TIP PROJECT: R-2303A

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-2303A	EC-1	

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

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL

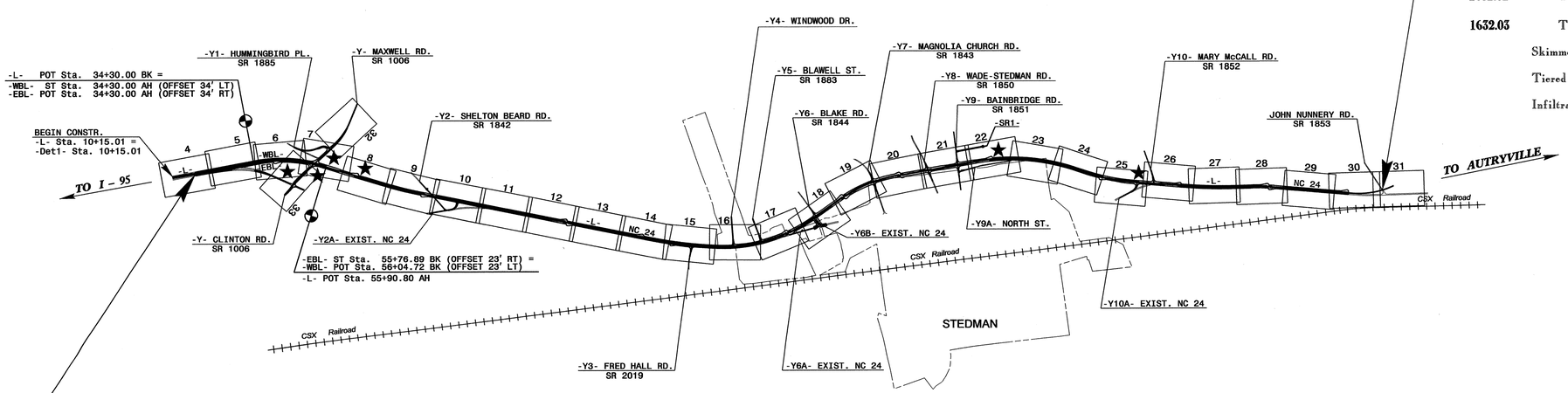
CUMBERLAND COUNTY

LOCATION: NC 24 FROM WEST OF SR 1006 (MAXWELL RD./ CLINTON RD.) TO SR 1853 (JOHN NUNNERY RD.)

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

NAD 83/95

STA. 376+28.96 –L– END TIP PROJECT R–2303A



STA. 16+90.00 –L– BEGIN TIP PROJECT R–2303A

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.

GRAPHIC SCALE

0
PLANS

0
PROFILE (HORIZONTAL)

0
PROFILE (VERTICAL)

ROADSIDE ENVIRONMENTAL UNIT
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH THE REGULATIONS SET FORTH BY THE NCG-010000 GENERAL CONSTRUCTION PERMIT EFFECTIVE AUGUST 3, 2011 ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES DIVISION OF WATER QUALITY.

Prepared In the Office of:

ROADSIDE ENVIRONMENTAL UNIT
1 South Wilmington St.
Raleigh, NC 27611

2012 STANDARD SPECIFICATIONS

Roadway Standard Drawings

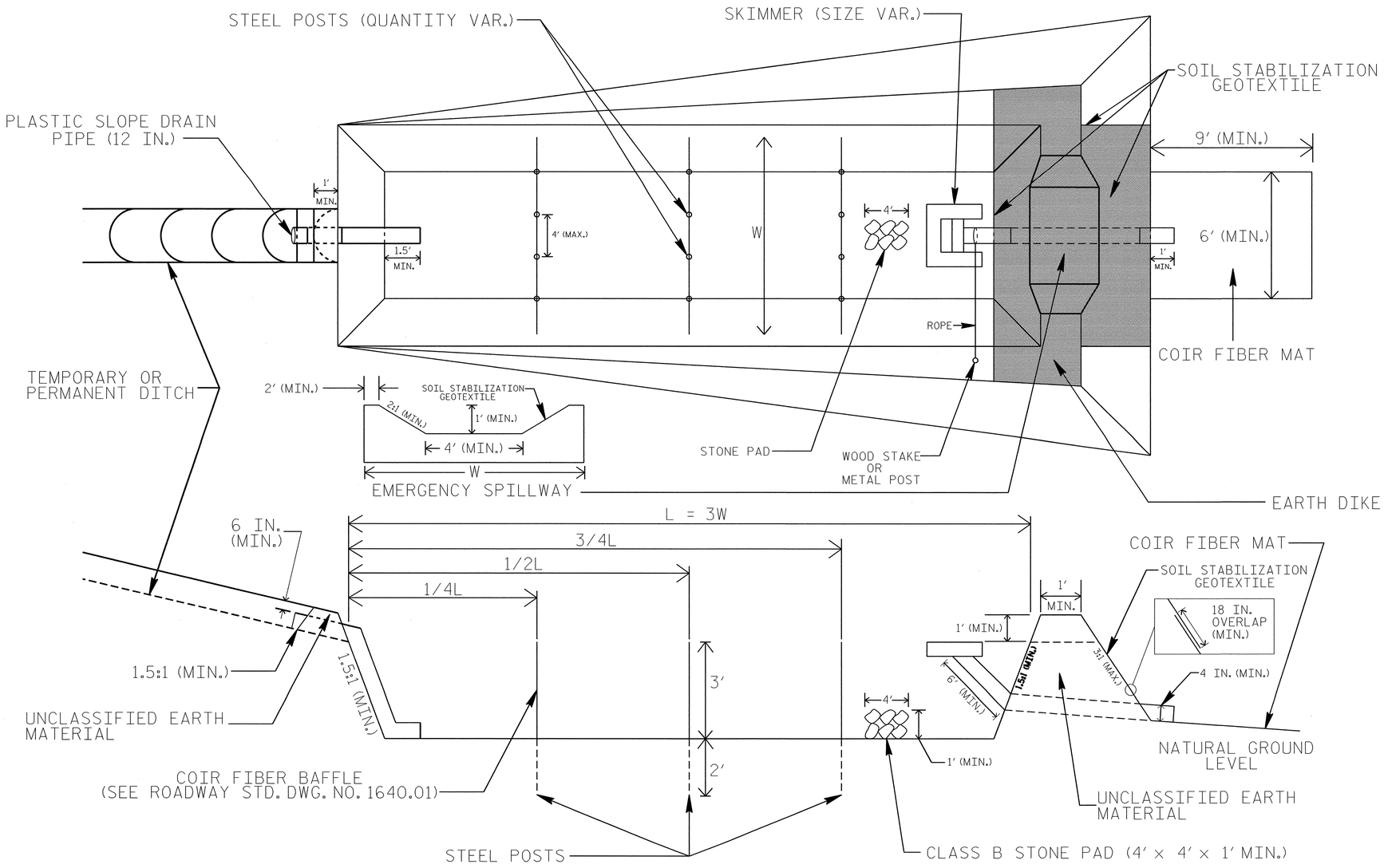
The following roadway english standards as appear in "Roadway Standard Drawings"– Roadway Design Unit – N. C. Department of Transportation – Raleigh, N. C., dated January 2012 and the latest revison thereto are applicable to this project and by reference hereby are considered a part of these plans.

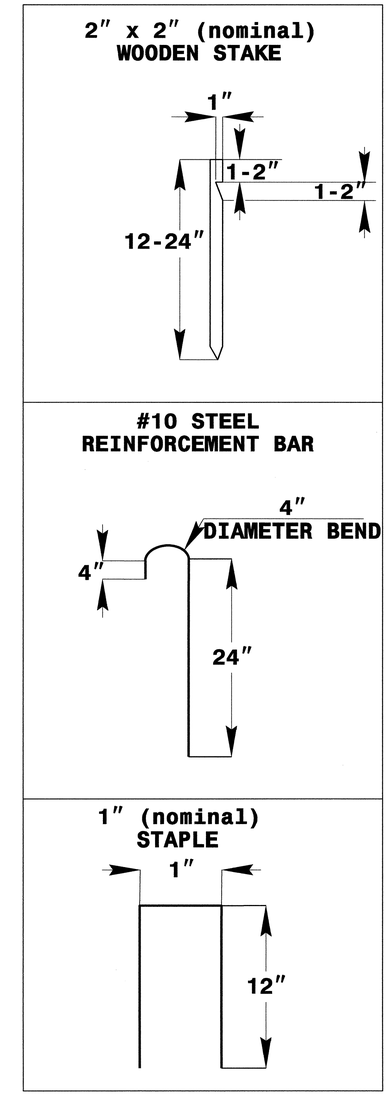
1604.01	Railroad Erosion Control Detail	1632.01	Rock Inlet Sediment Trap Type A
1605.01	Temporary Silt Fence	1632.02	Rock Inlet Sediment Trap Type B
1606.01	Special Sediment Control Fence	1632.03	Rock Inlet Sediment Trap Type C
1607.01	Gravel Construction Entrance	1633.01	Temporary Rock Silt Check Type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

R:\EC\Proj\R2303A\EC_tsh.dgn 02-JUL-2012 16:30 jeggenbaur on "PW REN\W247970"

PROJECT REFERENCE NO.	SHEET NO.
R-2303A	EC-02
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SKIMMER BASIN WITH BAFFLES DETAIL





COIR FIBER MAT ANCHOR OPTIONS

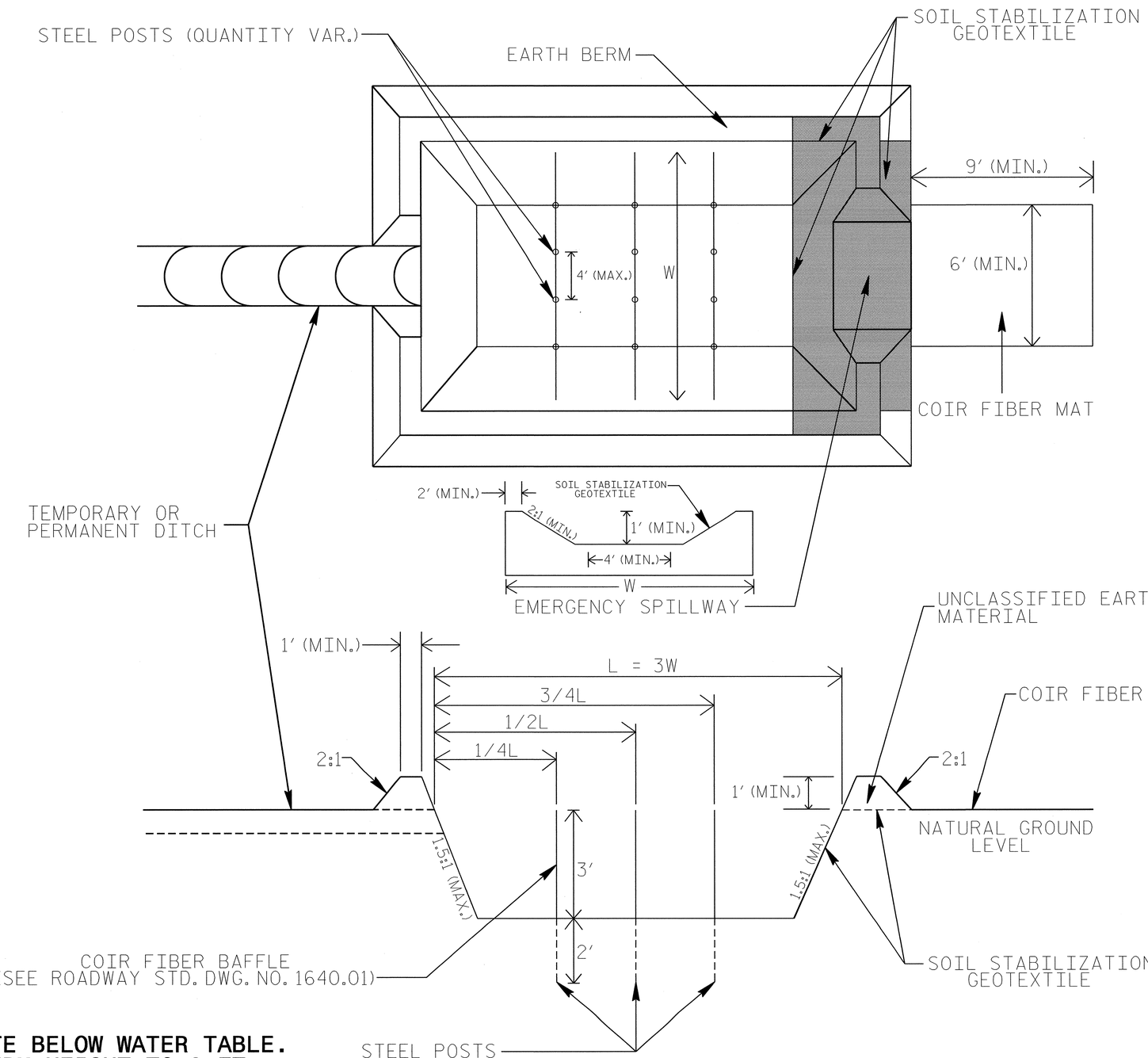
NOTES

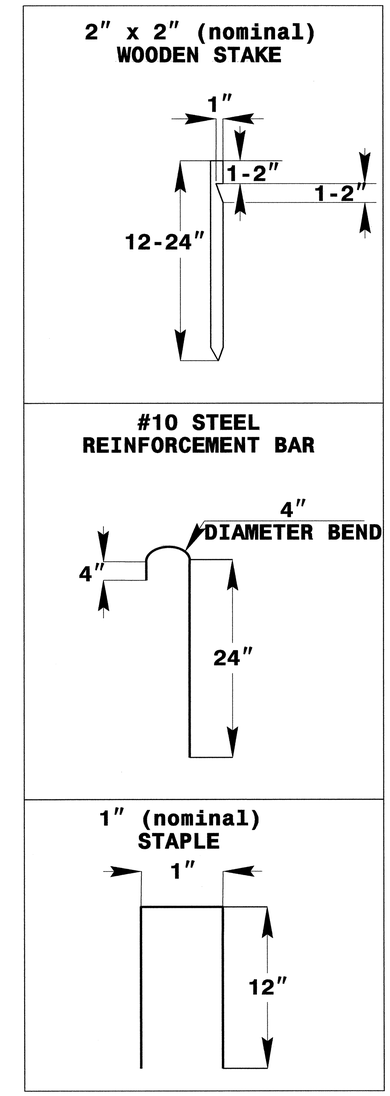
1. SEED AND PLACE MATTING FOR EROSION CONTROL ON INTERIOR AND EXTERIOR SIDESLOPES.
2. LIMIT EARTH DIKE HEIGHT TO 5 FT.
3. FOR BASIN DEPTH OF 3 FT., THE MINIMUM BASIN WIDTH SHALL BE 9 FT.
4. DETERMINE EMERGENCY SPILLWAY LENGTH (FT.) USING Q/0.8, WHERE Q IS FLOW RATE (CFS) INTO BASIN.
5. PLASTIC SLOPE DRAIN PIPE AT INLET OF BASIN MAY BE REPLACED BY FILTRATION GEOTEXTILE AS DIRECTED.
6. SOIL STABILIZATION GEOTEXTILE FOR EMERGENCY SPILLWAY SHALL BE ONE CONTINUOUS PIECE OF MATERIAL OR OVERLAPPED 18 IN. (MIN.).

NOT TO SCALE

PROJECT REFERENCE NO.	SHEET NO.
R-2303A	EC-2A
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INFILTRATION BASIN WITH BAFFLES DETAIL





COIR FIBER MAT ANCHOR OPTIONS

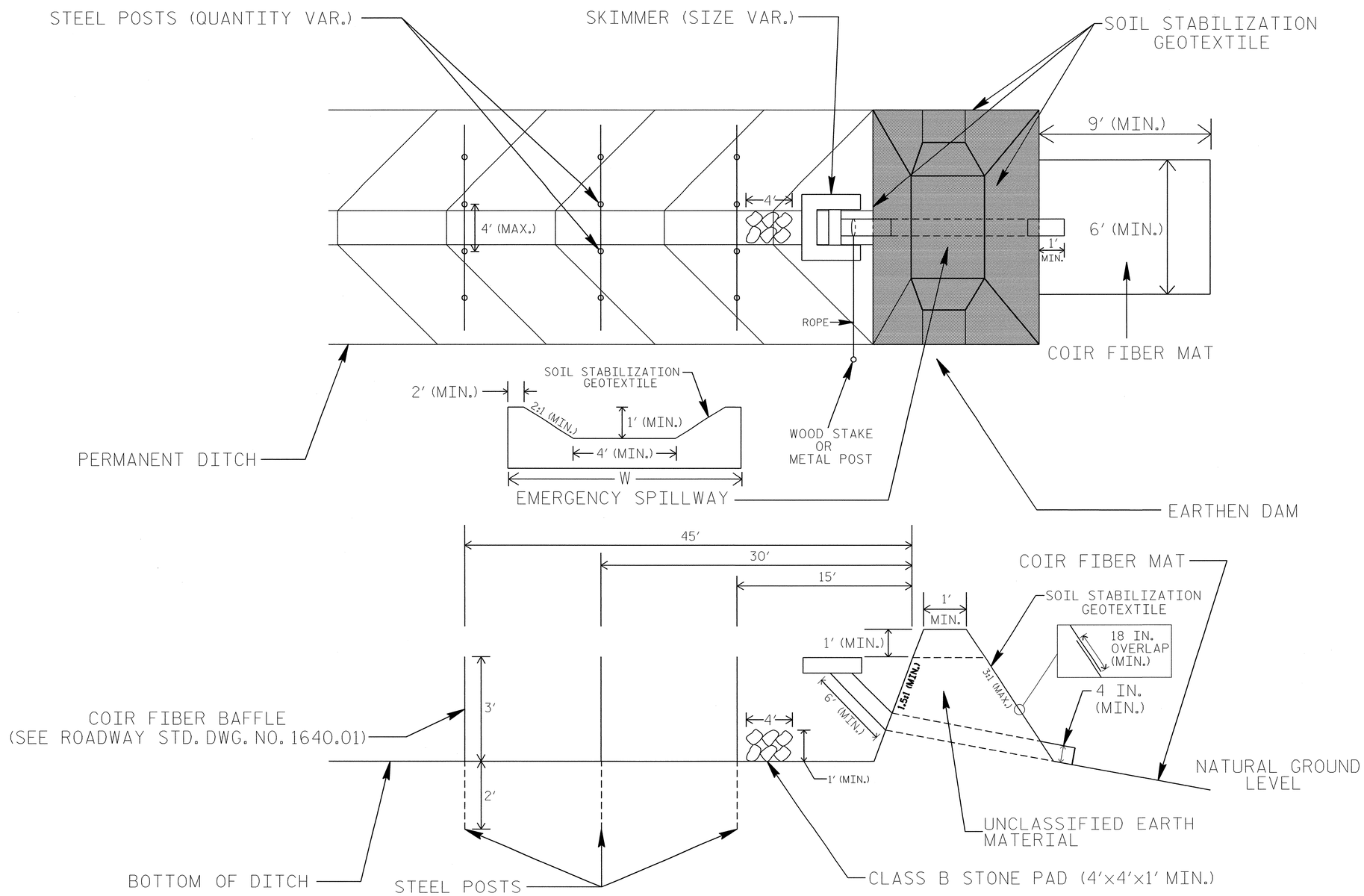
NOTES

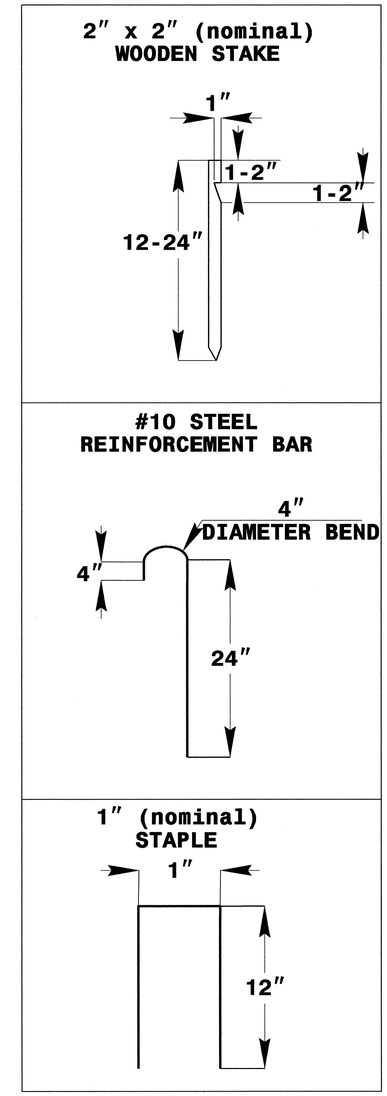
1. DO NOT EXCAVATE BELOW WATER TABLE.
2. LIMIT EARTH BERM HEIGHT TO 3 FT.
3. AVOID COMPACTING BOTTOM OF BASIN.
4. FOR BASIN DEPTH OF 3 FT., THE MINIMUM BASIN WIDTH SHALL BE 9 FT.
5. DETERMINE EMERGENCY SPILLWAY LENGTH (FT.) USING Q/0.8, WHERE Q IS FLOW RATE (CFS) INTO BASIN.

NOT TO SCALE

PROJECT REFERENCE NO.	SHEET NO.
R-2303A	EC-2B
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

EARTHEN DAM WITH SKIMMER





COIR FIBER MAT ANCHOR OPTIONS

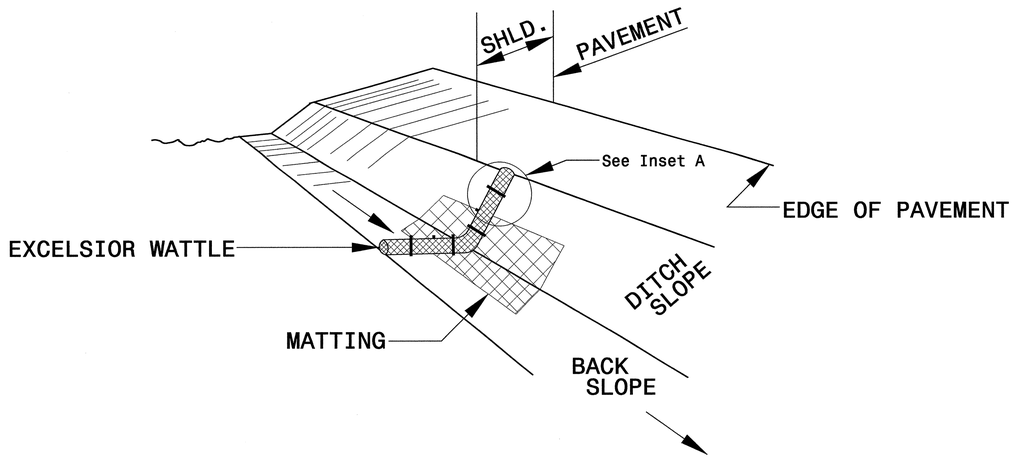
NOTES

1. LIMIT EARTHEN DAM HEIGHT TO 5 FT.
2. DETERMINE EMERGENCY SPILLWAY LENGTH (FT.) USING Q/0.8, WHERE Q IS FLOW RATE (CFS) INTO BASIN.
3. SOIL STABILIZATION GEOTEXTILE FOR EMERGENCY SPILLWAY SHALL BE ONE CONTINUOUS PIECE OF MATERIAL OR OVERLAPPED 18 IN. (MIN.).

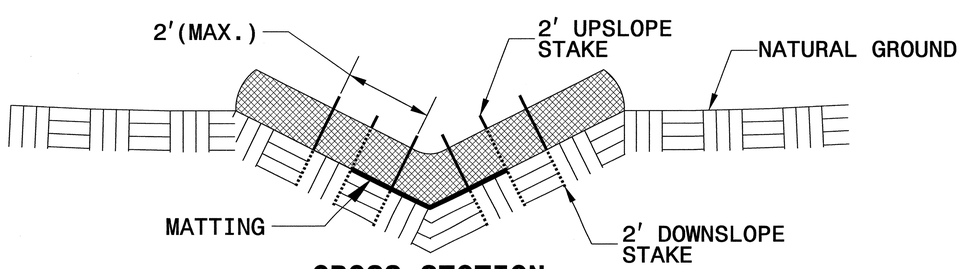
NOT TO SCALE

PROJECT REFERENCE NO.	SHEET NO.
R-2303A	EC-2C
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

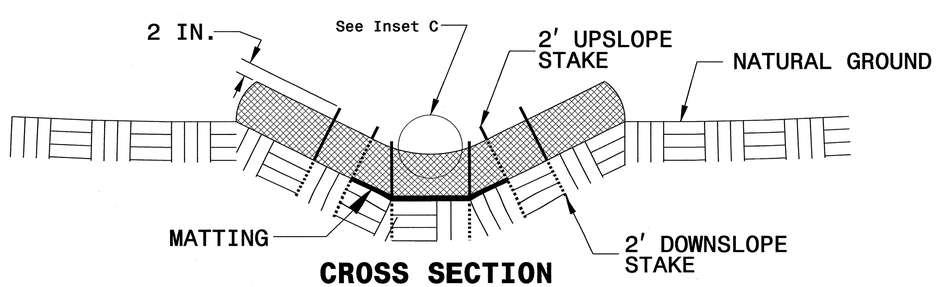
WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL



ISOMETRIC VIEW



CROSS SECTION VEE DITCH



CROSS SECTION TRAPEZOIDAL DITCH

NOTES:

USE MINIMUM 12 IN. DIAMETER EXCELSIOR 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.

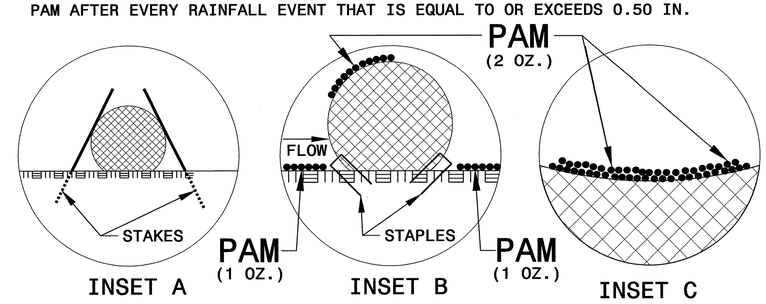
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.

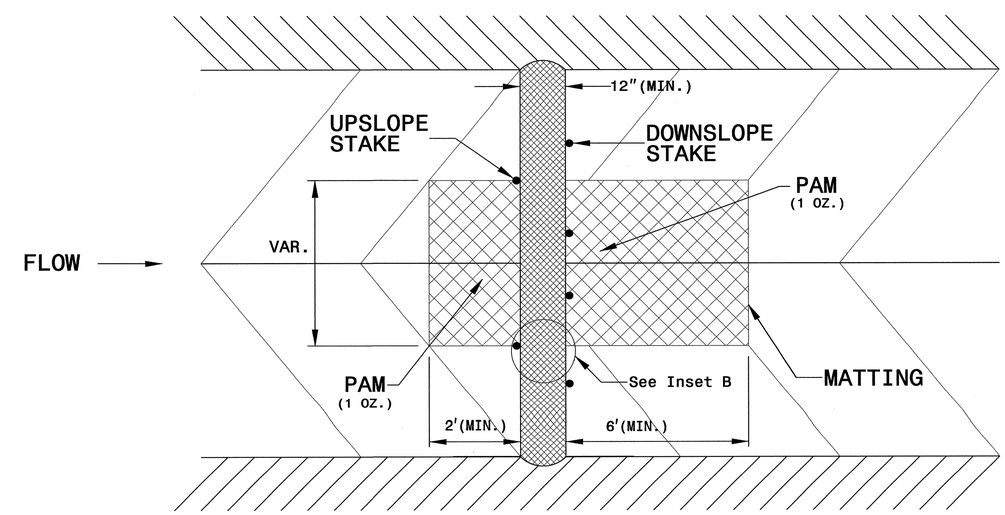
INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

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.

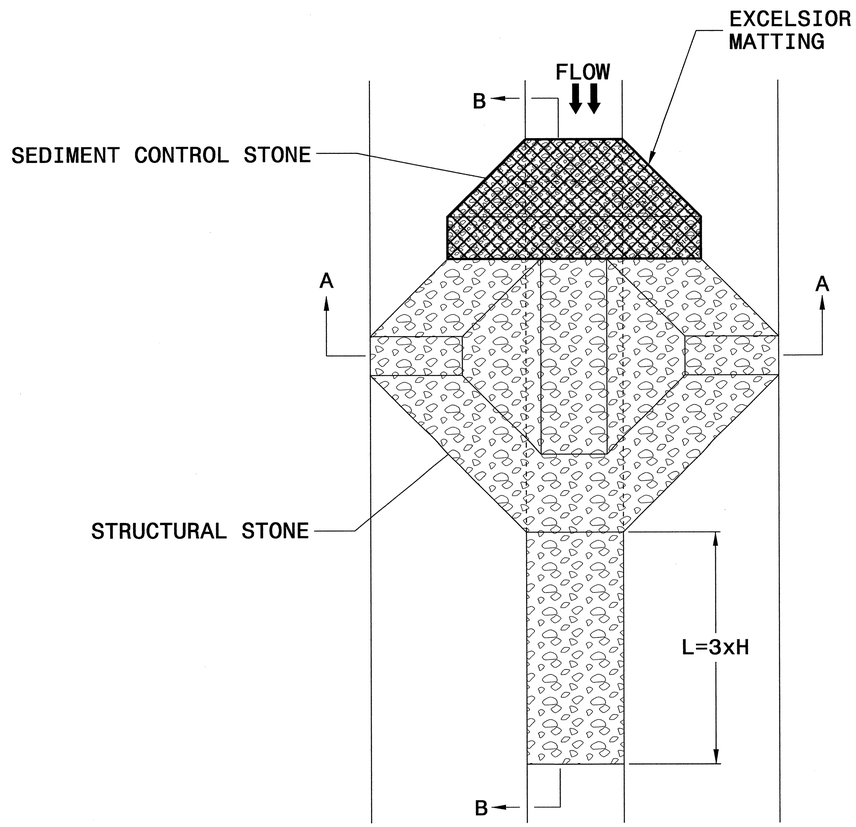




TOP VIEW

PROJECT REFERENCE NO.	SHEET NO.
R-2303A	EC-2D
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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



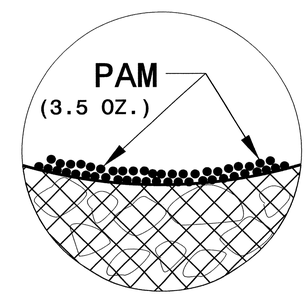
PLAN

NOTES

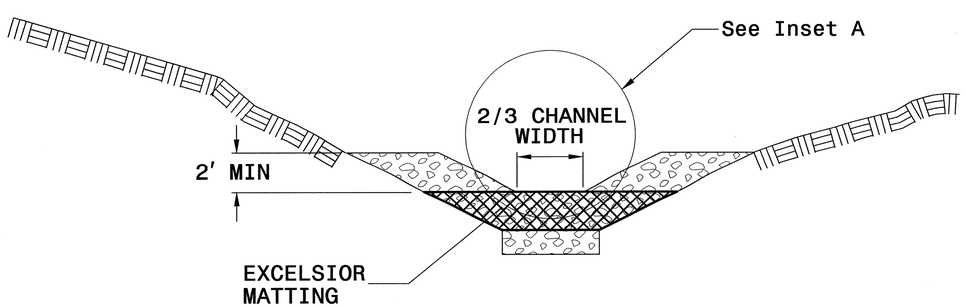
USE EXCELSIOR FOR MATTING MATERIAL AND ANCHOR MATTING SECTION AT TOP AND BOTTOM WITH CLASS B STONE.

PRIOR TO POLYACRYLAMIDE (PAM) APPLICATION, OBTAIN A SOIL SAMPLE FROM PROJECT LOCATION, AND FROM OFFSITE MATERIAL, AND ANALYZE FOR APPROPRIATE PAM FLOCCULANT TO BE APPLIED TO EACH ROCK SILT CHECK.

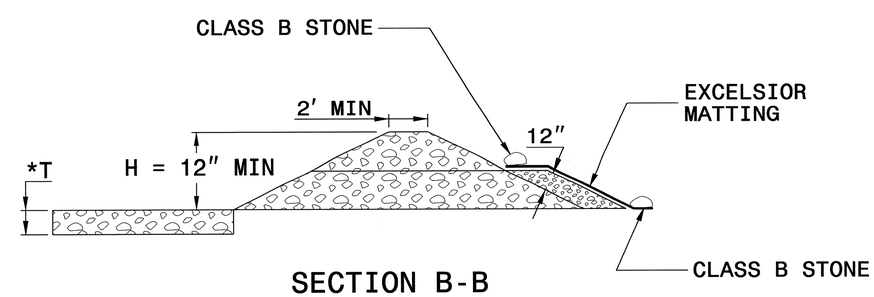
INITIALLY APPLY 3.5 OUNCES OF POLYACRYLAMIDE (PAM) TO TOP OF MATTING SECTION AND AFTER EVERY RAINFALL EVENT THAT EQUALS OR EXCEEDS 0.50 INCHES.



INSET A



SECTION A-A



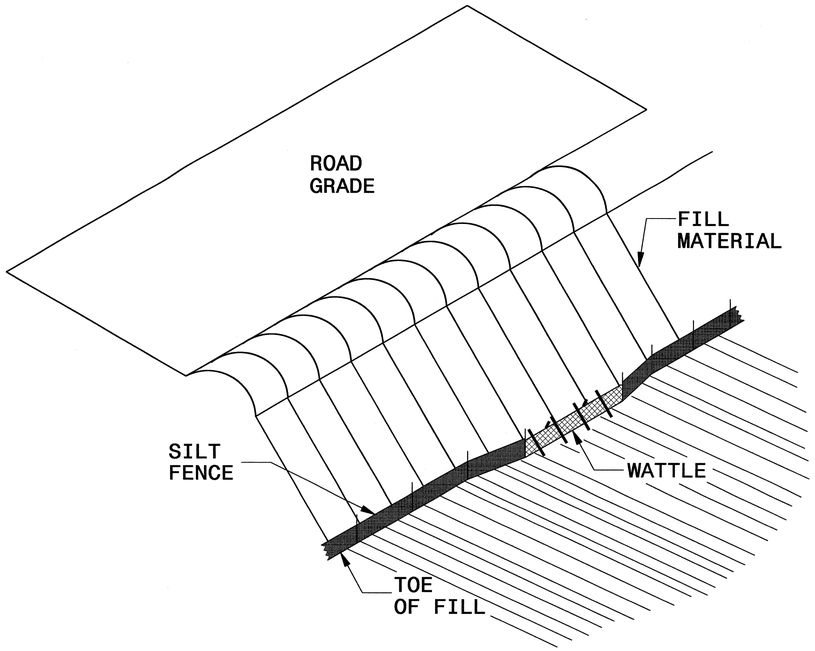
SECTION B-B

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

NOT TO SCALE

PROJECT REFERENCE NO.	SHEET NO.
R-2303A	EC-2E
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SILT FENCE COIR FIBER WATTLE BREAK DETAIL



ISOMETRIC VIEW

NOTES:

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

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

DO NOT PLACE WATTLE ON TOE OF SLOPE.

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

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

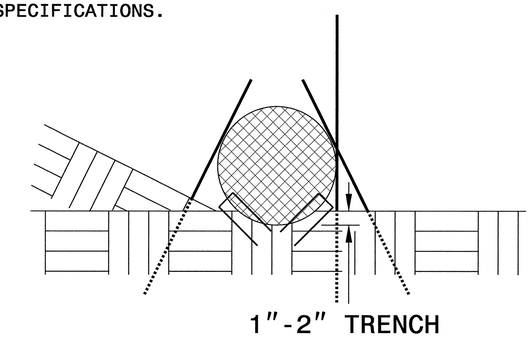
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12″ IN LENGTH.

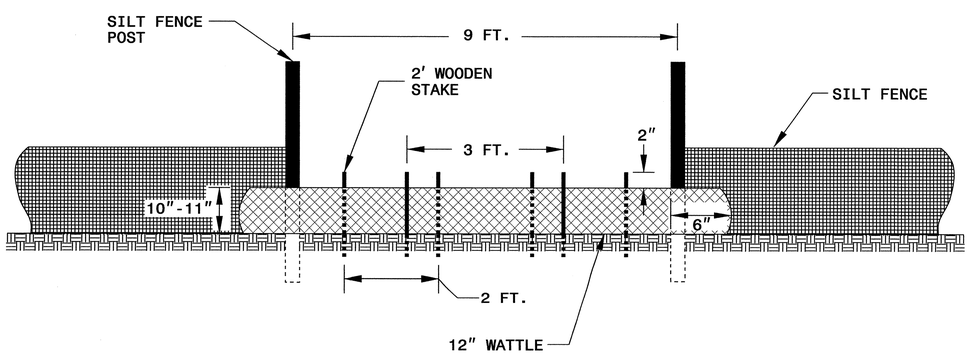
INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

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

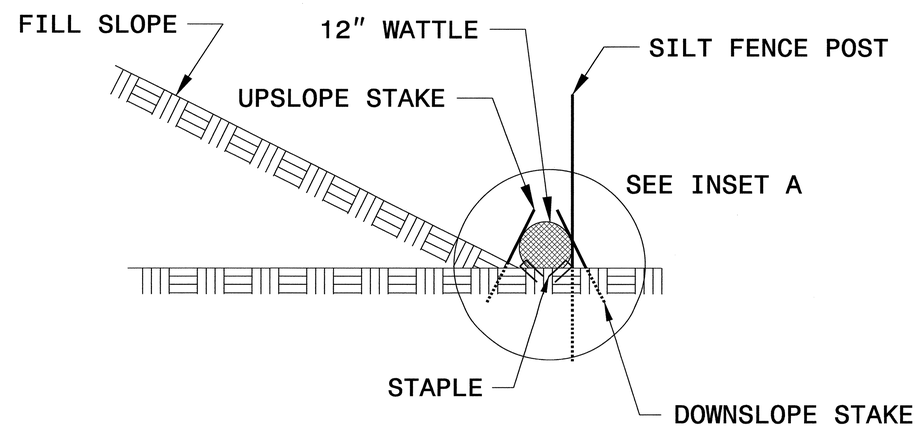
INSTALL TEMPORARY SILT FENCE IN ACCORDANCE WITH SECTION 1605 OF THE STANDARD SPECIFICATIONS.

INSET A





VIEW FROM SLOPE



SIDE VIEW

PROJECT REFERENCE NO.	SHEET NO.
R-2303A	EC-2F
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

BORROW PIT DEWATERING BASIN DETAIL

GENERAL NOTES:

DETERMINE BORROW PIT DEWATERING BASIN SIZE USING $V = 8.0203 * Q * T$, WHERE V IS VOLUME (FT^3), Q IS PUMP FLOW RATE (GPM), AND T IS DEWATERING TIME (HR). USE MAXIMUM FLOW RATE OF 1000 GPM AND A MINIMUM DEWATERING TIME OF 2 HOURS.

RISER SHALL BE A NON-PERFORATED, SMOOTH OR CORRUGATED MATERIAL WITH A FLASHBOARD OPTION.

CONSTRUCT THE COIR FIBER BAFFLE IN ACCORDANCE WITH ROADWAY STANDARD DRAWING 1640.01 AND WITH MATERIAL THAT MEETS THE SPECIFICATIONS OF ROADWAY STANDARD 1060-14.

PROVIDE 5′ STEEL POSTS OF THE SELF-FASTENER ANGLE STEEL TYPE. INSTALL STEEL POSTS WITH NO MORE THAN 3′ OF THE POST APPEARING ABOVE THE GROUND.

ATTACH THE COIR FIBER MAT TO THE STEEL POSTS WITH WIRE OR OTHER ACCEPTABLE MEANS AND STAPLED INTO THE BOTTOM AND SIDE SLOPES OF THE BASIN WITH 12″ STAPLES.

INSTALL TYPE 2 GEOTEXTILE ON SIDESLOPES AND BOTTOM OF BASIN AT INLET AS SHOWN IN THE DETAIL.

USE THE TYPICAL SECTION SHOWN FOR THE BORROW PIT DEWATERING BASIN AS A GUIDE. THE BASIN MAY HAVE ANY TYPE CONFIGURATION AS LONG AS SUFFICIENT VOLUME IS PROVIDED AND PROVISIONS ARE MADE FOR A NON-PERFORATED RISER.

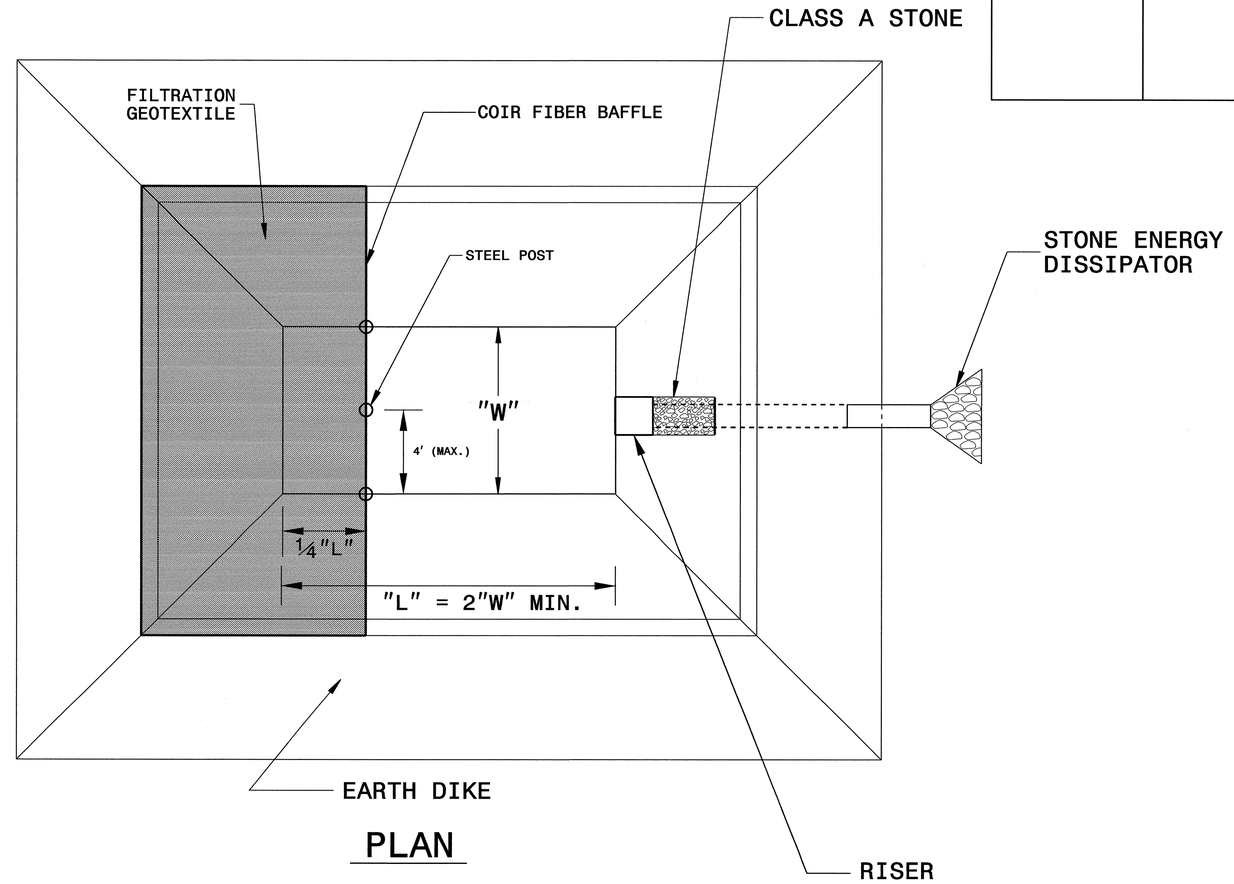
DO NOT EXCEED 3½ FT. IN HEIGHT FOR THE EARTH DIKES REQUIRED FOR BORROW PIT DEWATERING BASIN.

THE BORROW PIT DEWATERING BASIN SIZE IS VARIABLE AND DEPENDENT ON SPECIFIC SITE REQUIREMENTS AS WELL AS PROPOSED CONSTRUCTION OPERATIONS.

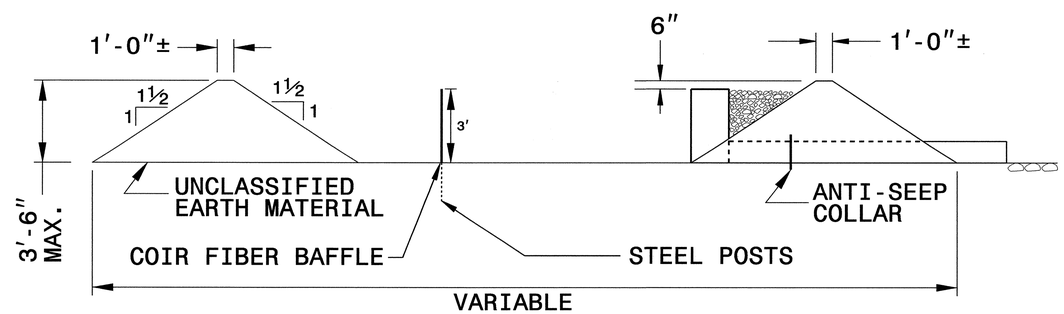
SUBMIT THE SIZE, LOCATION AND RISER PIPE MATERIAL FOR APPROVAL PRIOR TO CONSTRUCTION.

PUMP THE EFFLUENT INTO THE BORROW PIT DEWATERING BASIN TO A MAXIMUM DEPTH OF 6 IN. BELOW TOP OF EARTH DIKE.

PROVIDE A STONE ENERGY DISSIPATOR PAD AT THE OUTLET OF THE PUMP DISCHARGE HOSE AND OUTLET OF THE RISER BARREL IN ACCORDANCE WITH ROADWAY STANDARD DRAWING 876.02 FOR OUTLET W/O DITCH.



PLAN



TYPICAL SECTION VIEW

NOT TO SCALE

PROJECT REFERENCE NO.	SHEET NO.
R-2303A	EC-03
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)
5	-L-	34+00	34+50	MED	270
6	-L-	41+50	42+50	MED	225
7	-Y1-	12+00	12+50	LT	50
7	-Y1-	15+00	15+50	RT	25
12	-L-	121+00	122+00	LT	60
12	-L-	124+46	124+95	LT	260
14	-L-	147+98	148+15	LT	230
15	-L-	162+00	162+50	RT	30
15	-L-	167+50	169+00	LT	55
15	-L-	170+50	171+50	LT	55
16	-L-	179+00	180+00	LT	190
17	-L-	190+00	191+00	LT	100
17	-L-	190+00	190+50	RT	70
17	-L-	195+50	196+00	LT	30
17	-L-	190+39	190+25	LT	195
18	-L-	210+50	211+00	MED	60
18	-Y6A-	17+00	17+50	LT	25
18	-Y6B-	12+00	12+40	LT	35
18	-Y6B-	13+50	14+00	LT	70
18	-Y6B-	13+00	13+50	RT	50
19	-L-	214+50	215+00	RT	30
19	-L-	215+02	214+35	LT	725
19	-Y7-	15+00	15+50	LT	25
20	-L-	230+50	231+00	RT	60
21	-L-	242+50	244+50	LT	450
21	-L-	250+50	251+00	RT	25
21	-Y8-	11+00	12+00	LT	145
21	-Y9-	16+00	16+50	LT	50
21	-Y9-	16+00	17+00	RT	95
22	-L-	255+00	256+00	RT	120

MATTING FOR EROSION CONTROL

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
24	-L-	290+00	290+50	RT	30
25	-L-	297+00	299+00	MED	405
25	-L-	299+00	300+50	RT	305
26	-L-	311+50	312+00	LT	145
27	-L-	320+00	320+50	RT	30
27	-L-	321+00	321+50	RT	60
27	-L-	323+00	323+50	RT	50
28	-L-	336+50	338+00	LT	170
28	-L-	336+50	337+50	RT	105
28	-L-	344+00	345+50	LT	405
28	-L-	343+00	344+00	RT	155
29	-L-	350+00	351+50	LT	255
29	-L-	350+00	352+00	RT	540
29	-L-	355+00	358+50	LT	1075
29	-L-	356+00	358+00	RT	270
29	-L-	355+50	359+00	MED	940
				SUBTOTAL	8750
MISCELLANEOUS MATTING TO BE INSTALLED AS DIRECTED BY THE ENGINEER					120330
				TOTAL	129080
				SAY	130000

PROJECT REFERENCE NO.	SHEET NO.
R-2303A	EC-3A
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION SUMMARY SHEET

PERMANENT SOIL REINFORCEMENT MAT

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
7	-Y-	24+00	24+50	LT	115
15	-L-	161+00	162+00	RT	145
15	-Y3-	11+00	11+50	RT	25
16	-Y4-	17+00	18+00	RT	140
17	-Y5-	16+00	16+50	RT	70
17	-Y5-	16+00	16+50	LT	50
21	-Y8-	11+50	12+00	RT	50
27	-L-	321+50	322+00	RT	25
			SUBTOTAL		620
	ADDITIONAL	PSRM TO	BE INSTALLED		0
				TOTAL	620
				SAY	650

PERMANENT SOIL REINFORCEMENT MAT

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

PROJECT REFERENCE NO.	SHEET NO.
R2303A	EC-3B
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION TIMEFRAMES

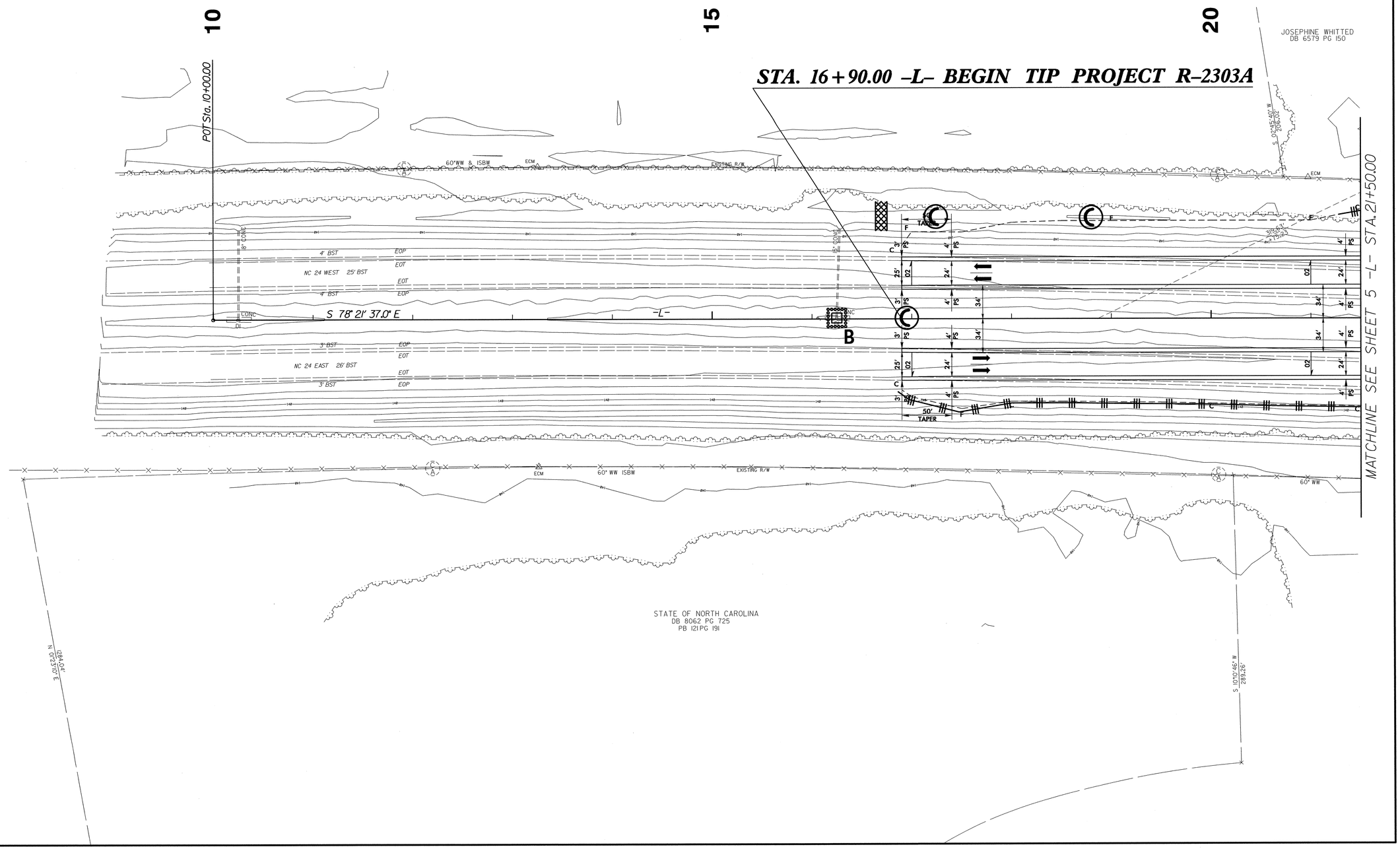
SITE DESCRIPTION	STABILIZATION TIME	TIMEFRAME EXCEPTIONS
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HQW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
SLOPES 3:1 OR FLATTER	14 DAYS	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.
R-2303A	EC-4/CONST.4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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.

NAD 83/95



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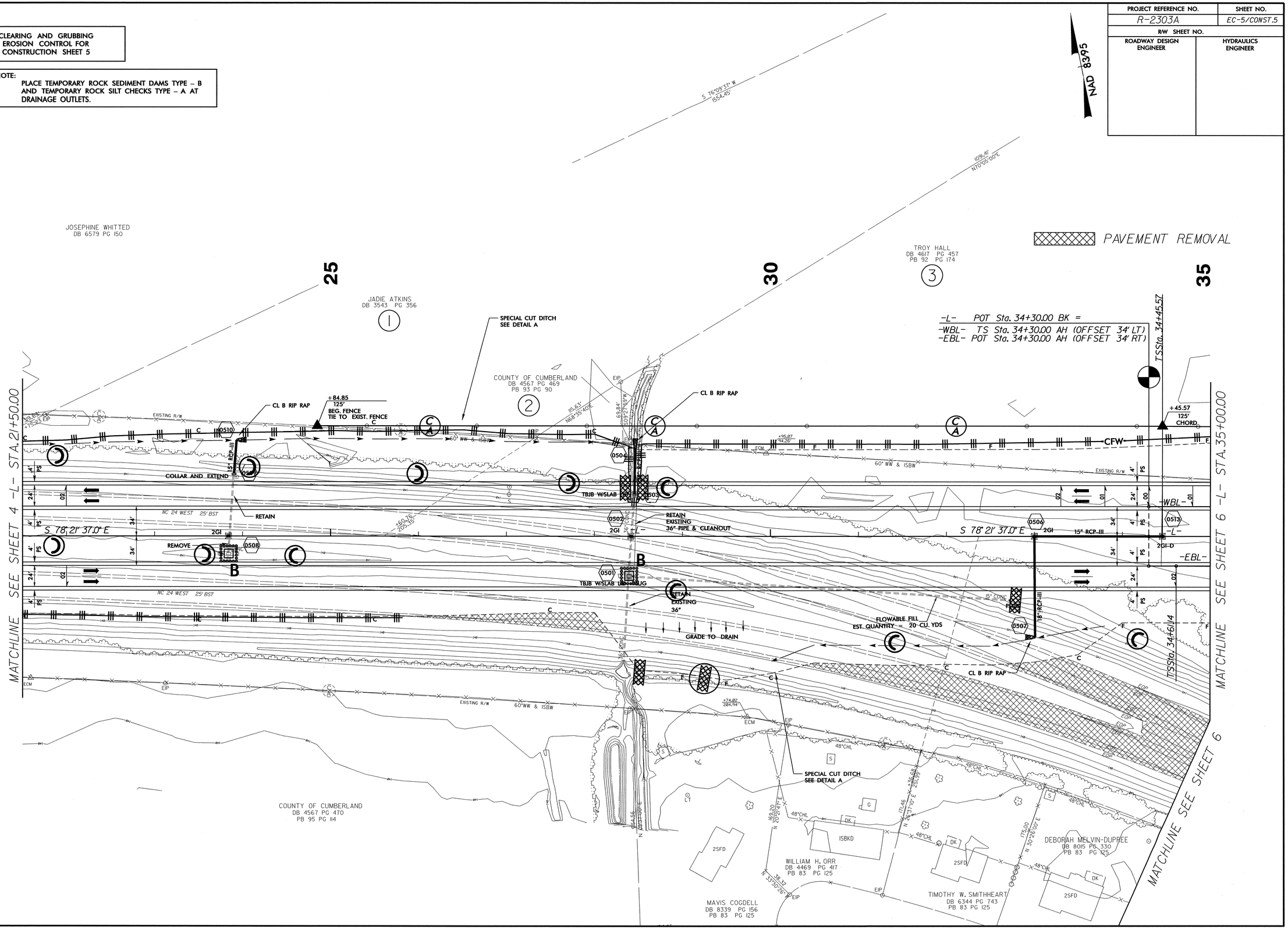
Bpaschen at RENV247770

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
R-2303A	EC-5/CONST.5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 5

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



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pgodwin
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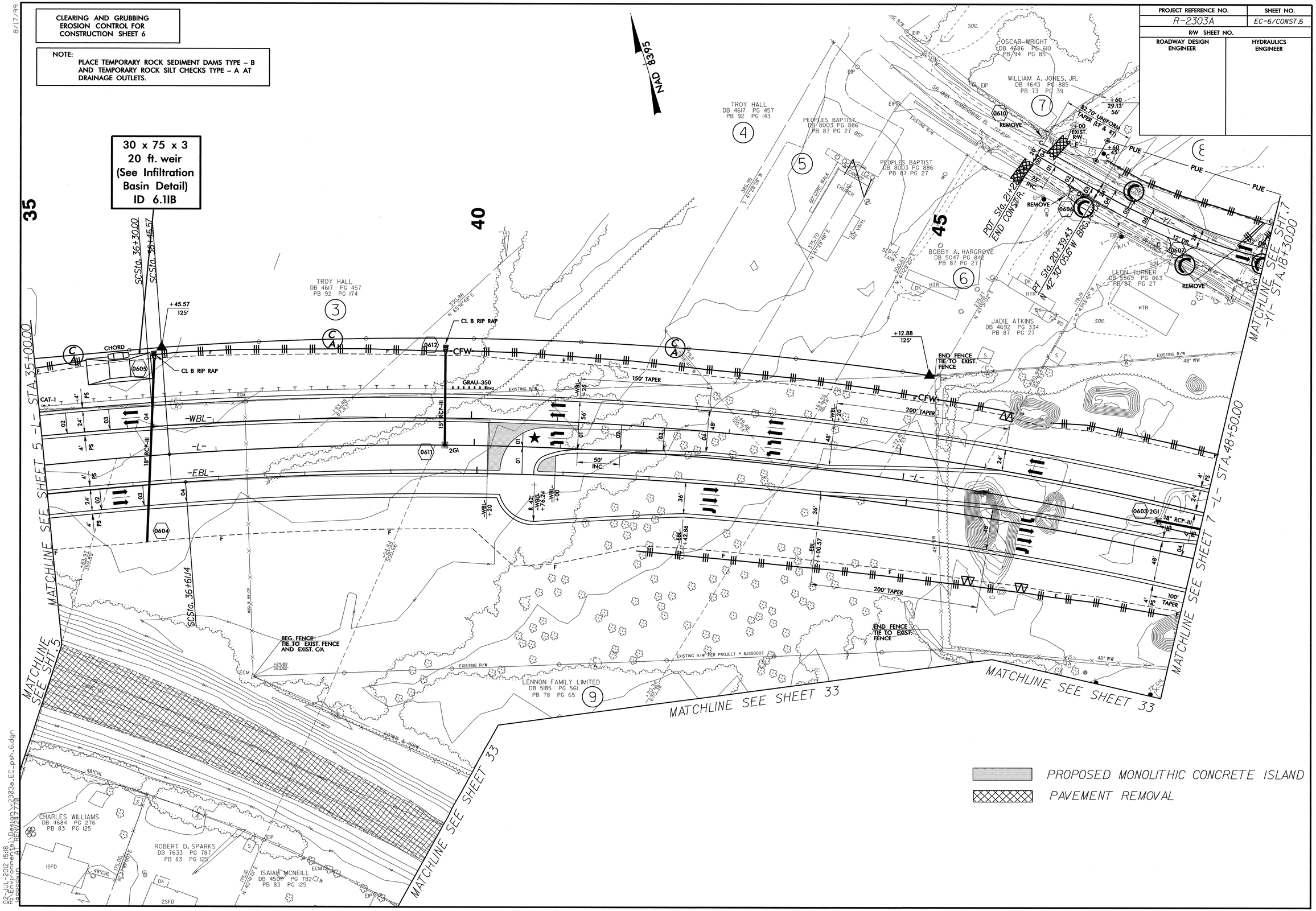
REN/247770

8/17/99

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.

PROJECT REFERENCE NO.	SHEET NO.
R-2303A	EC-6/CONST.6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



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USER: rrobinson

PROJECT REFERENCE NO.	SHEET NO.
R-2303A	EC-7/CONST.7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PAINT STRIPING

PROPOSED MONOLITHIC CONCRETE ISLAND

NAD 83/95

76 x 30 x 3
1.5 inch Skimmer
with 1.25 inch
Orifice Diameter
20 ft. weir
ID 7.1

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.

-Y1- POT Sta. 10+00.00 =
-Y- POT Sta. 25+99.12

PC Sta. 10+18.91
BRG BK= N 20°38' 03.3" W

-WBL- POC Sta. 52+62.58 =
-Y- POT Sta. 31+92.13

-L- POC Sta. 52+33.84 =
-Y- POT Sta. 32+21.39

-EBL- POC Sta. 52+04.78 =
-Y- POT Sta. 32+51.25

-WBL- POT 56+04.72 BK (OFFSET 23' LT)
-EBL- ST Sta. 55+76.89 BK (OFFSET 23' RT)
-L- POT Sta. 55+90.80 AH

MATCHLINE SEE SHEET 32 -Y- STA. 25+00.00

MATCHLINE SEE SHT. 6 -Y1- STA. 18+30.00

MATCHLINE SEE SHEET 6 -L- STA. 48+50.00

MATCHLINE SEE SHEET 33 -Y- STA. 36+00.00

MATCHLINE SEE SHEET 8 -L- STA. 62+00.00

EXISTING R/W PER PROJECT # 8.1350007

WILLIAM A. JONES, JR. DB 4643 PG 885 PB 73 PG 39

ROBERT MALLOY DB 7106 PG 367 PB 110 PG 24

EDWARD J. DAILY & SANDRE HUTCHINGS DB 5321 PG 136

LENNON FAMILY LIMITED DB 5185 PG 561 PB 78 PG 65

JOSEPH RIDDLE DB 8473 PG 802 PB 108 PG 104

VANDER CENTER LLC. DB 6012 PG 734 PB 108 PG PG 104

NCDOT MATERIALS STOCK YARD

12,000 GAL & 8,000 GAL U/G GAS TANKS

CULTIVATED

WOODS

CEMETARY

WOOD POSTS

BST PARKING

GENERATOR

CONC

CONC C&G

8" PVC

8" DATUM

18" RCP

SEWER LIFT STATION

IS BK BUS

S 50°55'09.3" E

S 69°21'56.7" W

N 88°50'11.7" W

S 20°03'02" E

CL B RIP RAP

SPECIAL CUT DITCH SEE DETAIL A

150' TAPER

200' TAPER

100' TAPER

BEGIN 1'-6" CURB AND GUTTER

REMOVE

18" RCP-III

24" RCP-III

15" RCP-III

15" RCP-IV

24" RCP

EXIST. R/W

END C/A END FENCE

BEGIN C/A BEG. FENCE

END C/A BEG. FENCE

-L- +55 EXIST. R/W BEG. C/A BEG. FENCE TIE TO EXIST. FENCE & C/A

-L- +88.08 173.88' BEG. FENCE TIE TO EXIST. FENCE

-Y- +85 75' END C/A BEG. FENCE

180-40-180 OFF 5'

150-50-150 OFF 6'

CHORD

CSSta. 53+61.32

CSSta. 53+45.75

CSSta. 53+76.89

STSta. 55+45.75 BRG AH= S 50°55'09.3" E

STSta. 55+61.32

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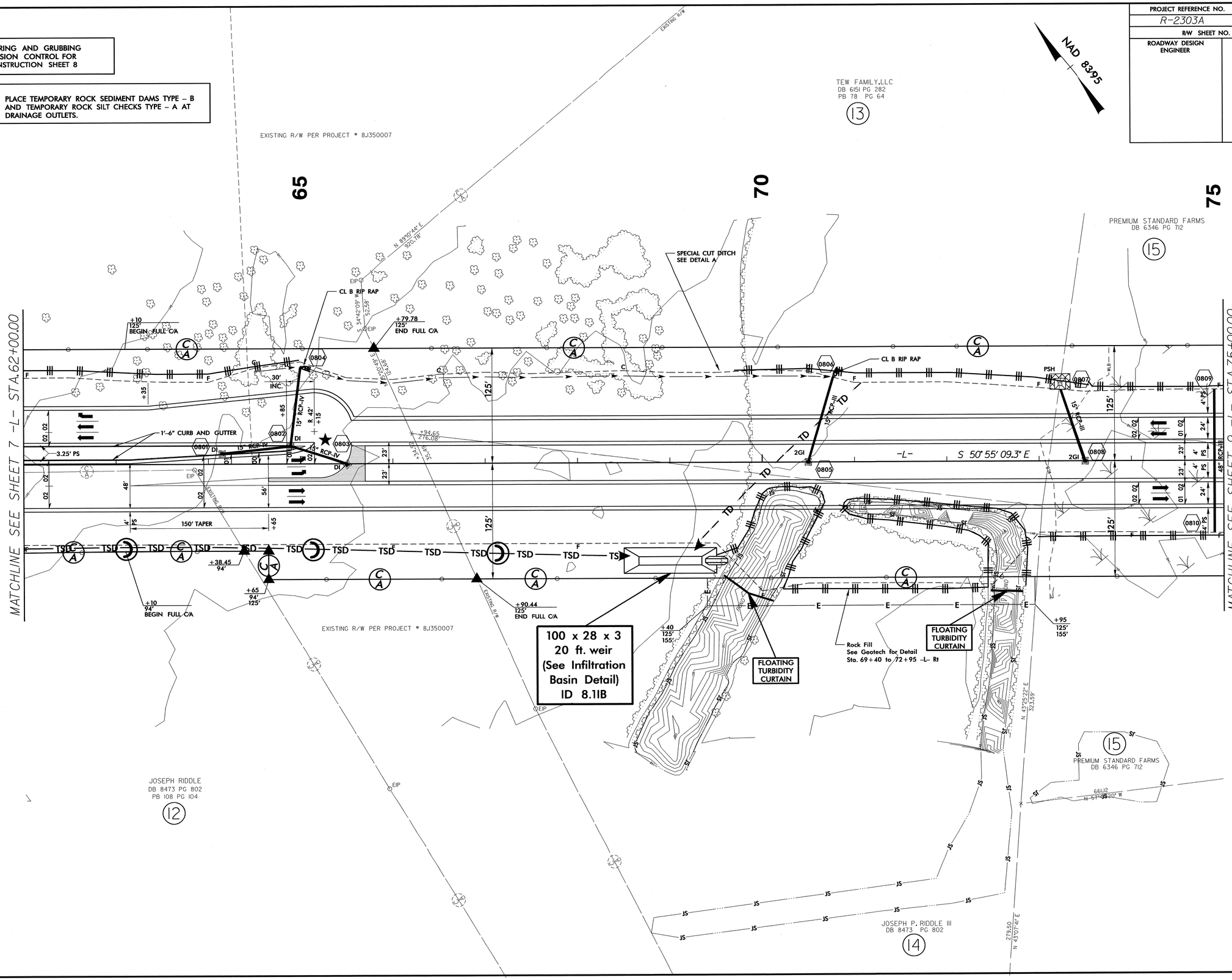
pscoggin
R-2303A_EC-7/CONST.7

PROJECT REFERENCE NO.	SHEET NO.
R-2303A	EC-8/CONST.8
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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.



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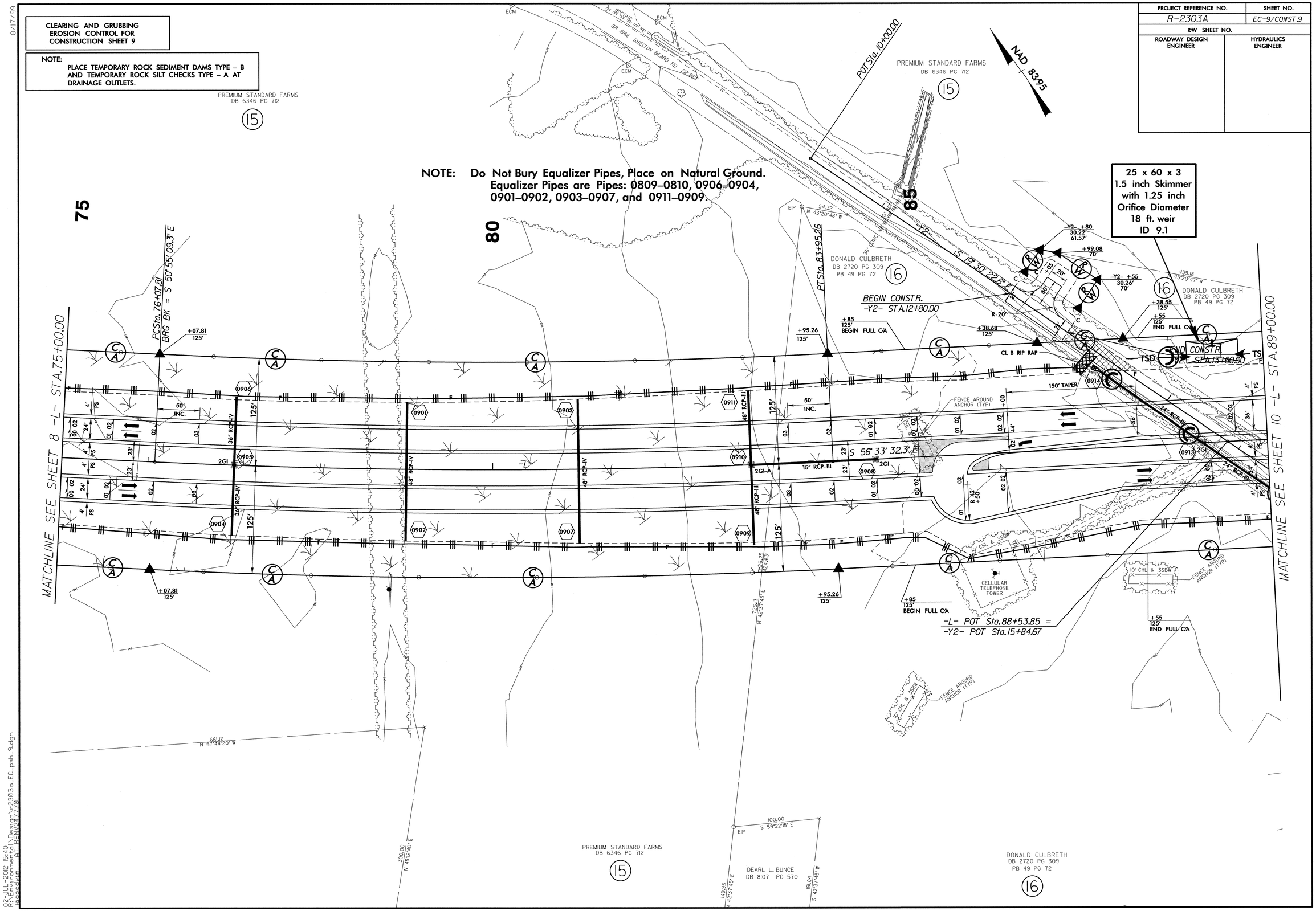
Developer AT REN247770

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
R-2303A	EC-9/CONST.9
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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.



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pscoggin
A1 R\W/24"/72

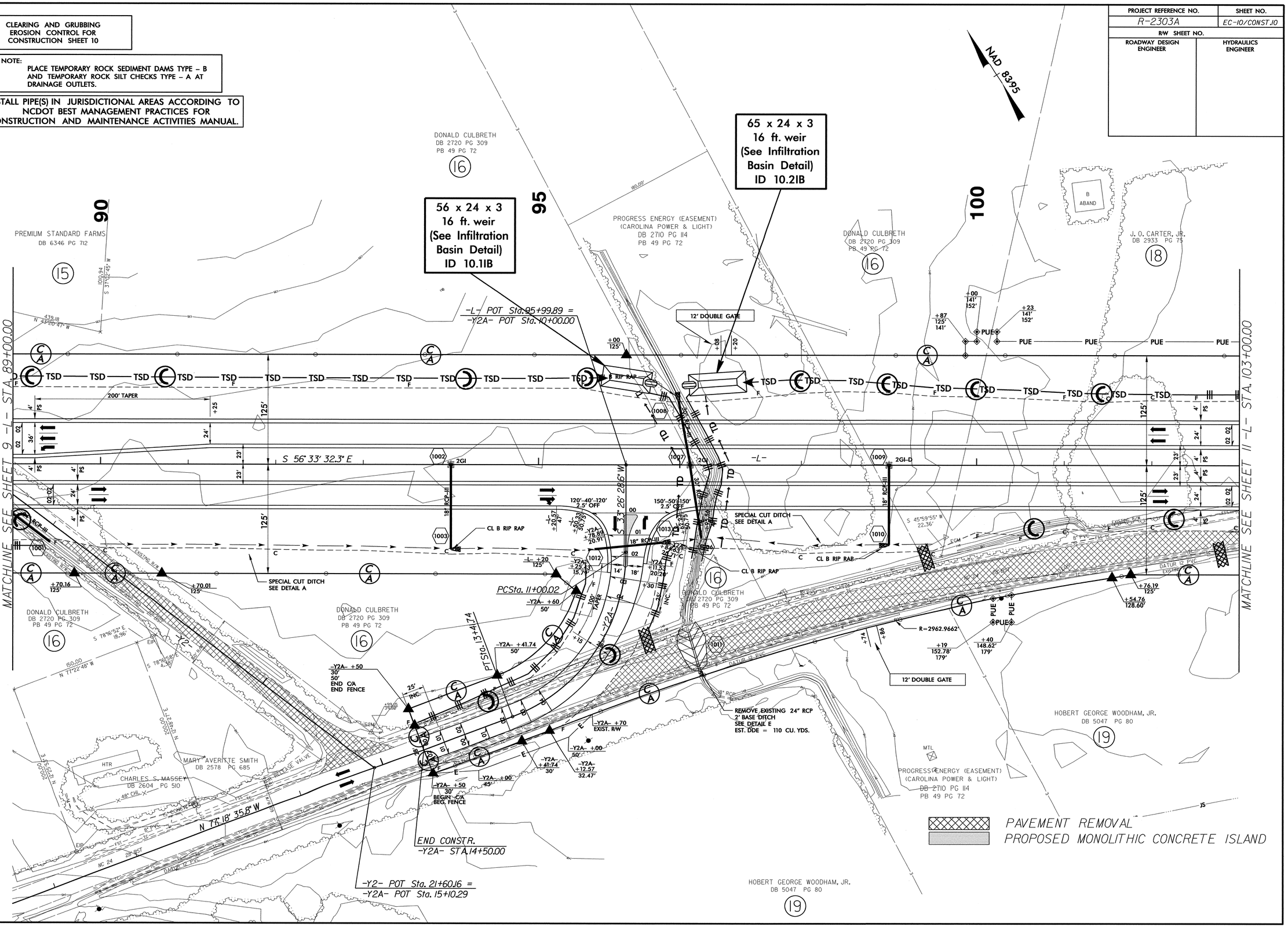
8/17/99

PROJECT REFERENCE NO.	SHEET NO.
R-2303A	EC-10/CONST.10
R/W 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.

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



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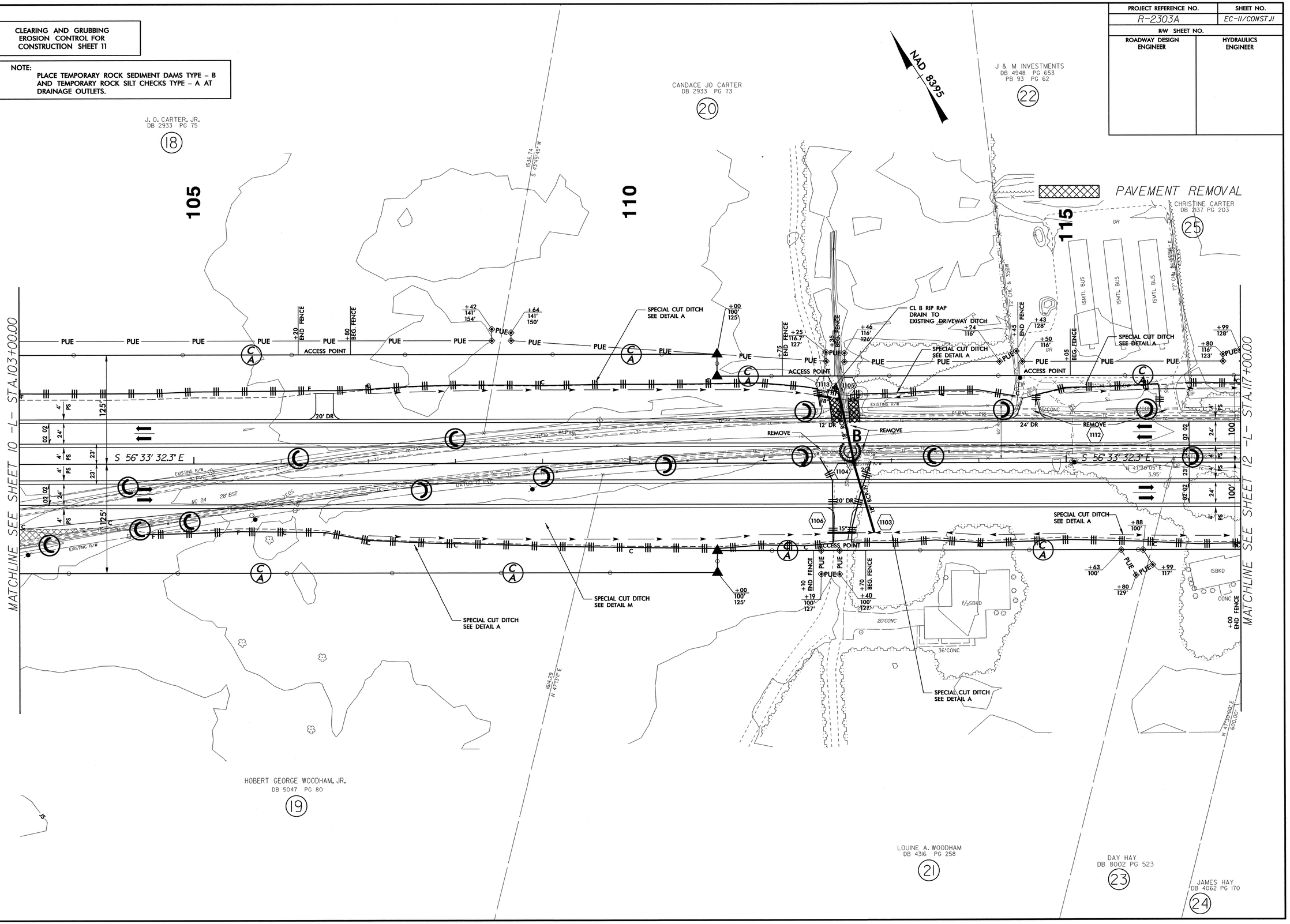
PROJECT REFERENCE NO.	SHEET NO.
R-2303A	EC-11/CONST.11
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 11

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



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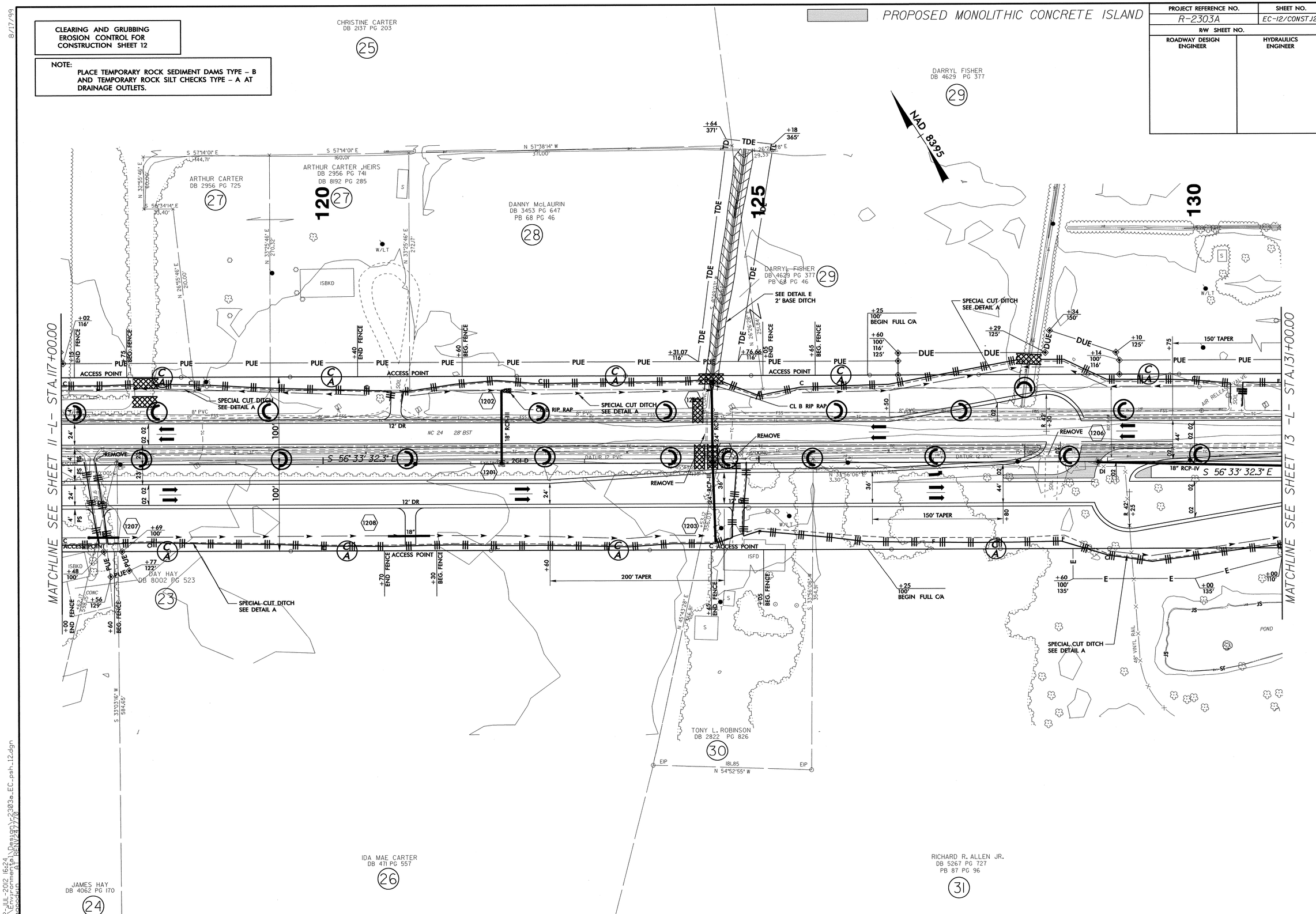
Geopakin AT REN\247770

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
R-2303A	EC-12/CONST12
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 12

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



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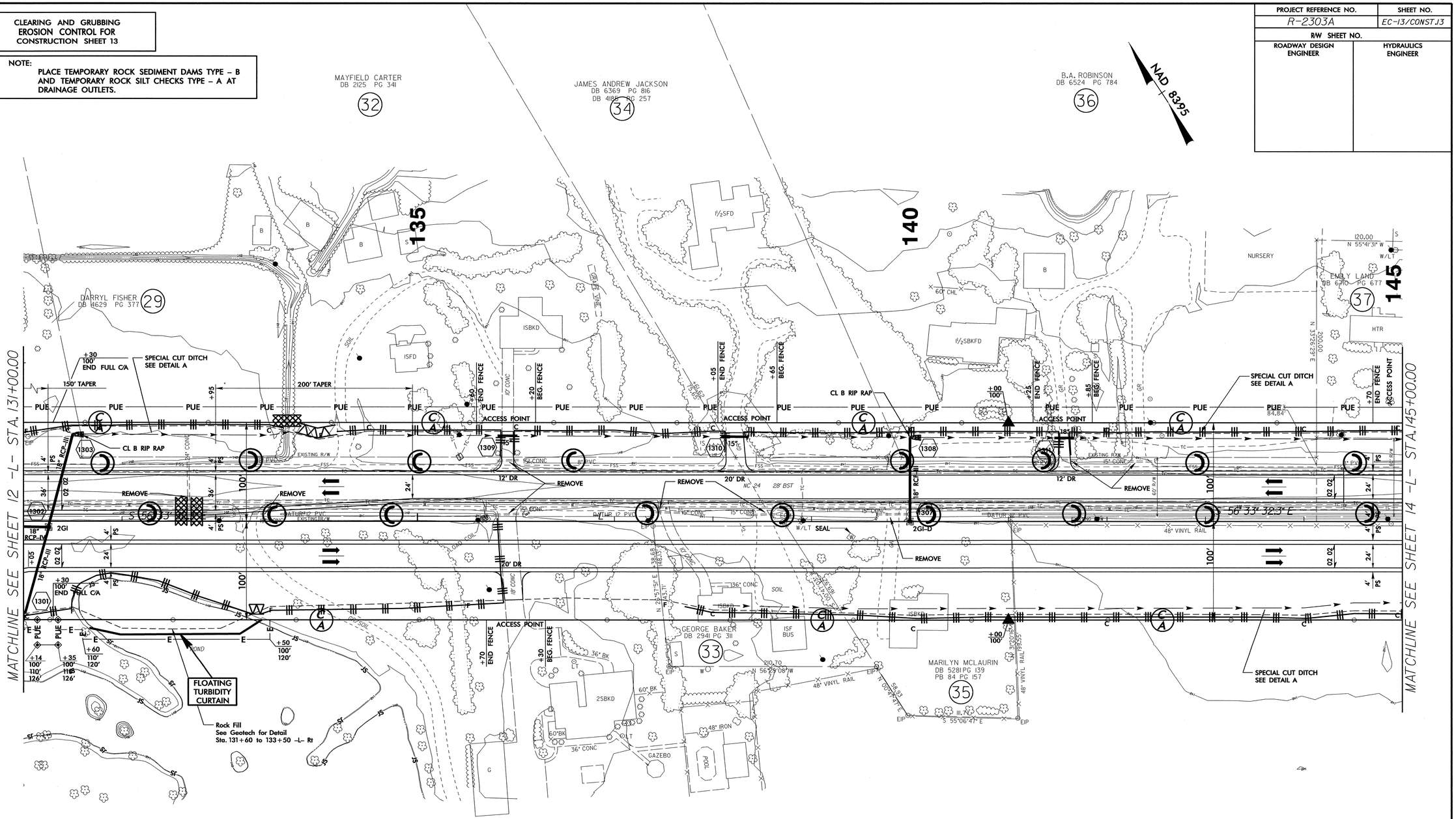
lpeoples AT RENV2177710

8/17/99

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 13

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

PROJECT REFERENCE NO.	SHEET NO.
R-2303A	EC-13/CONST.13
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



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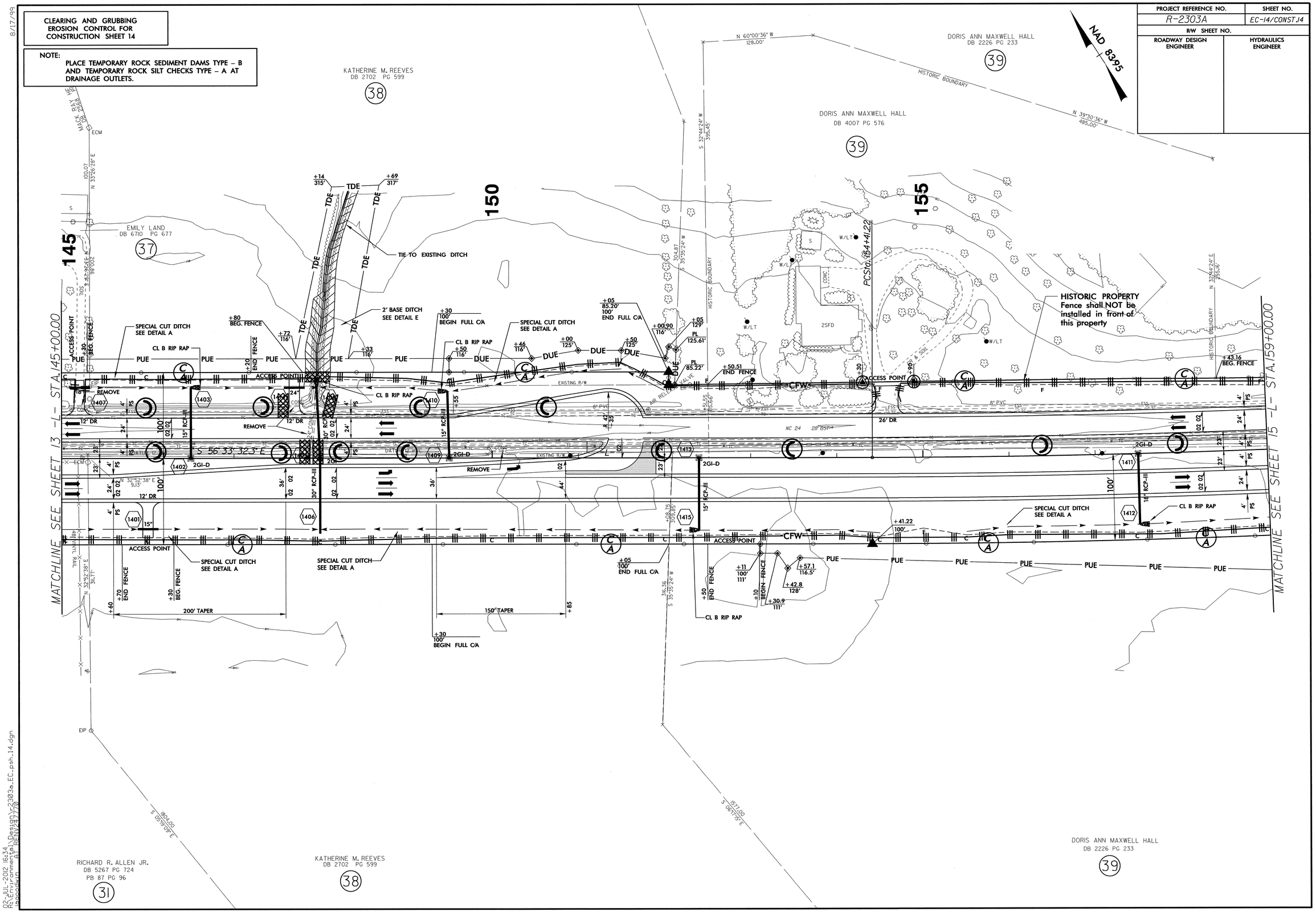
Schoolcraft ET REVIZ4/7/10

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
R-2303A	EC-14/CONST.14
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 14

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



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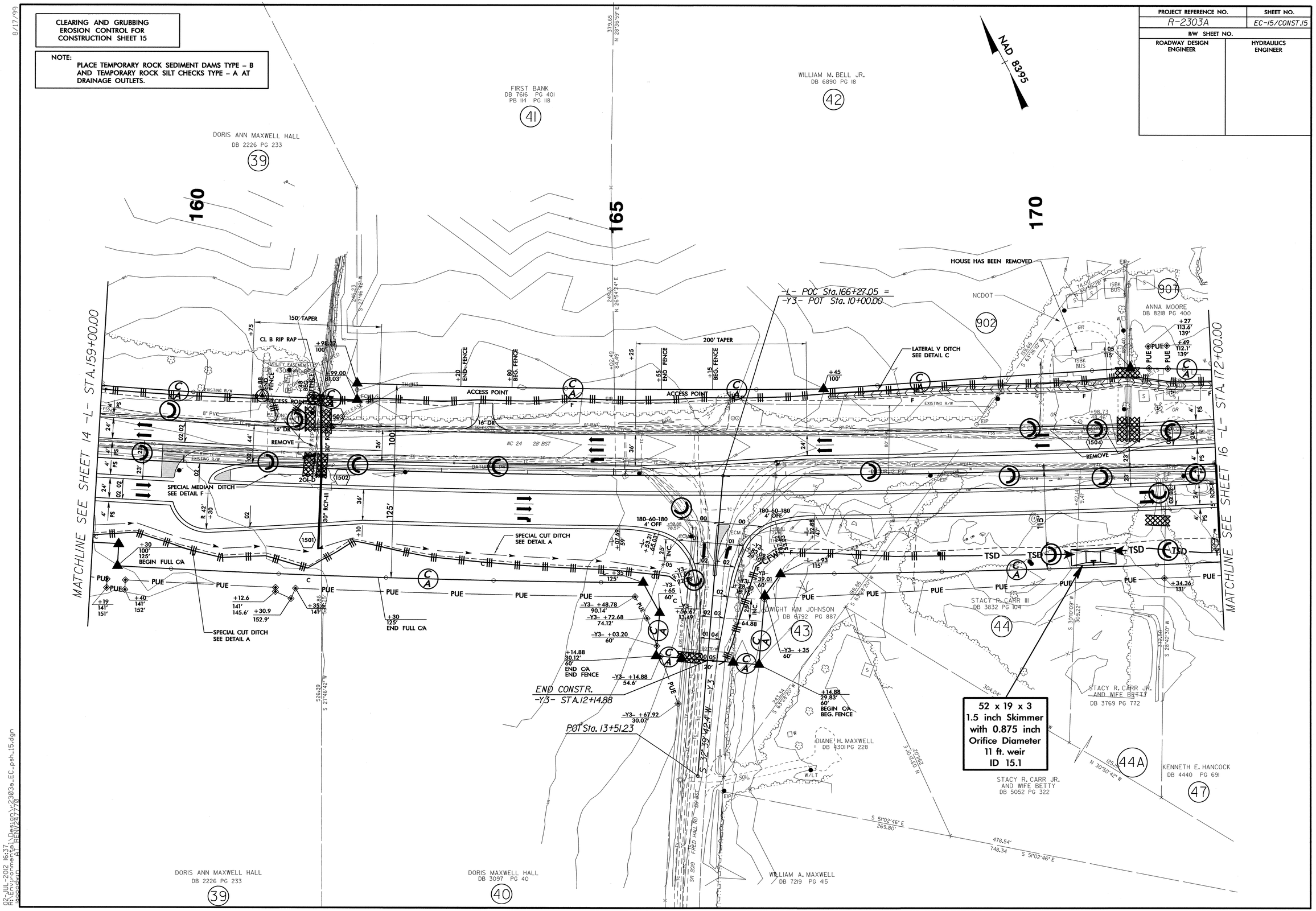
bpaggin AT RENV247778

8/17/99

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 15

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

PROJECT REFERENCE NO.	SHEET NO.
R-2303A	EC-15/CONST.15
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



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psscudin
at RENZ47770

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
R-2303A	EC-16/CONST.16
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 16

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

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

02-JUL-2012 16:45
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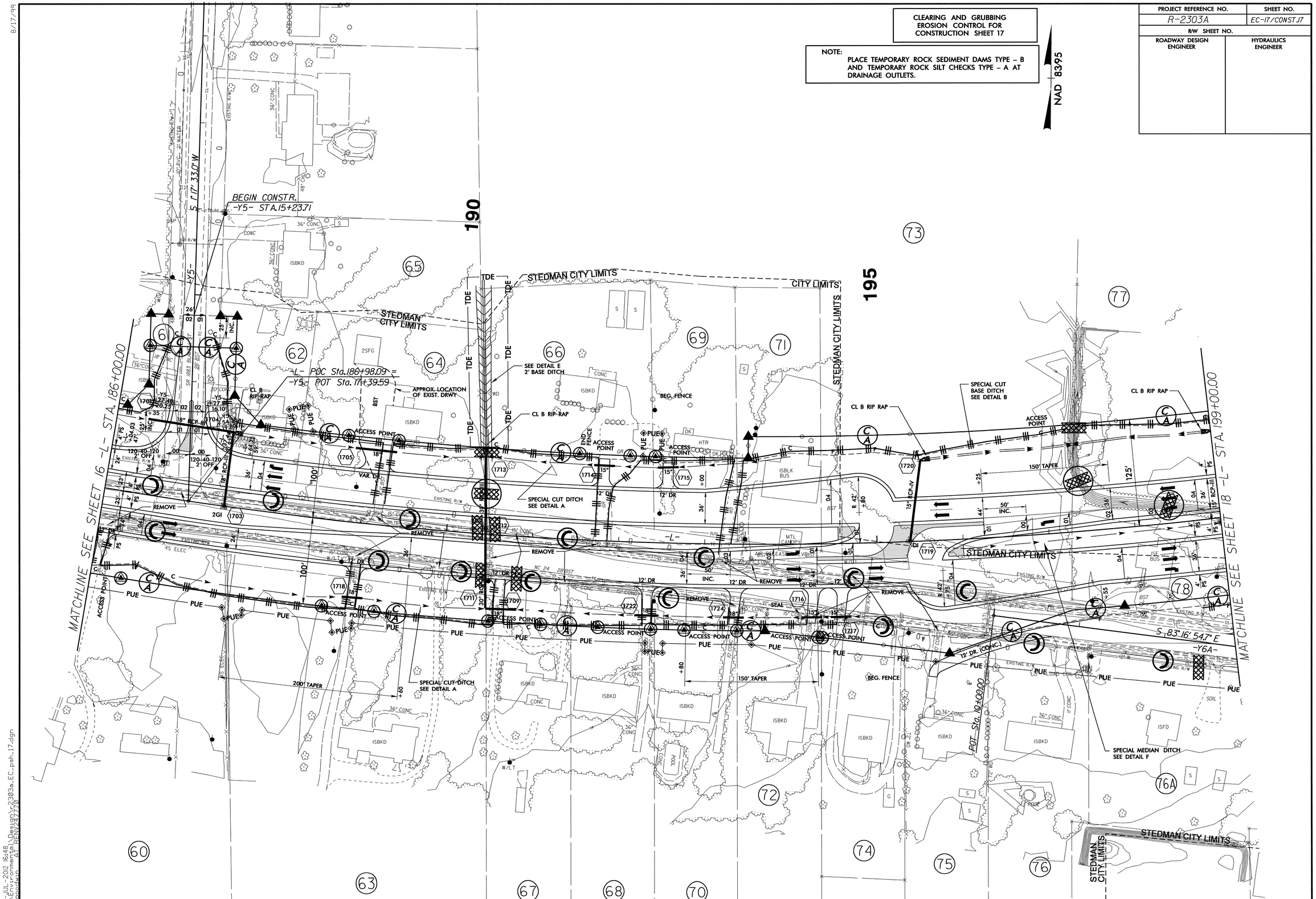
pcpowell
ATTRIBUTES

PROJECT REFERENCE NO.	SHEET NO.
R-2303A	EC-17/CONST.17
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 17

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

NAD 83/95



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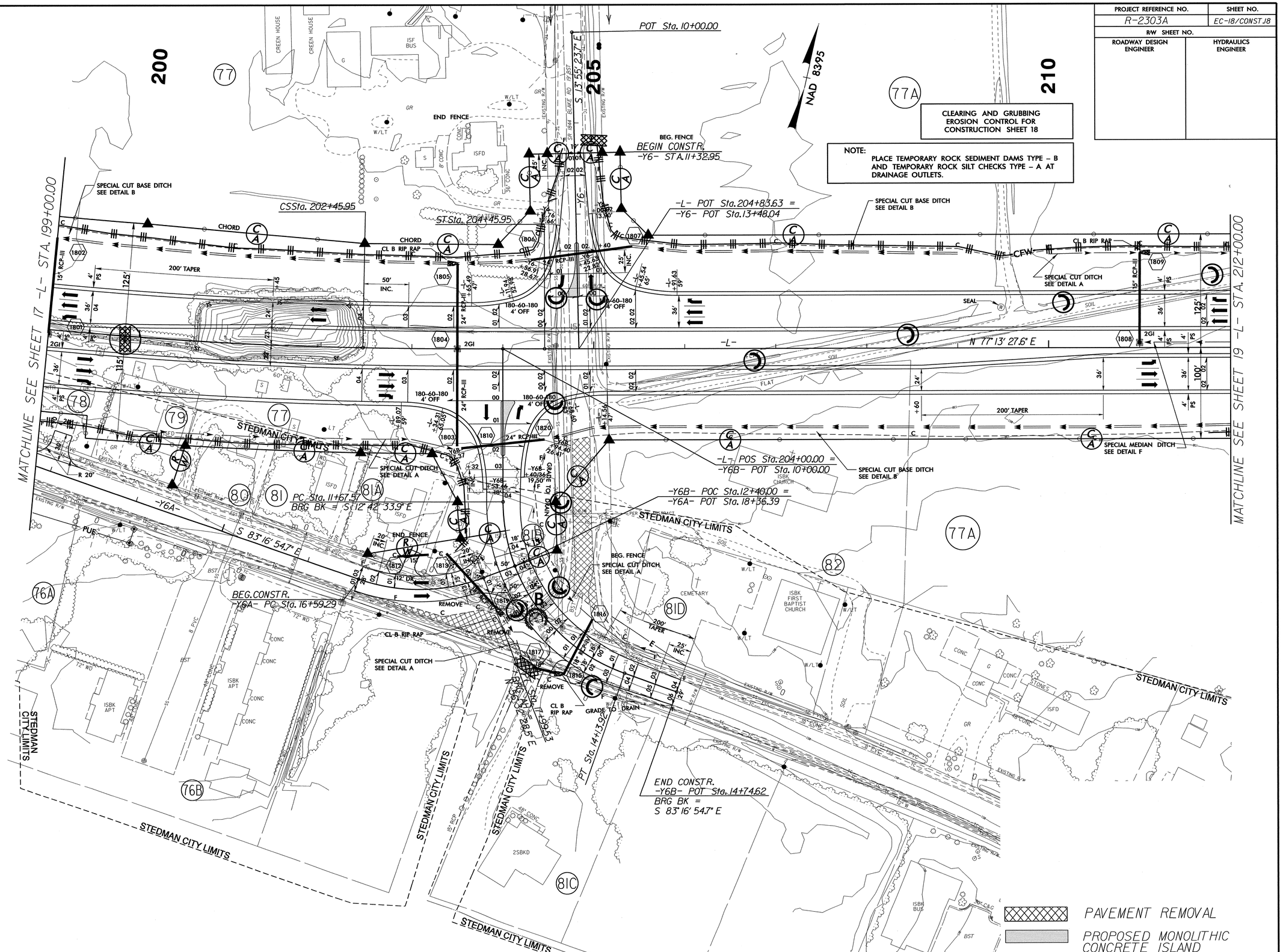
pscoggin AT HENZ7770

PROJECT REFERENCE NO.	SHEET NO.
R-2303A	EC-18/CONST.18
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 18

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



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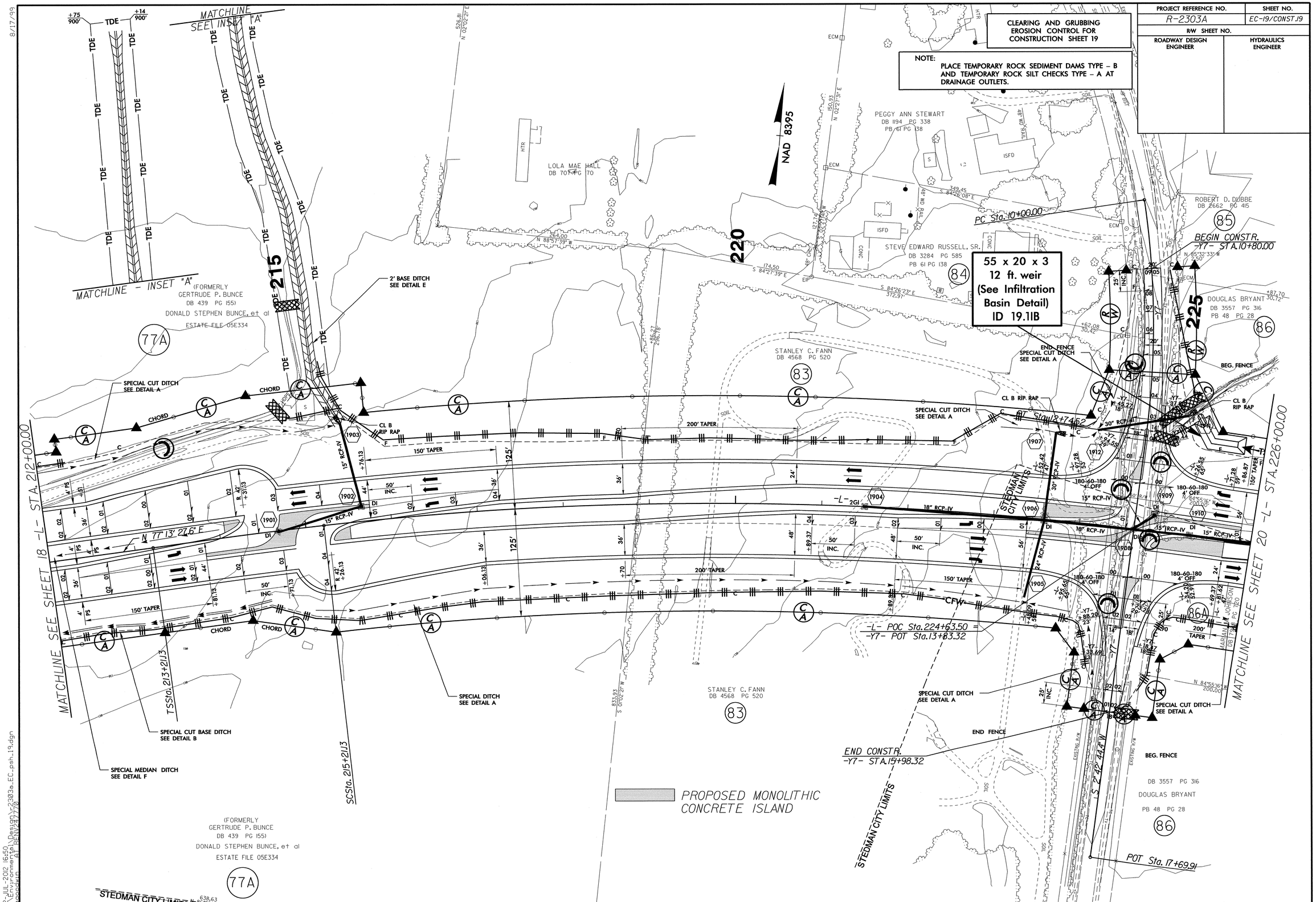
pscoggin BY REVIZ7770

PROJECT REFERENCE NO.	SHEET NO.
R-2303A	EC-19/CONST.19
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 19

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

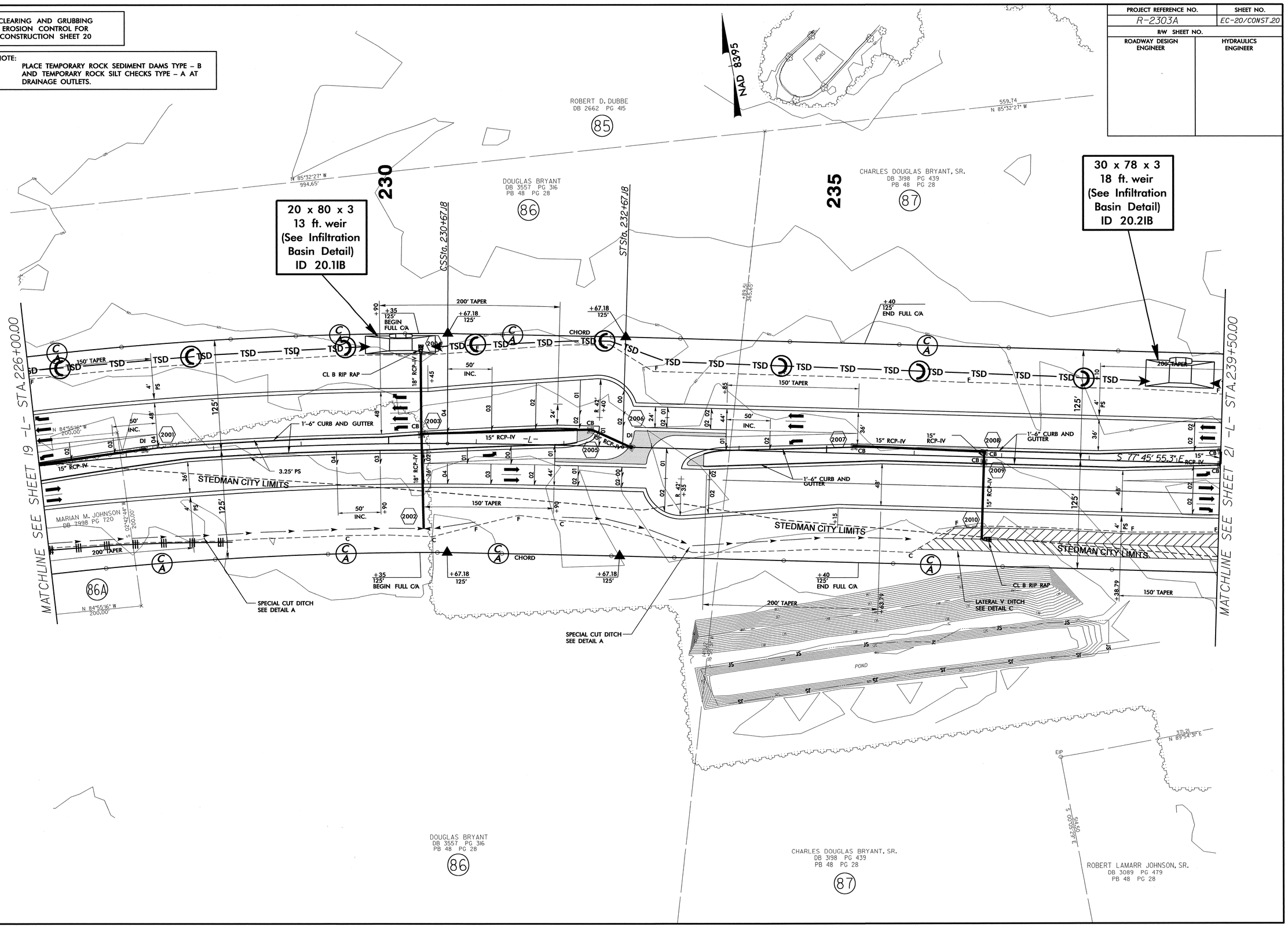


8/17/99

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 20

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

PROJECT REFERENCE NO.	SHEET NO.
R-2303A	EC-20/CONST.20
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



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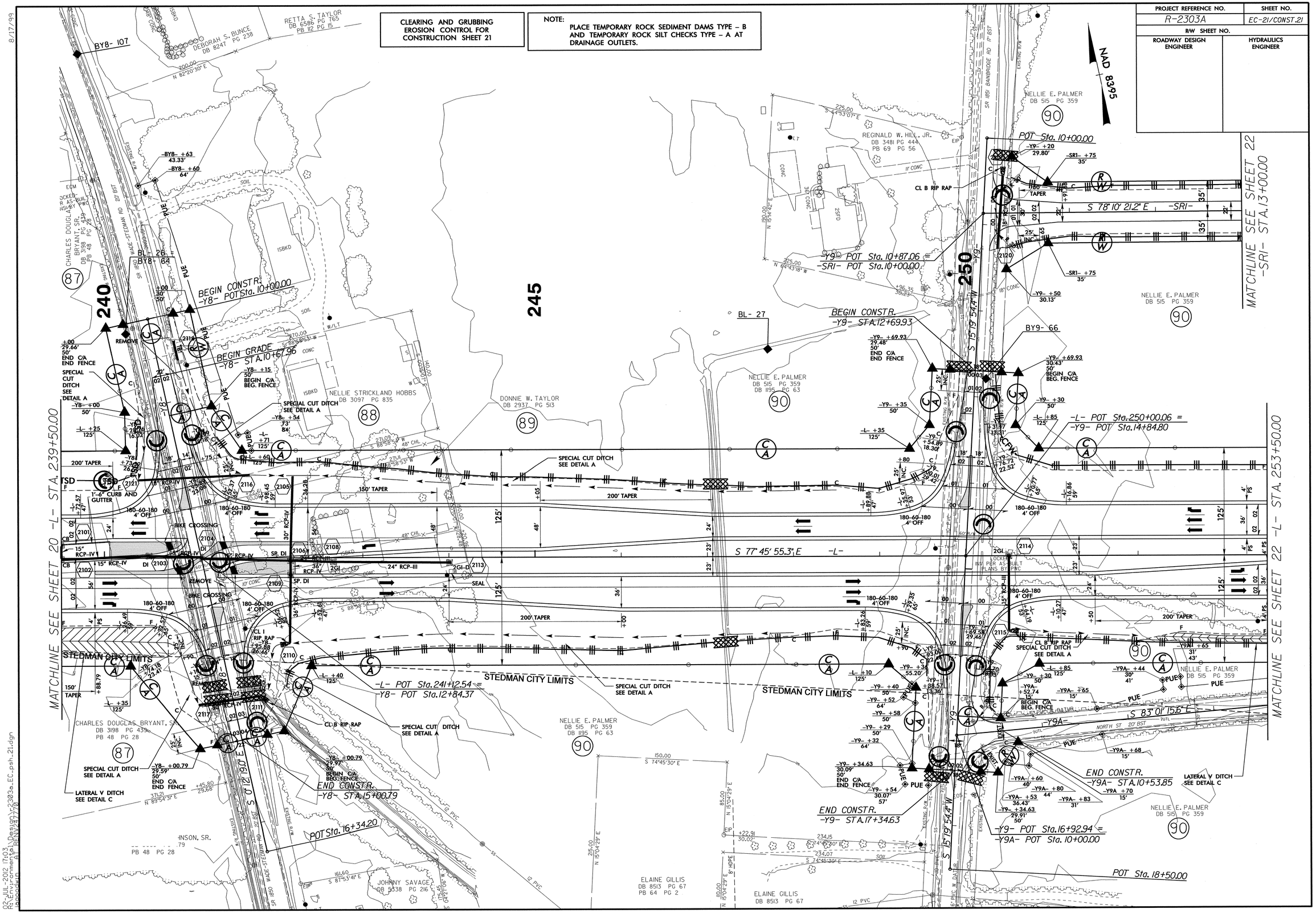
BY: BENZ24770

PROJECT REFERENCE NO.	SHEET NO.
R-2303A	EC-21/CONST.21
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 21

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



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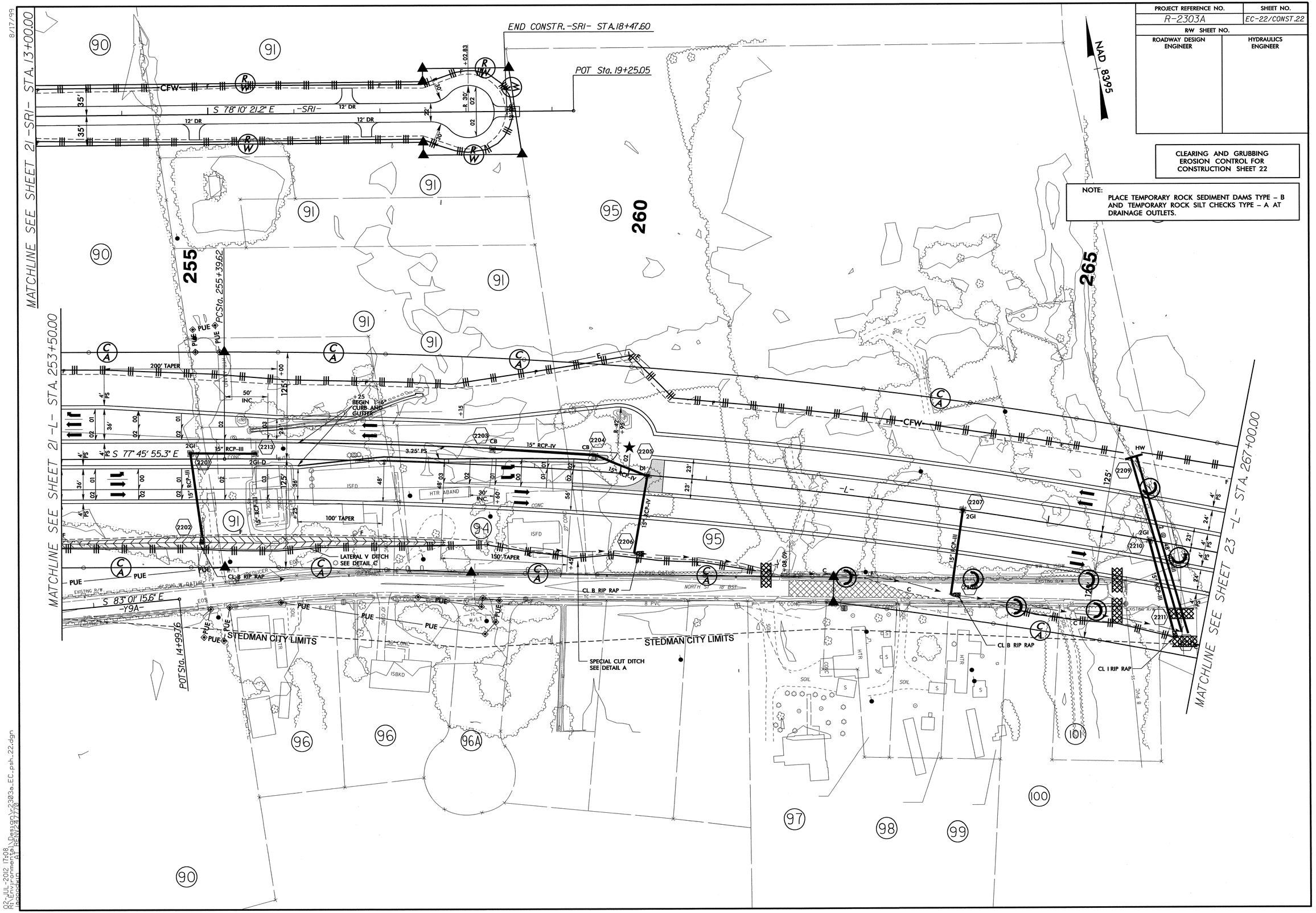
pcoodson

PROJECT REFERENCE NO.	SHEET NO.
R-2303A	EC-22/CONST.22
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 22

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



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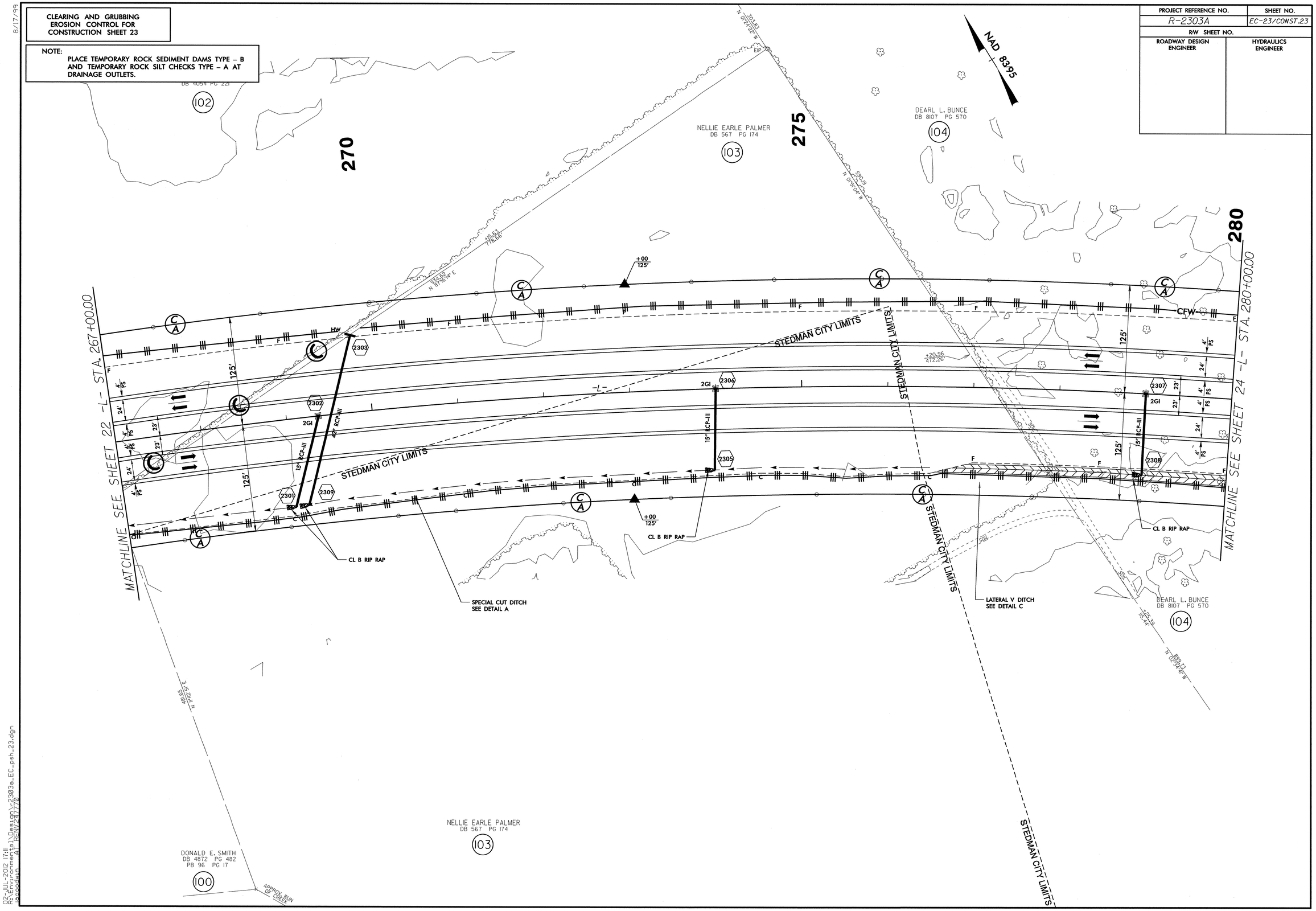
ACCOUNTS A1 R:\V24770

8/17/99

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 23

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

PROJECT REFERENCE NO.	SHEET NO.
R-2303A	EC-23/CONST.23
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



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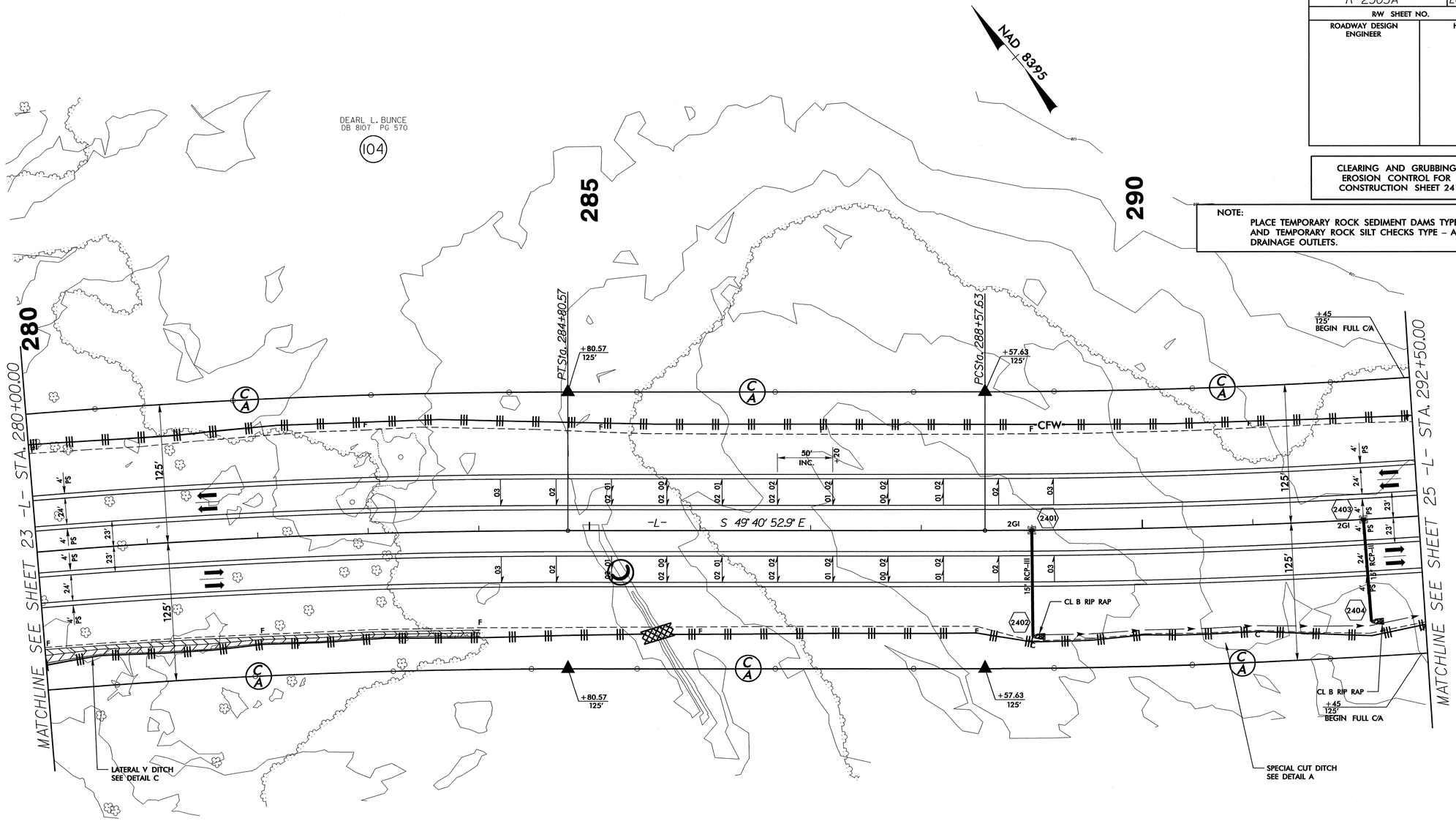
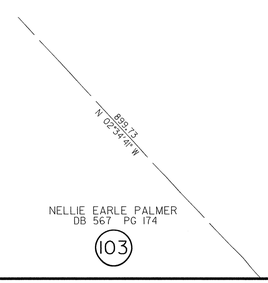
bscoggin
ATT REV 2/7/10

PROJECT REFERENCE NO.	SHEET NO.
R-2303A	EC-24/CONST.24
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 24

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





DEARL L. BUNCE
DB 8107 PG 570
104

FOR -L- PROFILE SEE SHEET 46
FOR DITCH DETAILS, SEE SHEET 2-U
FOR DDE, STONE AND GEOTEXTILE
QTYS, SEE SHEET 3-J

8/17/99

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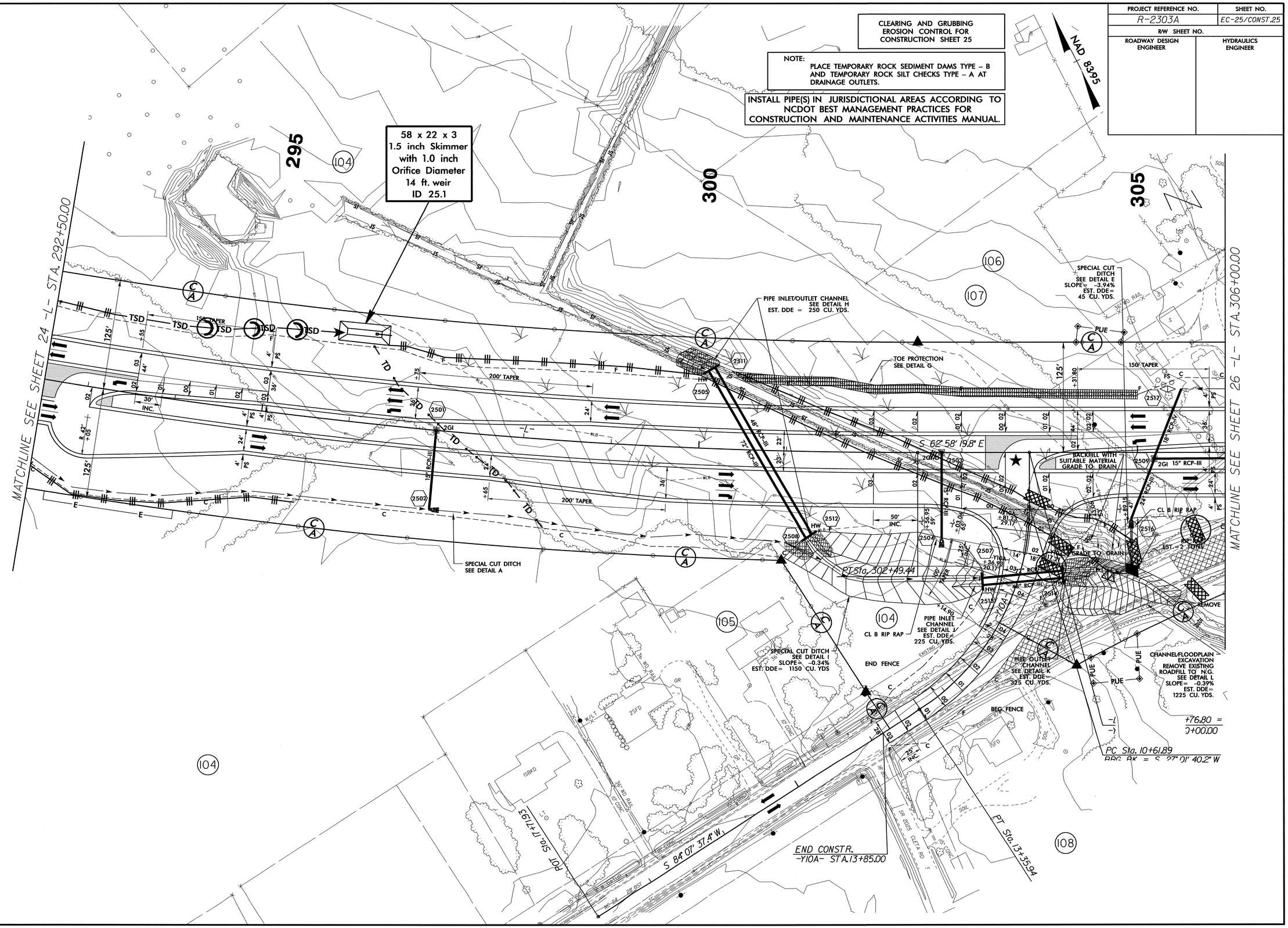
PROJECT REFERENCE NO.	SHEET NO.
R-2303A	EC-25/CONST.25
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 25

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

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



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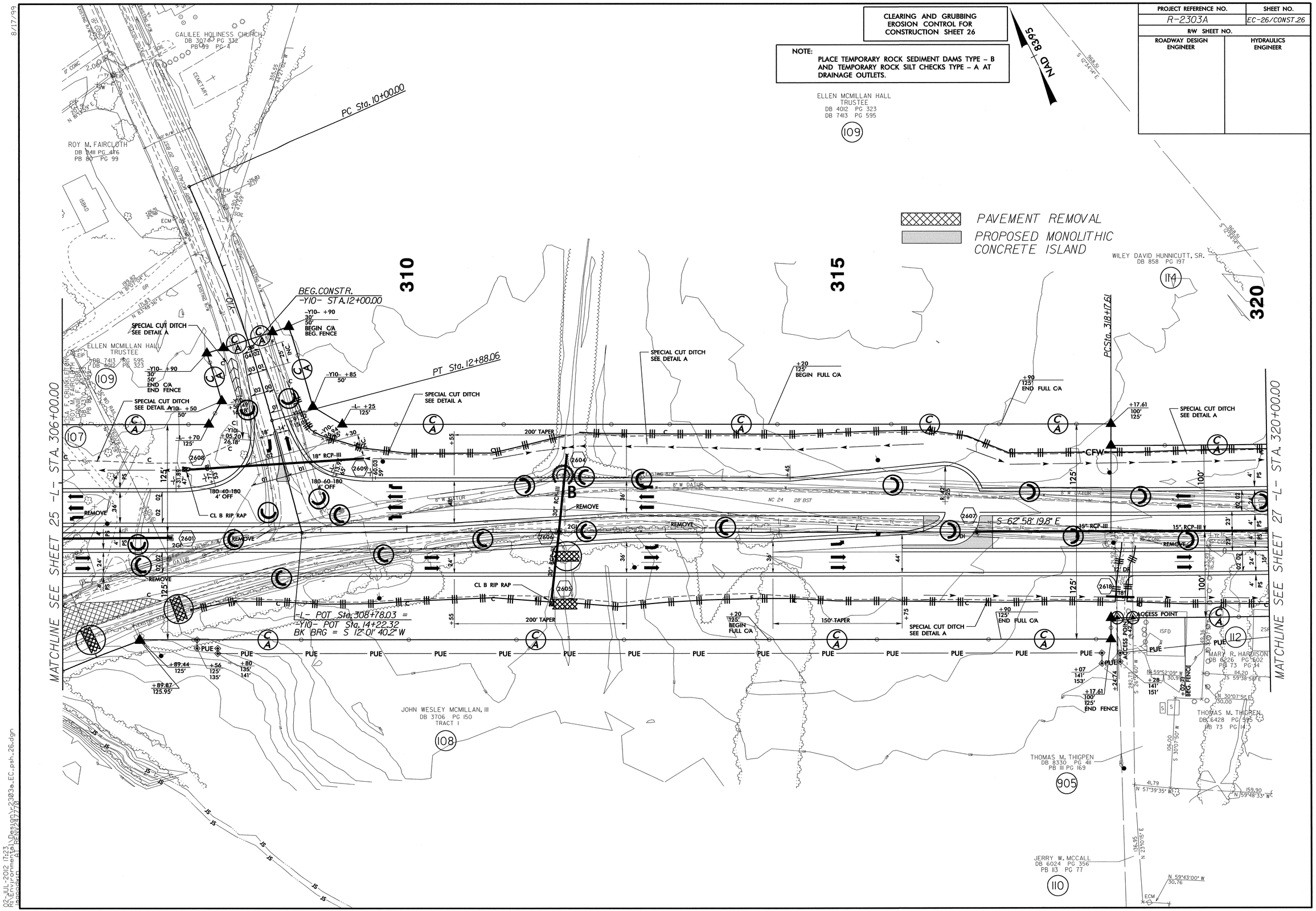
pscoggin

PROJECT REFERENCE NO.	SHEET NO.
R-2303A	EC-26/CONST.26
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 26

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



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Bogardin AT RENV247770

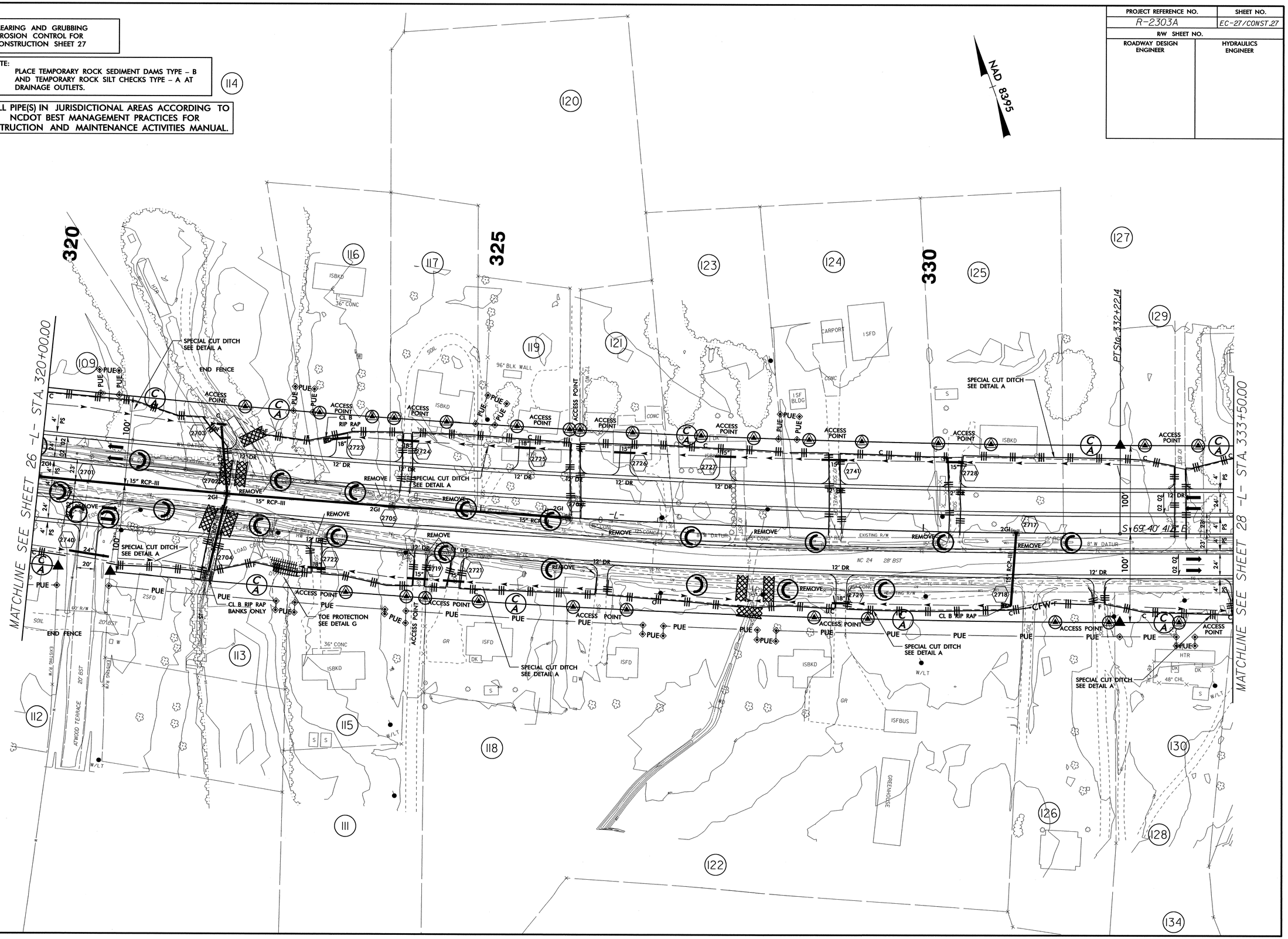
8/17/99

PROJECT REFERENCE NO.	SHEET NO.
R-2303A	EC-27/CONST.27
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 27

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

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



PROJECT REFERENCE NO.	SHEET NO.
R-2303A	EC-28/CONST.28
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

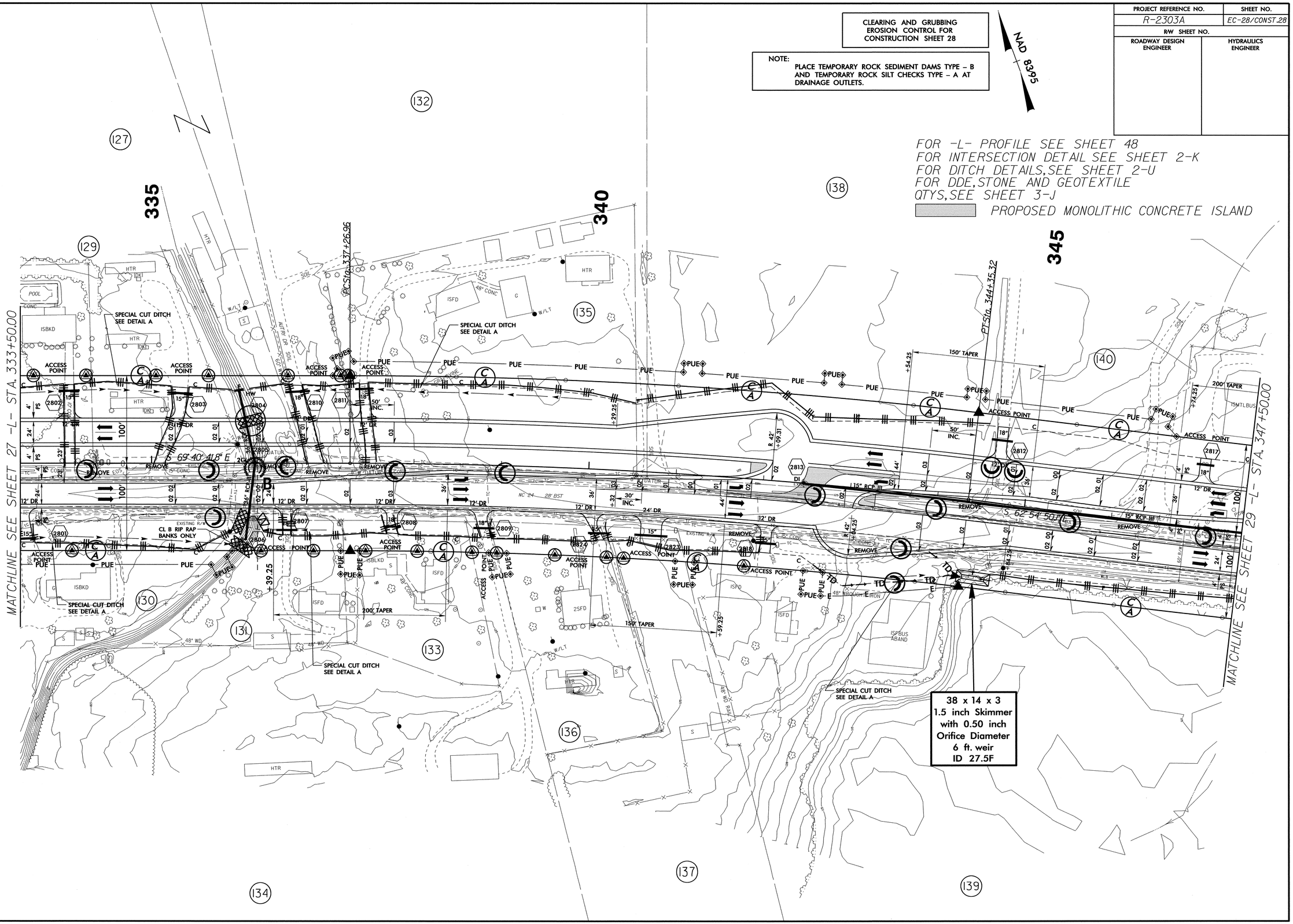
CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 28

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

NAD 83/95

FOR -L- PROFILE SEE SHEET 48
FOR INTERSECTION DETAIL SEE SHEET 2-K
FOR DITCH DETAILS, SEE SHEET 2-U
FOR DDE, STONE AND GEOTEXTILE
QTYS, SEE SHEET 3-J

PROPOSED MONOLITHIC CONCRETE ISLAND



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$$$$USER
$$$$DATE

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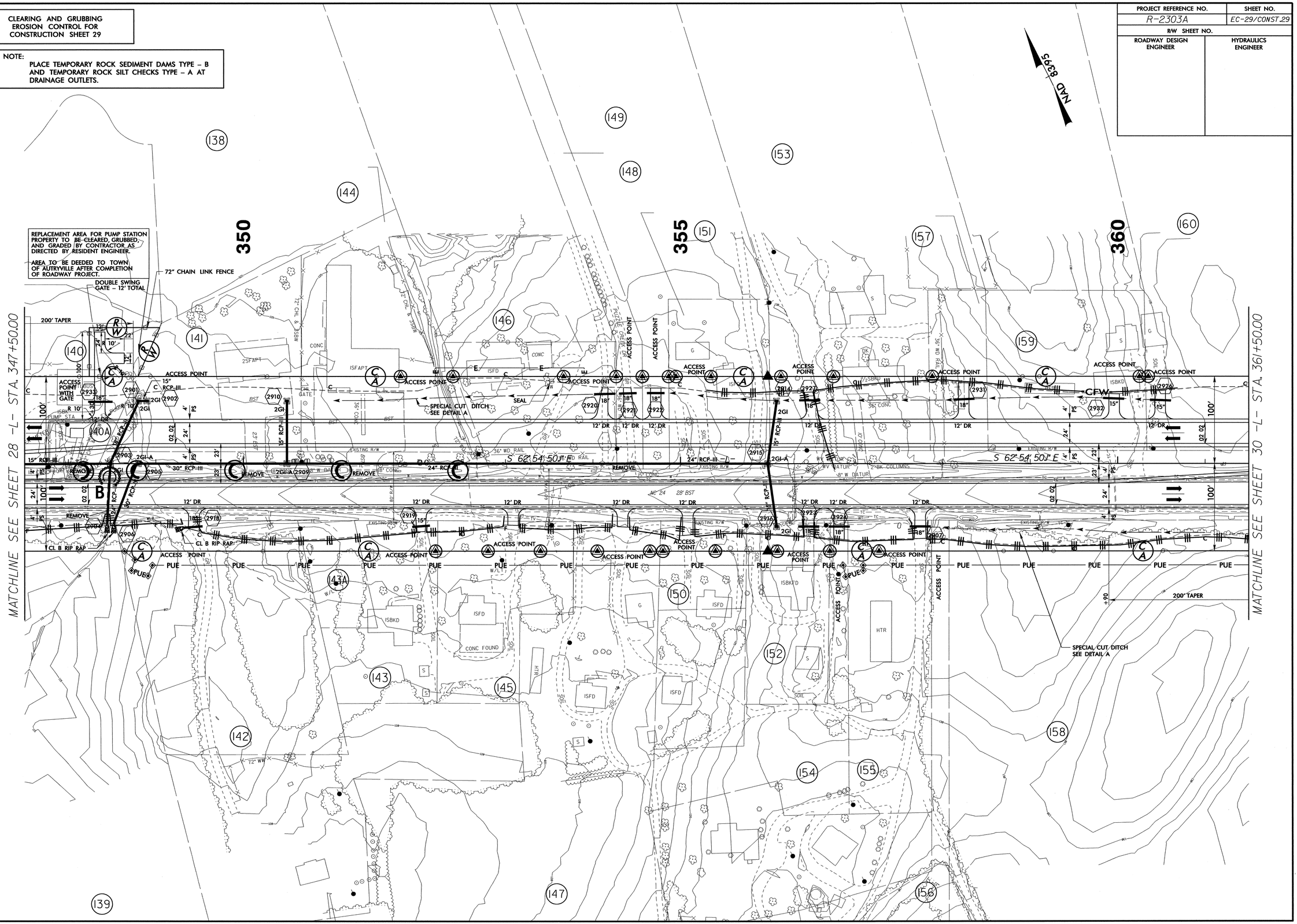
PROJECT REFERENCE NO.	SHEET NO.
R-2303A	EC-29/CONST.29
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 29

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



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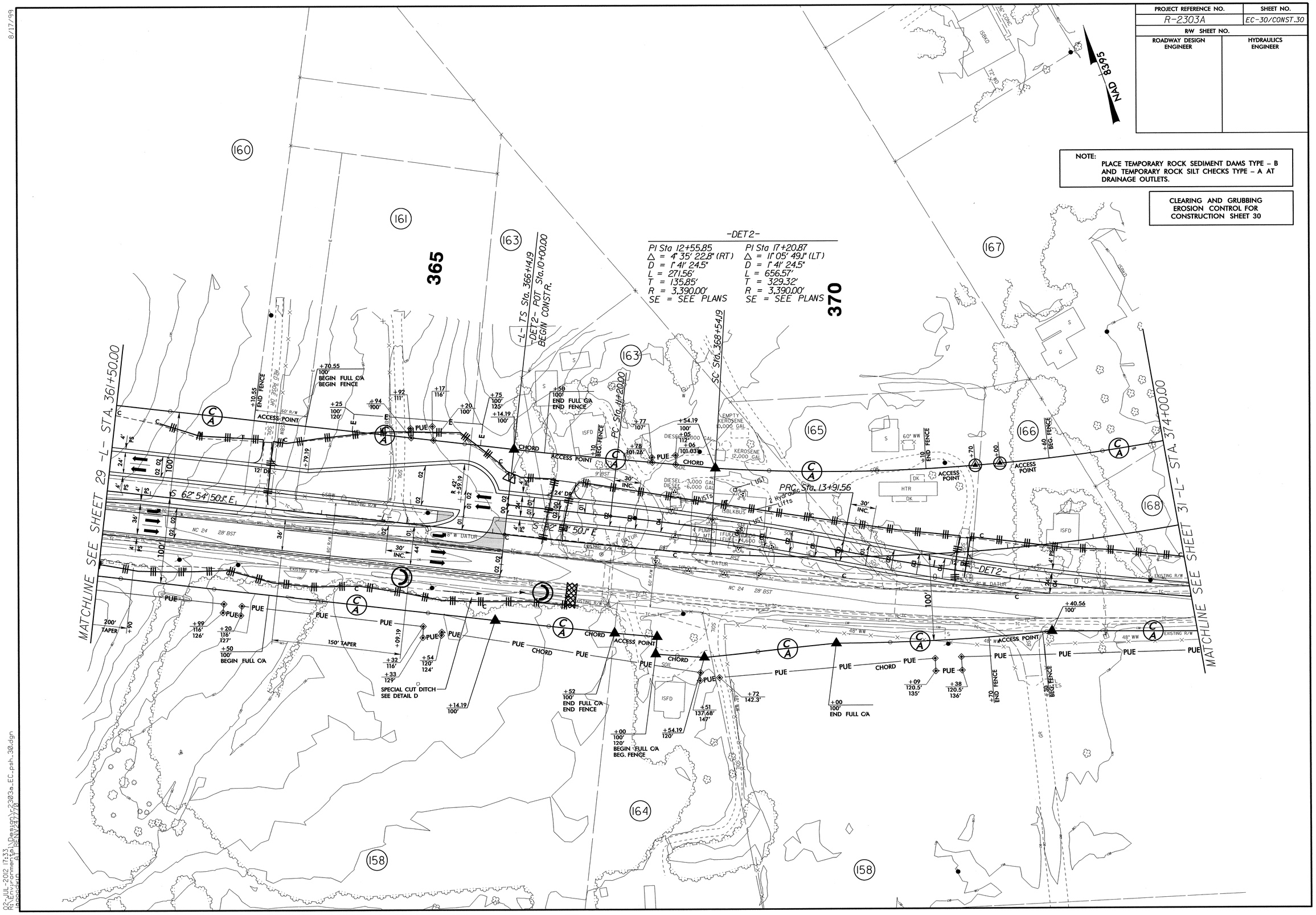
DESIGNED BY TENV 2/7/08

PROJECT REFERENCE NO.	SHEET NO.
R-2303A	EC-30/CONST.30
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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 30



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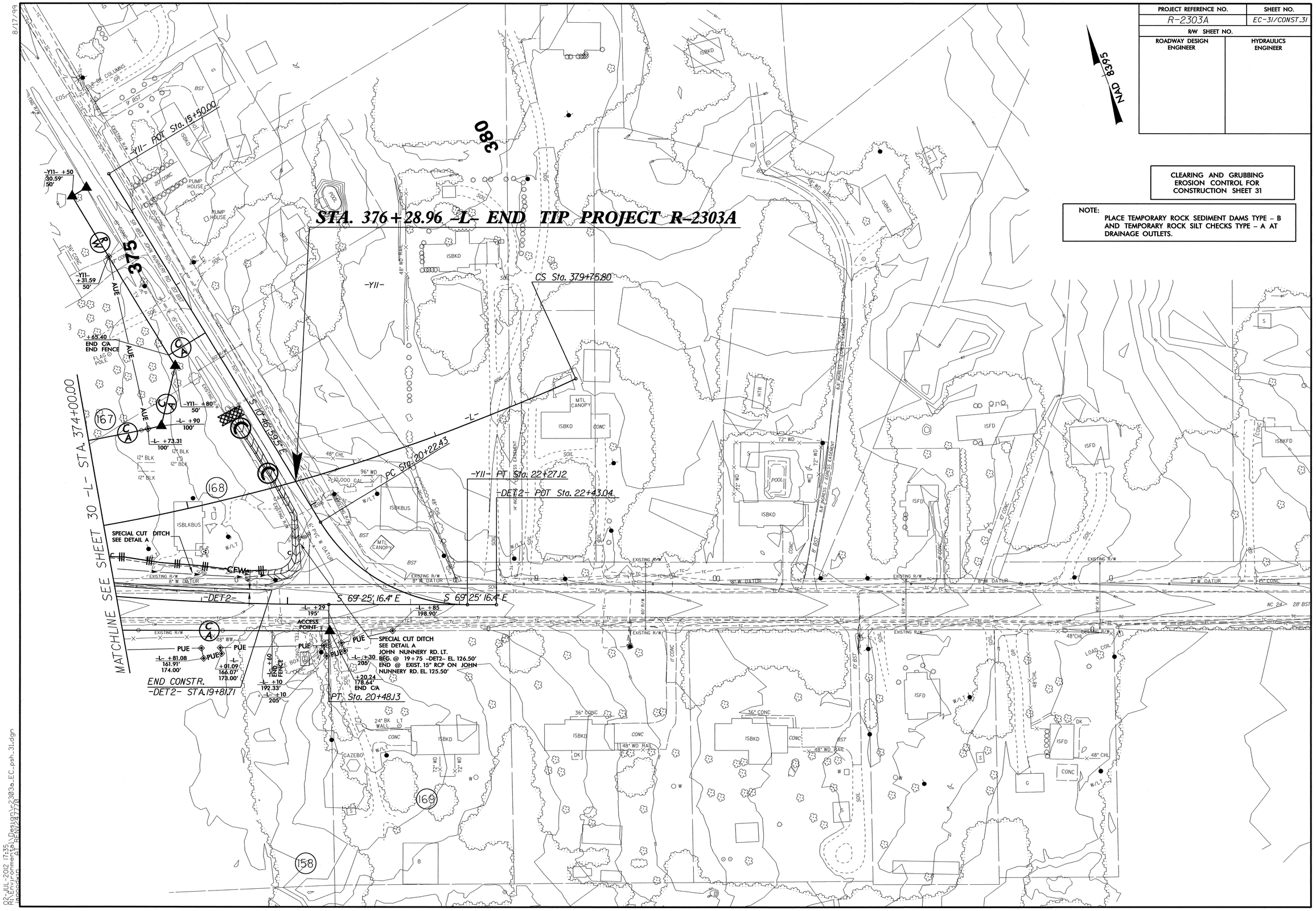
bpeacock AT BENV257770

PROJECT REFERENCE NO.	SHEET NO.
R-2303A	EC-31/CONST.31
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 31

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



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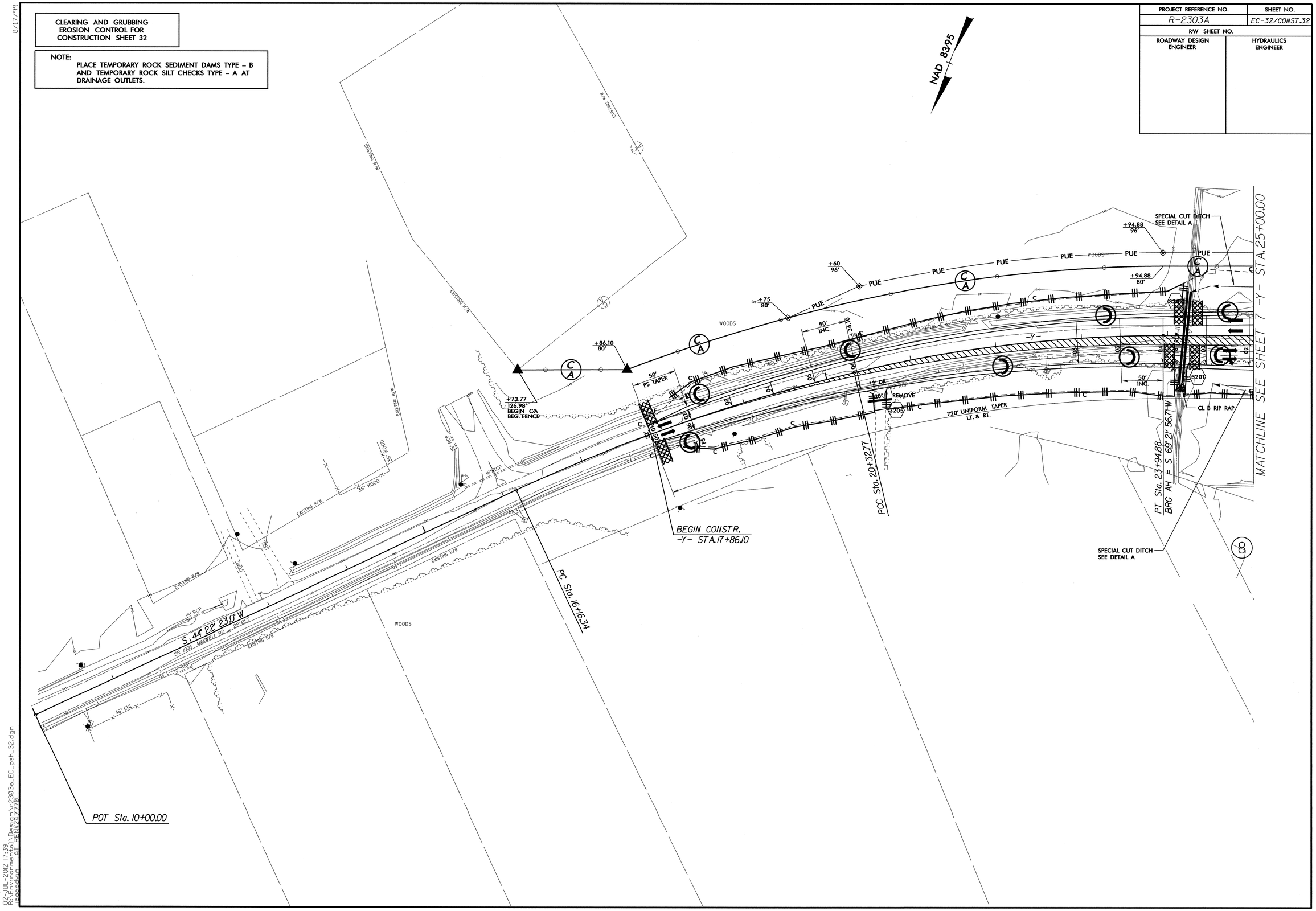
r:\roadway\proj\commesa\R-2303a_EC_psh_31.dgn
jpoochu
R-2303A

8/17/99

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 32

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

PROJECT REFERENCE NO.	SHEET NO.
R-2303A	EC-32/CONST.32
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



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jacoochin AT REN\242770

PROJECT REFERENCE NO.	SHEET NO.
R-2303A	EC-33/CONST.33
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 33

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

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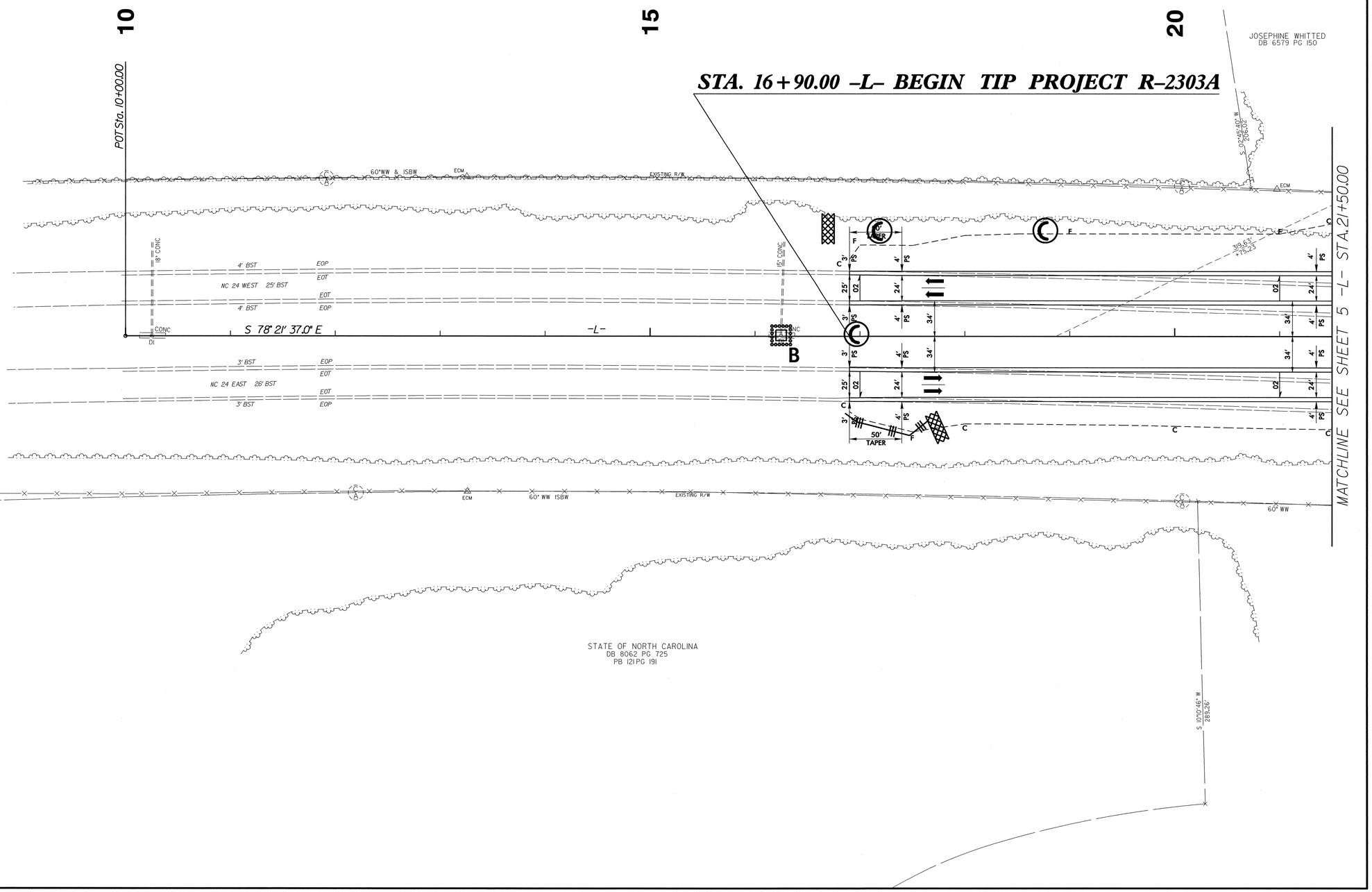
pscoburn
41 REV(2)7/0

PROJECT REFERENCE NO.	SHEET NO.
R-2303A	EC-34/CONST.4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



8/17/99

02-JUL-2012 15:10
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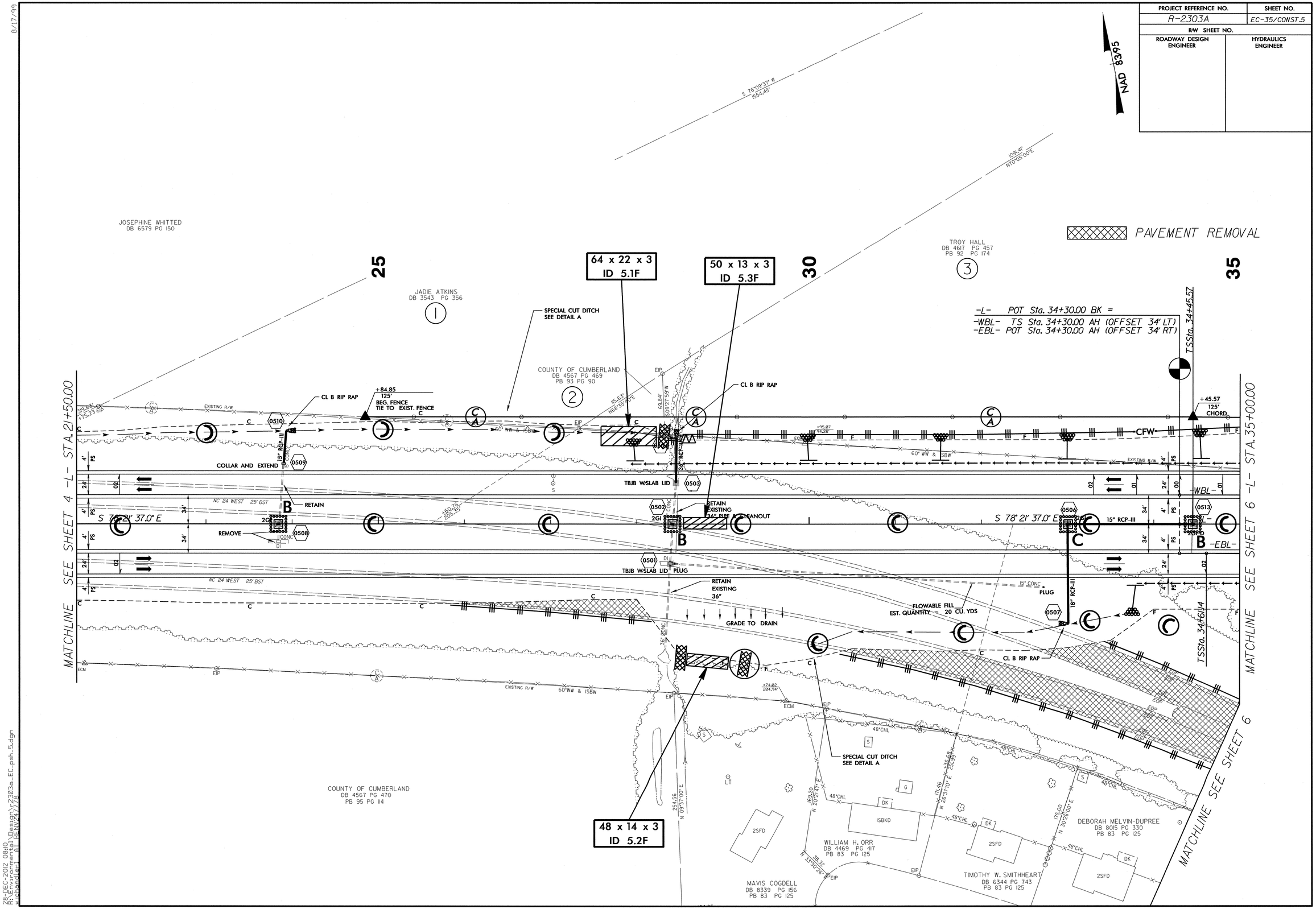
bpeacock AT REN\247770

PROJECT REFERENCE NO.	SHEET NO.
R-2303A	EC-35/CONST.5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



8/17/95

28-DEC-2012 08:10
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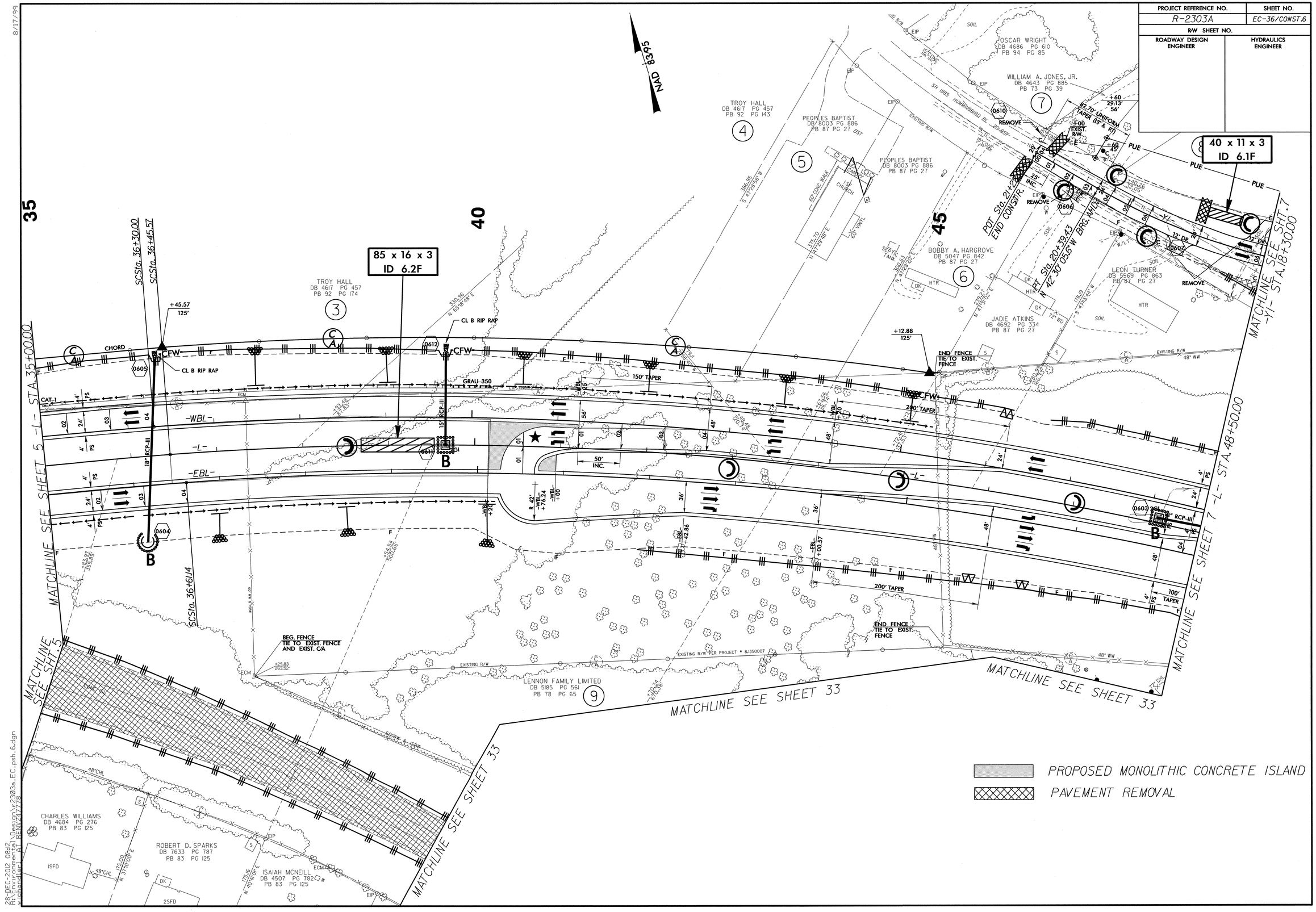
jchandler AT RENV24778

PROJECT REFERENCE NO.	SHEET NO.
R-2303A	EC-36/CONST.6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



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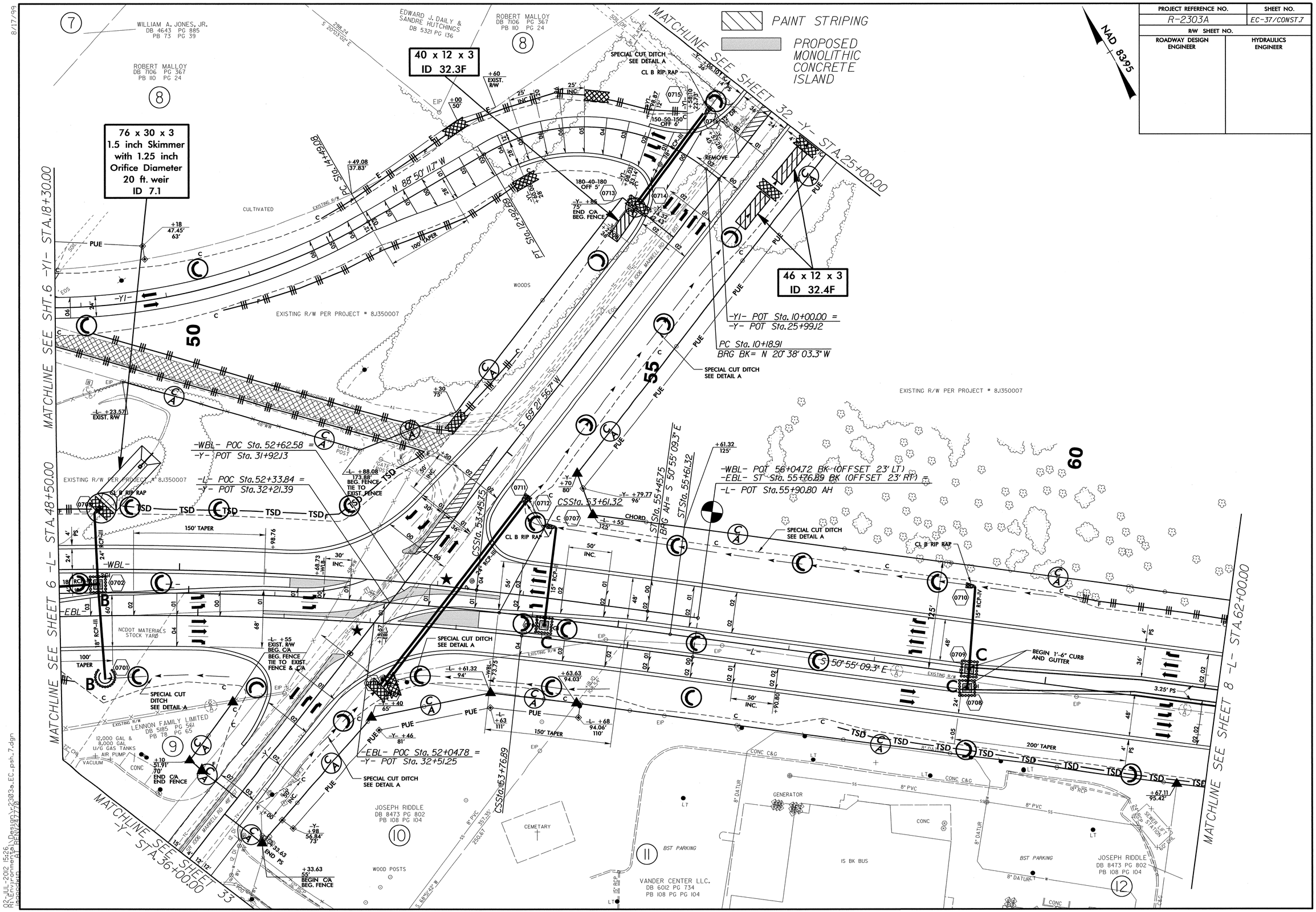
PROJECT REFERENCE NO.	SHEET NO.
R-2303A	EC-37/CONST.7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



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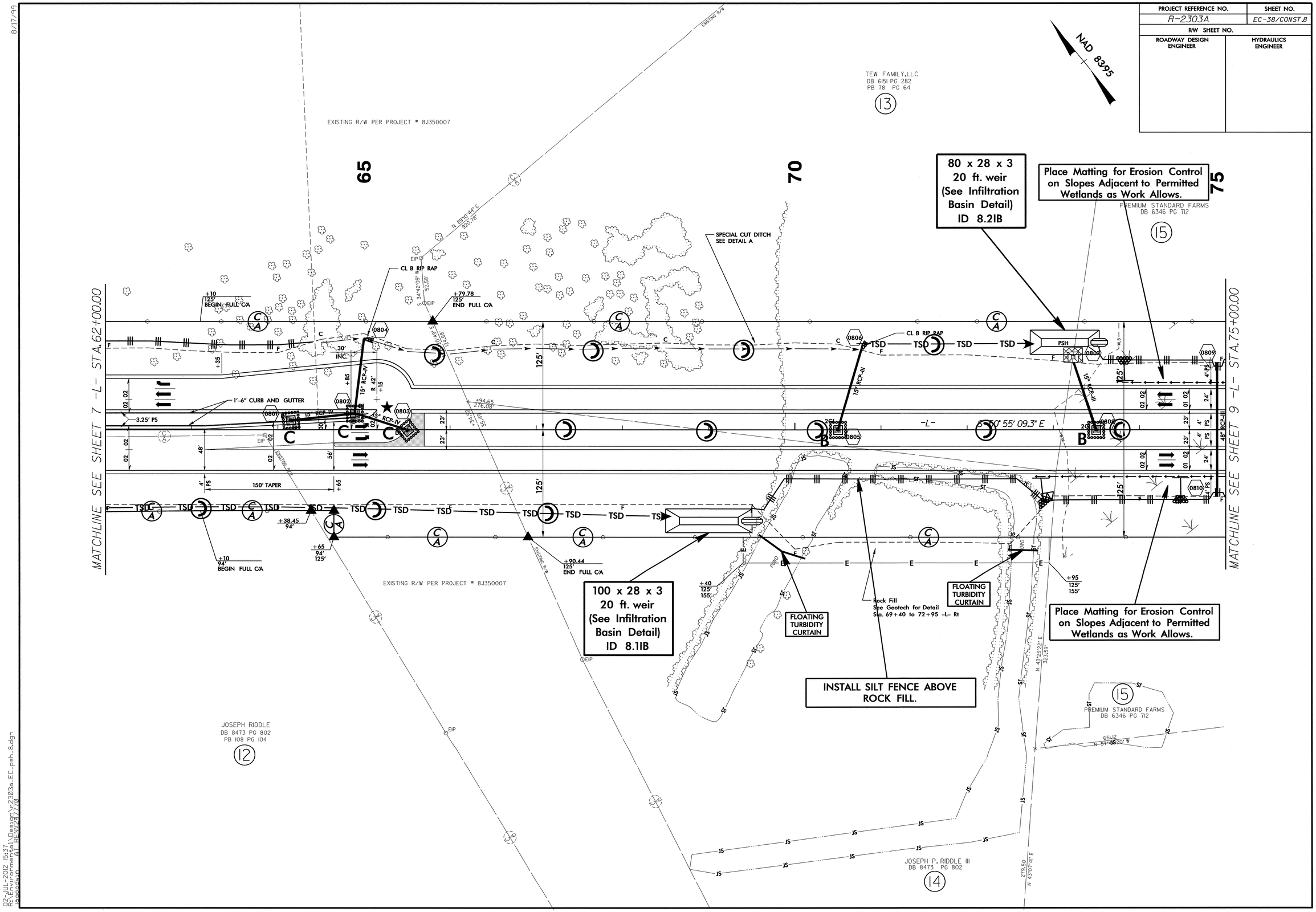
ET REV247720

PROJECT REFERENCE NO.	SHEET NO.
R-2303A	EC-38/CONST.8
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



8/17/99

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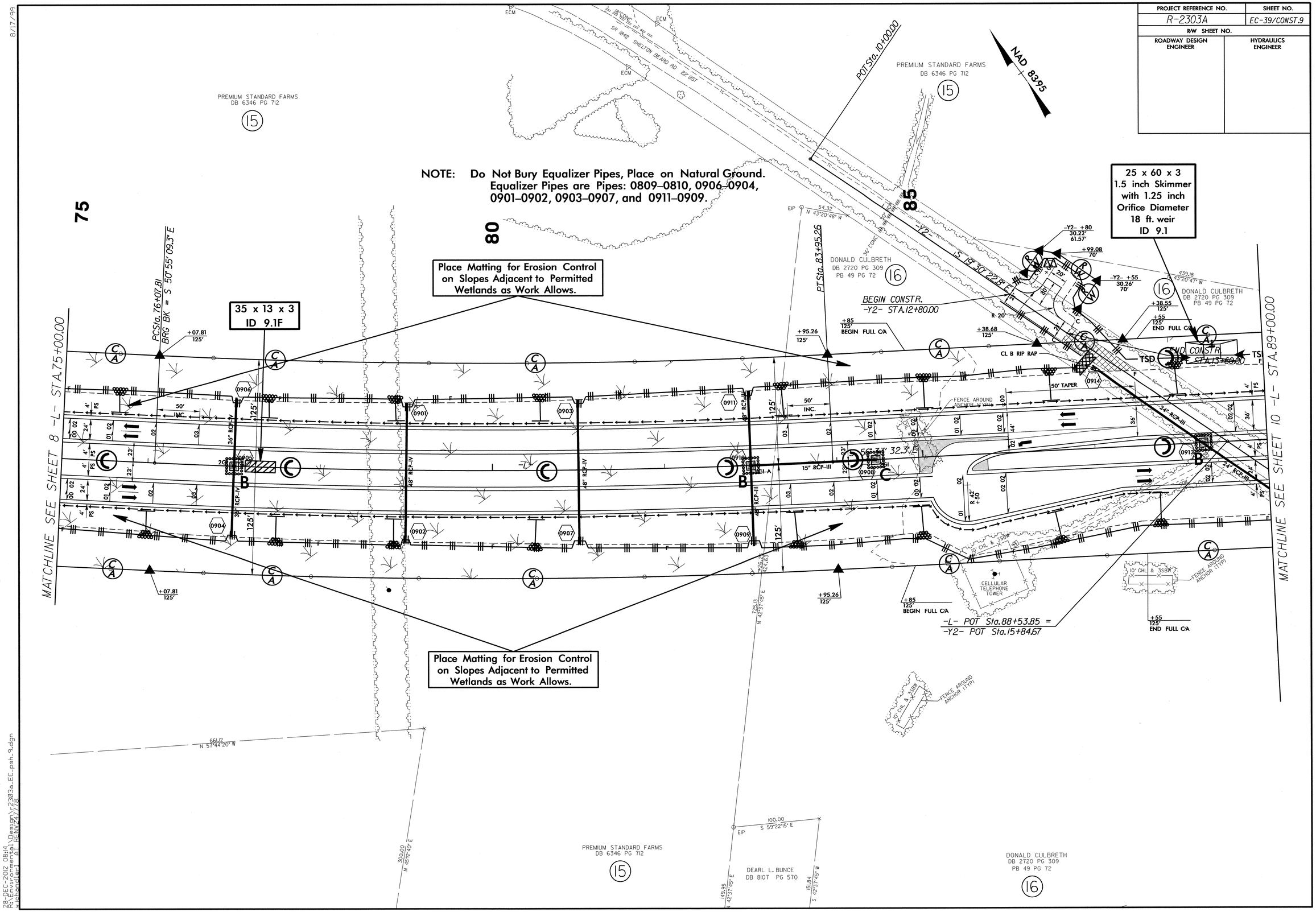
Bogaslan RENV247770

PROJECT REFERENCE NO.	SHEET NO.
R-2303A	EC-39/CONST.9
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



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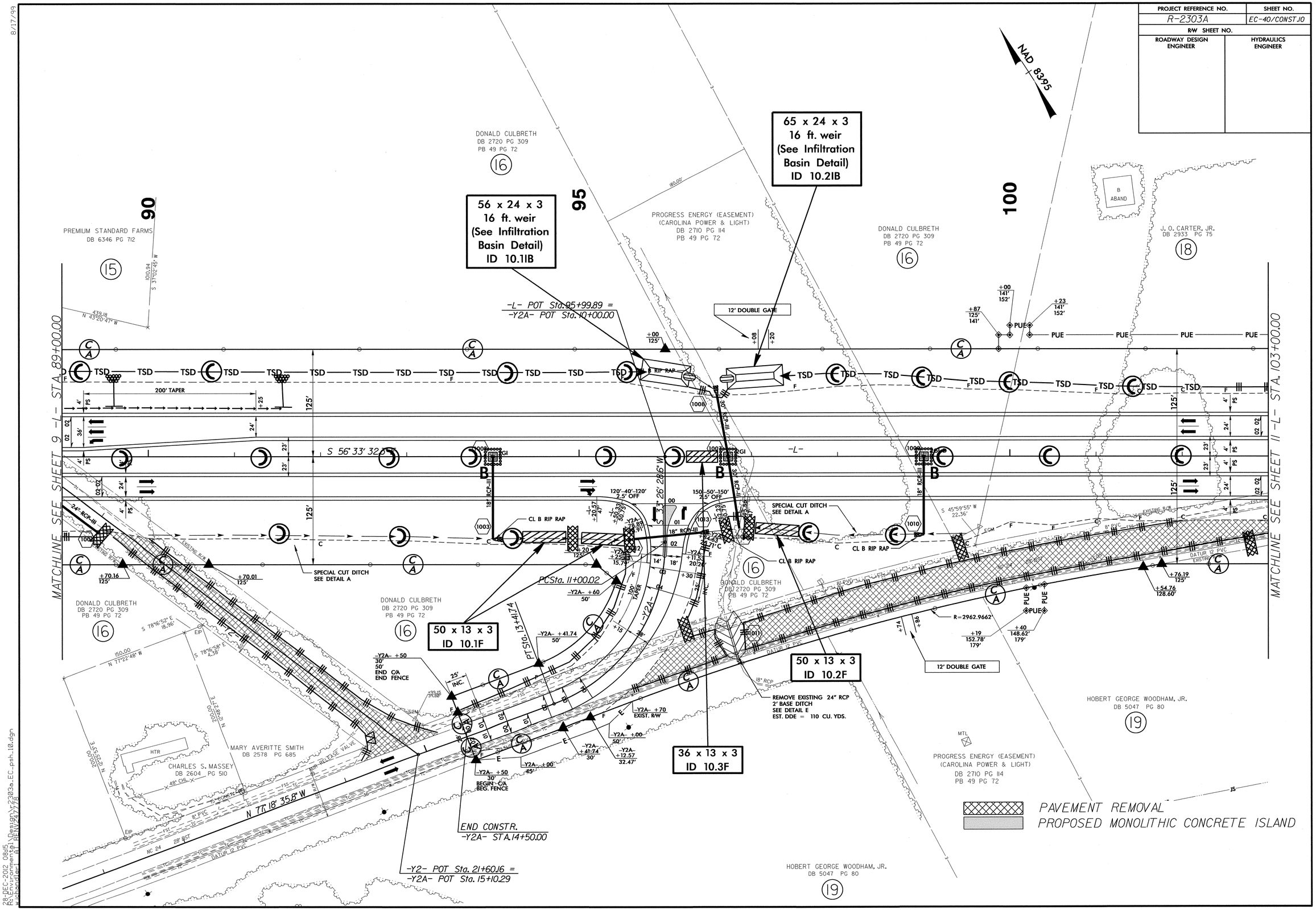
Nicholas, Al RENV2417778

PROJECT REFERENCE NO.	SHEET NO.
R-2303A	EC-40/CONST.10
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



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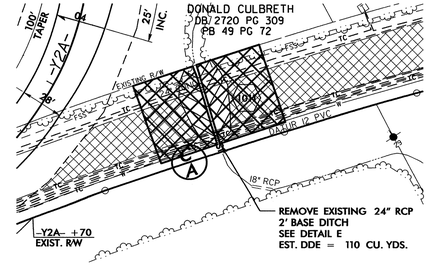
w:\brandler\ AT REN24778

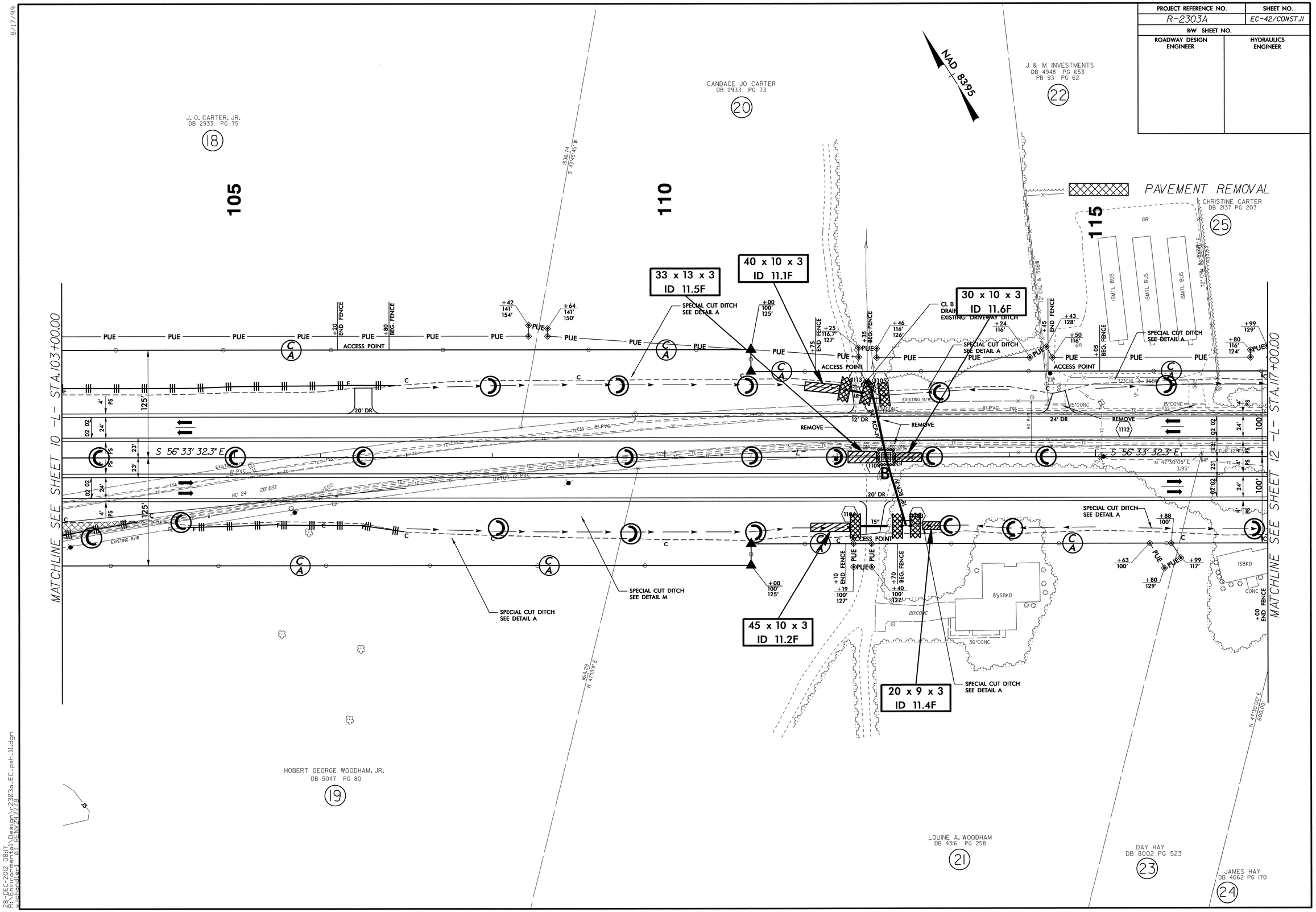
PROJECT REFERENCE NO.	SHEET NO.
R-2303A	EC-41/CONST.10
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

.11 ACRE STREAMBANK REFORESTATION



SEE RF-2, RF-3 AND PROJECT SPECIAL PROVISIONS

PROJECT REFERENCE NO.	SHEET NO.
R-2303A	EC-42/CONST.JI
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



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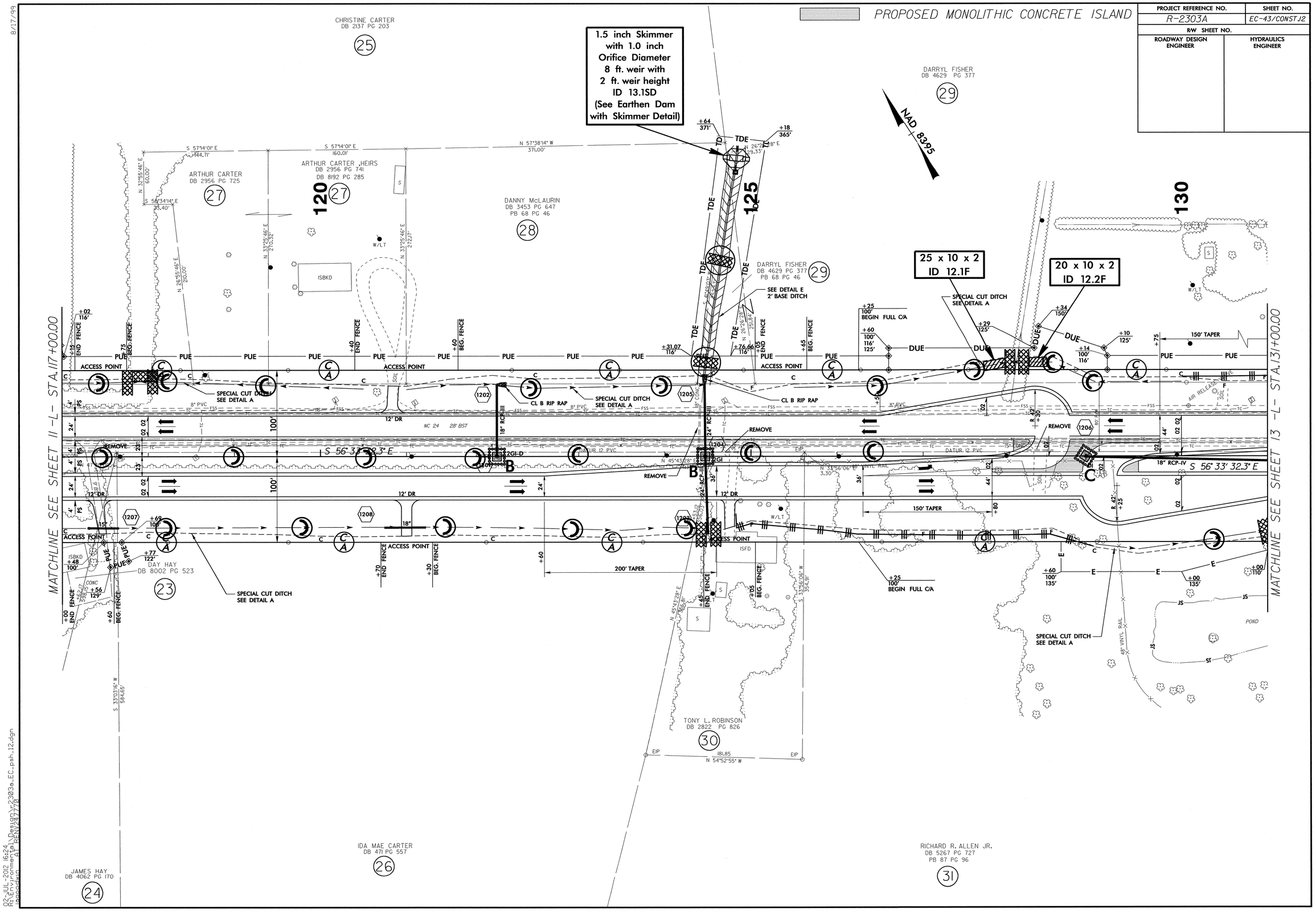
PROJECT REFERENCE NO.	SHEET NO.
R-2303A	EC-43/CONST.12
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PROPOSED MONOLITHIC CONCRETE ISLAND



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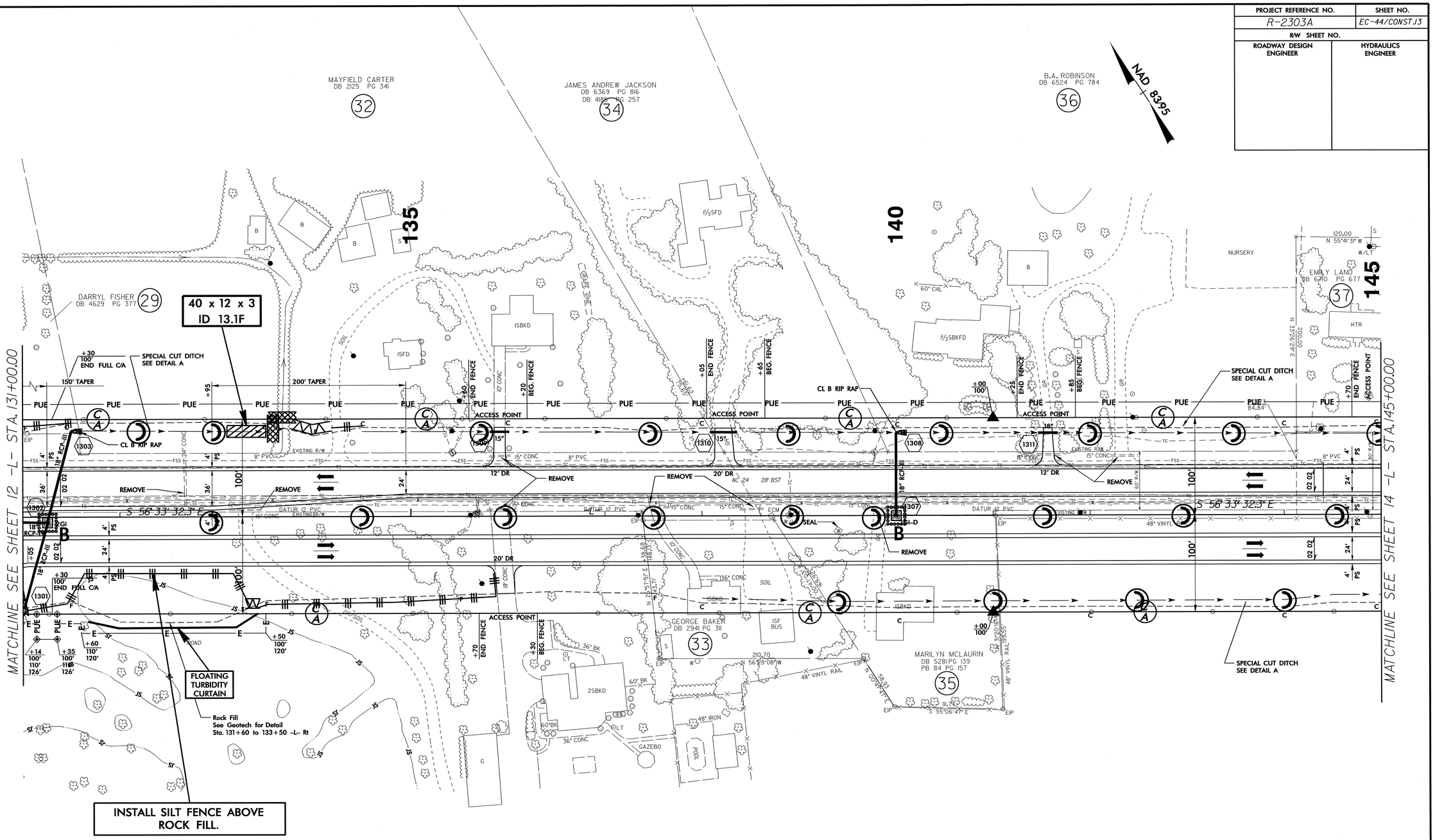
Bpagdwn AT REN\247770

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
R-2303A	EC-44/CONST.13
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



8/17/99

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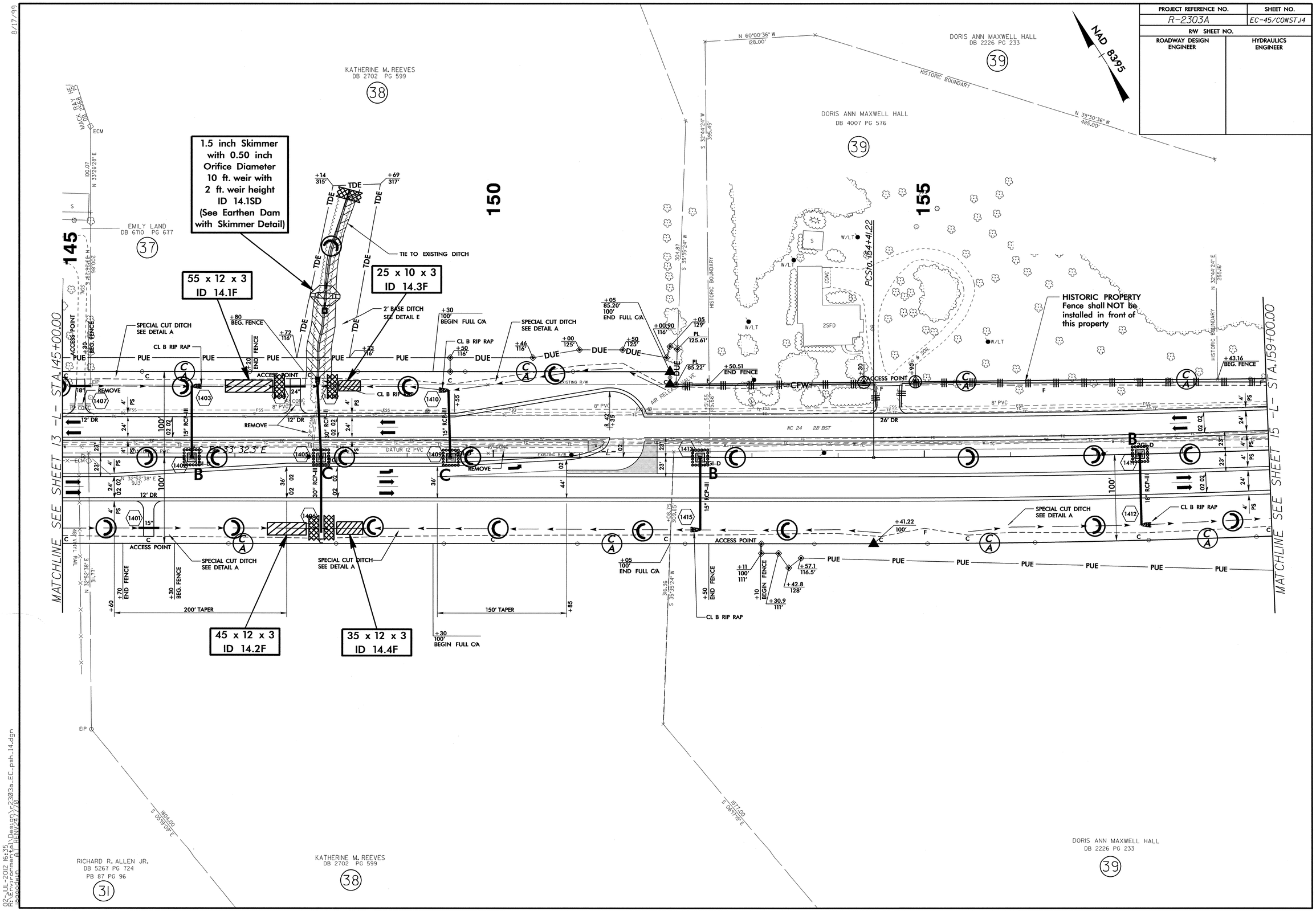
aggodwin AT REN\247770

PROJECT REFERENCE NO.	SHEET NO.
R-2303A	EC-45/CONST.J4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



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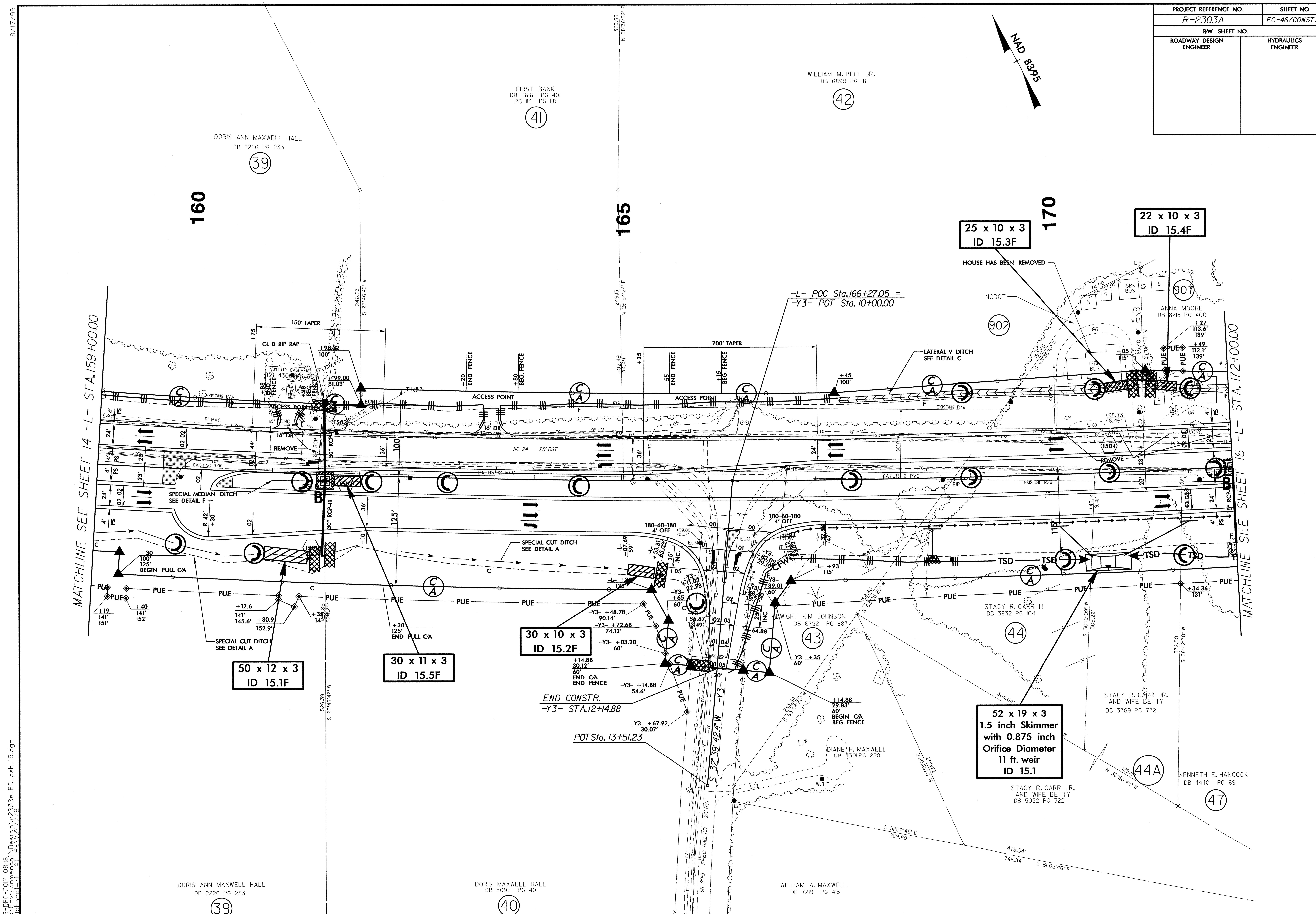
bepooldwn AT FENY247770

PROJECT REFERENCE NO.	SHEET NO.
R-2303A	EC-46/CONST.15
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



8/17/99

28-DEC-2012 08:18
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wichandler1 AT RENV247778

PROJECT REFERENCE NO.	SHEET NO.
R-2303A	EC-47/CONST.16
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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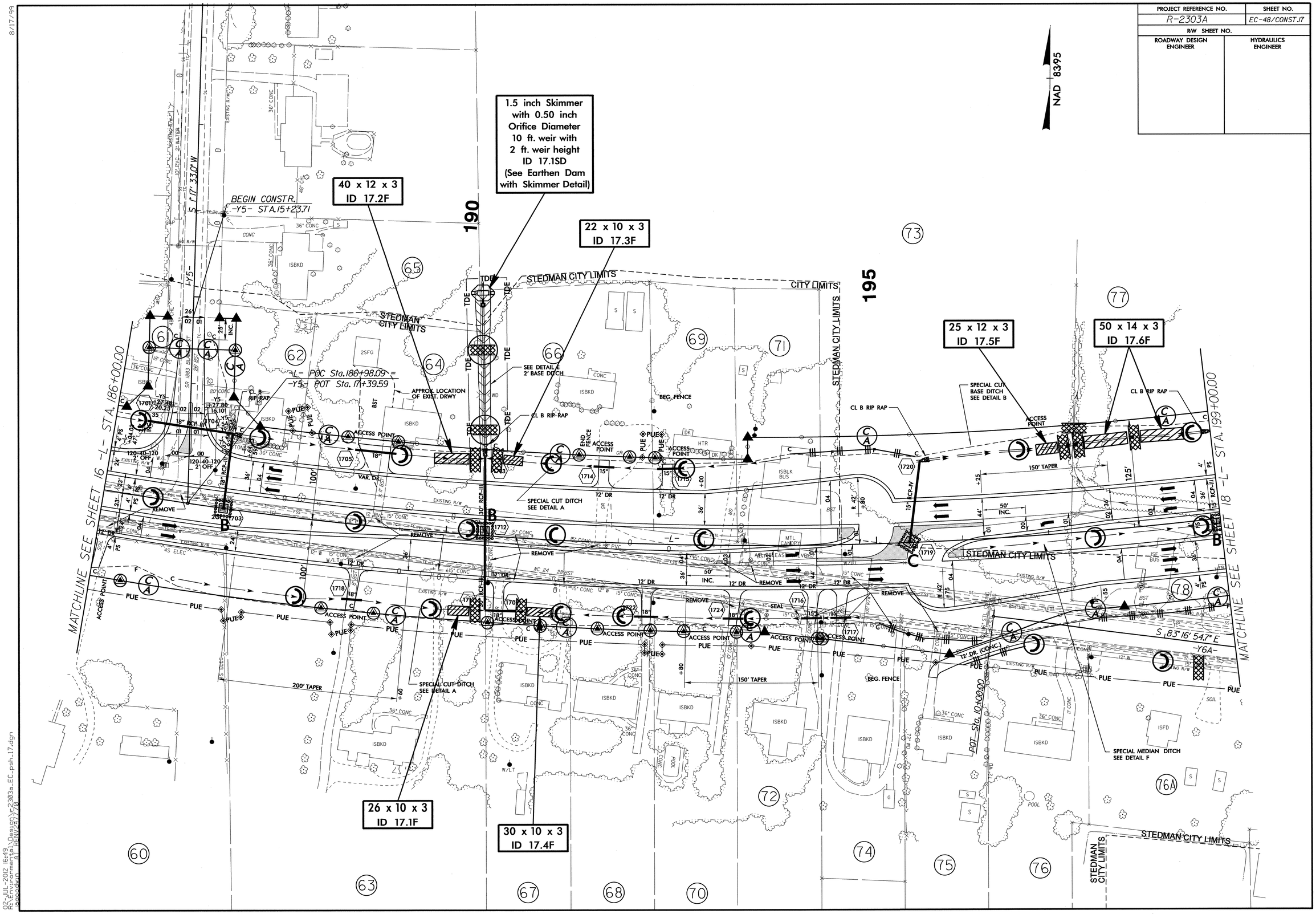
Extended at REV/24/72

PROJECT REFERENCE NO.	SHEET NO.
R-2303A	EC-48/CONST.J7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



8/17/99

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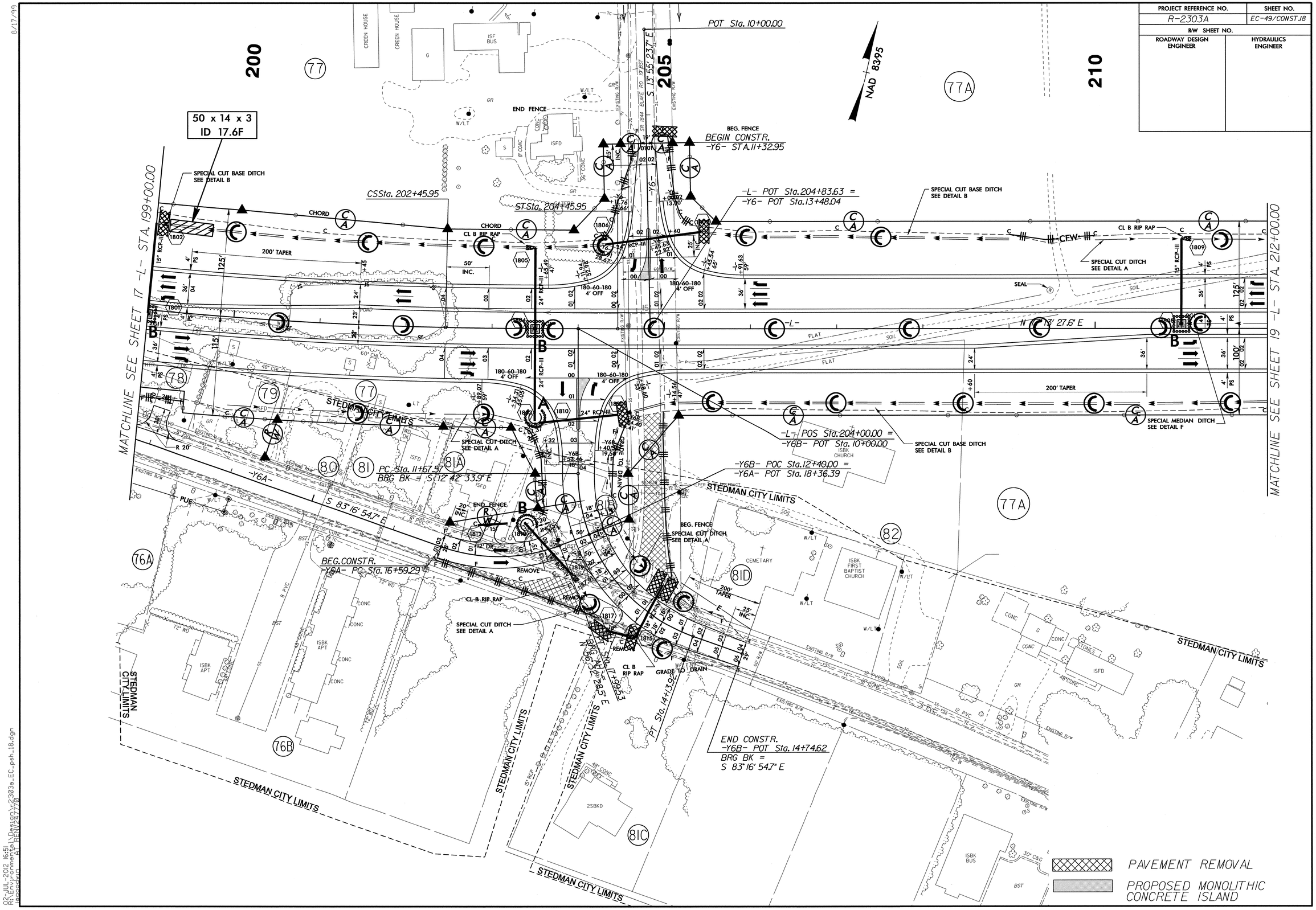
bpeacock
AT FENV247770

PROJECT REFERENCE NO.	SHEET NO.
R-2303A	EC-49/CONST.18
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



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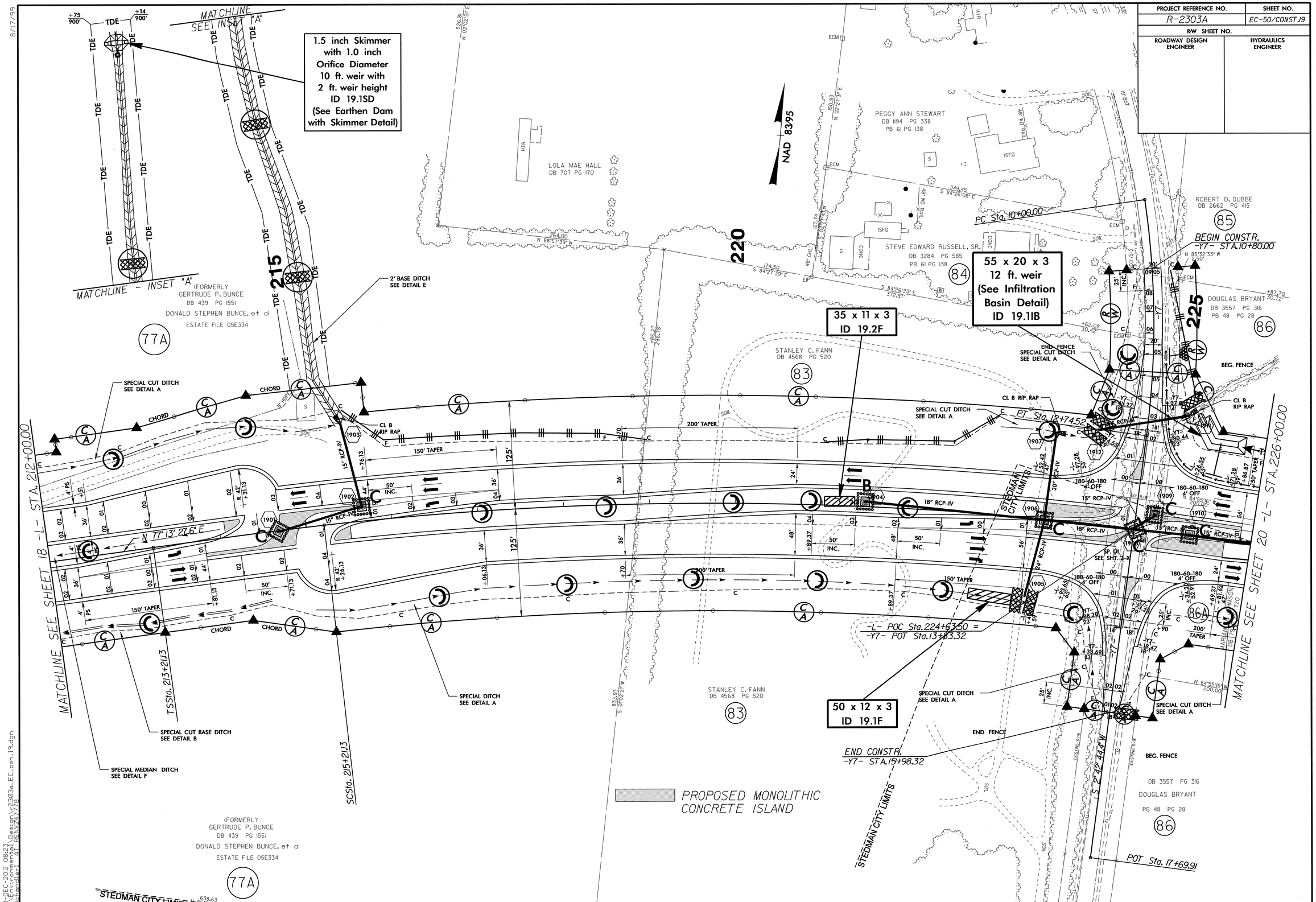
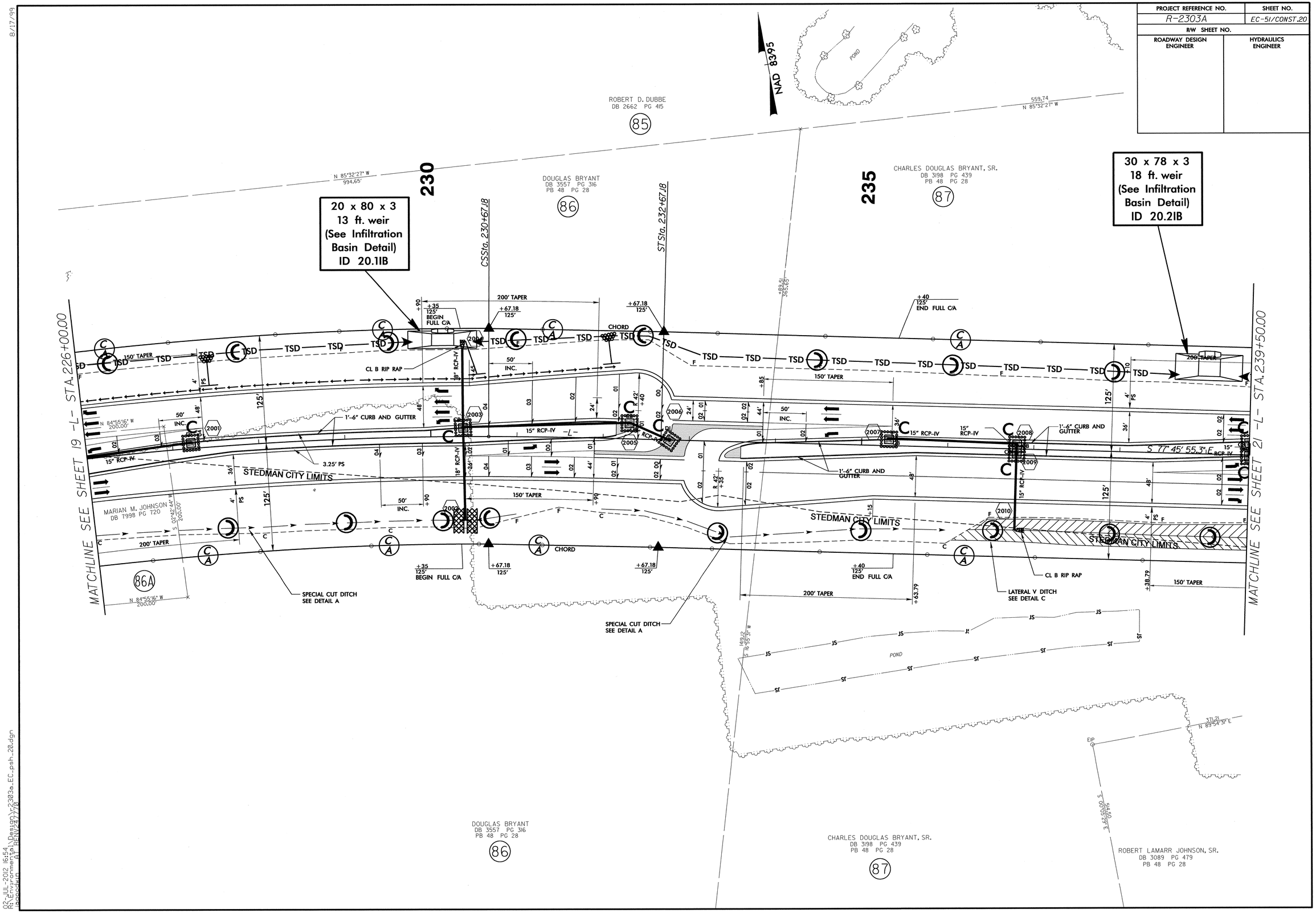
pscoggin AT BENV24770

PROJECT REFERENCE NO.	SHEET NO.
R-2303A	EC-50/CONST.19
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



PROJECT REFERENCE NO.	SHEET NO.
R-2303A	EC-51/CONST.20
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



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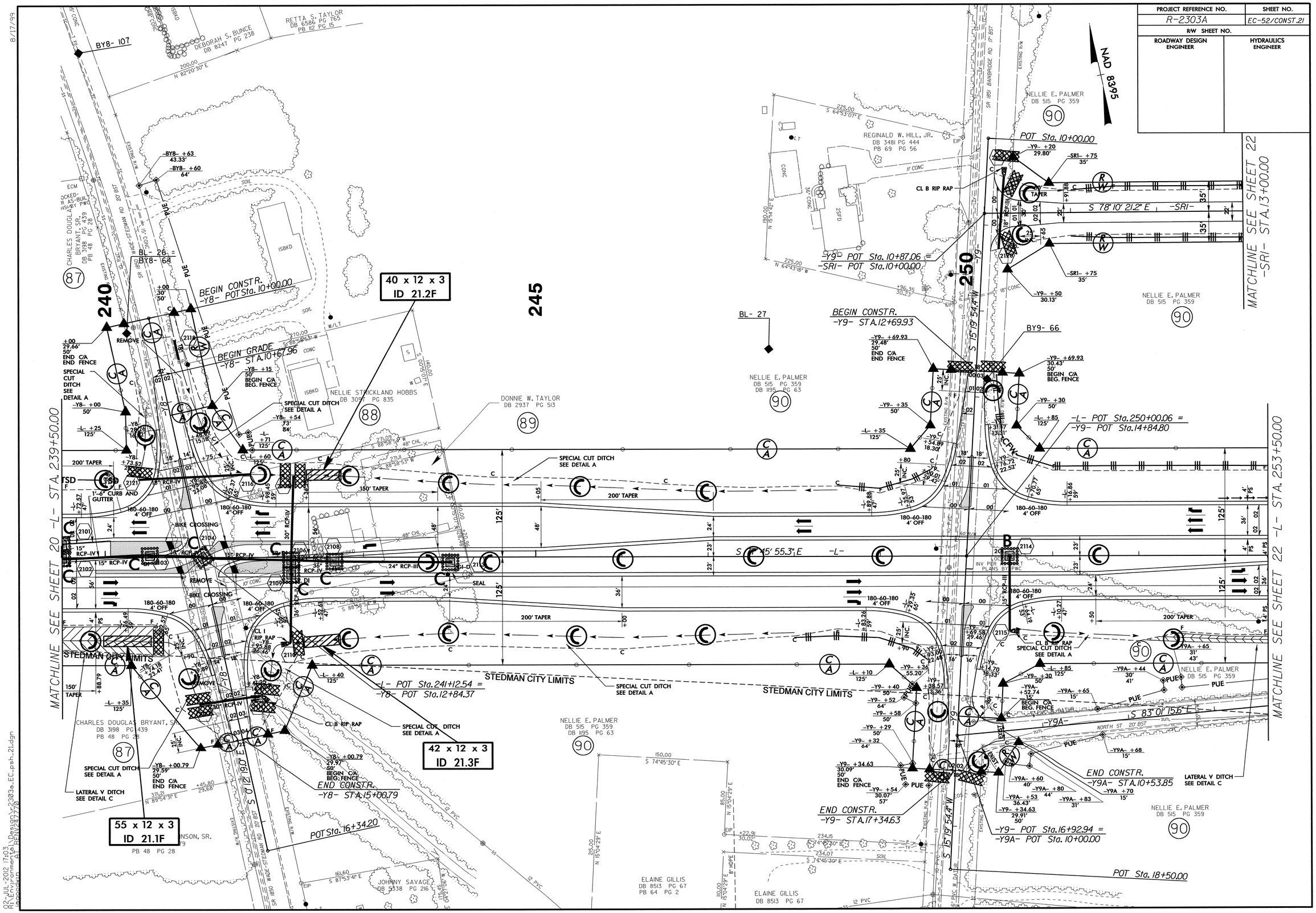
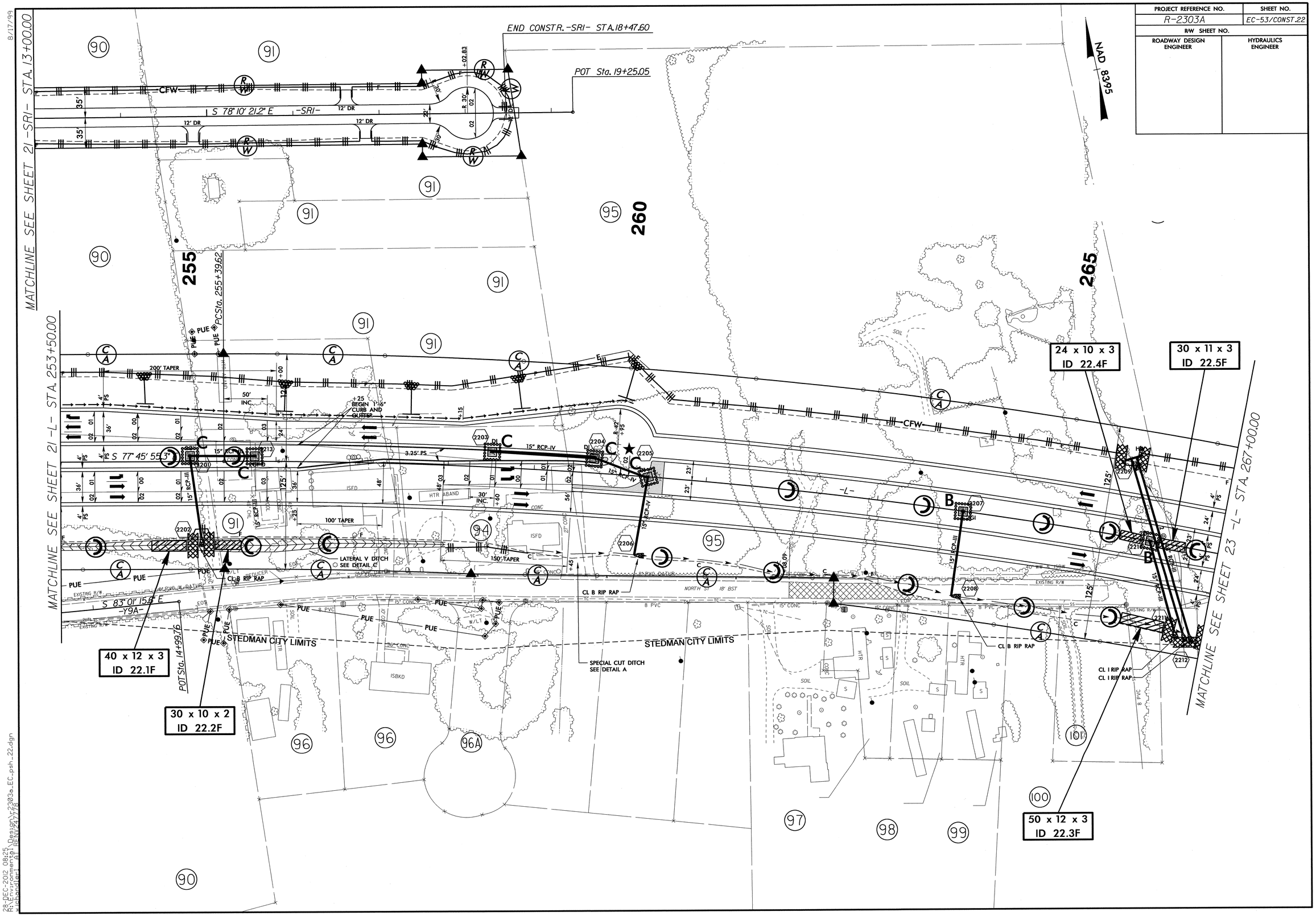
bpeacock
A1 (ENV2)7/20

PROJECT REFERENCE NO.	SHEET NO.
R-2303A	EC-52/CONST.21
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



PROJECT REFERENCE NO.	SHEET NO.
R-2303A	EC-53/CONST.22
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



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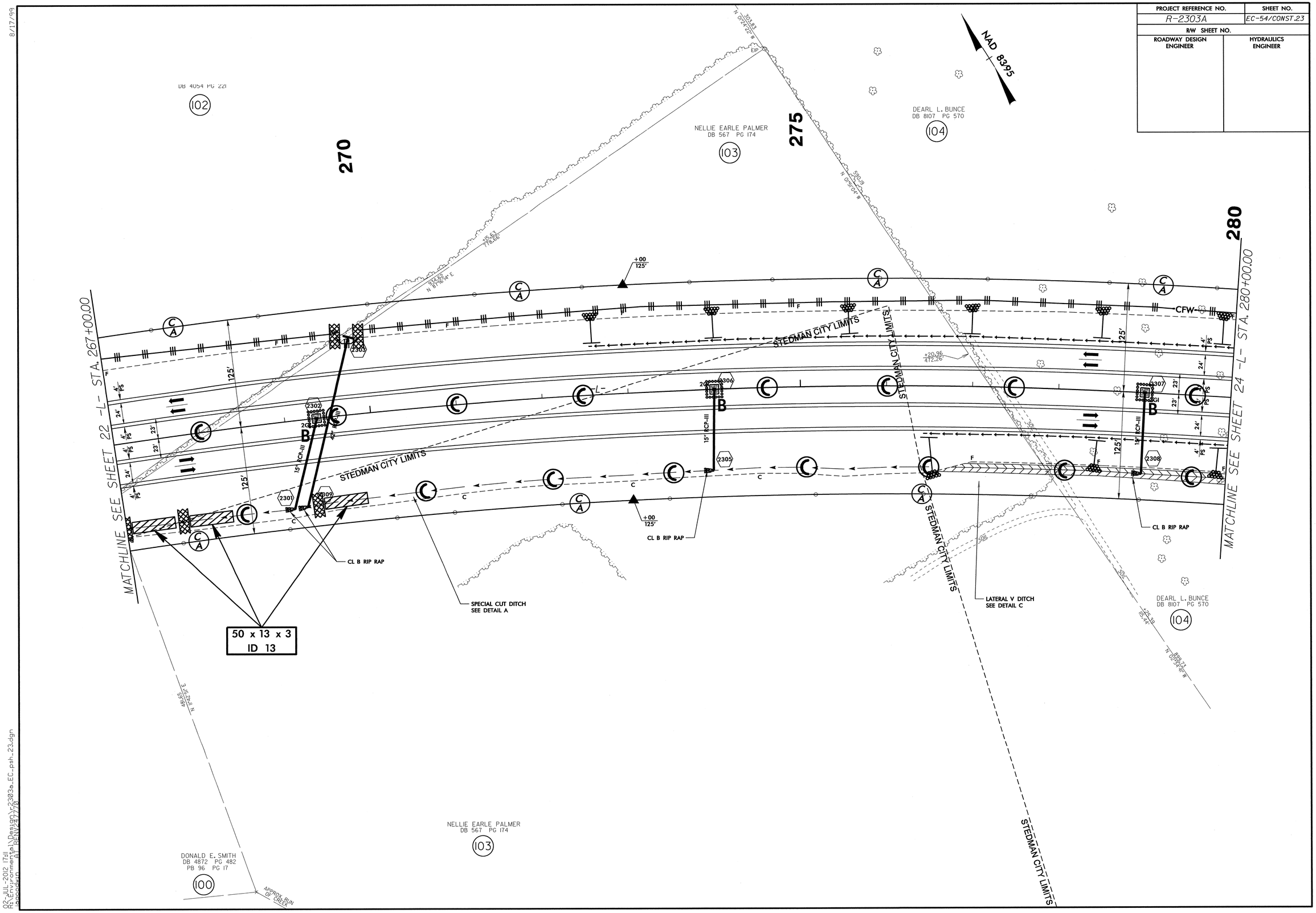
wcooper1 ATI RENV247778

PROJECT REFERENCE NO.	SHEET NO.
R-2303A	EC-54/CONST.23
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



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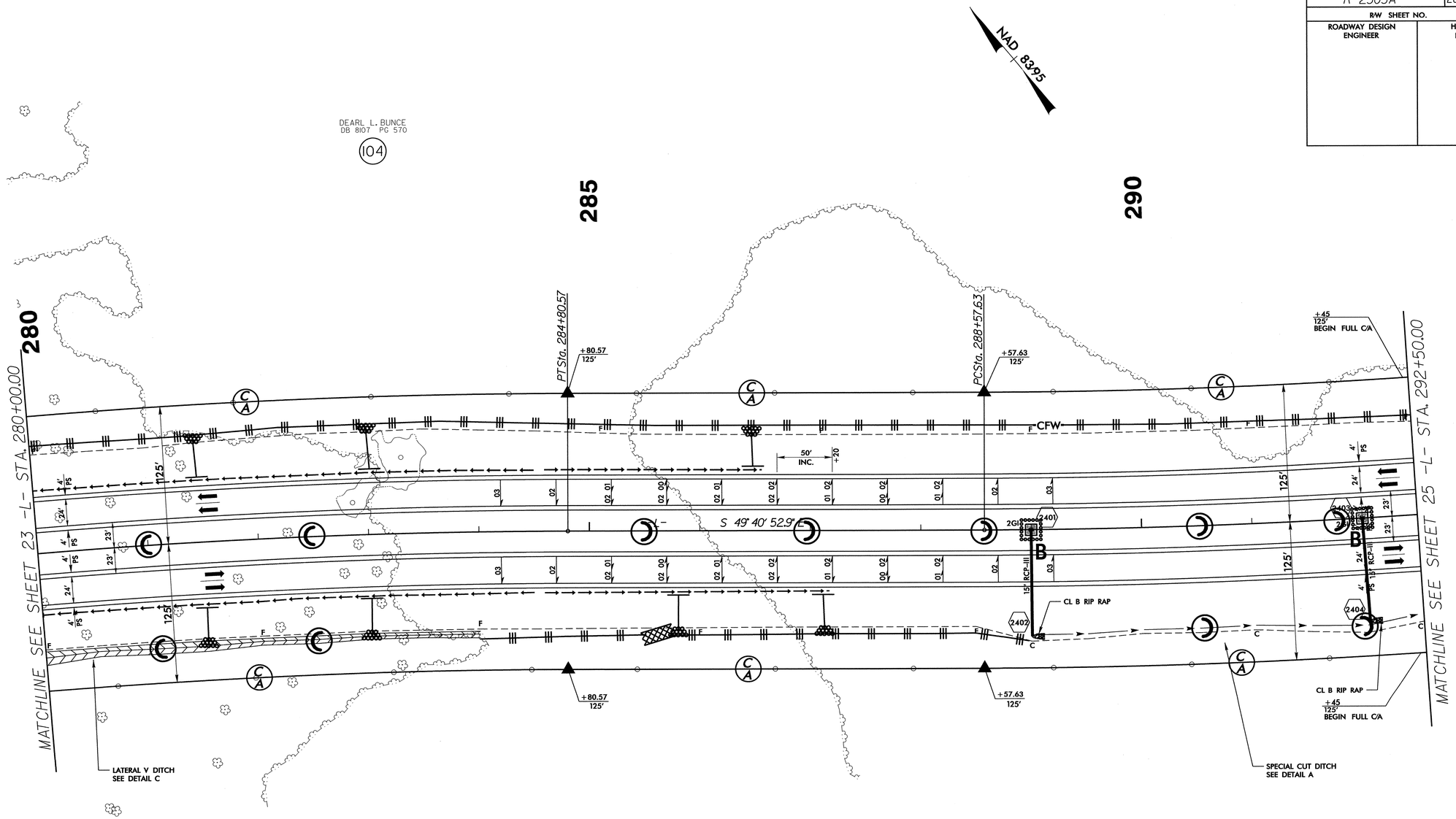
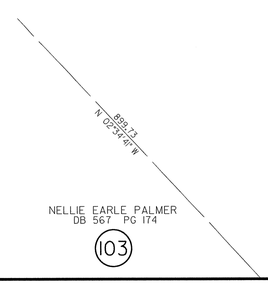
Bogaden AT REN\247770

PROJECT REFERENCE NO.	SHEET NO.
R-2303A	EC-55/CONST.24
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER





DEARL L. BUNCE
DB 8107 PG 570
104

FOR -L- PROFILE SEE SHEET 46
FOR DITCH DETAILS, SEE SHEET 2-U
FOR DDE, STONE AND GEOTEXTILE
QTYS, SEE SHEET 3-J

8/17/99

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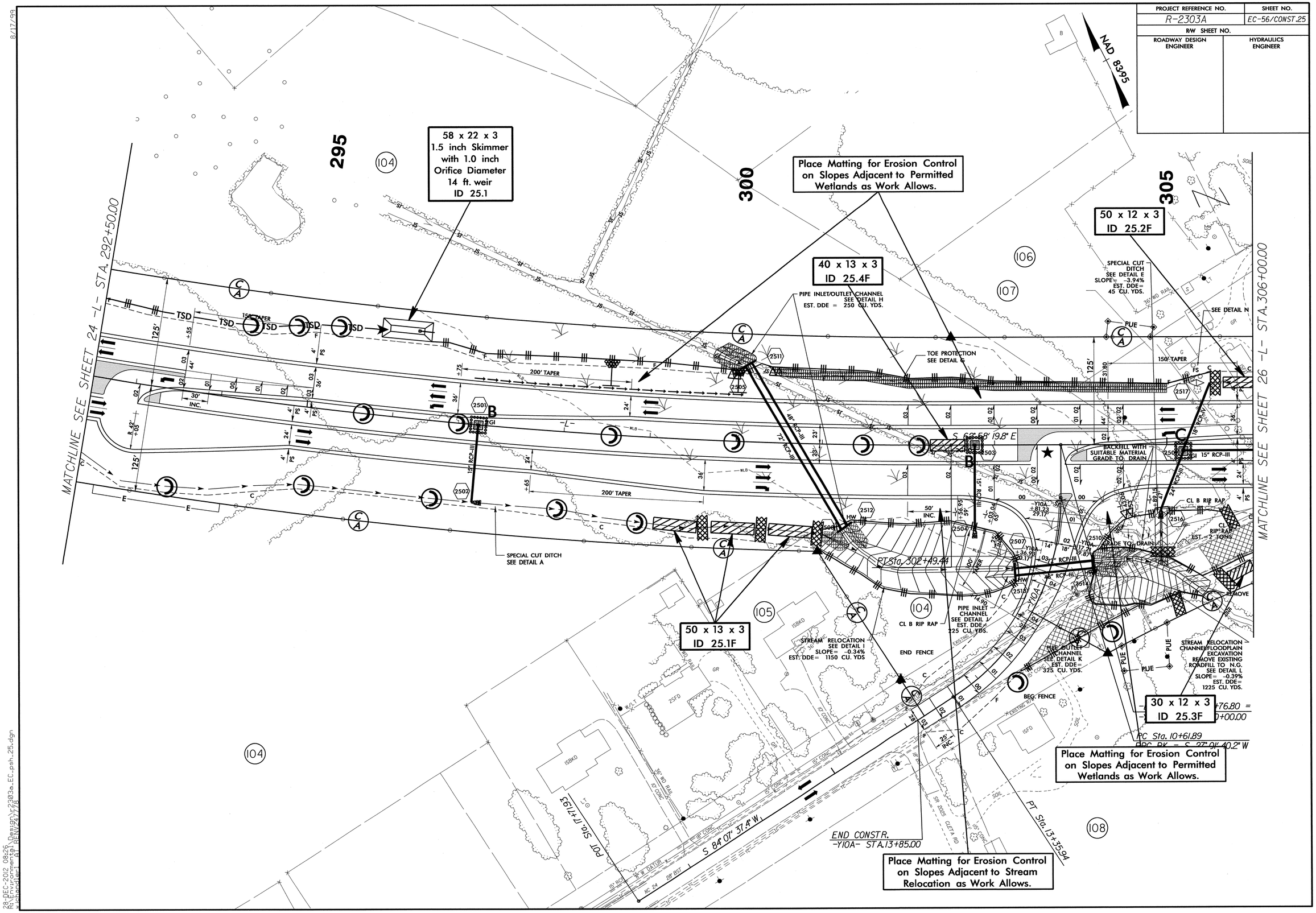
Bobbkirn
A1 REN\247700

PROJECT REFERENCE NO.	SHEET NO.
R-2303A	EC-56/CONST.25
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



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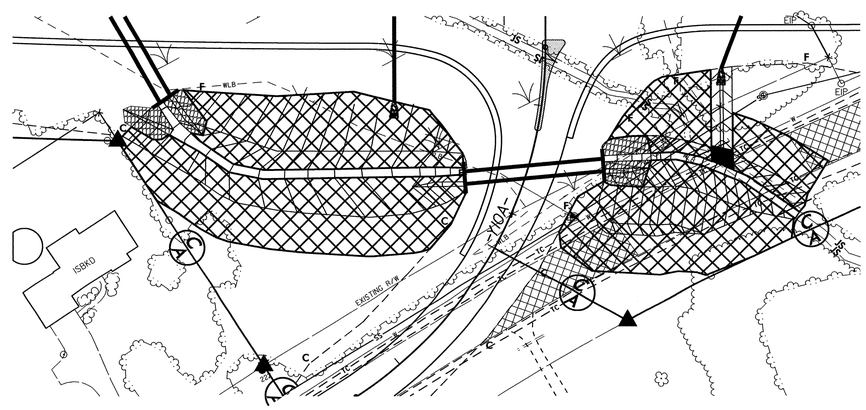
wchandler BY REN/24/78

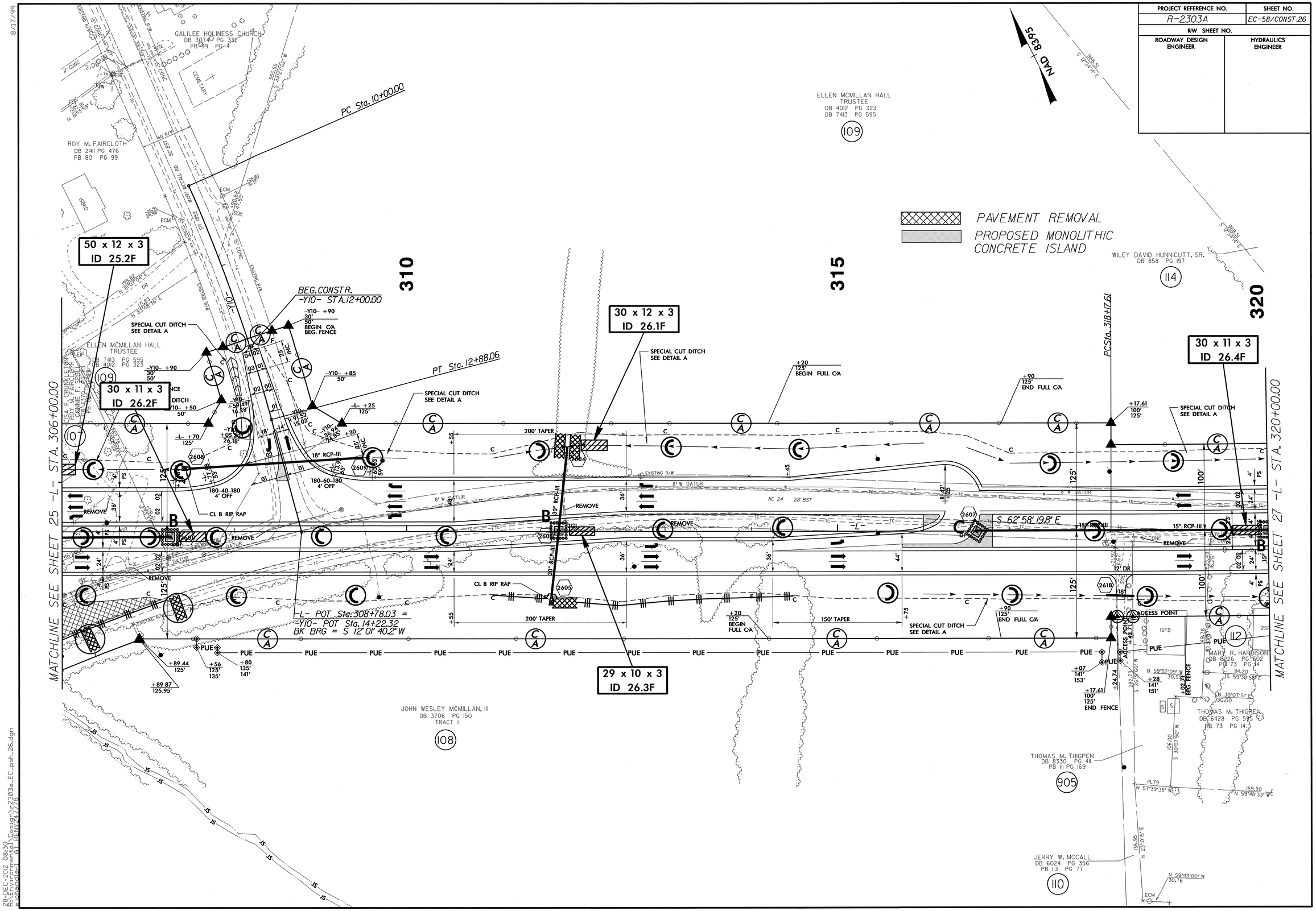
PROJECT REFERENCE NO.	SHEET NO.
R-2303A	EC-57/CONST.25
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

0.72 ACRE STREAMBANK REFORESTATION



SEE RF-2, RF-3 AND PROJECT SPECIAL PROVISIONS

PROJECT REFERENCE NO.	SHEET NO.
R-2303A	EC-58/CONST.26
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



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PROJECT REFERENCE NO.	SHEET NO.
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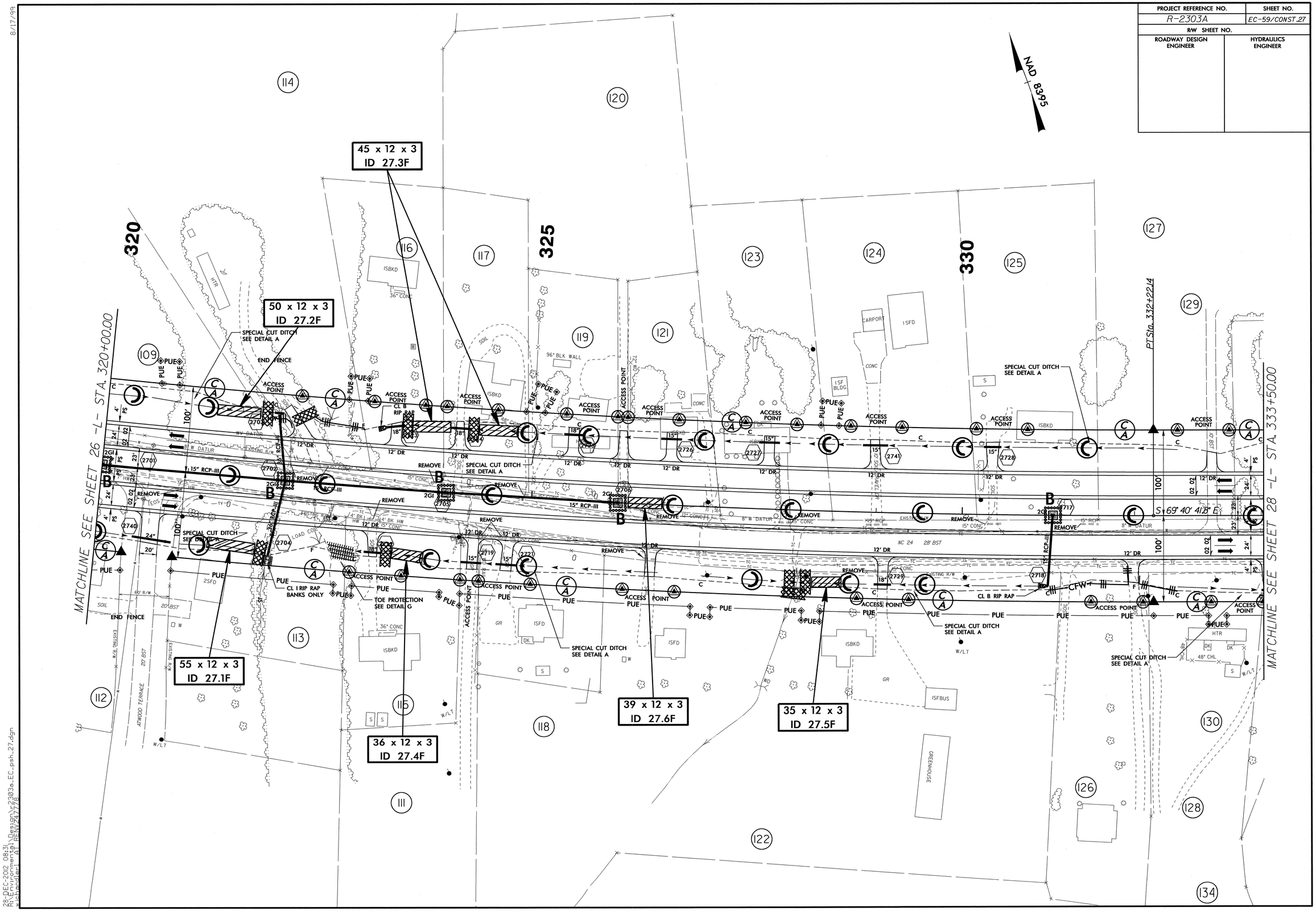

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PROJECT REFERENCE NO.	SHEET NO.
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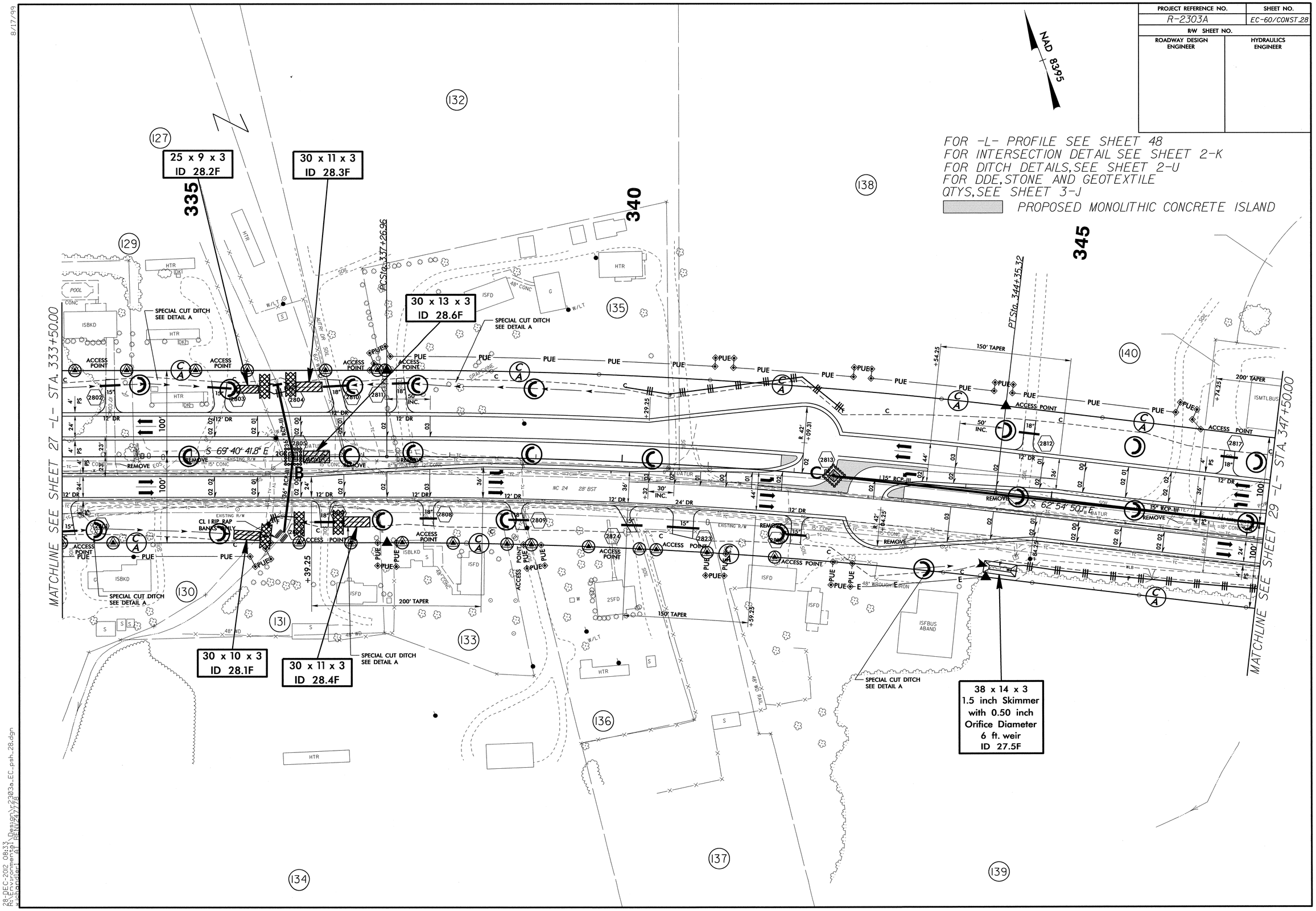
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



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PROJECT REFERENCE NO.	SHEET NO.
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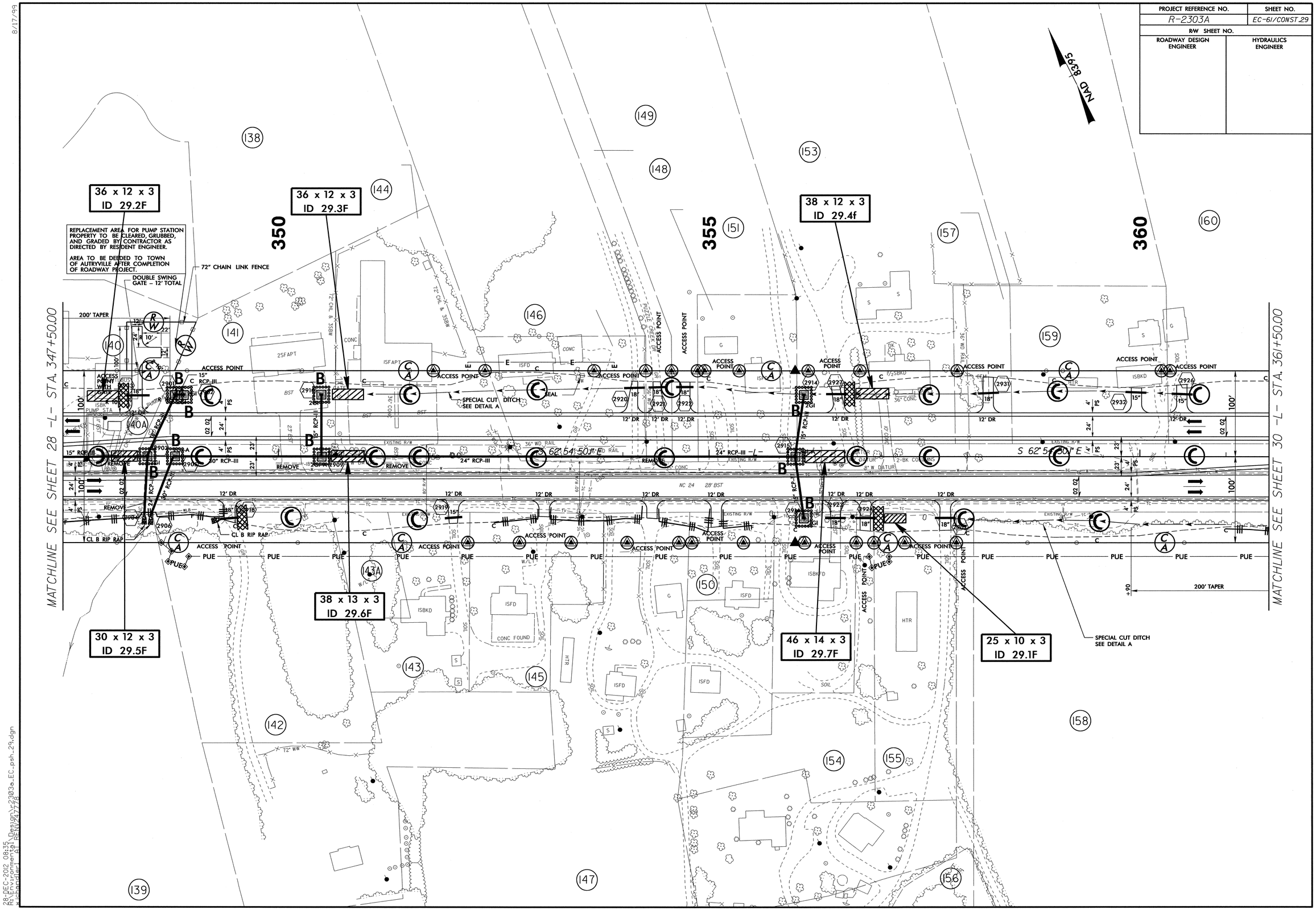

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PROJECT REFERENCE NO.	SHEET NO.
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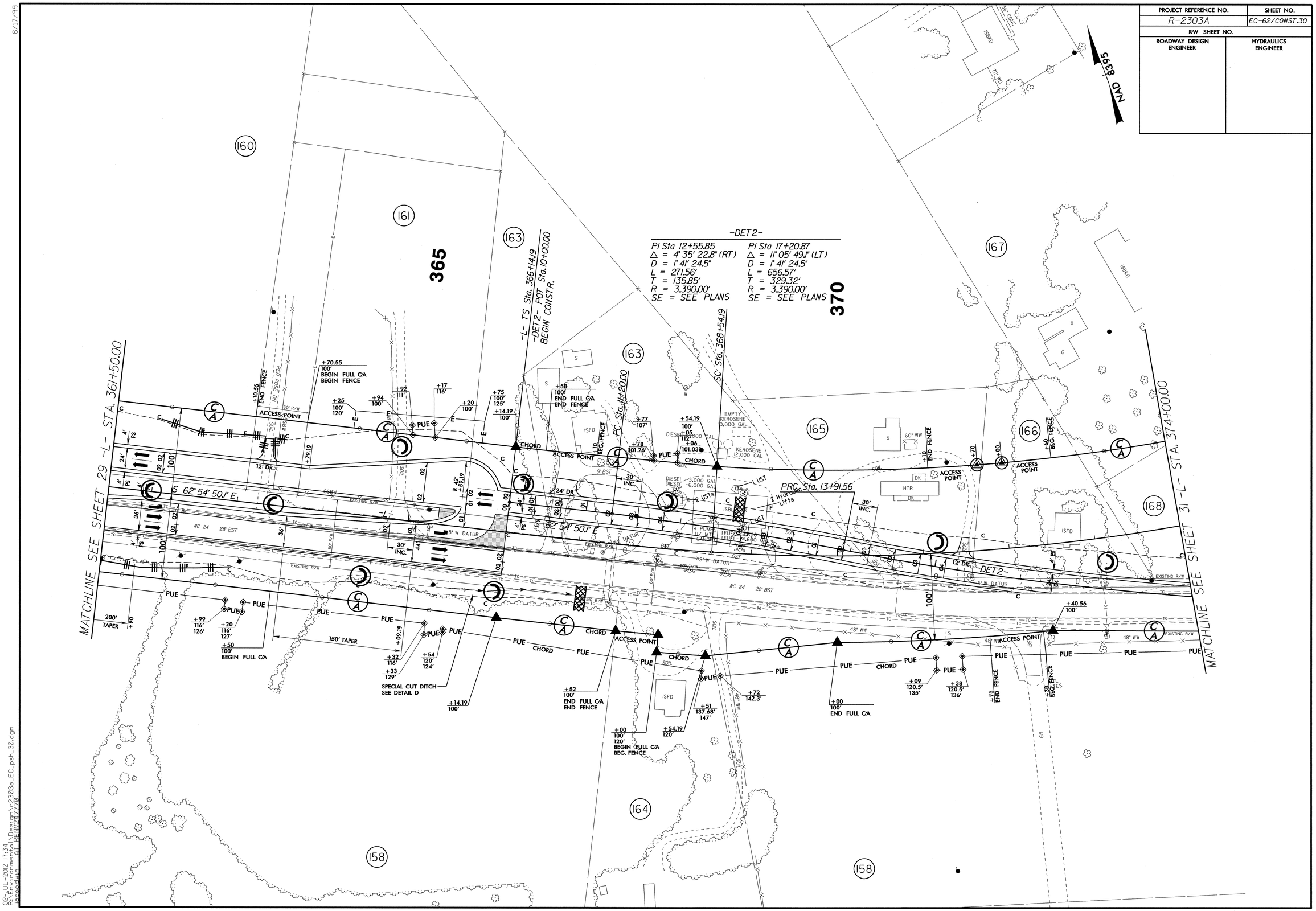

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8/17/99

PROJECT REFERENCE NO.	SHEET NO.
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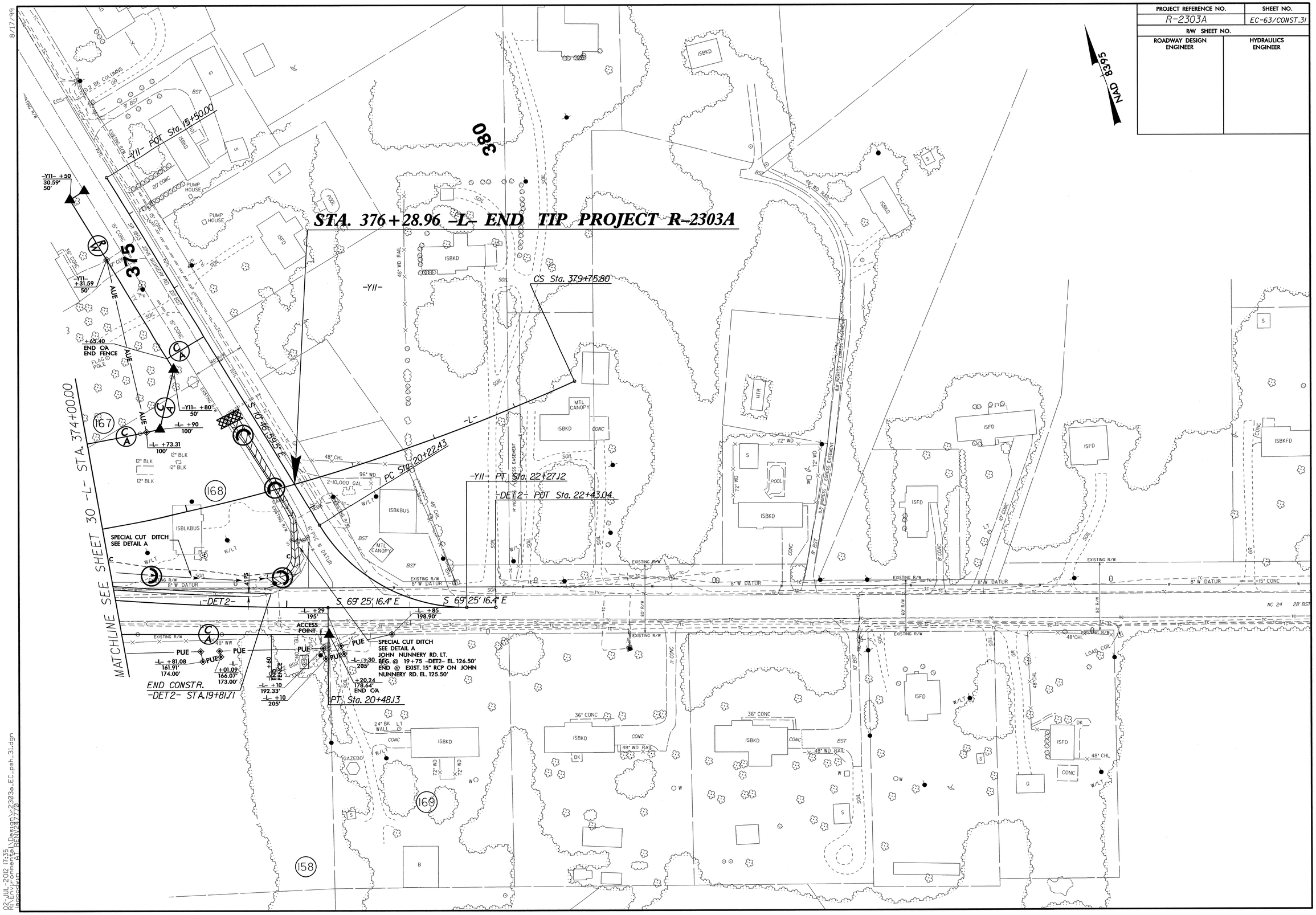

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PROJECT REFERENCE NO.	SHEET NO.
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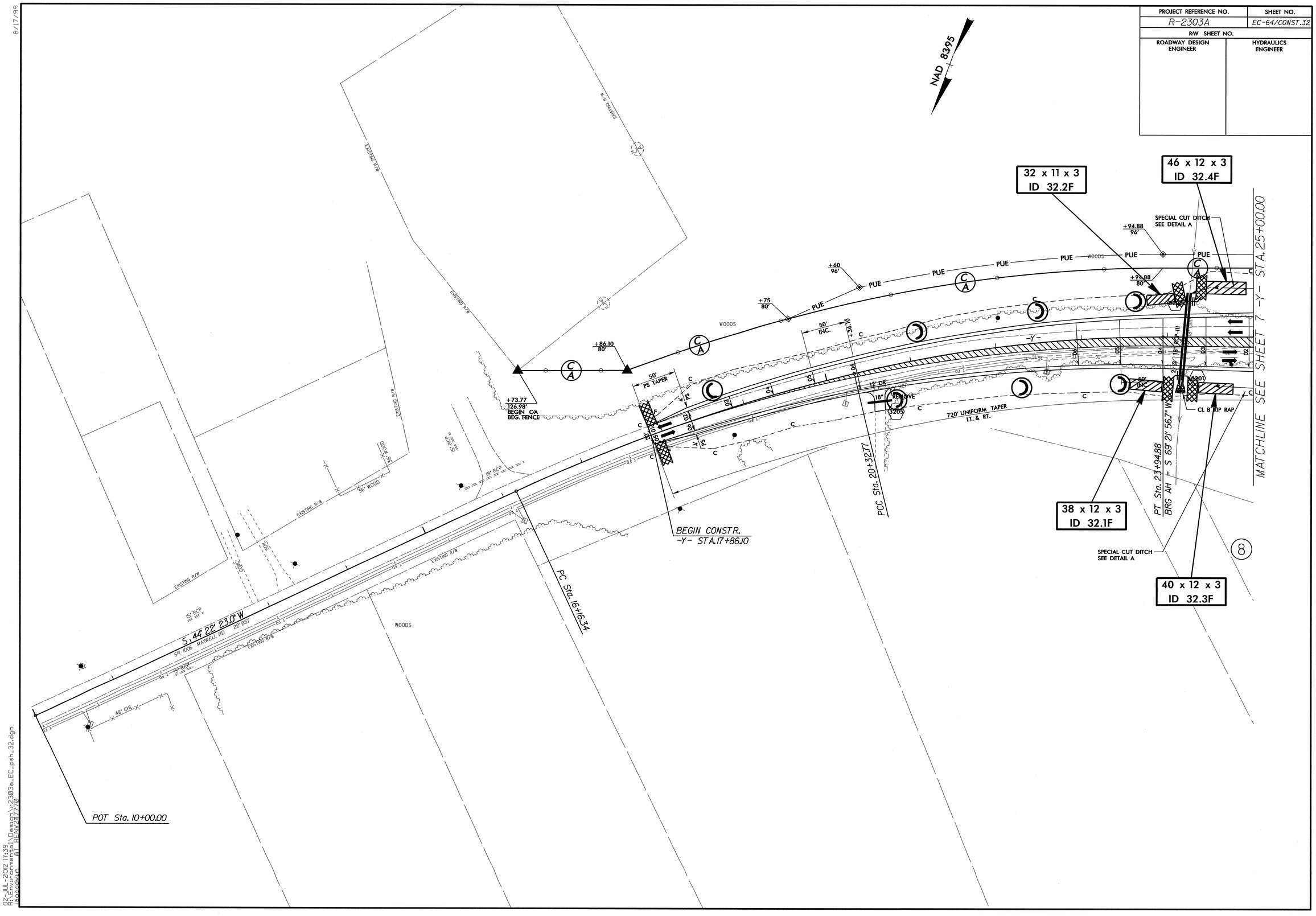
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



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PROJECT REFERENCE NO.	SHEET NO.
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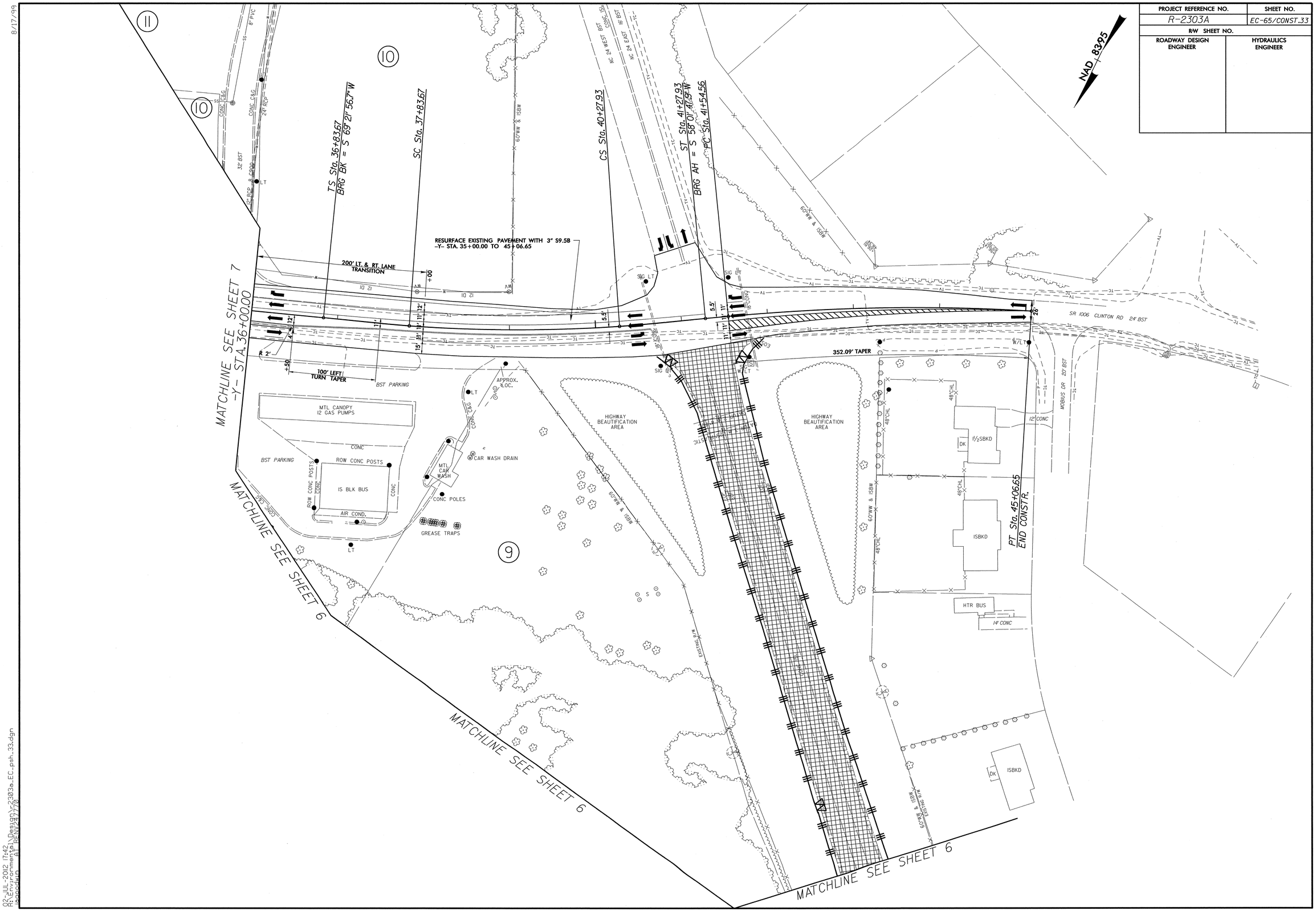
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



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