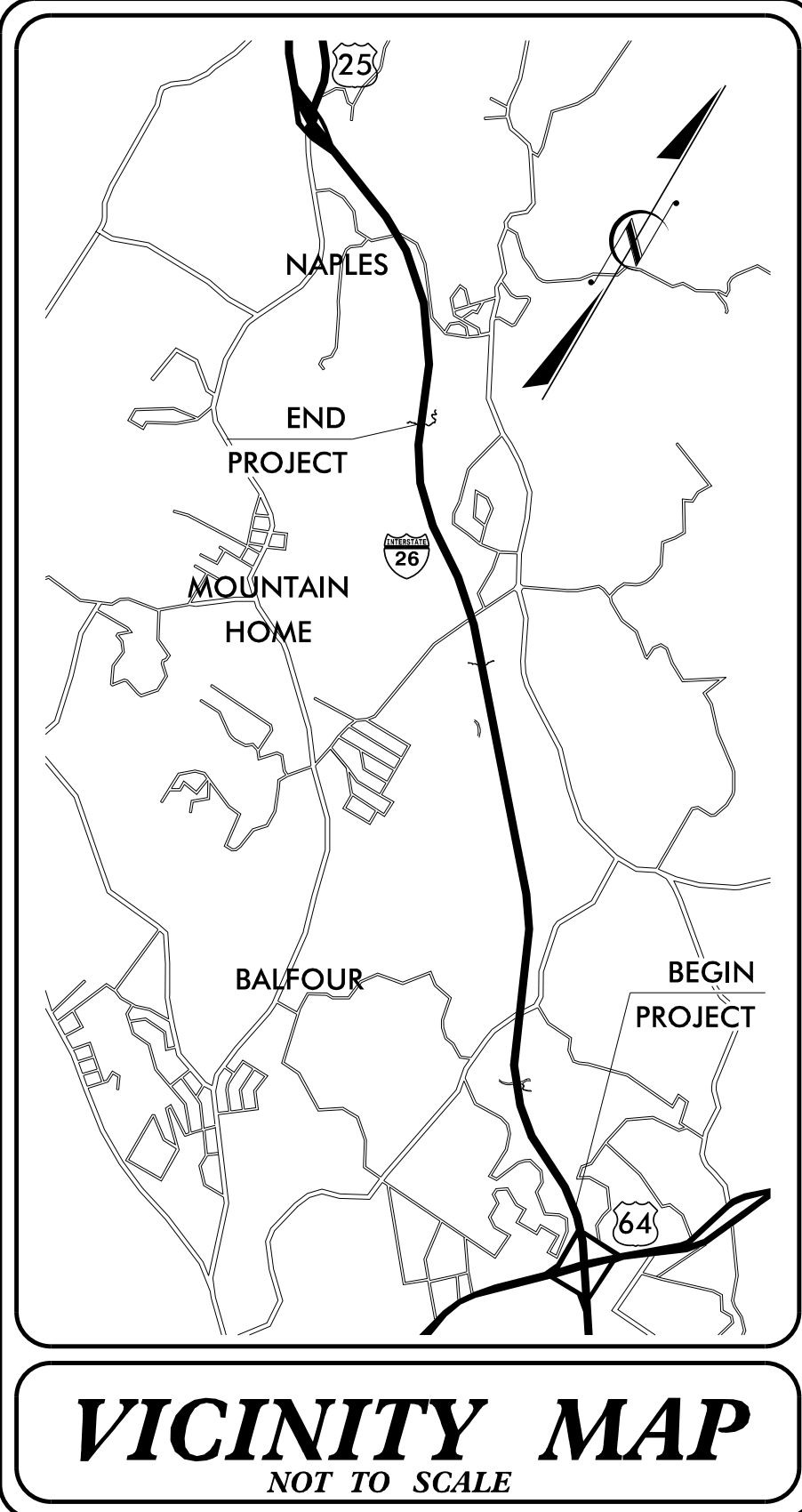


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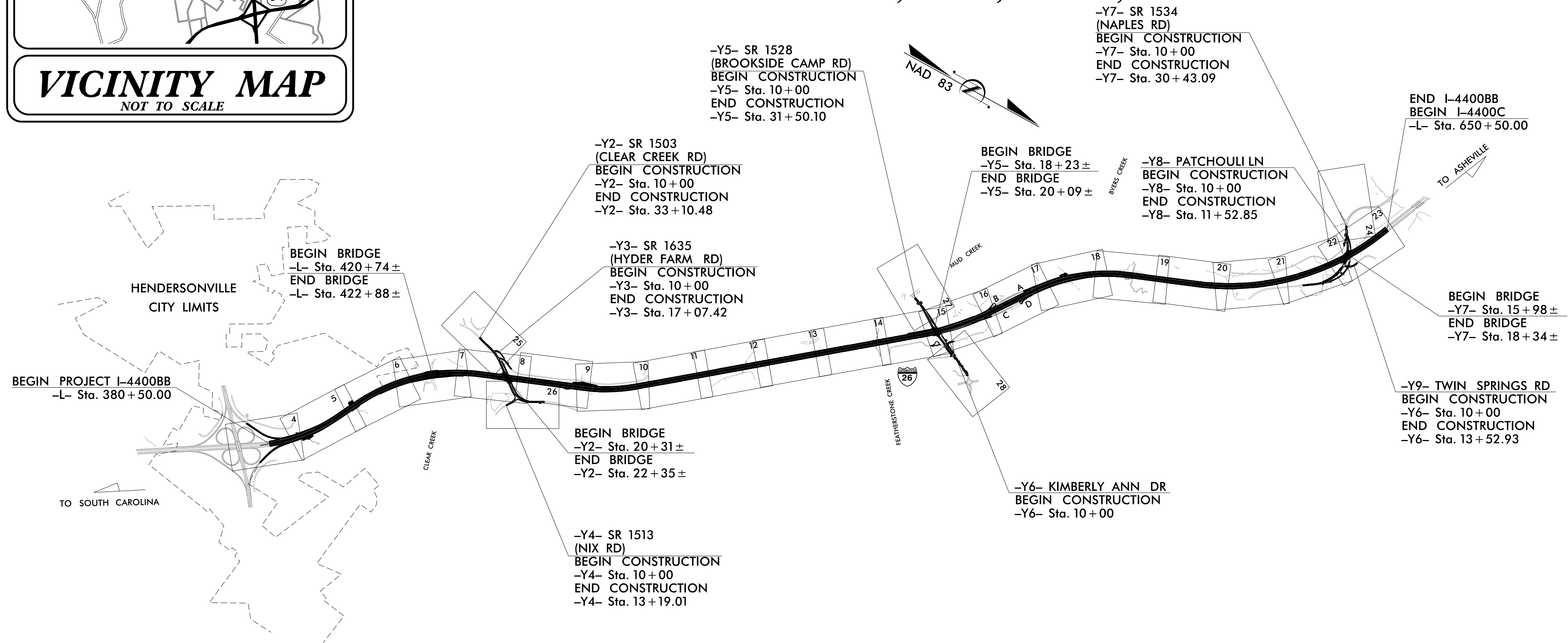
TIP PROJECT: I-4400BB



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

**LOCATION: ALONG I-26 FROM US 64 THEN NORTH
TOWARD US 25 (ASHEVILLE HIGHWAY)**

TYPE OF WORK: DRAINAGE, PAVING, GRADING, STRUCTURES



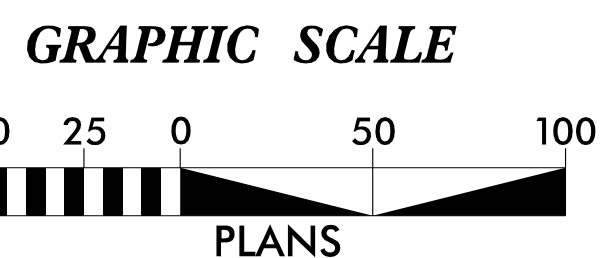
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	I-4400BB	EC-1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
34232.1.6	NHP-0026(015)	I-4400BB (P.E.)	
34232.2.10	NHP-0026(015)	I-4400BB (RW/UTIL)	
34232.3.8	NHP-0026(015)	I-4400BB (CONST.)	

EROSION AND SEDIMENT CONTROL MEASURES

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

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

**THIS PROJECT HAS
BEEN DESIGNED TO
SENSITIVE WATERSHED
STANDARDS.**



**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.**

PARRISH & PARTNERS

Vaughn & Melton
Consulting Engineers
Asheville, NC
828-253-2796
919-977-9455

Blaine, NC 828-355-9933
Tri-Cities, TN 423-467-8400
Knoxville, TN 865-546-5800
Spartanburg, SC 864-574-4775
Charleston, SC 843-974-9550
Middlesboro, KY 606-248-6600
Atlanta, GA 770-427-3590

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Prepared in the Office of:

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1318-F Patton Avenue
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Parrish & Partners, LLC
11325 N. Community House Rd,
Suite 260
Charlotte, NC 28277

Designed by:

Kevin Higgins, PE (P&P) 4000
Corey Napier, PE (V&M) 4098

NAME LEVEL III CERTIFICATION NO.

Roadway Standard Drawings

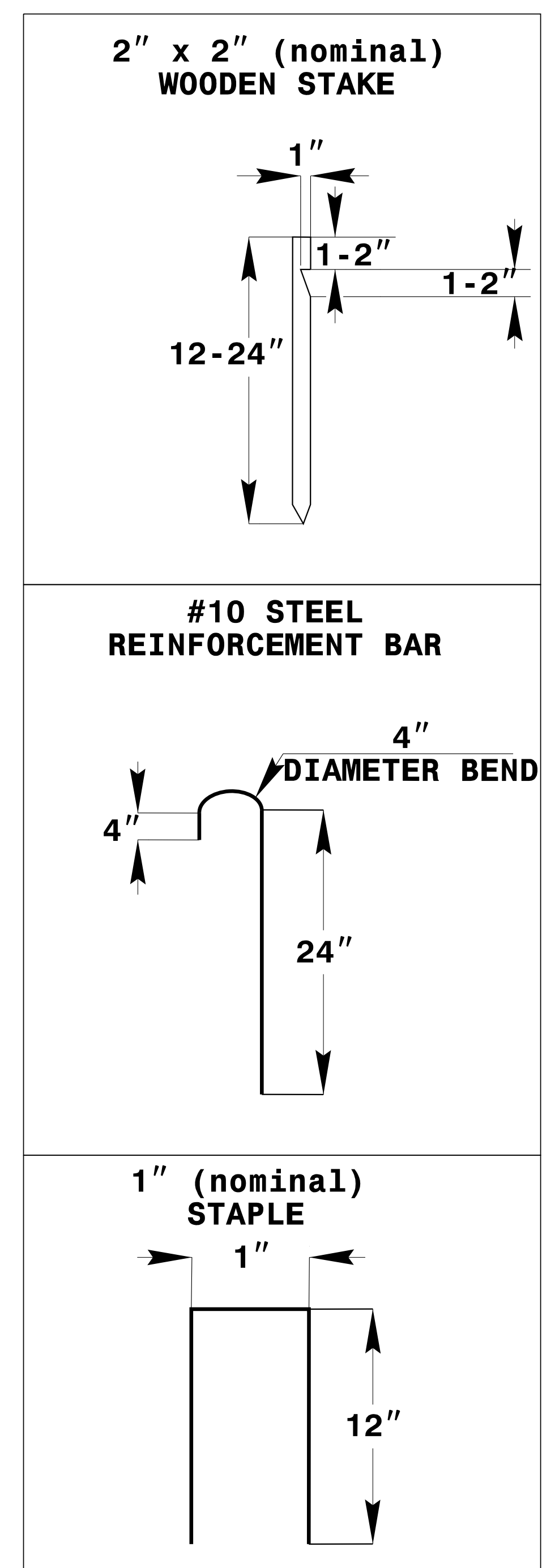
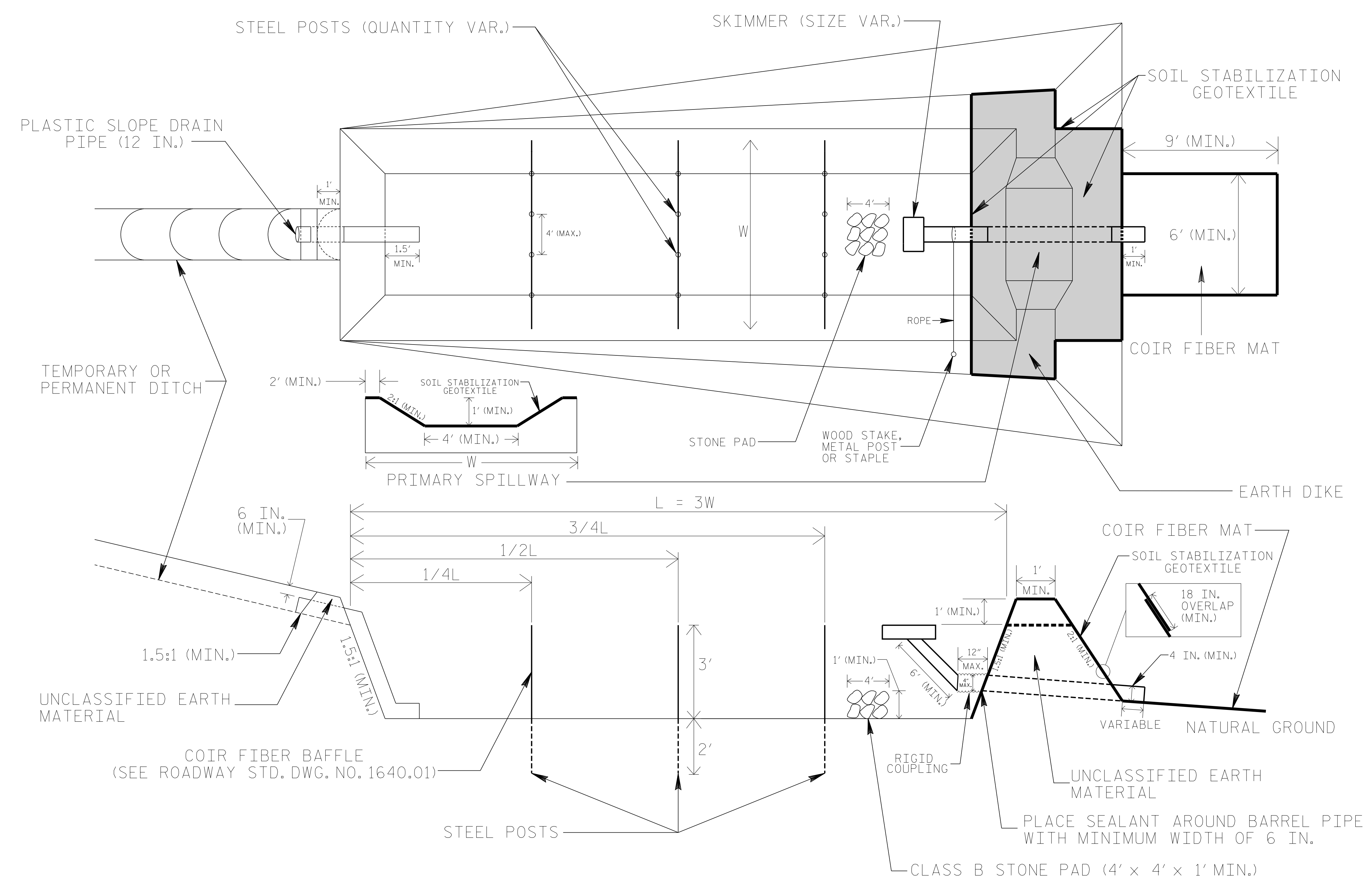
The following roadway english standards as appear in "Roadway Standard Drawings"- Roadway Design Unit - N. C. Department of Transportation - Raleigh, N. C., dated January 2018 and the latest revision thereto are applicable to this project and by reference hereby are considered a part of these plans.

1604.01 Railroad Erosion Control Detail	1632.01 Rock Inlet Sediment Trap Type A
1605.01 Temporary Silt Fence	1632.02 Rock Inlet Sediment Trap Type B
1606.01 Special Sediment Control Fence	1632.03 Rock Inlet Sediment Trap Type C
1607.01 Gravel Construction Entrance	1633.01 Temporary Rock Silt Check Type A
1622.01 Temporary Berms and Slope Drains	1633.02 Temporary Rock Silt Check Type B
1630.01 Riser Basin	1634.01 Temporary Rock Sediment Dam Type A
1630.02 Silt Basin Type B	1634.02 Temporary Rock Sediment Dam Type B
1630.03 Temporary Silt Ditch	1635.01 Rock Pipe Inlet Sediment Trap Type A
1630.04 Stilling Basin	1635.02 Rock Pipe Inlet Sediment Trap Type B
1630.05 Temporary Diversion	1640.01 Coir Fiber Baffle
1630.06 Special Stilling Basin	1645.01 Temporary Stream Crossing
1631.01 Matting Installation	

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PROJECT REFERENCE NO. I-4400BB	SHEET NO. EC-2
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SKIMMER BASIN WITH BAFFLES DETAIL

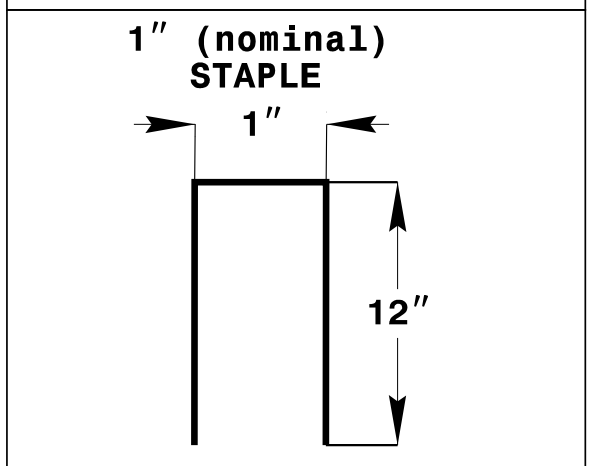
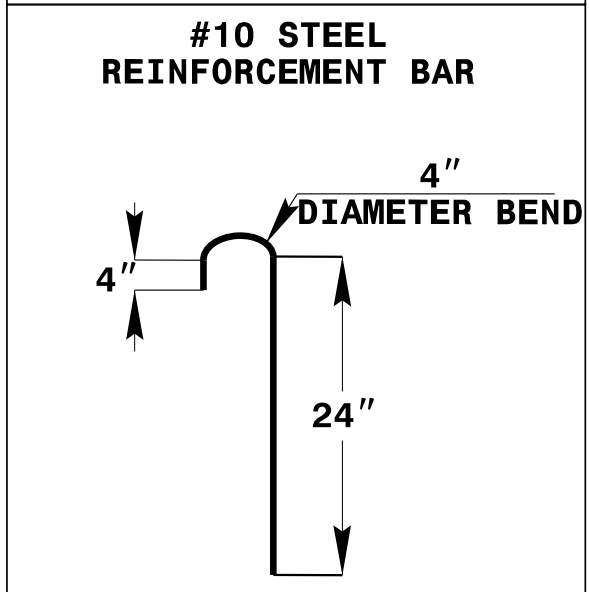
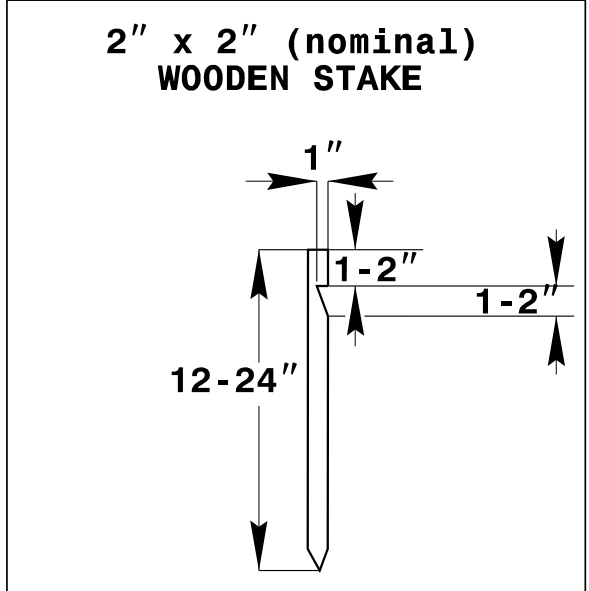
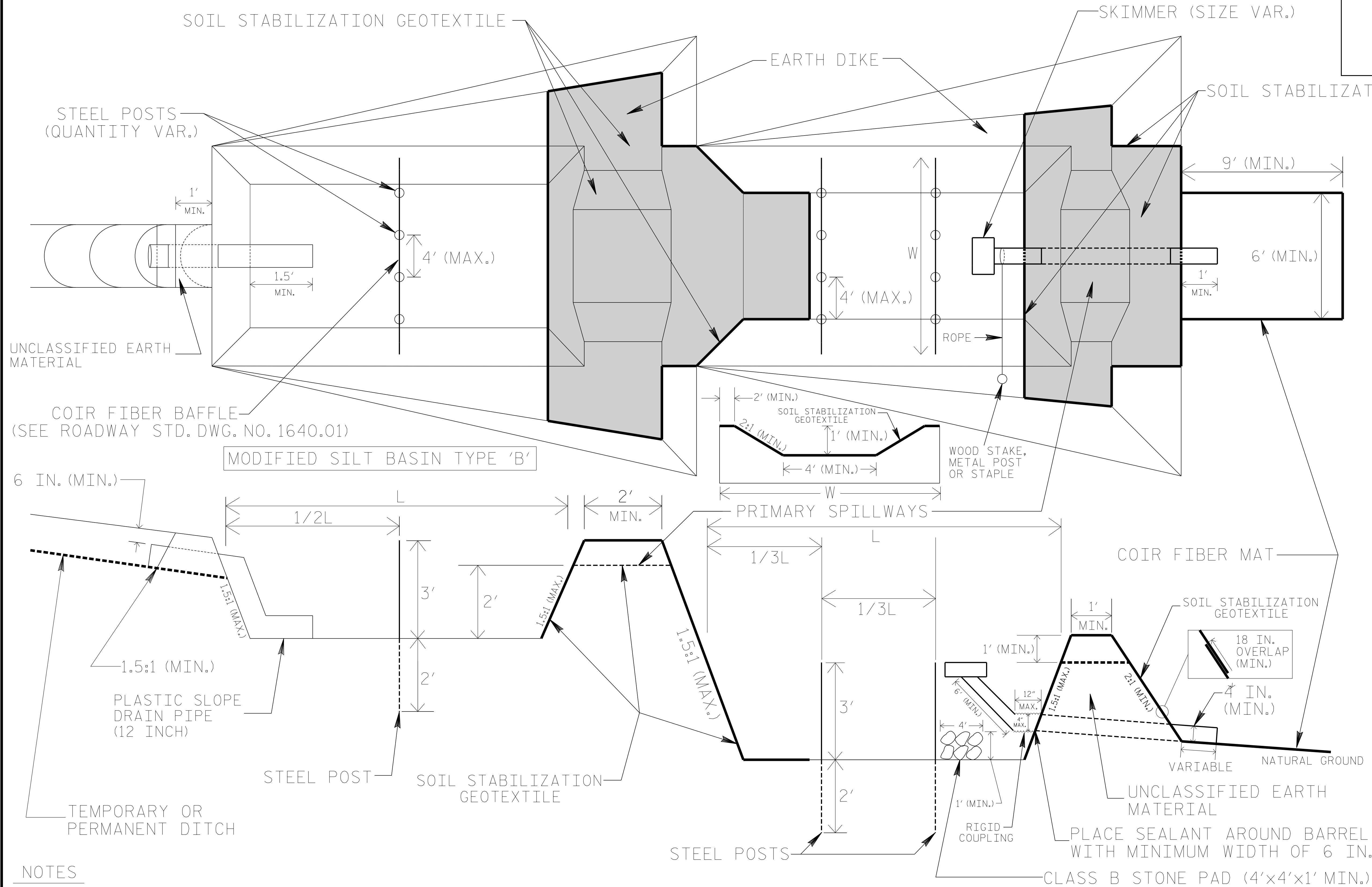


- NOTES**
1. SEED AND PLACE MATTING FOR EROSION CONTROL ON INTERIOR AND EXTERIOR SIDESLOPES.
 2. LIMIT EARTH DIKE HEIGHT TO 5 FT.
 3. FOR BASIN DEPTH OF 3 FT., THE MINIMUM BASIN WIDTH SHALL BE 9 FT.
 4. DETERMINE PRIMARY SPILLWAY WEIR LENGTH (FT.) USING $Q/0.8$, WHERE Q IS FLOW RATE (CFS) INTO BASIN.
 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

TIERED SKIMMER BASIN DETAIL

PROJECT REFERENCE NO. I-4400BB	SHEET NO. EC-2A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



COIR FIBER MAT ANCHOR OPTIONS

NOTES

1. SEED AND PLACE MATTING FOR EROSION CONTROL ON INTERIOR AND EXTERIOR SIDESLOPES 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.).

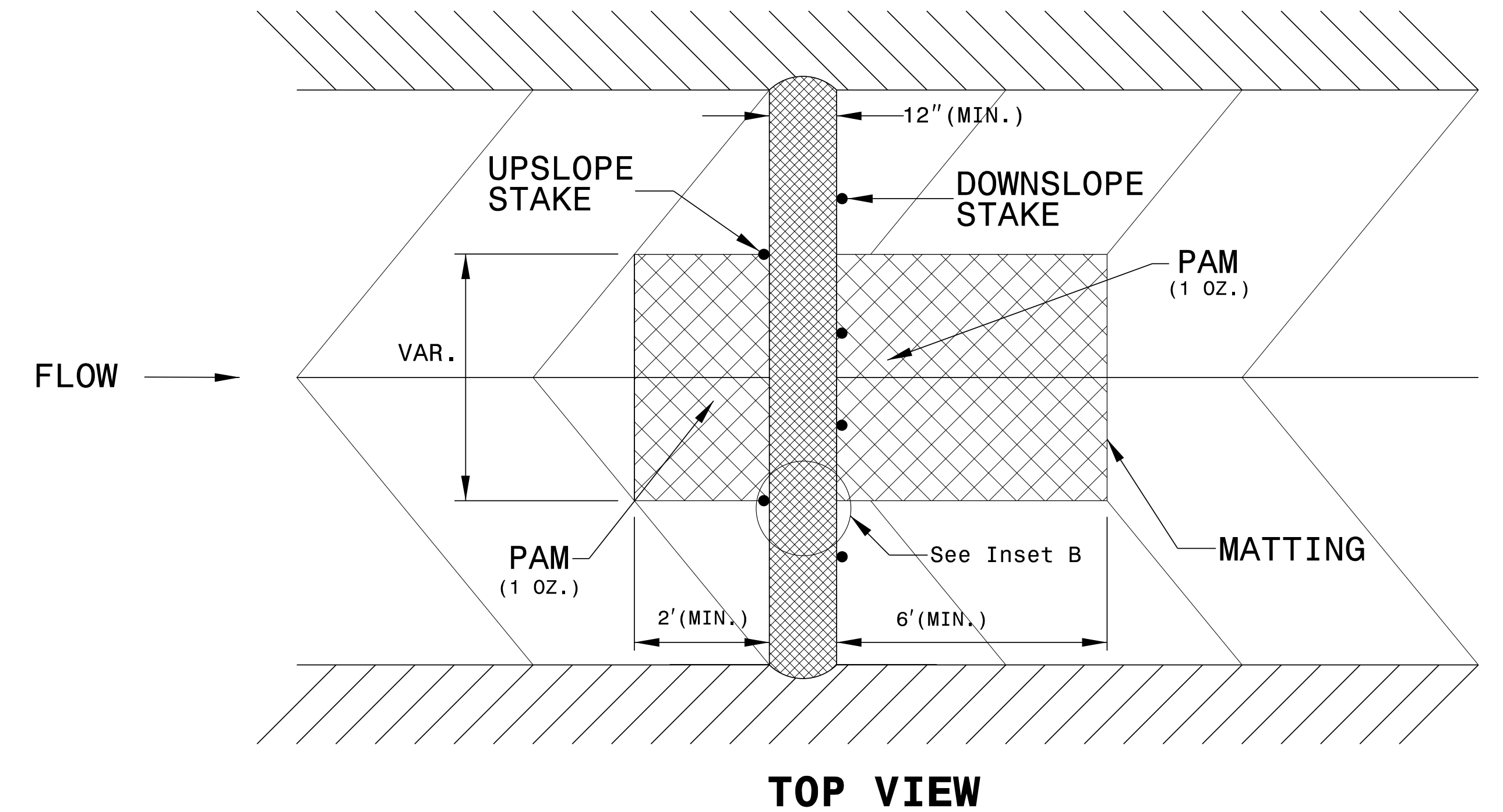
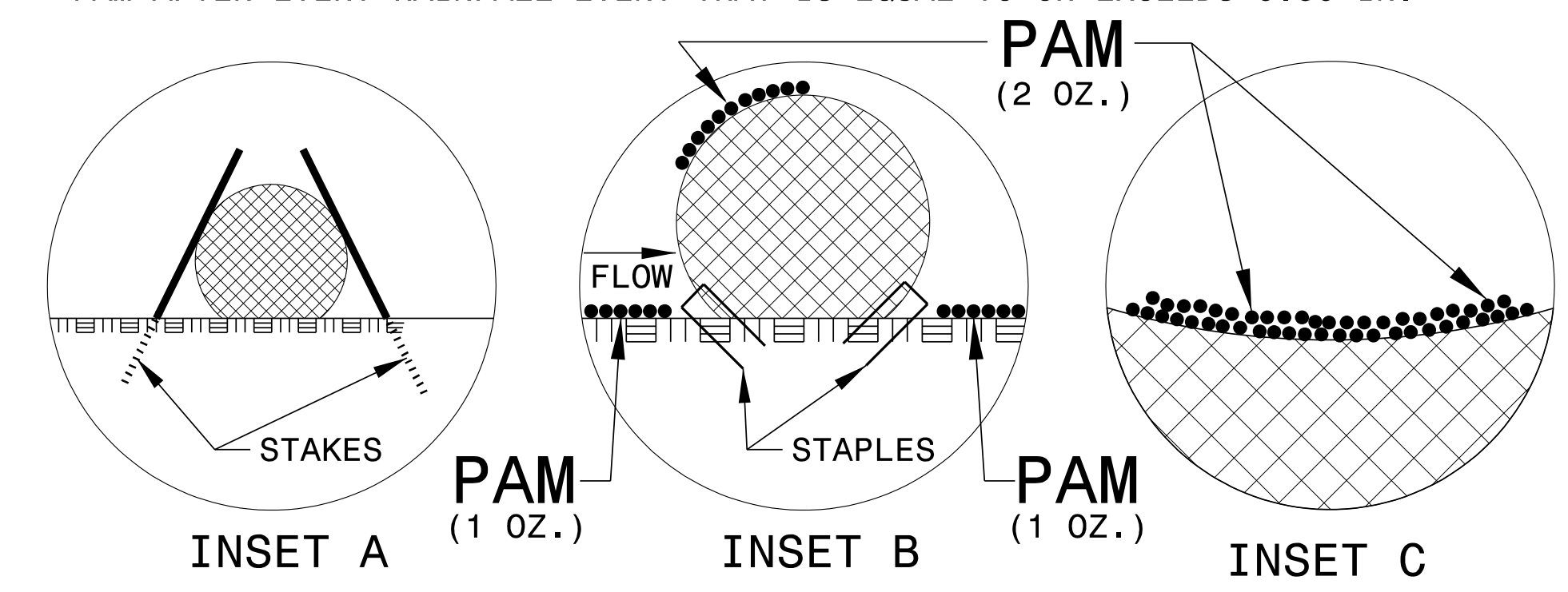
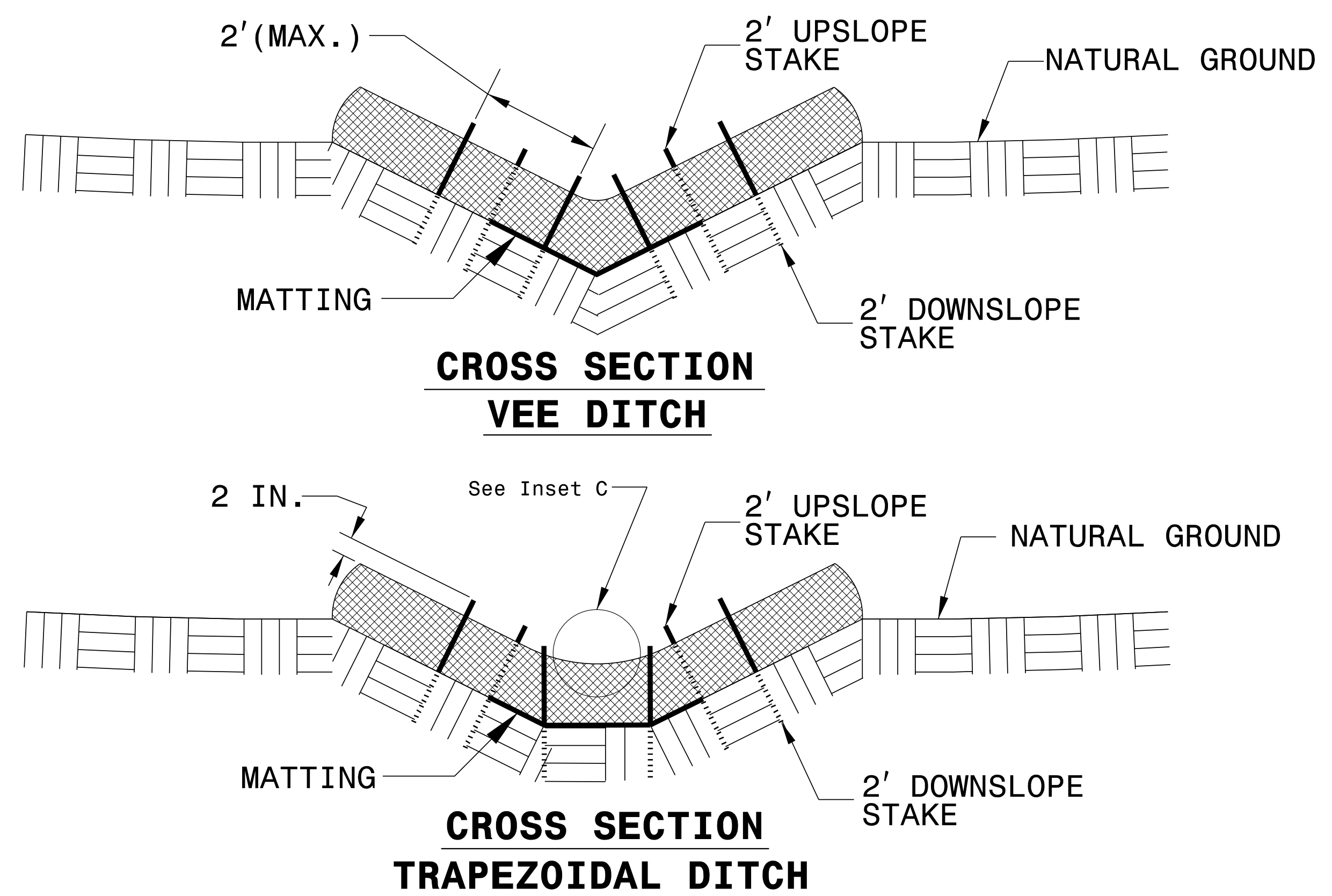
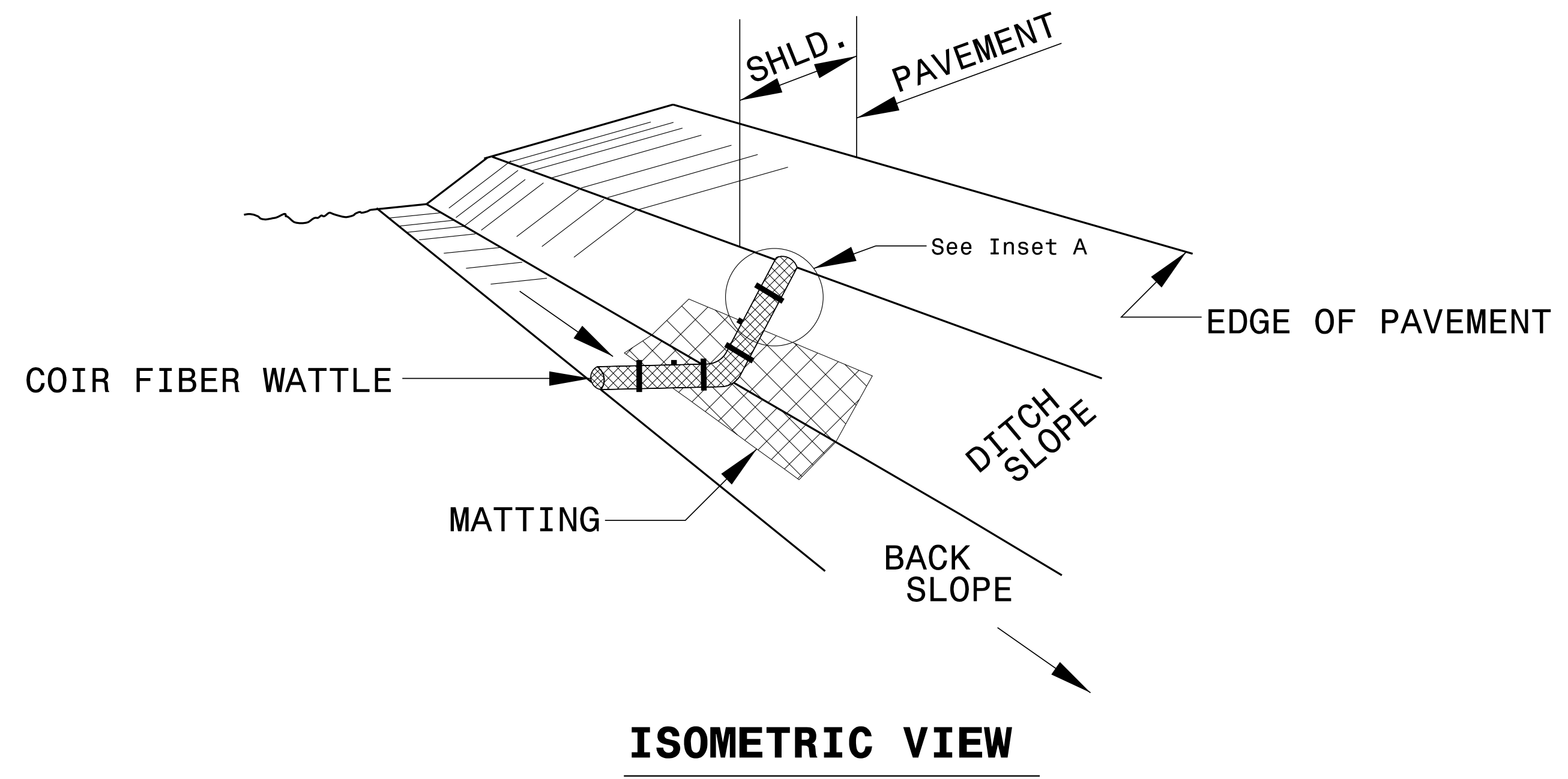
NOT TO SCALE

PROJECT REFERENCE NO. I-4400BB	SHEET NO. EC-2B
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

COIR FIBER WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL

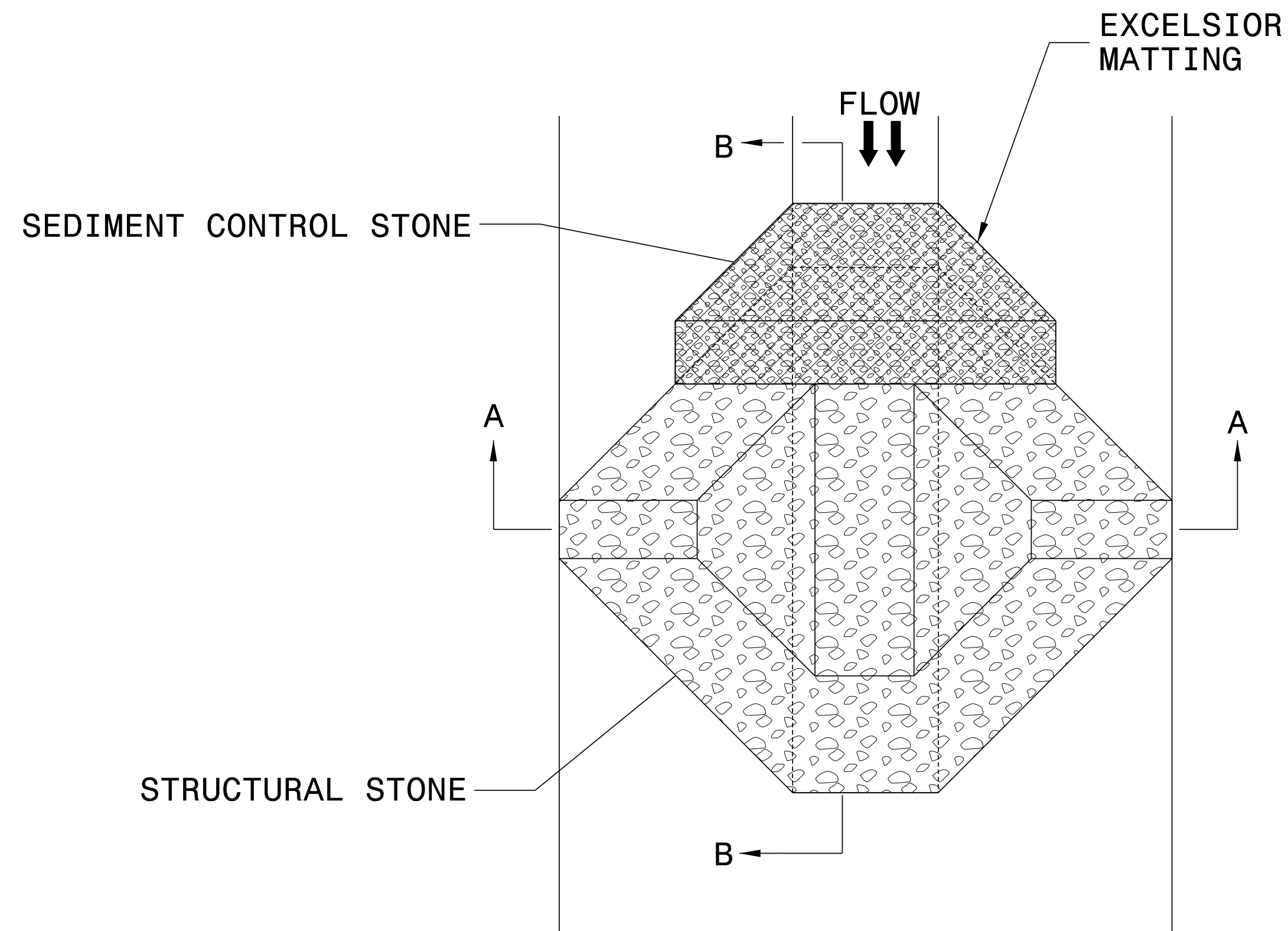
NOTES:

- USE MINIMUM 12 IN. DIAMETER COIR FIBER (COCONUT FIBER) WATTLE.
- USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.
- ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.
- INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.
- PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.
- INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.
- INSTALL MATTING IN ACCORDANCE WITH SECTION 1631 OF THE STANDARD SPECIFICATIONS.
- 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 EACH SIDE OF WATTLE. REAPPLY PAM AFTER EVERY RAINFALL EVENT THAT IS EQUAL TO OR EXCEEDS 0.50 IN.



PROJECT REFERENCE NO. 1-4400BB	SHEET NO. EC-2C
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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



PLAN

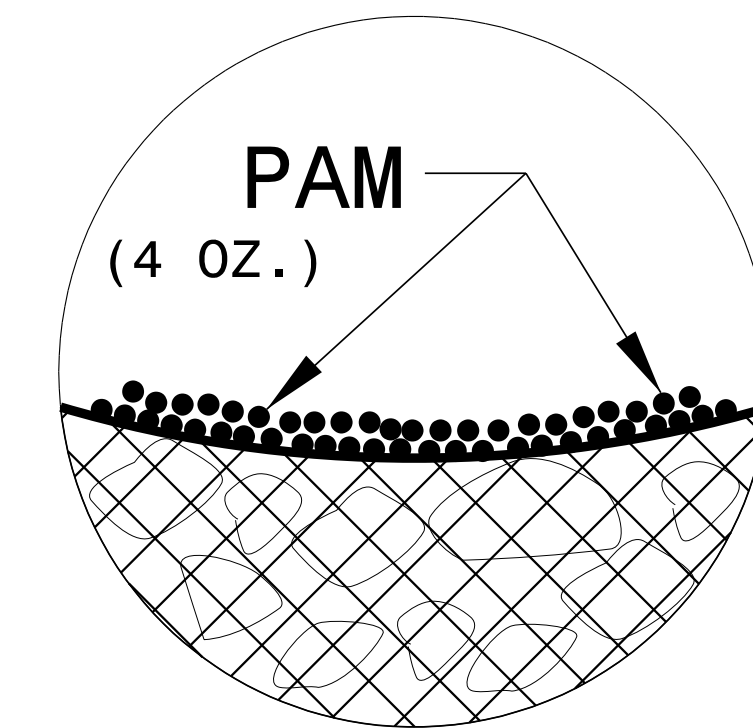
NOTES:

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

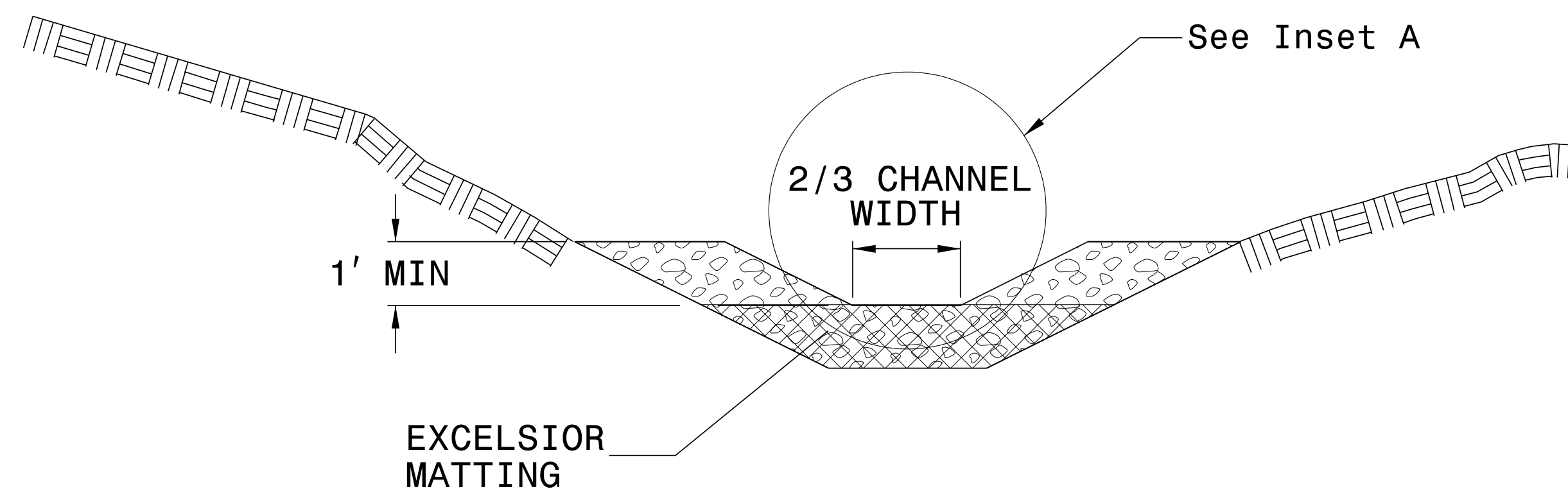
USE EXCELSIOR FOR MATTING MATERIAL AND ANCHOR MATTING SECTION AT TOP AND BOTTOM WITH CLASS B STONE.

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.

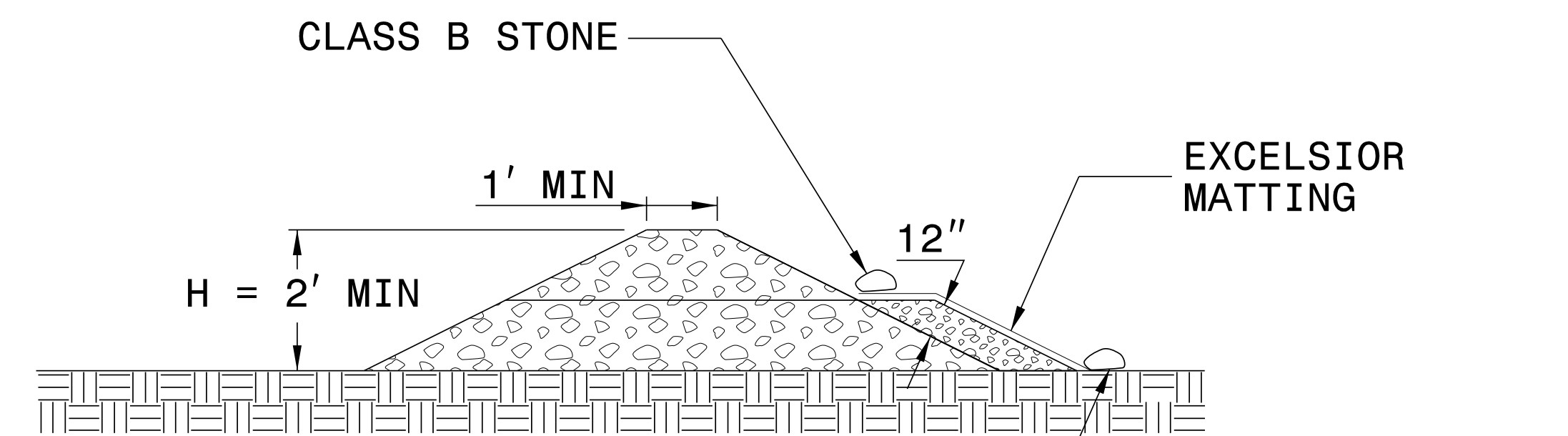
INITIALLY APPLY 4 OUNCES OF POLYACRYLAMIDE (PAM) TO TOP OF MATTING SECTION AND AFTER EVERY RAINFALL EVENT THAT EQUALS OR EXCEEDS 0.50 INCHES.



INSET A



SECTION A-A



SECTION B-B

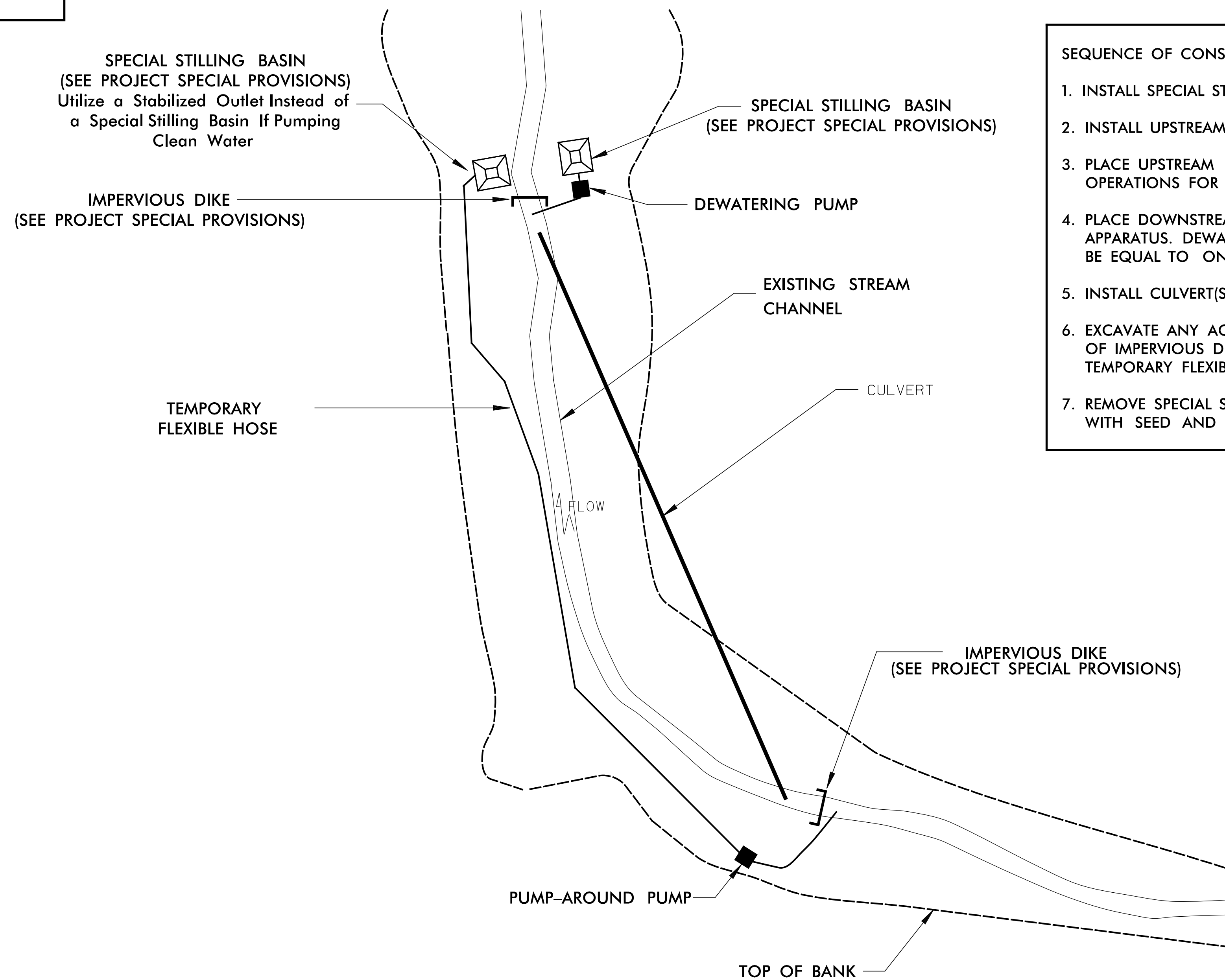
NOT TO SCALE

PROJECT REFERENCE NO.	SHEET NO.
1-4400BB	EC-2D
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

EXAMPLE OF PUMP-AROUND OPERATION

NOTES:

- 1) All excavation shall be performed in only dry or isolated areas of the work zone.
- 2) Impervious dikes are to be used to isolate work from stream flow when necessary.
- 3) Maintenance of stream flow operations shall be incidental to the work. This includes polyethylene sheeting, diversion pipes, pumps and hoses.
- 4) Pumps and hoses shall be of sufficient size to dewater the work area.



SEQUENCE OF CONSTRUCTION FOR TYPICAL WORK AREA

1. INSTALL SPECIAL STILLING BASIN(S).
2. INSTALL UPSTREAM PUMP AND TEMPORARY FLEXIBLE HOSE.
3. PLACE UPSTREAM IMPERVIOUS DIKE AND BEGIN PUMPING OPERATIONS FOR STREAM DIVERSION.
4. PLACE DOWNSTREAM IMPERVIOUS DIKE AND PUMPING APPARATUS. DEWATER ENTRAPPED AREA. AREA TO BE DEWATERED SHALL BE EQUAL TO ONE DAY'S WORK.
5. INSTALL CULVERT(S) IN ACCORDANCE WITH THE PLANS.
6. EXCAVATE ANY ACCUMULATED SILT AND DEWATER BEFORE REMOVAL OF IMPERVIOUS DIKES. REMOVE IMPERVIOUS DIKES, PUMPS, AND TEMPORARY FLEXIBLE HOSE. (DOWNSTREAM IMPERVIOUS DIKES FIRST).
7. REMOVE SPECIAL STILLING BASIN(S) AND BACKFILL. STABILIZE DISTURBED AREA WITH SEED AND MULCH.

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

PROJECT REFERENCE NO. 1-4400BB	SHEET NO. EC-3
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SOIL STABILIZATION SUMMARY SHEET
MATTING FOR EROSION CONTROL

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
4	Y1-RPA	16+50	14+00	L	190
4	Y1-RPA	14+00	11+50	L	240
4	Y1-RPA	11+50	10+00	L	150
4	L	380+50	382+00	L	170
9	L	442+70	440+00	L	205
9	L	447+50	442+70	L	360
11	L	473+00	476+00	L	220
11	L	476+00	481+50	L	515
11	L	481+50	483+50	L	190
11/12	L	483+50	487+50	L	360
12	L	487+50	491+50	L	330
17	L	561+50	563+50	L	160
19	L	585+00	586+50	L	135
27/28	Y5	13+50	16+50	L	210
28	Y5	12+20	17+50	R	420
28	Y5	20+70	22+50	R	200
28	Y5	28+00	30+50	L	210
8	Y2	17+25	20+00	L	205
8/26	Y2	23+00	26+00	L	225
10/11	L	468+20	471+50	R	295
11	L	471+50	475+00	R	350
11	L	475+00	476+00	R	60
11	L	476+00	480+20	R	315
11	L	482+00	483+00	R	115
16	L	536+30	539+00	R	175
16	L	543+00	541+50	R	100
5	L	392+50	398+50	R	145
15	L	528+00	529+80	L	20
18/19	L	575+75	581+20	L	165
8	L	434+50	439+00	R	250
8	L	440+70	442+40	R	80
18	L	573+50	577+80	R	80

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
18/19	L	577+80	581+20	R	120
19	L	581+20	585+00	R	135
13	L	501+50	507+00	L	330
19	L	581+50	582+50	L	15
10/11	L	462+50	471+50	R	690
20	L	603+00	605+00	R	375
22	L	624+00	627+00	L	660
22	L	623+50	628+00	R	785
22	L	629+00	631+50	L	280
23/24	L	642+28	653+50	R	125
			SUBTOTAL		10,360
MISCELLANEOUS MATTING TO BE INSTALLED AS DIRECTED BY THE ENGINEER					389,000
					TOTAL 399,360
					SAY 400,000 SY

COIR FIBER MATTING FOR EROSION CONTROL (SWALES)

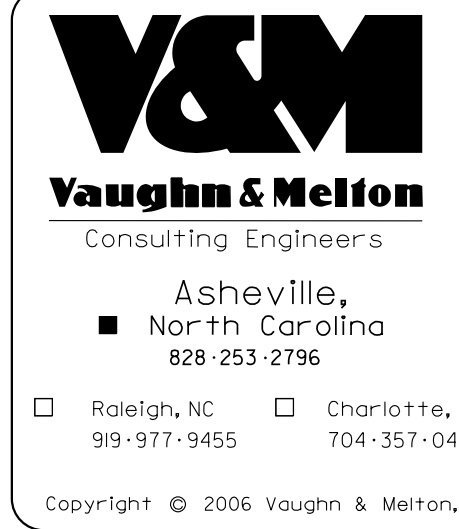
CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
4	Y1-RPA	19+00	21+78	L	290
8	L	431+75	433+50	L	120
8	Y2	10+00	11+00	R	70
5/6	L	400+90	402+50	R	230
13	L	510+50	512+30	R	115
18/19	L	580+25	585+00	L	70
9	L	448+85	452+00	R	100
21	L	615+30	616+00	L	250
22	L	623+25	624+00	L	250
13	L	642+28	643+50	R	235
			SUBTOTAL		1,730
ADDITIONAL COIR FIBER MATTING FOR EROSION CONTROL					5,320
					TOTAL 7,050
					SAY 7,100 SY

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

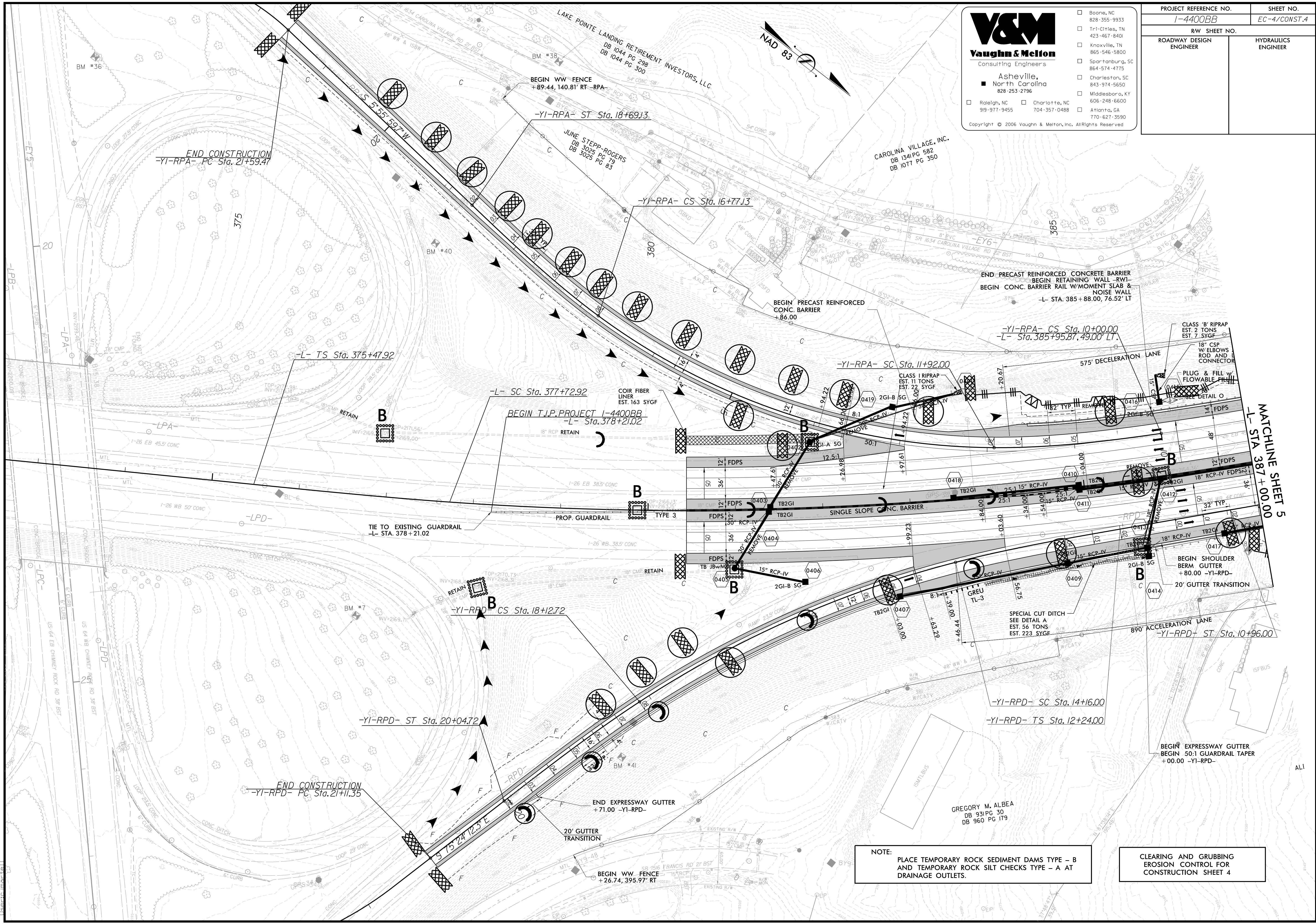
PROJECT REFERENCE NO. <i>I-4400BB</i>	SHEET NO. <i>EC-3A</i>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SOIL STABILIZATION TIMEFRAMES

<i>SITE DESCRIPTION</i>	<i>STABILIZATION TIME</i>	<i>TIMEFRAME EXCEPTIONS</i>
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HQW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
SLOPES 3:1 OR FLATTER	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50' IN LENGTH.
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE, EXCEPT FOR PERIMETERS AND HQW ZONES.



PROJECT REFERENCE NO.	SHEET NO.
I-4400BB	EC-4/CONST.4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



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

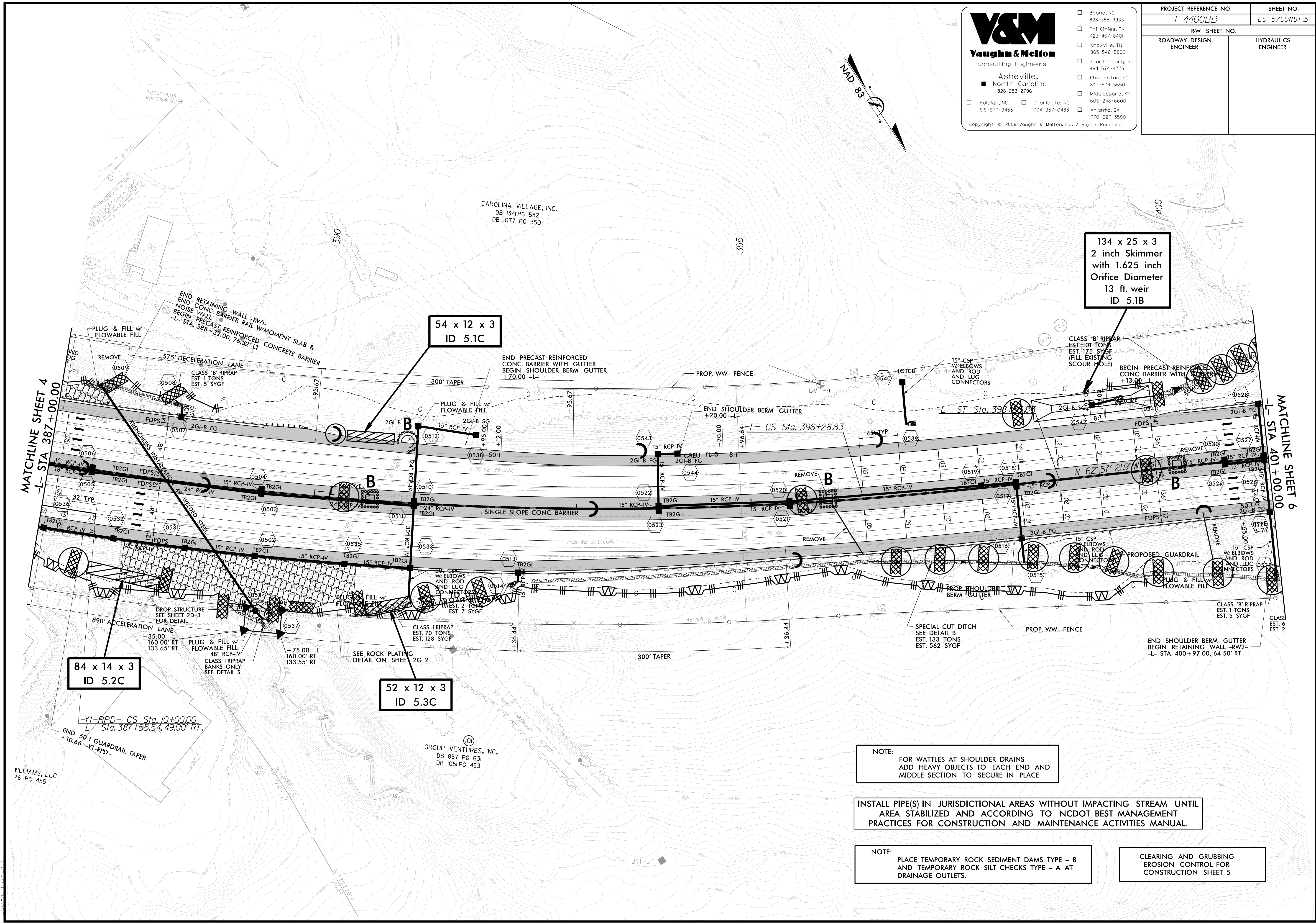
CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 4

Asheville, North Carolina
828-253-2796

Boone, NC 828-355-9933
Tri-Cities, TN 423-467-8401
Knoxville, TN 865-546-5800
Spartanburg, SC 864-574-4775
Charleston, SC 843-974-5650
Middlesboro, KY 606-248-6600
Raleigh, NC 919-977-9455
Charlotte, NC 704-357-0488
Atlanta, GA 770-627-3590

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PROJECT REFERENCE NO. 1-4400BB	SHEET NO. EC-5/CONST.5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



NOTE:
FOR WATTLES AT SHOULDER DRAINS
ADD HEAVY OBJECTS TO EACH END AND
MIDDLE SECTION TO SECURE IN PLACE

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.

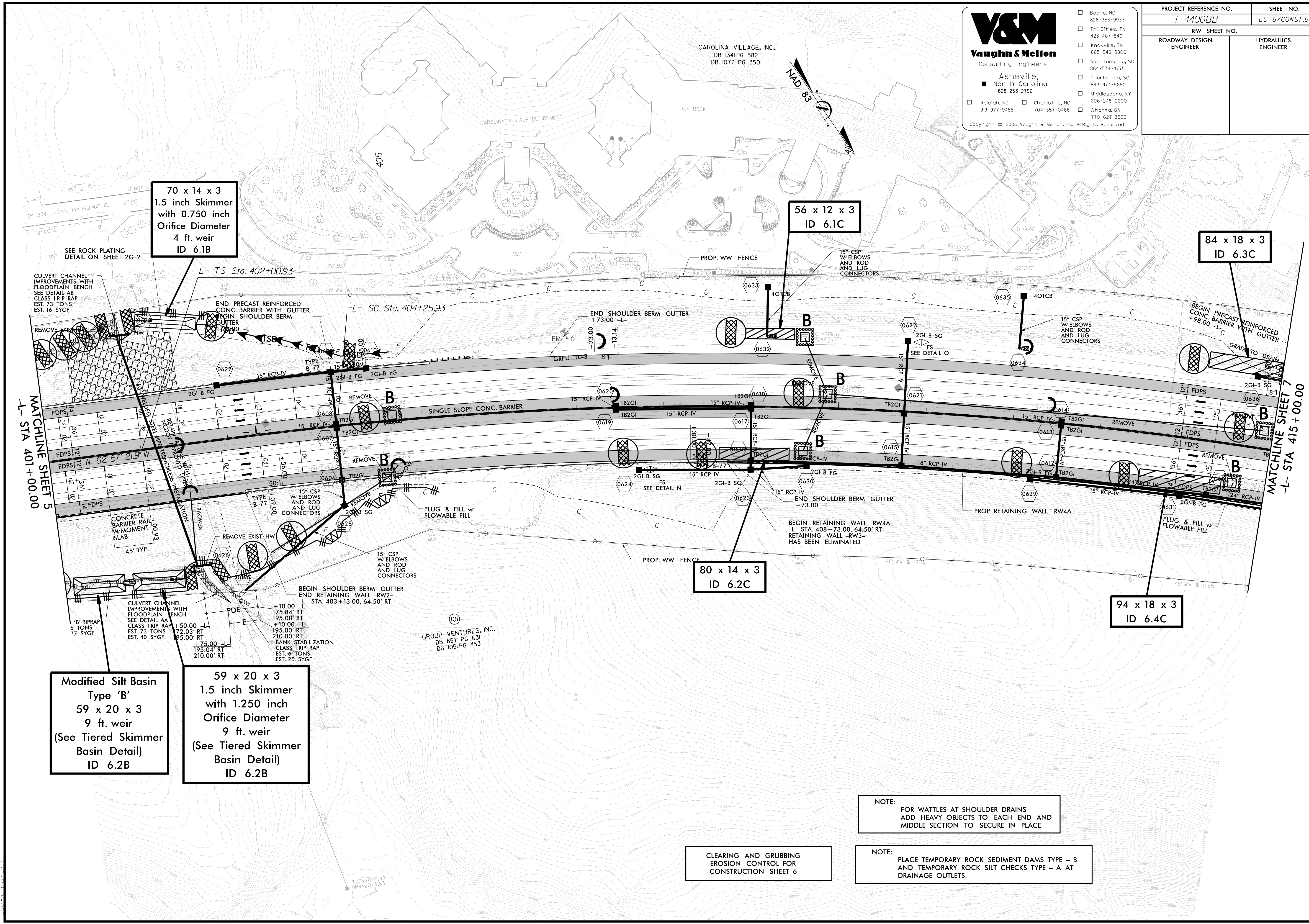
NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B
AND TEMPORARY ROCK SILT CHECKS TYPE - A AT
DRAINAGE OUTLETS.

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 5

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PROJECT REFERENCE NO. 1-4400BB	SHEET NO. EC-6/CONST.6
RW SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	



70 x 14 x 3
 1.5 inch Skimmer
 with 0.750 inch
 Orifice Diameter
 4 ft. weir
 ID 6.1B

56 x 12 x 3
 ID 6.1C

84 x 18 x 3
 ID 6.3C

80 x 14 x 3
 ID 6.2C

94 x 18 x 3
 ID 6.4C

Modified Silt Basin
 Type 'B'
 59 x 20 x 3
 9 ft. weir
 (See Tiered Skimmer
 Basin Detail)
 ID 6.2B

59 x 20 x 3
 1.5 inch Skimmer
 with 1.250 inch
 Orifice Diameter
 9 ft. weir
 (See Tiered Skimmer
 Basin Detail)
 ID 6.2B

NOTE:
 FOR WATTLES AT SHOULDER DRAINS
 ADD HEAVY OBJECTS TO EACH END AND
 MIDDLE SECTION TO SECURE IN PLACE

CLEARING AND GRUBBING
 EROSION CONTROL FOR
 CONSTRUCTION SHEET 6

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

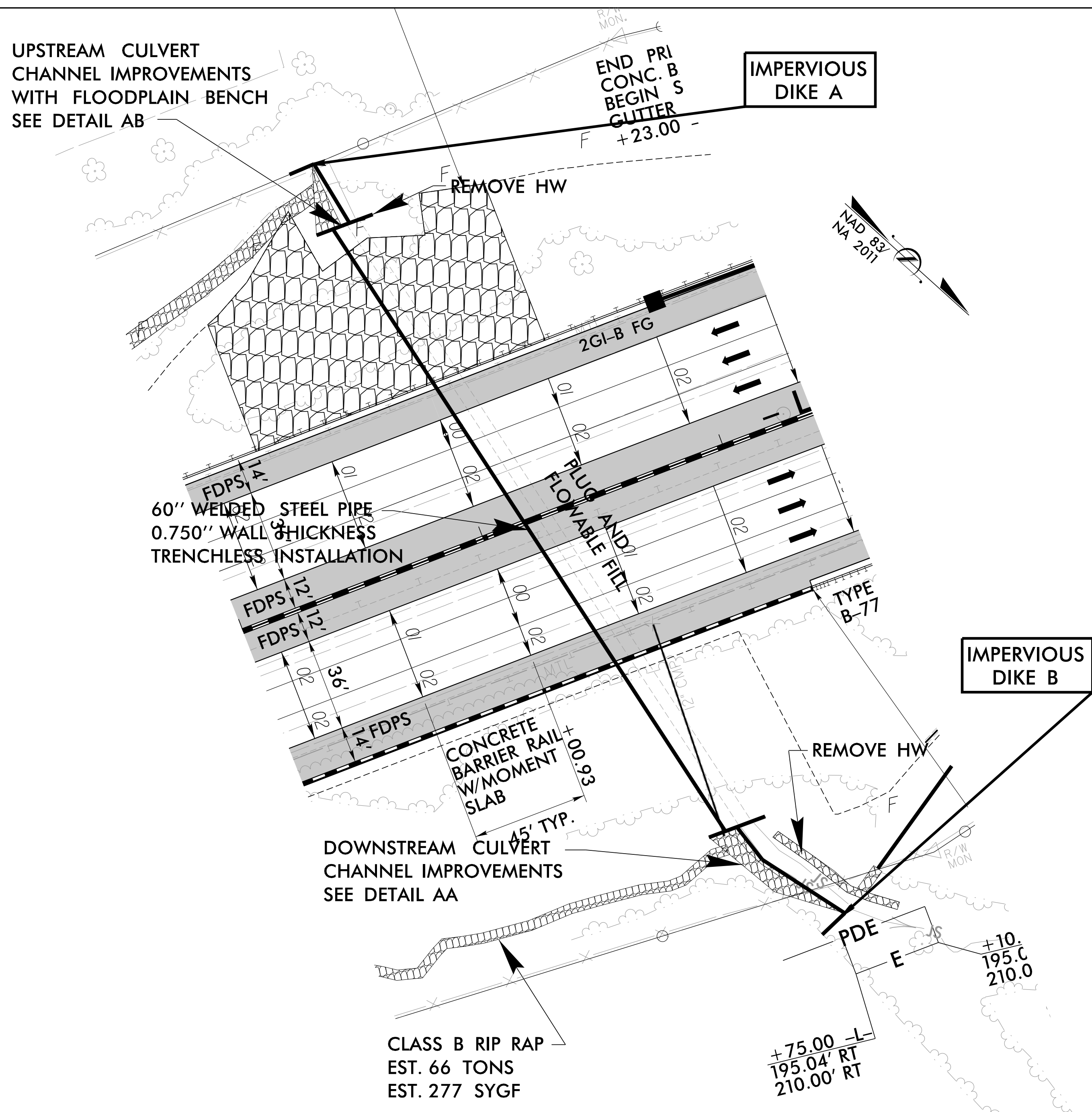
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PROJECT REFERENCE NO. I-4400BB	SHEET NO. EC-6A/CONST.6
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CULVERT CONSTRUCTION SEQUENCE STA. 402+17 -L-

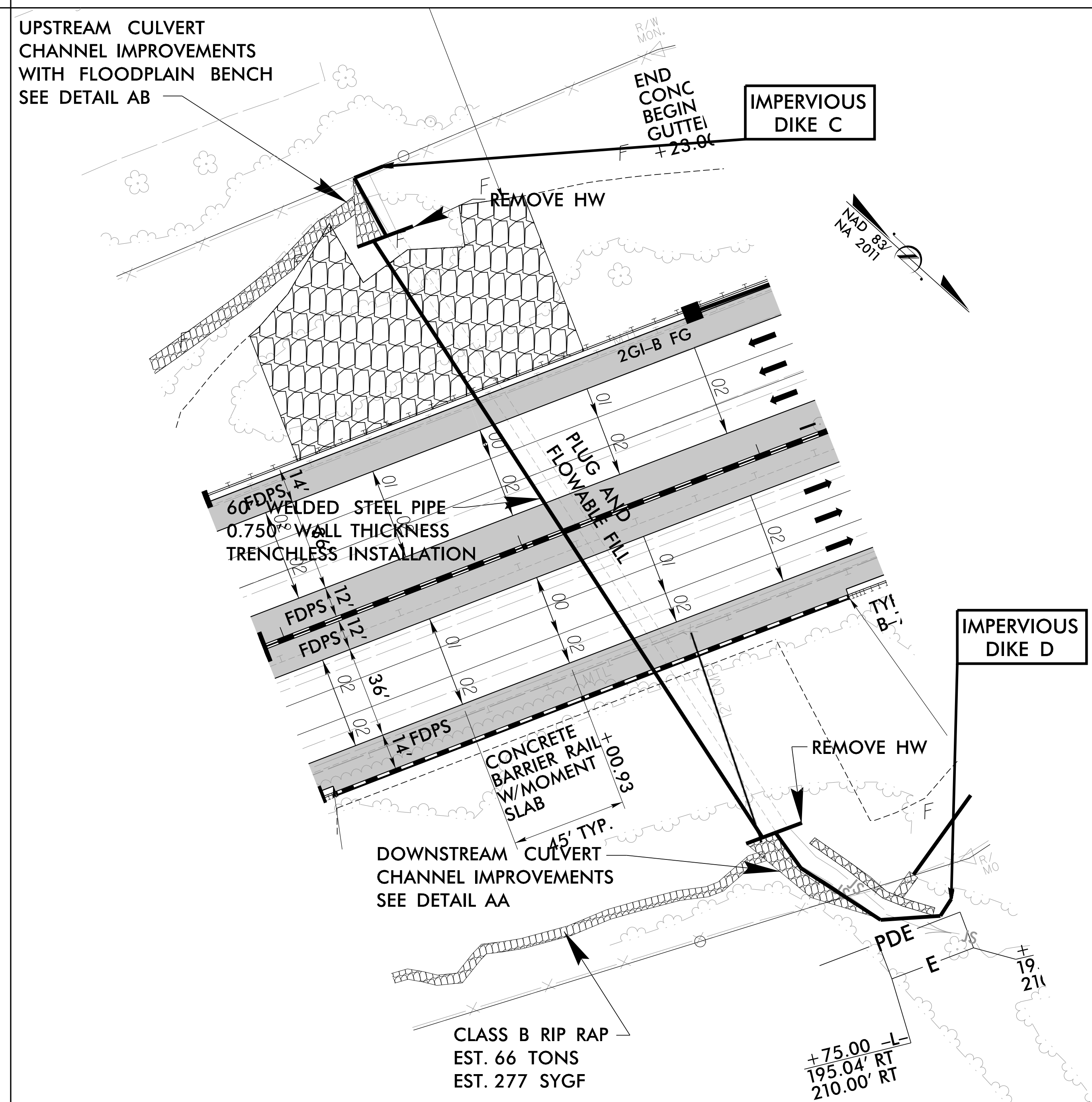
PHASE I

1. UTILIZE SPECIAL STILLING BASIN(S) AS NEEDED DURING CULVERT CONSTRUCTION.
2. INSTALL IMPERVIOUS DIKES A AND B AS SHOWN.
3. INSTALL PROPOSED 60" WSP WITH HEADWALLS.
4. INSTALL PORTION OF UPSTREAM AND DOWNSTREAM CULVERT CHANNEL IMPROVEMENTS



PHASE II

1. REMOVE IMPERVIOUS DIKES A AND B.
2. INSTALL IMPERVIOUS DIKES C AND D AS SHOWN.
3. INSTALL REST OF UPSTREAM AND DOWNSTREAM CULVERT CHANNEL IMPROVEMENTS.
4. REMOVE IMPERVIOUS DIKES AND ANY REMAINING SPECIAL STILLING BASIN(S).
5. COMPLETE FILL SLOPE.

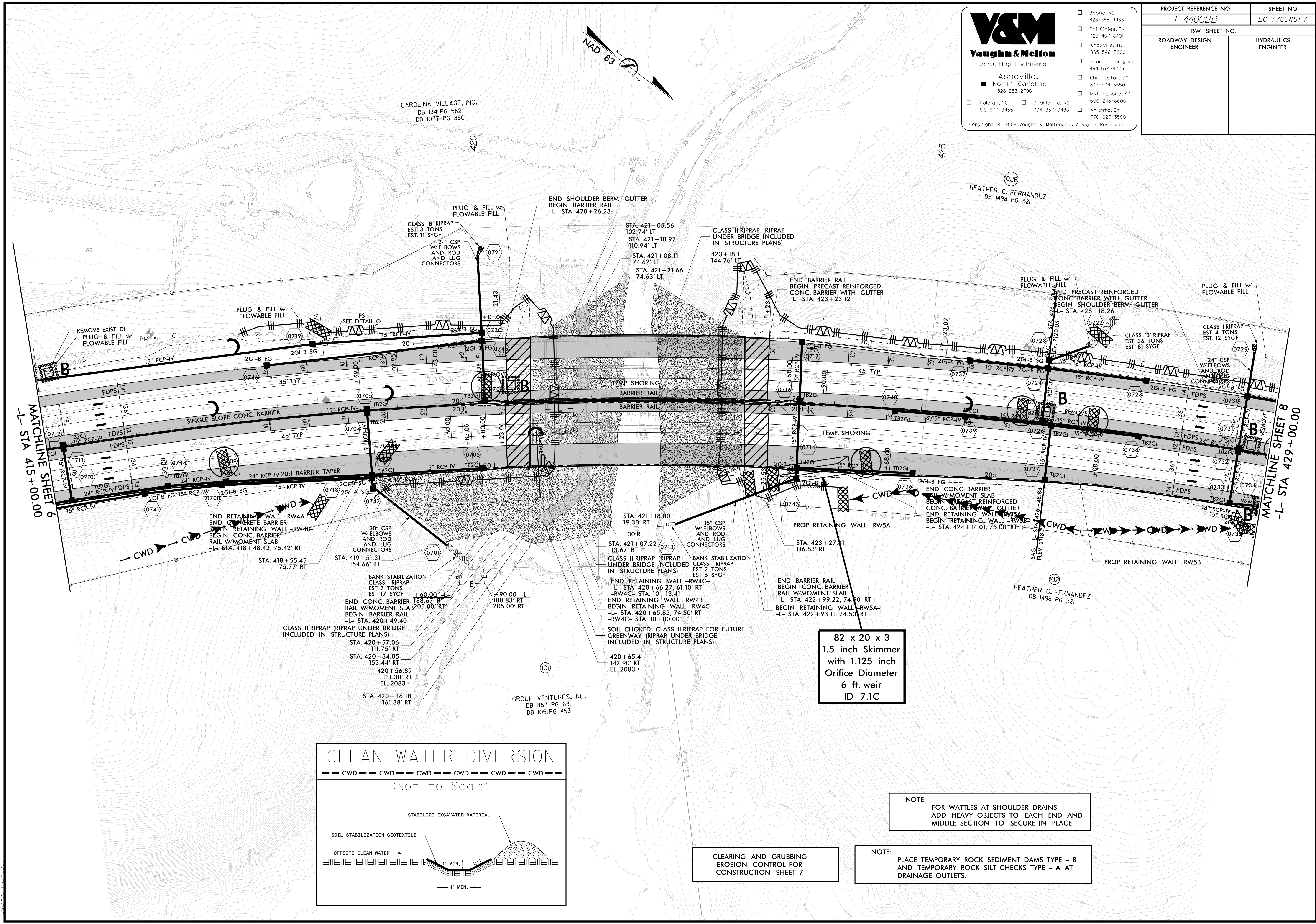


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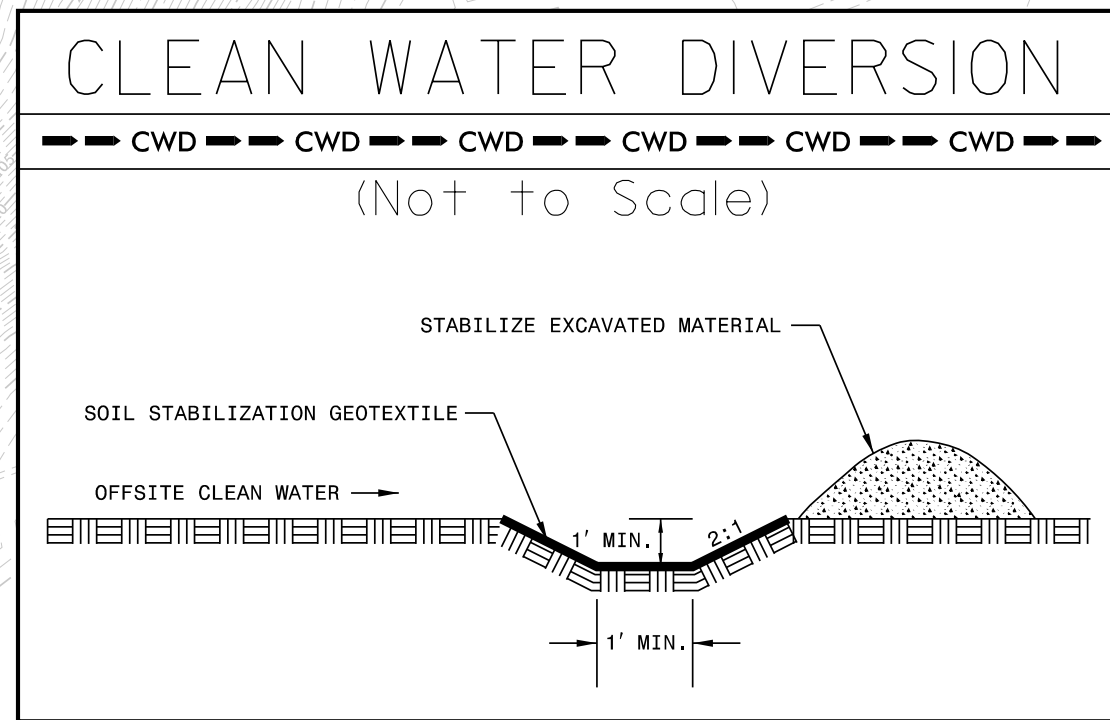
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PROJECT REFERENCE NO. 1-4400BB	SHEET NO. EC-7/CONST.7
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



MATCHLINE SHEET 6
 -L- STA 415 + 00.00

MATCHLINE SHEET 8
 -L- STA 429 + 00.00



82 x 20 x 3
 1.5 inch Skimmer
 with 1.125 inch
 Orifice Diameter
 6 ft. weir
 ID 7.1C

NOTE:
 FOR WATTLES AT SHOULDER DRAINS
 ADD HEAVY OBJECTS TO EACH END AND
 MIDDLE SECTION TO SECURE IN PLACE

CLEARING AND GRUBBING
 EROSION CONTROL FOR
 CONSTRUCTION SHEET 7

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

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- Charlotte, NC 704-357-0488
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PROJECT REFERENCE NO. I-4400BB	SHEET NO. EC-8/CONST.8
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

136 x 24 x 3
2 inch Skimmer
with 1.875 inch
Orifice Diameter
16 ft. weir
(See Tiered Skimmer
Basin Detail)
ID 8.1B

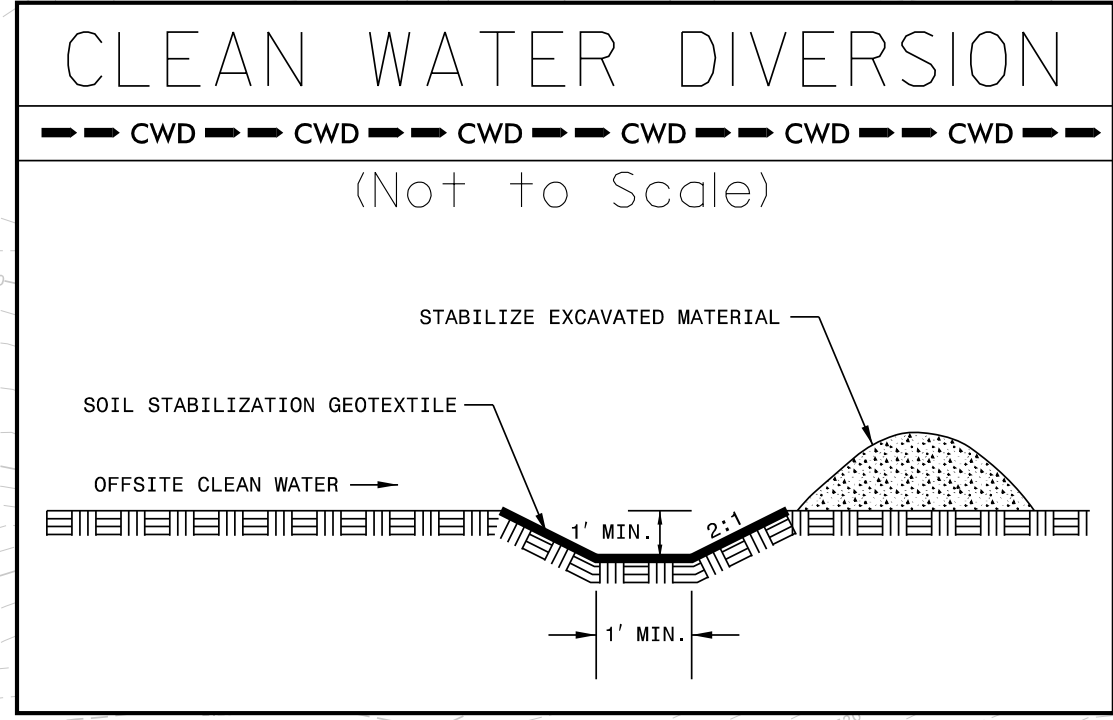
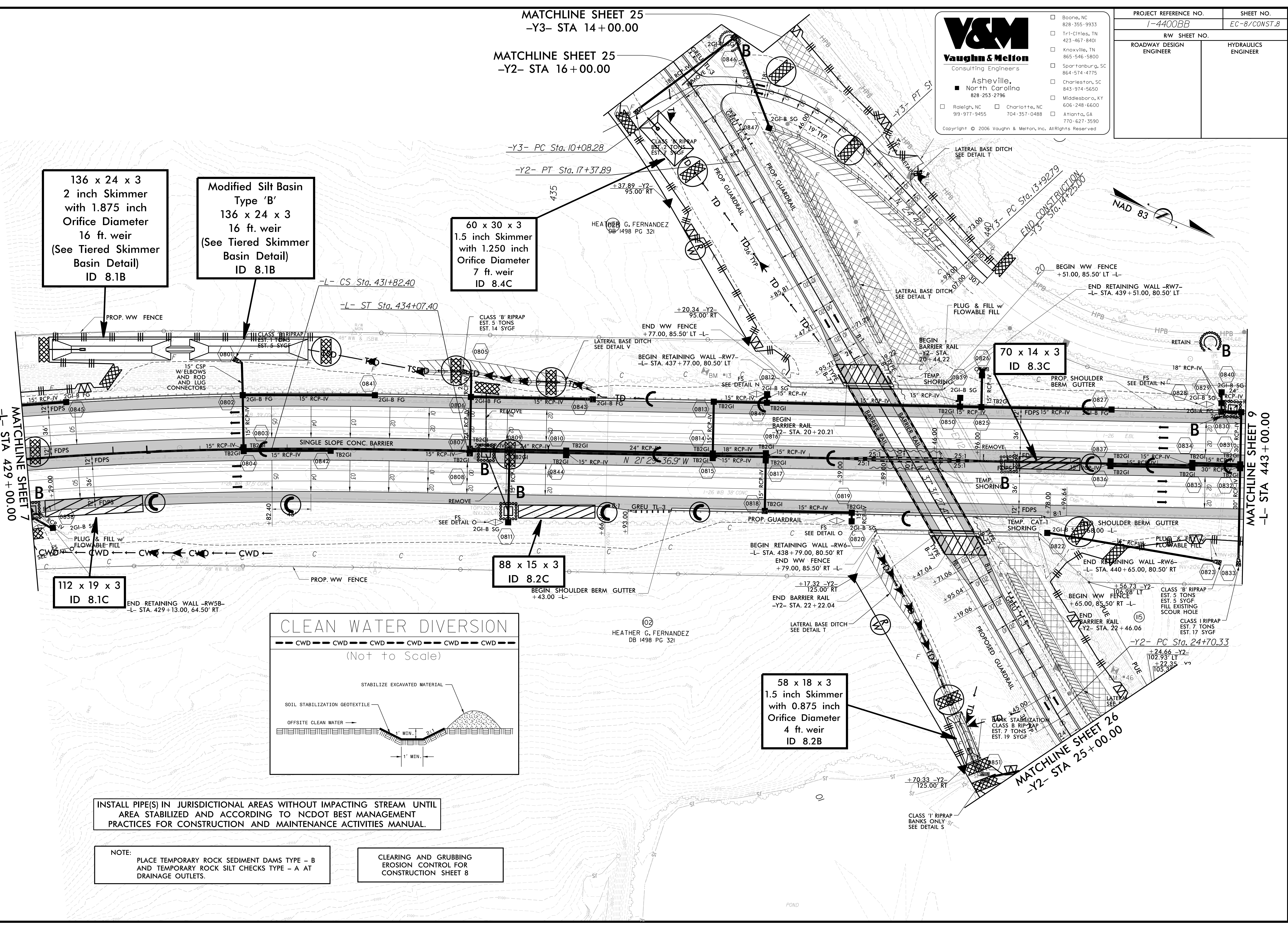
Modified Silt Basin
Type 'B'
136 x 24 x 3
16 ft. weir
(See Tiered Skimmer
Basin Detail)
ID 8.1B

60 x 30 x 3
1.5 inch Skimmer
with 1.250 inch
Orifice Diameter
7 ft. weir
ID 8.4C

70 x 14 x 3
ID 8.3C

88 x 15 x 3
ID 8.2C

58 x 18 x 3
1.5 inch Skimmer
with 0.875 inch
Orifice Diameter
4 ft. weir
ID 8.2B



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.

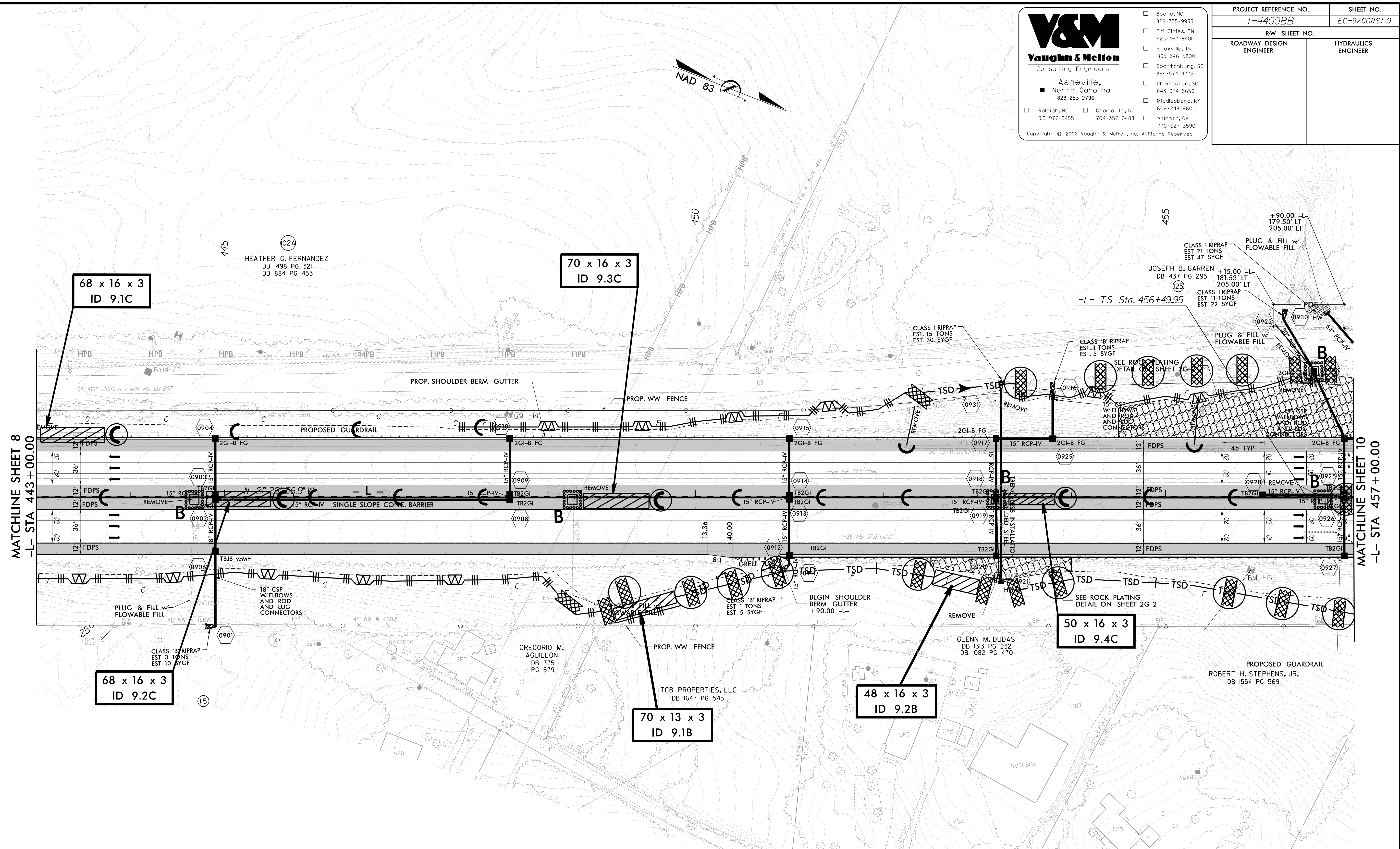
NOTE: PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B AND TEMPORARY ROCK SILT CHECKS TYPE - A AT DRAINAGE OUTLETS.

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 8

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PROJECT REFERENCE NO. I-4400BB	SHEET NO. EC-9/CONST.9
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



MATCHLINE SHEET 8
-L- STA 443 +00.00

MATCHLINE SHEET 10
-L- STA 457 +00.00

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.

NOTE:
FOR WATTLES AT SHOULDER DRAINS
ADD HEAVY OBJECTS TO EACH END AND
MIDDLE SECTION TO SECURE IN PLACE

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

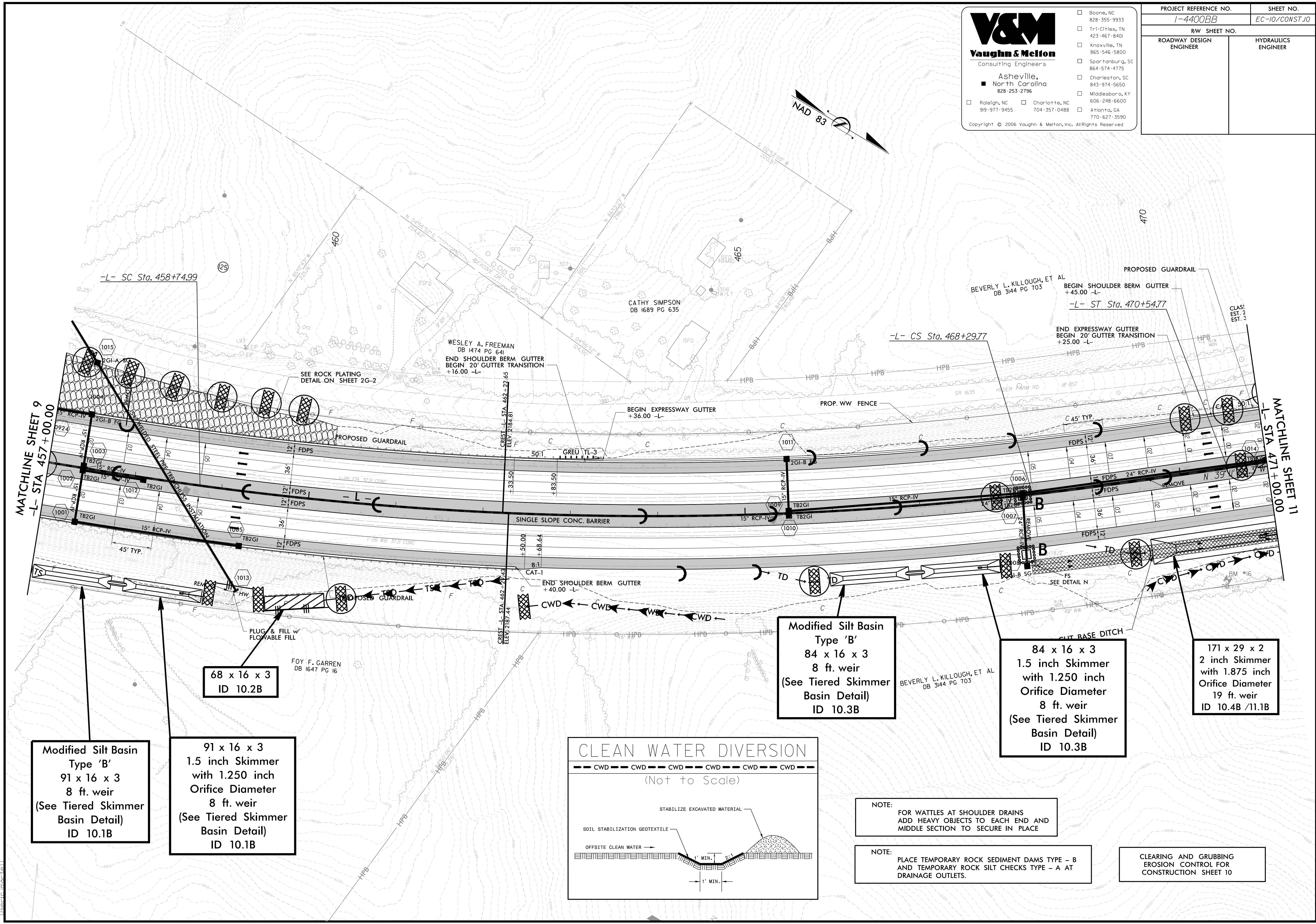
CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 9

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PROJECT REFERENCE NO. I-4400BB	SHEET NO. EC-10/CONST.10
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



Modified Silt Basin
 Type 'B'
 91 x 16 x 3
 8 ft. weir
 (See Tiered Skimmer
 Basin Detail)
 ID 10.1B

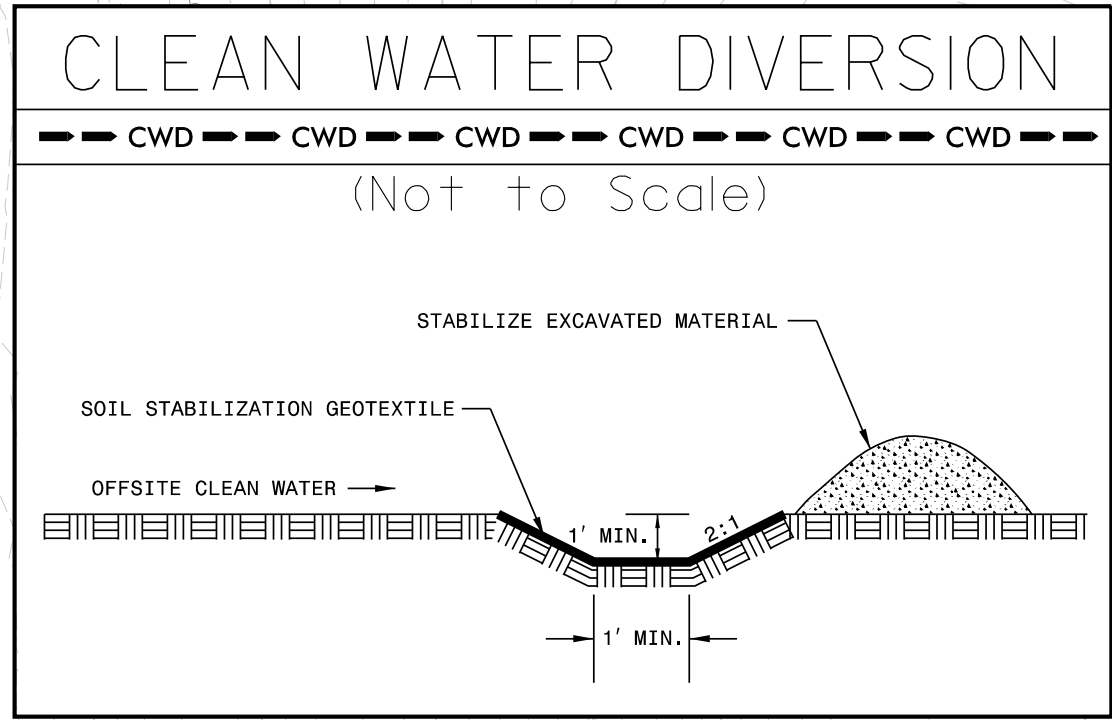
91 x 16 x 3
 1.5 inch Skimmer
 with 1.250 inch
 Orifice Diameter
 8 ft. weir
 (See Tiered Skimmer
 Basin Detail)
 ID 10.1B

68 x 16 x 3
 ID 10.2B

Modified Silt Basin
 Type 'B'
 84 x 16 x 3
 8 ft. weir
 (See Tiered Skimmer
 Basin Detail)
 ID 10.3B

84 x 16 x 3
 1.5 inch Skimmer
 with 1.250 inch
 Orifice Diameter
 8 ft. weir
 (See Tiered Skimmer
 Basin Detail)
 ID 10.3B

171 x 29 x 2
 2 inch Skimmer
 with 1.875 inch
 Orifice Diameter
 19 ft. weir
 ID 10.4B /11.1B



NOTE:
 FOR WATTLES AT SHOULDER DRAINS
 ADD HEAVY OBJECTS TO EACH END AND
 MIDDLE SECTION TO SECURE IN PLACE

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

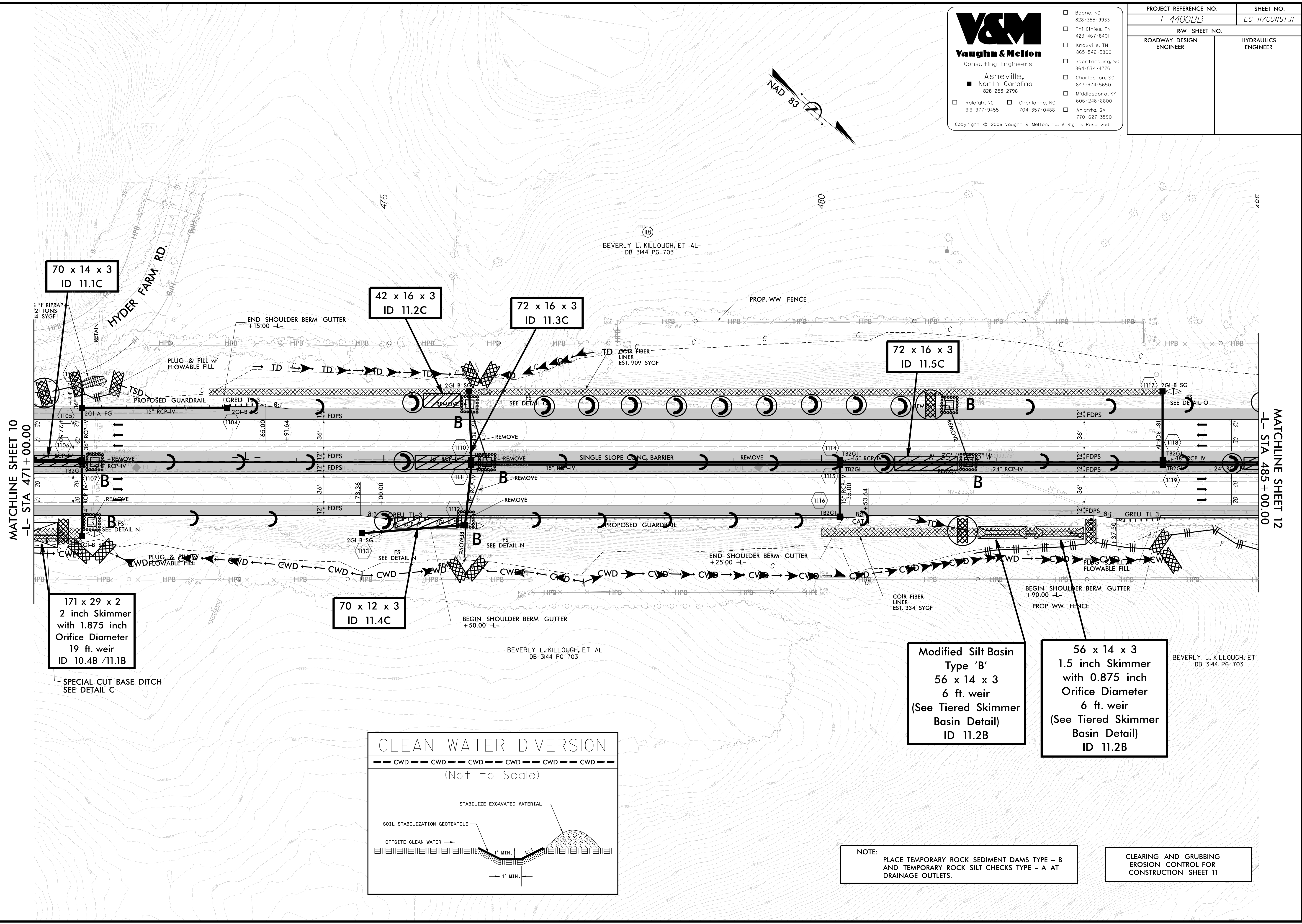
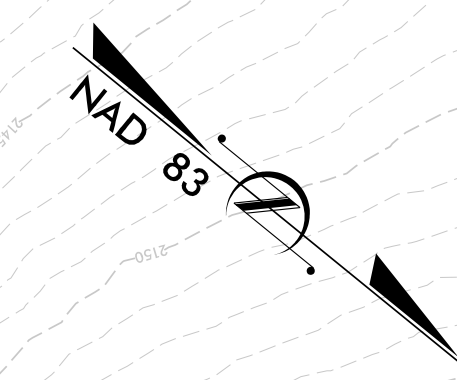
CLEARING AND GRUBBING
 EROSION CONTROL FOR
 CONSTRUCTION SHEET 10

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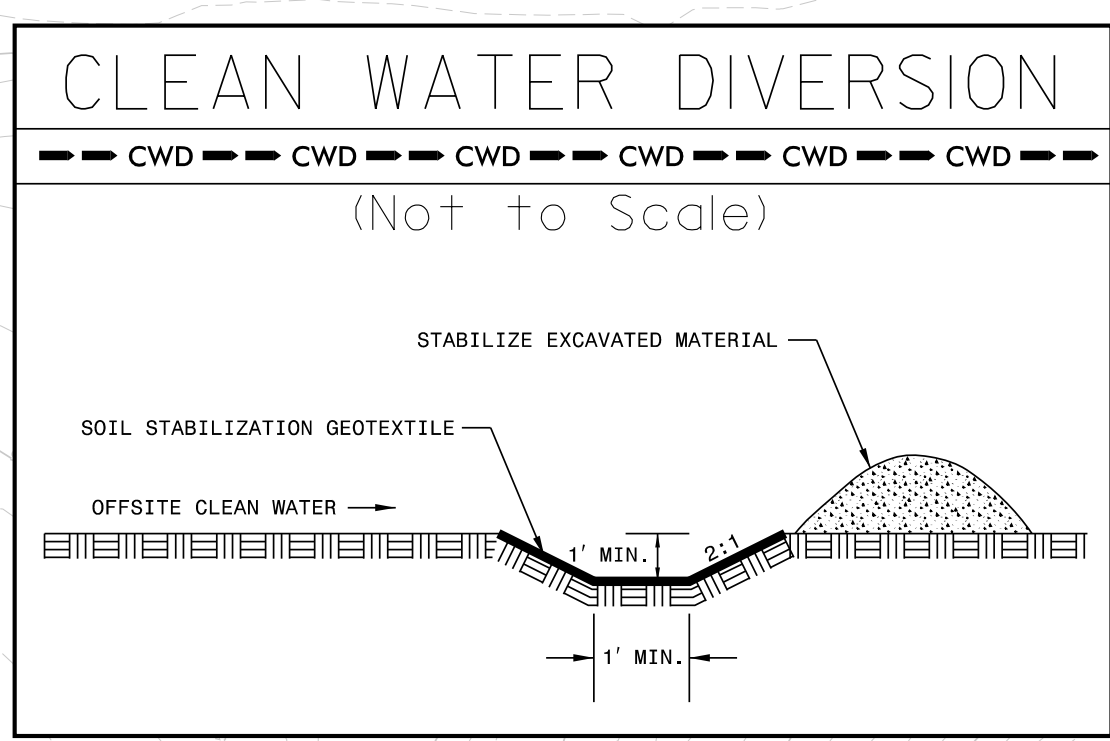
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PROJECT REFERENCE NO. I-4400BB	SHEET NO. EC-11/CONST.11
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



MATCHLINE SHEET 10
 -L- STA 471+00.00

MATCHLINE SHEET 12
 -L- STA 485+00.00



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

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 11

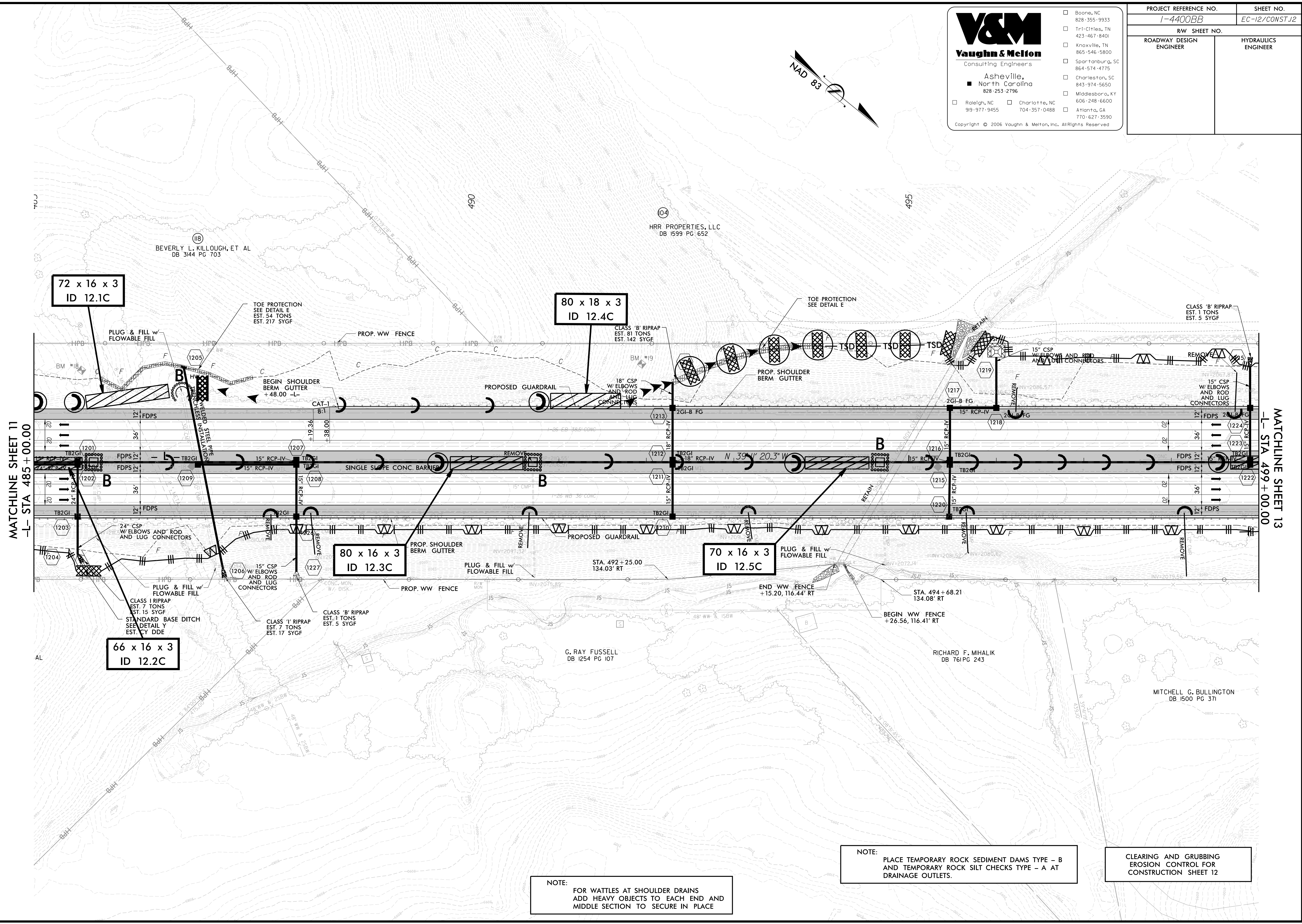
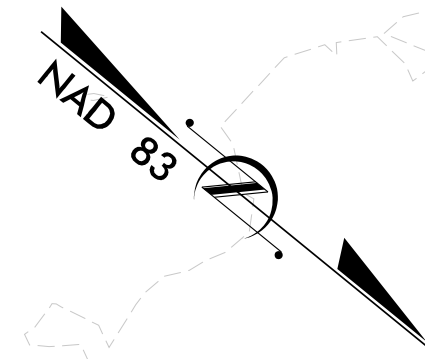
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PROJECT REFERENCE NO. I-4400BB	SHEET NO. EC-12/CONST.12
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



MATCHLINE SHEET 11
-L- STA 485 + 00.00

MATCHLINE SHEET 13
-L- STA 499 + 00.00

NOTE:
FOR WATTLES AT SHOULDER DRAINS
ADD HEAVY OBJECTS TO EACH END AND
MIDDLE SECTION TO SECURE IN PLACE

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

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 12

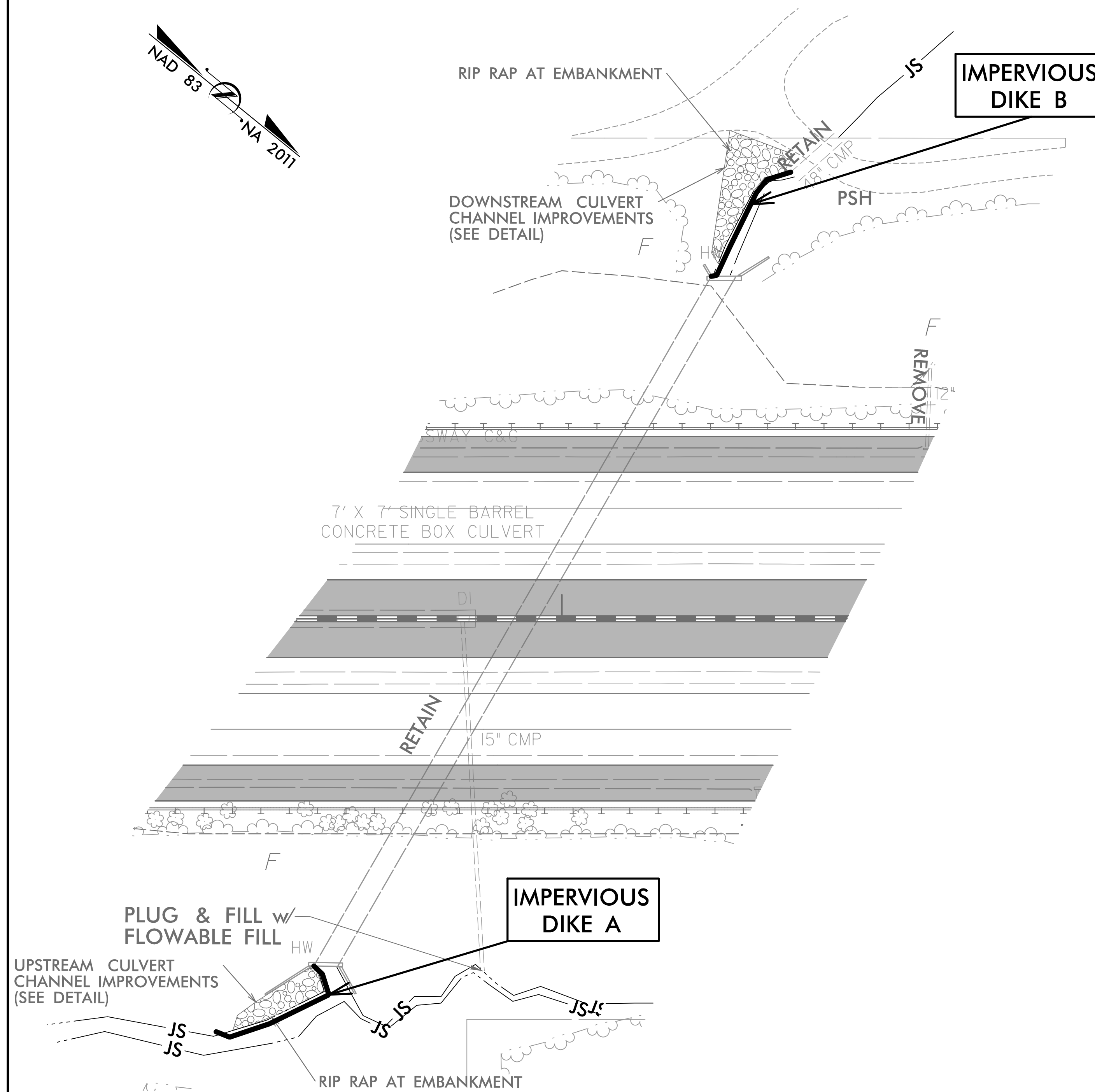
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lisepim

PROJECT REFERENCE NO.	SHEET NO.
1-4400BB	EC-12A/CONST.2
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CULVERT CONSTRUCTION SEQUENCE STA. 494+87 -L-

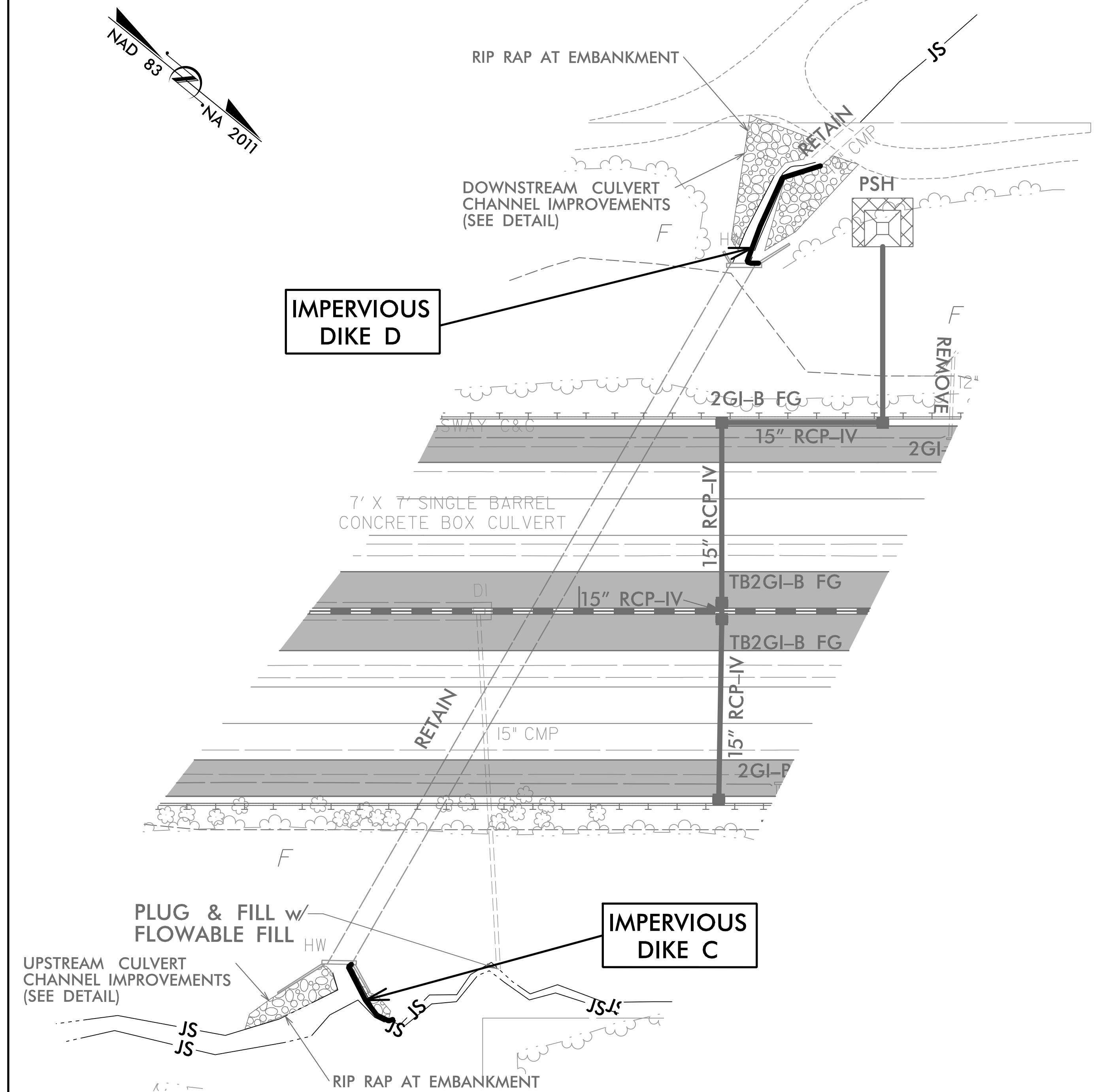
PHASE I

1. UTILIZE SPECIAL STILLING BASIN(S) AS NEEDED THROUGHOUT CULVERT CHANNEL IMPROVEMENTS CONSTRUCTION.
2. INSTALL IMPERVIOUS DIKES A AND B AS SHOWN.
3. INSTALL SOUTH SIDE UNSTREAM AND DOWNSTREAM CHANNEL IMPROVEMENTS AS SHOWN.



PHASE II

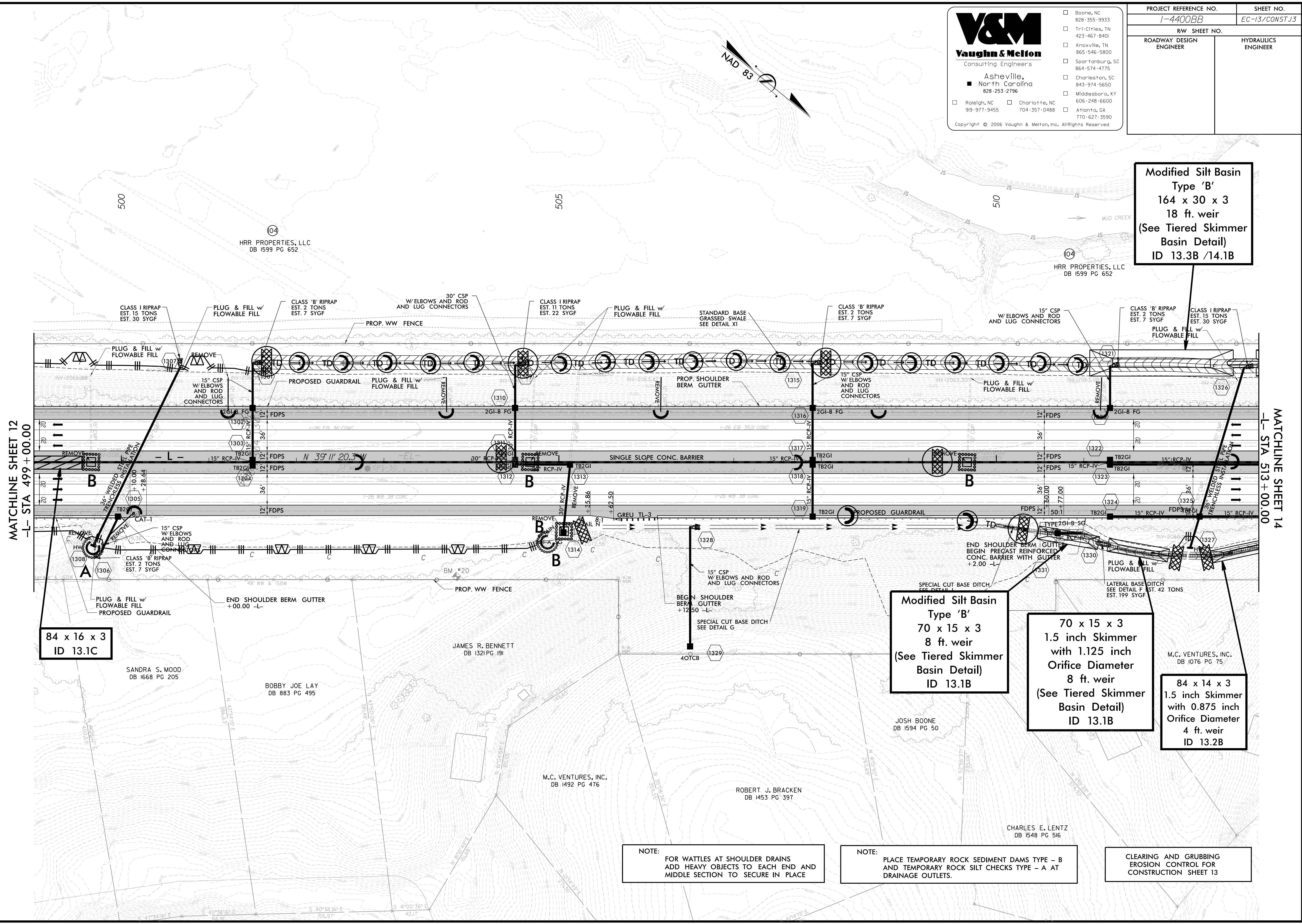
1. REMOVE IMPERVIOUS DIKES A AND B.
2. INSTALL IMPERVIOUS DIKES C AND D.
3. INSTALL NORTH SIDE UPSTREAM AND DOWNSTREAM CHANNEL IMPROVEMENTS AS SHOWN.
4. REMOVE IMPERVIOUS DIKES AND ANY REMAINING SPECIAL STILLING BASIN(S).
5. COMPLETE FILL SLOPE.



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PROJECT REFERENCE NO. 1-4400BB	SHEET NO. EC-13/CONST.13
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



MATCHLINE SHEET 12
 -L- STA 499+00.00

MATCHLINE SHEET 14
 -L- STA 513+00.00

**Modified Silt Basin
 Type 'B'**
 164 x 30 x 3
 18 ft. weir
 (See Tiered Skimmer
 Basin Detail)
 ID 13.3B /14.1B

**84 x 16 x 3
 ID 13.1C**

**Modified Silt Basin
 Type 'B'**
 70 x 15 x 3
 8 ft. weir
 (See Tiered Skimmer
 Basin Detail)
 ID 13.1B

**70 x 15 x 3
 1.5 inch Skimmer
 with 1.125 inch
 Orifice Diameter
 8 ft. weir
 (See Tiered Skimmer
 Basin Detail)
 ID 13.1B**

**84 x 14 x 3
 1.5 inch Skimmer
 with 0.875 inch
 Orifice Diameter
 4 ft. weir
 ID 13.2B**

NOTE:
 FOR WATTLES AT SHOULDER DRAINS
 ADD HEAVY OBJECTS TO EACH END AND
 MIDDLE SECTION TO SECURE IN PLACE

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

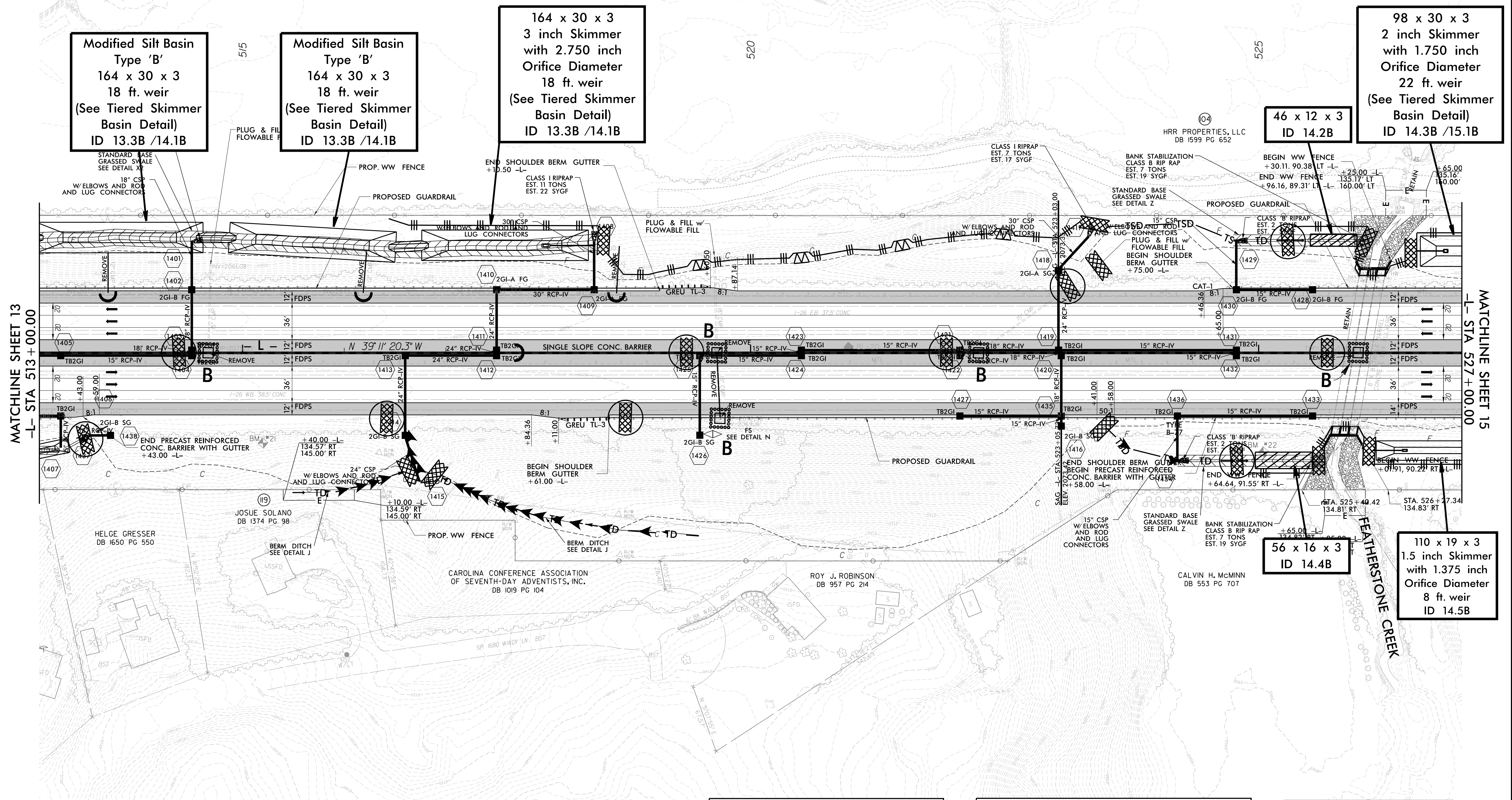
**CLEARING AND GRUBBING
 EROSION CONTROL FOR
 CONSTRUCTION SHEET 13**

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PROJECT REFERENCE NO. 1-4400BB	SHEET NO. EC-14/CONST.14
RW SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	



NOTE:
 FOR WATTLES AT SHOULDER DRAINS
 ADD HEAVY OBJECTS TO EACH END AND
 MIDDLE SECTION TO SECURE IN PLACE

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

CLEARING AND GRUBBING
 EROSION CONTROL FOR
 CONSTRUCTION SHEET 14

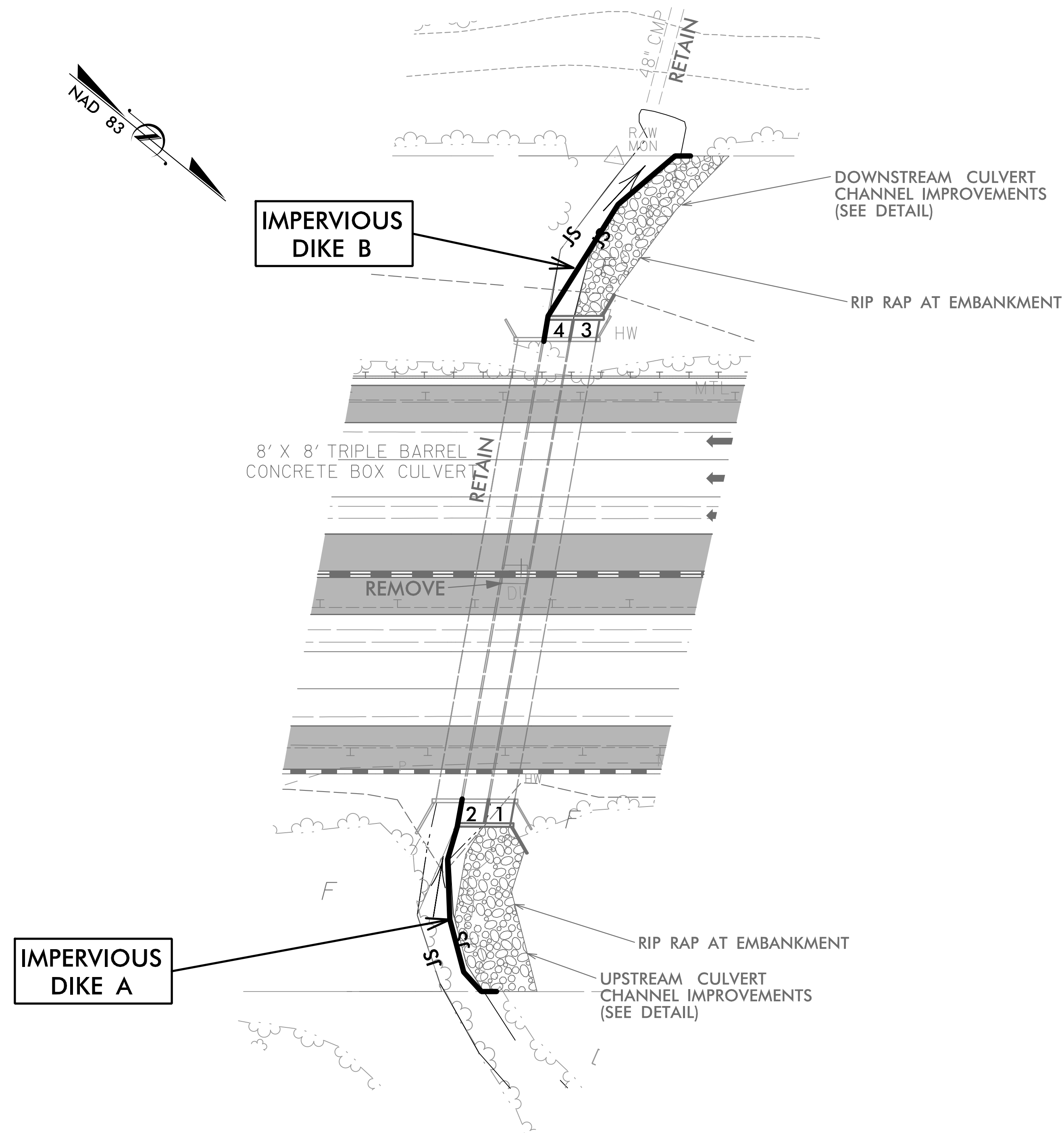
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PROJECT REFERENCE NO.	SHEET NO.
1-4400BB	EC-14A/CONST.14
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CULVERT CONSTRUCTION SEQUENCE STA. 525 + 98 -L-

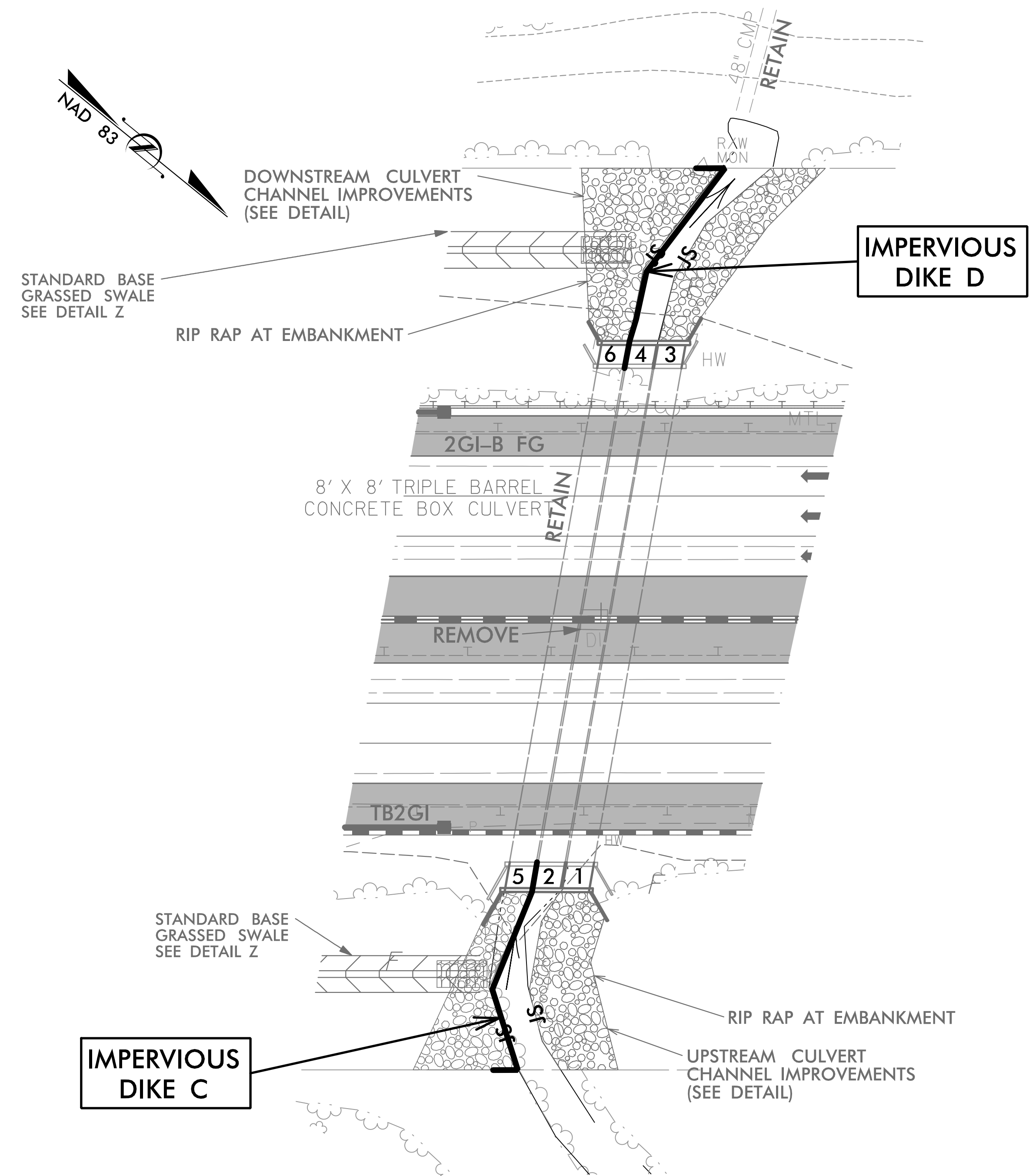
PHASE I

1. UTILIZE SPECIAL STILLING BASIN(S) AS NEEDED THROUGHOUT CULVERT CONSTRUCTION.
2. INSTALL IMPERVIOUS DIKES A AND B AS SHOWN.
3. INSTALL BARREL EXTENSIONS 1, 2, 3 AND, 4.
4. INSTALL PORTION OF UPSTREAM AND DOWNSTREAM CULVERT CHANNEL IMPROVEMENTS AS SHOWN.



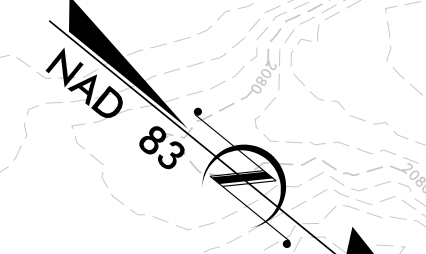
PHASE II

1. REMOVE IMPERVIOUS DIKES A AND B.
2. INSTALL IMPERVIOUS DIKES C AND D.
3. INSTALL BARREL EXTENSIONS 5 AND 6.
4. INSTALL REST OF UPSTREAM AND DOWNSTREAM CULVERT CHANNEL IMPROVEMENTS AS SHOWN.
5. REMOVE IMPERVIOUS DIKES AND ANY REMAINING SPECIAL STILLING BASIN(S).
6. COMPLETE FILL SLOPE AND STANDARD BASE GRASSED SWALES.



PROJECT REFERENCE NO. 1-4400BB		SHEET NO. EC-15/CONST.15	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	

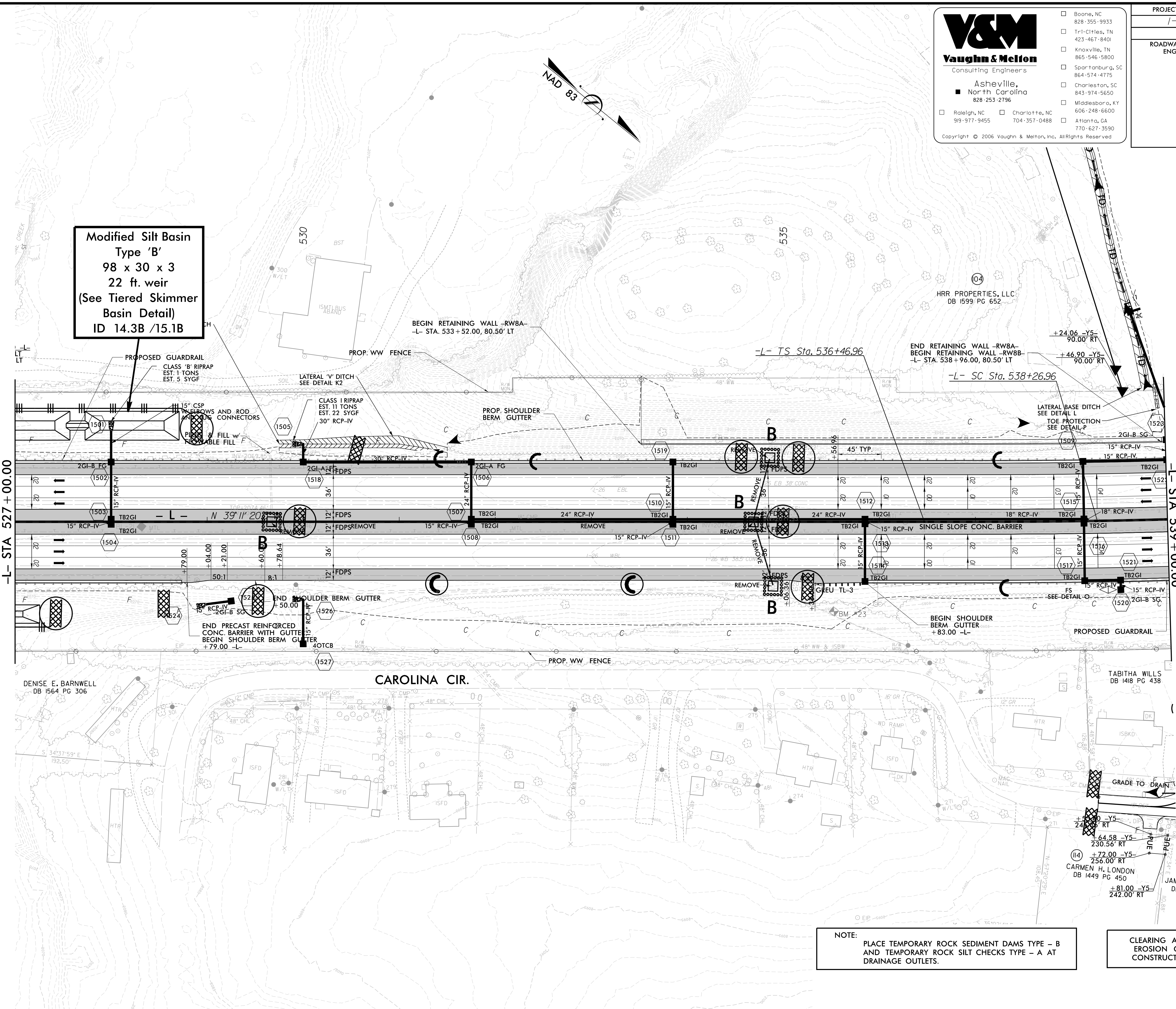
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Modified Silt Basin
Type 'B'
98 x 30 x 3
22 ft. weir
 (See Tiered Skimmer Basin Detail)
ID 14.3B /15.1B

MATCHLINE SHEET 14
 -L- STA 527 + 00.00

MATCHLINE SHEET 16
 -L- STA 539 + 00.00

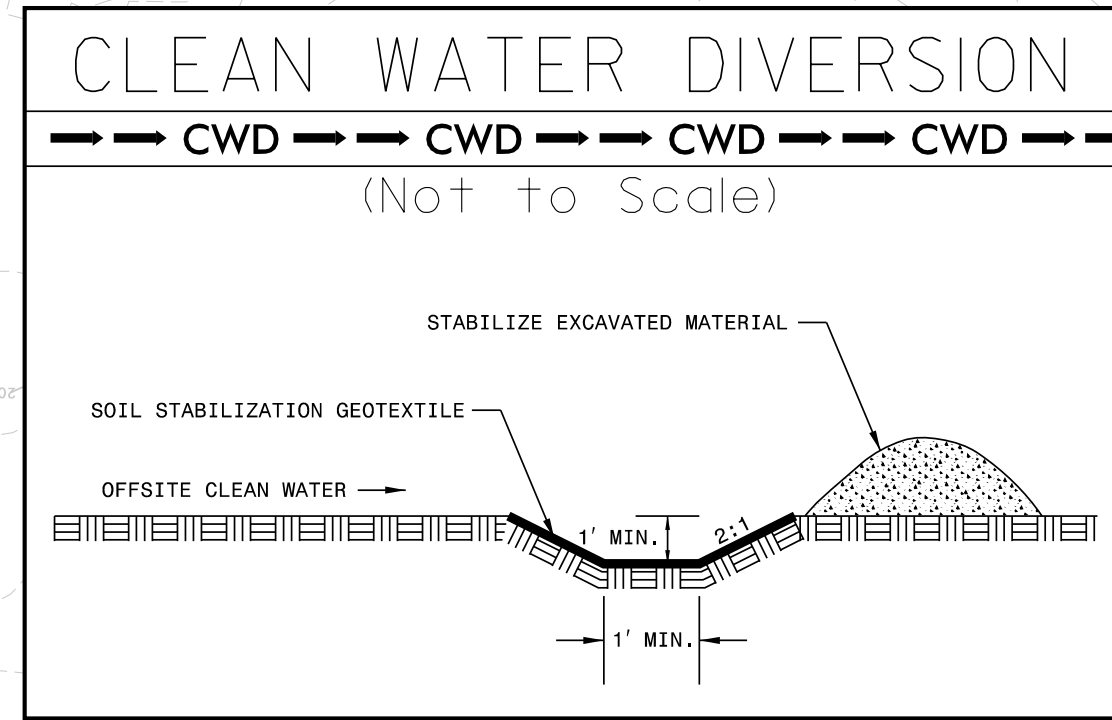


NOTE: PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B AND TEMPORARY ROCK SILT CHECKS TYPE - A AT DRAINAGE OUTLETS.

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 15

PROJECT REFERENCE NO.	SHEET NO.
1-4400BB	EC-16/CONST.16
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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101 x 30 x 3
 2 inch Skimmer
 with 1.875 inch
 Orifice Diameter
 22 ft. weir
 (See Tiered Skimmer
 Basin Detail)
 ID 16.2B /17.1B

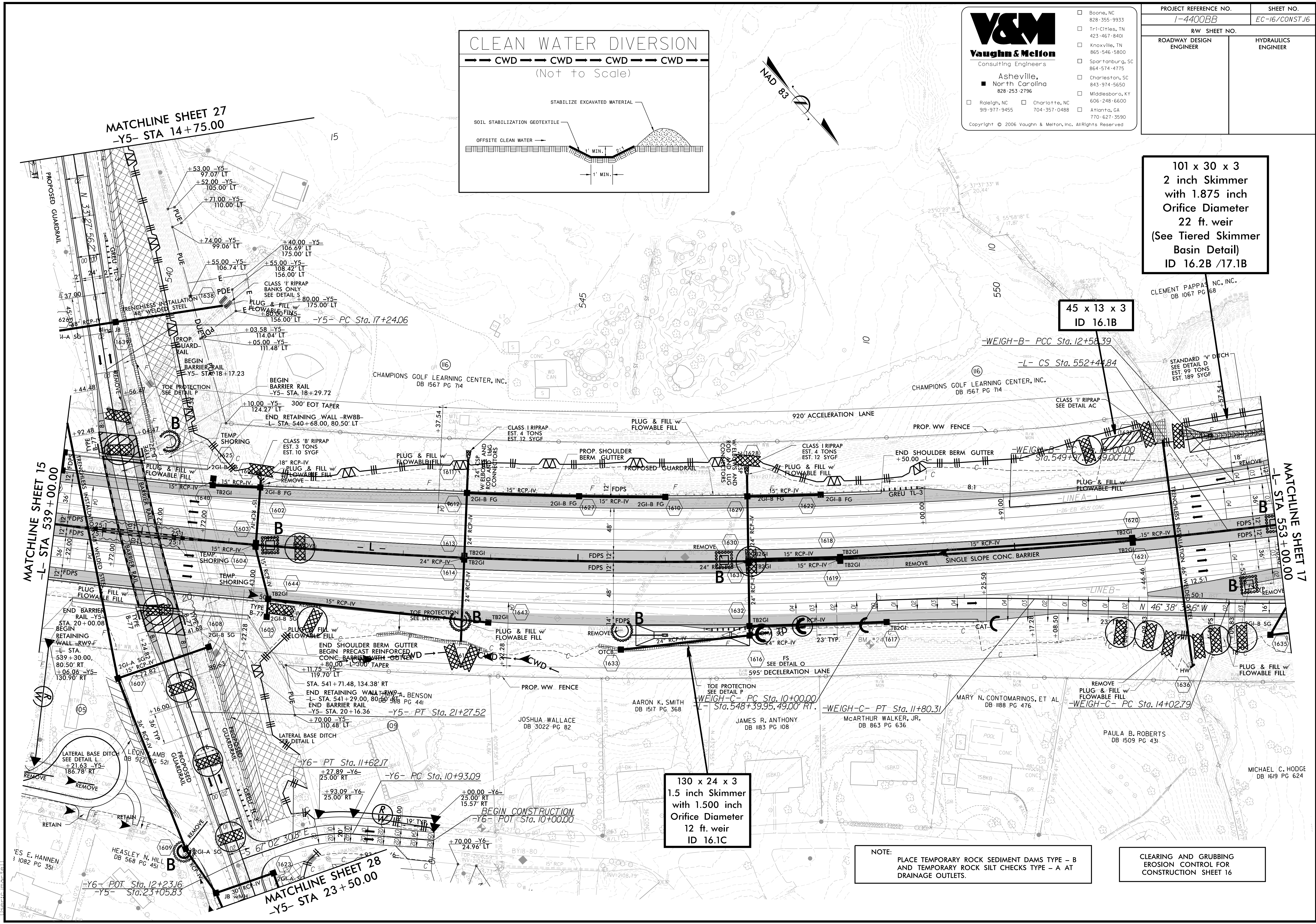
45 x 13 x 3
 ID 16.1B

130 x 24 x 3
 1.5 inch Skimmer
 with 1.500 inch
 Orifice Diameter
 12 ft. weir
 ID 16.1C

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

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 16

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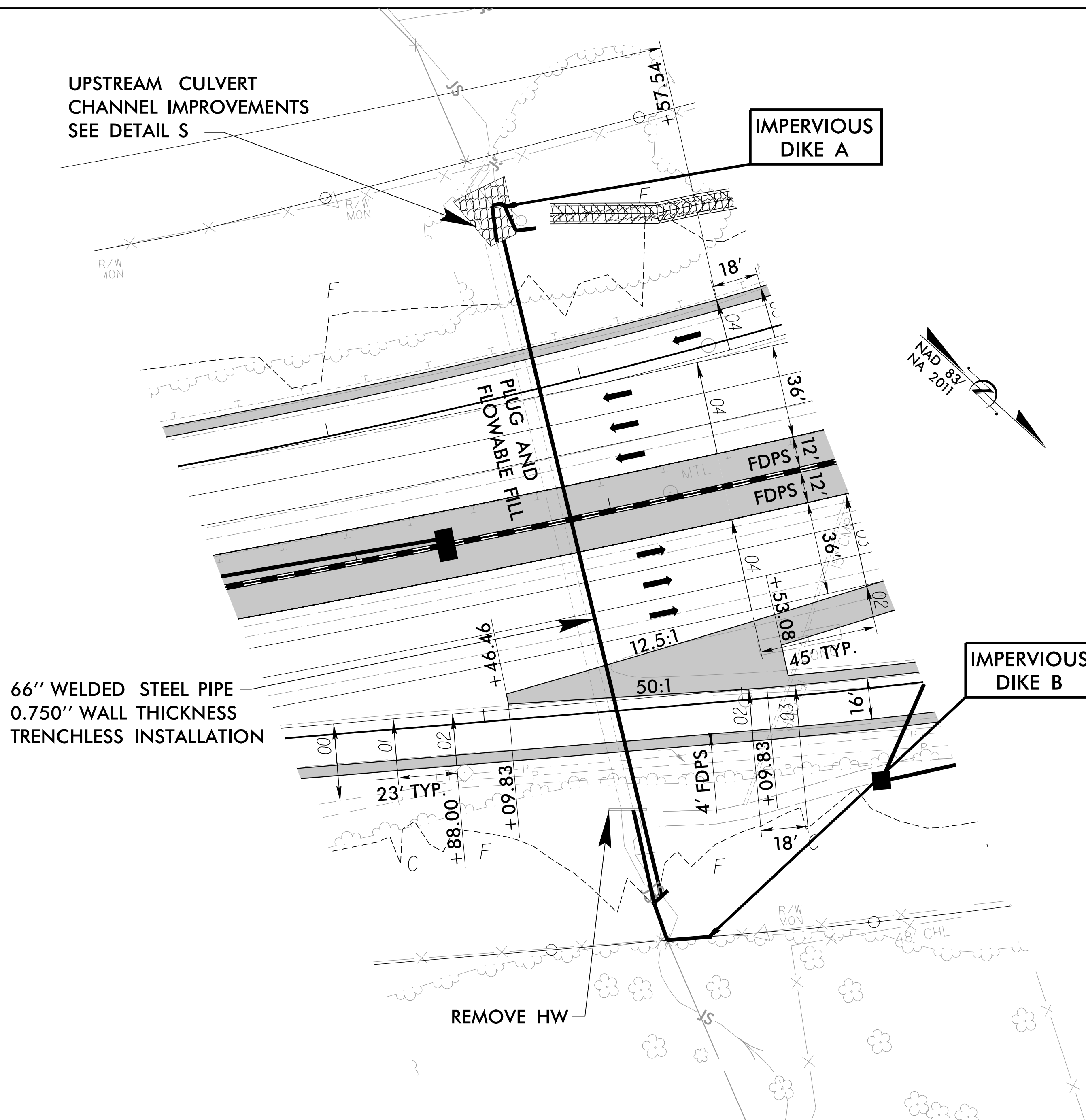


PROJECT REFERENCE NO.	SHEET NO.
I-4400BB	EC-16A/CONST.16
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CULVERT CONSTRUCTION SEQUENCE STA. 551+84 -L-

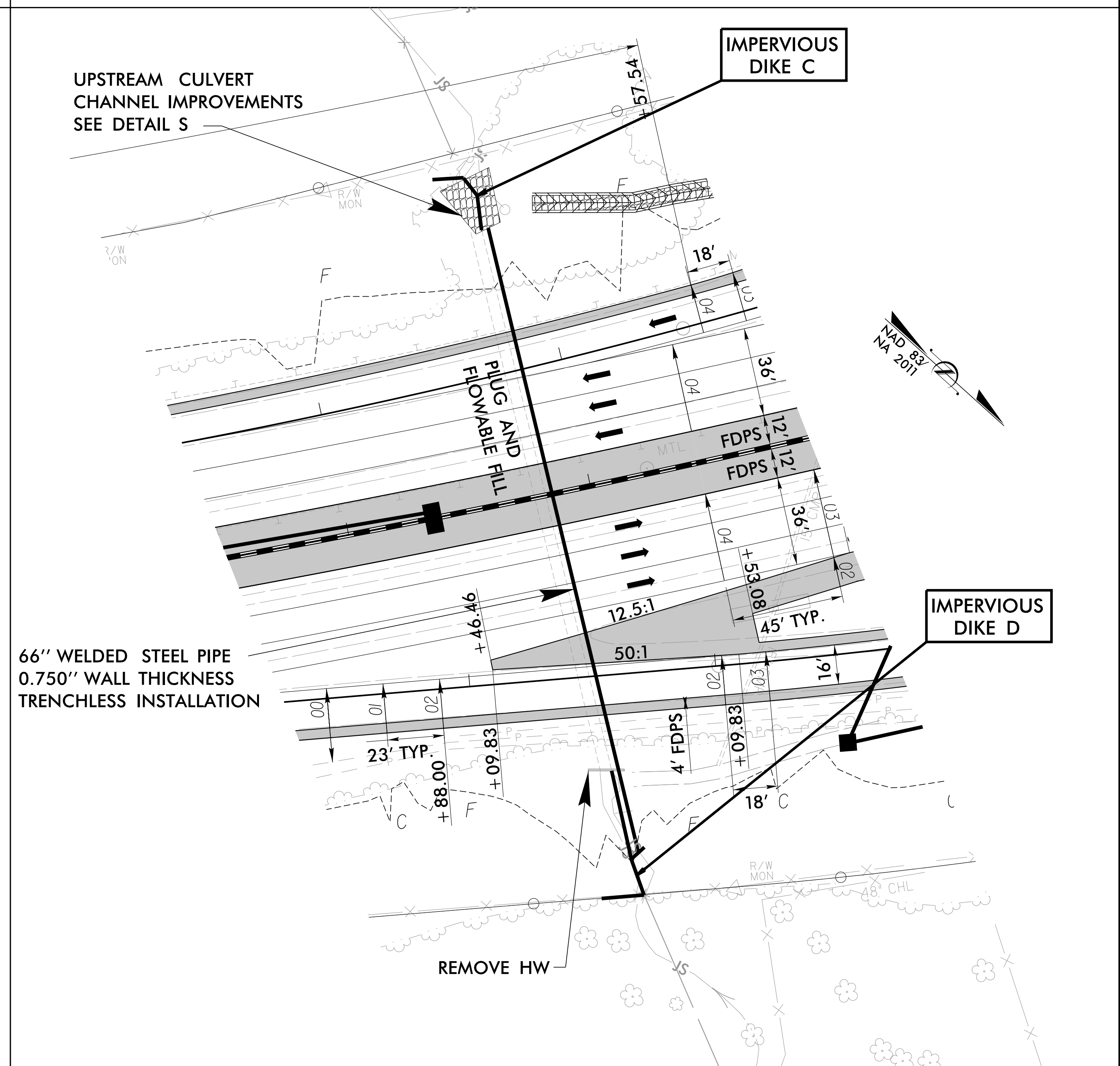
PHASE I

1. UTILIZE SPECIAL STILLING BASIN(S) AS NEEDED DURING CULVERT CONSTRUCTION.
2. INSTALL IMPERVIOUS DIKES A AND B AS SHOWN.
3. INSTALL PROPOSED 66" WSP WITH HEADWALL.
4. INSTALL PORTION OF UPSTREAM AND DOWNSTREAM CULVERT CHANNEL IMPROVEMENTS



PHASE II

1. REMOVE IMPERVIOUS DIKES A AND B.
2. INSTALL IMPERVIOUS DIKES C AND D AS SHOWN.
3. INSTALL REST OF UPSTREAM AND DOWNSTREAM CULVERT CHANNEL IMPROVEMENTS.
4. REMOVE IMPERVIOUS DIKES AND ANY REMAINING SPECIAL STILLING BASIN(S).
5. COMPLETE FILL SLOPE.



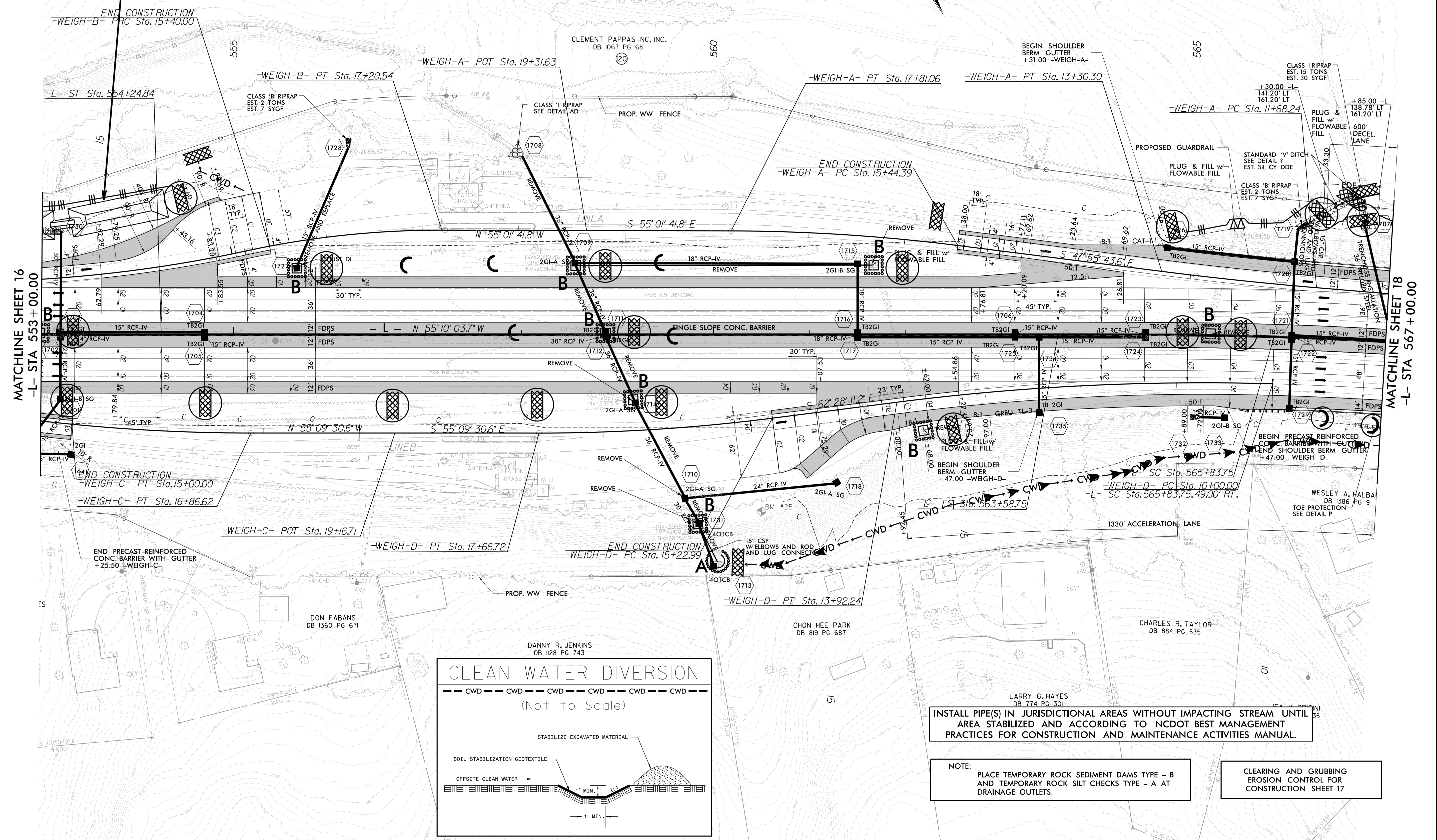
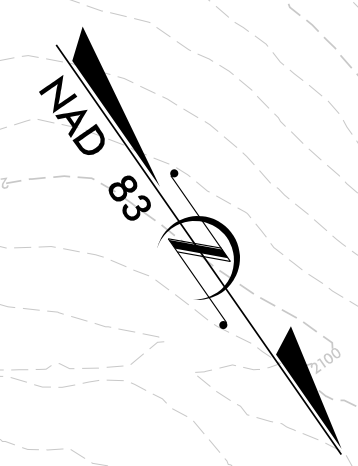
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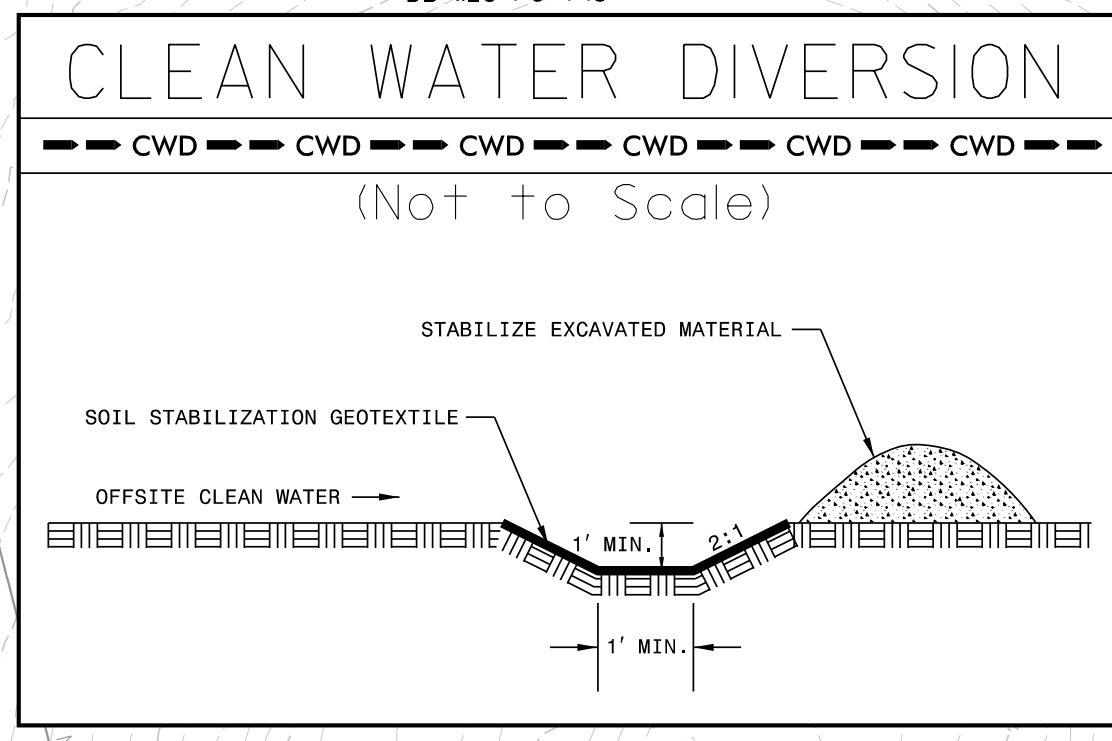
PROJECT REFERENCE NO. 1-4400BB	SHEET NO. EC-17/CONST.17
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

Modified Silt Basin
 Type 'B'
 101 x 30 x 3
 22 ft. weir
 (See Tiered Skimmer Basin Detail)
 ID 16.2B /17.1B



MATCHLINE SHEET 16
 -L- STA 553+00.00

MATCHLINE SHEET 18
 -L- STA 567+00.00



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.

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

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 17

6/3/2019 2:13:55 PM
 V:\Asheville\transportation\31834-01_1-4400BB\Erosion Control\Sheets\14400BB_Env_EC-17.dgn
 (User: jmelton)