
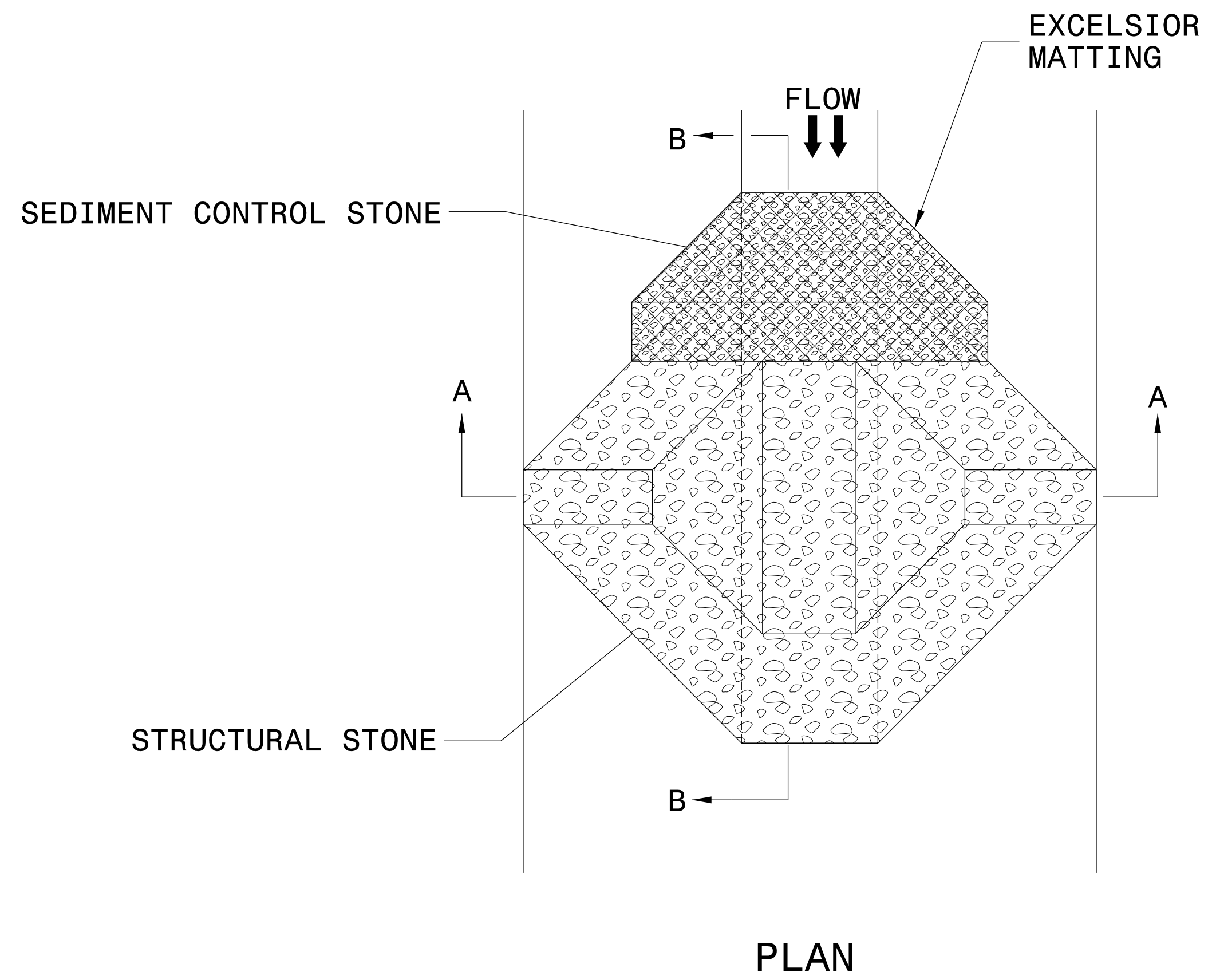


TEMPORARY ROCK SILT CHECK TYPE 'A' WITH EXCELSIOR MATTING AND POLYACRYLAMIDE (PAM)

PROJECT REFERENCE NO. R-2233BB	SHEET NO. EC-2
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
 HDR Engineering, Inc. of the Carolinas 555 Fayetteville St, Suite 900 Raleigh, N.C. 27601 N.C.B.E.L.S. License Number: F-0116	



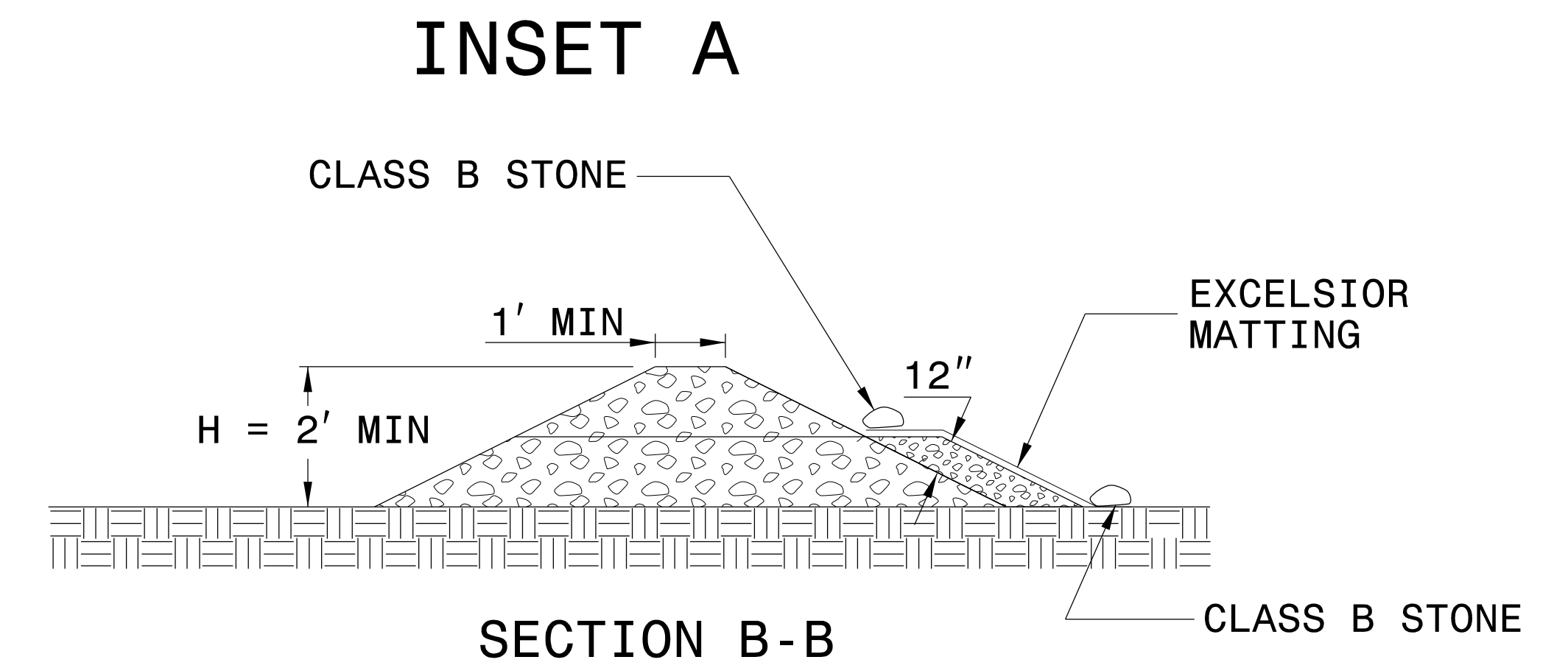
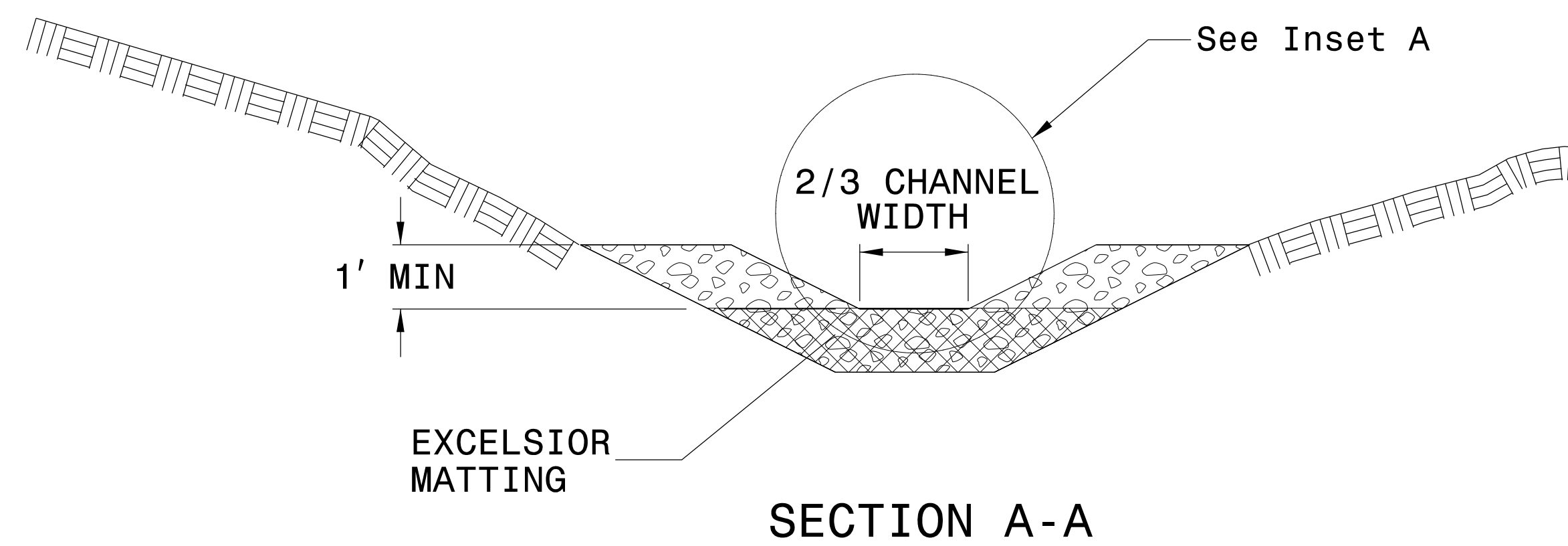
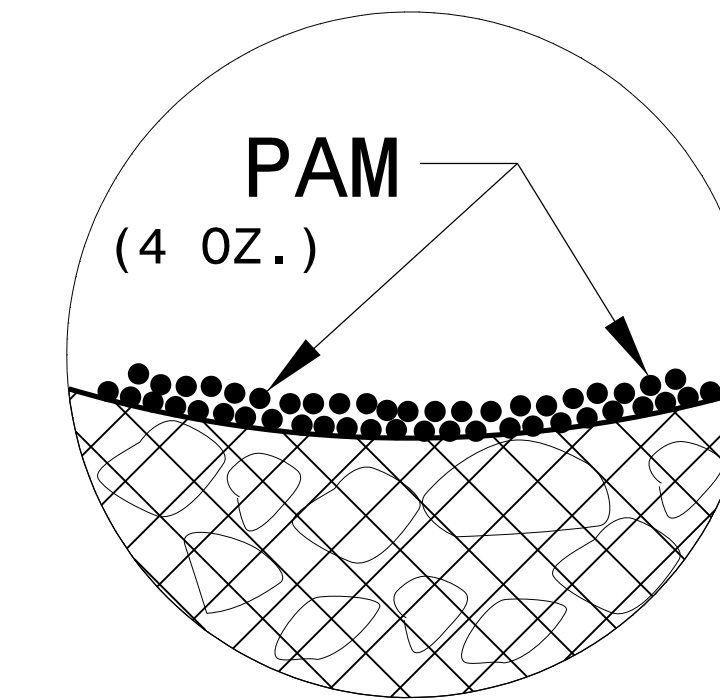
NOTES:

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.

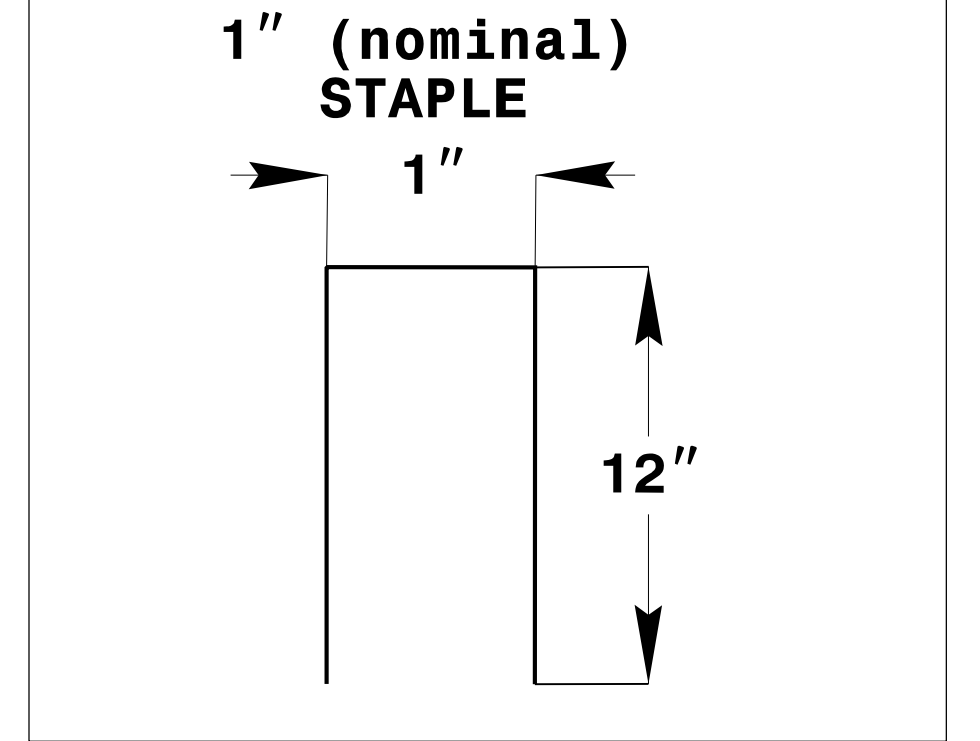
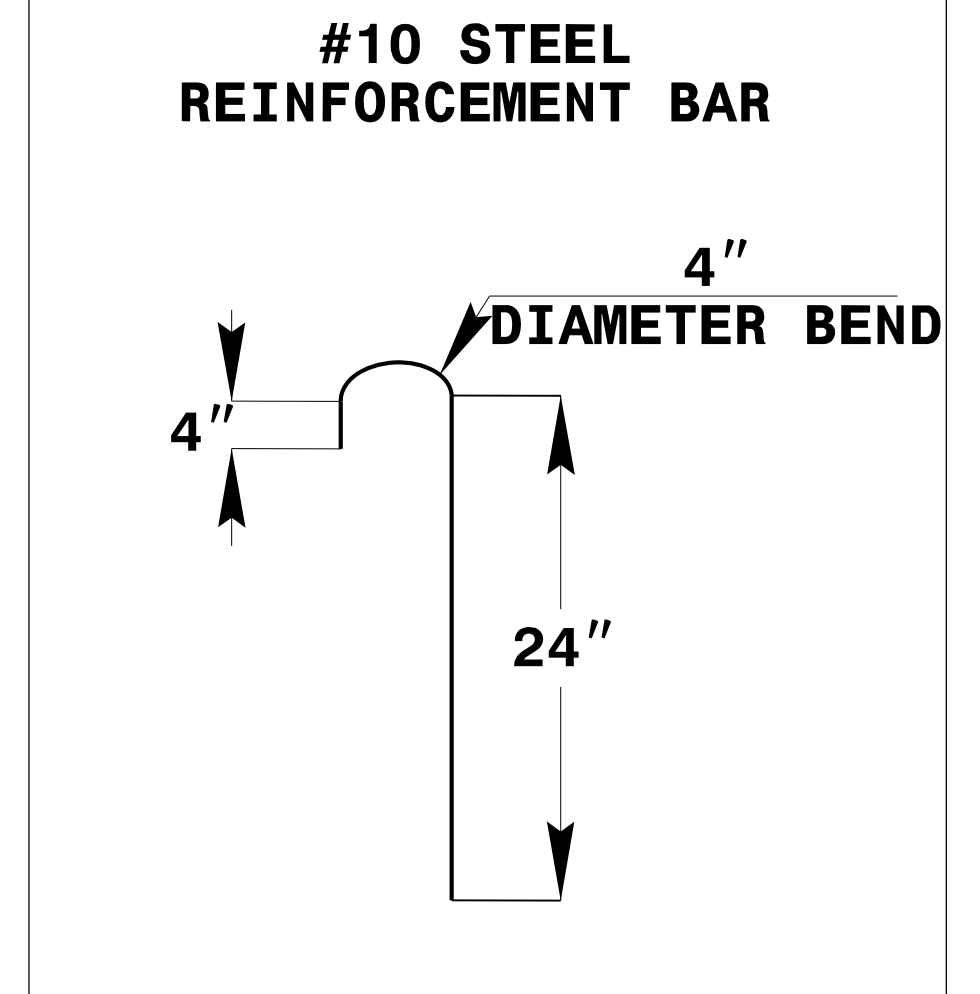
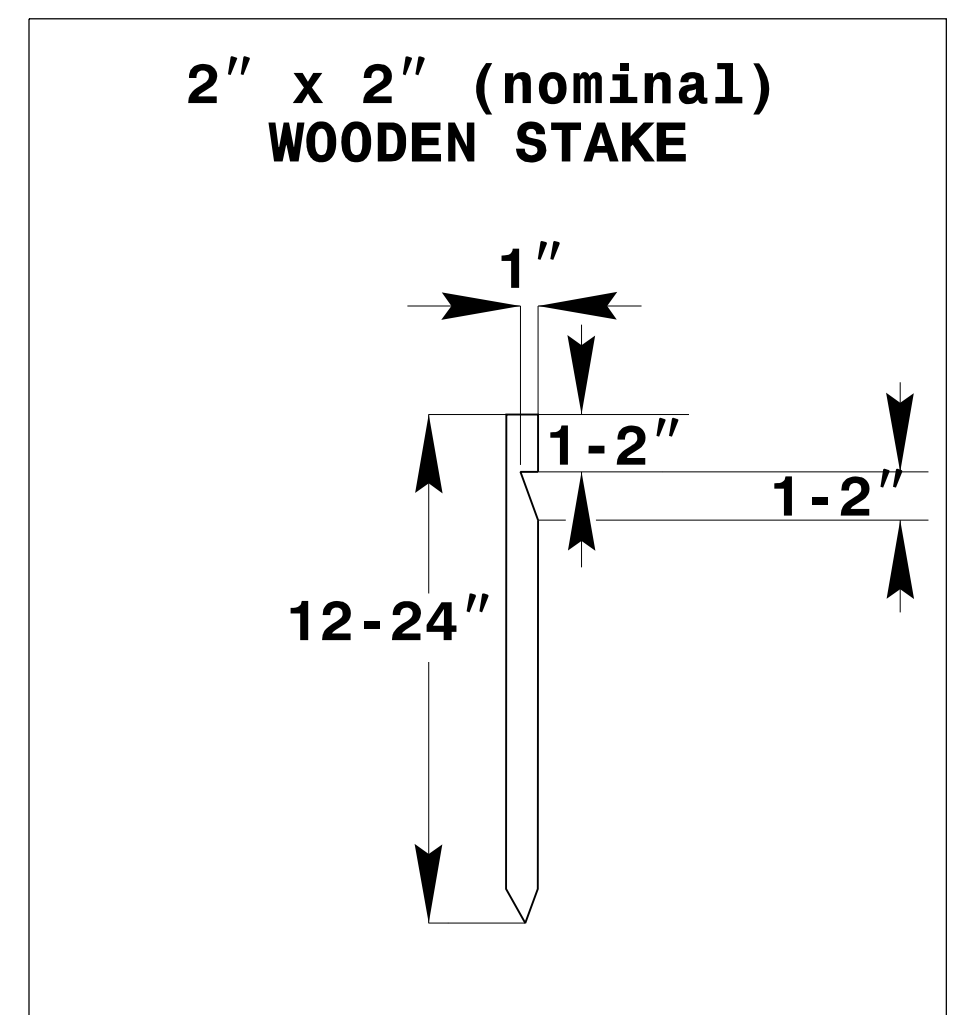
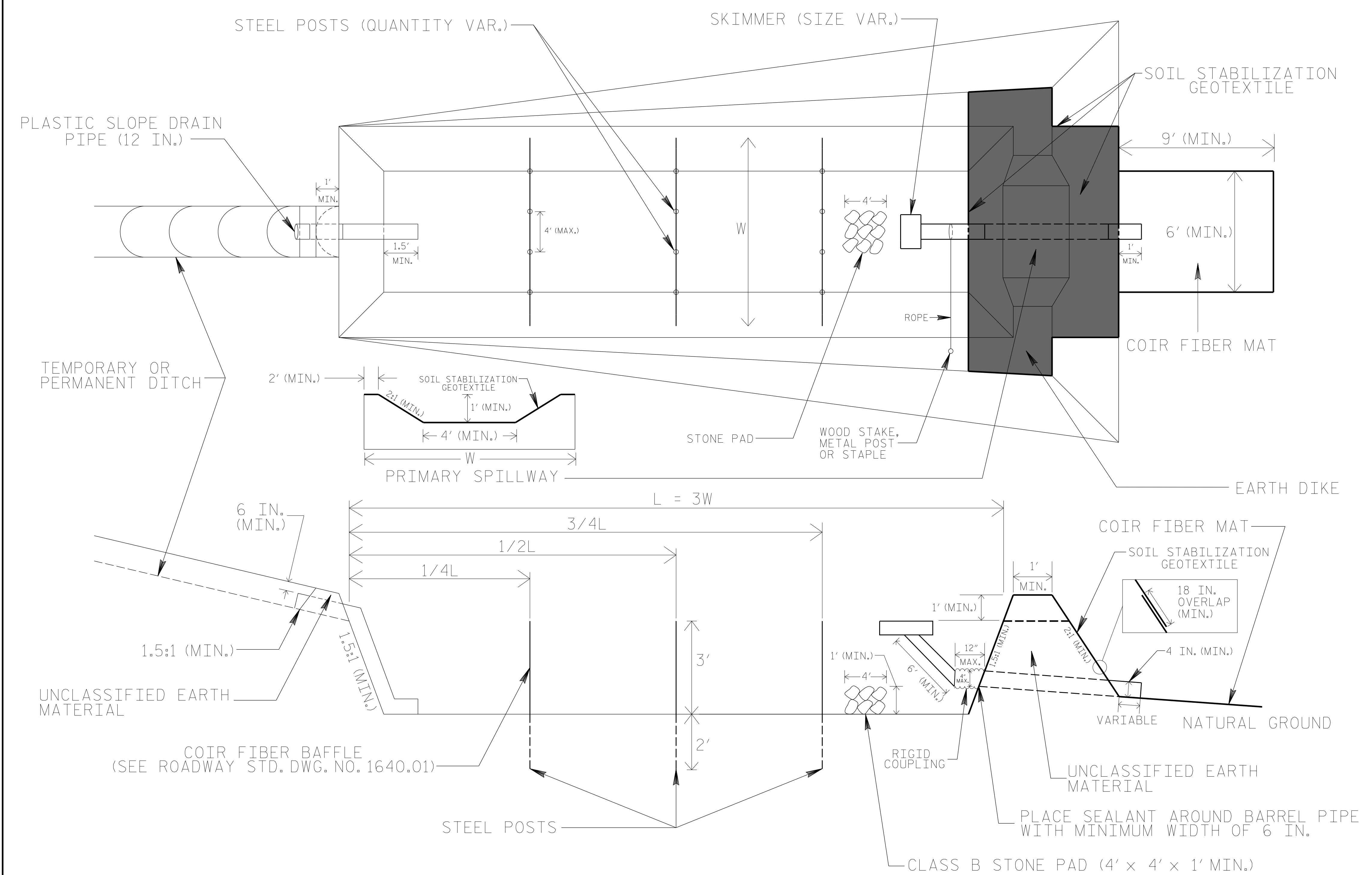


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PROJECT REFERENCE NO. R-2233BB	SHEET NO. EC-2B
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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 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

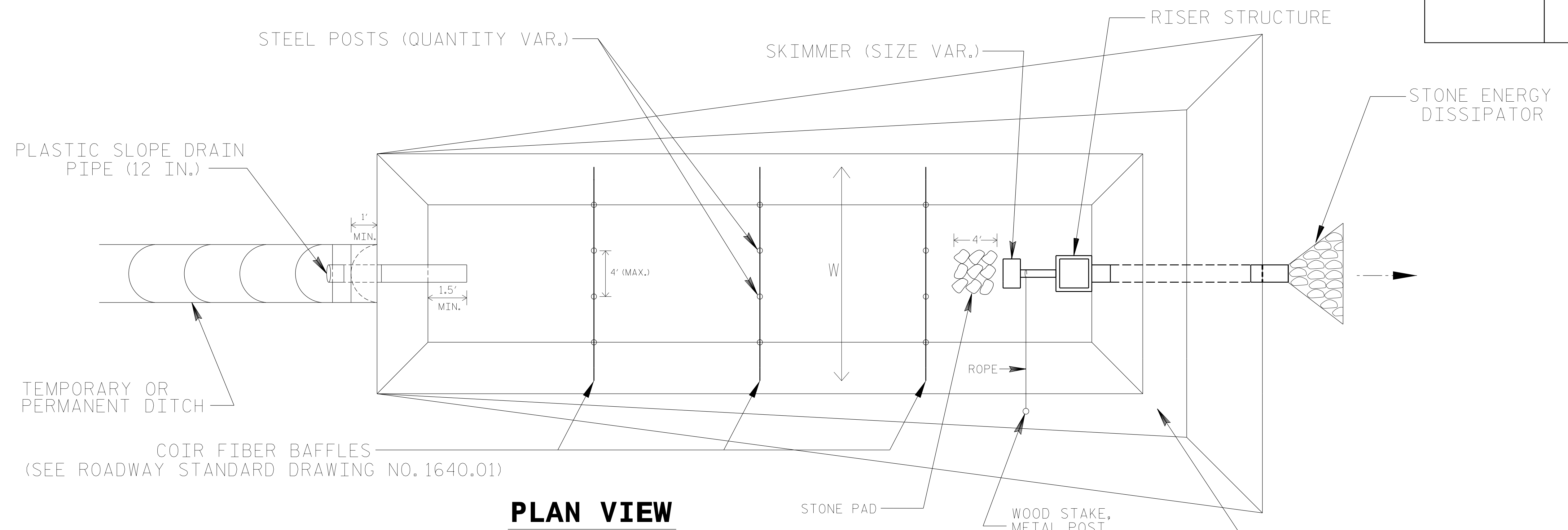
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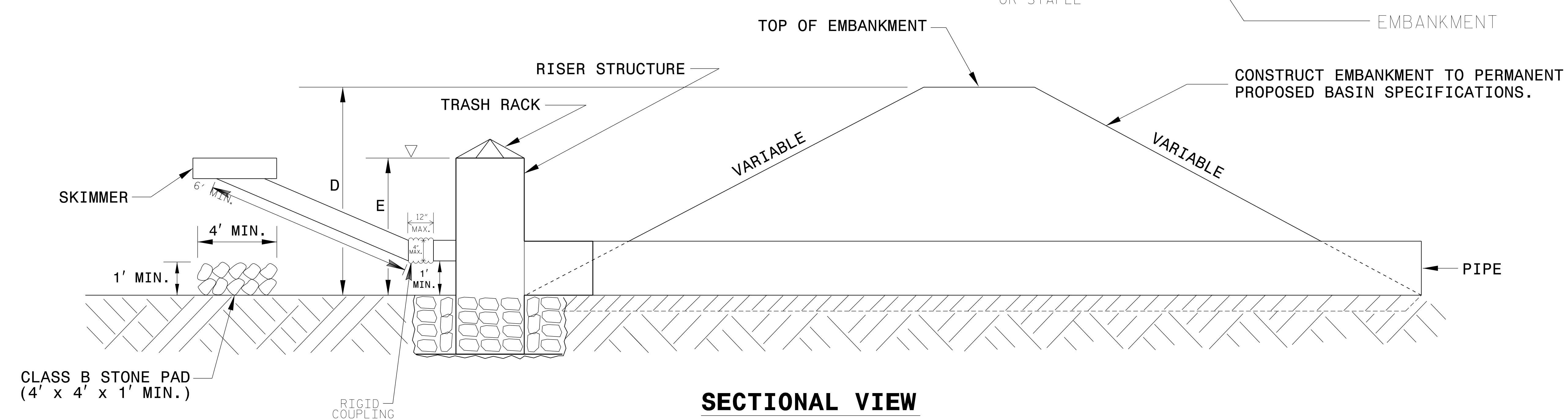
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555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
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PROJECT REFERENCE NO. <i>R-2233BB</i>	SHEET NO. <i>EC-2D</i>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

STORMWATER BASIN WITH SKIMMER



PLAN VIEW



SECTIONAL VIEW

NOTES

1. SEED AND PLACE MATTING FOR EROSION CONTROL ON INTERIOR AND EXTERIOR SIDESLOPES.
2. INSTALL A MINIMUM OF 3 COIR FIBER BAFFLES IN ACCORDANCE WITH ROADWAY STD. DRAWING 1640.01.
3. INSTALL SKIMMER AND COUPLING TO RISER STRUCTURE OR DIRECTLY INTO EMBANKMENT 1 FT. FROM BOTTOM OF BASIN.
4. THE ARM PIPE SHALL HAVE A MINIMUM LENGTH OF 6 FT. BETWEEN THE SKIMMER AND COUPLING.
5. PLASTIC SLOPE DRAIN PIPE AT INLET OF BASIN MAY BE REPLACED BY FILTRATION GEOTEXTILE AS DIRECTED.
6. THE DIFFERENCE BETWEEN LENGTHS "D" AND "E" REPRESENT THE FREEBOARD AND SHOULD BE 1 FT. MINIMUM.

NOT TO SCALE

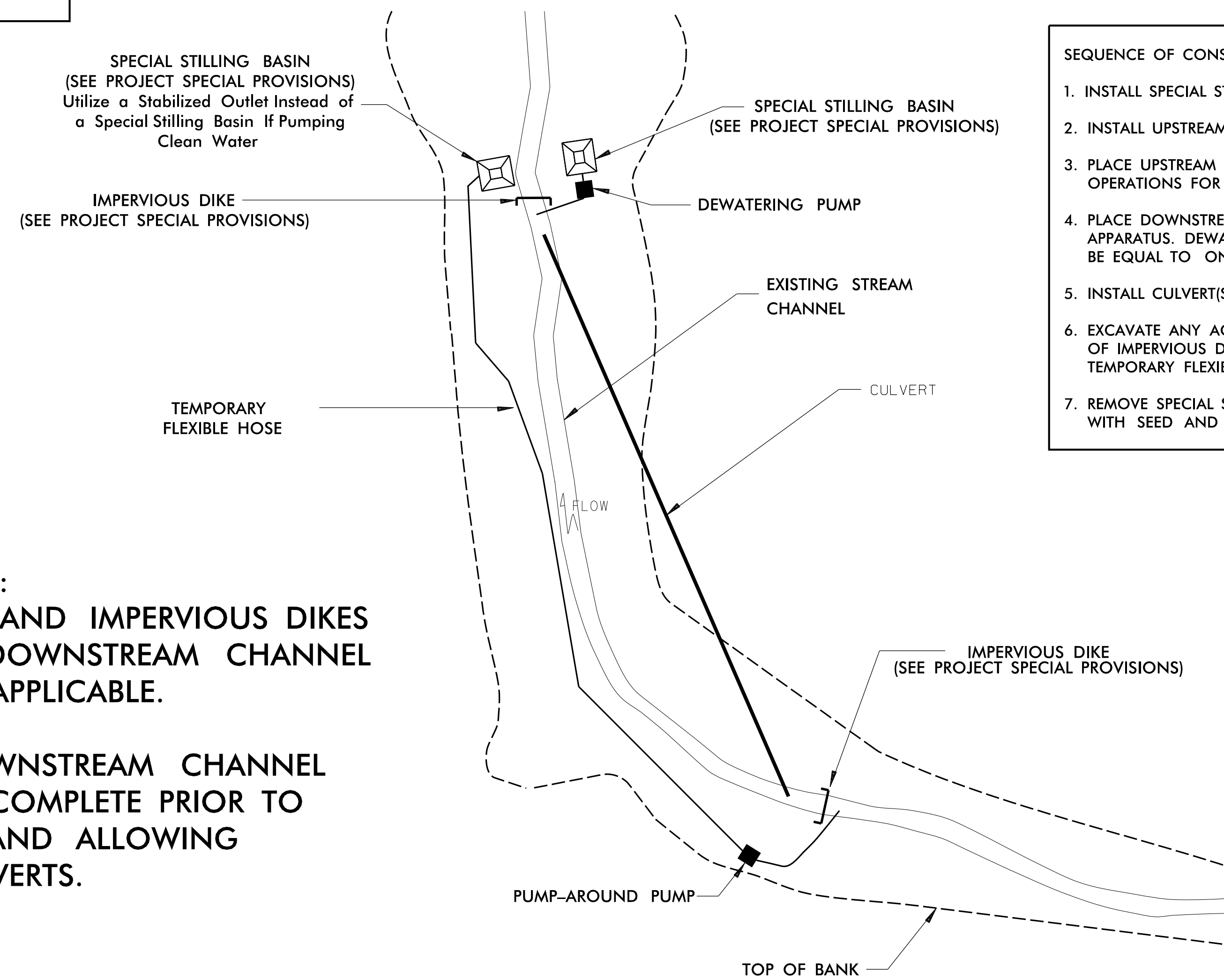
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PROJECT REFERENCE NO. <i>R-2233BB</i>	SHEET NO. <i>EC-2E</i>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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.

****ADDITIONAL PROJECT-SPECIFIC NOTES:**

- 1) USE PUMP-AROUND OPERATION AND IMPERVIOUS DIKES TO COMPLETE UPSTREAM AND DOWNSTREAM CHANNEL IMPROVEMENTS/PROTECTIONS AS APPLICABLE.
- 2) ENSURE ALL UPSTREAM AND DOWNSTREAM CHANNEL IMPROVEMENT/PROTECTIONS ARE COMPLETE PRIOR TO REMOVAL OF IMPERVIOUS DIKES AND ALLOWING STREAM FLOW INTO NEW CULVERTS.

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA



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PROJECT REFERENCE NO. <i>R-2233BB</i>	SHEET NO. <i>EC-3</i>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SOIL STABILIZATION SUMMARY SHEET

MATTING ON DITCHES

MATTING ON DITCHES

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
4	-L3-	739+50	755+00	M	2075
4	-L3-	739+50	743+66	LT	550
5	-L3-	749+50	754+50	LT	565
5	-L3-	750+50	754+50	RT	450
5	-L3-	754+50	759+00	LT	510
5	-L3-	754+50	760+50	RT	675
5	-L3-	755+00	771+00	M	2145
6	-L3-	762+50	766+00	LT	395
6	-L3-	763+00	764+50	RT	170
6	-L3-	767+00	769+00	RT	225
6	-L3-	767+26	768+28	LT	125
6	-L3-	771+00	773+90	M	530
6	-L3-	775+50	776+50	RT	115
6	-L3-	776+00	776+50	LT	65
6	-L3-	777+50	790+00	M	1675
6	-L3-	780+50	790+00	RT	1070
6	LPC	12+22	15+34	RT	705
6	RPC	13+99	25+50	RT	3235
6	RPC	16+45	22+00	LT	1560
7	-L3-	787+50	788+00	LT	60
7	-L3-	790+00	792+50	LT	285
7	-L3-	790+00	791+50	RT	170
7	-L3-	790+00	811+00	M	1410
9	-L3-	809+50	812+00	RT	230
9	-L3-	810+00	812+00	LT	95
9	-L3-	811+00	812+00	M	185
9	-L3-	815+00	834+50	M	2610
9	-L3-	816+50	826+50	RT	1125
11	-L3-	834+50	850+00	M	1745
11	-L3-	840+50	842+50	LT	95

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
11	-L3-	840+50	842+50	RT	75
11	-L3-	844+00	845+50	LT	140
11	-L3-	844+50	845+00	RT	60
11	-L3-	848+00	849+50	LT	205
11	-L3-	849+50	851+50	LT	270
11	-L3-	850+00	876+50	M	3550
11	-L3-	851+50	855+00	RT	470
11	RPD	26+22	30+25	LT	1135
11	-Y3-	23+00	25+00	LT	450
13	-L3-	876+50	895+50	M	2545
13	-L3-	884+50	887+00	RT	285
13	-Y5-	11+75	17+50	LT	805
13	-Y5-	12+00	13+00	RT	140
14	-L3-	895+50	905+00	LT	1070
14	-L3-	897+00	905+00	M	1350
15	-Y12-	22+50	24+00	RT	160
16	-L3-	912+50	916+50	M	450
16	-L3-	916+50	922+00	M	875
16	-L3-	917+00	917+50	RT	120
16	-L3-	923+00	927+00	M	515
16	-L3-	923+00	927+00	RT	1125
16	-Y12-	23+00	28+00	LT	525
16	-Y12-	31+00	33+00	RT	210
17	-L3-	927+00	937+00	M	1285
17	-L3-	927+00	933+50	RT	1825
17	-L3-	937+50	941+50	LT	840
18	-L3-	938+50	949+50	M	1855
18	-L3-	941+50	944+50	LT	925
18	-L3-	946+00	950+00	LT	1230
19	-L3-	952+00	963+00	M	2470

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DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA



HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

PROJECT REFERENCE NO. <i>R-2233BB</i>	SHEET NO. <i>EC-3B</i>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SOIL STABILIZATION SUMMARY SHEET

MATTING ON SLOPES

MATTING ON SLOPES

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
9	-Y19-	18+00	25+50	LT	3540
9	-Y19-	18+50	22+00	RT	1170
10	-L3-	822+50	838+00	LT	10573
10	-L3-	828+00	839+50	RT	8655
11	-L3-	840+00	842+50	LT	1387
11	-L3-	842+00	846+50	RT	1382
11	-L3-	856+50	857+00	RT	364
11	-LPA-	10+50	19+00	LT	18882
11	-LPD-	10+50	25+85	RT	9142
11	-LPD-	17+53	18+50	LT	806
11	-RPA-	15+50	25+50	RT	3063
11	-RPB-	10+25	13+25	LT	1750
11	-RPD-	13+24	28+50	LT	9554
11	-RPD-	17+00	21+50	RT	3505
11	-Y18-	15+50	17+50	RT	647
11	-Y18-	17+00	17+75	LT	231
11	-Y3-	16+50	28+00	LT	4155
11	-Y3-	16+50	30+00	RT	3977
11	-Y4-	23+00	23+50	RT	148
12	-L3-	863+00	870+00	LT	3904
12	-L3-	864+00	868+50	RT	3862
12	-L3-	871+00	877+50	RT	3268
12	-L3-	872+50	877+50	LT	2227
14	-L3-	896+50	897+00	RT	101
15	-L3-	894+50	903+00	LT	3527
15	-L3-	899+50	901+00	RT	303
15	-L3-	906+50	908+50	LT	554
15	-L3-	910+50	911+00	RT	173
15	-Y10-	22+00	25+00	RT	1099
15	-Y12-	16+00	19+50	RT	1873

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
15	-Y12-	16+50	19+00	LT	814
16	-L3-	912+50	917+00	LT	1592
16	-L3-	921+00	930+00	LT	3345
18	-L3-	936+50	949+00	RT	3727
18	-Y11-	11+00	14+00	LT	953
18	-Y11-	11+00	14+00	RT	2591
19	-L3-	953+50	960+00	RT	4020
19	-L3-	959+00	959+50	LT	115
19	-L3-	961+50	972+00	LT	13106
19	-L3-	962+00	972+00	RT	6500
20	-L3-	973+50	977+00	LT	2812
21	-L3-	973+00	988+50	RT	12323
21	-L3-	979+00	987+50	LT	4224
21	-Y7-	15+50	22+50	RT	2172
21	-Y7-	19+50	22+50	LT	1169
21	-Y7A-	14+50	17+75	RT	2474
21	-Y7A-	16+00	17+75	LT	801
22	-L3-	989+00	997+00	LT	7040
22	-L3-	989+50	990+00	RT	178
22	-L3-	995+00	998+00	RT	2121
22	-L3-	1000+02	1004+00	LT	1442
23	-Y2-	20+50	21+00	LT	140
23	-Y2-	22+00	23+50	RT	614
23	-Y2-	23+00	28+00	LT	3727
24	-Y2-	38+00	40+00	LT	617
25	-Y19-	11+50	12+00	RT	133
25	-Y19-	12+75	13+00	LT	73
26	-Y19-	28+00	29+00	LT	246
27	-DR3-	11+50	14+00	RT	704
27	-DR3-	11+50	14+50	LT	1431

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STATE OF NORTH CAROLINA

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N.C.B.E.L.S. License Number: F-0116

PROJECT REFERENCE NO. <i>R-2233BB</i>	SHEET NO. <i>EC-3E</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.

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PROJECT REFERENCE NO.	SHEET NO.
R-2233BB	EC-4/CONST.4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

65 x 23 x 3
1.5 inch Skimmer
with 1.125 inch
Orifice Diameter
6 ft. weir
ID 4.5

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 4

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

NOTE:
UTILIZE FABRIC INSERT INLET PROTECTION DEVICES
IN LIEU OF ROCK INLET SEDIMENT TRAPS, TYPE-C
AS DIRECTED BY ENGINEER.

40 x 16 x 3
1.5 inch Skimmer
with 0.875 inch
Orifice Diameter
5 ft. weir
(See Tiered Skimmer
Basin Detail)
ID 4.4A

Modified Silt Basin
Type 'B'
40 x 16 x 3
5 ft. weir
(See Tiered Skimmer
Basin Detail)
ID 4.4B

125 x 35 x 3
2 inch Skimmer
with 1.75 inch
Orifice Diameter
16 ft. weir
ID 4.1

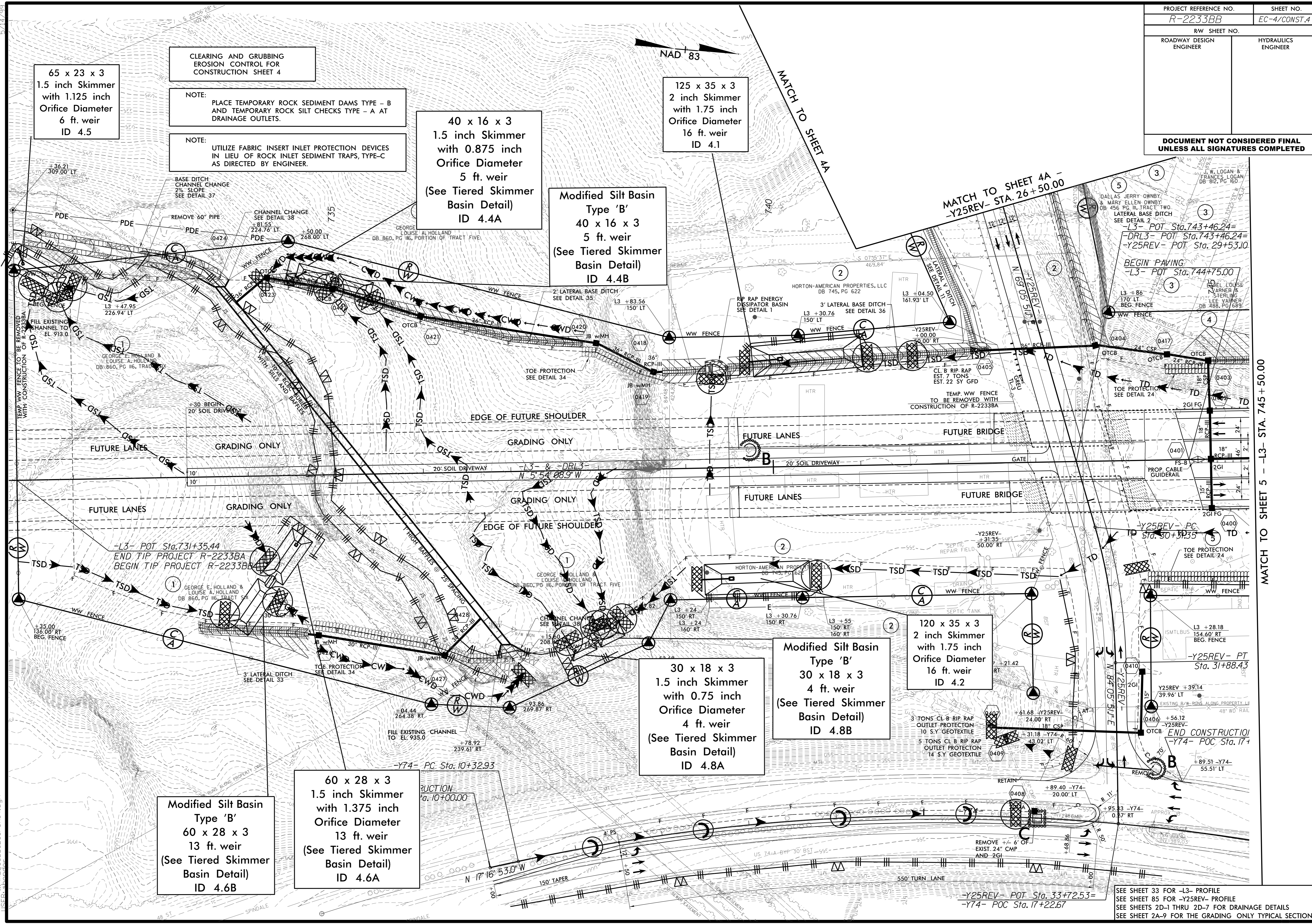
30 x 18 x 3
1.5 inch Skimmer
with 0.75 inch
Orifice Diameter
4 ft. weir
(See Tiered Skimmer
Basin Detail)
ID 4.8A

Modified Silt Basin
Type 'B'
30 x 18 x 3
4 ft. weir
(See Tiered Skimmer
Basin Detail)
ID 4.8B

120 x 35 x 3
2 inch Skimmer
with 1.75 inch
Orifice Diameter
16 ft. weir
ID 4.2

Modified Silt Basin
Type 'B'
60 x 28 x 3
13 ft. weir
(See Tiered Skimmer
Basin Detail)
ID 4.6B

60 x 28 x 3
1.5 inch Skimmer
with 1.375 inch
Orifice Diameter
13 ft. weir
(See Tiered Skimmer
Basin Detail)
ID 4.6A



4/24/2021 8:23:43 AM EC.PSH.4.dgn

SEE SHEET 33 FOR -L3- PROFILE
SEE SHEET 85 FOR -Y25REV- PROFILE
SEE SHEETS 2D-1 THRU 2D-7 FOR DRAINAGE DETAILS
SEE SHEET 2A-9 FOR THE GRADING ONLY TYPICAL SECTION

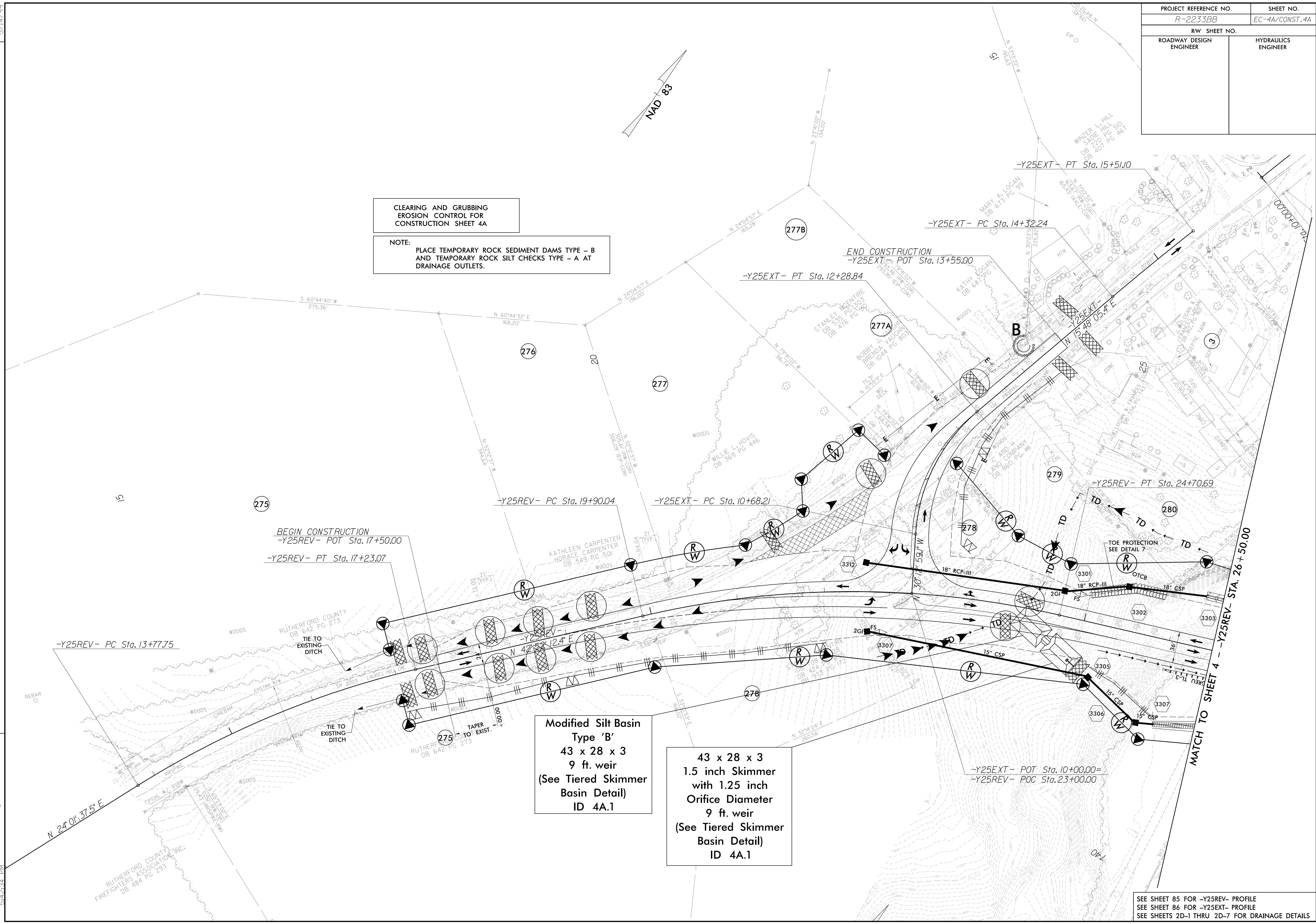
PROJECT REFERENCE NO.	SHEET NO.
R-2233BB	EC-4A/CONST. 4A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

REVISIONS
 ROW REV. - April 17, 2019 - Revised RW line (WET)
 ROW REV. - April 17, 2019 - Added Construction Easement line (WET)
 ROW REV. - April 17, 2019 - Added Parcels for new Construction Easement line (WET)

ROW REV. - April 16, 2018 - Added RW line (WET)
 ROW REV. - April 16, 2018 - Added RW line (WET)
 ROW REV. - April 16, 2018 - Added RW line (WET)
 ROW REV. - April 16, 2018 - Added RW line (WET)
 ROW REV. - April 16, 2018 - Added RW line (WET)
 ROW REV. - April 16, 2018 - Added RW line (WET)

CLEARING AND GRUBBING
 EROSION CONTROL FOR
 CONSTRUCTION SHEET 4A

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



3/16/2020
 5:42:34 PM
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 3/16/2020
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SEE SHEET 85 FOR -Y25REV- PROFILE
 SEE SHEET 86 FOR -Y25EXT- PROFILE
 SEE SHEETS 2D-1 THRU 2D-7 FOR DRAINAGE DETAILS

PROJECT REFERENCE NO.		SHEET NO.	
R-2233BB		EC-4B/CONST.4	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	

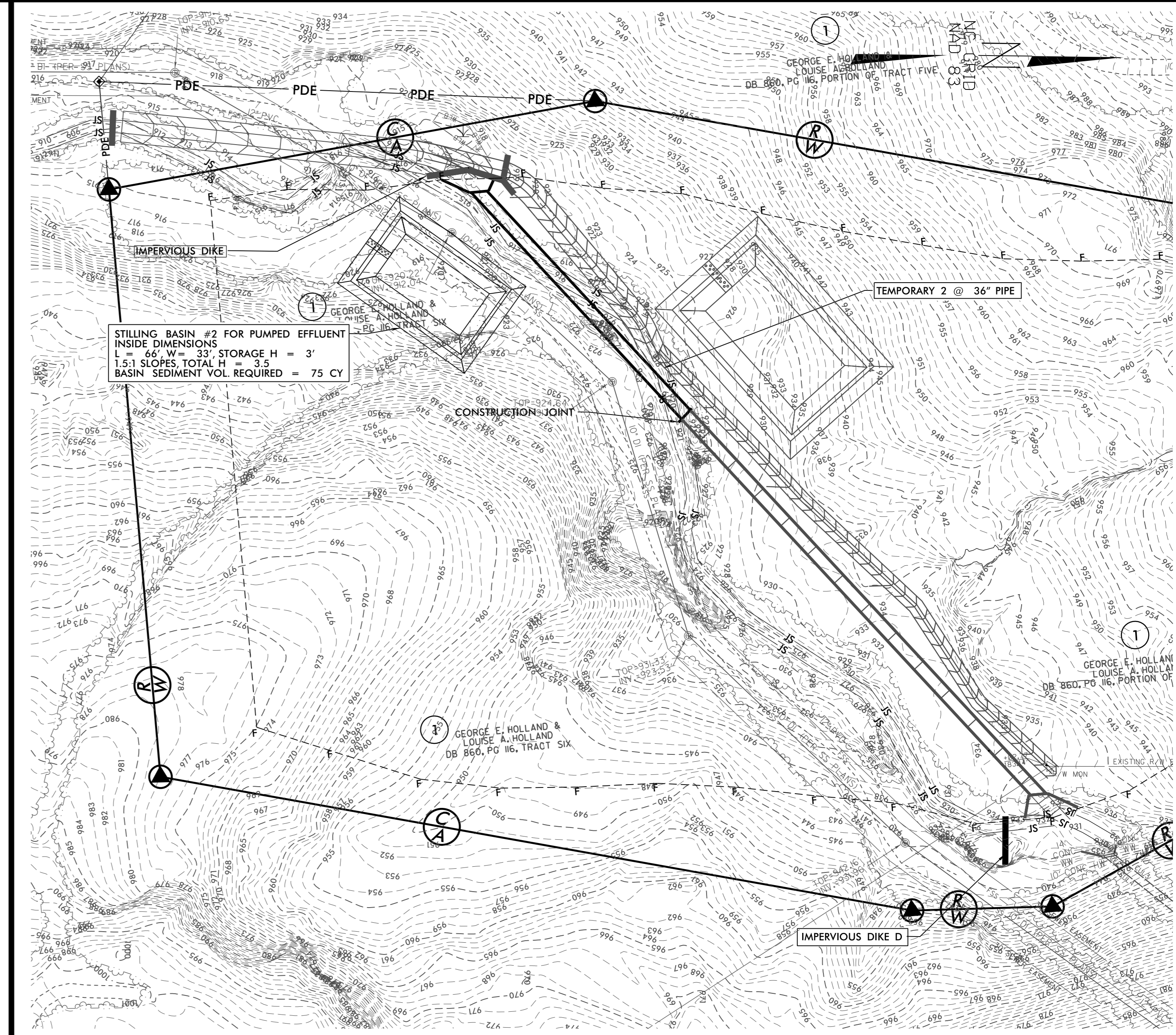
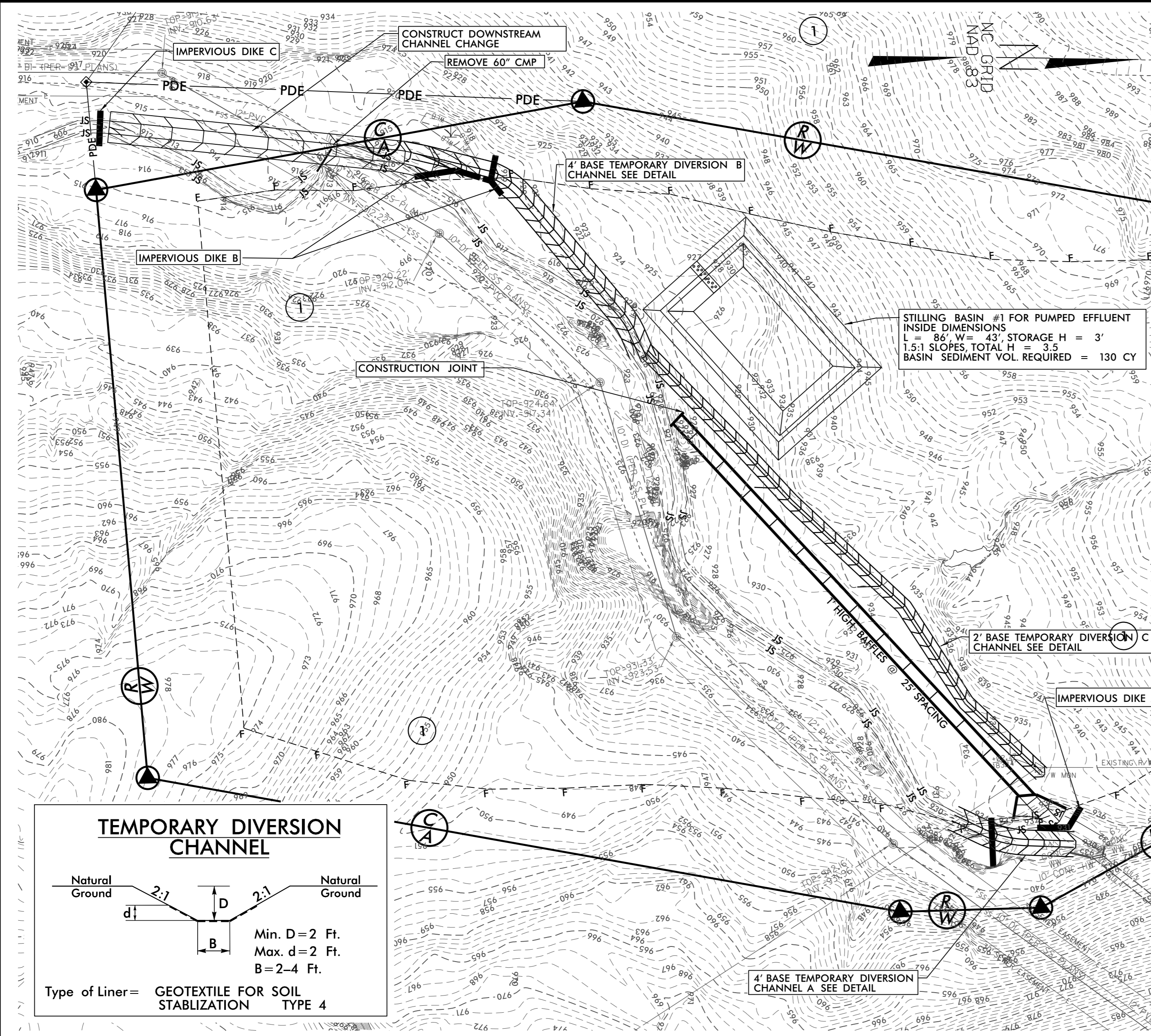
CULVERT CONSTRUCTION SEQUENCE STA. 735 + 39 -L-

PHASE 1

1. CONSTRUCT STILLING BASIN 1 PER NCDOT DWG 1630.04 AT SIZE SPECIFIED.
2. REMOVE 60" CMP AT DOWNSTREAM END.
3. CONSTRUCT TEMPORARY DIVERSION CHANNEL A. INSTALL IMPERVIOUS DIKE A AND DIVERT FLOW.
4. INSTALL PUMP AROUND OPERATION AT DOWNSTREAM CHANNEL CHANGE AND SPECIAL STILLING BASINS SEE SHEET EC-2E.
5. CONSTRUCT IMPERVIOUS DIKES B AND C, TEMPORARY CHANNEL DIVERSIONS B AND C AND DIVERT FLOW TO PUMP AROUND OPERATION.
6. CONSTRUCT DOWNSTREAM CHANNEL CHANNEL CHANGE, REMOVE IMPERVIOUS DIKE C, AND CONNECT TO EXISTING CHANNEL.
7. CONNECT DOWNSTREAM CHANNEL CHANGE TO TEMPORARY DIVERSION B.
8. REMOVE IMPERVIOUS DIKE B FROM TEMPORARY DIVERSION B. CONSTRUCT TEMPORARY DIVERSION C.
8. REMOVE PUMP AROUND, SPECIAL STILLING BASINS.
9. CONSTRUCT UPSTREAM SECTION OF CULVERT.
10. CONSTRUCT UPSTREAM WINGWALLS.

PHASE 2

1. CONSTRUCT STILLING BASIN 2 PER NCDOT DWG 1630.04 AT SIZE SPECIFIED.
2. INSTALL TEMPORARY 2 @ 36" PIPES FROM CULVERT CONSTRUCTION JOINT TO DIVERSION CHANNEL.
3. CONSTRUCT IMPERVIOUS DIKE D AT UPSTREAM END OF CULVERT DIVERT FLOW TO UPSTREAM SECTION OF CULVERT.
4. CONSTRUCT DOWNSTREAM HALF OF CULVERT FROM DOWNSTREAM TO UPSTREAM.
5. SHIFT DISCHARGE OF 2 @ 36" PIPES TO DOWNSTREAM SECTION OF CULVERT TO ALLOW CONSTRUCTION OF LAST CULVERT SECTION.
6. CONSTRUCT LAST SECTION OF CULVERT. REMOVE 36" PIPES.
7. CONSTRUCT WINGWALLS.
8. REMOVE IMPERVIOUS DIKE D, STILLING BASINS
9. CONSTRUCT ROADWAY.

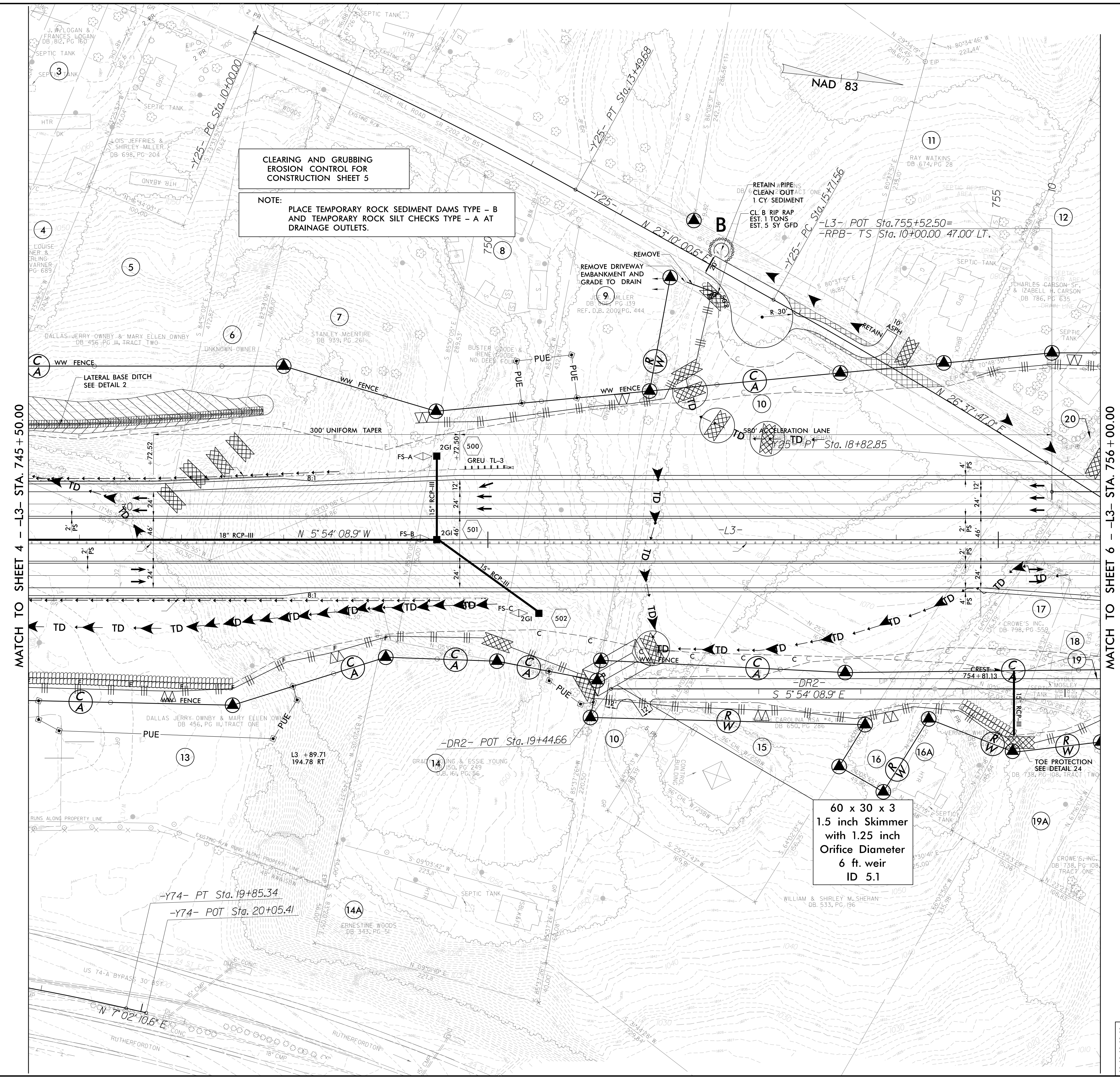


REVISIONS

- ROW REV. - April 16, 2018 - Parcel 18 - Changed Syble Mosley to Heirs of Syble Mosley (WET)
- ROW REV. - April 16, 2018 - Parcel 10 - Revised RW line (WET)
- ROW REV. - April 16, 2018 - Parcel 15 - Revised RW line (WET)
- ROW REV. - April 16, 2018 - Parcel 16 - Revised RW line (WET)
- ROW REV. - April 16, 2018 - Parcel 16A - Revised RW line (WET)
- ROW REV. - April 16, 2018 - Parcel 19A - Revised RW line (WET)
- ROW REV. - June 19, 2018 - Parcel 12 - Combined tracts into one parcel (AMP)
- ROW REV. - October 22, 2018 - Parcels 9-10-14 - Revised RW line (WET)
- ROW REV. - October 22, 2018 - Parcel 18 - Revised RW line (WET)
- ROW REV. - October 22, 2018 - Parcel 7-8 - Revised RW line (WET)
- ROW REV. - October 22, 2018 - Parcel 13 - Revised RW line (WET)
- ROW REV. - October 22, 2018 - Parcel 14 - Revised RW line (WET)
- ROW REV. - March 28, 2019 - Parcels 10-14A-15 - Added driveways as shown (WET)
- ROW REV. - March 28, 2019 - Parcels 10-15-16-16A-19A - Eliminated PUE (WET)

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5/14/99



MATCH TO SHEET 4 - L3- STA. 745+50.00

MATCH TO SHEET 6 - L3- STA. 756+00.00

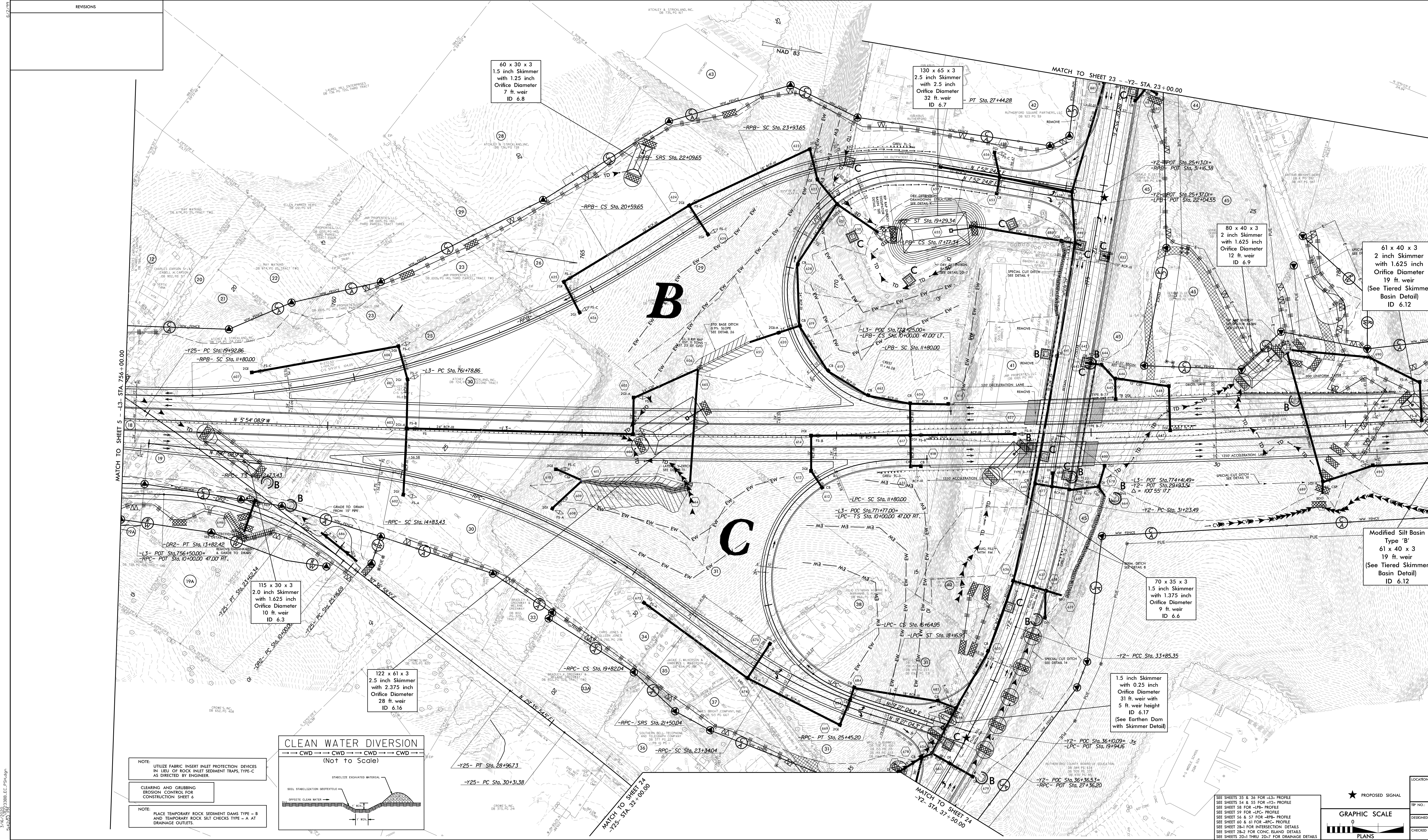
PROJECT REFERENCE NO. R-2233BB	SHEET NO. EC-5/CONST.5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SEE SHEET 34 FOR -L3- PROFILE
 SEE SHEET 56 FOR -RPB- PROFILE
 SEE SHEET 85 FOR -Y25REV- PROFILE
 SEE SHEET 86 FOR -DR2- PROFILE
 SEE SHEETS 2D-1 THRU 2D-7 FOR DRAINAGE DETAILS

NO.	REVISIONS

PROJECT REFERENCE NO. P-223388	SHEET NO. EC-6/CWST-6
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

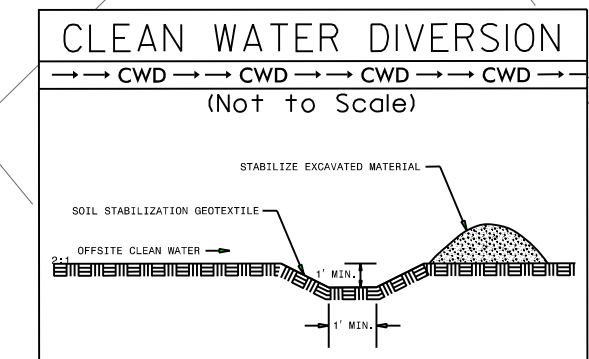
TRAFFIC DATA	
B 10 13	A 12 15
C 33 57	D 94 102
<small>QUANTITATIVE ANALYSIS IN ACCORDANCE WITH AASHTO 1992 255 *FPM W. 009</small>	



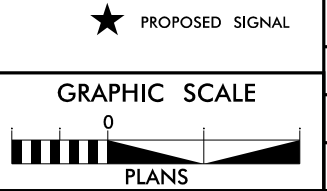
NOTE: UTILIZE FABRIC INSERT INLET PROTECTION DEVICES IN LIEU OF ROCK INLET SEDIMENT TRAPS, TYPE-C AS DIRECTED BY ENGINEER.

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.



SEE SHEETS 35 & 36 FOR -L3- PROFILE
SEE SHEETS 34 & 35 FOR -Y2- PROFILE
SEE SHEET 58 FOR -LPC- PROFILE
SEE SHEET 59 FOR -LPC- PROFILE
SEE SHEET 54 & 57 FOR -RPS- PROFILE
SEE SHEET 60 & 61 FOR -RPC- PROFILE
SEE SHEET 38-1 FOR INTERSECTION DETAILS
SEE SHEET 78-2 FOR CONC. ISLAND DETAILS
SEE SHEETS 20-1 THRU 20-7 FOR GRANNAGE DETAILS



PROPOSED SIGNAL	LOCATION:
TR. NO.:	COUNTY:
DESIGNED BY:	CHECKED BY:
DATE:	DATE:

PROJECT REFERENCE NO.	SHEET NO.
R-2233BB	EC-7/CONST.7
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

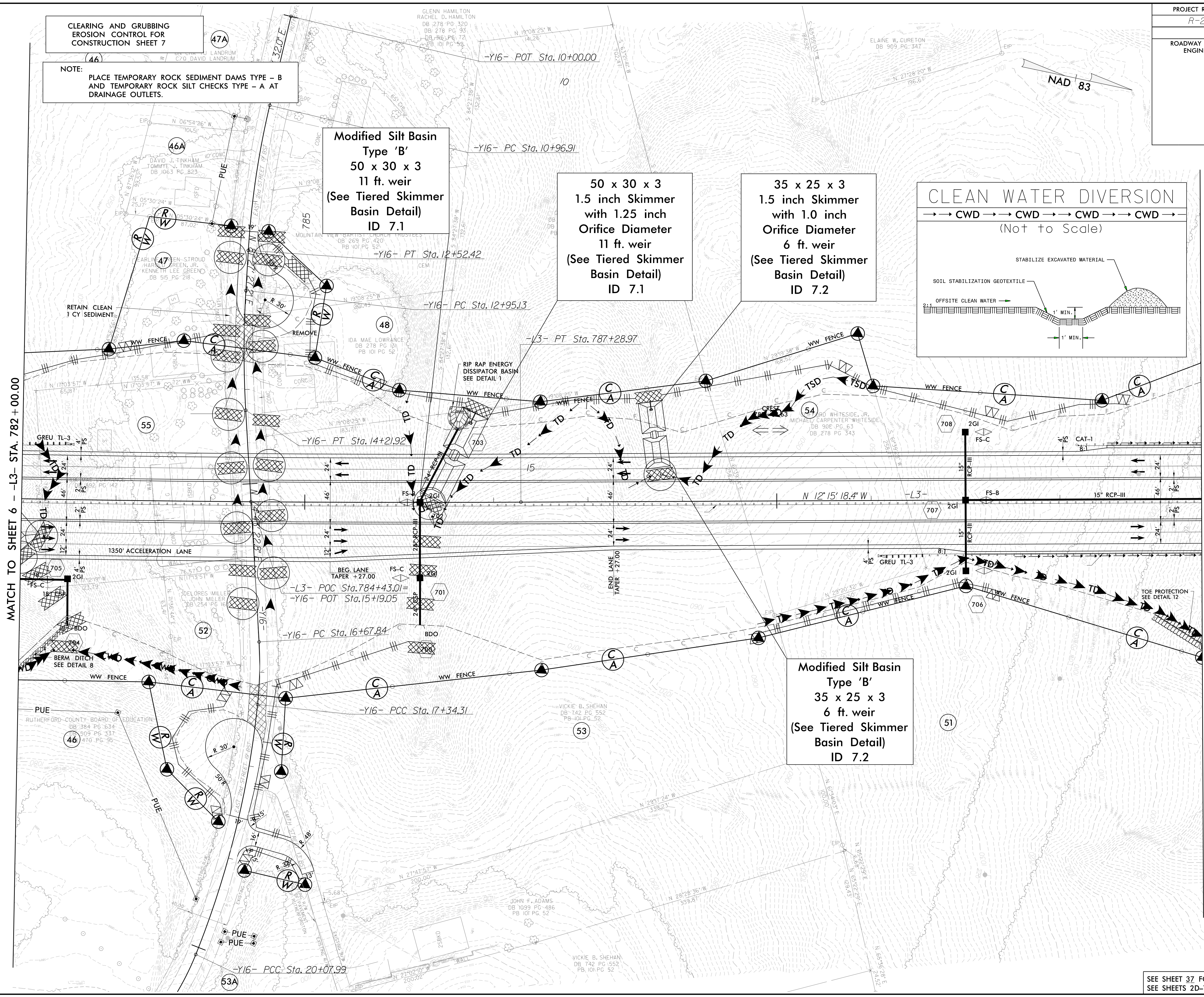
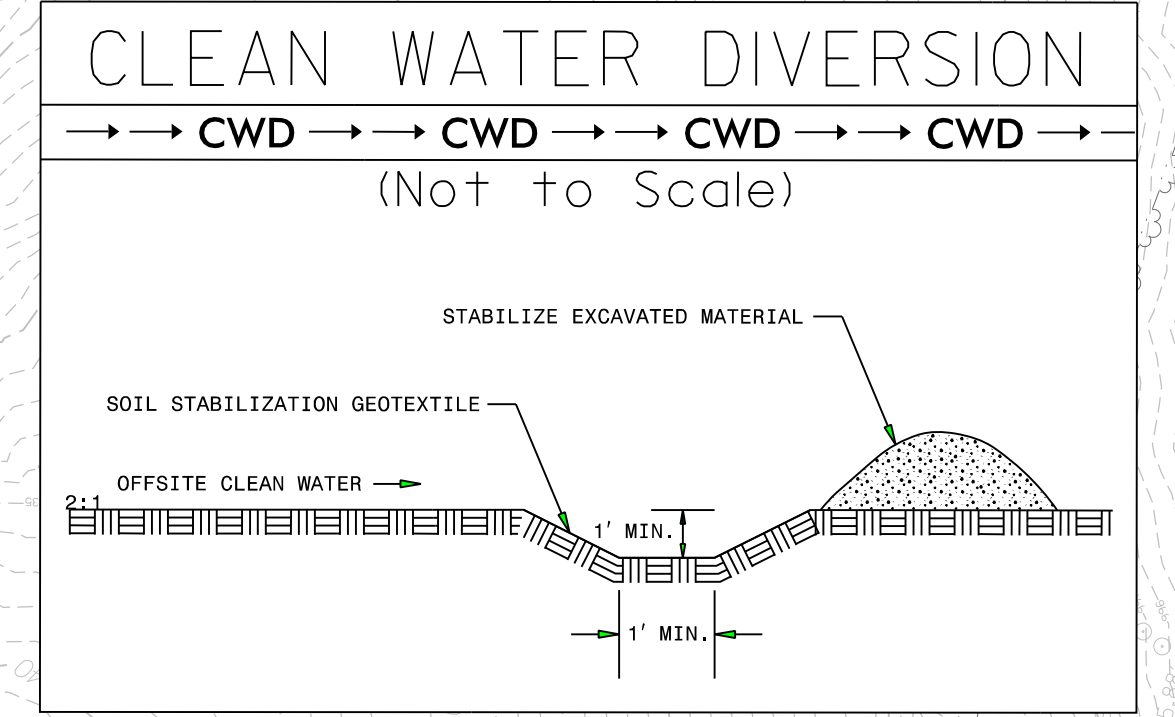
CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 7

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

Modified Silt Basin Type 'B'
 50 x 30 x 3
 11 ft. weir
 (See Tiered Skimmer Basin Detail)
 ID 7.1

50 x 30 x 3
 1.5 inch Skimmer with 1.25 inch Orifice Diameter
 11 ft. weir
 (See Tiered Skimmer Basin Detail)
 ID 7.1

35 x 25 x 3
 1.5 inch Skimmer with 1.0 inch Orifice Diameter
 6 ft. weir
 (See Tiered Skimmer Basin Detail)
 ID 7.2



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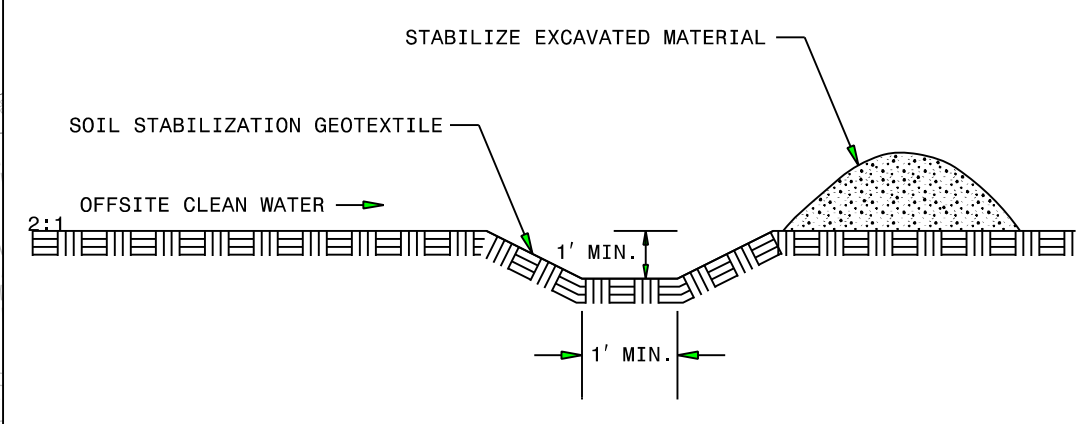
SEE SHEET 37 FOR -L3- PROFILE
 SEE SHEETS 2D-1 THRU 2D-7 FOR DRAINAGE DETAILS

PROJECT REFERENCE NO.	SHEET NO.
R-2233BB	EC-8/CONST.8
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INSET MATCHLINE

CLEAN WATER DIVERSION

→ CWD → CWD → CWD → CWD →
(Not to Scale)



CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 8

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

47 x 30 x 3
1.5 inch Skimmer
with 1.25 inch
Orifice Diameter
11 ft. weir
(See Tiered Skimmer
Basin Detail)
ID 8.3

40 x 27 x 3
1.5 inch Skimmer
with 1.125 inch
Orifice Diameter
8 ft. weir
(See Tiered Skimmer
Basin Detail)
ID 8.4

Modified Silt Basin
Type 'B'
40 x 27 x 3
8 ft. weir
(See Tiered Skimmer
Basin Detail)
ID 8.4

74 x 66 x 3
2.5 inch Skimmer
with 2.375 inch
Orifice Diameter
37 ft. weir
(See Tiered Skimmer
Basin Detail)
ID 9.1

Modified Silt Basin
Type 'B'
47 x 30 x 3
11 ft. weir
(See Tiered Skimmer
Basin Detail)
ID 8.3

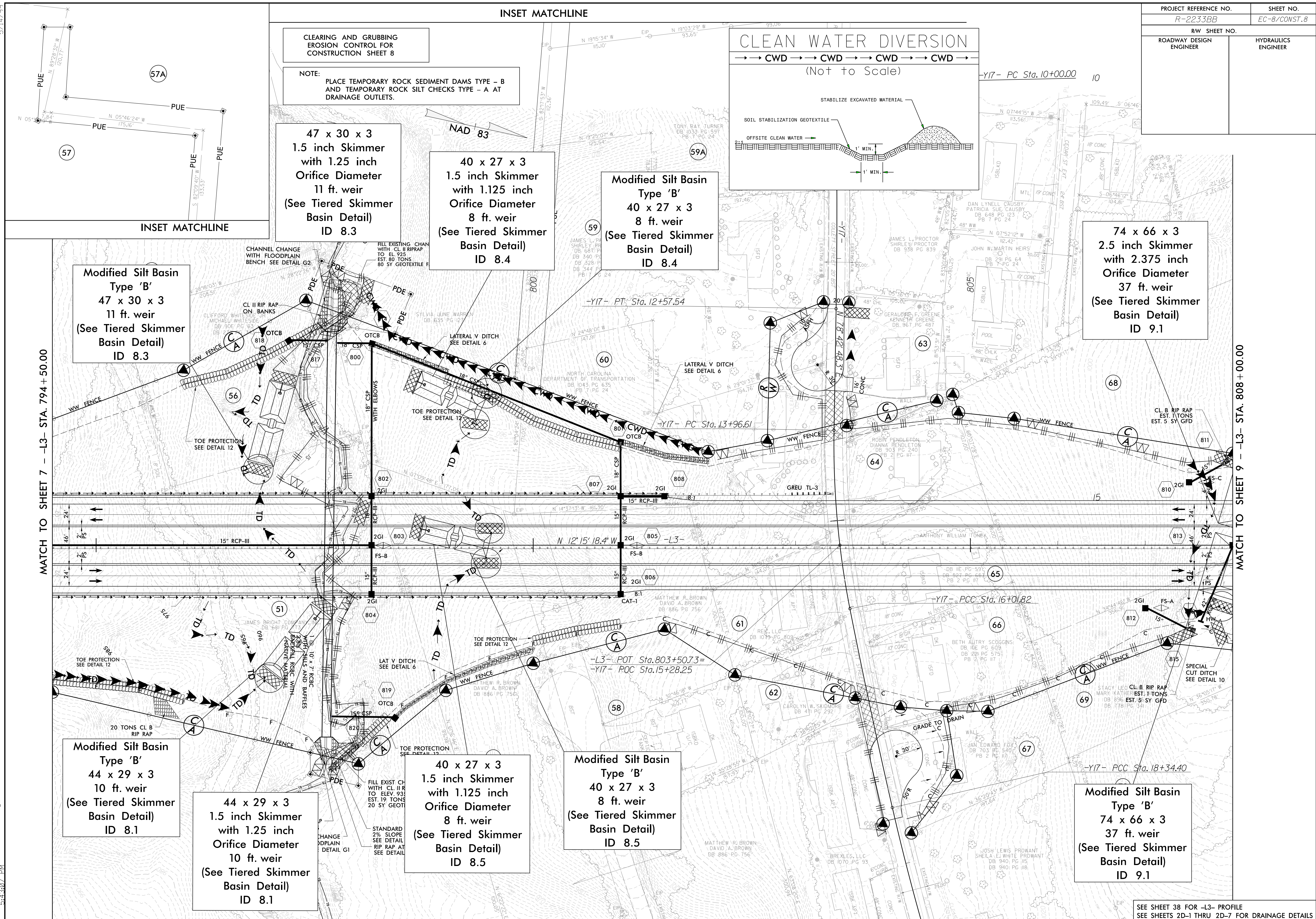
Modified Silt Basin
Type 'B'
44 x 29 x 3
10 ft. weir
(See Tiered Skimmer
Basin Detail)
ID 8.1

44 x 29 x 3
1.5 inch Skimmer
with 1.25 inch
Orifice Diameter
10 ft. weir
(See Tiered Skimmer
Basin Detail)
ID 8.1

40 x 27 x 3
1.5 inch Skimmer
with 1.125 inch
Orifice Diameter
8 ft. weir
(See Tiered Skimmer
Basin Detail)
ID 8.5

Modified Silt Basin
Type 'B'
40 x 27 x 3
8 ft. weir
(See Tiered Skimmer
Basin Detail)
ID 8.5

Modified Silt Basin
Type 'B'
74 x 66 x 3
37 ft. weir
(See Tiered Skimmer
Basin Detail)
ID 9.1



MATCH TO SHEET 7 - L3- STA. 794+50.00

MATCH TO SHEET 9 - L3- STA. 808+00.00

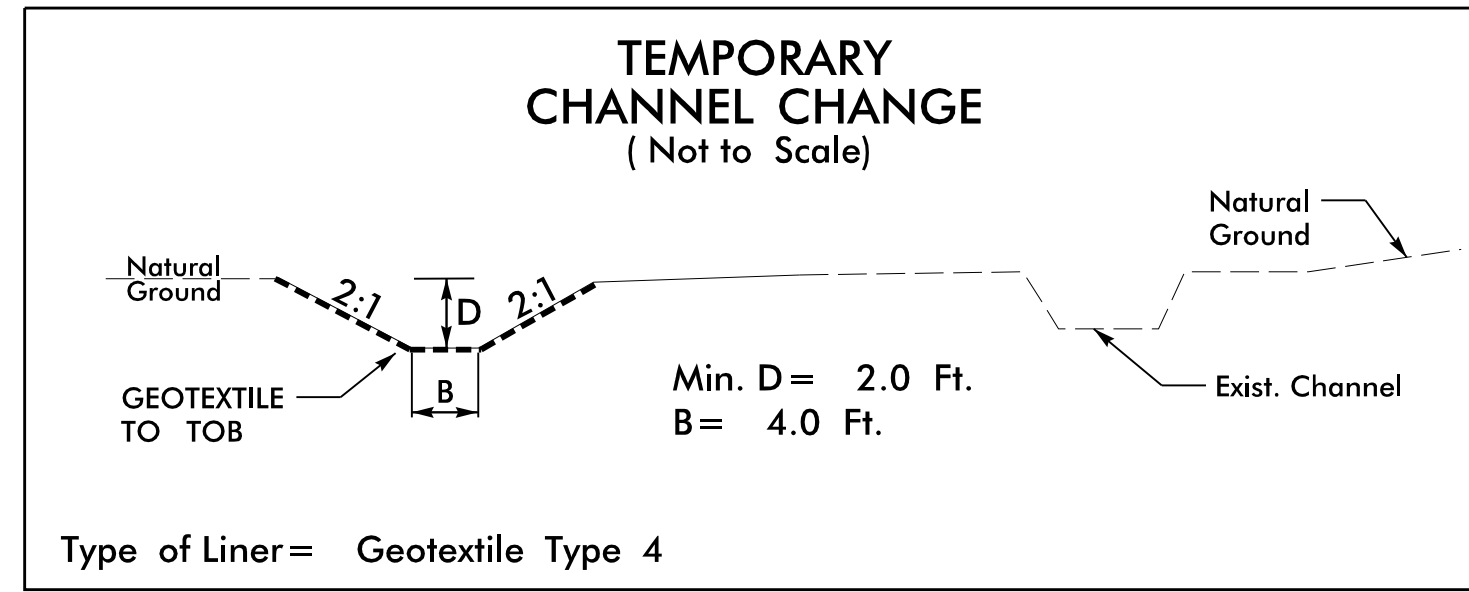
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SEE SHEET 38 FOR -L3- PROFILE
SEE SHEETS 2D-1 THRU 2D-7 FOR DRAINAGE DETAILS

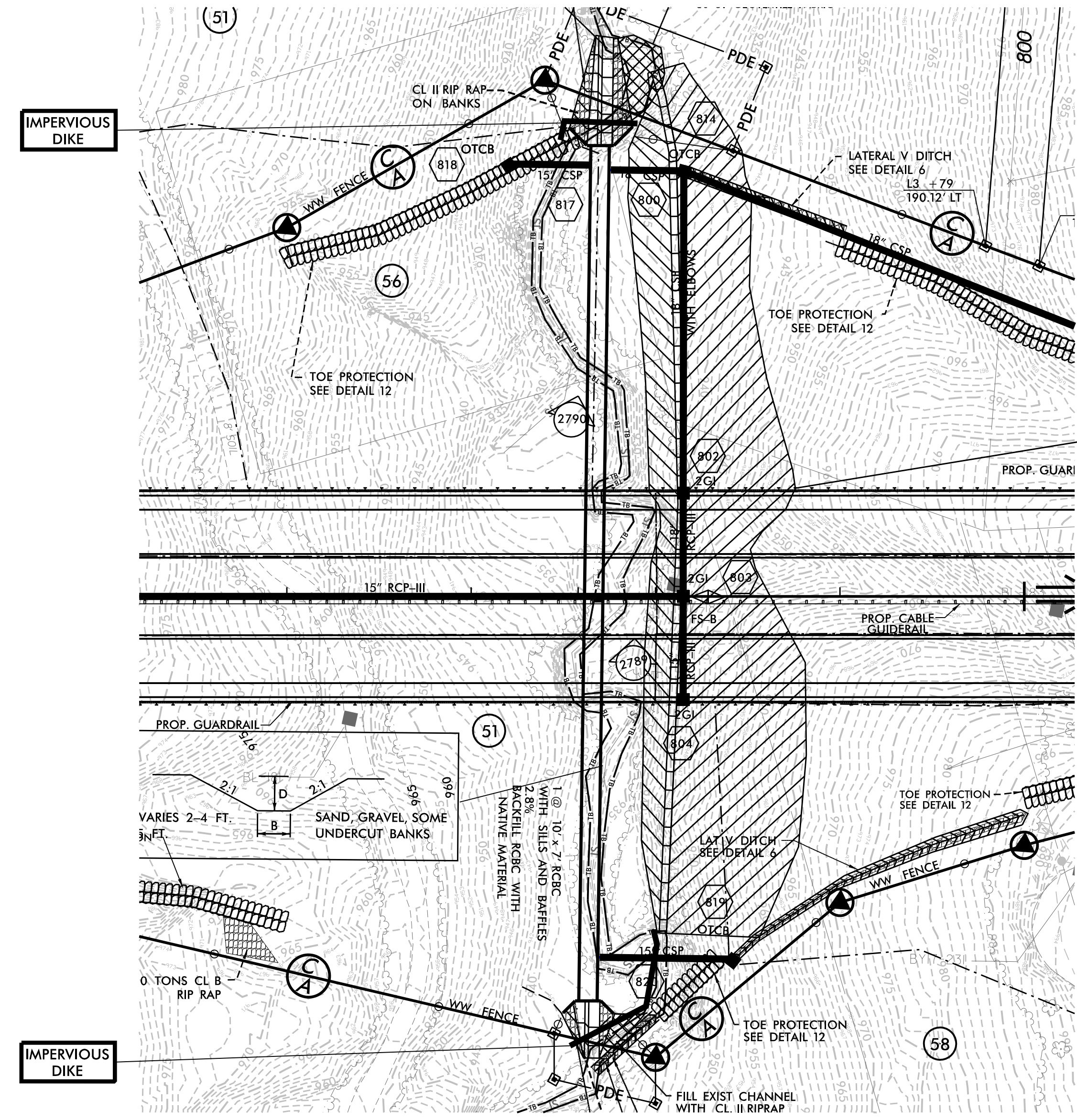
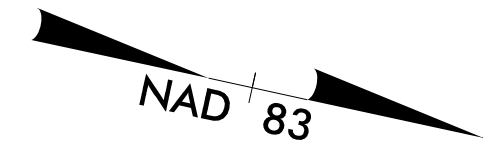
2 @ 6'X6' RCBC CONSTRUCTION SEQUENCE STA. 797+00 -L3-

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

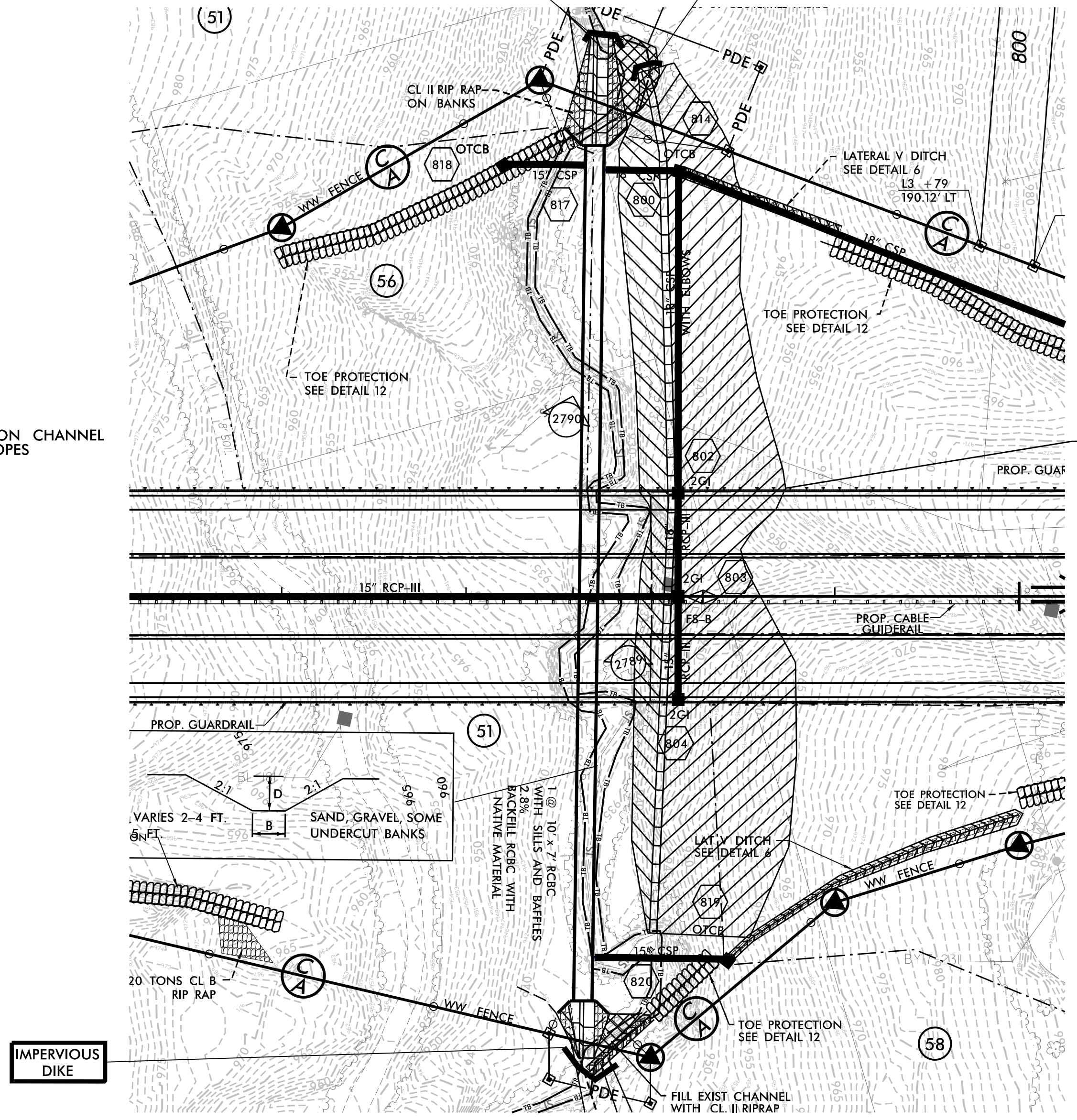
PROJECT REFERENCE NO. R-2233BB	SHEET NO. EC-8A/CONST.8
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



NOT TO SCALE



TEMPORARY DIVERSION CHANNEL
4' BASE; 2:1 SIDE SLOPES



TEMPORARY DIVERSION CHANNEL
4' BASE; 2:1 SIDE SLOPES

PHASE I

PHASE II

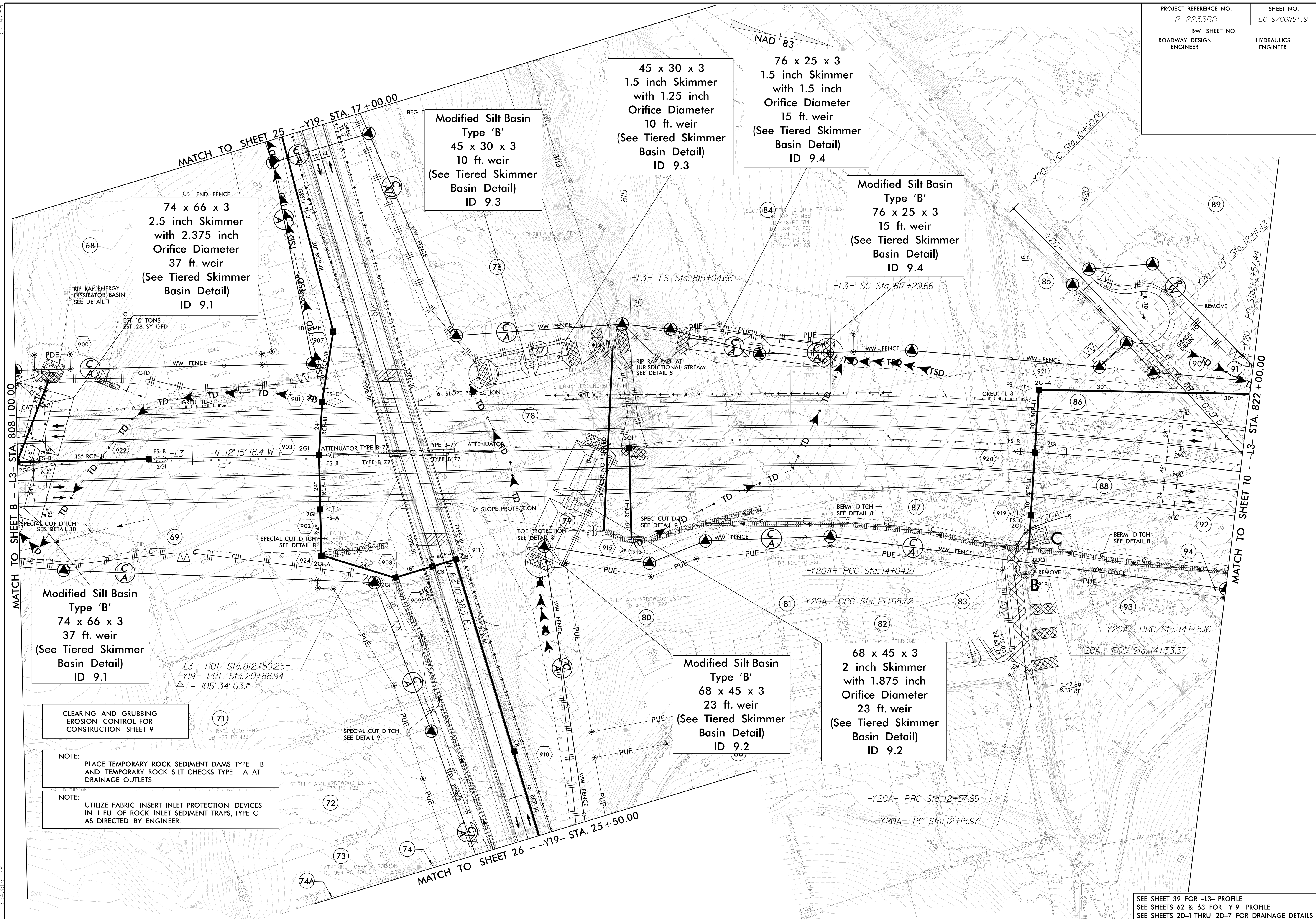
1. INSTALL SPECIAL STILLING BASIN(S) AS NECESSARY.
2. CONSTRUCT 4' BASE TEMPORARY CHANNEL CHANGE WITH LINER.
3. INSTALL IMPERVIOUS DIKES AND DIRECT WATER FLOW AROUND THE WORK AREA DOWN THE CENTER OF THE TEMPORARY CHANNEL CHANGE ON THE NORTH SIDE OF THE FUTURE CULVERT.
4. CONSTRUCT CULVERT.

1. INSTALL SPECIAL STILLING BASIN(S) AS NECESSARY.
2. INSTALL IMPERVIOUS DIKES AND USE PUMPING OPERATION AND TEMPORARY CHANNEL CHANGE TO COMPLETE UPSTREAM AND DOWNSTREAM CHANNEL IMPROVEMENTS.
3. REMOVE IMPERVIOUS DIKES TO ESTABLISH FLOW THROUGH NEWLY CONSTRUCTED CULVERT.
4. REMOVE TEMPORARY DIVERSION CHANNEL AND ANY SPECIAL STILLING BASINS.

PROJECT REFERENCE NO.	SHEET NO.
R-2233BB	EC-9/CONST.9
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

ROW REV. - December 21, 2017 - Parcel 93 - Revised file at Y20A +60 to Y20A +68.88EX. RW (WET)
 ROW REV. - December 21, 2017 - Parcel 85 - Property owner name changed to Earl McEntire (WET)

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CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 9

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

NOTE: UTILIZE FABRIC INSERT INLET PROTECTION DEVICES IN LIEU OF ROCK INLET SEDIMENT TRAPS, TYPE-C AS DIRECTED BY ENGINEER.

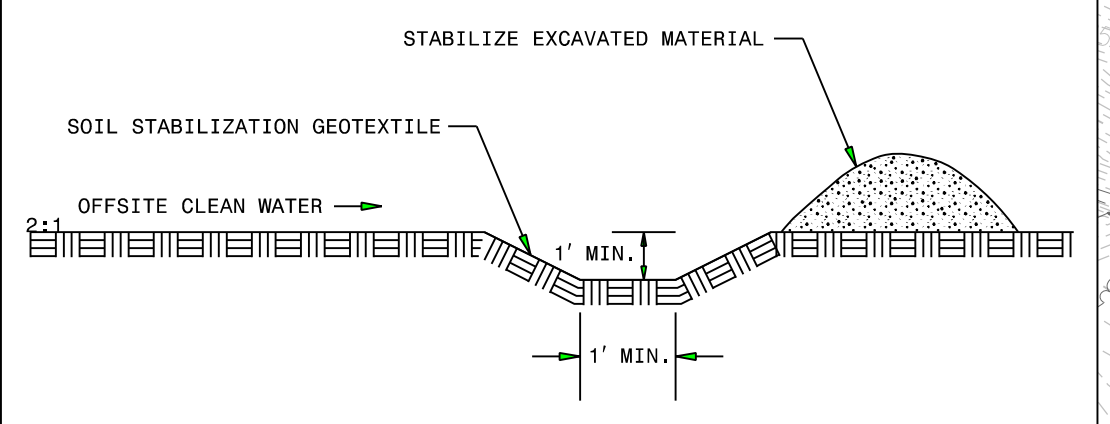
SEE SHEET 39 FOR -L3- PROFILE
 SEE SHEETS 62 & 63 FOR -Y19- PROFILE
 SEE SHEETS 2D-1 THRU 2D-7 FOR DRAINAGE DETAILS

PROJECT REFERENCE NO.	SHEET NO.
R-2233BB	EC-10/CONST.10
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 10

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

CLEAN WATER DIVERSION
→ CWD → CWD → CWD → CWD →
(Not to Scale)



47 x 155 x 3
2.5 inch Skimmer
with 2.25 inch
Orifice Diameter
27 ft. weir
ID 10.1

28 x 62 x 3
1.5 inch Skimmer
with 1.25 inch
Orifice Diameter
7 ft. weir
ID 10.2

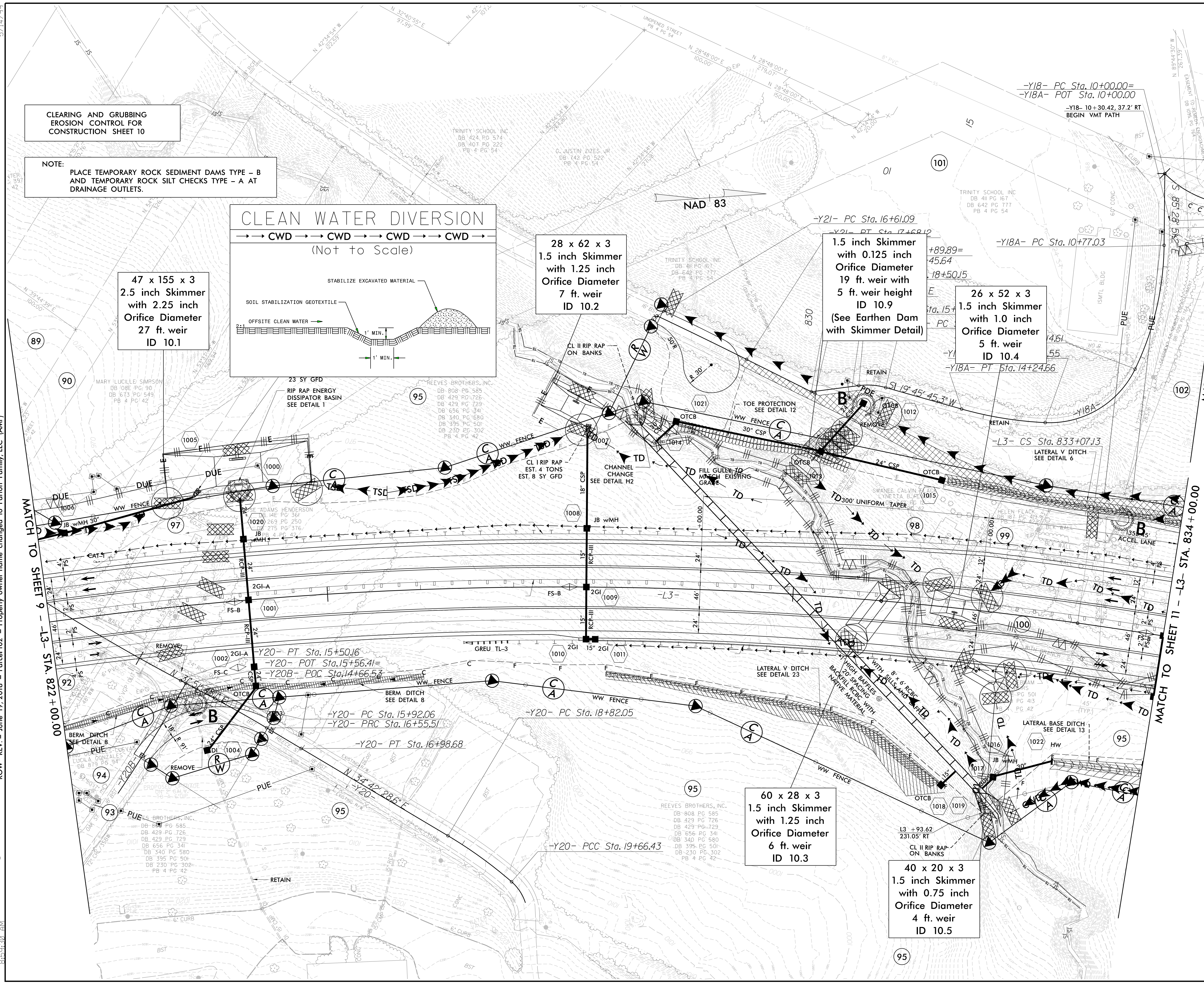
1.5 inch Skimmer
with 0.125 inch
Orifice Diameter
19 ft. weir with
5 ft. weir height
ID 10.9
(See Earthen Dam
with Skimmer Detail)

26 x 52 x 3
1.5 inch Skimmer
with 1.0 inch
Orifice Diameter
5 ft. weir
ID 10.4

60 x 28 x 3
1.5 inch Skimmer
with 1.25 inch
Orifice Diameter
6 ft. weir
ID 10.3

40 x 20 x 3
1.5 inch Skimmer
with 0.75 inch
Orifice Diameter
4 ft. weir
ID 10.5

ROW REV. - December 21, 2017 - Parcel 95 - Revised PUE line to RW line (WET)
ROW REV. - March 2, 2018 - Parcel 101 - Moved PUE off of school classroom (WET)
ROW REV. - June 19, 2018 - Parcel 102 - Adjust boundary line & removed existing easement line (AAMP)
ROW REV. - June 19, 2018 - Parcel 103 - Adjust boundary line & removed existing easement line (AAMP)
ROW REV. - June 19, 2018 - Parcel 102 - Property owner name changed to Parton Family, LLC (AAMP)



MATCH TO SHEET 11 - Y18- STA. 10+75.00

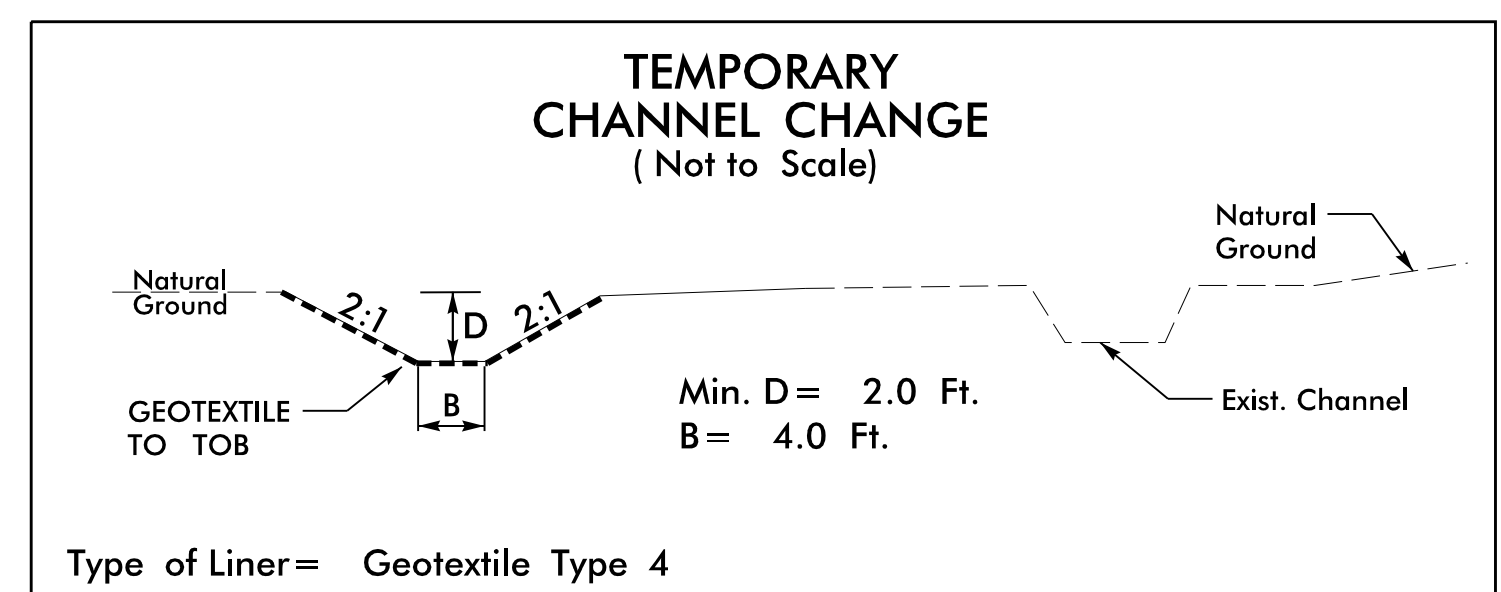
MATCH TO SHEET 11 - L3- STA. 834+00.00

SEE SHEET 40 FOR -L3- PROFILE
SEE SHEET 74 FOR -Y18- PROFILE
SEE SHEETS 2D-1 THRU 2D-7 FOR DRAINAGE DETAILS

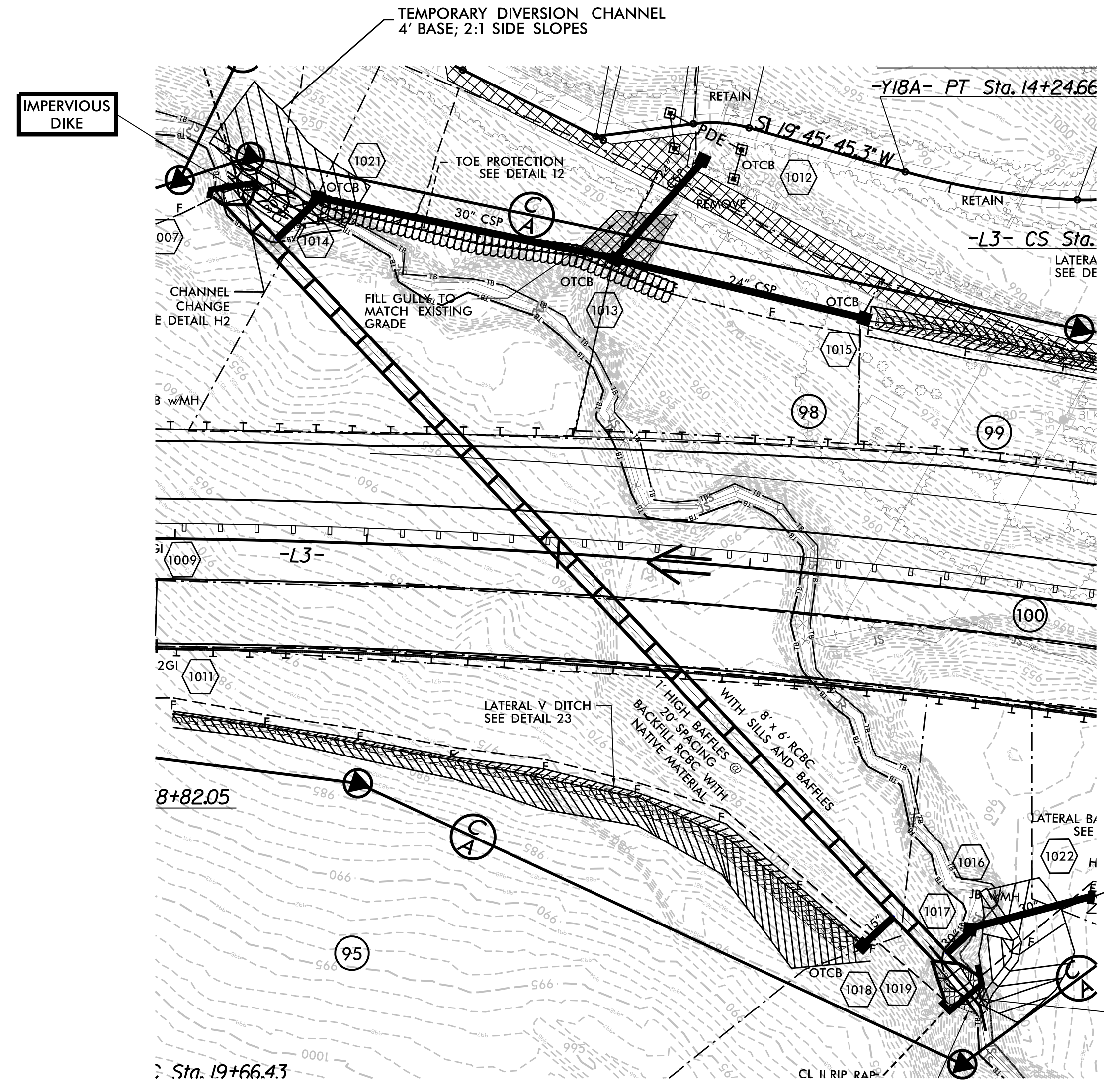
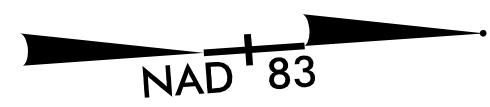
6'X6' RCBC CONSTRUCTION SEQUENCE STA. 830+00 -L3-

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

PROJECT REFERENCE NO. <i>R-2233BB</i>	SHEET NO. <i>EC-10A/CONST.10</i>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

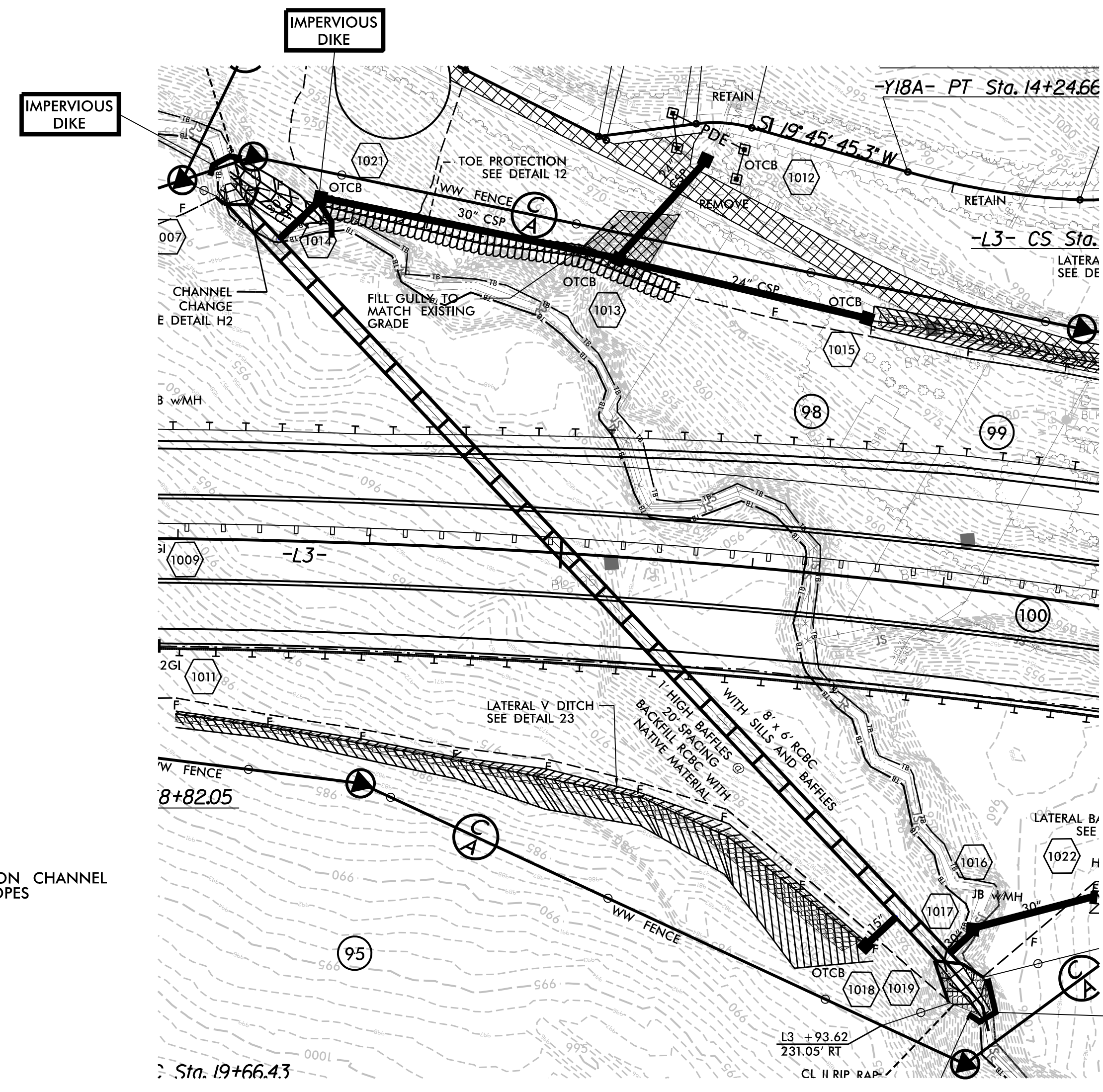


NOT TO SCALE



PHASE I

1. INSTALL SPECIAL STILLING BASIN(S) AS NECESSARY.
2. CONSTRUCT BOTH 4' BASE TEMPORARY CHANNEL CHANGES WITH LINER.
3. INSTALL IMPERVIOUS DIKES AND DIRECT WATER FLOW AROUND THE WORK AREA DOWN THE CENTER OF THE TEMPORARY CHANNEL CHANGES ON THE NORTH SIDE OF THE FUTURE CULVERT.
4. CONSTRUCT CULVERT.



PHASE II

1. INSTALL SPECIAL STILLING BASIN(S) AS NECESSARY.
2. REMOVE PHASE I IMPERVIOUS DIKES AND TEMPORARY CHANNEL CHANGES.
3. INSTALL PHASE II IMPERVIOUS DIKES AND USE PUMPING OPERATION TO COMPLETE UPSTREAM AND DOWNSTREAM CHANNEL IMPROVEMENTS.
4. REMOVE IMPERVIOUS DIKES TO ESTABLISH FLOW THROUGH NEWLY CONSTRUCTED CULVERT.
5. REMOVE SPECIAL STILLING BASINS.