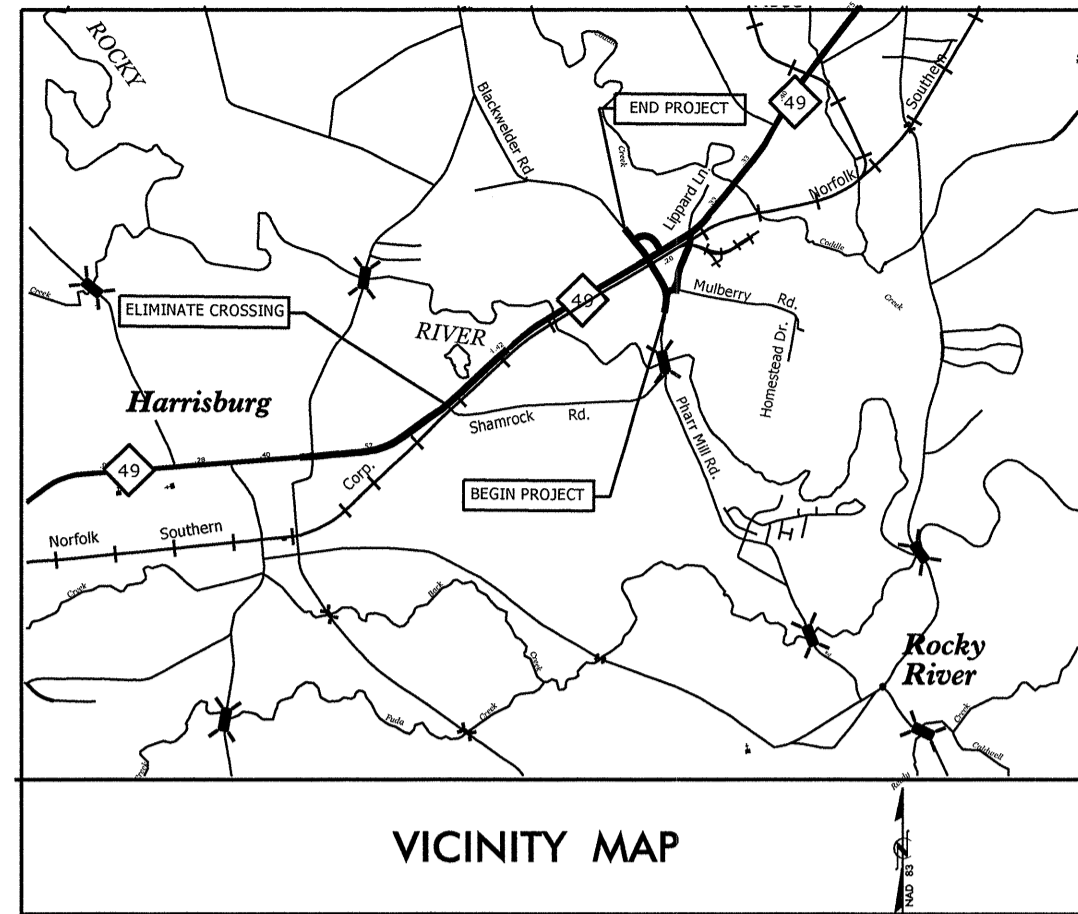


DCN:
0053DEL P10a2

TIP PROJECT: P-5208B

CONTRACT: C203145

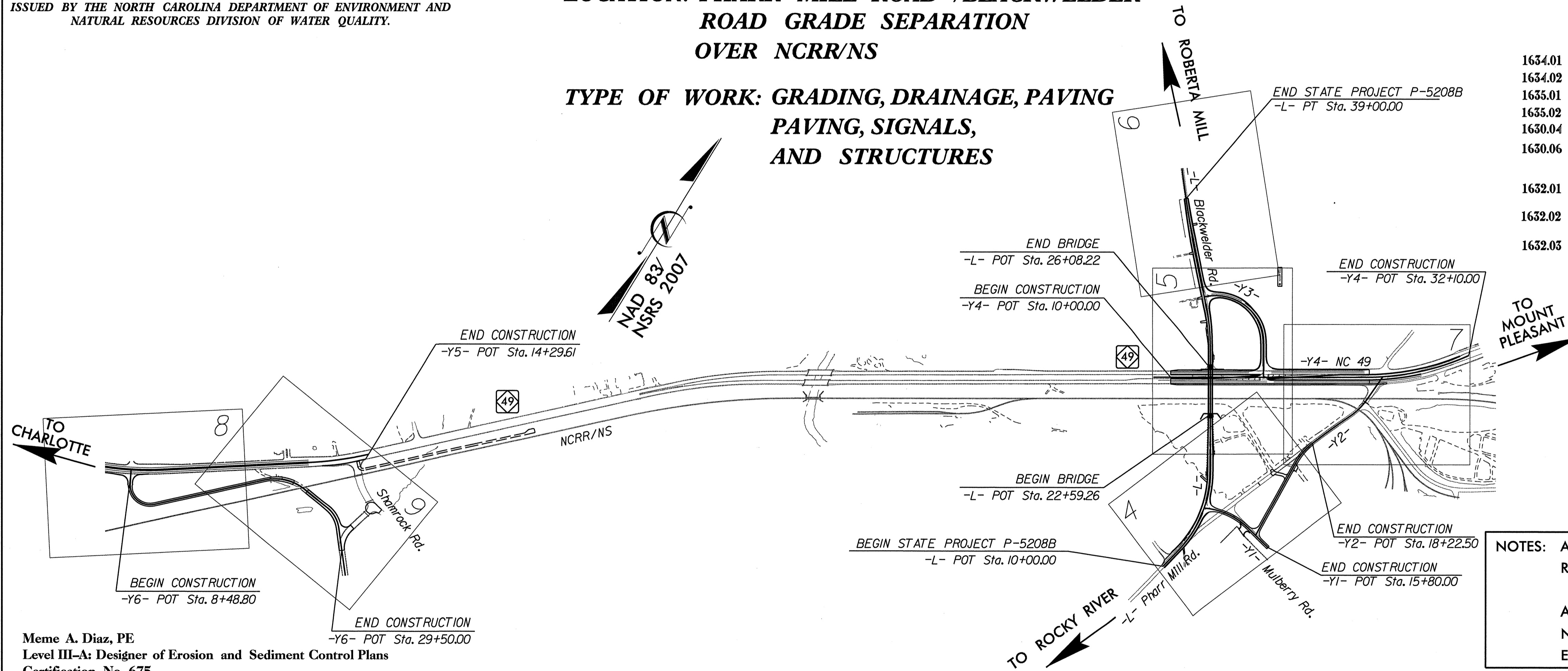


THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH THE REGULATIONS SET FORTH BY THE NCG-010000 GENERAL CONSTRUCTION PERMIT EFFECTIVE AUGUST 3, 2011 ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES DIVISION OF WATER QUALITY.

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

LOCATION: PHARR MILL ROAD /BLACKWELDER ROAD GRADE SEPARATION OVER NCRR/NS

TYPE OF WORK: GRADING, DRAINAGE, PAVING PAVING, SIGNALS, AND STRUCTURES



Meme A. Diaz, PE
Level III-A: Designer of Erosion and Sediment Control Plans
Certification No. 675



STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	P-5208B	EC-1	18
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
50000.1.STRO5TIB	FRA-FR-HSR-006-10-01-00		

EROSION AND SEDIMENT CONTROL MEASURES

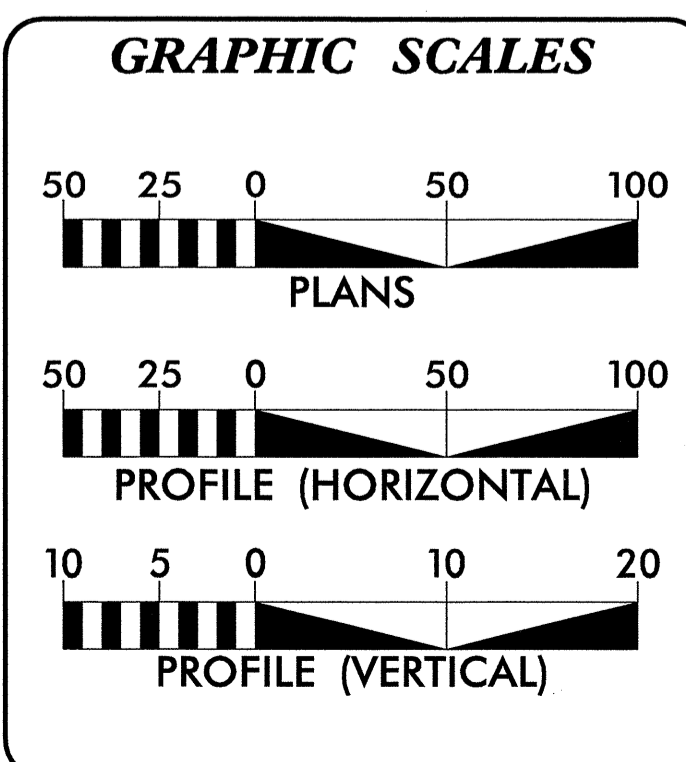
Std. #	Description	Symbol
1630.03	Temporary Silt Ditch	TD
1630.05	Temporary Diversion	TD
1605.01	Temporary Silt Fence	TSF
1606.01	Special Sediment Control Fence	SSCF
1622.01	Temporary Berms and Slope Drains	TBSD
1630.02	Silt Basin Type B	SBS
1633.01	Temporary Rock Silt Check Type-A	TRSCA
	Temporary Rock Silt Check Type-A with Matting and Polyacrylamide (PAM)	TRSCA-PAM
1633.02	Temporary Rock Silt Check Type-B	TRSCB
	Wattle/Coir Fiber Wattle	WCFW
	Wattle/Coir Fiber Wattle with Polyacrylamide (PAM)	WCFW-PAM
1634.01	Temporary Rock Sediment Dam Type-A	TRSDA
1634.02	Temporary Rock Sediment Dam Type-B	TRSDB
1635.01	Rock Pipe Inlet Sediment Trap Type-A	RPISDA
1635.02	Rock Pipe Inlet Sediment Trap Type-B	RPISDB
1630.04	Stilling Basin	SB
1630.06	Special Stilling Basin	SSB
	Rock Inlet Sediment Trap:	
1632.01	Type A	A
1632.02	Type B	B
1632.03	Type C	C
	Skimmer Basin	SKB
	Tiered Skimmer Basin	TSKB
	Infiltration Basin	IB
	Clean Water Diversion	CWD

CLEARING ON THIS PROJECT TO BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.

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

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.



SHEET NO.	TITLE
EC-1	EROSION CONTROL TITLE SHEET
EC-2 THRU EC-2B	EROSION CONTROL DETAILS
EC-3 THRU EC-3A	SOIL STABILIZATION
EC-4 THRU EC-9	CLEARING & GRUBBING PHASE PLAN SHEETS
EC-10 THRU EC-15	FINAL GRADE PHASE PLAN SHEETS

Prepared in the Office of:
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Morrisville, North Carolina 27560
TELEPHONE (919) 461-1100 FAX (919) 461-1415
NC LICENSE # C-2243

URS

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
APRIL 16, 2012

LETTING DATE:
APRIL 2013

EDWARD G. EDENS, PE
ROADWAY DESIGN ENGINEER

MEME A. DIAZ, PE
HYDRAULICS ENGINEER

NC DEPARTMENT OF TRANSPORTATION
RAIL DIVISION
ENGINEERING AND SAFETY BRANCH
166 MAIL SERVICE CENTER
RALEIGH, NC 27699-1666

Roadway Standard Drawings

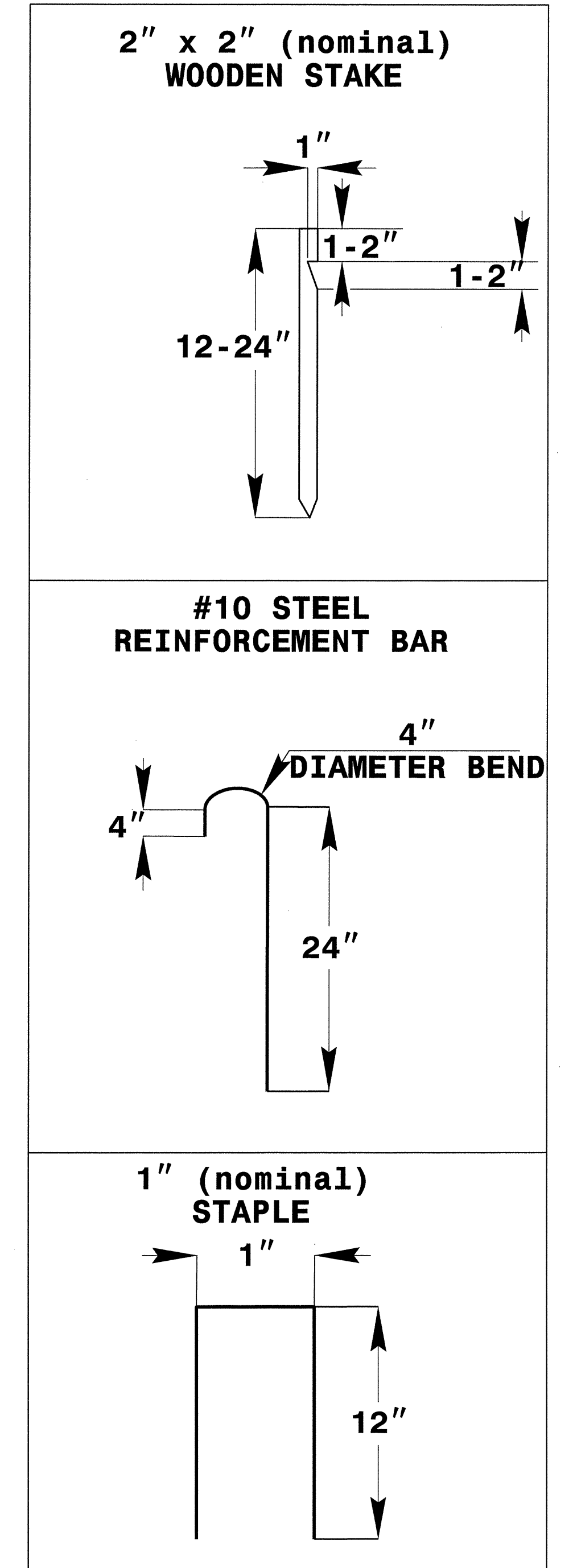
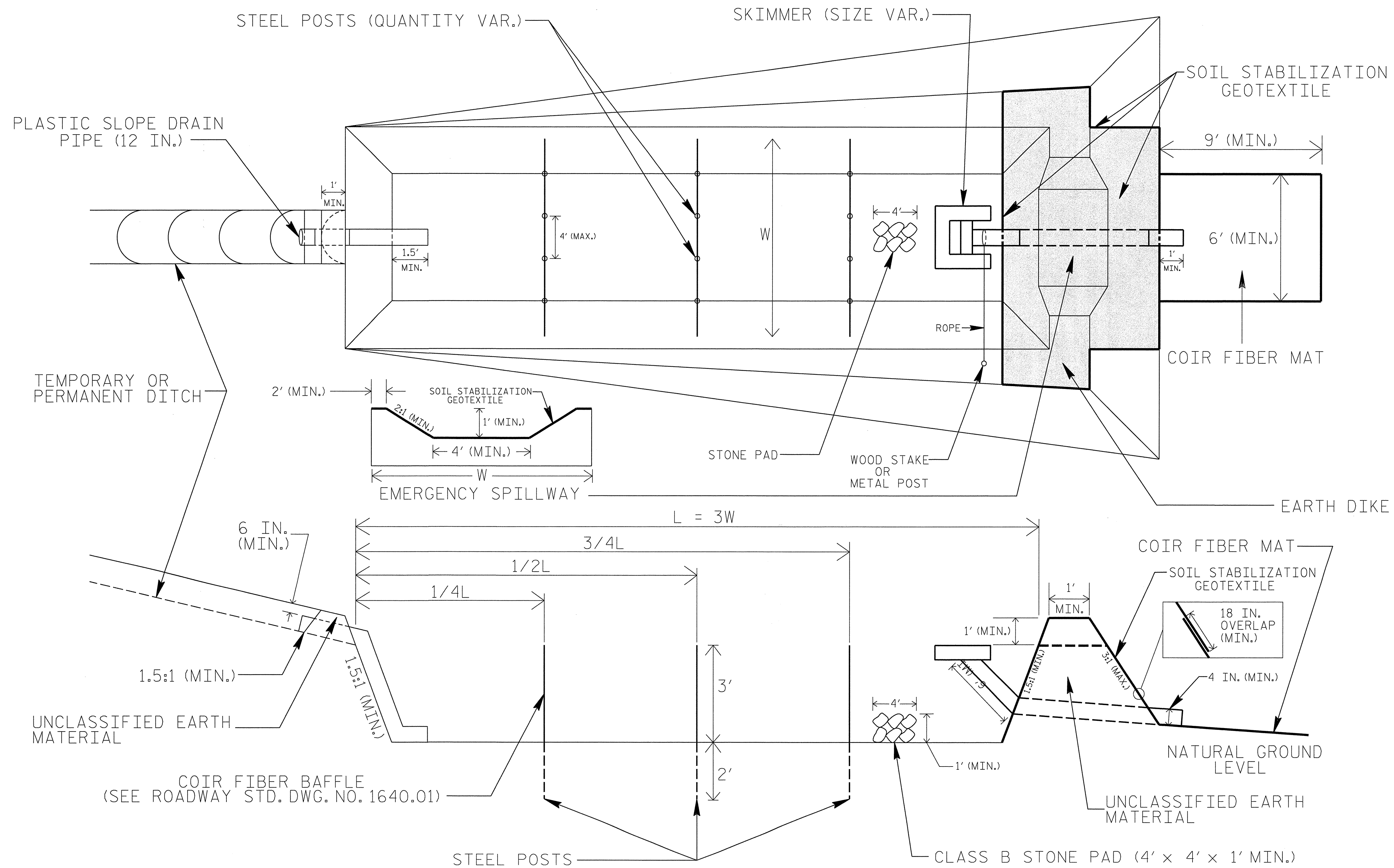
The following roadway english standards as appear in "Roadway Standard Drawings"- Roadway Design Unit - N. C. Department of Transportation - Raleigh, N. C., dated January 2012 and the latest revision thereto are applicable to this project and by reference hereby are considered a part of these plans.

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	

1/30/2013
R:\Roadway\NCP\NCP5208B\EC.tsh.dgn
1:10=1:300

SKIMMER BASIN WITH BAFFLES DETAIL

PROJECT REFERENCE NO. P-5208B	SHEET NO. EC-2
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



COIR FIBER MAT ANCHOR OPTIONS

NOTES

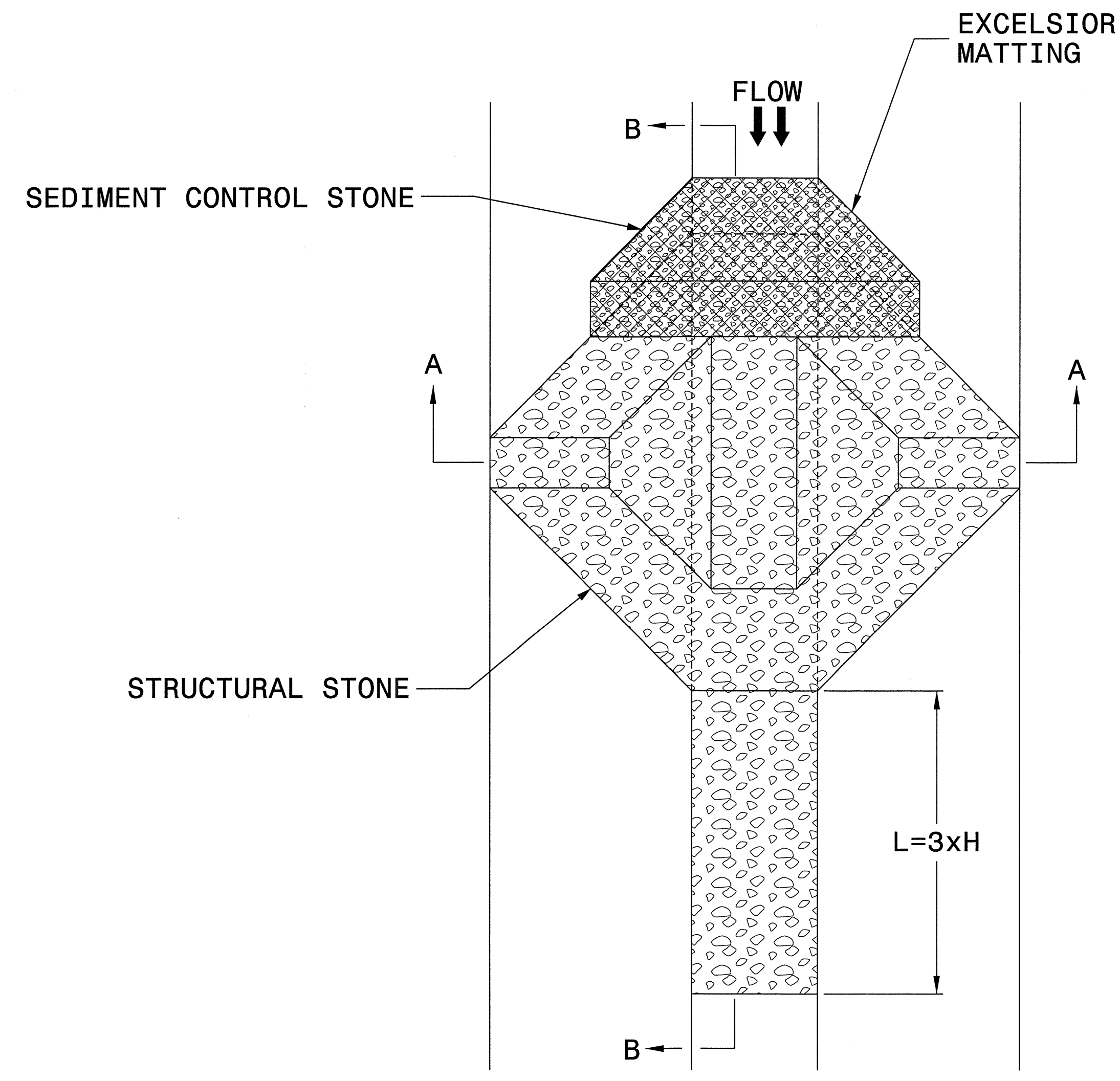
1. SEED AND PLACE MATTING FOR EROSION CONTROL ON INTERIOR AND EXTERIOR SIDESLOPES.
2. LIMIT EARTH DIKE HEIGHT TO 5 FT.
3. FOR BASIN DEPTH OF 3 FT., THE MINIMUM BASIN WIDTH SHALL BE 9 FT.
4. DETERMINE EMERGENCY SPILLWAY LENGTH (FT.) USING $Q/0.8$, WHERE Q IS FLOW RATE (CFS) INTO BASIN.
5. PLASTIC SLOPE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

NOT TO SCALE

DCN:
0053DEL P10a2

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

PROJECT REFERENCE NO. <i>P-5208B</i>	SHEET NO. <i>EC-2A</i>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



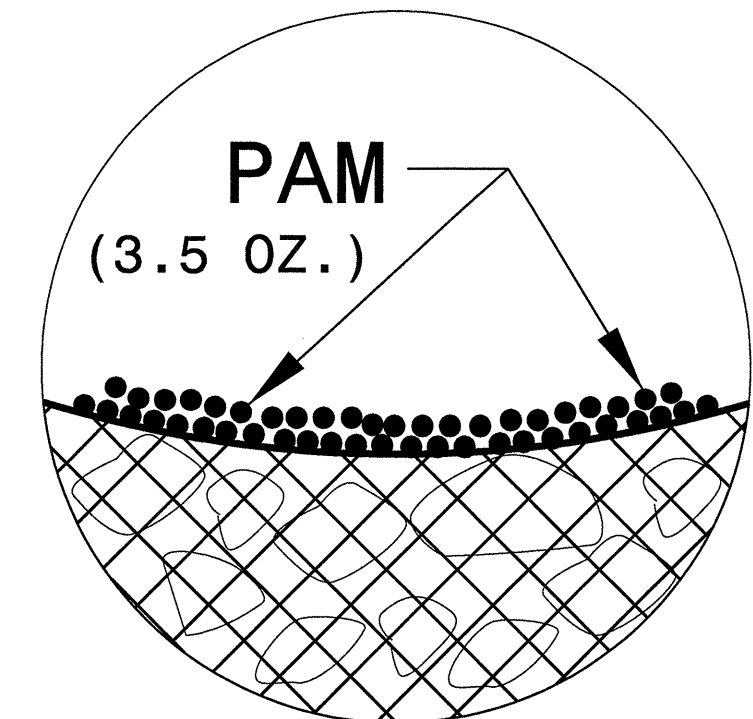
PLAN

NOTES

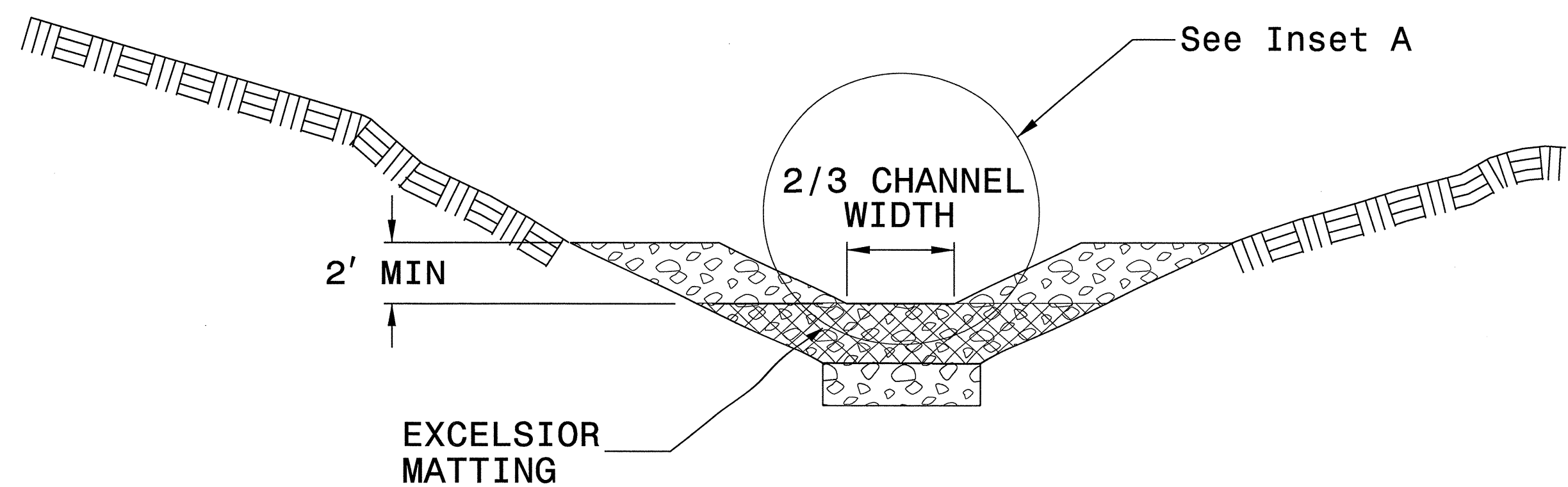
USE EXCELSIOR FOR MATTING MATERIAL AND ANCHOR MATTING SECTION AT TOP AND BOTTOM WITH CLASS B STONE.

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.

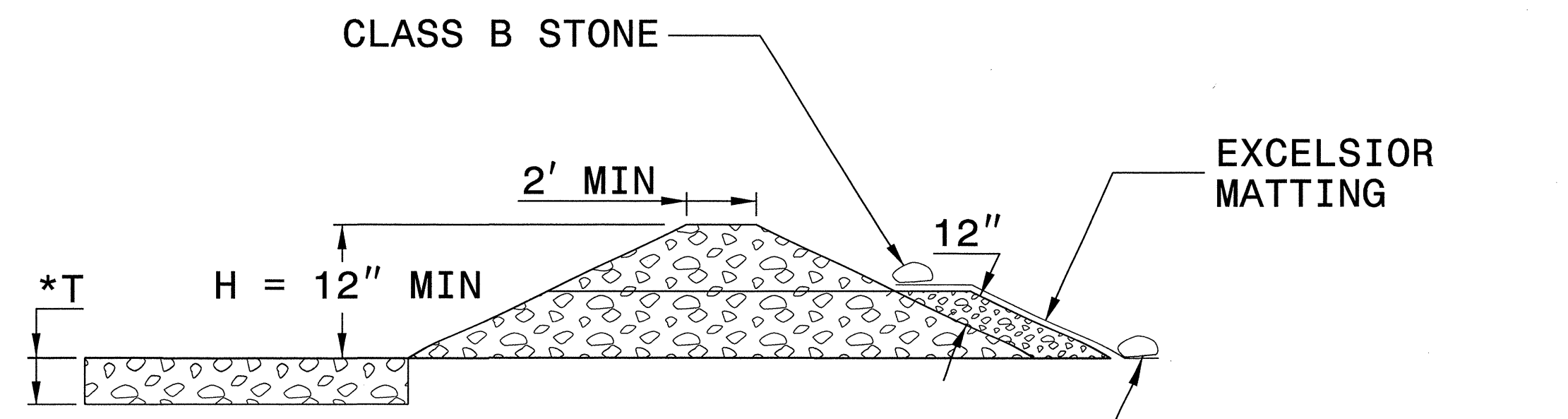
INITIALLY APPLY 3.5 OUNCES OF POLYACRYLAMIDE (PAM) TO TOP OF MATTING SECTION AND AFTER EVERY RAINFALL EVENT THAT EQUALS OR EXCEEDS 0.50 INCHES.



INSET A



SECTION A-A



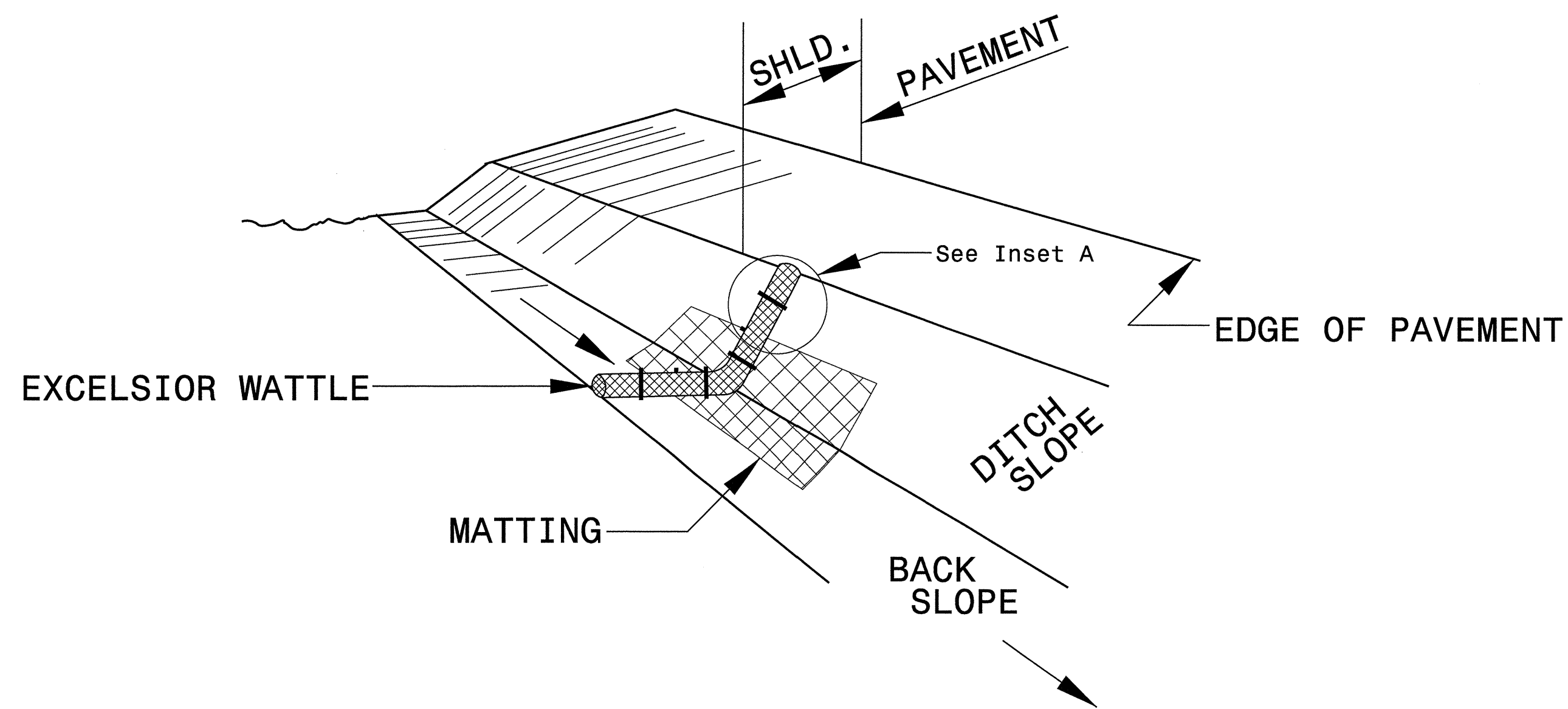
SECTION B-B

*T = 12" MIN., 18" MAX.

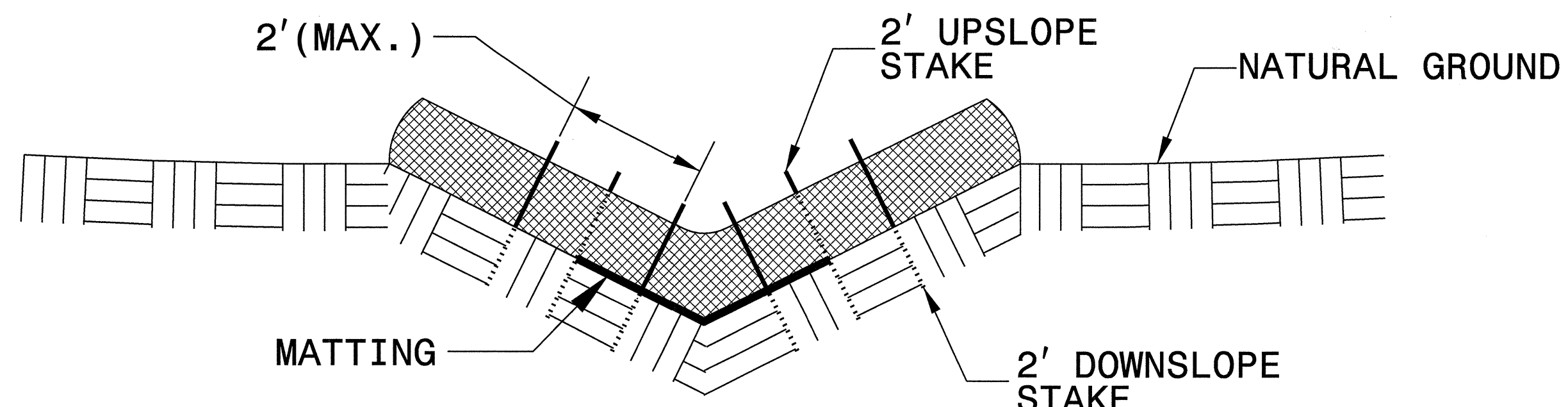
NOT TO SCALE

PROJECT REFERENCE NO. P-5208B	SHEET NO. EC-2B
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

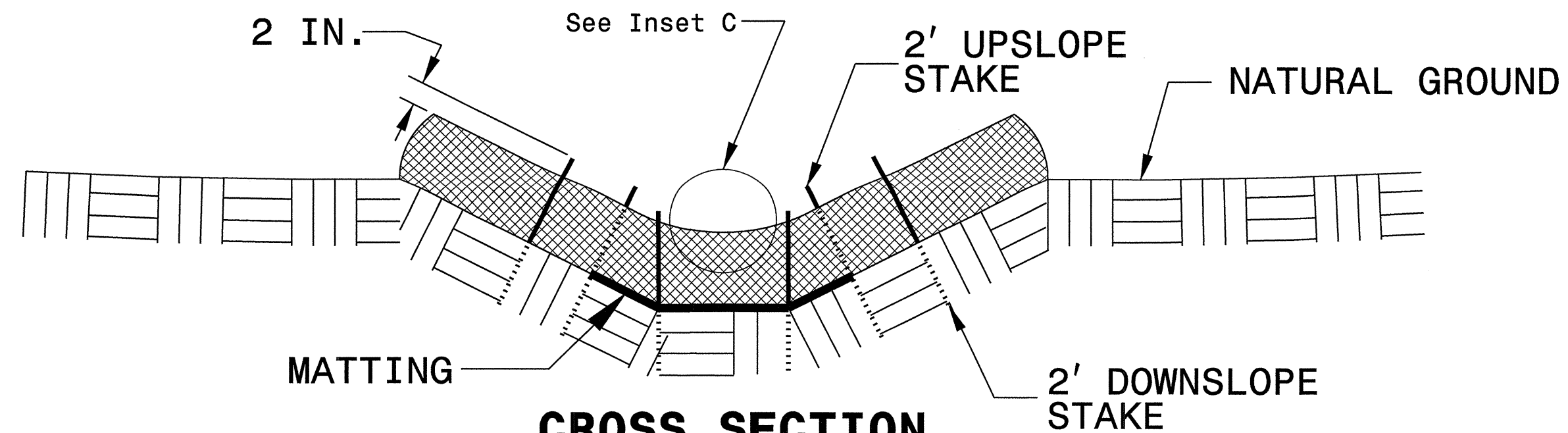
WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL



ISOMETRIC VIEW



CROSS SECTION VEE DITCH

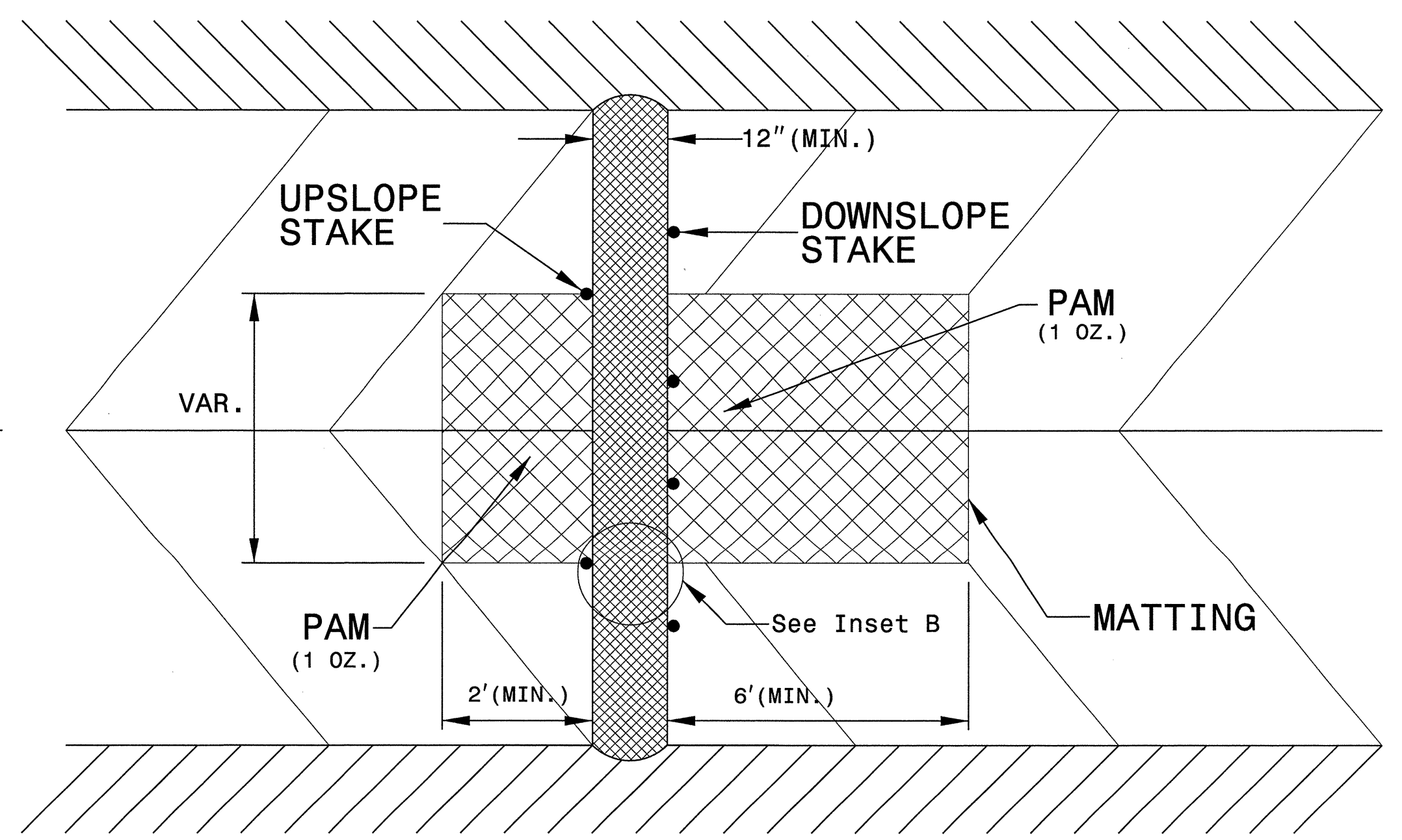
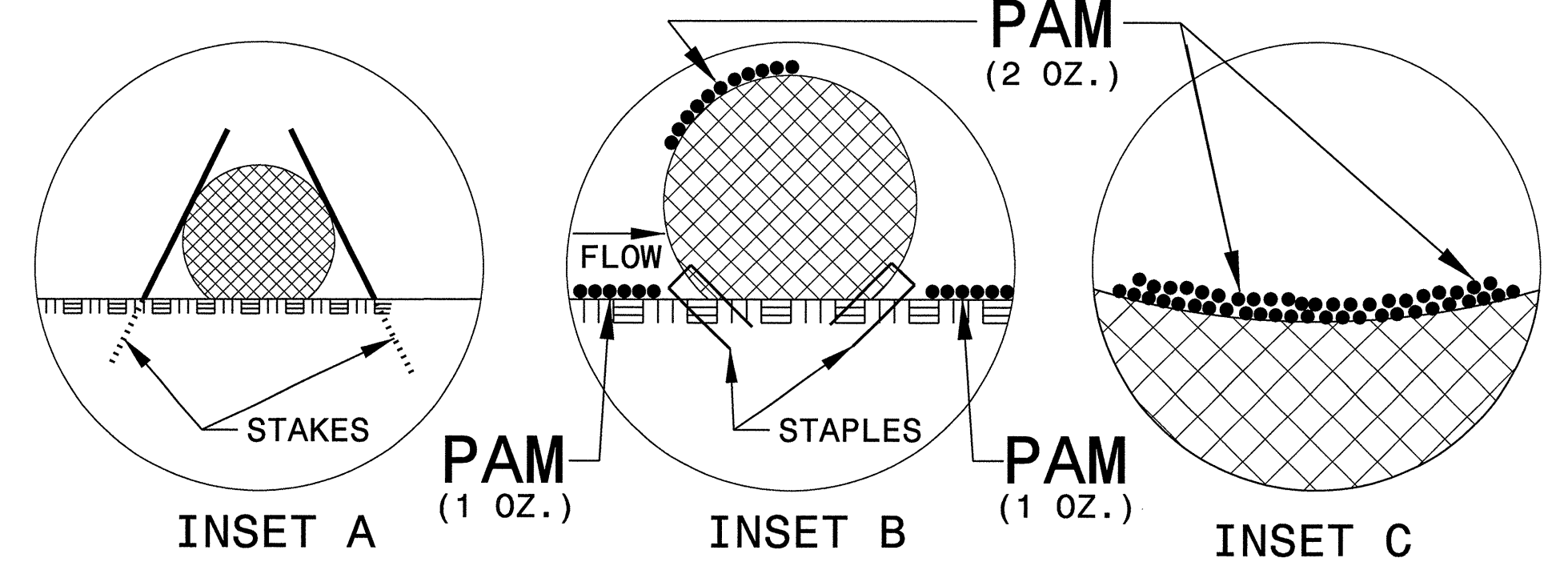


CROSS SECTION TRAPEZOIDAL DITCH

NOT TO SCALE

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 MATTING ON EACH SIDE OF WATTLE. REAPPLY PAM AFTER EVERY RAINFALL EVENT THAT IS EQUAL TO OR EXCEEDS 0.50 IN.



TOP VIEW

DCN:
0053DEL P10a2

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

PROJECT REFERENCE NO. P-5208B	SHEET NO. EC-3
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SOIL STABILIZATION SUMMARY SHEET

MATTING FOR EROSION CONTROL

PSRM FOR EROSION CONTROL

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
4	-Y1-	12+15	15+00	RT	255
4	-Y2-	10+50	15+20	RT	530
7	-Y2-	16+05	18+00	RT	325
7	-Y2-	18+00	18+50	RT	85
4	-Y2-	10+50	14+87	LT	310
4	-Y2-	15+13	16+00	LT	155
4	-L-	11+50	12+50	LT	110
7	-Y4-	20+00	21+50	RT	265
5	-L-	28+50	29+50	LT	95
6	-L-	32+50	36+50	RT	540
6	-L-	36+50	37+50	RT	135
6	-L-	27+25	29+35	LT	105
6	-L-	29+70	34+78	LT	575
6	-L-	34+97	37+57	LT	350
5	-Y3-	10+50	18+03	RT	855
5	-Y3-	13+50	18+25	LT	435
5	-Y4-	10+00	12+50	LT	365
5	-Y4-	13+50	16+60	LT	520
5	-Y4-	17+50	19+70	LT	250
5	-Y4-	20+00	25+00	LT	705
8	-Y6-	09+05	12+00	RT	150
8	-Y6-	13+00	19+60	RT	605
8	-Y6-	09+60	12+10	LT	140
* 9	-Y6-	18+27	21+00	LT	310
* 9	-Y6-	21+32	23+40	LT	255
* 7	-Y4-	17+85	25+00	LT	650
			SUBTOTAL		9075
			MISCELLANEOUS MATTING TO BE INSTALLED AS DIRECTED BY THE ENGINEER		7385
			TOTAL		16460
			SAY		16500

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
4	-L-	12+04	13+54	RT	140
4	-L-	18+53	20+08	LT	110
5	-L-	26+68	28+50	RT	135
4	-Y1-	11+16	11+81	RT	60
			SUBTOTAL		445
			MISCELLANEOUS MATTING TO BE INSTALLED AS DIRECTED BY THE ENGINEER		45
			TOTAL		490
			SAY		500

* CLEAN WATER DIVERSION

DCN:
0053DEL P-10a2

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

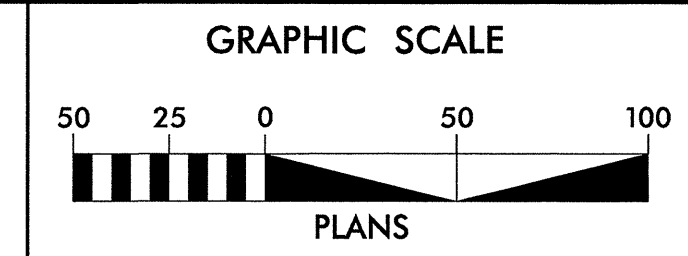
PROJECT REFERENCE NO. P-5208B	SHEET NO. EC-3A
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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.

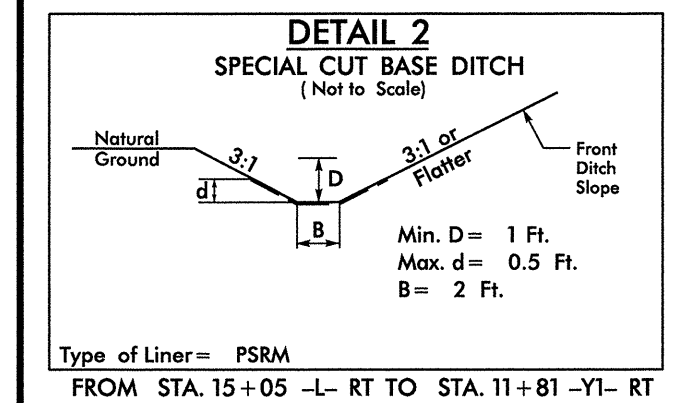
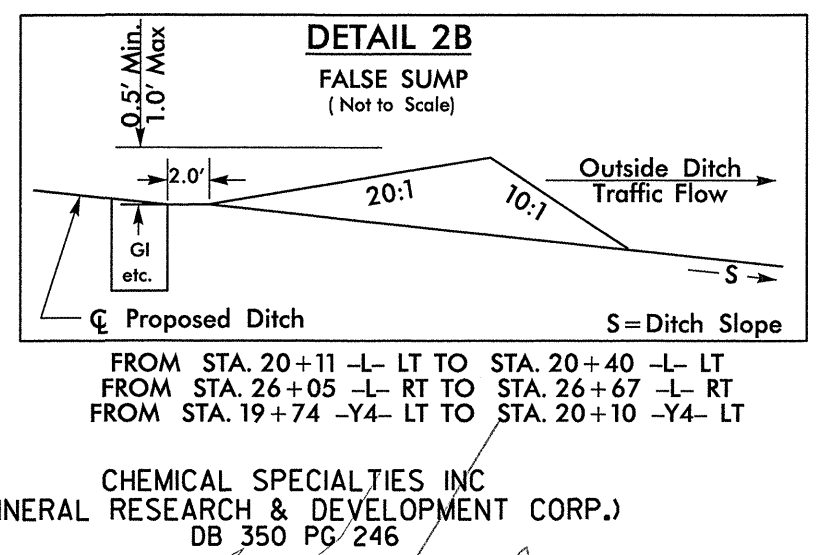
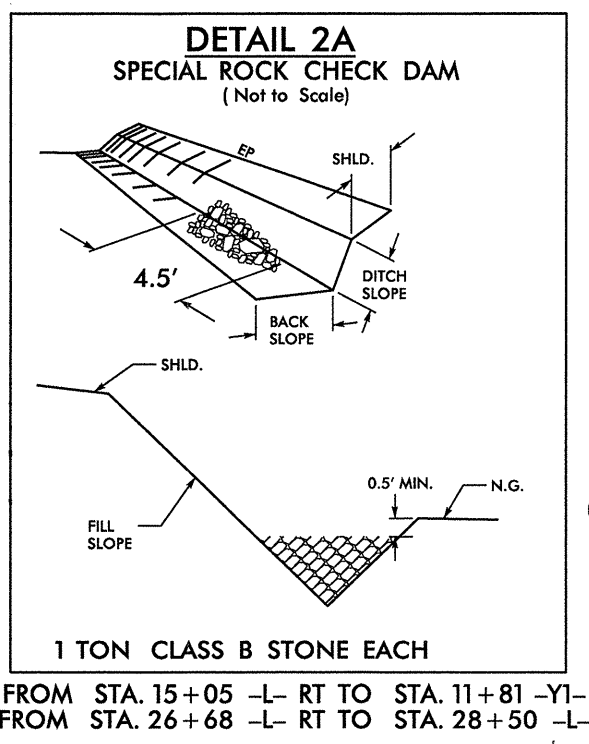
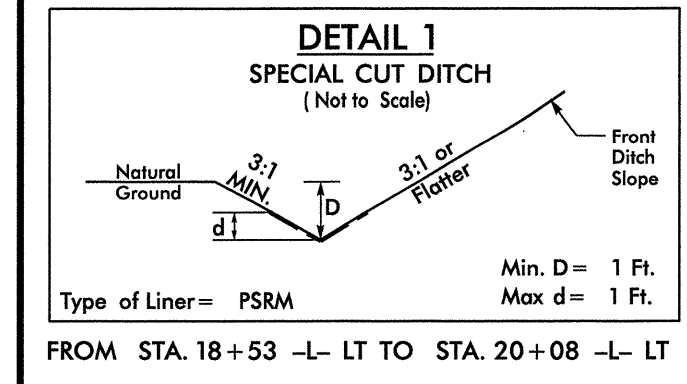
DCN:
0053DEL P10a2

-L-	-Y1-	-Y2-
PI Sta 15+20.00	PI Sta 12+09.11	PI Sta 17+25.53
$\Delta = 43^{\circ}15'55.2''$ (LT)	$\Delta = 35^{\circ}00'32.7''$ (RT)	$\Delta = 23^{\circ}14'06.9''$ (RT)
$D = 6^{\circ}44'26.4''$	$D = 10^{\circ}44'58.8''$	$D = 11^{\circ}48'48.8''$
$L = 641.85'$	$L = 325.68'$	$L = 196.68'$
$T = 337.10'$	$T = 168.10'$	$T = 99.71'$
$R = 850.00'$	$R = 533.00'$	$R = 485.00'$
$e = 8\%$	$e = 4\%$	$e = 6\%$



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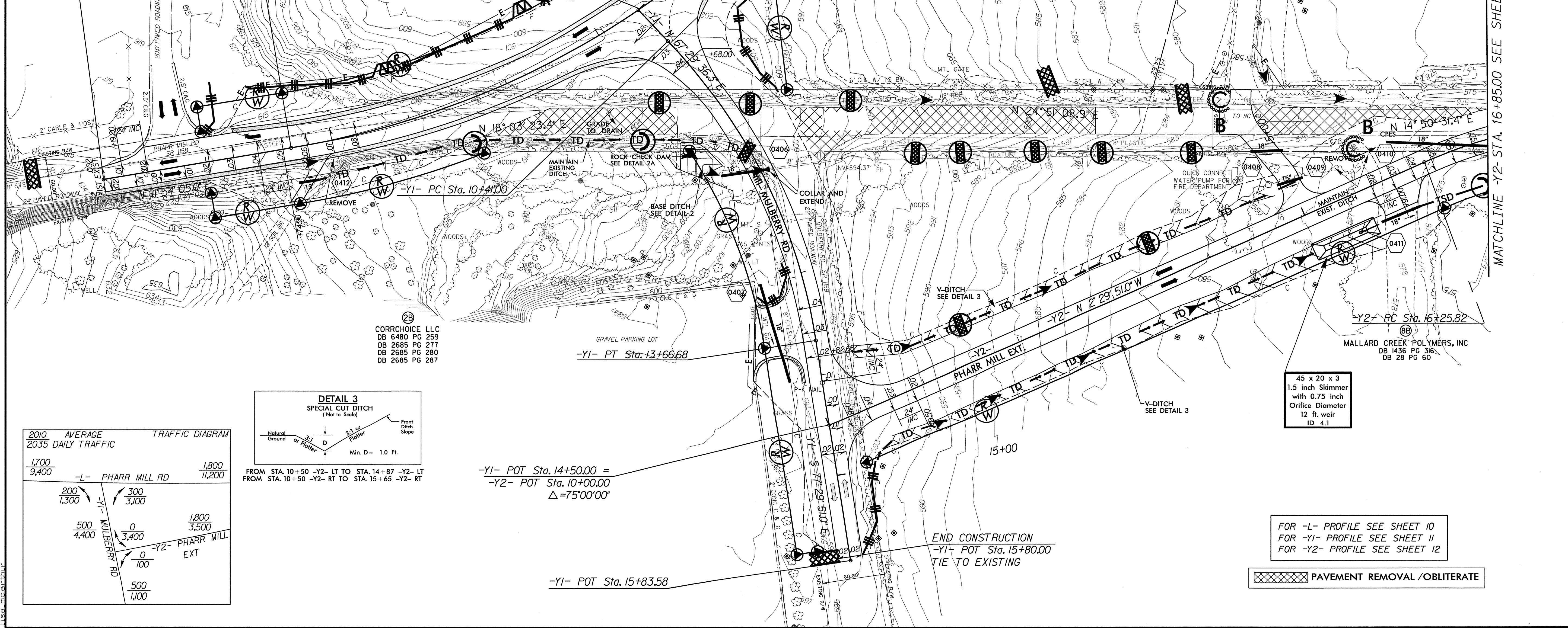
PROJECT REFERENCE NO. P-5208B	SHEET NO. EC-4/CONSTR.4
R/W SHEET NO. ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



BEGIN STATE PROJECT P-5208B
-L- POT Sta. 10+00.00
TIE TO EXISTING

-L- PC Sta. 11+82.90
-Y1- POT Sta. 10+00.00
 $\Delta = 100^{\circ}00'00''$

-L- POC Sta. 15+45.00
-Y1- POT Sta. 10+00.00
 $\Delta = 100^{\circ}00'00''$



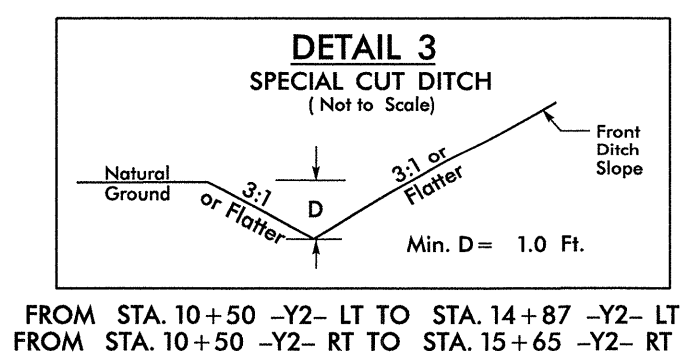
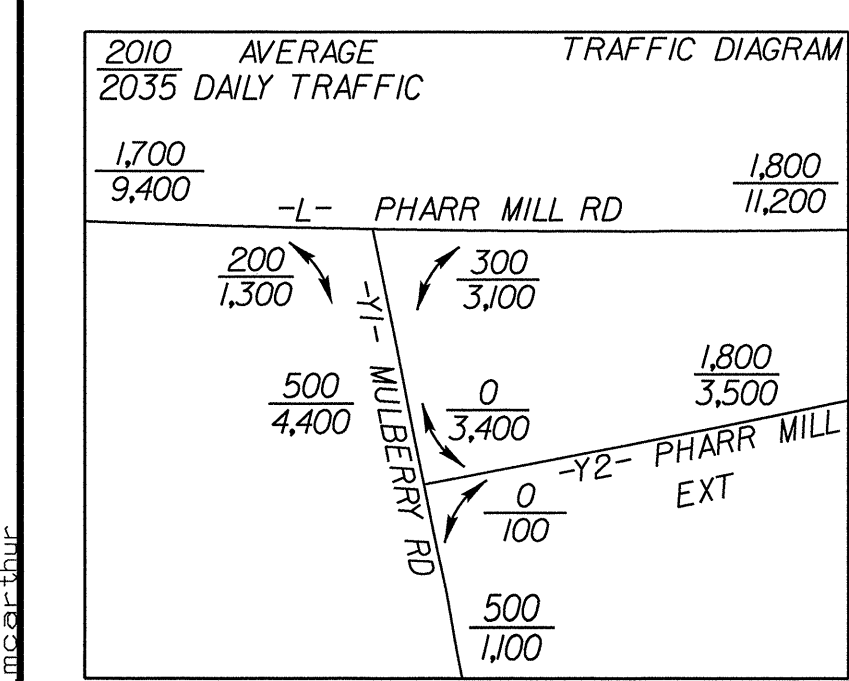
NOTE: PERIMETER EROSION CONTROL MEASURES SHALL BE INSTALLED DURING CLEARING AND GRUBBING PHASE.

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

45 x 20 x 3
1.5 inch Skimmer
with 0.75 inch
Orifice Diameter
12 ft. weir
ID 4.1

FOR -L- PROFILE SEE SHEET 10
FOR -Y1- PROFILE SEE SHEET 11
FOR -Y2- PROFILE SEE SHEET 12

PAVEMENT REMOVAL/OBLITERATE



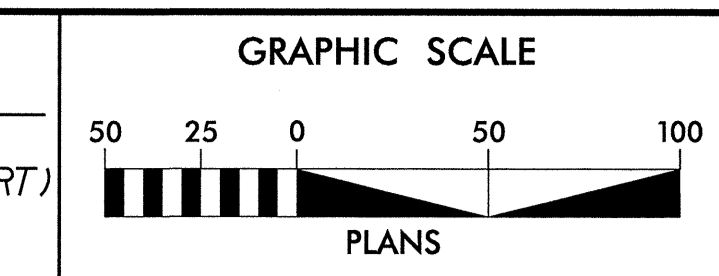
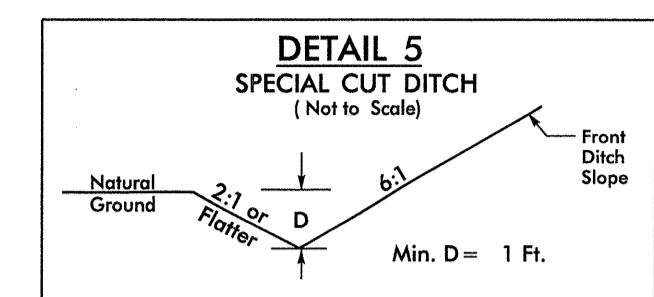
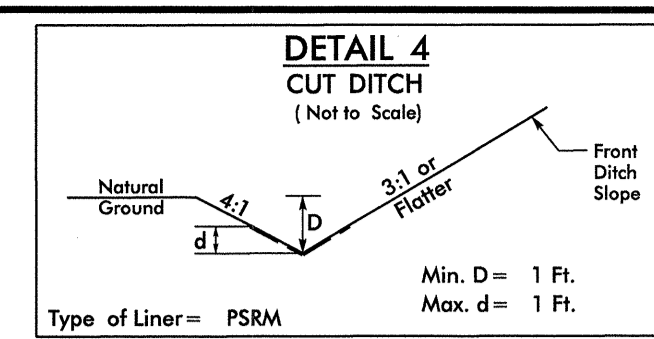
-Y1- POT Sta. 14+50.00 =
-Y2- POT Sta. 10+00.00
 $\Delta = 75^{\circ}00'00''$

-Y1- POT Sta. 15+83.58

END CONSTRUCTION
-Y1- POT Sta. 15+80.00
TIE TO EXISTING

1/30/2013 10:00 AM P:\proj\p5208b.ec_psh.ec04.dgn

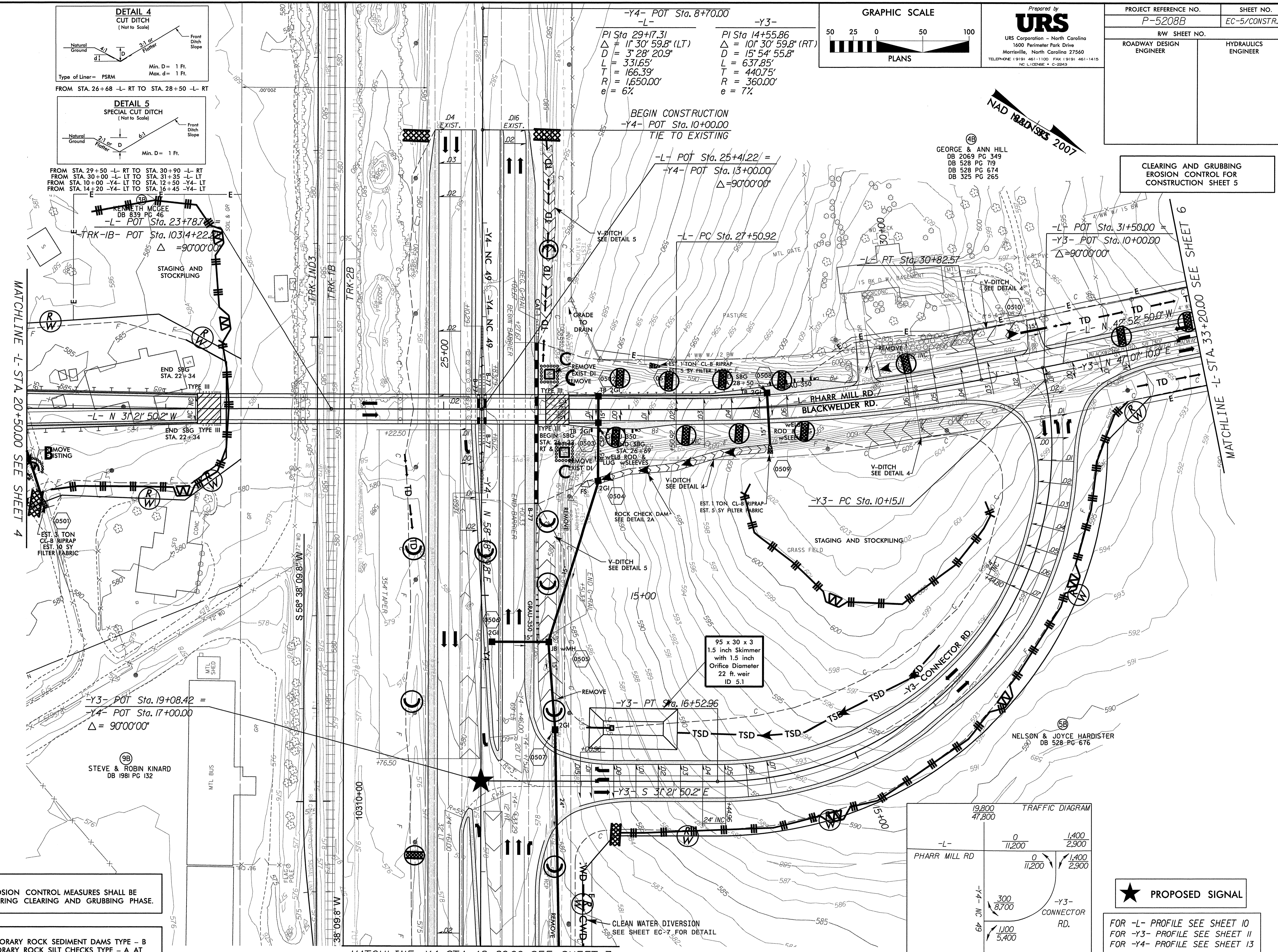
DCN: 0053DEL P10a2



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 NC LICENSE # C-2843

PROJECT REFERENCE NO. P-5208B	SHEET NO. EC-5/CONSTR.5
RW SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	

CLEARING AND GRUBBING
 EROSION CONTROL FOR
 CONSTRUCTION SHEET 5



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

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

TRAFFIC DIAGRAM

	19,800	47,800	
-L-	0	1,400	2,900
PHARR MILL RD	0	11,200	1,400
	0	11,200	2,900
-Y3-	300	8,700	1,400
CONNECTOR RD.	1,100	5,400	2,900
	20,600	2010	AVERAGE
	44,500	2035	DAILY TRAFFIC

★ PROPOSED SIGNAL

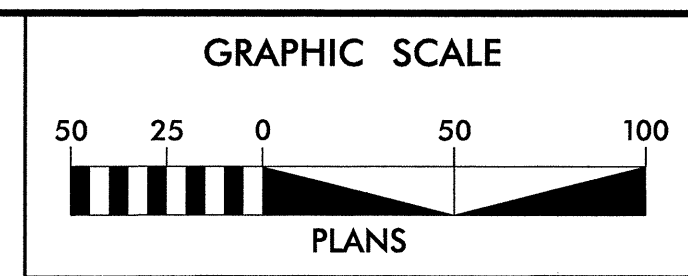
FOR -L- PROFILE SEE SHEET 10
 FOR -Y3- PROFILE SEE SHEET 11
 FOR -Y4- PROFILE SEE SHEET 13

FOR BRIDGE - PAVEMENT RELATIONSHIP SKETCH, SEE SHEET 6

1/10/2013 10:00 AM R:\Roads\Projects\EC\5208B_EC_psh\EC05.dgn
 User: mcarthur

DCN:
0053DEL P10a2

-L-
PI Sta 38+01.69
 $\Delta = 4' 37'' 10.0'' (RT)$
 $D = 0' 41'' 55.4''$
 $L = 661.2'$
 $T = 330.74'$
 $R = 8,200.00'$
 $e = NC$



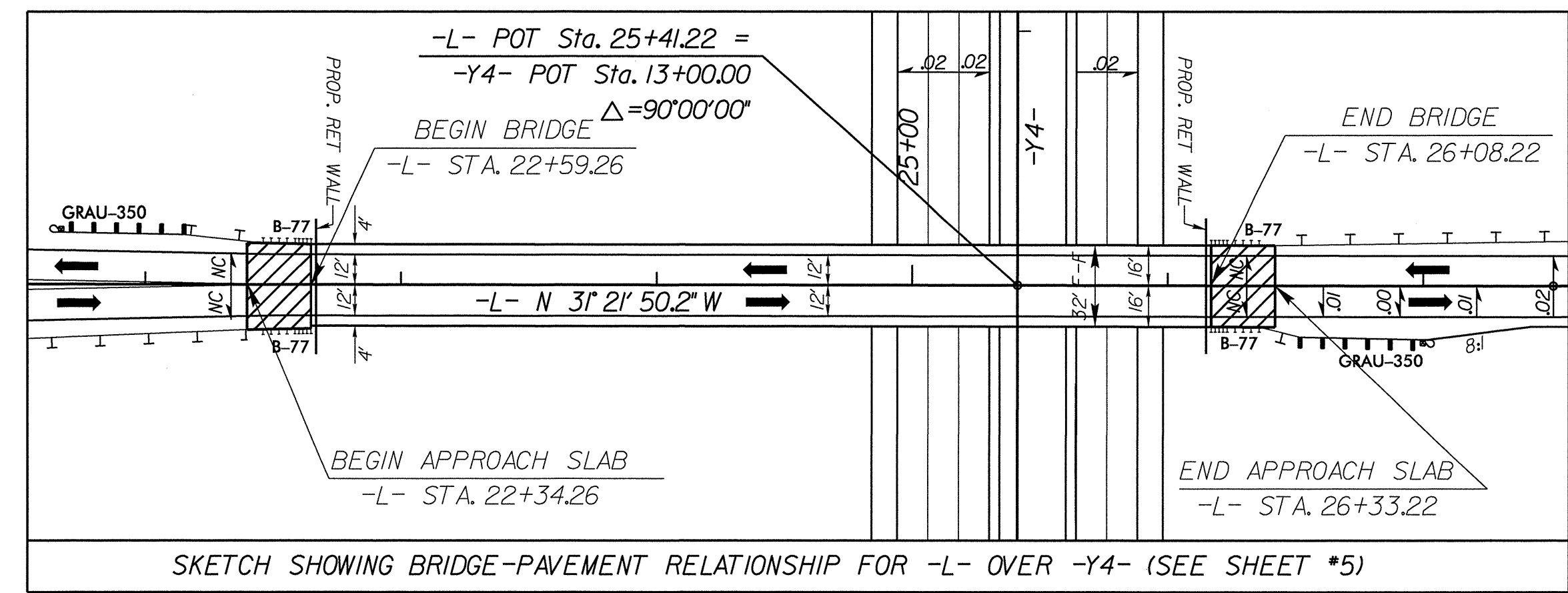
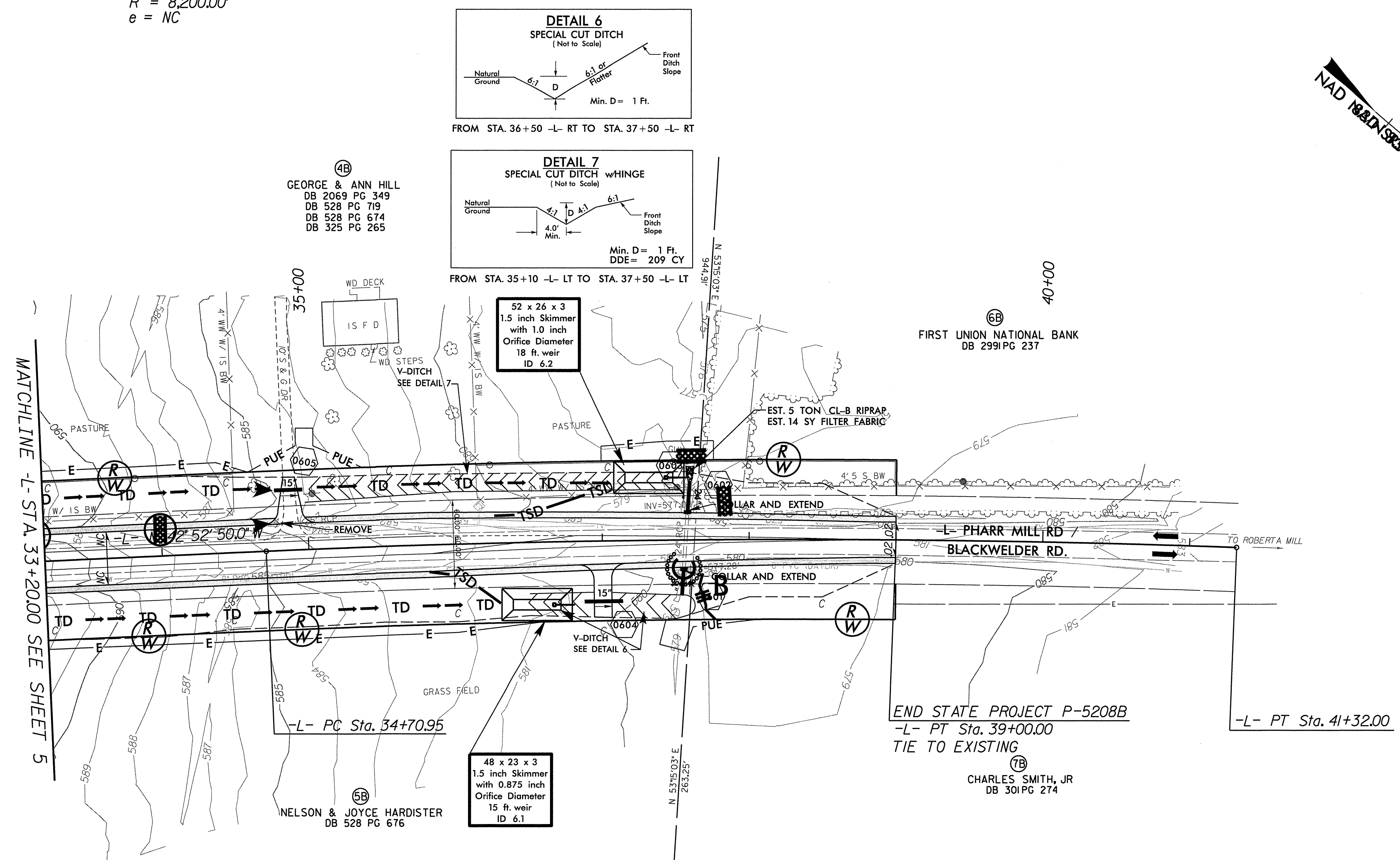
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NC LICENSE # C-2243

PROJECT REFERENCE NO. P-5208B	SHEET NO. EC-6/CONSTR.6
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 6

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

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

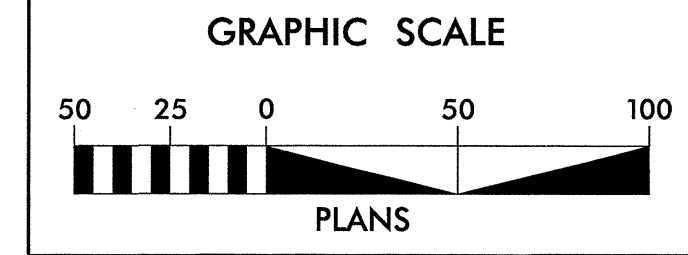
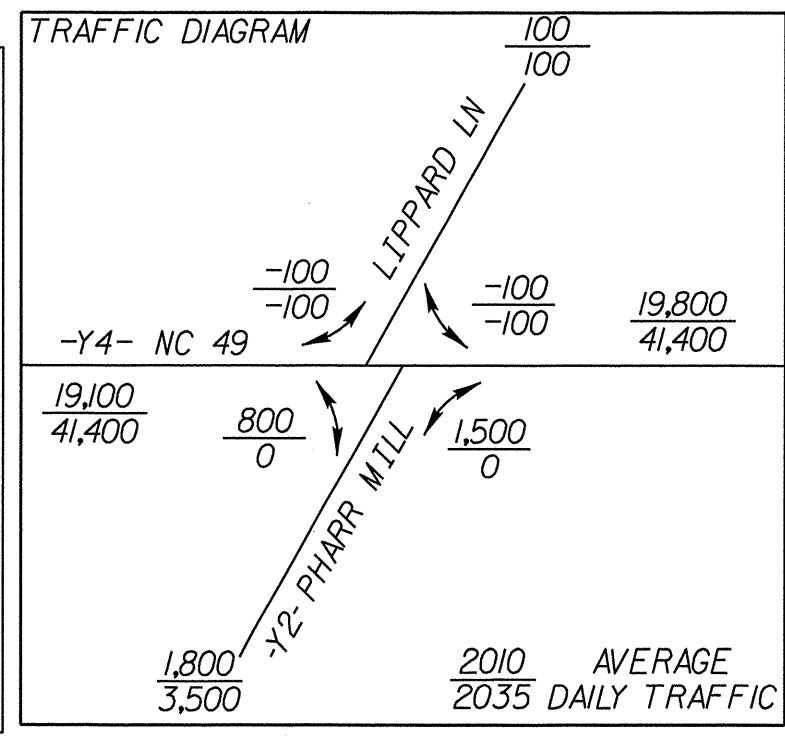


FOR -L- PROFILE SEE SHEET II

1/30/2013
 R:\Roadway\Proj\EC\N5208B_EC_poshEC06.dgn
 lisa.mccarthur

DCN: 0053DEL P10a2

AT GRADE RAILROAD CLOSURE NOTES:
 CONTACT THE NCDOT RAIL DIVISION PROJECT ENGINEER AT 919-715-0296 TO SCHEDULE THE CLOSURE OF PHARR MILL RD.
 THE EXISTING PAVEMENT INSIDE THE NORFOLK SOUTHERN RAILROAD BALLAST LINE WILL BE REMOVED BY THE RAILROAD CONTRACTOR. THE TIMBER FLANGES WILL ALSO BE REMOVED BY THE RAILROAD CONTRACTOR. THE RAILROAD SIGNALS, SIGNAL BOX, AND OVERHEAD POWER LINE/POLES TO SERVICE THE SIGNAL BOX WILL BE REMOVED BY THE RAILROAD CONTRACTOR.
 THE EXISTING PAVEMENT INSIDE THE NORFOLK SOUTHERN RAILROAD BALLAST LINE WILL BE REMOVED BY THE RAILROAD CONTRACTOR. THE RAIL SEAL AND ASPHALT OVER THE TIES WILL ALSO BE REMOVED BY THE RAILROAD CONTRACTOR. THE EXISTING RAILROAD CROSSBUCKS SHALL BE REMOVED BY THE RAILROAD CONTRACTOR.
 CONTRACTOR SHALL SEED AND MULCH THE DISTURBED AREA OUTSIDE THE RAILROAD R/W LINE.
 CONTRACTOR SHALL CONTACT NORTH CAROLINA BUI TO LOCATE ALL UNDERGROUND UTILITIES IN THE WORK AREA.
 RAILROAD CONTRACTOR SHALL REMOVE EXISTING ROADBED AND GRADE AREA TO MATCH ADJACENT TOPOGRAPHY AND GRADE EXISTING DITCHES TO DRAIN. ANY EXISTING CULVERTS IN THE RAILROAD DITCHES SHALL BE REMOVED AS WELL.
 PROVIDE SIGNING AND DEVICES REQUIRED TO CLOSE THE ROAD ACCORDING TO THE ROADWAY STANDARD DRAWINGS AND TRAFFIC CONTROL PLANS.
 ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.



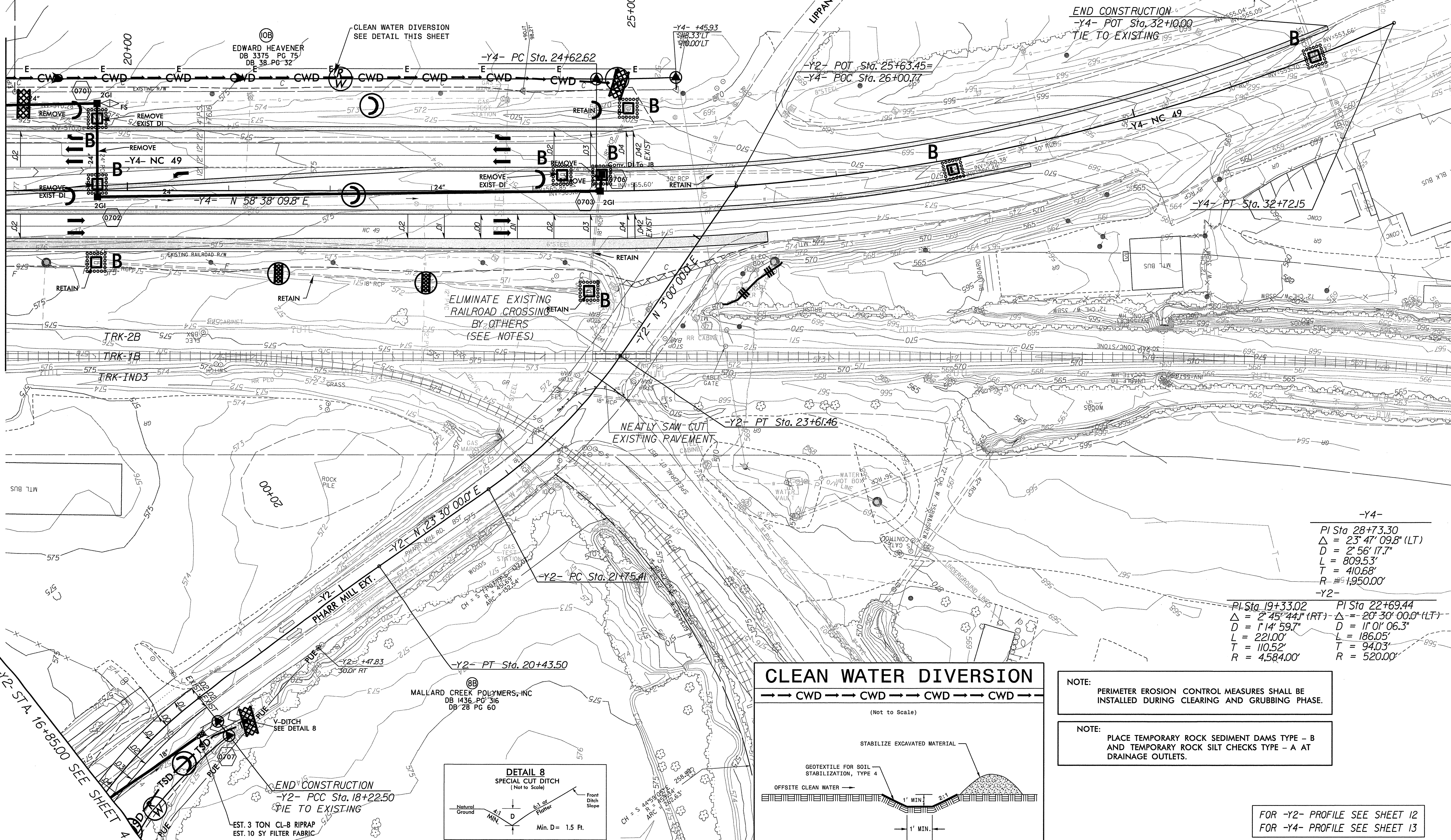
Prepared by
URS
 URS Corporation - North Carolina
 1600 Perimeter Park Drive
 Morrisville, North Carolina 27560
 TELEPHONE (919) 461-1100 FAX (919) 461-1415
 NC LICENSE # C-2243

PROJECT REFERENCE NO. P-5208B	SHEET NO. EC-7/CONSTR.7
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CLEARING AND GRUBBING
 EROSION CONTROL FOR
 CONSTRUCTION SHEET 7

MATCHLINE -Y4- STA. 18+80.00 SEE SHEET 5

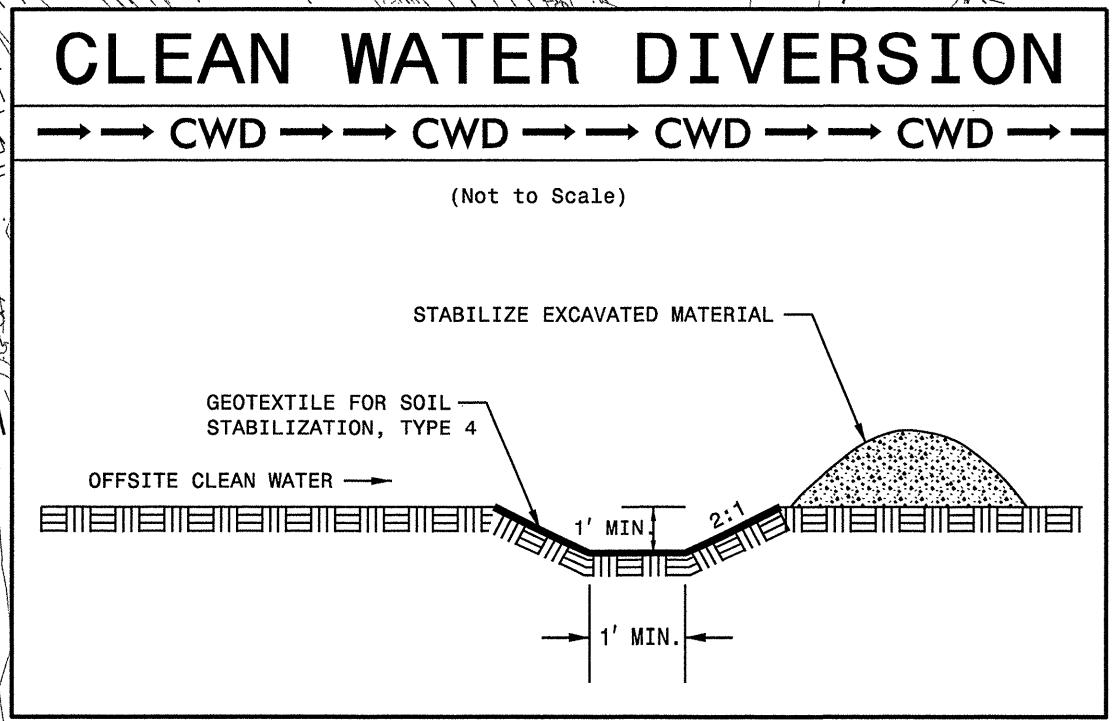
MATCHLINE -Y2- STA. 16+85.00 SEE SHEET 4



ELIMINATE EXISTING RAILROAD CROSSING BY OTHERS (SEE NOTES)

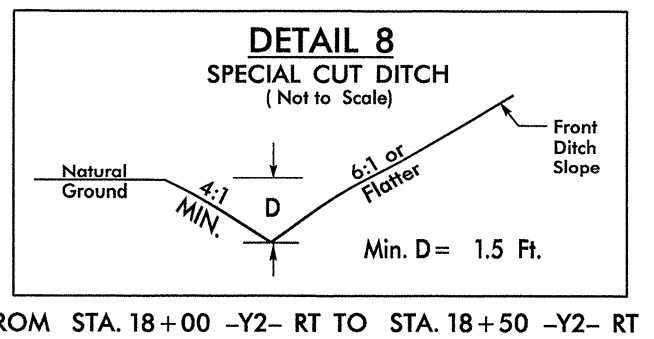
NEATLY SAW CUT EXISTING PAVEMENT

-Y4-	
PI Sta 28+73.30	PI Sta 22+69.44
$\Delta = 23^{\circ} 47' 09.8" (LT)$	$\Delta = 20^{\circ} 30' 00.0" (LT)$
D = 2' 56' 17.7"	D = 1' 0' 06.3"
L = 809.53'	L = 186.05'
T = 410.68'	T = 94.03'
R = 1,950.00'	R = 520.00'
-Y2-	
PI Sta 19+33.02	PI Sta 22+69.44
$\Delta = 2^{\circ} 45' 44.1" (RT)$	$\Delta = 20^{\circ} 30' 00.0" (LT)$
D = 1' 14' 59.7"	D = 1' 0' 06.3"
L = 221.00'	L = 186.05'
T = 110.52'	T = 94.03'
R = 4,584.00'	R = 520.00'



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

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



FOR -Y2- PROFILE SEE SHEET 12
 FOR -Y4- PROFILE SEE SHEET 13

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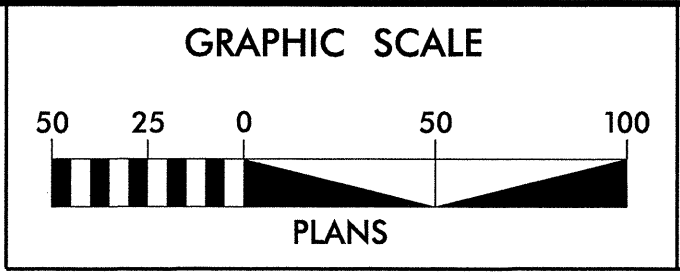
DCN: 0053DEL P10a2

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

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

-Y5-
PI Sta 13+33.75
 $\Delta = 17^{\circ} 38' 51.0''$ (LT)
D = 2' 39' 53.7"
L = 662.21'
T = 333.75'
R = 2,150.00'
e = Exist.

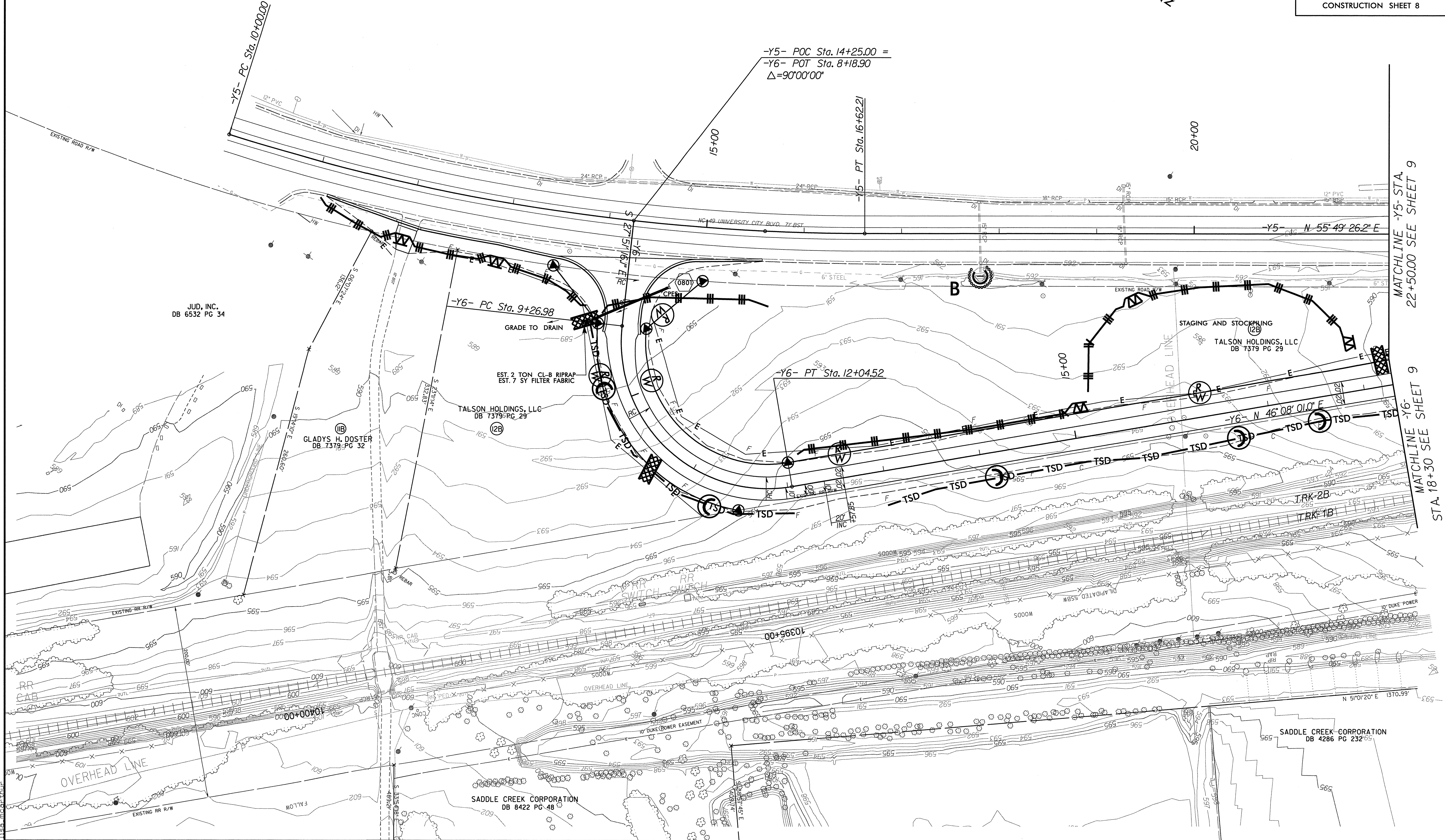
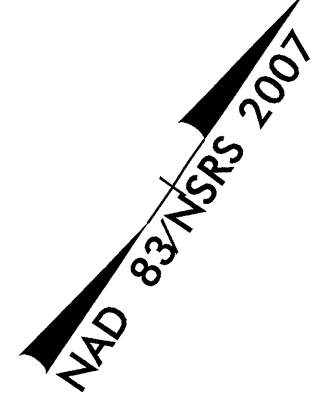
-Y6-
PI Sta 11+26.08
 $\Delta = 106^{\circ} 00' 42.9''$ (LT)
D = 38' 11' 49.9"
L = 277.54'
T = 199.10'
R = 150.00'
e = RC



Prepared by
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URS Corporation - North Carolina
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Morrisville, North Carolina 27560
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NC LICENSE # C-2243

PROJECT REFERENCE NO. P-5208B	SHEET NO. EC-8/CONSTR.8
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 8

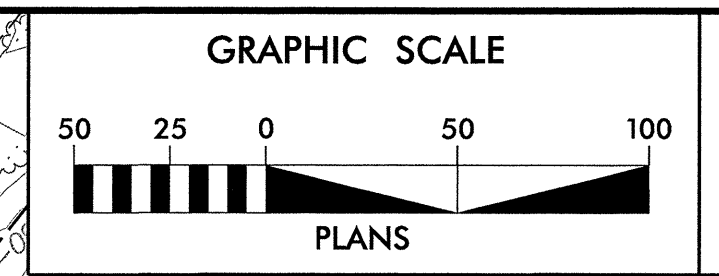


MATCHLINE -Y5- STA 22+50.00 SEE SHEET 9
MATCHLINE -Y6- STA 18+30 SEE SHEET 9

1/10/2013
R:\Rosche\VP\Proj\EC\5208B_EC.psd\EC08.dgn

DCN: 0053DEL P1082

AT GRADE RAILROAD CLOSURE NOTES:
 CONTACT THE NCDOT RAIL DIVISION PROJECT ENGINEER AT 919-715-0296 TO SCHEDULE THE CLOSURE OF SHAMROCK RD.
 THE EXISTING PAVEMENT INSIDE THE NORFOLK SOUTHERN RAILROAD BALLAST LINE WILL BE REMOVED BY THE RAILROAD CONTRACTOR. THE TIMBER FLANGES WILL ALSO BE REMOVED BY THE RAILROAD CONTRACTOR. THE RAILROAD SIGNALS, SIGNAL BOX, AND OVERHEAD POWER LINE/POLES TO SERVICE THE SIGNAL BOX WILL BE REMOVED BY THE RAILROAD CONTRACTOR.
 THE EXISTING PAVEMENT INSIDE THE NORFOLK SOUTHERN RAILROAD BALLAST LINE WILL BE REMOVED BY THE RAILROAD CONTRACTOR. THE RAIL SEAL AND ASPHALT OVER THE TIES WILL ALSO BE REMOVED BY THE RAILROAD CONTRACTOR. THE EXISTING RAILROAD CROSSBUCKS SHALL BE REMOVED BY THE RAILROAD CONTRACTOR.
 CONTRACTOR SHALL SEED AND MULCH THE DISTURBED AREA OUTSIDE THE RAILROAD BALLAST LINE.
 CONTRACTOR SHALL CONTACT NORTH CAROLINA 811 TO LOCATE ALL UNDERGROUND UTILITIES IN THE WORK AREA.
 CONTRACTOR SHALL REMOVE EXISTING ROADBED AND GRADE AREA TO MATCH ADJACENT TOPOGRAPHY AND GRADE EXISTING DITCHES TO DRAIN. ANY EXISTING CULVERTS IN THE RAILROAD DITCHES SHALL BE REMOVED AS WELL.
 THE CITY OF HARRISBURG SHALL REMOVE THE RR ADVANCE WARNING SIGNING ON SHAMROCK RD.
 PROVIDE PERMANENT SIGNING AS SHOWN.
 PROVIDE SIGNING AND DEVICES REQUIRED TO CLOSE THE ROAD ACCORDING TO THE ROADWAY STANDARD DRAWINGS AND TRAFFIC CONTROL PLANS. ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.



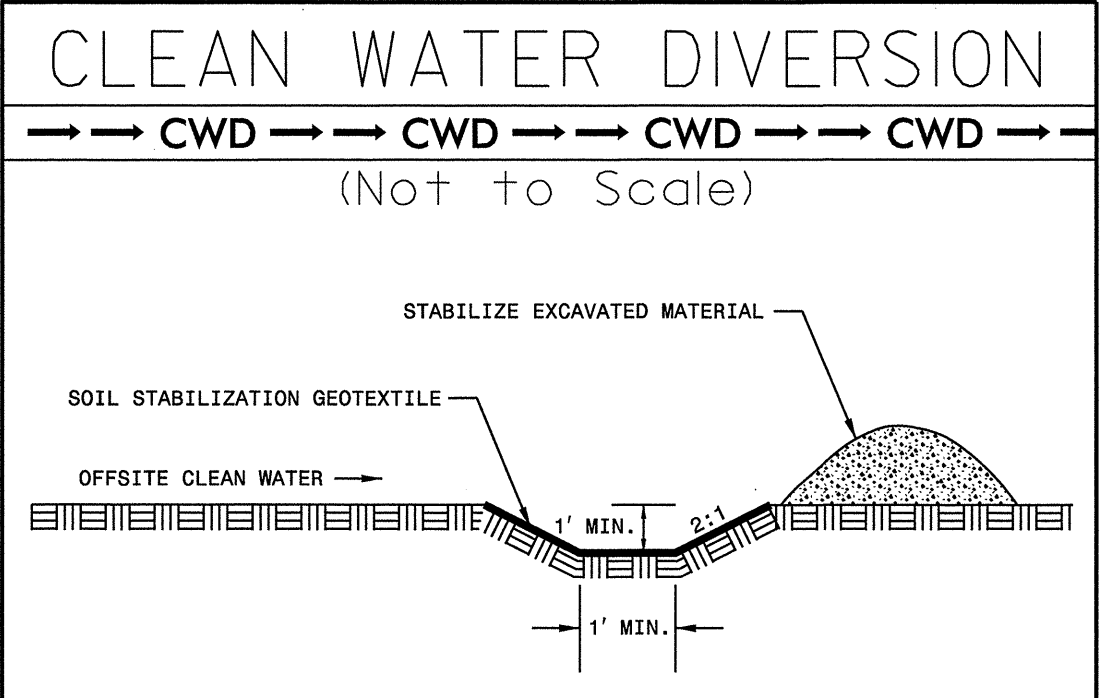
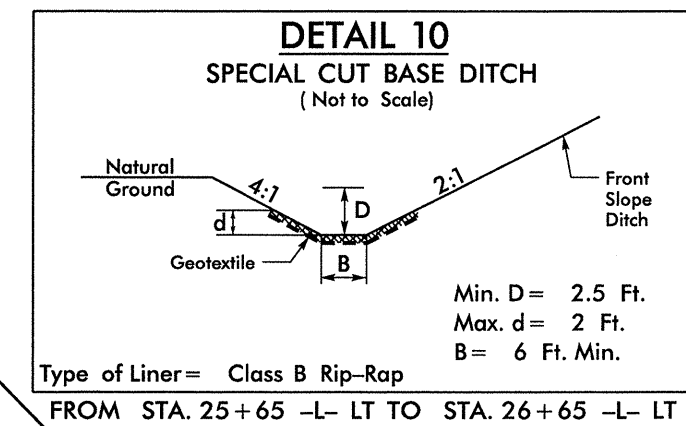
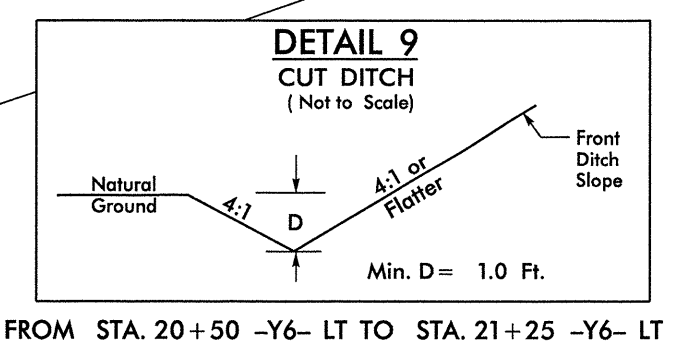
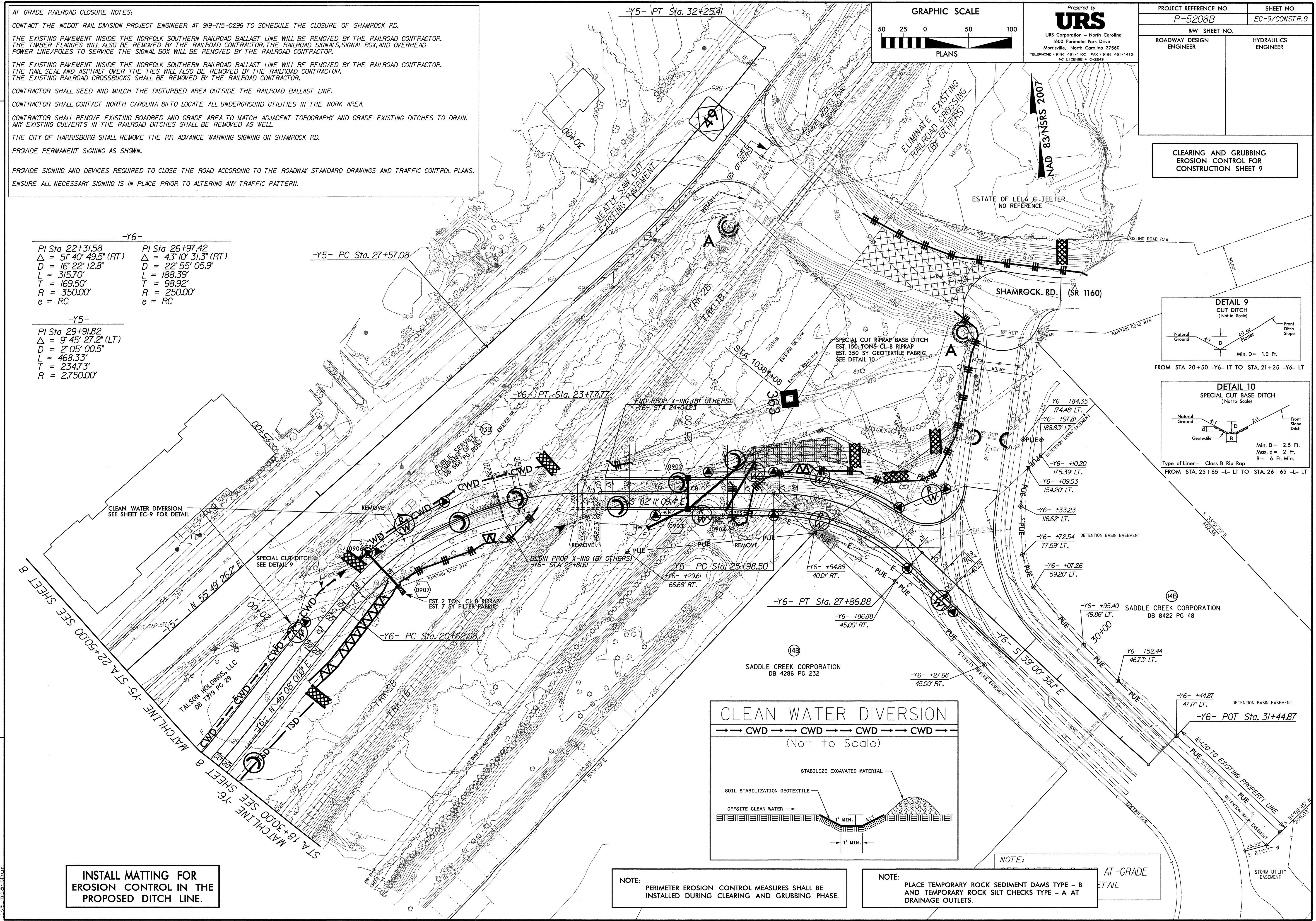
Prepared by
URS
 URS Corporation - North Carolina
 1600 Perimeter Park Drive
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 TELEPHONE (919) 461-1100 FAX (919) 461-1415
 NC LICENSE # C-2283

PROJECT REFERENCE NO. P-5208B	SHEET NO. EC-9/CONSTR.9
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CLEARING AND GRUBBING
 EROSION CONTROL FOR
 CONSTRUCTION SHEET 9

-Y6-
 PI Sta 22+31.58 PI Sta 26+97.42
 $\Delta = 51^{\circ}40'49.5"$ (RT) $\Delta = 43^{\circ}10'31.3"$ (RT)
 $D = 16^{\circ}22'12.8"$ $D = 22^{\circ}55'05.9"$
 $L = 315.70'$ $L = 188.39'$
 $T = 169.50'$ $T = 98.92'$
 $R = 350.00'$ $R = 250.00'$
 $e = RC$ $e = RC$

-Y5-
 PI Sta 29+91.82
 $\Delta = 9^{\circ}45'27.2"$ (LT)
 $D = 2^{\circ}05'00.5"$
 $L = 468.33'$
 $T = 234.73'$
 $R = 2750.00'$



INSTALL MATTING FOR
 EROSION CONTROL IN THE
 PROPOSED DITCH LINE.

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

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

NOTE:
 AT-GRADE
 DETAIL

REVISIONS

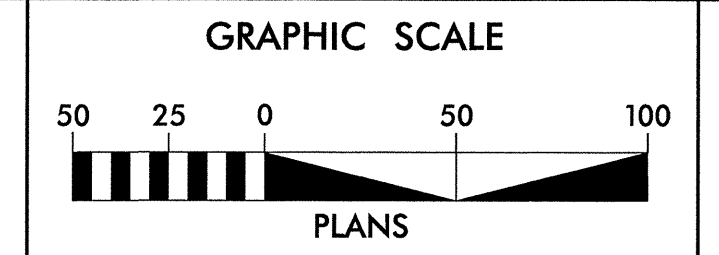
01/21/2013 - ADDED PUE ON PARCEL #14B

1/20/2013
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 User: mcarthur

DCN:
0053DEL P10a2

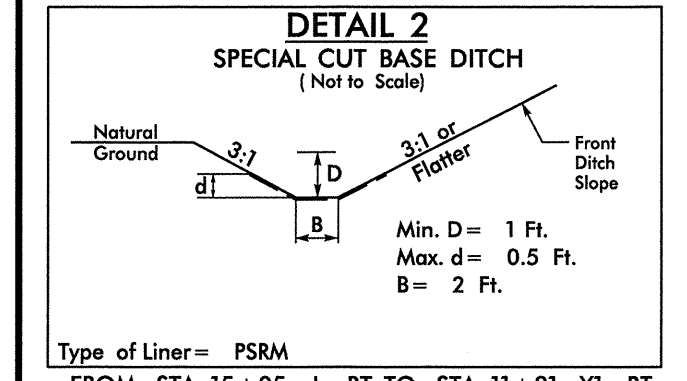
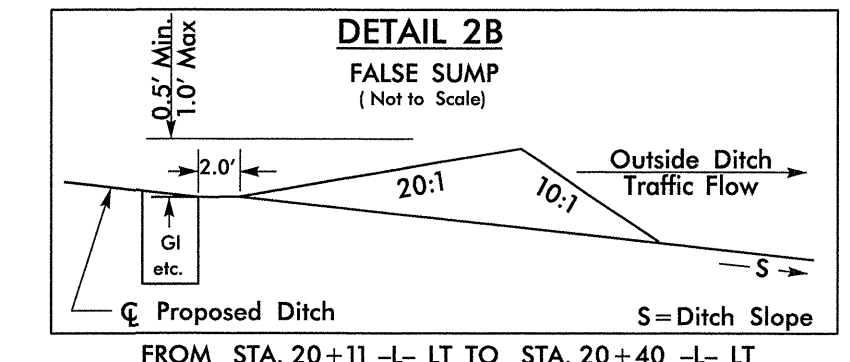
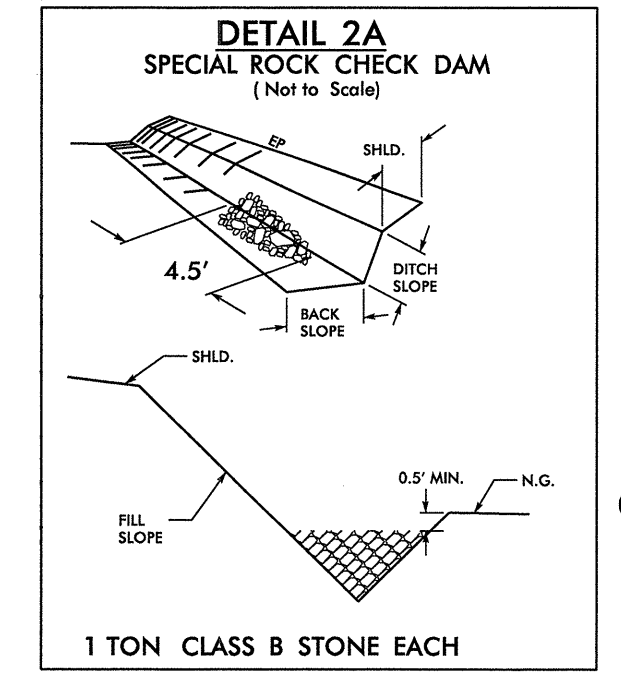
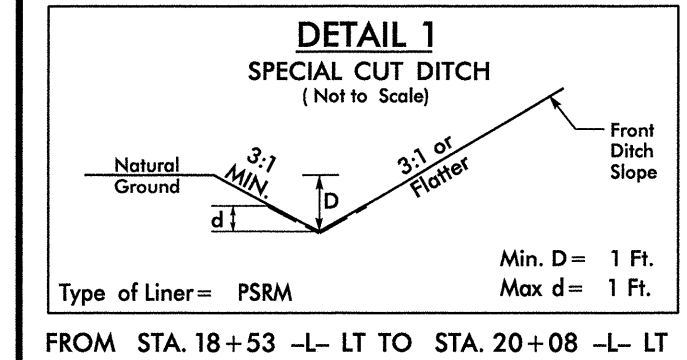
-L-	-Y1-	-Y2-
PI Sta 15+20.00	PI Sta 12+09.11	PI Sta 17+25.53
$\Delta = 43^{\circ}15'55.2"$ (LT)	$\Delta = 35^{\circ}00'32.7"$ (RT)	$\Delta = 23^{\circ}14'06.9"$ (RT)
$D = 6^{\circ}44'26.4"$	$D = 10^{\circ}44'58.8"$	$D = 11^{\circ}48'48.8"$
$L = 641.85'$	$L = 325.68'$	$L = 196.68'$
$T = 337.10'$	$T = 168.10'$	$T = 99.71'$
$R = 850.00'$	$R = 533.00'$	$R = 485.00'$
$e = 8\%$	$e = 4\%$	$e = 6\%$

56 x 28 x 3
1.5 inch Skimmer
with 1.125 inch
Orifice Diameter
20 ft. weir
ID 4.2



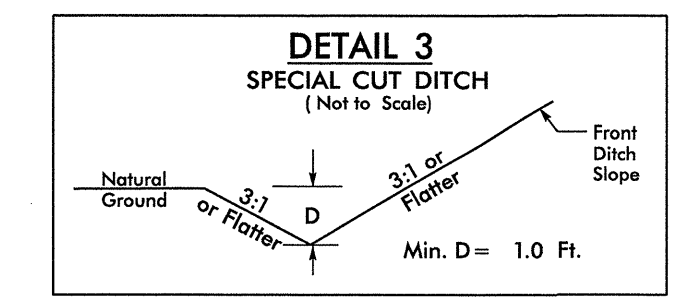
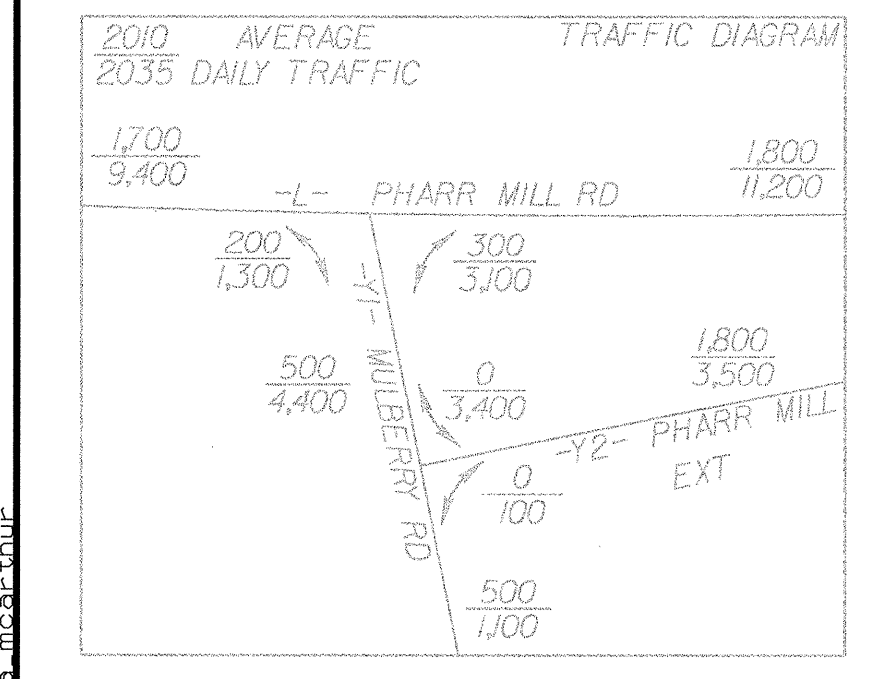
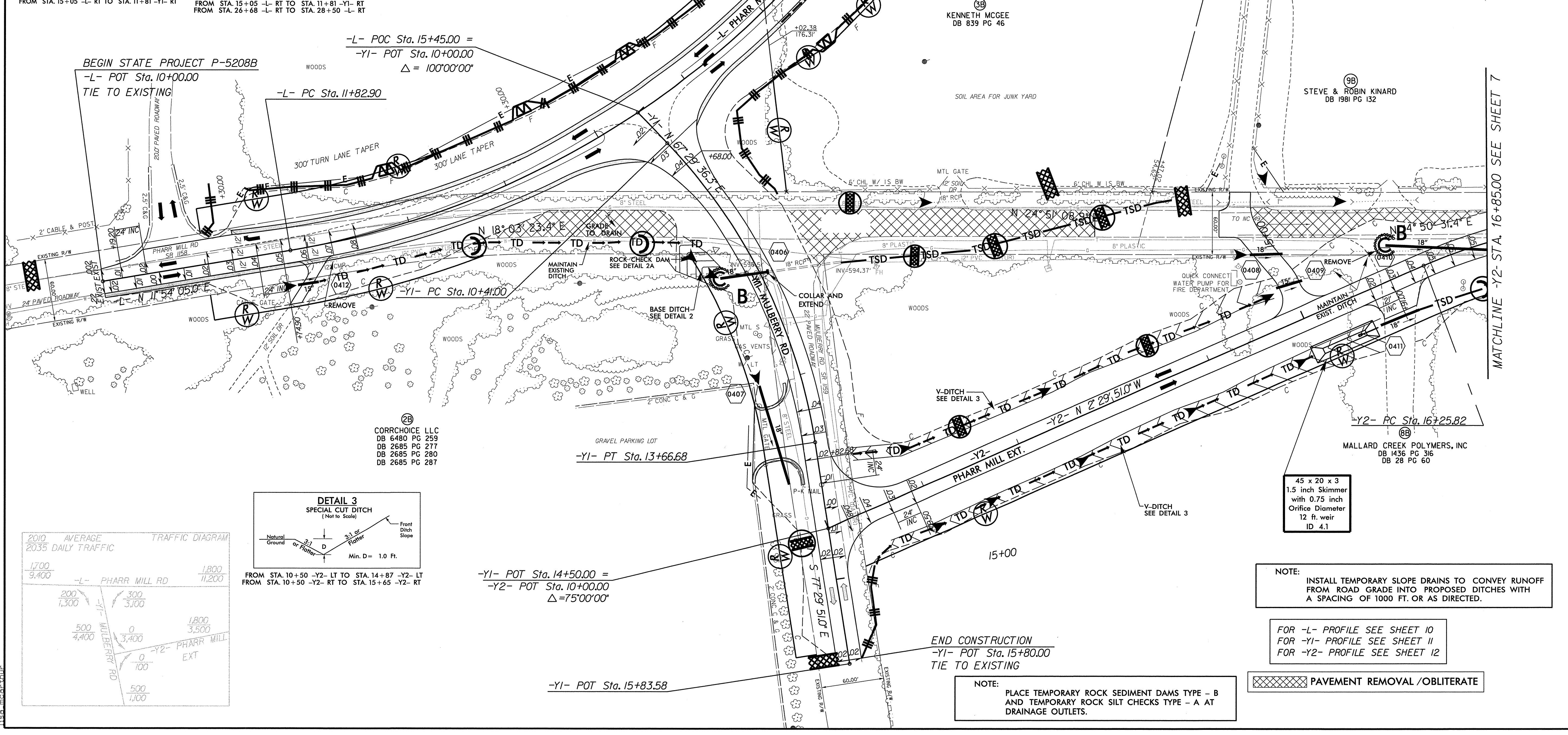
Prepared by
URS
URS Corporation - North Carolina
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Morrisville, North Carolina 27560
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NC LICENSE # C-2243

PROJECT REFERENCE NO. P-5208B	SHEET NO. EC-10/CONST. 4
R/W SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	



CHEMICAL SPECIALTIES INC
(MINERAL RESEARCH & DEVELOPMENT CORP.)
DB 350 PG 246

Place Matting for Erosion Control
on Slope as Work Allows.
FROM STA. 17+00 -L- RT TO STA. 22+50 -L- RT



-Y1- POT Sta. 14+50.00 =
-Y2- POT Sta. 10+00.00
 $\Delta = 75^{\circ}00'00"$

-Y1- POT Sta. 15+83.58

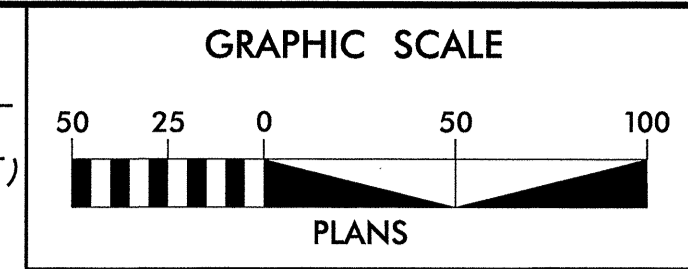
NOTE:
INSTALL TEMPORARY SLOPE DRAINS TO CONVEY RUNOFF FROM ROAD GRADE INTO PROPOSED DITCHES WITH A SPACING OF 1000 FT. OR AS DIRECTED.

FOR -L- PROFILE SEE SHEET 10
FOR -Y1- PROFILE SEE SHEET 11
FOR -Y2- PROFILE SEE SHEET 12

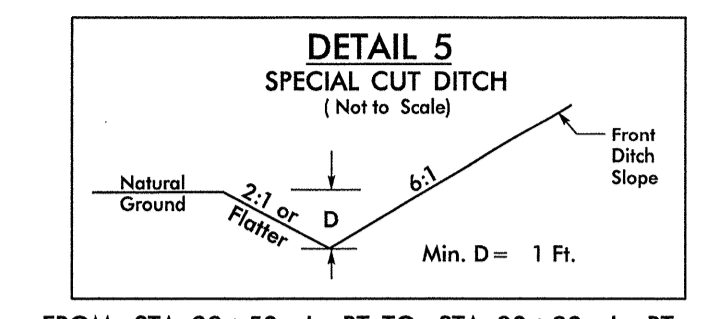
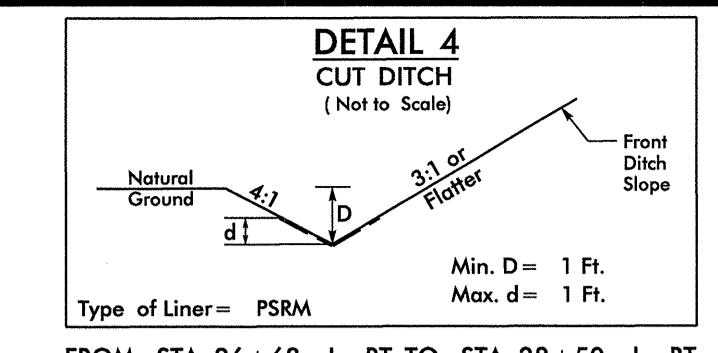
NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B AND TEMPORARY ROCK SILT CHECKS TYPE - A AT DRAINAGE OUTLETS.

PAVEMENT REMOVAL/OBLITERATE

1/30/2013
C:\Roadway\Projects\5208B_EC_psh.ec10.dgn
lee.mearthur

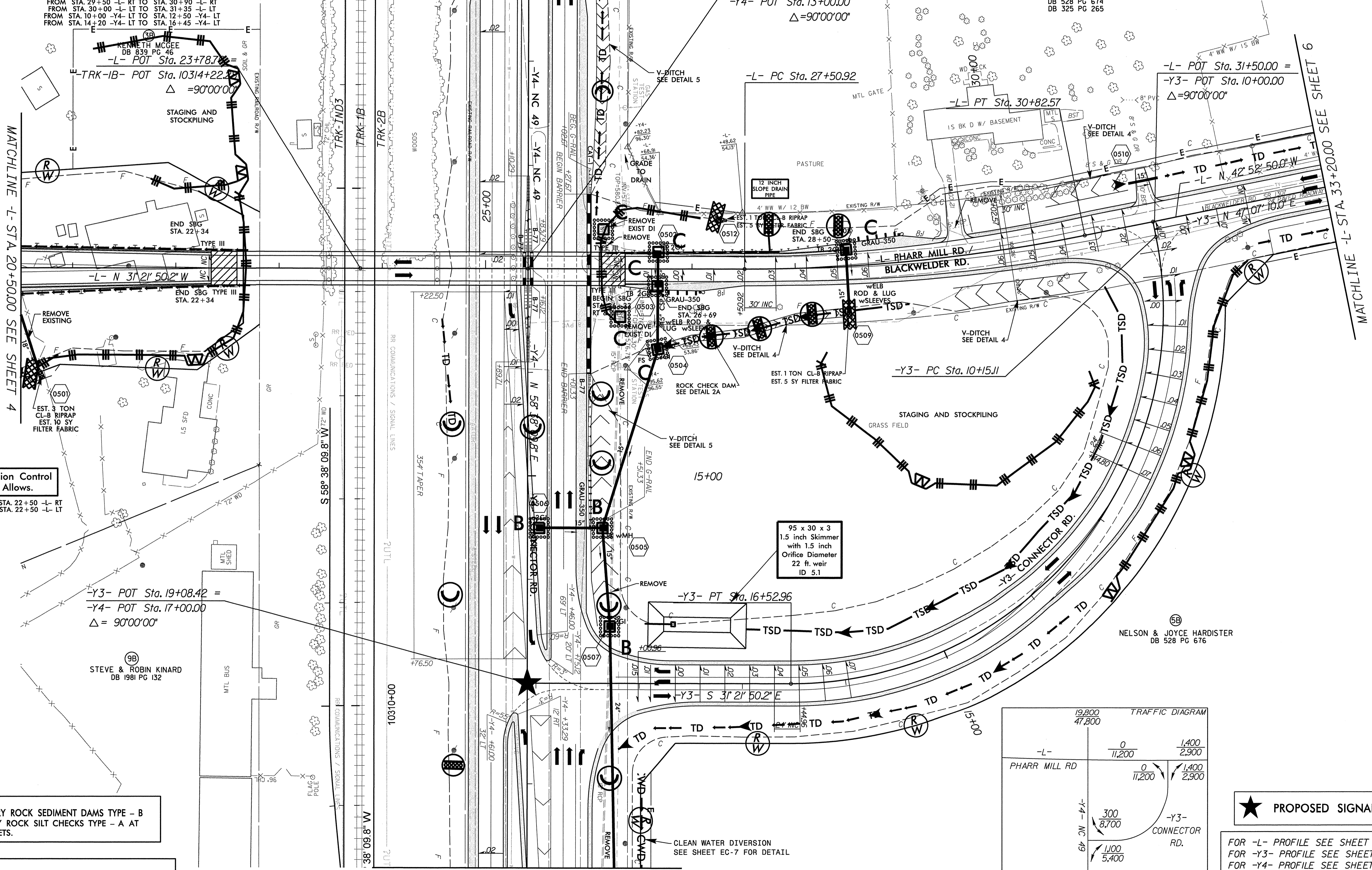


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Morrisville, North Carolina 27560
TELEPHONE (919) 461-1100 FAX (919) 461-1415
NC LICENSE # C-2283



-Y4- POT Sta. 8+70.00
-L-
PI Sta 29+17.31
 $\Delta = 11' 30'' 59.8''$ (LT)
D = 3' 28' 20.9"
L = 331.65'
T = 166.39'
R = 1,650.00'
e = 6%

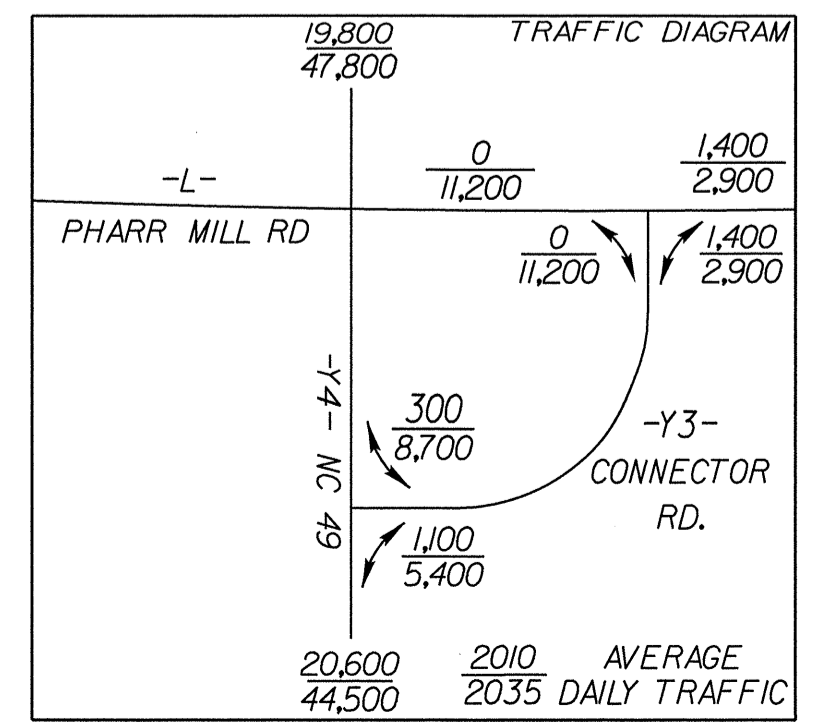
-Y3-
PI Sta 14+55.86
 $\Delta = 10' 30'' 59.8''$ (RT)
D = 15' 54' 55.8"
L = 637.85'
T = 440.75'
R = 360.00'
e = 7%



Place Matting for Erosion Control on Slope as Work Allows.
FROM STA. 17+00 -L- RT TO STA. 22+50 -L- RT
FROM STA. 20+50 -L- LT TO STA. 22+50 -L- LT

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

NOTE: INSTALL TEMPORARY SLOPE DRAINS TO CONVEY RUNOFF FROM ROAD GRADE INTO PROPOSED DITCHES WITH A SPACING OF 1000 FT. OR AS DIRECTED.



★ PROPOSED SIGNAL

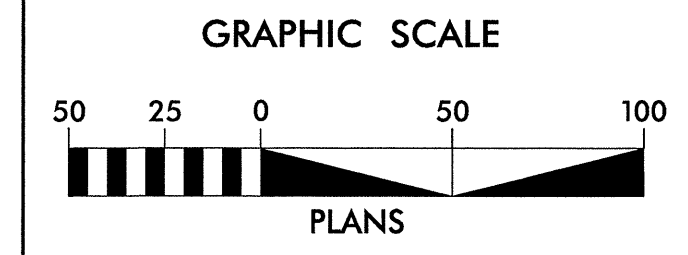
FOR -L- PROFILE SEE SHEET 10
FOR -Y3- PROFILE SEE SHEET 11
FOR -Y4- PROFILE SEE SHEET 13

FOR BRIDGE - PAVEMENT RELATIONSHIP SKETCH, SEE SHEET 6

1/30/2013
 I:\Roadway\Proj\NEC\N5208B_EC.pah\EC11.dgn
 User: mcarthur

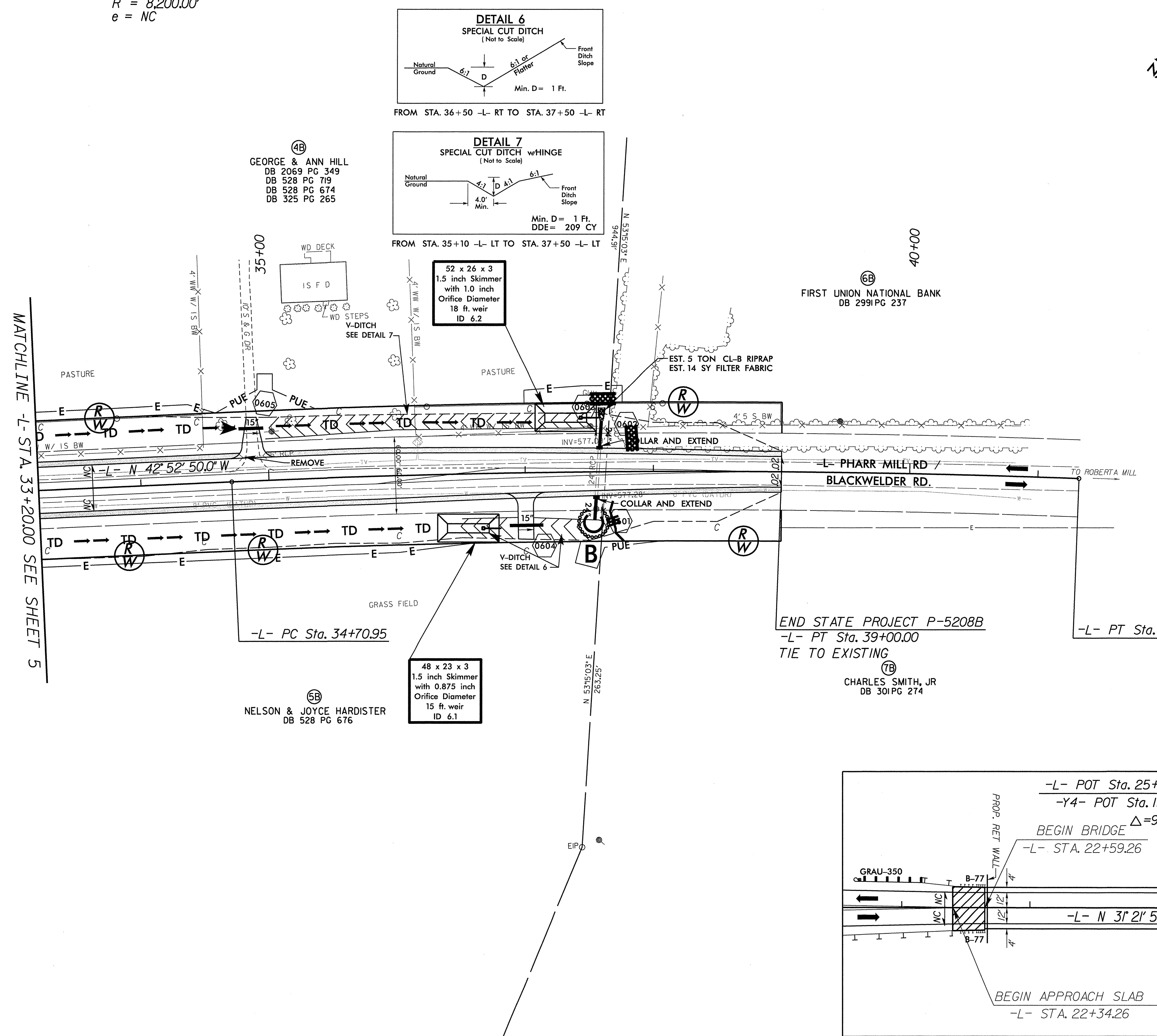
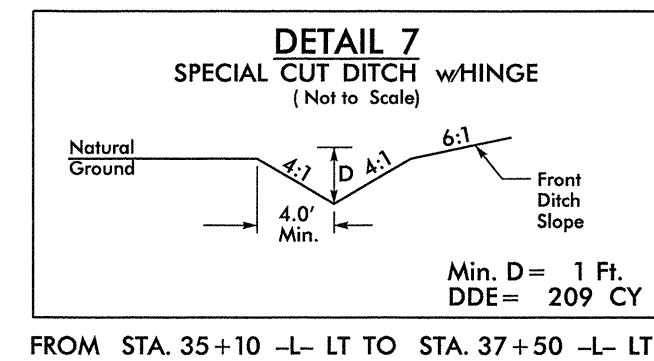
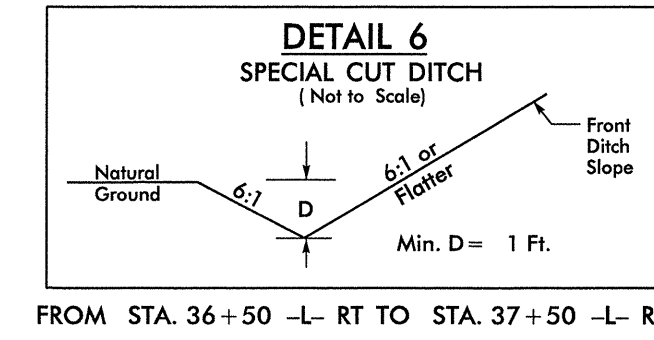
DCN:
0053DEL P10a2

-L-
PI Sta 38+01.69
 $\Delta = 4' 37" 10.0" (RT)$
 $D = 0' 41" 55.4"$
 $L = 661.12'$
 $T = 330.74'$
 $R = 8,200.00'$
 $e = NC$



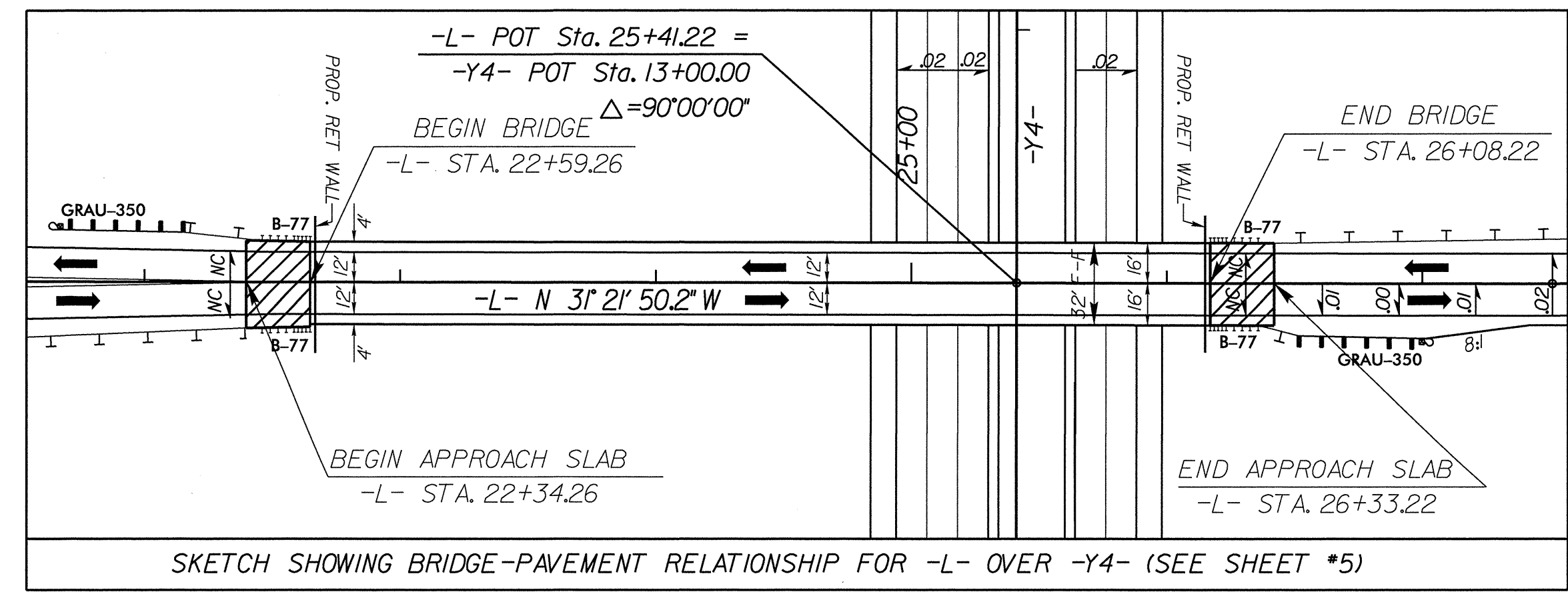
Prepared by
URS
URS Corporation - North Carolina
1600 Perimeter Park Drive
Morrisville, North Carolina 27560
TELEPHONE: 919/461-1100 FAX: 919/461-1415
NC LICENSE # C-2243

PROJECT REFERENCE NO. <i>P-5208B</i>	SHEET NO. EC-12/CONSTR.6
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



NAD 1983/1985 2007

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

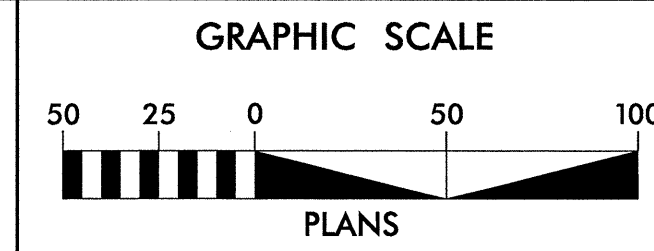
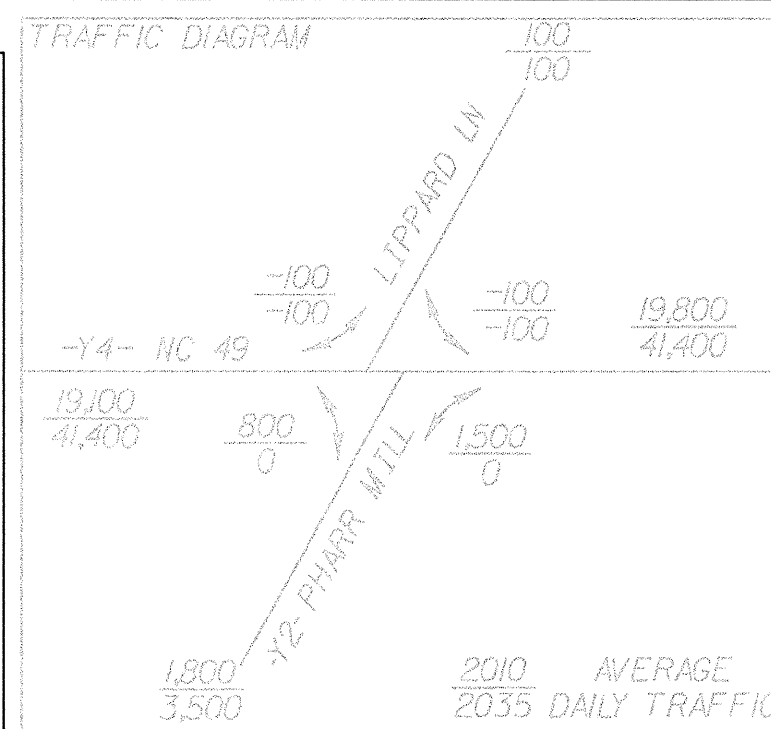


FOR -L- PROFILE SEE SHEET 11

1/30/2013
I:\Roadway\Proj\NEC\P5208B_EC.psh\EC12.dgn
isa_mccarthur

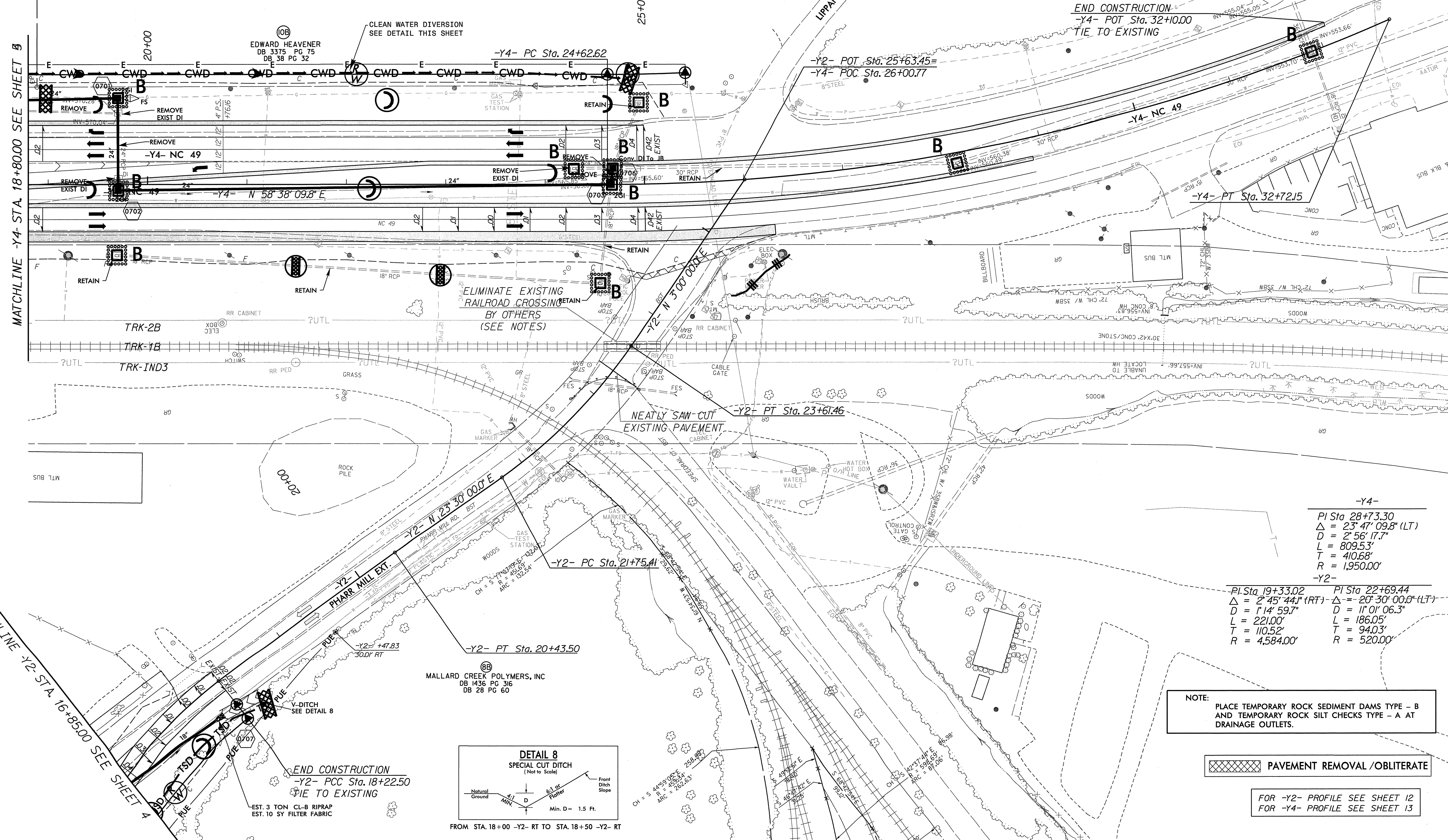
DCN:
0053DEL P10a2

AT GRADE RAILROAD CLOSURE NOTES:
 CONTACT THE NCDOT RAIL DIVISION PROJECT ENGINEER AT 919-715-0296 TO SCHEDULE THE CLOSURE OF PHARR MILL RD.
 THE EXISTING PAVEMENT INSIDE THE NORFOLK SOUTHERN RAILROAD BALLAST LINE WILL BE REMOVED BY THE RAILROAD CONTRACTOR. THE TIMBER FLANGES WILL ALSO BE REMOVED BY THE RAILROAD CONTRACTOR. THE RAILROAD SIGNALS, SIGNAL BOX, AND OVERHEAD POWER LINE/POLES TO SERVICE THE SIGNAL BOX WILL BE REMOVED BY THE RAILROAD CONTRACTOR.
 THE EXISTING PAVEMENT INSIDE THE NORFOLK SOUTHERN RAILROAD BALLAST LINE WILL BE REMOVED BY THE RAILROAD CONTRACTOR. THE RAIL SEAL AND ASPHALT OVER THE TIES WILL ALSO BE REMOVED BY THE RAILROAD CONTRACTOR. THE EXISTING RAILROAD CROSSBUCKS SHALL BE REMOVED BY THE RAILROAD CONTRACTOR.
 CONTRACTOR SHALL SEED AND MULCH THE DISTURBED AREA OUTSIDE THE RAILROAD R/W LINE.
 CONTRACTOR SHALL CONTACT NORTH CAROLINA BII TO LOCATE ALL UNDERGROUND UTILITIES IN THE WORK AREA.
 RAILROAD CONTRACTOR SHALL REMOVE EXISTING ROADBED AND GRADE AREA TO MATCH ADJACENT TOPOGRAPHY AND GRADE EXISTING DITCHES TO DRAIN ANY EXISTING CULVERTS IN THE RAILROAD DITCHES SHALL BE REMOVED AS WELL.
 PROVIDE SIGNING AND DEVICES REQUIRED TO CLOSE THE ROAD ACCORDING TO THE ROADWAY STANDARD DRAWINGS AND TRAFFIC CONTROL PLANS. ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.

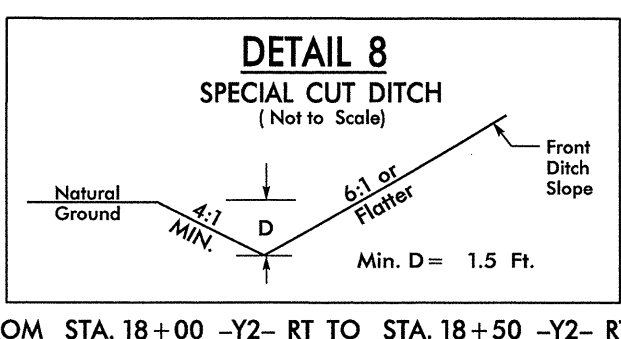


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 NC LICENSE # C-2042

PROJECT REFERENCE NO. P-5208B	SHEET NO. EC-13/CONSTR.7
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



ELIMINATE EXISTING RAILROAD CROSSING BY OTHERS (SEE NOTES)



-Y4- PI Sta 28+73.30 Δ = 2° 47' 09.8" (LT) D = 2° 56' 17.7" L = 809.53' T = 410.68' R = 1,950.00'	-Y2- PI Sta 19+33.02 Δ = 2° 45' 44.1" (RT) D = 1° 14' 59.7" L = 221.00' T = 110.52' R = 4,584.00'	PI Sta 22+69.44 Δ = 2° 30' 00.0" (LT) D = 1° 01' 06.3" L = 186.05' T = 94.03' R = 520.00'
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NOTE: PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B AND TEMPORARY ROCK SILT CHECKS TYPE - A AT DRAINAGE OUTLETS.

PAVEMENT REMOVAL / OBLITERATE

FOR -Y2- PROFILE SEE SHEET 12
 FOR -Y4- PROFILE SEE SHEET 13

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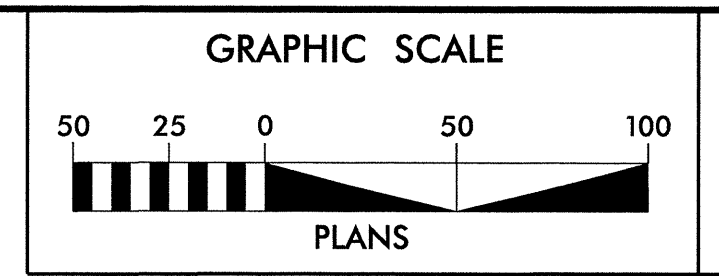
DCN: 0053DEL P10a2

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

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

-Y5-
 PI Sta 13+33.75
 $\Delta = 17^\circ 38' 51.0''$ (LT)
 $D = 2^\circ 39' 53.7''$
 $L = 662.21'$
 $T = 333.75'$
 $R = 2,150.00'$
 $e = \text{Exist.}$

-Y6-
 PI Sta 11+26.08
 $\Delta = 106^\circ 00' 42.9''$ (LT)
 $D = 38^\circ 11' 49.9''$
 $L = 277.54'$
 $T = 199.10'$
 $R = 150.00'$
 $e = \text{RC}$

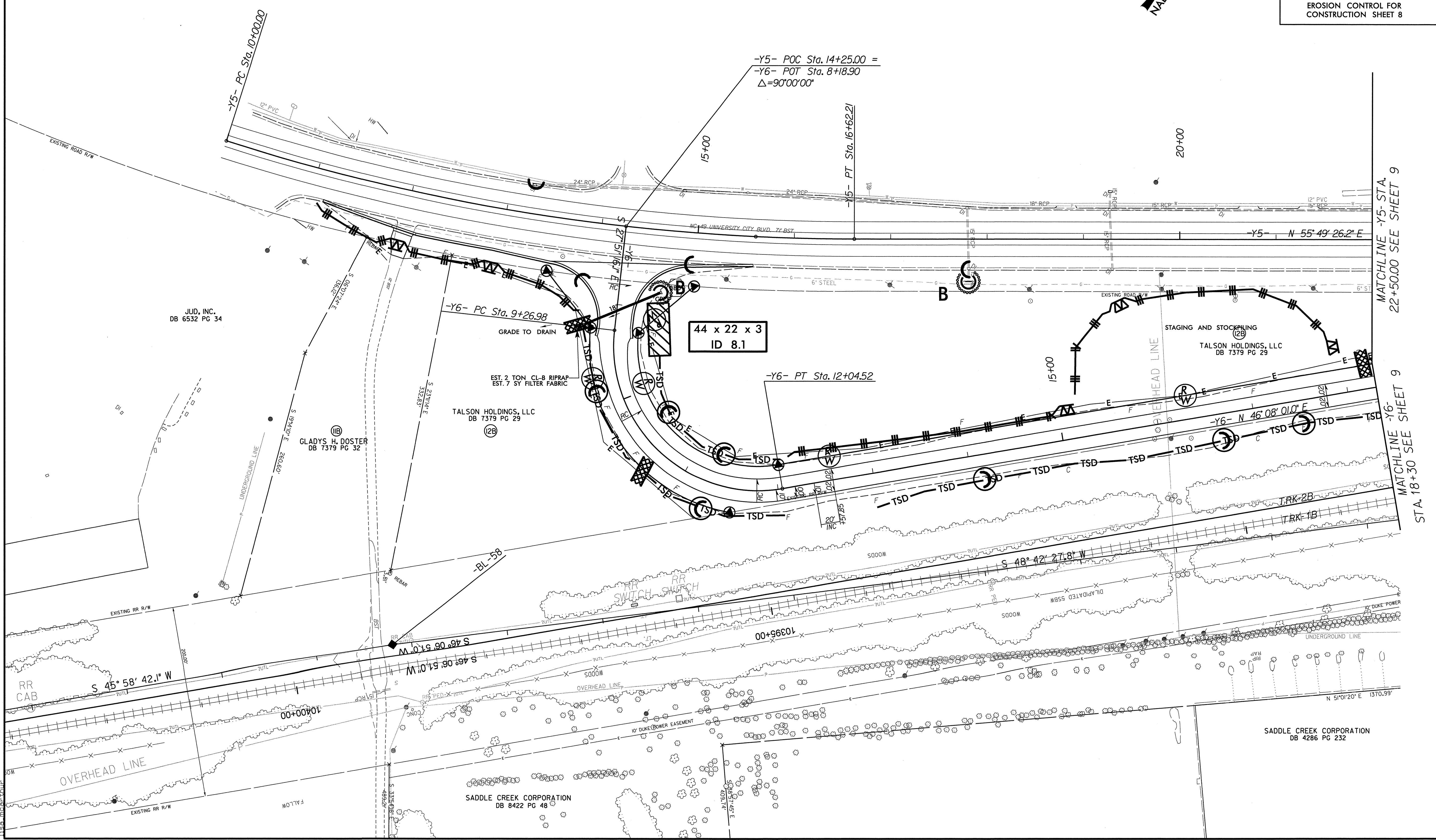


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 NC LICENSE # C-2243

PROJECT REFERENCE NO. P-5208B	SHEET NO. EC-14/CONSTR.8
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 8

NAD 83 NTSR 2007



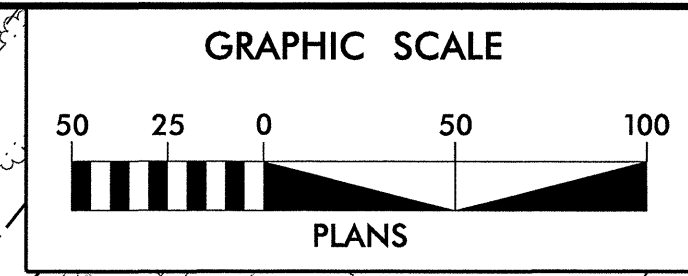
MATCHLINE -Y5- STA. 22+50.00 SEE SHEET 9

MATCHLINE -Y6- STA. 18+30 SEE SHEET 9

1/30/2013
 H:\Resdev\N\Proj\EC\5208B\EC_pshEC14.dgn
 User: mcd

DCN: 0053DEL P10a2

AT GRADE RAILROAD CLOSURE NOTES:
 CONTACT THE NCDOT RAIL DIVISION PROJECT ENGINEER AT 919-715-0296 TO SCHEDULE THE CLOSURE OF SHAMROCK RD.
 THE EXISTING PAVEMENT INSIDE THE NORFOLK SOUTHERN RAILROAD BALLAST LINE WILL BE REMOVED BY THE RAILROAD CONTRACTOR. THE TIMBER FLANGES WILL ALSO BE REMOVED BY THE RAILROAD CONTRACTOR. THE RAILROAD SIGNALS, SIGNAL BOX, AND OVERHEAD POWER LINE/POLES TO SERVICE THE SIGNAL BOX WILL BE REMOVED BY THE RAILROAD CONTRACTOR.
 THE EXISTING PAVEMENT INSIDE THE NORFOLK SOUTHERN RAILROAD BALLAST LINE WILL BE REMOVED BY THE RAILROAD CONTRACTOR. THE RAIL SEAL AND ASPHALT OVER THE TIES WILL ALSO BE REMOVED BY THE RAILROAD CONTRACTOR. THE EXISTING RAILROAD CROSSBUCKS SHALL BE REMOVED BY THE RAILROAD CONTRACTOR.
 CONTRACTOR SHALL SEED AND MULCH THE DISTURBED AREA OUTSIDE THE RAILROAD BALLAST LINE.
 CONTRACTOR SHALL CONTACT NORTH CAROLINA 811 TO LOCATE ALL UNDERGROUND UTILITIES IN THE WORK AREA.
 CONTRACTOR SHALL REMOVE EXISTING ROADBED AND GRADE AREA TO MATCH ADJACENT TOPOGRAPHY AND GRADE EXISTING DITCHES TO DRAIN. ANY EXISTING CULVERTS IN THE RAILROAD DITCHES SHALL BE REMOVED AS WELL.
 THE CITY OF HARRISBURG SHALL REMOVE THE RR ADVANCE WARNING SIGNING ON SHAMROCK RD.
 PROVIDE PERMANENT SIGNING AS SHOWN.
 PROVIDE SIGNING AND DEVICES REQUIRED TO CLOSE THE ROAD ACCORDING TO THE ROADWAY STANDARD DRAWINGS AND TRAFFIC CONTROL PLANS. ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.



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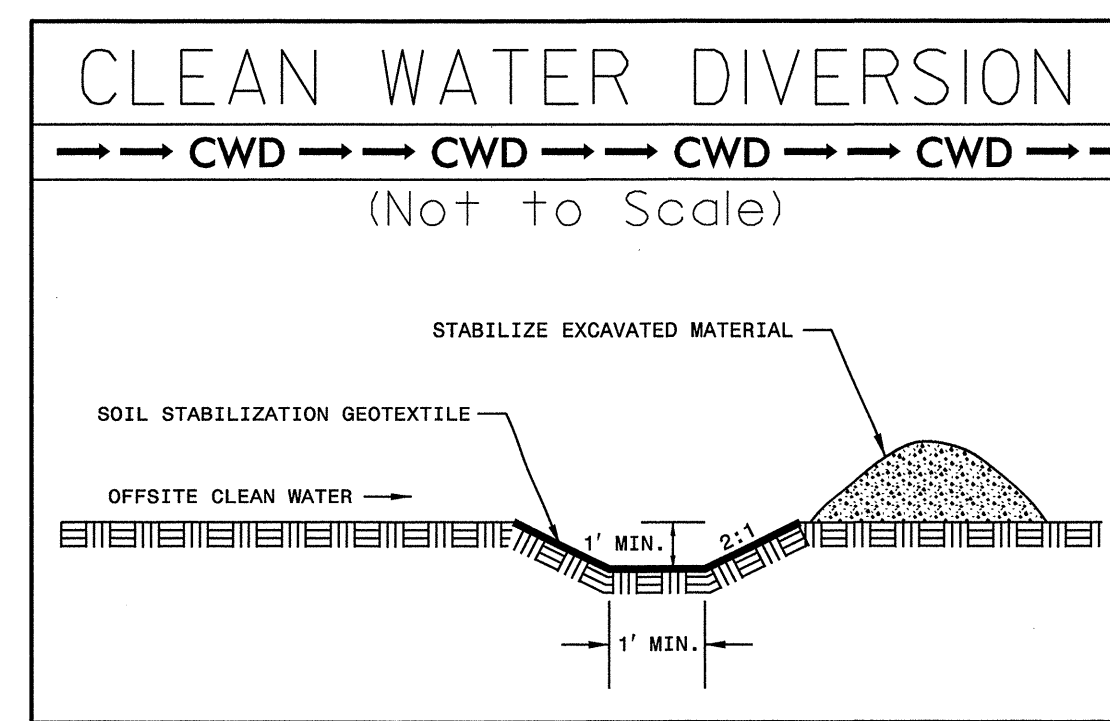
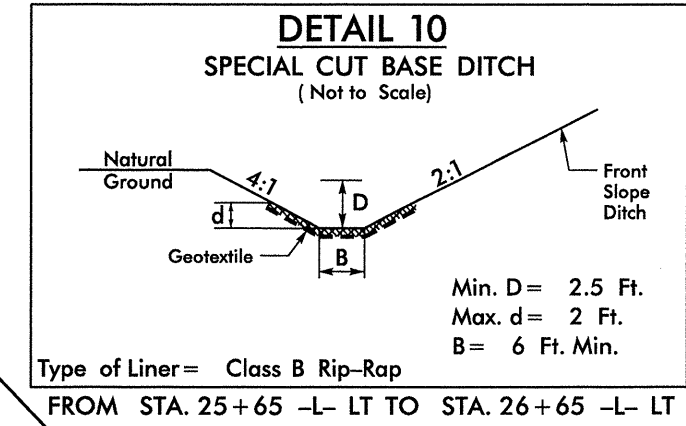
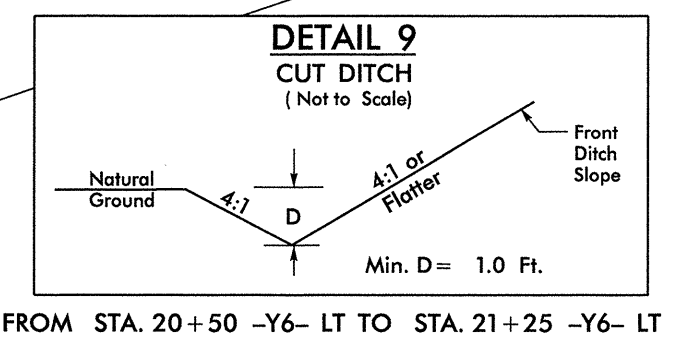
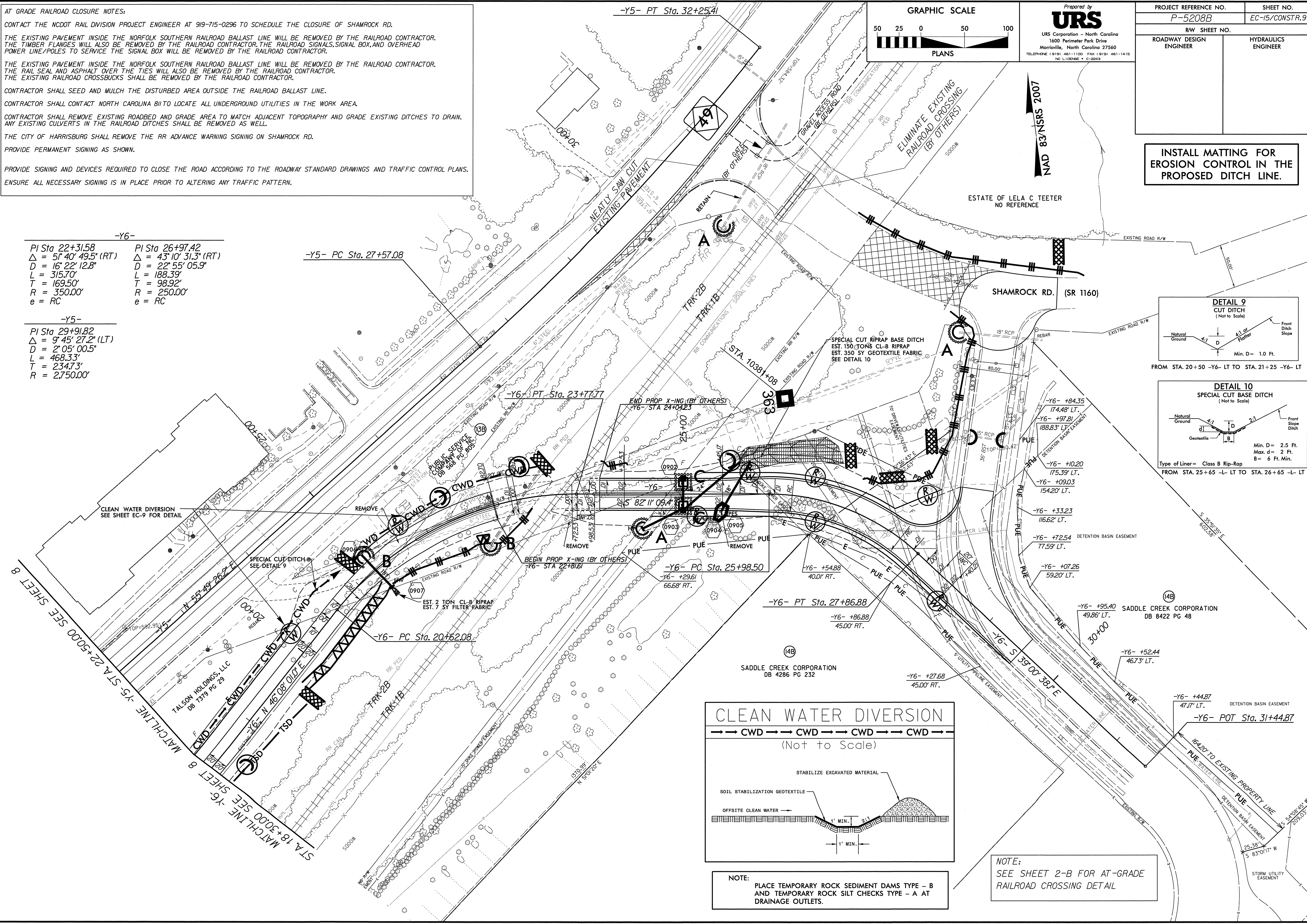
PROJECT REFERENCE NO. P-5208B	SHEET NO. EC-15/CONSTR.9
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INSTALL MATTING FOR EROSION CONTROL IN THE PROPOSED DITCH LINE.

-Y6-
 PI Sta 22+31.58 Δ = 51° 40' 49.5" (RT)
 D = 16' 22" 12.8"
 L = 315.70'
 T = 169.50'
 R = 350.00'
 e = RC

PI Sta 26+97.42 Δ = 43° 10' 31.3" (RT)
 D = 22' 55' 05.9"
 L = 188.39'
 T = 98.92'
 R = 250.00'
 e = RC

-Y5-
 PI Sta 29+91.82 Δ = 9° 45' 27.2" (LT)
 D = 2' 05" 00.5"
 L = 468.33'
 T = 234.73'
 R = 2750.00'



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

NOTE:
 SEE SHEET 2-B FOR AT-GRADE RAILROAD CROSSING DETAIL

REVISIONS

01/21/2013 - ADDED PUE ON PARCEL #14B

1/30/2013 R:\Roadway\Proj\NEC\P5208B\EC_pah\EC15.dgn
 User: pah

MATCHLINE -Y5- STA. 22+5000 SEE SHEET 8
 MATCHLINE -Y6- STA. 18+5000 SEE SHEET 8

CLEAN WATER DIVERSION
 SEE SHEET EC-9 FOR DETAIL

SPECIAL CUT DITCH
 SEE DETAIL 9

-Y6- PC Sta. 20+62.08

-Y6- PT Sta. 23+77.77

END PROP X-ING (BY OTHERS)
 -Y6- STA 24+04.23

-Y6- PC Sta. 25+98.50

-Y6- PT Sta. 27+86.88

-Y6- +27.68
 45.00' RT.

-Y6- +95.40
 49.86' LT.

-Y6- +52.44
 46.73' LT.

-Y6- +44.87
 47.77' LT.

-Y6- POT Sta. 31+44.87

STORM UTILITY EASEMENT

DETENTION BASIN EASEMENT

16420' TO EXISTING PROPERTY LINE

5408' 62" W
 2093.00'