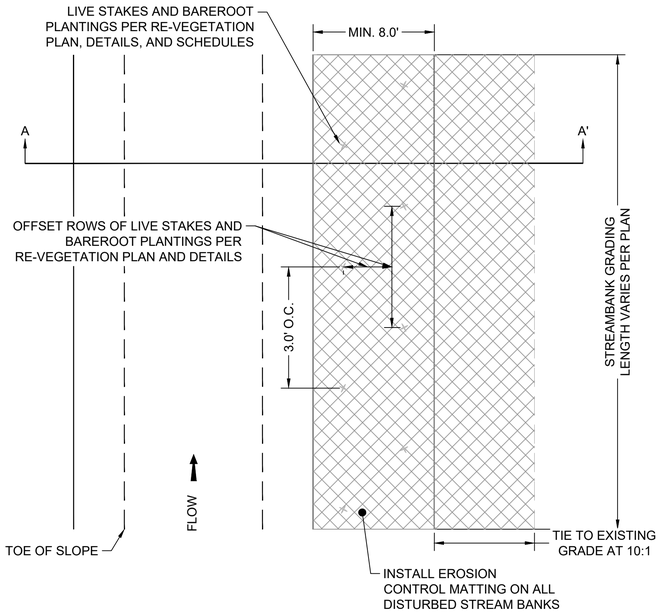
JENNINGS ENVIRONMENTAL, PLLC
7 SAMUEL ASHE DRIVE
ASHEVILLE, NC 28805
LICENSE: P-1932

DATE: 8/13/2025
SCALE (34"X22"): 1" = 30'
SCALE (17"X11"): 1" = 60'

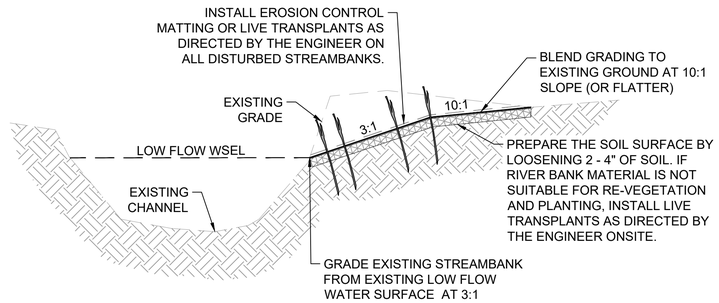
0 30 60
SCALE IN FEET

SHEET NUMBER
E3.3

STREAMBANK GRADING



DETAILED PLAN



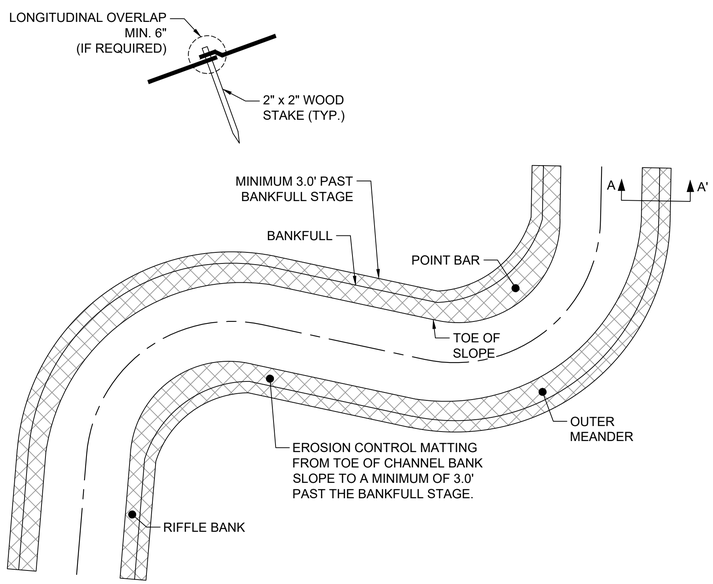
DETAILED SECTION A - A'

NOT TO SCALE

STREAMBANK GRADING SPECIFICATIONS

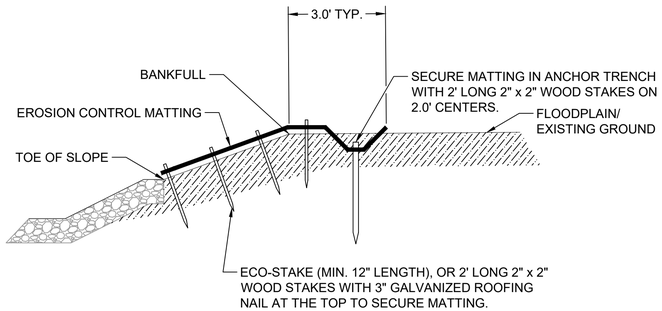
1. ALL BANK GRADING WORK SHALL TAKE PLACE DURING DRY WORKING CONDITIONS. THE CONTRACTOR SHALL MINIMIZE THE EXPORT OF SEDIMENT TO ADJACENT SURFACE WATERS TO THE MAXIMUM EXTENT PRACTICABLE BY USING ADDITIONAL EROSION AND SEDIMENTATION CONTROL MEASURES AS NEEDED OR AS DIRECTED BY THE ENGINEER ONSITE.
2. FOR IMPLEMENTATION, THE CONTRACTOR SHALL GRADE THE RIVER BANK FROM THE EXISTING TOE OF SLOPE AT 3:1 TRANSITIONING TO A 10:1 SLOPE (OR FLATTER) TO THE ELEVATIONS AND GRADES MATCHING THE SURROUNDING AREA. ALL EXCAVATED MATERIAL SHALL BE HAULED AND PLACED IN DESIGNATED AREAS ONSITE.
3. IF STREAMBANK MATERIAL IS NOT SUITABLE FOR PLANTING AND RE-VEGETATION, INSTALL LIVE TRANSPLANTS AS DIRECTED BY THE ENGINEER ONSITE.
4. TRANSPLANTS AVAILABLE ONSITE MAY BE INSTALLED IN THE TOPSOIL AS DIRECTED BY THE ENGINEER ONSITE.
5. THE SURFACE OF THIS FEATURE SHALL BE FINISHED TO A SMOOTH AND COMPACT SURFACE IN ACCORDANCE WITH THE LINES, GRADES, AND CROSS-SECTIONS OR ELEVATIONS SHOWN ON THE DRAWINGS.
6. STABILIZATION OF THE WORK AREA WITH TEMPORARY AND PERMANENT SEEDING AND MULCHING IS REQUIRED FOLLOWING GRADING OF THE STREAMBANK. INSTALL WOODY PLANTING AND VEGETATION AS SHOWN ON THE APPROVED RE-VEGETATION PLAN.

EROSION CONTROL MATTING



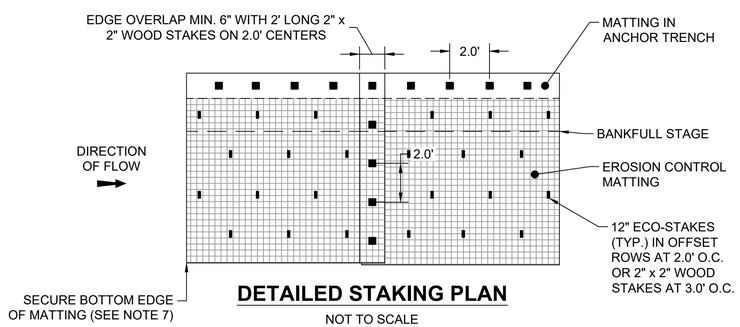
DETAILED PLAN

NOT TO SCALE



DETAILED SECTION A - A'

NOT TO SCALE

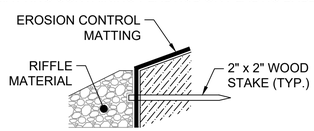


DETAILED STAKING PLAN

NOT TO SCALE

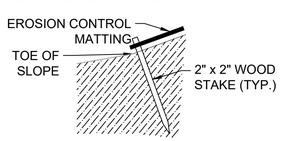
EROSION CONTROL MATTING SPECIFICATIONS

1. EROSION CONTROL MATTING IS USED TO PROTECT RECENTLY CONSTRUCTED STREAM BANKS FROM EROSION. THE MATTING WILL REMAIN INTACT WHILE THE BANK AND RIPARIAN VEGETATION MATURES, PROVIDING CRITICAL BANK PROTECTION.
2. STREAM BANK EROSION CONTROL MATTING MATERIAL SPECIFICATIONS:
   - 2.1. MACHINE DIRECTION TENSILE STRENGTH: 77 LB/IN
   - 2.2. CROSS MATCH DIRECTION TENSILE STRENGTH: 86 LB/IN
   - 2.3. APPARENT OPENING SIZE: 0.59" x 0.67"
   - 2.4. PERCENT OPENING: 49%
   - 2.5. MASS: 700 G/M^2
3. BEFORE INSTALLING EROSION CONTROL MATTING, RAKE SOIL LEVEL, ADD TEMPORARY AND PERMANENT SEED, SOIL PREPARATION AND MULCH.
4. EROSION CONTROL MATTING SHALL BE PLACED ALONG THE LENGTH OF THE NEW CHANNEL FROM THE TOE OF SLOPE TO A MINIMUM OF 3.0' PAST THE BANKFULL STAGE. MATTING SHALL BE PLACED SUCH THAT MAT COMES IN COMPLETE CONTACT WITH THE SOIL.
5. SECURE MATTING IN PLACE BY STAKING AND OVERLAPPING AT THE SEAMS WITH A SHINGLE-TYPE METHOD SUCH THAT THE OVERLAPPING PIECE IS IN THE SAME DIRECTION AS THE STREAM FLOW AS SHOWN IN THE DETAIL. ADDITIONAL STAKING SHALL BE APPLIED BY THE CONTRACTOR AT NO ADDITIONAL COST IF THE MATTING SEPARATES FROM THE SOIL MORE THAN ONE INCH UNDER A REASONABLE PULL.
6. SECURE TOP EDGE OF MATTING IN ANCHOR TRENCH. MATTING SHALL BE PLACED IN TRENCH (MIN. 6" DEEP, 6" WIDE), STAKED WITH 2.0' LONG 2" x 2" WOOD STAKES ON 2.0' CENTERS AND BACKFILLED.
7. METHOD OF SECURING BOTTOM EDGE OF MATTING VARIES BASED ON INSTALLATION LOCATION AS FOLLOWS: RIFFLES - KEYED; OUTSIDE MEANDER BENDS - WRAPPED; AND POINT BARS AND OTHER AREA WITHOUT PROPOSED REVETMENT - STAKED.
8. EROSION CONTROL MATTING USED ON ALL STREAM BANKS SHALL BE MADE OF 100% NATURAL FIBERS AND MATERIALS AND BE BIODEGRADABLE UNDER NORMAL CLIMATE CONDITIONS. EROSION CONTROL MATTING CONTAINING PLASTICS OR PLASTIC BASED MATERIALS SHALL NOT BE USED.



KEY MATTING BEHIND RIFFLE MATERIAL. EXTEND TO FULL DEPTH OF RIFFLE MATERIAL

TRENCHED INSTALLATION



SECURE MATTING AT TOE OF SLOPE WITH 2' LONG 2" x 2" WOOD STAKES WITH 3" GALVANIZED ROOFING NAIL.

STAKED INSTALLATION

APPROVED BY: GJ	CHECKED BY: DB	DRAWN BY: CP

REV	DESCRIPTION	APPRV
-	-	-

MIDDLE FORK NEW RIVER GREENWAY REACH 3
MIDDLE FORK SOUTH FORK NEW RIVER - BLUE RIDGE CONSERVANCY
WATAUGA COUNTY, NORTH CAROLINA

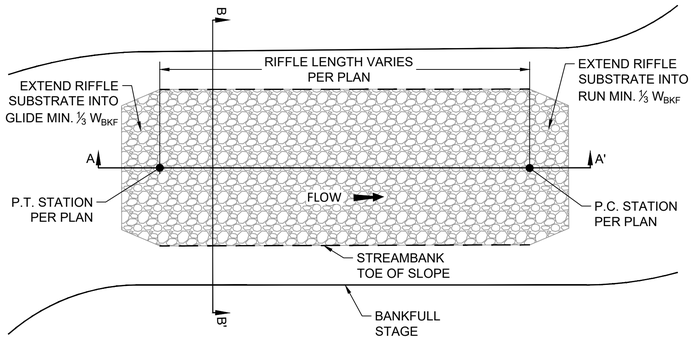
CONSTRUCTION BID PLANS
STREAM DETAILS
NOT FOR CONSTRUCTION

Jennings Environmental
JENNINGS ENVIRONMENTAL, PLLC
7 SAMUEL ASHE DRIVE
ASHEVILLE, NC 28805
LICENSE: P-1932

DATE: 8/13/2025
SCALE (34"X22"): NTS
SCALE (17"X11"): NTS

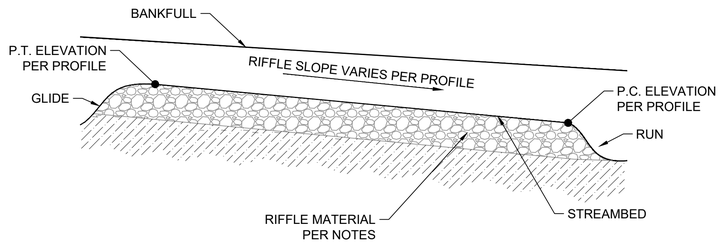
NOT TO SCALE

SHEET NUMBER
E4.1



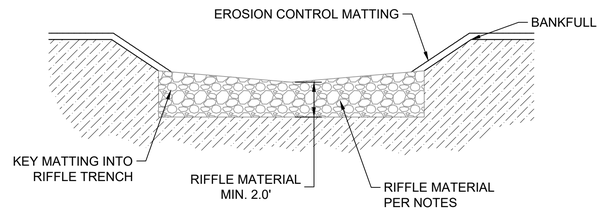
DETAILED PLAN

NOT TO SCALE



DETAILED SECTION A - A'

NOT TO SCALE



DETAILED SECTION B - B'

NOT TO SCALE

CONSTRUCTED RIFFLE

CONSTRUCTED RIFFLE SPECIFICATIONS

1. RIFFLES SHALL BE CONSTRUCTED OF NATIVE GRAVEL AND COBBLE MATERIAL AVAILABLE ONSITE. THE ENGINEER MUST APPROVE THE USE OF ALL ONSITE NATIVE MATERIAL. WHEN NATIVE SUBSTRATE IS NOT SUFFICIENT FOR COMPLETION OF THE STRUCTURE, QUARRIED STONE SHALL BE USED TO SUPPLEMENT THE RIFFLE MATERIAL ACCORDING TO THE RIFFLE SUBSTRATE SPECIFICATIONS.
2. FOR INSTALLATION, THE CONTRACTOR SHALL OVER EXCAVATE THE LENGTH OF THE RIFFLE BACKFILL WITH NATIVE GRAVEL AND COBBLE MATERIAL TO THE ELEVATIONS SHOWN ON THE PROPOSED PROFILE.
3. CONSTRUCTED RIFFLE MATERIAL SHALL EXTEND A MINIMUM OF $\frac{1}{3}$ W_{BKF} U/S OF THE P.T. INTO THE GLIDE AND A MINIMUM OF $\frac{1}{3}$ W_{BKF} D/S OF THE P.C. INTO THE RUN.
4. THE RIFFLE MATERIAL SHALL BE PLACED AT A UNIFORM THICKNESS SUCH THAT, IN CROSS-SECTION, ITS LOWEST ELEVATION OCCURS IN THE CENTER OF THE CHANNEL.
5. FINE WOODY MATERIAL MAY BE INTEGRATED INTO THE RIFFLE MATERIAL TO ENHANCE FLOW DIVERSITY AND HYPORHEIC EXCHANGE.
6. RIFFLE MATERIAL SHALL BE COMPACTED USING AN EXCAVATOR BUCKET SUCH THAT FUTURE SETTLEMENT OF THE MATERIAL IS KEPT TO A MINIMUM.
7. THE SURFACE OF THIS STRUCTURE SHALL BE FINISHED TO A SMOOTH AND COMPACT SURFACE IN ACCORDANCE WITH THE LINES, GRADES, AND CROSS-SECTIONS OR ELEVATIONS SHOWN ON THE DRAWINGS. THE DEGREE OF FINISH FOR INVERT ELEVATIONS SHALL BE WITHIN 0.1 FT OF THE GRADES AND ELEVATIONS INDICATED.
8. RE-DRESSING OF CHANNEL AND BANKFULL BENCH/FLOODPLAIN WILL LIKELY BE REQUIRED FOLLOWING INSTALLATION OF IN-STREAM STRUCTURES AND SHALL BE CONSIDERED INCIDENTAL TO CONSTRUCTION.
9. SEE TYPICAL RIFFLE CROSS SECTION FOR DIMENSIONS.
10. SUPPLEMENTAL RIFFLE MATERIAL SPECIFICATIONS:
    - NCDOT CLASS 1 - 50%
    - NCDOT CLASS 2 - 50%
    - USE NATIVE MATERIAL TO TOP DRESS AND FILL VOIDS

APPROVED BY: GJ	CHECKED BY: DB	DRAWN BY: CP

REV	DESCRIPTION	APPRV
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MIDDLE FORK NEW RIVER GREENWAY REACH 3
MIDDLE FORK SOUTH FORK NEW RIVER - BLUE RIDGE CONSERVANCY
WATAUGA COUNTY, NORTH CAROLINA

CONSTRUCTION BID PLANS
STREAM DETAILS
NOT FOR CONSTRUCTION

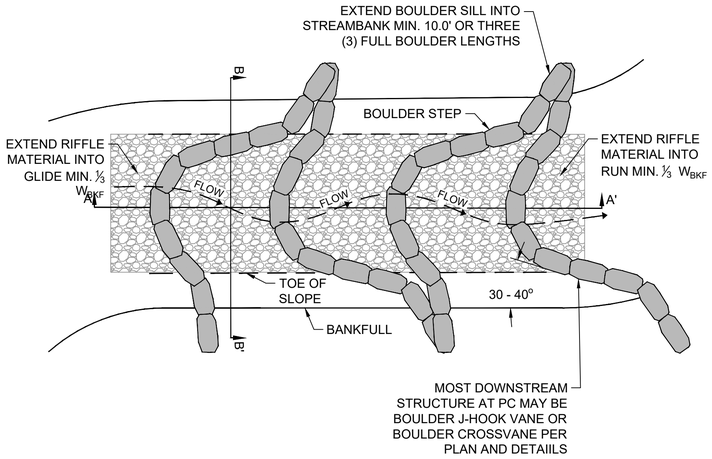
Jennings Environmental

JENNINGS ENVIRONMENTAL, PLLC
7 SAMUEL ASHE DRIVE
ASHEVILLE, NC 28805
LICENSE: P-1932

DATE:	8/13/2025
SCALE (34"X22"):	NTS
SCALE (17"X11"):	NTS

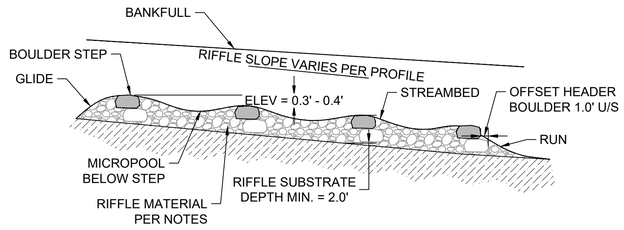
NOT TO SCALE

SHEET NUMBER
E4.2



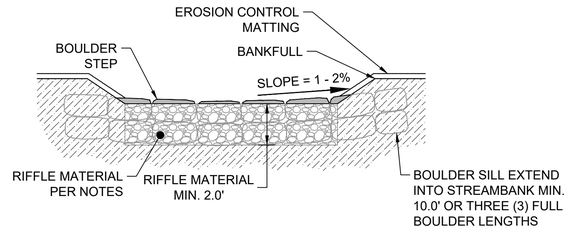
DETAILED PLAN

NOT TO SCALE



DETAILED SECTION A - A'

NOT TO SCALE



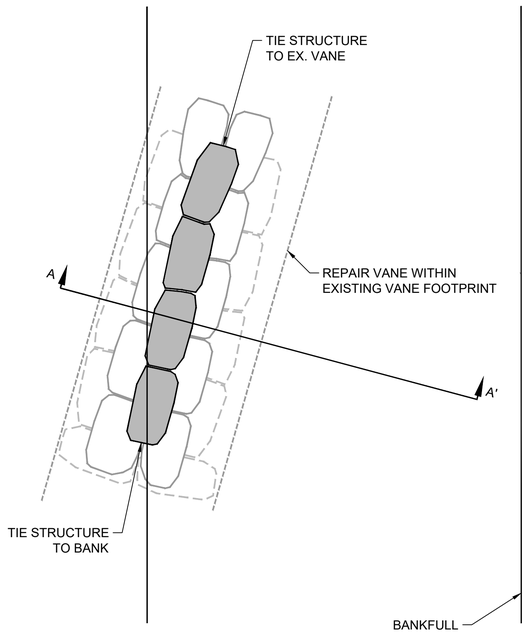
DETAILED SECTION B - B'

NOT TO SCALE

BOULDER RIFFLE

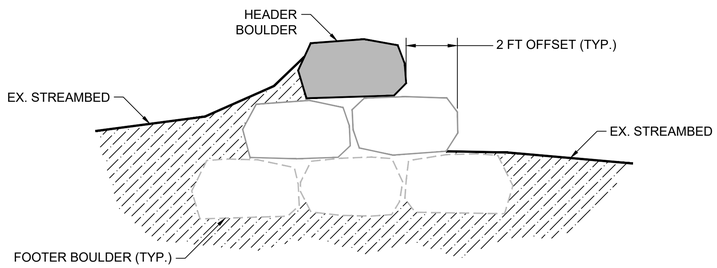
BOULDER RIFFLE SPECIFICATIONS

1. ALL BOULDERS USED FOR THE BOULDER CASCADE SHALL BE STRUCTURAL STONE, CUBICAL OR RECTANGULAR IN SHAPE. BOULDERS SHALL BE 3.0' X 5.0' X 2.5' (W X L X H) +/- 0.5'. THE MINIMUM ACCEPTABLE BOULDER THICKNESS (H) IS 2.0'. BOULDERS LONGER (L) THAN 5.5' WILL BE ACCEPTED. DIMENSIONS AND SLOPES OF STRUCTURES DESCRIBED IN THE DETAIL MAY BE ADJUSTED BY THE ENGINEER TO FIT CONDITIONS ONSITE.
2. CONTRACTOR WILL BE REQUIRED TO FIT BOULDERS TOGETHER TIGHTLY. GAPS BETWEEN BOULDERS SHALL BE MINIMIZED BY FITTING BOULDERS TOGETHER AND PLUGGING WITH NC DOT CLASS A ROCK OR CHINKING STONE APPROVED BY ENGINEER. HEADER BOULDERS SHALL BE UNDERLAIN BY FOOTER BOULDERS TO PROVIDE A FOUNDATION UNLESS OTHERWISE DIRECTED BY THE ENGINEER. HEADER BOULDERS SHALL BE OFFSET 1 FT UPSTREAM OF THE FOOTER BOULDERS WHERE MICROPOOLS ARE ANTICIPATED TO FORM AS SHOWN IN THE DETAIL.
3. SET BOULDER INVERTS AT ELEVATION SHOWN ON THE PLAN AND PROFILE SHEETS. NO ELEVATIONS OF THE BOULDERS MAY VARY FROM THE PLAN SHEETS WITHOUT DIRECTION FROM THE ENGINEER. THE BOULDER ARMS SHALL EXTEND UP TO THE STREAMBANK AT A 1% - 2% SLOPE AND INTO THE STREAMBANK A MINIMUM OF 10.0' OR TWO FULL BOULDER LENGTHS. MAXIMUM ELEVATION DROP OVER EACH BOULDER IS STEP IS 0.3' - 0.5'.
4. ON THE UPSTREAM SIDE OF THE BOULDERS, 8 OZ. NON-WOVEN GEOTEXTILE FABRIC SHALL BE PLACED ON THE ENTIRE LENGTH OF THE STRUCTURE. FILTER FABRIC SHALL EXTEND FROM THE BOTTOM OF THE FOOTER BOULDER TO THE FINISHED GRADE ELEVATION AND SHALL BE PLACED THE ENTIRE LENGTH OF THE STRUCTURE. RIFFLE MATERIAL SHALL BE USED AS BACKFILL MATERIAL AROUND THE OFFSET BOULDER STEPS AND MICROPOOLS SHALL BE ESTABLISHED BELOW EACH STEP.
5. BOULDER RIFFLES SHALL BE BACKFILLED WITH RIFFLE MATERIAL CONSISTING OF QUARRIED STONE. RIFFLE MATERIAL SHALL BE PLACED AT A UNIFORM THICKNESS SUCH THAT, IN CROSS-SECTION, ITS LOWEST ELEVATION OCCURS IN THE CENTER OF THE CHANNEL. RIFFLE MATERIAL SHALL BE COMPACTED USING AN EXCAVATOR BUCKET SUCH THAT FUTURE SETTLEMENT OF THE MATERIAL IS KEPT TO A MINIMUM.
6. BOULDER RIFFLE MATERIAL SPECIFICATIONS:
   - NCDOT CLASS 2 - 25%
   - NCDOT CLASS 1 - 25%
   - NATIVE MATERIAL - 50%
7. RIFFLE MATERIAL SHALL EXTEND A MINIMUM OF ⅓ W_{BKF} U/S OF THE P.T. INTO THE GLIDE AND A MINIMUM OF ⅓ W_{BKF} D/S OF THE P.C. INTO THE RUN.
8. THE SURFACE OF THIS STRUCTURE SHALL BE FINISHED TO A SMOOTH AND COMPACT SURFACE IN ACCORDANCE WITH THE LINES, GRADES, AND CROSS-SECTIONS OR ELEVATIONS SHOWN ON THE DRAWINGS. THE DEGREE OF FINISH FOR INVERT ELEVATIONS SHALL BE WITHIN 0.1 FT OF THE GRADES AND ELEVATIONS INDICATED. RE-DRESSING OF CHANNEL AND BANKFULL BENCH/FLOODPLAIN WILL LIKELY BE REQUIRED FOLLOWING INSTALLATION OF IN-STREAM STRUCTURES AND SHALL BE CONSIDERED INCIDENTAL TO CONSTRUCTION.



DETAILED PLAN

NOT TO SCALE



DETAILED SECTION A - A'

NOT TO SCALE

BOULDER VANE ARM

BOULDER VANE ARM SPECIFICATIONS

1. ALL BOULDERS USED FOR THE PROPOSED STRUCTURE SHALL BE STRUCTURAL STONE, CUBICAL OR RECTANGULAR IN SHAPE. THE ENGINEER MUST APPROVE THE USE OF BOULDERS THAT MAY BE AVAILABLE ONSITE. BOULDERS SHALL BE 3.0' X 5.0' X 2.5' (W X L X H) +/- 0.5'. THE MINIMUM ACCEPTABLE BOULDER THICKNESS (H) IS 2.0'. BOULDERS LONGER (L) THAN 5.5' WILL BE ACCEPTED.
2. DIMENSIONS AND SLOPES OF STRUCTURES DESCRIBED IN THE DETAIL MAY BE ADJUSTED BY ENGINEER TO FIT CONDITIONS ONSITE. CONTRACTOR WILL BE REQUIRED TO FIT BOULDERS TOGETHER TIGHTLY.
3. GAPS BETWEEN BOULDERS SHALL BE MINIMIZED BY FITTING BOULDERS TOGETHER AND PLUGGING WITH NC DOT CLASS A ROCK OR CHINKING STONE APPROVED BY ENGINEER.
4. HEADER BOULDERS SHALL BE UNDERLAIN BY FOOTER BOULDERS TO PROVIDE A FOUNDATION UNLESS OTHERWISE DIRECTED BY THE ENGINEER. HEADER BOULDERS SHALL BE OFFSET 2.0± FT UPSTREAM OF THE FOOTER.
5. FOOTER BOULDERS SHALL EXTEND BELOW THE MAXIMUM SCOUR DEPTH (CHANNEL INVERT). ADDITIONAL COURSE(S) OF FOOTER BOULDERS, BEYOND THOSE SHOWN IN THE DETAIL, MAY BE REQUIRED. IF BEDROCK IS PRESENT DIRECTLY BELOW HEADER BOULDERS, FOOTER MAY NOT BE REQUIRED. CHIP BEDROCK 0.5' FOR PLACEMENT AND SEAT FOOTER BOULDERS ON BEDROCK AT THE DIRECTION OF THE ENGINEER.
6. BOULDER VANE ARMS SHALL EXTEND UP TO THE STREAMBANK AT A SLOPE OF 1-3% AND BE TIED INTO THE STREAMBANK.
7. THE SURFACE OF THIS STRUCTURE SHALL BE FINISHED TO A SMOOTH AND COMPACT SURFACE IN ACCORDANCE WITH THE LINES, GRADES, AND CROSS-SECTIONS OR ELEVATIONS SHOWN ON THE DRAWINGS. THE DEGREE OF FINISH FOR INVERT ELEVATIONS SHALL BE WITHIN 0.1 FT OF THE GRADES AND ELEVATIONS INDICATED.
8. RE-DRESSING OF CHANNEL AND BANKFULL BENCH/FLOODPLAIN WILL LIKELY BE REQUIRED FOLLOWING INSTALLATION OF IN-STREAM STRUCTURES AND SHALL BE CONSIDERED INCIDENTAL TO CONSTRUCTION.

BOULDER VANE ARM

APPROVED BY: GJ | CHECKED BY: DB | DRAWN BY: CP

REV	DESCRIPTION	APPRV
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MIDDLE FORK NEW RIVER GREENWAY REACH 3
MIDDLE FORK SOUTH FORK NEW RIVER - BLUE RIDGE CONSERVANCY
WATAUGA COUNTY, NORTH CAROLINA

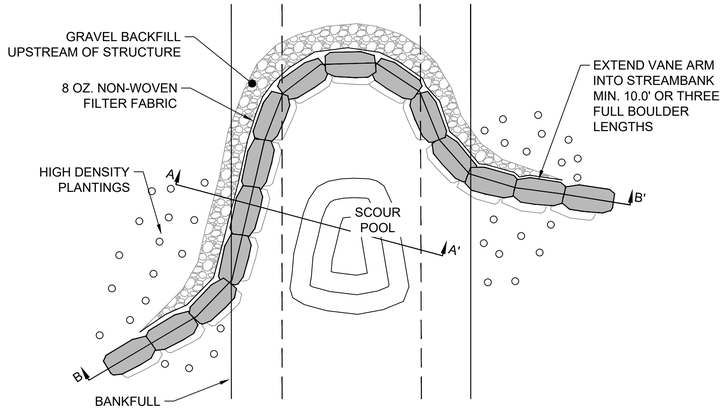
CONSTRUCTION BID PLANS
STREAM DETAILS
NOT FOR CONSTRUCTION

Jennings Environmental
JENNINGS ENVIRONMENTAL, PLLC
7 SAMUEL ASHE DRIVE
ASHEVILLE, NC 28805
LICENSE: P-1932

DATE: 8/13/2025
SCALE (34"X22"): NTS
SCALE (17"X11"): NTS

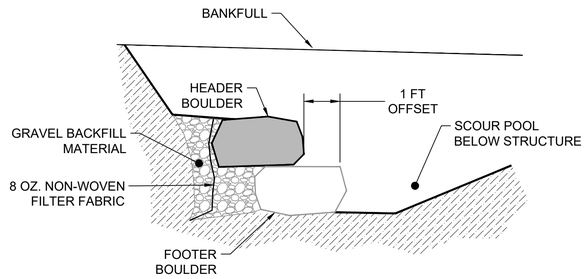
NOT TO SCALE

SHEET NUMBER
E4.3



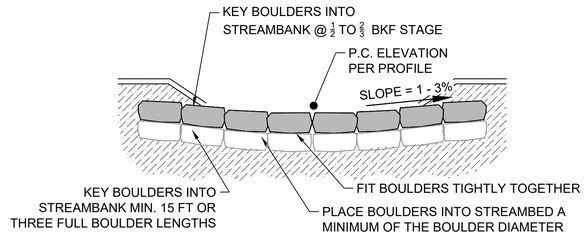
DETAILED PLAN

NOT TO SCALE



DETAILED SECTION A - A'

NOT TO SCALE



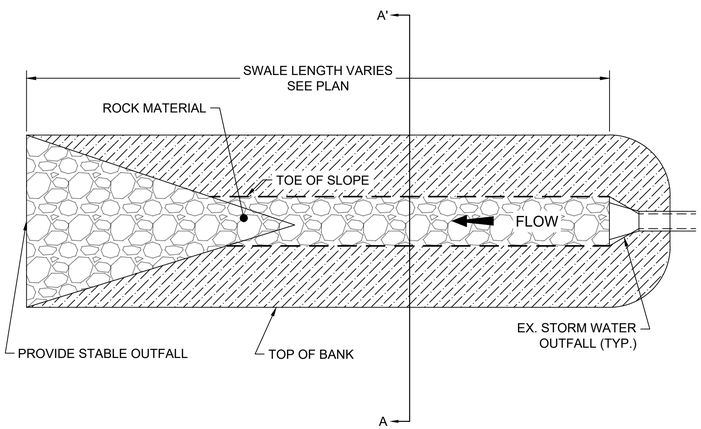
DETAILED SECTION B - B'

NOT TO SCALE

BOULDER J-HOOK

BOULDER J-HOOK SPECIFICATIONS

1. ALL BOULDERS USED FOR THE PROPOSED STRUCTURE SHALL BE STRUCTURAL STONE, CUBICAL OR RECTANGULAR IN SHAPE. THE ENGINEER MUST APPROVE THE USE OF BOULDERS THAT MAY BE AVAILABLE ONSITE. BOULDERS SHALL BE 3.0' X 5.0' X 2.5' (W X L X H) +/- 0.5'. THE MINIMUM ACCEPTABLE BOULDER THICKNESS (H) IS 2.0'. BOULDERS LONGER (L) THAN 5.5' WILL BE ACCEPTED.
2. DIMENSIONS AND SLOPES OF STRUCTURES DESCRIBED IN THE DETAIL MAY BE ADJUSTED BY DESIGN ENGINEER TO FIT CONDITIONS ONSITE. CONTRACTOR WILL BE REQUIRED TO FIT BOULDERS TOGETHER TIGHTLY.
3. GAPS BETWEEN BOULDERS SHALL BE MINIMIZED BY FITTING BOULDERS TOGETHER AND PLUGGING WITH NC DOT CLASS A ROCK OR CHINKING STONE APPROVED BY ENGINEER.
4. HEADER BOULDERS SHALL BE UNDERLAIN BY FOOTER BOULDERS TO PROVIDE A FOUNDATION UNLESS OTHERWISE DIRECTED BY THE ENGINEER. HEADER BOULDERS SHALL BE OFFSET 1.0 FT UPSTREAM OF THE FOOTER.
5. SET BOULDER INVERTS AT ELEVATION SHOWN ON THE PLAN AND PROFILE SHEETS. NO ELEVATIONS OF THE BOULDERS MAY VARY FROM THE PLAN SHEETS WITHOUT DIRECTION FROM THE ENGINEER.
6. 8 OZ. NON-WOVEN GEOTEXTILE SHALL BE PLACED ON THE UPSTREAM SIDE OF THE STRUCTURE TO PREVENT WASHOUT OF SEDIMENT THROUGH BOULDER GAPS. FILTER FABRIC SHALL EXTEND FROM THE BOTTOM OF THE FOOTER BOULDER TO THE FINISHED GRADE ELEVATION AND SHALL BE PLACED THE ENTIRE LENGTH OF THE STRUCTURE. SELECT BACK FILL MATERIAL SHALL BE PLACED UPSTREAM OF THE GEOTEXTILE MATERIAL.
7. GRAVEL MATERIAL CONSISTING OF A WELL-GRADED BLEND OF NCDOT CLASS A RIPRAP AND ASTM #57 ROCK MIXED WITH EARTH SHALL BE USED TO BACKFILL THE STRUCTURE. BACKFILL MATERIAL SHALL BE COMPACTED SUCH THAT FUTURE SETTLEMENT OF THE MATERIAL IS KEPT TO A MINIMUM.
8. THE SURFACE OF THIS STRUCTURE SHALL BE FINISHED TO A SMOOTH AND COMPACT SURFACE IN ACCORDANCE WITH THE LINES, GRADES, AND CROSS-SECTIONS OR ELEVATIONS SHOWN ON THE DRAWINGS. THE DEGREE OF FINISH FOR INVERT ELEVATIONS SHALL BE WITHIN 0.1 FT OF THE GRADES AND ELEVATIONS INDICATED.
9. RE-DRESSING OF CHANNEL AND BANKFULL BENCH/FLOODPLAIN WILL LIKELY BE REQUIRED FOLLOWING INSTALLATION OF IN-STREAM STRUCTURES AND SHALL BE CONSIDERED INCIDENTAL TO CONSTRUCTION.



DETAILED PLAN

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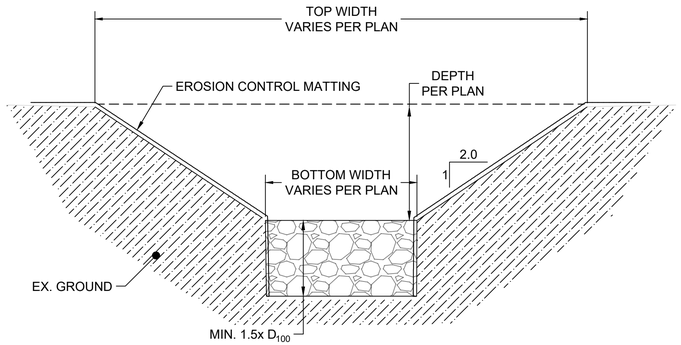


DETAILED SECTION A - A'

NOT TO SCALE

ROCK LINED SWALE

ROCK LINED SWALE SPECIFICATIONS

1. USE ROCK MATERIAL IN SWALE BED WHERE SHOWN ON PLANS.
2. ROCK MATERIAL SHALL CONSIST OF NCDOT CLASS B STONE OR EQUIVALENT ON-SITE MATERIAL APPROVED BY THE ENGINEER. INSTALL ROCK MATERIAL TO THE DEPTH AS SHOWN ON THE PLANS OR DIRECTED BY THE ENGINEER. TOP DRESS SWALE WITH NATIVE COBBLE & GRAVEL TO FILL SURFACE VOIDS.
3. CONSTRUCT WIDTH AND SHAPE OF SWALES AS SHOWN OR DIRECTED BY THE ENGINEER.
4. THE SURFACE OF THIS FEATURE SHALL BE FINISHED TO A SMOOTH AND COMPACT SURFACE IN ACCORDANCE WITH THE LINES, GRADES, AND CROSS-SECTIONS OR ELEVATIONS SHOWN ON THE DRAWINGS.
5. STABILIZATION OF THE WORK AREA WITH TEMPORARY AND PERMANENT SEEDING AND MULCHING AND/OR MATTING IS REQUIRED FOLLOWING INSTALLATION OF ROCK LINED SWALE(S). INSTALL WOODY PLANTING AND VEGETATION AS SHOWN IN THE DRAWINGS AND DETAILS.

APPROVED BY: GJ	CHECKED BY: DB	DRAWN BY: CP

REV	DESCRIPTION	APPRV
-	-	-

MIDDLE FORK NEW RIVER GREENWAY REACH 3
MIDDLE FORK SOUTH FORK NEW RIVER - BLUE RIDGE CONSERVANCY
WATAUGA COUNTY, NORTH CAROLINA

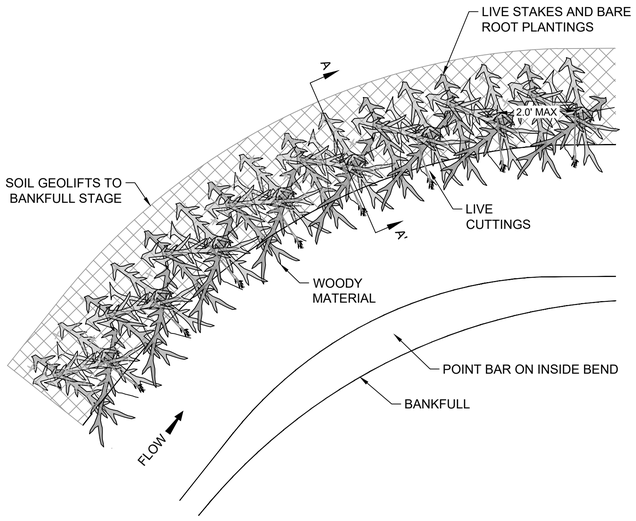
CONSTRUCTION BID PLANS
STREAM DETAILS
NOT FOR CONSTRUCTION

Jennings Environmental
JENNINGS ENVIRONMENTAL, PLLC
7 SAMUEL ASHE DRIVE
ASHEVILLE, NC 28805
LICENSE: P-1932

DATE: 8/13/2025
SCALE (34"X22"): NTS
SCALE (17"X11"): NTS

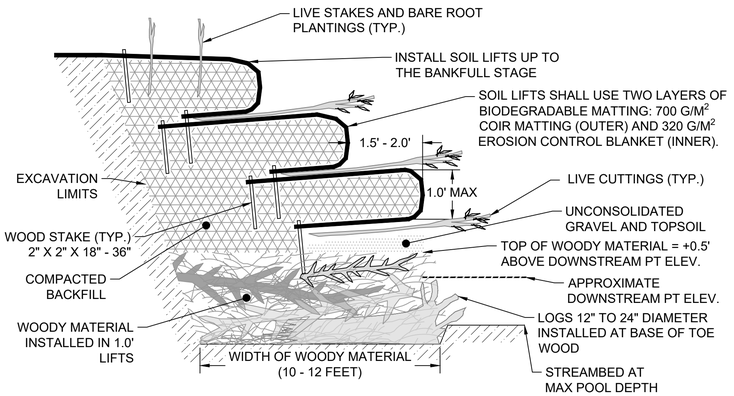
NOT TO SCALE

SHEET NUMBER
E4.4



DETAILED PLAN

NOT TO SCALE



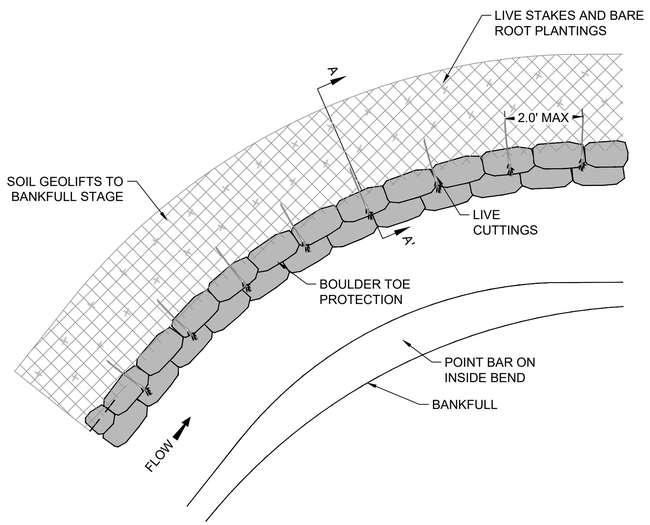
DETAILED SECTION A - A'

NOT TO SCALE

TOE WOOD PROTECTION WITH SOIL LIFTS

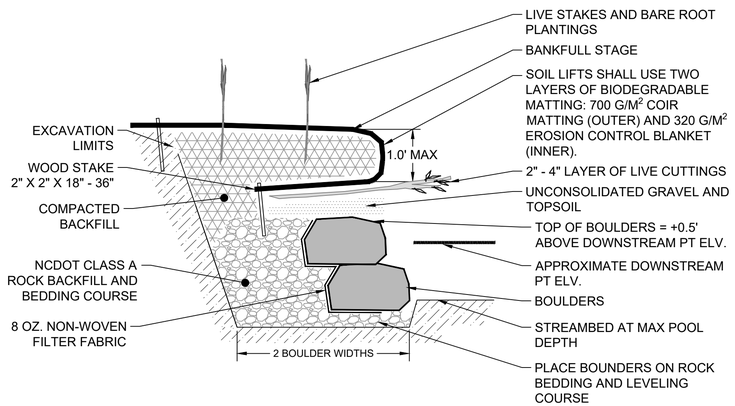
TOE WOOD PROTECTION WITH SOIL LIFTS SPECIFICATIONS

1. WOODY MATERIAL USED IN THE BRUSH TOE SHALL CONSIST OF LOGS, LARGE BRANCHES AND WOODY DEBRIS RANGING IN DIAMETER FROM 1" TO 12". LARGE VOIDS SHALL BE FILLED WITH FINE WOODY MATERIAL AND DEBRIS. ALL MATERIALS ARE TO BE APPROVED BY THE ENGINEER. WOODY MATERIAL SHALL BE INSTALLED IN 1.0' LIFTS. EACH LIFT SHALL BE COMPACTED WITH THE EXCAVATOR BUCKET AND COVERED WITH A LAYER OF ALLUVIUM OR MIXED SOIL AND GRAVEL TO FORM A DENSE LAYER OF WOODY MATERIAL AND ALLUVIUM TO LINES, ELEVATIONS AND GRADES IN THE DRAWINGS.
2. TOE WOOD SHALL EXTEND INTO THE DOWNSTREAM RIFFLE MIN. 10.0' BEYOND THE P.T.
3. UNCONSOLIDATED GRAVEL AND TOPSOIL SHALL BE INSTALLED ABOVE WOODY MATERIAL BEFORE THE LIVE CUTTINGS AND SOIL LIFTS ARE INSTALLED.
4. PLACE LAYER OF LIVE CUTTINGS (MIN. 4' LENGTH) A 2.0' O.C. ON THE GRAVEL AND TOPSOIL LEVELING COURSE AND BETWEEN SOIL LIFTS SUCH THAT APPROXIMATELY 6 INCHES TO 1 FOOT OF EACH LIVE BRANCH WILL BE EXPOSED AND THE REMAINDER (2' TO 4') OF EACH LIVE BRANCH WILL BE COVERED BY THE SOIL LIFT. LIVE BRANCHES SHALL BE AN EQUAL FRACTION OF BLACK WILLOW (SALIX NIGRA), SILKY WILLOW (SALIX SERICEA) AND SILKY DOGWOOD (CORNUS AMOMUM) AND APPROVED BY THE ENGINEER PRIOR TO INSTALLATION.
5. INSTALL SOIL LIFTS (MIN. 2) ABOVE THE LIVE CUTTINGS UP TO THE BANKFULL STAGE. THE SOIL LIFT SHALL NOT EXCEED 1.0' THICKNESS. LIFTS SHALL INCLUDE ALL SOIL PREPARATION, TEMPORARY AND PERMANENT SEEDING AND MULCH. SOIL LIFTS SHALL USE TWO LAYERS OF BIODEGRADABLE MATTING: 700 G/M2 COIR MATTING (OUTER) AND 320 G/M2 EROSION CONTROL BLANKET (INNER). EROSION CONTROL PRODUCTS USED FOR SOIL LIFTS SHALL BE MADE OF 100% NATURAL FIBERS AND MATERIALS AND BE BIODEGRADABLE UNDER NORMAL CLIMATE CONDITIONS. EROSION CONTROL MATTING CONTAINING PLASTICS OR PLASTIC BASED MATERIALS SHALL NOT BE USED.
6. LIVE TRANSPLANTS AVAILABLE ON THE SITE MAY REPLACE SOIL LIFTS AS DIRECTED BY THE ENGINEER.
7. GRADE THE RIVER BANK AT 3:1 TO THE EXISTING GROUND. SEE BANK GRADING DETAIL ON THIS SHEET.
8. KEY EROSION CONTROL MATTING IN BENEATH BANK GRADING AREA AND INSTALL MATTING ON ALL DISTURBED RIVER BANKS.
9. THE SURFACE OF THIS STRUCTURE SHALL BE FINISHED TO A SMOOTH AND COMPACT SURFACE IN ACCORDANCE WITH THE LINES, GRADES, AND CROSS-SECTIONS OR ELEVATIONS SHOWN ON THE DRAWINGS. THE DEGREE OF FINISH FOR ELEVATIONS SHALL BE WITHIN 0.1 FT OF THE GRADES AND ELEVATIONS INDICATED OR APPROVED BY THE ENGINEER.
10. RE-DRESSING OF CHANNEL AND BANKFULL BENCH/FLOODPLAIN WILL LIKELY BE REQUIRED FOLLOWING INSTALLATION OF IN-STREAM STRUCTURES AND SHALL BE CONSIDERED INCIDENTAL TO CONSTRUCTION.



DETAILED PLAN

NOT TO SCALE



DETAILED SECTION A - A'

NOT TO SCALE

BOULDER TOE PROTECTION WITH SOIL LIFT

BOULDER TOE PROTECTION WITH SOIL LIFT SPECIFICATIONS

1. ALL BOULDERS SHALL BE STRUCTURAL STONE, CUBICAL OR RECTANGULAR IN SHAPE. BOULDERS AVAILABLE ONSITE MAY BE USED IF APPROVED BY THE ENGINEER. BOULDERS SHALL BE 3.0' X 5.0' X 2.5' (W X L X H) +/- 0.5'. THE MINIMUM ACCEPTABLE BOULDER THICKNESS (H) IS 2.0'. BOULDERS LONGER (L) THAN 5.5' WILL BE ACCEPTED.
2. A BEDDING COURSE CONSISTING OF 70% NCDOT CLASS B AND 30% NCDOT CLASS A SHALL BE INSTALLED BELOW THE FIRST ROW OF BOULDERS. IF BEDROCK IS ENCOUNTERED ONSITE, THE FIRST LIFT OF BOULDERS SHALL BE PLACED DIRECTLY ON THE BEDROCK. ALL BOULDERS SHALL FIT TIGHTLY TOGETHER. INSTALL EACH LIFT OF BOULDERS WITH A 1.0' SETBACK FROM THE FRONT EDGE OF THE PREVIOUS LIFT OF BOULDERS.
3. UNCONSOLIDATED GRAVEL AND TOPSOIL SHALL BE INSTALLED ABOVE WOODY MATERIAL BEFORE THE LIVE CUTTINGS AND SOIL LIFTS ARE INSTALLED.
4. PLACE LAYER OF LIVE BRANCHES (MIN. 4' LENGTH) ON THE GRAVEL AND TOPSOIL SUCH THAT APPROXIMATELY 6 INCHES TO 1 FOOT OF EACH LIVE BRANCH WILL BE EXPOSED AND THE REMAINDER (2' TO 4') OF EACH LIVE BRANCH WILL BE COVERED BY THE SOIL LIFT. LIVE BRANCHES SHALL BE OF THE SPECIES SPECIFIED FOR LIVE STAKES OR APPROVED BY THE ENGINEER.
5. INSTALL SOIL LIFTS FROM THE LIVE CUTTINGS UP TO THE BANKFULL STAGE. LIFTS SHALL NOT EXCEED 1.0' THICKNESS. LIFTS SHALL INCLUDE ALL SOIL PREPARATION, TEMPORARY AND PERMANENT SEEDING AND MULCH. SOIL LIFTS SHALL USE 2 LAYERS OF MATTING: 26OZ. / YD^2 COIR MATTING (OUTER) AND 11.2 OZ/YD^2 COCONUT FIBER BLANKET (INNER).
6. LIVE TRANSPLANTS AVAILABLE ON THE SITE MAY REPLACE SOIL LIFTS AS DIRECTED BY THE ENGINEER.
7. PLACE SOIL BACKFILL UP TO THE LIFT HEIGHT SPECIFIED OF NO GREATER THAN 1.0 FT BEING CAREFUL NOT TO PUSH/PULL OR TEAR THE FABRIC PREVIOUSLY PLACED.
8. THE SURFACE OF THIS STRUCTURE SHALL BE FINISHED TO A SMOOTH AND COMPACT SURFACE IN ACCORDANCE WITH THE LINES, GRADES, AND CROSS-SECTIONS OR ELEVATIONS SHOWN ON THE DRAWINGS. THE DEGREE OF FINISH FOR ELEVATIONS SHALL BE WITHIN 0.1 FT OF THE GRADES AND ELEVATIONS INDICATED OR APPROVED BY THE ENGINEER.
9. RE-DRESSING OF CHANNEL AND BANKFULL BENCH/FLOODPLAIN WILL LIKELY BE REQUIRED FOLLOWING INSTALLATION OF IN-STREAM STRUCTURES AND SHALL BE CONSIDERED INCIDENTAL TO CONSTRUCTION.

APPROVED BY: GJ | CHECKED BY: DB | DRAWN BY: CP

REV	DESCRIPTION	APPRV
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MIDDLE FORK NEW RIVER GREENWAY REACH 3
MIDDLE FORK SOUTH FORK NEW RIVER - BLUE RIDGE CONSERVANCY
WATAUGA COUNTY, NORTH CAROLINA

CONSTRUCTION BID PLANS
STREAM DETAILS
NOT FOR CONSTRUCTION

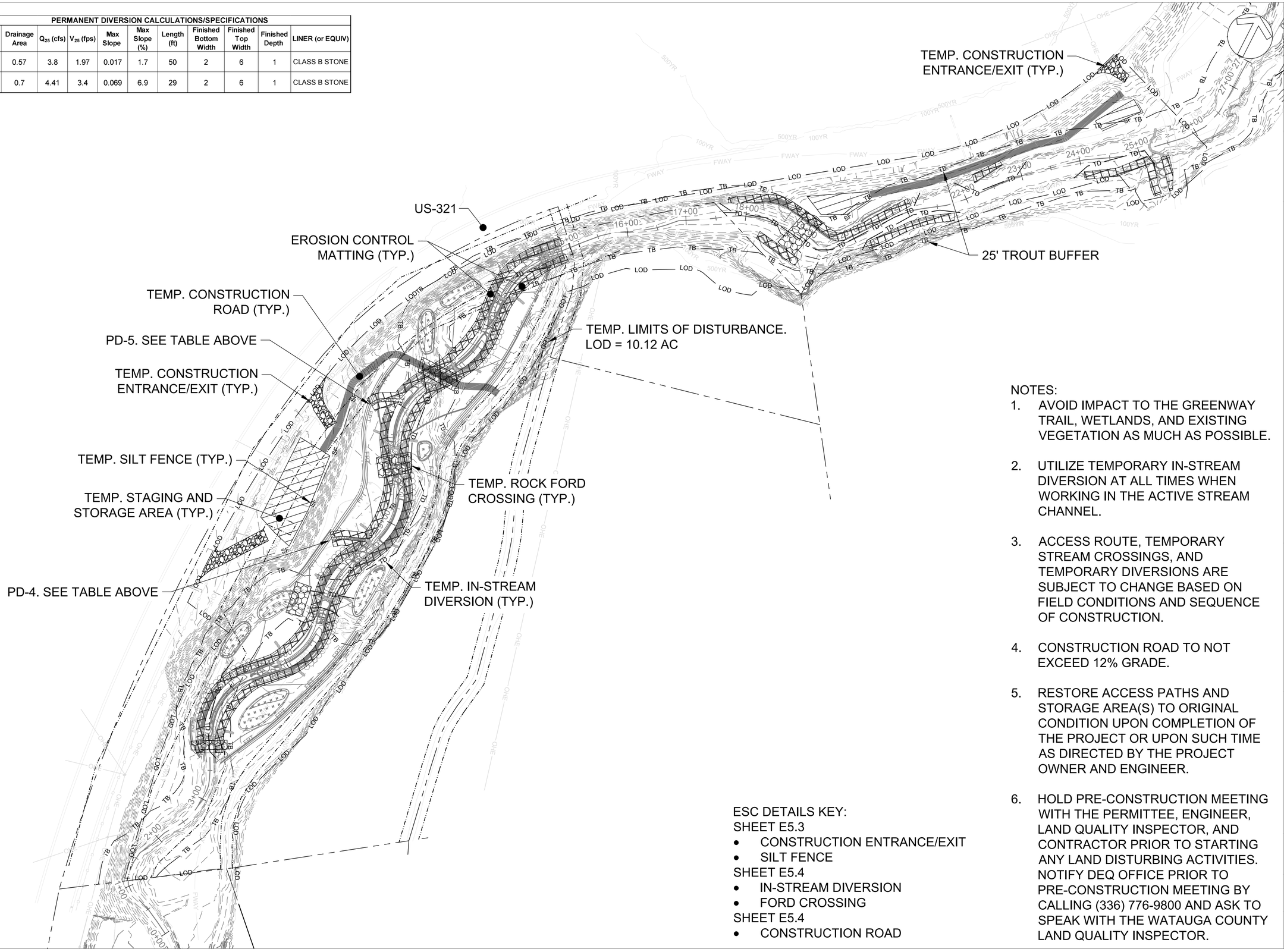
Jennings Environmental
JENNINGS ENVIRONMENTAL, PLLC
7 SAMUEL ASHE DRIVE
ASHEVILLE, NC 28805
LICENSE: P-1932

DATE: 8/13/2025
SCALE (34"X22"): NTS
SCALE (17"X11"): NTS

NOT TO SCALE

SHEET NUMBER
E4.5

PERMANENT DIVERSION CALCULATIONS/SPECIFICATIONS										
Channel ID	Drainage Area	Q_{25} (cfs)	V_{25} (fps)	Max Slope	Max Slope (%)	Length (ft)	Finished Bottom Width	Finished Top Width	Finished Depth	LINER (or EQUIV)
PD-4	0.57	3.8	1.97	0.017	1.7	50	2	6	1	CLASS B STONE
PD-5	0.7	4.41	3.4	0.069	6.9	29	2	6	1	CLASS B STONE



NOTES:

1. AVOID IMPACT TO THE GREENWAY TRAIL, WETLANDS, AND EXISTING VEGETATION AS MUCH AS POSSIBLE.
2. UTILIZE TEMPORARY IN-STREAM DIVERSION AT ALL TIMES WHEN WORKING IN THE ACTIVE STREAM CHANNEL.
3. ACCESS ROUTE, TEMPORARY STREAM CROSSINGS, AND TEMPORARY DIVERSIONS ARE SUBJECT TO CHANGE BASED ON FIELD CONDITIONS AND SEQUENCE OF CONSTRUCTION.
4. CONSTRUCTION ROAD TO NOT EXCEED 12% GRADE.
5. RESTORE ACCESS PATHS AND STORAGE AREA(S) TO ORIGINAL CONDITION UPON COMPLETION OF THE PROJECT OR UPON SUCH TIME AS DIRECTED BY THE PROJECT OWNER AND ENGINEER.
6. HOLD PRE-CONSTRUCTION MEETING WITH THE PERMITTEE, ENGINEER, LAND QUALITY INSPECTOR, AND CONTRACTOR PRIOR TO STARTING ANY LAND DISTURBING ACTIVITIES. NOTIFY DEQ OFFICE PRIOR TO PRE-CONSTRUCTION MEETING BY CALLING (336) 776-9800 AND ASK TO SPEAK WITH THE WATAUGA COUNTY LAND QUALITY INSPECTOR.

ESC DETAILS KEY:
SHEET E5.3
- CONSTRUCTION ENTRANCE/EXIT
- SILT FENCE

SHEET E5.4
- IN-STREAM DIVERSION
- FORD CROSSING

SHEET E5.4
- CONSTRUCTION ROAD

REV	DESCRIPTION	CHECKED BY: DB	DRAWN BY: CP	APPRV
-	-			-

APPROVED BY: GJ

MIDDLE FORK NEW RIVER GREENWAY REACH 3
MIDDLE FORK SOUTH FORK NEW RIVER - BLUE RIDGE CONSERVANCY
WATAUGA COUNTY, NORTH CAROLINA

CONSTRUCTION BID PLANS
ESC PLAN
NOT FOR CONSTRUCTION

Jennings Environmental
JENNINGS ENVIRONMENTAL, PLLC
7 SAMUEL ASHE DRIVE
ASHEVILLE, NC 28805
LICENSE: P-1932

DATE: 8/13/2025
SCALE (34"X22"): 1" = 75'
SCALE (17"X11"): 1" = 150'

0 75 150
SCALE IN FEET

SHEET NUMBER
E5.1

GENERAL EROSION AND SEDIMENTATION CONTROL (ESC) NOTES

1. ALL CONSTRUCTION ACTIVITIES SHALL ADHERE TO THE CONDITIONS AND REQUIREMENTS OF NCDEMLR'S NCG01 CONSTRUCTION GENERAL PERMIT.

2. ALL TREES, UTILITIES AND OTHER SITE FEATURES SHALL BE PROTECTED UNLESS MARKED FOR REMOVAL OR RELOCATION.

3. ALL WETLANDS AND STREAMS LOCATED WITHIN 50 FEET OF THE CONSTRUCTION AREA ON THE PROJECT SITE SHALL BE CLEARLY MARKED (EXAMPLE- ORANGE FABRIC FENCING) PRIOR TO ANY LAND DISTURBING ACTIVITIES AND MUST BE MAINTAINED ON THE PROPERTY UNTIL THE PROJECT PHASE IS COMPLETED [15A NCAC 02H .0506 (B)(2)].

4. THE CONTRACTOR SHALL USE A STANDARD CONSTRUCTION ENTRANCE AT ALL SITE ACCESS POINTS TO PREVENT SEDIMENT FROM BEING TRACKED ONTO PUBLIC ROADS.

5. THE CONTRACTOR SHALL USE TEMPORARY SILT FENCE ALONG THE DOWNSLOPE SIDE OF ALL STAGING AREAS AND TEMPORARY STOCK PILE AREAS.

6. THE TURBIDITY IN THE RECEIVING WATERS SHALL NOT EXCEED 50 NEPHELOMETRIC TURBIDITY UNITS (NTU) IN STREAMS NOT DESIGNATED AS TROUT WATERS AND 10 NTU IN STREAMS, LAKES, OR RESERVOIRS DESIGNATED AS TROUT WATERS, AS DESCRIBED IN 15A NCAC 02B .0200. APPROPRIATE SEDIMENT AND EROSION CONTROL PRACTICES MUST BE USED TO MEET THIS STANDARD. [15A NCAC 02B .0211 (21)].

7. EQUIPMENT SHALL BE WELL-MAINTAINED, CLEANED PRIOR TO MOBILIZATION, AND CHECKED DAILY FOR LEAKS OF PETROLEUM PRODUCTS. FUELING, LUBRICATION AND GENERAL EQUIPMENT MAINTENANCE SHOULD NOT TAKE PLACE WITHIN 50 FEET OF A WATERBODY OR WETLANDS TO PREVENT CONTAMINATION BY FUEL AND OILS. [15A NCAC 02H .0506 (B)(3) AND 15A NCAC 02B.0211(12)].

8. CONSTRUCTION SHALL BE TIMED TO OCCUR DURING TIMES OF LOW FLOW.

9. THE DESIGNER OR THEIR DESIGNEE SHALL SUPERVISE THE INSTALLATION OF IN-STREAM STRUCTURES. [15A NCAC 02H .0506(B)(1) AND (2)].

10. A TEMPORARY DIVERSION AND/OR PUMP AROUND SYSTEM SHALL BE USED DURING ALL STREAM RESTORATION AND STABILIZATION WORK AS SHOWN IN THE DETAILS.

11. THE STREAM BANKS, IN-STREAM STRUCTURES, AND WORK AREA MUST BE STABILIZED AT THE END OF EACH DAY BEFORE THE TEMPORARY IN-STREAM DIVERSIONS AND/OR PUMP AROUND SYSTEM(S) ARE REMOVED AND FLOW IS RETURNED TO THE FULL CHANNEL.

12. EROSION CONTROL MATTING THAT INCORPORATES PLASTIC MESH AND/OR PLASTIC TWINE SHALL NOT BE USED ALONG STREAMBANKS OR WITHIN WETLANDS. DISTURBED AREAS SHOULD BE SEEDED, MULCHED, AND/OR MATTED AS SOON AS POSSIBLE, PREFERABLY AT THE END OF EACH WORKDAY. [15A NCAC 02B .0201]

13. IF BORROW OR WASTE MATERIAL IS REQUIRED OR GENERATED DURING GRADING OPERATIONS, AN APPROVED EROSION AND SEDIMENT CONTROL PERMIT MUST BE SECURED FOR THE BORROW OR WASTE MATERIAL SITE PRIOR TO INITIATION OF ANY LAND DISTURBING ACTIVITY. [15A NCAC 04B .0110]. WASTE SOIL THAT IS TO STAY ONSITE WILL BE DISPOSED OF IN AREA(S) DESIGNATED ON THE PLANS.

14. ALL WORK IN OR ADJACENT TO STREAMS AND RIVERS SHALL BE CONDUCTED SUCH THAT THE FLOWING WATER DOES NOT COME IN CONTACT WITH THE DISTURBED WORK AREA.

15. CONSTRUCTION SCHEDULING AND STAGING SHALL BE TIMED TO MINIMIZE THE AMOUNT OF TIME SPENT WORKING IN THE RIVER CHANNEL.

SEQUENCE OF CONSTRUCTION

16. OBTAIN AND REVIEW THE PROJECT PLANS, EROSION AND SEDIMENTATION CONTROL PLAN, AND ALL OTHER APPLICABLE PERMITS.

17. OBTAIN NPDES NCG010000 COVERAGE AFTER RECEIVING APPROVAL FROM NCDEQ-LQS.

18. FLAG THE WORK LIMITS AND STAKE OUT THE LIMITS OF DISTURBANCE (LOD) OF THE PROJECT. THE TOTAL PROJECT LOD IS 10.12 AC.

19. LOCATE ALL UNDERGROUND UTILITIES WITHIN THE WORK AREA.

20. INSTALL RAIN GAUGE AND PREPARE INSPECTION FORMS.

21. HOLD PRE-CONSTRUCTION MEETING WITH THE PERMITTEE, ENGINEER, LAND QUALITY INSPECTOR, AND CONTRACTOR PRIOR TO STARTING ANY LAND DISTURBING ACTIVITIES. NOTIFY DEQ OFFICE PRIOR TO PRE-CONSTRUCTION MEETING BY CALLING (336) 776-9800 AND ASK TO SPEAK WITH THE WATAUGA COUNTY LAND QUALITY INSPECTOR.

22. INSTALL ALL EROSION AND SEDIMENTATION CONTROL BMPS AS SHOWN IN THE DRAWINGS AND DETAILS.

23. INSTALL TEMPORARY STREAM CROSSINGS AS SHOWN IN THE DRAWINGS AND DETAILS.

24. INSPECT EROSION PREVENTION AND SEDIMENT CONTROL BMPS DAILY AND AFTER SIGNIFICANT RAINFALL EVENTS GREATER THAN 0.5-INCHES. MAKE NEEDED REPAIRS IMMEDIATELY TO MAINTAIN MEASURES AT OPTIMAL STORAGE OR RETENTION CAPACITY. KEEP ALL LOGS AND RECORDS UP-TO-DATE. THIS REQUIREMENT SUPERSEDES ANY OTHER REFERENCE ON THE PLANS.

25. ACQUIRE AND STORE MATERIALS FOR SITE (E.G. ROCK, LOGS, EROSION CONTROL MATTING AND FILTER FABRICS) IN THE TEMPORARY STAGING AREAS.

26. CLEAR EXISTING VEGETATION REQUIRED TO COMPLETE THE WORK TAKING CARE NOT TO DISTURB DESIRABLE VEGETATION TO REMAIN INTACT.

27. GRADE THE RIVER BANKS AND INSTALL BANK STABILIZATION STRUCTURES ACCORDING TO THE PLANS AND DETAILS. WHEN POSSIBLE, PERFORM WORK FROM THE RIVER BANKS TO MINIMIZE TIME SPENT WORKING IN THE CHANNEL.

28. INSTALL A TEMPORARY IN-STREAM DIVERSION AND/OR PUMP AROUND WHEN WORKING IN THE CHANNEL.

29. INSTALL TEMPORARY SEEDING, PERMANENT SEEDING, AND EROSION CONTROL MATTING ON ALL DISTURBED RIVER BANKS AND GRADED SLOPES AS SHOWN ON ESC AND RE-VEGETATION PLANS. ALL DISTURBED AREAS WITHIN THE 25FT STREAM BUFFER WILL BE STABILIZED WITH SEED AND MATTING AT THE END OF EACH WORKING DAY. ALL OTHER DISTURBED AREAS WILL BE STABILIZED WITH SEED AND MATTING WITHIN 7 DAYS.

30. INSTALL TEMPORARY AND PERMANENT SEEDING AND MULCH TO ALL AREAS DISTURBED FOR CONSTRUCTION ACCESS AND STAGING.

31. ONCE THE WORK AREA IS STABILIZED AND CONSTRUCTION ACTIVITIES ARE COMPLETED, REMOVE AND DISPOSE OF ALL NON-BIODEGRADABLE EROSION AND SEDIMENTATION CONTROL BMPS.

32. NOTIFY THE PERMITEE AND THE ENGINEER FOR A FINAL INSPECTION AND WALK THROUGH TO VERIFY FINAL STABILIZATION OF THE SITE.

33. WHEN SEASONALLY APPROPRIATE, INSTALL PERMANENT PLANTINGS ON RIVER BANKS AND WITHIN THE RIPARIAN ZONES AS SHOWN ON RE-VEGETATION PLAN.

34. NOTIFY THE NCDEQ LQS INSPECTOR WHEN PROJECT IS READY FOR A CLOSE OUT INSPECTION. FILE FOR NPDES NCG010000 E-NOTICE OF TERMINATION WHEN FINAL CLOSE OUT INSPECTION REPORT IS RECEIVED FROM NCDEQ LQS.

35. THERE IS TO BE NO OVERLAP IN GREENWAY TRAIL CONSTRUCTION AND STREAM CONSTRUCTION. THE GREENWAY TRAIL CONSTRUCTION WILL BEGIN ONCE THE STREAM RESTORATION IS COMPLETE. ONCE STREAM RESTORATION IS COMPLETED (PHASE I), CONTINUE WITH CONSTRUCTION FOR PHASE II AS GIVEN ON SHEET X1.0 IN THE SEQUENCE OF CONSTRUCTION PHASE II #9.

APPROVED BY: GJ | CHECKED BY: DB | DRAWN BY: CP

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MIDDLE FORK NEW RIVER GREENWAY REACH 3
MIDDLE FORK SOUTH FORK NEW RIVER - BLUE RIDGE CONSERVANCY
WATAUGA COUNTY, NORTH CAROLINA

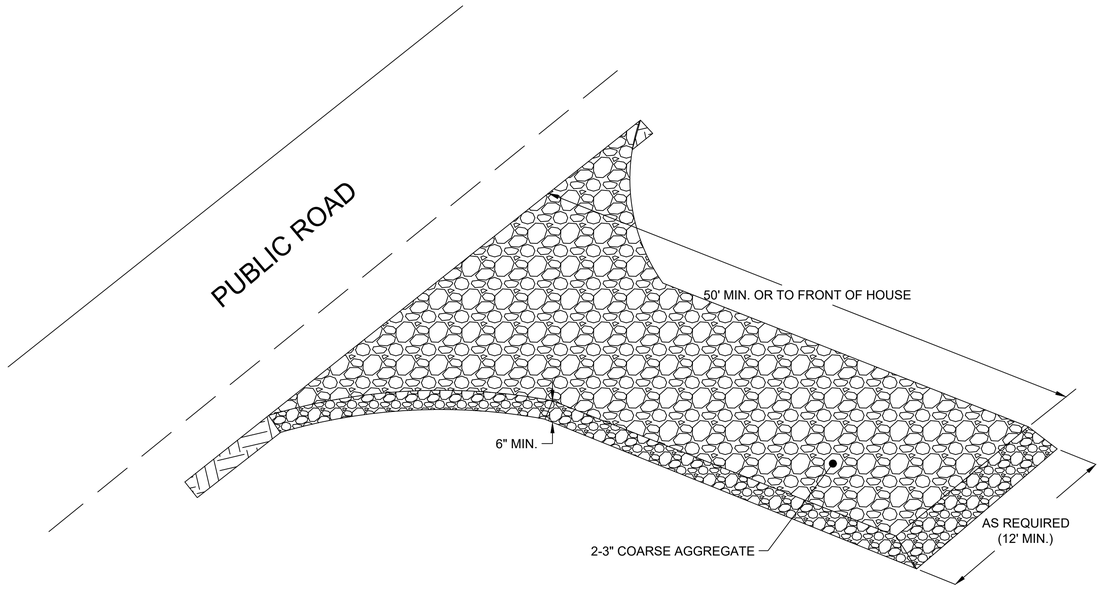
CONSTRUCTION BID PLANS
ESC NOTES
NOT FOR CONSTRUCTION

Jennings Environmental
JENNINGS ENVIRONMENTAL, PLLC
7 SAMUEL ASHE DRIVE
ASHEVILLE, NC 28805
LICENSE: P-1932

DATE: 8/13/2025
SCALE (34"X22"): NTS
SCALE (17"X11"): NTS

NOT TO SCALE

SHEET NUMBER
E5.2



TEMPORARY GRAVEL CONSTRUCTION ENTRANCE/EXIT

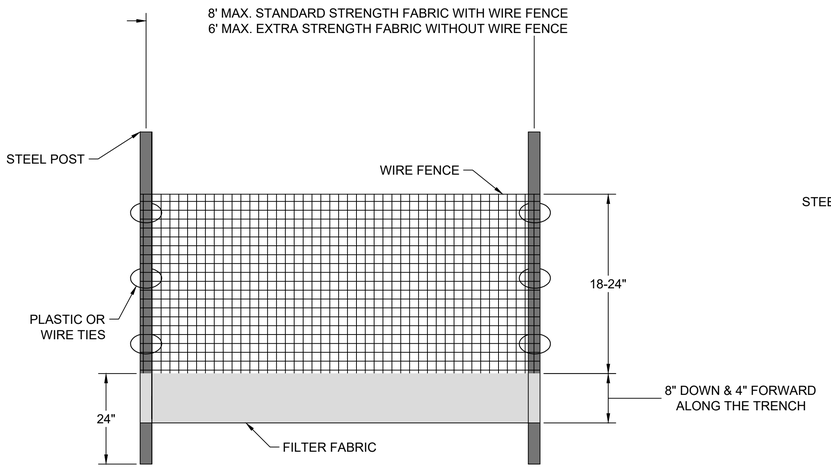
TEMPORARY GRAVEL CONSTRUCTION ENTRANCE/EXIT NOTES AND SPECIFICATIONS

CONSTRUCTION:

1. CLEAR THE ENTRANCE AND EXIT AREA OF ALL VEGETATION, ROOTS, AND OTHER OBJECTIONABLE MATERIAL AND PROPERLY GRADE IT.
2. PLACE THE GRAVEL TO THE SPECIFIC GRADE AND DIMENSIONS SHOWN ON THE PLANS, AND SMOOTH IT.
3. PROVIDE DRAINAGE TO CARRY WATER TO A SEDIMENT TRAP OR OTHER SUITABLE OUTLET.
4. USE GEOTEXTILE FABRICS IN ORDER TO IMPROVE STABILITY OF THE FOUNDATION IN LOCATIONS SUBJECT TO SEEPAGE OR HIGH WATER TABLE.

MAINTENANCE:

1. PER NCG-01 INSPECT AT LEAST ONCE A WEEK AND AFTER EACH 1 INCH OR GREATER RAINFALL; MAKE ANY REQUIRED REPAIRS IMMEDIATELY.
2. MAINTAIN THE GRAVEL PAD IN A CONDITION TO PREVENT MUD OR SEDIMENT FROM LEAVING THE CONSTRUCTION SITE. THIS MAY REQUIRE PERIODIC TOPDRESSING WITH 2 INCH STONE.
3. IMMEDIATELY REMOVE ALL OBJECTIONABLE MATERIALS SPILLED, WASHED OR TRACKED ONTO PUBLIC ROADWAYS.



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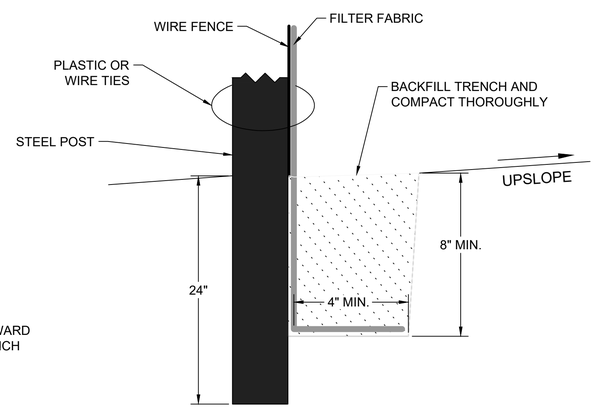

CROSS SECTION

NOT TO SCALE

TEMPORARY SILT FENCE

TEMPORARY SILT FENCE NOTES AND SPECIFICATIONS

CONSTRUCTION:

1. CONSTRUCT THE SEDIMENT BARRIER OF STANDARD STRENGTH OR EXTRA STRENGTH SYNTHETIC FILTER FABRICS.
2. ENSURE THAT THE HEIGHT OF THE SEDIMENT FENCE DOES NOT EXCEED 24 INCHES ABOVE THE GROUND. (HIGHER FENCES MAY IMPOUND VOLUMES OF WATER SUFFICIENT TO CAUSE FAILURE OF THE STRUCTURE)
3. CONSTRUCT THE FILTER FABRIC FROM A CONTINUOUS ROLL CUT TO THE LENGTH OF THE BARRIER TO AVOID JOINTS. WHEN JOINTS ARE NECESSARY, SECURELY FASTEN FILTER CLOTH ONLY AT A SUPPORT POST WITH 4 FEET MINIMUM OVERLAP TO THE NEXT POST.
4. SUPPORT STANDARD STRENGTH FILTER FABRIC BY WIRE MESH FASTENED SECURELY TO THE UPSLOPE SIDE OF THE POSTS. EXTEND THE WIRE MESH SUPPORT TO THE BOTTOM OF THE TRENCH. FASTEN THE WIRE REINFORCEMENT, THEN FABRIC ON THE UPSLOPE SIDE OF THE FENCE POST. WIRE OR PLASTIC ZIP TIES SHOULD HAVE A MINIMUM 50 POUND TENSILE STRENGTH.
5. WHEN A WIRE MESH SUPPORT FENCE IS USED, SPACE POSTS A MAXIMUM OF 8 FEET APART. SUPPORTS SHOULD BE DRIVEN SECURELY INTO THE GROUND A MINIMUM OF 24 INCHES.
6. EXTRA STRENGTH FILTER FABRIC WITH 6 FOOT POST SPACING DOES NOT REQUIRE A WIRE MESH SUPPORT FENCE. SECURELY FASTEN THE FILTER FABRIC DIRECTLY TO POSTS. WIRE OR PLASTIC ZIP TIES SHOULD HAVE A MINIMUM OF 50 POUND TENSILE STRENGTH.
7. EXCAVATE THE TRENCH APPROXIMATELY 4 INCHES WIDE AND 8 INCHES DEEP ALONG THE PROPOSED LINE OF THE POSTS AND UPSLOPE FROM THE BARRIER.
8. PLACE 12 INCHES OF FABRIC ALONG THE BOTTOM AND SIDE OF THE TRENCH.
9. BACKFILL THE TRENCH WITH SOIL PLACED OVER THE FILTER FABRIC AND COMPACT. THOROUGH COMPACTION OF THE BACKFILL IS CRITICAL TO SILT FENCE PERFORMANCE.
10. DO NOT ATTACH FILTER FABRIC TO EXISTING TREES.

MAINTENANCE:

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

APPROVED BY: GJ	CHECKED BY: DB	DRAWN BY: CP
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MIDDLE FORK NEW RIVER GREENWAY REACH 3
MIDDLE FORK SOUTH FORK NEW RIVER - BLUE RIDGE CONSERVANCY
WATAUGA COUNTY, NORTH CAROLINA

CONSTRUCTION BID PLANS
ESC DETAILS
NOT FOR CONSTRUCTION

Jennings Environmental

JENNINGS ENVIRONMENTAL, PLLC
7 SAMUEL ASHE DRIVE
ASHEVILLE, NC 28805
LICENSE: P-1932

DATE: 8/13/2025
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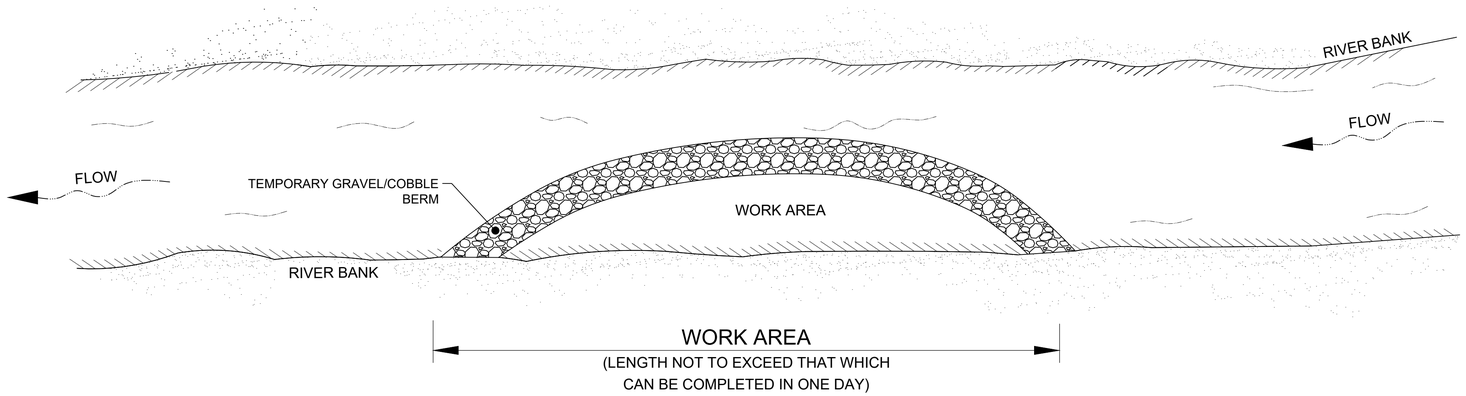
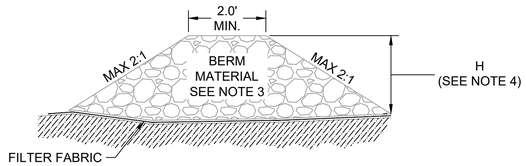
SHEET NUMBER
E5.3



DETAILED PLAN
NOT TO SCALE

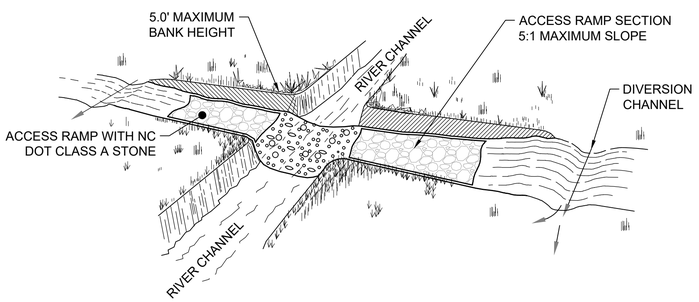


TYPICAL BERM CROSS-SECTION
NOT TO SCALE

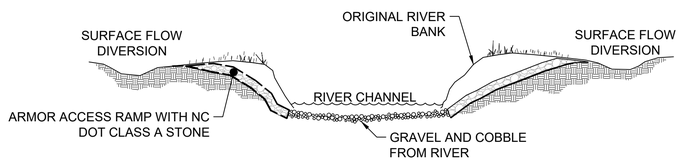
TEMPORARY IN-STREAM DIVERSION

TEMPORARY IN-STREAM DIVERSION NOTES AND SPECIFICATIONS

1. ALL WORK IN OR ADJACENT TO THE RIVER SHALL BE CONDUCTED SUCH THAT FLOW DOES NOT COME IN CONTACT WITH THE DISTURBED WORK AREA.
2. CONSTRUCT A TEMPORARY IN-STREAM DIVERSION THAT DIRECTS FLOW AROUND THE WORK AREA SUCH THAT FLOW DOES NOT INTERACT WITH DISTURBED EARTH AND CONSTRUCTION MATERIALS.
3. IN-STREAM DIVERSION MAY BE CONSTRUCTED OF SANDBAGS, RIPRAP (NCDOT CLASS B, OR EQUIVALENT), AND/OR EXISTING BED AND BANK MATERIAL APPROVED BY THE ENGINEER. WHEN WORK IS TO BE PERFORMED IN STREAMS WITH KNOWN PRESENCE OF EASTERN HELLBENDER (*CRYPTOBRANCHUS ALLEGANIENSIS*), COBBLE/GRAVEL MATERIAL SHOULD BE HARVESTED FROM DRY BARS, NOT FROM WITHIN THE WETTED CHANNEL.
4. HEIGHT OF DIVERSION BERMS SHALL BE EQUAL TO THE 2-YEAR FLOOD ELEVATION.
5. WATER FROM THE WORK AREA SHALL BE PUMPED TO A SEDIMENT FILTERING MEASURE SUCH AS A SEDIMENT BAG OR OTHER APPROVED DEVICE. THE MEASURE SHALL BE LOCATED SUCH THAT THE WATER DRAINS BACK INTO THE CHANNEL BELOW THE DOWNSTREAM SANDBAG DIKE WITHOUT CAUSING FURTHER EROSION.
6. CONSTRUCTION SHALL BE TIMED TO OCCUR DURING TIMES OF LOW FLOW.
7. CONSTRUCTION SCHEDULING AND STAGING SHALL BE TIMED TO MINIMIZE THE AMOUNT OF TIME SPENT WORKING IN THE RIVER CHANNEL.
8. THE RIVERBANKS, IN-STREAM STRUCTURES AND WORK AREA MUST BE STABILIZED AT THE END OF EACH DAY BEFORE THE TEMPORARY DIVERSION IS REMOVED AND FLOW IS RETURNED TO THE FULL CHANNEL.
9. AFTER THE WORK AREA IS STABILIZED, REMOVE THE MATERIAL USED TO CONSTRUCT THE TEMPORARY DIVERSION AND RETURN THE RIVERBED TO THE PRE-CONSTRUCTION CONDITION.
10. IN-STREAM DIVERSION SHALL BE INSPECTED WEEKLY OR AFTER EVERY RAIN EVENT. ANY NEEDED REPAIRS SHALL BE MADE IMMEDIATELY.



DETAILED PLAN
NOT TO SCALE



CROSS SECTION
NOT TO SCALE

TEMPORARY FORD CROSSING

TEMPORARY FORD CROSSING NOTES AND SPECIFICATIONS

1. KEEP CLEARING AND EXCAVATION OF THE RIVER BANKS AND APPROACH SECTIONS TO A MINIMUM.
2. DIVERT ALL SURFACE WATER FROM THE SITE ONTO UNDISTURBED AREAS NEXT TO THE RIVER.
3. KEEP CROSSING AT A RIGHT ANGLE (PERPENDICULAR) TO THE RIVER.
4. ALIGN ROAD APPROACHES WITH THE CENTERLINE OF THE CROSSING FOR A MINIMUM DISTANCE OF 30 FT.
5. STABILIZE ALL DISTURBED AREAS SUBJECT TO FLOWING WATER INCLUDING THE RIVER BANKS AND PLANNED OVERFLOW AREAS.
6. ALL STREAMBANKS AND BED MATERIAL DISTURBED DURING INSTALLATION OF THE CROSSING SHALL BE STABILIZED WITH TEMPORARY SEEDING AND EROSION CONTROL MATTING OR RIPRAP. COIR EROSION CONTROL WATTLES SHALL BE INSTALLED AT ALL INGRESS AND EGRESS POINTS AS SHOWN IN THE DRAWINGS.
7. REMOVE TEMPORARY STREAM CROSSINGS IMMEDIATELY WHEN THEY ARE NO LONGER NEEDED. RESTORE THE STREAM CHANNEL TO ITS ORIGINAL (OR DESIGN) CROSS-SECTION, AND SMOOTH AND APPROPRIATELY STABILIZE ALL DISTURBED AREAS.
8. RE-DRESSING OF CHANNEL AND BANKFULL BENCH/FLOODPLAIN WILL LIKELY BE REQUIRED FOLLOWING REMOVAL OF THE CROSSING AND SHALL BE CONSIDERED INCIDENTAL TO CONSTRUCTION.
9. SEE SECTION 6.70.1 OF NC DEMLR'S EROSION AND SEDIMENT CONTROL DESIGN MANUAL (2013) FOR ADDITIONAL INFORMATION, NOTES, AND SPECIFICATIONS.

APPROVED BY: GJ | CHECKED BY: DB | DRAWN BY: CP

REV	DESCRIPTION	APPRV
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MIDDLE FORK NEW RIVER GREENWAY REACH 3
MIDDLE FORK SOUTH FORK NEW RIVER - BLUE RIDGE CONSERVANCY
WATAUGA COUNTY, NORTH CAROLINA

CONSTRUCTION BID PLANS
ESC DETAILS
NOT FOR CONSTRUCTION

Jennings Environmental
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7 SAMUEL ASHE DRIVE
ASHEVILLE, NC 28805
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SHEET NUMBER
E5.4

CONSTRUCTION ROAD STABILIZATION

CONSTRUCTION ROAD STABILIZATION NOTES AND SPECIFICATIONS

1. CLEAR ROADBED AND PARKING AREAS OF ALL VEGETATION, ROOTS, AND OTHER OBJECTIONABLE MATERIAL.
2. ENSURE ROAD CONSTRUCTION FOLLOWS THE NATURAL CONTOURS OF THE TERRAIN WHERE POSSIBLE. SLOPE TO NOT EXCEED 12%.
3. PROVIDE SURFACE DRAINAGE, AND DIVERT EXCESS RUNOFF TO STABLE AREA BY USING WATER BARS OR TURNOUTS.
4. KEEP CUTS AND FILLS AT 2:1 OR FLATTER FOR SAFETY AND STABILITY AND TO FACILITATE ESTABLISHMENT OF VEGETATION AND MAINTENANCE.
5. MAT BASE OF ROAD WITH NAG S150BN OR EQUIVALENT.
6. SPREAD A 6-INCH COURSE OF "ABC" CRUSHED STONE EVENLY OVER THE FULL WIDTH OF THE ROAD AND SMOOTH TO AVOID DEPRESSIONS.
7. VEGETATE AND MAT ALL ROADSIDE DITCHES, CUTS, FILLS, AND OTHER DISTURBED AREAS OF OTHERWISE APPROPRIATELY STABILIZE AS SOON AS GRADING IS COMPLETE WITH TEMPORARY AND PERMANENT SEEDING.
8. PROVIDE APPROPRIATE SEDIMENT CONTROL MEASURES TO PREVENT OFF-SITE SEDIMENTATION.

APPROVED BY: GJ | CHECKED BY: DB | DRAWN BY: CP

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MIDDLE FORK NEW RIVER GREENWAY REACH 3
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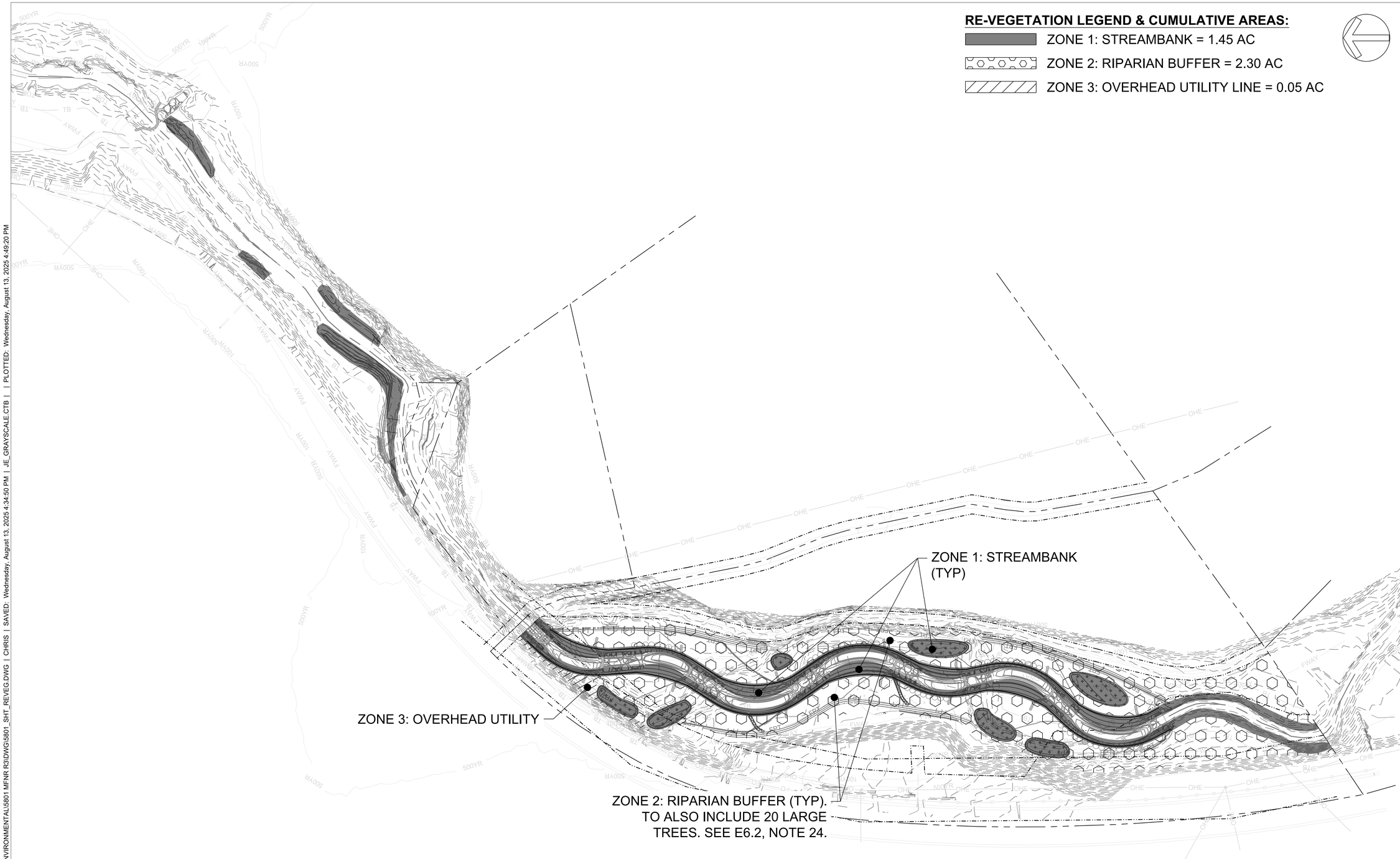
E5.5

RE-VEGETATION LEGEND & CUMULATIVE AREAS:

ZONE 1: STREAMBANK = 1.45 AC

ZONE 2: RIPARIAN BUFFER = 2.30 AC

ZONE 3: OVERHEAD UTILITY LINE = 0.05 AC



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MIDDLE FORK NEW RIVER GREENWAY REACH 3
MIDDLE FORK SOUTH FORK NEW RIVER - BLUE RIDGE CONSERVANCY
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CONSTRUCTION BID PLANS
RE-VEGETATION PLAN
NOT FOR CONSTRUCTION

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ASHEVILLE, NC 28805
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DATE: 8/13/2025
SCALE (34"X22"): 1" = 75'
SCALE (17"X11"): 1" = 150'

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SCALE IN FEET

SHEET NUMBER
E6.1

GENERAL RE-VEGETATION AND PLANTING NOTES

1. SOIL PREPARATION ELEMENTS, TEMPORARY AND PERMANENT SEED, AND GROUND COVER SHALL BE SPREAD OVER ALL AREAS WITHIN THE LOD THAT ARE DISTURBED DURING CONSTRUCTION.

2. CONTAINERIZED PLANTS AND BARE ROOT STOCK SHALL BE LOCATED WHERE SHOWN ON PLAN.

3. ADJUSTMENTS TO THE VEGETATION PLAN SHALL BE MADE ONLY IF APPROVED BY THE PROJECT OWNER AND ENGINEER.

4. FINAL VEGETATION SPECIES SELECTION MAY CHANGE DUE TO REFINEMENT OR SPECIES AVAILABILITY AT THE TIME OF PLANTING. SPECIES SUBSTITUTIONS WILL BE COORDINATED BETWEEN THE ENGINEER AND PLANTING CONTRACTOR PRIOR TO THE PROCUREMENT OF PLANT/SEED STOCK.

5. LARGER NATIVE TREE SPECIES TO BE PRESERVED WILL BE FLAGGED BY THE ENGINEER PRIOR TO CONSTRUCTION ACTIVITIES. ANY TREES HARVESTED FOR WOODY MATERIAL WILL BE UTILIZED TO PROVIDE BED AND BANK STABILIZATION AND COVER OR NESTING HABITAT ON THE FLOODPLAIN. ANY EXCESS WOODY MATERIALS MAY BE USED TO BACKFILL OLD CHANNELS AT THE DIRECTION OF THE ENGINEER.

6. ALL DISTURBED AREAS WILL BE STABILIZED USING TEMPORARY AND PERMANENT SEEDING AS DEFINED IN THE SEEDING SCHEDULE(S) AND THE APPROVED E&SC PLANS.

7. SUPPLEMENTAL PLANTING ACTIVITIES MAY BE REQUIRED WITHIN CONSERVATION EASEMENT(S), IF PRESENT.

TEMPORARY SEEDING AND MULCHING NOTES

8. TEMPORARY SEEDING AND MULCHING SHALL BE APPLIED TO ALL AREAS AND ACCESS ROUTES DISTURBED DURING CONSTRUCTION.

9. ALL SEED AND SEED VARIETIES MUST BE FREE OF STATE AND FEDERALLY LISTED NOXIOUS WEED SEED AND INVASIVE SPECIES.

10. ALL DISTURBED AREAS WILL BE SEEDED WITH TEMPORARY SEED AND MULCHED WITH WHEAT STRAW. SEEDING WILL BE PERFORMED USING A BROADCAST SPREADER. OTHER METHODS MAY BE USED BUT MUST BE APPROVED BY ENGINEER IN ADVANCE OF INSTALLATION.

11. MAINTENANCE OF SEEDED AREAS SHALL CONSIST OF WATERING, WEED AND PEST CONTROL, FERTILIZATION AND AMENDMENDMENTS PER SOIL TESTING, EROSION REPAIR, RE-SEEDING, AND INCIDENTAL OPERATIONS AS NECESSARY TO ESTABLISH A HEALTHY, VIGOROUS, WEED FREE AND DISEASE FREE UNIFORM STAND OF GRASS. ALL AREAS WHICH FAIL TO SHOW A UNIFORM STAND OF GRASS FOR ANY REASON SHALL BE TREATED REPEATEDLY UNTIL A UNIFORM STAND OF AT LEAST 90% COVERAGE IS ATTAINED WITH NO BARE AREA GREATER THAN FIVE (5) SQUARE FEET.

PERMANENT SEEDING NOTES

12. PERMANENT SEEDING SHALL OCCUR IN CONJUNCTION WITH TEMPORARY SEEDING WHERE APPLICABLE. IDEALLY, PERMANENT SEEDING SHALL OCCUR DURING THE PLANTING SEASON FOR EACH SEED TYPE. AREAS FERTILIZED AND AMENDED PER SOIL TESTING FOR TEMPORARY SEEDING SHALL BE SUFFICIENTLY FERTILIZED AND AMENDED PER SOIL TESTING FOR PERMANENT SEEDING.

13. ALL SEED AND SEED VARIETIES MUST BE FREE OF STATE AND FEDERALLY LISTED NOXIOUS WEED SEED AND INVASIVE SPECIES.

14. THE CONTRACTOR SHALL LOOSEN THE SOIL TO A MINIMUM DEPTH OF 4-INCHES AND GRADE TO A SMOOTH, EVEN SURFACE WITH A LOOSE, UNIFORMLY FINE TEXTURE. THE AREAS TO BE SEEDED ARE THEN TO BE ROLLED AND RAKED TO REMOVE RIDGES AND FILL DEPRESSIONS TO MEET FINISH GRADES. THE CONTRACTOR IS TO LIMIT SUB GRADE AND FINISH GRADE PREPARATION TO AREAS THAT WILL BE PLANTED IMMEDIATELY. PREPARED AREAS ARE TO BE RESTORED IF ERODED OR OTHERWISE DISTURBED AFTER FINE GRADING AND BEFORE PLANTING.

15. SEED SHALL BE SOWN WITH A SPREADER OR A SEEDING MACHINE. SEED IS NOT TO BE BROADCAST OR DROPPED WHEN WIND VELOCITY EXCEEDS 5 MPH. SEED SHALL BE EVENLY DISTRIBUTED BY SOWING IN TWO DIRECTIONS AT RIGHT ANGLES TO EACH OTHER. WET SEED OR SEED THAT IS MOLDY OR OTHERWISE DAMAGED IN TRANSIT OR STORAGE IS NOT TO BE USED. AFTER BEGIN SOWN, THE SEED SHALL BE RAKED INTO THE TOP 1/4 INCH OF THE TOPSOIL, LIGHTLY ROLLED, AND WATERED WITH FINE SPRAY. SEEDED AREAS ON STREAM BANKS SHALL BE PROTECTED WITH COIR FIBER MATTING.

FLOODPLAIN DEPRESSIONS

16. FOLLOW PERMANENT SEEDING NOTES FOR FLOODPLAIN DEPRESSIONS SHOWN ON PLANS.

BARE ROOTS, LIVE STAKES, & CUTTINGS

17. CUTTINGS SHOULD BE INSTALLED THE SAME DAY THEY ARE CUT. THE STAKE SHOULD BE ORIENTED WITH BUDS POINTED UP, AND THE BOTTOM SHOULD BE CUT AT AN ANGLE FOR EASY INSERTION INTO THE GROUND.

18. ABOUT ¾ OF THE LENGTH OF THE STAKE SHOULD BE BELOW GROUND AND ANGLED DOWNSTREAM. AN IRON BAR CAN BE USED TO MAKE A PILOT HOLE TO PREVENT BARK DAMAGE DURING INSTALLATION.

CONTAINER STOCK

19. STOCK SHALL HAVE BEEN GROWN IN A CONTAINER LONG ENOUGH FOR THE ROOT SYSTEM TO HAVE DEVELOPED SUFFICIENTLY TO HOLD ITS SOIL TOGETHER ONCE REMOVED FROM THE CONTAINER.

20. CONTAINER PLANTS WILL NEED TO BE WATERED REGULARLY AND PLACED IN SHADY CONDITIONS UNTIL PLANTING OCCURS.CREATE PLANTING AREA FOR EACH PLANT AND EXCAVATE PIT.

21. THE DIAMETER OF THE PLANTING HOLES (PITS) FOR EACH PLANT SHOULD BE AT LEAST THREE TIMES THE DIAMETER OF THE ROOT MASS. SCARIFY THE PLANTING PIT PRIOR TO EACH PLANT INSTALLATION.

22. SET PLANTS UPRIGHT IN THE CENTER OF THE PIT. THE BOTTOM OF THE ROOT MASS SHOULD BE RESTING ON UNDISTURBED SOIL.

23. PLACE BACKFILL AROUND BASE AND SIDES OF ROOT MASS, AND WORK EACH LAYER TO SETTLE BACKFILL AND TO ELIMINATE VOIDS AND AIR POCKETS. WHEN PIT IS APPROXIMATELY ⅔ FULL, WATER THOROUGHLY BEFORE PLACING REMAINDER OF THE BACKFILL. WATER AGAIN AFTER PLACING FINAL LAYER OF BACKFILL. PREVENT BARK FROM BEING DAMAGED DURING INSTALLATION.

24. PLACEMENT OF BALL AND BURLAP OR 10 - 20 GALLON CONTAINER TREES, MIN 2" CALIPER SIZE, TO BE 30' TO 60' FROM THE TOP OF BANK IN ZONE 2. TREES TO BE INSTALLED WITH DEER PROTECTION FENCING. SEE LARGE TREE TABLE ON E6.3 & DEER PROTECTION FENCING ON E6.5.

SOIL SPREADING

25. TOPSOIL SHALL BE REMOVED FROM EXCAVATION AND FILL AREAS PRIOR TO EXCAVATION AND GRADING AND RE-APPLIED TO AREAS AFTER ROUGH GRADING IS COMPLETE. 2 - 4” OF TOPSOIL SHALL BE PLACED ON DISTURBED AREAS TO THE ELEVATIONS AND GRADES INCLUDED IN THE DRAWINGS. AREAS OF SOIL SPREADING SHALL BE STABILIZED USING TEMPORARY SEEDING AS DEFINED IN THE SEEDING SCHEDULE AND THE APPROVED EROSION AND SEDIMENTATION CONTROL PLANS.

ZONE 1: STREAMBANK & ZONE 3: OVERHEAD UTILITY LINE

26. LIVESTAKES AND HERBACEOUS PLUGS LISTED IN THE PLANTING SCHEDULE SHALL BE PLANTED IN OFFSET ROWS AT A DENSITY OF 1,210 STEMS PER ACRE (6.0' O.C.) FROM TOE OF THE RESTORED CHANNEL TO 3.0' OUTSIDE THE BANKFULL STAGE. HERBACEOUS PLUGS SHALL BE PLANTED ALONG THE TOE OF THE CHANNEL.

ZONE 2: RIPARIAN BUFFER - 7 GALLON TREES

27. WOODY SPECIES LISTED IN THE PLANTING SCHEDULE SHALL BE PLANTED IN OFFSET ROWS AT A DENSITY OF 27 STEMS PER ACRE (40.0' O.C.) FROM 3.0' OUTSIDE THE BANKFULL STAGE TO THE GRADING LIMITS. EXACT PLACEMENT OF THE SPECIES SHALL BE DETERMINED BY THE CONTRACTOR’S VEGETATION SPECIALIST PRIOR TO SITE PLANTING AND BASED ON THE WETNESS CONDITIONS OF PLANTING LOCATIONS. USE DEER PROTECTION FENCING ON E6.5.

APPROVED BY: GJ | CHECKED BY: DB | DRAWN BY: CP

REV	DESCRIPTION	APPRV
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MIDDLE FORK NEW RIVER GREENWAY REACH 3
MIDDLE FORK SOUTH FORK NEW RIVER - BLUE RIDGE CONSERVANCY
WATAUGA COUNTY, NORTH CAROLINA

CONSTRUCTION BID PLANS
RE-VEGETATION NOTES
NOT FOR CONSTRUCTION

Jennings Environmental
7 SAMUEL ASHE DRIVE
ASHEVILLE, NC 28805
LICENSE: P-1932

DATE: 8/13/2025
SCALE (34"X22"): NTS
SCALE (17"X11"): NTS

NOT TO SCALE

SHEET NUMBER
E6.2

PLANTING SCHEDULES

TEMPORARY SEEDING

DATE	TYPE	APP. RATE (LBS / AC)
MOUNTAINS, ABOVE 2500 FEET: FEB 15 - MAY 15 MOUNTAINS, BELOW 2500 FEET: FEB 1 - MAY 1 PIEDMONT: JAN 1 - MAY 1 COASTAL PLAIN: DEC 1 - APR 15	RYE GRAIN (Secale cereale)	120
	COMMON OATS (Avena sativ)	100
	RED CLOVER (Trifolium incarnatum)	20
	GROUND AG. LIMESTONE	2,000
	10-10-10 FERTILIZER	750
	STRAW MULCH	4,000
MOUNTAINS: MAY 15 - AUG 15 PIEDMONT: MAY 1 - AUG 15 COASTAL PLAIN: APR 15 - AUG 15	GERMAN MILLET (Setaria italica)	40
	COMMON OATS (Avena sativ)	100
	RED CLOVER (Trifolium incarnatum)	20
	GROUND AG. LIMESTONE	2,000
	10-10-10 FERTILIZER	750
	STRAW MULCH	4,000
MOUNTAINS: AUG 15 - DEC 15 COASTAL PLAIN AND PIEDMONT: AUG 15 - DEC 30	RYE GRAIN (Secale cereale)	120
	COMMON OATS (Avena sativ)	100
	RED CLOVER (Trifolium incarnatum)	20
	GROUND AG. LIMESTONE	2,000
	10-10-10 FERTILIZER	750
	STRAW MULCH	4,000

PERMANENT RIPARIAN PLANT / SEEDING - 25 LBS / AC

SPECIES	COMMON NAME	PERCENT
Juncus effusus	COMMON RUSH	10%
Andropogon gerardi	BIG BLUESTEM	10%
Schizachyrium scoparium	LITTLE BLUESTEM	10%
Lobelia cardinalis	CARDINAL FLOWER	10%
Asclepias incarnata	SWAMP MILKWEED	10%
Asclepias syriaca	COMMON MILKWEED	10%
Mimulus ringens	ALLEGHENY MONKEYFLOWER	10%
Helenium autumnale	COMMON SNEEZEWEED	10%
Pycnanthemum muticum	CLUSTERED MOUNTAIN MINT	10%
Vernonia noveboracensis	NEW YORK IRONWEED	10%
	TOTAL	100%

FLOODPLAIN DEPRESSIONS - 25 LBS / AC

SPECIES	COMMON NAME	PERCENT
Carex vulpinoidea	FOX SEDGE	50.0%
Elymus virginicus	VIRGINIA WILDRYE	23.0%
Carex lurida	LURID SEDGE	16.1%
Juncus effusus	SOFT RUSH	3.0%
Heliopsis helianthoides	OXEYE SUNFLOWER	2.3%
Asclepias incarnata	SWAMP MILKWEED	1.5%
Helenium autumnale	COMMON SNEEZEWEED	1.0%
Vernonia noveboracensis	NEW YORK IRONWEED	1.0%
Aster puniceus	PURPLESTEM ASTER	0.5%
Eupatorium perfoliatum	BONESET	0.5%
Glyceria striata	FOWL MANNAGRASS	0.5%
Mimulus ringens	SQUARE STEMMED MONKEYFLOWER	0.3%
Scirpus cyperinus	WOOLGRASS	0.3%
	TOTAL	100%

NOTE: SEED MIX SHOWN PER ERNST CONSERVATION SEEDS 'NC MOUNTAINS FACW MIX - ERNMX-305'. ALTERNATIVE OR EQUIVALENT SEED MIX MAY BE USED WITH THE APPROVAL OF THE ENGINEER.

ZONE 1 - STREAMBANK - 6' O.C. (1,210 STEMS / AC)

SPECIES	COMMON NAME	% OF STEMS
LIVE STAKES		
Cornus amomum	SILKY DOGWOOD	25%
Salix sericea	SILKY WILLOW	25%
Sambucus canadensis	ELDERBERRY	25%
Physocarpus opulifolius	NINEBARK	25%
	TOTAL	100%
HERBACEOUS PLUGS		
Juncus effusus	COMMON RUSH	60%
Carex alata	BROADWING SEDGE	40%
	TOTAL	100%

ZONE 2 - RIPARIAN BUFFER

SPECIES	COMMON NAME	% OF STEMS
OVERSTORY - MIN. 7 GALLON TREES W/ DEER PROTECTION FENCING		
Liriodendron tulipifera	YELLOW POPLAR	60 TREES TO BE PLANTED. A MINIMUM OF 6 DIFFERENT TREE SPECIES, WITH NO ONE SPECIES CONSTITUTING MORE THAN 10% OF THE PLANTING TOTAL.
Tilia americana	AMERICAN BASSWOOD	
Acer rubum	RED MAPLE	
Quercus alba	WHITE OAK	
Betula alleghaniensis	YELLOW BIRCH	
Betula lenta	SWEET BIRCH	
Amelanchier arborea	COMMON SERVICEBERRY	
Carya ovata	SHAGBARK HICKORY	

LARGE TREES (20 TREES)

SPACED EVENLY THROUGHOUT ZONE 2 - MIN. 2" CALIPER SIZE W/ DEER PROTECTION FENCING

SPECIES	COMMON NAME	% OF STEMS
Acer rubrum	RED MAPLE	33.3%
Amelanchier	SERVICEBERRY	33.3%
Quercus alba	WHITE OAK	33.3%

ZONE 3 - OVERHEAD UTILITY LINE - 6' O.C. (1,210 STEMS / AC)

SPECIES	COMMON NAME	% OF STEMS
LIVE STAKES		
Cornus amomum	SILKY DOGWOOD	25%
Salix sericea	SILKY WILLOW	25%
Sambucus canadensis	ELDERBERRY	25%
Physocarpus opulifolius	NINEBARK	25%
	TOTAL	100%
HERBACEOUS PLUGS		
Juncus effusus	COMMON RUSH	60%
Carex alata	BROADWING SEDGE	40%
	TOTAL	100%

APPROVED BY: GJ | CHECKED BY: DB | DRAWN BY: CP

REV	DESCRIPTION	APPRV
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MIDDLE FORK NEW RIVER GREENWAY REACH 3
MIDDLE FORK SOUTH FORK NEW RIVER - BLUE RIDGE CONSERVANCY
WATAUGA COUNTY, NORTH CAROLINA

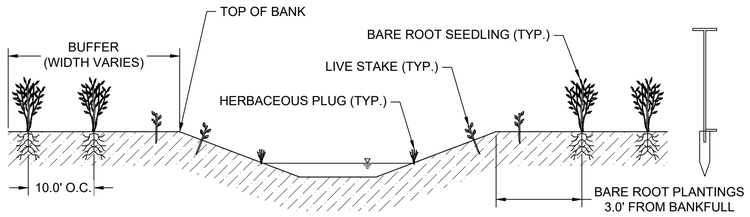
CONSTRUCTION BID PLANS
PLANTING SCHEDULES
NOT FOR CONSTRUCTION

Jennings Environmental
7 SAMUEL ASHE DRIVE
ASHEVILLE, NC 28805
LICENSE: P-1932

DATE: 8/13/2025
SCALE (34"X22"): NTS
SCALE (17"X11"): NTS

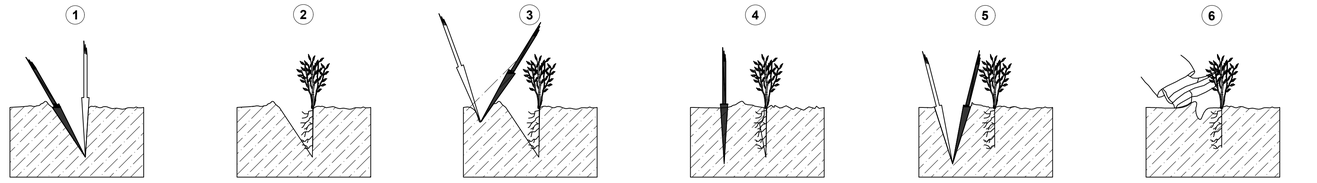
NOT TO SCALE

SHEET NUMBER
E6.3



DIBBLE BAR
PLANTING BAR SHALL HAVE A BLADE WITH A TRIANGULAR CROSS-SECTION, AND SHALL BE 12" LONG, 4" WIDE AND 1" THINK AT THE CENTER.

ROOT PRUNING
ALL ROOTS SHALL BE PRUNED TO AN APPROPRIATE LENGTH FOR PLANTING TO PREVENT J-ROOTING.



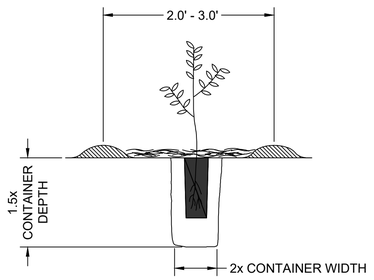
1. INSERT THE DIBBLE STRAIGHT DOWN INTO THE SOIL TO THE FULL DEPTH OF THE BLADE AND PULL BACK ON THE HANDLE TO OPEN THE PLANTING HOLE. DO NOT ROCK THE SHOVEL BACK AND FORTH AS THIS CAUSES THE SOIL IN THE PLANTING HOLE TO BE COMPACTED, INHIBITING ROOT GROWTH.
2. REMOVE THE DIBBLE AND PUSH THE SEEDLING ROOTS DEEP INTO THE PLANTING HOLE. PULL THE SEEDLING BACK UP TO THE CORRECT PLANTING DEPTH. THE ROOT COLLAR SHOULD BE 1" - 3" BELOW THE SOIL SURFACE. GENTLY SHAKE THE SEEDLING TO ALLOW THE ROOTS TO STRAIGHTEN OUT. DO NOT TWIST OR SPIN THE SEEDLING OR LEAVE THE ROOTS J-ROOTED.
3. INSERT THE DIBBLE SEVERAL INCHES IN FRONT OF THE SEEDLING AND PUSH THE BLADE HALFWAY INTO THE SOIL. TWIST AND PUSH THE HANDLE FORWARD TO CLOSE THE TOP OF THE PLANTING HOLE TO HOLD THE SEEDLING IN PLACE.
4. PUSH THE DIBBLE DOWN TO THE FULL DEPTH OF THE BLADE.
5. PULLBACK ON THE HANDLE TO CLOSE THE BOTTOM OF THE PLANTING HOLE. THEN PUSH FORWARD TO CLOSE THE TOP ELIMINATING AIR POCKETS AROUND THE ROOT.
6. REMOVE THE DIBBLE. CLOSE AND FIRM UP THE OPENING WITH YOUR HEEL. BE CAREFUL TO AVOID DAMAGING THE SEEDING.

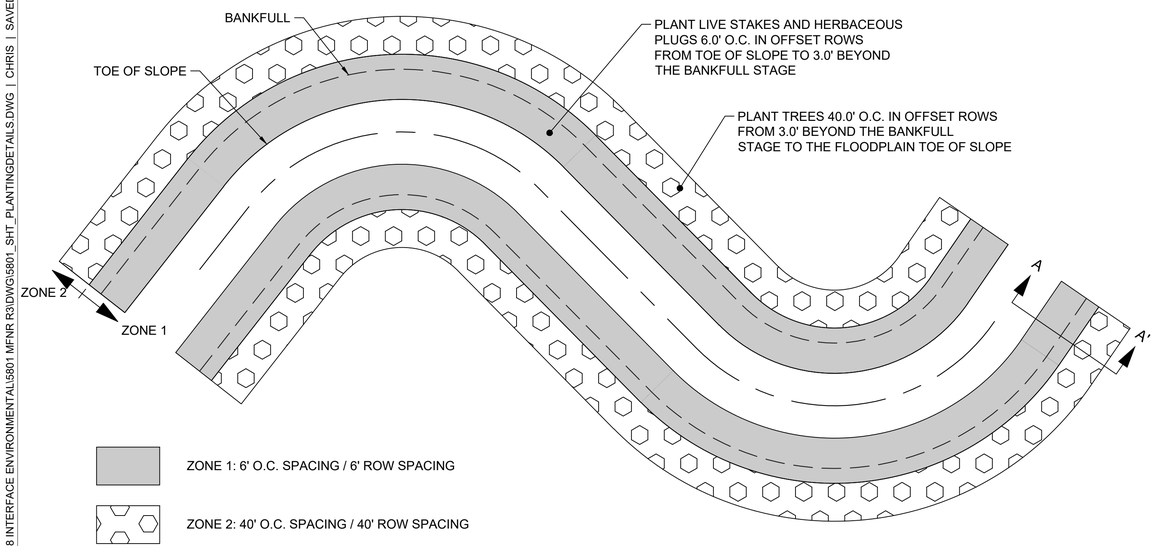
BARE ROOT & CONTAINER PLANTING

BARE ROOT & CONTAINER PLANT SPECIFICATIONS

BARE ROOT PLANTS
1. ALL SOILS WITHIN THE BUFFER PLANTING AREA SHALL BE FINE GRADED AND / OR DISKED, AS REQUIRED, PRIOR TO PLANTING.
2. PLANT BAREROOT SEEDLINGS 10.0' O.C. IN OFFSET ROWS FROM 3.0' BEYOND THE BANKFULL STAGE TO THE GRADING LIMITS

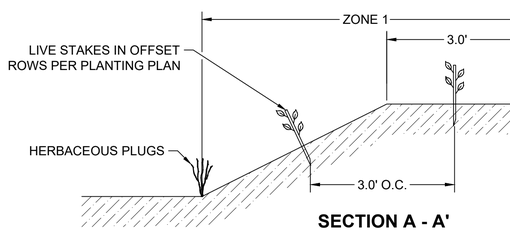
CONTAINER PLANTS
1. PLANTS SHALL HAVE BEEN GROWN IN A CONTAINER LONG ENOUGH FOR THE ROOT SYSTEM TO HAVE DEVELOPED SUFFICIENTLY TO HOLD ITS SOIL TOGETHER ONCE REMOVED FROM THE CONTAINER.
2. PLANTS WILL NEED TO BE WATERED REGULARLY AND PLACED IN SHADY CONDITIONS UNTIL PLANTING OCCURS.
3. THE DIAMETER OF THE PLANTING PITS FOR EACH PLANT SHOULD BE AT LEAST TWO TIMES THE DIAMETER OF THE ROOT MASS. SCARIFY THE PLANTING PIT PRIOR TO EACH PLANT INSTALLATION.
4. SET PLANTS UPRIGHT IN THE CENTER OF THE PIT. THE BOTTOM OF THE ROOT MASS SHOULD BE RESTING ON UNDISTURBED SOIL.
5. PLACE BACKFILL AROUND BASE AND SIDES OF ROOT MASS, AND WORK EACH LAYER TO SETTLE BACKFILL AND TO ELIMINATE VOIDS AND AIR POCKETS. WHEN PIT IS APPROXIMATELY ⅔ FULL, WATER THOROUGHLY BEFORE PLACING REMAINDER OF THE BACKFILL. WATER AGAIN AFTER PLACING FINAL LAYER OF BACKFILL.



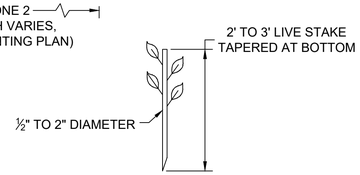


LIVE STAKING SPECIFICATIONS

1. LIVE STAKES MUST BE DORMANT WHEN CUT. KEEP LIVE STAKES MOIST UNTIL PLANTING. THE STAKE SHOULD BE PREPARED WITH THE BUDS POINTED UP, AND THE BOTTOM SHOULD BE CUT AT AN ANGLE FOR INSERTION INTO THE GROUND. AN IRON BAR CAN BE USED TO MAKE A PILOT HOLE TO PREVENT BARK FROM BEING DAMAGED DURING INSTALLATION.
2. LIVE STAKES SHALL BE 0.5" - 2" IN DIAMETER AND 2' - 3' IN LENGTH.
3. LIVE STAKES SHOULD BE PLACED WITH ⅔ TO ¾ OF THE LENGTH OF THE STAKE BELOW GROUND AND ANGLED DOWNSTREAM. ENSURE THE BASE OF THE LIVE STAKE WILL REACH THE WATER TABLE. AFTER INSTALLATION THE TOP OF THE LIVE STAKE SHALL BE PRUNED WITH A SQUARE CUT LEAVING NO LESS THAN 3" AND NO MORE THAN 6" ABOVE THE GROUND.
4. PLANT LIVE STAKES AND HERBACEOUS PLUGS IN OFFSET ROWS AND SPACINGS PER PLANTING PLAN.



SECTION A - A'



LIVE STAKE

LIVE STAKING

APPROVED BY: GJ	CHECKED BY: DB	DRAWN BY: CP
REV	DESCRIPTION	APPRV
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MIDDLE FORK NEW RIVER GREENWAY REACH 3
MIDDLE FORK SOUTH FORK NEW RIVER - BLUE RIDGE CONSERVANCY
WATAUGA COUNTY, NORTH CAROLINA

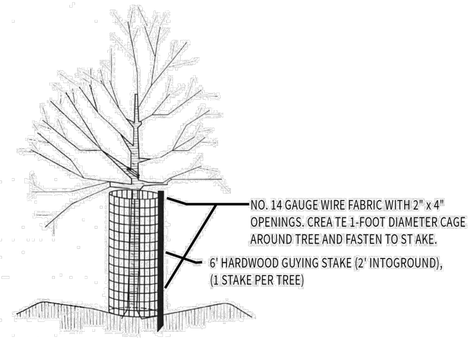
CONSTRUCTION BID PLANS
PLANTING DETAILS
NOT FOR CONSTRUCTION

Jennings Environmental
7 SAMUEL ASHE DRIVE
ASHEVILLE, NC 28805
LICENSE: P-1932

DATE: 8/13/2025
SCALE (34"X22"): NTS
SCALE (17"X11"): NTS

NOT TO SCALE

SHEET NUMBER
E6.4



Notes:
1. Height of cage shall be 4-feet (min.).
2. Cage shall be fastened to stake with two (min.)
   11-inch releasable cable ties (one at top and one 6" (min.) above the ground.
3. Do not damage tree during installation.

DEER PROTECTION FENCING

APPROVED BY: GJ | CHECKED BY: DB | DRAWN BY: CP

REV	DESCRIPTION	APPRV
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MIDDLE FORK NEW RIVER GREENWAY REACH 3
MIDDLE FORK SOUTH FORK NEW RIVER - BLUE RIDGE CONSERVANCY
WATAUGA COUNTY, NORTH CAROLINA

CONSTRUCTION BID PLANS
PLANTING DETAILS
NOT FOR CONSTRUCTION

Jennings Environmental
7 SAMUEL ASHE DRIVE
ASHEVILLE, NC 28805
LICENSE: P-1932

DATE: 8/13/2025
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SHEET NUMBER
E6.5