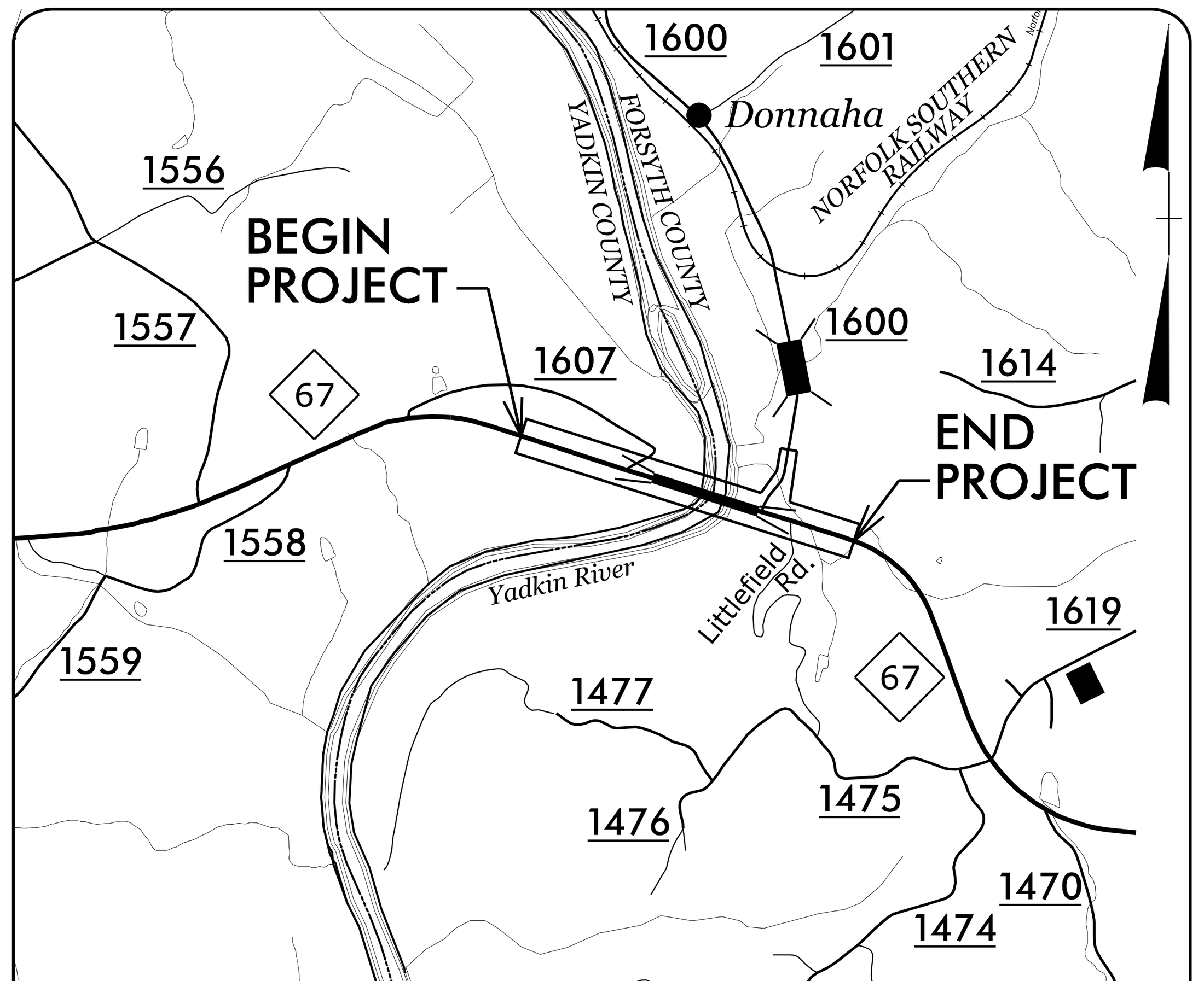
TIP PROJECT: B-5825

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-5825	EC-1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
45778.1.1	N/A	PE
45778.2.1	N/A	R/W & UTIL



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

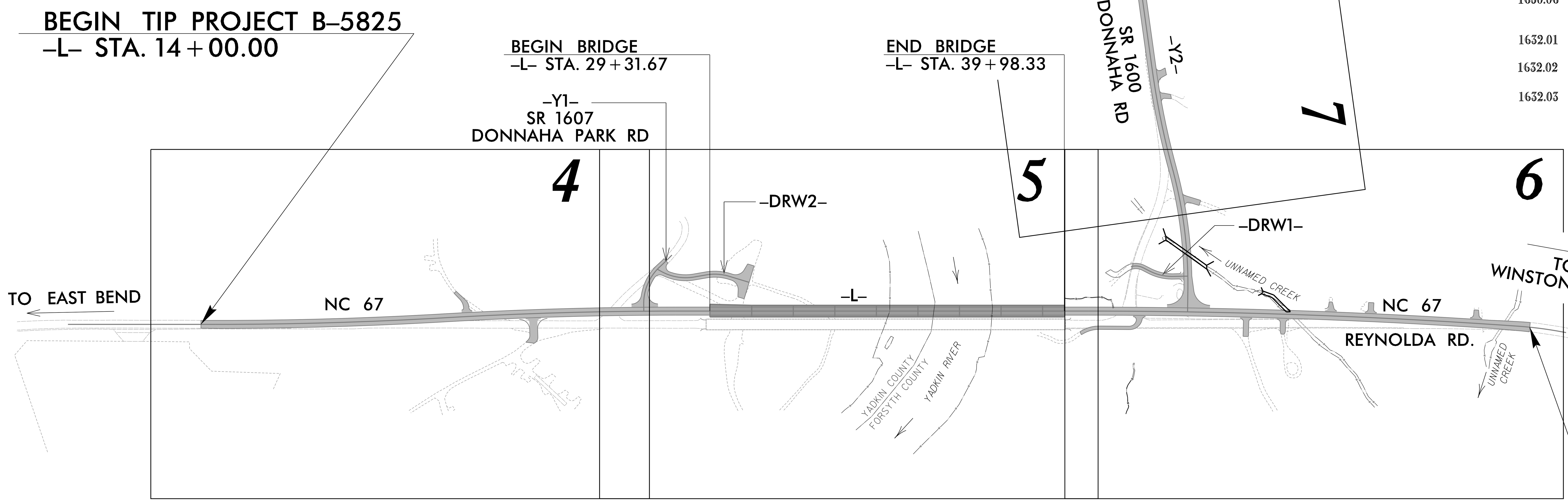
PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL

YADKIN & FORSYTH COUNTIES

LOCATION: REPLACE BRIDGE NO. 35 OVER THE YADKIN RIVER ON NC 67

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

NAD 83/ NA 2011



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	

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

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 APPLICABLE REGULATIONS SET FORTH BY THE NCG-010000 GENERAL CONSTRUCTION PERMIT EFFECTIVE APRIL 1, 2019 AND ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY DIVISION OF WATER RESOURCES.

TGS ENGINEERS

Prepared in the Office of:

TGS ENGINEERS

706 HILLSBOROUGH ST., SUITE 200
RALEIGH, NC 27603

Designed by:

BEN HENEGAR, PE — ***3564***

NAME — *LEVEL III CERTIFICATION NO.*

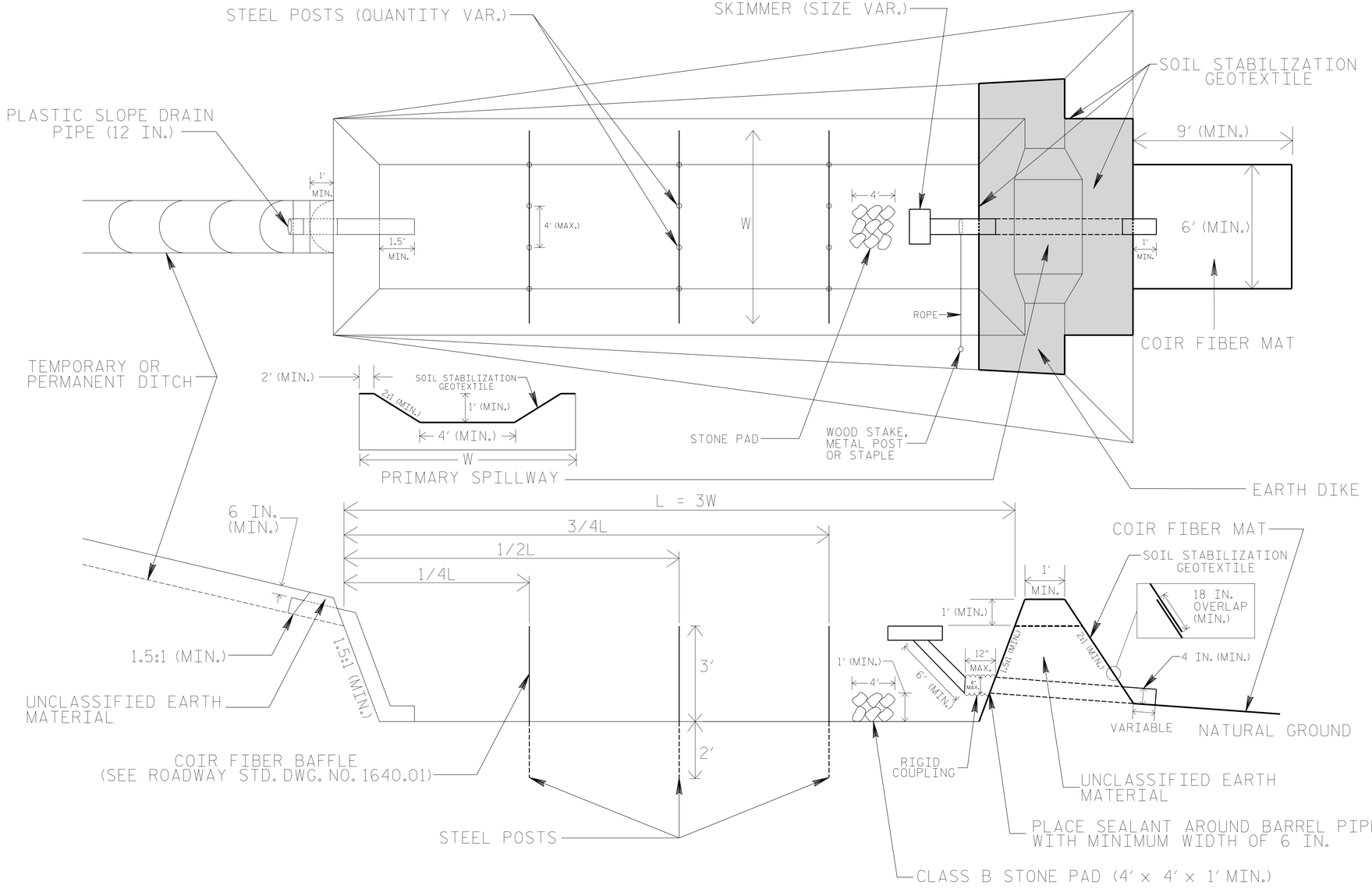
Roadway Standard Drawings

The following roadway english standards as appear in "Roadway Standard Drawings"– Roadway Design Unit – N. C. Department of Transportation – Raleigh, N. C., dated January 2018 and the latest revison thereto are applicable to this project and by reference hereby are considered a part of these plans.

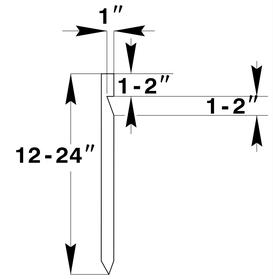
1604.01 Railroad Erosion Control Detail
1605.01 Temporary Silt Fence
1606.01 Special Sediment Control Fence
1607.01 Gravel Construction Entrance
1622.01 Temporary Berms and Slope Drains
1630.01 Riser Basin
1630.02 Silt Basin Type B
1630.03 Temporary Silt Ditch
1630.04 Stilling Basin
1630.05 Temporary Diversion
1630.06 Special Stilling Basin
1631.01 Matting Installation
1632.01 Rock Inlet Sediment Trap Type A
1632.02 Rock Inlet Sediment Trap Type B
1632.03 Rock Inlet Sediment Trap Type C
1633.01 Temporary Rock Silt Check Type A
1633.02 Temporary Rock Silt Check Type B
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
1640.01 Coir Fiber Baffle
1645.01 Temporary Stream Crossing

PROJECT REFERENCE NO.	SHEET NO.
B-5825	EC-2
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

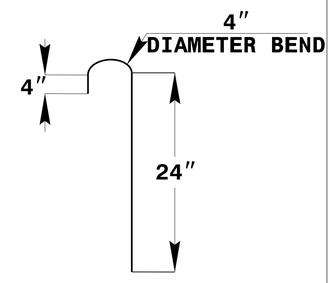
SKIMMER BASIN WITH BAFFLES DETAIL



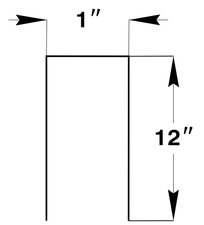
2" x 2" (nominal) WOODEN STAKE



#10 STEEL REINFORCEMENT BAR



1" (nominal) STAPLE



COIR FIBER MAT ANCHOR OPTIONS

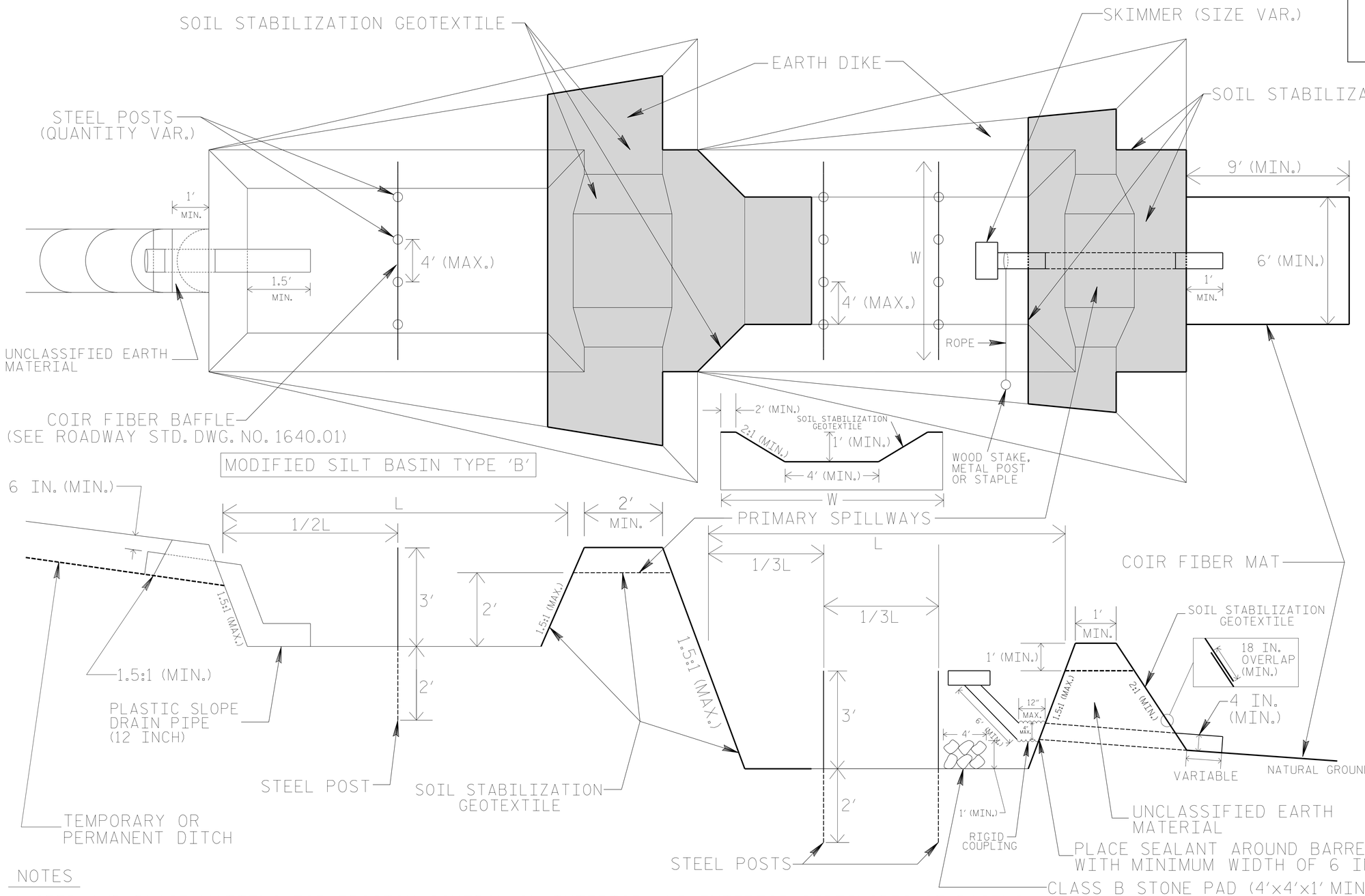
NOTES

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.).

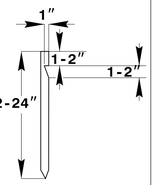
NOT TO SCALE

PROJECT REFERENCE NO.	SHEET NO.
B-5825	EC-2A
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

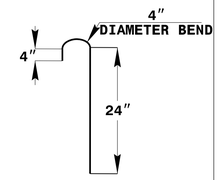
TIERED SKIMMER BASIN DETAIL



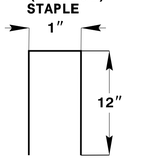
2" x 2" (nominal) WOODEN STAKE



#10 STEEL REINFORCEMENT BAR



1" (nominal) STAPLE



COIR FIBER MAT ANCHOR OPTIONS

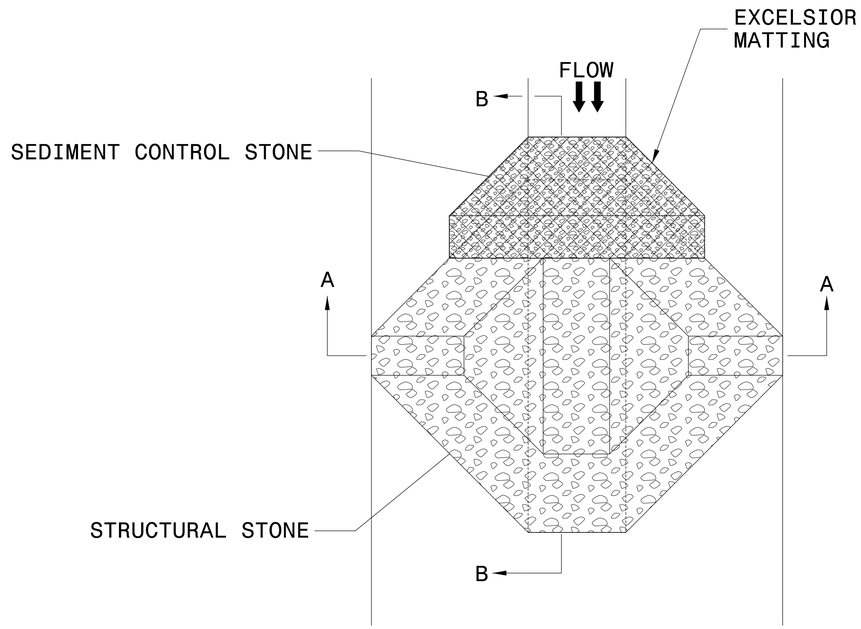
NOTES

1. SEED AND PLACE MATTING FOR EROSION CONTROL ON INTERIOR AND EXTERIOR SIDESLOPES 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 PRIMARY SPILLWAY WEIR LENGTHS (FT.) USING Q/0.8, WHERE Q IS FLOW RATE (CFS) INTO UPPER BASIN.
6. SOIL STABILIZATION GEOTEXTILE FOR PRIMARY SPILLWAYS SHALL BE ONE CONTINUOUS PIECE OF MATERIAL OR OVERLAPPED 18 IN. (MIN.).

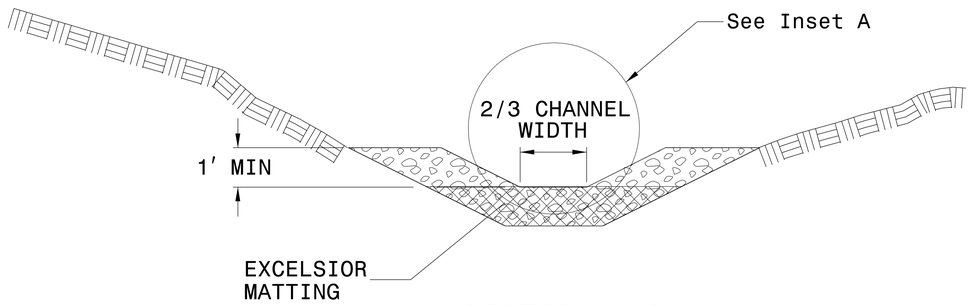
NOT TO SCALE

PROJECT REFERENCE NO.	SHEET NO.
B-5825	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

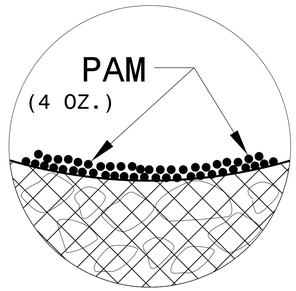
NOTES:

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

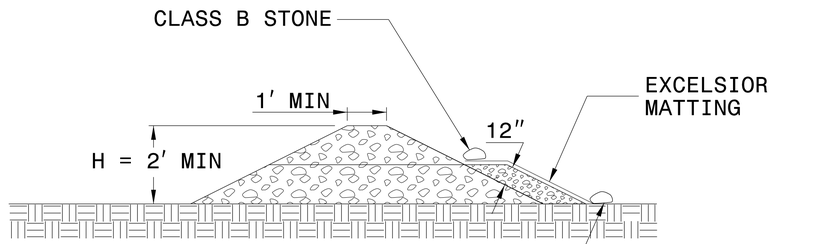
USE EXCELSIOR FOR MATTING MATERIAL AND ANCHOR MATTING SECTION AT TOP AND BOTTOM WITH CLASS B STONE.

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

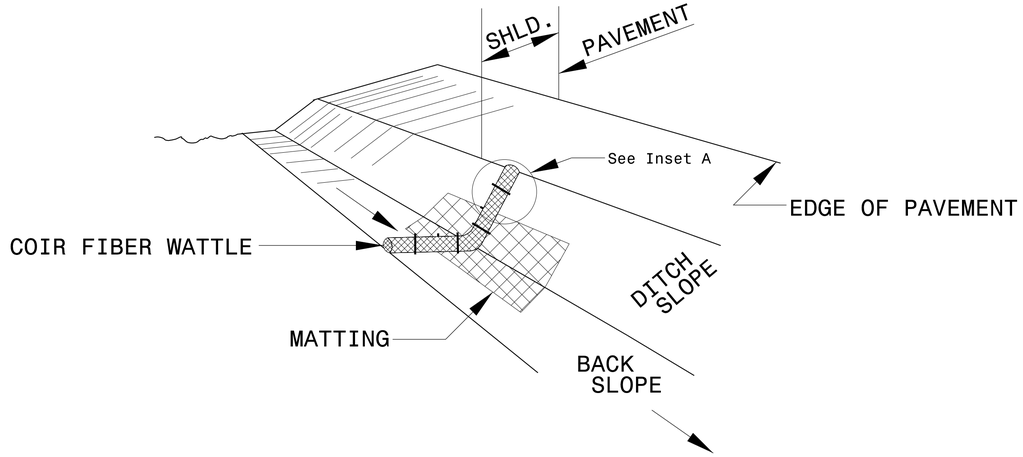


SECTION B-B

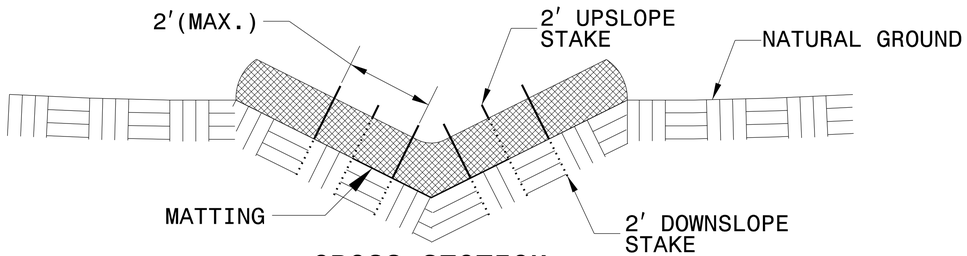
NOT TO SCALE

PROJECT REFERENCE NO.	SHEET NO.
B-5825	EC-2C
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

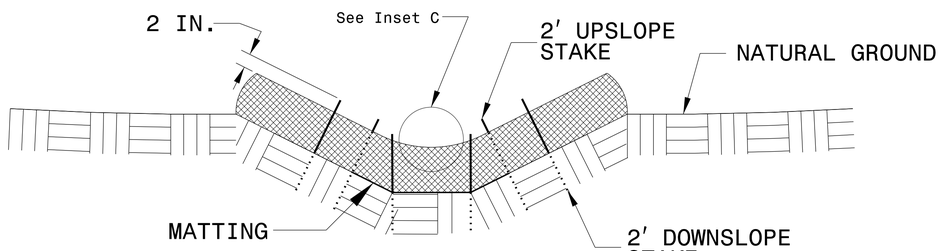
COIR FIBER WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL



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.

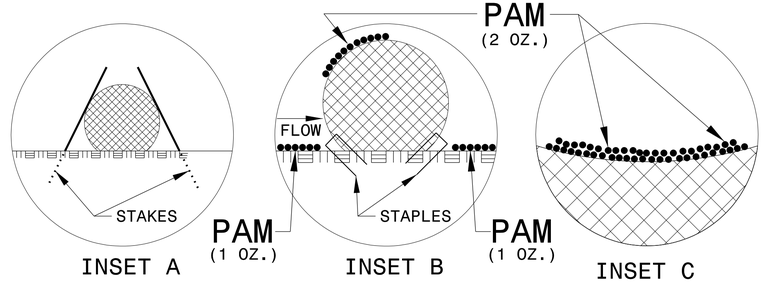
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12″ IN LENGTH.

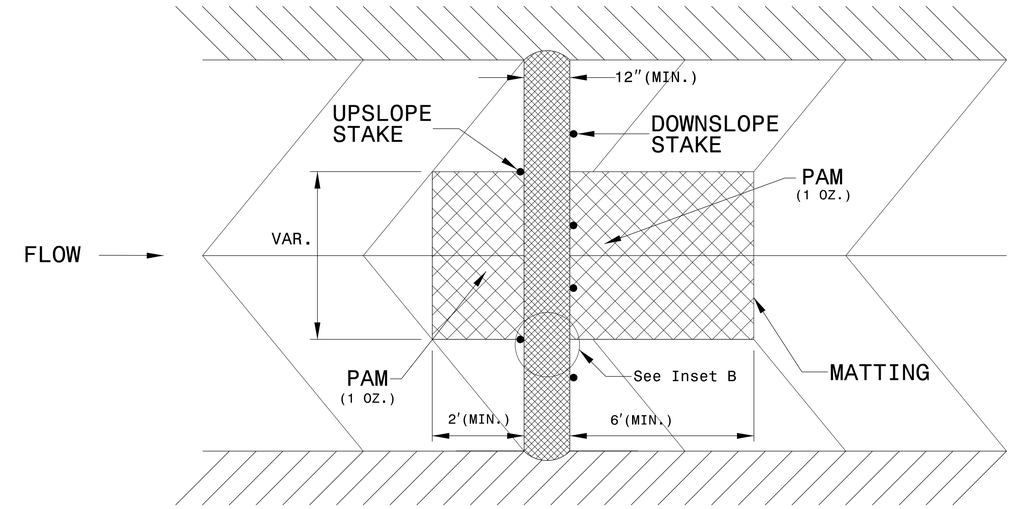
INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

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.
B-5825	EC-3
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.
B-5825	EC-3A

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)
4	-L- DITCH	14+00	17+50	LT	835
4	-L- DITCH	14+00	17+50	RT	790
4	-L- CUT SLOPE	14+00	18+00	LT	1325
4	-L- FILL SLOPE	18+00	21+75	LT	1535
4,5	-L- DITCH	22+50	26+65	LT	945
4,5	-L- CUT SLOPE	22+50	26+65	LT	830
5	-L- FILL SLOPE	27+50	29+30	LT	725
5,6	-L- FILL SLOPE	40+00	41+80	LT	980
5,6	-L- FILL SLOPE	40+00	41+00	RT	190
6	-L- DITCH	42+50	-	LT	60
6	-L-, -Y2-, -DRW1- DITCH	-L- 43+00 LT	-DRW1- 10+50 RT	-	180
6	-Y2- FILL SLOPE	18+50	21+00	LT	955
6	-Y2- FILL SLOPE	18+00	20+45	RT	710
6,7	-Y2- DITCH	15+50	17+50	LT	295
6,7	-Y2- CUT SLOPE	15+25	18+30	LT	670
6	-L- FILL SLOPE	45+90	47+00	LT	490
6	-L- DITCH	48+15	49+00	LT	230
6	-L- DITCH	50+00	52+00	LT	840
6	-L- CUT SLOPE	50+00	52+00	LT	755
6	-Y2- CUT SLOPE	18+00	19+50	RT	650
				SUBTOTAL	13,990
MISCELLANEOUS MATTING TO BE INSTALLED AS DIRECTED BY THE ENGINEER					11,155
				TOTAL	25,145
				SAY	25,200

MATTING FOR EROSION CONTROL

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
B-5825	EC-04/CONST.04
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 04

TGS ENGINEERS
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

NAD 83 NA 2011

BEGIN TIP PROJECT B-5825
-L- POT Sta. 14+00.00

-L- PI Sta. 17+89.96
Δ = 3° 18' 30.4" (LT)
D = 0° 28' 38.9"
L = 692.92'
T = 346.55'
R = 12,000.00'
SE = NC

-L- PI Sta. 24+82.87
Δ = 3° 18' 30.4" (RT)
D = 0° 28' 38.9"
L = 692.92'
T = 346.55'
R = 12,000.00'
SE = NC

-L- PC Sta. 14+43.40

-L- PRC Sta. 21+36.32

25 x 15 x 3
1.5 inch Skimmer
with 0.625 inch
Orifice Diameter
4 ft. weir
(See Tiered Skimmer
Basin Detail)
ID 4.3

Modified Silt Basin
Type 'B'
25 x 15 x 3
4 ft. weir
(See Tiered Skimmer
Basin Detail)
ID 4.3

CLASS 'I' RIP-RAP
W/GEOTEXTILE FABRIC
AT TEMP PIPE OUTLET
4' STD. BASE DITCH
SEE DETAIL 5
CLASS 'I' RIP-RAP
EST. 50 TONS
GEOTEXTILE
EST. 90 SY
S=4.0%
L=40'
EST. 30 CY DDE

18 INCH
TEMPORARY
PIPE

40 x 20 x 3
ID 4.1

2' LAT. BASE DITCH
SEE DETAIL 2
CLASS 'I' RIP-RAP
EST. 180 TONS
GEOTEXTILE
EST. 340 SY
EST. 650 CY DDE

18" CSP W/ROD &
LUG, GASKETS
& 2 ELBOWS

INV=765.2

BEGIN SBG
-L- Y=773.21 LT
RIM=799.2
INV=796.2

15" CSP W/ ROD &
LUG, GASKETS,
& 2 ELBOWS
RIM=788.4
INV=785.4

INV=775.9

18 INCH
TEMPORARY
PIPE FOR CWD

TEMP. JB
W/SLAB LID
FOR CWD

TIE EXIST. DITCH
TO TYP. CUT DITCH
S=3.5%
L=50'

TIE TYP. CUT DITCH
TO EXIST. DITCH
S=2.0%
L=70'

END SBG
-L- 21+36.32 LT

S 72° 19' 29.2" E

APPROX. 300 LF
72" CHL W/RZR WIRE
FENCE RESET

INV=800.0
INV=797.0

REMOVE
CONC.
DITCH

INV=761.9

RETAIN EXIST.
18 INCH PIPE
FOR CWD

TIE EXIST. DITCH
TO TYP. CUT DITCH
S=3.0%
L=50'

50' TAPER

FALSE SUMP
SEE DETAIL 7

15" CSP W/ ROD &
LUG, GASKETS,
& 2 ELBOWS

INV=764.8

CLASS 'I' RIP-RAP
W/GEOTEXTILE FABRIC
AT TEMP PIPE OUTLET

40 x 20 x 3
ID 4.2

18 INCH
TEMPORARY
PIPE

2' LAT. BASE DITCH
SEE DETAIL 4
CLASS 'I' RIP-RAP
EST. 40 TONS
GEOTEXTILE
EST. 70 SY
S=1.0%
L=30'
EST. 30 CY DDE

VAR. WIDTH BASE DITCH
SEE DETAIL 4
CLASS 'I' RIP-RAP
EST. 30 TONS
GEOTEXTILE
EST. 60 SY
EST. 60 CY DDE

CLASS 'I' RIP-RAP
W/GEOTEXTILE FABRIC
AT TEMP PIPE OUTLET

TRENCHLESS
CONSTRUCTION

1 DONNA B LOVE
DB 547 PG 146
PB 2 PG 36

1A DONNA B LOVE
DB 547 PG 148
PB 2 PG 36

2 ALTON GEORGE
DB 1155 PG 72

3 G & E WHITE, LLC
DB 1242 PG 494

4 HUBBARD REALTY OF
WINSTON SALEM INC
DB 116 PG 727
PB 2 PG 36

5 STATE OF NORTH CAROLINA
DB 71 PG 589

MATCHLINE -L- STA. 26+50.00
SEE SHEET 05

NOTE:
UTILIZE TEMPORARY SEDIMENT BASIN OR SPECIAL STILLING BASIN(S) AS STILLING BASIN WHERE APPLICABLE.

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

DETAIL 2
LATERAL BASE DITCH
(Not to Scale)

Min. D= 2.0 Ft.
Max. d= 2.0 Ft.
B= 2.0 Ft.
b= 5.0 Ft.
*When B is < 6.0'
Type of Liner= Class 'I' Rip-Rap

FROM -L- STA. 19+00 TO STA. 21+50 LT
FROM -L- STA. 19+75 TO STA. 20+19 RT

DETAIL 4
VARIABLE WIDTH STANDARD BASE DITCH
(Not to Scale)

Min. D= 4.0 to 0.0 Ft.
Max. d= 4.0 Ft.
B= 4.0 to 8.0 Ft.
Type of Liner= Class 'I' Rip-Rap

-L- STA. 20+19 RT

DETAIL 5
STANDARD BASE DITCH
(Not to Scale)

Min. D= 2.0 Ft.
Max. d= 2.0 Ft.
B= 4.0 Ft.
*When B is < 6.0'
Type of Liner= ? Rip-Rap

-L- STA. 19+25 LT

DETAIL 6
FALSE SUMP
(Not to Scale)

S=Ditch Slope
℄ Proposed Ditch

-L- STA. 17+83 LT

DETAIL 7
FALSE SUMP
(Not to Scale)

S=Ditch Slope
℄ Proposed Ditch

-L- STA. 17+65 RT

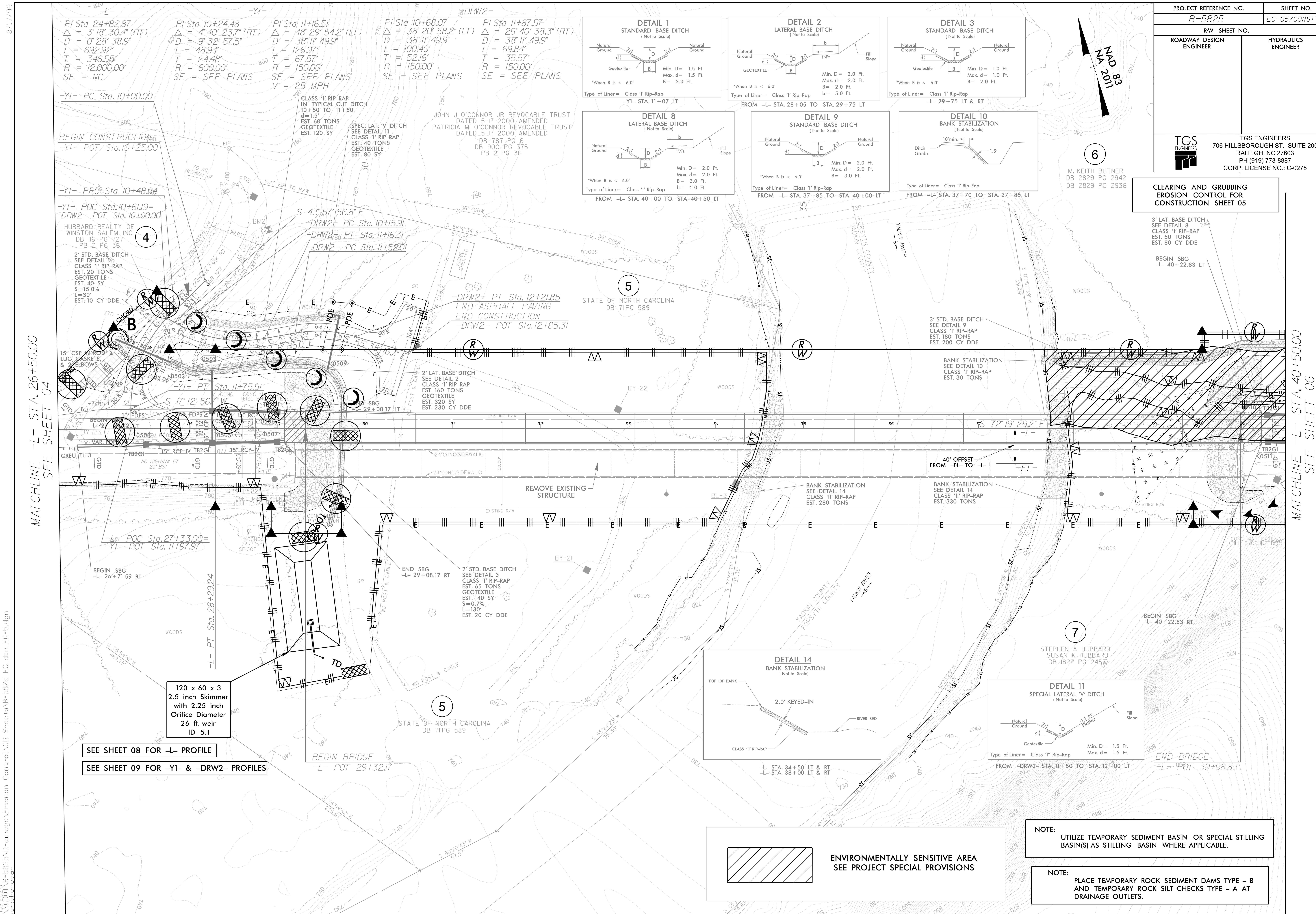
SEE SHEET 08 FOR -L- PROFILE

4/23/2020
X:\NCDOT\B-5825\Drainage\Erosion Control\CG Sheets\B-5825_EC_dsn_EC-4.dgn
User:thenson

PROJECT REFERENCE NO.	SHEET NO.
B-5825	EC-05/CONST.05
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

TGS ENGINEERS
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 05



-L-
PI Sta 24+82.87
Δ = 3° 18' 30.4" (RT)
D = 0° 28' 38.9"
L = 692.92'
T = 346.55'
R = 12,000.00'
SE = NC
-Y1-
PI Sta 10+24.48
Δ = 4° 40' 23.7" (RT)
D = 9° 32' 57.5"
L = 48.94'
T = 24.48'
R = 600.00'
SE = SEE PLANS
PI Sta 11+16.51
Δ = 48° 29' 54.2" (LT)
D = 38° 11' 49.9"
L = 126.97'
T = 67.57'
R = 150.00'
SE = SEE PLANS
V = 25 MPH
-DRW2-
PI Sta 10+68.07
Δ = 38° 20' 58.2" (LT)
D = 38° 11' 49.9"
L = 100.40'
T = 52.16'
R = 150.00'
SE = SEE PLANS
PI Sta 11+87.57
Δ = 26° 40' 38.3" (RT)
D = 38° 11' 49.9"
L = 69.84'
T = 35.57'
R = 150.00'
SE = SEE PLANS
NAD 83 NA 2011
DETAIL 1 STANDARD BASE DITCH (Not to Scale)
-Y1- STA. 11+07 LT
DETAIL 2 LATERAL BASE DITCH (Not to Scale)
FROM -L- STA. 28+05 TO STA. 29+75 LT
DETAIL 3 STANDARD BASE DITCH (Not to Scale)
-L- 29+75 LT & RT
DETAIL 8 LATERAL BASE DITCH (Not to Scale)
FROM -L- STA. 40+00 TO STA. 40+50 LT
DETAIL 9 STANDARD BASE DITCH (Not to Scale)
FROM -L- STA. 37+85 TO STA. 40+00 LT
DETAIL 10 BANK STABILIZATION (Not to Scale)
FROM -L- STA. 37+70 TO STA. 37+85 LT
DETAIL 14 BANK STABILIZATION (Not to Scale)
-L- STA. 34+50 LT & RT
-L- STA. 38+00 LT & RT
DETAIL 11 SPECIAL LATERAL 'V' DITCH (Not to Scale)
FROM -DRW2- STA. 11+50 TO STA. 12+00 LT
-Y1- PC Sta. 10+00.00
BEGIN CONSTRUCTION -Y1- POT Sta. 10+25.00
-Y1- PRC Sta. 10+48.94
-Y1- POC Sta. 10+61.19= -DRW2- POT Sta. 10+00.00
S 43° 57' 56.8" E
-DRW2- PC Sta. 10+15.91
-DRW2- PT Sta. 11+16.31
-DRW2- PC Sta. 11+52.01
-DRW2- PT Sta. 12+21.85
END ASPHALT PAVING
END CONSTRUCTION -DRW2- POT Sta. 12+85.31
-Y1- PT Sta. 11+75.91
-L- POC Sta. 27+33.00= -Y1- POT Sta. 11+97.97
-L- PT Sta. 28+29.24
S 72° 19' 29.2" E
BEGIN BRIDGE -L- POT 29+32.17
END BRIDGE -L- POT 39+98.83
MATCHLINE -L- STA. 26+50.00 SEE SHEET 04
MATCHLINE -L- STA. 40+50.00 SEE SHEET 06
HUBBARD REALTY OF WINSTON SALEM INC DB 116 PG 727 PB 2 PG 36
JOHN J O'CONNOR JR REVOCABLE TRUST DATED 5-17-2000 AMENDED
PATRICIA M O'CONNOR REVOCABLE TRUST DATED 5-17-2000 AMENDED
DB 787 PG 6 DB 900 PG 375 PB 2 PG 36
STATE OF NORTH CAROLINA DB 71PG 589
M. KEITH BUTNER DB 2829 PG 2942 DB 2829 PG 2936
STEPHEN A HUBBARD SUSAN K HUBBARD DB 1822 PG 2453
FORSYTH COUNTY
YADKIN COUNTY
YADKIN RIVER
REMOVE EXISTING STRUCTURE
40' OFFSET FROM -EL- TO -L-
120 x 60 x 3 2.5 inch Skimmer with 2.25 inch Orifice Diameter 26 ft. weir ID 5.1

SEE SHEET 08 FOR -L- PROFILE

SEE SHEET 09 FOR -Y1- & -DRW2- PROFILES

ENVIRONMENTALLY SENSITIVE AREA
SEE PROJECT SPECIAL PROVISIONS

NOTE:
UTILIZE TEMPORARY SEDIMENT BASIN OR SPECIAL STILLING BASIN(S) AS STILLING BASIN WHERE APPLICABLE.

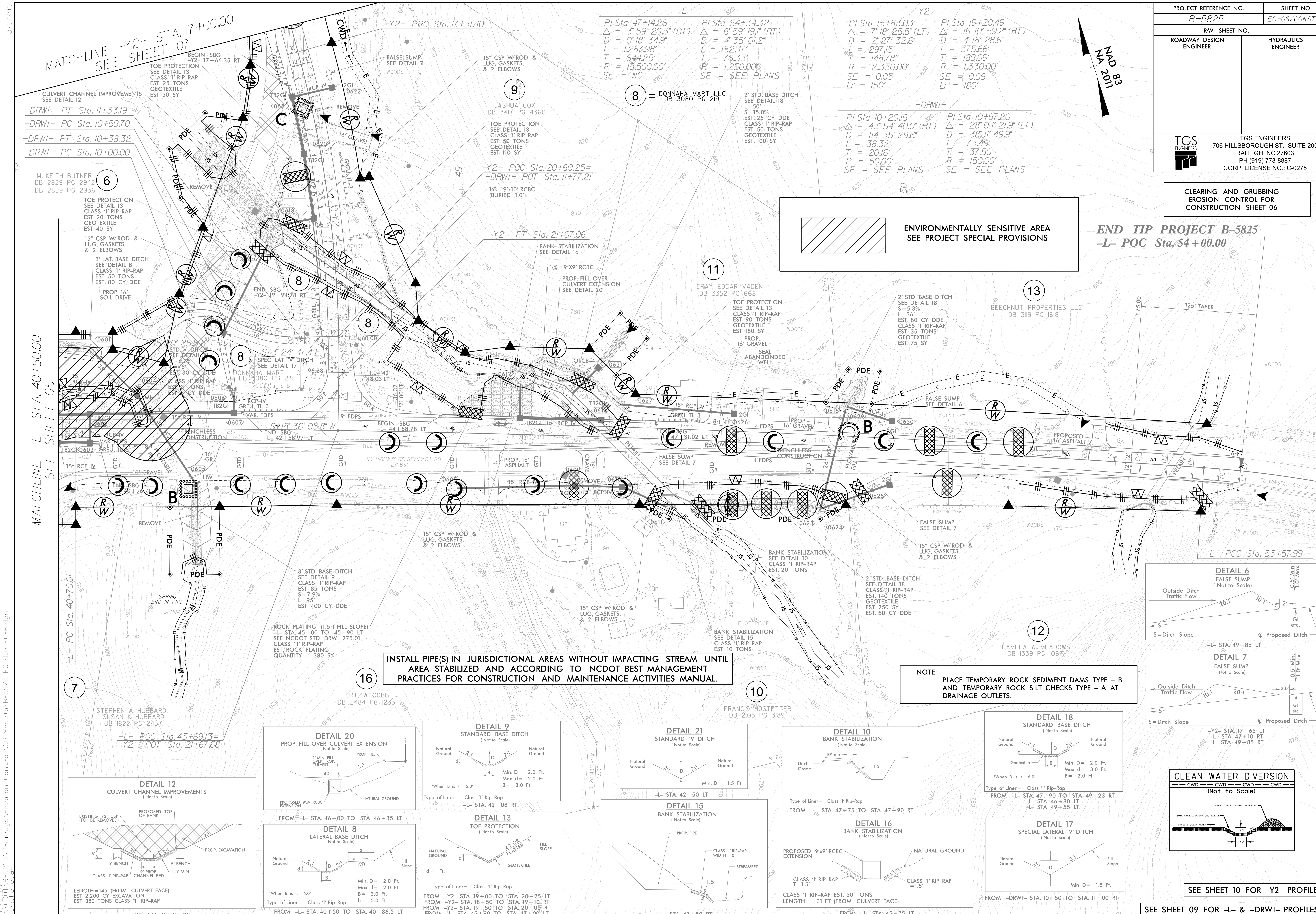
NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE – B AND TEMPORARY ROCK SILT CHECKS TYPE – A AT DRAINAGE OUTLETS.

3/10/2020

PROJECT REFERENCE NO.	SHEET NO.
B-5825	EC-06/CONST.06
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

TGS ENGINEERS
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 06



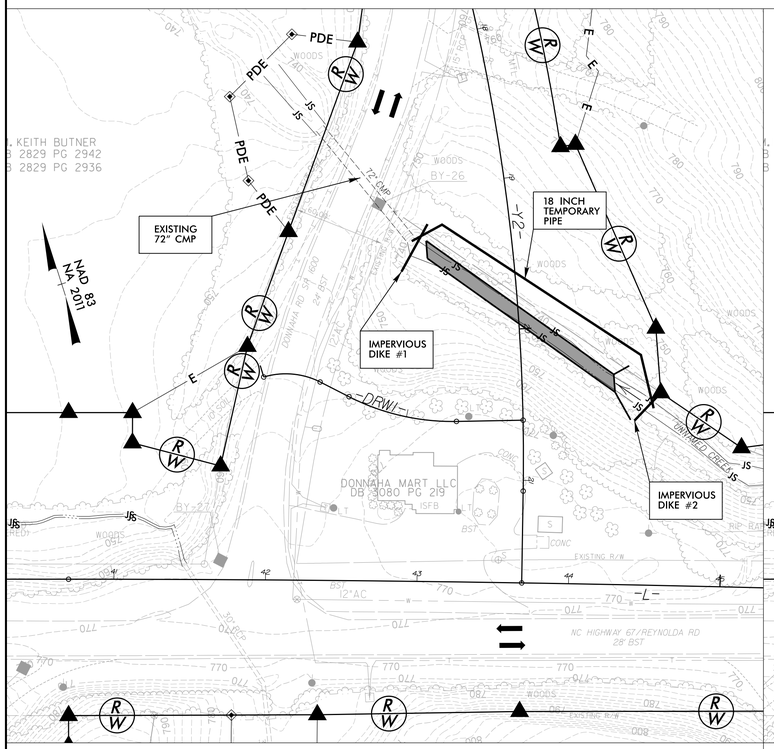
SEE SHEET 10 FOR -Y2- PROFILE
SEE SHEET 09 FOR -L- & -DRW1- PROFILES

8/17/99

B–5825 PROP. 1 @ 9′ X 10′ RCBC PHASING –Y2– 19+91
SR 1600 (DONNAHA RD) OVER UT TO YADKIN RIVER
FORSYTH COUNTY

PROJECT REFERENCE NO.	SHEET NO.
B-5825	EC-6A/CONST.6
R/W SHEET NO.	

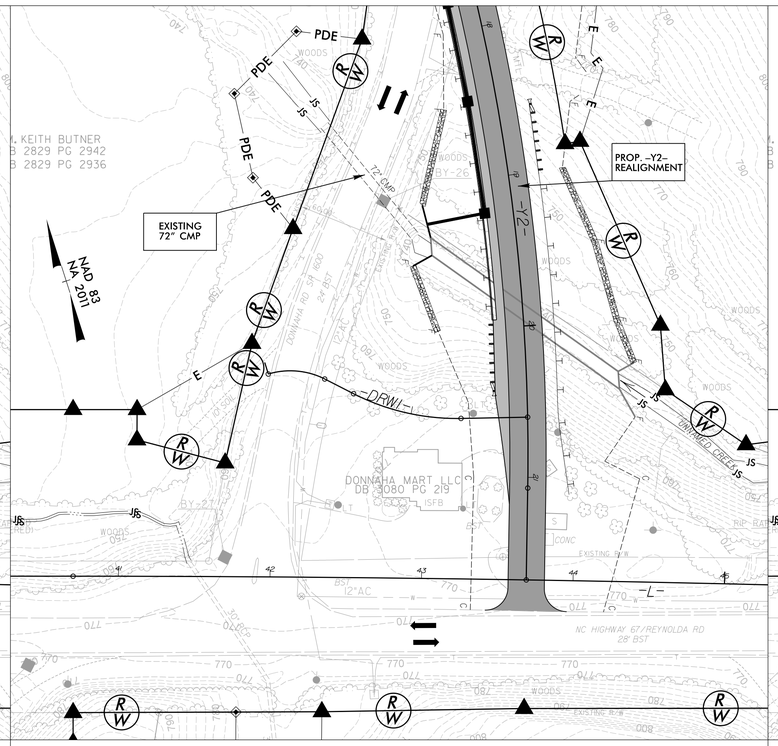
TGS ENGINEERS
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275



PHASE 1

WHILE MAINTAINING TRAFFIC ON EXISTING SR 1600:

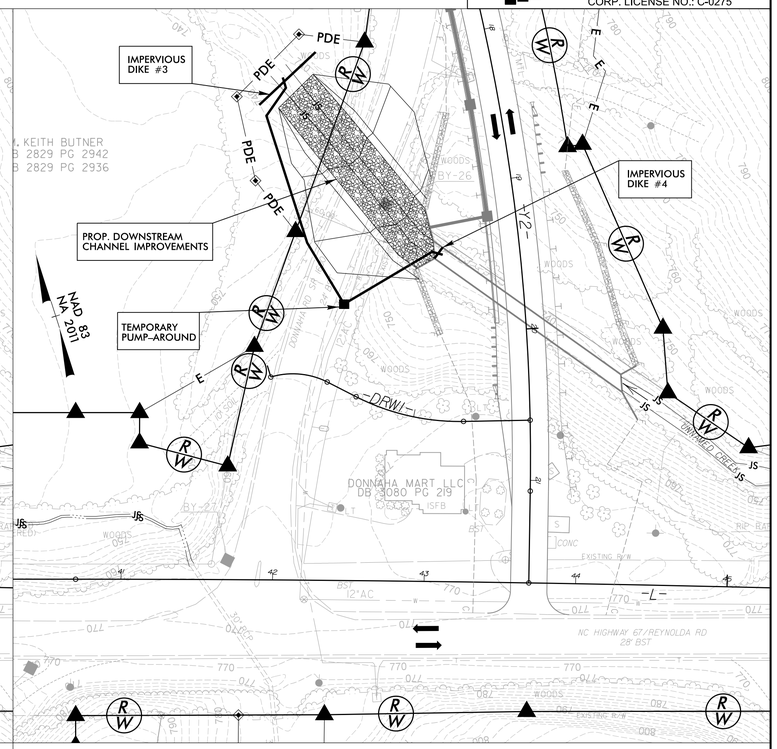
1. INSTALL IMPERVIOUS DIKES #1 & #2, 18 INCH TEMPORARY PIPE, AND SPECIAL STILLING BASIN(S).
2. DEWATER CONSTRUCTION AREAS INTO SPECIAL STILLING BASIN(S) AS REQUIRED.
3. CONSTRUCT PROPOSED 1 @ 9′ X 10′ RCBC & UPSTREAM WINGWALLS.



PHASE 2

WHILE MAINTAINING TRAFFIC ON EXISTING SR 1600:

1. REMOVE IMPERVIOUS DIKES #1 & #2, 18 INCH TEMPORARY PIPE, AND SPECIAL STILLING BASIN(S).
2. ALLOW FLOW THROUGH NEWLY CONSTRUCTED CULVERT.
3. CONSTRUCT PROPOSED DOWNSTREAM CULVERT WINGWALLS.
4. CONSTRUCT PROPOSED –Y2– REALIGNMENT.



PHASE 3

WHILE SHIFTING TRAFFIC TO PROPOSED –Y2– REALIGNMENT:

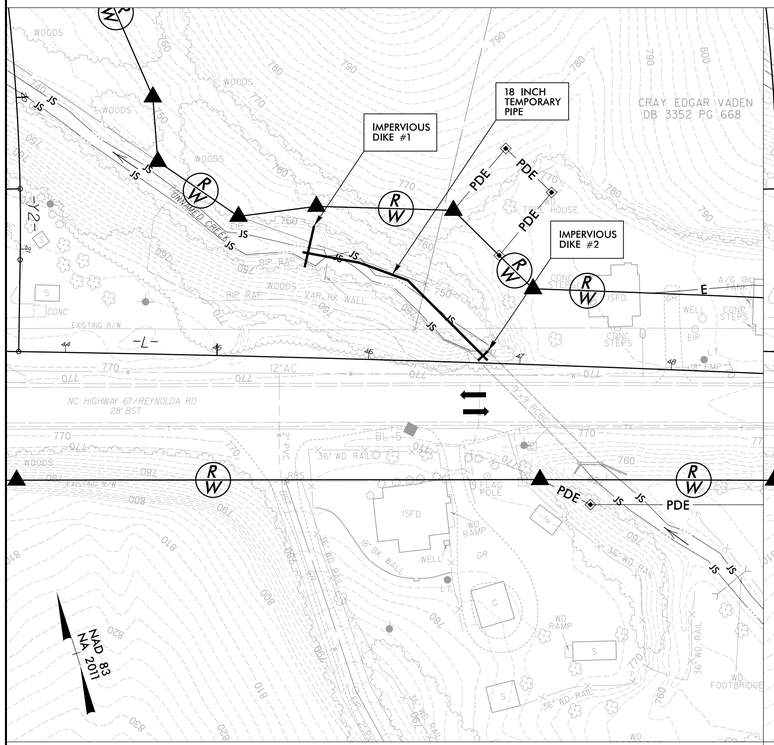
1. INSTALL IMPERVIOUS DIKES #3 & #4, TEMPORARY PUMP–AROUND, AND SPECIAL STILLING BASIN(S).
2. DEWATER CONSTRUCTION AREAS INTO SPECIAL STILLING BASIN(S) AS REQUIRED.
3. REMOVE EXISTING 72″ CMP AND CONSTRUCT PROPOSED DOWNSTREAM CHANNEL IMPROVEMENTS.
4. REMOVE IMPERVIOUS DIKES #3 & #4, TEMPORARY PUMP–AROUND, AND SPECIAL STILLING BASIN(S).

3/10/2020
X:\NCDOT\B-5825\Drainage\Erosion Control\CG Sheets\B-5825_EC_dsn_EC-6A_PHASING.dgn
User:bhenegar

B–5825 PROP. 1 @ 9′ X 9′ RCBC EXTENSION PHASING –L– 46 + 81
NC 67 (REYNOLDA RD) OVER UT TO YADKIN RIVER
FORSYTH COUNTY

PROJECT REFERENCE NO.	SHEET NO.
B-5825	EC-6B/CONST.6
R/W SHEET NO.	

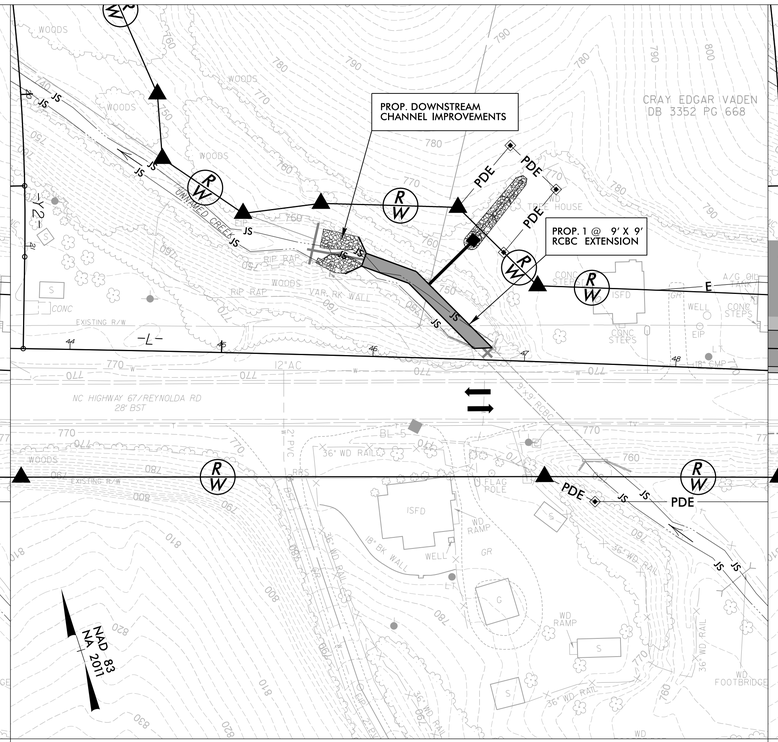
TGS ENGINEERS
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275



PHASE 1

WHILE MAINTAINING TRAFFIC ON EXISTING NC 67:

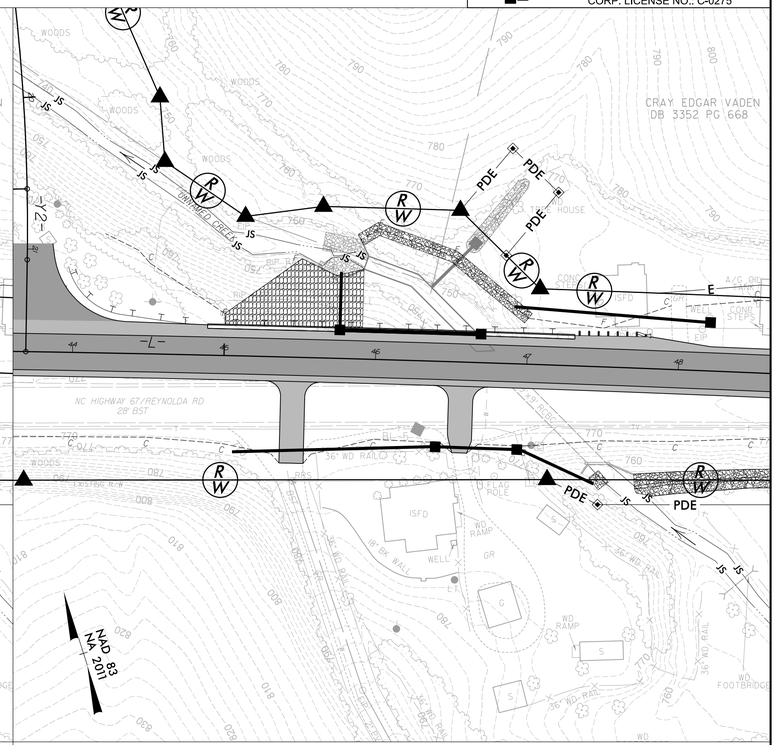
1. INSTALL IMPERVIOUS DIKES #1 & #2, 18 INCH TEMPORARY PIPE, AND SPECIAL STILLING BASIN(S).
2. DEWATER CONSTRUCTION AREAS INTO SPECIAL STILLING BASIN(S) AS REQUIRED.



PHASE 2

WHILE MAINTAINING TRAFFIC ON EXISTING NC 67:

1. REMOVE EXISTING DOWNSTREAM CULVERT WINGWALLS.
2. CONSTRUCT PROPOSED 1 @ 9′ X 9′ RCBC EXTENSION, PROPOSED CULVERT WINGWALLS, & PROPOSED DOWNSTREAM CHANNEL IMPROVEMENTS.



PHASE 3

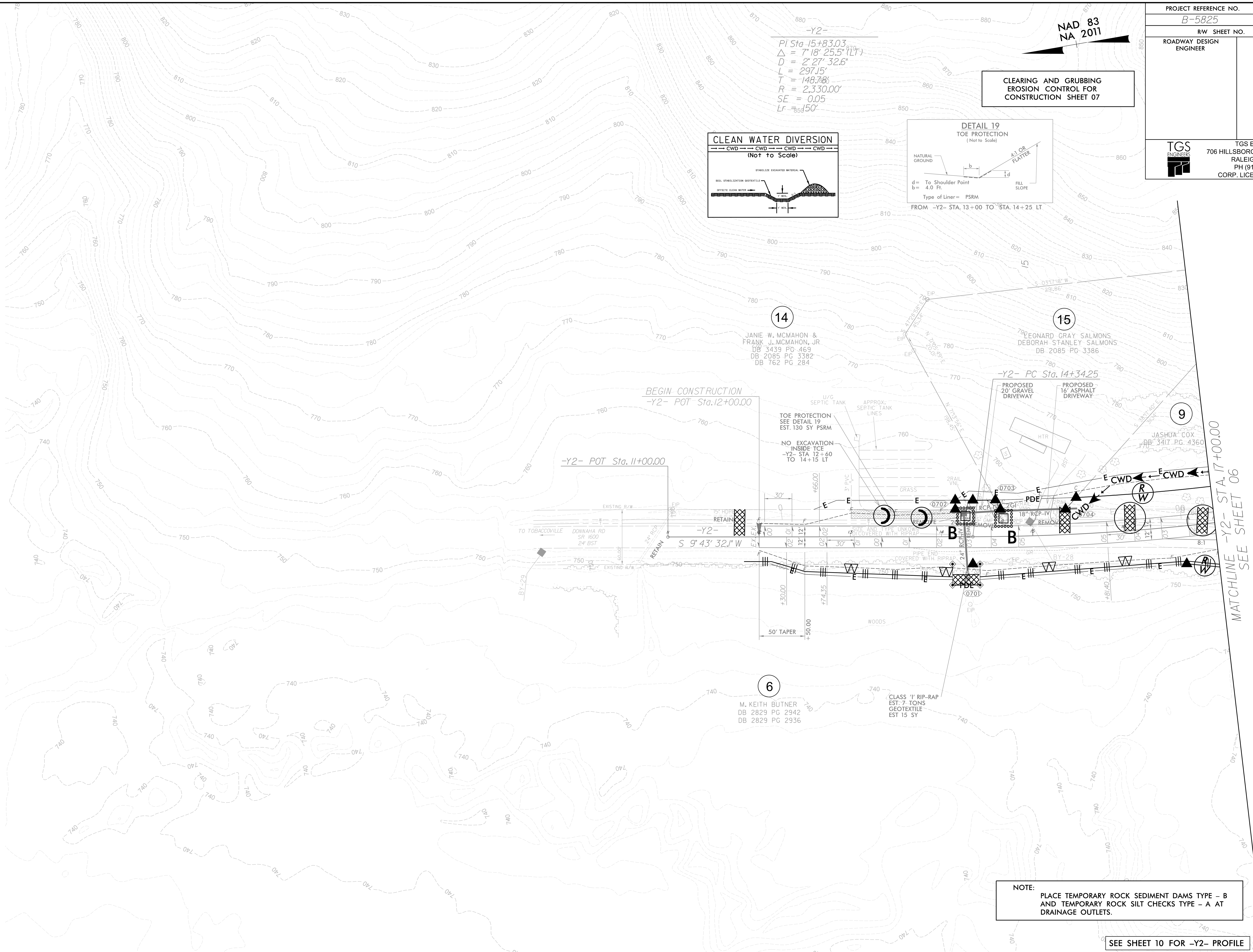
1. REMOVE IMPERVIOUS DIKES #1 & #2, 18 INCH TEMPORARY PIPE, AND SPECIAL STILLING BASIN(S).
2. ALLOW FLOW THROUGH NEWLY CONSTRUCTED CULVERT EXTENSION.
3. CONSTRUCT REMAINDER OF PROPOSED –L– ROADWAY IMPROVEMENTS.

PROJECT REFERENCE NO.	SHEET NO.
B-5825	EC-07/CONST.07
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

TGS ENGINEERS
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

NAD 83
NA 2011

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 07

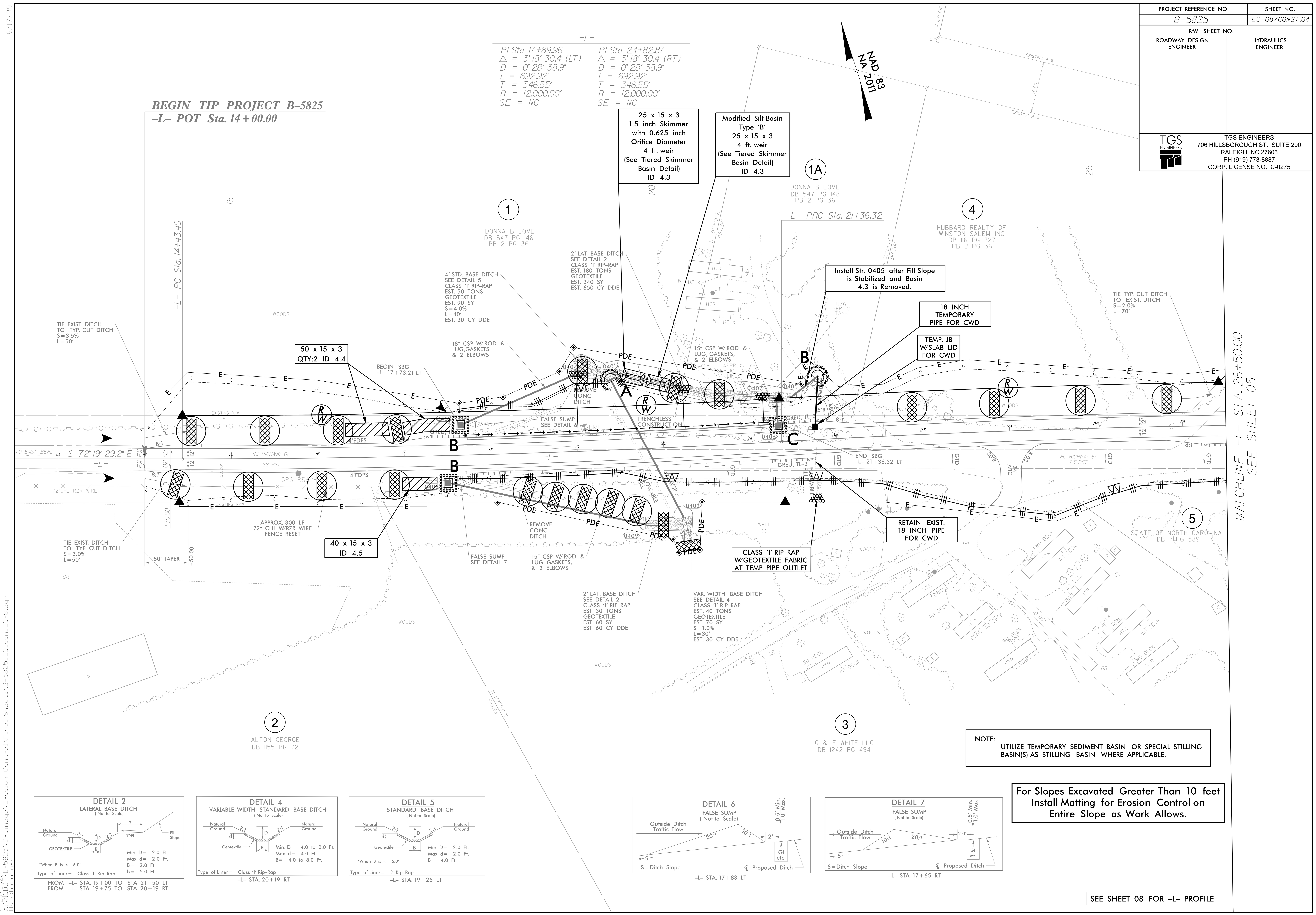


NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE – B AND TEMPORARY ROCK SILT CHECKS TYPE – A AT DRAINAGE OUTLETS.

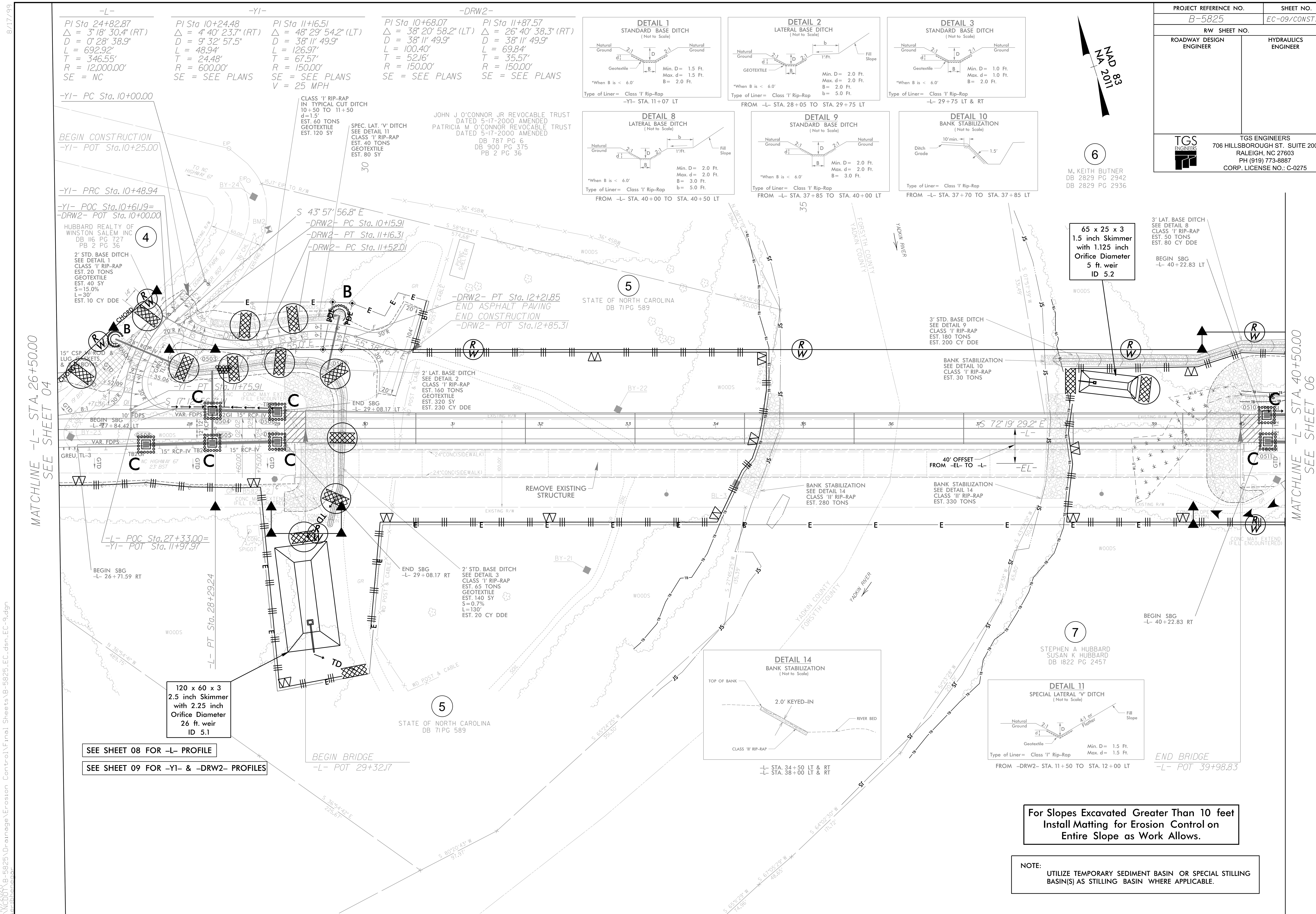
SEE SHEET 10 FOR -Y2- PROFILE

8/17/99

3/10/2020
X:\NCDOT\B-5825\Drainage\Erosion Control\CG Sheets\B-5825_EC_dsn_EC-7.dgn



PROJECT REFERENCE NO.
B-5825
SHEET NO.
EC-08/CONST.04
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
TGS ENGINEERS
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275
NAD 83 NA 2011
BEGIN TIP PROJECT B-5825
-L- POT Sta. 14+00.00
-L-
PI Sta 17+89.96
Δ = 3° 18' 30.4" (LT)
D = 0° 28' 38.9"
L = 692.92'
T = 346.55'
R = 12,000.00'
SE = NC
PI Sta 24+82.87
Δ = 3° 18' 30.4" (RT)
D = 0° 28' 38.9"
L = 692.92'
T = 346.55'
R = 12,000.00'
SE = NC
25 x 15 x 3
1.5 inch Skimmer with 0.625 inch Orifice Diameter
4 ft. weir
(See Tiered Skimmer Basin Detail)
ID 4.3
Modified Silt Basin Type 'B'
25 x 15 x 3
4 ft. weir
(See Tiered Skimmer Basin Detail)
ID 4.3
-L- PC Sta. 14+43.40
-L- PRC Sta. 21+36.32
DONNA B LOVE DB 547 PG 146 PB 2 PG 36
DONNA B LOVE DB 547 PG 148 PB 2 PG 36
HUBBARD REALTY OF WINSTON SALEM INC DB 116 PG 727 PB 2 PG 36
Install Str. 0405 after Fill Slope is Stabilized and Basin 4.3 is Removed.
18 INCH TEMPORARY PIPE FOR CWD
TEMP. JB W/SLAB LID FOR CWD
TIE TYP. CUT DITCH TO EXIST. DITCH S=2.0% L=70'
TIE EXIST. DITCH TO TYP. CUT DITCH S=3.5% L=50'
TIE EXIST. DITCH TO TYP. CUT DITCH S=3.0% L=50'
4' STD. BASE DITCH SEE DETAIL 5 CLASS 'I' RIP-RAP EST. 50 TONS GEOTEXTILE EST. 90 SY S=4.0% L=40' EST. 30 CY DDE
2' LAT. BASE DITCH SEE DETAIL 2 CLASS 'I' RIP-RAP EST. 180 TONS GEOTEXTILE EST. 340 SY EST. 650 CY DDE
18" CSP W/ROD & LUG, GASKETS & 2 ELBOWS
15" CSP W/ROD & LUG, GASKETS, & 2 ELBOWS
50 x 15 x 3 QTY:2 ID 4.4
40 x 15 x 3 ID 4.5
BEGIN SBG -L- 17+73.21 LT
END SBG -L- 21+36.32 LT
FALSE SUMP SEE DETAIL 6
FALSE SUMP SEE DETAIL 7
TRENCHLESS CONSTRUCTION
REMOVE CONC. DITCH
APPROX. 300 LF 72" CHL W/RZR WIRE FENCE RESET
S 72° 19' 29.2" E
NC HIGHWAY 67
RETAIN EXIST. 18 INCH PIPE FOR CWD
CLASS 'I' RIP-RAP W/GEOTEXTILE FABRIC AT TEMP PIPE OUTLET
2' LAT. BASE DITCH SEE DETAIL 2 CLASS 'I' RIP-RAP EST. 30 TONS GEOTEXTILE EST. 60 SY EST. 60 CY DDE
VAR. WIDTH BASE DITCH SEE DETAIL 4 CLASS 'I' RIP-RAP EST. 40 TONS GEOTEXTILE EST. 70 SY S=1.0% L=30' EST. 30 CY DDE
MATCHLINE -L- STA. 26+50.00 SEE SHEET 05
STATE OF NORTH CAROLINA DB 71 PG 589
ALTON GEORGE DB 1155 PG 72
G & E WHITE LLC DB 1242 PG 494
NOTE: UTILIZE TEMPORARY SEDIMENT BASIN OR SPECIAL STILLING BASIN(S) AS STILLING BASIN WHERE APPLICABLE.
For Slopes Excavated Greater Than 10 feet Install Matting for Erosion Control on Entire Slope as Work Allows.
DETAIL 2 LATERAL BASE DITCH (Not to Scale)
FROM -L- STA. 19+00 TO STA. 21+50 LT
FROM -L- STA. 19+75 TO STA. 20+19 RT
DETAIL 4 VARIABLE WIDTH STANDARD BASE DITCH
-L- STA. 20+19 RT
DETAIL 5 STANDARD BASE DITCH
-L- STA. 19+25 LT
DETAIL 6 FALSE SUMP (Not to Scale)
-L- STA. 17+83 LT
DETAIL 7 FALSE SUMP
-L- STA. 17+65 RT
SEE SHEET 08 FOR -L- PROFILE



PROJECT REFERENCE NO.
B-5825
SHEET NO.
EC-09/CONST.05
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
TGS ENGINEERS
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275
NAD 83 NA 2011
-L-
PI Sta 24+82.87
△ = 3°18' 30.4" (RT)
D = 0°28' 38.9"
L = 692.92'
T = 346.55'
R = 12,000.00'
SE = NC
-Y1-
PI Sta 10+24.48
△ = 4°40' 23.7" (RT)
D = 9°32' 57.5"
L = 48.94'
T = 24.48'
R = 600.00'
SE = SEE PLANS
PI Sta 11+16.51
△ = 48°29' 54.2" (LT)
D = 38°11' 49.9"
L = 126.97'
T = 67.57'
R = 150.00'
SE = SEE PLANS
V = 25 MPH
-DRW2-
PI Sta 10+68.07
△ = 38°20' 58.2" (LT)
D = 38°11' 49.9"
L = 100.40'
T = 52.16'
R = 150.00'
SE = SEE PLANS
PI Sta 11+87.57
△ = 26°40' 38.3" (RT)
D = 38°11' 49.9"
L = 69.84'
T = 35.57'
R = 150.00'
SE = SEE PLANS
DETAIL 1
STANDARD BASE DITCH
(Not to Scale)
Natural Ground
Geotextile
*When B is < 6.0'
Min. D = 1.5 Ft.
Max. d = 1.5 Ft.
B = 2.0 Ft.
Type of Liner = Class 'I' Rip-Rap
-Y1- STA. 11+07 LT
DETAIL 2
LATERAL BASE DITCH
(Not to Scale)
Fill Slope
GEOTEXTILE
*When B is < 6.0'
Min. D = 2.0 Ft.
Max. d = 2.0 Ft.
B = 2.0 Ft.
b = 5.0 Ft.
Type of Liner = Class 'I' Rip-Rap
FROM -L- STA. 28+05 TO STA. 29+75 LT
DETAIL 3
STANDARD BASE DITCH
(Not to Scale)
Geotextile
*When B is < 6.0'
Min. D = 1.0 Ft.
Max. d = 1.0 Ft.
B = 2.0 Ft.
Type of Liner = Class 'I' Rip-Rap
-L- 29+75 LT & RT
DETAIL 8
LATERAL BASE DITCH
(Not to Scale)
*When B is < 6.0'
Min. D = 2.0 Ft.
Max. d = 2.0 Ft.
B = 3.0 Ft.
b = 5.0 Ft.
Type of Liner = Class 'I' Rip-Rap
FROM -L- STA. 40+00 TO STA. 40+50 LT
DETAIL 9
STANDARD BASE DITCH
(Not to Scale)
*When B is < 6.0'
Min. D = 2.0 Ft.
Max. d = 2.0 Ft.
B = 3.0 Ft.
Type of Liner = Class 'I' Rip-Rap
FROM -L- STA. 37+85 TO STA. 40+00 LT
DETAIL 10
BANK STABILIZATION
(Not to Scale)
Ditch Grade
10'min.
1.5'
Type of Liner = Class 'I' Rip-Rap
FROM -L- STA. 37+70 TO STA. 37+85 LT
DETAIL 11
SPECIAL LATERAL 'V' DITCH
(Not to Scale)
4:1 or Flatter
Fill Slope
Geotextile
Min. D = 1.5 Ft.
Max. d = 1.5 Ft.
Type of Liner = Class "I" Rip-Rap
FROM -DRW2- STA. 11+50 TO STA. 12+00 LT
DETAIL 14
BANK STABILIZATION
(Not to Scale)
TOP OF BANK
2.0' KEYED-IN
RIVER BED
CLASS 'II' RIP-RAP
-L- STA. 34+50 LT & RT
-L- STA. 38+00 LT & RT
-Y1- PC Sta. 10+00.00
BEGIN CONSTRUCTION
-Y1- POT Sta. 10+25.00
-Y1- PRC Sta. 10+48.94
-Y1- POC Sta. 10+61.19=
-DRW2- POT Sta. 10+00.00
HUBBARD REALTY OF WINSTON SALEM INC
DB 116 PG 727
PB 2 PG 36
2' STD. BASE DITCH
SEE DETAIL 1
CLASS 'I' RIP-RAP
EST. 20 TONS
GEOTEXTILE
EST. 40 SY
S=15.0%
L=30'
EST. 10 CY DDE
CLASS 'I' RIP-RAP
IN TYPICAL CUT DITCH
10+50 TO 11+50
d=1.5'
EST. 60 TONS
GEOTEXTILE
EST. 120 SY
SPEC. LAT. 'V' DITCH
SEE DETAIL 11
CLASS 'I' RIP-RAP
EST. 40 TONS
GEOTEXTILE
EST. 80 SY
JOHN J O'CONNOR JR REVOCABLE TRUST
DATED 5-17-2000 AMENDED
PATRICIA M O'CONNOR REVOCABLE TRUST
DATED 5-17-2000 AMENDED
DB 787 PG 6
DB 900 PG 375
PB 2 PG 36
S 43°57' 56.8" E
-DRW2- PC Sta. 10+15.91
-DRW2- PT Sta. 11+16.31
-DRW2- PC Sta. 11+52.01
-DRW2- PT Sta. 12+21.85
END ASPHALT PAVING
END CONSTRUCTION
-DRW2- POT Sta. 12+85.31
STATE OF NORTH CAROLINA
DB 71 PG 589
M. KEITH BUTNER
DB 2829 PG 2942
DB 2829 PG 2936
65 x 25 x 3
1.5 inch Skimmer
with 1.125 inch
Orifice Diameter
5 ft. weir
ID 5.2
3' LAT. BASE DITCH
SEE DETAIL 8
CLASS 'I' RIP-RAP
EST. 50 TONS
EST. 80 CY DDE
BEGIN SBG
-L- 40+22.83 LT
3' STD. BASE DITCH
SEE DETAIL 9
CLASS 'I' RIP-RAP
EST. 180 TONS
EST. 200 CY DDE
BANK STABILIZATION
SEE DETAIL 10
CLASS 'I' RIP-RAP
EST. 30 TONS
15" CSP W/ROD & LUG GASKETS, & ELBOWS
2' LAT. BASE DITCH
SEE DETAIL 2
CLASS 'I' RIP-RAP
EST. 160 TONS
GEOTEXTILE
EST. 320 SY
EST. 230 CY DDE
-Y1- PT Sta. 11+75.91
END SBG
-L- 29+08.17 LT
BEGIN SBG
-L- 27+84.42 LT
GREU, TL-3
NC HIGHWAY 67
23' BST
S 72°19' 29.2" E
-L-
40' OFFSET
FROM -EL- TO -L-
-EL-
REMOVE EXISTING STRUCTURE
BANK STABILIZATION
SEE DETAIL 14
CLASS 'II' RIP-RAP
EST. 280 TONS
BANK STABILIZATION
SEE DETAIL 14
CLASS 'II' RIP-RAP
EST. 330 TONS
MATCHLINE -L- STA. 26+50.00
SEE SHEET 04
MATCHLINE -L- STA. 40+50.00
SEE SHEET 06
-L- POC Sta. 27+33.00=
-Y1- POT Sta. 11+97.97
BEGIN SBG
-L- 26+71.59 RT
-L- PT Sta. 28+29.24
END SBG
-L- 29+08.17 RT
2' STD. BASE DITCH
SEE DETAIL 3
CLASS 'I' RIP-RAP
EST. 65 TONS
GEOTEXTILE
EST. 140 SY
S=0.7%
L=130'
EST. 20 CY DDE
FORSYTH COUNTY
YADKIN COUNTY
YADKIN RIVER
WOODS
120 x 60 x 3
2.5 inch Skimmer
with 2.25 inch
Orifice Diameter
26 ft. weir
ID 5.1
STEPHEN A HUBBARD
SUSAN K HUBBARD
DB 1822 PG 2457
BEGIN SBG
-L- 40+22.83 RT
BEGIN BRIDGE
-L- POT 29+32.17
END BRIDGE
-L- POT 39+98.83
SEE SHEET 08 FOR -L- PROFILE
SEE SHEET 09 FOR -Y1- & -DRW2- PROFILES
For Slopes Excavated Greater Than 10 feet Install Matting for Erosion Control on Entire Slope as Work Allows.
NOTE:
UTILIZE TEMPORARY SEDIMENT BASIN OR SPECIAL STILLING BASIN(S) AS STILLING BASIN WHERE APPLICABLE.
3/10/2020
X:\NCDOT\B-5825\Drainage\Erosion Control\Final Sheets\B-5825_EC_dsn_EC-9.dgn
8/17/99

PROJECT REFERENCE NO.	SHEET NO.
B-5825	EC-10/CONST.06

R/W SHEET NO.

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

TGS ENGINEERS
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

-L-

PI Sta 47+14.26	PI Sta 54+34.32
△ = 3° 59′ 20.3″ (RT)	△ = 6° 59′ 19.1″ (RT)
D = 0° 18′ 34.9″	D = 4° 35′ 01.2″
L = 1,287.98′	L = 152.47′
T = 644.25′	T = 76.33′
R = 18,500.00′	R = 1,250.00′
SE = NC	SE = SEE PLANS

-Y2-

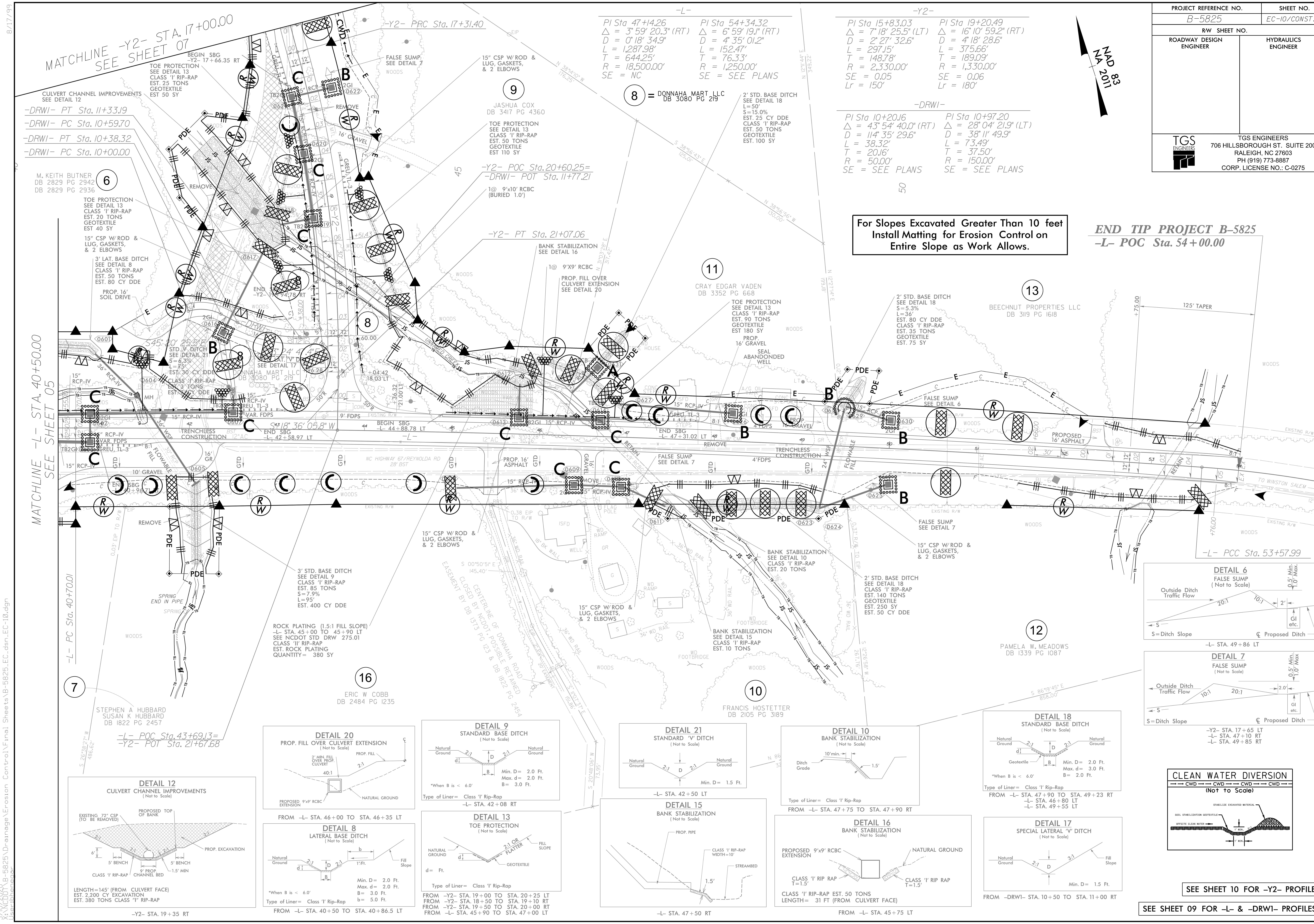
PI Sta 15+83.03	PI Sta 19+20.49
△ = 7° 18′ 25.5″ (LT)	△ = 16° 10′ 59.2″ (RT)
D = 2° 27′ 32.6″	D = 4° 18′ 28.6″
L = 297.15′	L = 375.66′
T = 148.78′	T = 189.09′
R = 2,330.00′	R = 1,330.00′
SE = 0.05	SE = 0.06
Lr = 150′	Lr = 180′

-DRW1-

PI Sta 10+20.16	PI Sta 10+97.20
△ = 43° 54′ 40.0″ (RT)	△ = 28° 04′ 21.9″ (LT)
D = 114° 35′ 29.6″	D = 38° 11′ 49.9″
L = 38.32′	L = 73.49′
T = 20.16′	T = 37.50′
R = 50.00′	R = 150.00′
SE = SEE PLANS	SE = SEE PLANS

8 = DONNAHA MART LLC DB 3080 PG 219

For Slopes Excavated Greater Than 10 feet Install Matting for Erosion Control on Entire Slope as Work Allows.



SEE SHEET 10 FOR -Y2- PROFILE
SEE SHEET 09 FOR -L- & -DRW1- PROFILES

8/17/99

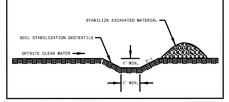
PROJECT REFERENCE NO.	SHEET NO.
B-5825	EC-11/CONST.07
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

TGS ENGINEERS
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

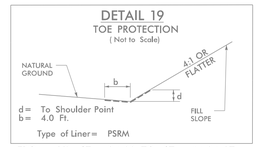
NAD 83
NA 2011

-Y2-
PI Sta 15+83.03
△ = 7° 18' 25.5" (LT)
D = 2° 27' 32.6"
L = 297.15'
T = 148.78'
R = 2,330.00'
SE = 0.05
Lr = 150'

CLEAN WATER DIVERSION
(Not to Scale)

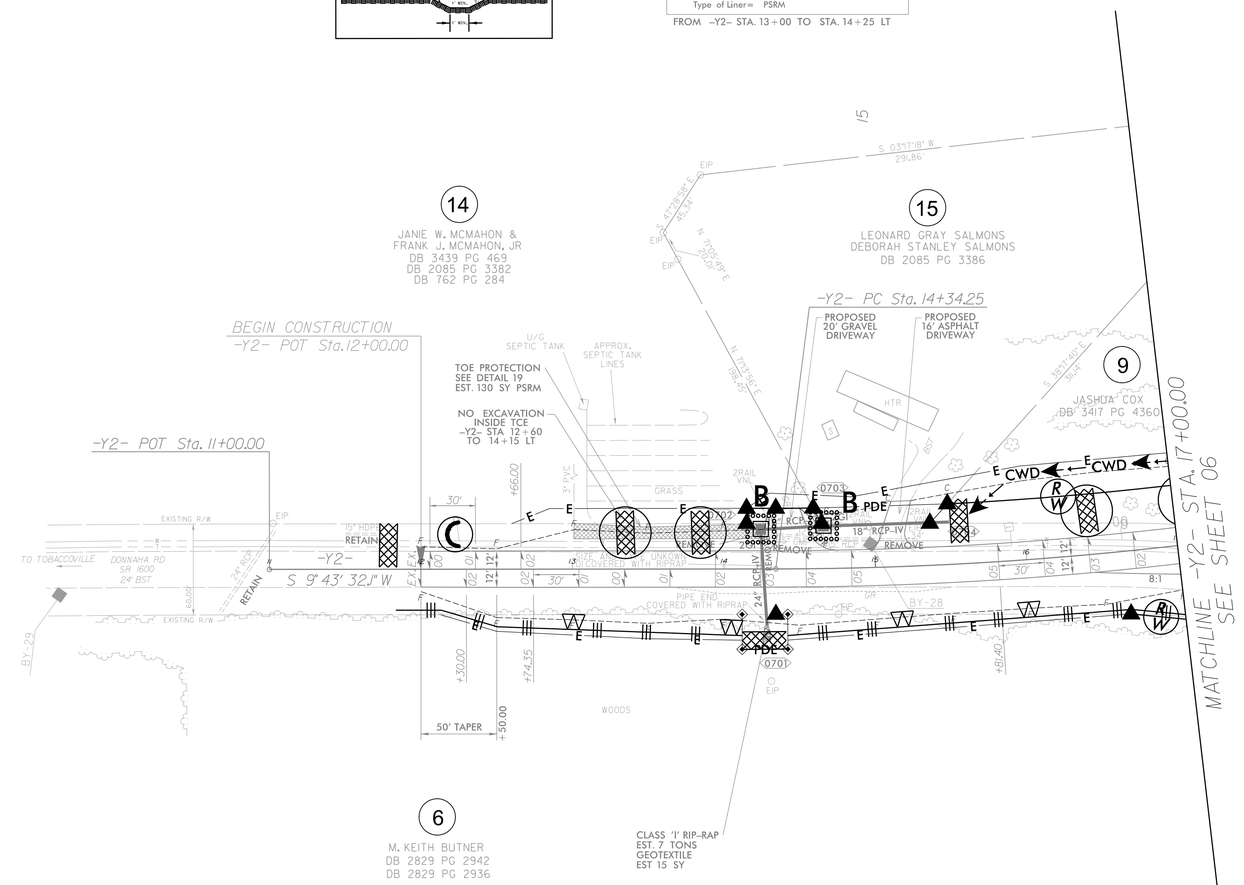


DETAIL 19
TOE PROTECTION
(Not to Scale)



d = To Shoulder Point
b = 4.0 Ft.
Type of Liner = PSRM

FROM -Y2- STA. 13+00 TO STA. 14+25 LT



For Slopes Excavated Greater Than 10 feet Install Matting for Erosion Control on Entire Slope as Work Allows.

SEE SHEET 10 FOR -Y2- PROFILE

3/10/2020
X:\NCDOT\B-5825\Drainage\Erosion Control\Final Sheets\B-5825_EC_dsn_EC-11.dgn
User:bhenegar