

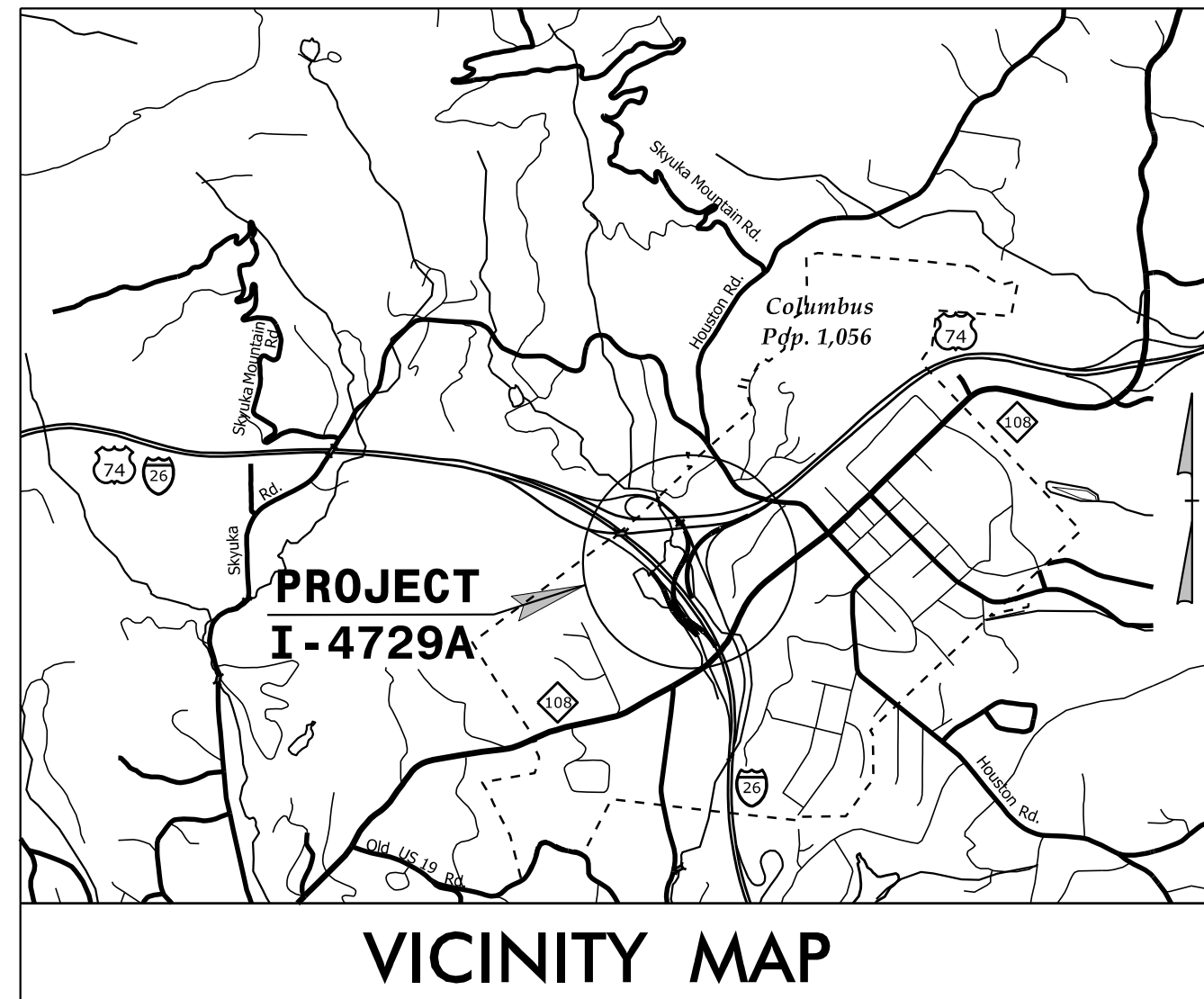
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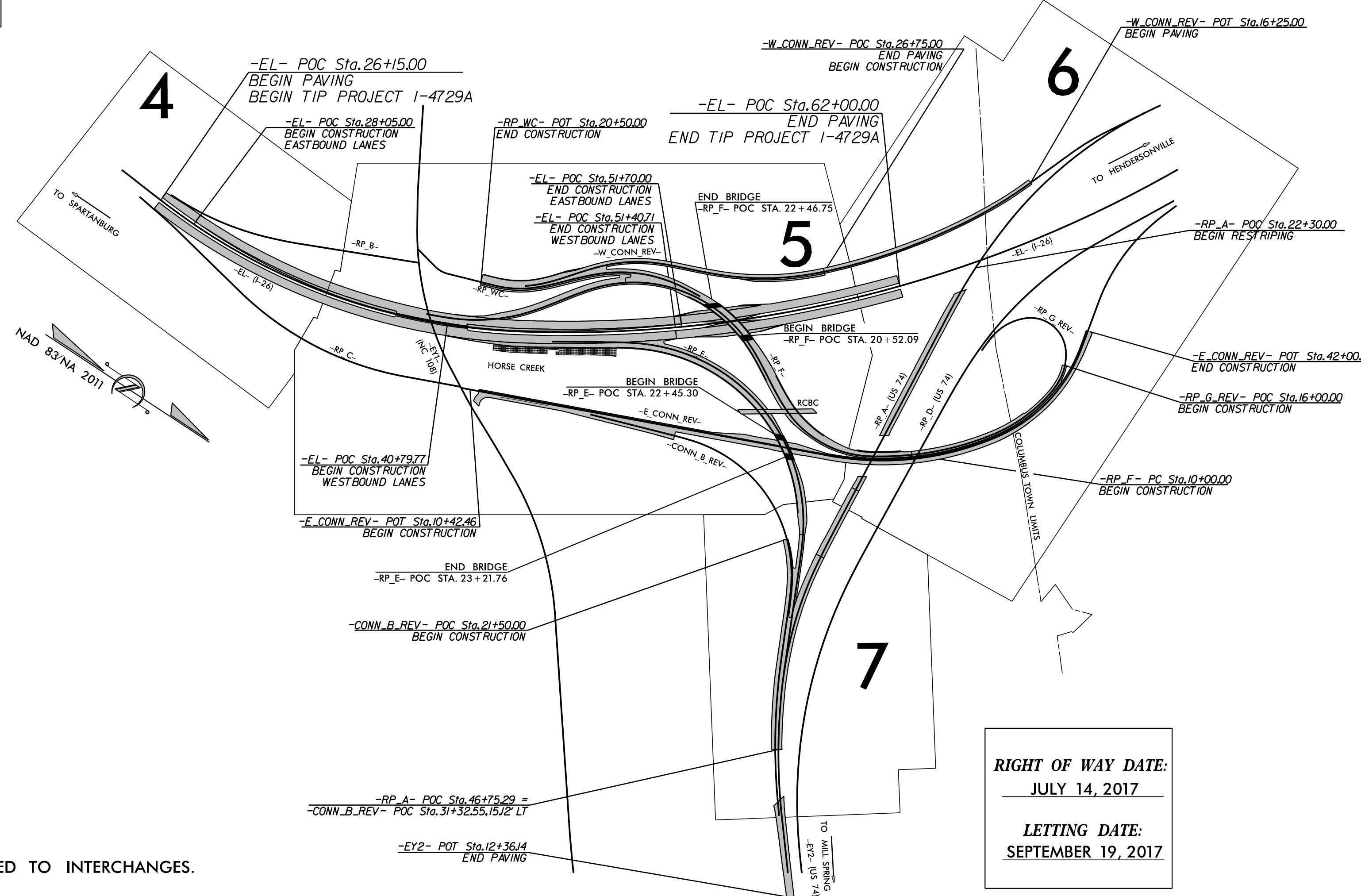
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TIP PROJECT: I-4729A

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



LOCATION: I-26 /US 74 INTERCHANGE MODIFICATION IN THE TOWN OF COLUMBUS
TYPE OF WORK: GRADING, DRAINAGE, PAVING, AND STRUCTURE



NCDOT CONTACT: KENNETH MCDOWELL
THIS IS A CONTROLLED-ACCESS PROJECT WITH ACCESS BEING LIMITED TO INTERCHANGES.

RIGHT OF WAY DATE:
JULY 14, 2017

LETTING DATE:
SEPTEMBER 19, 2017

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	I-4729A	EC-1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
34243.1.3	IMS-26-1(66)36	PE	
34243.2.3	IMS-26-1(66)36	ROW	
34243.3.3	IMS-26-1(66)36	CONST	

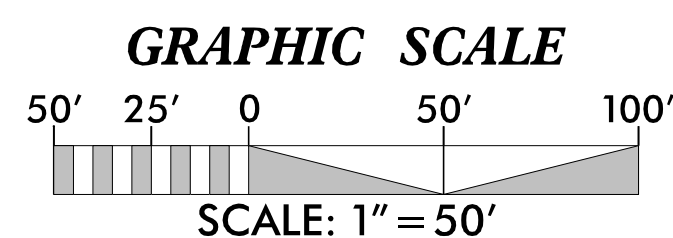
EROSION AND SEDIMENT CONTROL MEASURES

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

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

ENVIRONMENTALLY
SENSITIVE AREA(S) EXIST
ON THIS PROJECT

*Refer To E. C. Special Provisions
for Special Considerations.*



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.

Prepared in the Office of:
SUNGATE DESIGN GROUP, P.A.

905 JONES FRANKLIN ROAD
RALEIGH, NORTH CAROLINA 27606
TEL (919) 859-2243
ENG FIRM LICENSE NO. C-890

Designed by:
Matthew C. Edwards 3992
NAME LEVEL III CERTIFICATION NO.

Reviewed in the Office of:
ROADSIDE ENVIRONMENTAL UNIT

1 South Wilmington St.
Raleigh, NC 27611

2012 STANDARD SPECIFICATIONS

Reviewed by:
JMT

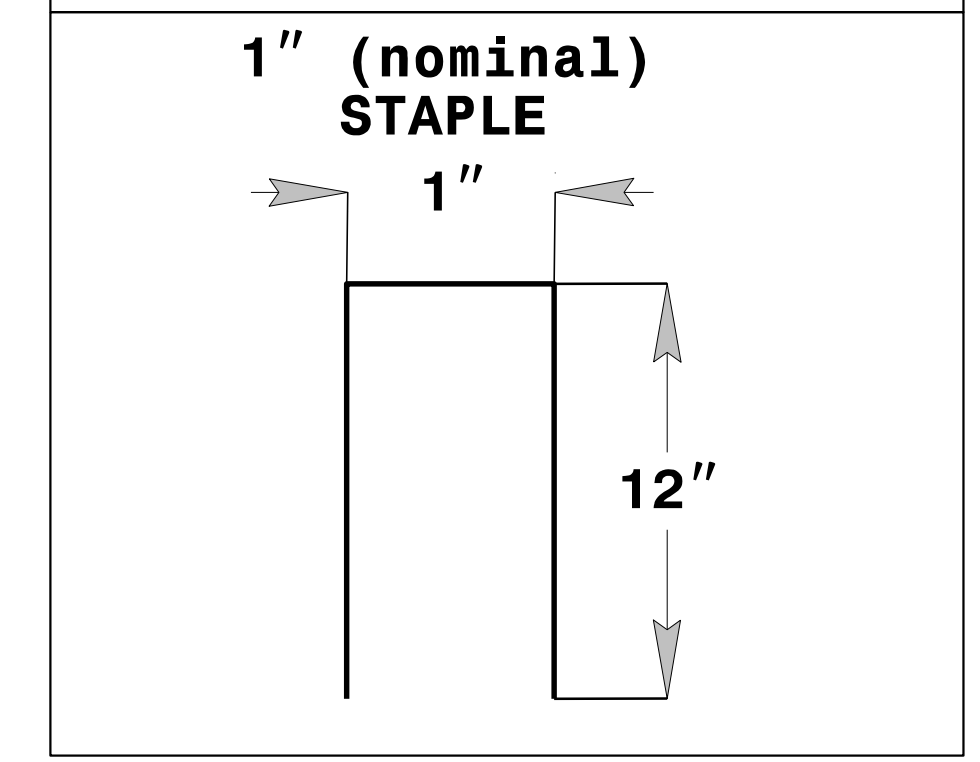
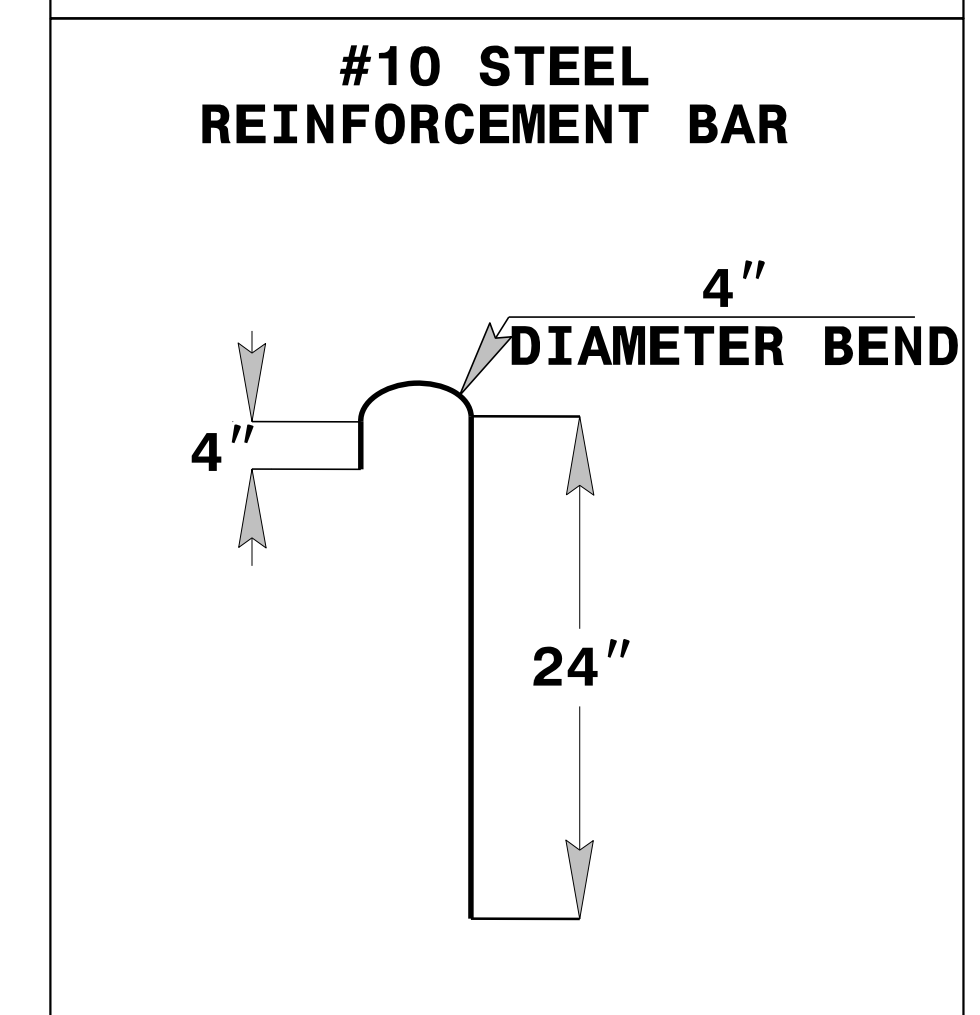
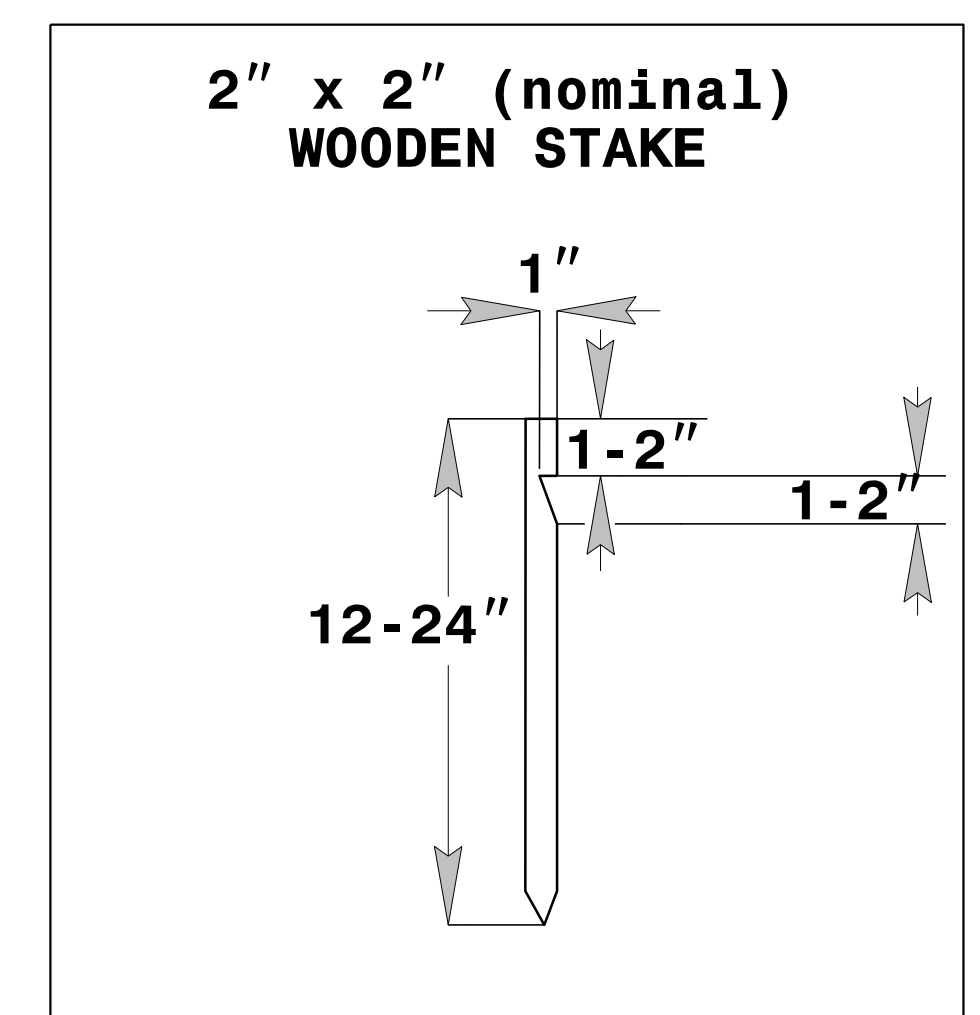
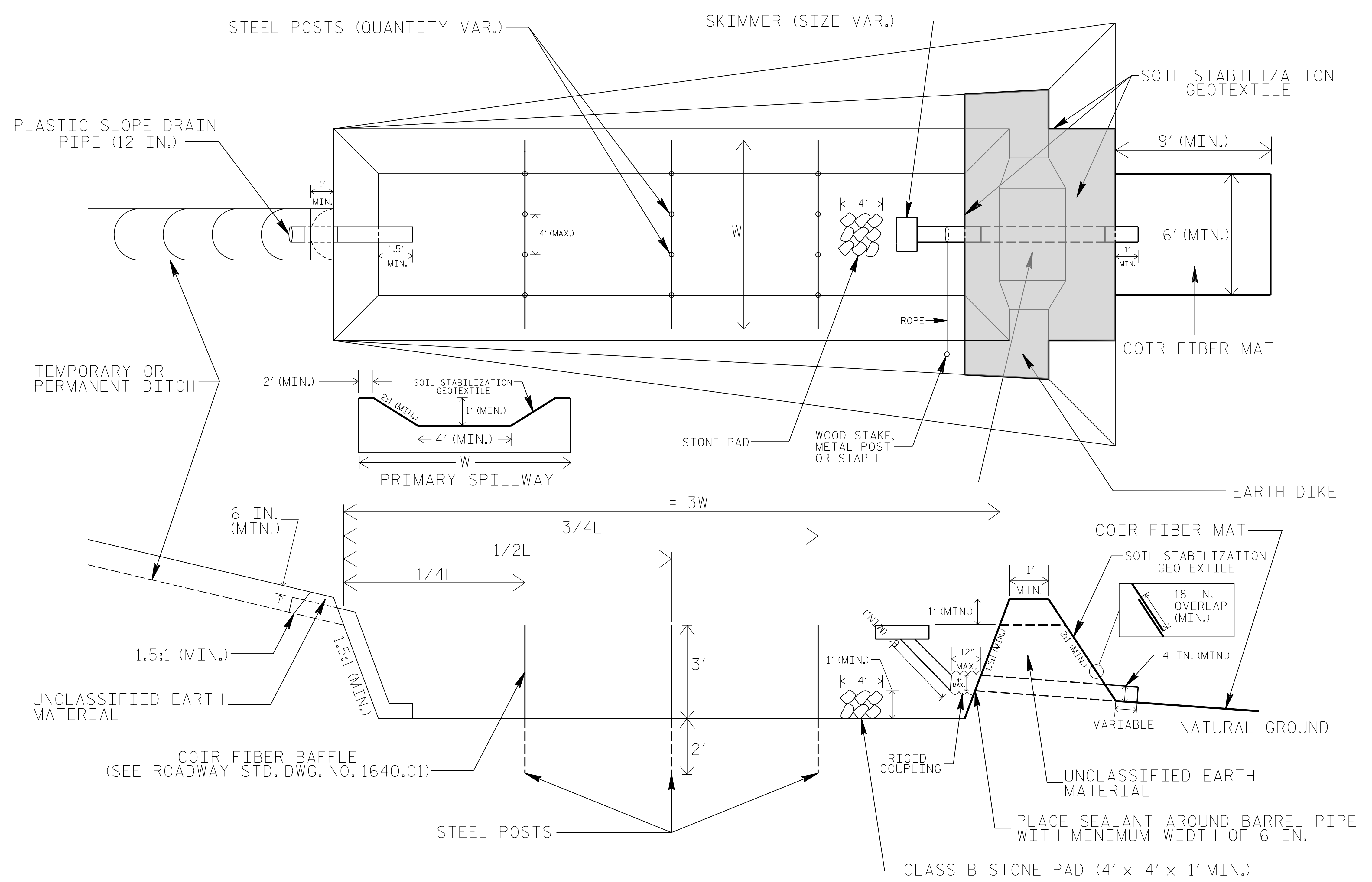
Roadway Standard Drawings

The following roadway english standards as appear in "Roadway Standard Drawings"- Roadway Design Unit - N. C. Department of Transportation - Raleigh, N. C., dated January 2012 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	1633.02 Temporary Rock Silt Check Type B
1630.02 Silt Basin Type B	1634.01 Temporary Rock Sediment Dam Type A
1630.03 Temporary Silt Ditch	1634.02 Temporary Rock Sediment Dam Type B
1630.04 Stilling Basin	1635.01 Rock Pipe Inlet Sediment Trap Type A
1630.05 Temporary Diversion	1635.02 Rock Pipe Inlet Sediment Trap Type B
1630.06 Special Stilling Basin	1640.01 Coir Fiber Baffle
1631.01 Matting Installation	1645.01 Temporary Stream Crossing

PROJECT REFERENCE NO. 1-4729A	SHEET NO. EC-2
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SKIMMER BASIN WITH BAFFLES DETAIL



COIR FIBER MAT ANCHOR OPTIONS

NOTES

1. SEED AND PLACE MATTING FOR EROSION CONTROL ON INTERIOR AND EXTERIOR SIDESLOPES.
2. LIMIT EARTH DIKE HEIGHT TO 5 FT.
3. FOR BASIN DEPTH OF 3 FT., THE MINIMUM BASIN WIDTH SHALL BE 9 FT.
4. DETERMINE PRIMARY SPILLWAY WEIR LENGTH (FT.) USING $Q/0.8$, WHERE Q IS FLOW RATE (CFS) INTO BASIN.
5. PLASTIC SLOPE DRAIN PIPE AT INLET OF BASIN MAY BE REPLACED BY FILTRATION GEOTEXTILE OR TARP AS DIRECTED.
6. SOIL STABILIZATION GEOTEXTILE FOR PRIMARY SPILLWAY SHALL BE ONE CONTINUOUS PIECE OF MATERIAL OR OVERLAPPED 18 IN. (MIN.).

NOT TO SCALE

PROJECT REFERENCE NO. 1-4729A	SHEET NO. EC-2A
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.

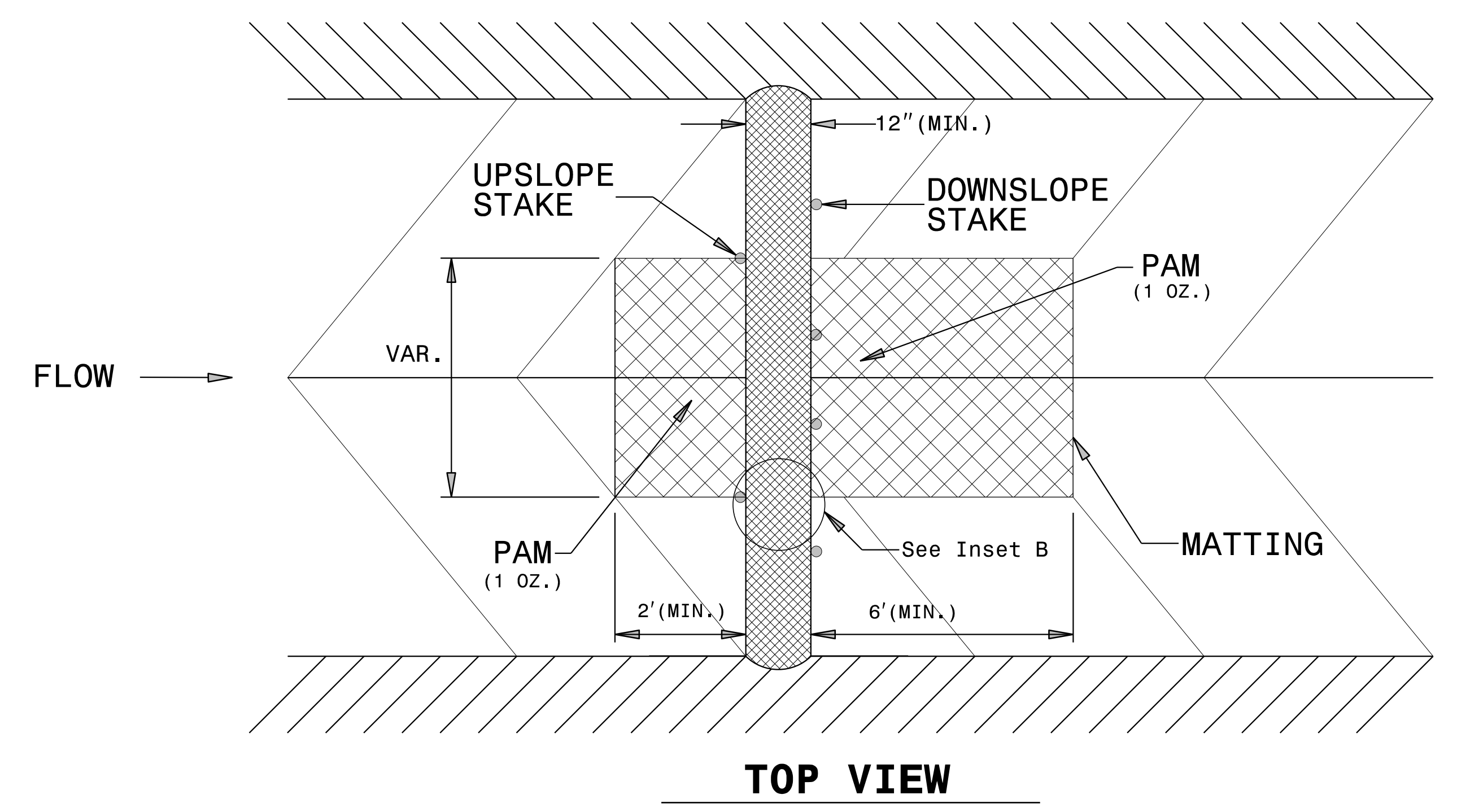
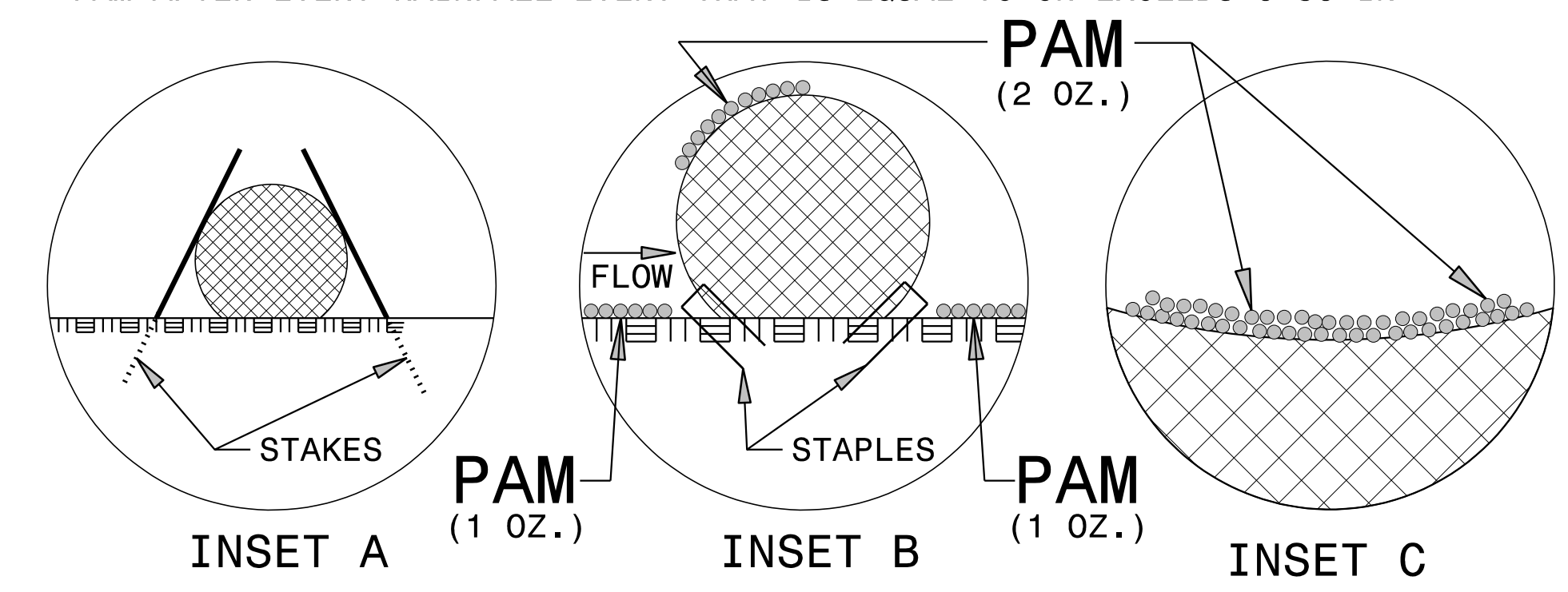
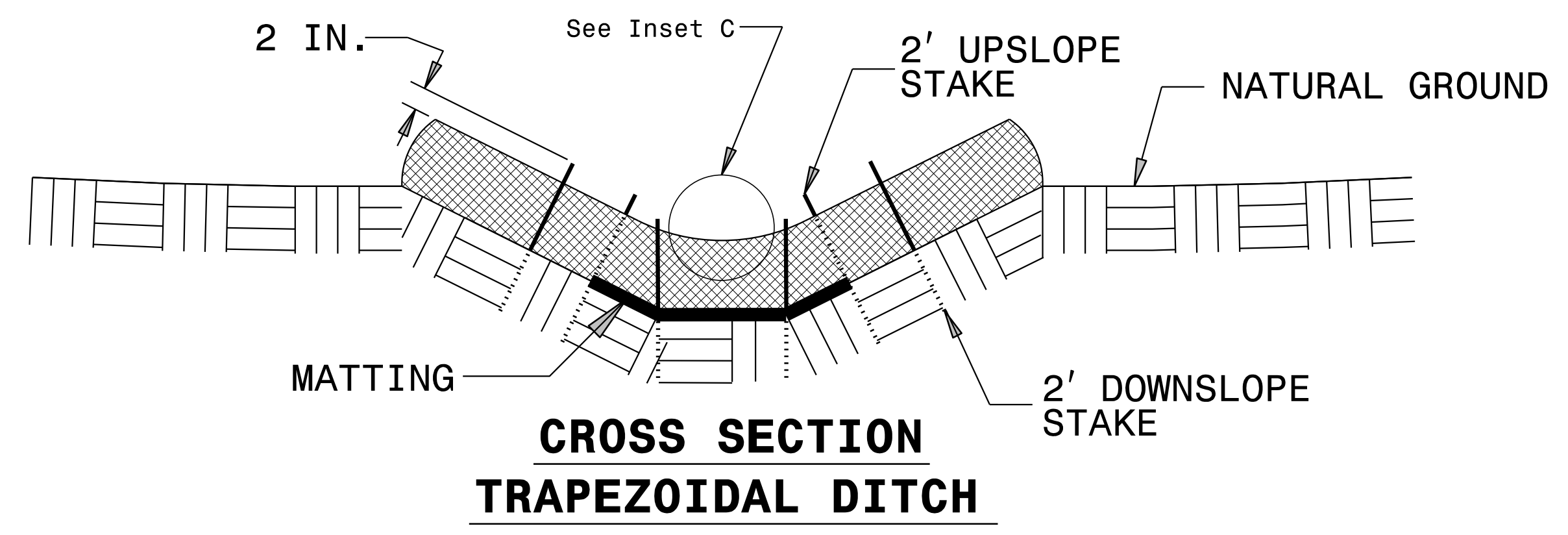
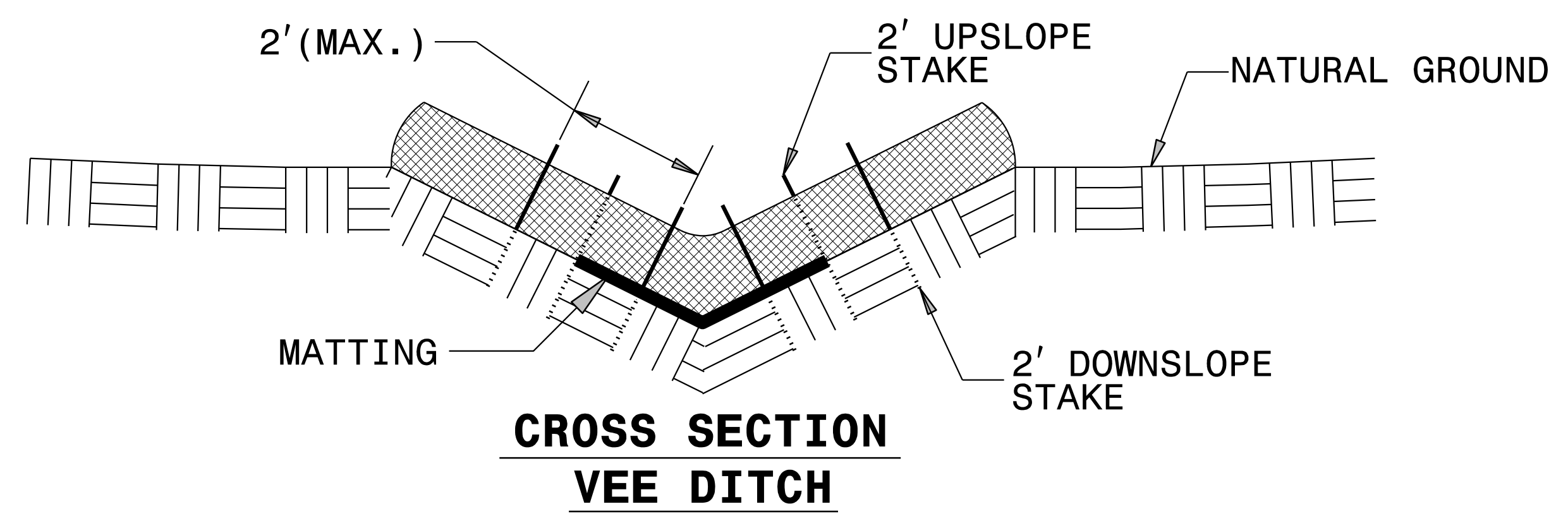
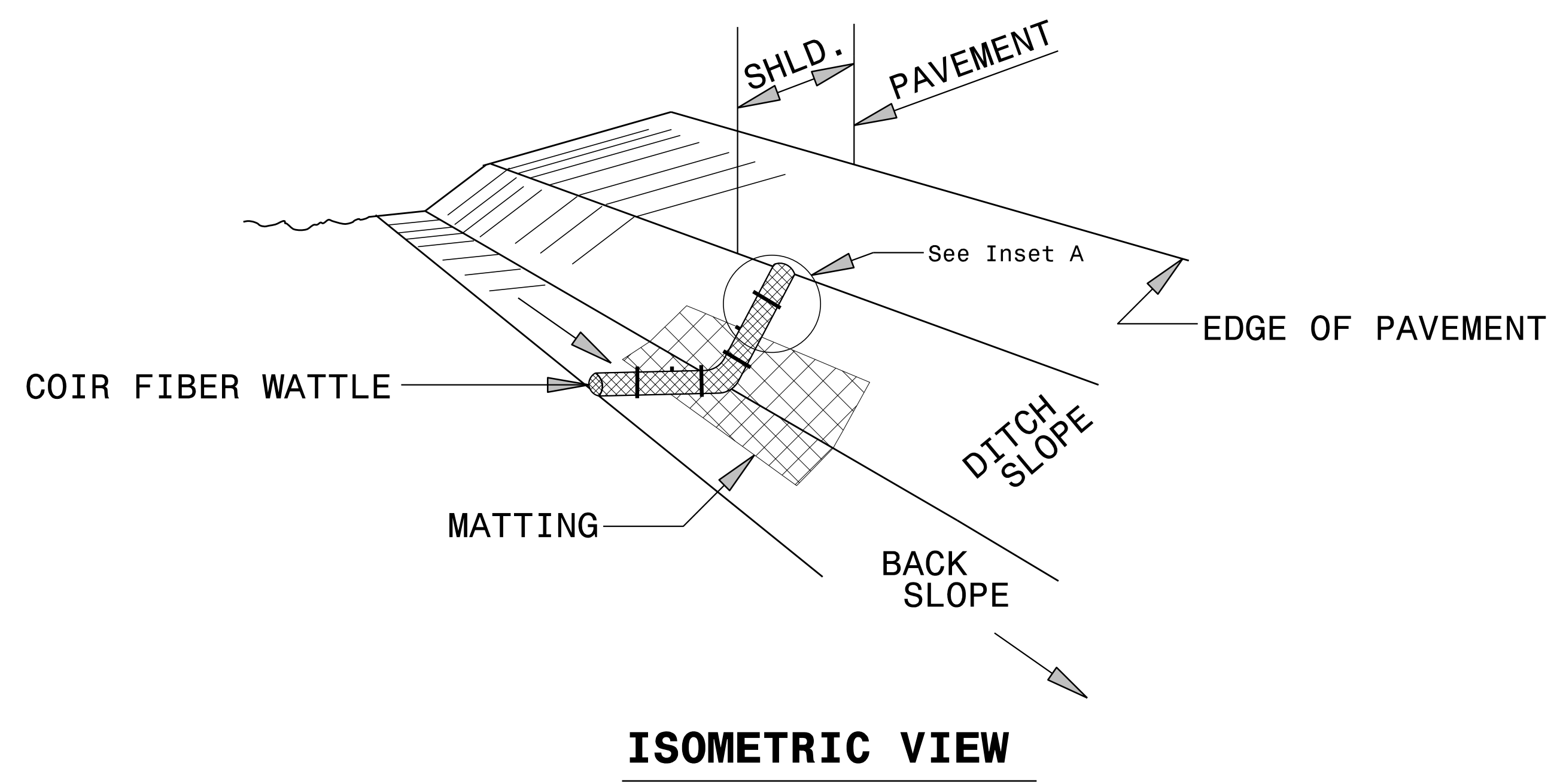
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.

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.

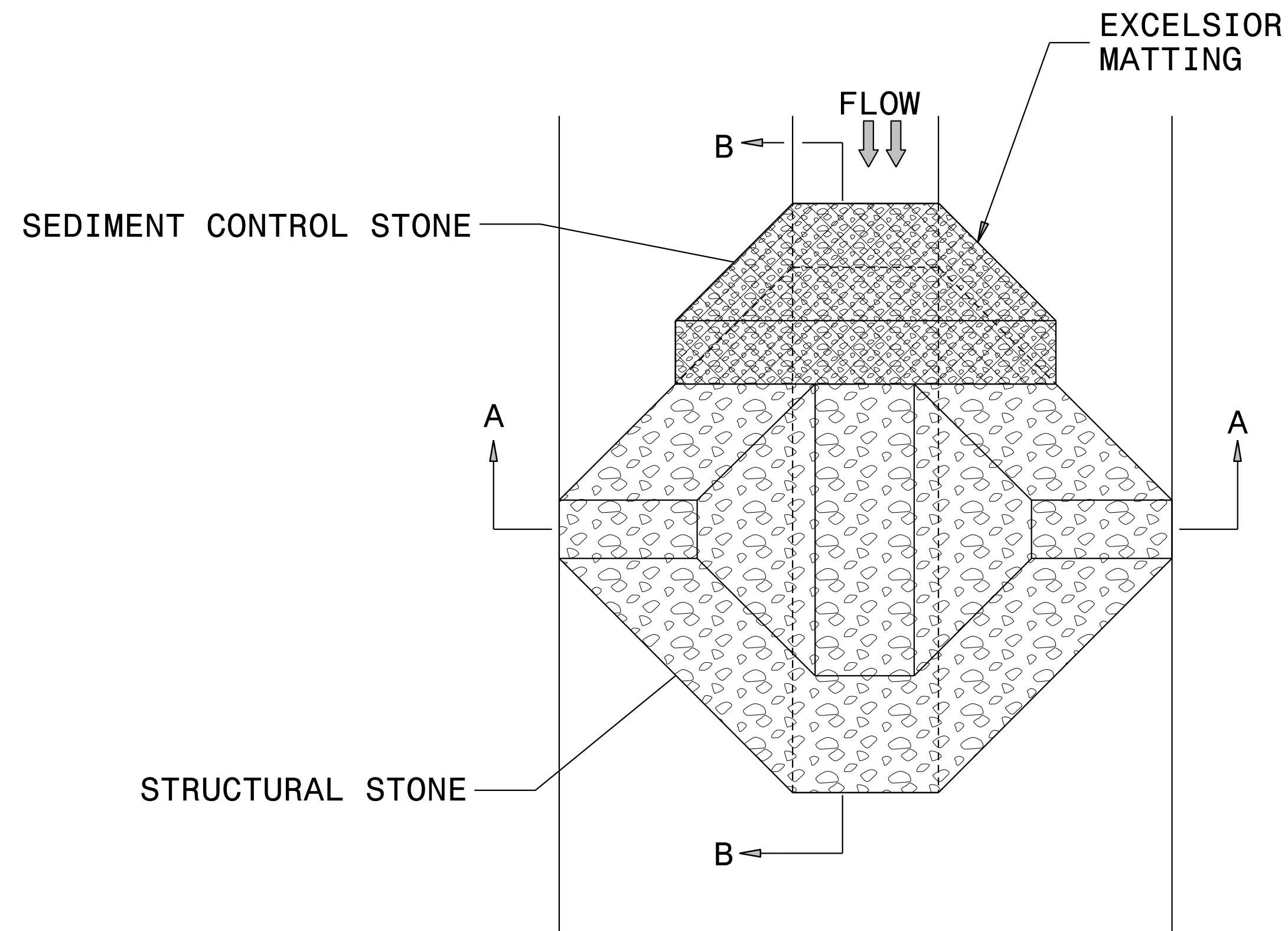
PRIOR TO POLYACRYLAMIDE (PAM) APPLICATION, OBTAIN A SOIL SAMPLE FROM PROJECT LOCATION, AND FROM OFFSITE MATERIAL, AND ANALYZE FOR APPROPRIATE PAM FLOCCULANT TO BE APPLIED TO EACH WATTLE.

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.

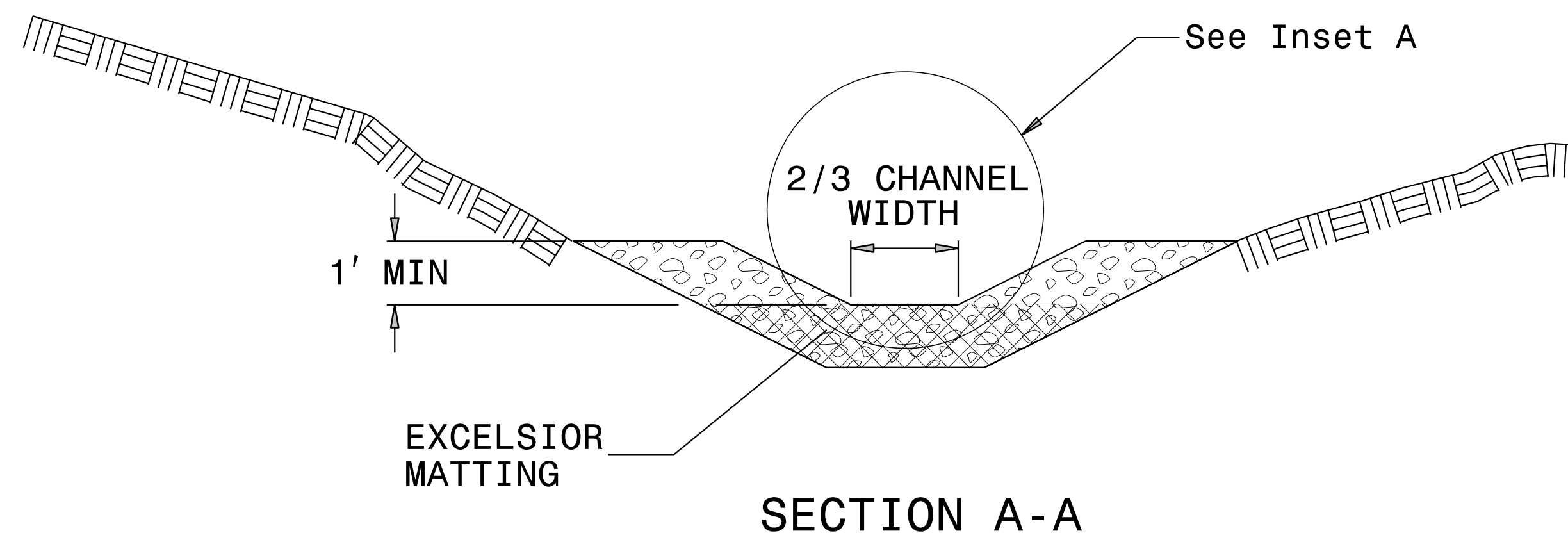


PROJECT REFERENCE NO. 1-4729A	SHEET NO. EC-2B
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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



PLAN



SECTION A-A

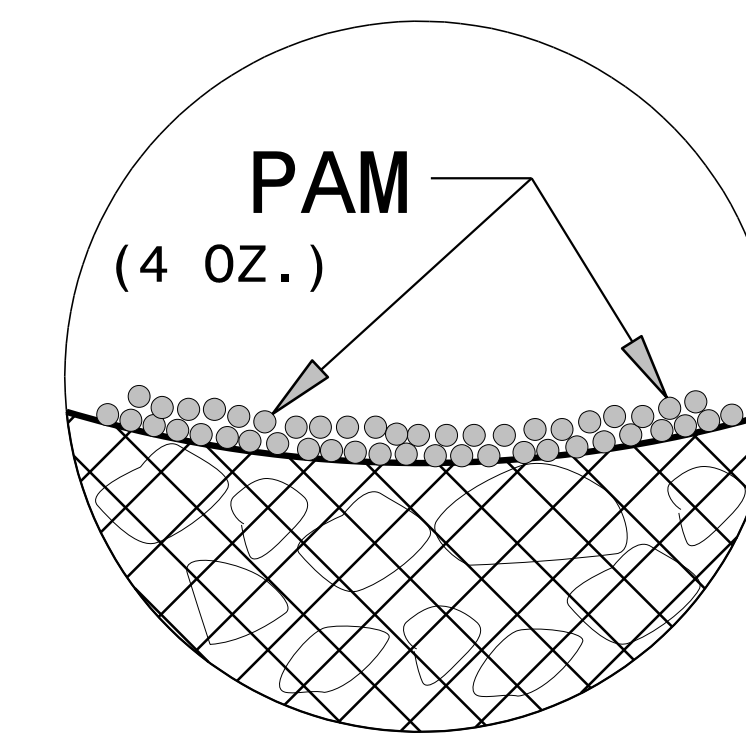
NOTES:

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

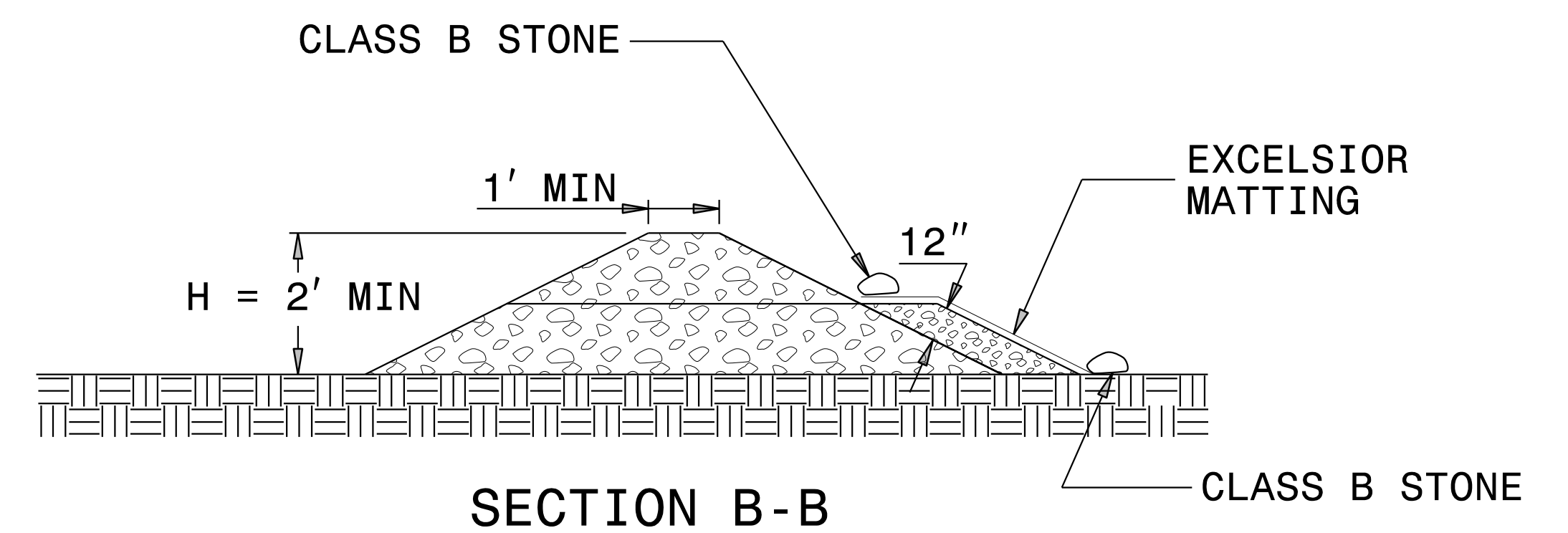
USE EXCELSIOR FOR MATTING MATERIAL AND ANCHOR MATTING SECTION AT TOP AND BOTTOM WITH CLASS B STONE.

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.



INSET A



SECTION B-B

NOT TO SCALE

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

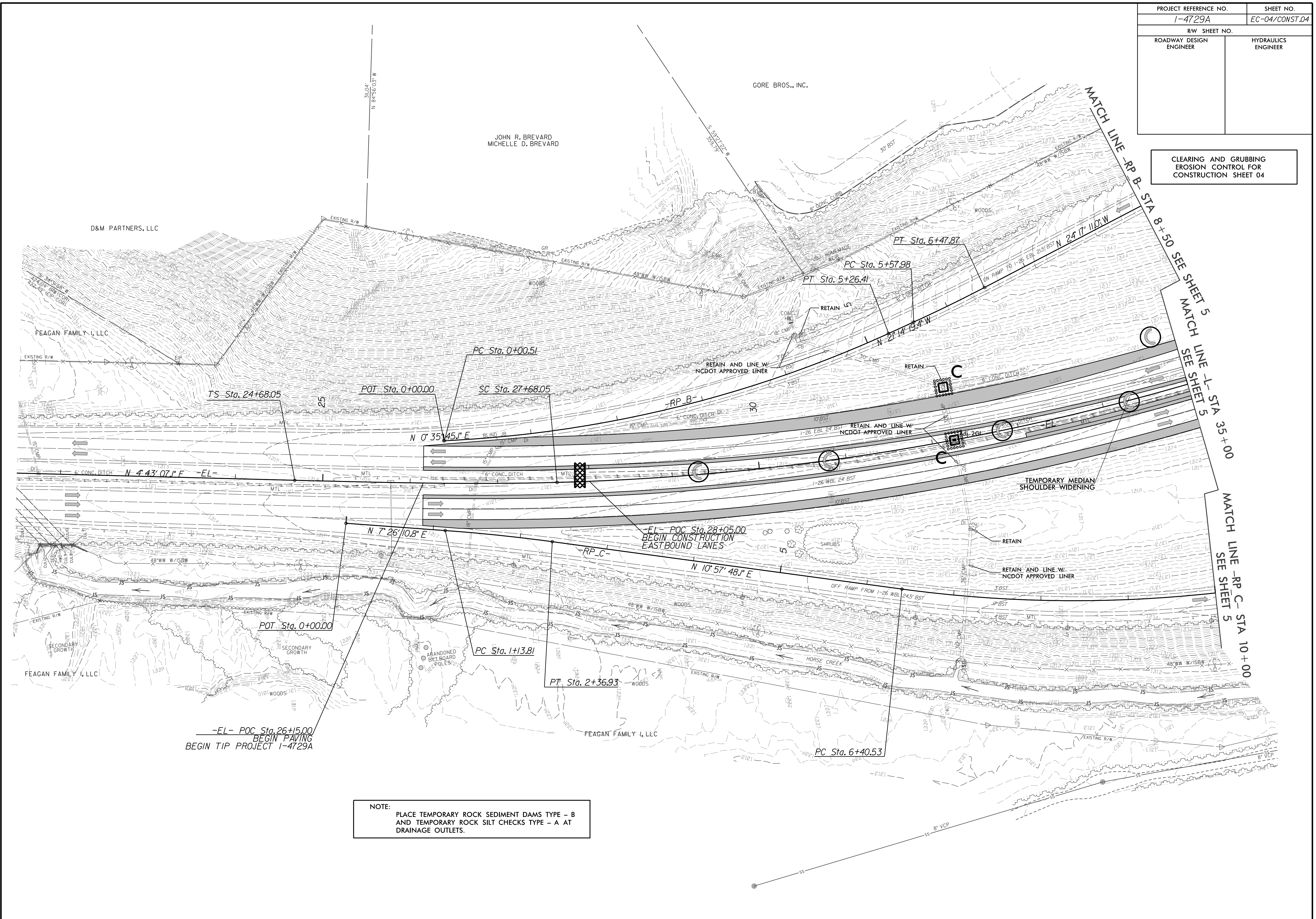
PROJECT REFERENCE NO. <i>1-4729A</i>	SHEET NO. <i>EC-3A</i>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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.

PROJECT REFERENCE NO.	SHEET NO.
1-4729A	EC-04/CONST.04
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 04



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

8/17/99

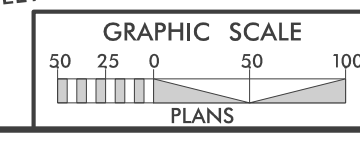
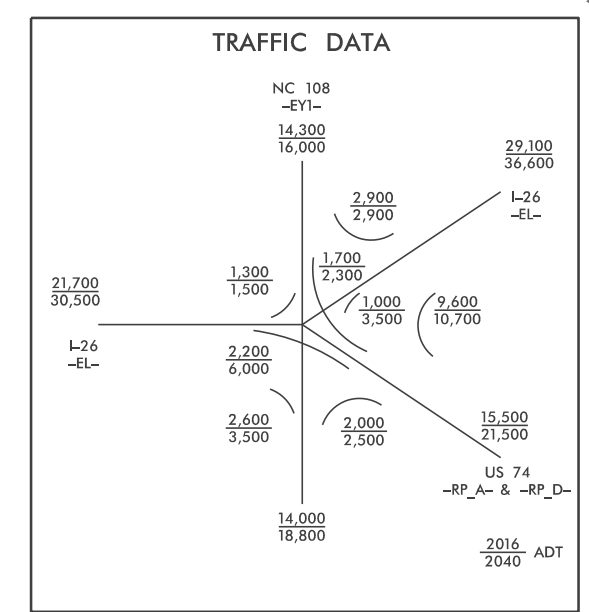
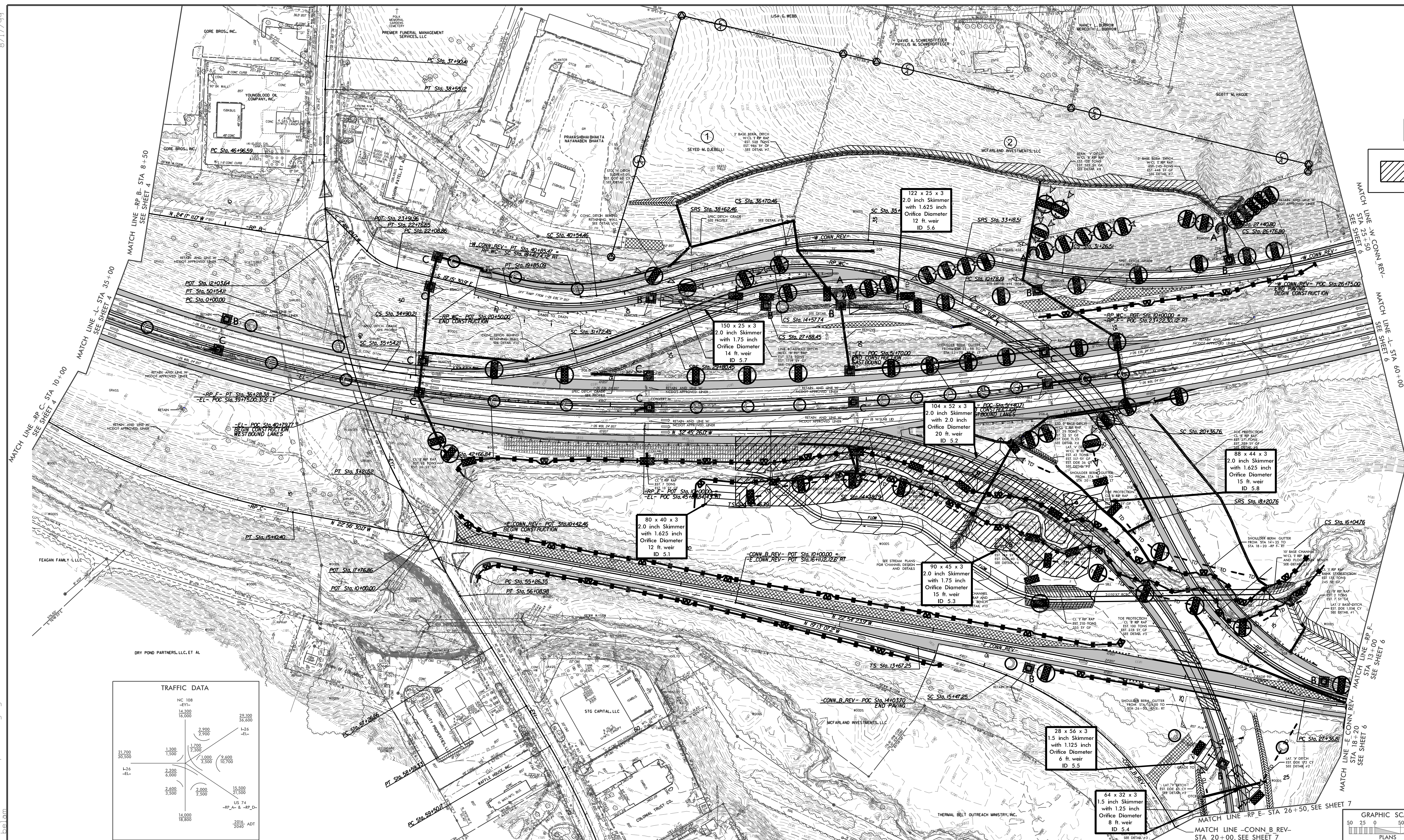
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PROJECT REFERENCE NO.	SHEET NO.
1-4729A	EC-05/CONV.25
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 05

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

 ENVIRONMENTALLY SENSITIVE AREA SEE PROJECT SPECIAL PROVISIONS



LOCATION: I-74 INTERCHANGE MODIFICATION BY THE TOWN OF COLUMBUS

TP NO. 1-4729A COUNTY: POLK

DESIGNED BY: J. MATTHEW PICKENS, PE

CHECKED BY: DAVID L. WELVE, PE DATE:

2@10'X7' RCBC CONSTRUCTION SEQUENCE STA. 16+47 -RP_F- HORSE CREEK

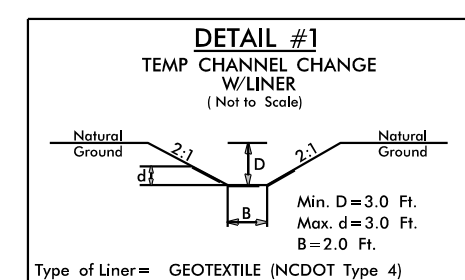
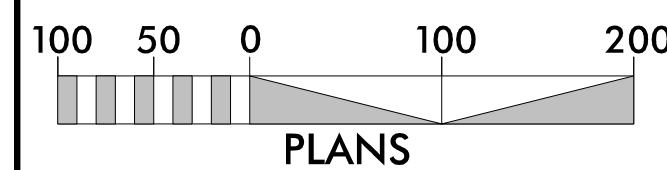
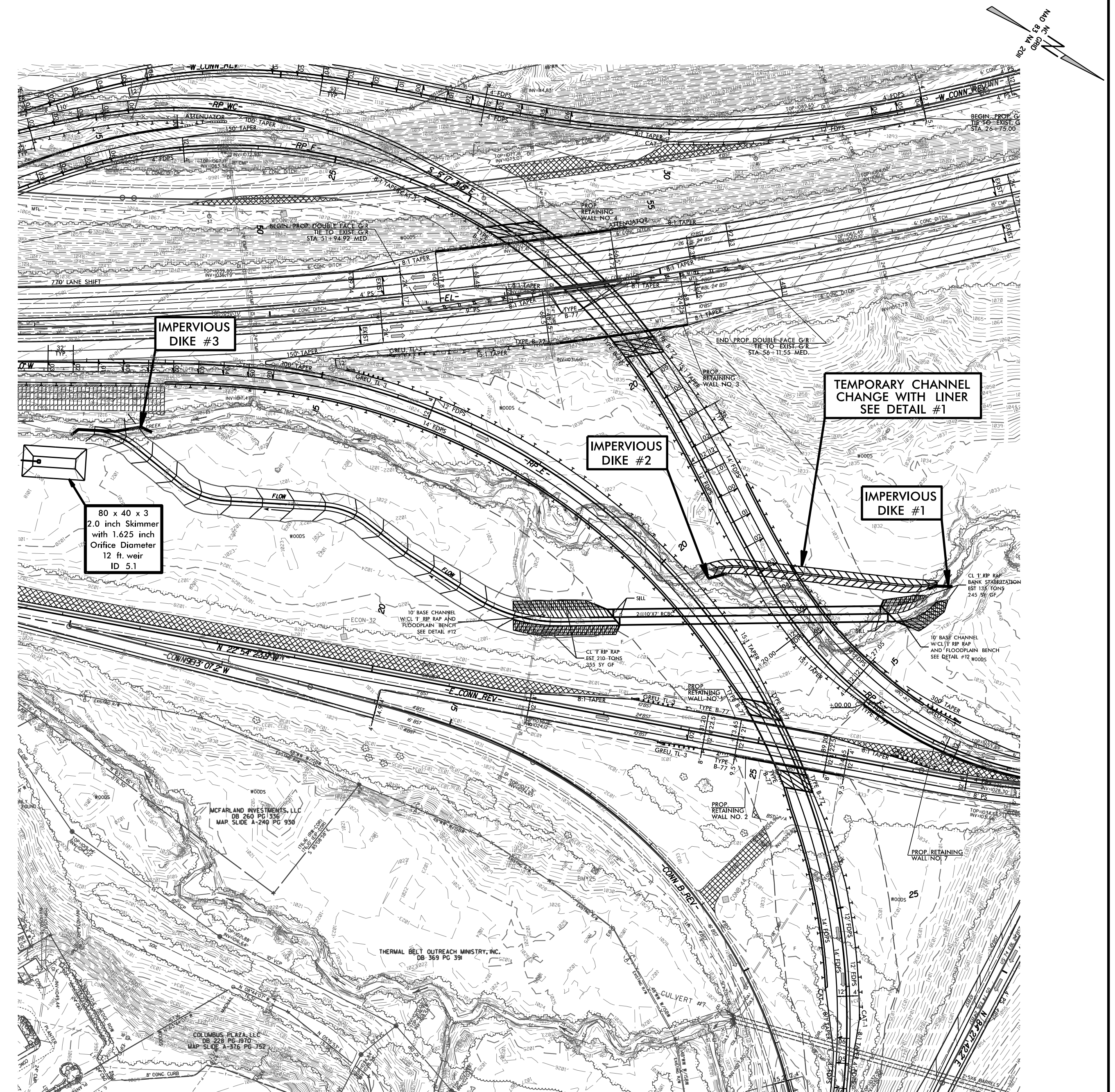
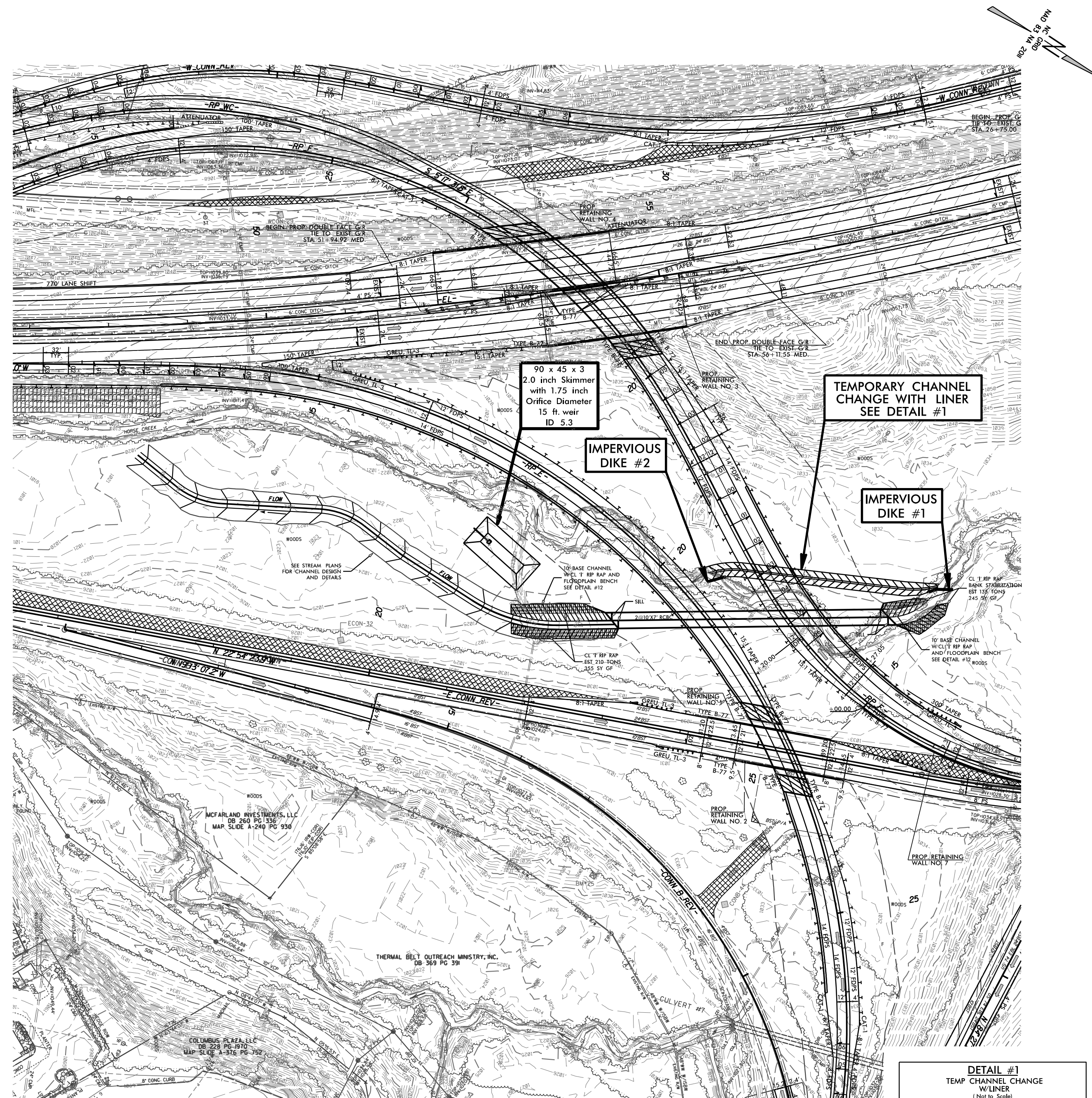
PROJECT REFERENCE NO.	SHEET NO.
1-4729A	EC-05A/CONST.05
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PHASE I

- 1.) CONSTRUCT SKIMMER BASIN 5.3.
- 2.) CONSTRUCT TEMPORARY CHANNEL CHANGE WITH LINER (SEE DETAIL #1).
- 3.) INSTALL IMPERVIOUS DIKE #1, IMPERVIOUS DIKE #2 AND DEWATER CONSTRUCTION AREA, UTILIZING SKIMMER BASIN 5.3 FOR PUMPED EFFLUENT.
- 4.) CONSTRUCT PROPOSED 2@10'X7' RCBC, BANK STABILIZATION, FLOODPLAIN BENCHES AND +/- 660 FT OF CULVERT OUTLET CHANNEL, IN ACCORDANCE WITH THE PLANS.

PHASE II

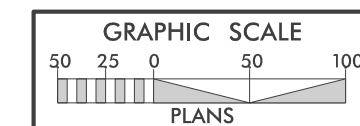
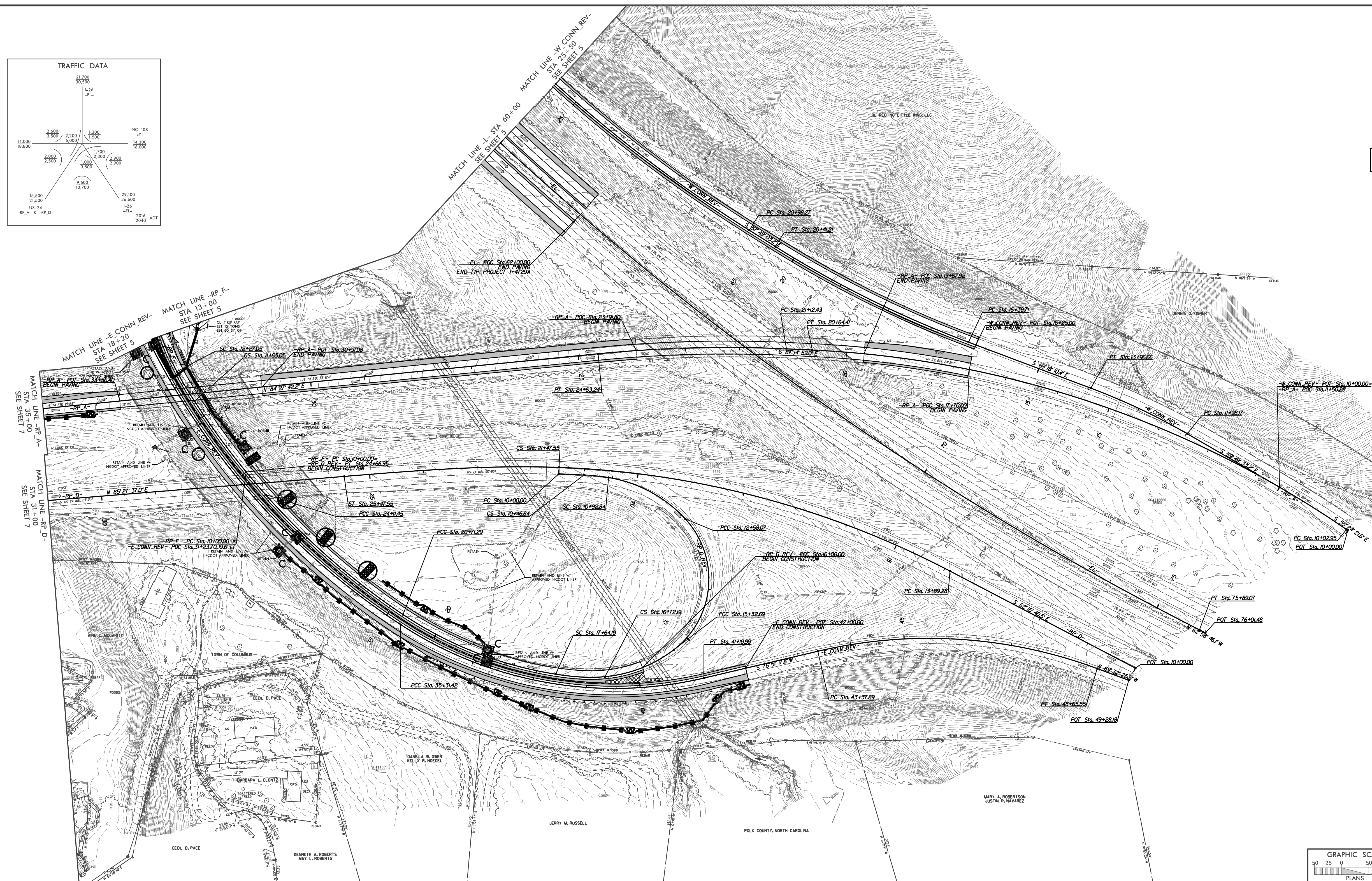
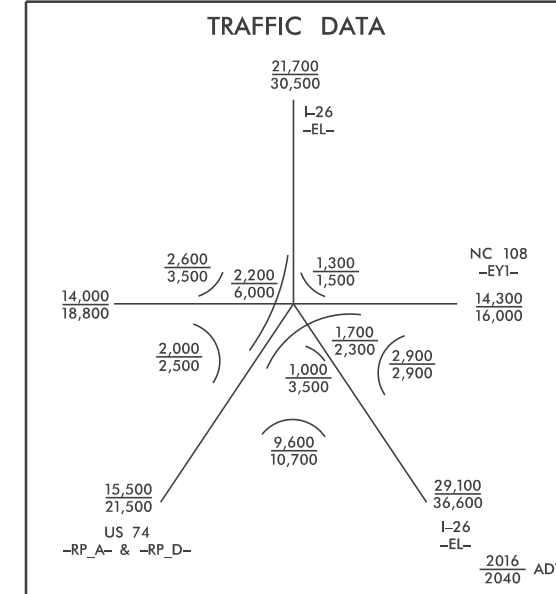
- 1.) INSTALL SKIMMER BASIN 5.1.
- 2.) INSTALL IMPERVIOUS DIKE #3 AND DEWATER CONSTRUCTION AREA, UTILIZING SKIMMER BASIN 5.1 FOR PUMPED EFFLUENT.
- 3.) CONSTRUCT AND STABILIZE REMAINDER OF CULVERT OUTLET CHANNEL, IN ACCORDANCE WITH THE PLANS.
- 4.) REMOVE IMPERVIOUS DIKES #1, #2, #3, TEMPORARY CHANNEL CHANGE #1 AND DIRECT FLOW THROUGH PROPOSED 2@10'X7' RCBC AND OUTLET CHANNEL.
- 5.) COMPLETE RAMP CONSTRUCTION.



PROJECT REFERENCE NO. I-4725A	SHEET NO. EC-06/CONST 06
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 06

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



LOCATION: I-4725A INTERCHANGE MODIFICATION BY THE TOWN OF COLUMBUS	
TP NO. I-4725A	COUNTY: POLK
DESIGNED BY: J. MATTHEW PICKENS, PE	
CHECKED BY: DAVID L. WELVE, PE	DATE: _____

8/17/99

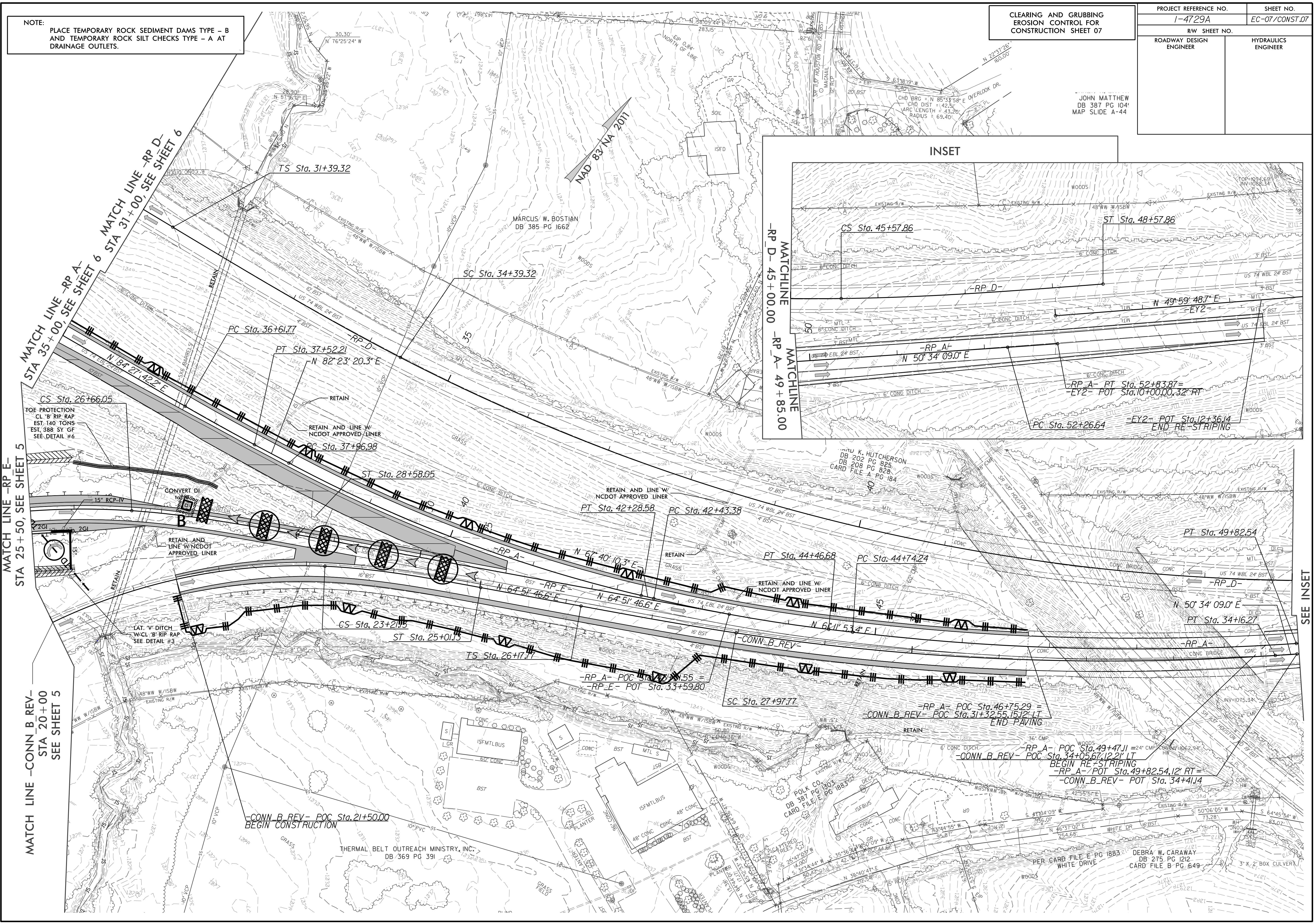
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NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B
AND TEMPORARY SILT CHECKS TYPE - A AT
DRAINAGE OUTLETS.

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 07

PROJECT REFERENCE NO.	SHEET NO.
1-4729A	EC-07/CONST.07
RW SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	

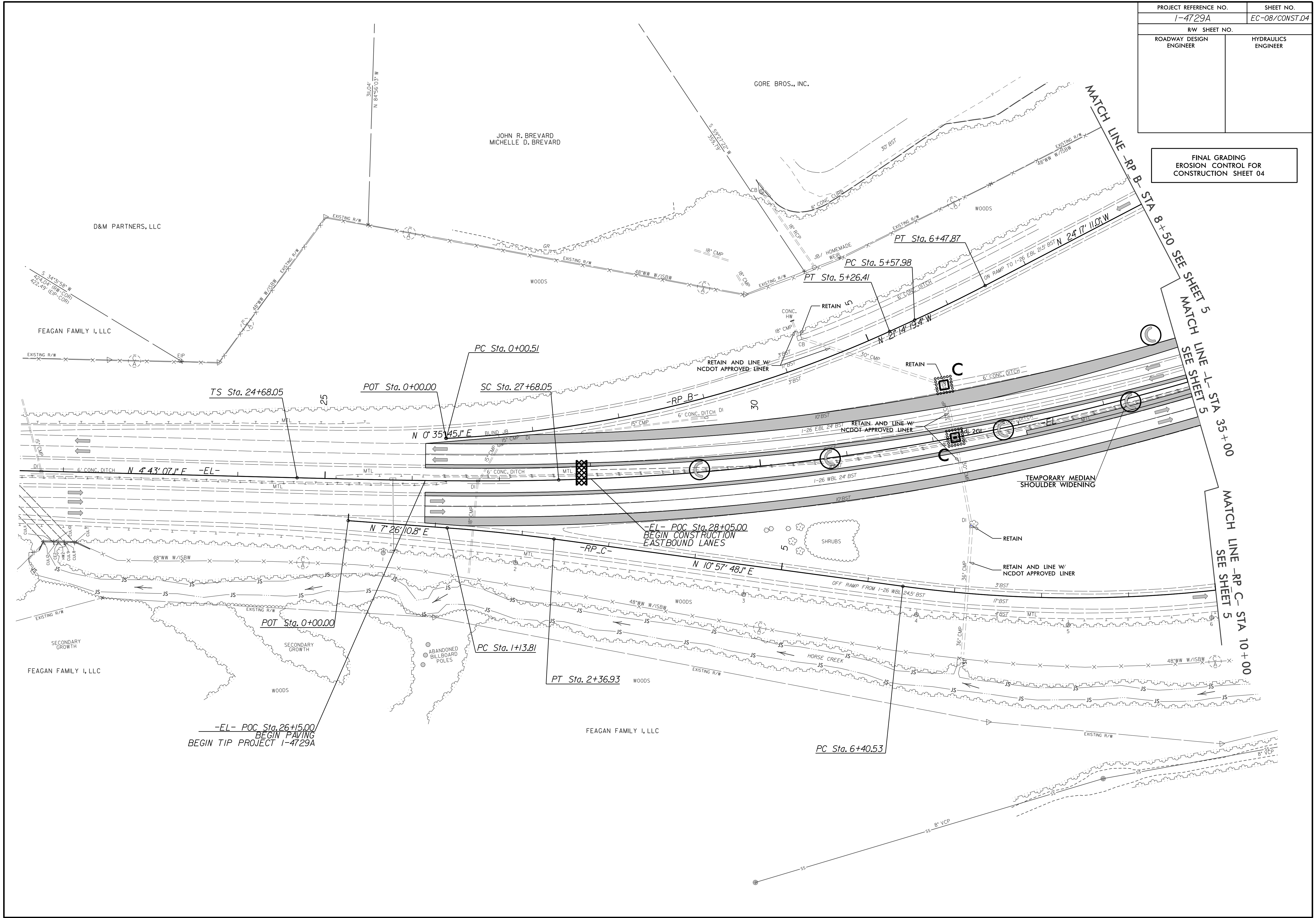
JOHN MATTHEW
DB 387 PG 104
MAP SLIDE A-44



SEE INSET

PROJECT REFERENCE NO.	SHEET NO.
1-4729A	EC-08/CONST.04
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

FINAL GRADING
EROSION CONTROL FOR
CONSTRUCTION SHEET 04



8/17/199

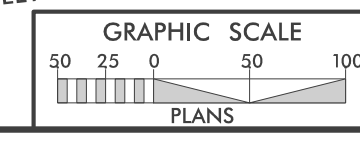
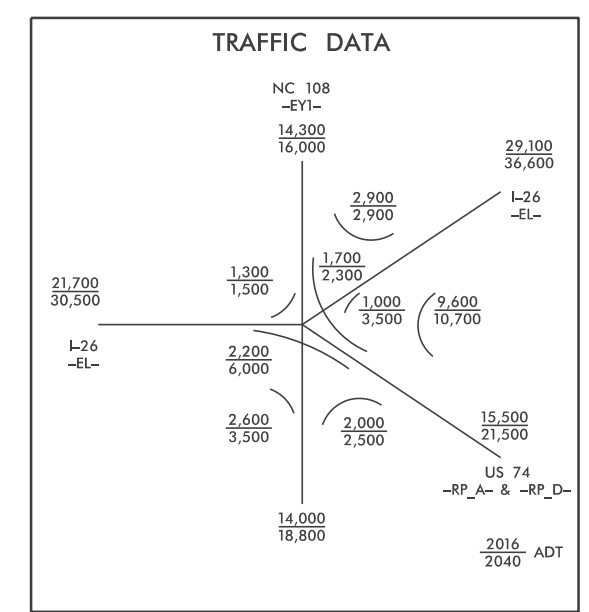
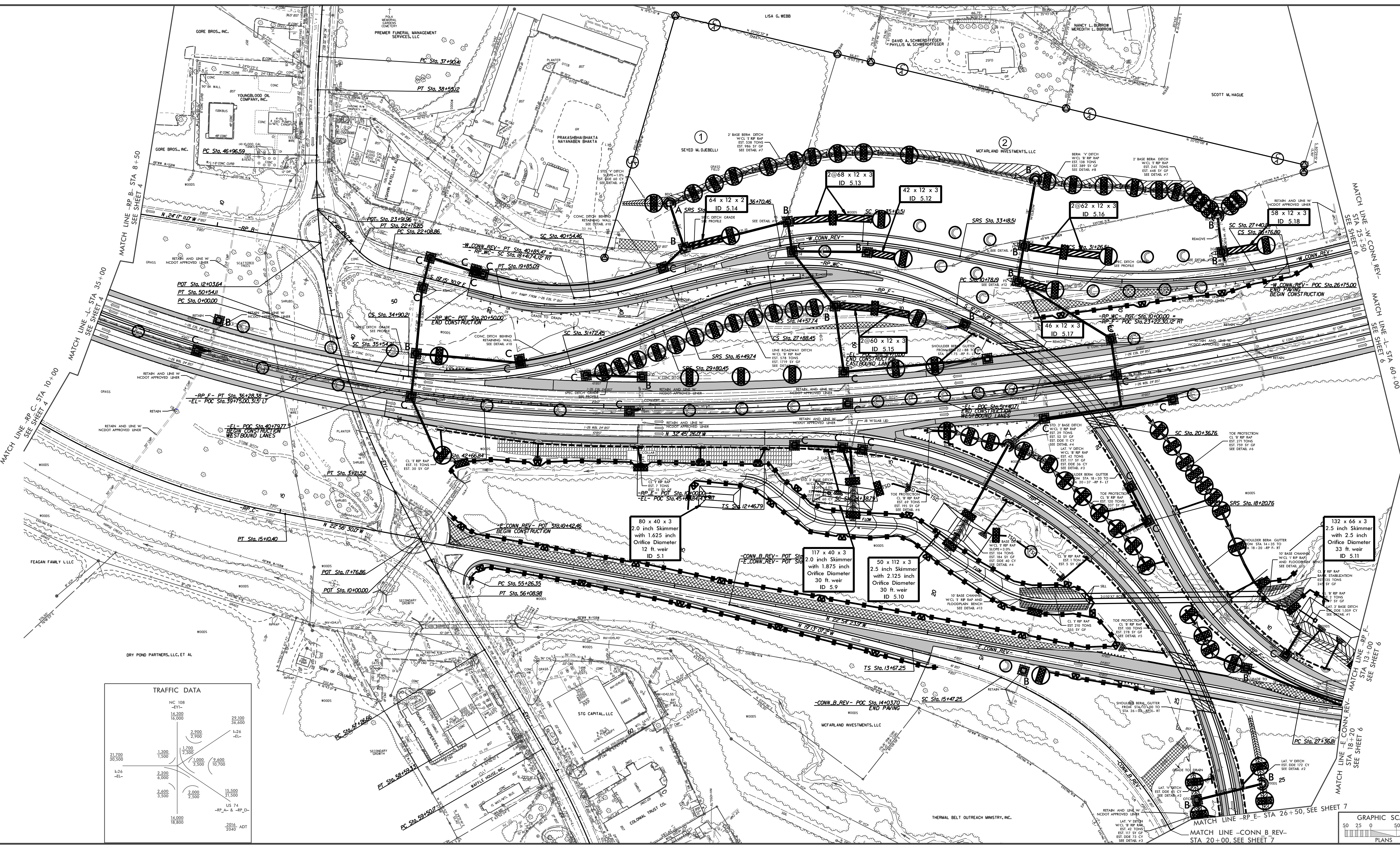
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PROJECT REFERENCE NO.	SHEET NO.
1-4795A	EC-09/CONST.05
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

FINAL GRADING EROSION CONTROL FOR CONSTRUCTION SHEET 05

Place Matting for Erosion Control on Slope as Work Allows.

Sta. 13+00 to Sta. 22+00 -RP-E-RT
 Sta. 23+50 to Sta. 25+50 -RP-E-RT
 Sta. 16+00 to Sta. 20+00 -RP-E-LT
 Sta. 18+50 to Sta. 22+50 -RP-E-LT
 Sta. 23+50 to Sta. 25+50 -RP-E-LT
 Sta. 29+50 to Sta. 32+00 -RP-F-RT
 Sta. 24+50 to Sta. 30+50 -RP-F-LT
 Sta. 13+50 to Sta. 20+00 -RP-F-RT
 Sta. 23+00 to Sta. 23+50 -RP-F-LT
 Sta. 33+00 to Sta. 35+50 -RP-F-LT
 Sta. 26+75 to Sta. 39+00 -W CONN REV- RT



LOCATION: I-76 TO INTERCHANGE HOVORATION BY THE TOWN OF COLUMBUS

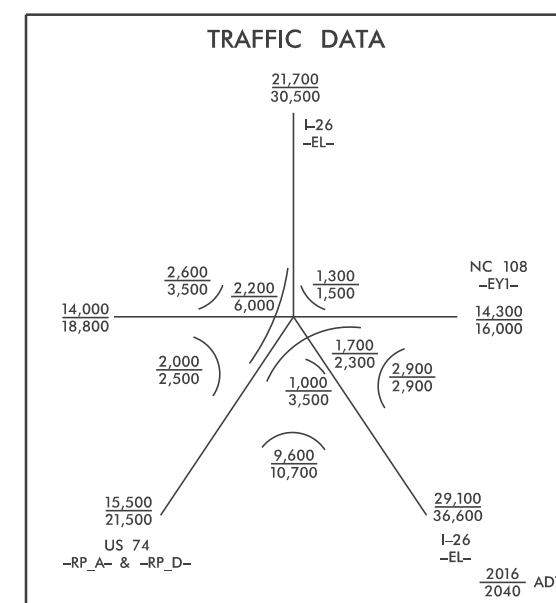
TP NO. 1-4795A COUNTY: POLK

DESIGNED BY: J. MATTHEW PICKENS, PE

CHECKED BY: DAVID L. WELVE, PE DATE:

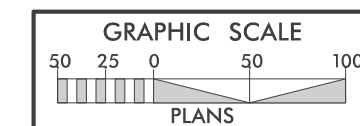
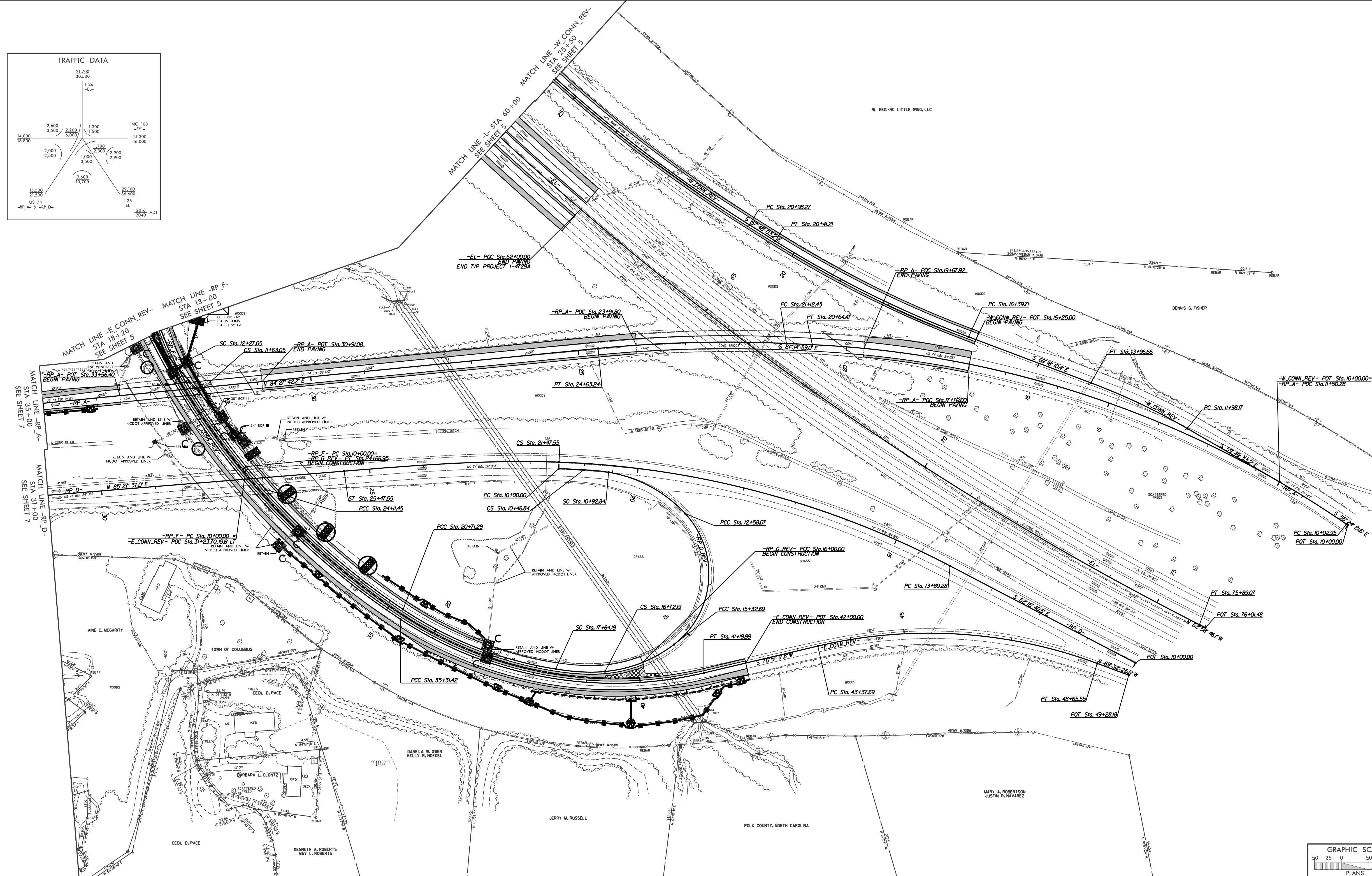
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10/1/2017



PROJECT REFERENCE NO. I-4729A	SHEET NO. EC-10/CONST/26
ROW SHEET NO. ROADWAY DESIGN ENGINEER	ROW SHEET NO. HYDRAULICS ENGINEER
FINAL GRADING EROSION CONTROL FOR CONSTRUCTION SHEET 04	

Place Matting for Erosion Control
on Slope as Work Allows.
Sta. 38+00 to Sta. 41+50 -E-CONN-REV- RT

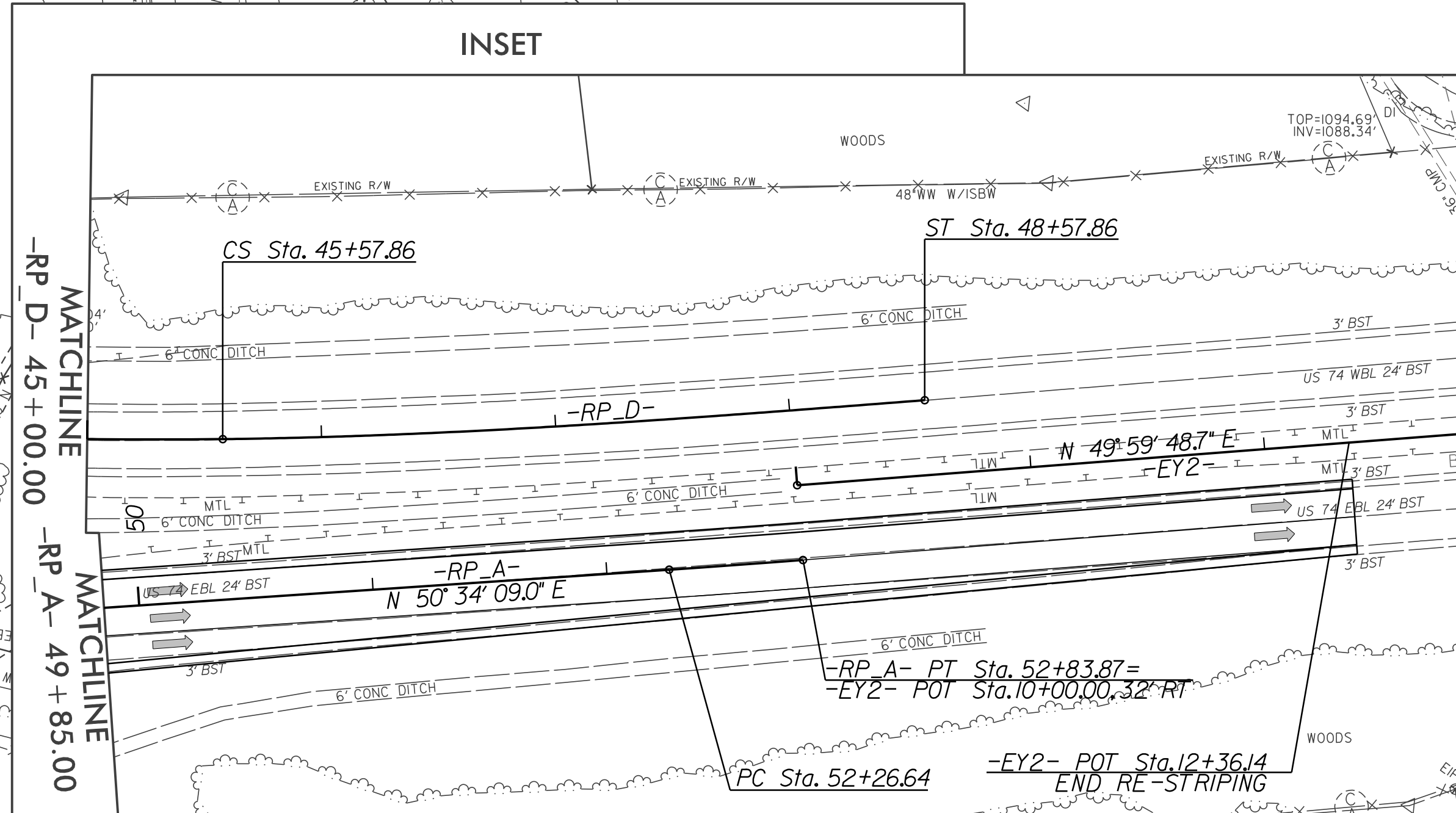
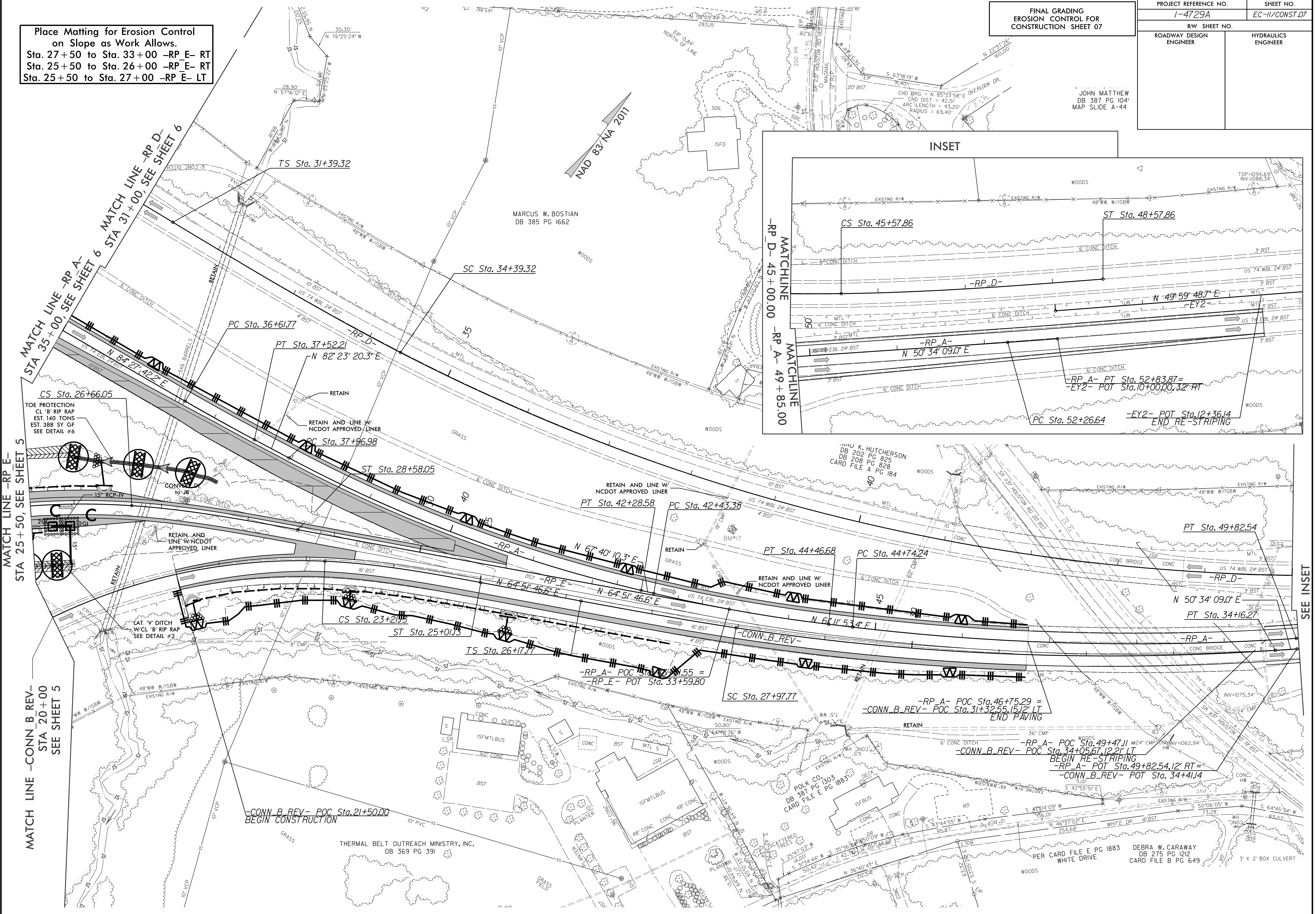


LOCATION: I-77/JE 74 INTERCHANGE MODIFICATION BY THE TOWN OF COLUMBUS	
TIP NO. I-4729A	COUNTY: POLK
DESIGNED BY: J. MATTHEW PICKENS, PE	
CHECKED BY: DAVID L. WELVE, PE DATE:	

Place Matting for Erosion Control
on Slope as Work Allows.
Sta. 27+50 to Sta. 33+00 -RP E- RT
Sta. 25+50 to Sta. 26+00 -RP E- RT
Sta. 25+50 to Sta. 27+00 -RP E- LT

FINAL GRADING
EROSION CONTROL FOR
CONSTRUCTION SHEET 07

PROJECT REFERENCE NO.	SHEET NO.
1-4729A	EC-11/CONST.07
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
JOHN MATTHEW DB 387 PG 104 MAP SLIDE A-44	



MATCH LINE -RP E- STA 25+50, SEE SHEET 5
MATCH LINE -CONN B REV- STA 20+00 SEE SHEET 5

SEE INSET

-CONN B REV- POC Sta. 21+50.00 BEGIN CONSTRUCTION

-RP A- POC Sta. 46+75.29 = -CONN B REV- POC Sta. 31+32.55, 15' LT END PAVING

-RP A- POC Sta. 49+47.11 = 24' CMP CONW=1062.94' -CONN B REV- POC Sta. 34+05.67, 12' LT BEGIN RE-STRIPING
-RP A- POT Sta. 49+82.54, 12' RT = -CONN B REV- POT Sta. 34+41.14

DEBRA W. CARAWAY
DB 275 PG 122
CARD FILE B PG 649