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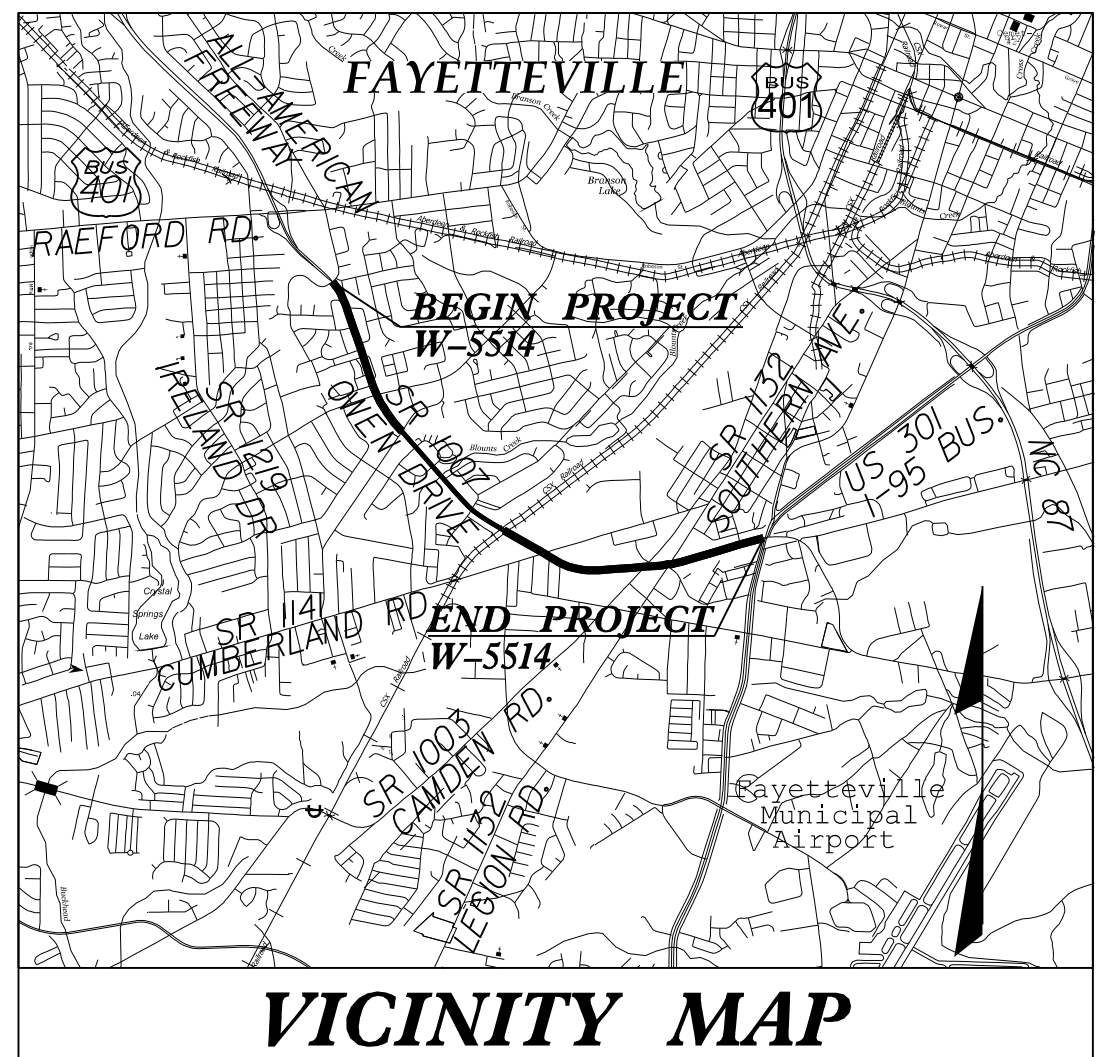
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STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	W-5514	EC-1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
44102.1.FS1	HSIP-1007(27)	PE	
		R/W, UTILITIES	
		CONSTRUCTION	

**EROSION AND SEDIMENT CONTROL MEASURES**

Std. #	Description	Symbol
1630.03	Temporary Silt Ditch	TD
1630.05	Temporary Diversion	TD
1605.01	Temporary Silt Fence	III III III
1606.01	Special Sediment Control Fence	△△△△△
1622.01	Temporary Berms and Slope Drains	—
1650.02	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	▭

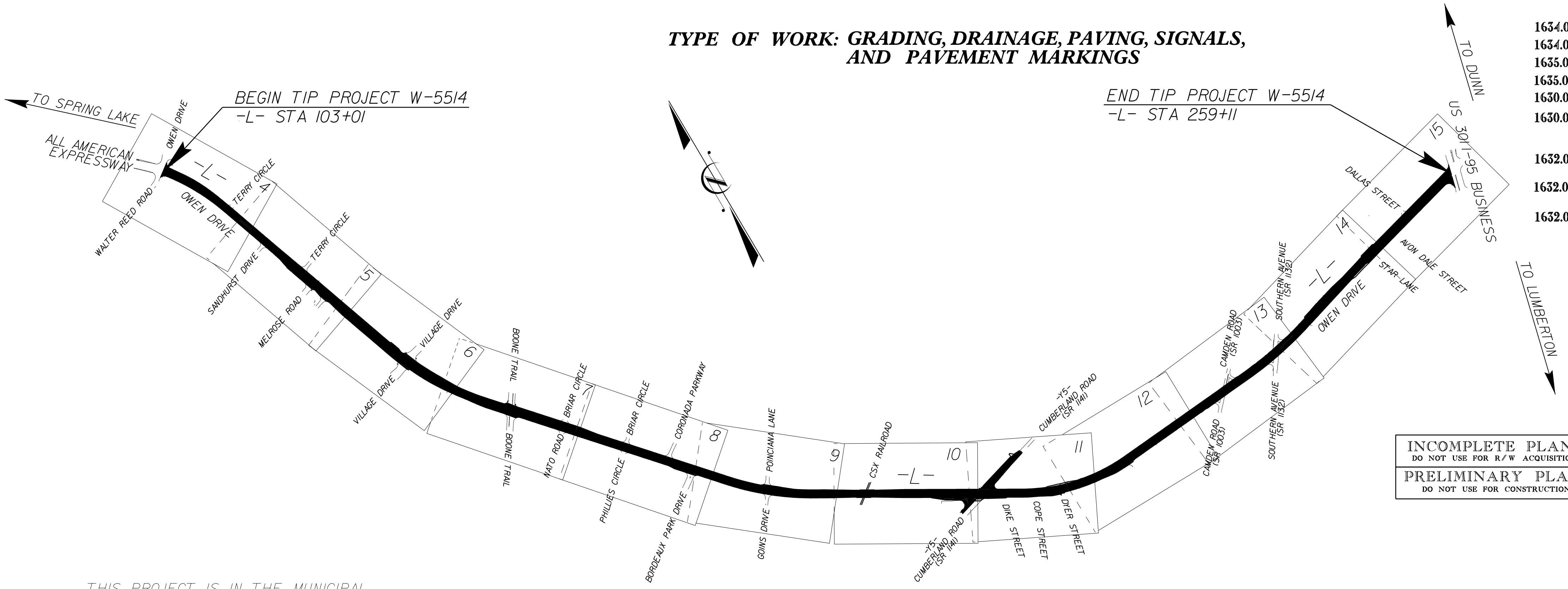
CONTRACT: WBS 44102.1.FS1 TIP PROJECT: W-5514



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

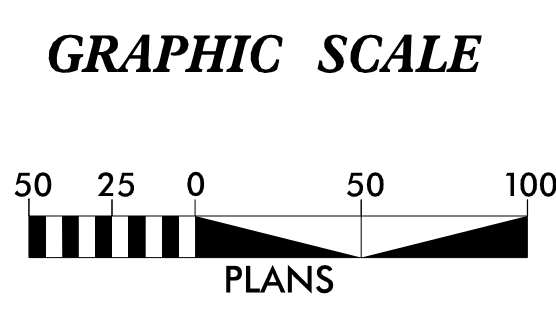
LOCATION: SR 1007 (OWEN DRIVE) FROM WALTER REED ROAD  
TO US 301 / I-95 BUSINESS

TYPE OF WORK: GRADING, DRAINAGE, PAVING, SIGNALS,  
AND PAVEMENT MARKINGS



INCOMPLETE PLANS  
DO NOT USE FOR R/W ACQUISITION  
PRELIMINARY PLANS  
DO NOT USE FOR CONSTRUCTION

THIS PROJECT IS IN THE MUNICIPAL BOUNDARIES OF FAYETTEVILLE  
CLEARING ON THIS PROJECT WILL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II



THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH THE REGULATIONS SET FORTH BY THE NCG-010000 GENERAL CONSTRUCTION PERMIT EFFECTIVE AUGUST 3, 2011 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.**

915 JONES FRANKLIN ROAD  
RALEIGH, NORTH CAROLINA 27606  
NC COA No. C-0890

**2012 STANDARD SPECIFICATIONS**

Designed by:  
**Eric M. Leonhart, EI** 3502  
NAME LEVEL III CERTIFICATION NO.

Reviewed in the Office of:

**ROADSIDE ENVIRONMENTAL UNIT**

419 Transportation Drive  
Fayetteville, NC 28301

**2012 STANDARD SPECIFICATIONS**

Reviewed by:  
**Jerry Yarborough, CPESC**

Roadway Standard Drawings

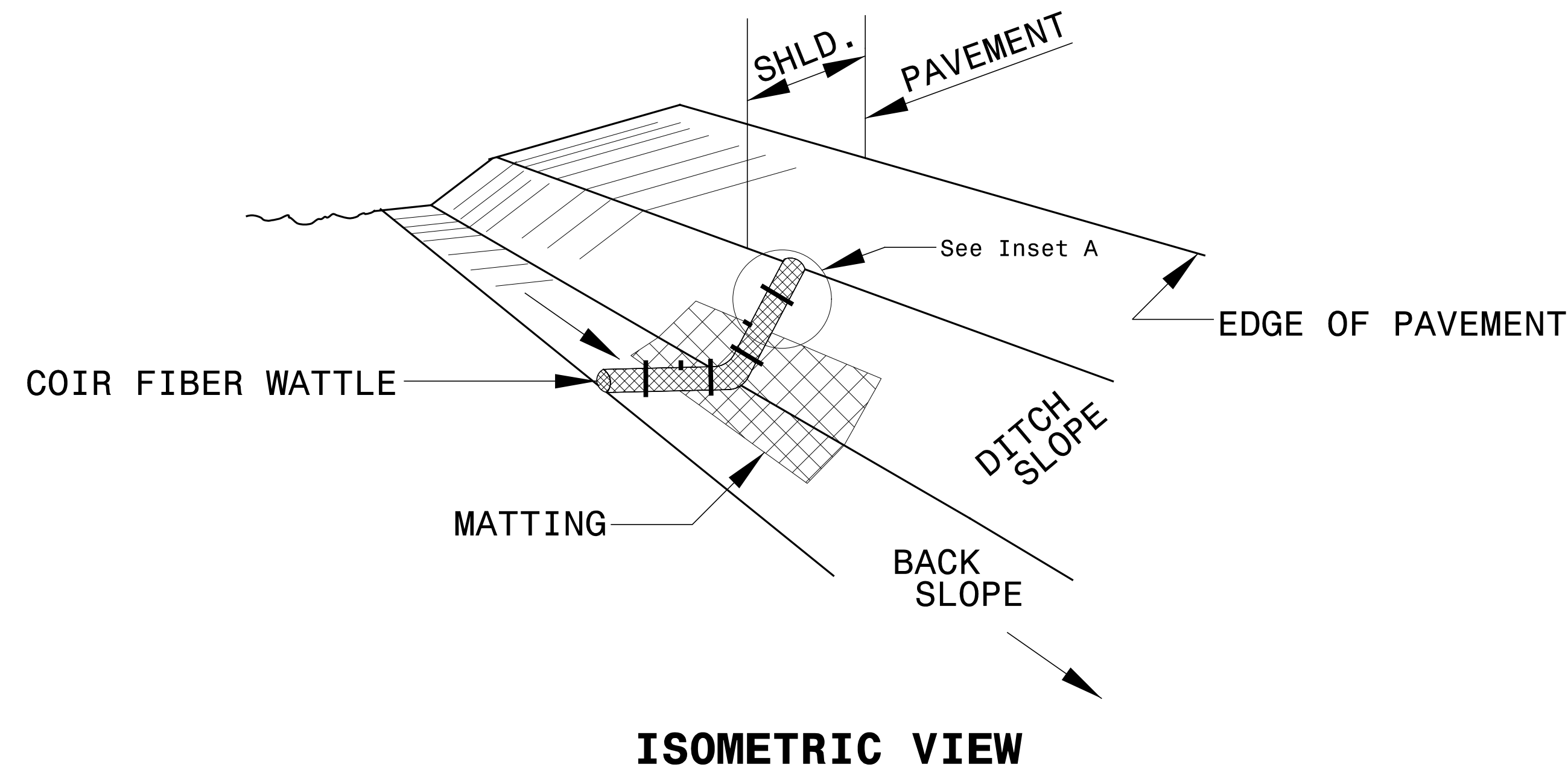
The following roadway english standards as appear in "Roadway Standard Drawings"- Roadway Design Unit - N. C. Department of Transportation - Raleigh, N. C., dated January 2012 and the latest revision thereto are applicable to this project and by reference hereby are considered a part of these plans.

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	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	

3/12/2015 4\_EC.dwg-tah.dgn  
eleonhart

PROJECT REFERENCE NO. W-5514	SHEET NO. EC-02
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

# COIR FIBER WATTLE 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.

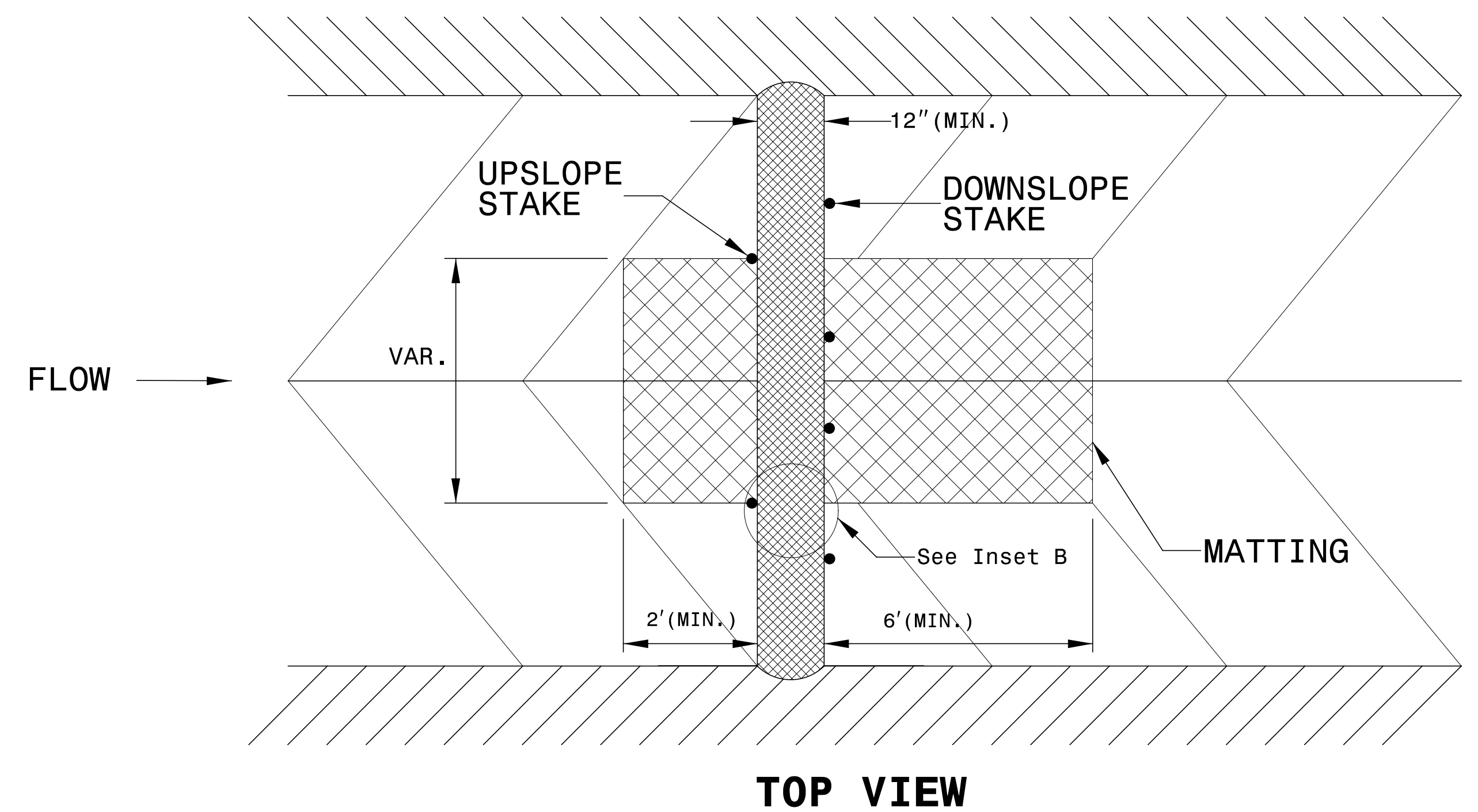
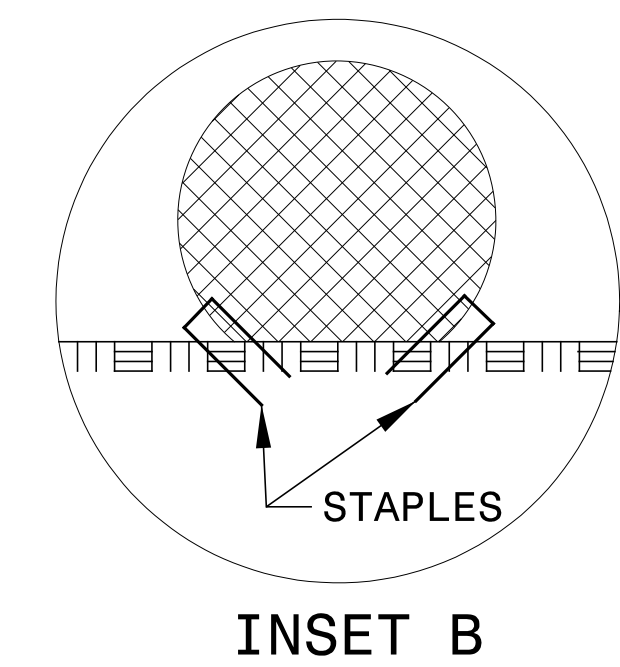
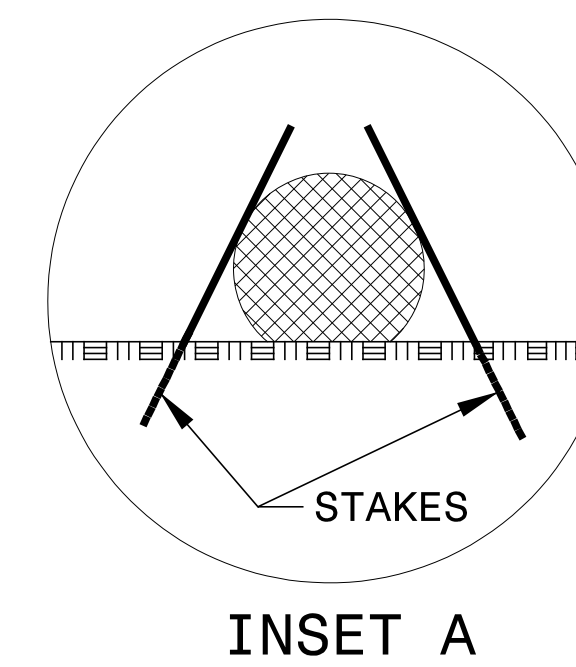
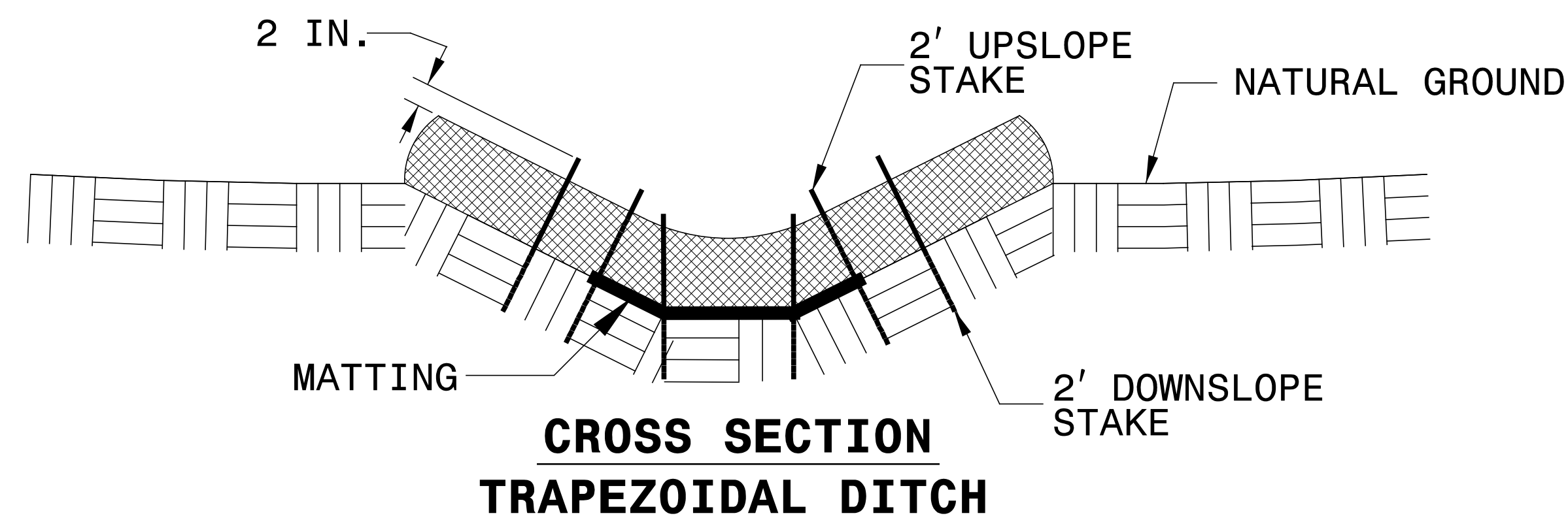
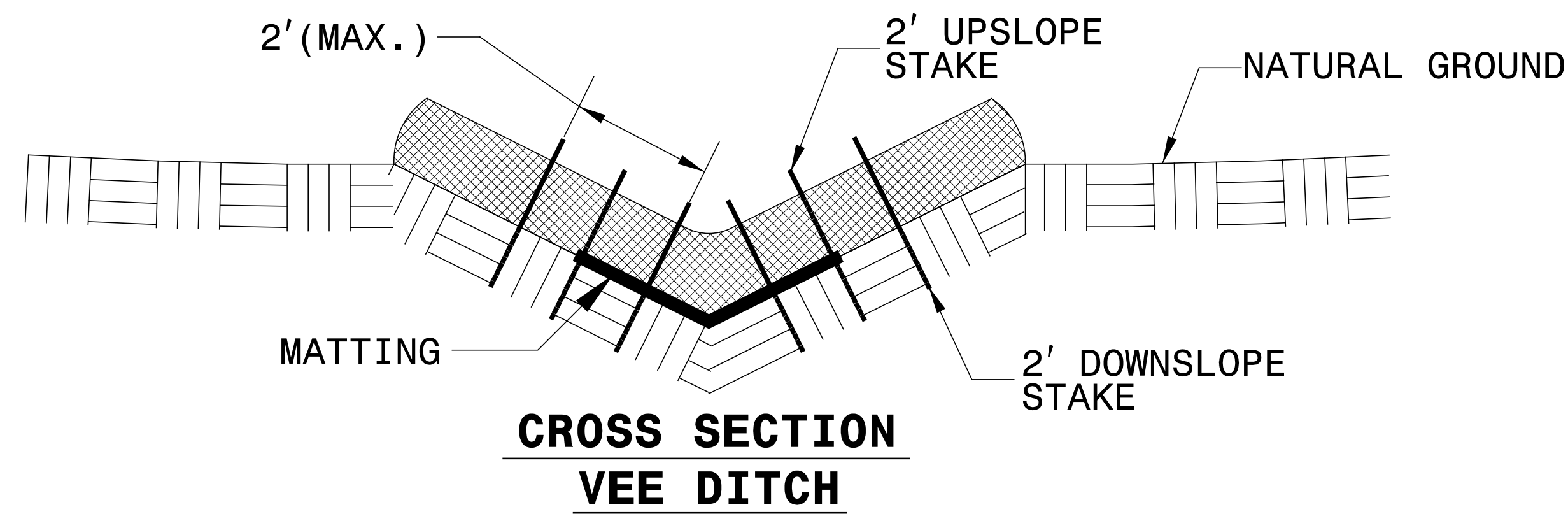
ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.

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.



DIVISION OF HIGHWAYS  
STATE OF NORTH CAROLINA

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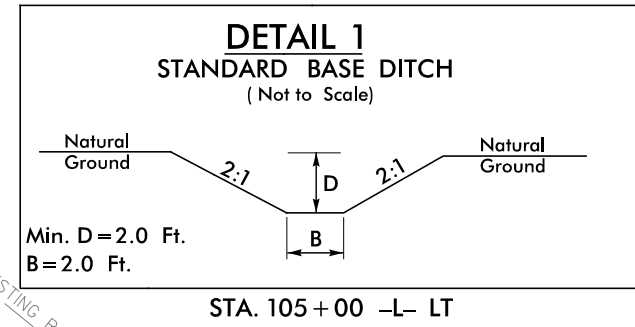
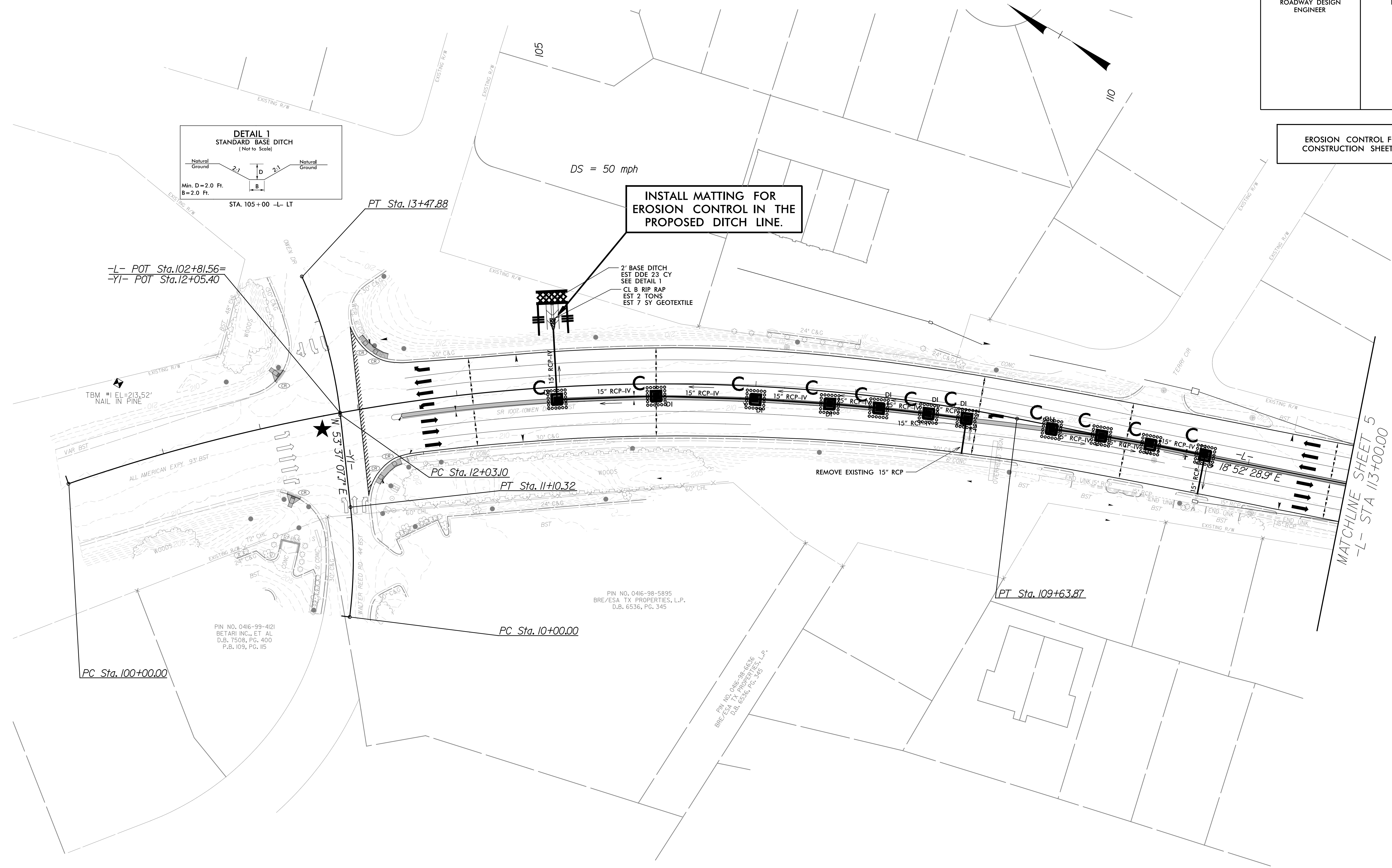
PROJECT REFERENCE NO. <i>W-5514</i>	SHEET NO. <i>EC-03</i>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

# ***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. W-5514	SHEET NO. EC-04/CONST.04
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

EROSION CONTROL FOR CONSTRUCTION SHEET 04



NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL REQUIRE PRIOR APPROVAL BY ENGINEER.

ADDITIONAL EROSION CONTROL DEVICES MAY NEED TO BE INSTALLED AS DIRECTED BY THE ENGINEER.

PIN NO. 0416-98-5895  
BRE/ESA TX PROPERTIES, L.P.  
D.B. 6536, PG. 345

PIN NO. 0416-99-4121  
BETARI INC., ET AL  
D.B. 7508, PG. 400  
P.B. 109, PG. 115

PIN NO. 0416-98-5836  
BRE/ESA TX PROPERTIES, L.P.  
D.B. 6536, PG. 345

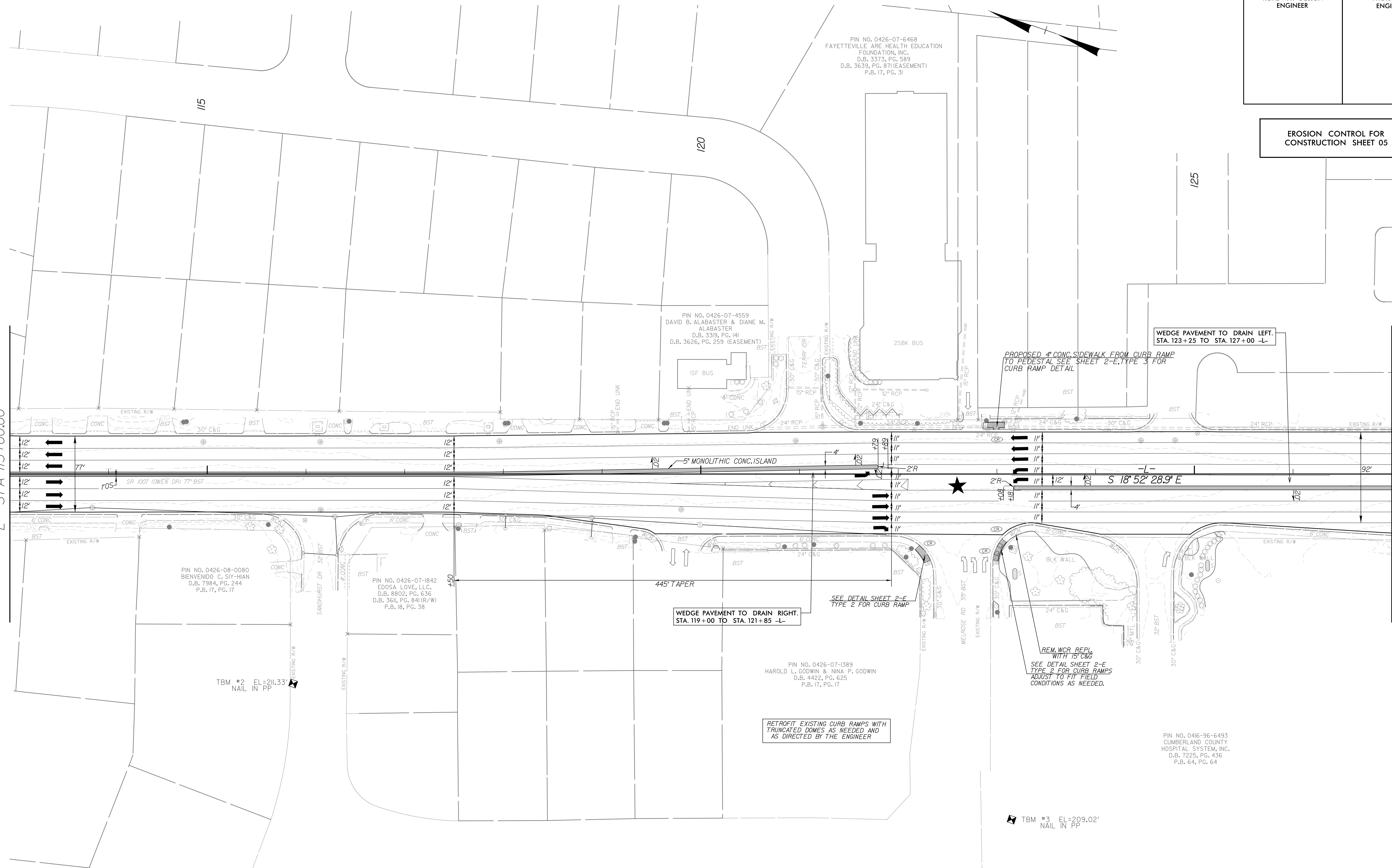
MATCHLINE SHEET 5  
-L- STA 113+00.00

PROJECT REFERENCE NO.	SHEET NO.
W-5514	EC-05/CONST.05
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

EROSION CONTROL FOR CONSTRUCTION SHEET 05

MATCHLINE SHEET 4  
-L- STA 113+00.00

MATCHLINE SHEET 6  
-L- STA 127+00.00



NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL REQUIRE PRIOR APPROVAL BY ENGINEER.

ADDITIONAL EROSION CONTROL DEVICES MAY NEED TO BE INSTALLED AS DIRECTED BY THE ENGINEER.

PIN NO. 0426-07-6468  
FAYETTEVILLE ARE HEALTH EDUCATION  
FOUNDATION, INC.  
D.B. 3373, PG. 589  
D.B. 3639, PG. 871 (EASEMENT)  
P.B. 17, PG. 31

PIN NO. 0426-07-4559  
DAVID B. ALABASTER & DIANE M.  
ALABASTER  
D.B. 3319, PG. 141  
D.B. 3626, PG. 259 (EASEMENT)  
P.B. 17, PG. 31

PIN NO. 0426-08-0080  
BIENVENIDO C. SIY-HIAN  
D.B. 7984, PG. 244  
P.B. 17, PG. 17

PIN NO. 0426-07-1842  
EDDSA LOVE, LLC.  
D.B. 8802, PG. 636  
D.B. 3611, PG. 841 (R/W)  
P.B. 18, PG. 38

PIN NO. 0426-07-1389  
HAROLD L. GODWIN & MINA P. GODWIN  
D.B. 4422, PG. 625  
P.B. 17, PG. 17

PIN NO. 0416-96-6493  
CUMBERLAND COUNTY  
HOSPITAL SYSTEM, INC.  
D.B. 7225, PG. 436  
P.B. 64, PG. 64

TBM #2 EL=211.33'  
NAIL IN PP

TBM #3 EL=209.02'  
NAIL IN PP

WEDGE PAVEMENT TO DRAIN RIGHT.  
STA. 119+00 TO STA. 121+85 -L-

WEDGE PAVEMENT TO DRAIN LEFT.  
STA. 123+25 TO STA. 127+00 -L-

PROPOSED 4\"/>

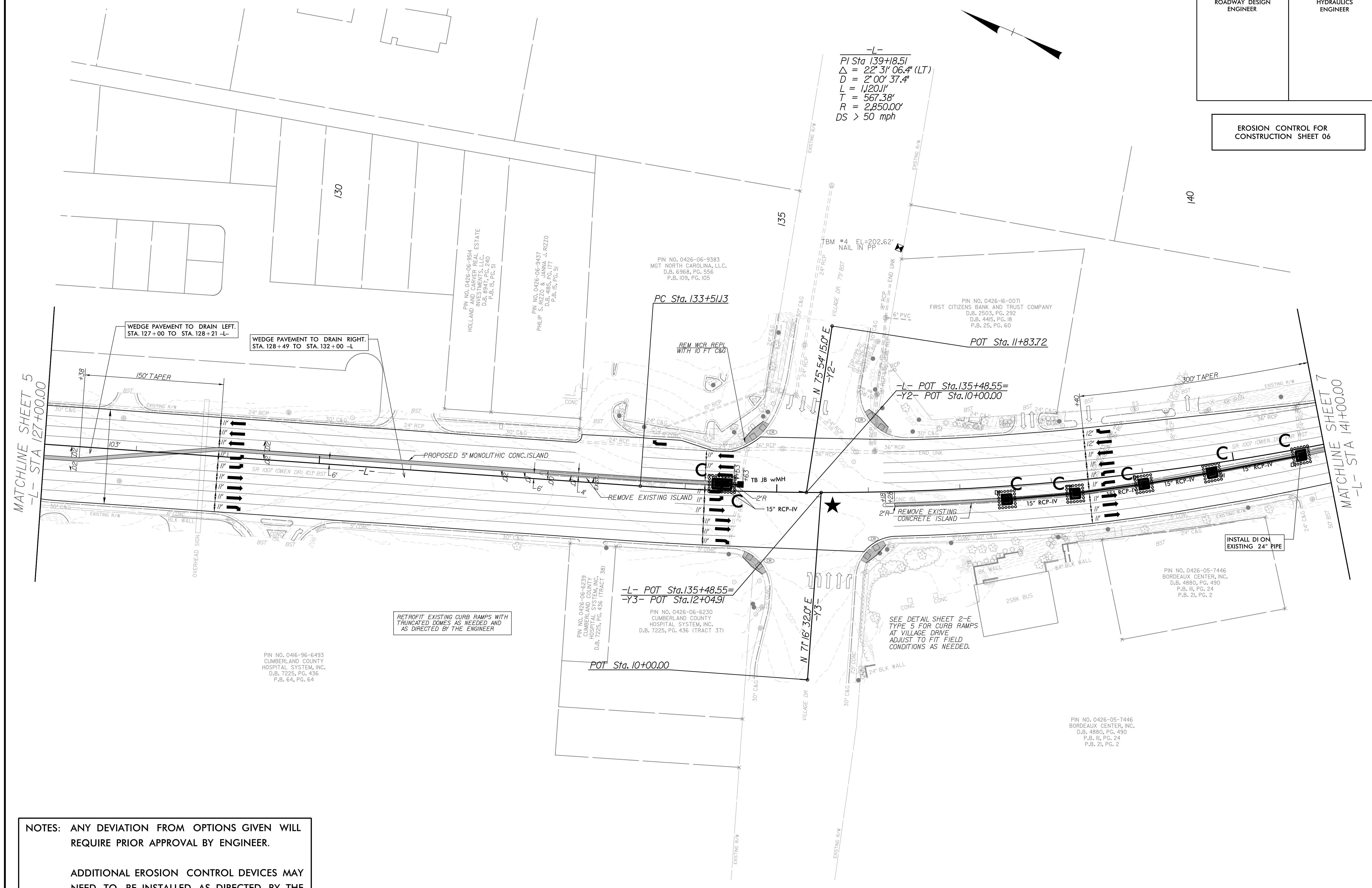
SEE DETAIL SHEET 2-F  
TYPE 2 FOR CURB RAMP

REM. WCR REPL.  
WITH 15\"/>

RETROFIT EXISTING CURB RAMPS WITH  
TRUNCATED DOMES AS NEEDED AND  
AS DIRECTED BY THE ENGINEER

PROJECT REFERENCE NO.	SHEET NO.
W-55/4	EC-06/CONST.06
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

EROSION CONTROL FOR CONSTRUCTION SHEET 06



-L-  
 PI Sta. 139+18.51  
 $\Delta = 22^\circ 31' 06.4''$  (LT)  
 $D = 2^\circ 00' 37.4''$   
 $L = 1,120.11'$   
 $T = 567.38'$   
 $R = 2,850.00'$   
 $DS > 50$  mph

MATCHLINE SHEET 5  
 -L- STA 127+00.00

MATCHLINE SHEET 7  
 -L- STA 141+00.00

WEDGE PAVEMENT TO DRAIN LEFT.  
 STA. 127+00 TO STA. 128+21 -L-

WEDGE PAVEMENT TO DRAIN RIGHT.  
 STA. 128+49 TO STA. 132+00 -L

RETROFIT EXISTING CURB RAMPS WITH TRUNCATED DOMES AS NEEDED AND AS DIRECTED BY THE ENGINEER

-L- POT Sta. 135+48.55=  
 -Y3- POT Sta. 12+04.91

SEE DETAIL SHEET 2-F TYPE 5 FOR CURB RAMPS AT VILLAGE DRIVE ADJUST TO FIT FIELD CONDITIONS AS NEEDED.

INSTALL DI ON EXISTING 24" PIPE

NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL REQUIRE PRIOR APPROVAL BY ENGINEER.

ADDITIONAL EROSION CONTROL DEVICES MAY NEED TO BE INSTALLED AS DIRECTED BY THE ENGINEER.

PIN NO. 0416-96-6493  
 CUMBERLAND COUNTY HOSPITAL SYSTEM, INC.  
 D.B. 7225, PG. 436  
 P.B. 64, PG. 64

PIN NO. 0426-06-6230  
 CUMBERLAND COUNTY HOSPITAL SYSTEM, INC.  
 D.B. 7225, PG. 436 (TRACT 38)

PIN NO. 0426-06-6230  
 CUMBERLAND COUNTY HOSPITAL SYSTEM, INC.  
 D.B. 7225, PG. 436 (TRACT 37)

PIN NO. 0426-06-9514  
 CARVER REAL ESTATE INVESTMENTS, L.L.C.  
 D.B. 8947, PG. 140  
 P.B. 15, PG. 51

PIN NO. 0426-06-9437  
 J. RIZZO  
 D.B. 4185, PG. 177  
 P.B. 15, PG. 51

PIN NO. 0426-06-9383  
 MGT NORTH CAROLINA, L.L.C.  
 D.B. 6968, PG. 556  
 P.B. 109, PG. 105

PIN NO. 0426-16-0071  
 FIRST CITIZENS BANK AND TRUST COMPANY  
 D.B. 2503, PG. 292  
 D.B. 4415, PG. 18  
 P.B. 25, PG. 60

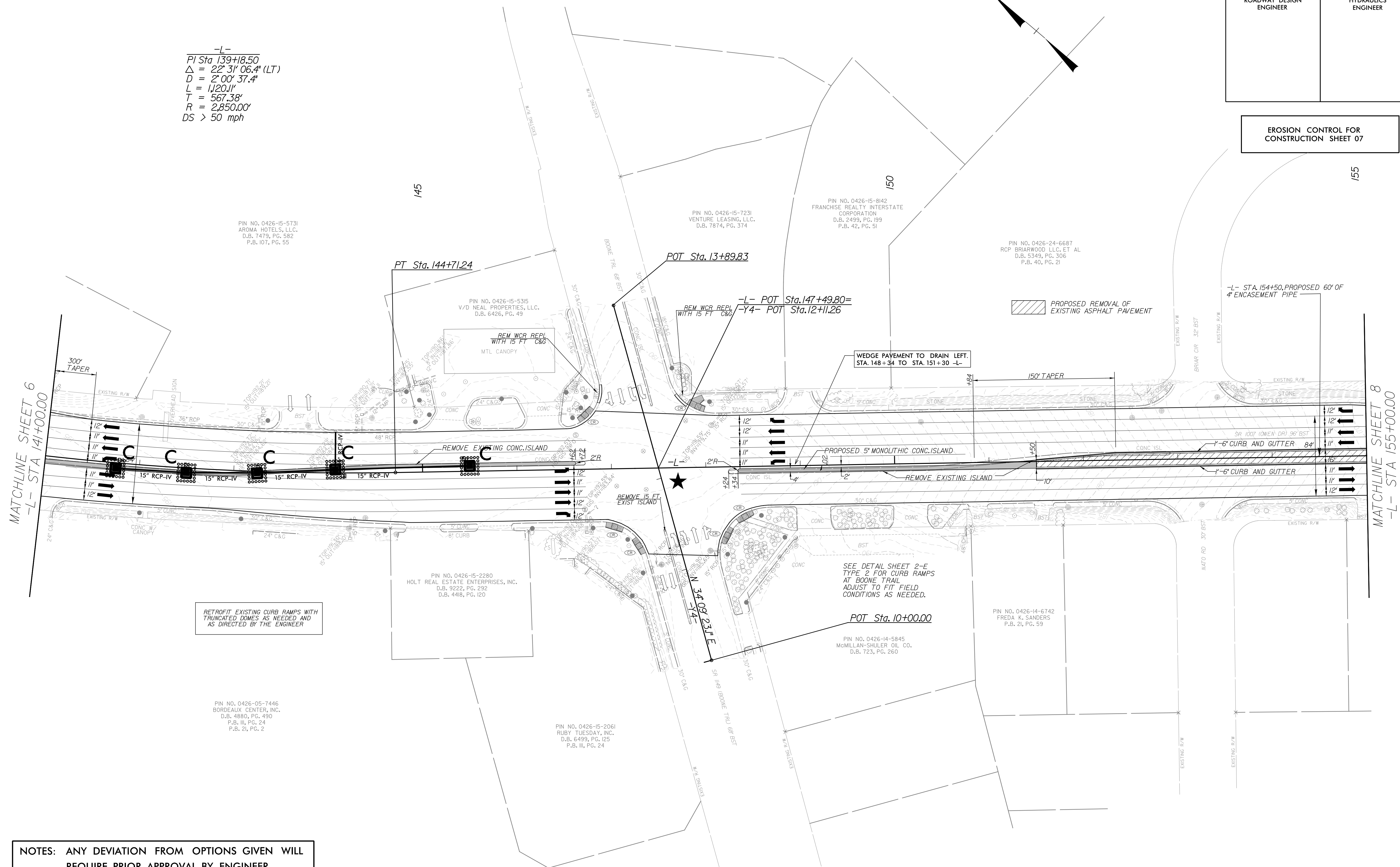
PIN NO. 0426-05-7446  
 BORDEAUX CENTER, INC.  
 D.B. 4880, PG. 490  
 P.B. 21, PG. 2

PIN NO. 0426-05-7446  
 BORDEAUX CENTER, INC.  
 D.B. 4880, PG. 490  
 P.B. 21, PG. 24  
 P.B. 21, PG. 2

PROJECT REFERENCE NO.	SHEET NO.
W-55/4	EC-07/CONST.07
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

EROSION CONTROL FOR CONSTRUCTION SHEET 07

-L-  
 PI Sta. 139+18.50  
 $\Delta = 22^{\circ} 31' 06.4''$  (LT)  
 $D = 2^{\circ} 00' 37.4''$   
 $L = 1,120.11'$   
 $T = 567.38'$   
 $R = 2,850.00'$   
 $DS > 50$  mph



RETROFIT EXISTING CURB RAMPS WITH TRUNCATED DOMES AS NEEDED AND AS DIRECTED BY THE ENGINEER

WEDGE PAVEMENT TO DRAIN LEFT. STA. 148+34 TO STA. 151+30 -L-

PROPOSED REMOVAL OF EXISTING ASPHALT PAVEMENT

SEE DETAIL SHEET 2-E TYPE 2 FOR CURB RAMPS AT BOONE TRAIL ADJUST TO FIT FIELD CONDITIONS AS NEEDED.

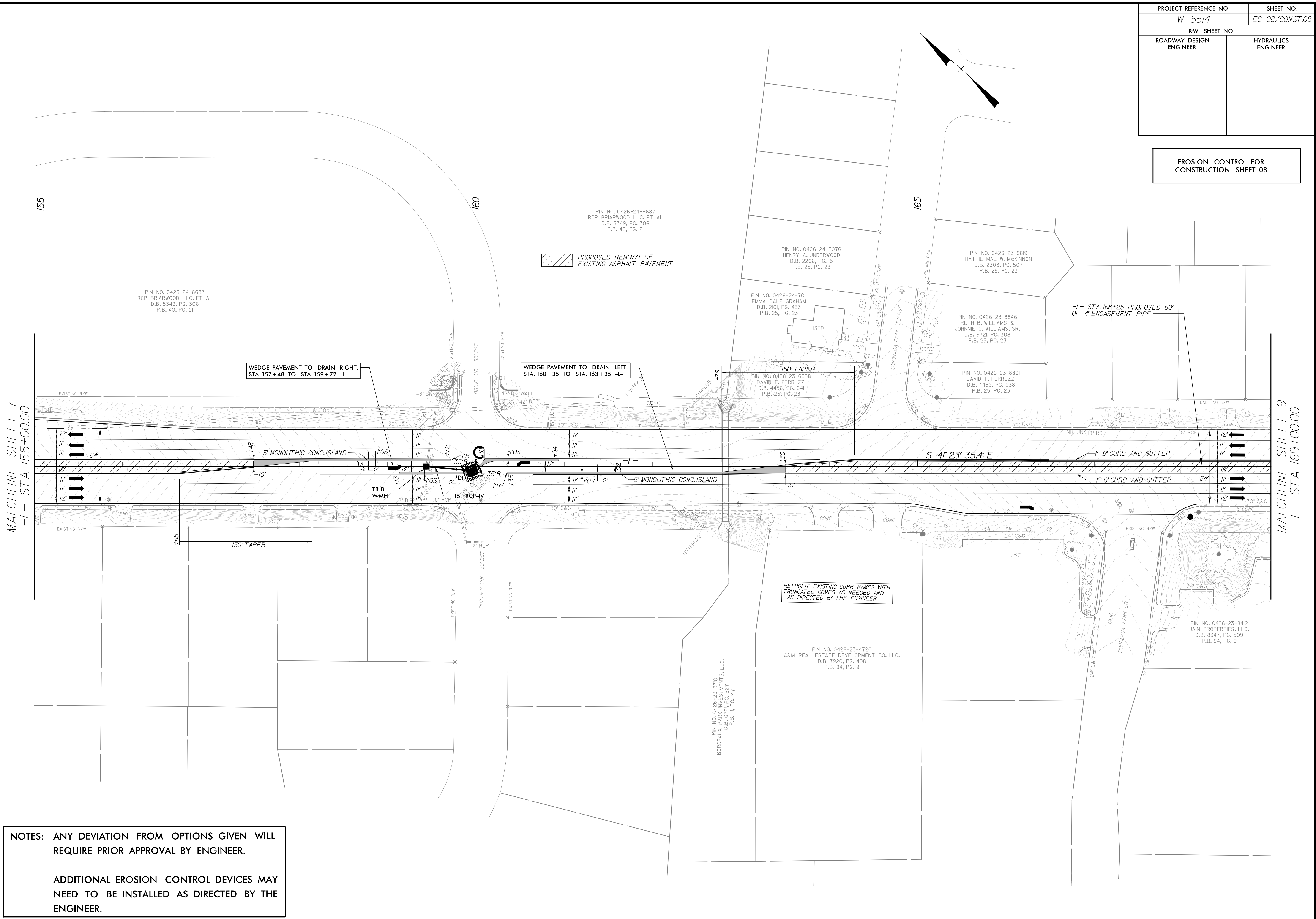
NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL REQUIRE PRIOR APPROVAL BY ENGINEER.

ADDITIONAL EROSION CONTROL DEVICES MAY NEED TO BE INSTALLED AS DIRECTED BY THE ENGINEER.



PROJECT REFERENCE NO.		SHEET NO.	
W-5514		EC-08/CONST.08	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	

EROSION CONTROL FOR CONSTRUCTION SHEET 08



WEDGE PAVEMENT TO DRAIN RIGHT.  
STA. 157+48 TO STA. 159+72 -L-

WEDGE PAVEMENT TO DRAIN LEFT.  
STA. 160+35 TO STA. 163+35 -L-

RETROFIT EXISTING CURB RAMPS WITH TRUNCATED DOMES AS NEEDED AND AS DIRECTED BY THE ENGINEER

NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL REQUIRE PRIOR APPROVAL BY ENGINEER.

ADDITIONAL EROSION CONTROL DEVICES MAY NEED TO BE INSTALLED AS DIRECTED BY THE ENGINEER.

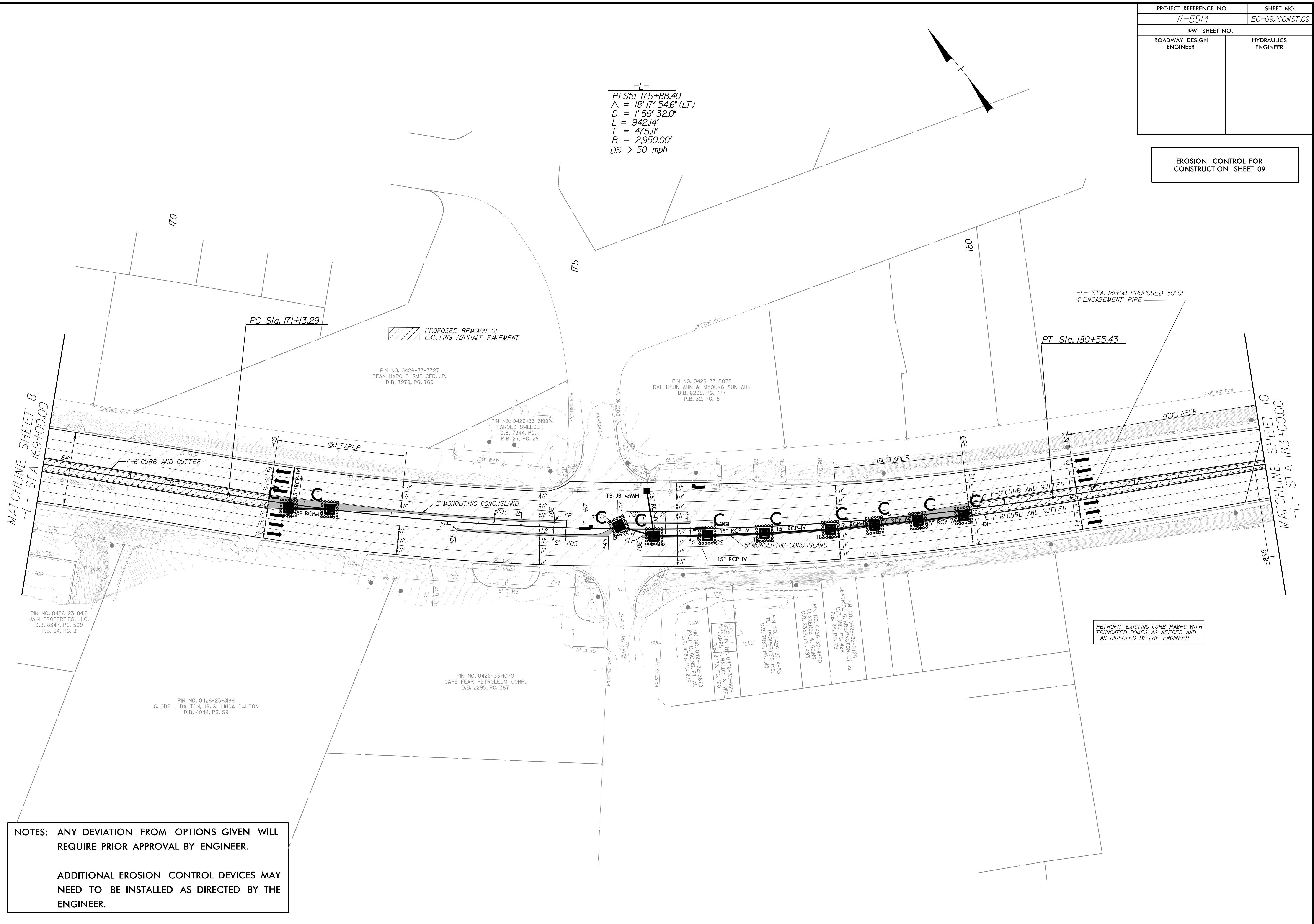
MATCHLINE SHEET 7  
-L- STA 155+00.00

MATCHLINE SHEET 9  
-L- STA 169+00.00

PROJECT REFERENCE NO.		SHEET NO.	
W-5514		EC-09/CONST.09	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	

EROSION CONTROL FOR CONSTRUCTION SHEET 09

-L-  
 PI Sta 175+88.40  
 $\Delta = 18^{\circ} 17' 54.6" (LT)$   
 $D = 1' 56' 32.0"$   
 $L = 942.14'$   
 $T = 475.11'$   
 $R = 2,950.00'$   
 $DS > 50 \text{ mph}$



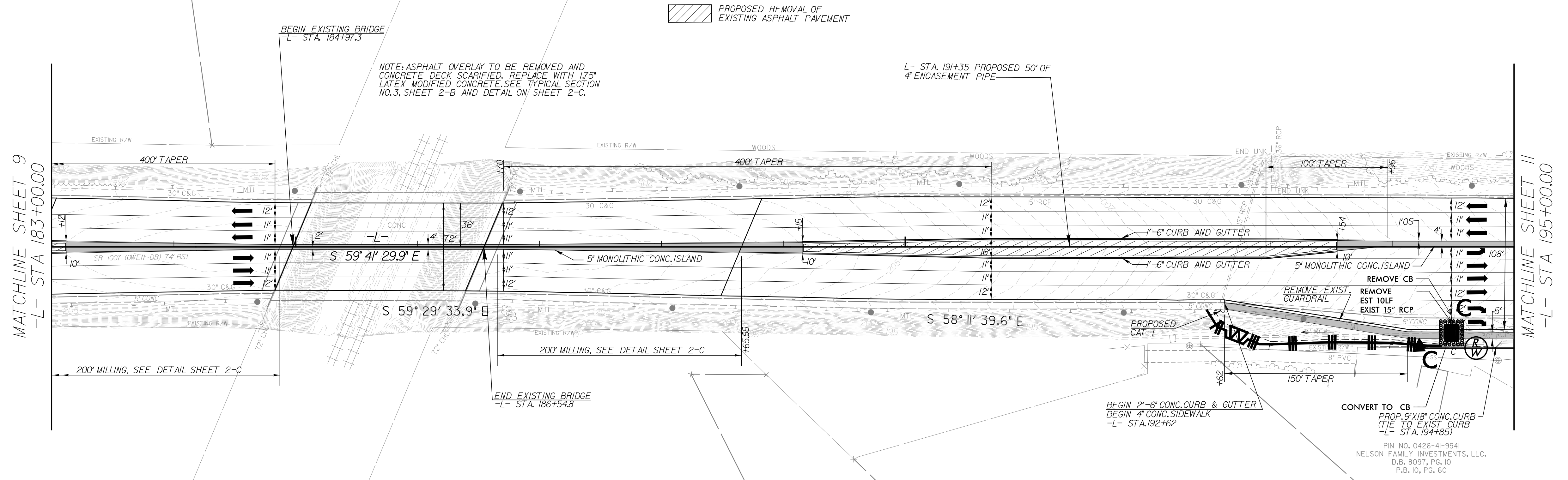
NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL REQUIRE PRIOR APPROVAL BY ENGINEER.

ADDITIONAL EROSION CONTROL DEVICES MAY NEED TO BE INSTALLED AS DIRECTED BY THE ENGINEER.

RETROFIT EXISTING CURB RAMPS WITH TRUNCATED DOMES AS NEEDED AND AS DIRECTED BY THE ENGINEER

PROJECT REFERENCE NO.	SHEET NO.
W-5514	EC10/CONST10
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

EROSION CONTROL FOR CONSTRUCTION SHEET 10

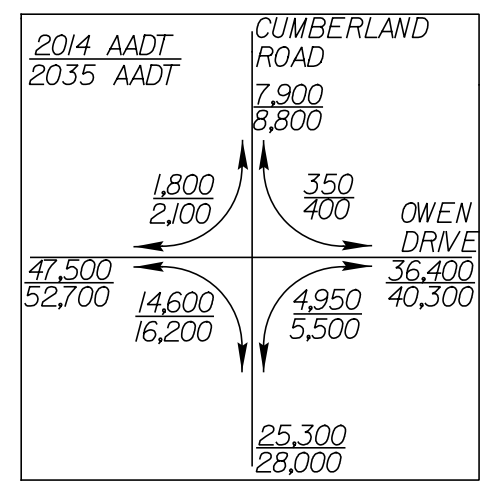
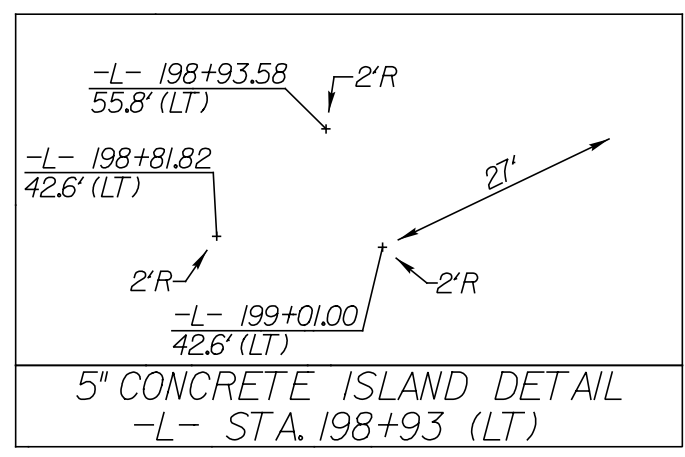


NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL REQUIRE PRIOR APPROVAL BY ENGINEER.

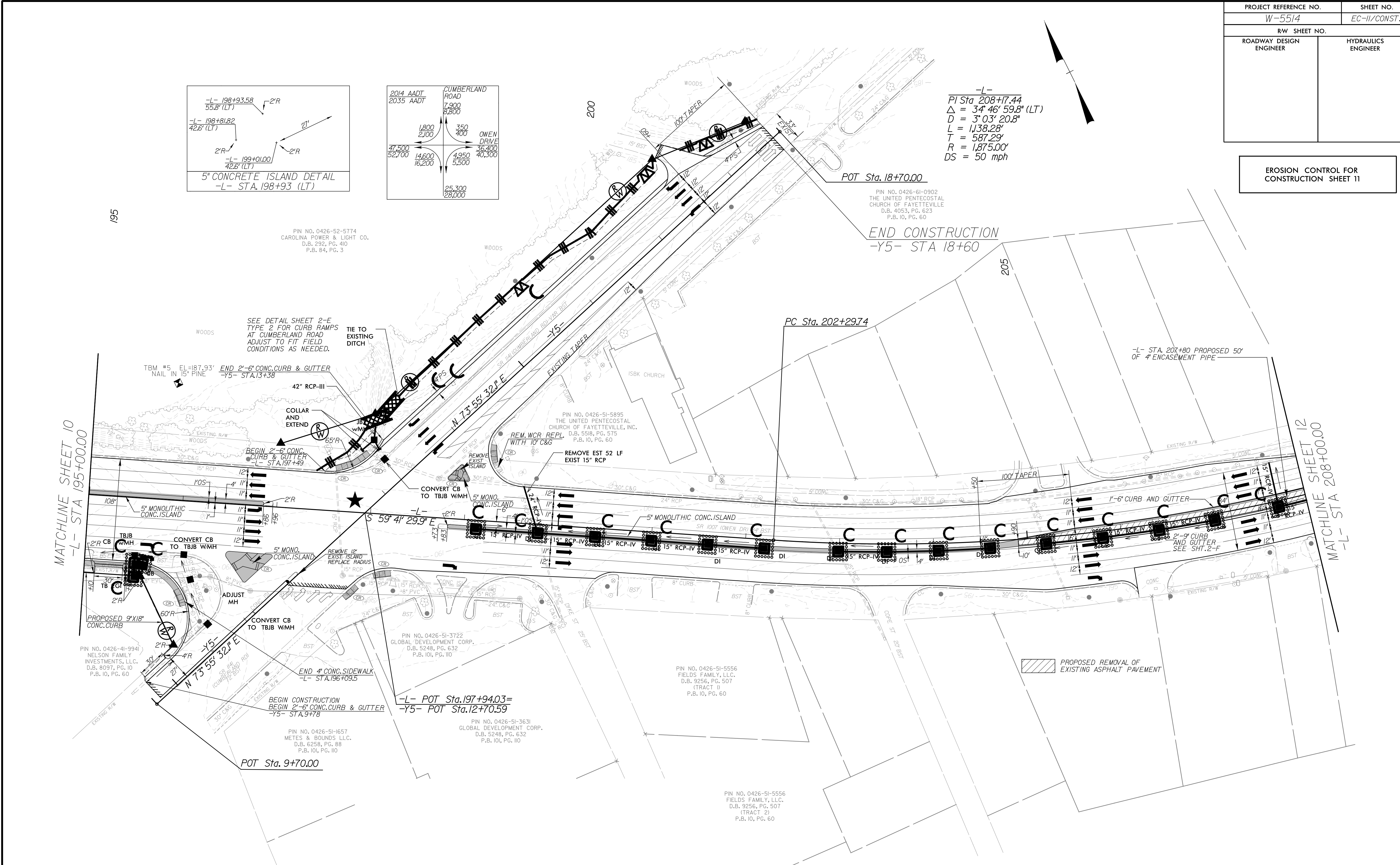
ADDITIONAL EROSION CONTROL DEVICES MAY NEED TO BE INSTALLED AS DIRECTED BY THE ENGINEER.

PROJECT REFERENCE NO.	SHEET NO.
W-5514	EC-II/CONST.II
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

EROSION CONTROL FOR CONSTRUCTION SHEET 11



-L-  
 PI Sta 208+17.44  
 $\Delta = 34' 46'' 59.8''$  (LT)  
 $D = 3' 03'' 20.8''$   
 $L = 1,138.28'$   
 $T = 587.29'$   
 $R = 1,875.00'$   
 $DS = 50$  mph

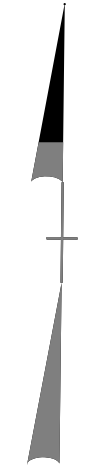


NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL REQUIRE PRIOR APPROVAL BY ENGINEER.

ADDITIONAL EROSION CONTROL DEVICES MAY NEED TO BE INSTALLED AS DIRECTED BY THE ENGINEER.

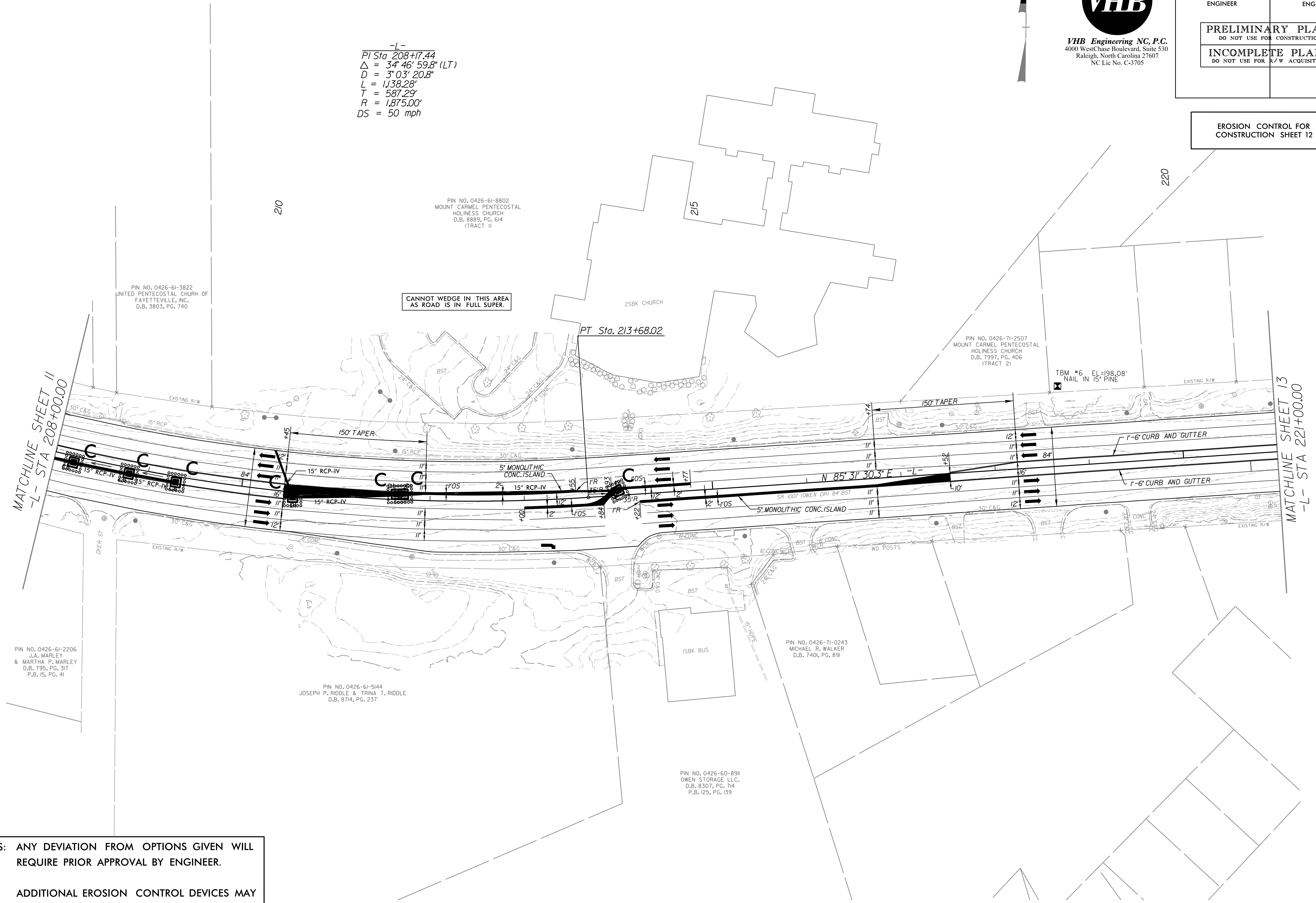
PROJECT REFERENCE NO.	SHEET NO.
W-55/4	EC-12/CONST/2
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>PRELIMINARY PLANS</b> DO NOT USE FOR CONSTRUCTION	
<b>INCOMPLETE PLANS</b> DO NOT USE FOR R/W ACQUISITION	

**VHB**  
**VHB Engineering NC, P.C.**  
 4000 WestChase Boulevard, Suite 530  
 Raleigh, North Carolina 27607  
 NC Lic No. C-3705



EROSION CONTROL FOR  
CONSTRUCTION SHEET 12

-L-  
 PI Sta. 208+17.44  
 $\Delta = 34^{\circ} 46' 59.8" (LT)$   
 $D = 3^{\circ} 03' 20.8"$   
 $L = 1,138.28'$   
 $T = 587.29'$   
 $R = 1,875.00'$   
 $DS = 50 \text{ mph}$

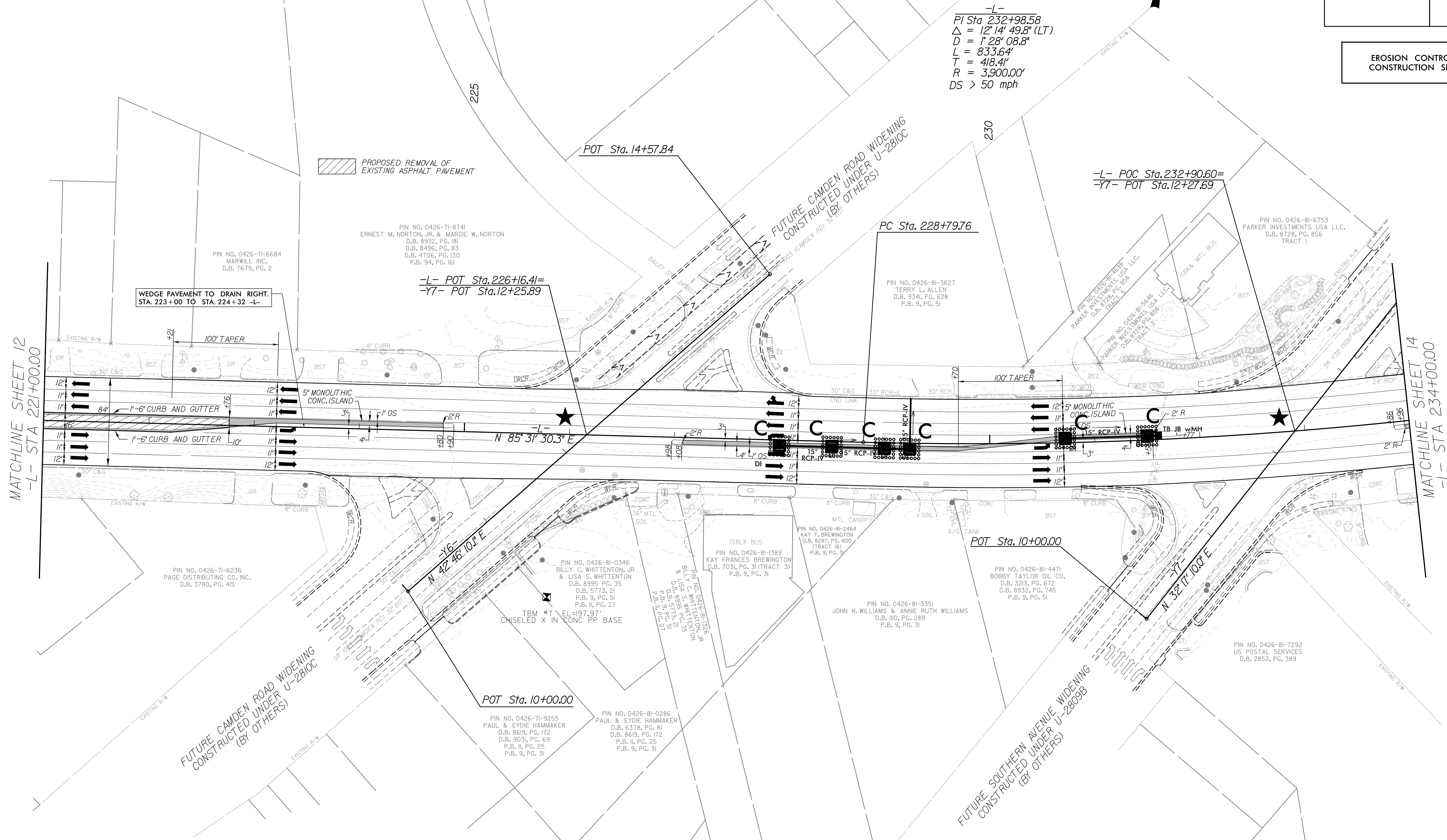


NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL REQUIRE PRIOR APPROVAL BY ENGINEER.

ADDITIONAL EROSION CONTROL DEVICES MAY NEED TO BE INSTALLED AS DIRECTED BY THE ENGINEER.

PROJECT REFERENCE NO.		SHEET NO.	
W-5514		EC-13/CONST.13	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	

EROSION CONTROL FOR CONSTRUCTION SHEET 13



-L-  
 PI Sta 232+98.58  
 $\Delta = 12^\circ 14' 49.8''$  (LT)  
 $D = 128' 08.8''$   
 $L = 833.64'$   
 $T = 418.41'$   
 $R = 3,900.00'$   
 $DS > 50$  mph

MATCHLINE SHEET 12  
 -L- STA 221+00.00

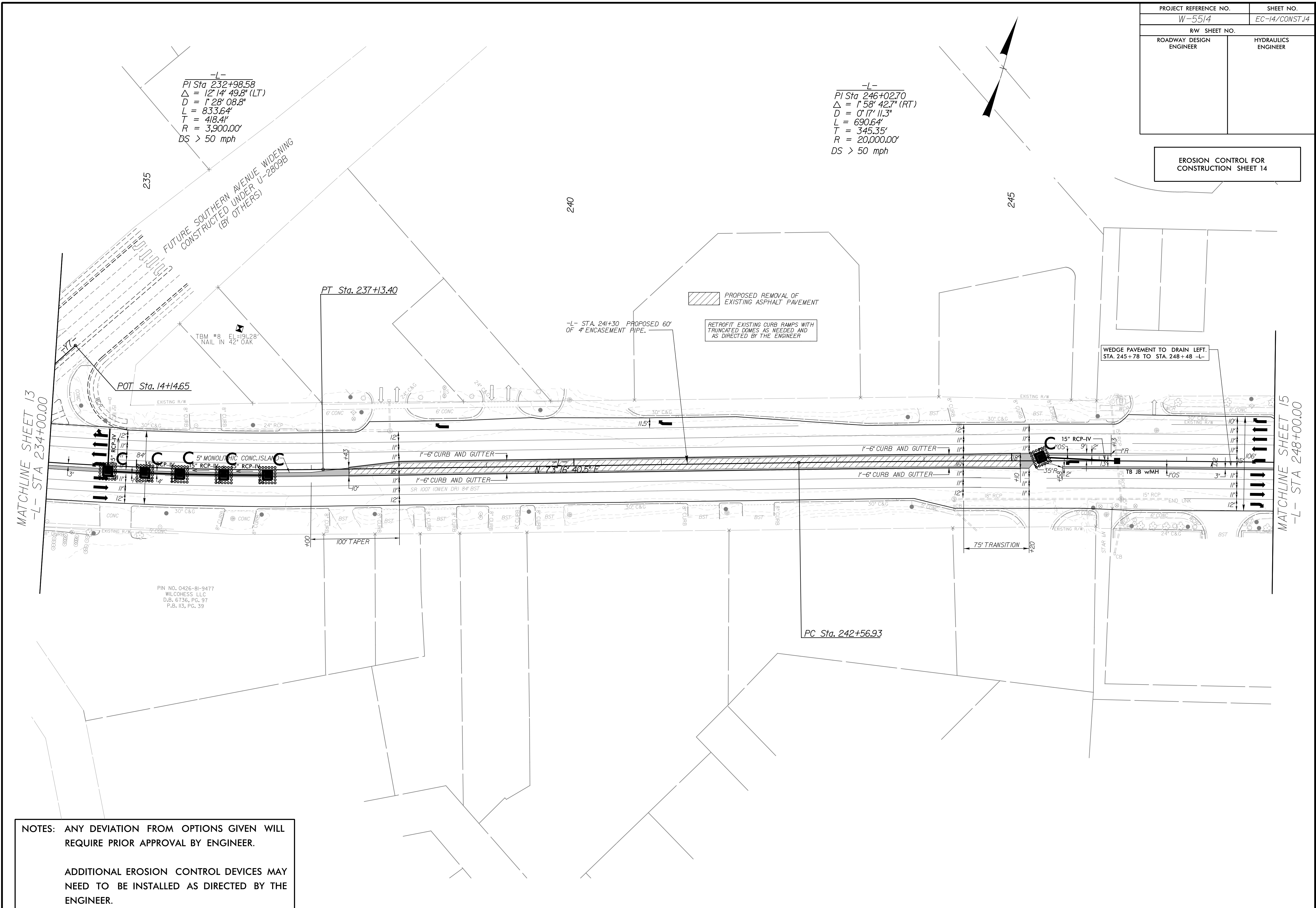
MATCHLINE SHEET 14  
 -L- STA 234+00.00

NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL REQUIRE PRIOR APPROVAL BY ENGINEER.

ADDITIONAL EROSION CONTROL DEVICES MAY NEED TO BE INSTALLED AS DIRECTED BY THE ENGINEER.

PROJECT REFERENCE NO.	SHEET NO.
W-5514	EC-14/CONST J4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

EROSION CONTROL FOR CONSTRUCTION SHEET 14



NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL REQUIRE PRIOR APPROVAL BY ENGINEER.

ADDITIONAL EROSION CONTROL DEVICES MAY NEED TO BE INSTALLED AS DIRECTED BY THE ENGINEER.

PIN NO. 0426-81-9477  
 WILCOHESS LLC  
 D.B. 6736, PG. 97  
 P.B. 113, PG. 39

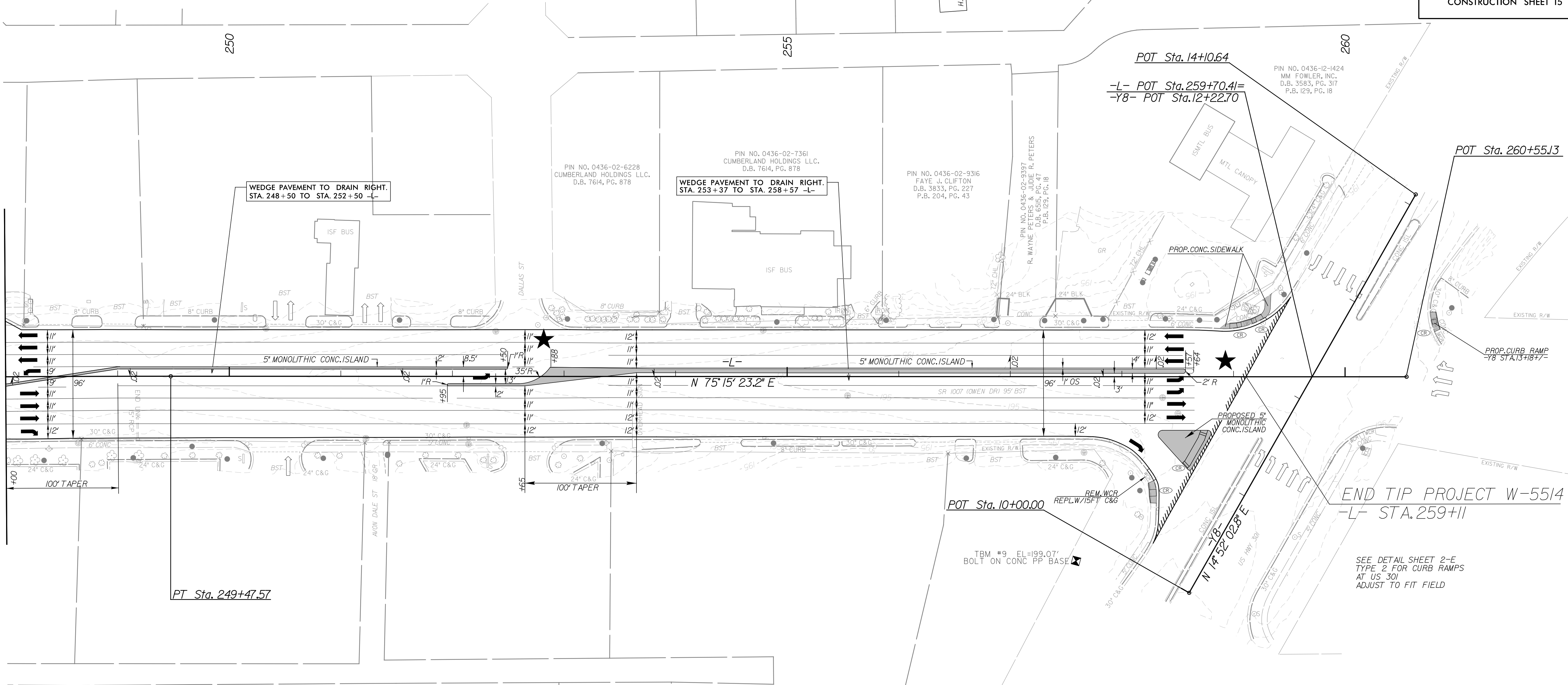
PROJECT REFERENCE NO.		SHEET NO.	
W-5514		EC-15/CONST J5	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	

EROSION CONTROL FOR CONSTRUCTION SHEET 15

-L-  
 PI Sta 246+02.70  
 $\Delta = 1' 58' 42.7''$  (RT)  
 $D = 0' 17' 11.3''$   
 $L = 690.64'$   
 $T = 345.35'$   
 $R = 20,000.00'$   
 $DS > 50$  mph

RETROFIT EXISTING CURB RAMP WITH TRADITIONAL FINISHES AS NEEDED AND AS DIRECTED BY THE ENGINEER

MATCHLINE SHEET 14  
 -L- STA 248+00.00



PT Sta. 249+47.57

POT Sta. 10+00.00  
 TBM #9 EL=199.07'  
 BOLT ON CONC PP BASE

END TIP PROJECT W-5514  
 -L- STA. 259+11

SEE DETAIL SHEET 2-E  
 TYPE 2 FOR CURB RAMP  
 AT US 301  
 ADJUST TO FIT FIELD

NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL REQUIRE PRIOR APPROVAL BY ENGINEER.

ADDITIONAL EROSION CONTROL DEVICES MAY NEED TO BE INSTALLED AS DIRECTED BY THE ENGINEER.