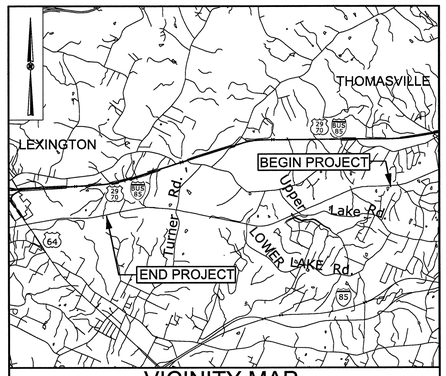
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	C-4901A	EC-01	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION

TIP PROJECT: C-4901A



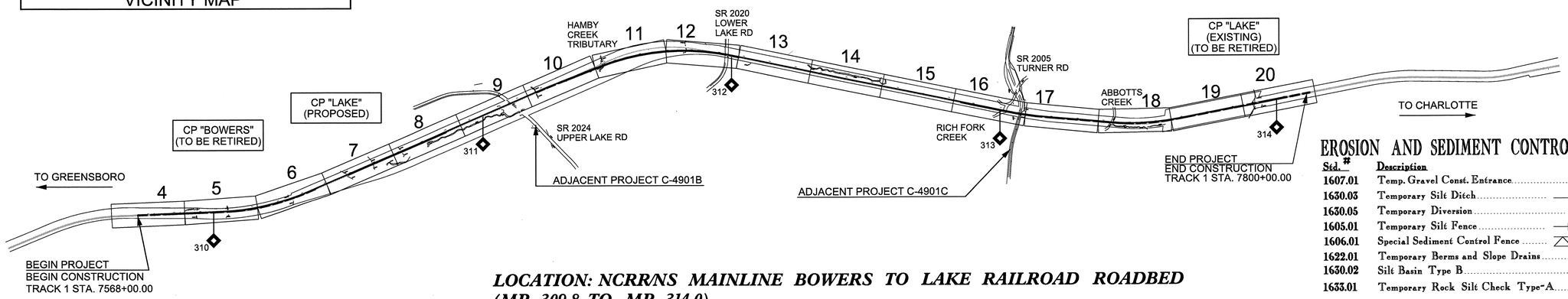
VICINITY MAP

NAD 83/NSRS 2007

STATE OF NORTH CAROLINA
RAIL DIVISION

PLAN FOR PROPOSED
RAILROAD EROSION CONTROL

DAVIDSON COUNTY



LOCATION: NCRR/NS MAINLINE BOWERS TO LAKE RAILROAD ROADBED (MP 309.8 TO MP 314.0)

TYPE OF WORK: GRADING, DRAINAGE, STRUCTURES

EROSION AND SEDIMENT CONTROL MEASURES

Std. #	Description	Symbol
1607.01	Temp. Gravel Const. Entrance	
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	
	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	
	Rock Inlet Sediment Trap:	
1632.01	Type A	A
1632.02	Type B	B
1632.03	Type C	C
	Skimmer Basin	
	Tiered Skimmer Basin	
	Infiltration Basin	

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

ROADSIDE ENVIRONMENTAL UNIT
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

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.

Prepared In the Office of:

HNTB

HNTB NORTH CAROLINA, P.C.
343 E. Six Forks Road, Suite 200
Raleigh, North Carolina 27609
NC License No: C-1554

2012 STANDARD SPECIFICATIONS

EROSION CONTROL
LEVEL III-A
CERTIFICATION #625
JAMES A. BYRD, P.E.

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*		

DGN 0248DEL_P10C1

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$$$$USERNAME$$$$ $$$$date$$$$ c4901ad_ec_tsh.dgn

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DATE: MARCH 7, 2013

PROJECT REFERENCE NO.	SHEET NO.
C-4901A	EC-2
R/W SHEET NO.	

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

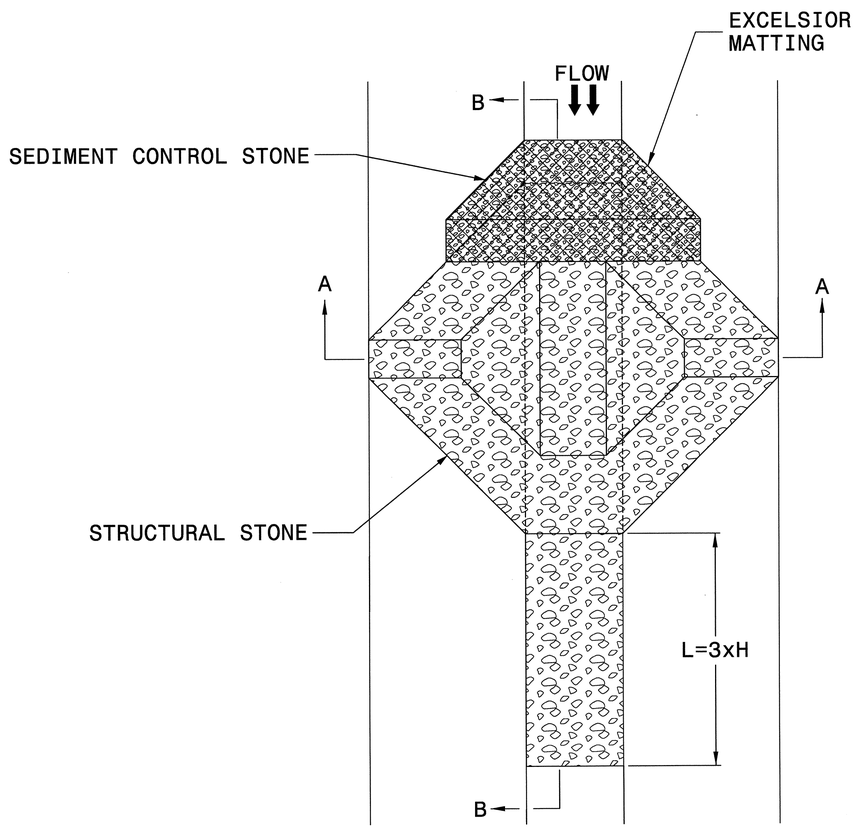
NOTES

CONSTRUCT TEMPORARY ROCK SILT CHECK A IN ACCORDANCE WITH STD DRAWING 1633.01

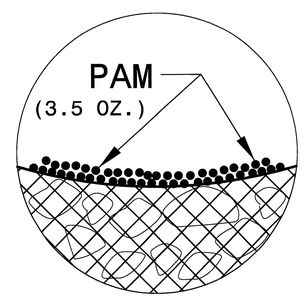
USE EXCELSIOR FOR MATTING MATERIAL AND ANCHOR MATTING SECTION AT TOP AND BOTTOM WITH CLASS B STONE.

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.

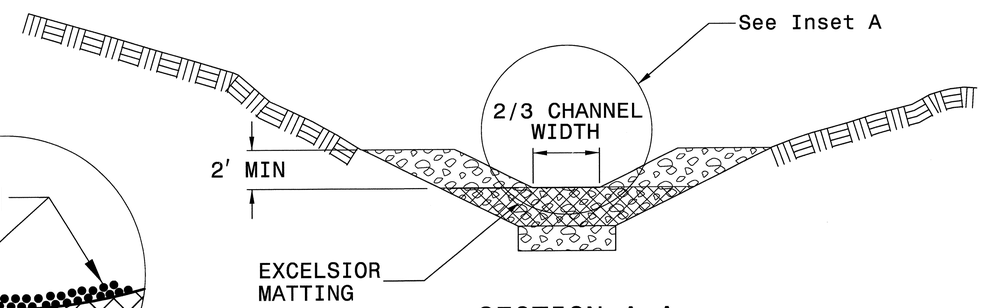
INITIALLY APPLY 3.5 OUNCES OF POLYACRYLAMIDE (PAM) TO TOP OF MATTING SECTION AND AFTER EVERY RAINFALL EVENT THAT EQUALS OR EXCEEDS 0.50 INCHES.



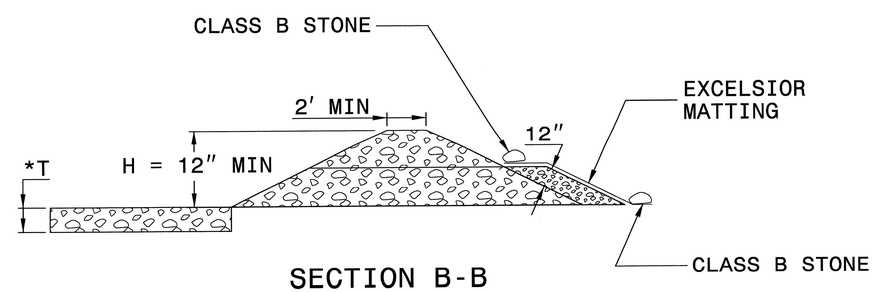
PLAN



INSET A



SECTION A-A



SECTION B-B

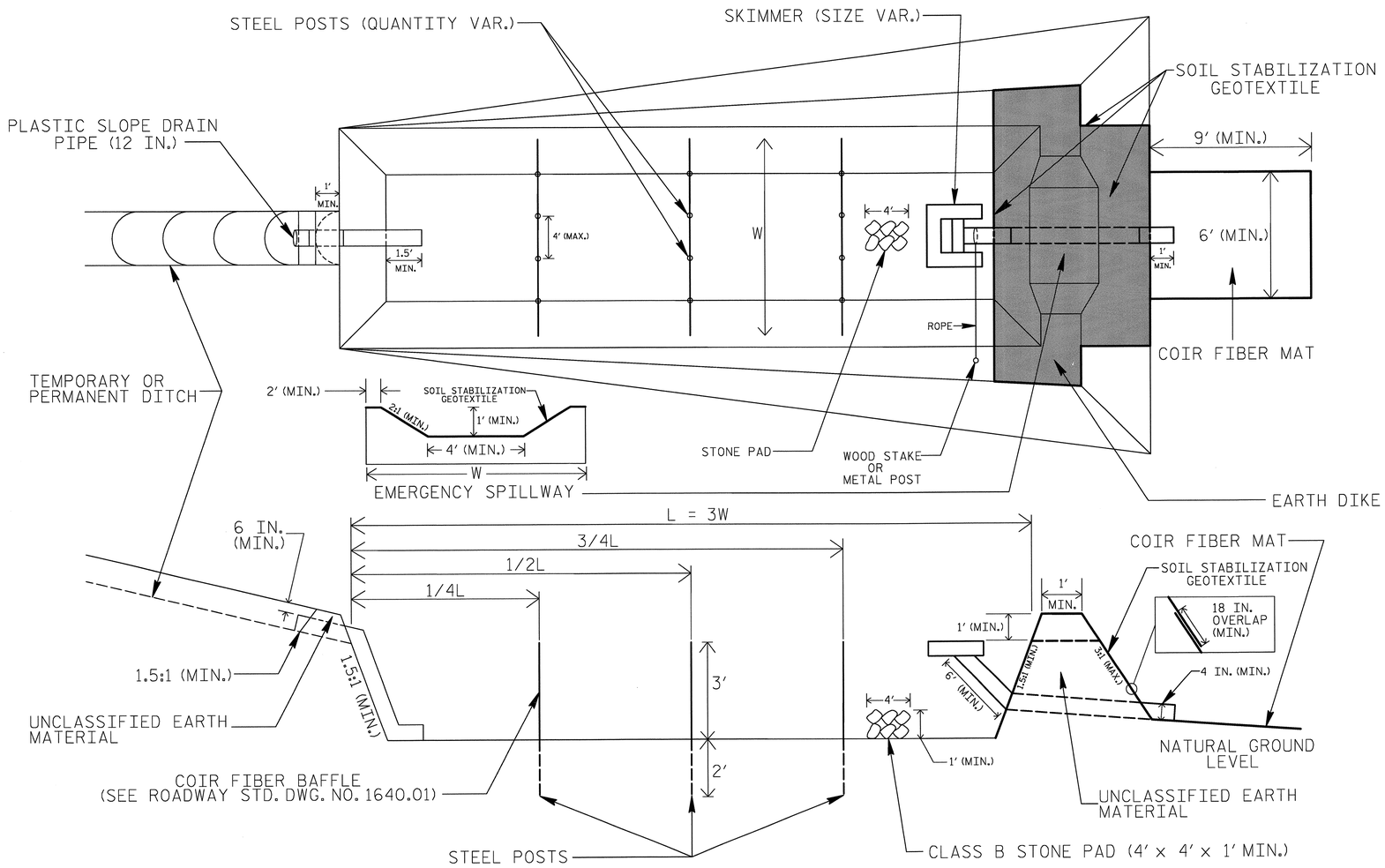
*T = 12" MIN., 18" MAX.

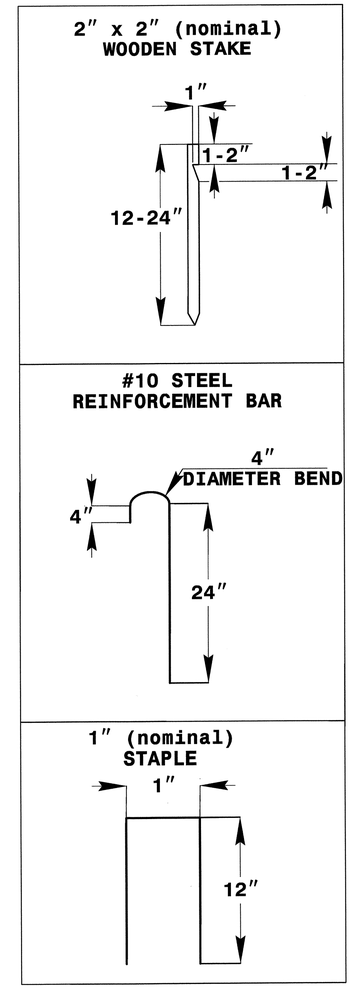
NOT TO SCALE

0248DEL_P10C1

HNTB	HNTB NORTH CAROLINA, P.C. 343 E. Six Forks Road, Suite 200 Raleigh, North Carolina 27609 NC License No: C-1554	PROJECT REFERENCE NO.	SHEET NO.
		C-4901A	EC-2A
	DATE: MARCH 7, 2013	R/W SHEET NO.	

SKIMMER BASIN WITH BAFFLES DETAIL





COIR FIBER MAT ANCHOR OPTIONS

NOTES

1. SEED AND PLACE MATTING FOR EROSION CONTROL ON INTERIOR AND EXTERIOR SIDESLOPES.
2. LIMIT EARTH DIKE HEIGHT TO 5 FT.
3. FOR BASIN DEPTH OF 3 FT., THE MINIMUM BASIN WIDTH SHALL BE 9 FT.
4. DETERMINE 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

0248DEL_P10C1

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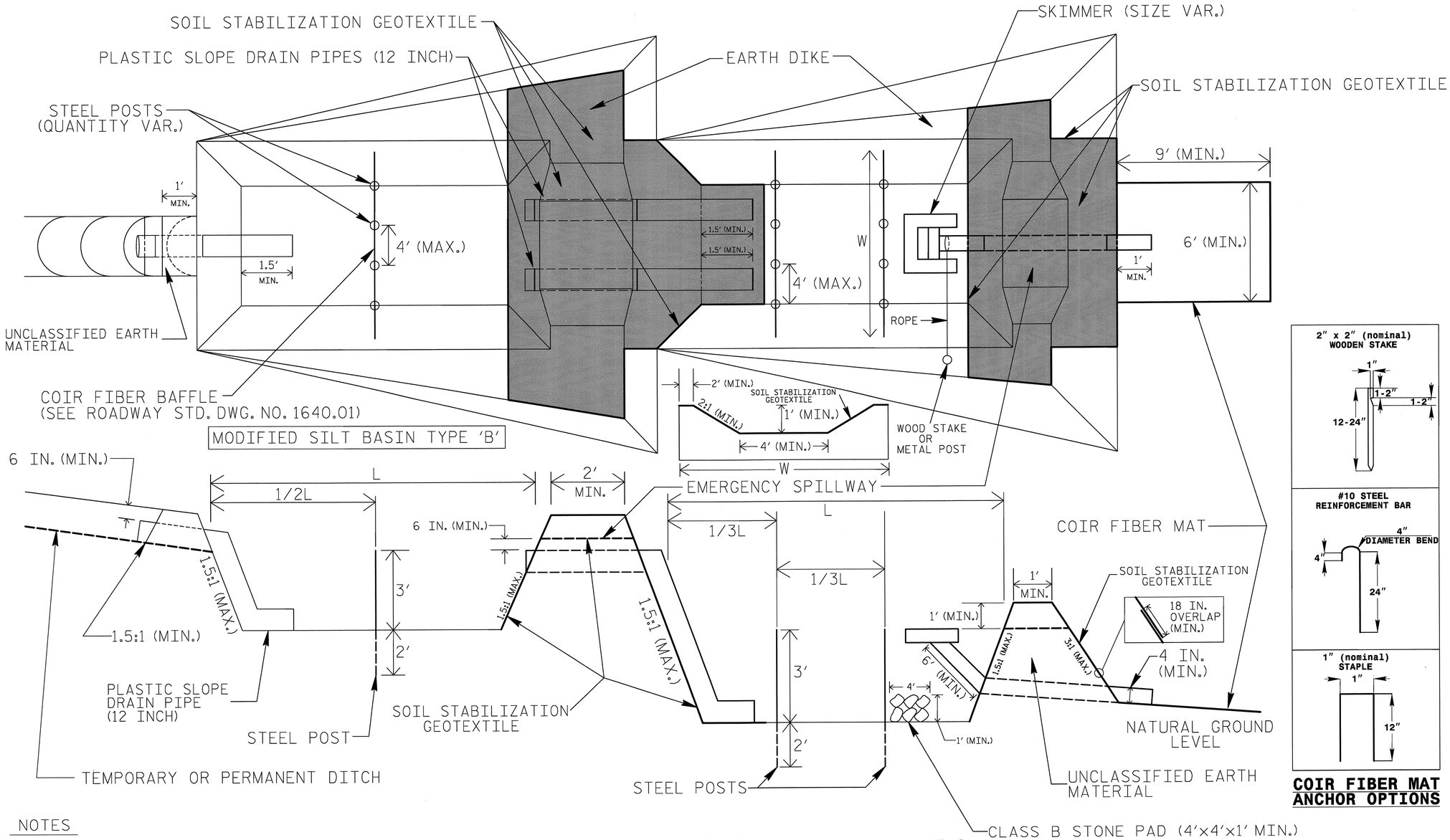
DATE: MARCH 7, 2013

PROJECT REFERENCE NO.	SHEET NO.
C-4901A	EC-2B
R/W SHEET NO.	

TIERED SKIMMER BASIN DETAIL



COIR FIBER MAT ANCHOR OPTIONS

NOTES

1. SEED AND PLACE MATTING FOR EROSION CONTROL ON INTERIOR AND EXTERIOR SIDESLOPES OF BASINS.
2. LIMIT HEIGHT OF EARTH DIKES TO 5 FT.
3. ADDITIONAL MODIFIED SILT BASINS TYPE 'B' MAY BE NEEDED DEPENDING ON SLOPE.
4. FOR BASIN DEPTHS OF 3FT., THE MINIMUM BASIN WIDTHS SHALL BE 9 FT.
5. DETERMINE EMERGENCY SPILLWAY LENGTHS (FT.) USING Q/0.8, WHERE Q IS FLOW RATE (CFS) INTO UPPER BASIN.
6. SOIL STABILIZATION GEOTEXTILE FOR EMERGENCY SPILLWAYS SHALL BE ONE CONTINUOUS PIECE OF MATERIAL OR OVERLAPPED 18 IN. (MIN.).

NOT TO SCALE

0248DEL_P10C1

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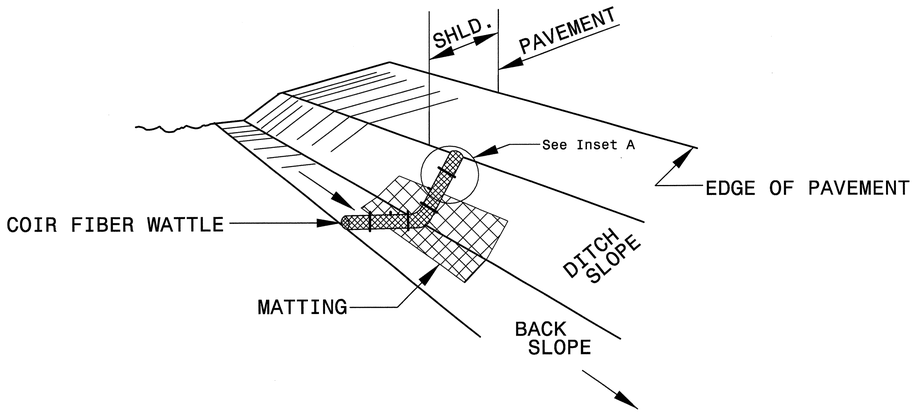
NC License No: C-1554

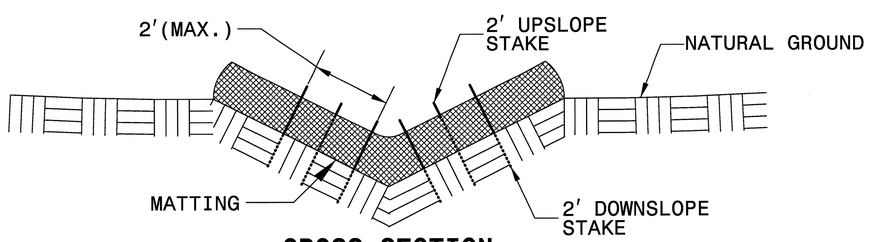
DATE: MARCH 7, 2013

PROJECT REFERENCE NO.	SHEET NO.
C-4901A	EC-2C
R/W SHEET NO.	

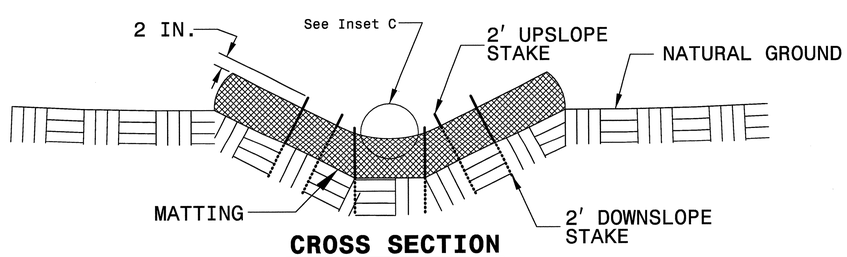
COIR FIBER WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL



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.

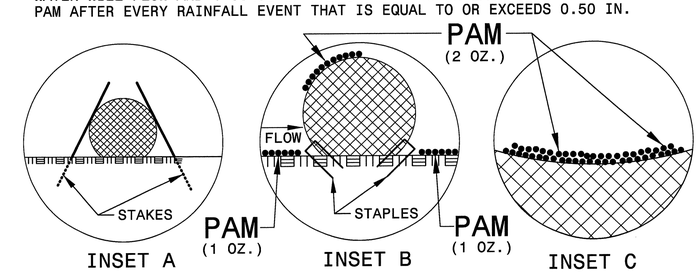
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.

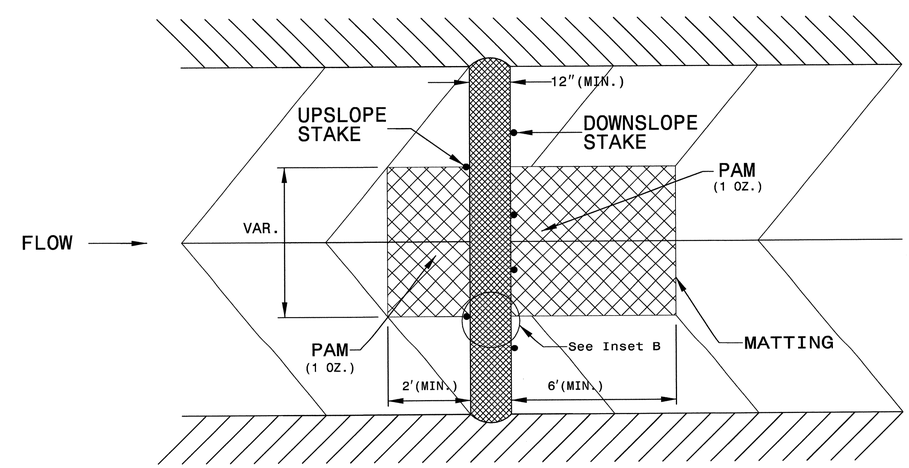
INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

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

NOT TO SCALE

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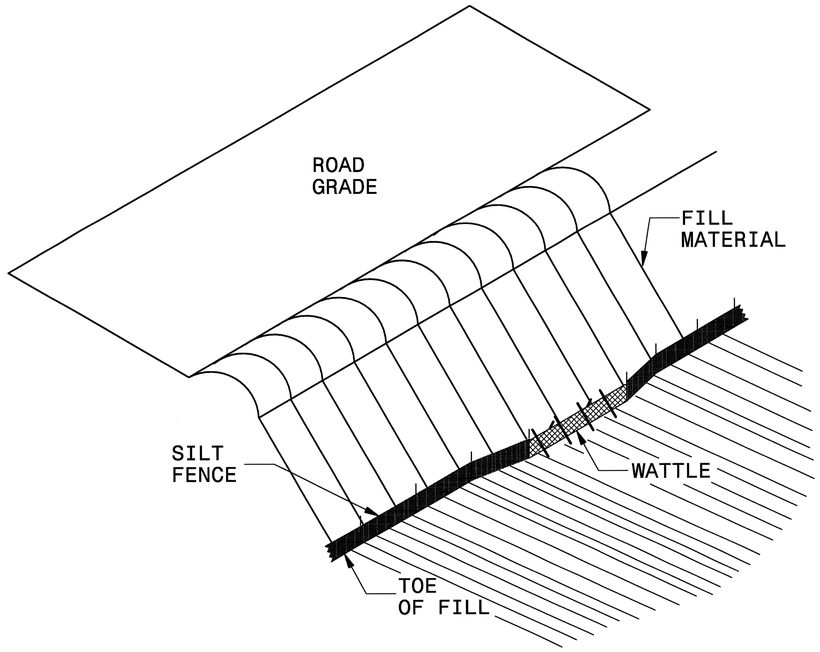
PROJECT REFERENCE NO.	SHEET NO.
C-4901A	EC-2D
R/W SHEET NO.	

DATE: MARCH 7, 2013

SILT FENCE COIR FIBER WATTLE BREAK DETAIL



ISOMETRIC VIEW

NOTES:

USE MINIMUM 12 IN. DIAMETER COIR FIBER (COCONUT FIBER) WATTLE AND LENGTH OF 10 FT.

EXCAVATE A 1 TO 2 INCH TRENCH FOR WATTLE TO BE PLACED.

DO NOT PLACE WATTLE ON TOE OF SLOPE.

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

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

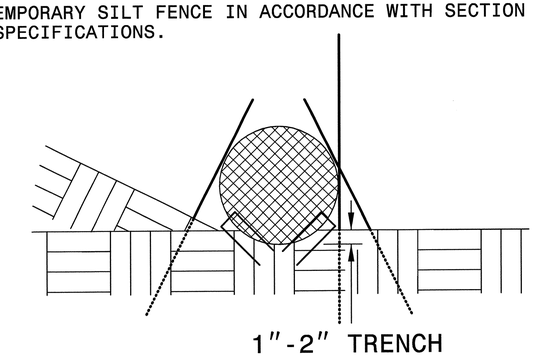
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12″ IN LENGTH.

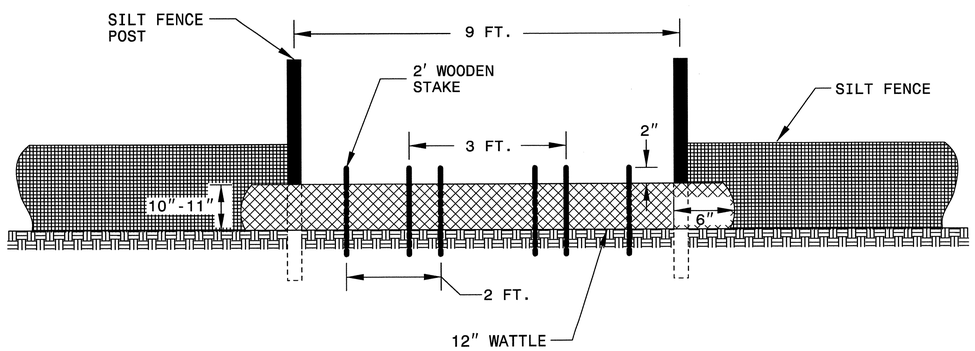
INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

WATTLE INSTALLATION CAN BE ON OUTSIDE OF THE SILT FENCE AS DIRECTED.

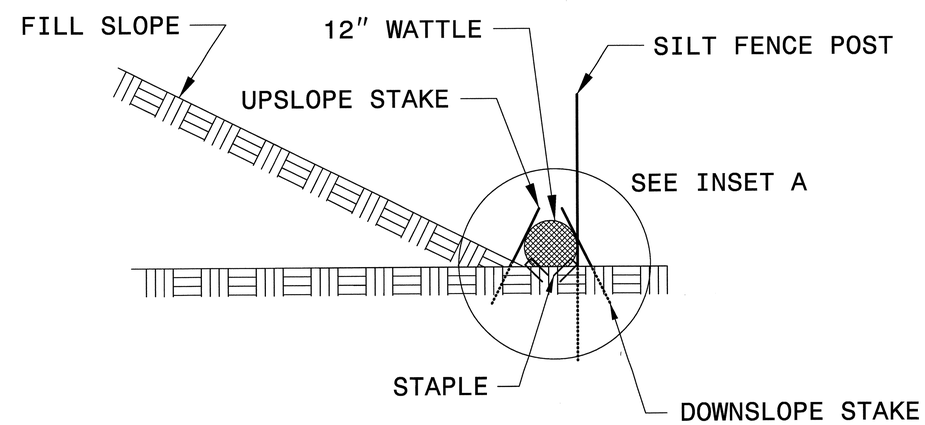
INSTALL TEMPORARY SILT FENCE IN ACCORDANCE WITH SECTION 1605 OF THE STANDARD SPECIFICATIONS.

INSET A





VIEW FROM SLOPE



SIDE VIEW

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PROJECT REFERENCE NO.	SHEET NO.
C-4901A	EC-3

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)
4	M1	7573+00	7575+90	RT	445
5	M1	7586+00	7592+00	LT	925
6	M1	7599+00	7601+50	LT	385
7	M1	7605+50	7609+12	LT	560
7	M1	7610+50	7614+60	LT	630
7	M1	7614+60	7616+00	LT	215
7	M1	7616+00	7618+00	LT	310
9	M1	7641+00	7647+00	LT	925
10	M1	7647+00	7648+60	LT	250
10	M1	7655+00	7662+00	LT	1075
11	M1	7664+00	7678+82	LT	2275
12	M1	7678+52	7686+00	RT	1120
12	M1	7686+00	7689+00	RT	465
12	M1	7678+82	7681+00	LT	335
12	M1	7687+00	7688+73	LT	270
15	M1	7721+00	7732+00	LT	1690
16	M1	7742+00	7744+80	RT	430
17	M1	7744+82	7748+00	LT	470
17	M1	7748+00	7754+00	LT	925
17	M1	7757+00	7758+00	LT	155
19	M1	7782+00	7789+00	LT	1075
19	M1	7780+00	7789+00	RT	1385
				SUBTOTAL	16315
MISCELLANEOUS MATTING TO BE INSTALLED AS DIRECTED BY THE ENGINEER					96102
				TOTAL	112417
				SAY	112500

PERMANENT SOIL REINFORCEMENT MAT

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
5	M1	7578+50	7579+43	LT	195
5	M1	7580+50	7584+00	LT	270
6	M1	7592+00	7597+29	LT	810
6	M1	7601+50	7603+94	LT	375
6	M1	7600+00	7602+00	LT	245
6	M1	7603+94	7605+50	LT	240
7	M1	7608+60	7609+00	LT	50
7	M1	7611+00	7613+00	LT	245
7	M1	7617+00	7618+00	LT	125
7	M1	7618+00	7620+40	LT	370
12	M1	7676+00	7677+00	RT	125
12	M1	7677+00	7678+50	RT	185
12	M1	7680+00	7681+00	RT	125
15	M1	7718+45	7721+00	LT	395
16	M1	7732+00	7735+50	LT	435
17	M1	7745+00	7747+00	RT	310
17	M1	7754+00	7757+00	LT	465
19	M1	7779+00	7782+00	LT	615
			SUBTOTAL		5580
		ADDITIONAL PSRM TO BE INSTALLED			0
				TOTAL	5580
				SAY	5600

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DATE: MARCH 7, 2013

PROJECT REFERENCE NO.	SHEET NO.
C-4901A	EC-3A
R/W SHEET NO.	
RAILROAD 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.

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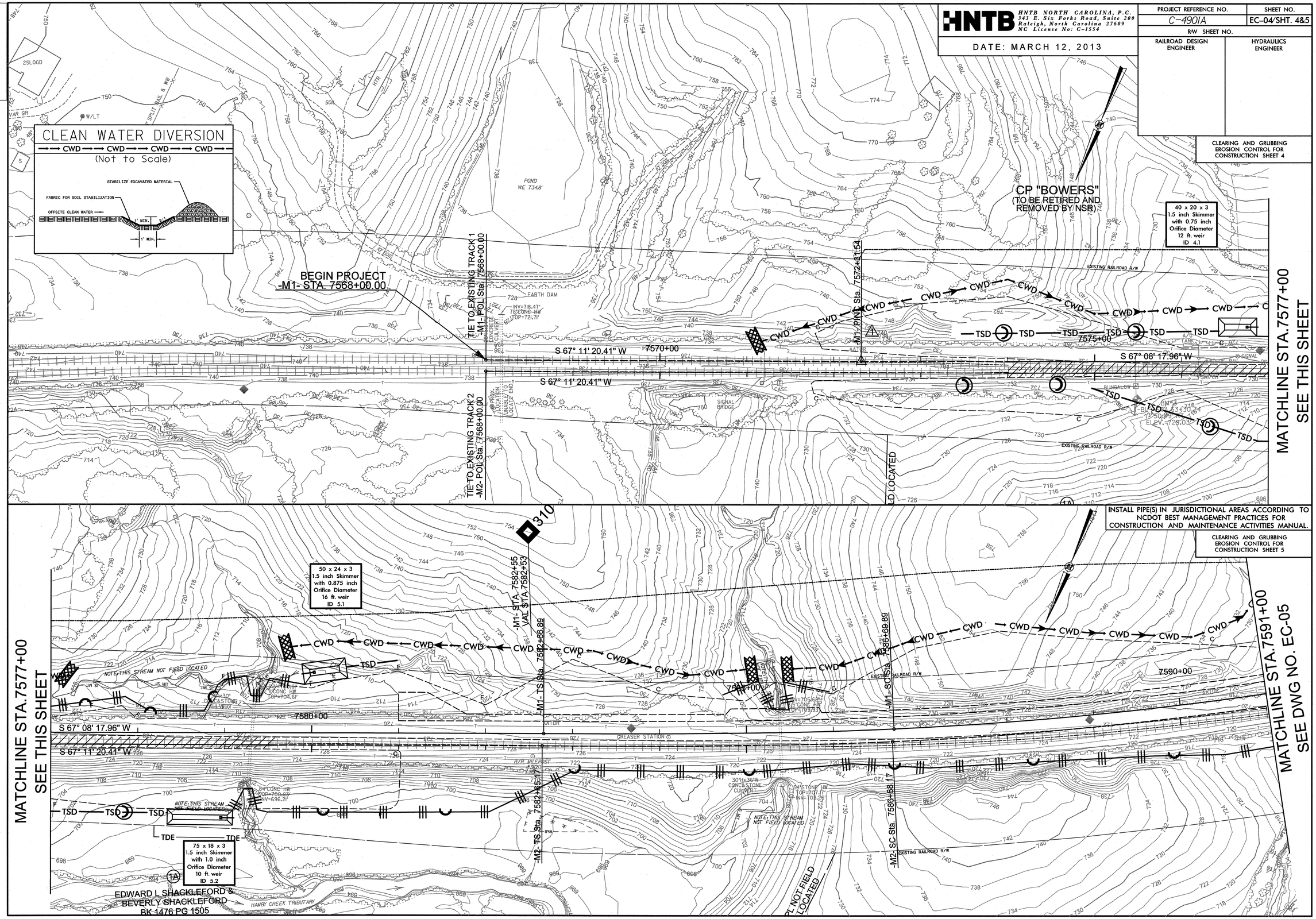
NC License No: C-1554

DATE: MARCH 12, 2013

PROJECT REFERENCE NO.	SHEET NO.
C-4901A	EC-04/SHT. 4&5
R/W SHEET NO.	
RAILROAD DESIGN ENGINEER	HYDRAULICS ENGINEER

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 4

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 5



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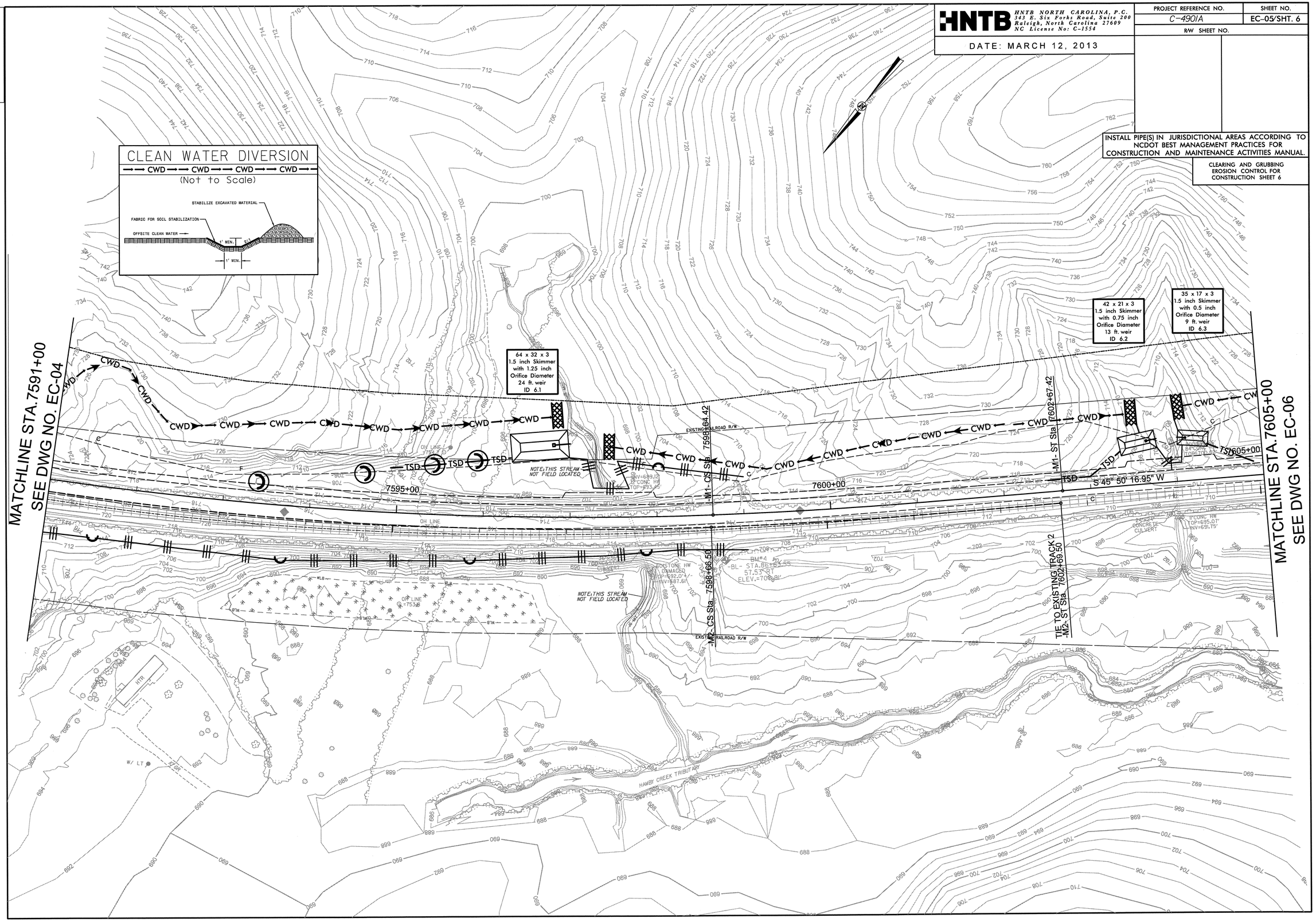
Raleigh, North Carolina 27609
NC License No: C-1554

DATE: MARCH 12, 2013

PROJECT REFERENCE NO.	SHEET NO.
C-4901A	EC-05/SHT. 6
R/W SHEET NO.	

INSTALL PIPE(S) IN JURISDICTIONAL AREAS ACCORDING TO NCDOT BEST MANAGEMENT PRACTICES FOR CONSTRUCTION AND MAINTENANCE ACTIVITIES MANUAL.

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 6



0248DEL_P10C1

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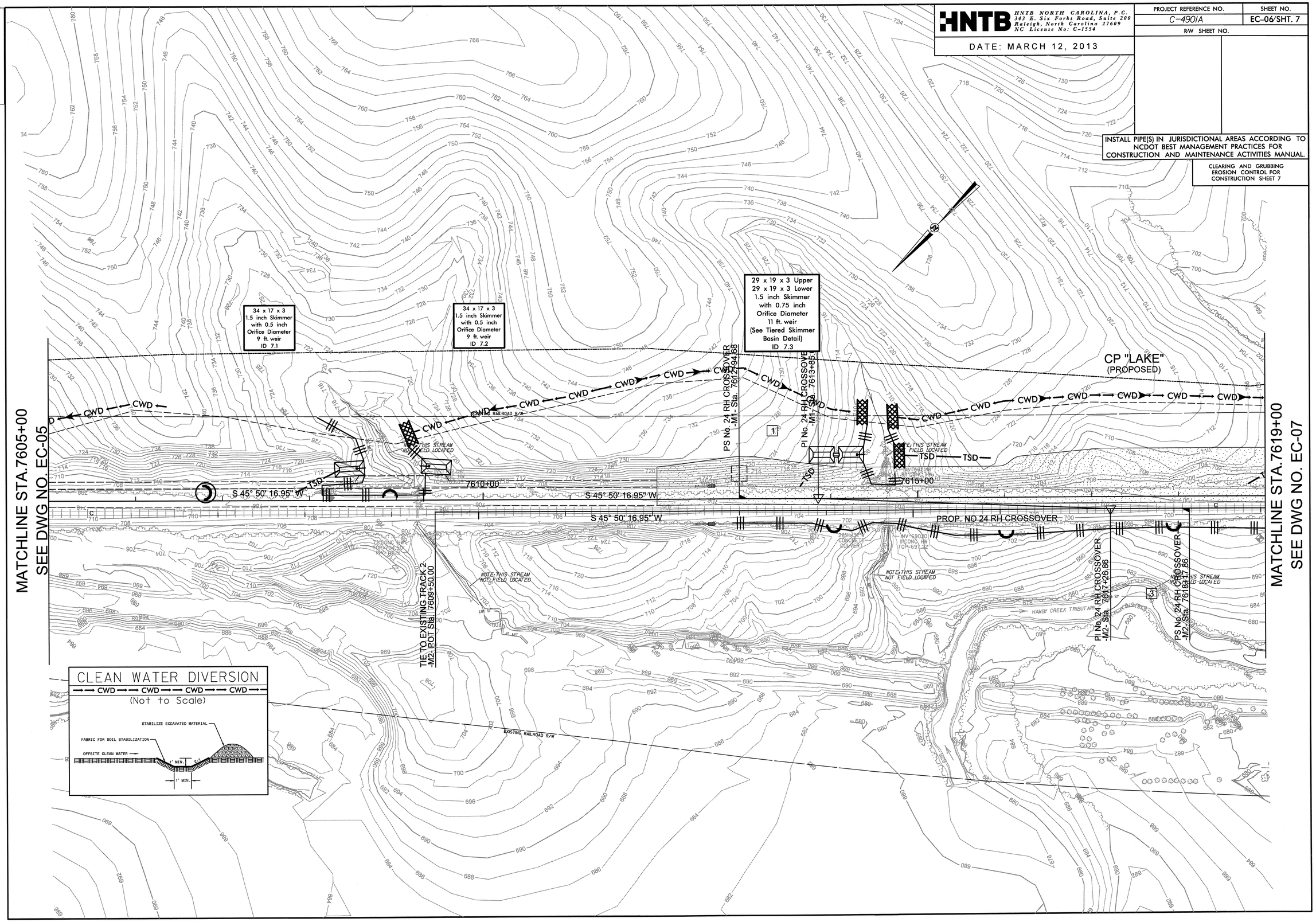
NC License No: C-1554

DATE: MARCH 12, 2013

PROJECT REFERENCE NO.	SHEET NO.
C-4901A	EC-06/SHT. 7
R/W SHEET NO.	

INSTALL PIPE(S) IN JURISDICTIONAL AREAS ACCORDING TO NCDOT BEST MANAGEMENT PRACTICES FOR CONSTRUCTION AND MAINTENANCE ACTIVITIES MANUAL.

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 7



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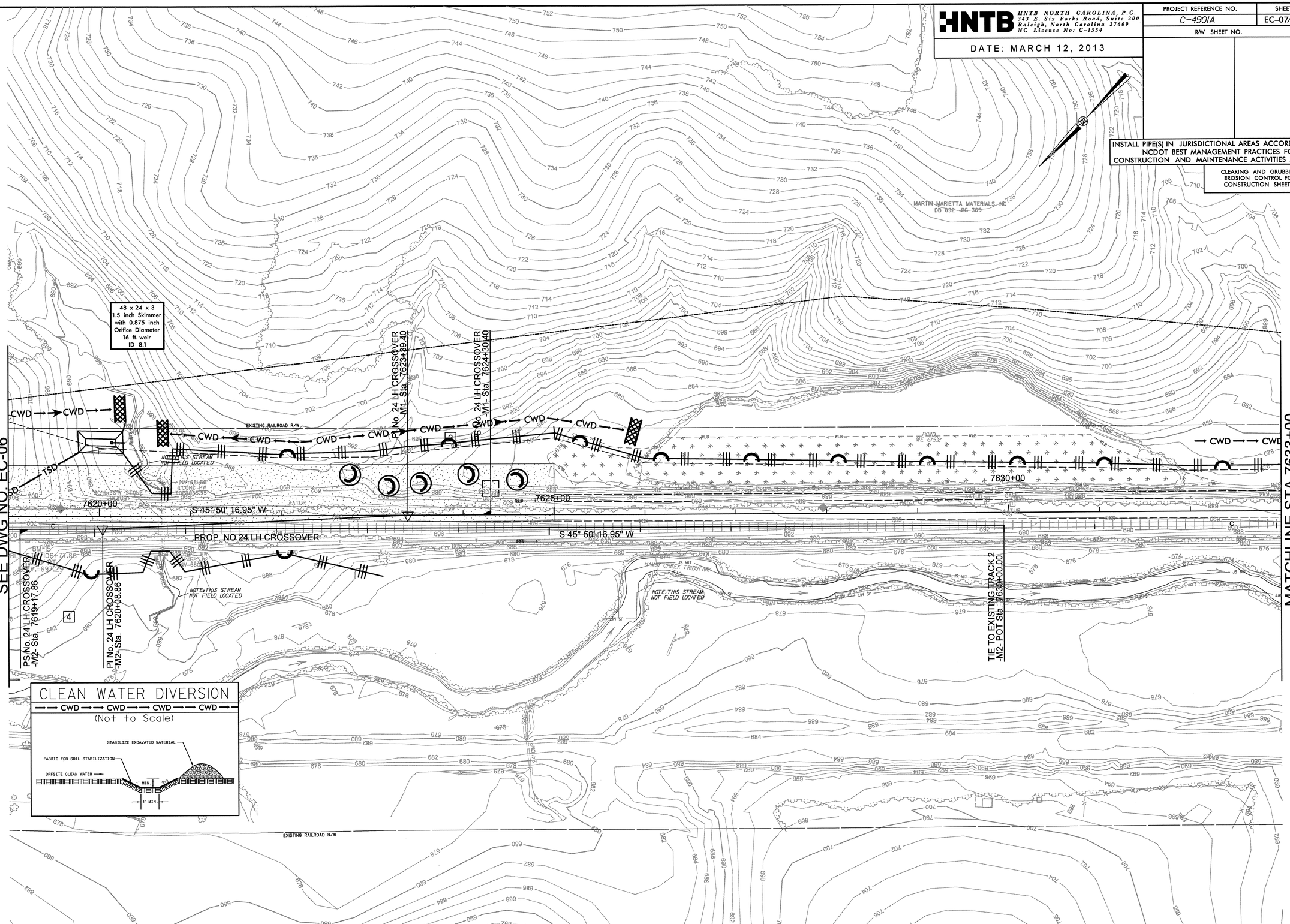
Raleigh, North Carolina 27609
NC License No: C-1554

DATE: MARCH 12, 2013

PROJECT REFERENCE NO.	SHEET NO.
C-4901A	EC-07/SHT. 8
R/W SHEET NO.	

INSTALL PIPE(S) IN JURISDICTIONAL AREAS ACCORDING TO NCDOT BEST MANAGEMENT PRACTICES FOR CONSTRUCTION AND MAINTENANCE ACTIVITIES MANUAL.

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 8



0248DEL_P10C1

HNTB NORTH CAROLINA, P.C.
343 E. Six Forks Road, Suite 200
Raleigh, North Carolina 27609
NC License No: C-1554

DATE: MARCH 12, 2013

PROJECT REFERENCE NO.	SHEET NO.
C-4901A	EC-08/SHT. 9&10
R/W SHEET NO.	

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 9

MATCHLINE STA.7633+00
SEE DWG NO. EC-07

MATCHLINE STA.7647+00
SEE THIS SHEET

EXISTING R/W
MARTIN MARIETTA MATERIALS INC
DB 892 PG 309
EXISTING RAILROAD R/W
CWD
7635+00
7640+00
7645+00
-M1- STA. 7637+60
-VAL STA. 7635+36
S 45° 50' 16.95" W
NOTE: THIS STREAM NOT FIELD LOCATED
BEGIN FIELD LOCATED STREAM
TSD
PROPOSED UPPER LAKE RD
GRADE CROSSING CLOSURE
(SEE SHEET 2H FOR DETAIL)
CROSSING CLOSURE
STONE RETAINING WALLS
HAMBY CREEK TRIBUTARY

CLEAR WATER DIVERSION
CWD
(Not to Scale)

STABILIZE EXCAVATED MATERIAL
FABRIC FOR SOIL STABILIZATION
OFFSITE CLEAN WATER
1' MIN.
2:1
1' MIN.

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 10

MATCHLINE STA.7647+00
SEE THIS SHEET

MATCHLINE STA.7661+00
SEE DWG NO. EC-09

-M1- SC Sta. 7648+86.91
-M1- TS Sta. 7651+13.91
-M1- CS Sta. 7654+36.17
-M1- ST Sta. 7656+53.17
-M1- TS Sta. 7660+67.21
EXISTING RAILROAD R/W
CWD
7650+00
7655+00
7660+00
S 45° 50' 16.95" W
S 48° 32' 03.6" W
BURIED ON BRIDGE DECK
NOTE: THIS STREAM NOT FIELD LOCATED
TIE TO EXISTING TRACK 2
-M2- TS Sta. 7648+82.65
-M2- SC Sta. 7650+99.65
-M2- CS Sta. 7654+60.49
-M2- ST Sta. 7656+77.
-M2- TS Sta. 7660+67.80
HAMBY CREEK TRIBUTARY

62 x 41 x 3 Upper
62 x 41 x 3 Lower
2.0 inch Skimmer
with 1.625 inch
Orifice Diameter
33 ft. weir
(See Tiered Skimmer
Basin Detail)
ID 10.1

0248DEL_P10C1

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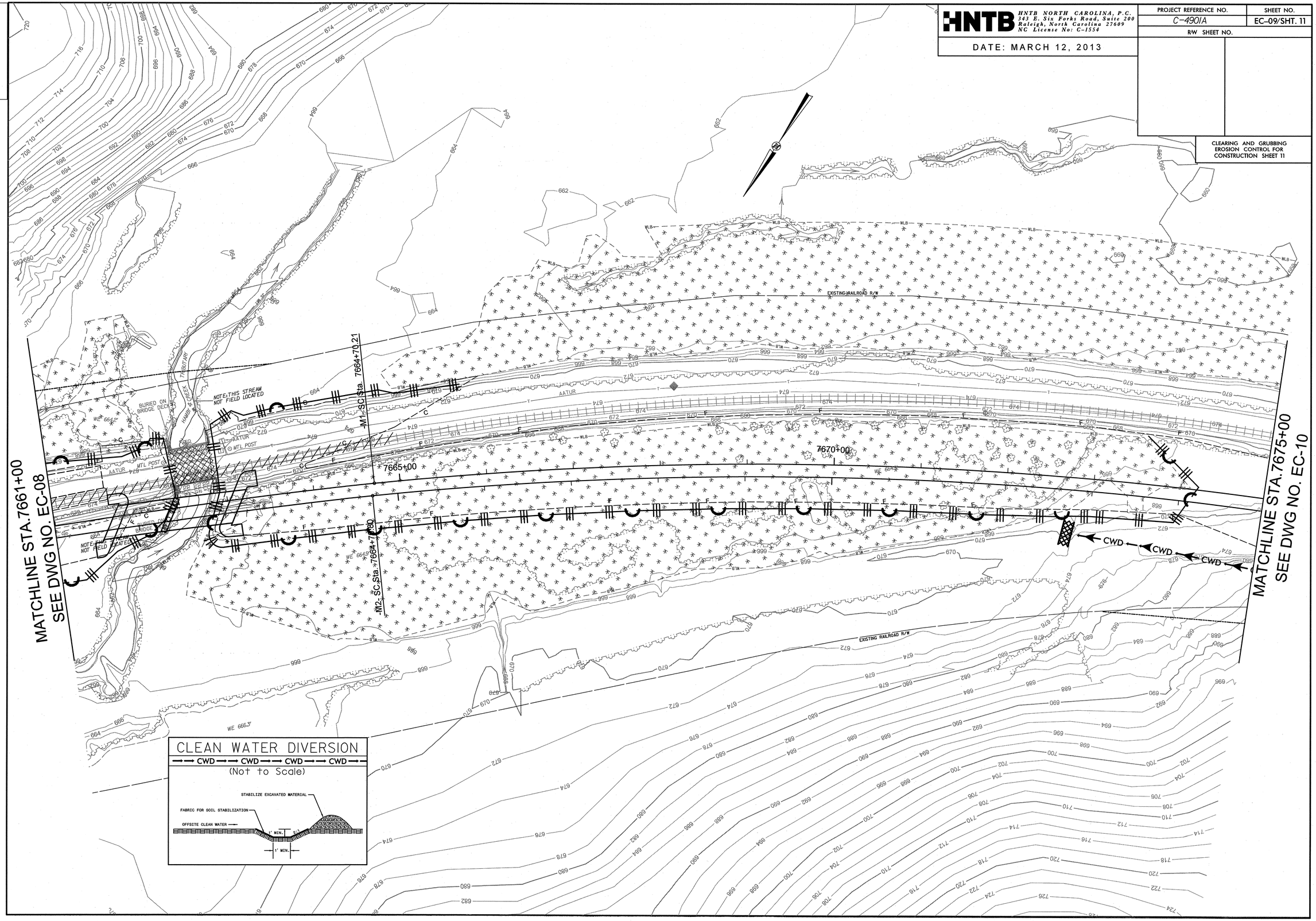
NC License No: C-1554

DATE: MARCH 12, 2013

PROJECT REFERENCE NO.	SHEET NO.
C-4901A	EC-09/SHT. 11
R/W SHEET NO.	

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 11



0248DEL_P10c1
0001ADD_P10c1

REVISIONS

REVISION #1 DATED 6/6/13: NEW CLEARING AND GRUBBING MEASURES ADDED.

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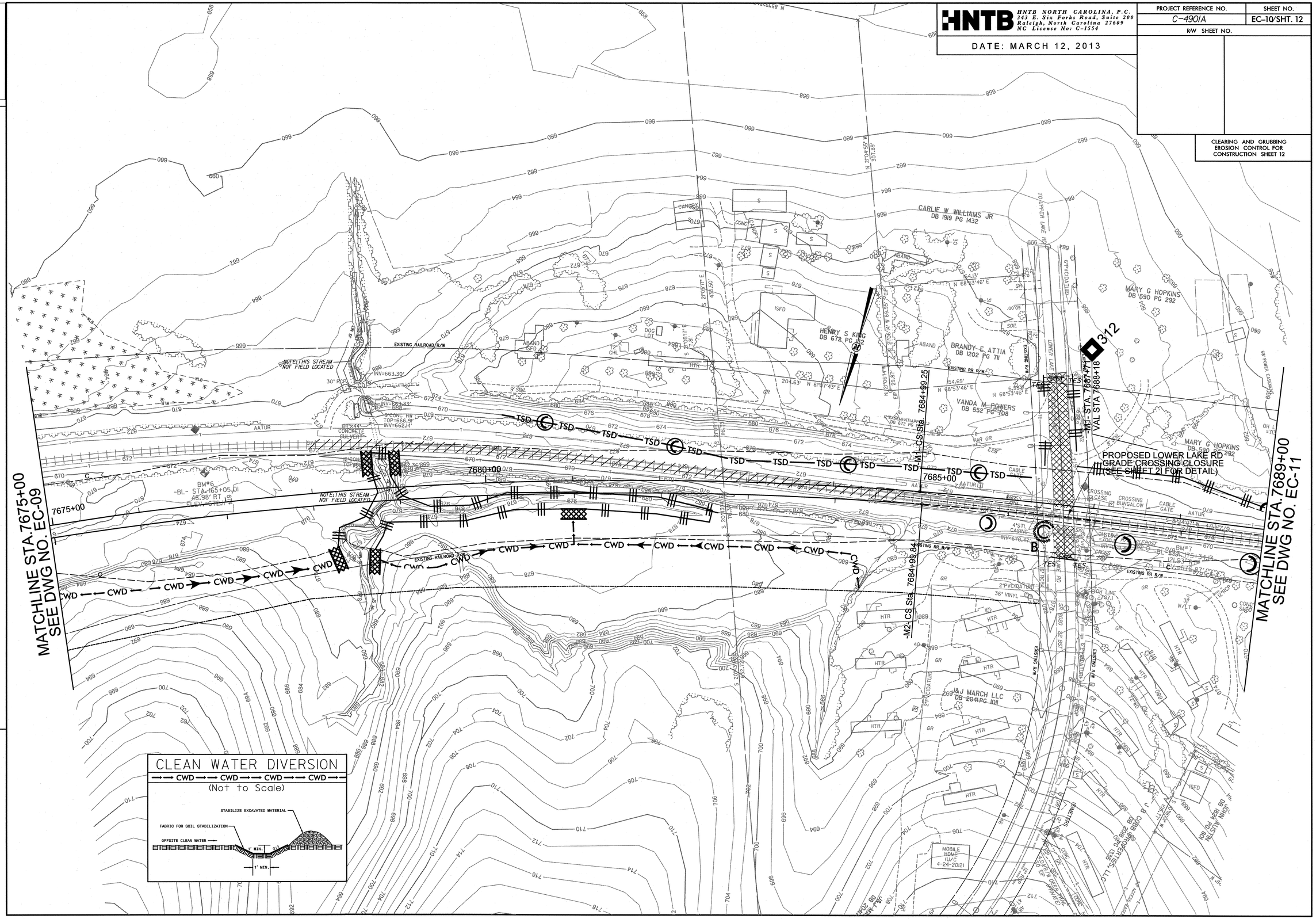
DATE: MARCH 12, 2013

PROJECT REFERENCE NO.	SHEET NO.
C-4901A	EC-10/SHT. 12
R/W SHEET NO.	

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 12



0248DEL_P10C1

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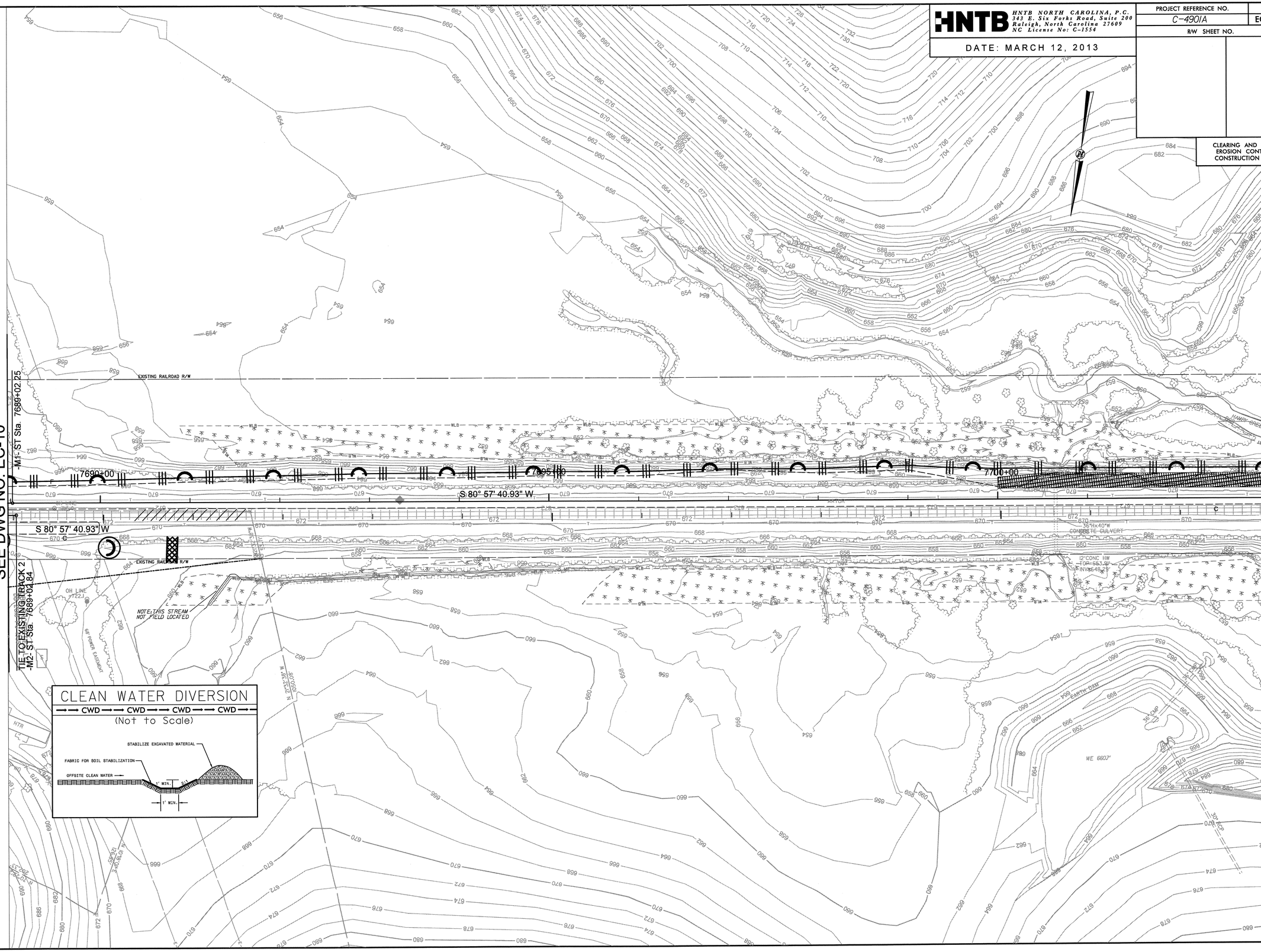
NC License No: C-1554

DATE: MARCH 12, 2013

PROJECT REFERENCE NO.	SHEET NO.
C-4901A	EC-11/SHT. 13
R/W SHEET NO.	

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 13

MATCHLINE STA.7689+00
SEE DWG NO. EC-10



MATCHLINE STA.7703+00
SEE DWG NO. EC-12

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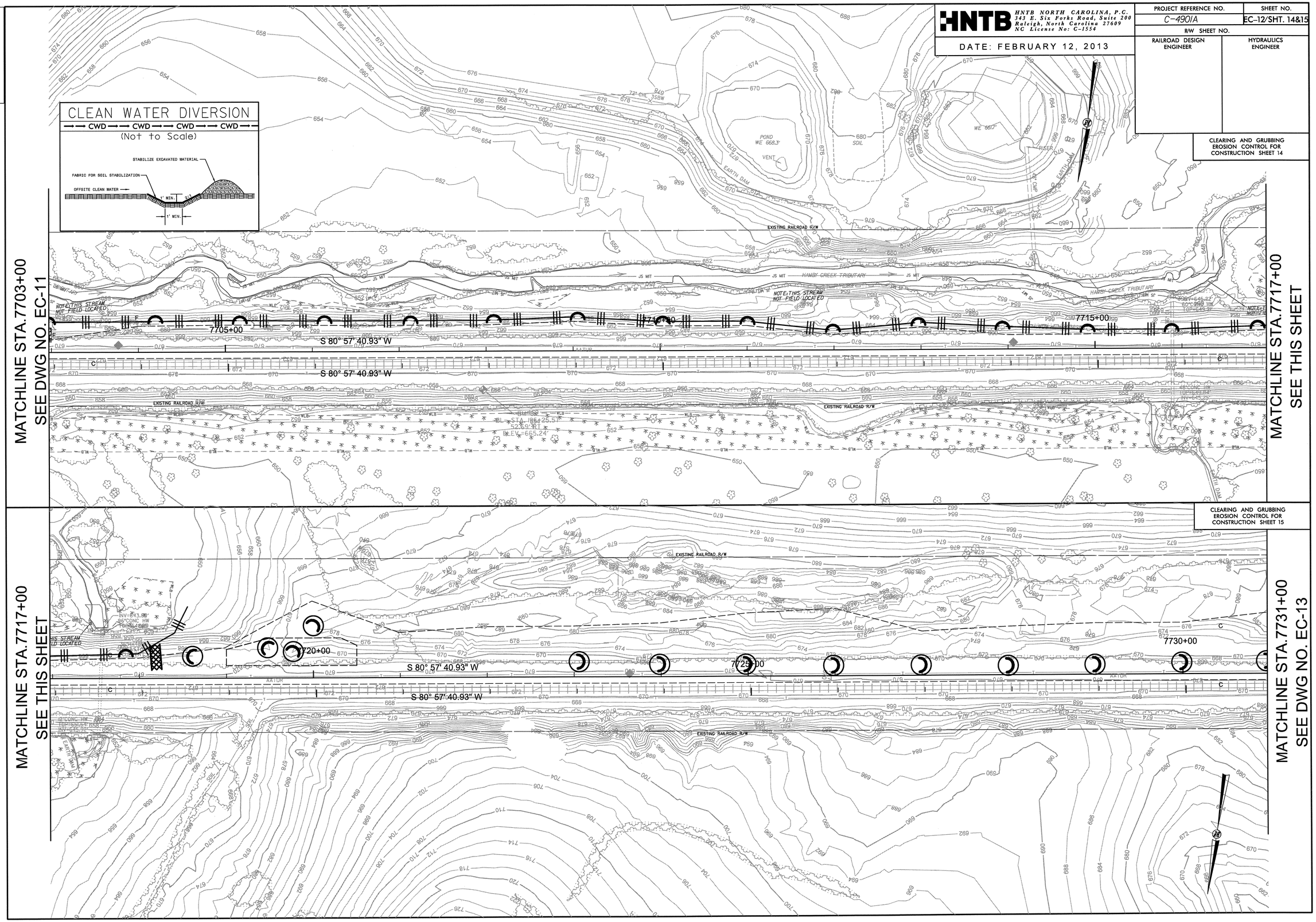
NC License No: C-1554

DATE: FEBRUARY 12, 2013

PROJECT REFERENCE NO.	SHEET NO.
C-4901A	EC-12/SHT. 14&15
R/W SHEET NO.	
RAILROAD DESIGN ENGINEER	HYDRAULICS ENGINEER

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 14

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 15



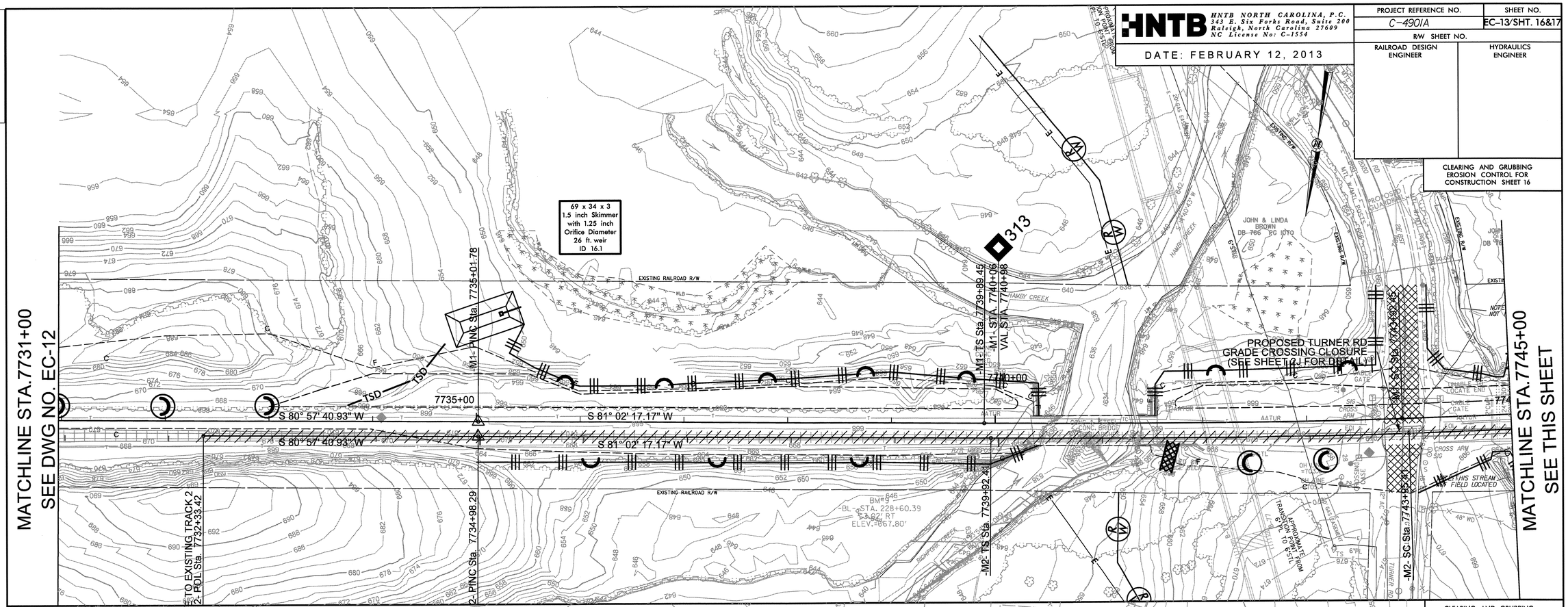
0248DEL_P10C1

HNTB NORTH CAROLINA, P.C.
343 E. Six Forks Road, Suite 200
Raleigh, North Carolina 27609
NC License No: C-1554

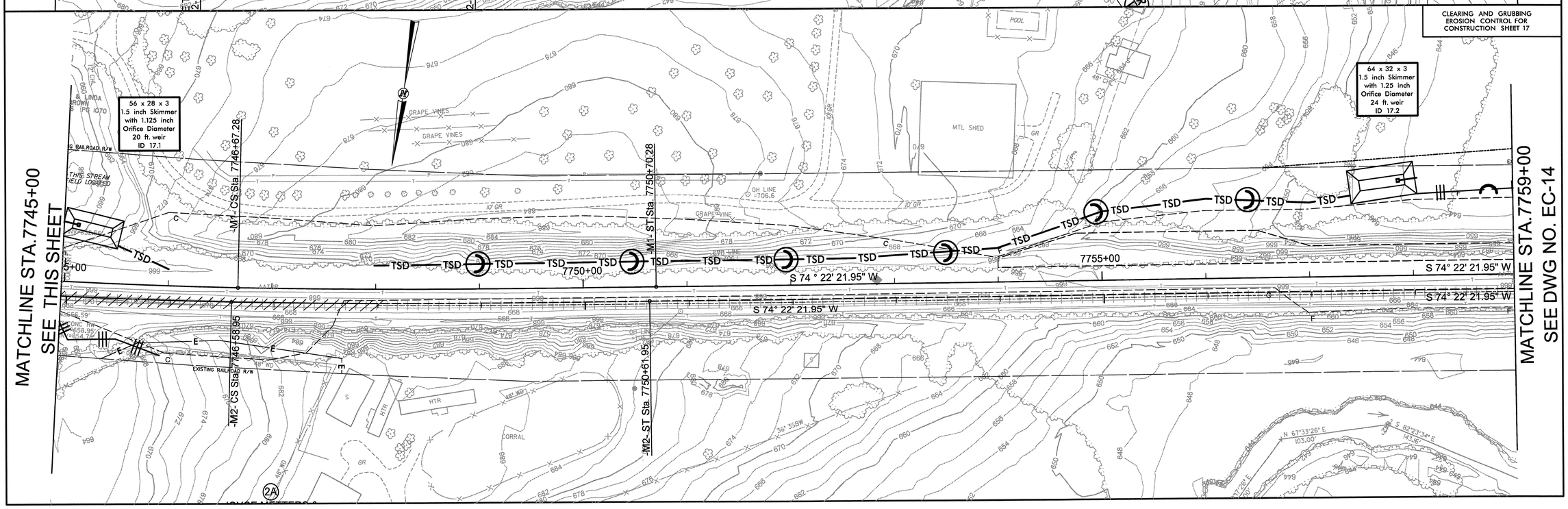
DATE: FEBRUARY 12, 2013

PROJECT REFERENCE NO.	SHEET NO.
C-4901A	EC-13/SHT. 16&17
R/W SHEET NO.	
RAILROAD DESIGN ENGINEER	HYDRAULICS ENGINEER

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 16



CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 17



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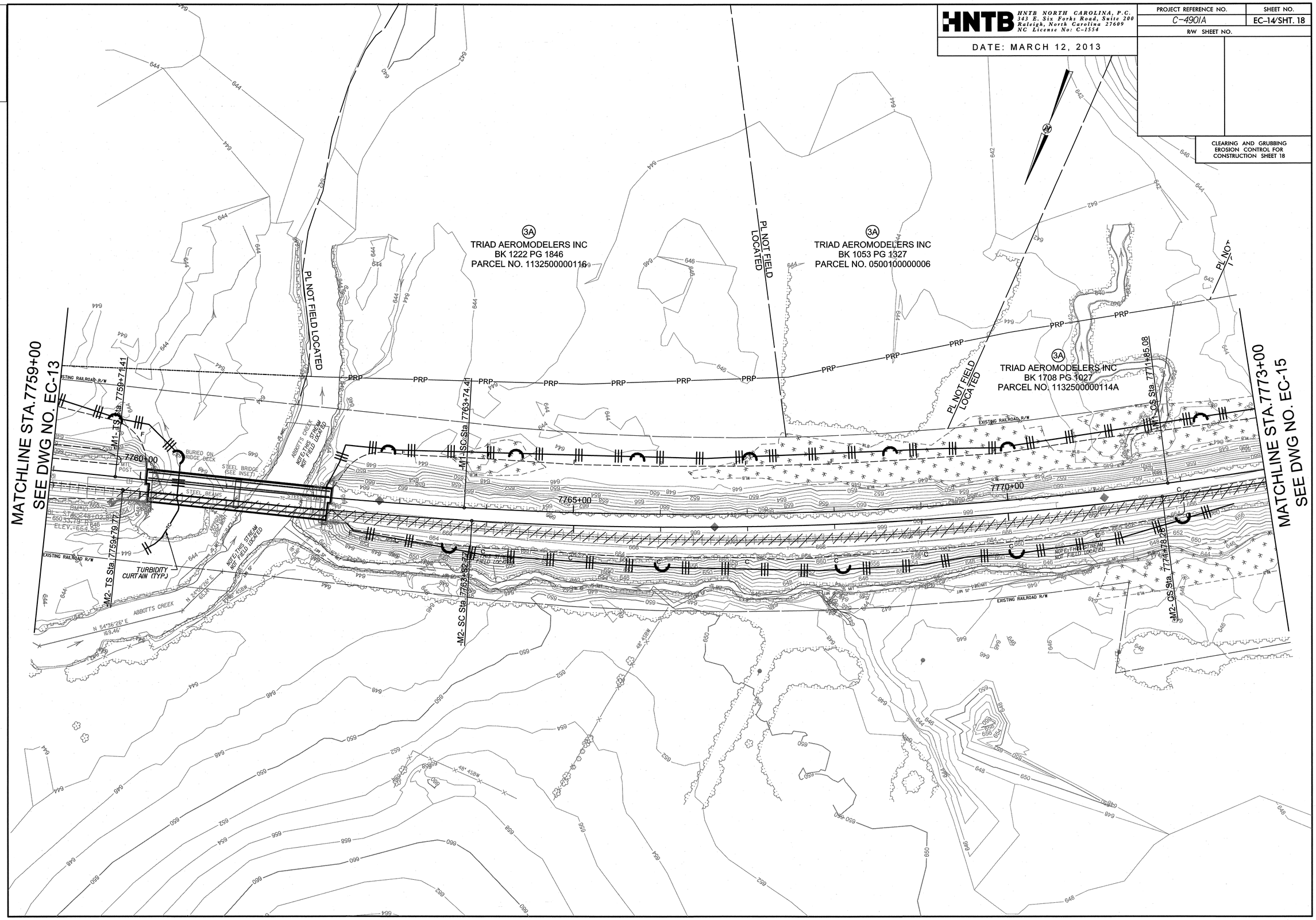
Raleigh, North Carolina 27609
NC License No: C-1554

DATE: MARCH 12, 2013

PROJECT REFERENCE NO.	SHEET NO.
C-4901A	EC-14/SHT. 18
R/W SHEET NO.	

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 18



0248DEL_P10c1
0001ADD_P10c1

REVISIONS

REVISION #1 DATED 60613: PRIVATE GRADE CROSSING TO REMAIN. NOTE REMOVED.

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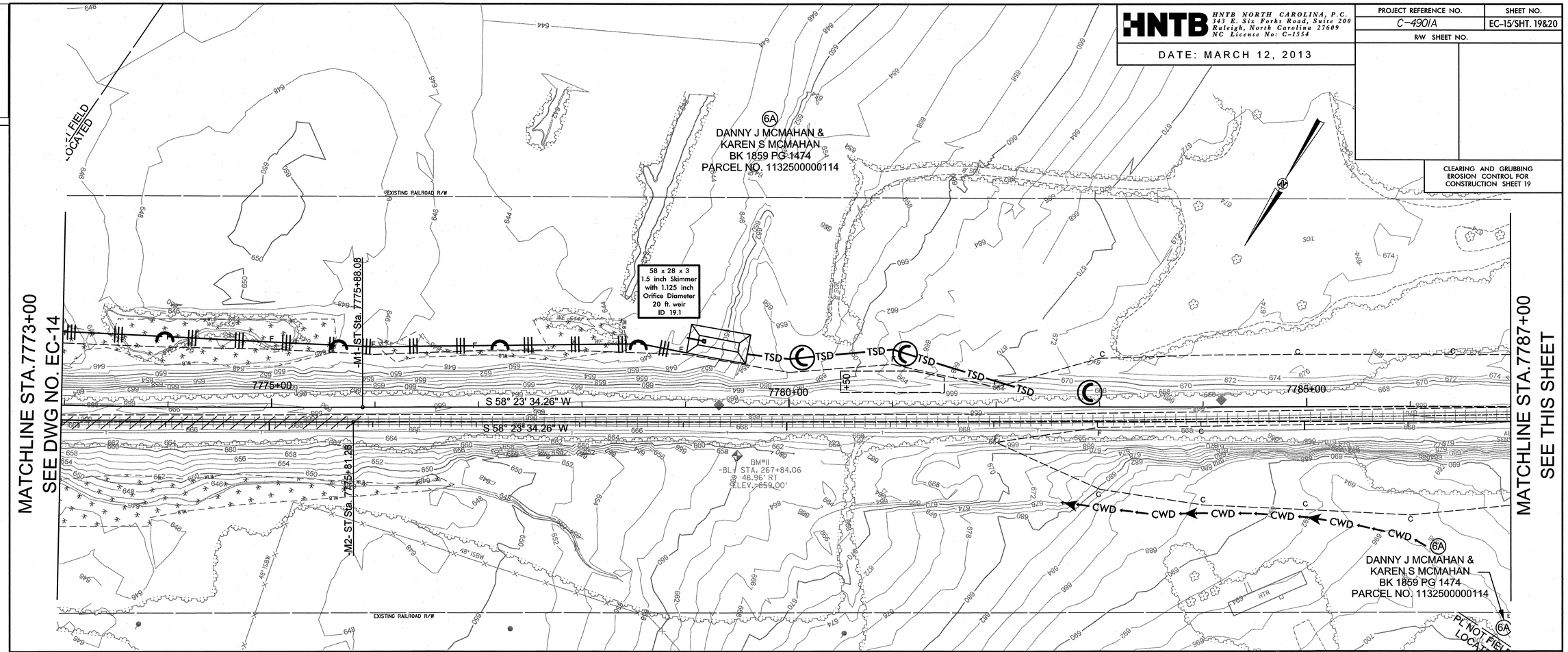
DATE: MARCH 12, 2013

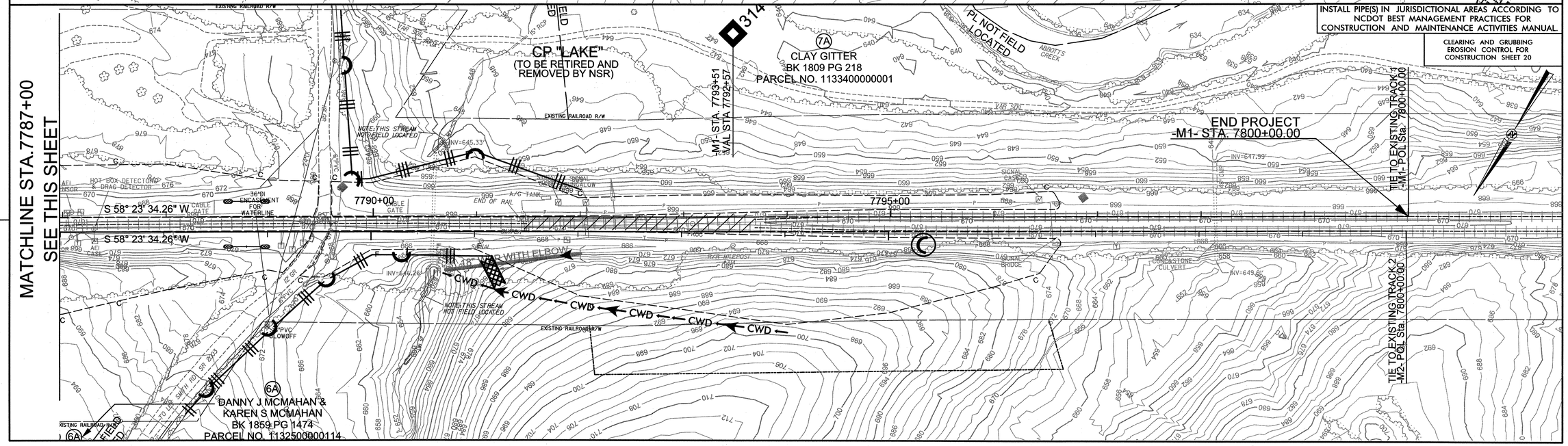
PROJECT REFERENCE NO.	SHEET NO.
C-4901A	EC-15/SHT. 19&20
R/W SHEET NO.	

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 19



INSTALL PIPE(S) IN JURISDICTIONAL AREAS ACCORDING TO NCDOT BEST MANAGEMENT PRACTICES FOR CONSTRUCTION AND MAINTENANCE ACTIVITIES MANUAL.

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 20



0248DEL_P10C1

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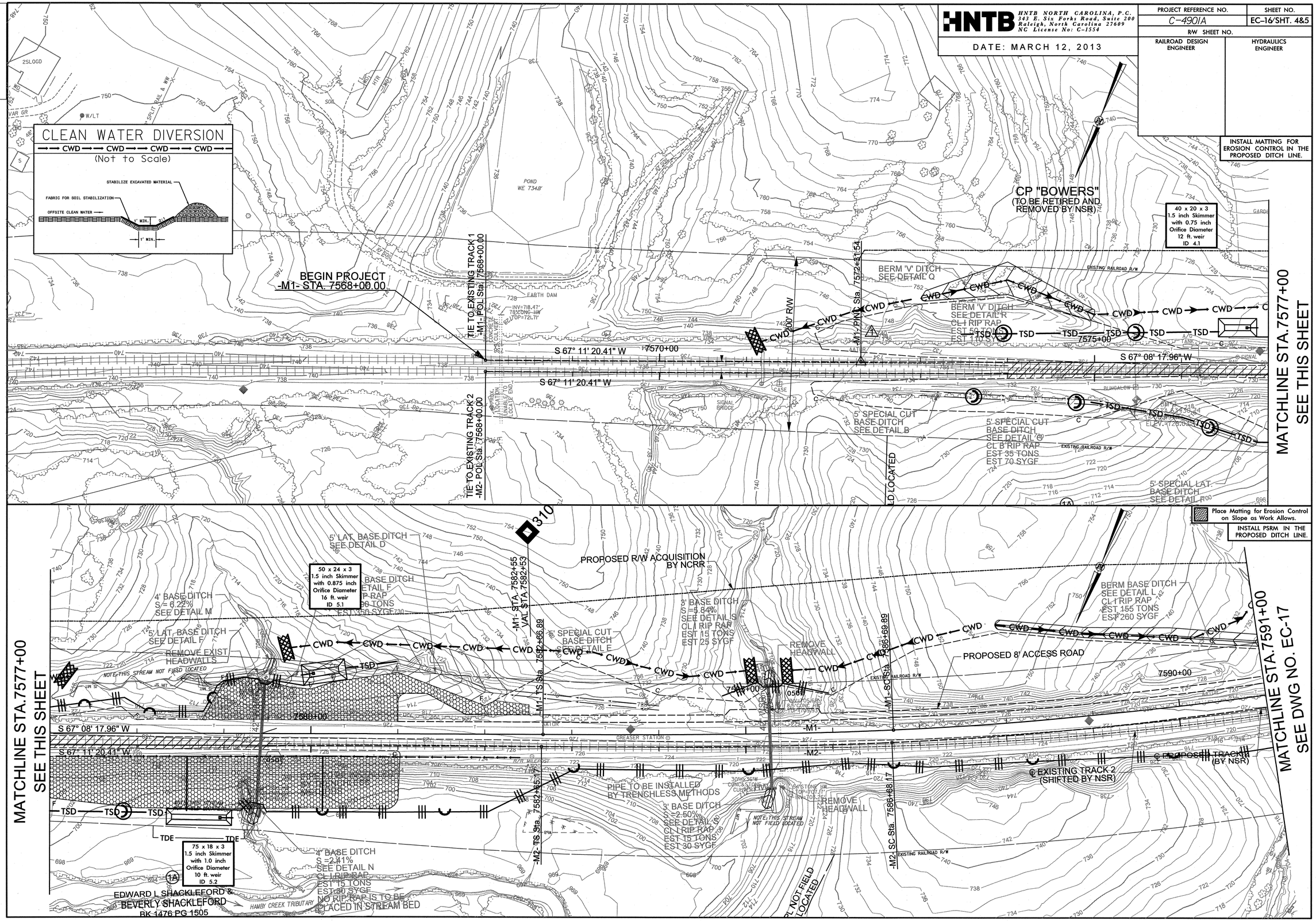
343 E. Six Forks Road, Suite 200
Raleigh, North Carolina 27609
NC License No: C-1554

DATE: MARCH 12, 2013

PROJECT REFERENCE NO.	SHEET NO.
C-4901A	EC-16/SHT. 4&5
R/W SHEET NO.	
RAILROAD DESIGN ENGINEER	HYDRAULICS ENGINEER

INSTALL MATTING FOR EROSION CONTROL IN THE PROPOSED DITCH LINE.



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Raleigh, North Carolina 27609
NC License No: C-1554

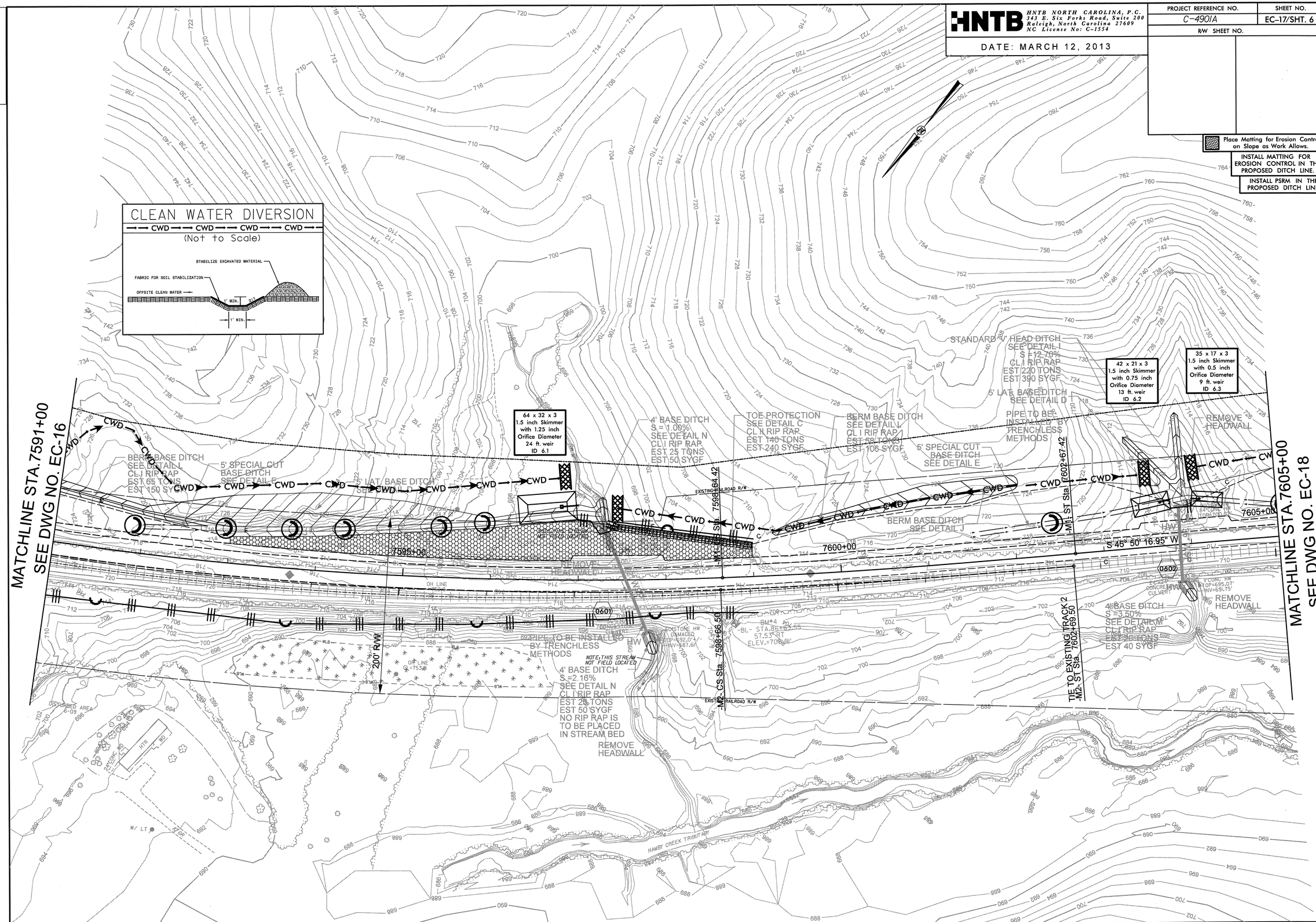
DATE: MARCH 12, 2013

PROJECT REFERENCE NO.	SHEET NO.
C-4901A	EC-17/SHT. 6
R/W SHEET NO.	

Place Matting for Erosion Control on Slope as Work Allows.

INSTALL MATTING FOR EROSION CONTROL IN THE PROPOSED DITCH LINE.

INSTALL PSRM IN THE PROPOSED DITCH LINE.



0248DEL_P10C1

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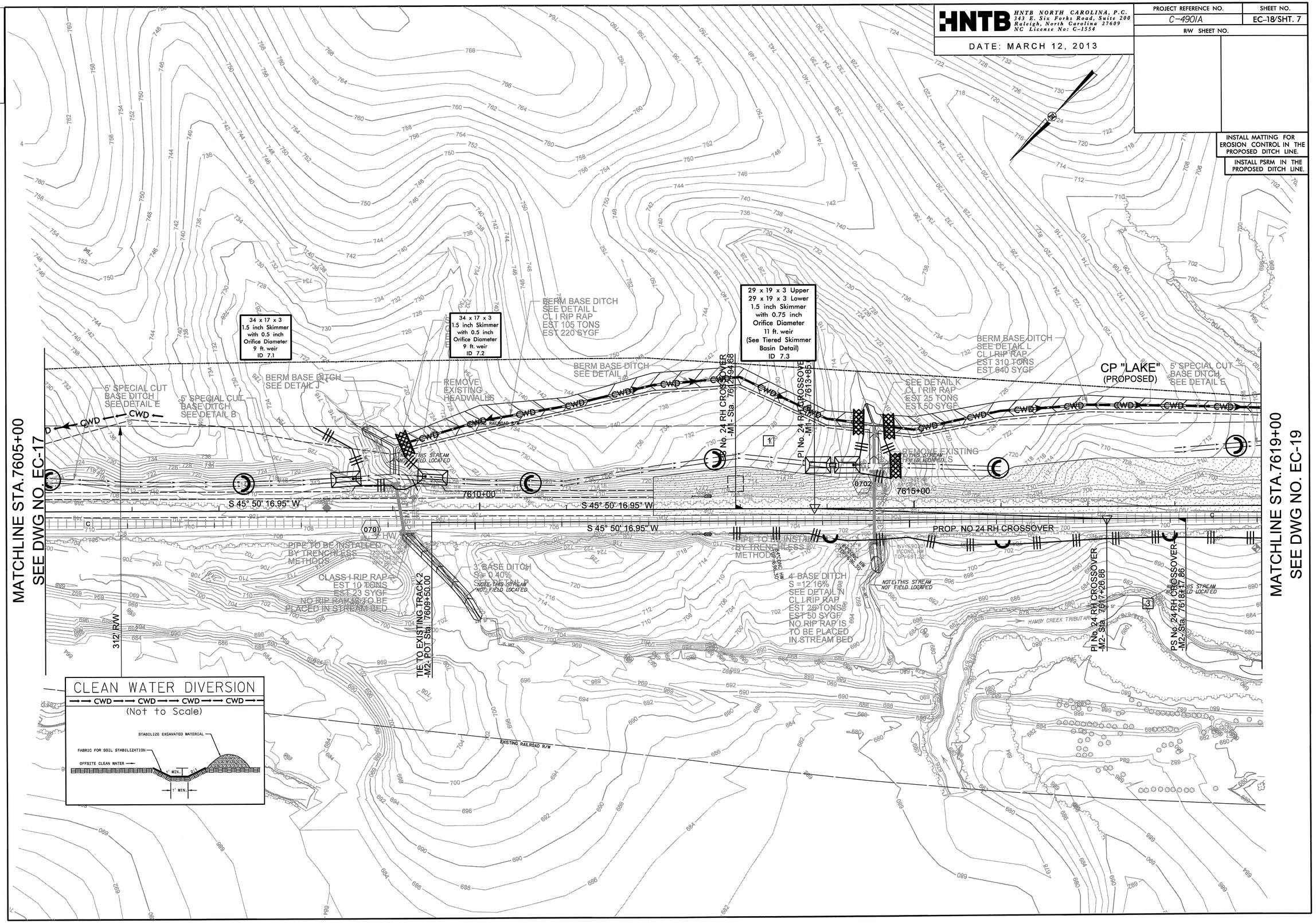
Raleigh, North Carolina 27609
NC License No: C-1554

DATE: MARCH 12, 2013

PROJECT REFERENCE NO.	SHEET NO.
C-4901A	EC-18/SHT. 7
R/W SHEET NO.	

INSTALL MATTING FOR EROSION CONTROL IN THE PROPOSED DITCH LINE.

INSTALL PSRM IN THE PROPOSED DITCH LINE.



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Raleigh, North Carolina 27609
NC License No: C-1554

DATE: MARCH 12, 2013

PROJECT REFERENCE NO.	SHEET NO.
C-4901A	EC-19/SHT. 8
R/W SHEET NO.	

Place Matting for Erosion Control on Slope as Work Allows.

INSTALL MATTING FOR EROSION CONTROL IN THE PROPOSED DITCH LINE.

MATCHLINE STA.7619+00
SEE DWG NO. EC-18

MATCHLINE STA.7633+00
SEE DWG NO. EC-20

5' SPECIAL CUT
BASE DITCH
SEE DETAIL E

BERM BASE
SEE DETAIL I
CL I RIP RAP
EST 55 TONS
EST 110 SYGF

5' SPECIAL CUT
BASE DITCH
SEE DETAIL F
CL I RIP RAP
EST 100 SYGF

48 x 24 x 3
1.5 inch Skimmer
with 0.875 inch
Orifice Diameter
16 ft. weir
ID 8.1

PIPE TO BE INSTALLED BY TRENCHLESS METHODS

REMOVE EXISTING HEADWALLS

No. 24 LH CROSSOVER
-M1- Sta. 7623+89.40

No. 24 LH CROSSOVER
-M1- Sta. 7624+30.40

TOE PROTECTION
SEE DETAIL C
CL II RIP RAP
EST 790 TONS
EST 1530 SYGF

MARTIN MARIETTA MATERIALS INC
DB 892 PG 309

EXISTING RAILROAD R/W

CWD

7620+00

7625+00

7630+00

S 45° 50' 16.95" W

PROP. NO 24 LH CROSSOVER

PS No. 24 LH CROSSOVER
-M2- Sta. 7619+17.86

PI No. 24 LH CROSSOVER
-M2- Sta. 7620+08.86

4' BASE DITCH
NOTE: THIS STREAM NOT FIELD LOCATED
CL I RIP RAP
EST 20 TONS
EST 40 SYGF
NO RIP RAP IS TO BE PLACED IN STREAM BED

HANDY CREEK TRIBUTARY

NOTE: THIS STREAM NOT FIELD LOCATED

443' R/W

TIE TO EXISTING TRACK 2
-M2- POT Sta. 7630+00.00

POND
WE 6752

CLEAN WATER DIVERSION

(Not to Scale)

STABILIZE EXCAVATED MATERIAL

FABRIC FOR SOIL STABILIZATION

OFFSITE CLEAN WATER

1' MIN.

2:1

1' MIN.

0248DEL_P10C1

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343 E. Six Forks Road, Suite 200
Raleigh, North Carolina 27609
NC License No: C-1554

DATE: MARCH 12, 2013

PROJECT REFERENCE NO.	SHEET NO.
C-4901A	EC-20/SHT. 9&10
R/W SHEET NO.	

Place Matting for Erosion Control on Slope as Work Allows.

INSTALL MATTING FOR EROSION CONTROL IN THE PROPOSED DITCH LINE.

MATCHLINE STA.7633+00
SEE DWG NO. EC-19

MATCHLINE STA.7647+00
SEE THIS SHEET

TOE PROTECTION
SEE DETAIL C
CL II RIP RAP
EST 380 TONS
EST 740 SYGF

SPECIAL DITCH GRADE
SEE DETAIL H

5' SPECIAL CUT
BASE DITCH
SEE DETAIL B

PROPOSED UPPER LAKE RD
GRADE CROSSING CLOSURE
(SEE SHEET 2H FOR DETAIL)

-M1- STA. 7637+60
-VAL STA. 7635+36

-M1- +14.07
39.55' LT

-M1- +36.57
51.14' LT

-M1- +96.99
119.99' RT

-M1- +18.17
108.50' RT

24" HDPE

S 45° 50' 16.95" W

7635+00

7640+00

7645+00

442' R/W

EXISTING RAILROAD R/W

NOTE: THIS STREAM NOT FIELD LOCATED

BEGIN FIELD LOCATED STREAM

HAMBY CREEK TRIBUTARY

CLEAN WATER DIVERSION
(Not to Scale)

STABILIZE EXCAVATED MATERIAL
FABRIC FOR SOIL STABILIZATION
OFFSITE CLEAN WATER
1' MIN.
3:1
1' MIN.

MATCHLINE STA.7647+00
SEE THIS SHEET

MATCHLINE STA.7661+00
SEE DWG NO. EC-21

5' LAT. BASE DITCH
SEE DETAIL A

5' SPECIAL CUT
BASE DITCH
SEE DETAIL B

5' SPECIAL CUT
BASE DITCH
SEE DETAIL B

Sta. 7648+86.91

Sta. 7651+18.91

-M1- SC Sta. 7650+99.65

-M1- CS Sta. 7654+36.17

-M1- ST Sta. 7656+53.17

-M1- TS Sta. 7660+67.21

NOTE: THIS STREAM NOT FIELD LOCATED

BURIED ON BRIDGE DECK

7650+00

7655+00

7660+00

S 45° 50' 16.95" W

S 48° 32' 03.6" W

8'

13'

24'

31'

33'

37'

28'

28'

62 x 41 x 3 Upper
62 x 41 x 3 Lower
2.0 inch Skimmer
with 1.625 inch
Orifice Diameter
33 ft. weir
(See Tiered Skimmer
Basin Detail)
ID 10.1

TIE TO EXISTING TRACK 2
-M2- TS Sta. 7648+82.65

-M2- SC Sta. 7650+99.65

-M2- CS Sta. 7654+60.49

-M2- ST Sta. 7656+77.49

-M2- TS Sta. 7660+67.80

444' R/W

HAMBY CREEK TRIBUTARY

0248DEL_P10C1

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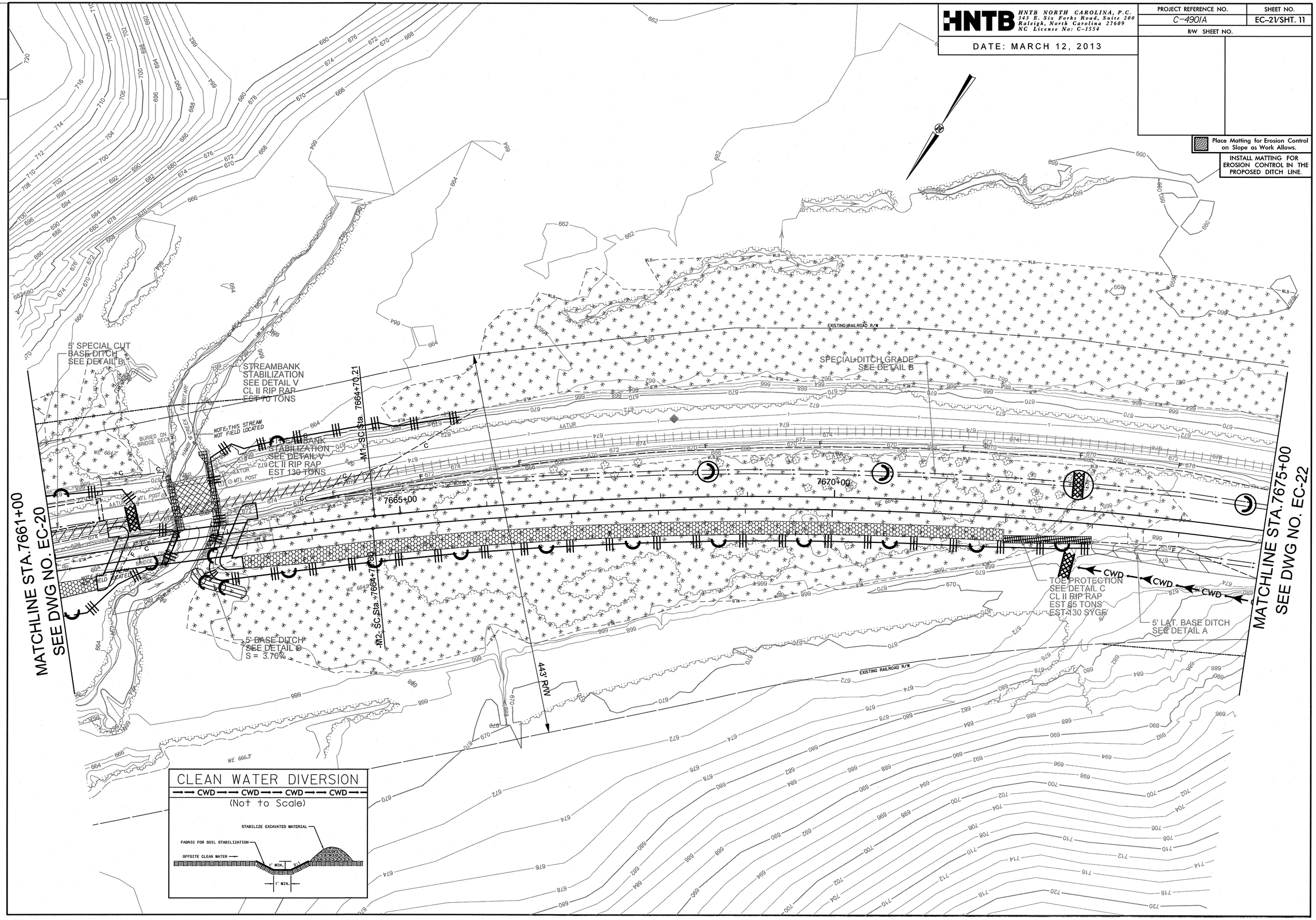
343 E. Six Forks Road, Suite 200
Raleigh, North Carolina 27609
NC License No: C-1554

DATE: MARCH 12, 2013

PROJECT REFERENCE NO.	SHEET NO.
C-4901A	EC-21/SHT. 11
R/W SHEET NO.	

Place Matting for Erosion Control on Slope as Work Allows.

INSTALL MATTING FOR EROSION CONTROL IN THE PROPOSED DITCH LINE.



0248DEL_P10C1

C-4901A CULVERT REMOVAL PHASING
HAMBY CREEK TRIBUTARY

HNTB
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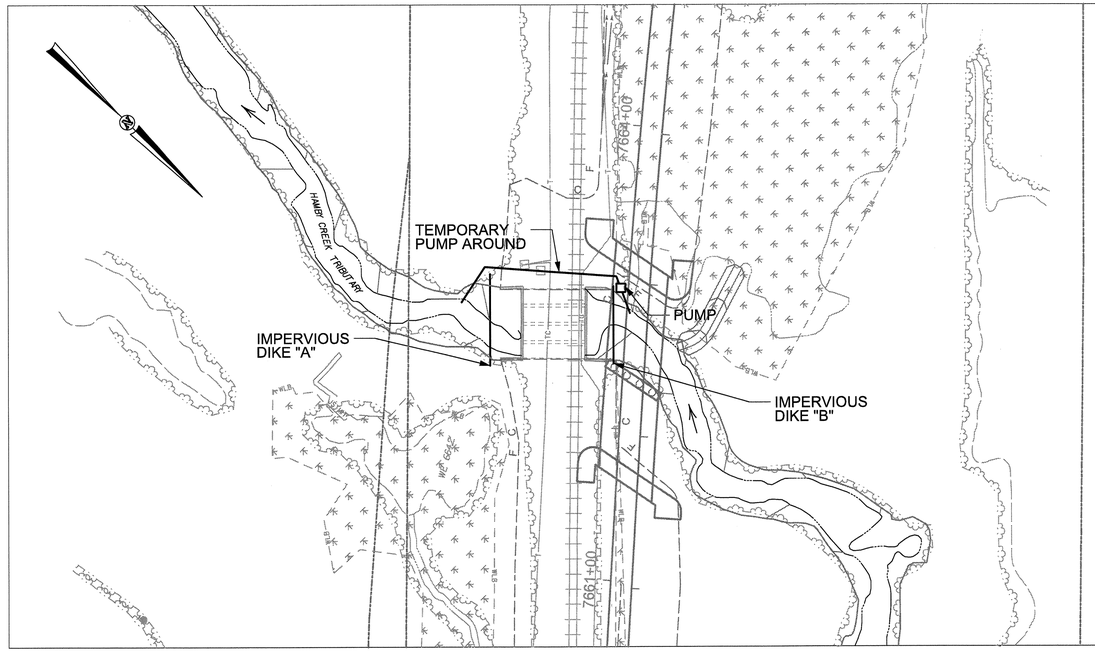
Raleigh, North Carolina 27609
NC License No: C-1554

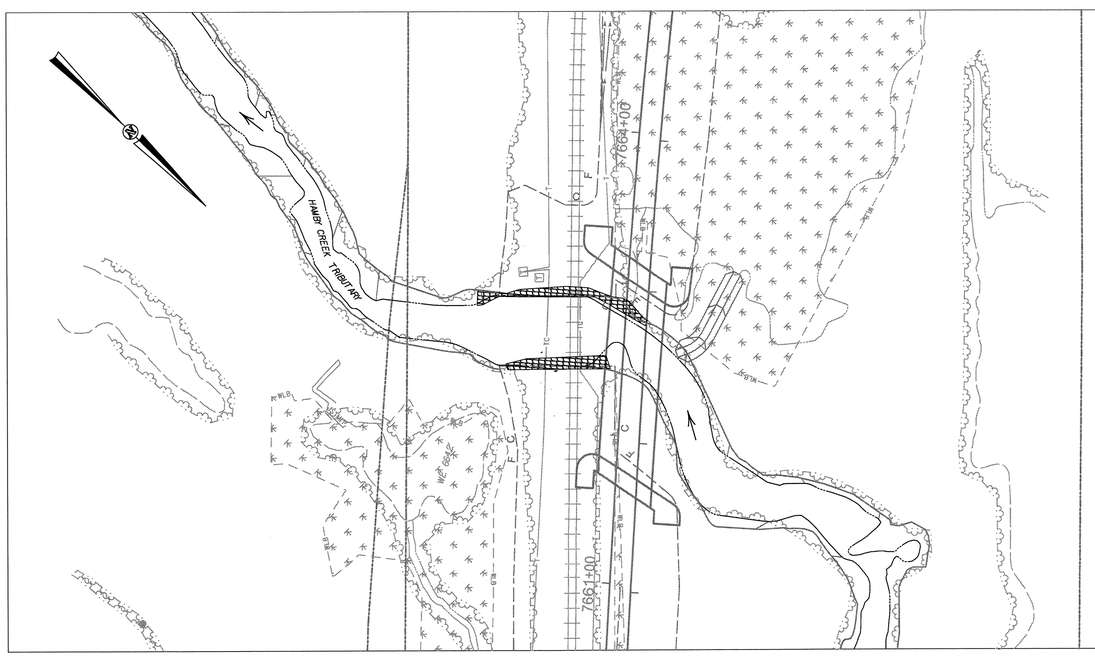
DATE: MARCH 12, 2013

PROJECT REFERENCE NO.	SHEET NO.
C-4901A	EC-22/ SHT. 11
R/W SHEET NO.	



PHASE I

1. INSTALL IMPERVIOUS DIKES "A" AND "B" AS SHOWN.
2. INSTALL PIPE AND PUMP. THEN PUMP HAMBY CREEK TRIBUTARY AROUND CONSTRUCTION AREA.
3. DEWATER CONSTRUCTION AREA INTO SPECIAL STILLING BASIN(S).



PHASE II

1. REMOVE EXISTING CONCRETE CULVERTS IN THEIR ENTIRETY.
2. GRADE CHANNEL. ADD BANKS AT A SLOPE OF 1.5:1 AND LINE WITH CLASS II RIP RAP TO THE LIMITS SHOWN.
3. UPON COMPLETION OF RIP RAP, REMOVE IMPERVIOUS DIKE, PUMPS AND TEMP. PIPE.

0248DEL_P10c1
0001ADD_P10c1

REVISIONS

REVISION #1 DATED 6/06/13: NEW EROSION CONTROL MEASURES ADDED.

HNTB

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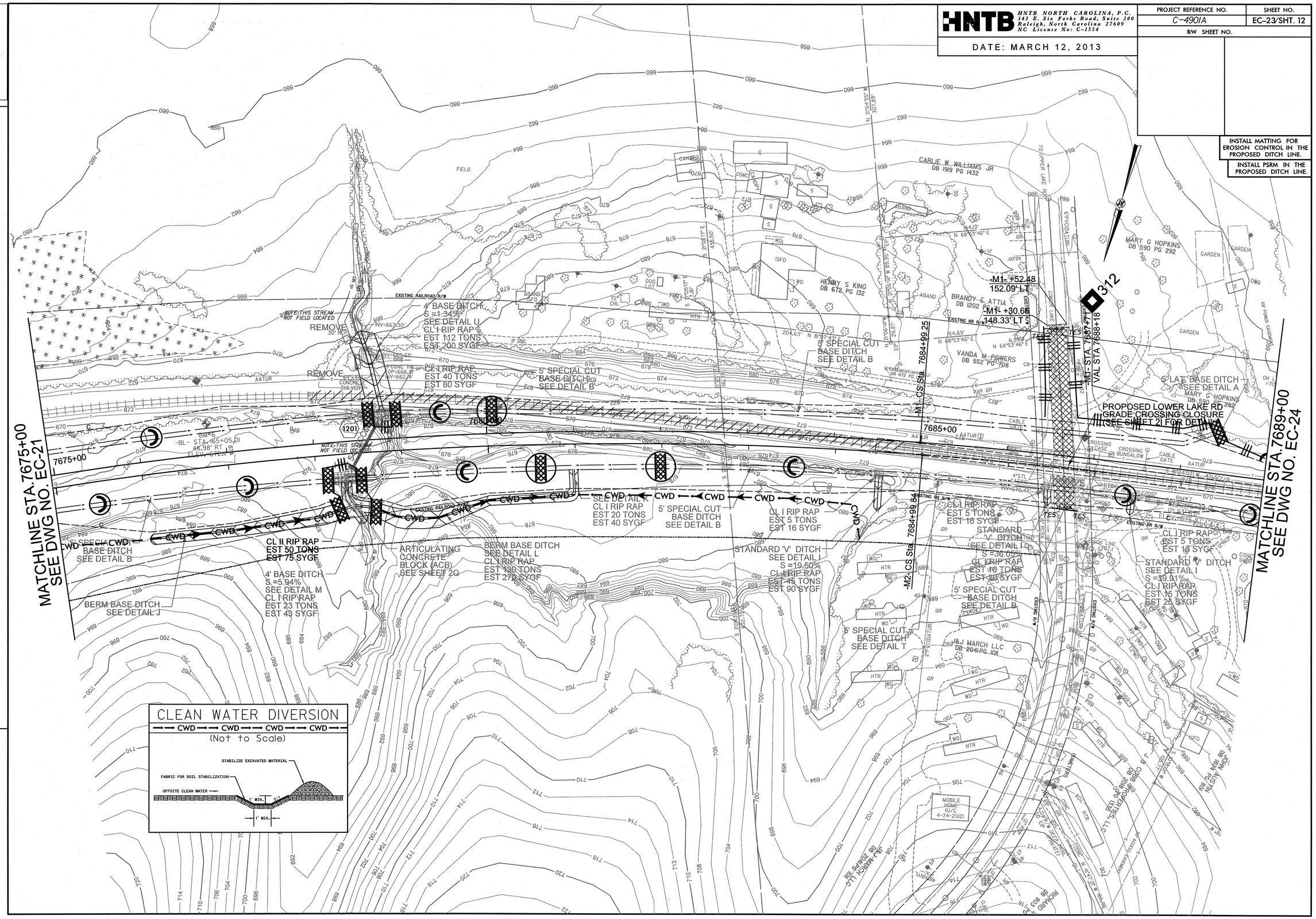
Raleigh, North Carolina 27609
NC License No: C-1554

DATE: MARCH 12, 2013

PROJECT REFERENCE NO.	SHEET NO.
C-4901A	EC-23/SHT. 12
R/W SHEET NO.	

INSTALL MATTING FOR EROSION CONTROL IN THE PROPOSED DITCH LINE.

INSTALL PSRM IN THE PROPOSED DITCH LINE.



0248DEL_P10C1

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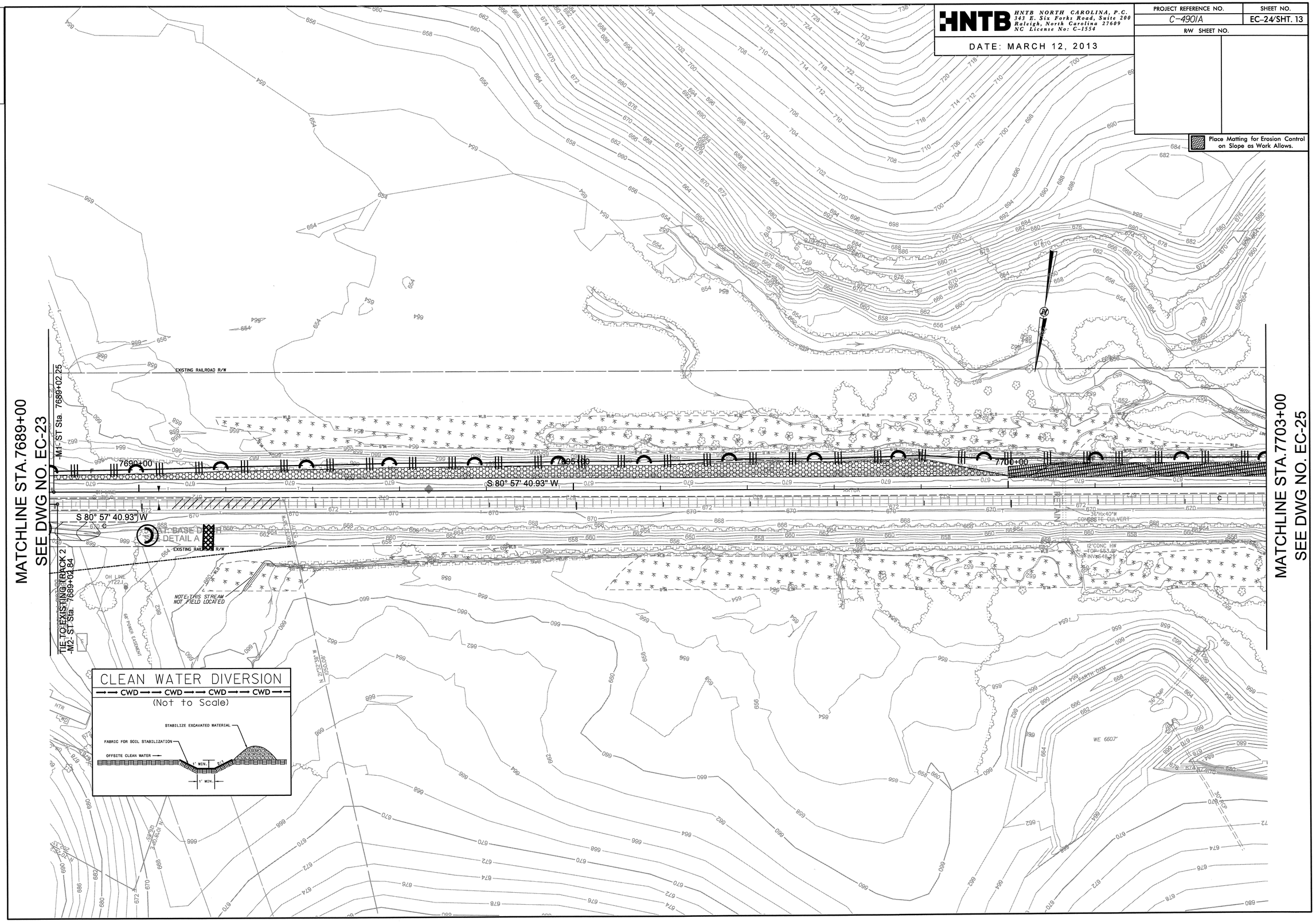
Raleigh, North Carolina 27609
NC License No: C-1554

DATE: MARCH 12, 2013

PROJECT REFERENCE NO.	SHEET NO.
C-4901A	EC-24/SHT. 13
R/W SHEET NO.	

Place Matting for Erosion Control on Slope as Work Allows.



0248DEL_P10C1

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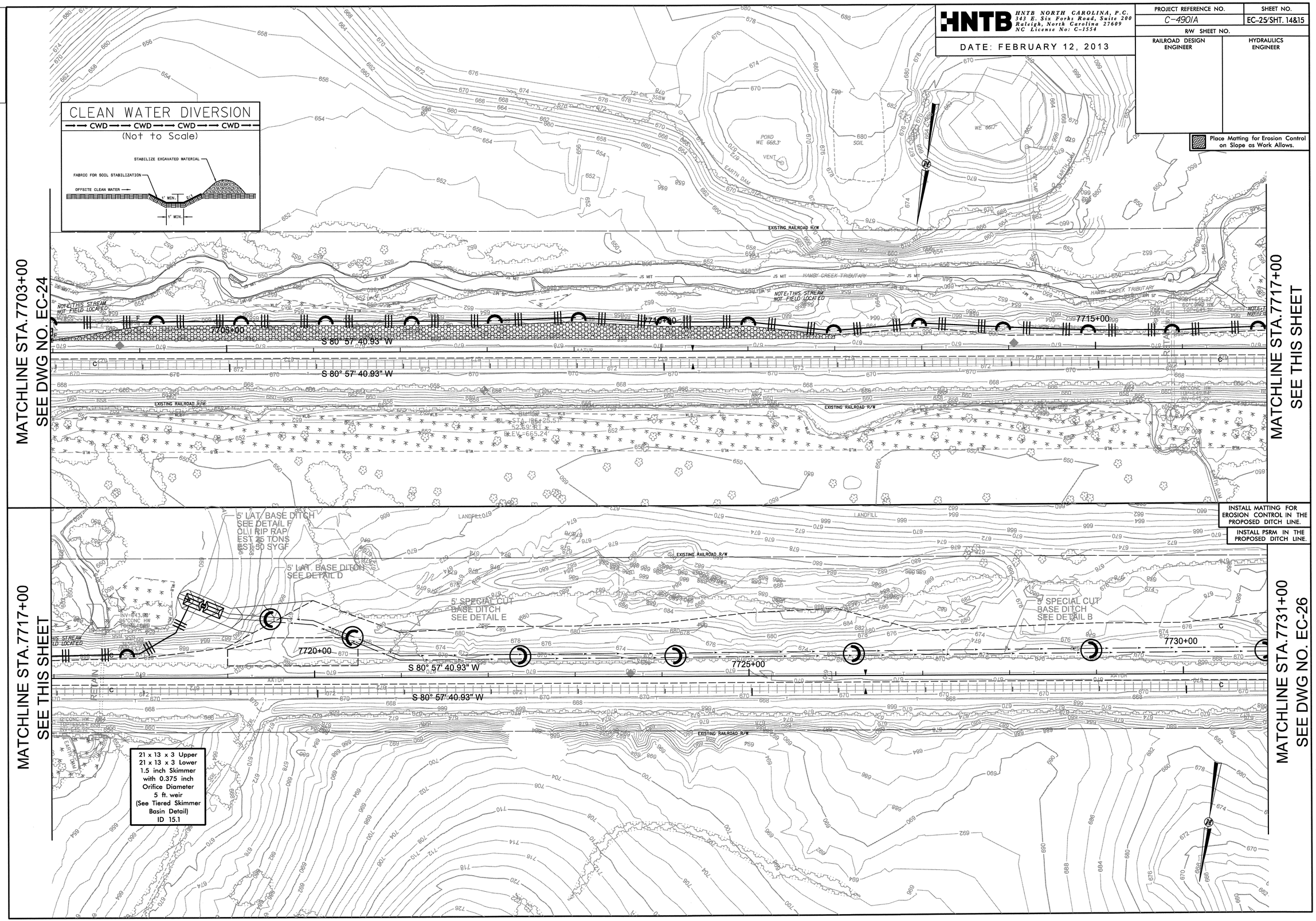
Raleigh, North Carolina 27609
NC License No: C-1554

DATE: FEBRUARY 12, 2013

PROJECT REFERENCE NO.	SHEET NO.
C-4901A	EC-25/SHT. 14&15
R/W SHEET NO.	
RAILROAD DESIGN ENGINEER	HYDRAULICS ENGINEER

Place Matting for Erosion Control on Slope as Work Allows.



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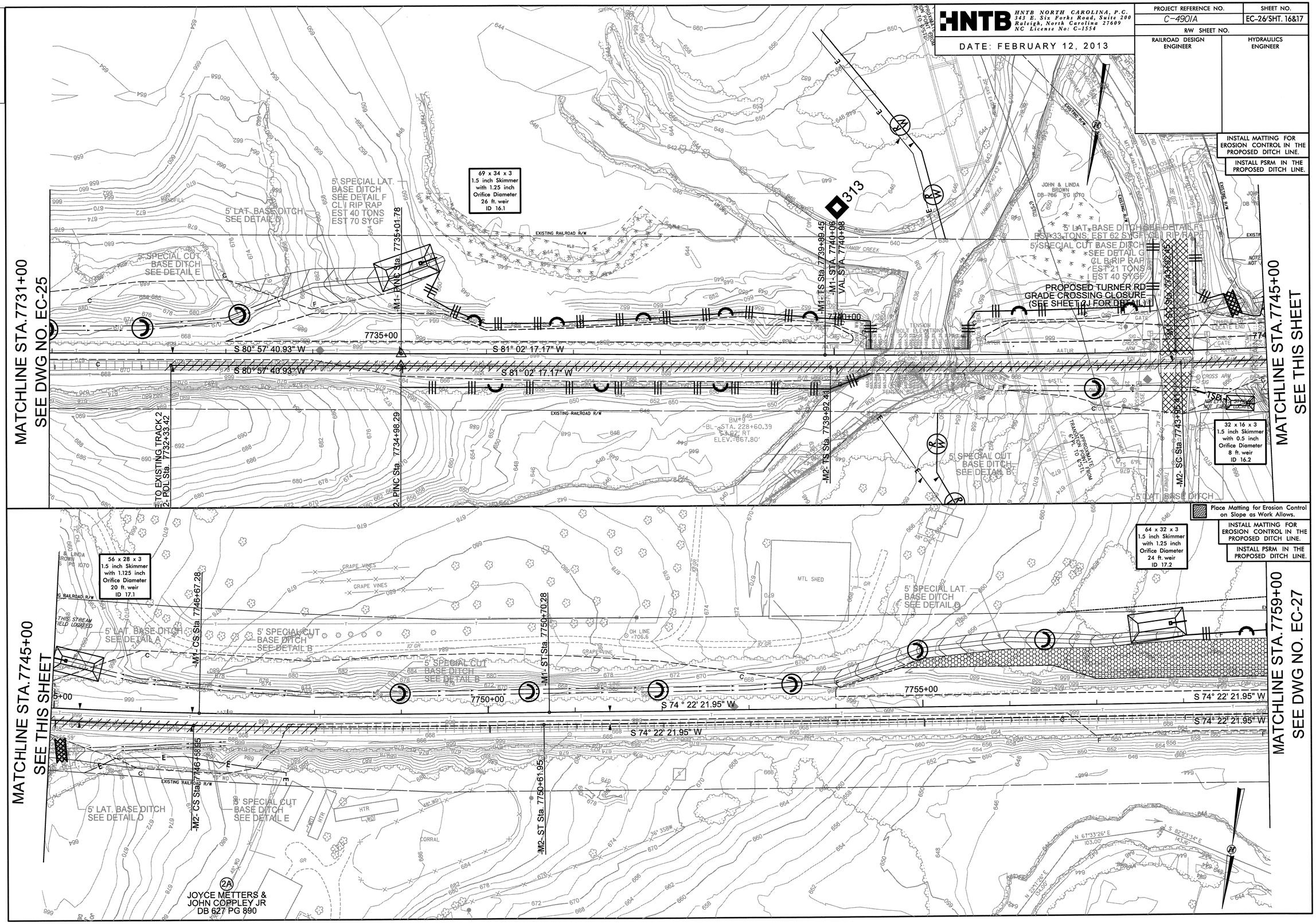
Raleigh, North Carolina 27609
NC License No: C-1554

DATE: FEBRUARY 12, 2013

PROJECT REFERENCE NO.	SHEET NO.
C-4901A	EC-26/SHT. 16&17
R/W SHEET NO.	
RAILROAD DESIGN ENGINEER	HYDRAULICS ENGINEER

INSTALL MATTING FOR EROSION CONTROL IN THE PROPOSED DITCH LINE.

INSTALL PSRM IN THE PROPOSED DITCH LINE.



Place Matting for Erosion Control on Slope as Work Allows.

INSTALL MATTING FOR EROSION CONTROL IN THE PROPOSED DITCH LINE.

INSTALL PSRM IN THE PROPOSED DITCH LINE.

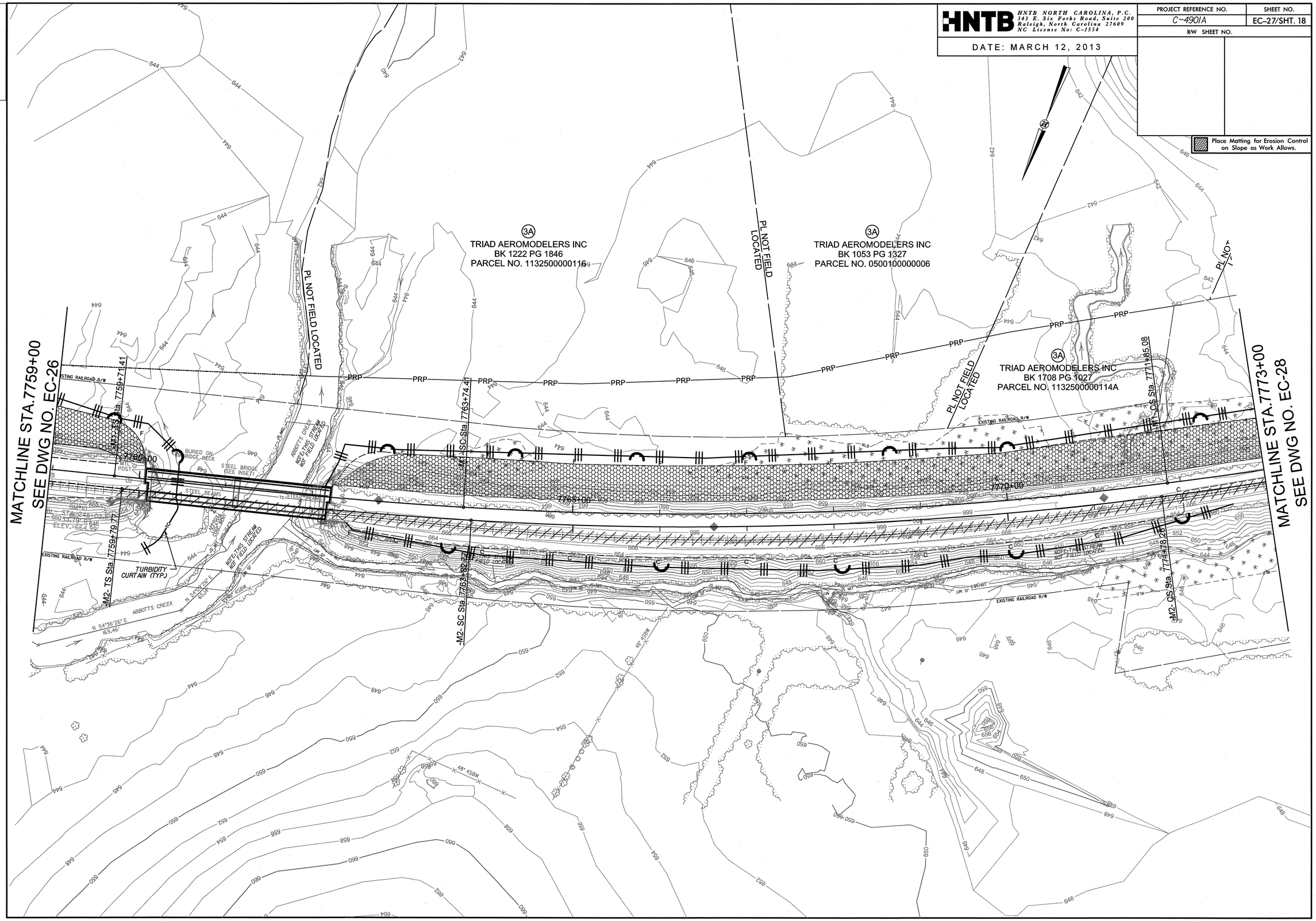
0248DEL_P10C1

HNTB NORTH CAROLINA, P.C.
343 E. Six Forks Road, Suite 200
Raleigh, North Carolina 27609
NC License No: C-1554

DATE: MARCH 12, 2013

PROJECT REFERENCE NO.	SHEET NO.
C-4901A	EC-27/SHT. 18
R/W SHEET NO.	

Place Matting for Erosion Control on Slope as Work Allows.



0248DEL_P10c1
0001ADD_P10c1

REVISIONS

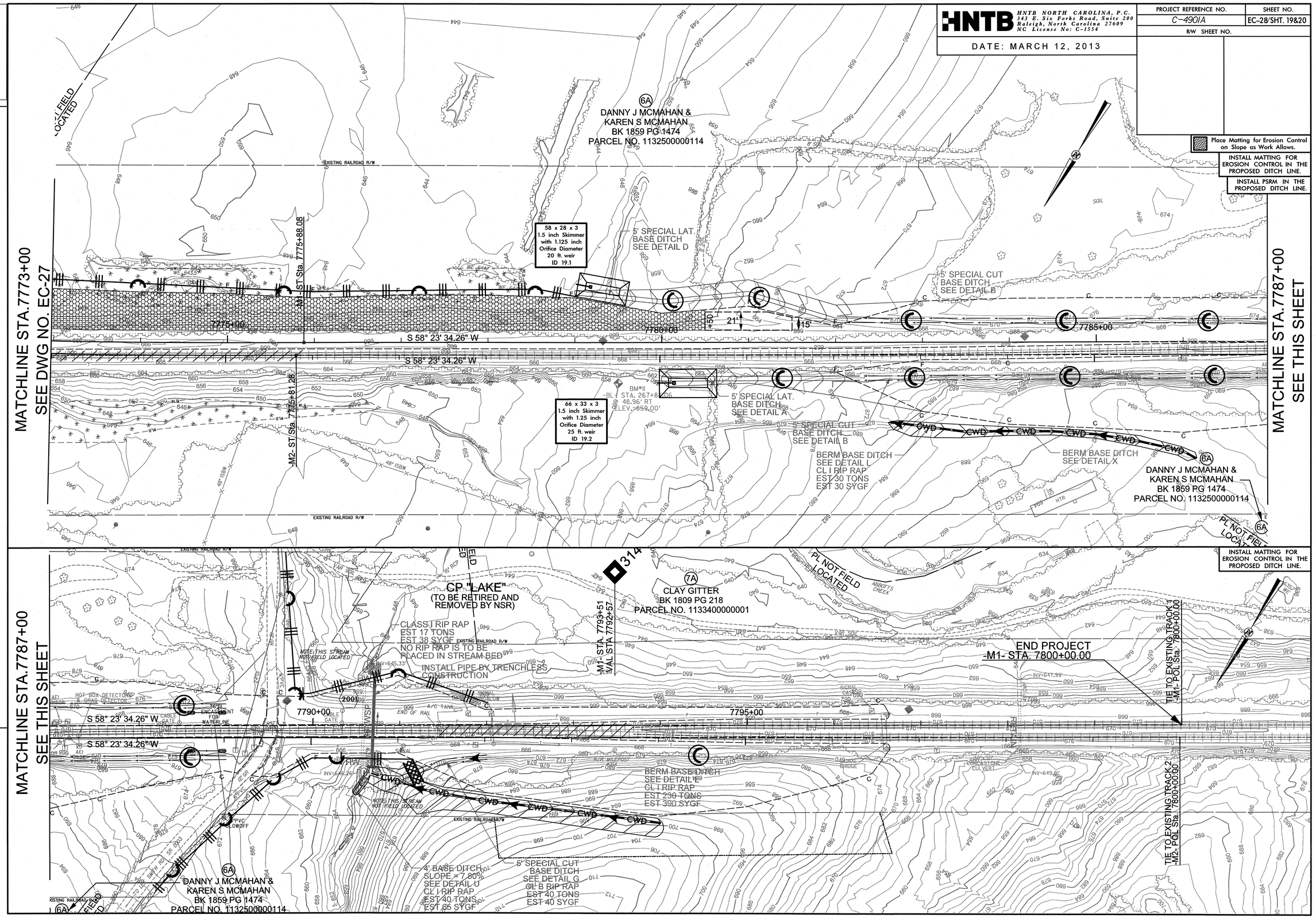
REVISION #1 DATED 06/13: PRIVATE GRADE CROSSING TO REMAIN. NOTE REMOVED.

HNTB NORTH CAROLINA, P.C.
343 E. Six Forks Road, Suite 200
Raleigh, North Carolina 27609
NC License No: C-1554

DATE: MARCH 12, 2013

PROJECT REFERENCE NO.	SHEET NO.
C-4901A	EC-28/SHT. 19&20
R/W SHEET NO.	

Place Matting for Erosion Control on Slope as Work Allows.

INSTALL MATTING FOR EROSION CONTROL IN THE PROPOSED DITCH LINE.

INSTALL PSRM IN THE PROPOSED DITCH LINE.