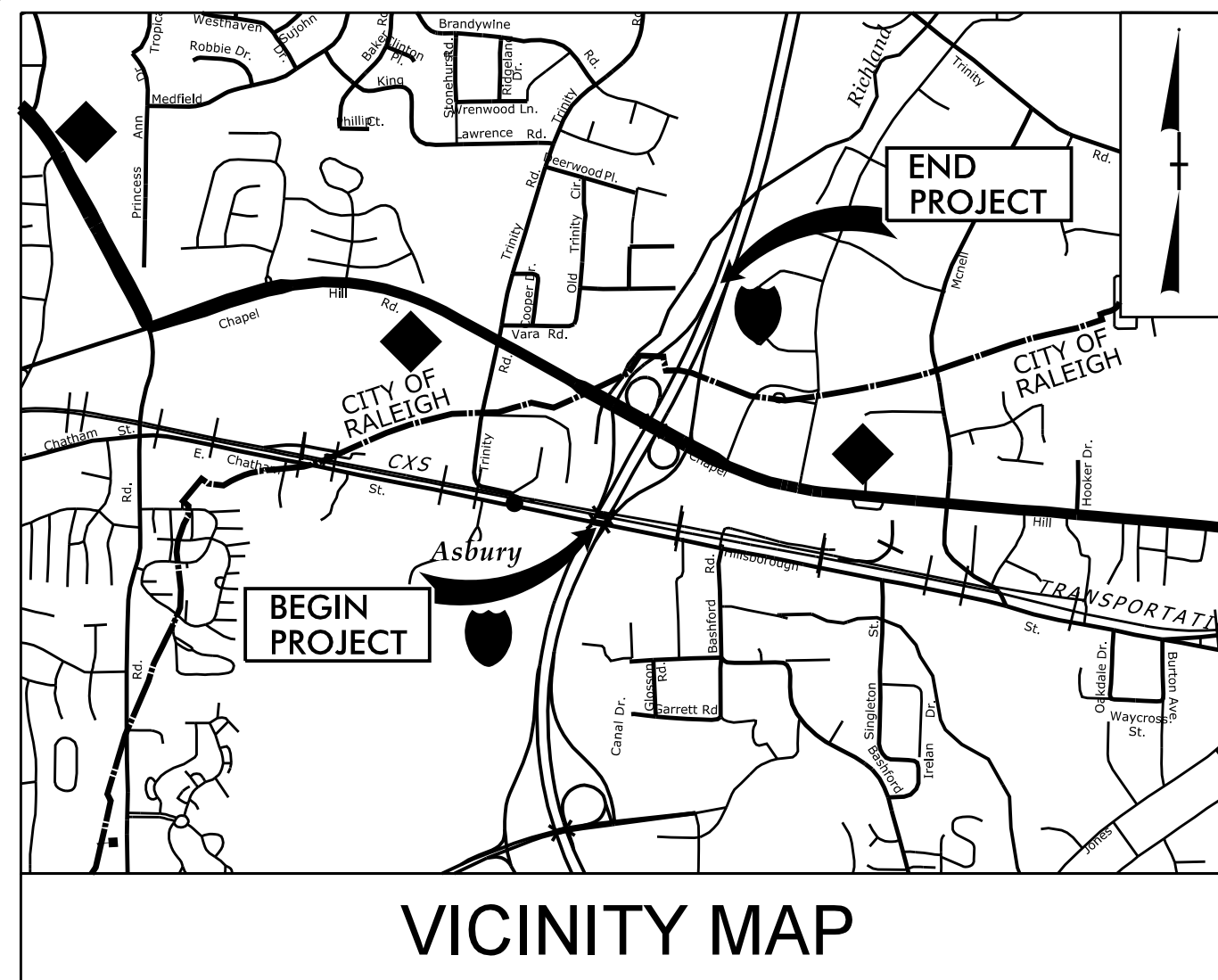


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**TIP PROJECT: I-5873**



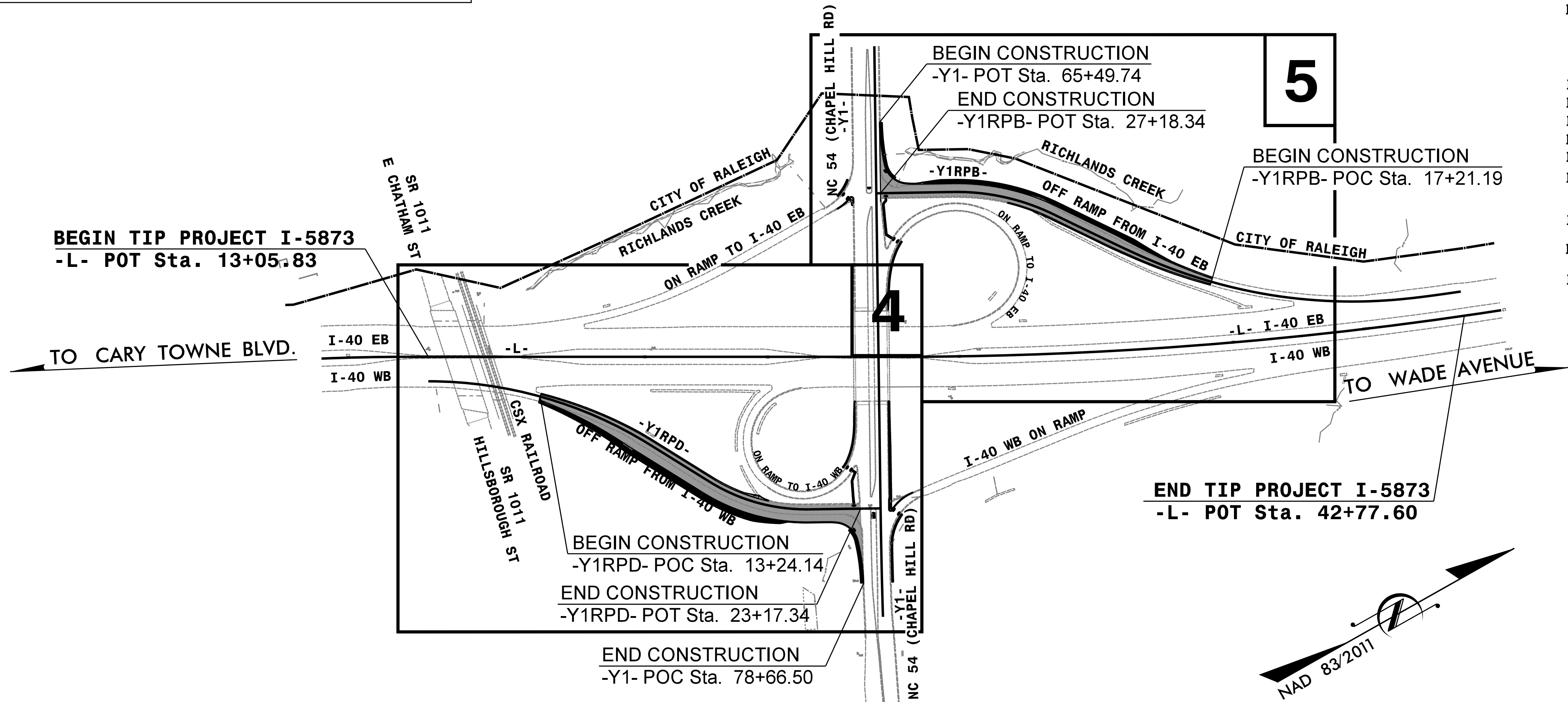
STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS  
PLAN FOR PROPOSED  
HIGHWAY EROSION CONTROL  
**WAKE COUNTY**

LOCATION: I-40 AT NC 54 INTERCHANGE IN RALEIGH, INTERCHANGE IMPROVEMENTS  
TYPE OF WORK: GRADING, DRAINAGE AND PAVING

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	I-5873	EC-1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	

**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	A
1632.02	Type B	B
1632.03	Type C	C
	Skimmer Basin	⊗
	Tiered Skimmer Basin	⊗
	Infiltration Basin	⊗



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.

THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH THE REGULATIONS SET FORTH BY THE NCG-010000 GENERAL CONSTRUCTION PERMIT EFFECTIVE AUGUST 1, 2018 AND ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES DIVISION OF WATER RESOURCES.

PREPARED IN THE OFFICE OF:  
**WSP**  
WSP USA  
431 FAYETTEVILLE STREET  
SUITE 1500  
RALEIGH, NC 27601  
TEL: 919.836.4040  
FAX: 919.836.4999  
LICENSE NO. E-0165

Designed by:  
**RANA STANSELL, PE, CFM** 3597  
NAME LEVEL III CERTIFICATION NO.

Reviewed In the Office of:  
**ROADSIDE ENVIRONMENTAL UNIT**  
1 South Wilmington St.  
Raleigh, NC 27611

2018 STANDARD SPECIFICATIONS

Reviewed by:  
**JEFF WALSTON, PE, CPESC, CPSWO**

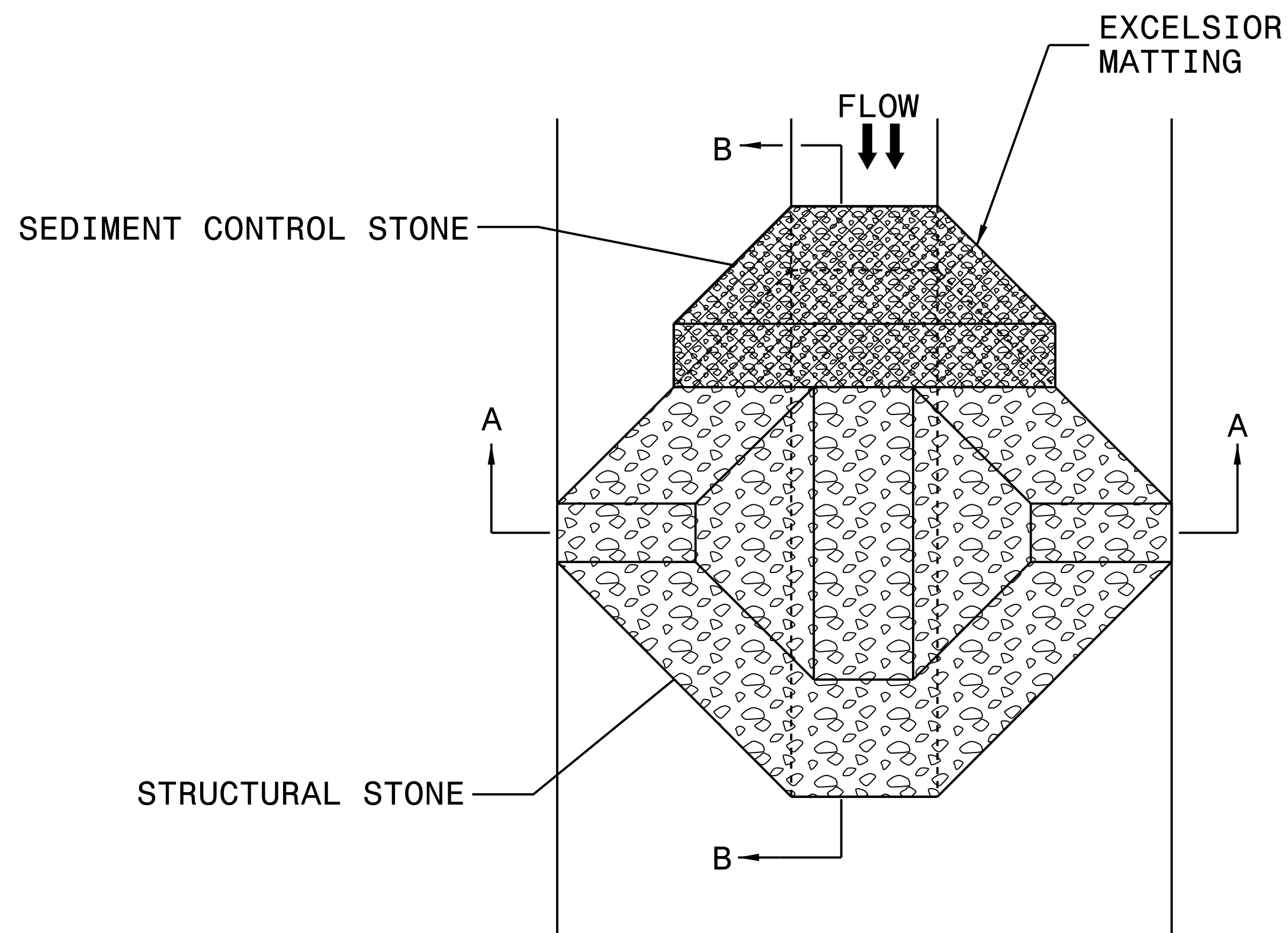
Roadway Standard Drawings

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.

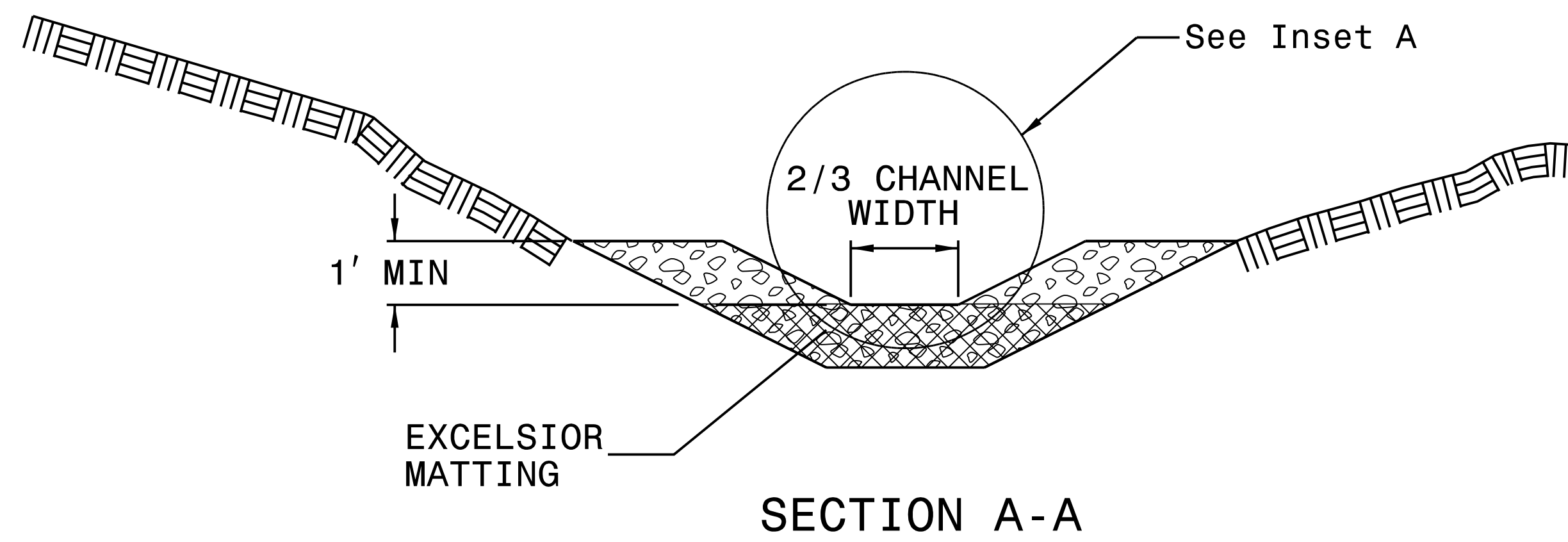
1604.01 Railroad Erosion Control Detail	1632.01 Rock Inlet Sediment Trap Type A
1605.01 Temporary Silt Fence	1632.02 Rock Inlet Sediment Trap Type B
1606.01 Special Sediment Control Fence	1632.03 Rock Inlet Sediment Trap Type C
1607.01 Gravel Construction Entrance	1633.01 Temporary Rock Silt Check Type 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	

PROJECT REFERENCE NO. 1-5873	SHEET NO. EC-2
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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



PLAN



SECTION A-A

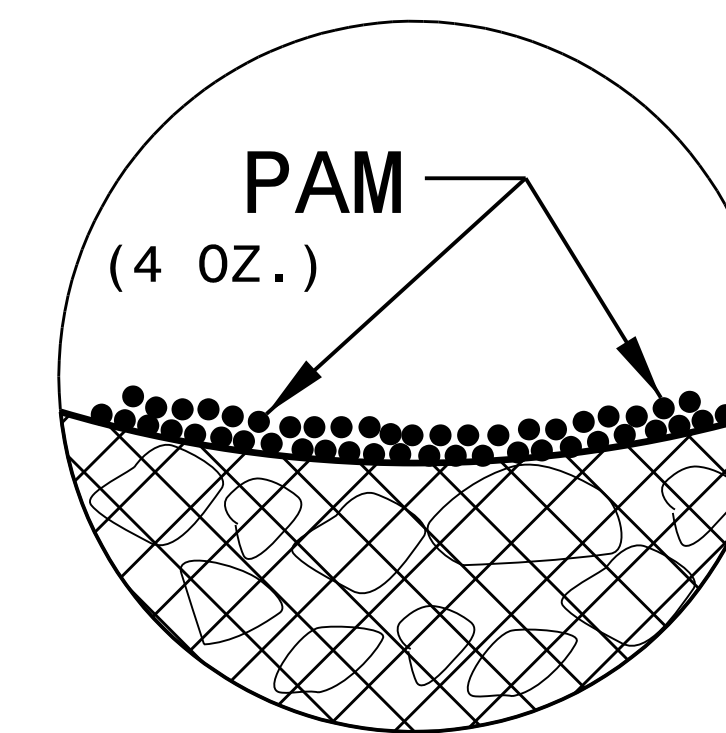
NOTES:

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

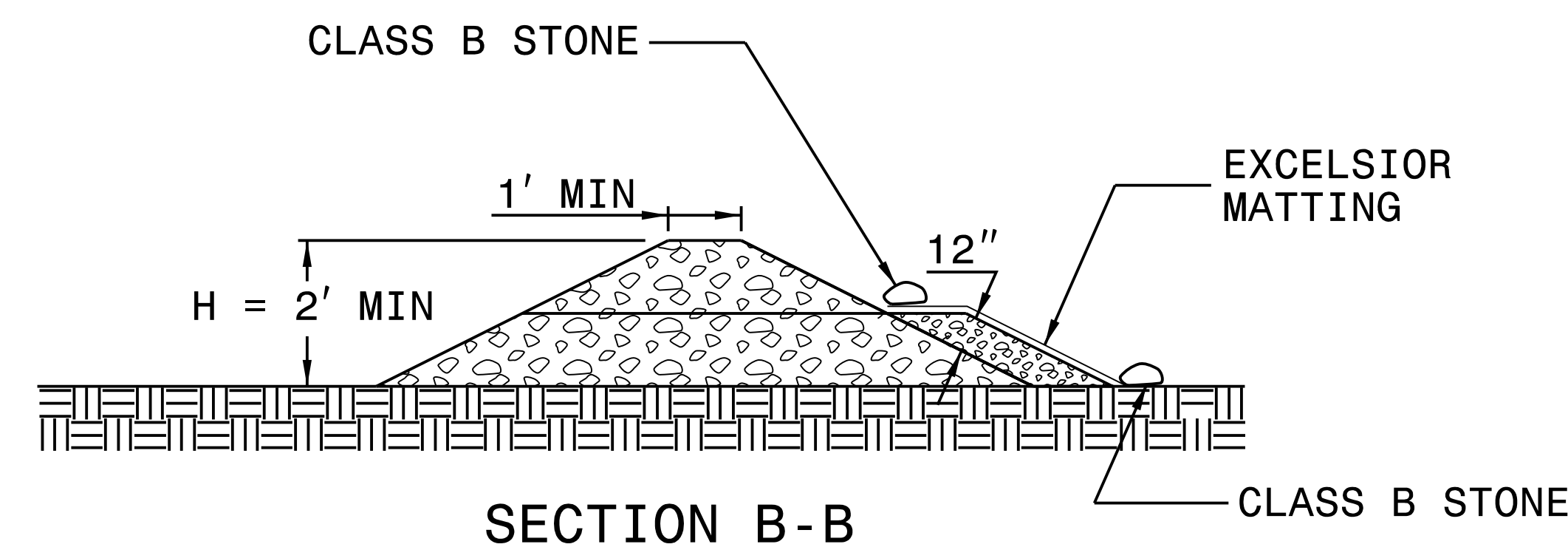
USE EXCELSIOR FOR MATTING MATERIAL AND ANCHOR MATTING SECTION AT TOP AND BOTTOM WITH CLASS B STONE.

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

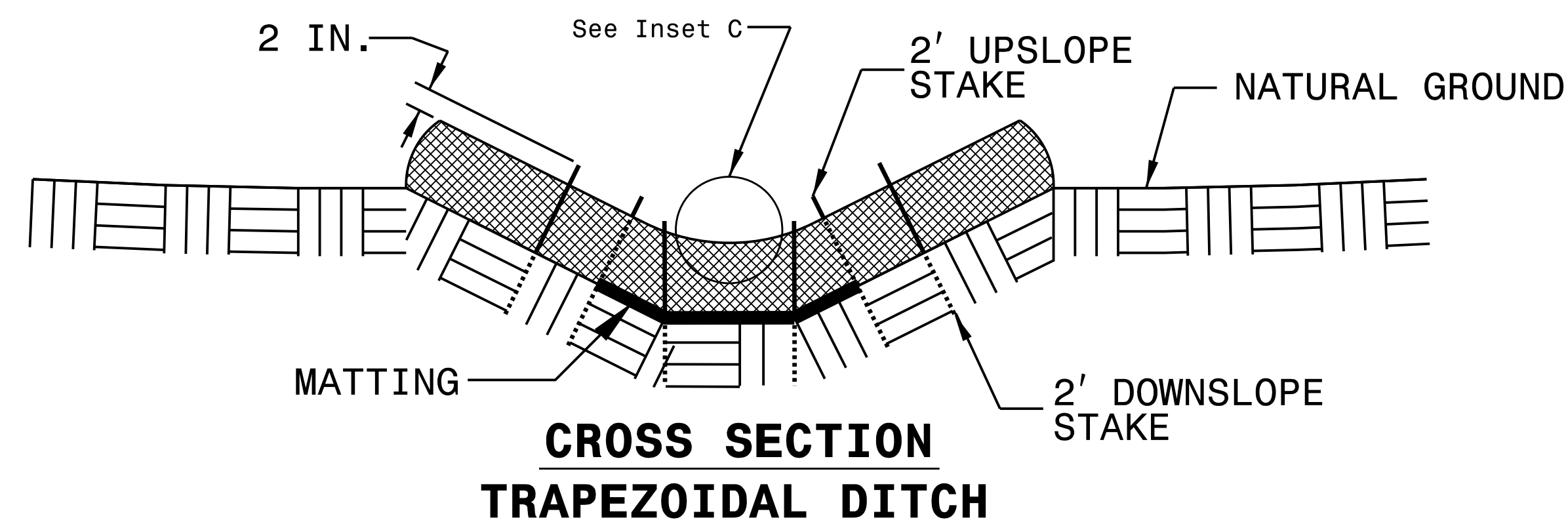
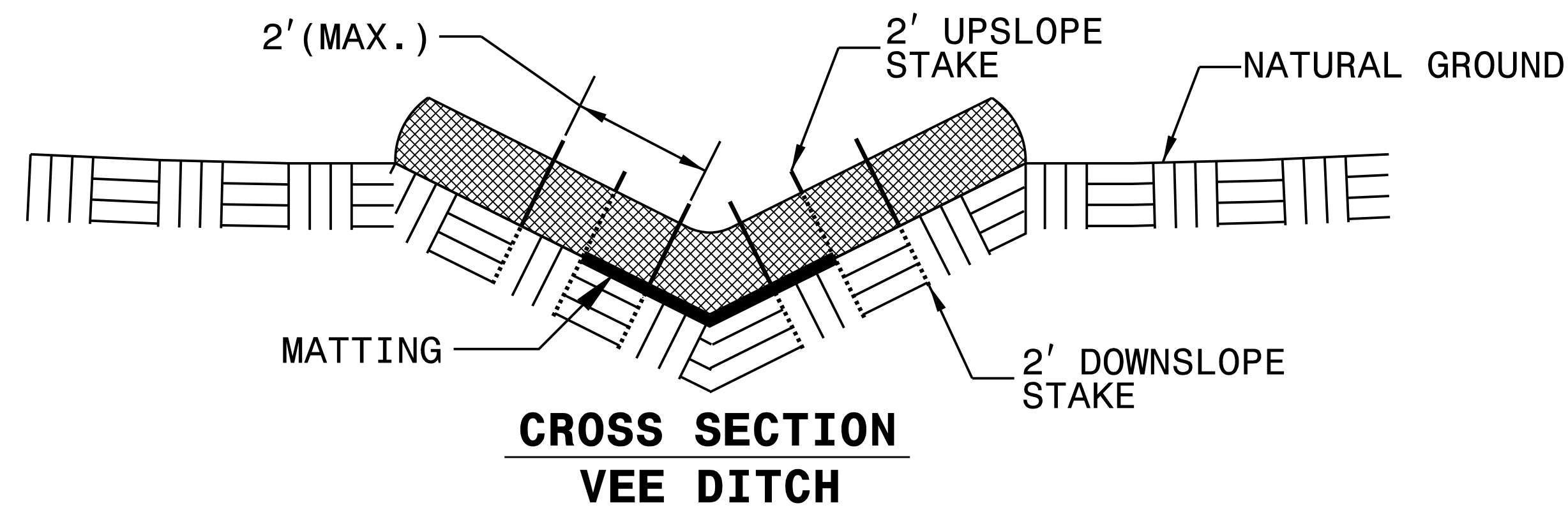
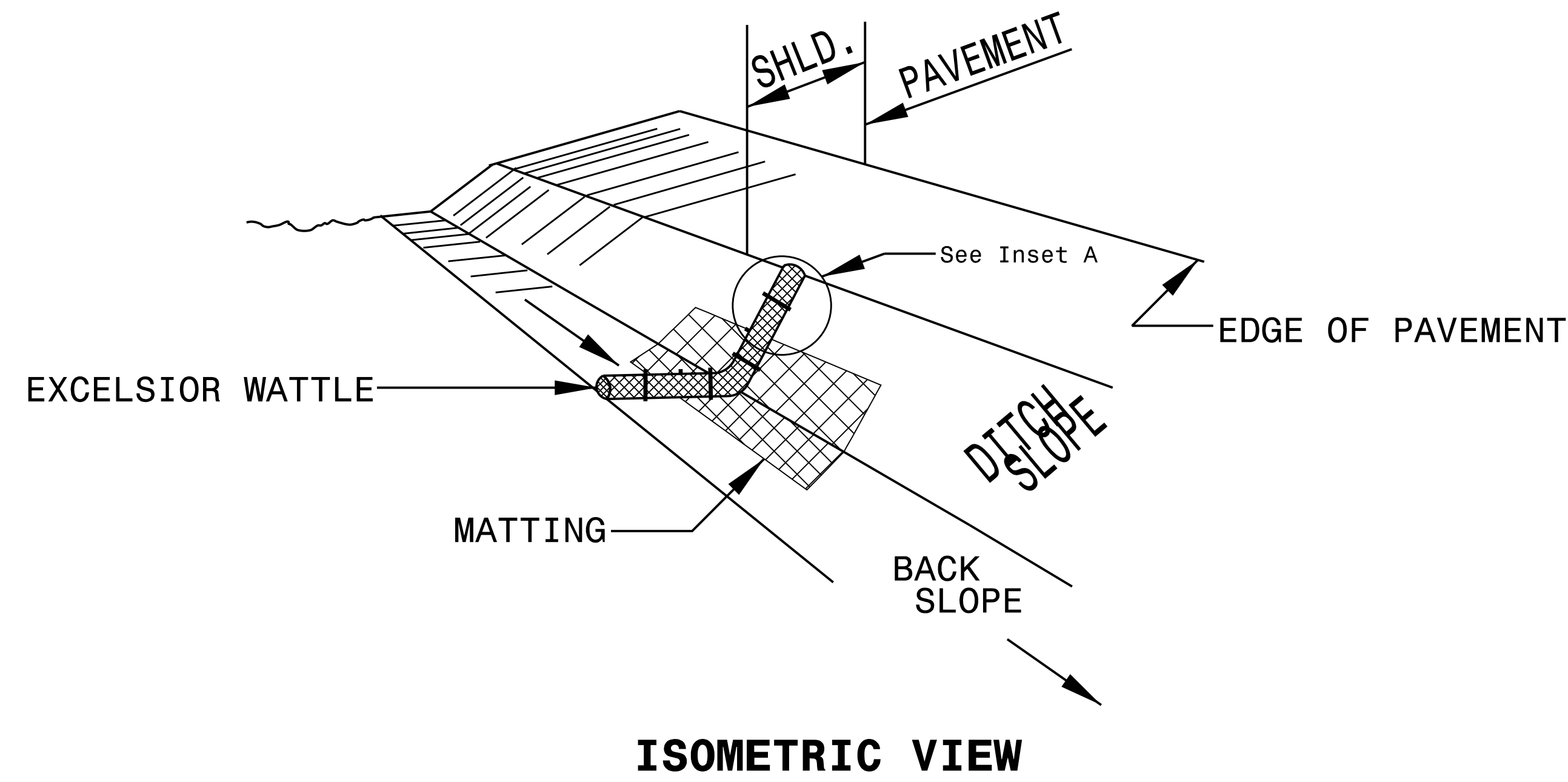


SECTION B-B

NOT TO SCALE

PROJECT REFERENCE NO. 1-5873	SHEET NO. EC-2A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

# WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL



**NOTES:**

USE MINIMUM 12 IN. DIAMETER EXCELSIOR WATTLE.

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

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

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

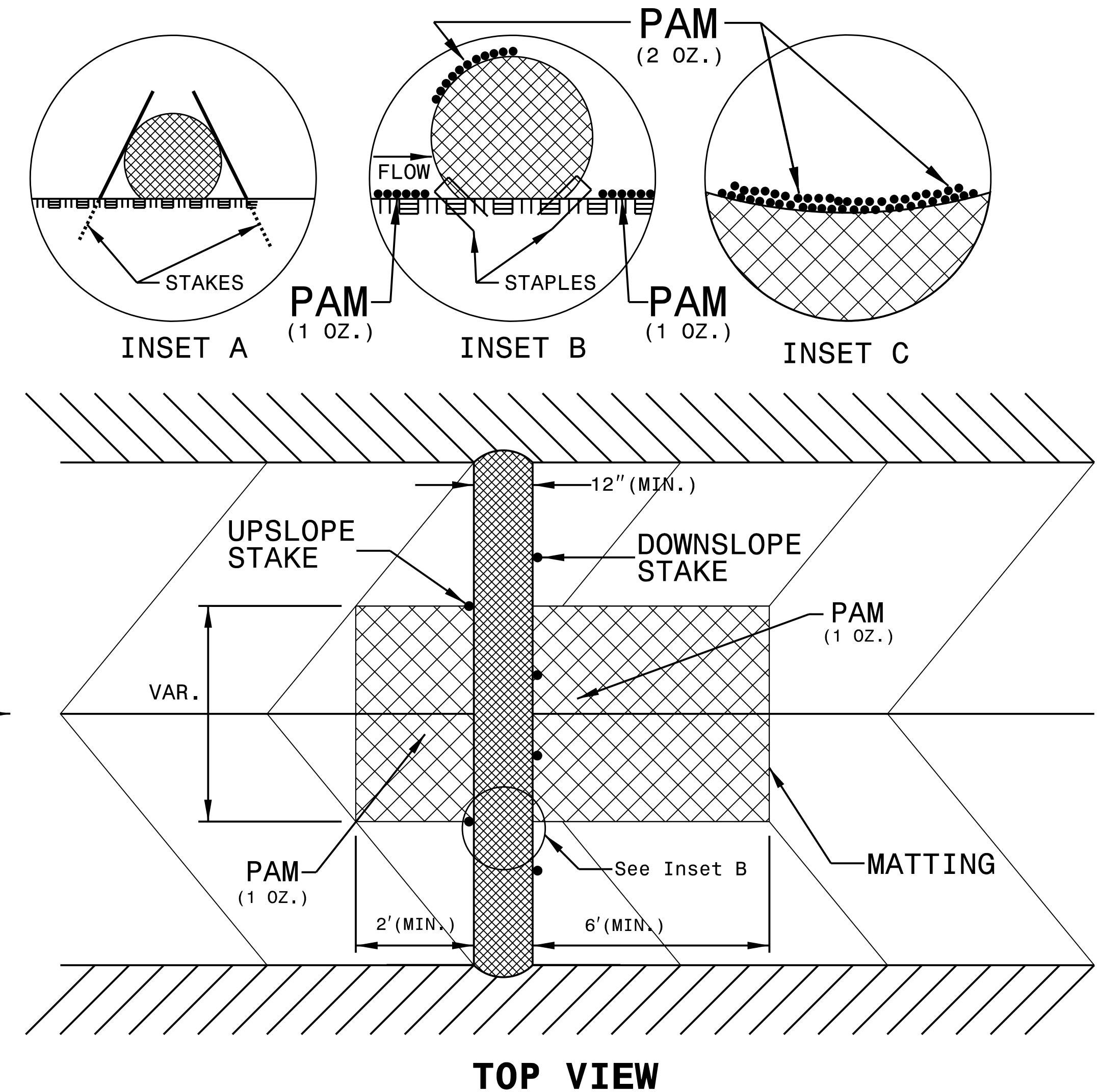
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.

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

INSTALL MATTING 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.



DIVISION OF HIGHWAYS  
STATE OF NORTH CAROLINA

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PROJECT REFERENCE NO. <i>1-5873</i>	SHEET NO. <i>EC-3</i>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

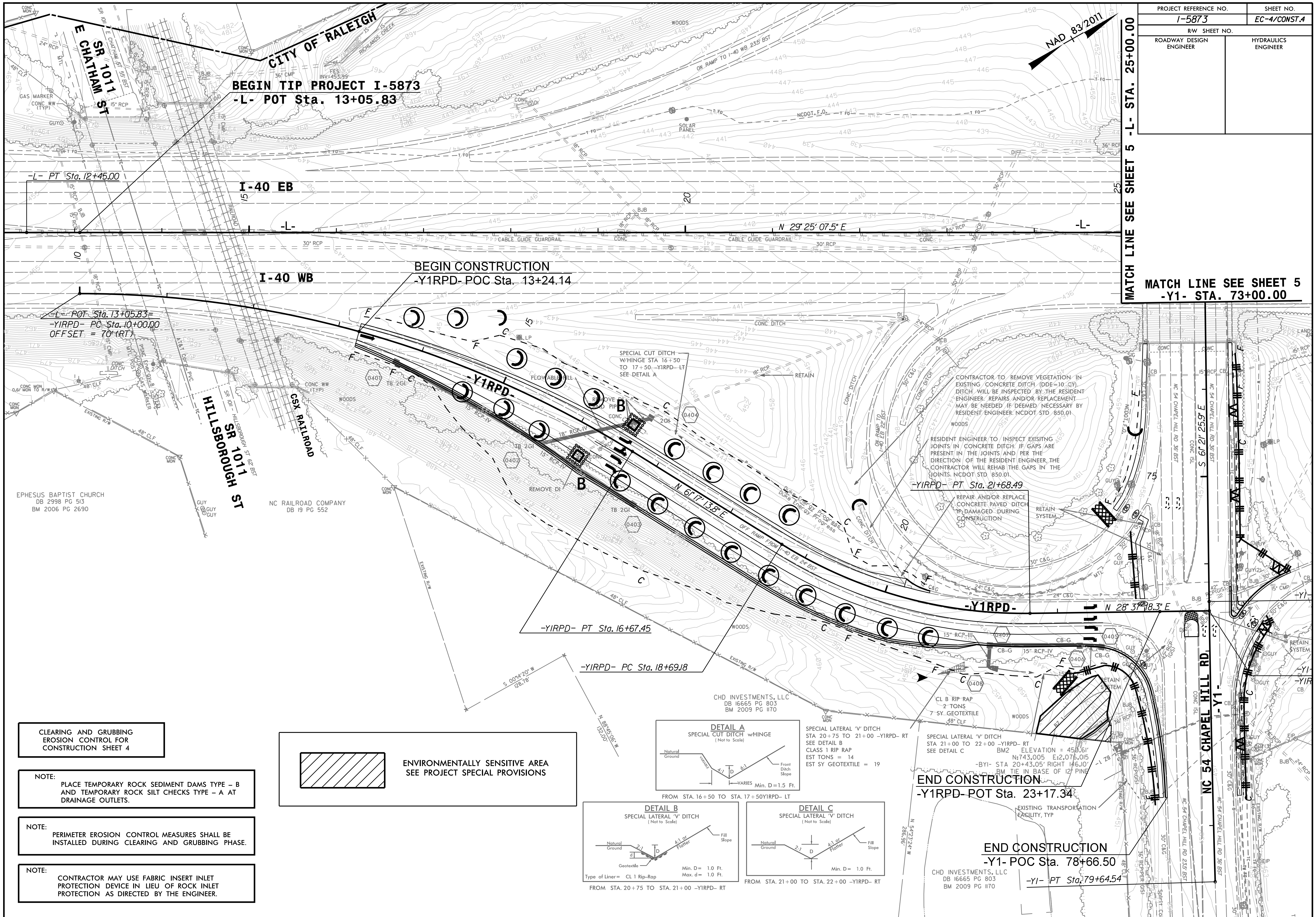
# ***SOIL STABILIZATION TIMEFRAMES***

<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. 1-5873	SHEET NO. EC-4/CONST.4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

MATCH LINE SEE SHEET 5 -L- STA. 25+00.00

MATCH LINE SEE SHEET 5 -Y1- STA. 73+00.00

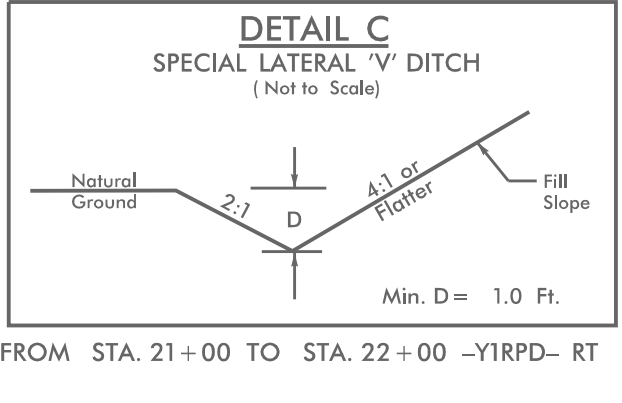
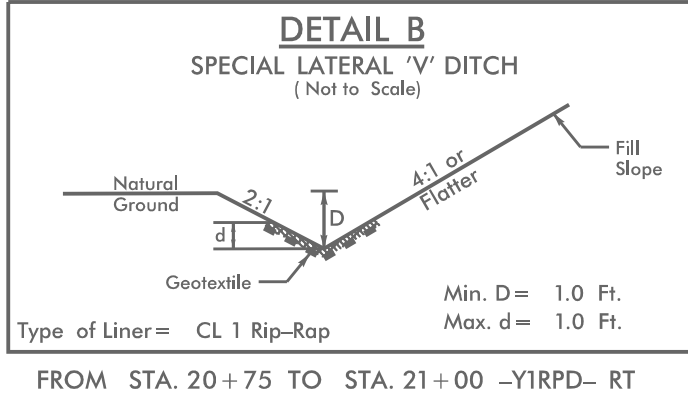
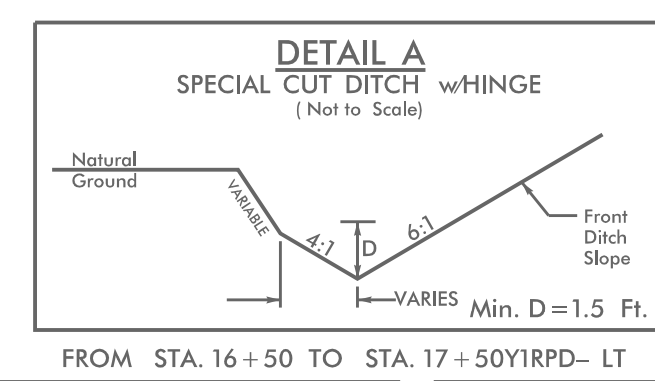


CLEARING AND GRUBBING  
EROSION CONTROL FOR  
CONSTRUCTION SHEET 4

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

NOTE:  
PERIMETER EROSION CONTROL MEASURES SHALL BE  
INSTALLED DURING CLEARING AND GRUBBING PHASE.

NOTE:  
CONTRACTOR MAY USE FABRIC INSERT INLET  
PROTECTION DEVICE IN LIEU OF ROCK INLET  
PROTECTION AS DIRECTED BY THE ENGINEER.



SPECIAL LATERAL 'V' DITCH  
STA 21+00 TO 22+00 -Y1RPD- RT  
SEE DETAIL C

CL B RIP RAP  
2 TONS  
7 SY. GEOTEXTILE  
36" CLF

SPECIAL LATERAL 'V' DITCH  
STA 20+75 TO 21+00 -Y1RPD- RT  
SEE DETAIL B

CLASS 1 RIP RAP  
EST TONS = 14  
EST SY GEOTEXTILE = 19

END CONSTRUCTION  
-Y1- POC Sta. 78+66.50

-Y1- PT Sta. 79+64.54

CHD INVESTMENTS, LLC  
DB 16665 PG 803  
BM 2009 PG 170

CONTRACTOR TO REMOVE VEGETATION IN  
EXISTING CONCRETE DITCH (DDE=10 CY).  
DITCH WILL BE INSPECTED BY THE RESIDENT  
ENGINEER. REPAIRS AND/OR REPLACEMENT  
MAY BE NEEDED IF DEEMED NECESSARY BY  
RESIDENT ENGINEER. NCDOT STD. 850.01

RESIDENT ENGINEER TO INSPECT EXISTING  
JOINTS IN CONCRETE DITCH. IF GAPS ARE  
PRESENT IN THE JOINTS AND PER THE  
DIRECTION OF THE RESIDENT ENGINEER, THE  
CONTRACTOR WILL REHAB THE GAPS IN THE  
JOINTS. NCDOT STD. 850.01

-Y1RPD- PT Sta. 21+68.49

REPAIR AND/OR REPLACE  
CONCRETE PAVED DITCH  
IF DAMAGED DURING  
CONSTRUCTION

SPECIAL CUT DITCH  
w/HINGE STA 16+50  
TO 17+50 -Y1RPD- LT  
SEE DETAIL A

REPAIR AND/OR REPLACE  
CONCRETE PAVED DITCH  
IF DAMAGED DURING  
CONSTRUCTION

CHD INVESTMENTS, LLC  
DB 16665 PG 803  
BM 2009 PG 170

CL B RIP RAP  
2 TONS  
7 SY. GEOTEXTILE  
36" CLF

SPECIAL LATERAL 'V' DITCH  
STA 21+00 TO 22+00 -Y1RPD- RT  
SEE DETAIL C

BM ELEVATION = 458.61'  
N: 743,005 E: 2,076,015  
BM TIE IN BASE OF 12" PINE

EXISTING TRANSPORTATION  
FACILITY, TYP

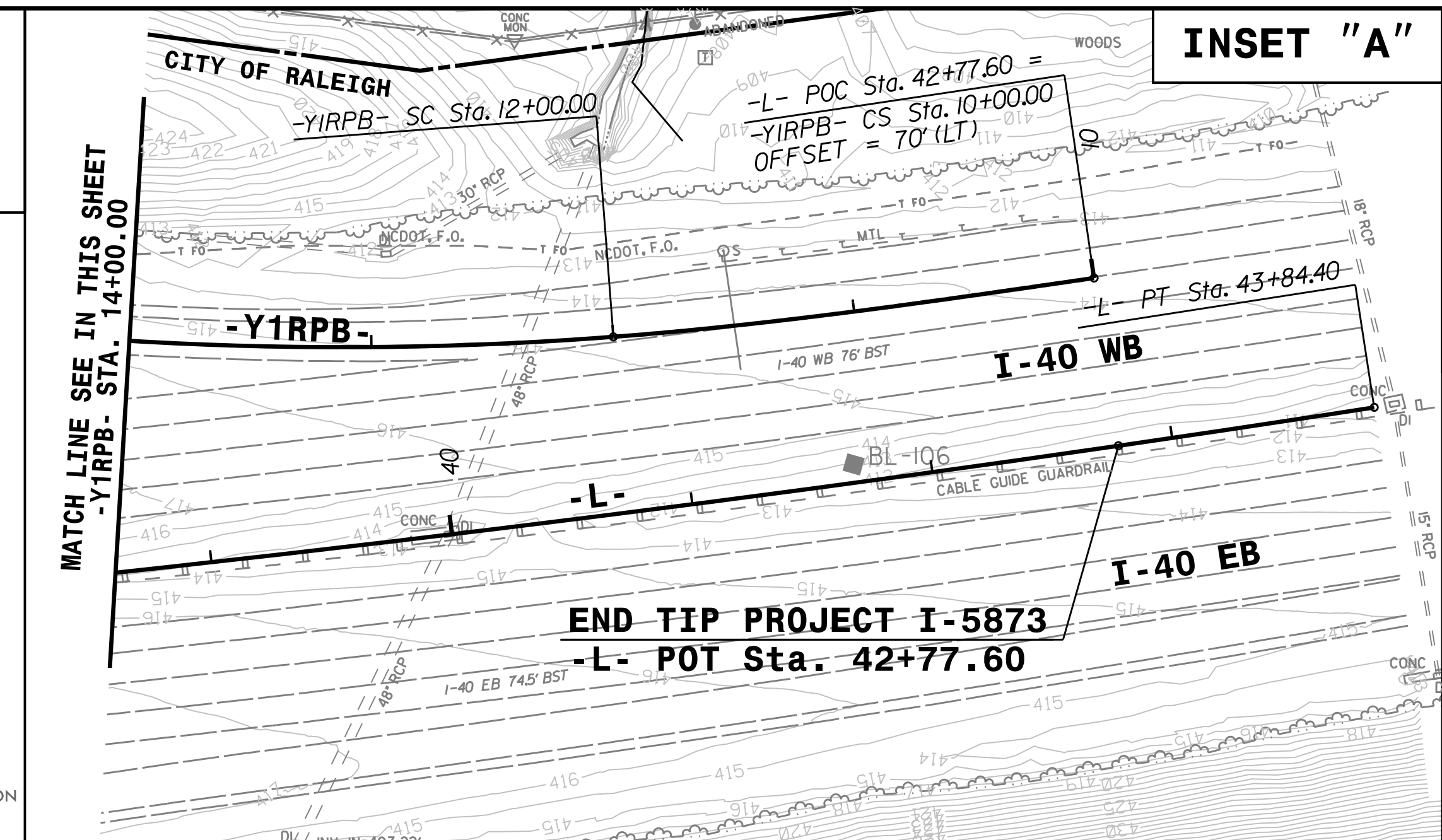
PROJECT REFERENCE NO. <b>1-5873</b>	SHEET NO. <b>EC-5/CONST.5</b>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



CLEARING AND GRUBBING  
EROSION CONTROL FOR  
CONSTRUCTION SHEET 5

- NOTE:  
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B AND TEMPORARY ROCK SILT CHECKS TYPE - A AT DRAINAGE OUTLETS.
- NOTE:  
PERIMETER EROSION CONTROL MEASURES SHALL BE INSTALLED DURING CLEARING AND GRUBBING PHASE.
- NOTE:  
CONTRACTOR MAY USE FABRIC INSERT INLET PROTECTION DEVICE IN LIEU OF ROCK INLET PROTECTION AS DIRECTED BY THE ENGINEER.

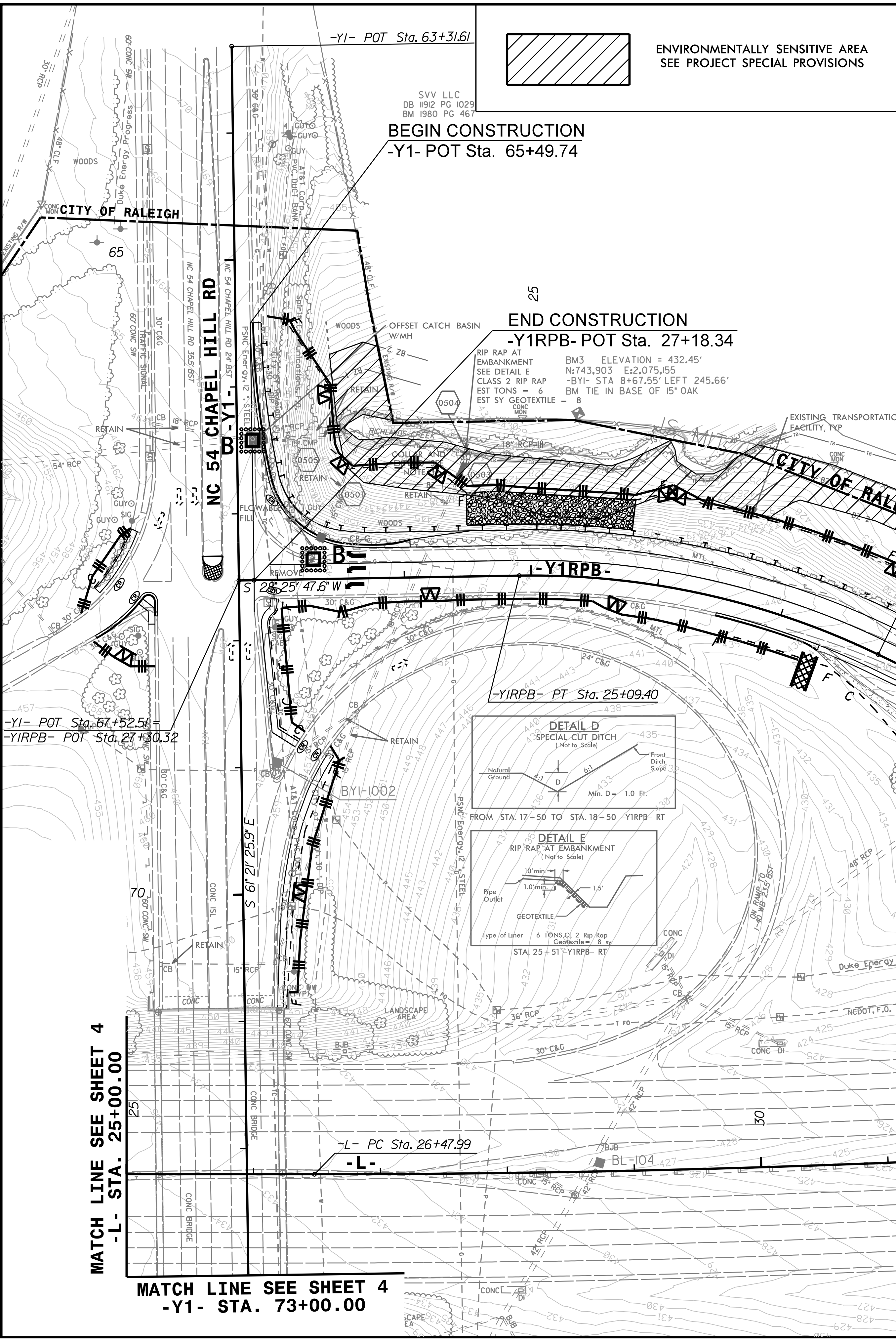
BRANDYWINE HOMEOWNERS ASSOCIATION OF CARY, INC.  
DB 13153 PG 1552  
BM 2008 PG 437



ENVIRONMENTALLY SENSITIVE AREA  
SEE PROJECT SPECIAL PROVISIONS

BEGIN CONSTRUCTION  
-Y1- POT Sta. 65+49.74

END CONSTRUCTION  
-Y1RPB- POT Sta. 27+18.34



MATCH LINE SEE SHEET 4  
-L- STA. 25+00.00

MATCH LINE SEE SHEET 4  
-Y1- STA. 73+00.00

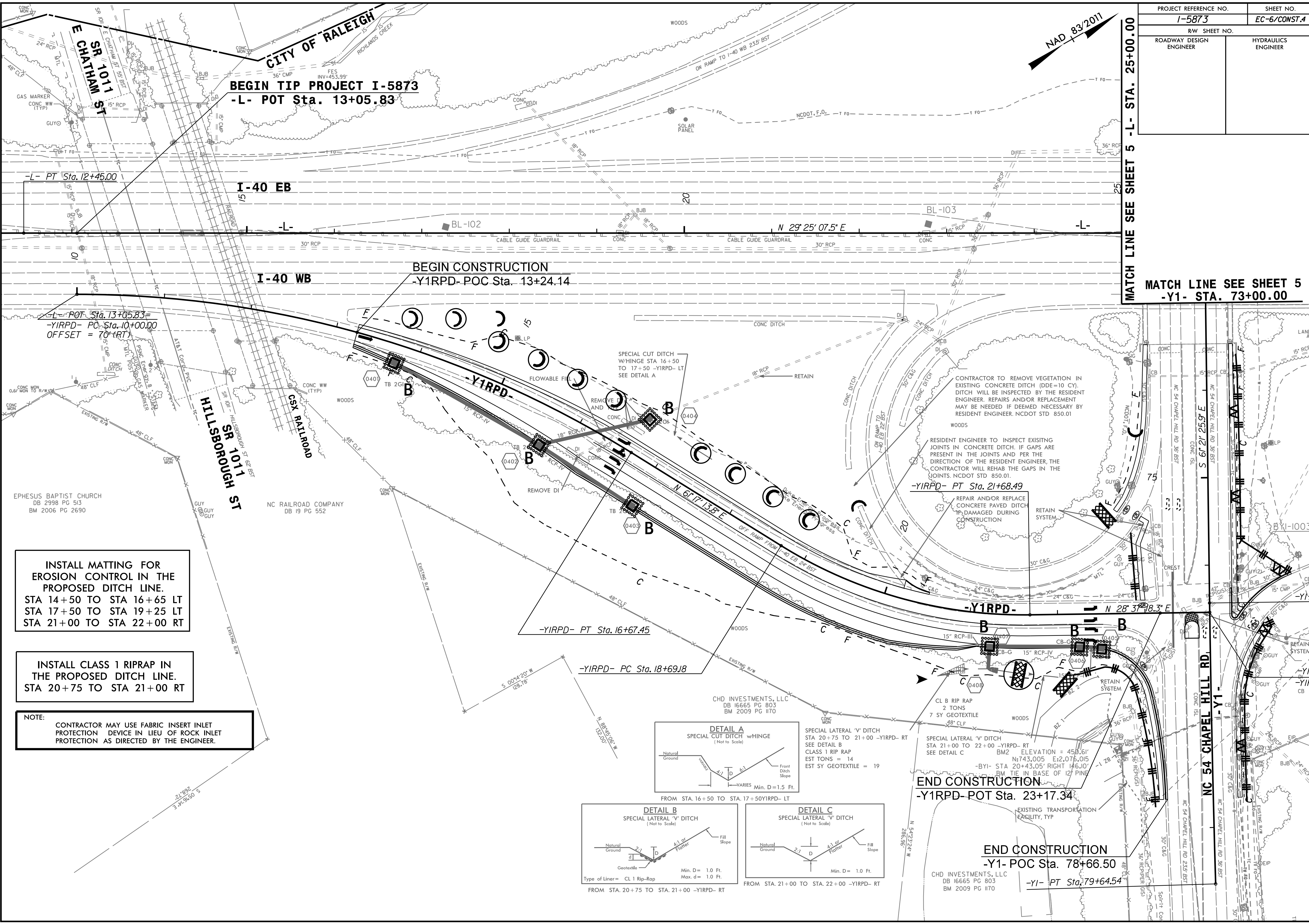
MATCH LINE SEE INSET "A"  
-Y1RPB- STA. 14+00.00

BEGIN CONSTRUCTION  
-Y1RPB- POC Sta. 17+21.19

PROJECT REFERENCE NO. 1-5873	SHEET NO. EC-6/CONST.4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

MATCH LINE SEE SHEET 5 -L- STA. 25+00.00

MATCH LINE SEE SHEET 5 -Y1- STA. 73+00.00



NAD 83/2011

**BEGIN TIP PROJECT I-5873**  
-L- POT Sta. 13+05.83

**BEGIN CONSTRUCTION**  
-Y1RPD- POC Sta. 13+24.14

-Y1RPD- PT Sta. 21+68.49

-Y1RPD- PT Sta. 16+67.45

-Y1RPD- PC Sta. 18+69.18

**END CONSTRUCTION**  
-Y1RPD- POT Sta. 23+17.34

**END CONSTRUCTION**  
-Y1- POC Sta. 78+66.50

-Y1- PT Sta. 79+64.54

EPHESUS BAPTIST CHURCH  
DB 2998 PG 513  
BM 2006 PG 2690

NC RAILROAD COMPANY  
DB 19 PG 552

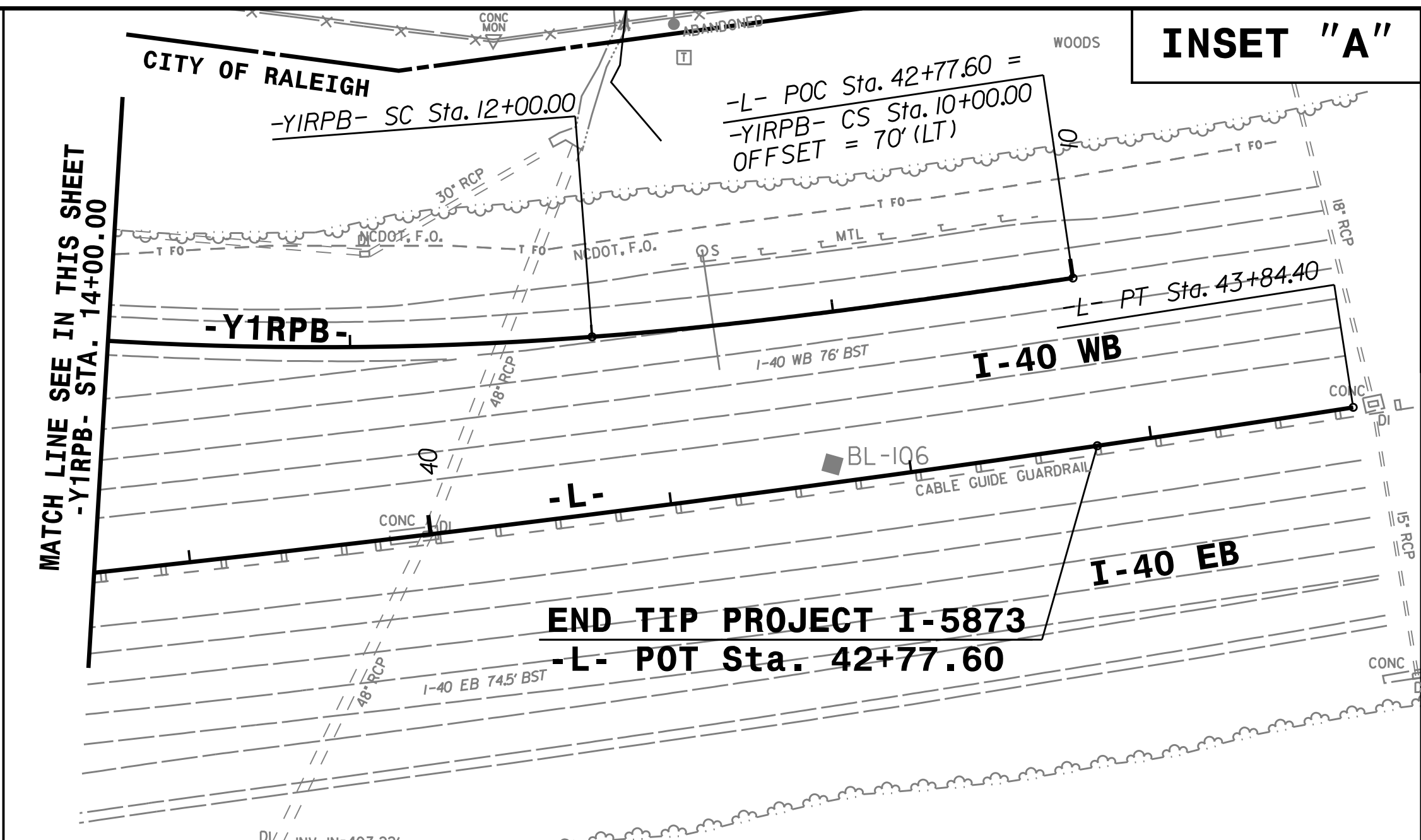
CHD INVESTMENTS, LLC  
DB 16665 PG 803  
BM 2009 PG 1170

CHD INVESTMENTS, LLC  
DB 16665 PG 803  
BM 2009 PG 1170



PROJECT REFERENCE NO.	SHEET NO.
I-5873	EC-7/CONST.5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

**INSET "A"**



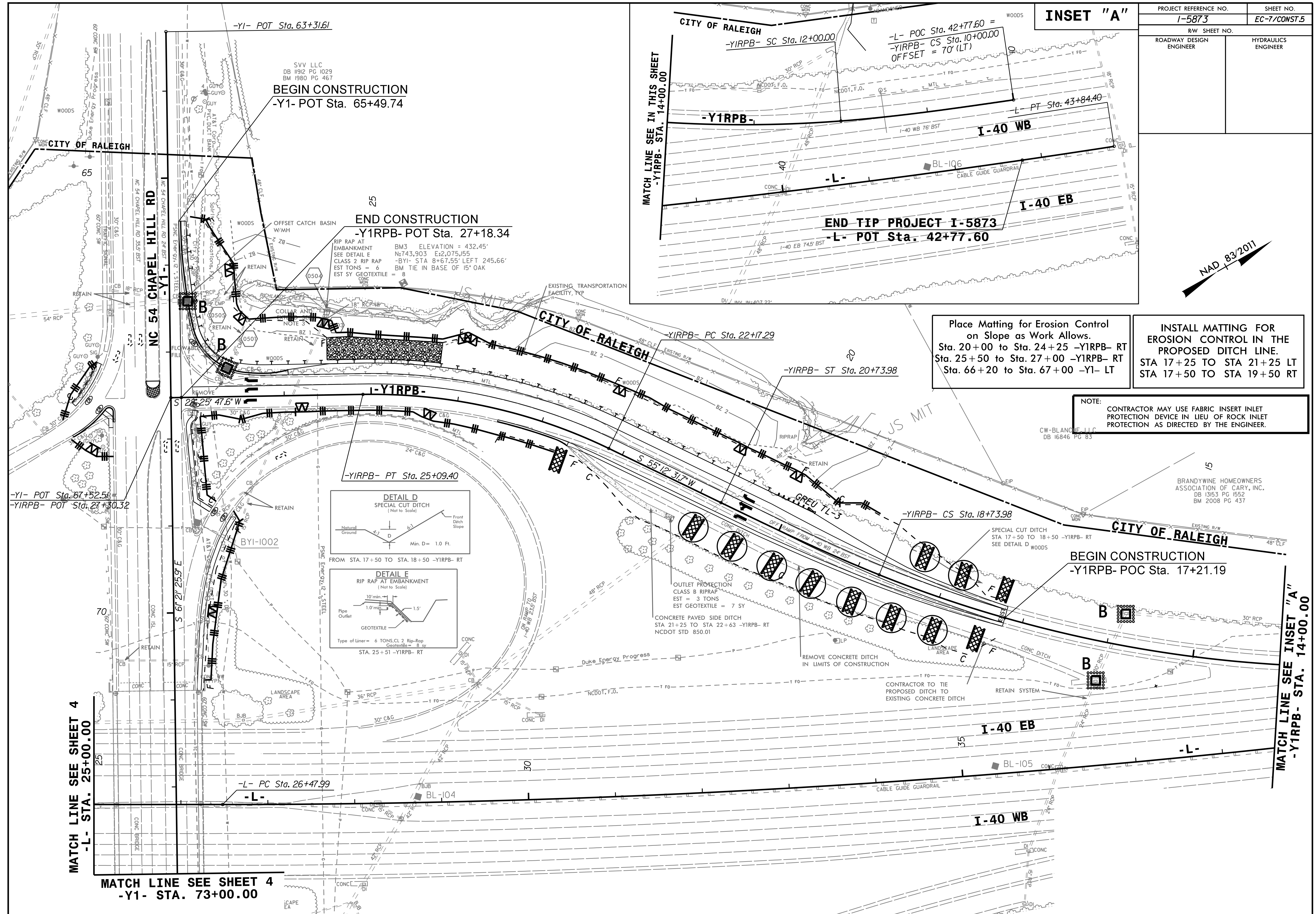
BEGIN CONSTRUCTION  
-Y1- POT Sta. 65+49.74

END CONSTRUCTION  
-Y1RPB- POT Sta. 27+18.34

Place Matting for Erosion Control on Slope as Work Allows.  
Sta. 20+00 to Sta. 24+25 -Y1RPB- RT  
Sta. 25+50 to Sta. 27+00 -Y1RPB- RT  
Sta. 66+20 to Sta. 67+00 -Y1- LT

INSTALL MATTING FOR EROSION CONTROL IN THE PROPOSED DITCH LINE.  
STA 17+25 TO STA 21+25 LT  
STA 17+50 TO STA 19+50 RT

NOTE:  
CONTRACTOR MAY USE FABRIC INSERT INLET PROTECTION DEVICE IN LIEU OF ROCK INLET PROTECTION AS DIRECTED BY THE ENGINEER.



MATCH LINE SEE SHEET 4  
-L- STA. 25+00.00

MATCH LINE SEE SHEET 4  
-Y1- STA. 73+00.00

MATCH LINE SEE INSET "A"  
-Y1RPB- STA. 14+00.00