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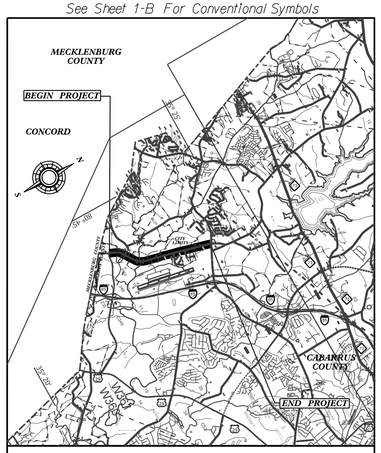
U-4910A /U-4910B

TIP PROJECT: U-4910A /U-4910B

See Sheet 1-A For Index of Sheets
See Sheet 1-B For Conventional Symbols



VICINITY MAP U-4910A & U-4910B

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

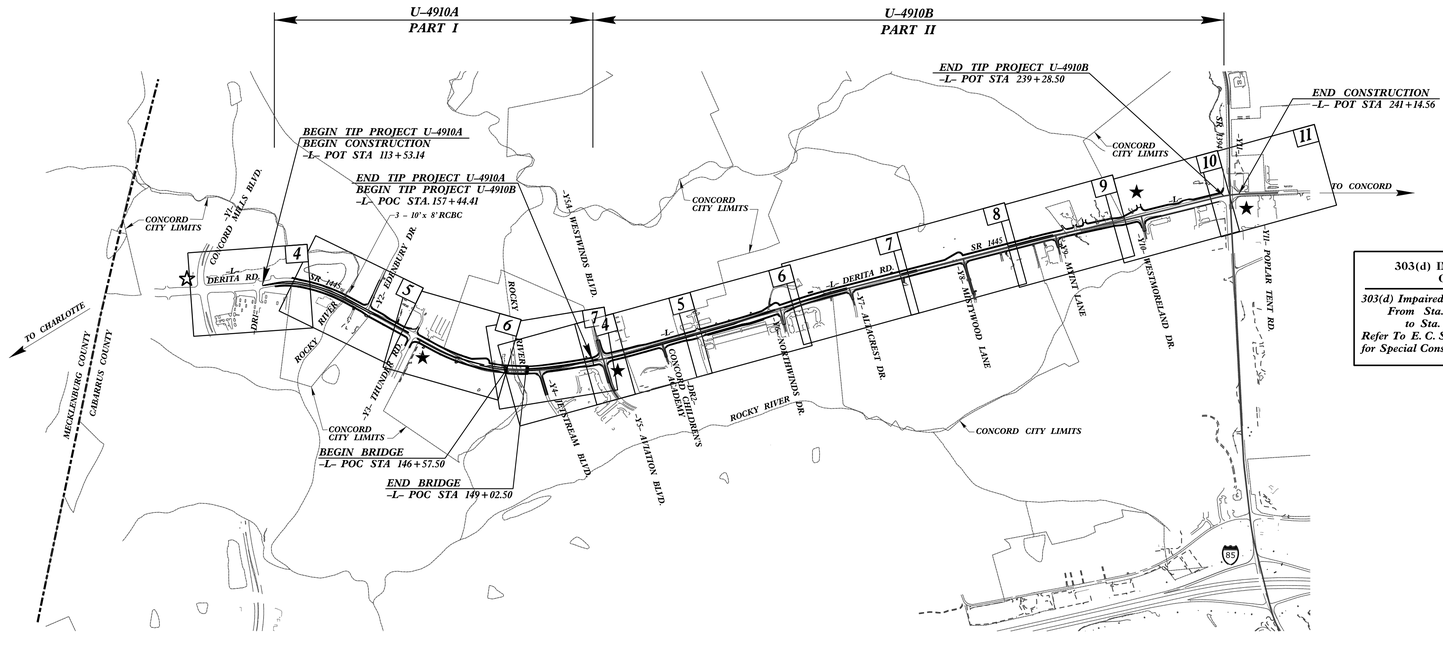
PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL

CABARRUS COUNTY

LOCATION: SR-1445(DERITA ROAD) FROM NORTH OF SR 2894, CONCORD MILLS BOULEVARD, TO SR 1394 POPLAR TENT ROAD.

TYPE OF WORK: GRADING, PAVING, DRAINAGE, STRUCTURE, SIGNALS & SIGNING

NAD 83



STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-4910A / U-4910B	EC-1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
40373.1.1		U-4910A (PE)
40373.1.F3	HPP-1445(7)	U-4910B (PE)
40373.2.D1		U-4910A (R/W & UTIL)
40373.2.F2	HPP-1445(7)	U-4910B (R/W & UTIL)
40373.3.3	STPDA-1445(008)	U-4910A CONST U-4910B CONST

EROSION AND SEDIMENT CONTROL MEASURES

Std. #	Description	Symbol
1630.03	Temporary Silt Ditch	TSD
1630.05	Temporary Diversion	TD
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	EW CFW
	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	

303(d) IMPAIRED WATER(S) EXIST ON THIS PROJECT

303(d) Impaired Water Zone(s) Exist
From Sta. Begin
to Sta. End
Refer To E. C. Special Provisions for Special Considerations.

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

THIS PROJECT HAS BEEN DESIGNED TO SENSITIVE WATERSHED STANDARDS.

ENVIRONMENTALLY SENSITIVE AREA(S) EXIST ON THIS PROJECT

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

GRAPHIC SCALE

50 25 0 50 100
PLANS

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
TEL (919) 859-2243 FAX (919) 859-6258
ENG FIRM LICENSE NO. C-890

Designed by:

Brian Elam, PE ***3195***
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:

Natalie Chan, PE, CPESC, CPSWQ

Roadway Standard Drawings

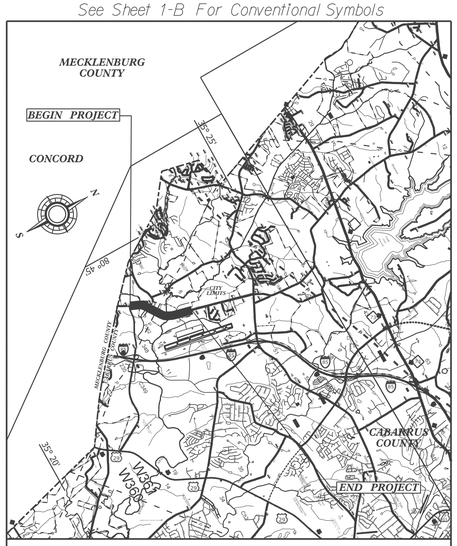
The following roadway english standards as appear in "Roadway Standard Drawings"- Roadway Design Unit - N. C. Department of Transportation - Raleigh, N. C., dated January 2012 and the latest revison thereto are applicable to this project and by reference hereby are considered a part of these plans.

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: U-4910A

TIP U-4910A

See Sheet 1-A For Index of Sheets
See Sheet 1-B For Conventional Symbols



VICINITY MAP U-4910A

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL

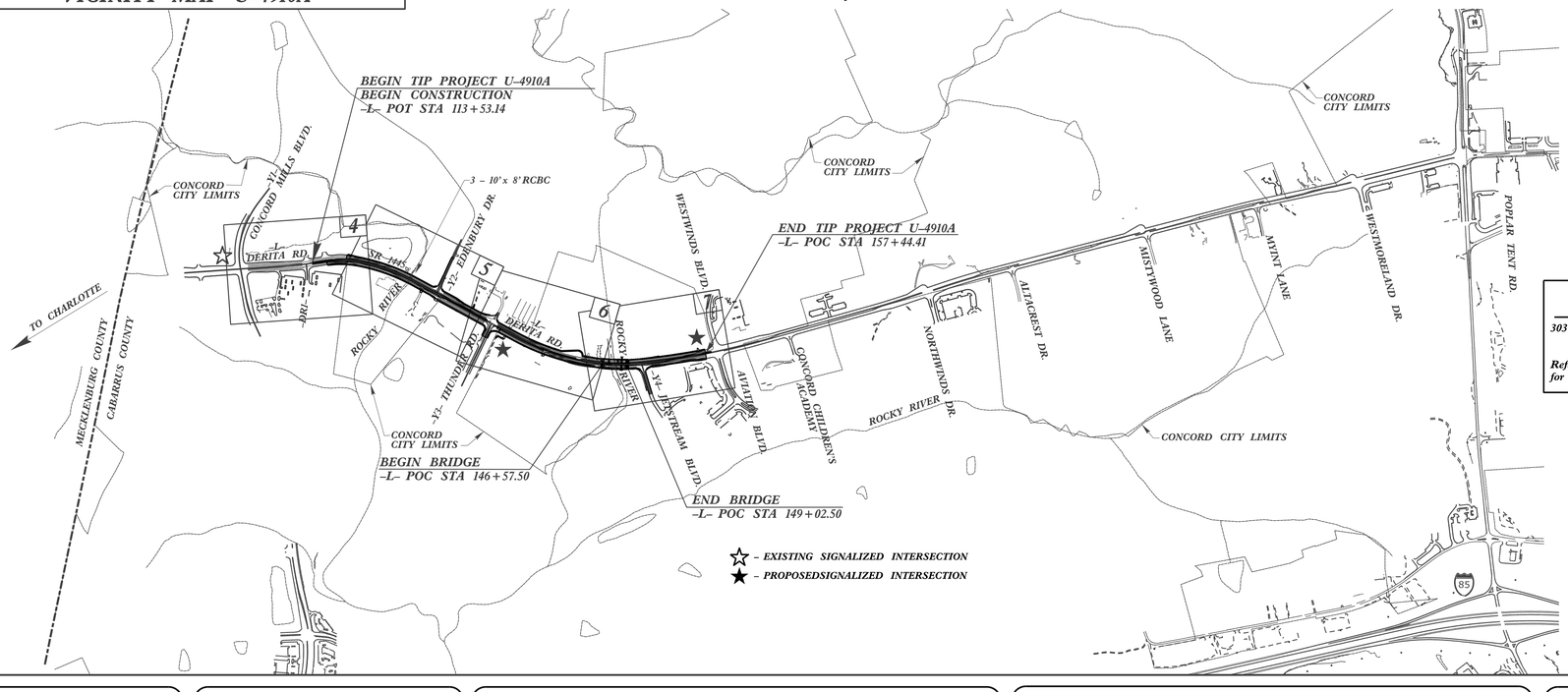
CABARRUS COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-4910A	EC-1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
40373.1.1	STP-1445(4)	PE
40373.2.D1	HPP-1445(7)	U-4910A (R/W & UTIL)
40373.3.3	STPDA-1445(008)	CONST

LOCATION: SR-1445 (DERITA ROAD) FROM NORTH OF SR 2894 CONCORD MILLS BOULEVARD TO AVIATION BOULEVARD.

TYPE OF WORK: GRADING, PAVING, DRAINAGE, STRUCTURES, SIGNALS, & SIGNING



EROSION AND SEDIMENT CONTROL MEASURES

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	Wattle / Coir Fiber Wattle with Polyacrylamide (PAM)	
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GRAPHIC SCALE

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PLANS

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NAME — *LEVEL III CERTIFICATION NO.*

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1630.03	Temporary Silt Ditch	1635.01	Rock Pipe Inlet Sediment Trap Type A
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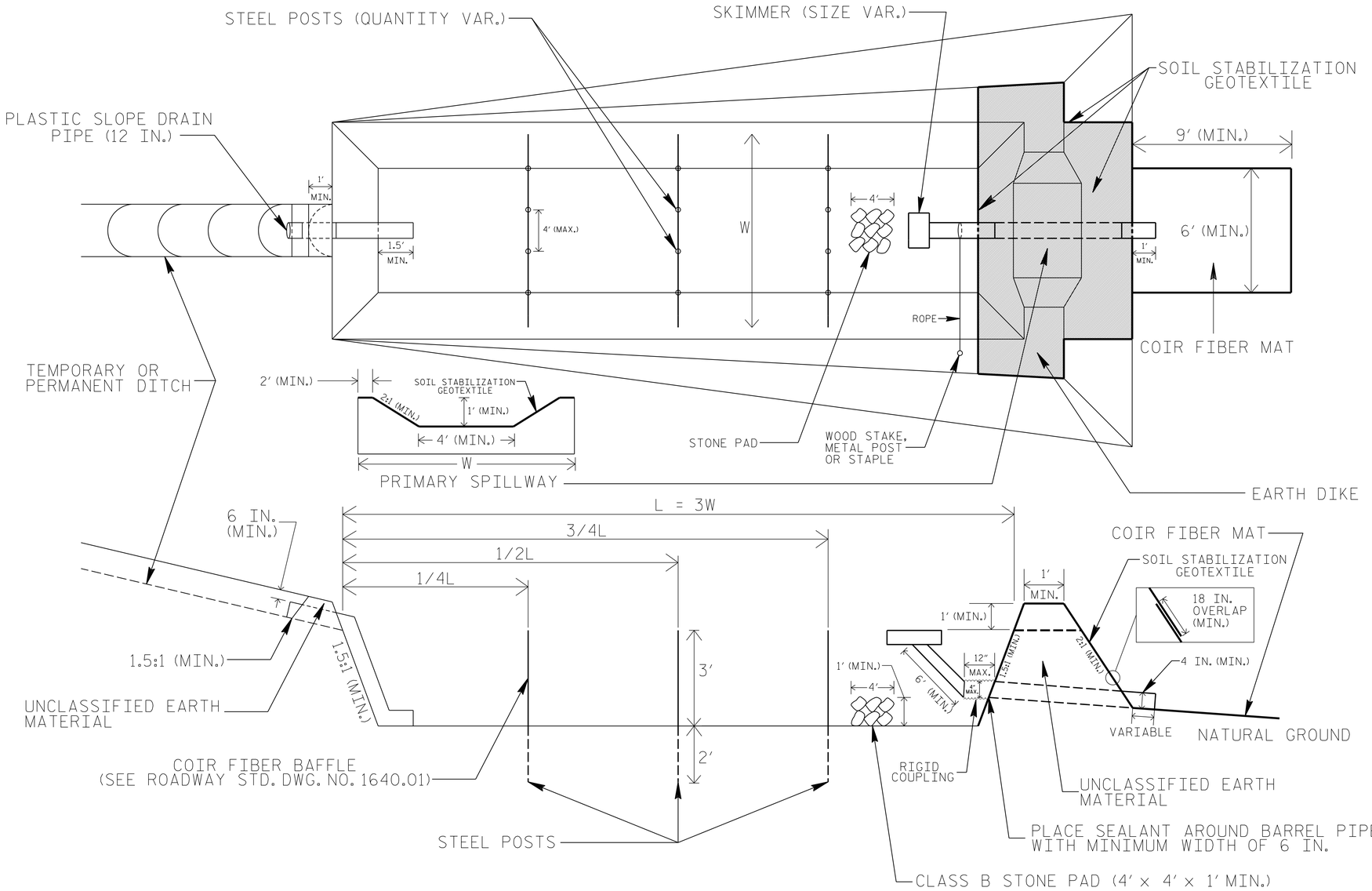
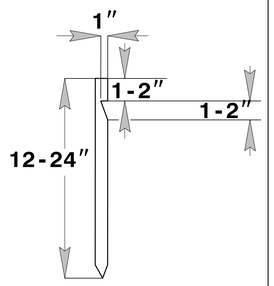
1630.05	Temporary Diversion	1640.01	Coir Fiber Baffle
1630.06	Special Stilling Basin	1645.01	Temporary Stream Crossing
1631.01	Matting Installation		

PROJECT REFERENCE NO.	SHEET NO.
U-4910A	EC-2
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

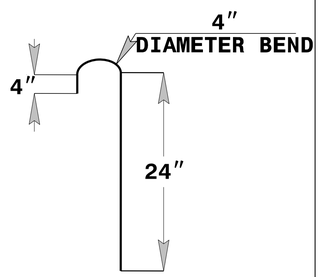
SKIMMER BASIN WITH BAFFLES DETAIL



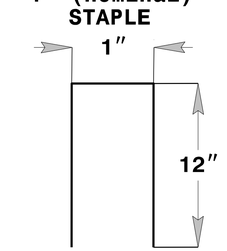
2" x 2" (nominal) WOODEN STAKE



#10 STEEL REINFORCEMENT BAR



1" (nominal) STAPLE



COIR FIBER MAT ANCHOR OPTIONS

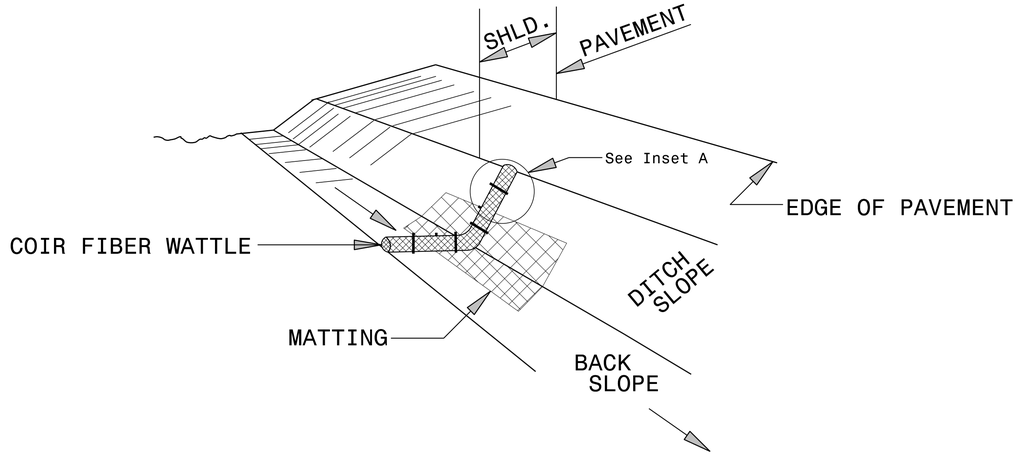
NOTES

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.).

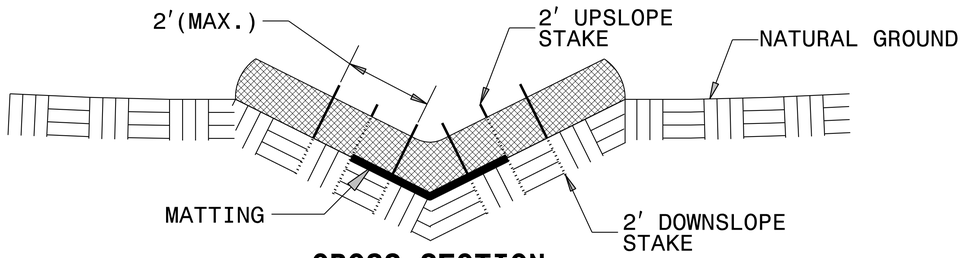
NOT TO SCALE

PROJECT REFERENCE NO.	SHEET NO.
U-4910A	EC-2A
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

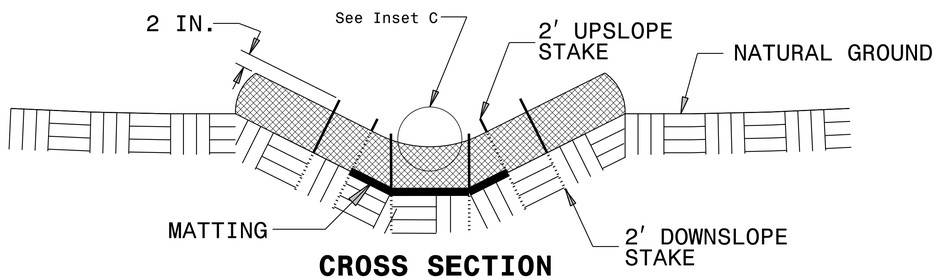
COIR FIBER WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL



ISOMETRIC VIEW



CROSS SECTION VEE DITCH



CROSS SECTION TRAPEZOIDAL DITCH

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.

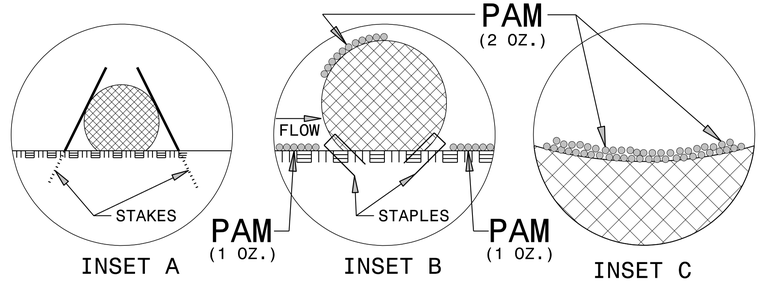
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12″ IN LENGTH.

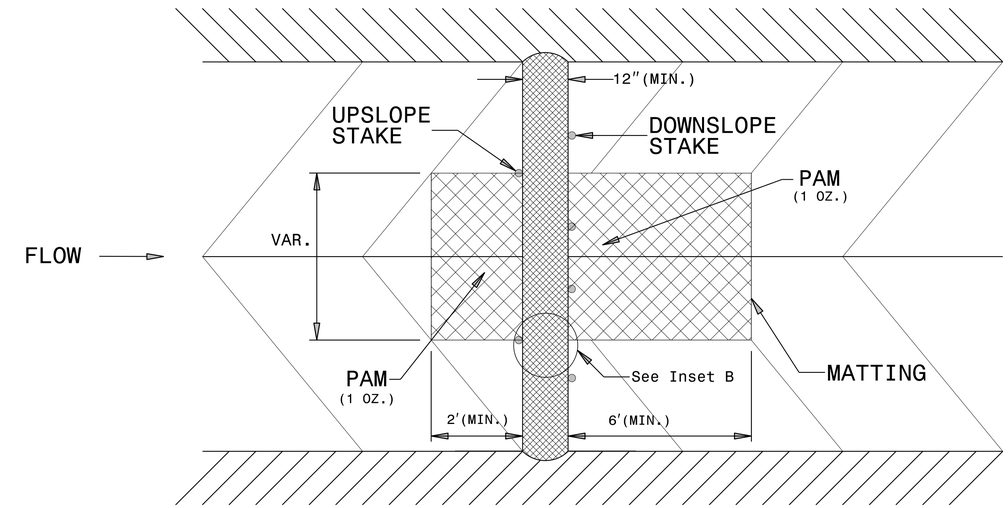
INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

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

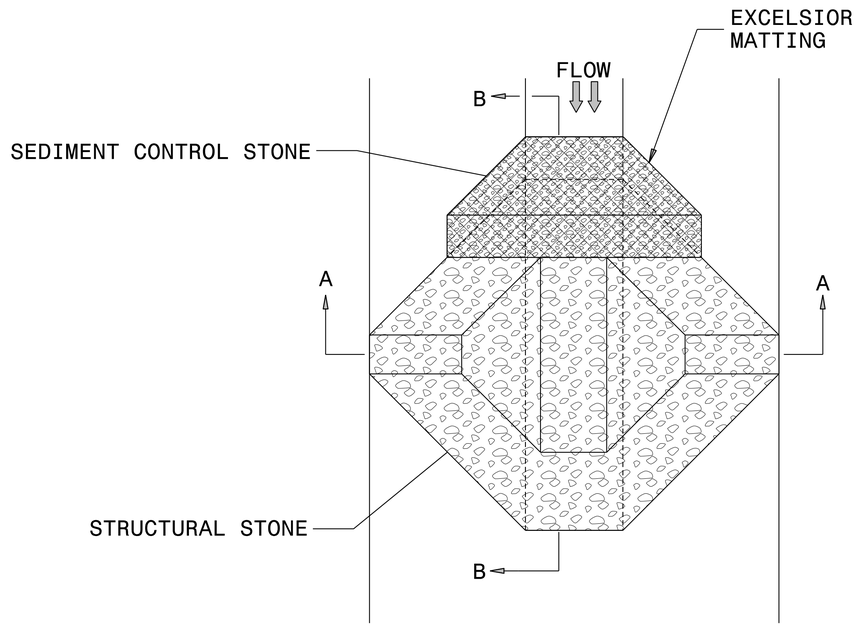




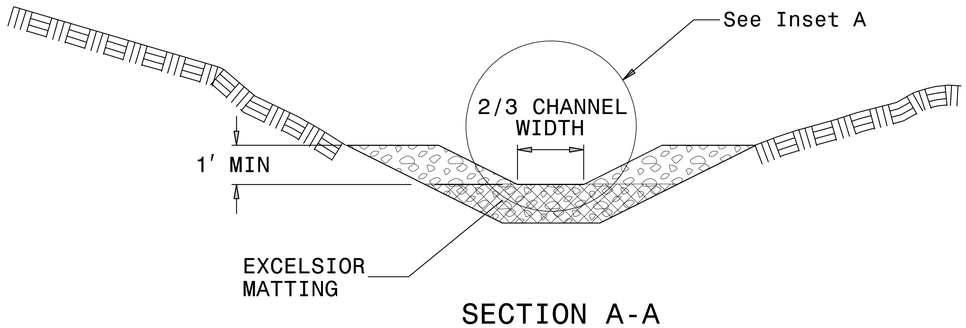
TOP VIEW

PROJECT REFERENCE NO.	SHEET NO.
U-4910A	EC-2B
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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



PLAN



SECTION A-A

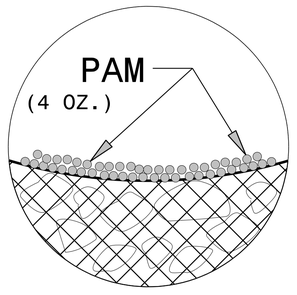
NOTES:

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

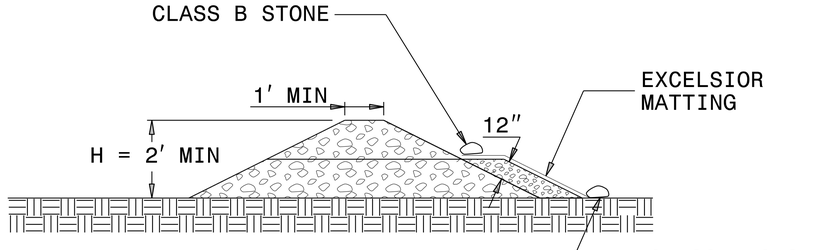
USE EXCELSIOR FOR MATTING MATERIAL AND ANCHOR MATTING SECTION AT TOP AND BOTTOM WITH CLASS B STONE.

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.	SHEET NO.
U-4910A	EC-03
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION TIMEFRAMES

SITE DESCRIPTION	STABILIZATION TIME	TIMEFRAME EXCEPTIONS
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.
U-4910A	EC-03A
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION SUMMARY SHEET

MATTING FOR EROSION CONTROL

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
2F-1	-DET3-	14+50	17+00	RT	175
2F-1	-DET3-	22+50	26+50	RT	280
2F-2	-DET3-	26+50	29+75	RT	230
2F-2	-DET3-	32+00	35+20	RT	225
5	-L-	123+25	123+85	RT	50
				SUBTOTAL	960
MISCELLANEOUS MATTING TO BE INSTALLED AS DIRECTED BY THE ENGINEER					47,360
				TOTAL	48,320
				SAY	48,500

PERMANENT SOIL REINFORCEMENT MAT

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
				SUBTOTAL	0
		ADDITIONAL	PSRM TO BE INSTALLED		475
				TOTAL	475
				SAY	500

PROJECT REFERENCE NO.	SHEET NO.
U-4910A	EC-04/CONST.04
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

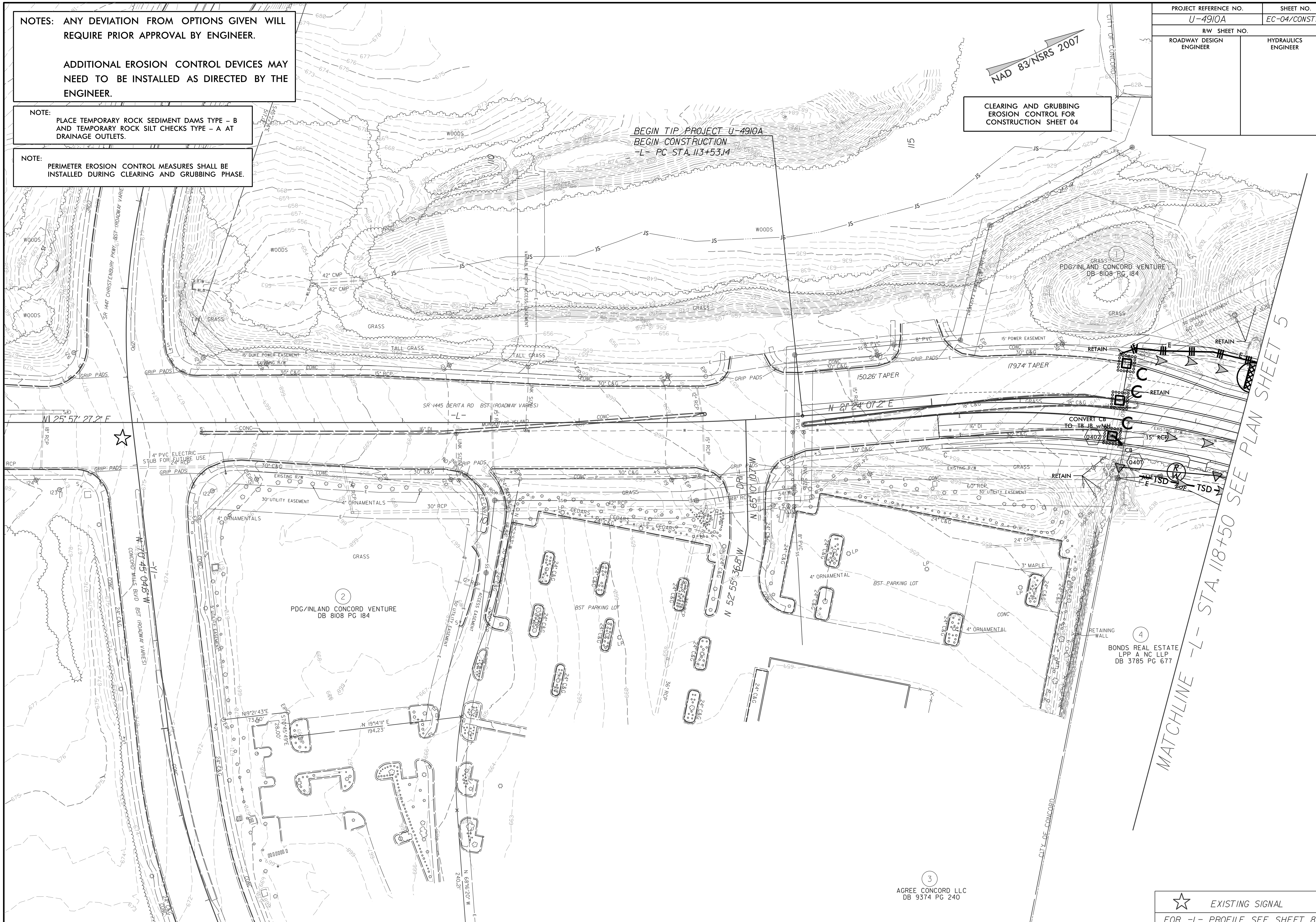
NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL REQUIRE PRIOR APPROVAL BY ENGINEER.

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

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.

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 04



EXISTING SIGNAL

FOR -L- PROFILE SEE SHEET 8

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.

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.

INSTALL PIPE(S) IN JURISDICTIONAL AREAS WITHOUT IMPACTING STREAM UNTIL AREA STABILIZED AND ACCORDING TO NCDOT BEST MANAGEMENT PRACTICES FOR CONSTRUCTION AND MAINTENANCE ACTIVITIES MANUAL.

PROJECT REFERENCE NO.	SHEET NO.
U-4910A	EC-05/CONST.05
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 05

NAD 83/NSRS 2007

N 33° 4

MATCHLINE -L- STA. 118+50 SEE PLAN SHEET 4

MATCHLINE -L- STA. 132+00 SEE PLAN SHEET 6

N 58° 34' 21.1" E

CITY OF CONCORD

PDG/INLAND CONCORD VENTURE
DB 8108 PG 184

BONDS REAL ESTATE LPP A NC LLP
DB 3785 PG 677

BONDS REAL ESTATE LPP A NC LLP
DB 681PG 196

PIEDMONT NATURAL GAS
DB 6316 PG 98

KEYSTONE PROPERTIES AND DEVELOPMENT, LLC
DB 10920, PG 0021

WAL-MART REAL ESTATE BUSINESS TRUST
DB 9249 PG 43

LAT 4' BASE DITCH W/CL 'I' RIP RAP
EST 66 TONS
EST 114 SY GF
EST 55 CY DDE
SEE DETAIL #3, SHEET 2D-1

REMOVE HW AND INSTALL JB W/MH

RETAIN

FLOODPLAIN BENCH
SEE DETAIL #9
SHEET 2D-1

82 x 41 x 3
2.0 inch Skimmer
with 1.625 inch
Orifice Diameter
33 ft. weir
ID 2.5.1

BERM 2' BASE DITCH W/CL 'B' RIP RAP
EST 185 TONS
EST 500 SY GF
SEE DETAIL #4, SHEET 2D-1

18" CSP W/ROD AND LUG CONNECTORS W/O-RING GASKETS AND ELBOW

BERM 'V' DITCH W/CL 'B' RIP RAP
EST 57 TONS
EST 151 SY GF
SEE DETAIL #1, SHEET 2D-1

30" CSP W/ROD AND LUG CONNECTORS W/O-RING GASKETS

CL 'I' RIP RAP
EST. 11 TONS
EST. 212 SY GF

LAT 3' BASE DITCH
EST 30 CY DDE
SEE DETAIL #2
SHEET 2D-T

FLOODPLAIN BENCH
SEE DETAIL #9
SHEET 2D-1

STREAM BANK STABILIZATION
CL 'I' RIPRAP
EST 45 TONS
EST 70 SY GF
SEE DETAIL #9
SHEET 2D-1

130 x 60 x 3
2.5 inch Skimmer
with 2.375 inch
Orifice Diameter
52 ft. weir
ID 2.5.2

68 x 34 x 3
1.5 inch Skimmer
with 1.375 inch
Orifice Diameter
26 ft. weir
ID 2.5.3

ENVIRONMENTALLY SENSITIVE AREA
SEE PROJECT SPECIAL PROVISIONS

FOR -L- PROFILE SEE SHEET 8
FOR -Y2- PROFILE SEE SHEET 10

5/14/99

PROJECT REFERENCE NO.	SHEET NO.
U-4910A	EC-05A/CONST.05
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

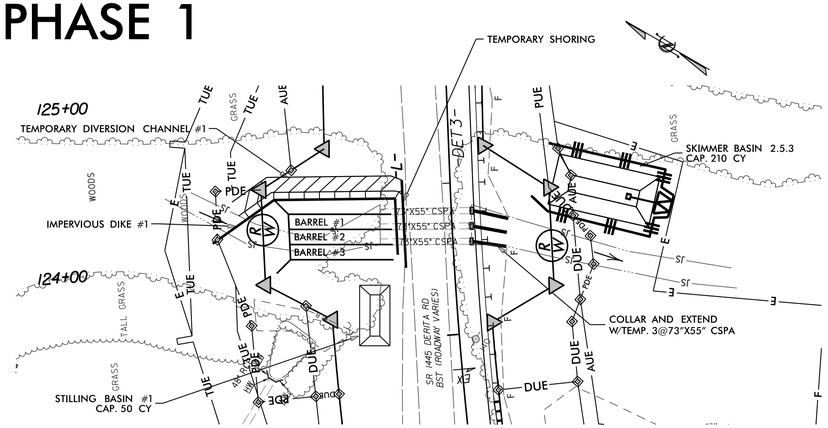
U-4910
CABARRUS COUNTY

CONSTRUCTION SEQUENCE FOR 3@10'x8' RCBC STA. 124+11 -L- UT TO ROCKY RIVER

50 25 0 50 100

PLANS

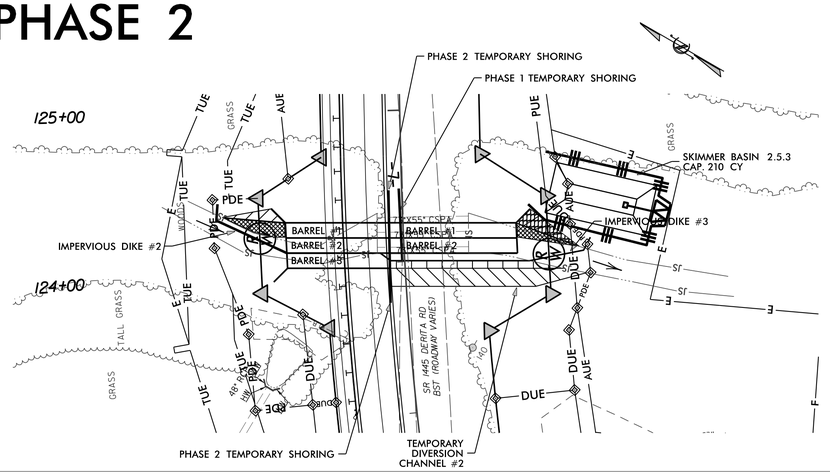
PHASE 1



PHASE 1

1. COLLAR AND EXTEND EXISTING 3@73"X55" CSPA'S, CONSTRUCT -DET3- AND SHIFT TRAFFIC.
2. CONSTRUCT STILLING BASIN #1 (MIN. CAPACITY = 50 CY)
3. CONSTRUCT TEMPORARY SHORING (TO RETAIN EXISTING FILL SLOPE) AND REMOVE APPROX. 15 FEET OF EXISTING CULVERTS #1, #2 & #3. FLOW THRU 2 OF 3 EXISTING CULVERTS SHOULD BE MAINTAINED AT ALL TIMES.
4. CONSTRUCT IMPERVIOUS DIKE #1 AND TEMPORARY DIVERSION CHANNEL #1 (SEE DETAIL 1).
5. DEWATER CONSTRUCTION AREA.
6. CONSTRUCT APPROX. 68 FEET OF BARREL #1, #2 AND #3.
7. CONSTRUCT SKIMMER BASIN 2.5.3 TO BE USED AS STILLING BASIN. (MIN. CAPACITY = 30 CY)
8. REMOVE IMPERVIOUS DIKE #1 AND TEMPORARY DIVERSION CHANNEL.
9. REMOVE STILLING BASIN #1

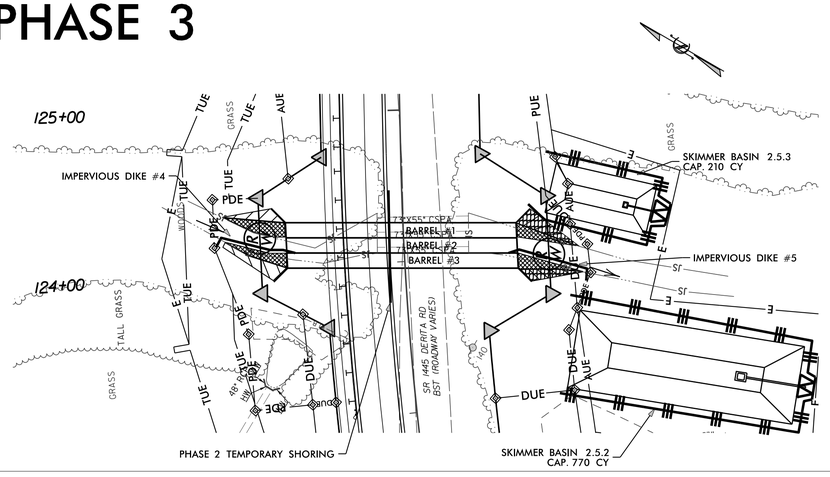
PHASE 2



PHASE 2

1. INSTALL PHASE 2 TEMPORARY SHORING AND CONSTRUCT ROADWAY OVER PHASE 1 BARRELS #1, #2 AND #3.
2. REMOVE A PORTION OF PHASE 1 TEMPORARY SHORING AS NECESSARY TO CONSTRUCT TEMPORARY DIVERSION CHANNEL #2.
3. CONSTRUCT IMPERVIOUS DIKE #2 AND DIVERT FLOW THRU BARREL #3 TO TEMPORARY DIVERSION CHANNEL #2.
4. CONSTRUCT IMPERVIOUS DIKE #3.
5. DEWATER CONSTRUCTION AREA.
6. REMOVE REMAINDER OF EXISTING CULVERTS #1, #2 & #3 AND REMAINDER OF PHASE 1 TEMORARY SHORING.
7. CONSTRUCT REMAINDER OF BARREL #1 AND #2 w/WING WALL, FLOODPLAIN BENCH, SILLS, INLET AND OUTLET CHANNELS, AND OUTLET STREAM BANK STABILIZATION, AS SHOWN.
8. REMOVE IMPERVIOUS DIKE #3.
9. REMOVE IMPERVIOUS DIKE #2.

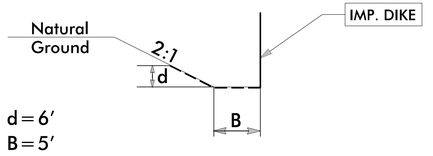
PHASE 3



PHASE 3

1. CONSTRUCT SKIMMER BASIN 2.5.2 TO BE USED AS STILLING BASIN (MIN. CAPACITY = 30 CY)
2. CONSTRUCT IMPERVIOUS DIKE #4 AND #5, DIVERTING FLOW TO BARRELS #1 & #2.
3. DEWATER CONSTRUCTION AREA.
4. CONSTRUCT REMAINDER OF BARREL #3 w/WING WALLS, FLOODPLAIN BENCH, SILLS, INLET AND OUTLET CHANNELS, AND OUTLET STREAM BANK STABILIZATION, AS SHOWN.
5. REMOVE PHASE 2 TEMPORARY SHORING.
6. REMOVE IMPERVIOUS DIKE #5.
7. REMOVE IMPERVIOUS DIKE #4.
8. SKIMMER BASINS 2.5.2 AND 2.5.3 WILL BE RETAINED FOR THE LIFE OF THE EROSION CONTROL PROJECT AND NOT REMOVED AS PART OF CULVERT PHASING.
9. COMPLETE ROADWAY.

DETAIL 1
TEMPORARY DIVERSION W/IMPERVIOUS DIKE
(Not to Scale)



d = 6'
B = 5'

Type of Liner = GEOTEXTILE (NCDOT Type 4)

9/8/2016
U4910_EC_dsn2_psh_05A (cg).dgn
bplam

PROJECT REFERENCE NO.	SHEET NO.
U-4910A	EC-06/CONST.06
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 06

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

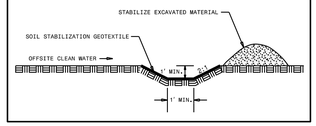
ADDITIONAL EROSION CONTROL DEVICES MAY NEED TO BE INSTALLED AS DIRECTED BY THE ENGINEER.

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.

NAD 83/NSRS 2007

CLEAN WATER DIVERSION
CWD CWD CWD
(Not to Scale)



MATCHLINE -L- STA. 132+00 SEE PLAN SHEET 5

MATCHLINE -L- STA. 146+00 SEE PLAN SHEET 7

PIEDMONT NATURAL GAS
DB 6316 PG 98

DEPOT SELF STORAGE
DB3654 PG 112

EDWIN B BONDS & ETTA MAE GOSS
NO DEED REFERENCE

WILLIAM L & DONNA MOWRY
DB 1851PG 10

KEYSTONE PROPERTIES AND DEVELOPMENT, LLC
DB 10920, PG 0021

DANNY E MOREAU
DB 4373 PG 79

LINDA C MOREAU
DB 4373 PG 83

JOSEPH W & JOY H MOREAU
DB 4373 PG 76

JOSEPH W & JOY H MOREAU
DB 773 PG 103

WMCI CHARLOTTE XIII, LLC
DB 09801, PG 300

BERM 2' BASE DITCH W/CL 'B' RIP RAP SEE DETAIL #4 SHEET 2D-1

SPEC BACK OF CURB CUT CONC 2' BASE DITCH SEE DETAIL #5 SHEET 2D-1

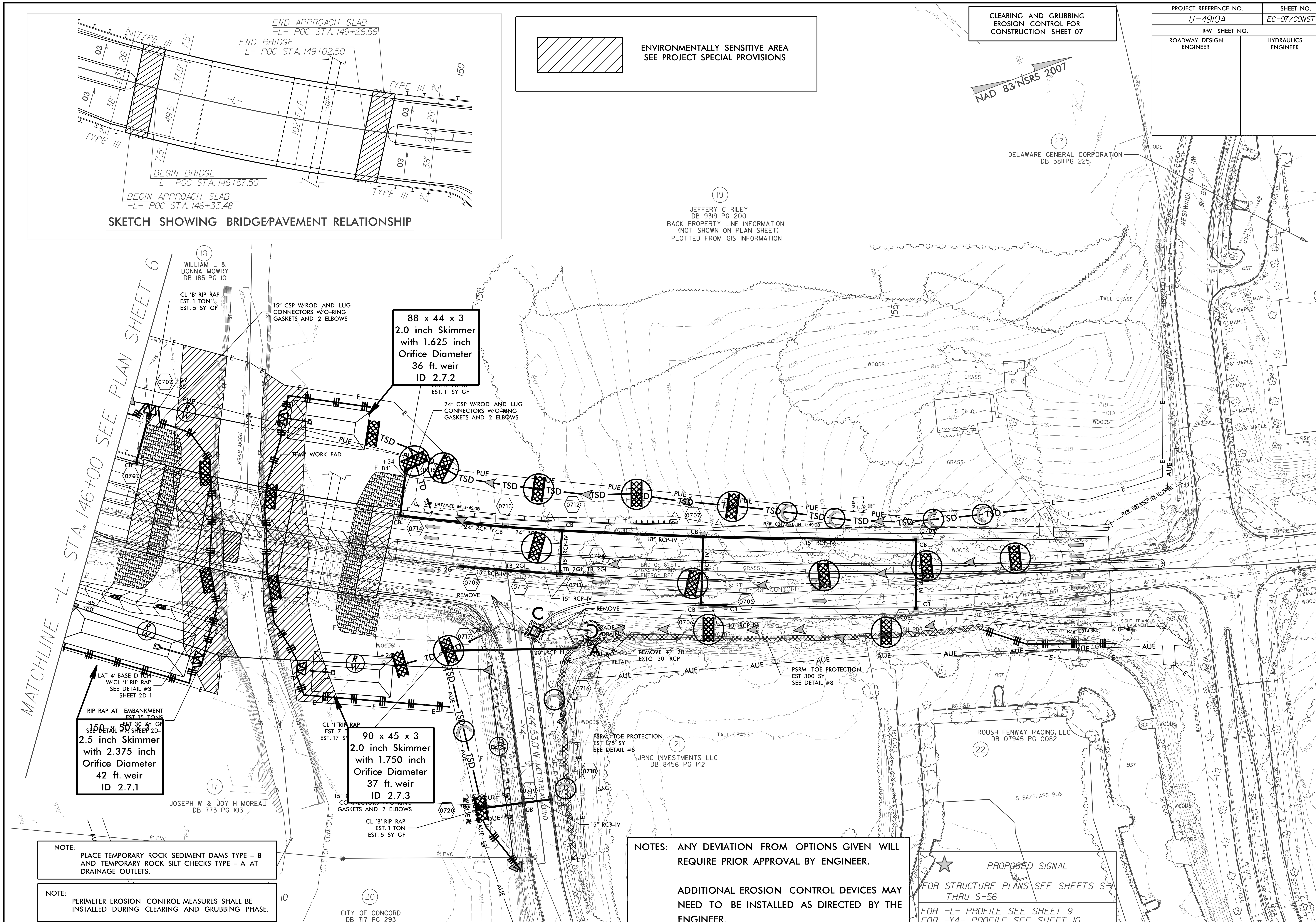
CL 'B' RIP RAP TOE PROTECTION
EST 255 TONS
EST 655 SY GF
SEE DETAIL #6, SHEET 2D-1

90 x 45 x 3
2.0 inch Skimmer
with 1.750 inch
Orifice Diameter
37 ft. weir
ID 2.6.1

LAT 4' BASE DITCH W/CL 'I' RII
EST 240 '
EST 702 S
EST 390 CY DDE
SEE DETAIL #3, SHEET 2D-1

WOODS PROPOSED SIGNAL

FOR -L- PROFILE SEE SHEET 9
FOR -Y3- PROFILE SEE SHEET 10



PROJECT REFERENCE NO.
U-4910A
SHEET NO.
EC-07/CONST.07
RW SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 07
ENVIRONMENTALLY SENSITIVE AREA SEE PROJECT SPECIAL PROVISIONS
NAD 83/NSRS 2007
END APPROACH SLAB -L- POC STA. 149+26.56
END BRIDGE -L- POC STA. 149+02.50
BEGIN BRIDGE -L- POC STA. 146+57.50
BEGIN APPROACH SLAB -L- POC STA. 146+33.48
SKETCH SHOWING BRIDGE/PAVEMENT RELATIONSHIP
MATCHLINE -L- STA. 146+00 SEE PLAN SHEET 6
DELAWARE GENERAL CORPORATION DB 3811 PG 225
JEFFERY C RILEY DB 9319 PG 200
BACK PROPERTY LINE INFORMATION (NOT SHOWN ON PLAN SHEET) PLOTTED FROM GIS INFORMATION
WILLIAM L & DONNA MOWRY DB 1851 PG 10
CL 'B' RIP RAP EST. 1 TON EST. 5 SY GF
15" CSP W/ROD AND LUG CONNECTORS W/O-RING GASKETS AND 2 ELBOWS
88 x 44 x 3
2.0 inch Skimmer with 1.625 inch Orifice Diameter
36 ft. weir
ID 2.7.2
24" CSP W/ROD AND LUG CONNECTORS W/O-RING GASKETS AND 2 ELBOWS
TEMP. WORK PAD
ROCKY RIVER
LAT 4' BASE DITCH W/CL 'I' RIP RAP SEE DETAIL #3 SHEET 2D-1
RIP RAP AT EMBANKMENT
150 x 50 x 3
2.5 inch Skimmer with 2.375 inch Orifice Diameter
42 ft. weir
ID 2.7.1
90 x 45 x 3
2.0 inch Skimmer with 1.750 inch Orifice Diameter
37 ft. weir
ID 2.7.3
CL 'B' RIP RAP EST. 1 TON EST. 5 SY GF
JOSEPH W & JOY H MOREAU DB 773 PG 103
CITY OF CONCORD DB 717 PG 293
REMOVE +/- 20' EXTG 30" RCP
PSRM TOE PROTECTION EST 300 SY SEE DETAIL #8
PSRM TOE PROTECTION EST 175 SY SEE DETAIL #8
JRNC INVESTMENTS LLC DB 8456 PG 142
ROUSH FENWAY RACING, LLC DB 07945 PG 0082
SR 1445 (DERITA RD)
WESTWINDS BLVD NW
-Y4- N 76° 44' 53.0" W
R/W OBTAINED IN U-4910B
PROPOSED SIGNAL
FOR STRUCTURE PLANS SEE SHEETS S-1 THRU S-56
FOR -L- PROFILE SEE SHEET 9
FOR -Y4- PROFILE SEE SHEET 10

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.

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.

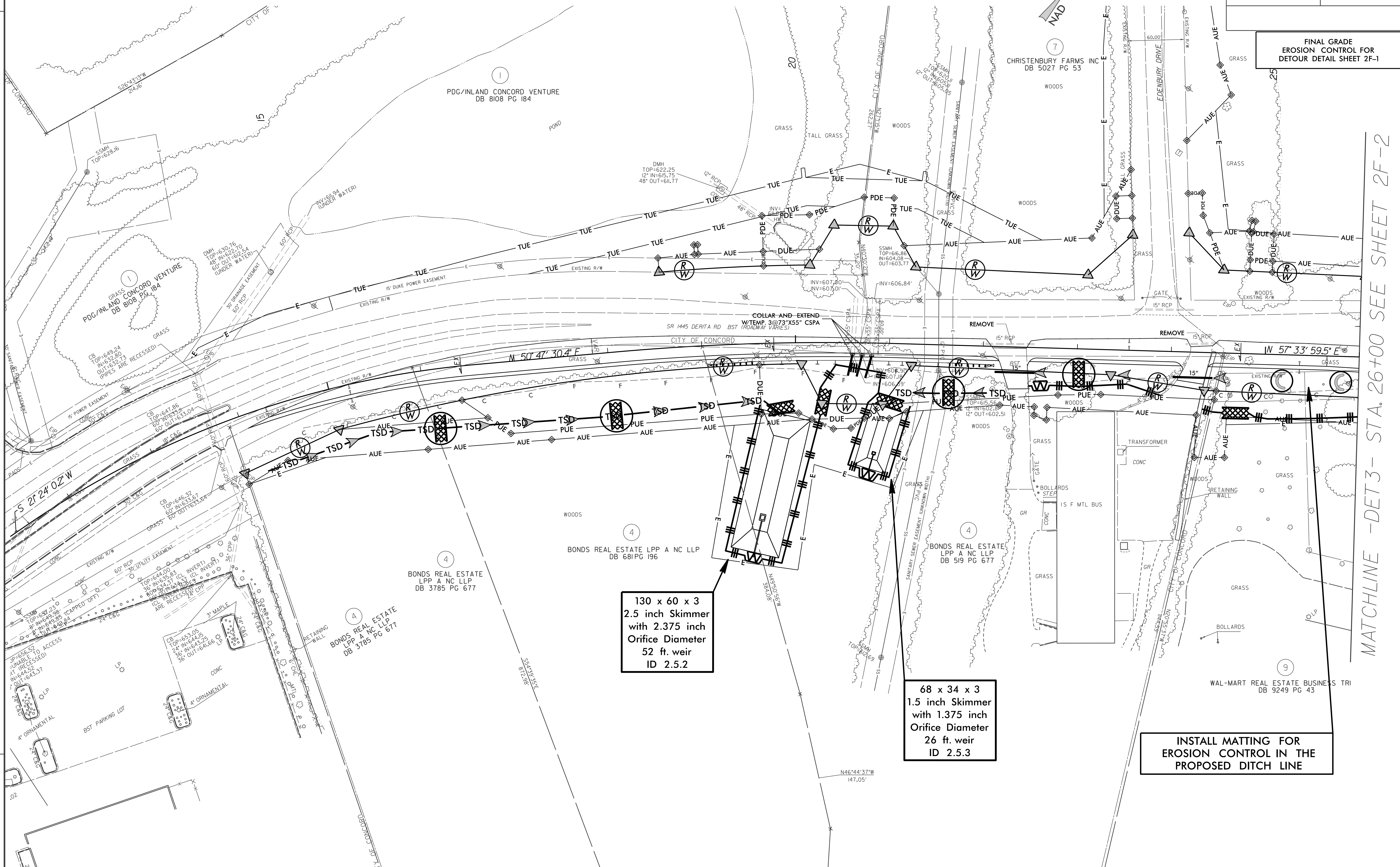
PROJECT REFERENCE NO.	SHEET NO.
U-4910A	EC-07A/DET.2F-1
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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.

-DET3- DETOUR DETAIL

FINAL GRADE
EROSION CONTROL FOR
DETOUR DETAIL SHEET 2F-1



REVISIONS

Revisions:

DGN: $$DGN$$
USER: $$USER$$
DATE: $$DATE$$
TIME: $$TIME$$

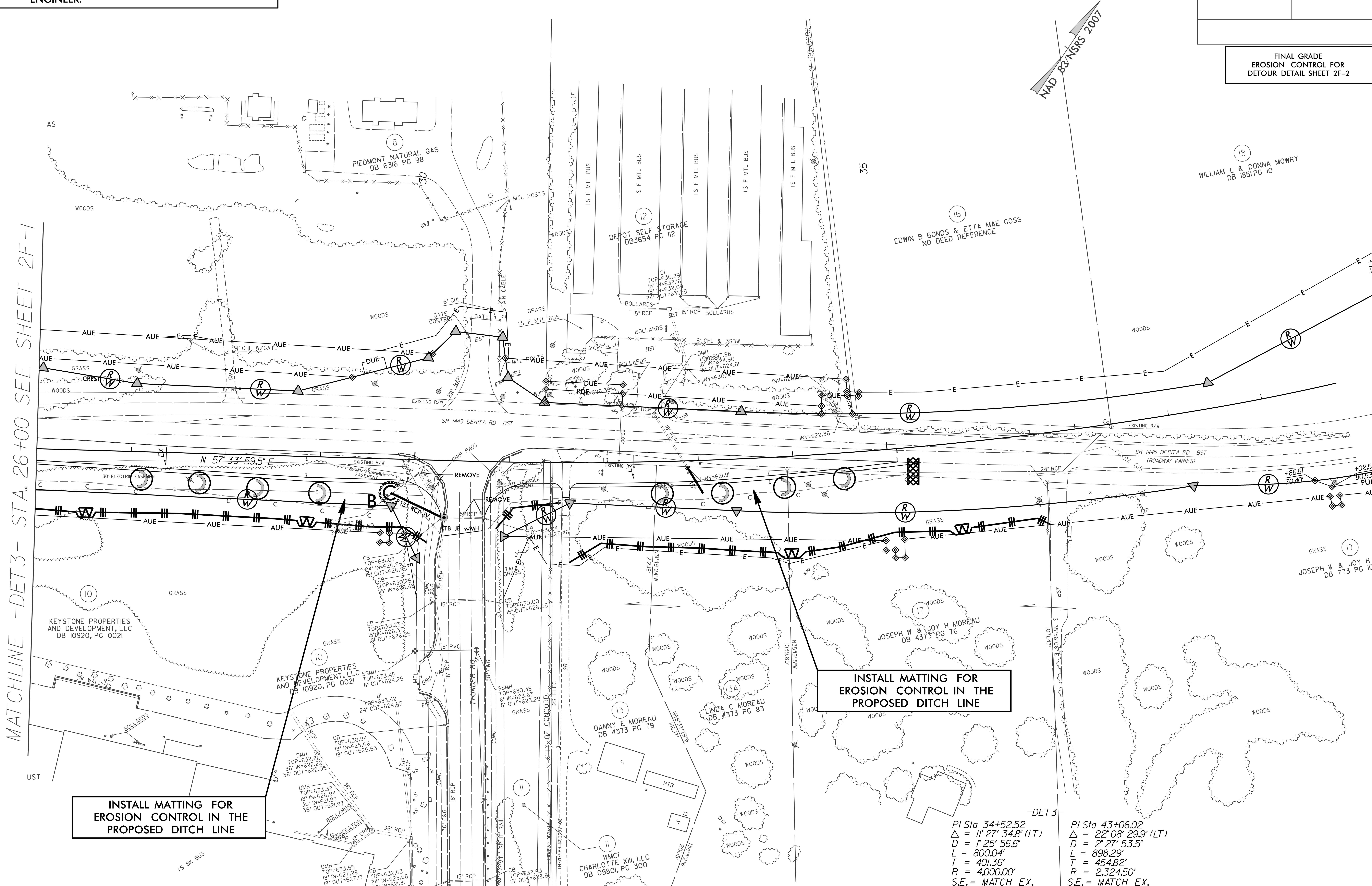
PROJECT REFERENCE NO.	SHEET NO.
U-4910A	EC-07B/DET.2F-2
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

FINAL GRADE
EROSION CONTROL FOR
DETOUR DETAIL SHEET 2F-2

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.

-DET3- DETOUR DETAIL



REVISIONS

Revisions:

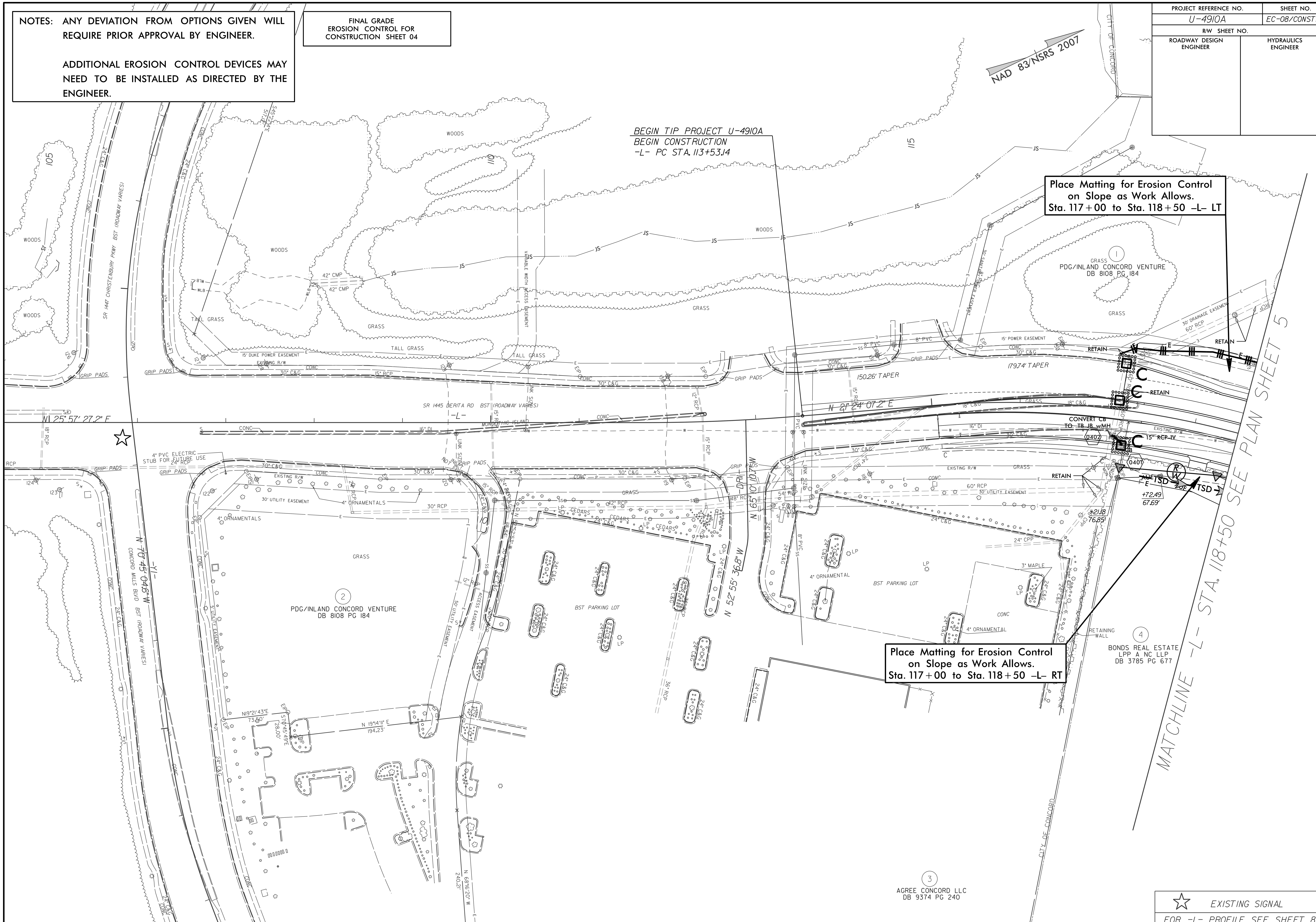
DGN: $$DGN$$
USER: $$USER$$
DATE: $$DATE$$
TIME: $$TIME$$

PROJECT REFERENCE NO.	SHEET NO.
U-4910A	EC-08/CONST.04
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS 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.

FINAL GRADE
EROSION CONTROL FOR
CONSTRUCTION SHEET 04



NAD 83/NSRS 2007
BEGIN TIP PROJECT U-4910A
BEGIN CONSTRUCTION
-L- PC STA. 113+53.14
Place Matting for Erosion Control on Slope as Work Allows. Sta. 117+00 to Sta. 118+50 -L- LT
Place Matting for Erosion Control on Slope as Work Allows. Sta. 117+00 to Sta. 118+50 -L- RT
PDG/INLAND CONCORD VENTURE DB 8108 PG 184
BONDS REAL ESTATE LPP A NC LLP DB 3785 PG 677
AGREE CONCORD LLC DB 9374 PG 240
SR 1445 DERITA RD BST (ROADWAY VARIES)
SR 1441 CHRISTENBURY PKWY BST (ROADWAY VARIES)
CONCORD MILLS BLVD BST (ROADWAY VARIES)
N 21° 24' 07.2" E
N 25° 57' 27.2" E
N 70° 45' 04.6" W
N 52° 55' 36.8" W
CONVERT CB TO TB 1B w/MH
BST PARKING LOT
MATCHLINE -L- STA. 118+50 SEE PLAN SHEET 5

EXISTING SIGNAL

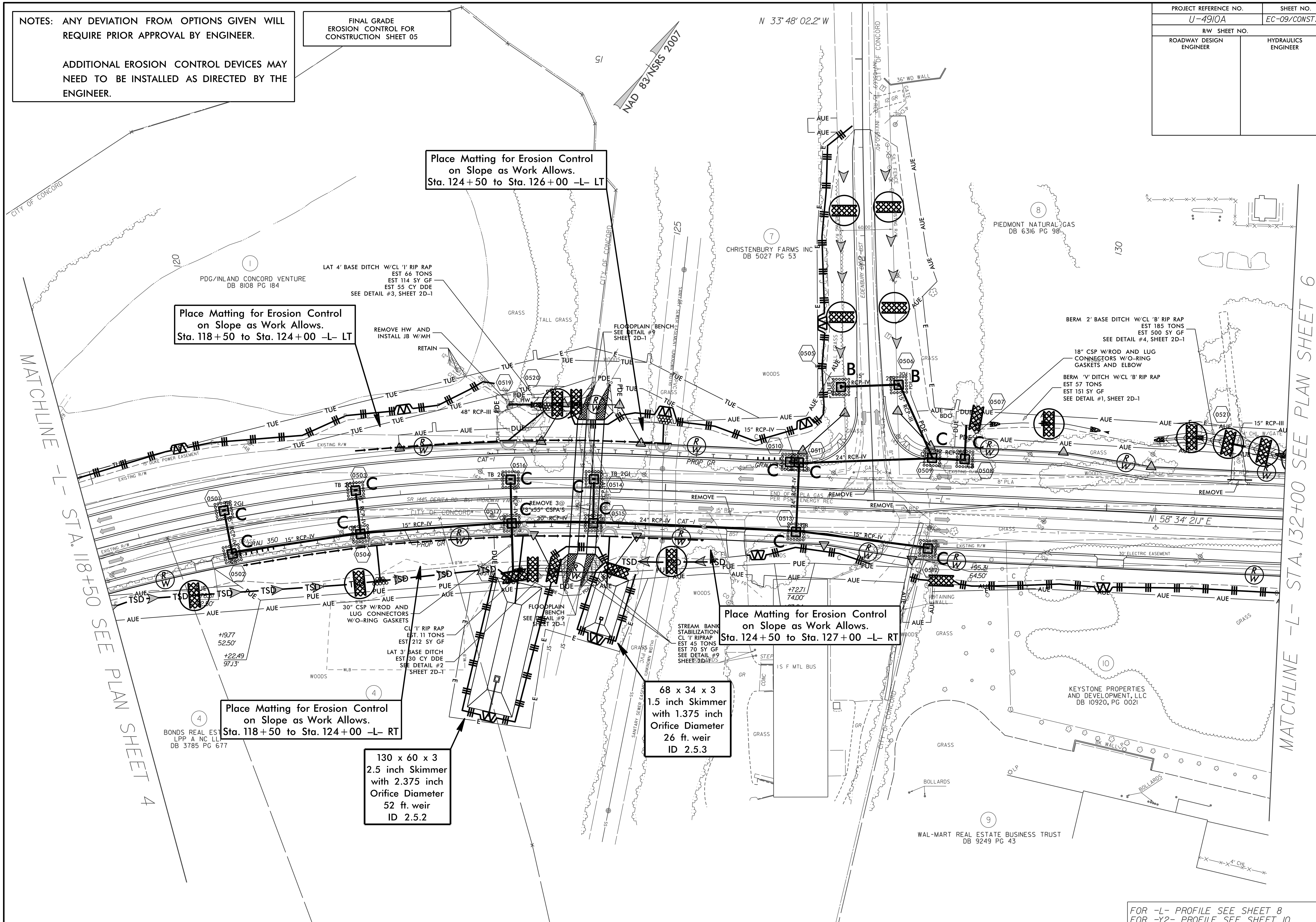
FOR -L- PROFILE SEE SHEET 8

PROJECT REFERENCE NO.	SHEET NO.
U-4910A	EC-09/CONST.05
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS 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.

FINAL GRADE EROSION CONTROL FOR CONSTRUCTION SHEET 05



NAD 83/NSRS 2007
N 33° 48' 02.2" W
Place Matting for Erosion Control on Slope as Work Allows. Sta. 124+50 to Sta. 126+00 -L- LT
Place Matting for Erosion Control on Slope as Work Allows. Sta. 118+50 to Sta. 124+00 -L- LT
Place Matting for Erosion Control on Slope as Work Allows. Sta. 124+50 to Sta. 127+00 -L- RT
Place Matting for Erosion Control on Slope as Work Allows. Sta. 118+50 to Sta. 124+00 -L- RT
130 x 60 x 3
2.5 inch Skimmer
with 2.375 inch
Orifice Diameter
52 ft. weir
ID 2.5.2
68 x 34 x 3
1.5 inch Skimmer
with 1.375 inch
Orifice Diameter
26 ft. weir
ID 2.5.3
LAT 4' BASE DITCH W/CL 'I' RIP RAP
EST 66 TONS
EST 114 SY GF
EST 55 CY DDE
SEE DETAIL #3, SHEET 2D-1
REMOVE HW AND INSTALL JB W/MH
RETAIN
FLOODPLAIN BENCH
SEE DETAIL #9
SHEET 2D-1
BERM 2' BASE DITCH W/CL 'B' RIP RAP
EST 185 TONS
EST 500 SY GF
SEE DETAIL #4, SHEET 2D-1
18" CSP W/ROD AND LUG CONNECTORS W/O-RING GASKETS AND ELBOW
BERM 'V' DITCH W/CL 'B' RIP RAP
EST 57 TONS
EST 151 SY GF
SEE DETAIL #1, SHEET 2D-1
30" CSP W/ROD AND LUG CONNECTORS W/O-RING GASKETS
CL 'I' RIP RAP
EST. 11 TONS
EST 212 SY GF
LAT 3' BASE DITCH
EST 30 CY DDE
SEE DETAIL #2
SHEET 2D-1
STREAM BANK STABILIZATION
CL 'I' RIPRAP
EST 45 TONS
EST 70 SY GF
SEE DETAIL #9
SHEET 2D-1
PDG/INLAND CONCORD VENTURE
DB 8108 PG 184
CHRISTENBURY FARMS INC
DB 5027 PG 53
PIEDMONT NATURAL GAS
DB 6316 PG 98
BONDS REAL EST
LPP A NC LL
DB 3785 PG 677
KEYSTONE PROPERTIES AND DEVELOPMENT, LLC
DB 10920, PG 0021
WAL-MART REAL ESTATE BUSINESS TRUST
DB 9249 PG 43
N 58° 34' 21.1" E
SR 1445 DERITA RD
MATCHLINE -L- STA. 118+50 SEE PLAN SHEET 4
MATCHLINE -L- STA. 132+00 SEE PLAN SHEET 6

FOR -L- PROFILE SEE SHEET 8

FOR -Y2- PROFILE SEE SHEET 10

PROJECT REFERENCE NO.	SHEET NO.
U-4910A	EC-10/CONST.06
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS 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.

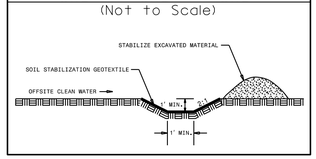
FINAL GRADE EROSION CONTROL FOR CONSTRUCTION SHEET 06

NAD 83/NSRS 2007

CLEAN WATER DIVERSION

CWD CWD CWD

(Not to Scale)



INSTALL MATTING FOR EROSION CONTROL IN THE PROPOSED DITCH LINE

Place Matting for Erosion Control on Slope as Work Allows. Sta. 141+00 to Sta. 146+00 –L– LT

Place Matting for Erosion Control on Slope as Work Allows. Sta. 12+75 –Y3– RT to Sta. 146+00 –L– RT

Place Matting for Erosion Control on Slope as Work Allows. Sta. 133+00 –L– RT to Sta. 12+75 –Y3– LT

MATCHLINE –L– STA. 132+00 SEE PLAN SHEET 5

MATCHLINE –L– STA. 146+00 SEE PLAN SHEET 7

PIEDMONT NATURAL GAS DB 6316 PG 98

DEPOT SELF STORAGE DB3654 PG 112

EDWIN B BONDS & ETTA MAE GOSS NO DEED REFERENCE

WILLIAM L & DONNA MOWRY DB 18511PG 10

KEYSTONE PROPERTIES AND DEVELOPMENT, LLC DB 10920, PG 0021

JOSEPH W & JOY H MOREAU DB 4373 PG 76

JOSEPH W & JOY H MOREAU DB 773 PG 103

LINDA C MOREAU DB 4373 PG 83

WMCI CHARLOTTE XIII, LLC DB 09801, PG 300

CITY OF CONCORD

CL 'B' RIP RAP TOE PROTECTION
EST 255 TONS
EST 655 SY GF
SEE DETAIL #6, SHEET 2D-1

LAT 4' BASE DITCH W/CL 'I' RIP RAP
EST 240 TONS
EST 702 SY GF
EST 390 CY DDE
SEE DETAIL #3, SHEET 2D-1

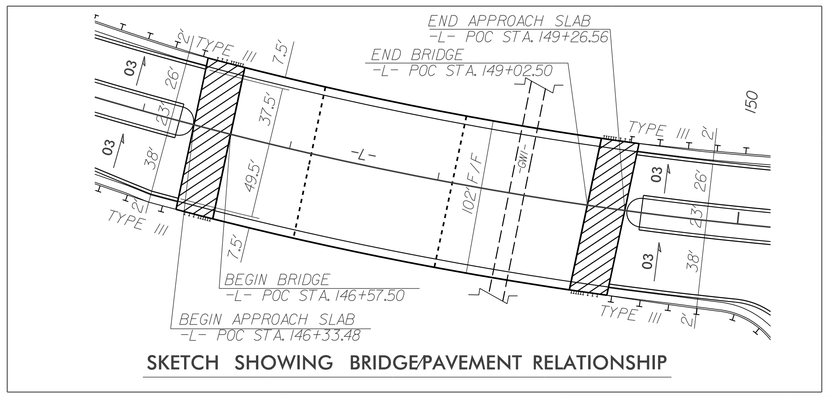
BERM 2' BASE DITCH W/CL 'B' RIP RAP SEE DETAIL #4 SHEET 2D-1

SPEC BACK OF CURB CUT CONC 2' BASE DITCH SEE DETAIL #5 SHEET 2D-1

PROPOSED SIGNAL

FOR -L- PROFILE SEE SHEET 9
FOR -Y3- PROFILE SEE SHEET 10

PROJECT REFERENCE NO.	SHEET NO.
U-4910A	EC-11/CONST.07
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



SKETCH SHOWING BRIDGE/PAVEMENT RELATIONSHIP

NAD 83/NSRS 2007

FINAL GRADE EROSION CONTROL FOR CONSTRUCTION SHEET 07

(23) DELAWARE GENERAL CORPORATION DB 3811 PG 225

(19) FFERY C RILEY 3 9319 PG 200 OPERTY LINE INFORMATION (NOT SHOWN ON PLAN SHEET) PLOTTED FROM GIS INFORMATION

(18) WILLIAM L & DONNA MOWRY DB 1851 PG 10

MATCHLINE -L- STA. 146+00 SEE PLAN SHEET 6

Place Matting for Erosion Control on Slope as Work Allows. Sta. 146+00 to Sta. 146+25 –L– LT

88 x 44 x 3 2.0 inch Skimmer with 1.625 inch Orifice Diameter 36 ft. weir ID 2.7.2

Place Matting for Erosion Control on Slope as Work Allows. Sta. 148+50 to Sta. 158+00 –L– LT

150 x 50 x 3 2.5 inch Skimmer with 2.375 inch Orifice Diameter 42 ft. weir ID 2.7.1

90 x 45 x 3 2.0 inch Skimmer with 1.750 inch Orifice Diameter 37 ft. weir ID 2.7.3

Place Matting for Erosion Control on Slope as Work Allows. Sta. 146+00 to Sta. 146+35 –L– RT

Place Matting for Erosion Control on Slope as Work Allows. Sta. 10+00 –Y4– RT to Sta. 155+00 –L– RT

15" CSP W/ROD AND LUG CONNECTORS W/O-RING GASKETS AND 2 ELBOWS

24" CSP W/ROD AND LUG CONNECTORS W/O-RING GASKETS AND 2 ELBOWS

CL 'B' RIP RAP EST. 1 TON EST. 5 SY GF

CL 'I' RIP RAP EST. 11 SY GF

TEMP. WORK PAD

LAT 4' BASE DITCH W/CL 'I' RIP RAP SEE DETAIL #3 SHEET 2D-1

RIP RAP AT EMBANKMENT EST 15 TONS

CL 'I' RIP RAP EST. 7 T... EST. 17 SY

CL 'B' RIP RAP EST. 1 TON EST. 5 SY GF

REMOVE +/- 20' EXTG 30" RCP

PSRM TOE PROTECTION EST 300 SY SEE DETAIL #8

PSRM TOE PROTECTION EST 175 SY SEE DETAIL #8

JOSEPH W & JOY H MOREAU DB 773 PG 103

JRNC INVESTMENTS LLC DB 8456 PG 142

ROUSH FENWAY RACING, LLC DB 07945 PG 0082

CITY OF CONCORD

SR 1445 DERITA RD (ROADWAY VARIES)

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.

PROPOSED SIGNAL

FOR STRUCTURE PLANS SEE SHEETS S-1 THRU S-56

FOR -L- PROFILE SEE SHEET 9

FOR -Y4- PROFILE SEE SHEET 10