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**TIP PROJECT: B-4943**

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS  
  
PLAN FOR PROPOSED  
HIGHWAY EROSION CONTROL  
  
DURHAM COUNTY

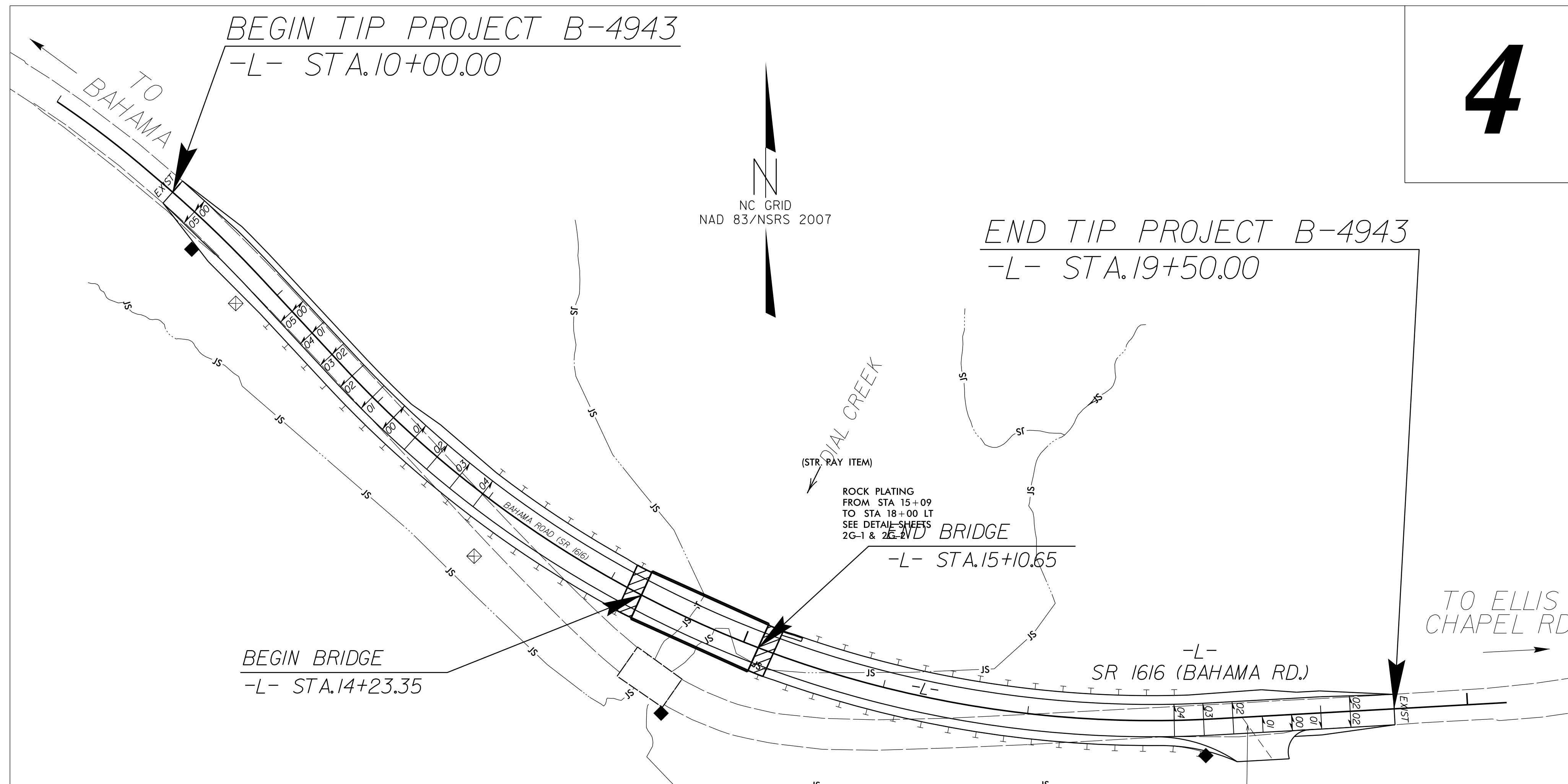
**LOCATION: BRIDGE NO. 20 OVER DIAL CREEK  
ON SR 1616 (BAHAMA RD.)**

**TYPE OF WORK: GRADING, DRAINAGE, PAVING, AND STRUCTURE**

|                 |                             |             |              |
|-----------------|-----------------------------|-------------|--------------|
| STATE           | STATE PROJECT REFERENCE NO. | SHEET NO.   | TOTAL SHEETS |
| N.C.            | B-4943                      | EC-1        |              |
| STATE PROJ. NO. | F.A. PROJ. NO.              | DESCRIPTION |              |
| 40110.1.1       | BRZ-1616(10)                | PE          |              |
|                 |                             |             |              |
|                 |                             |             |              |

**EROSION AND SEDIMENT CONTROL MEASURES**

| Std. #  | Description  | Symbol |
|---------|--|--------|
| 1630.03 | Temporary Silt Ditch   |        |
| 1630.05 | Temporary Diversion  |        |
| 1605.01 | Temporary Silt Fence   |        |
| 1606.01 | Special Sediment Control Fence   |        |
| 1622.01 | Temporary Berms and Slope Drains                                       |        |
| 1630.02 | Silt Basin Type B  |        |
| 1633.01 | Temporary Rock Silt Check Type-A                                       |        |
|         | Temporary Rock Silt Check Type-A with Matting and Polyacrylamide (PAM) |        |
| 1633.02 | Temporary Rock Silt Check Type-B                                       |        |
|         | Wattle/Coir Fiber Wattle   |        |
|         | Wattle/Coir Fiber Wattle with Polyacrylamide (PAM)                     |        |
| 1634.01 | Temporary Rock Sediment Dam Type-A                                     |        |
| 1634.02 | Temporary Rock Sediment Dam Type-B                                     |        |
| 1635.01 | Rock Pipe Inlet Sediment Trap Type-A                                   |        |
| 1635.02 | Rock Pipe Inlet Sediment Trap Type-B                                   |        |
| 1630.04 | Stilling Basin   |        |
| 1630.06 | Special Stilling Basin   |        |
|         | Rock Inlet Sediment Trap:  |        |
| 1632.01 | Type A   |        |
| 1632.02 | Type B   |        |
| 1632.03 | Type C   |        |
|         | Skimmer Basin  |        |
|         | Tiered Skimmer Basin   |        |
|         | Infiltration Basin   |        |



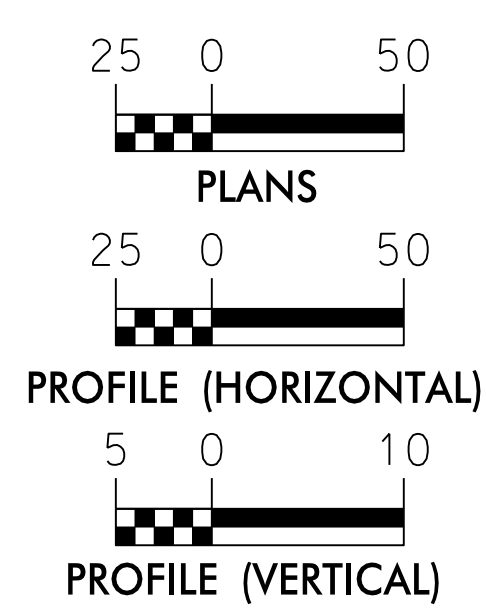
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**THIS PROJECT CONTAINS  
EROSION CONTROL PLANS  
FOR CLEARING AND  
GRUBBING PHASE OF  
CONSTRUCTION.**

**THIS PROJECT HAS  
BEEN DESIGNED TO  
SENSITIVE WATERSHED  
STANDARDS.**

**ENVIRONMENTALLY  
SENSITIVE AREA(S) EXIST  
ON THIS PROJECT**  
  
*Refer To E. C. Special Provisions  
for Special Considerations.*

**GRAPHIC SCALE**



THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH THE REGULATIONS SET FORTH BY THE NCG-010000 GENERAL CONSTRUCTION PERMIT EFFECTIVE AUGUST 1, 2016 AND ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES DIVISION OF WATER RESOURCES.



**BRANDON BARHAM, PE** 3368  
NAME LEVEL III CERTIFICATION NO.

Prepared in the Office of:  
NC FIRM LICENSE No: F-1148  
1151 SE Cary Parkway  
Suite 101  
Cary, NC 27518  
(919) 557-0929

Designed by:

Reviewed in the Office of:  
**ROADSIDE ENVIRONMENTAL UNIT**  
1 South Wilmington St.  
Raleigh, NC 27611  
**2018 STANDARD SPECIFICATIONS**

Reviewed by:  
**WES CHANDLER, EI**

Roadway Standard Drawings

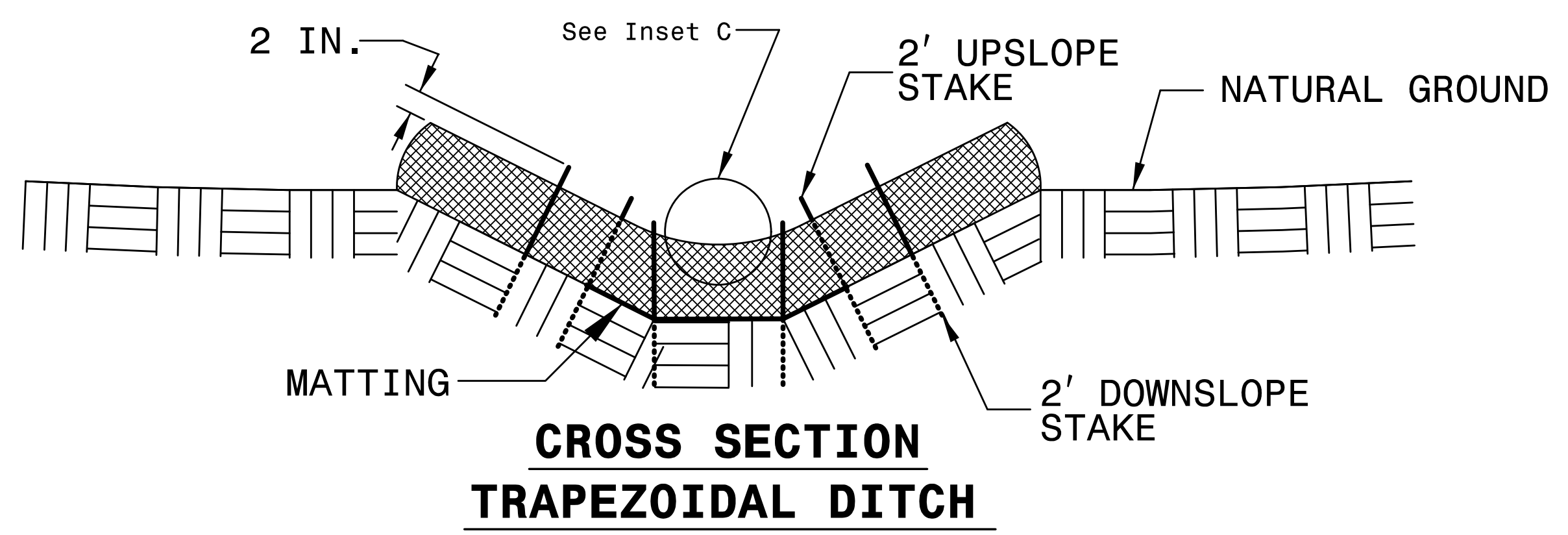
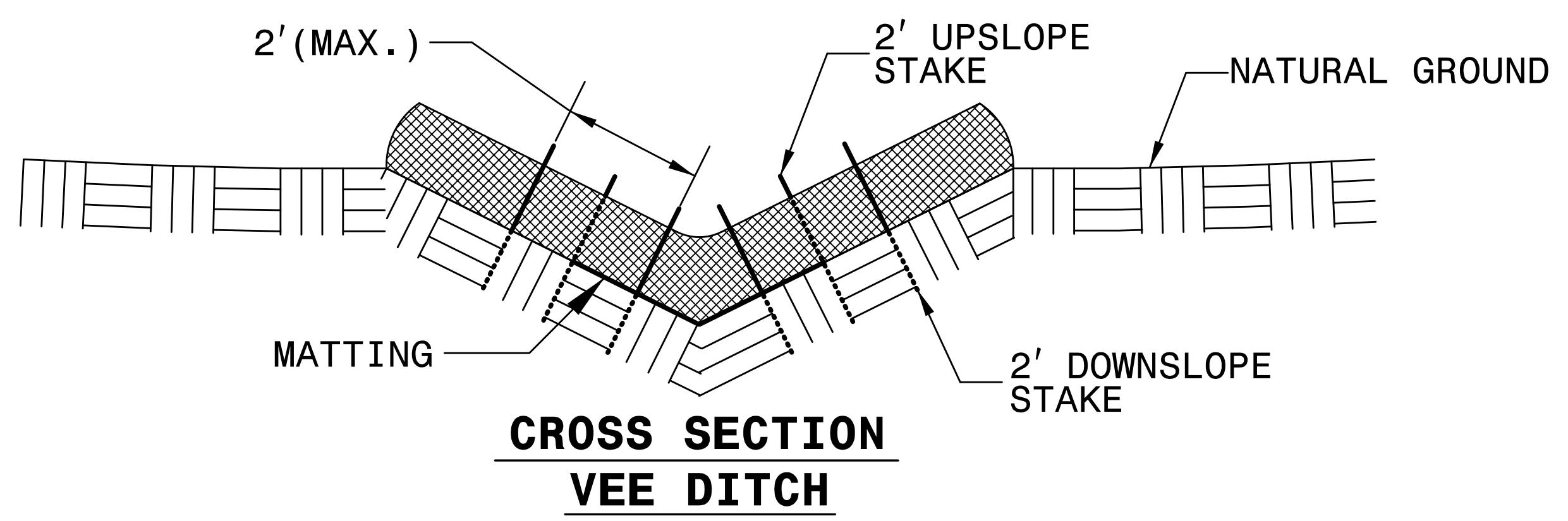
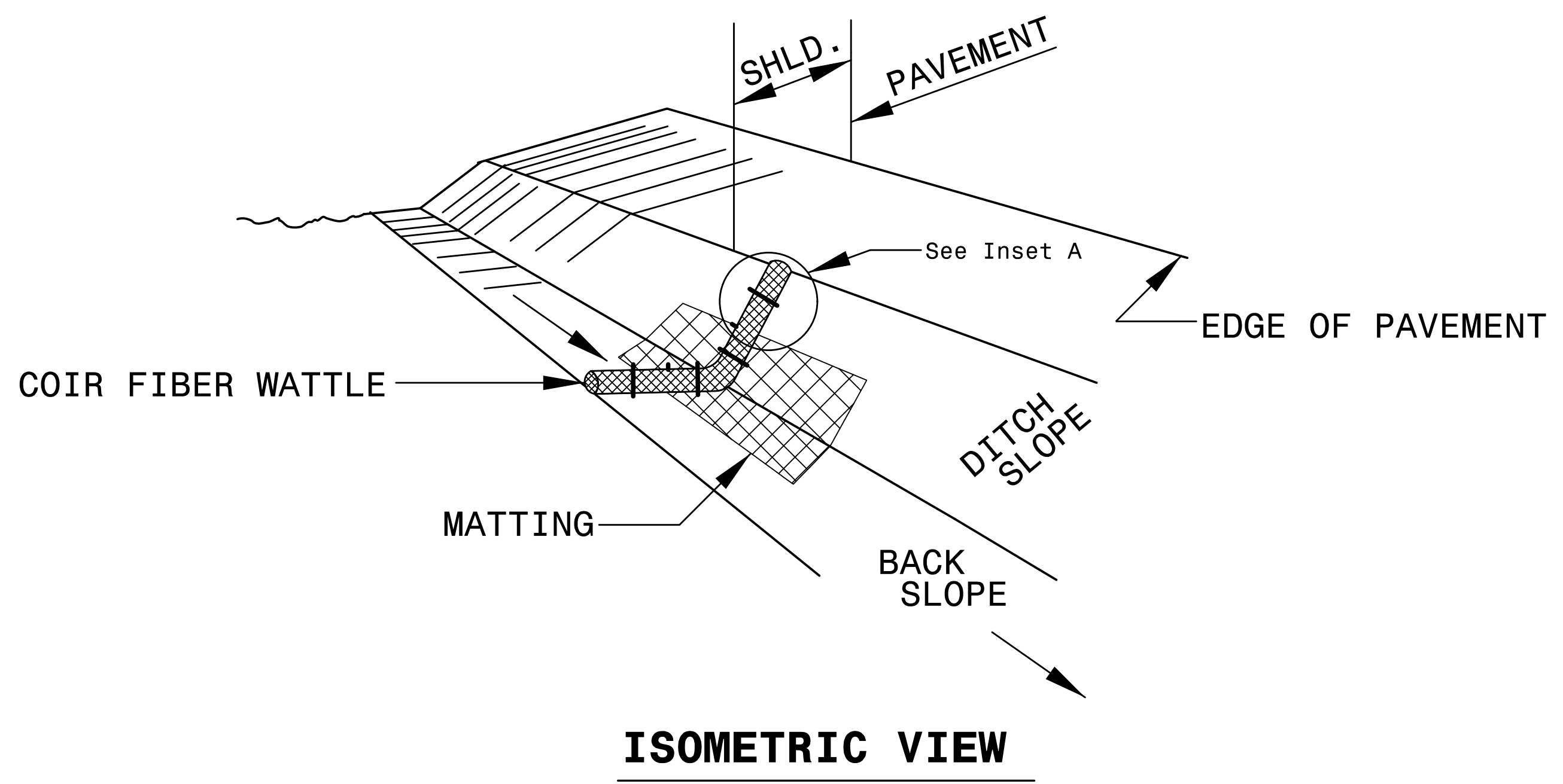
The following roadway english standards as appear in "Roadway Standard Drawings"- Roadway Design Unit - N. C. Department of Transportation - Raleigh, N. C., dated January 2018 and the latest revision thereto are applicable to this project and by reference hereby are considered a part of these plans.

|  |  |
|--|--|
| 1604.01 Railroad Erosion Control Detail  | 1632.01 Rock Inlet Sediment Trap Type A      |
| 1605.01 Temporary Silt Fence             | 1632.02 Rock Inlet Sediment Trap Type B      |
| 1606.01 Special Sediment Control Fence   | 1632.03 Rock Inlet Sediment Trap Type C      |
| 1607.01 Gravel Construction Entrance     | 1633.01 Temporary Rock Silt Check Type A     |
| 1622.01 Temporary Berms and Slope Drains | 1633.02 Temporary Rock Silt Check Type B     |
| 1630.01 Riser Basin                      | 1634.01 Temporary Rock Sediment Dam Type A   |
| 1630.02 Silt Basin Type B                | 1634.02 Temporary Rock Sediment Dam Type B   |
| 1630.03 Temporary Silt Ditch             | 1635.01 Rock Pipe Inlet Sediment Trap Type A |
| 1630.04 Stilling Basin                   | 1635.02 Rock Pipe Inlet Sediment Trap Type B |
| 1630.05 Temporary Diversion              | 1640.01 Coir Fiber Baffle                    |
| 1630.06 Special Stilling Basin           | 1645.01 Temporary Stream Crossing            |
| 1631.01 Matting Installation             |  |

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bsh

|                                 |                     |
|---------------------------------|---------------------|
| PROJECT REFERENCE NO.<br>B-4943 | SHEET NO.<br>EC-02  |
| RW SHEET NO.                    |                     |
| ROADWAY DESIGN ENGINEER         | HYDRAULICS ENGINEER |

# COIR FIBER WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL



**NOTES:**

USE MINIMUM 12 IN. DIAMETER COIR FIBER (COCONUT FIBER) WATTLE.

USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.

ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.

INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.

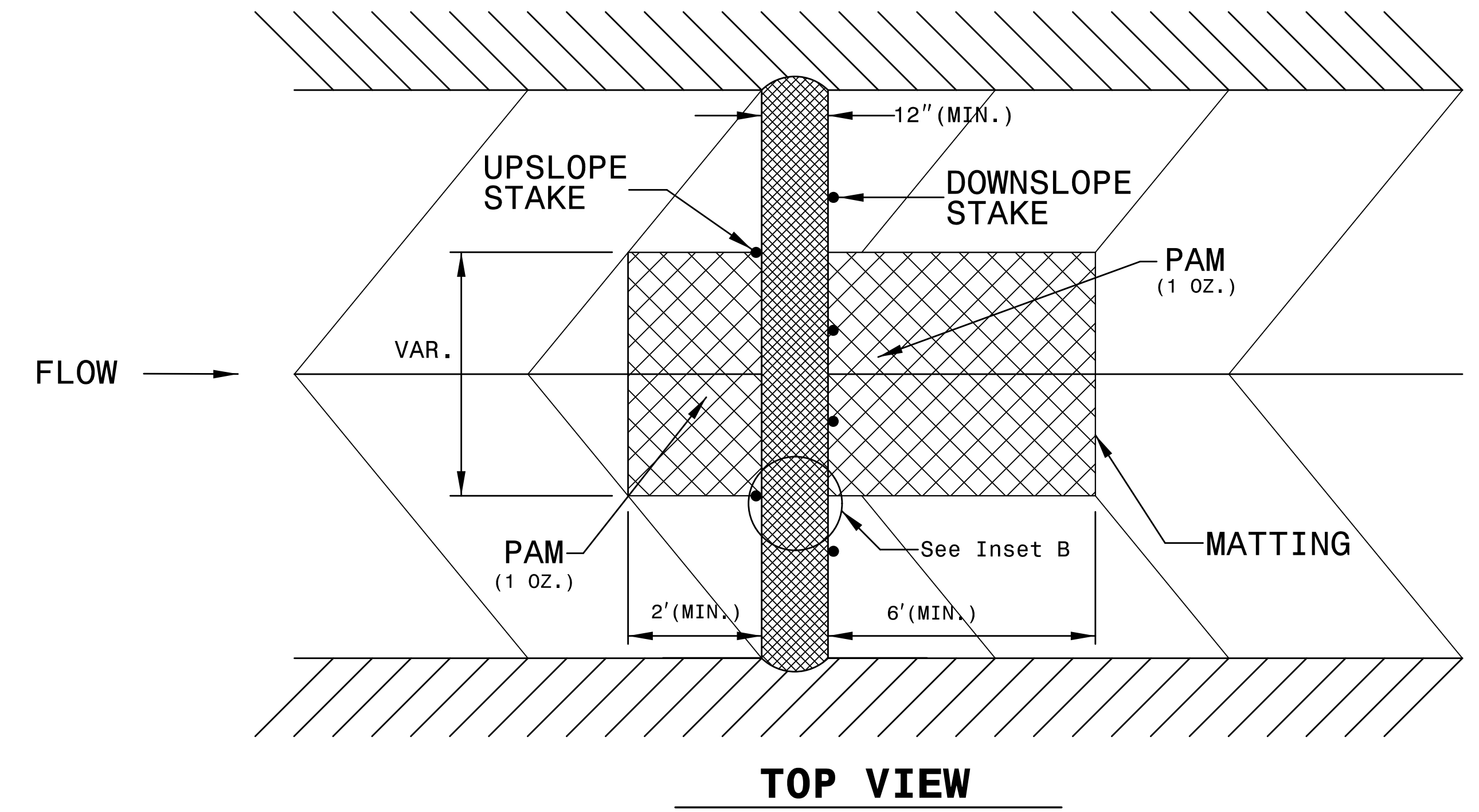
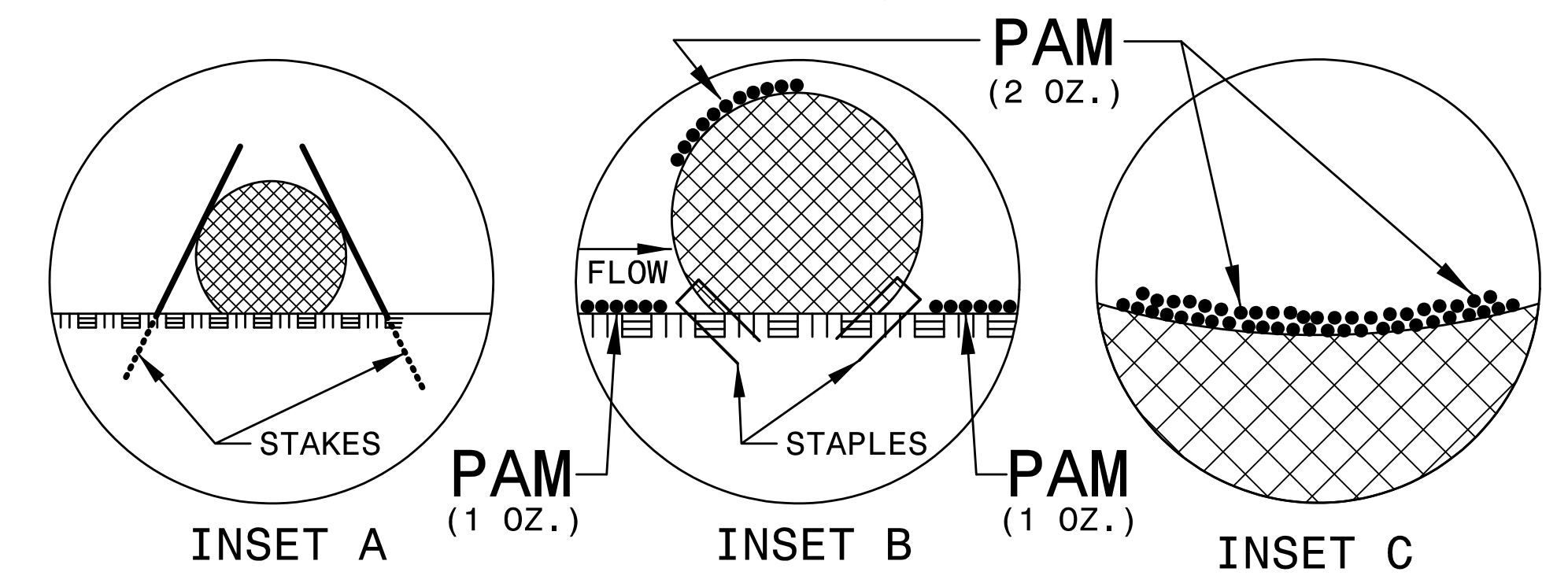
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.

INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

INSTALL MATTING IN ACCORDANCE WITH SECTION 1631 OF THE STANDARD SPECIFICATIONS.

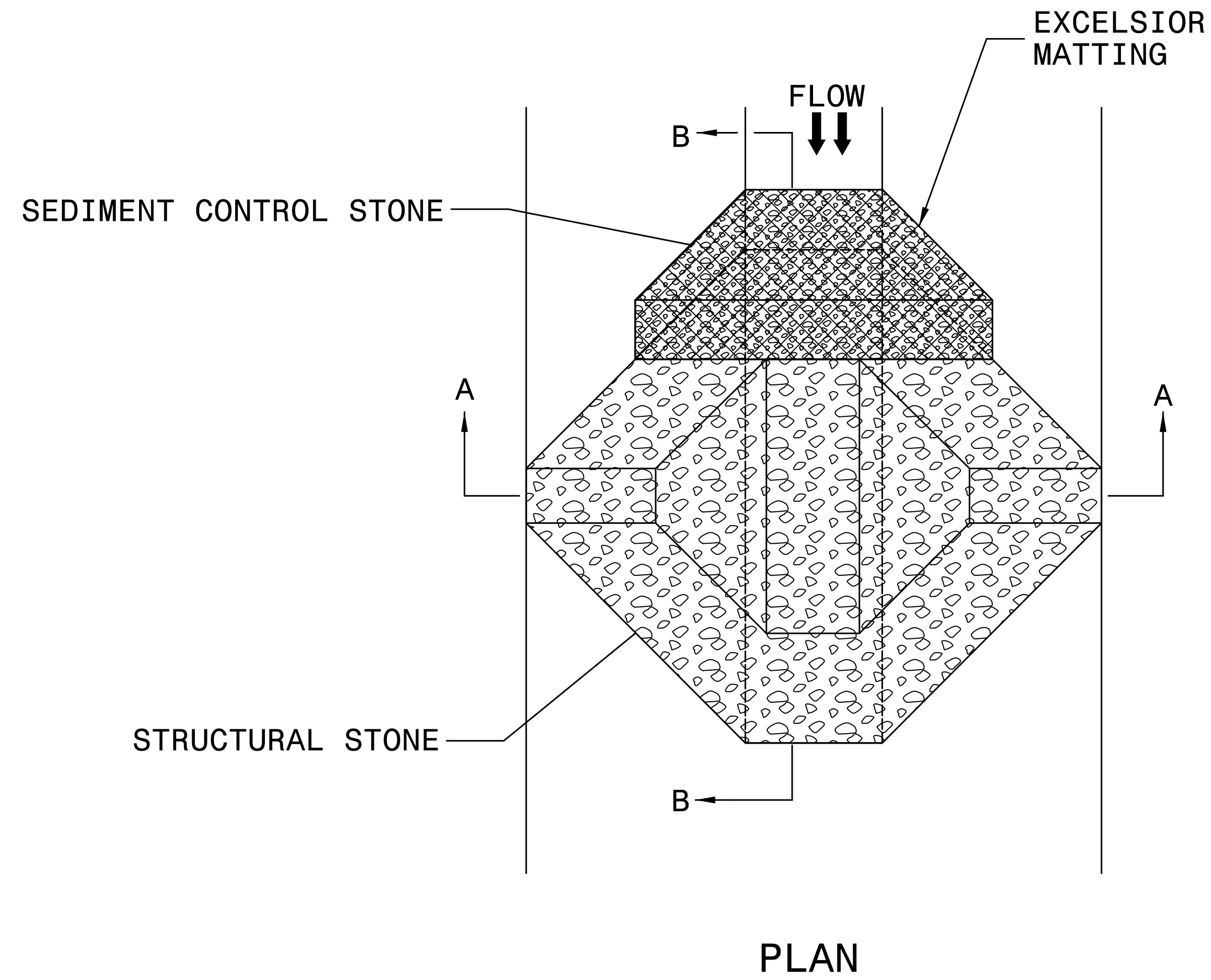
PRIOR TO POLYACRYLAMIDE (PAM) APPLICATION, OBTAIN A SOIL SAMPLE FROM PROJECT LOCATION, AND FROM OFFSITE MATERIAL, AND ANALYZE FOR APPROPRIATE PAM FLOCCULANT TO BE APPLIED TO EACH WATTLE.

INITIALLY APPLY 2 OUNCES OF ANIONIC OR NEUTRALLY CHARGED PAM OVER WATTLE WHERE WATER WILL FLOW AND 1 OUNCE OF PAM ON EACH SIDE OF WATTLE. REAPPLY PAM AFTER EVERY RAINFALL EVENT THAT IS EQUAL TO OR EXCEEDS 0.50 IN.



|                                 |                     |
|---------------------------------|---------------------|
| PROJECT REFERENCE NO.<br>B-4943 | SHEET NO.<br>EC-02A |
| RW SHEET NO.                    |                     |
| ROADWAY DESIGN ENGINEER         | HYDRAULICS ENGINEER |

# TEMPORARY ROCK SILT CHECK TYPE 'A' WITH EXCELSIOR MATTING AND POLYACRYLAMIDE (PAM)



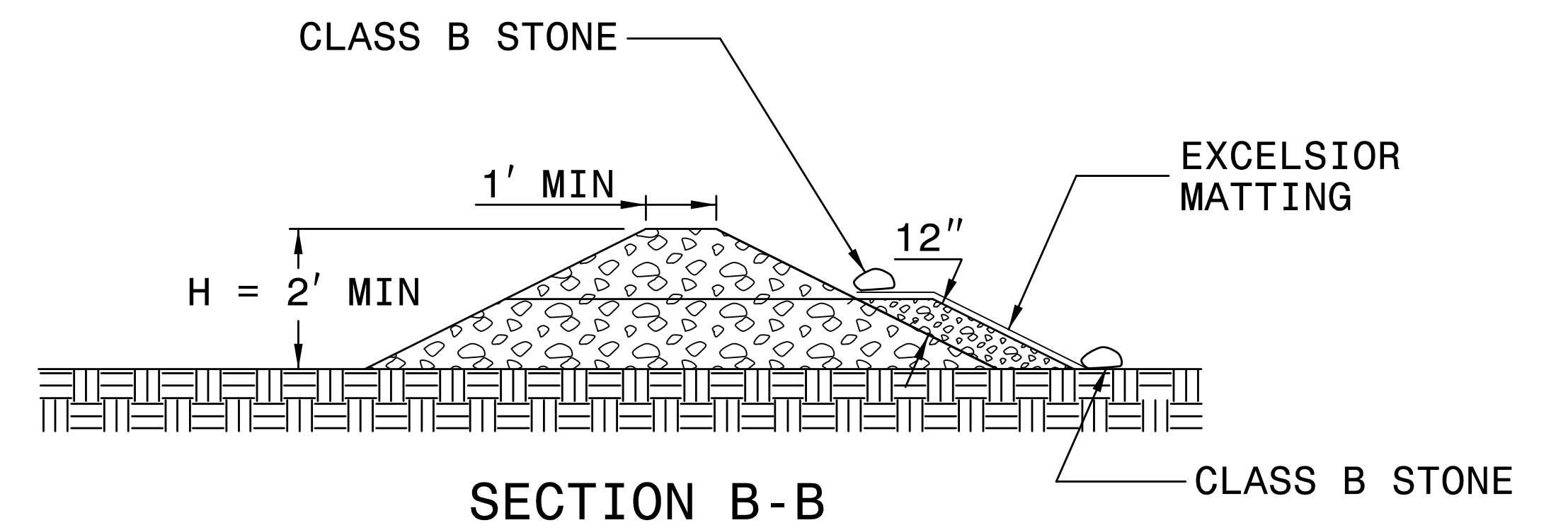
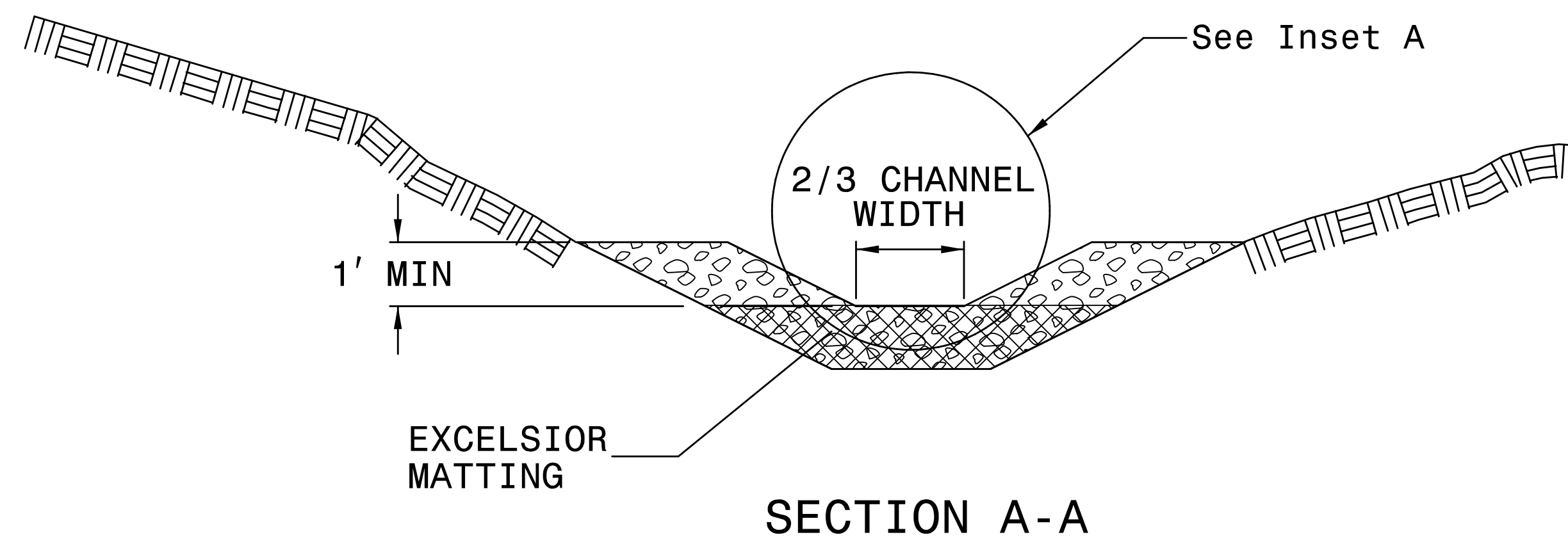
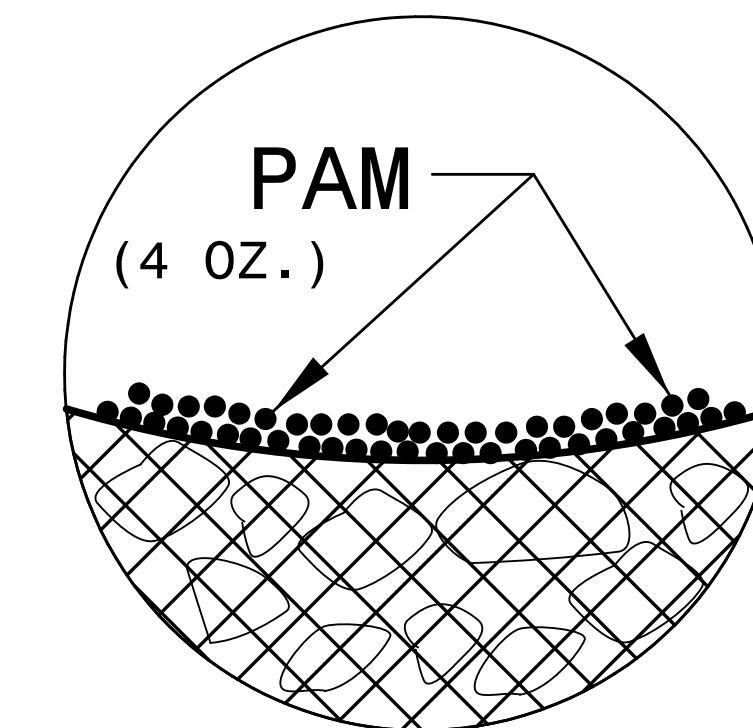
**NOTES:**

INSTALL TEMPORARY ROCK SILT CHECK TYPE A IN ACCORDANCE WITH ROADWAY STANDARD DRAWING NO. 1633.01.

USE EXCELSIOR FOR MATTING MATERIAL AND ANCHOR MATTING SECTION AT TOP AND BOTTOM WITH CLASS B STONE.

PRIOR TO POLYACRYLAMIDE (PAM) APPLICATION, OBTAIN A SOIL SAMPLE FROM PROJECT LOCATION, AND FROM OFFSITE MATERIAL, AND ANALYZE FOR APPROPRIATE PAM FLOCCULANT TO BE APPLIED TO EACH ROCK SILT CHECK.

INITIALLY APPLY 4 OUNCES OF POLYACRYLAMIDE (PAM) TO TOP OF MATTING SECTION AND AFTER EVERY RAINFALL EVENT THAT EQUALS OR EXCEEDS 0.50 INCHES.



NOT TO SCALE

DIVISION OF HIGHWAYS  
STATE OF NORTH CAROLINA

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|  |                           |
|--|---------------------------|
| PROJECT REFERENCE NO.<br><i>B-4943</i> | SHEET NO.<br><i>EC-03</i> |
| ROADWAY DESIGN<br>ENGINEER             | HYDRAULICS<br>ENGINEER    |

# ***SOIL STABILIZATION TIMEFRAMES***

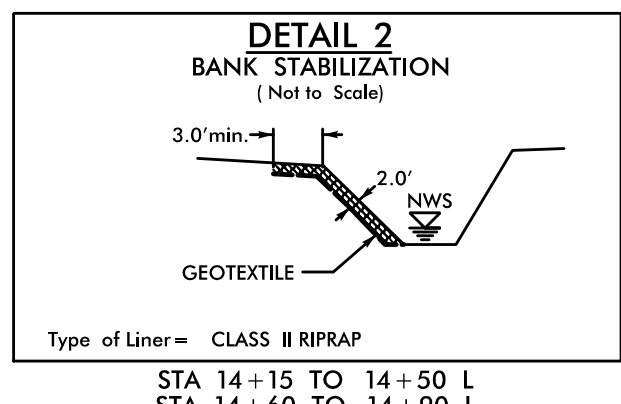
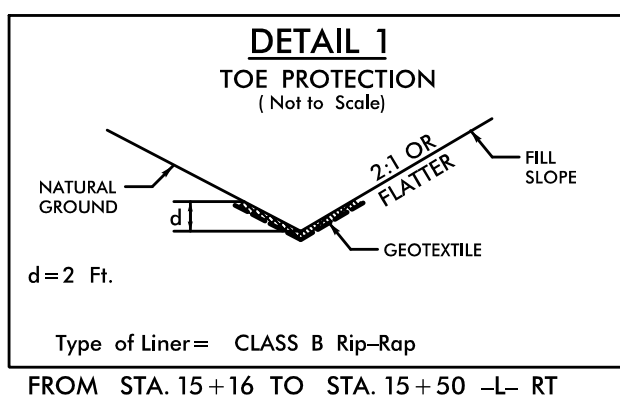
| <i>SITE DESCRIPTION</i>                      | <i>STABILIZATION TIME</i> | <i>TIMEFRAME EXCEPTIONS</i>  |
|--|---------------------------|--|
| PERIMETER DIKES, SWALES, DITCHES AND SLOPES  | 7 DAYS                    | NONE   |
| HIGH QUALITY WATER (HQW) ZONES               | 7 DAYS                    | NONE   |
| SLOPES STEEPER THAN 3:1                      | 7 DAYS                    | IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED. |
| SLOPES 3:1 OR FLATTER                        | 14 DAYS                   | 7 DAYS FOR SLOPES GREATER THAN 50' IN LENGTH.  |
| ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1 | 14 DAYS                   | NONE, EXCEPT FOR PERIMETERS AND HQW ZONES.   |



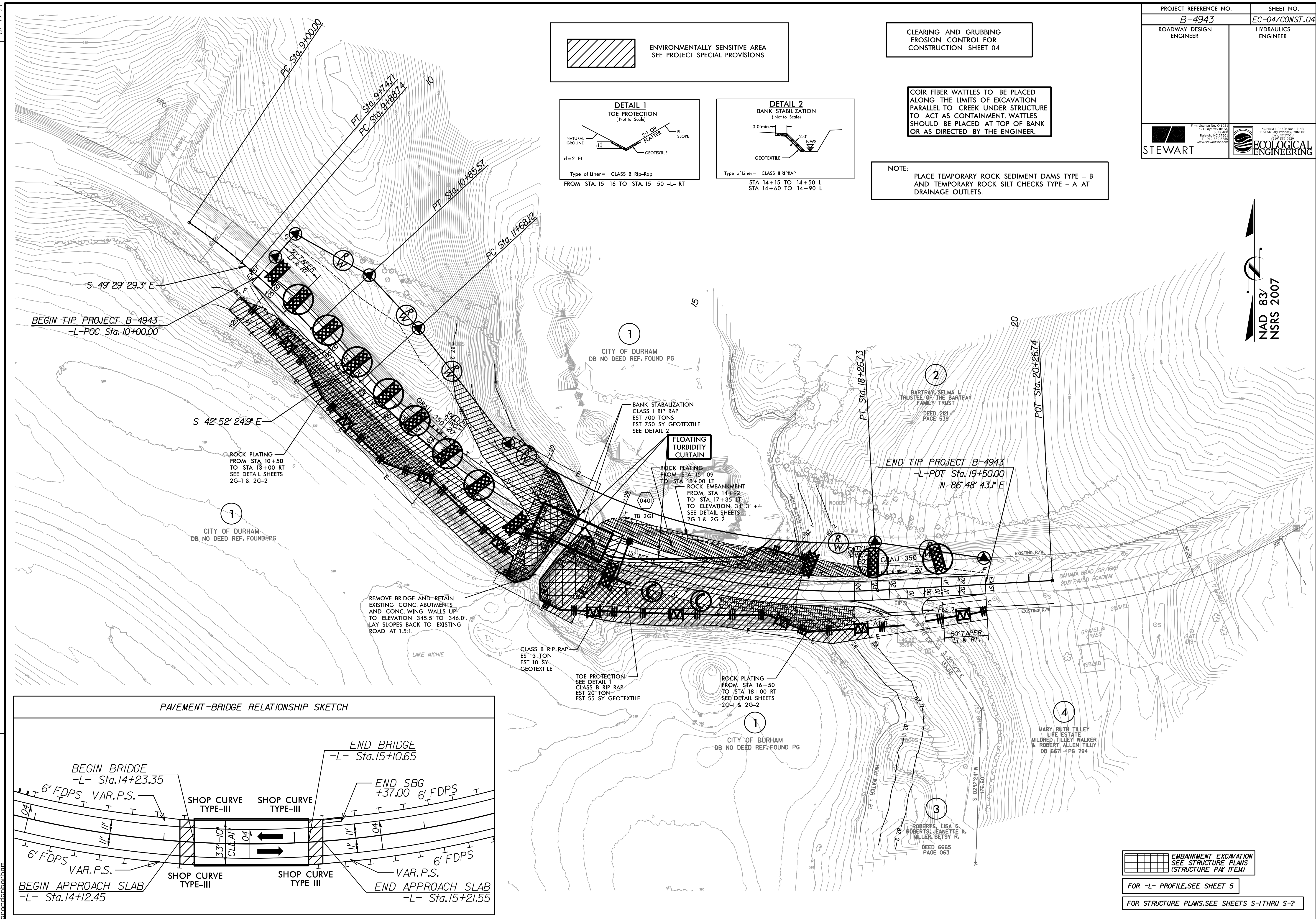
CLEARING AND GRUBBING  
EROSION CONTROL FOR  
CONSTRUCTION SHEET 04

COIR FIBER WATTLES TO BE PLACED  
ALONG THE LIMITS OF EXCAVATION  
PARALLEL TO CREEK UNDER STRUCTURE  
TO ACT AS CONTAINMENT. WATTLES  
SHOULD BE PLACED AT TOP OF BANK  
OR AS DIRECTED BY THE ENGINEER.

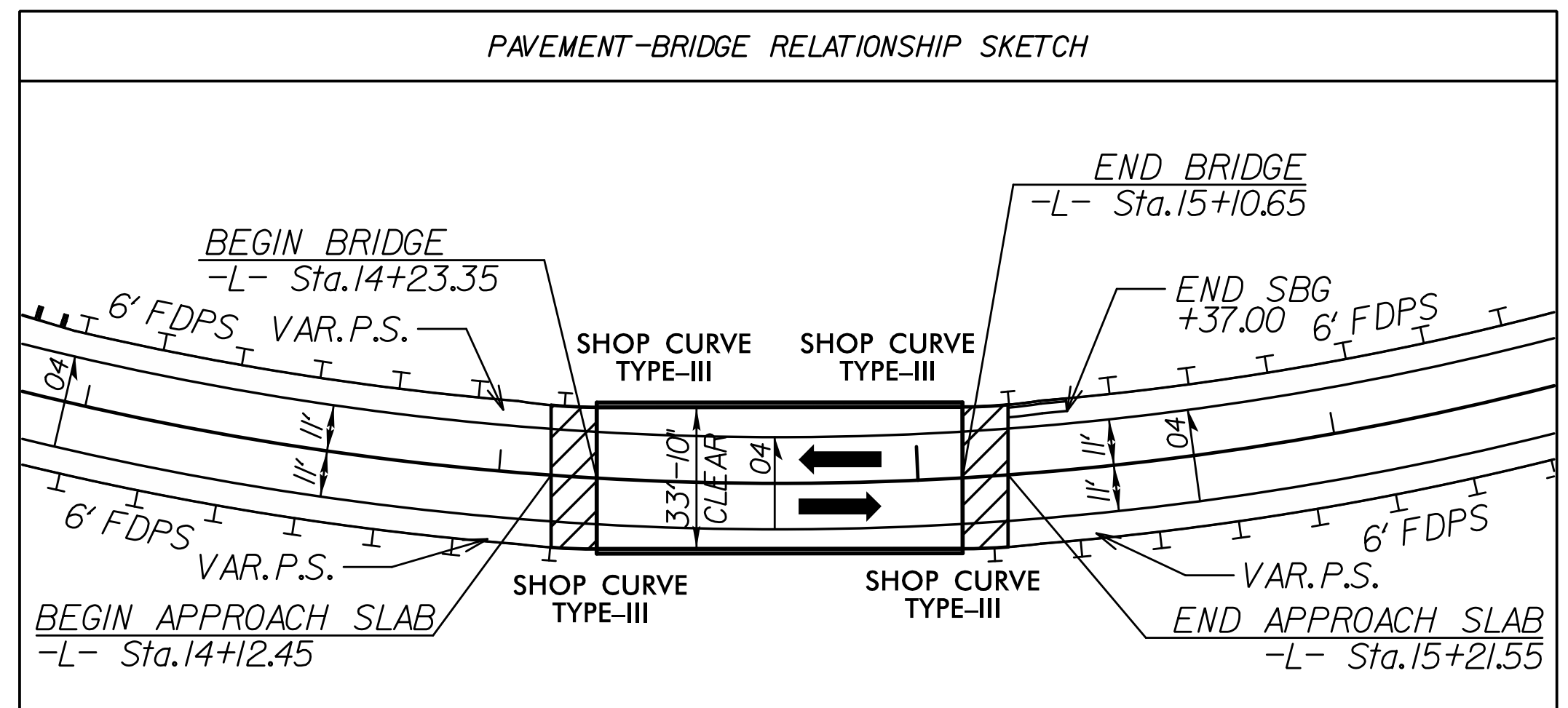
NOTE:  
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B  
AND TEMPORARY ROCK SILT CHECKS TYPE - A AT  
DRAINAGE OUTLETS.



NAD 83/  
NSRS 2007



REVISIONS



EMBANKMENT EXCAVATION  
SEE STRUCTURE PLANS  
(STRUCTURE PAY ITEM)

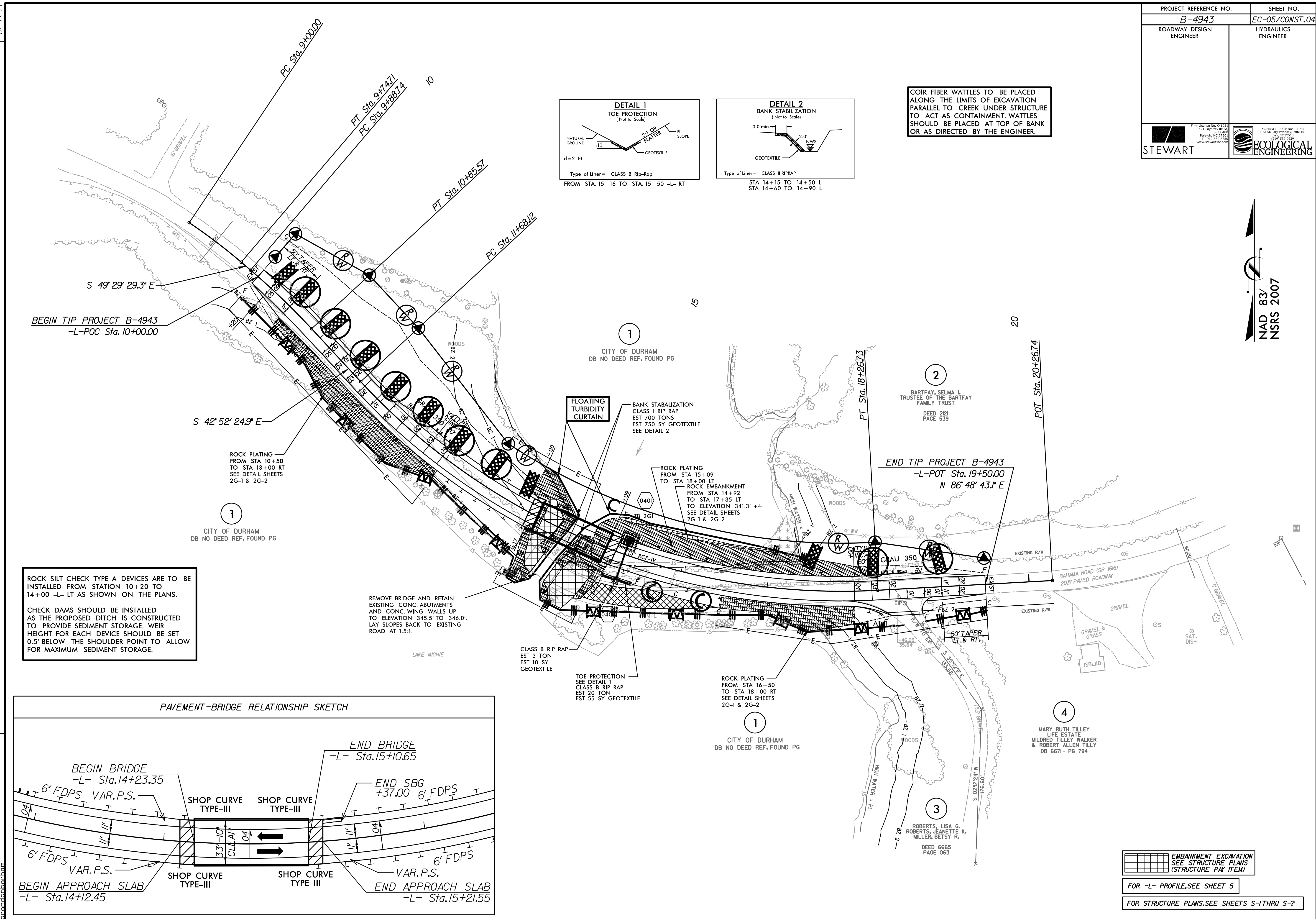
FOR -L- PROFILE, SEE SHEET 5

FOR STRUCTURE PLANS, SEE SHEETS S-1 THRU S-7

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NAD 83/  
NSRS 2007



REVISIONS

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