

OCTOBER 2026



1. PRIOR TO CONSTRUCTION, DIGGING, OR EXCAVATION THE CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES (PUBLIC OR PRIVATE) THAT MAY EXIST AND CROSS THROUGH THE AREA(S) OF CONSTRUCTION, WHETHER INDICATED ON THE PLANS OR NOT. CALL "811" A MINIMUM OF 72 HOURS PRIOR TO DIGGING OR EXCAVATING. REPAIRS TO ANY UTILITY DAMAGED RESULTING FROM CONSTRUCTION ACTIVITIES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.



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



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STABILIZATION

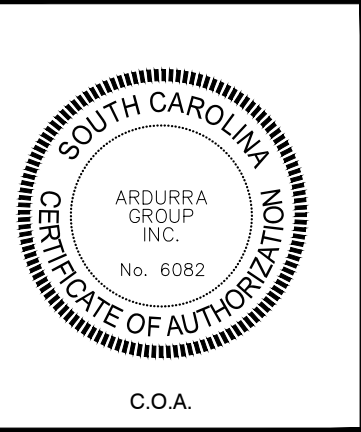
COVER SHEET



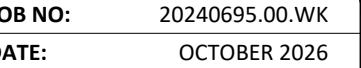
JOB NO:	20240695.00.WK
DATE:	OCTOBER 2026

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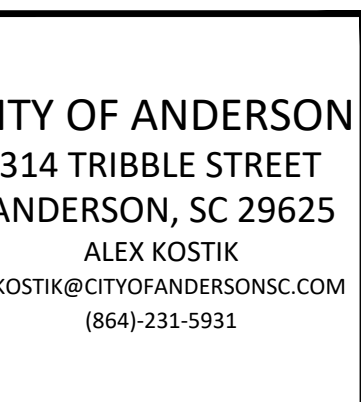
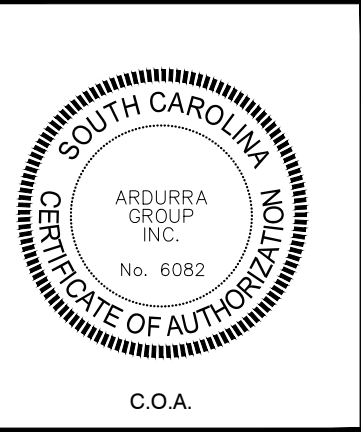
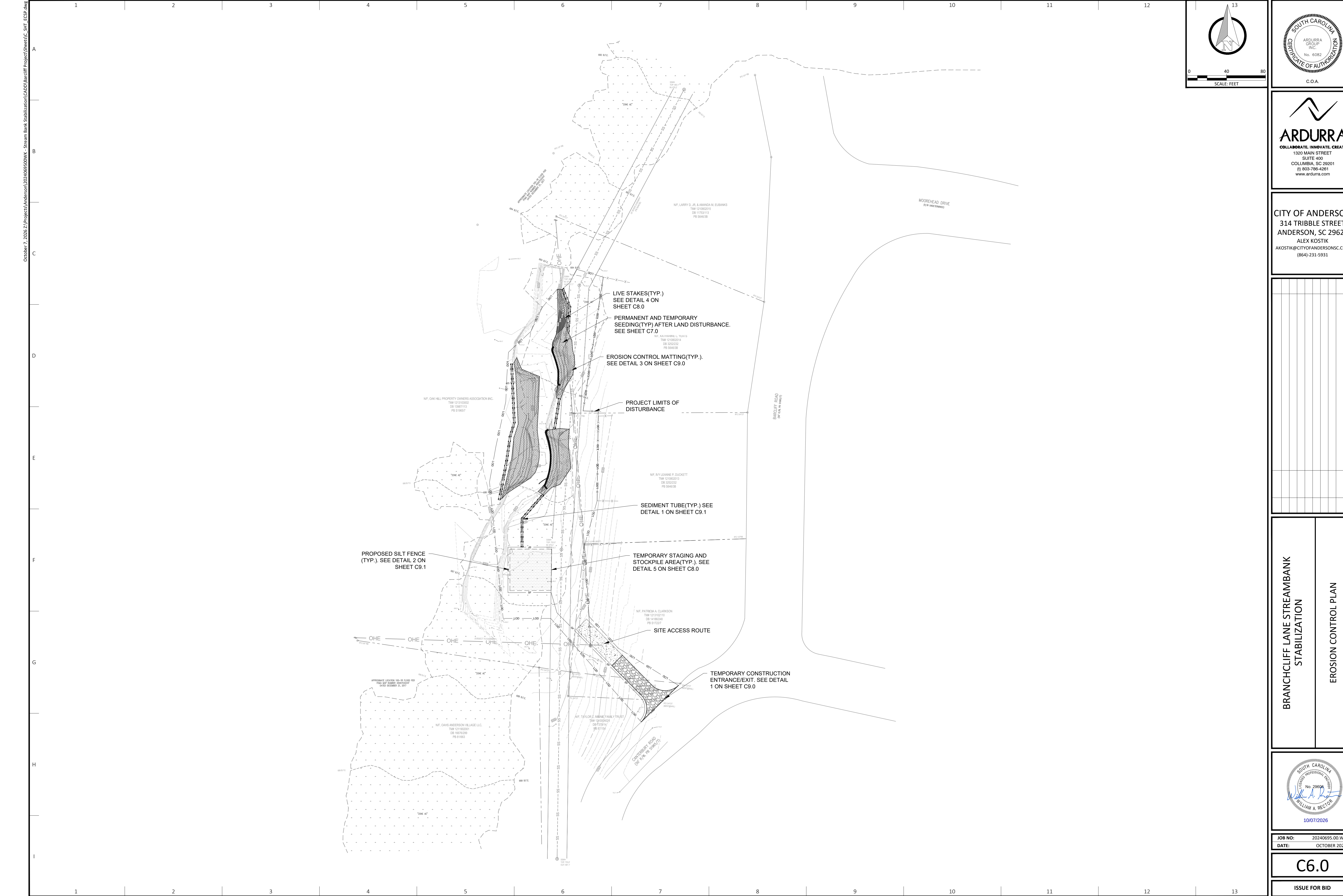
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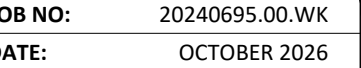
BRANCHCLIFF LANE STREAMBANK STABILIZATION	SANITARY SEWER PLAN
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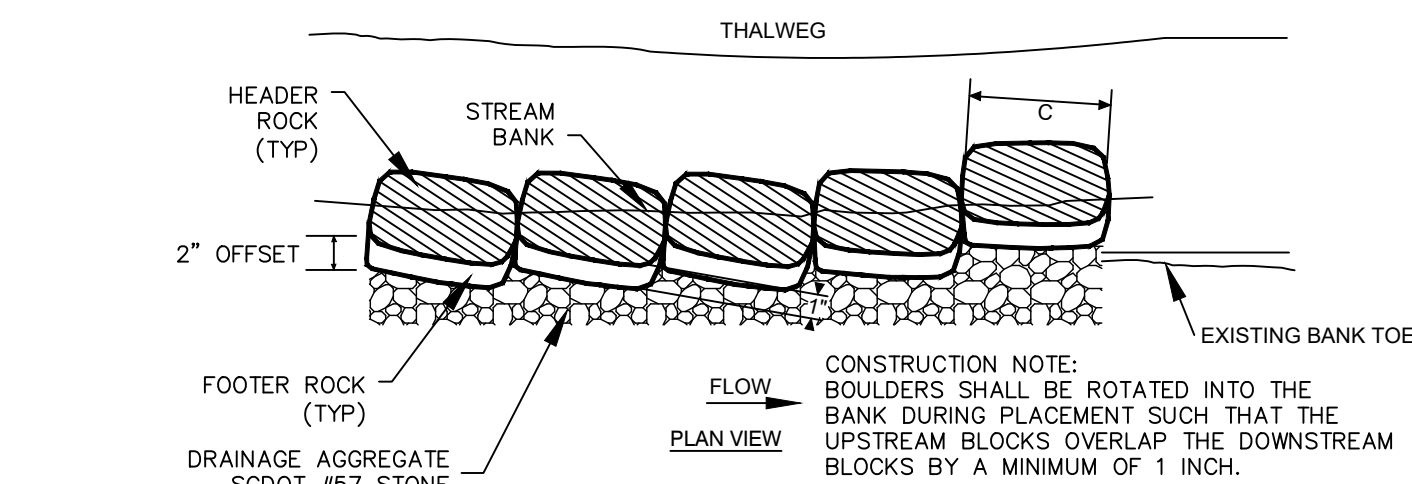
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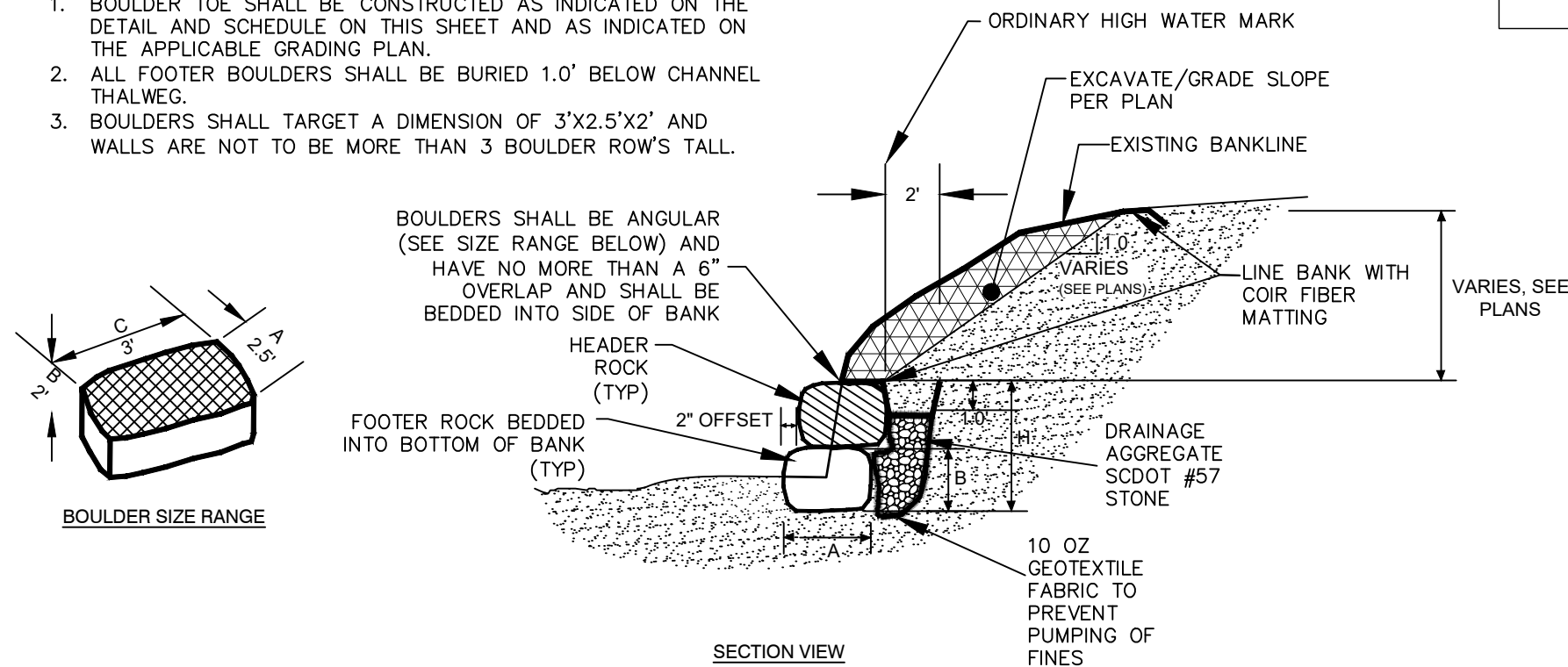
EROSION CONTROL PLAN



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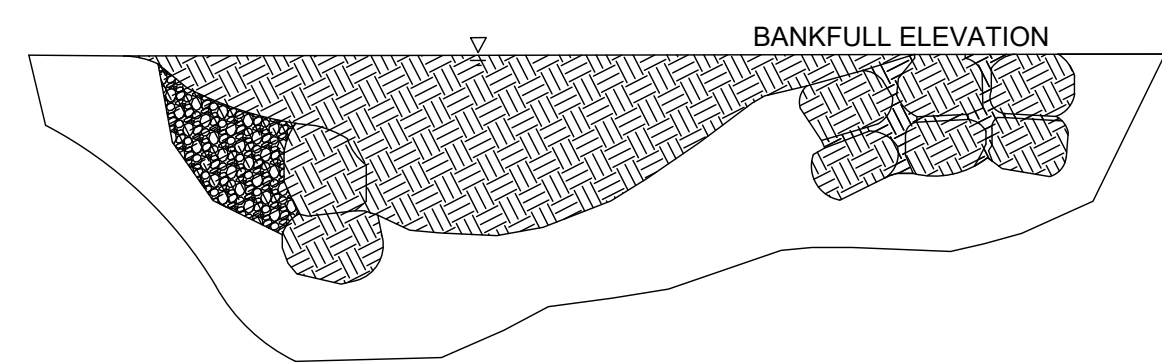
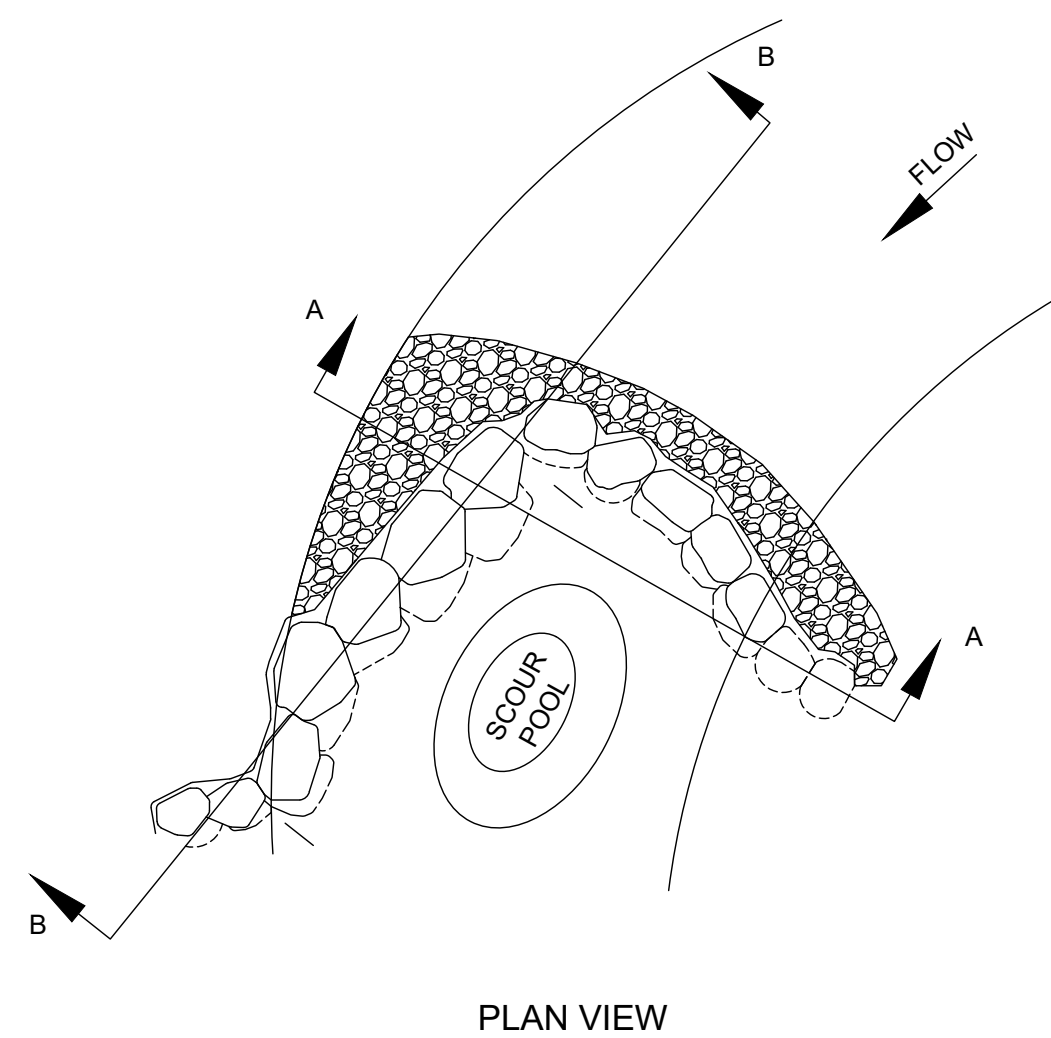


- NOTES:
1. BOULDER TOE SHALL BE CONSTRUCTED AS INDICATED ON THE DETAIL AND SCHEDULE ON THIS SHEET AND AS INDICATED ON THE APPLICABLE GRADING PLAN.
 2. ALL FOOTER BOULDERS SHALL BE BURIED 1.0' BELOW CHANNEL THALWEG.
 3. BOULDERS SHALL TARGET A DIMENSION OF 3'X2.5'X2' AND WALLS ARE NOT TO BE MORE THAN 3 BOULDER ROWS TALL.



BOULDER TOE PROTECTION SCHEDULE					
BOULDER TOE LOCATION (APPROX)	SHEET	TOP OF ROCK ELEV (FEET)	BOTTOM OF ROCK ELEV (FEET)	LENGTH (LF)	TOTAL HEIGHT (FEET)
TOP	C4.0	682'-0"	678'-0"	41	4
BOTTOM	C4.0	683'-0"	679'-0"	64	4

BOULDER TOE PROTECTION



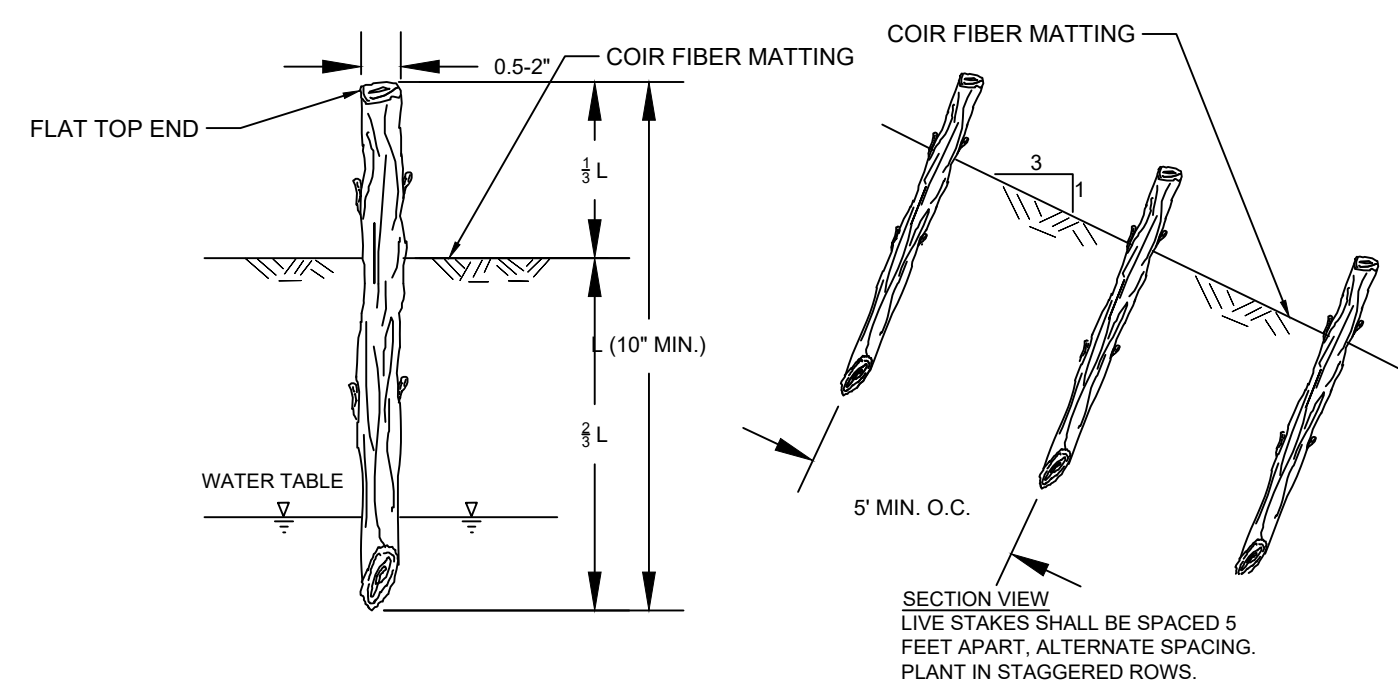
SECTION A-A

BOULDER J-HOOK

NOT TO SCALE

- NOTES:**

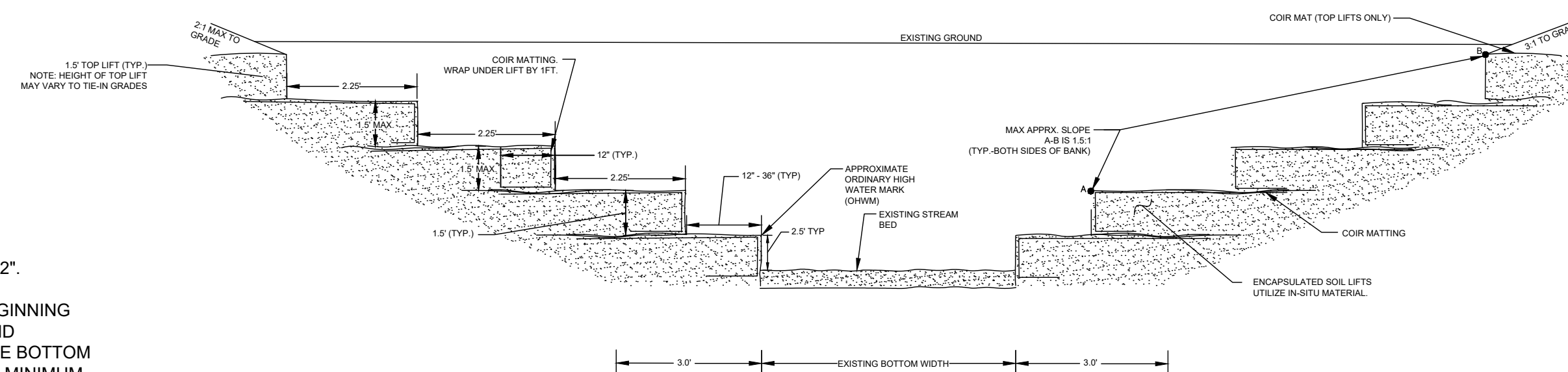
 - (A) BOULDER TOE IS A BANK STABILIZATION MEASURE THAT PROTECTS THE STREAM BANK ALONG OUTSIDE MEANDER BENDS FROM EROSION.
 - (B) BOULDER TOE SHOULD BE PLACED AT THE STATIONS, OFFSETS, ELEVATIONS, AND GEOMORPHIC POSITIONS INDICATED ON THE STREAM MITIGATION DATA TABLE IN THE PROJECT PLANS, STREAM MITIGATION PLAN, OR AS DIRECTED BY THE ENGINEER. AT A MINIMUM, THE BANKFULL WIDTH, BOULDER DIMENSIONS, AND ELEVATIONS SHOULD BE SPECIFIED IN THE STREAM MITIGATION DATA TABLE.
 - (C) A HYDRAULIC EXCAVATOR WITH A HYDRAULIC THUMB SHALL BE USED TO PLACE BOULDERS.
 - (D) CONSTRUCT WOOD OR BOULDER TOE, GEO-LIFTS, AND LIVE BRUSH LAYERING BY:
 - (1) SHAPE THE CHANNEL AND FLOODPLAIN TO THE SPECIFIED GRADES AND DIMENSIONS.
 - (2) GRADE EXISTING BANK SUBGRADE TO 2:1 (MIN).
 - (3) EXCAVATE BANK TO KEY IN BOULDERS AND PLACE TYPE III WOVEN GEOTEXTILE FABRIC ALONG THE EXCAVATED BANK. PLACE BOULDERS IN OVERLAPPING LAYERS AND IMBIBENT EACH LAYER. BACKFILL AREA BEHIND BOULDER WITH SOIL OR ALLUVIUM AND COMPACT WITH EXCAVATOR BUCKET.
 - (E) ALL MATERIALS ARE TO BE APPROVED BY ENGINEER OR ENGINEER'S ON-SITE CONSTRUCTION OBSERVER



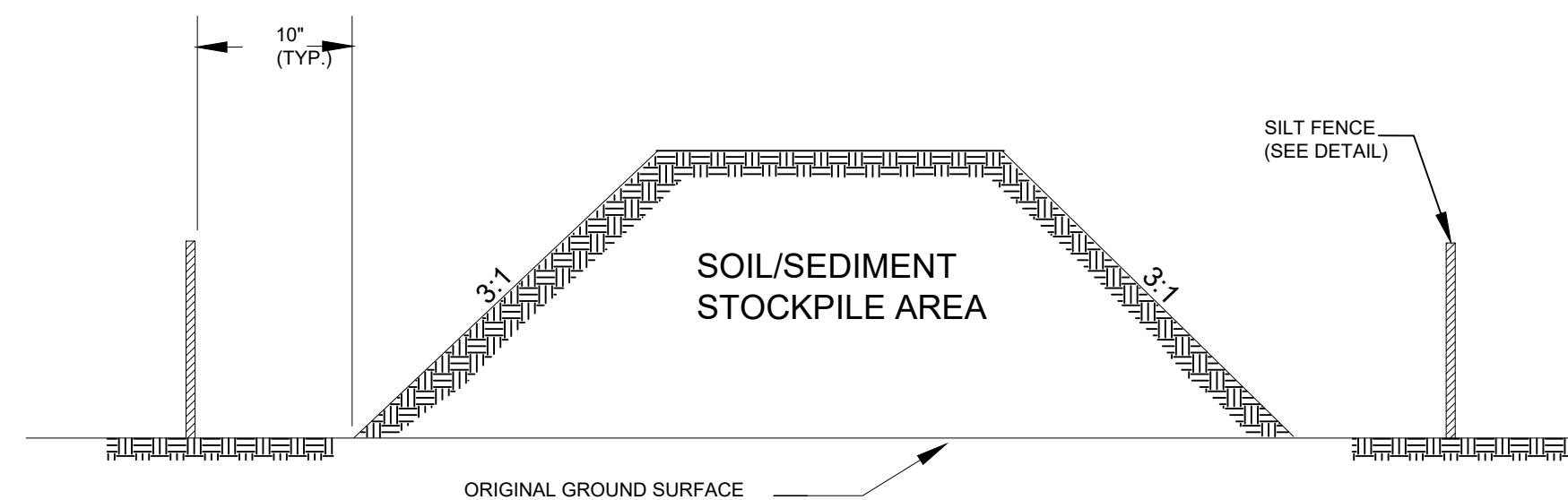
DETAIL
THE STAKES SHOULD HAVE A DIAMETER IN THE
RANGE OF 0.5 TO 2 INCHES.

- NOTE:
1. ACCEPTABLE SPECIES INCLUDE BUTTONBUSH (CEPHALANIS OCCIDENTALIS), BLACK WILLOW (SALIX NIGRA) AND SILKY DOGWOOD (CORNUS AMOMMUM).
 2. LIVE STAKES SHALL BE PLANTED ON SIDE SLOPES FROM 1' ABOVE CHANNEL BOTTOM TO THE BACK OF THE FLOOD BENCH, OR TO 4' ABOVE CHANNEL BOTTOM WHERE THERE IS NO PROPOSED FLOOD BENCH.

4	LIVE STAKE DETAIL
C8.0	NTS



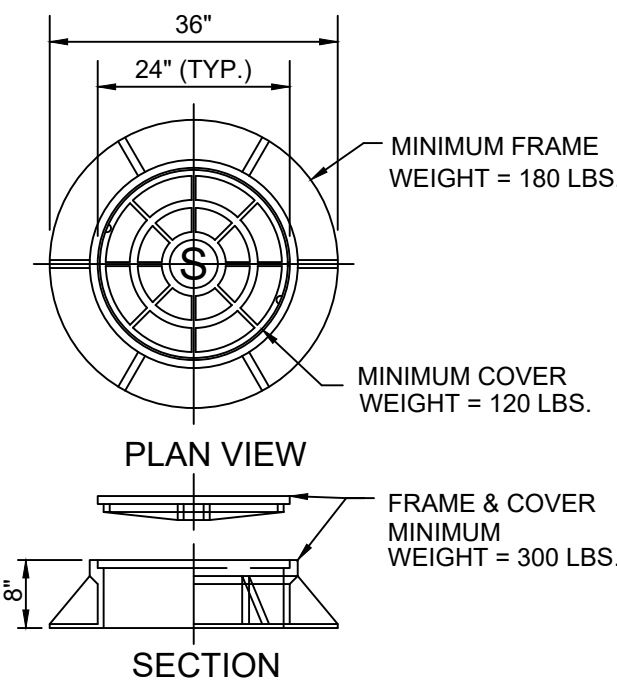
3	GEO-SOIL LIFT
C8.0	NTS



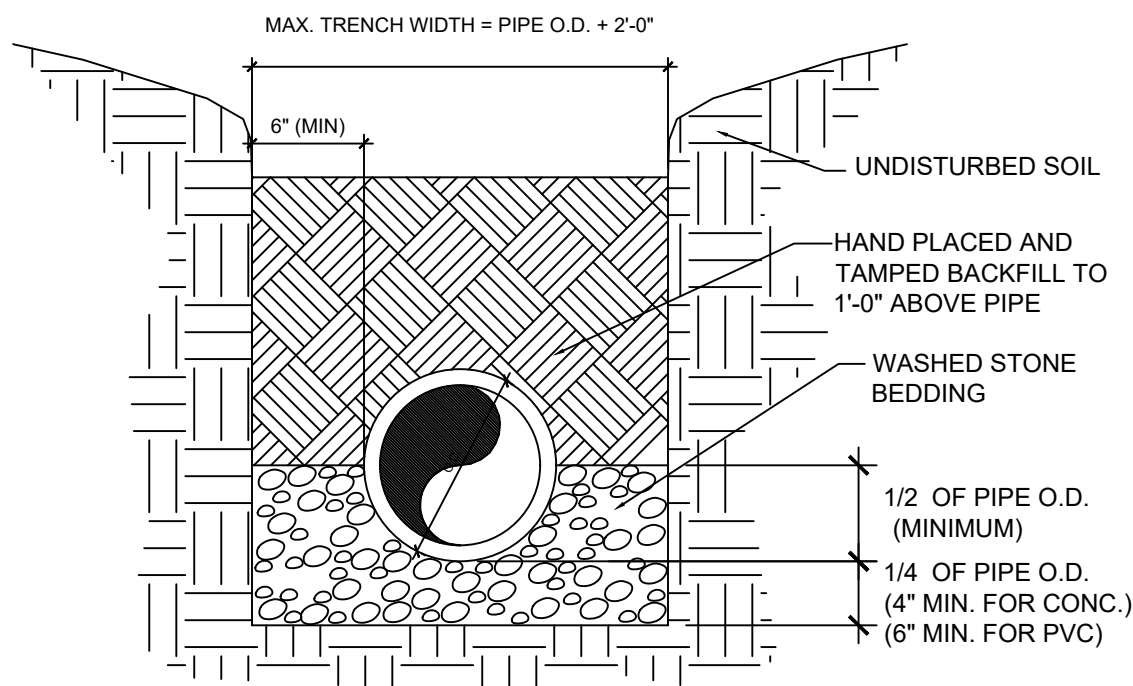
- NOTES:
1. SILT FENCE TO EXTEND AROUND ENTIRE PERIMETER OF STOCKPILE, OR IF STOCKPILE AREA IS LOCATED ON/NEAR A SLOPE THE SILT FENCE IS TO EXTEND ALONG CONTOURS OF THE DOWN-GRADIENT AREA.
 2. IF STOCKPILE IS TO REMAIN FOR MORE THAN 14 DAYS, TEMPORARY STABILIZATION MEASURES MUST BE IMPLEMENTED.
 3. SILT FENCE SHALL BE MAINTAINED UNTIL STOCKPILE AREA HAS EITHER BEEN REMOVED OR PERMANENTLY STABILIZED.
 4. THE KEY TO FUNCTIONAL TEMPORARY STOCKPILE AREAS IS WEEKLY INSPECTIONS, ROUTINE MAINTENANCE, AND REGULAR SEDIMENT REMOVAL.

5 TEMPORARY STOCKPILE AREA
C8.0

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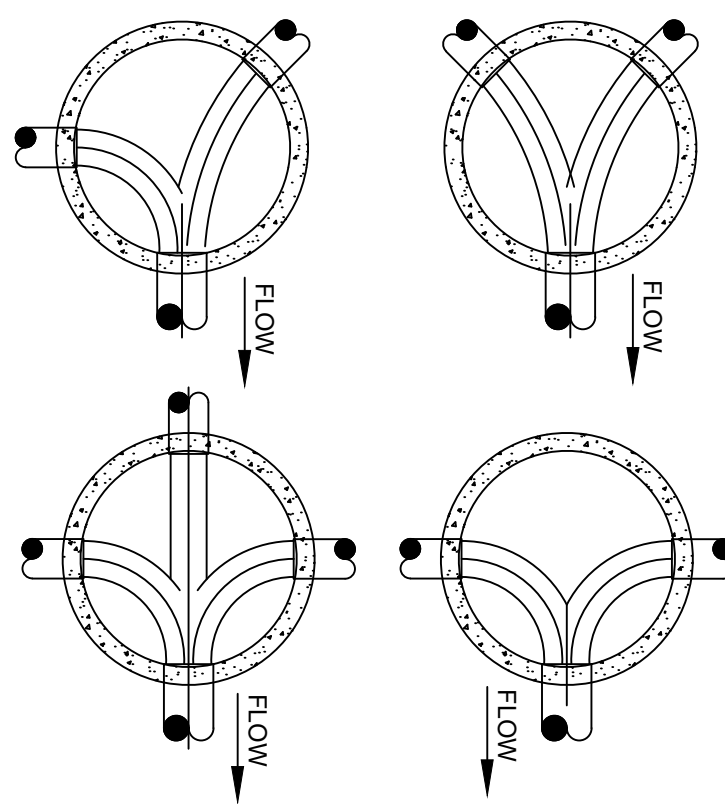


1	MANHOLE FRAME AND COVER
C8.1	

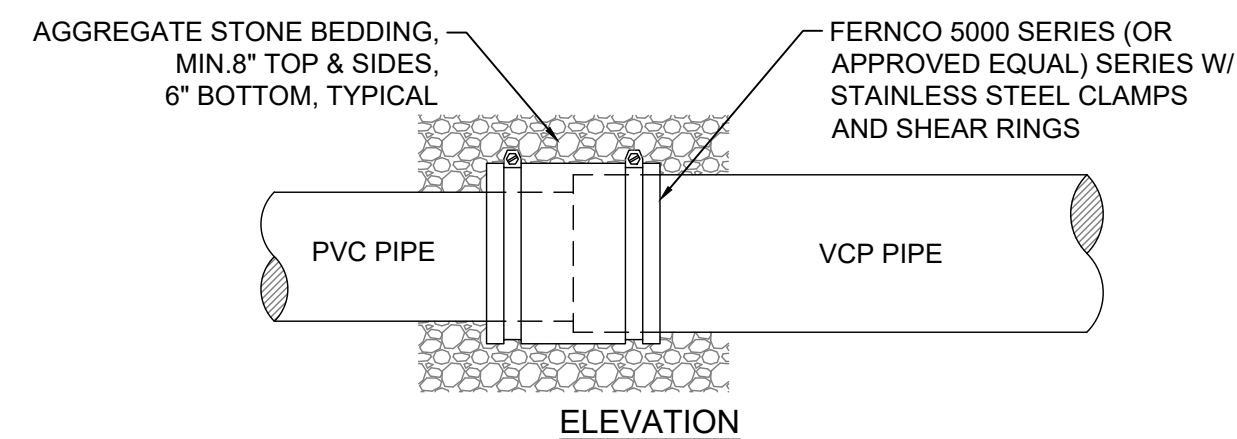
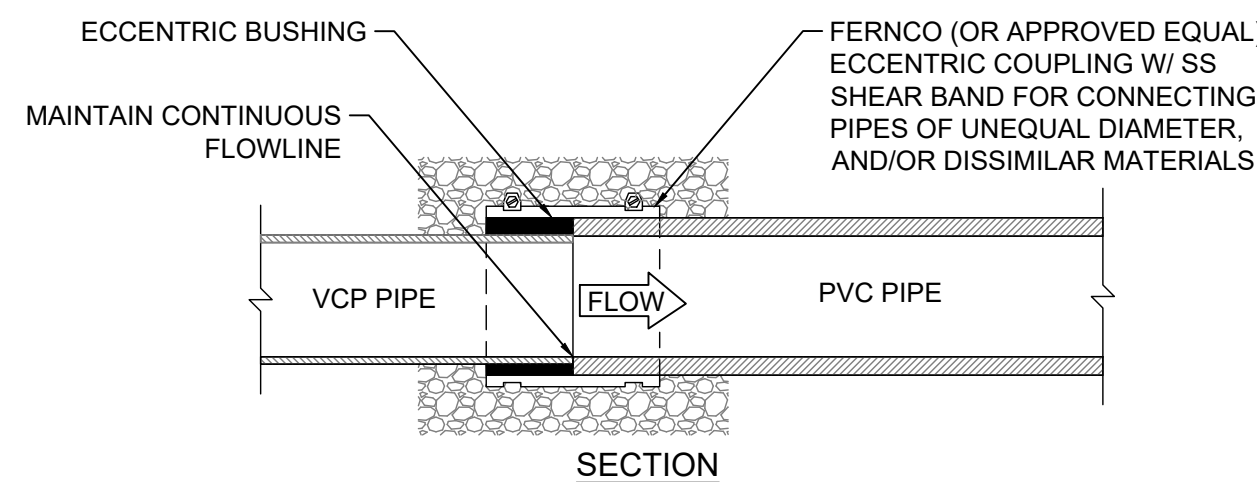


2 PIPE BEDDING DETAIL

- NOTE:**
1. 60"Ø, 72"Ø, 84"Ø, 96"Ø, & 120"Ø MANHOLES (WHERE APPLICABLE) SIMILAR EXCEPT MINIMUM WALL THICKNESS AND TOP TRANSITION PIECES VARY WITH MANHOLE DIAMETER (SEE MANUFACTURER'S SPECIFICATIONS).
 2. FLEXIBLE JOINT AT ALL MANHOLE CONNECTIONS TO BE EITHER NEOPRENE BOOT, INTEGRALLY CAST GASKET, OR APPROVED EQUAL.
 3. USE DROP MANHOLE WHEN VERTICAL DISTANCE EXCEEDS 24". IF LESS, SLOPE INVERT CHANNEL UP TO INCOMING INVERT TO PREVENT SPLASH.
 4. FRAMES AND COVERS DESIGNATED WATERTIGHT FRAME AND COVER SHALL BE BOLTED AND GASKETED EQUAL TO US FOUNDRY 576-BH-BWTL.
 5. WHEN GROUTING FRAME TO TOP OF MANHOLE, PLACE SHIMS UNDER CASTING TO PROVIDE 1/2" OF GROUT UNDER FRAME FLANGE AND SLOPE GROUT FROM EDGE OF MANHOLE TO TOP OF FRAME RIBS.
 6. PROVIDE GREEN FIBERGLASS WARNING MARKER LABELED SEWER FOR ALL MANHOLES IN DOT RIGHT-OF-WAY.
 7. PROVIDE MANHOLES WITH EXTENDED BASES TO RESIST BUOYANCY FORCES.

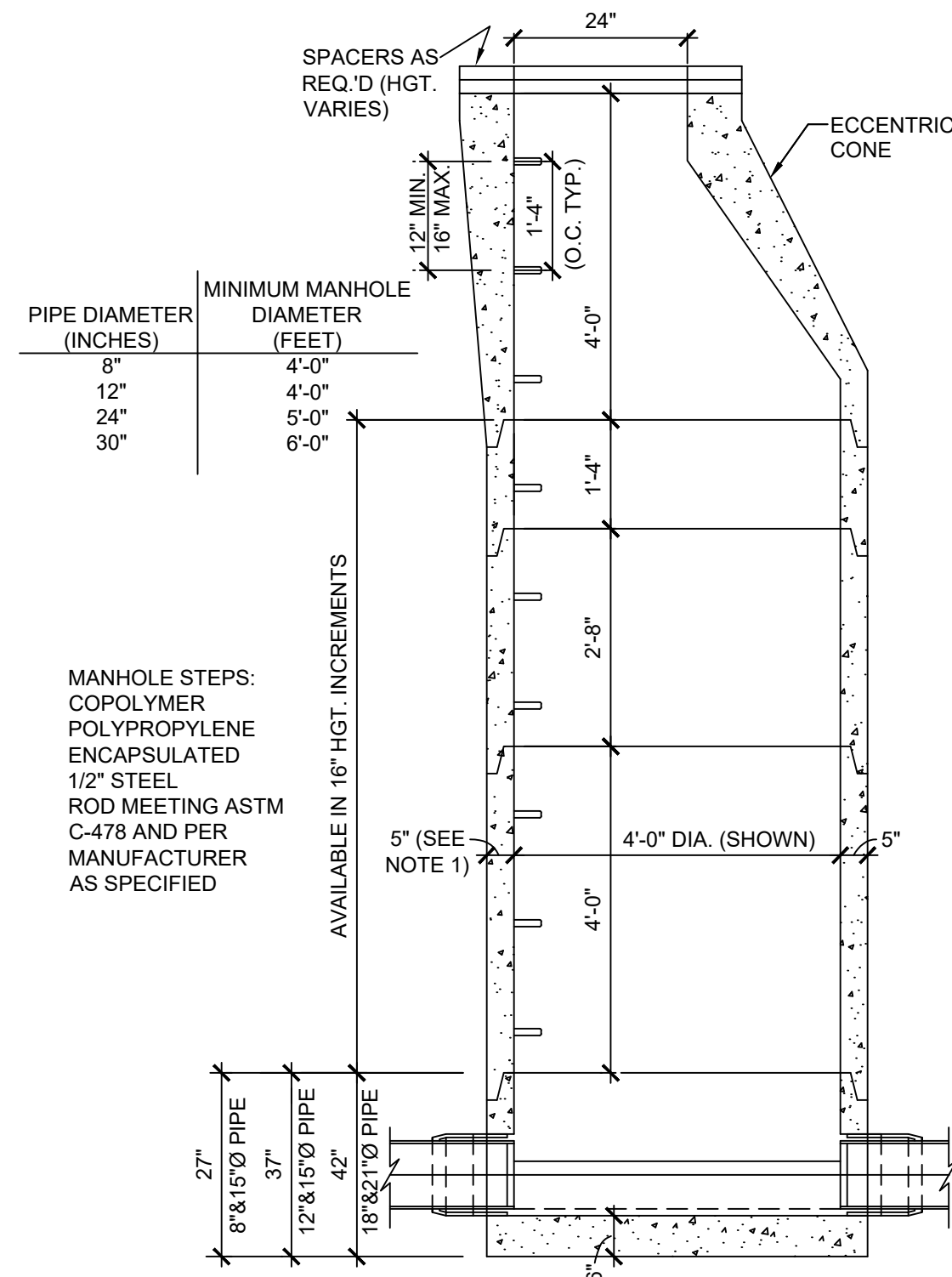


4 MANHOLE BOTTOM PLANS
C8.1



- NOTES:
- SEE STANDARD SEWER LINE TRENCH DETAIL FOR PIPE BEDDING BEYOND COUPLING.

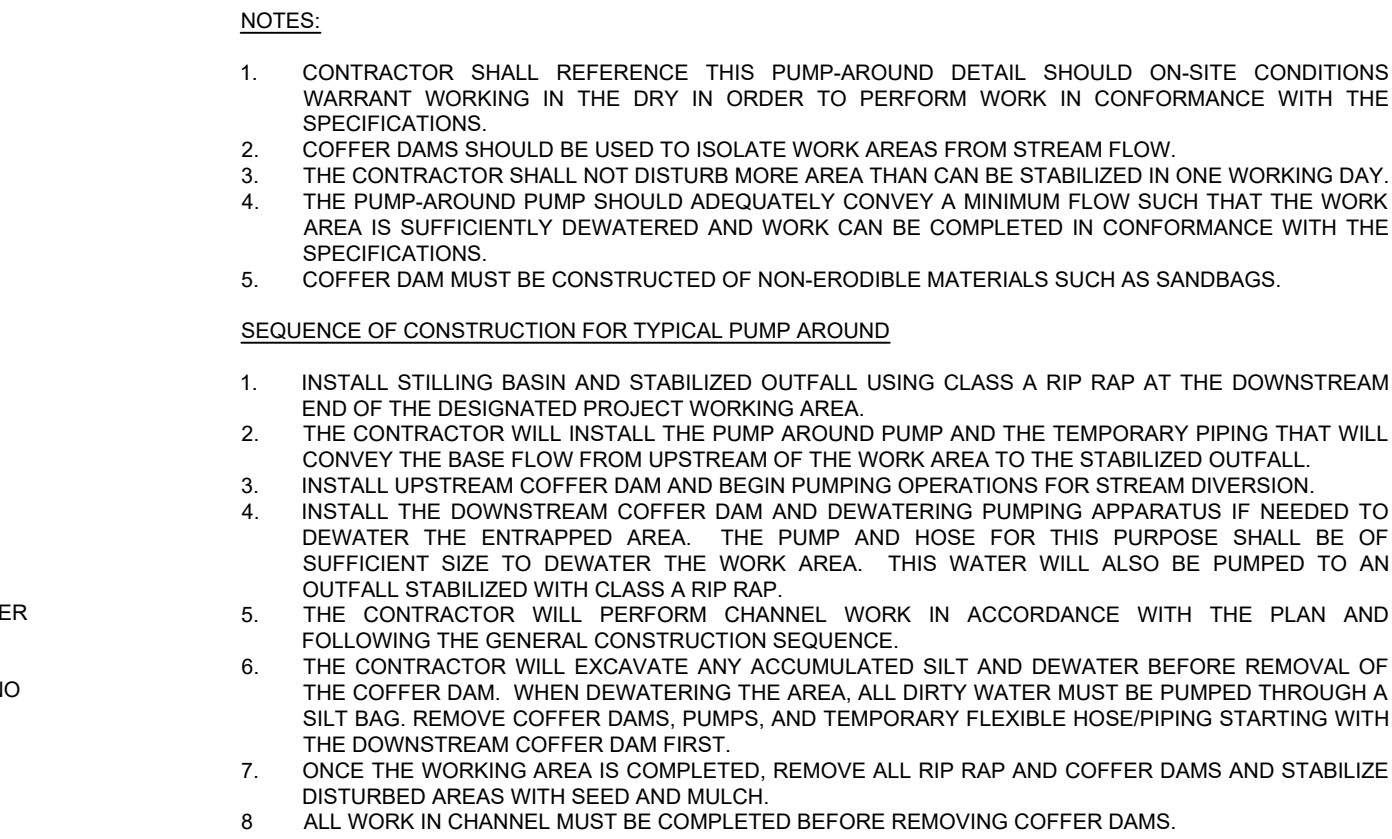
6	STANDARD SEWER LINE COUPLING
C8.1	



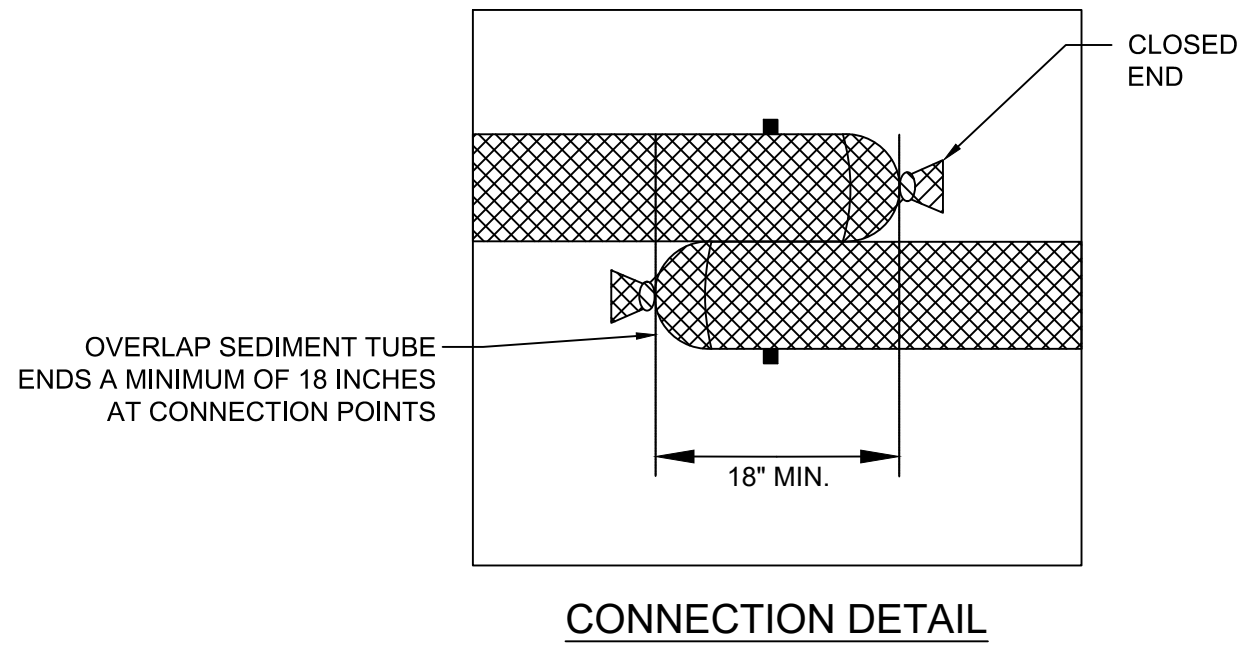
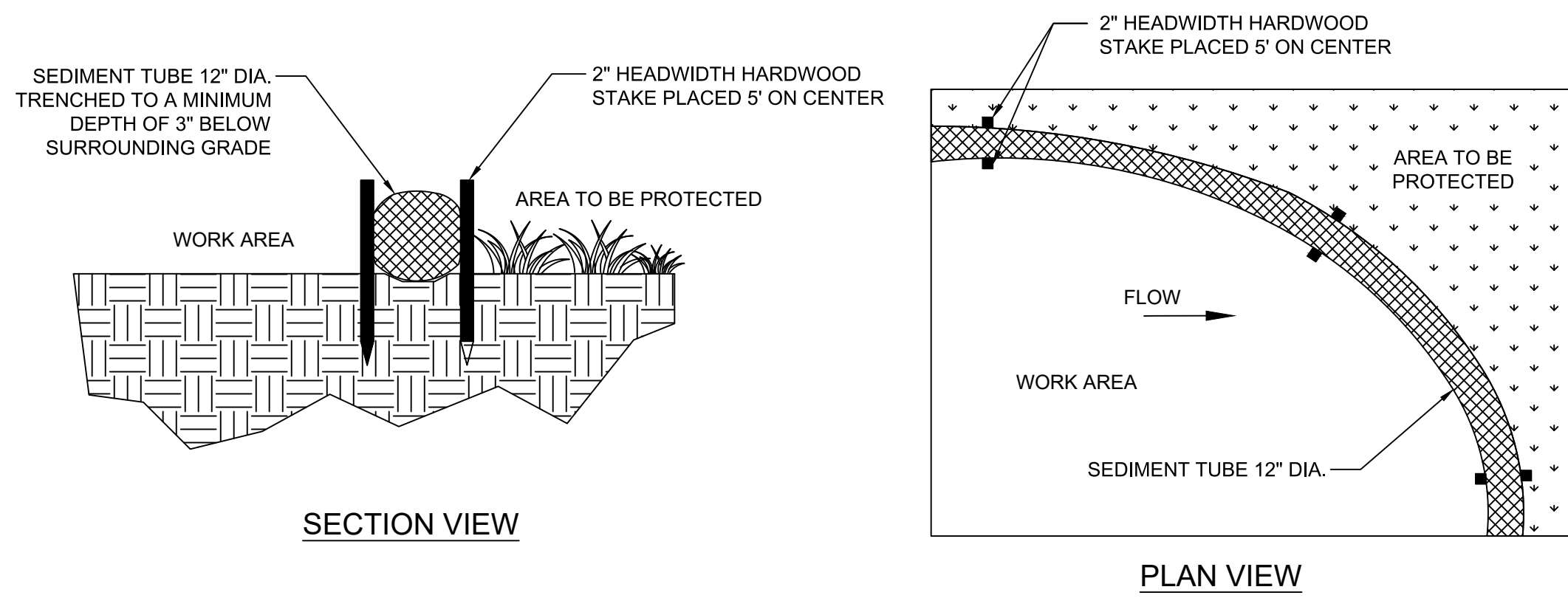
- NOTES:
1. 5'-0" Ø, 6'-0" Ø, & 8'-0" Ø MANHOLES SIMILAR EXCEPT TOP TRANSITION PIECE AND MIN. WALL THICKNESSES VARY WITH MANHOLE DIAMETER (SEE MANUFACTURER'S SPECIFICATIONS)
 2. FLEXIBLE JOINT @ ALL MANHOLE CONNECTIONS TO BE EITHER NEOPRENE BOOT, RUBBER WEDGE, OR APPROVED EQUAL.
 3. DROP MANHOLE TO BE USED ONLY WHEN VERTICAL DISTANCE IS 24" OR MORE; IF LESS, SLOPE LAKE UP TO INCOMING INVERT TO PREVENT SPLASH.

5 PRECAST MANHOLE SECTION
C8.1

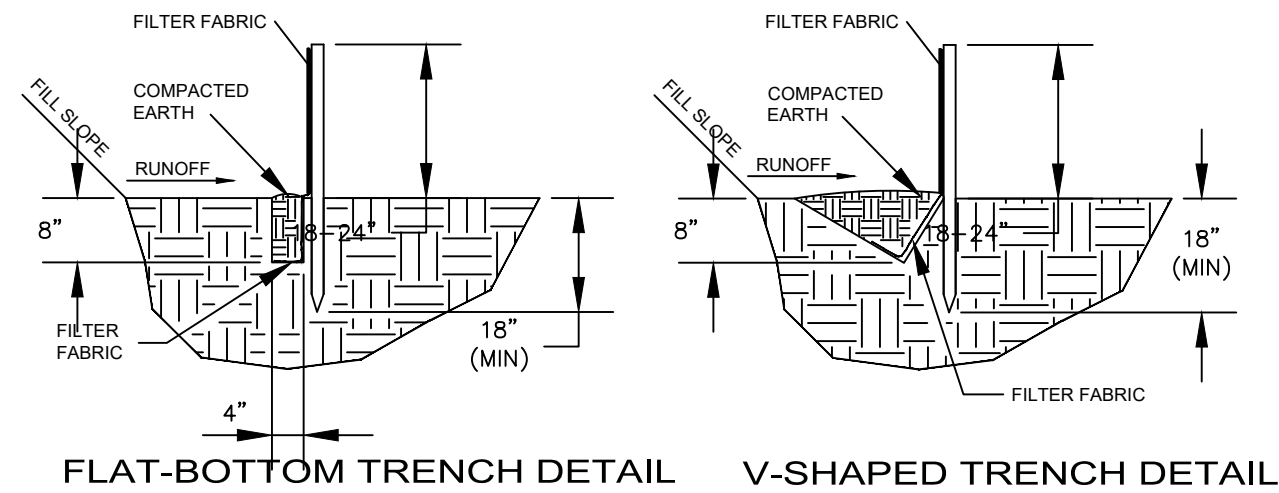
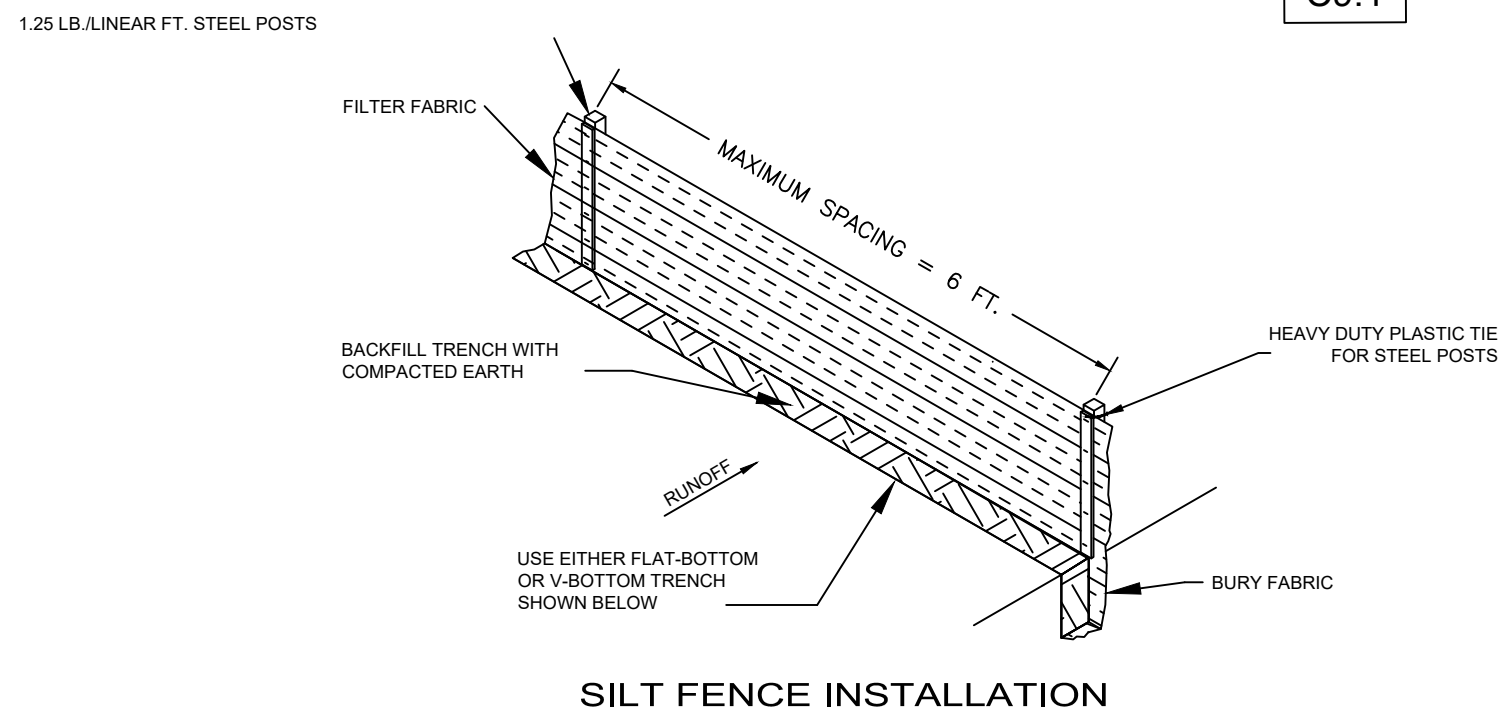
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October 7, 2026 2: Projects\Anderson\2024069500WK - Stream Bank Stabilization\CAD\Barcliff Project\Sheet\3 - SHT - DETAILS.dwg



1 SEDIMENT TUBE PERIMETER EROSION CONTROL
C9.1 NOT TO SCALE



SILT FENCE
NOT TO SCALE

Inspection and Maintenance of Silt Fences

All sediment and erosion control devices shall be inspected at least once every seven (7) calendar days and within 24 hours of the end of a storm event of 0.5 inches or greater. If site inspections identify BMPs that are damaged or are not operating effectively, maintenance must be performed as soon as practical or as reasonably possible and before the next storm event whenever practicable. Check for sediment buildup and fence integrity. Check where runoff has eroded a channel beneath the fence, or where the fence has sagged or collapsed by fence overtopping.

If the fence fabric tears, begins to decompose, or in any way becomes ineffective, replace the section of fence immediately.

Remove sediment accumulated along the fence when it reaches 1/3 the height of the fence, especially if heavy rains are expected.

Remove trapped sediment from the site or stabilize it on-site.

Remove silt fence within 30 days after final stabilization is achieved or after temporary best management practices (BMPs) are no longer needed.

Permanently stabilize disturbed areas resulting from fence removal.

2 SILT FENCE
C9.1 NOT TO SCALE

CONDITION WHERE PRACTICE APPLIES

SEDIMENT TUBES SHOULD BE PLACED ALONG TOPOGRAPHIC ELEVATION CONTOURS, WHERE IT CAN INTERCEPT STORMWATER RUNOFF THAT IS IN DISPERSED SHEET FLOW. SEDIMENT FENCE SHOULD NOT BE USED ALONE BELOW GRADED SLOPES GREATER THAN 10 FEET IN HEIGHT OR IN CONCENTRATED FLOW AREAS.

PLANNING CONSIDERATIONS

TIE THE ENDS OF A SEDIMENT TUBE INTO HIGHER GROUND TO PREVENT FLOW AROUND THE END OF THE FENCE BEFORE THE POOL REACHES DESIGN LEVEL. CURLING EACH END OF THE FENCE UPHILL IN A "J" PATTERN MAY BE APPROPRIATE TO PREVENT END FLOW.

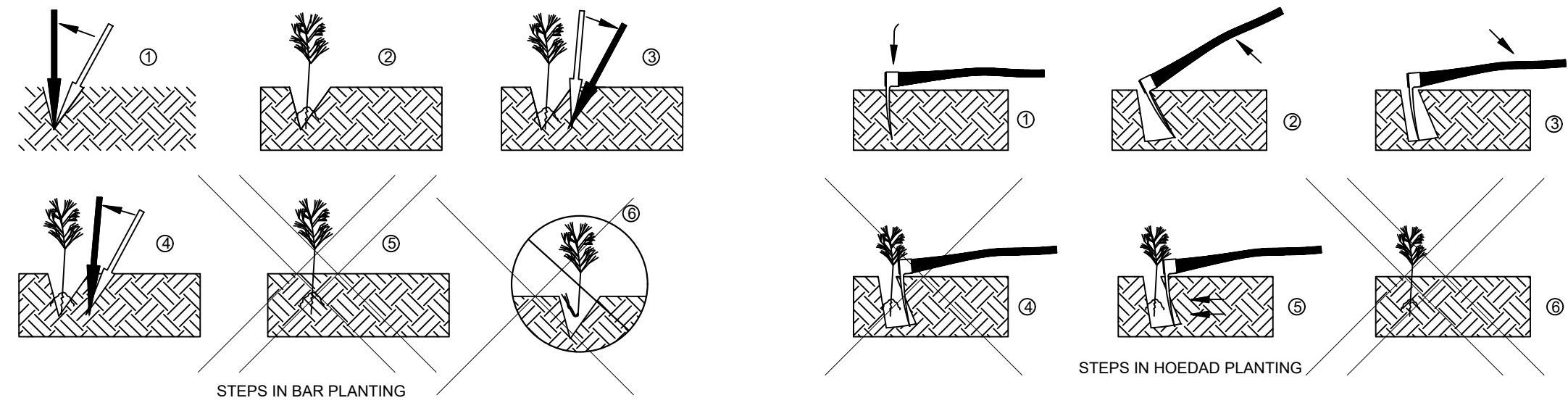
A SEDIMENT TUBES ACTS AS A DIVERSION IF PLACED SLIGHTLY OFF THE CONTOUR. A MAXIMUM SLOPE OF 2 PERCENT IS RECOMMENDED.

THE SEDIMENT TUBE MUST BE TRENCHED IN TO A MINIMUM DEPTH OF 3 INCHES TO PREVENT SURFACE WATER FROM UNDERCUTTING THE SEDIMENT TUBE INSTALLATION.

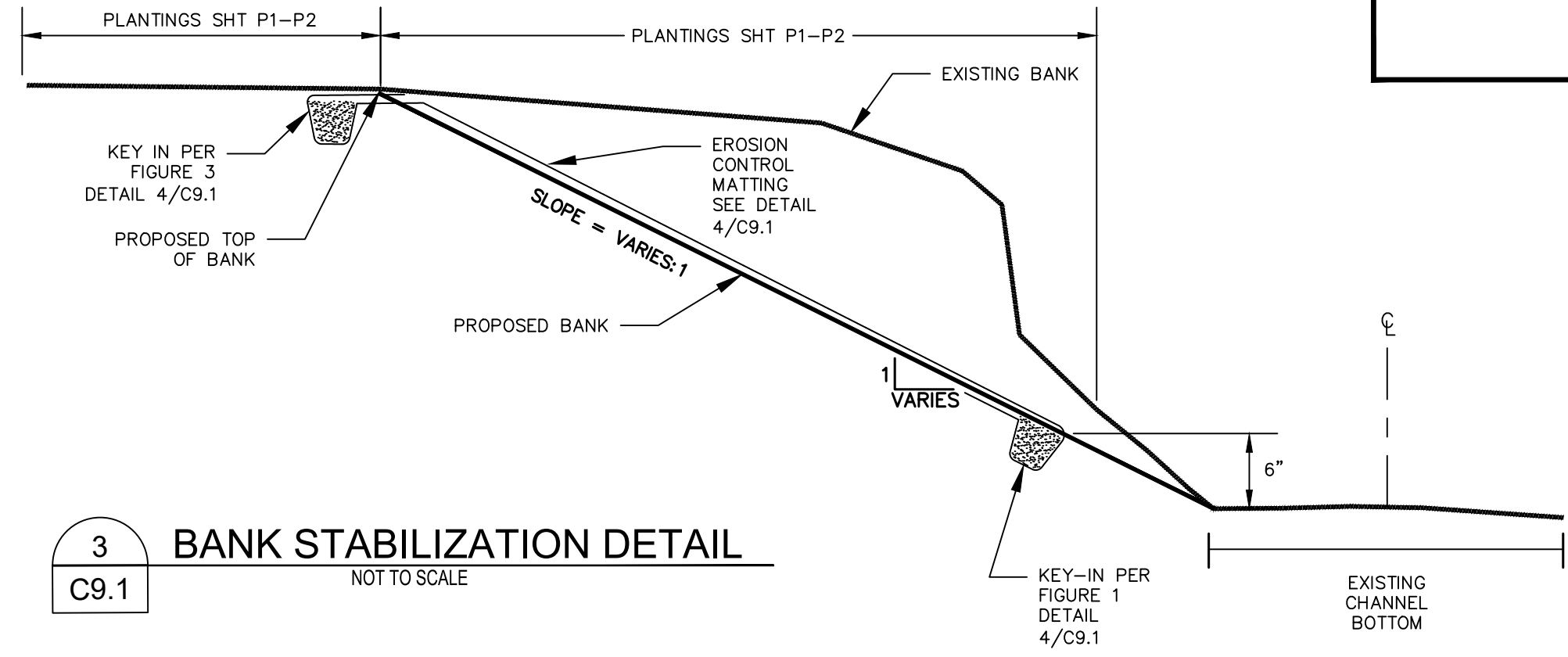
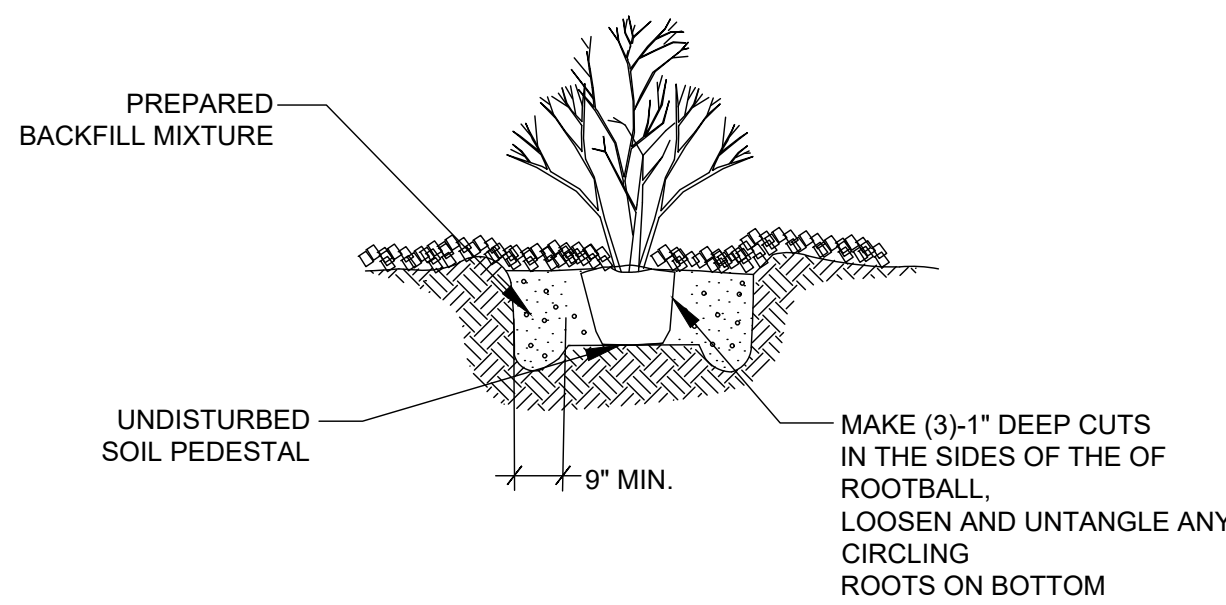
NOTE: WOODEN STAKES MUST BE APPROVED BY ENGINEER OR SPECIFICALLY NOTED IN PLANS.

INSTALLATION

1. SEDIMENT TUBES USED FOR PERIMETER CONTROL SHALL BE PLACED PARALLEL TO THE BASE OF THE SLOPE OR OTHER DISTURBED AREAS. IN EXTREME CONDITIONS (I.E. 2:1 SLOPES), A SECOND ROW OF SEDIMENT TUBES SHALL BE CONSTRUCTED AT THE TOP OF THE SLOPE.
2. EFFECTIVE SEDIMENT TUBE HEIGHT IN THE FILED SHALL BE AS FOLLOWS: 8" DIAMETER SEDIMENT TUBE = 6.5" HIGH, 12" DIAMETER SEDIMENT TUBE = 9.5" HIGH, 18" DIAMETER SEDIMENT TUBE = 19" HIGH.
3. STAKES SHALL BE TRENCHED IN TO A MINIMUM DEPTH OF 3-INCHES BELOW SURROUNDING GRADE TO ENSURE SURFACE WATER DOES NOT PASS UNDERNEATH THE SEDIMENT TUBE. LOOSE SOIL MAY BE BACKFILLED ALONG THE UPSLOPE SIDE OF THE SEDIMENT TUBE, FILLING THE SEAM BETWEEN THE SOIL AND THE SEDIMENT CONTROL.
4. STAKES SHALL BE INSTALLED PERPENDICULAR TO BOTH SIDES SIDE SEDIMENT TUBE ON 5 FOOT CENTERS, USING 2-INCH BY 2-INCH BY 3-FOOT HARD WOOD STAKES.
5. STAKING DEPTH FOR SAND AND SILT LOAM SHALL BE A MINIMUM OF 12 INCHES, AND 8 INCHES FOR CLAY SOILS.
6. IF THE SEDIMENT TUBE IS TO BE LEFT AS A PERMANENT FILTER OR PART OF THE NATURAL LANDSCAPE IT MAY BE SEEDED AT TIME OF INSTALLATION FOR ESTABLISHMENT OF PERMANENT VEGETATION.
7. SEDIMENT TUBES ARE NOT TO BE PLACED IN PERENNIAL, EPHEMERAL, OR INTERMITTENT STREAMS.



4 BARE ROOT PLANTING DETAIL
C9.1 (APPROVED METHODS)



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BRANCHCLIFF LANE STREAMBANK
STABILIZATION

EROSION CONTROL DETAILS



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C9.1

ISSUE FOR BID