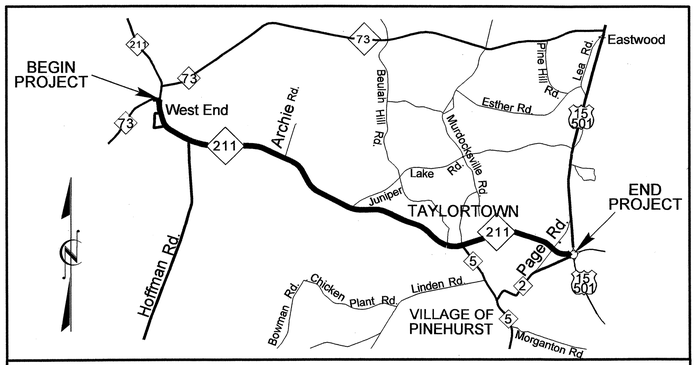
09/08/99

TIP PROJECT: R-2812

CONTRACT: C202663

See Sheet 1-A For Index of Sheets



VICINITY MAP

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

MOORE COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-2812	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
34504.1.1	STP-211 (5)	P.E.
34504.2.2	STP-0211(25)	R/W, UTIL.
34504.3.2	STP-0211(26)	CONSTR.

LOCATION: NC 211 FROM NC 73 IN WEST END TO THE TRAFFIC CIRCLE IN PINEHURST

TYPE OF WORK: GRADING, PAVING, DRAINAGE, CURB & GUTTER SIGNALS, SIGNING, AND CULVERT

NAD 83

TO ABERDEEN

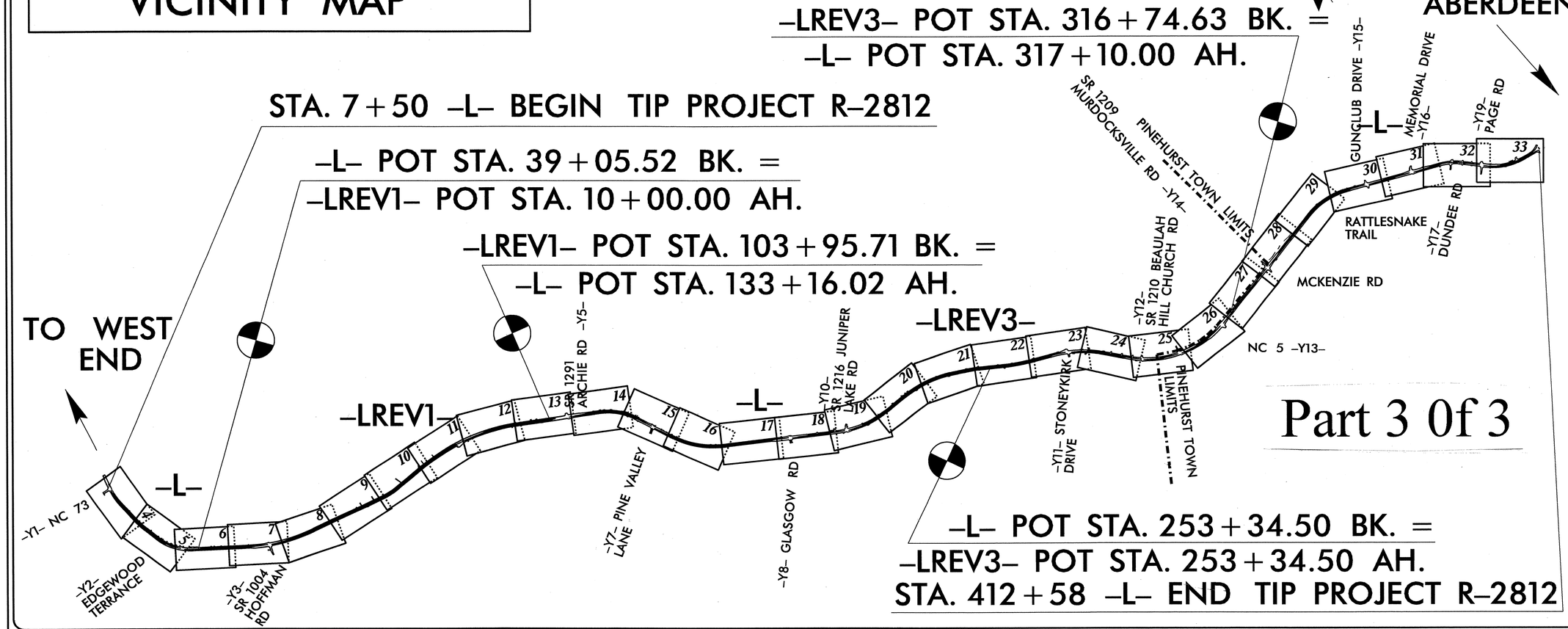
–LREV3– POT STA. 316 + 74.63 BK. =
–L– POT STA. 317 + 10.00 AH.

STA. 7 + 50 –L– BEGIN TIP PROJECT R-2812

–L– POT STA. 39 + 05.52 BK. =
–LREV1– POT STA. 10 + 00.00 AH.

–LREV1– POT STA. 103 + 95.71 BK. =
–L– POT STA. 133 + 16.02 AH.

TO WEST END



Part 3 Of 3

–L– POT STA. 253 + 34.50 BK. =
–LREV3– POT STA. 253 + 34.50 AH.
STA. 412 + 58 –L– END TIP PROJECT R-2812

GRAPHIC SCALES

50 25 0 50 100 — PLANS

50 25 0 50 100 — PROFILE (HORIZONTAL)

10 5 0 10 20 — PROFILE (VERTICAL)

DESIGN DATA

ADT 2011	=	17100
ADT 2031	=	22000
DHV	=	9 %
D	=	52 %
T	=	5 % *
V	=	50 MPH

* TTST 2 DUAL 3

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT R-2812 = 7.662 MI.

TOTAL LENGTH TIP PROJECT 34504.1.1 = 7.662 MI.

Prepared In the Office of:
DIVISION OF HIGHWAYS
1000 Birch Ridge Dr., Raleigh NC, 27610

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: SEPT. 29, 2008

LETTING DATE: OCTOBER 18, 2011

JIMMY GOODNIGHT, PE
PROJECT ENGINEER

TIM GOINS, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 31986 ENGINEER JAMES R. RICE

SIGNATURE: 8/24/11

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 037874 ENGINEER TIMOTHY D. GOINS

SIGNATURE: 8-15-11

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

Art McMillan P.E.
STATE HIGHWAY DESIGN ENGINEER

11-AUG-2011 09:14
R:\Roadway\Proj\r-2812_rdy_tsh.dgn
$$$$USERNAME$$$$

PROJECT: R-2812

TIP

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-2812	EC-1	

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

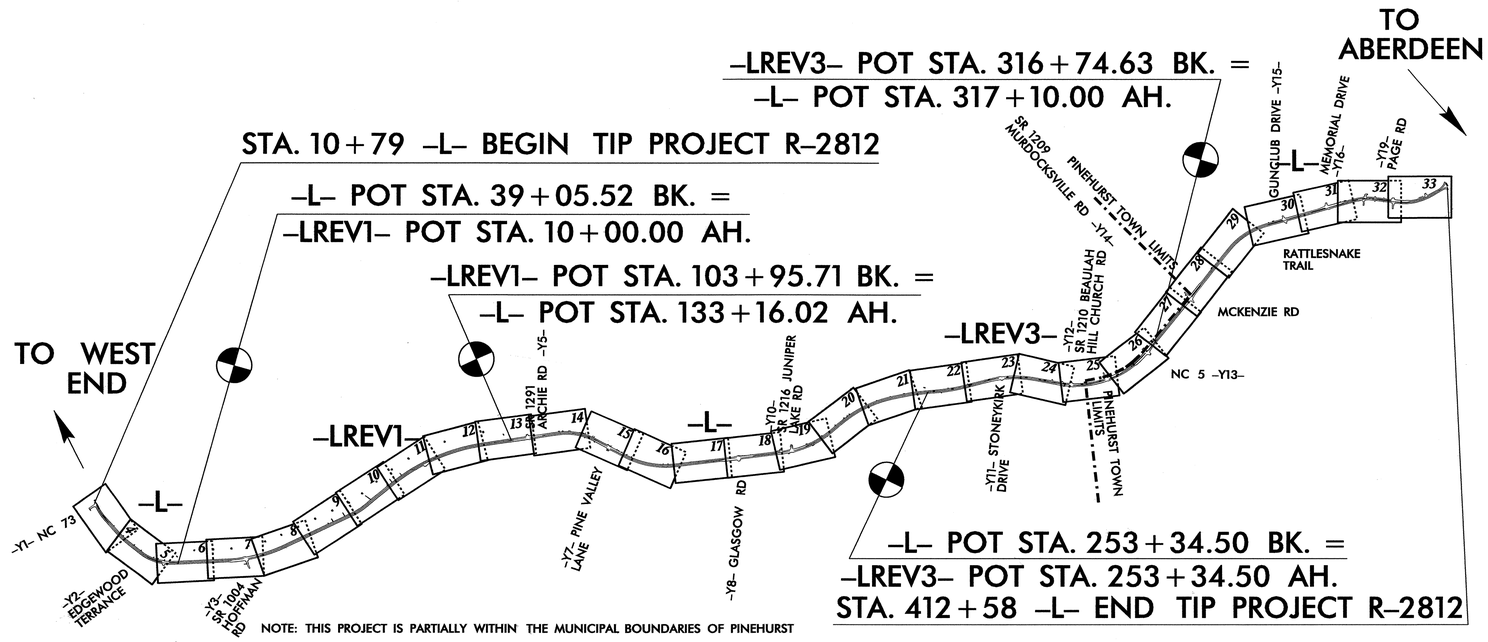
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL

MOORE COUNTY

LOCATION: NC 211 FROM NC 73 IN WEST END TO THE TRAFFIC CIRCLE IN PINEHURST

TYPE OF WORK: GRADING, PAVING, DRAINAGE, CURB & GUTTER



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	
	Silt Basin Type B	
1633.01	Temporary Rock Silt Check Type-A	
	Temporary Rock Silt Check Type-A with Matting and Polyacrylamide (PAM)	
	Temporary Rock Silt Check Type-B	
	Wattle / Coir Fiber Wattle	
	Wattle / Coir Fiber Wattle with Polyacrylamide (PAM)	
1634.01	Temporary Rock Sediment Dam Type-A	
1634.02	Temporary Rock Sediment Dam Type-B	
1635.01	Rock Pipe Inlet Sediment Trap Type-A	
1635.02	Rock Pipe Inlet Sediment Trap Type-B	
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.

THIS PROJECT HAS BEEN DESIGNED TO SENSITIVE WATERSHED STANDARDS.

HIGH QUALITY WATER(S) EXIST ON THIS PROJECT

High Quality Water Zone(s) Exist
From Sta. Begin
to Sta. 185+00
Refer To E. C. Special Provisions for Special Considerations.

GRAPHIC SCALE

0
PLANS

0
PROFILE (HORIZONTAL)

0
PROFILE (VERTICAL)

ROADSIDE ENVIRONMENTAL UNIT
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

Prepared In the Office of:

ROADSIDE ENVIRONMENTAL UNIT

1 South Wilmington St.
Raleigh, NC 27611

2006 STANDARD SPECIFICATIONS

Roadway Standard Drawings

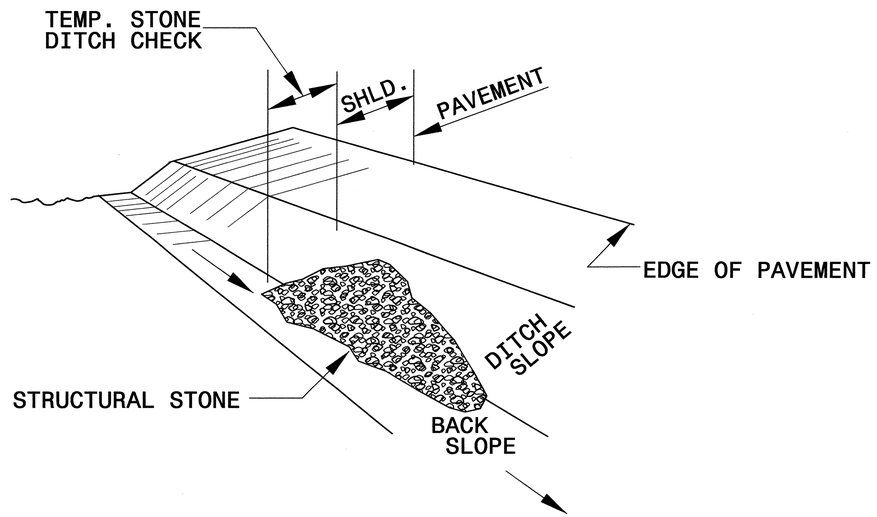
The following roadway english standards as appear in "Roadway Standard Drawings"– Roadway Design Unit – N. C. Department of Transportation – Raleigh, N. C., dated July 18, 2006 and the latest revison thereto are applicable to this project and by reference hereby are considered a part of these plans.

1605.01	Temporary Silt Fence	1630.06	Special Stilling Basin
1606.01	Special Sediment Control Fence	1632.02	Rock Inlet Sediment Trap Type B
1607.01	Gravel Construction Entrance	1632.03	Rock Inlet Sediment Trap Type C
1622.01	Temporary Berms and Slope Drains	1633.01	Temporary Rock Silt Check Type A
1630.03	Temporary Silt Ditch	1634.02	Temporary Rock Sediment Dam Type B
1630.05	Temporary Diversion	1635.02	Rock Pipe Inlet Sediment Trap Type B

R:\23-JUN-2011 09:53
erpenish
pw:\\pwpenv01.pw.dot.state.nc.us:PWDesign\R2812_EC_tsh.dgn
AT REN\2489878

PROJECT REFERENCE NO.	SHEET NO.
R-2812	EC-2
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

TEMPORARY ROCK SILT CHECK TYPE 'B' DETAIL

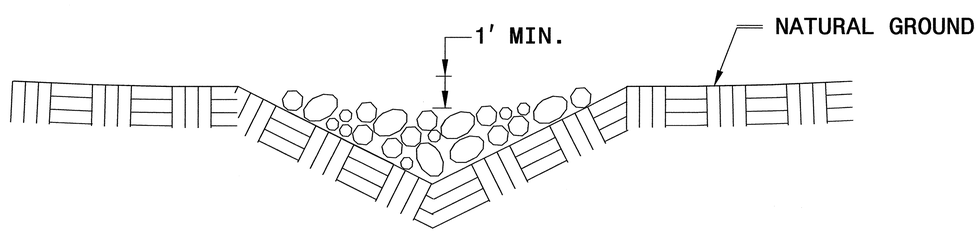


ISOMETRIC VIEW

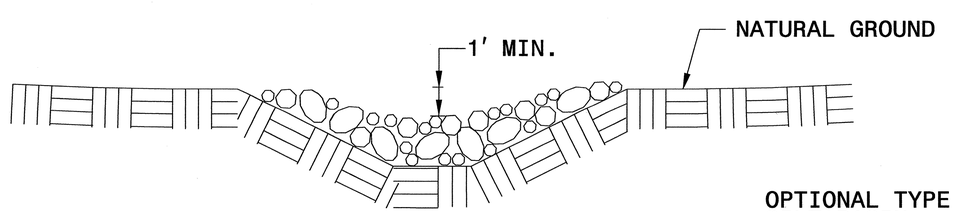
NOTES:

USE CLASS 'B' EROSION CONTROL STONE FOR STRUCTURAL STONE.

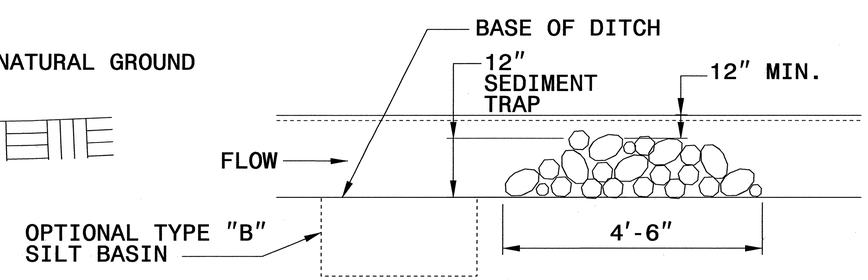
THE ENGINEER MAY DIRECT THE OPTION OF CLASS "A" STONE FOR SITES HAVING LESS THAN ONE (1) ACRE DRAINAGE AREA AND A DITCH GRADE LESS THAN 3%.



CROSS SECTION
VEE DITCH



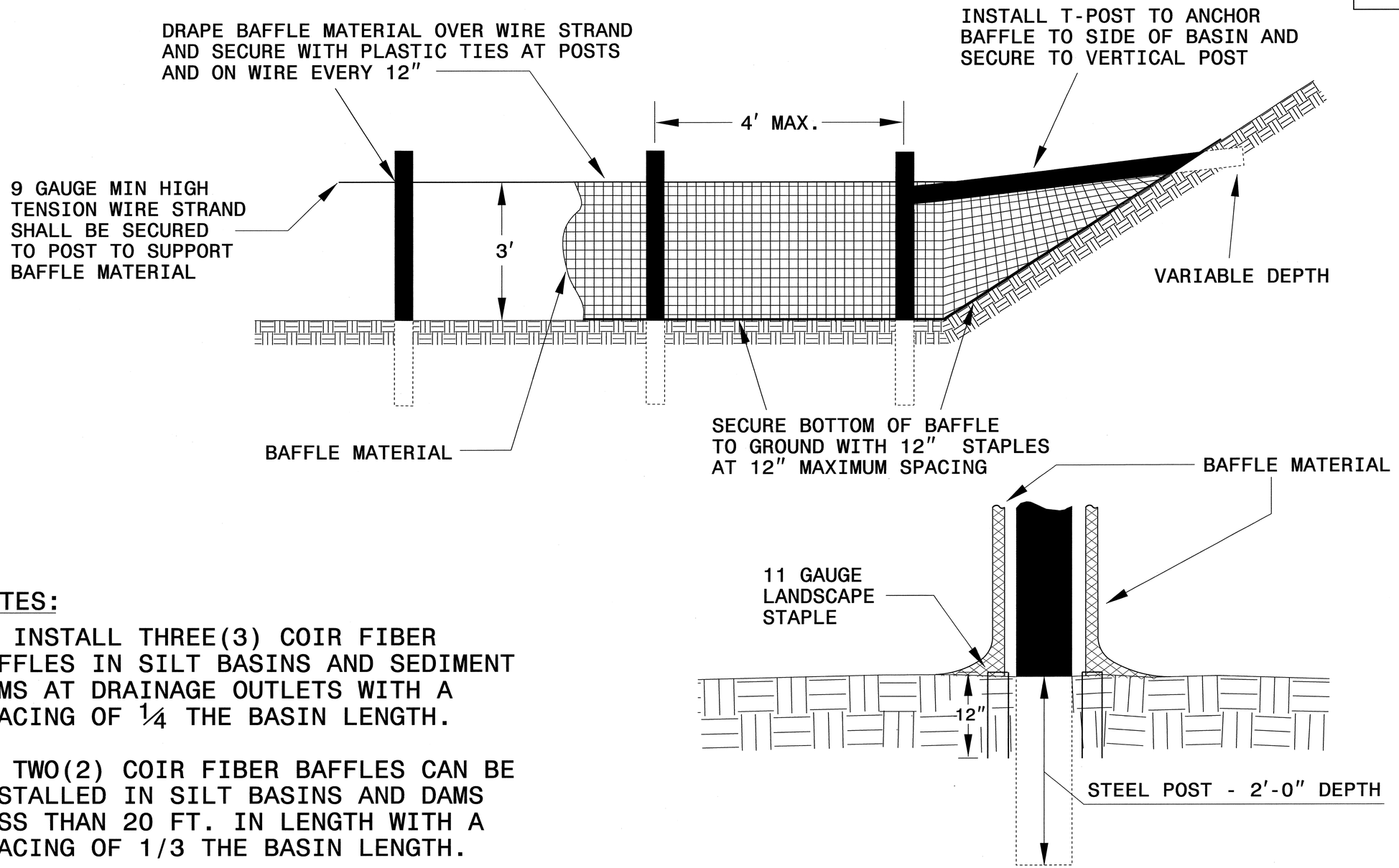
CROSS SECTION
TRAPEZOIDAL DITCH



ELEVATION VIEW

PROJECT REFERENCE NO.	SHEET NO.
R-2812	EC-2A
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

COIR FIBER BAFFLE DETAIL



BAFFLE MATERIAL SHALL BE SECURED TO THE BOTTOM AND SIDES OF BASIN USING 12″ LANDSCAPE STAPLES

NOTES:

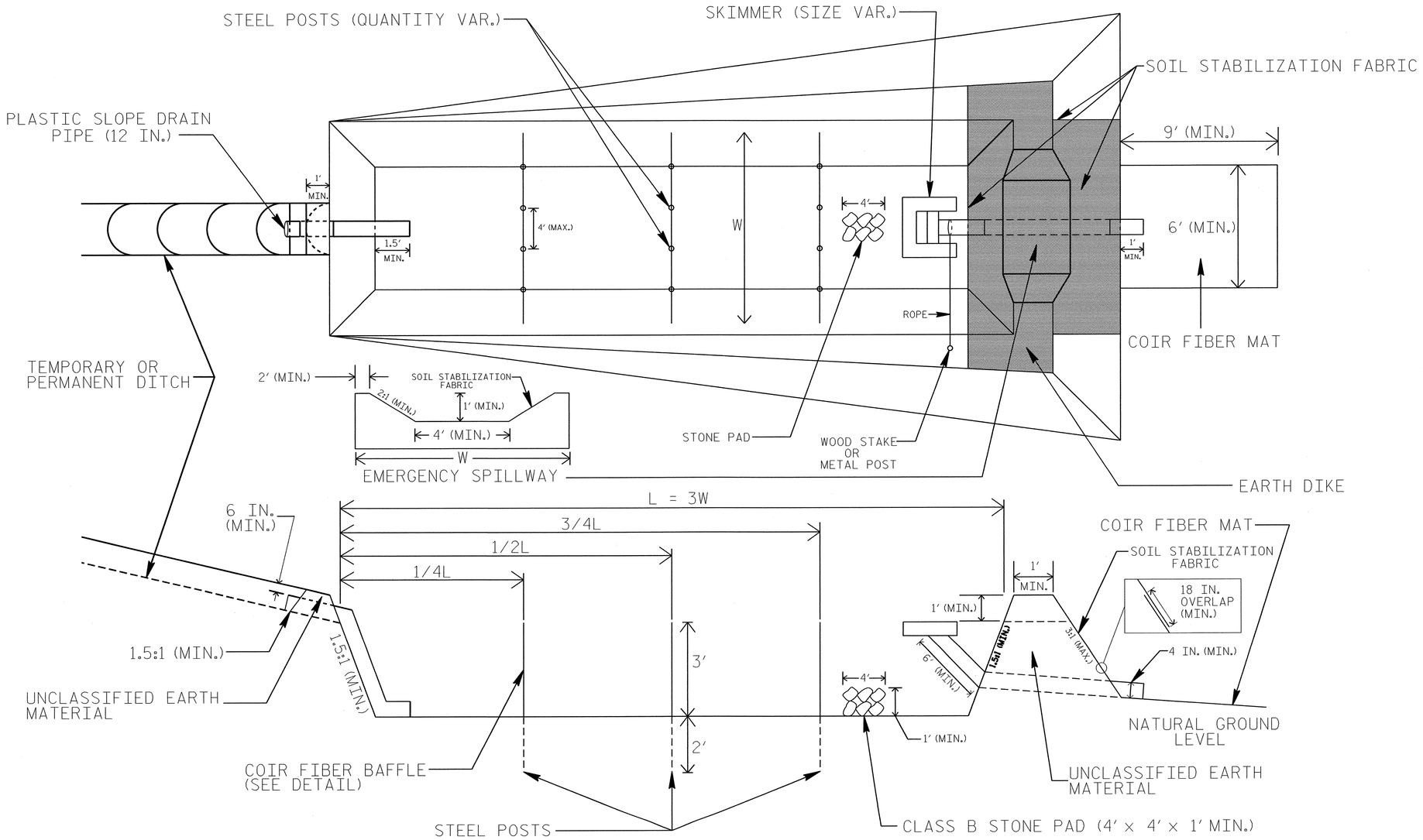
1. INSTALL THREE(3) COIR FIBER BAFFLES IN SILT BASINS AND SEDIMENT DAMS AT DRAINAGE OUTLETS WITH A SPACING OF ¼ THE BASIN LENGTH.

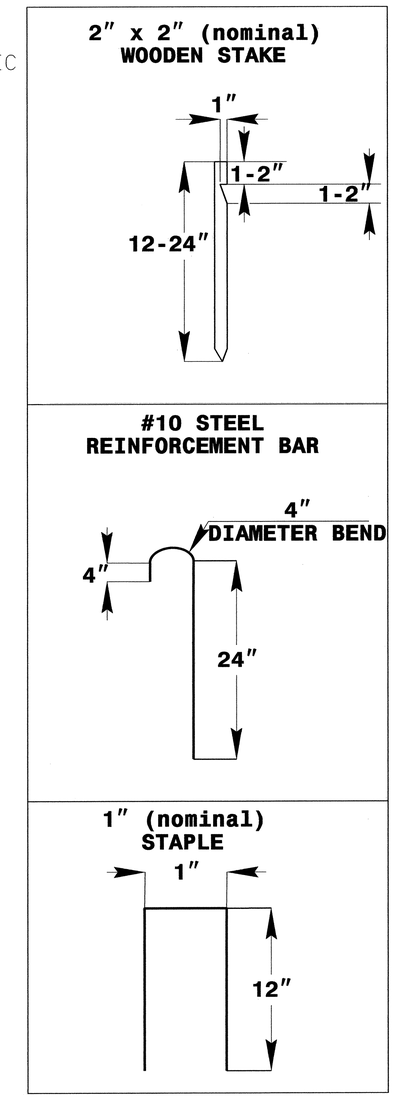
2. TWO(2) COIR FIBER BAFFLES CAN BE INSTALLED IN SILT BASINS AND DAMS LESS THAN 20 FT. IN LENGTH WITH A SPACING OF 1/3 THE BASIN LENGTH.

3. TOP HEIGHT OF COIR FIBER BAFFLES SHALL NOT BE BELOW BASE OF EMERGENCY SPILLWAY ELEVATION.

PROJECT REFERENCE NO.	SHEET NO.
R-2812	EC-2B
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SKIMMER BASIN WITH BAFFLES DETAIL





COIR FIBER MAT ANCHOR OPTIONS

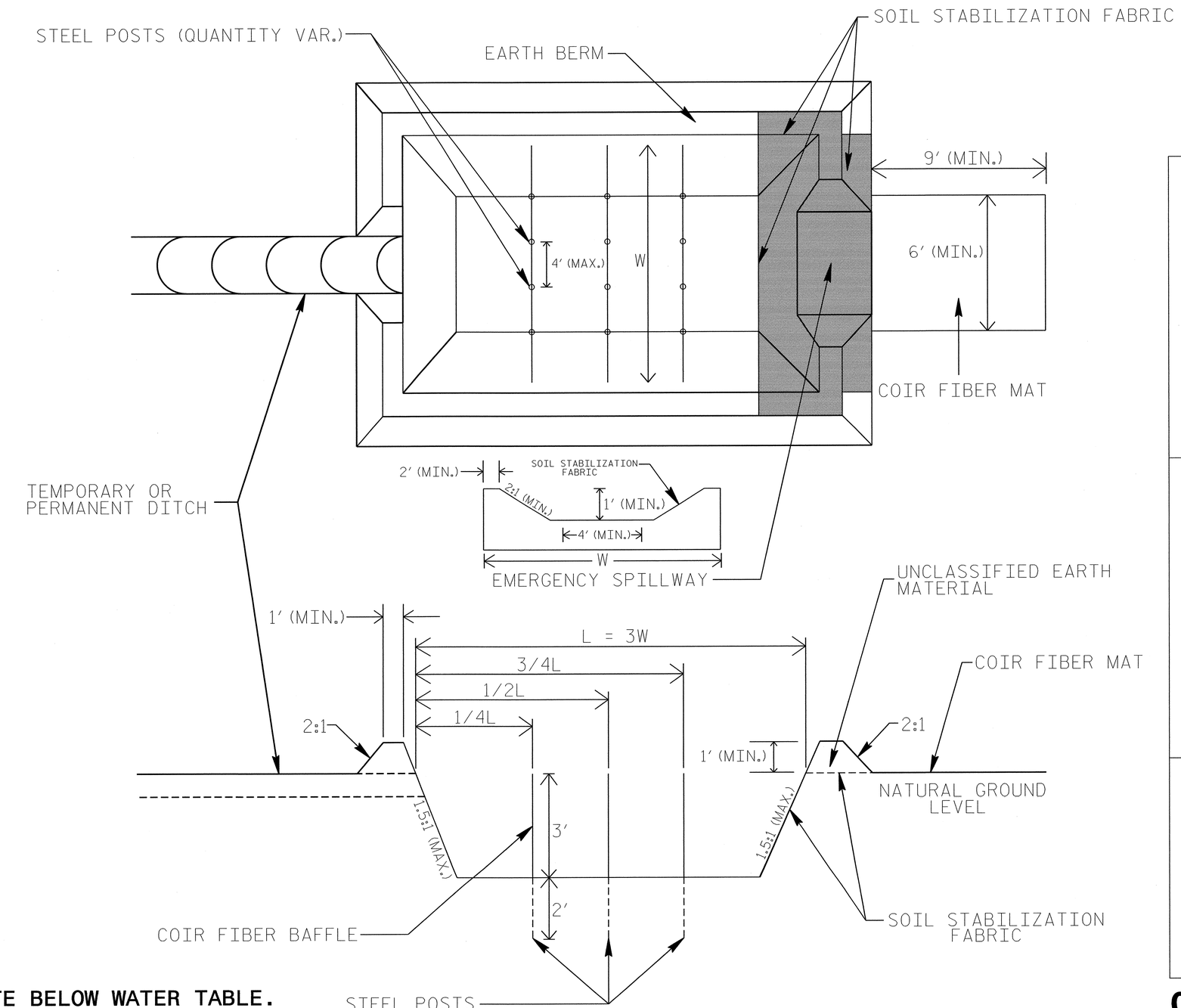
NOTES

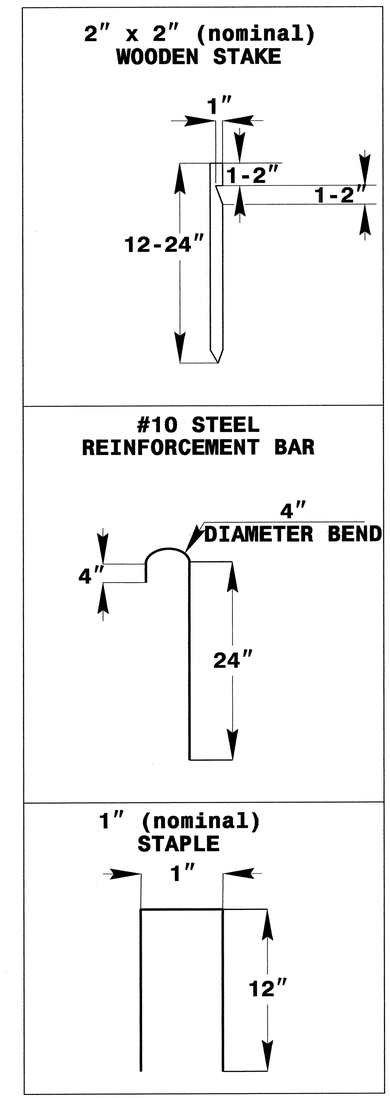
1. SEED AND PLACE MATTING FOR EROSION CONTROL ON INTERIOR AND EXTERIOR SIDESLOPES.
2. LIMIT EARTH DIKE HEIGHT TO 5 FT.
3. FOR BASIN DEPTH OF 3 FT., THE MINIMUM BASIN WIDTH SHALL BE 9 FT.
4. DETERMINE EMERGENCY SPILLWAY LENGTH (FT.) USING Q/0.8, WHERE Q IS FLOW RATE (CFS) INTO BASIN.
5. PLASTIC SLOPE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

NOT TO SCALE

PROJECT REFERENCE NO.	SHEET NO.
R-2812	EC-2C
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INFILTRATION BASIN WITH BAFFLES DETAIL





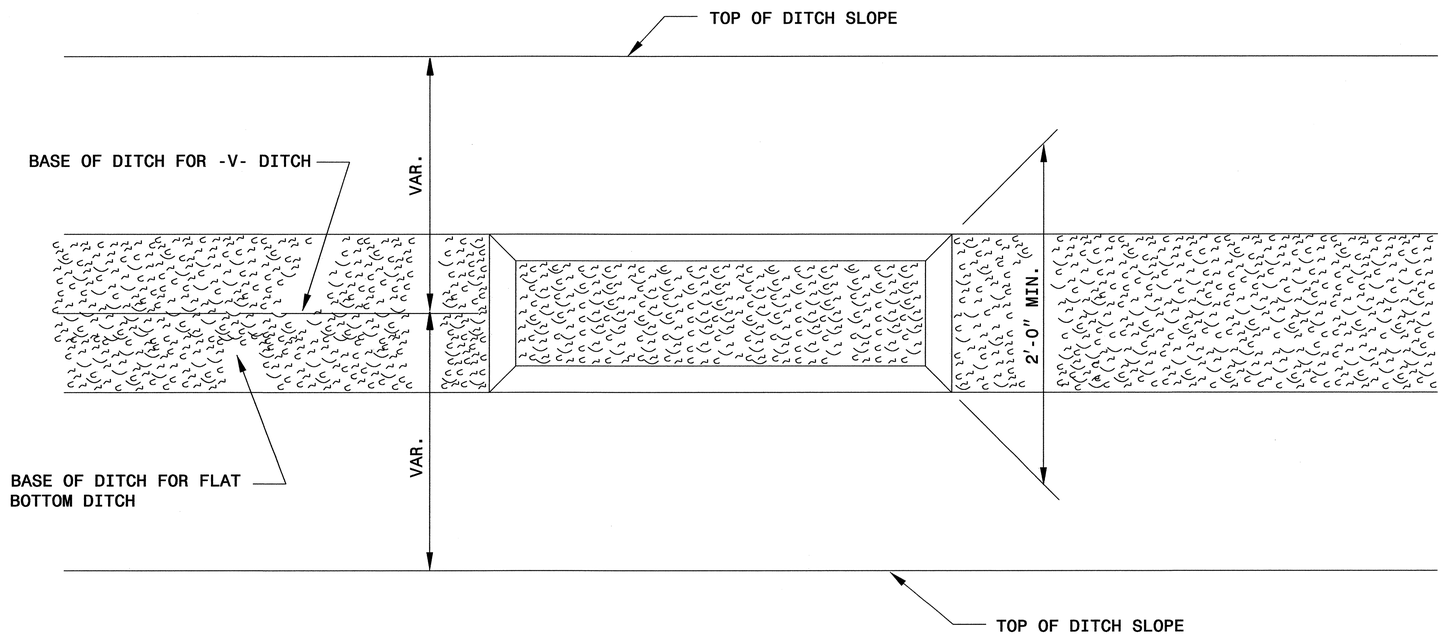
COIR FIBER MAT ANCHOR OPTIONS

NOTES

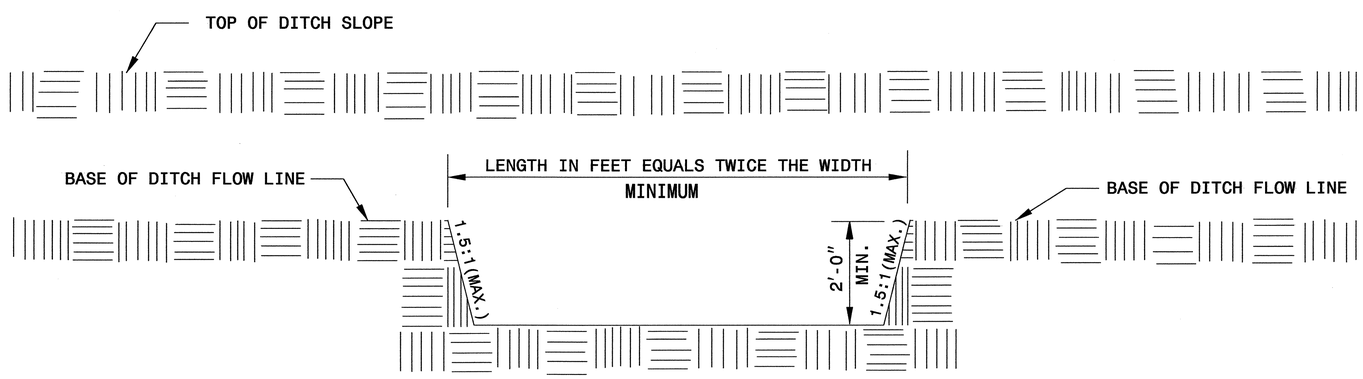
1. DO NOT EXCAVATE BELOW WATER TABLE.
2. LIMIT EARTH BERM HEIGHT TO 3 FT.
3. AVOID COMPACTING BOTTOM OF BASIN.
4. FOR BASIN DEPTH OF 3 FT., THE MINIMUM BASIN WIDTH SHALL BE 9 FT.
5. DETERMINE EMERGENCY SPILLWAY LENGTH (FT.) USING Q/0.8, WHERE Q IS FLOW RATE (CFS) INTO BASIN.

PROJECT REFERENCE NO.	SHEET NO.
R-2812	EC-2D
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SILT BASIN 'B' DETAIL



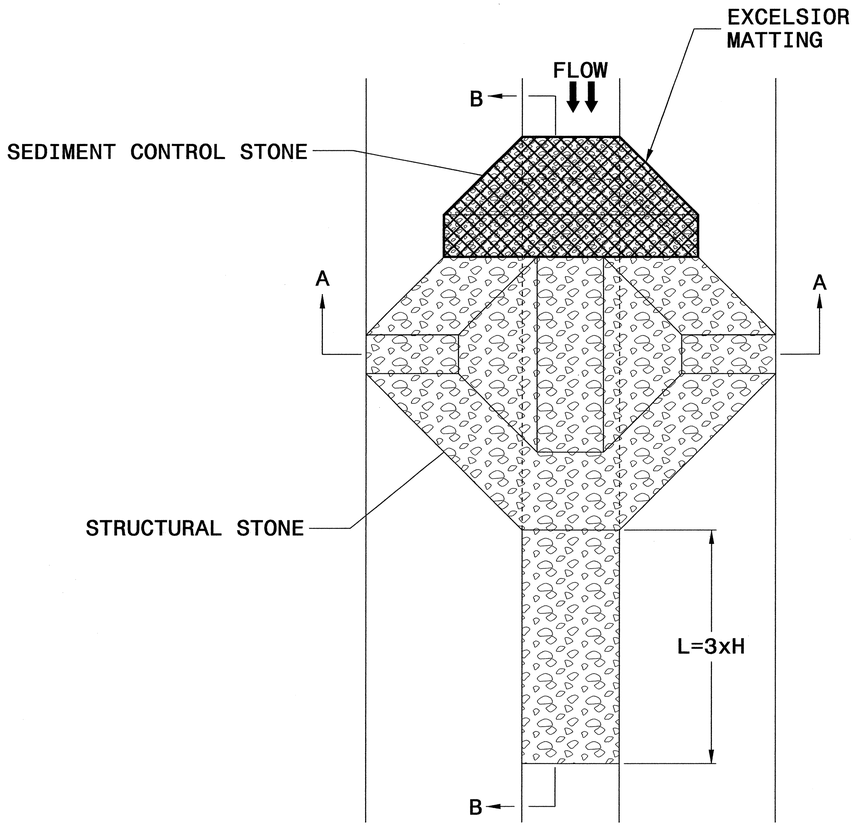
PLAN



ELEVATION

PROJECT REFERENCE NO.	SHEET NO.
R-2812	EC-2E
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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



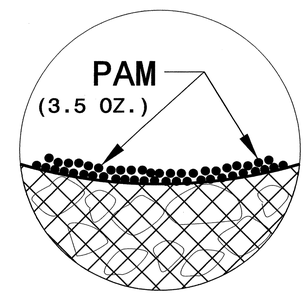
PLAN

NOTES

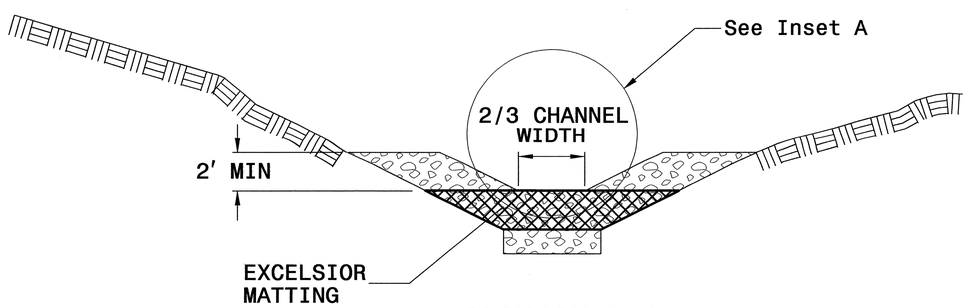
USE EXCELSIOR FOR MATTING MATERIAL AND ANCHOR MATTING SECTION AT TOP AND BOTTOM WITH CLASS B STONE.

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.

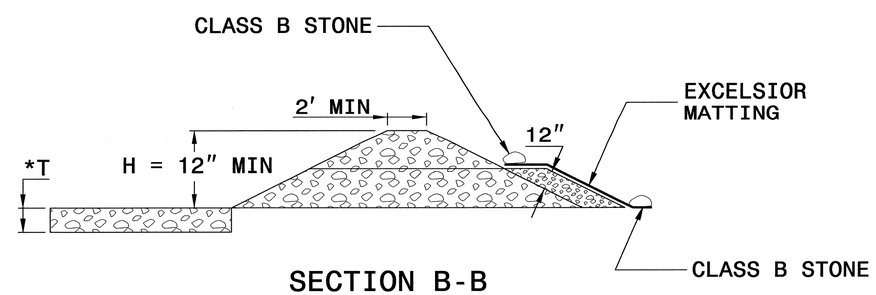
INITIALLY APPLY 3.5 OUNCES OF POLYACRYLAMIDE (PAM) TO TOP OF MATTING SECTION AND AFTER EVERY RAINFALL EVENT THAT EQUALS OR EXCEEDS 0.50 INCHES.



INSET A



SECTION A-A



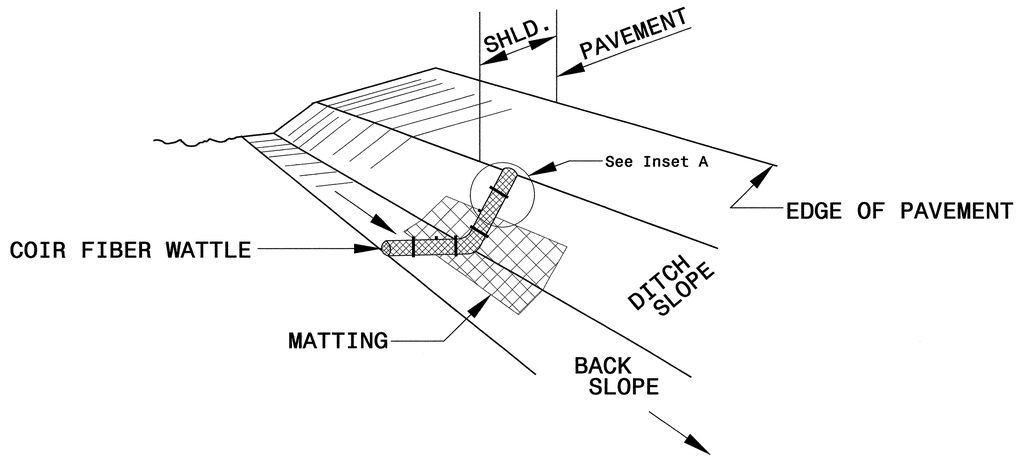
SECTION B-B

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

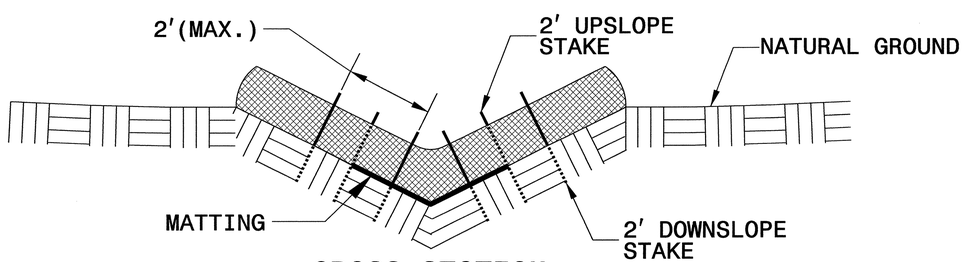
NOT TO SCALE

PROJECT REFERENCE NO.	SHEET NO.
R-2812	EC-2F
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

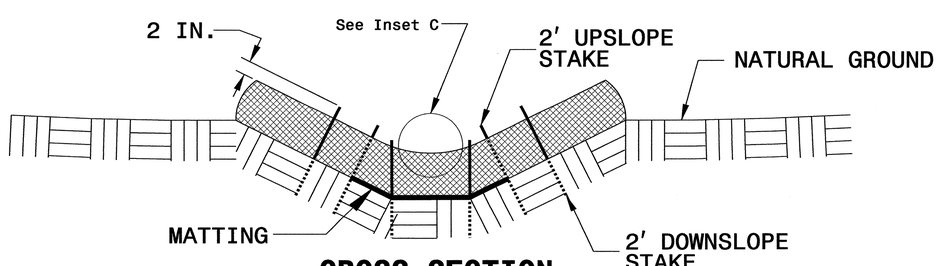
COIR FIBER WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL



ISOMETRIC VIEW



CROSS SECTION VEE DITCH



CROSS SECTION TRAPEZOIDAL DITCH

NOTES:

USE MINIMUM 12 IN. DIAMETER COIR FIBER (COCONUT FIBER) WATTLE.

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

ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.

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

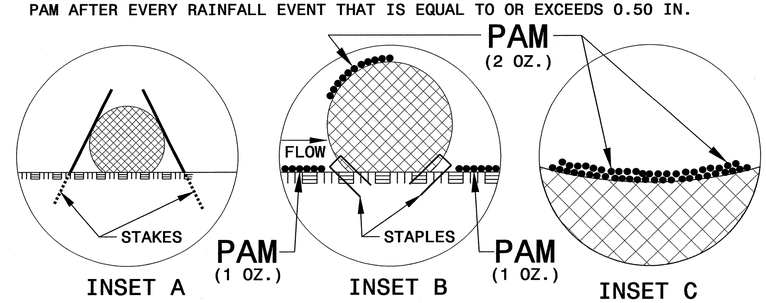
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.

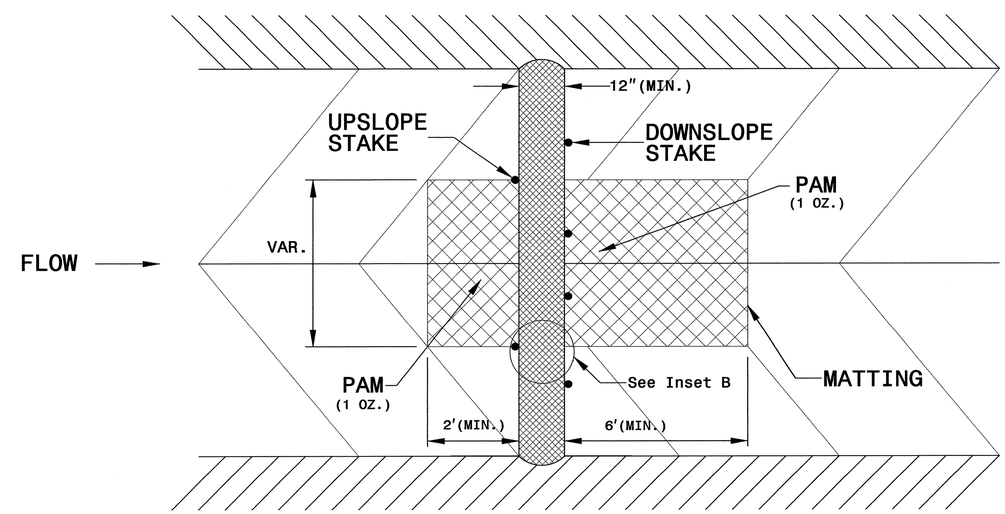
INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

INSTALL MATTING IN ACCORDANCE WITH SECTION 1631 OF THE STANDARD SPECIFICATIONS.

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

INITIALLY APPLY 2 OUNCES OF ANIONIC OR NEUTRALLY CHARGED PAM OVER WATTLE WHERE WATER WILL FLOW AND 1 OUNCE OF PAM ON MATTING ON EACH SIDE OF WATTLE. REAPPLY PAM AFTER EVERY RAINFALL EVENT THAT IS EQUAL TO OR EXCEEDS 0.50 IN.

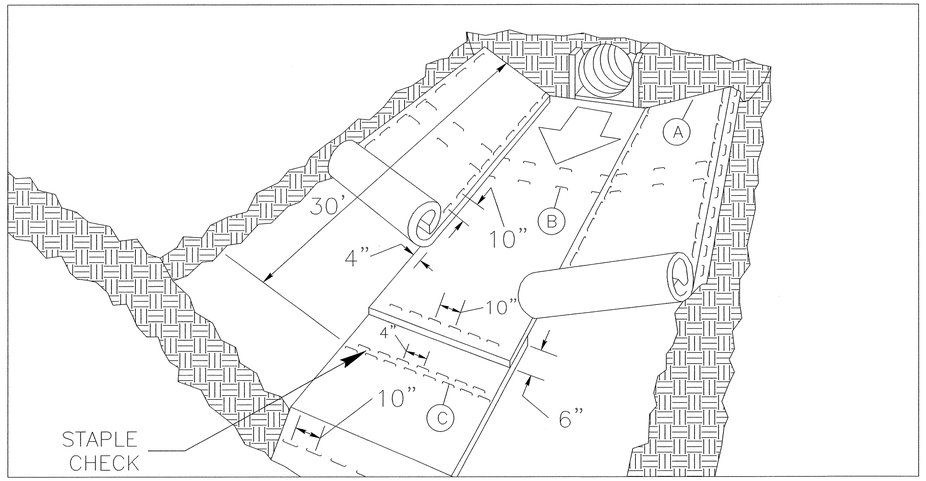




TOP VIEW

PROJECT REFERENCE NO.	SHEET NO.
R-2812	EC-2G
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

MATTING INSTALLATION DETAIL



MATTING IN DITCHES

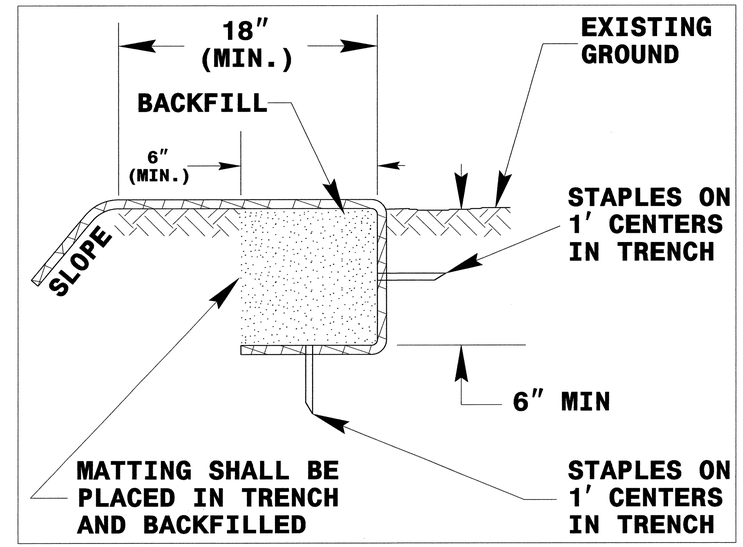
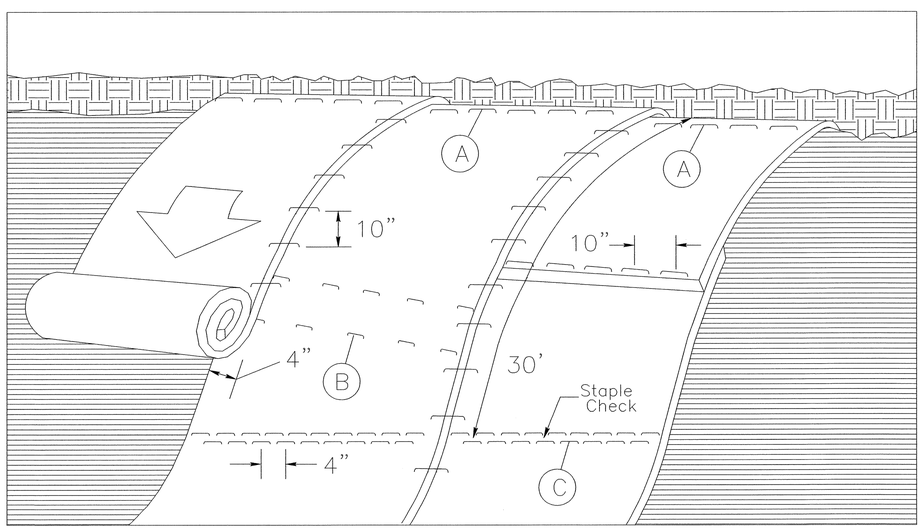


DIAGRAM (A)



MATTING ON SLOPES

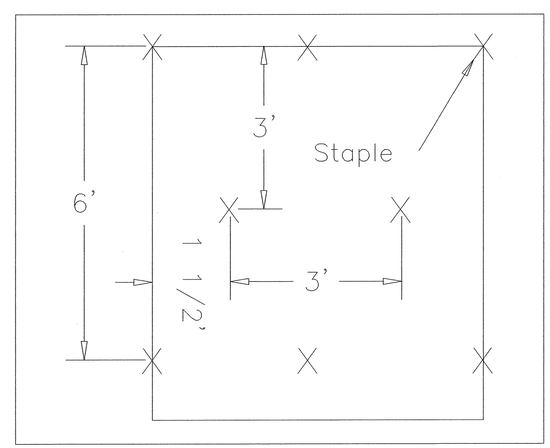


DIAGRAM (B)

Staple Check Pattern

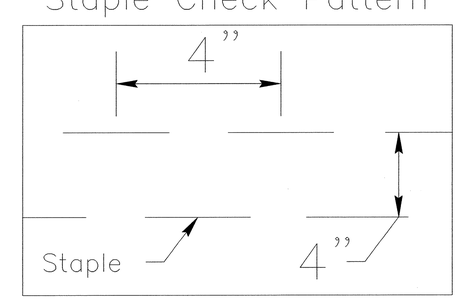


DIAGRAM (C)

NOTES:

THIS DETAIL APPLIES TO STRAW, EXCELSIOR, AND PERMANENT SOIL REINFORCEMENT MAT (PSRM) INSTALLATION.

STAPLES SHALL BE NO. 11 GAUGE STEEL WIRE FORMED INTO A "U" SHAPE WITH A MINIMUM THROAT WIDTH OF 1 INCH AND NOT LESS THAN 6 INCHES IN LENGTH.

NOT TO SCALE

PROJECT REFERENCE NO.	SHEET NO.
R-2812	EC-3
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION SUMMARY SHEET

MATTING FOR EROSION CONTROL

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
4	L	10+00	10+71.23	RT	195
4	L	11+92.51	19+90.83	RT	1475
4	L	12+71.23	14+50	LT	175
4	L	14+50	15+56	LT	125
5	L	22+50	25+25.36	RT	590
5	L	25+25.36	29+69.65	RT	755
5	L	29+69.65	33+09.79	RT	315
5	L	24+10	25+35	LT	60
5	L	26+50	31+50	LT	1195
6	L	36+00	36+50	RT	105
6	LREV1	11+50	16+50	LT	550
7	LREV1	29+50	30+50	RT	85
7	LREV1	19+37	24+50	LT	370
8	LREV1	36+50	39+50	LT	815
9	LREV1	49+50	53+50	RT	430
9	LREV1	53+50	55+00	RT	320
9	LREV1	56+00	58+00	RT	145
10	LREV1	58+00	60+00	RT	145
10	LREV1	60+00	60+66.09	RT	75
10	LREV1	67+50	69+50	RT	100
10	LREV1	67+15	72+00	LT	120
11	LREV1	73+50	74+50	RT	30
11	LREV1	75+50	78+00	LT	455
12	LREV1	93+00	95+50	LT	120
13	L	133+16.02	134+00	LT	145
13	L	134+00	134+50	LT	45
13	L	134+50	139+00	LT	465
14	L	144+50	149+92	LT	715
16	L	173+00	178+50	RT	195
17	L	194+36	196+50	RT	230

MATTING FOR EROSION CONTROL

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
18	L	199+60	202+00	RT	165
19	L	213+70	221+75	LT	1880
20	L	234+65	236+25	RT	160
20	L	225+50	233+00	LT	1220
20	L	235+60	239+39	LT	290
22	L	252+00	254+00	RT	365
22	L	258+50	265+50	RT	565
22	L	259+00	265+00	LT	830
23	L	269+00	272+75	RT	370
24	L	284+00	287+50	LT	490
24	L	287+50	292+00	LT	595
25	L	296+50	303+50	LT	1200
26	L	303+50	309+00	LT	1115
26	L	309+00	314+50	RT	1600
26	L	309+50	314+50	LT	230
27	L	331+50	333+35	LT	100
28	L	316+66	333+00	RT	2980
29	L	355+00	357+50	LT	250
29	L	354+00	359+00	RT	445
31	L	382+00	383+72	RT	125
32	L	386+50	387+00	LT	45
				SUBTOTAL	25565
MISCELLANEOUS MATTING TO BE INSTALLED AS DIRECTED BY THE ENGINEER					85020
				TOTAL	110585
				SAY	110600

PROJECT REFERENCE NO.	SHEET NO.
R-2812	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)
4	L	20+44	21+50	LT	60
5	L	25+35	26+50	LT	85
11	L	78+00	79+00	RT	95
22	L	255+25	256+83	LT	215
23	L	265+50	268+00	RT	495
23	L	265+00	267+00	LT	370
23	L	273+50	278+55	LT	510
24	L	281+25	282+00	4	75
27	L	329+50	331+00	LT	330
				SUBTOTAL	2235
	ADDITIONAL PSRM TO BE INSTALLED				0
				TOTAL	2235
				SAY	2250

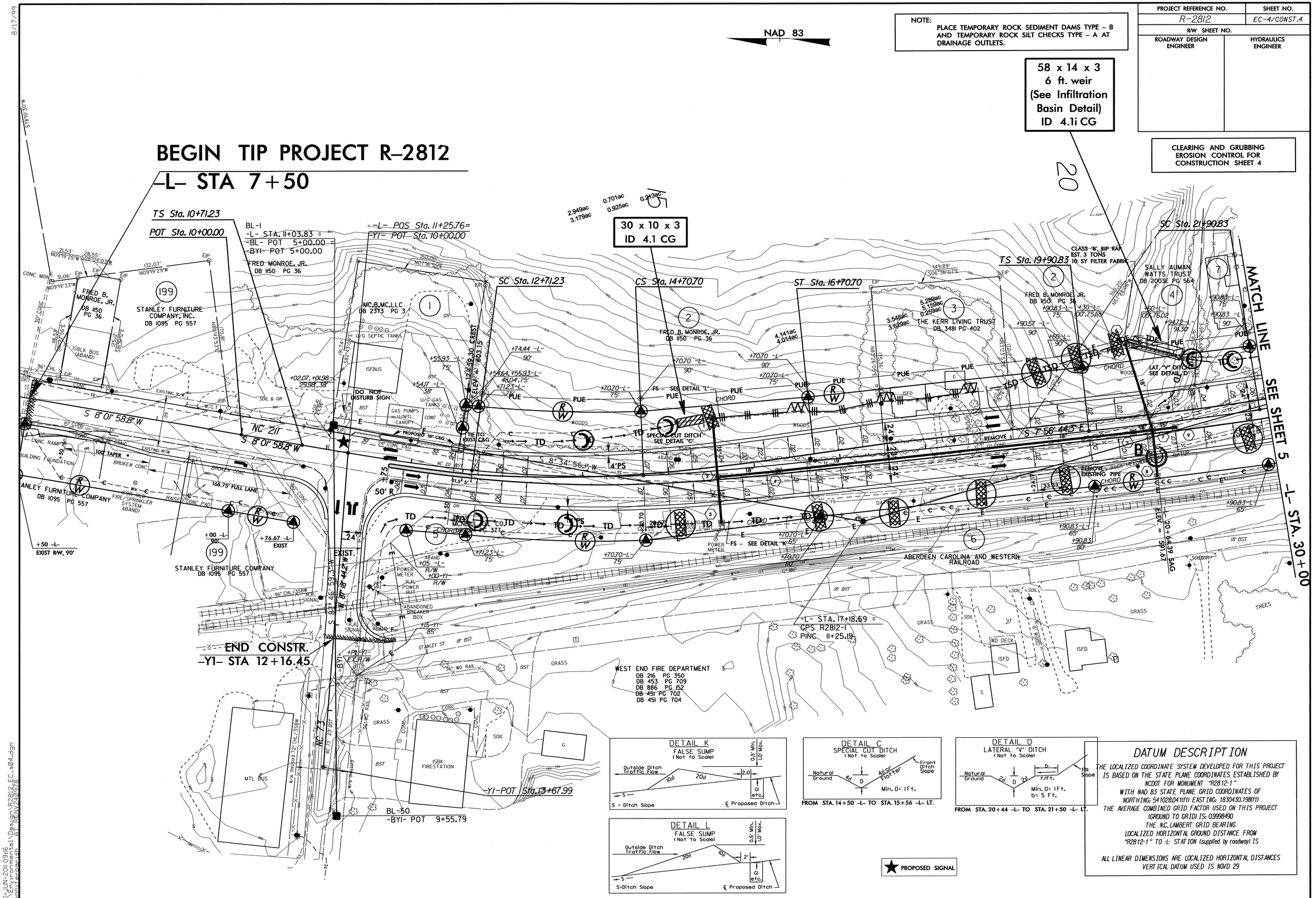
PERMANENT SOIL REINFORCEMENT MAT

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

PROJECT REFERENCE NO.	SHEET NO.
R-2812	EC-4/CONST.4
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 4



DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "R2812-1" WITH NAD 83 STATE PLANE GRID COORDINATES OF NORTHING: 541028.041(ft) EASTING: 1830430.198(ft) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.9998490 THE N.C. LAMBERT GRID BEARING LOCALIZED HORIZONTAL GROUND DISTANCE FROM "R2812-1" TO -L- STATION (supplied by roadway) IS

ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NGVD 29

8/17/99

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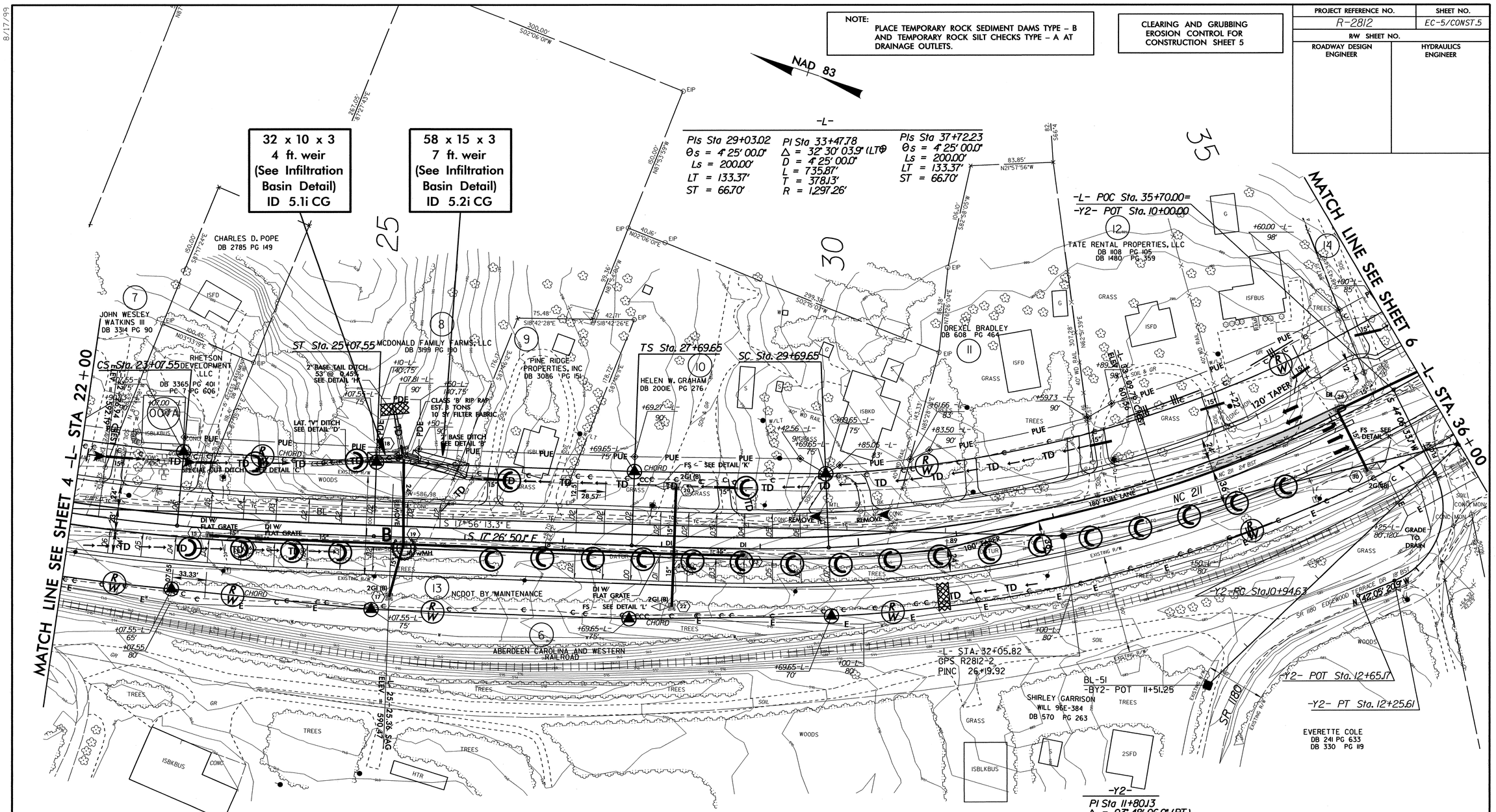
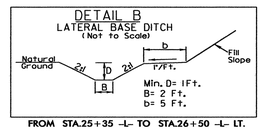
jenniferparish AT RENV240978

PROJECT REFERENCE NO.	SHEET NO.
R-2812	EC-5/CONST.5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

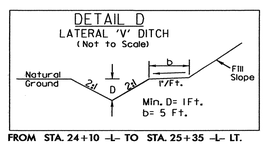
NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE – B AND TEMPORARY ROCK SILT CHECKS TYPE – A AT DRAINAGE OUTLETS.

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 5

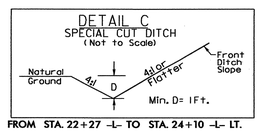




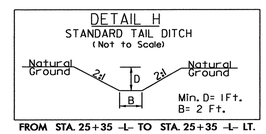
FROM STA.25+35 -L- TO STA.26+50 -L- LT.



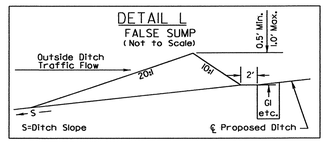
FROM STA. 24+10 -L- TO STA. 25+35 -L- LT.

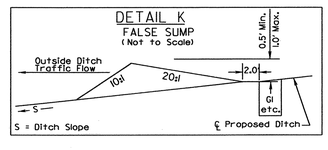


FROM STA. 22+27 -L- TO STA. 24+10 -L- LT.



FROM STA. 25+35 -L- TO STA. 25+35 -L- LT.





8/17/99

30-JUN-2011 09:23
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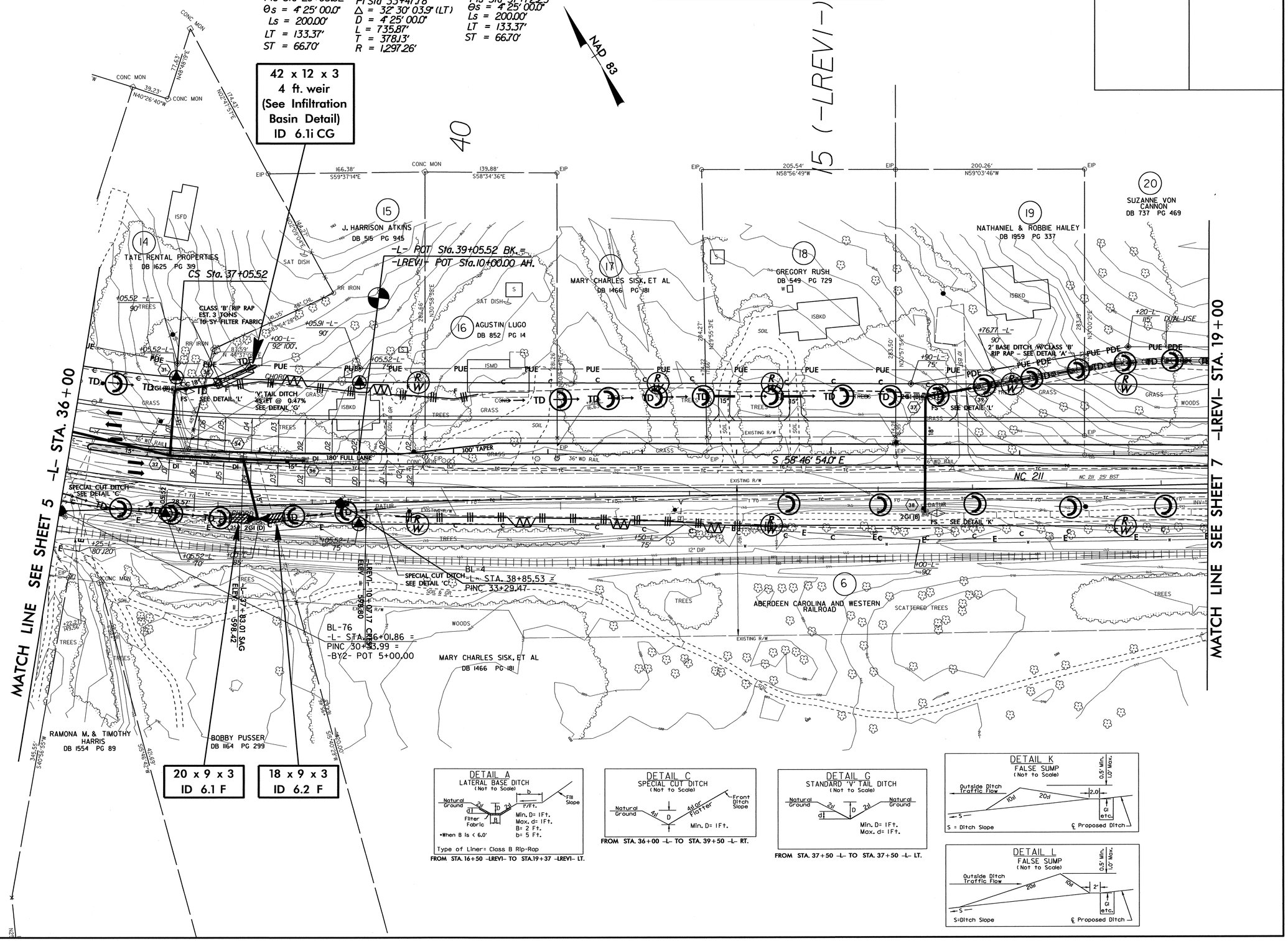
ben1ferguson AT PENV\240978

PROJECT REFERENCE NO.	SHEET NO.
R-2812	EC-6/CONST.6
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 6



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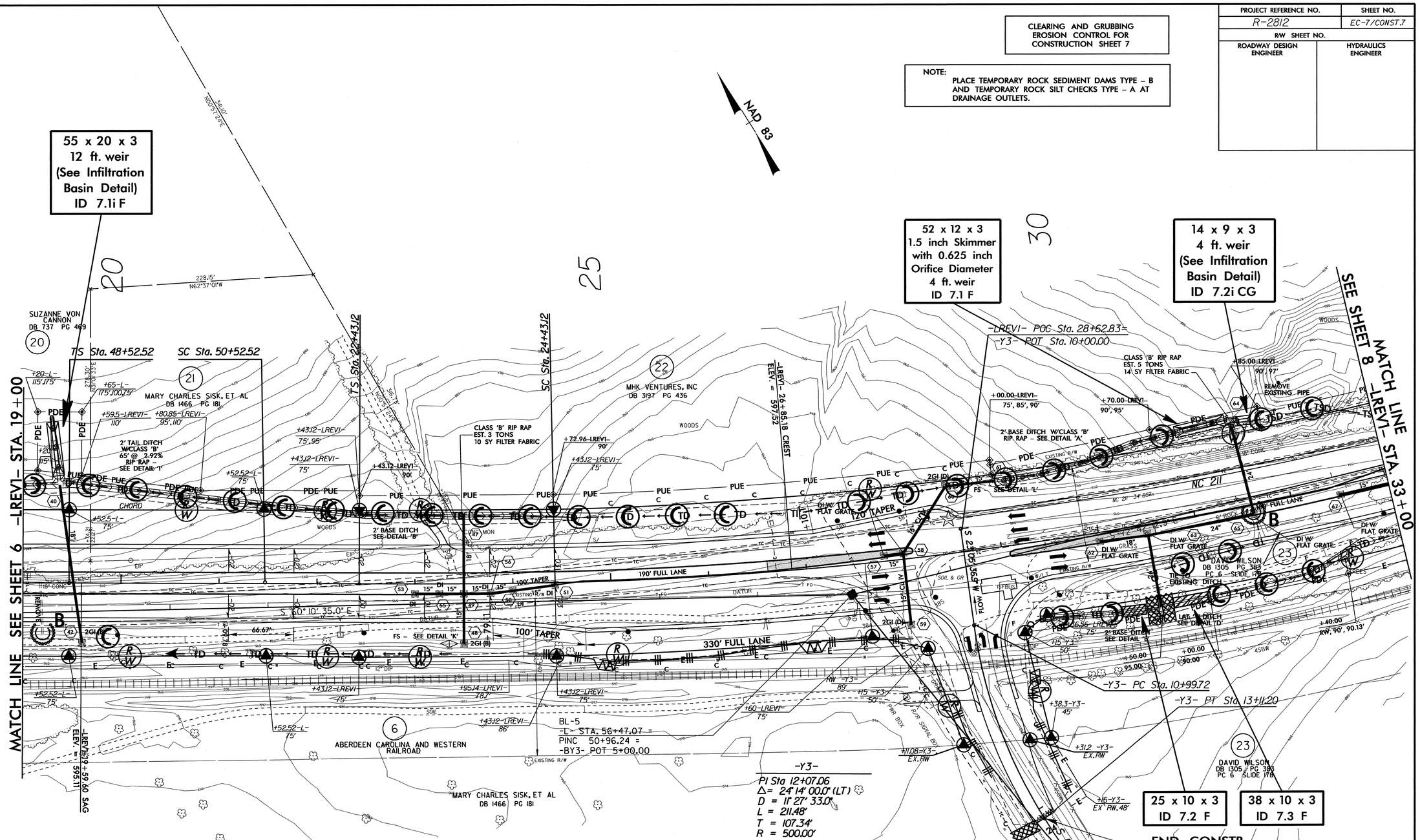
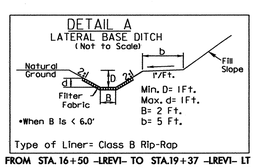
jennifer parish AT RENV240978

PROJECT REFERENCE NO.	SHEET NO.
R-2812	EC-7/CONST.7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

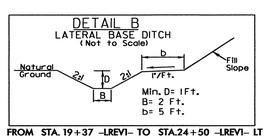
CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 7

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

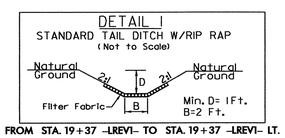




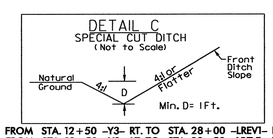
FROM STA. 16+50 -LREV1- TO STA.19+37 -LREV1- LT
FROM STA. 29+00 -LREV1- TO STA.31+50 -LREV1- LT



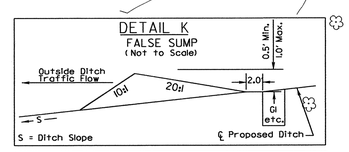
FROM STA. 19+37 -LREV1- TO STA.24+50 -LREV1- LT
FROM STA. 29+50 -LREV1- TO STA.30+50 -LREV1- RT

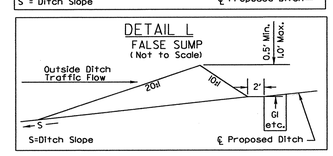


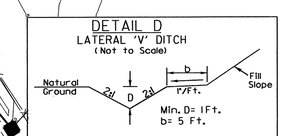
FROM STA. 19+37 -LREV1- TO STA. 19+37 -LREV1- LT.



FROM STA. 12+50 -Y3- RT. TO STA. 28+00 -LREV1- RT.
FROM STA. 12+50 -Y3- LT. TO STA. 29+50 -LREV1- RT.







FROM STA. 30+50 -LREV1- TO STA.33+00 -LREV1- RT

☆ EXISTING SIGNAL TO BE REVISED

8/17/99

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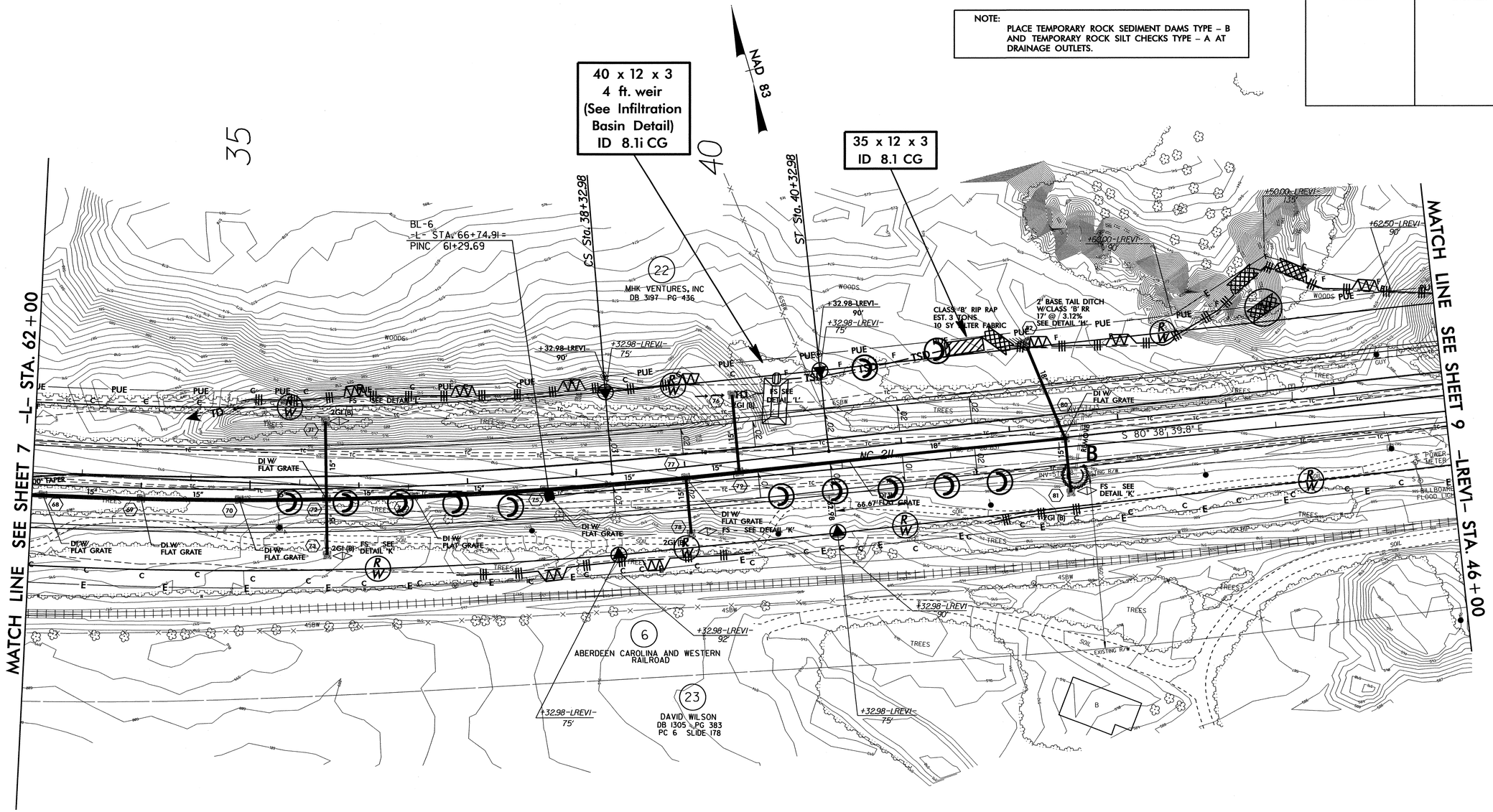
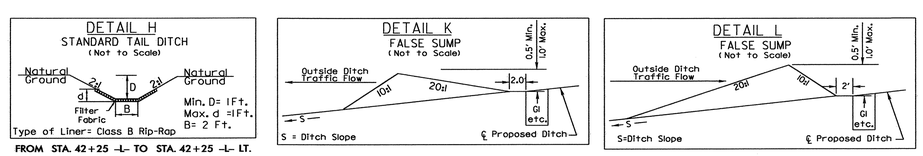
PROJECT REFERENCE NO.	SHEET NO.
R-2812	EC-8/CONST.8
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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.





FROM STA. 42+25 -L- TO STA. 42+25 -L- LT.

8/17/99

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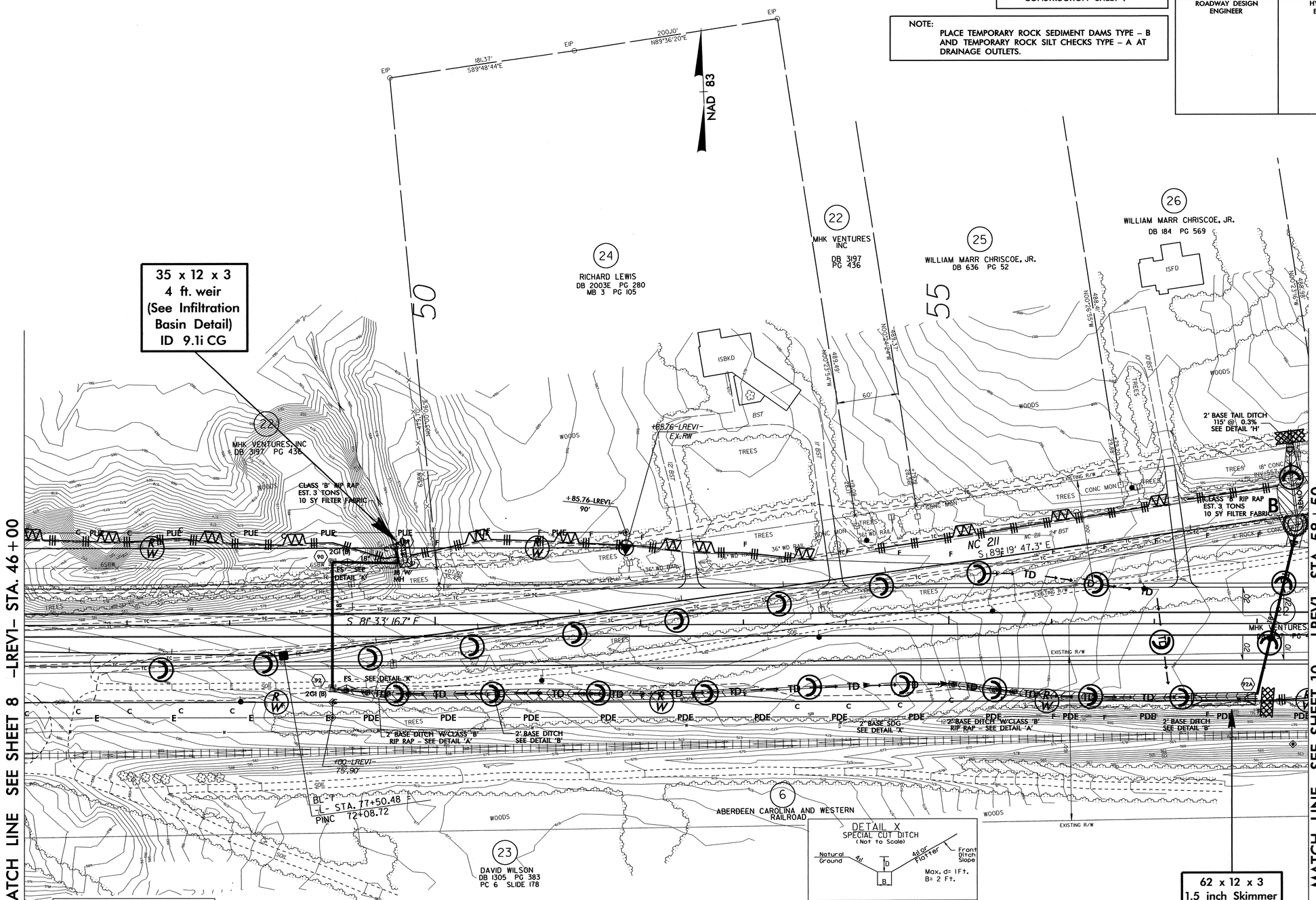
jenniferparish AT RENV240978

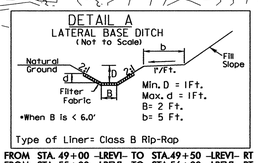
PROJECT REFERENCE NO.	SHEET NO.
R-2812	EC-9/CONST.9
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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.



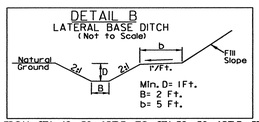
DETAIL A
LATERAL BASE DITCH
(Not to Scale)



Type of Liner= Class B Rip-Rap

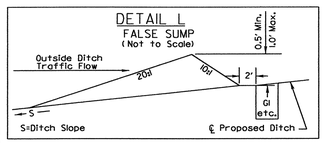
FROM STA. 49+00 -LREVI- TO STA.49+50 -LREVI- RT
FROM STA. 55+00 -LREVI- TO STA.56+00 -LREVI- RT

DETAIL B
LATERAL BASE DITCH
(Not to Scale)

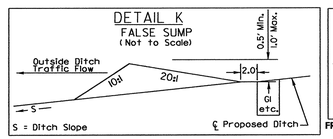


FROM STA. 49+50 -LREVI- TO STA.53+50 -LREVI- RT
FROM STA. 56+00 -LREVI- TO STA.58+00 -LREVI- RT

DETAIL L
FALSE SUMP
(Not to Scale)



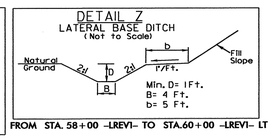
DETAIL K
FALSE SUMP
(Not to Scale)



DETAIL X
SPECIAL CUT DITCH
(Not to Scale)

FROM STA. 53+50 -LREVI- TO STA.55+00 -LREVI- RT

DETAIL Z
LATERAL BASE DITCH
(Not to Scale)



FROM STA. 58+00 -LREVI- TO STA.60+00 -LREVI- LT

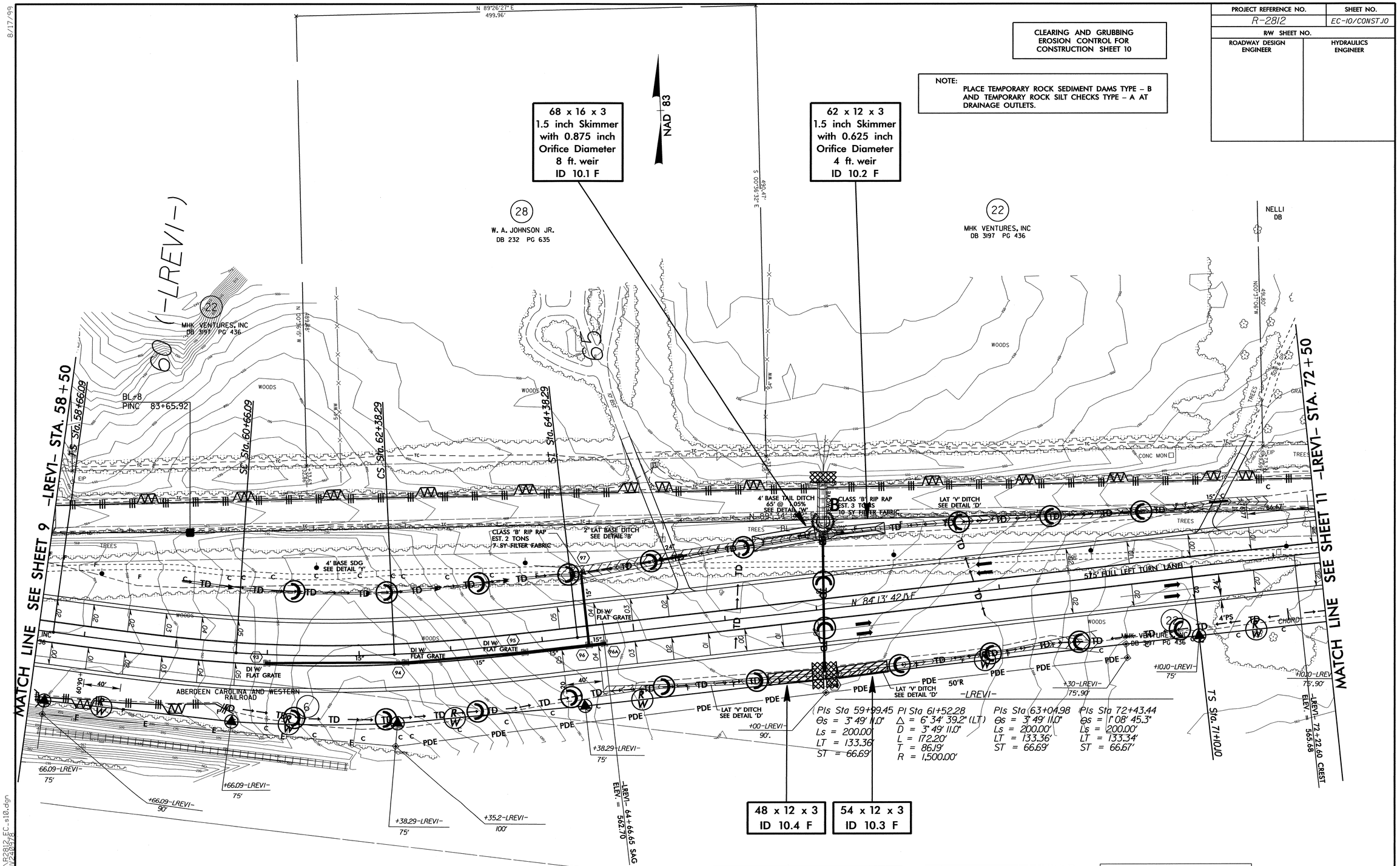
8/17/99

30-JUN-2011 10:52
R:\Roadway\Proposals\Design\R2812_EC_s09.dgn
jennifer.cash@ncdot.gov
AT PREV\240578

PROJECT REFERENCE NO.	SHEET NO.
R-2812	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.



8/17/99

30-JUN-2011 11:03
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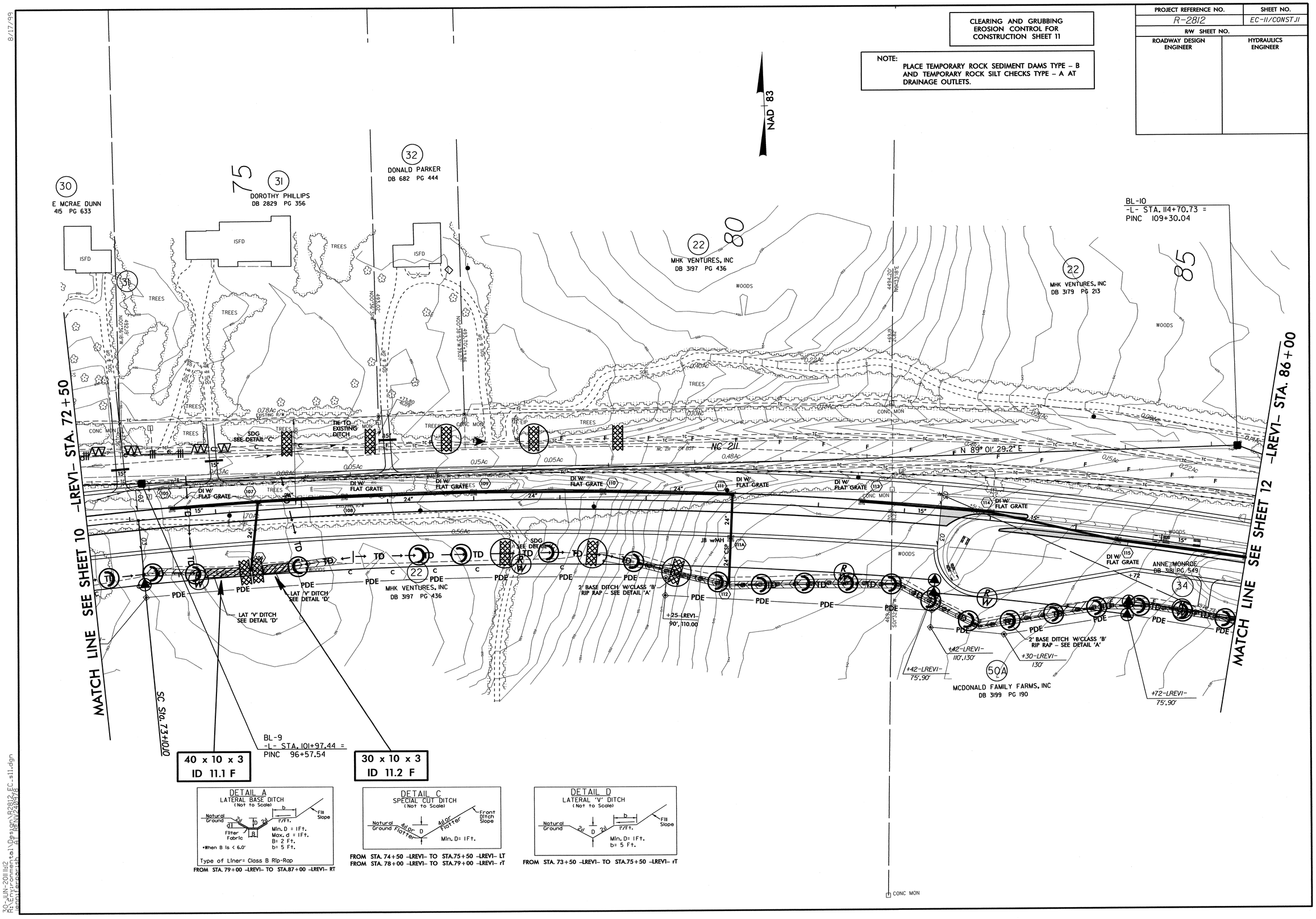
jennifer.parrish
AT REF\V240978

PROJECT REFERENCE NO.	SHEET NO.
R-2812	EC-11/CONST11
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.



8/17/99

30-JUN-2011 11:12
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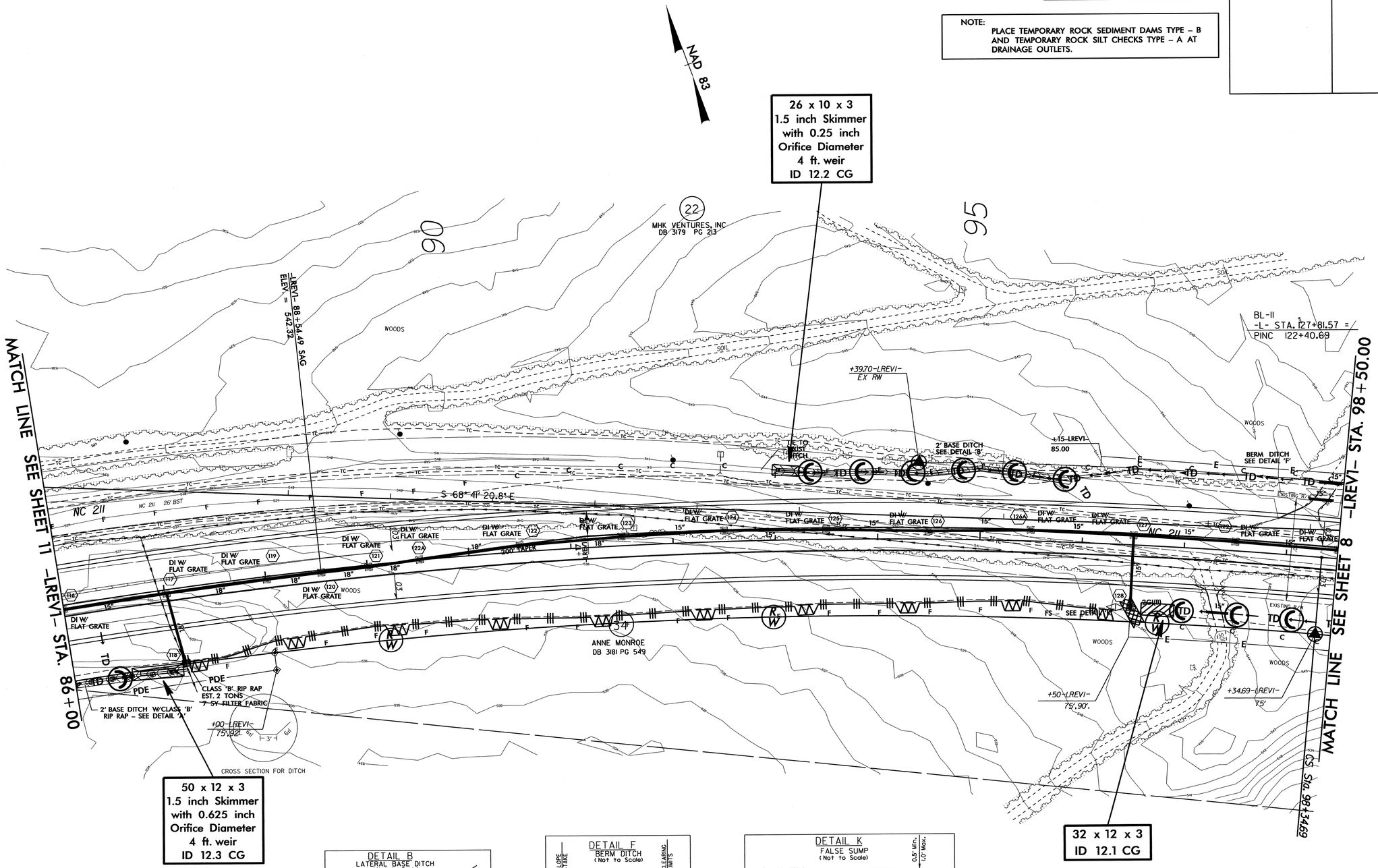
emilcarpenter

PROJECT REFERENCE NO.	SHEET NO.
R-2812	EC-12/CONST.12
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.



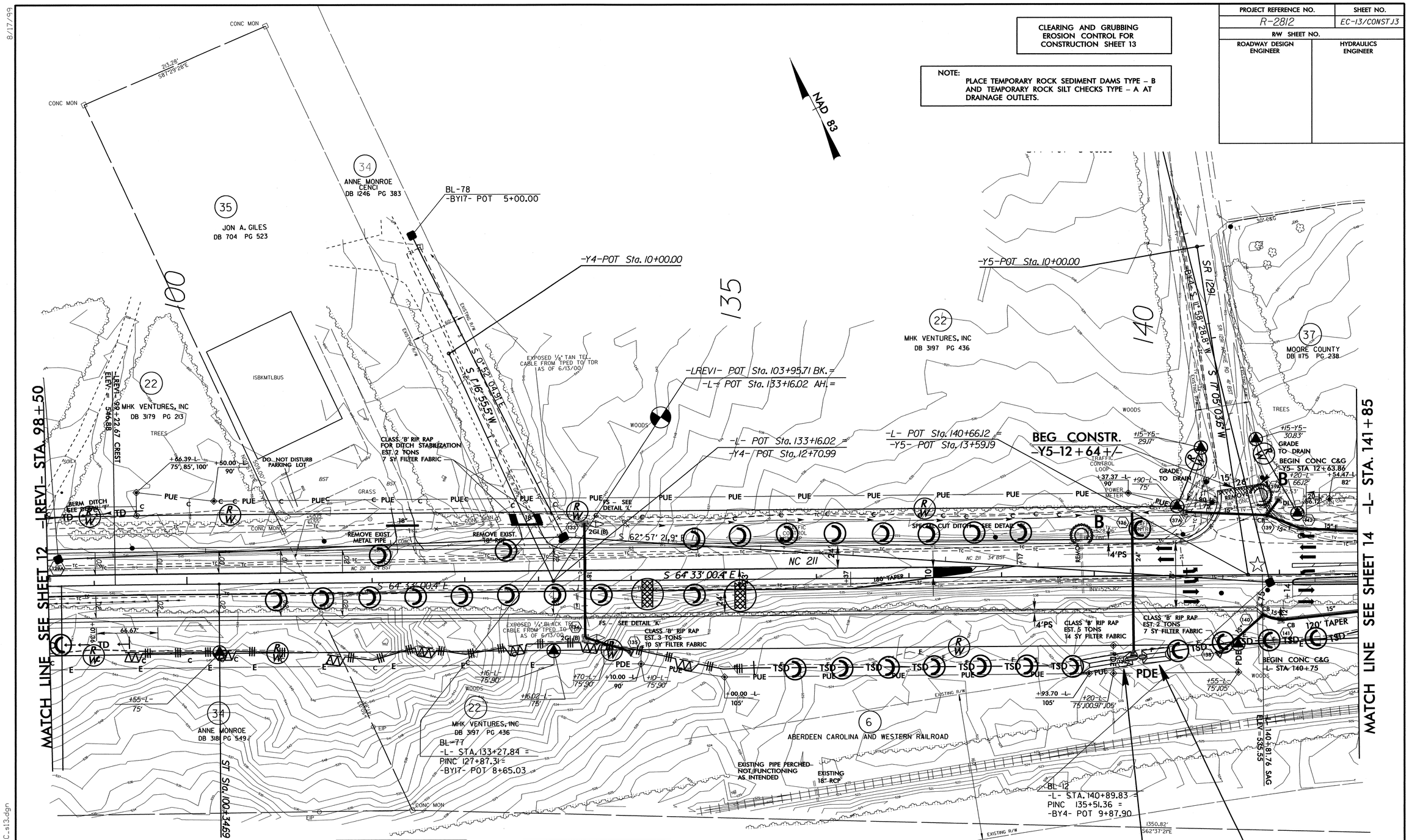
8/17/99

30-JUN-2011 11:16
R:\Environmental\Design\R2812_EC_s12.dgn
jenniferparish AT RENV240978

PROJECT REFERENCE NO.	SHEET NO.
R-2812	EC-13/CONST.13
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

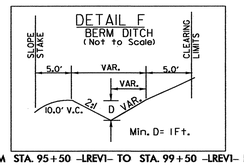
CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 13

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

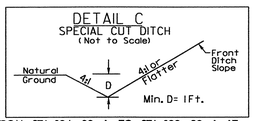


-LREVI-

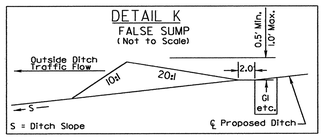
Pls Sta 99+01.36
Θs = 1°08' 45.3"
Ls = 200.00'
LT = 133.34'
ST = 66.67'

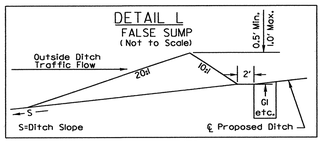


FROM STA. 95+50 -LREVI- TO STA. 99+50 -LREVI- LT



FROM STA. 134+00 -L- TO STA. 139+90 -L- LT.





55 x 14 x 3
6 ft. weir
(See Infiltration Basin Detail)
ID 13.1i CG

30 x 14 x 3
6 ft. weir
(See Infiltration Basin Detail)
ID 13.2i CG

8/17/99

30-JUN-2011 11:22
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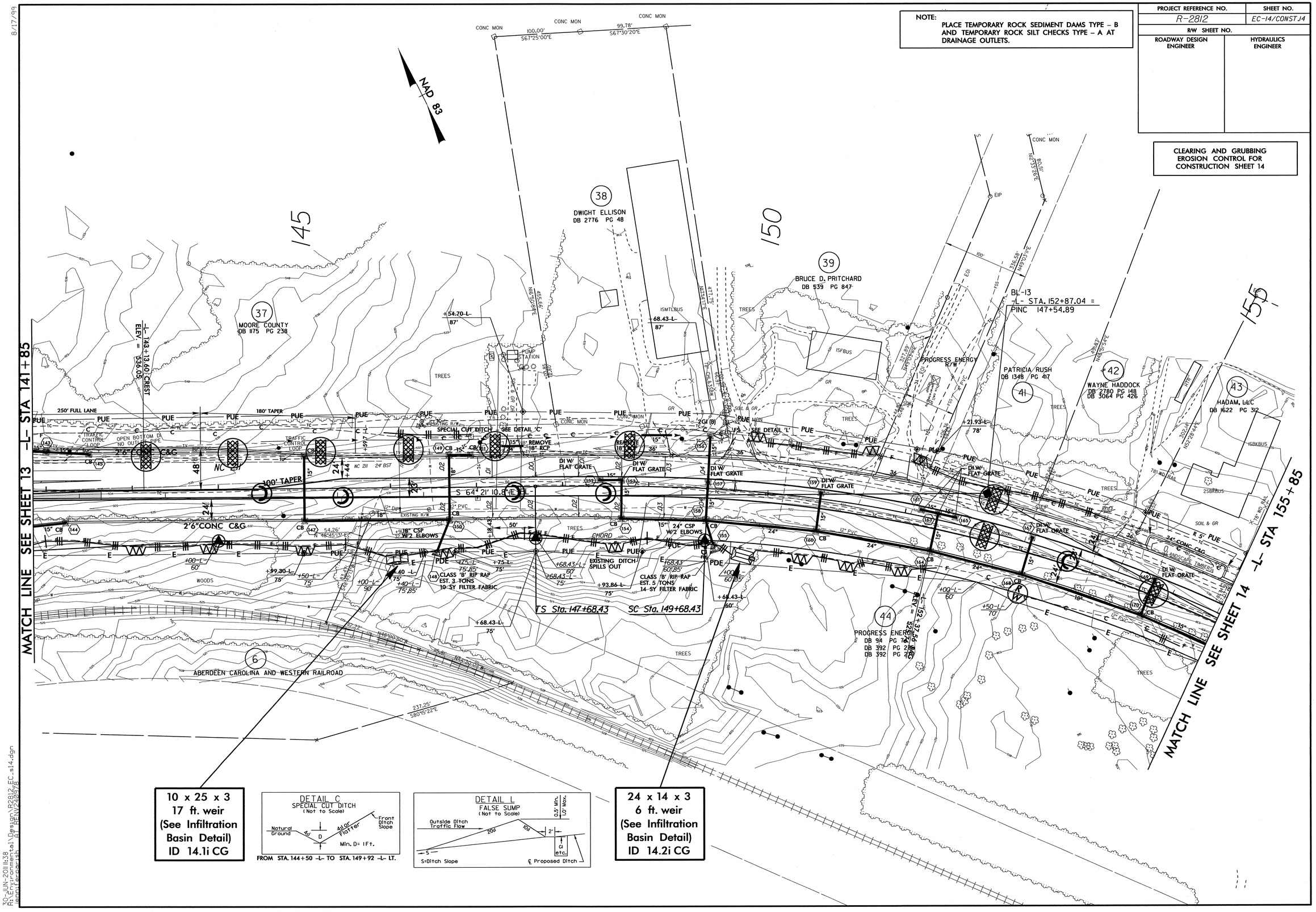
(pontiffgrarish) AT REN\V8\20978

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
R-2812	EC-14/CONST.14
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 14



10 x 25 x 3
17 ft. weir
(See Infiltration Basin Detail)
ID 14.1i CG

FROM STA. 144+50 –L– TO STA. 149+92 –L– LT.

24 x 14 x 3
6 ft. weir
(See Infiltration Basin Detail)
ID 14.2i CG

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Bentley Parsons
AT REN/240978

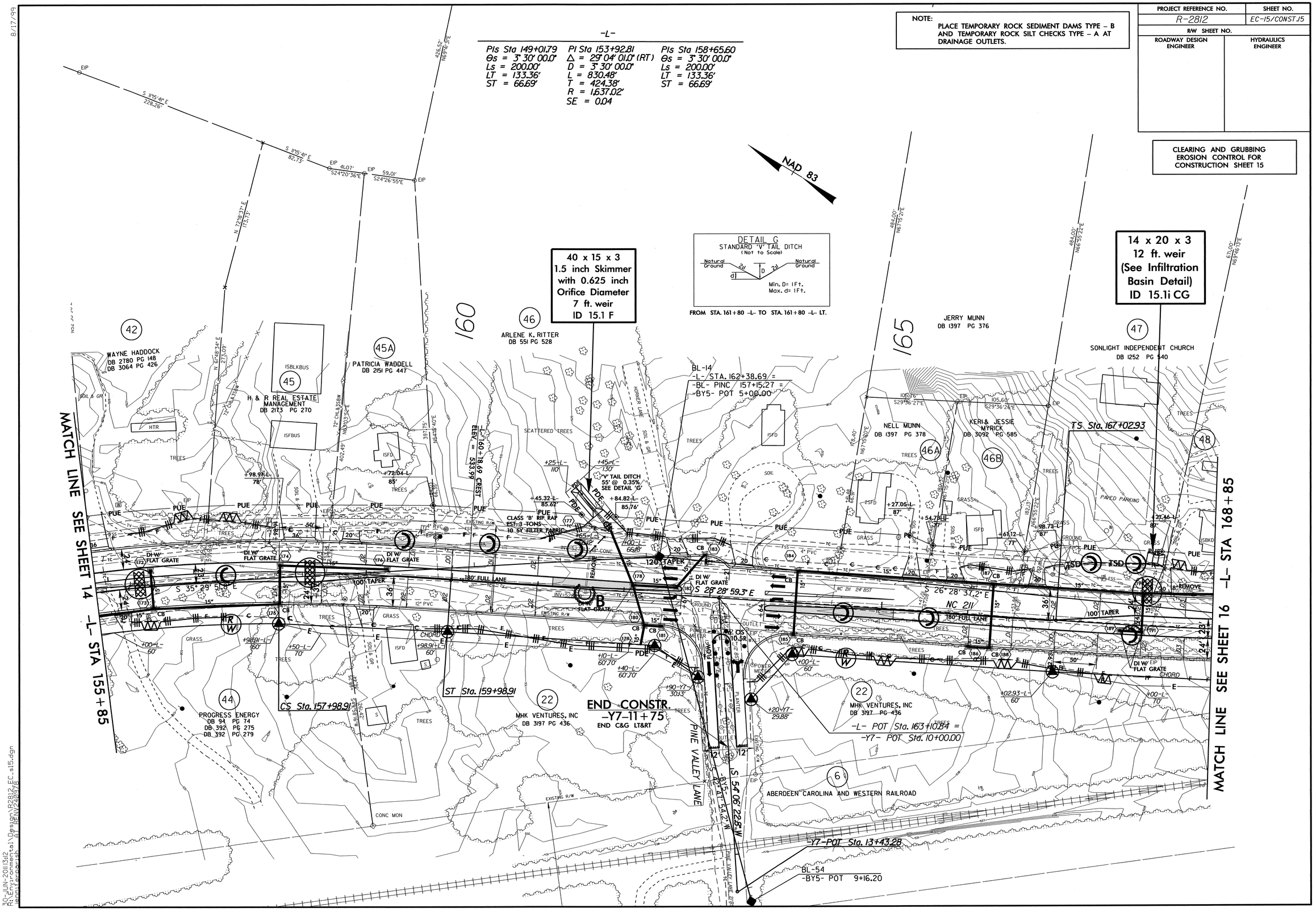
PROJECT REFERENCE NO.	SHEET NO.
R-2812	EC-15/CONST.15
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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 15

-L-

PIs Sta 149+01.79	PI Sta 153+92.81	PIs Sta 158+65.60
Θs = 3° 30' 00.0"	Δ = 29° 04' 01.0" (RT)	Θs = 3° 30' 00.0"
Ls = 200.00'	D = 3° 30' 00.0"	Ls = 200.00'
LT = 133.36'	L = 830.48'	LT = 133.36'
ST = 66.69'	T = 424.38'	ST = 66.69'
	R = 1,637.02'	
	SE = 0.04	



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$$$$USER$$$$

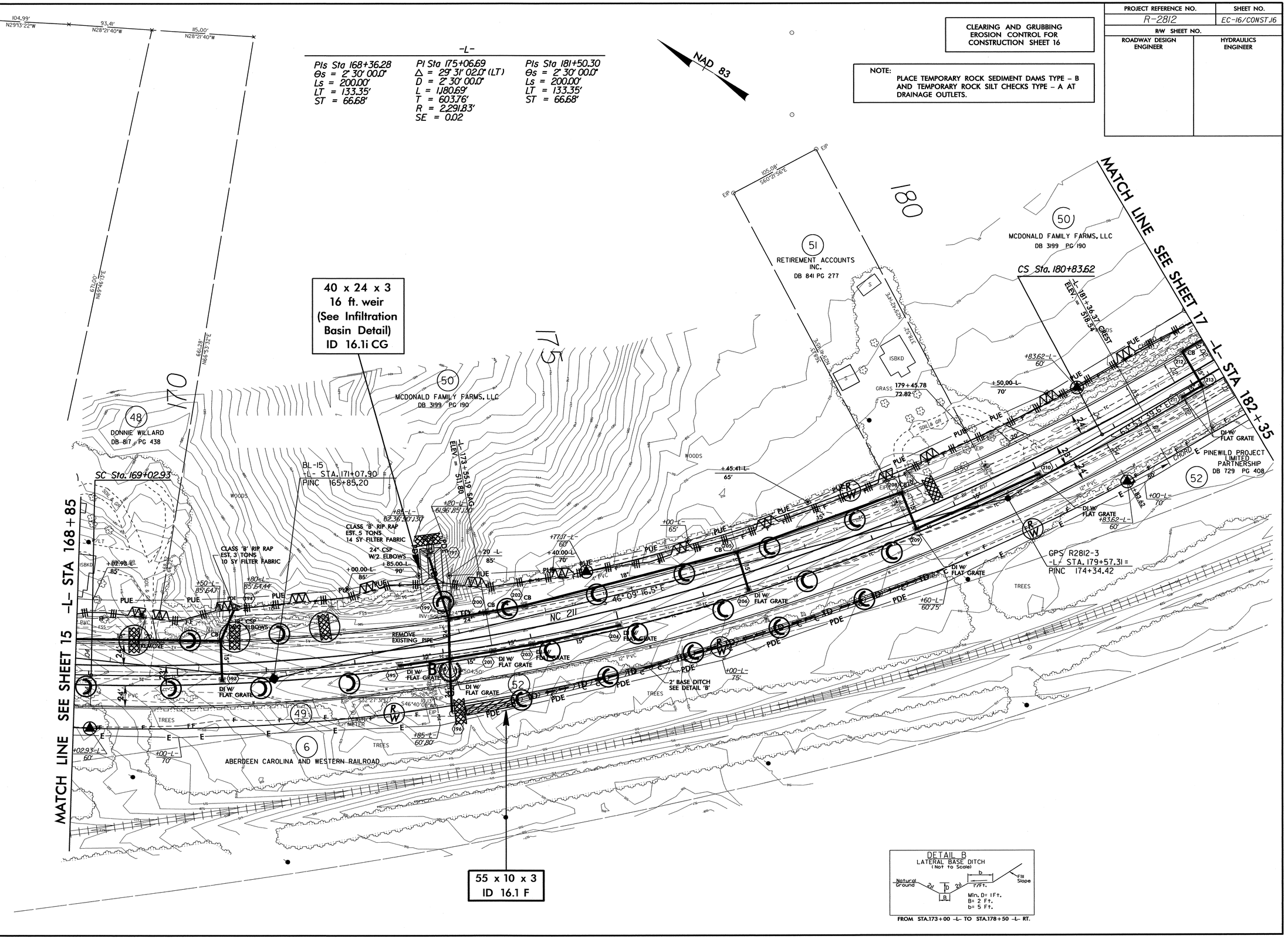
PROJECT REFERENCE NO.	SHEET NO.
R-2812	EC-16/CONST J6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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.

-L-

PIs Sta 168+36.28	PI Sta 175+06.69	PIs Sta 181+50.30
Θs = 2° 30' 00.0"	Δ = 29° 31' 02.0" (LT)	Θs = 2° 30' 00.0"
Ls = 200.00'	D = 2° 30' 00.0"	Ls = 200.00'
LT = 133.35'	L = 1,180.69'	LT = 133.35'
ST = 66.68'	T = 603.76'	ST = 66.68'
	R = 2,291.83'	
	SE = 0.02	



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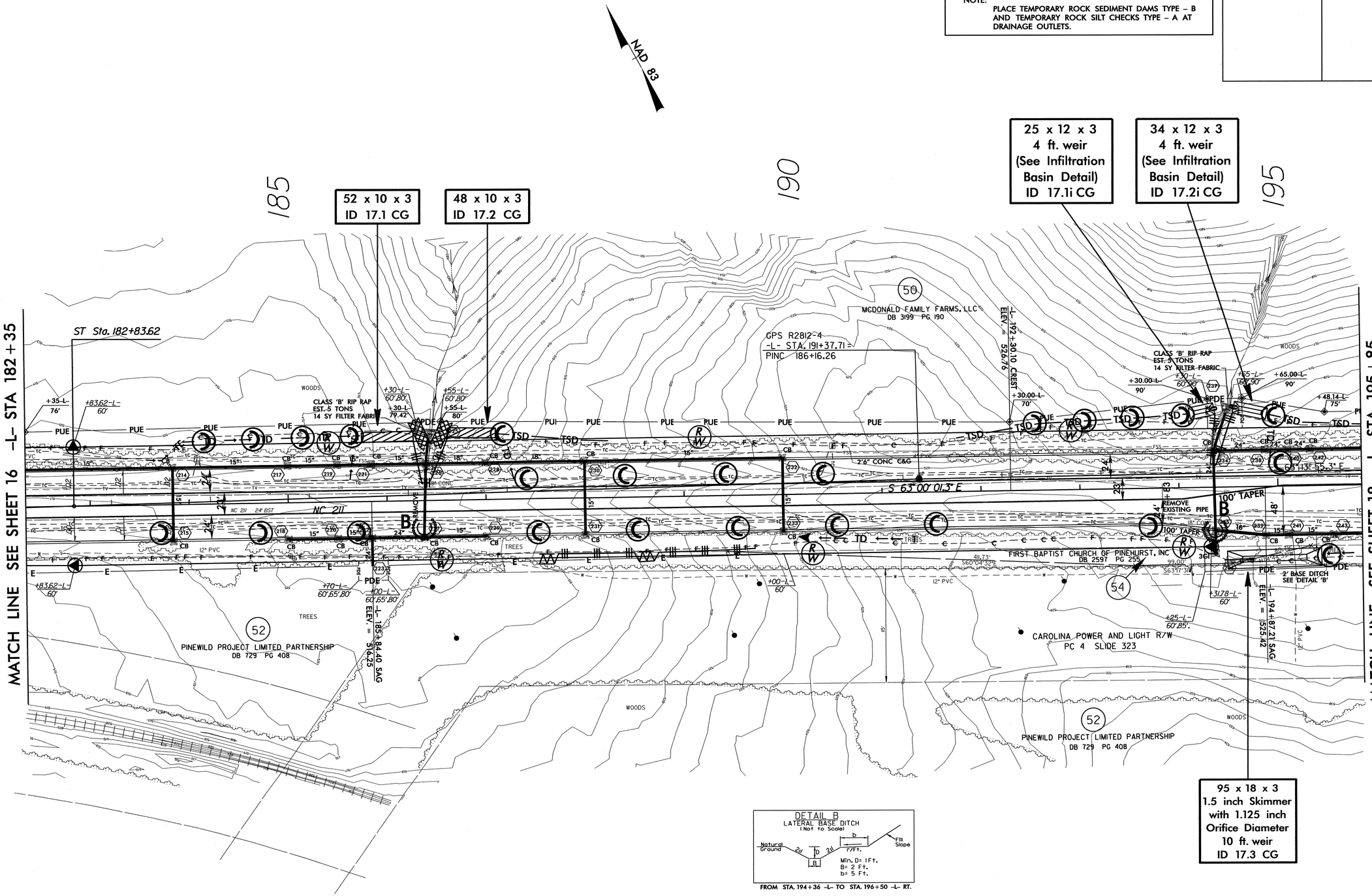
(emptesparrish - AT_REN\V240978)

PROJECT REFERENCE NO.	SHEET NO.
R-2812	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.



DETAIL B
LATERAL BASE DITCH
(Not to Scale)

Min. D= 1Ft.
B= 2 Ft.
b= 5 Ft.

FROM STA. 194+36 –L– TO STA. 196+50 –L– RT.

8/17/99

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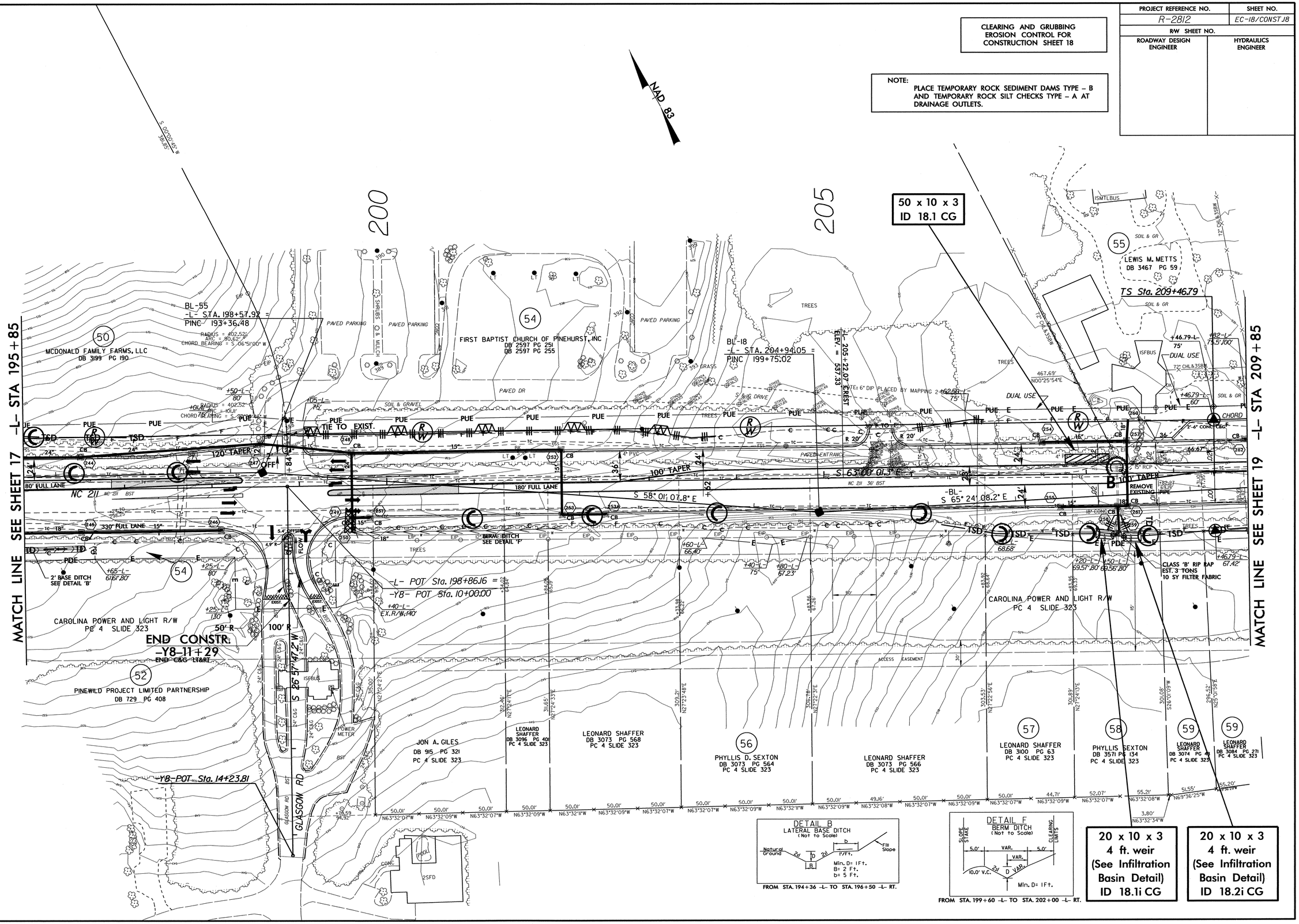
$$$$USERNAME$$$$
Proj:Pender Co. AT PENV24978

PROJECT REFERENCE NO.	SHEET NO.
R-2812	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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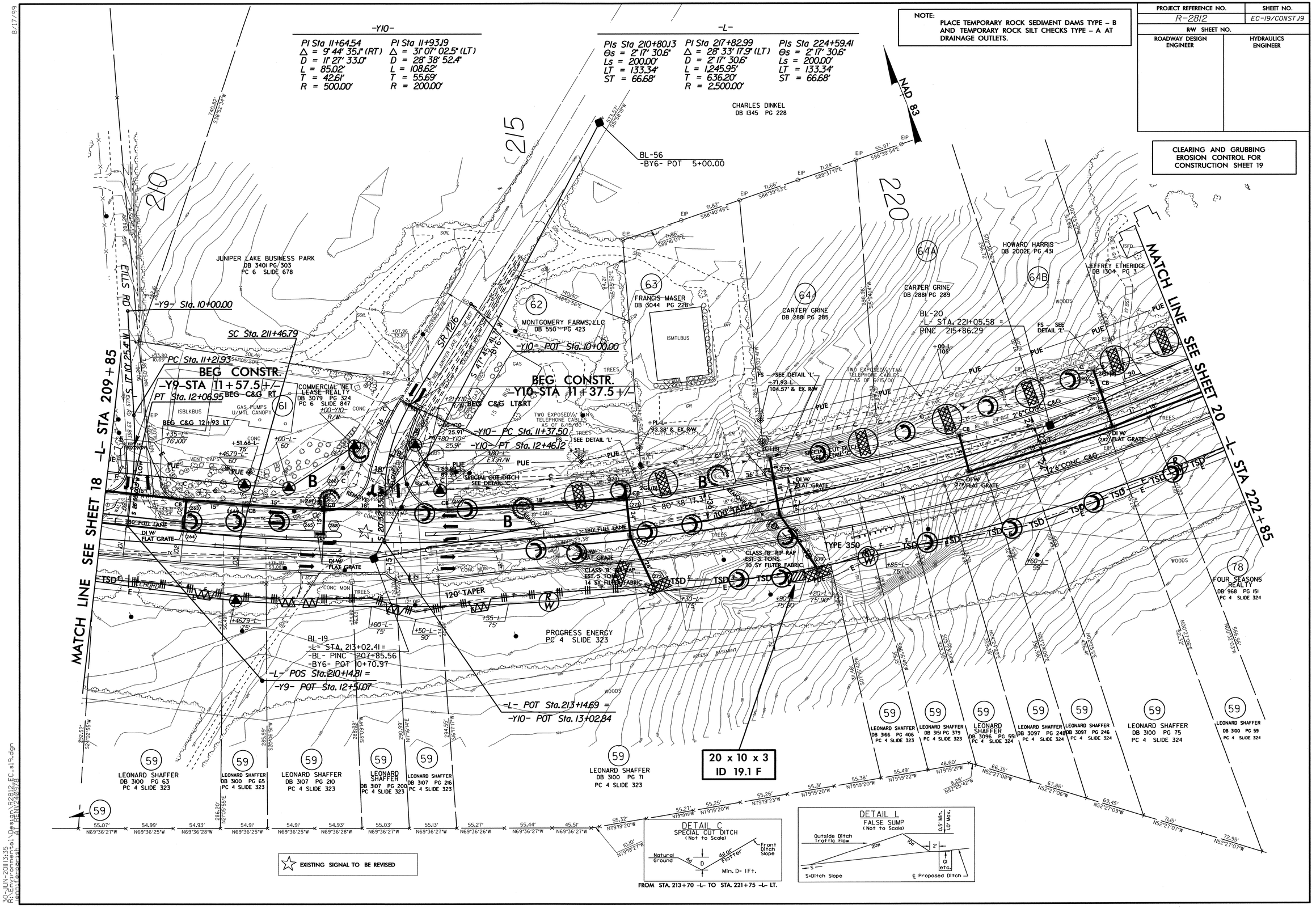
jenniferparish AT RENV240978

PROJECT REFERENCE NO.	SHEET NO.
R-2812	EC-19/CONST.19
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 19



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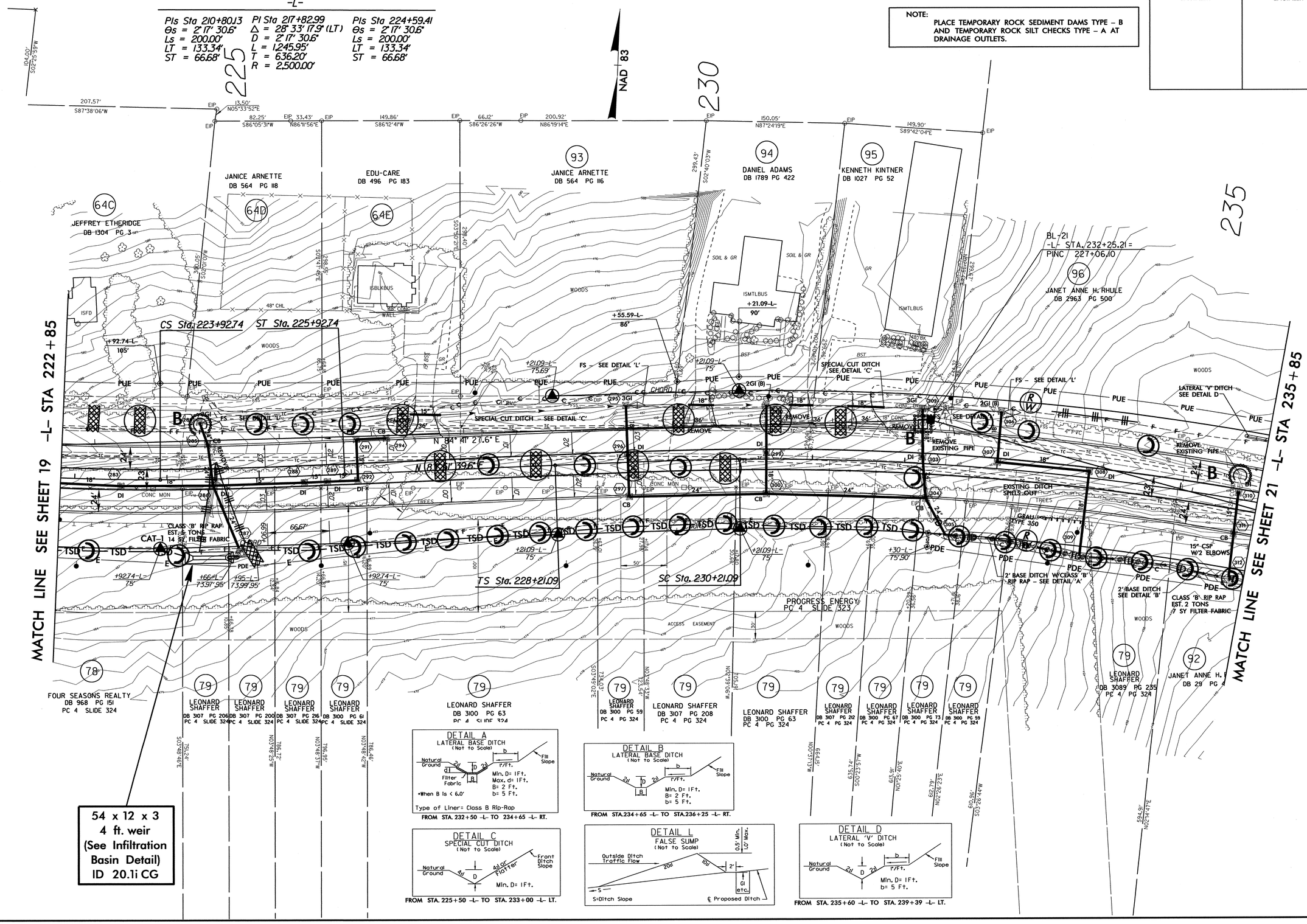
$$$$DATE$$$$

PROJECT REFERENCE NO.	SHEET NO.
R-2812	EC-20/CONST.20
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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.



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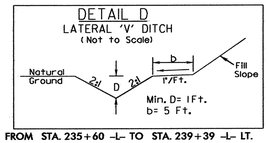
jennifer.parsons
ATT REF(s): 2409978

8/17/99

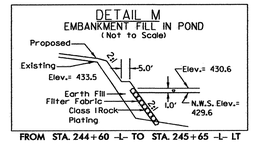
PROJECT REFERENCE NO.	SHEET NO.
R-2812	EC-21/CONST.21
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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

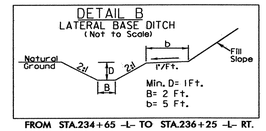
CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 21



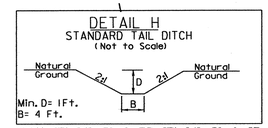
FROM STA. 235+60 –L– TO STA. 239+39 –L– LT.



FROM STA. 244+60 –L– TO STA. 245+65 –L– LT



FROM STA.234+65 –L– TO STA.236+25 –L– RT.



FROM STA. 241+50 –L– TO STA. 241+50 –L– RT.

–L–

PI Sta 236+79.95
Δ = 24° 46' 23.8" (RT)
D = 1° 54' 35.5"
L = 1,297.13'
T = 658.86'
R = 3,000.00'

–L–

PIs Sta 243+84.89
Θs = 1° 54' 35.5"
Ls = 200.00'
LT = 133.34'
ST = 66.67'

PIs Sta 248+52.07
Θs = 1° 54' 35.5"
Ls = 200.00'
LT = 133.34'
ST = 66.67'

–L–

PI Sta 249+84.62
Δ = 2° 30' 59.2" (RT)
D = 1° 54' 35.5"
L = 131.76'
T = 65.89'
R = 3,000.00'

NAD 83

240

245

96

JANET ANNE H. RHULE
DB 2963 PG 500

98

JANET ANNE H. RHULE, ET AL.
DB 134 PG 617

92

JANET ANNE H. RHULE, ET AL.
DB 29 PG 461

40 x 12 x 3
1.5 inch Skimmer
with 0.5 inch
Orifice Diameter
4 ft. weir
ID 21.1 CG

40 x 14 x 3
1.5 inch Skimmer
with 0.5 inch
Orifice Diameter
6 ft. weir
ID 21.2 CG

60 x 12 x 3
1.5 inch Skimmer
with 0.625 inch
Orifice Diameter
4 ft. weir
ID 21.1 F

DRAIN POND

T3-307 POT 14+68.17
ELEV=430.00'
REBAR & CAP SET

T3-308 PINC 12+84.25
ELEV=439.53'
REBAR & CAP SET

CLASS 'I' RIP RAP
EST. 2 TONS
8 SY FILTER FABRIC

EMBANKMENT FILL IN POND
SEE DETAIL 'M'
60 TONS CL I RIP RAP
65 SY FF
DUAL USE

LATERAL 'V' DITCH
SEE DETAIL 'D'
EST. 98 CY DDE

2' BASE DITCH
SEE DETAIL 'B'
TIE TO
EXISTING DITCH

4' BASE TAIL DITCH
23' @ 2.17%
SEE DETAIL 'H'
1.8 CY DDE

CLASS 'I' RIP RAP
EST. 2 TONS
7 SY FILTER FABRIC

CS Sta. 243+18.22

END J.S.

T3-311 PINC 8+97.99
ELEV=434.60'
REBAR & CAP SET

T3-310 PINC 10+51.18
ELEV=431.42'
REBAR & CAP SET

BEGIN J.S.

ST Sta. 245+18.22

T3-312 PINC 7+24.13
ELEV=436.10'
REBAR & CAP SET

T3-309 PINC 11+64.20
ELEV=429.07'
REBAR & CAP SET

TS Sta. 247+18.73

SC Sta. 249+18.73

CLASS 'I' RIP RAP
EST. 2 TONS
6 SY FILTER FABRIC
W/2 ELBOWS

EXISTING DITCH
SPILLS OUT

*NOTE: 12' HDPE WATER LINE PLACED BY MAPPING 2-24-09

MATCH LINE SEE SHEET 20 –L– STA 235+85

MATCH LINE SEE SHEET 22 –L– STA 249+85

08-SEP-2011 13:28
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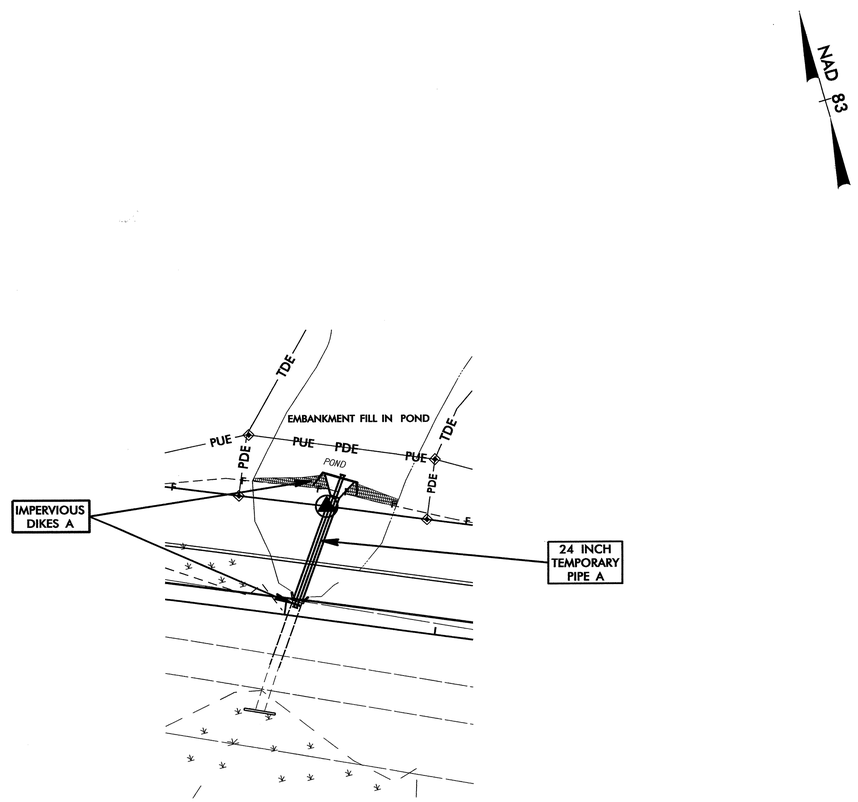
jennifergarrish AT REN\240578

CULVERT CONSTRUCTION SEQUENCE STA. 245 + 05 –L–

PROJECT REFERENCE NO.	SHEET NO.
R-2812	EC-22/CONST.21
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

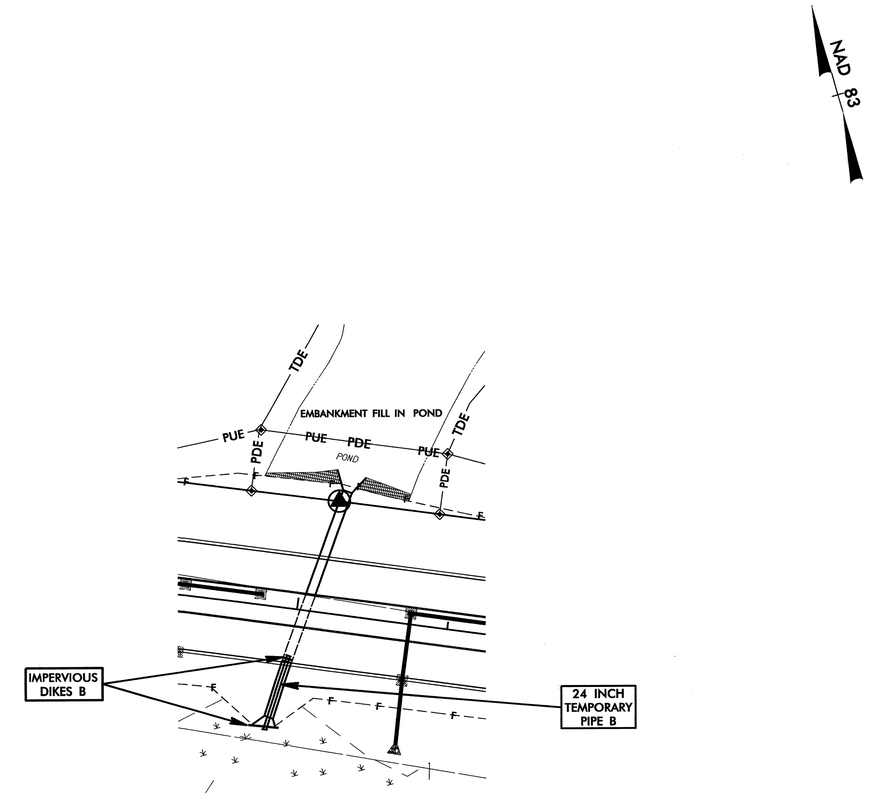
PHASE I

1. UTILIZE SPECIAL STILLING BASIN(S) AS NEEDED THROUGHOUT CULVERT CONSTRUCTION.
2. DRAIN POND.
3. CONSTRUCT IMPERVIOUS DIKES A AND INSTALL 24" TEMPORARY PIPE A, DIVERTING FLOW.
4. CONSTRUCT DOWNSTREAM CULVERT EXTENSION AND RIPRAP EMBANKMENT FILL IN POND.
5. REMOVE IMPERVIOUS DIKES A AND 24" TEMPORARY PIPE A.
6. CONSTRUCT ROADWAY OVER CULVERT EXTENSION AND SHIFT TRAFFIC.



PHASE II

7. CONSTRUCT IMPERVIOUS DIKES B AND INSTALL 24" TEMPORARY PIPE B, DIVERTING FLOW.
8. REMOVE EXISTING UPSTREAM 72" CMP.
9. CONSTRUCT UPSTREAM CULVERT EXTENSION AND ANY NECESSARY INLET CHANNEL IMPROVEMENTS.
10. REMOVE IMPERVIOUS DIKES B AND 24" TEMPORARY PIPE B.
11. REMOVE ANY REMAINING SPECIAL STILLING BASIN(S).
12. COMPLETE ROADWAY.



PROJECT REFERENCE NO.	SHEET NO.
R-2812	EC-23/CONST.22
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 22

-L-

PIs Sta 251+17.17
Θs = 1° 54' 35.5"
Ls = 200.00'
LT = 133.34'
ST = 66.67'

PIs Sta 254+68.12
Θs = 1° 08' 45.3"
Ls = 200.00'
LT = 133.34'
ST = 66.67'

-LREV3-

PIs Sta 255+94.86
Θs = 1° 08' 45.3"
Ls = 200.00'
LT = 133.34'
ST = 66.67'

PI Sta 259+73.44
Δ = 7° 08' 21.4" (LT)
D = 1° 08' 45.3"
L = 623.02'
T = 311.91'
R = 5,000.00'

PIs Sta 263+51.22
Θs = 1° 08' 45.3"
Ls = 200.00'
LT = 133.34'
ST = 66.67'

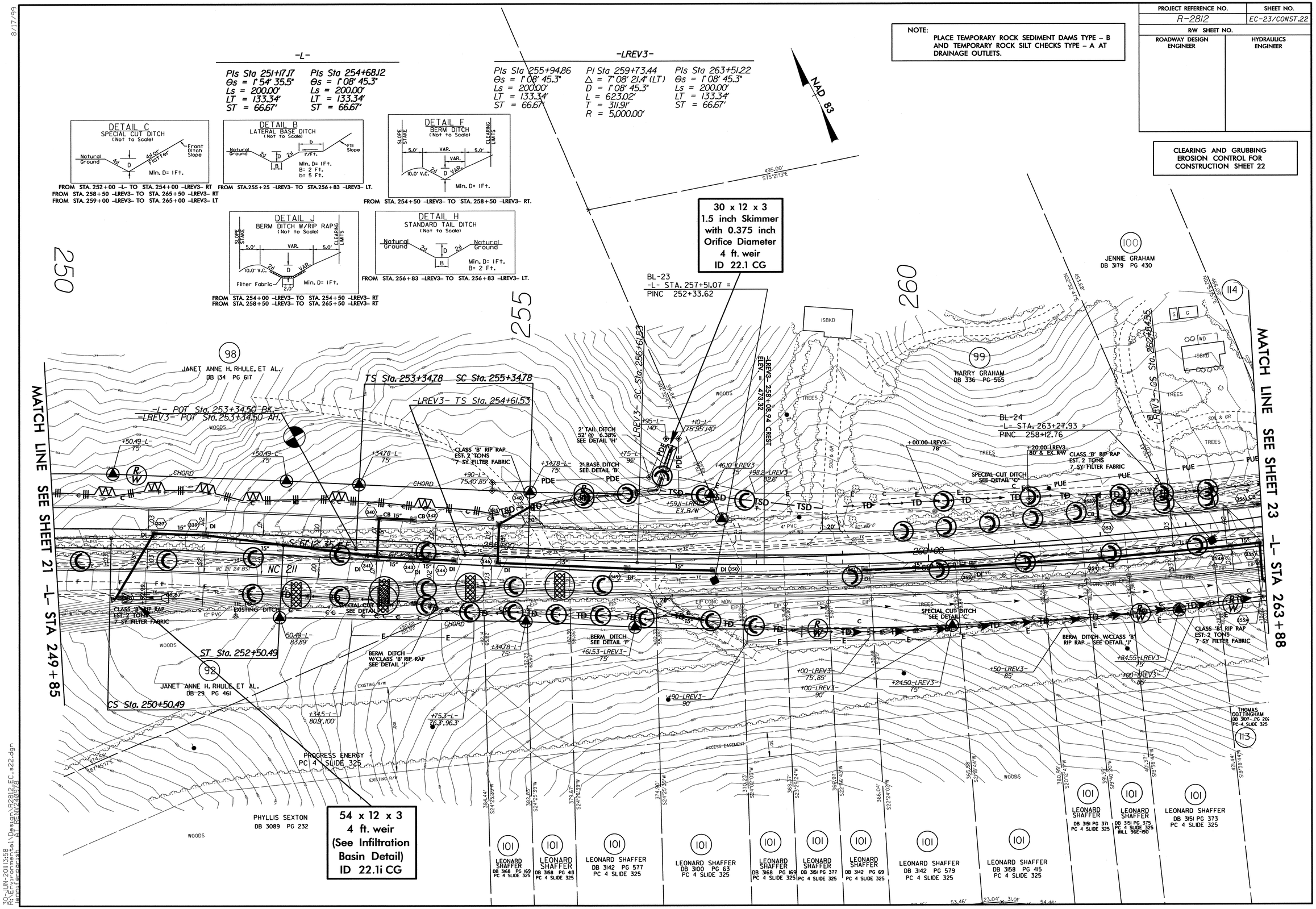
FROM STA. 252+00 -L- TO STA. 254+00 -LREV3- RT
FROM STA. 258+50 -LREV3- TO STA. 265+50 -LREV3- RT
FROM STA. 259+00 -LREV3- TO STA. 265+00 -LREV3- LT

FROM STA.255+25 -LREV3- TO STA.256+83 -LREV3- LT.

FROM STA. 254+50 -LREV3- TO STA. 258+50 -LREV3- RT.

FROM STA. 254+00 -LREV3- TO STA. 254+50 -LREV3- RT
FROM STA. 258+50 -LREV3- TO STA. 265+50 -LREV3- RT

FROM STA. 256+83 -LREV3- TO STA. 256+83 -LREV3- LT.



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jennifergarrish AT REN\V240976

PROJECT REFERENCE NO.	SHEET NO.
R-2812	EC-24/CONST.23
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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.

-L-
PIs Sta 265+06.00
Θs = 1° 08' 45.3"
Ls = 200.00'
LT = 133.34'
ST = 66.67'

-L-
PIs Sta 268+59.75
Θs = 1° 54' 35.5"
Ls = 200.00'
LT = 133.34'
ST = 66.67'

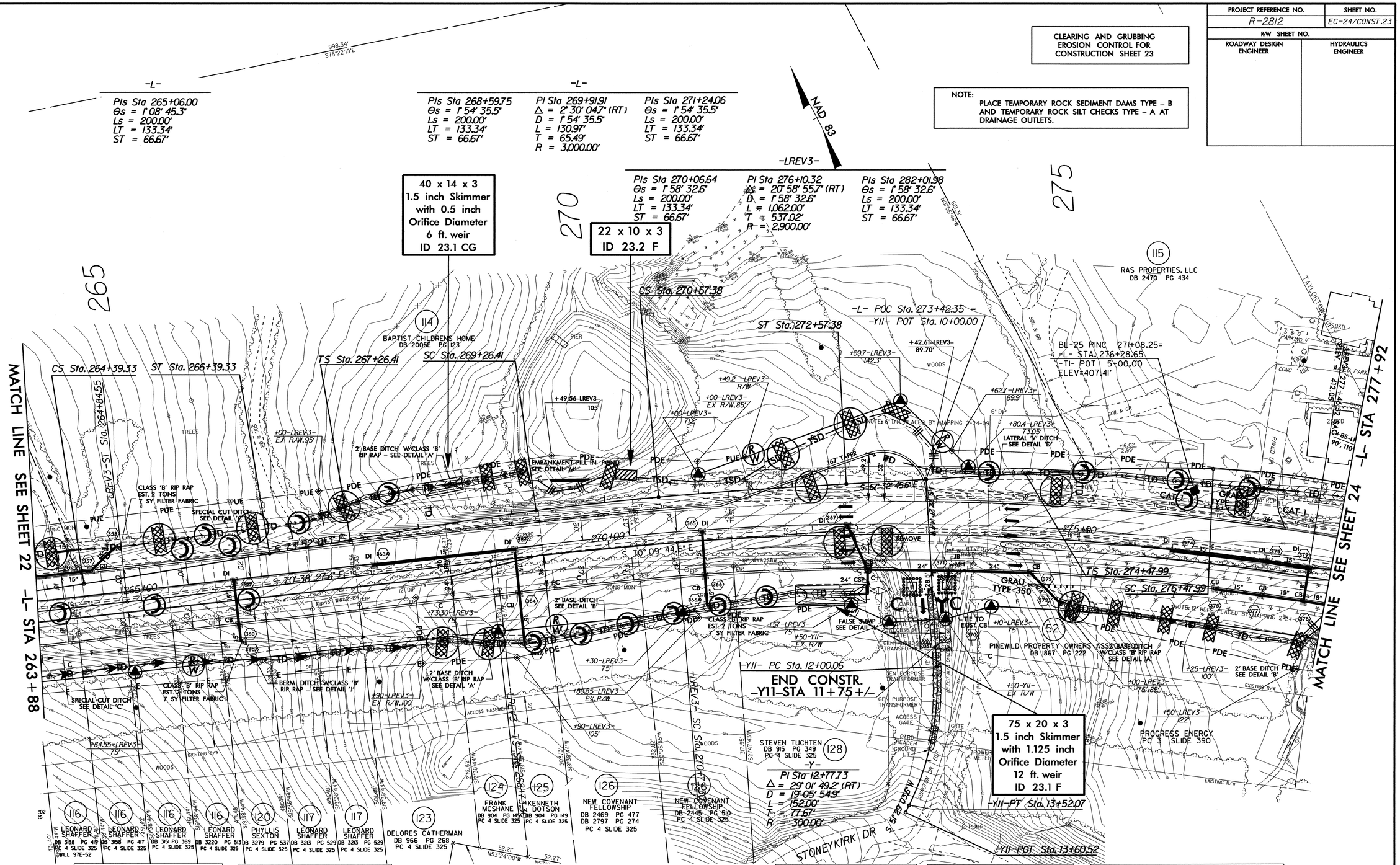
PI Sta 269+91.91
Δ = 2° 30' 04.7" (RT)
D = 1° 54' 35.5"
L = 130.97'
T = 65.49'
R = 3,000.00'

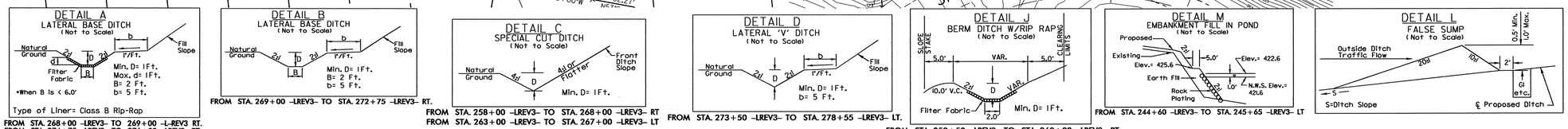
PIs Sta 271+24.06
Θs = 1° 54' 35.5"
Ls = 200.00'
LT = 133.34'
ST = 66.67'

-LREV3-
PIs Sta 270+06.64
Θs = 1° 58' 32.6"
Ls = 200.00'
LT = 133.34'
ST = 66.67'

PI Sta 276+10.32
Δ = 20° 58' 55.7" (RT)
D = 1° 58' 32.6"
L = 1,062.00'
T = 537.02'
R = 2,900.00'

PIs Sta 282+01.98
Θs = 1° 58' 32.6"
Ls = 200.00'
LT = 133.34'
ST = 66.67'





FROM STA. 268+00 -LREV3- TO 269+00 -L-REV3 RT.
FROM STA. 274+75 -LREV3- TO 276+00 -LREV3- RT.
FROM STA. 267+00 -LREV3- TO 269+00 -LREV3- LT.

FROM STA. 269+00 -LREV3- TO STA. 272+75 -LREV3- RT.

FROM STA. 258+00 -LREV3- TO STA. 268+00 -LREV3- RT
FROM STA. 263+00 -LREV3- TO STA. 267+00 -LREV3- LT

FROM STA. 273+50 -LREV3- TO STA. 278+55 -LREV3- LT.

FROM STA. 258+50 -LREV3- TO STA. 268+00 -LREV3- RT

FROM STA. 244+60 -LREV3- TO STA. 245+65 -LREV3- LT

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30-JUN-2011 14:00
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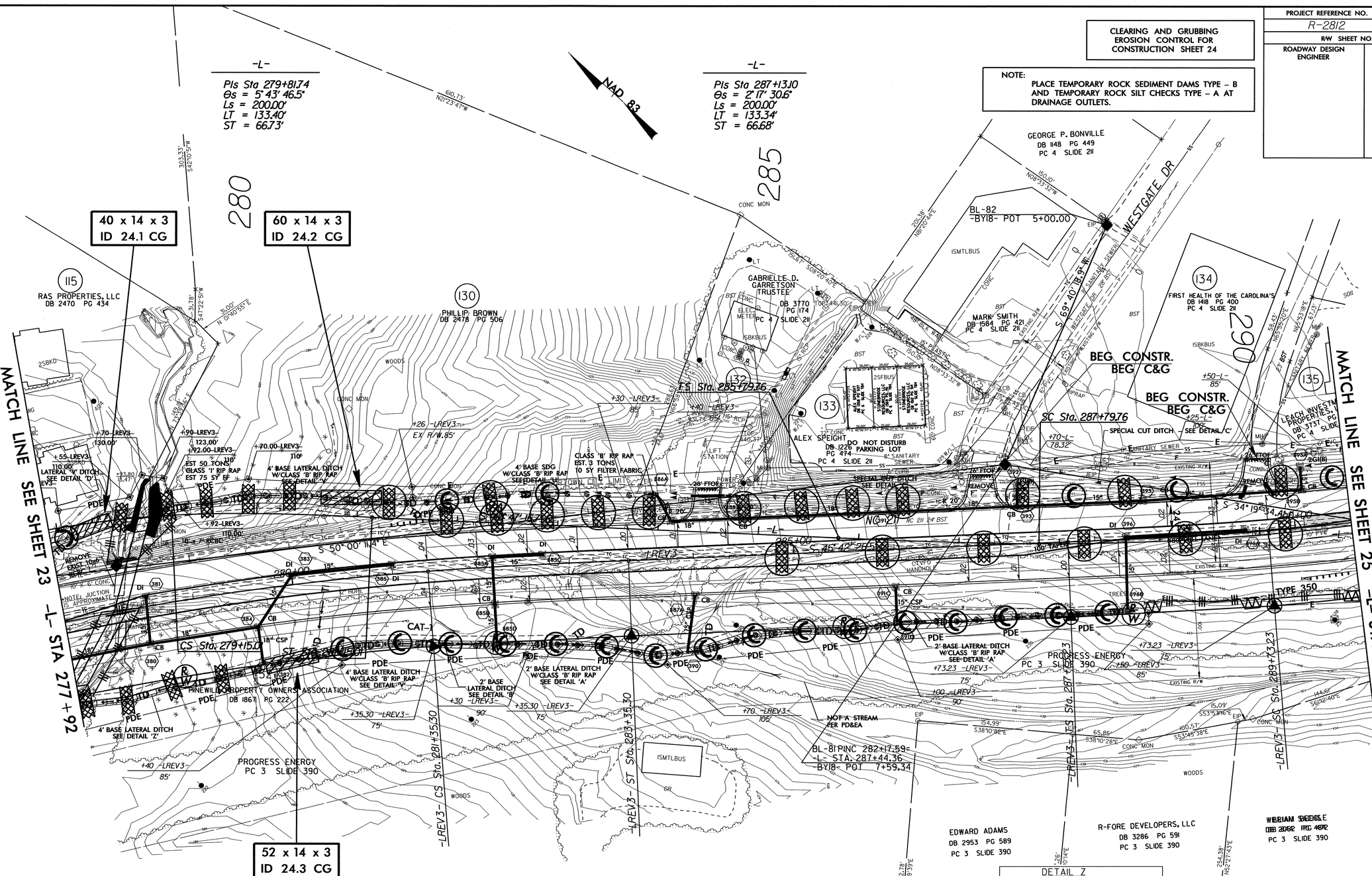
bengtsson

PROJECT REFERENCE NO.	SHEET NO.
R-2812	EC-25/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.



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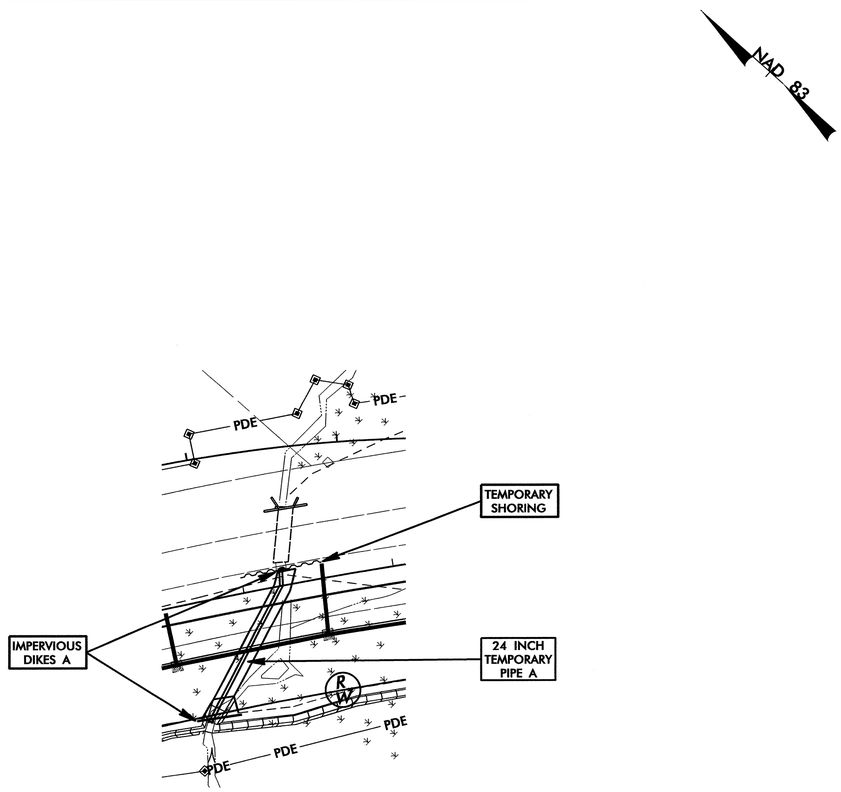
jennifersparish AT REN\V240978

CULVERT CONSTRUCTION SEQUENCE STA. 278+75 –L–

PROJECT REFERENCE NO.	SHEET NO.
R-2812	EC-26/CONST.24
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

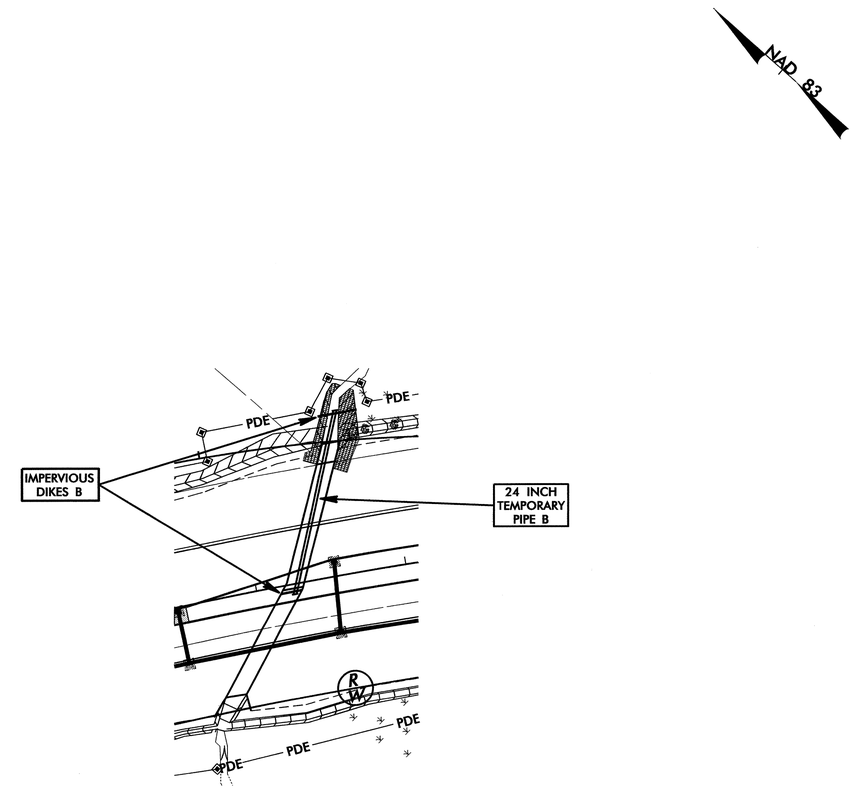
PHASE I

1. UTILIZE SPECIAL STILLING BASIN(S) AS NEEDED THROUGHOUT CULVERT CONSTRUCTION.
2. CONSTRUCT IMPERVIOUS DIKES A AND INSTALL 24" TEMPORARY PIPE A, DIVERTING FLOW.
3. REMOVE PORTION OF EXISTING 79" CMP.
4. CONSTRUCT UPSTREAM PORTION OF PROPOSED CULVERT AND ANY NECESSARY UPSTREAM CHANNEL IMPROVEMENTS.
5. REMOVE IMPERVIOUS DIKES A AND 24" TEMPORARY PIPE A.
6. CONSTRUCT ROADWAY OVER COMPLETED PORTION OF PROPOSED CULVERT AND SHIFT TRAFFIC.



PHASE II

7. CONSTRUCT IMPERVIOUS DIKES B AND INSTALL 24" TEMPORARY PIPE B, DIVERTING FLOW.
8. REMOVE EXISTING CULVERT AND 78" CMP.
9. CONSTRUCT DOWNSTREAM PORTION OF PROPOSED CULVERT AND ANY NECESSARY DOWNSTREAM CHANNEL IMPROVEMENTS.
10. REMOVE IMPERVIOUS DIKES B AND 24" TEMPORARY PIPE B.
11. REMOVE ANY REMAINING SPECIAL STILLING BASIN(S), AND COMPLETE ROADWAY.



PROJECT REFERENCE NO.	SHEET NO.
R-2812	EC-27/CONST.25
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 25

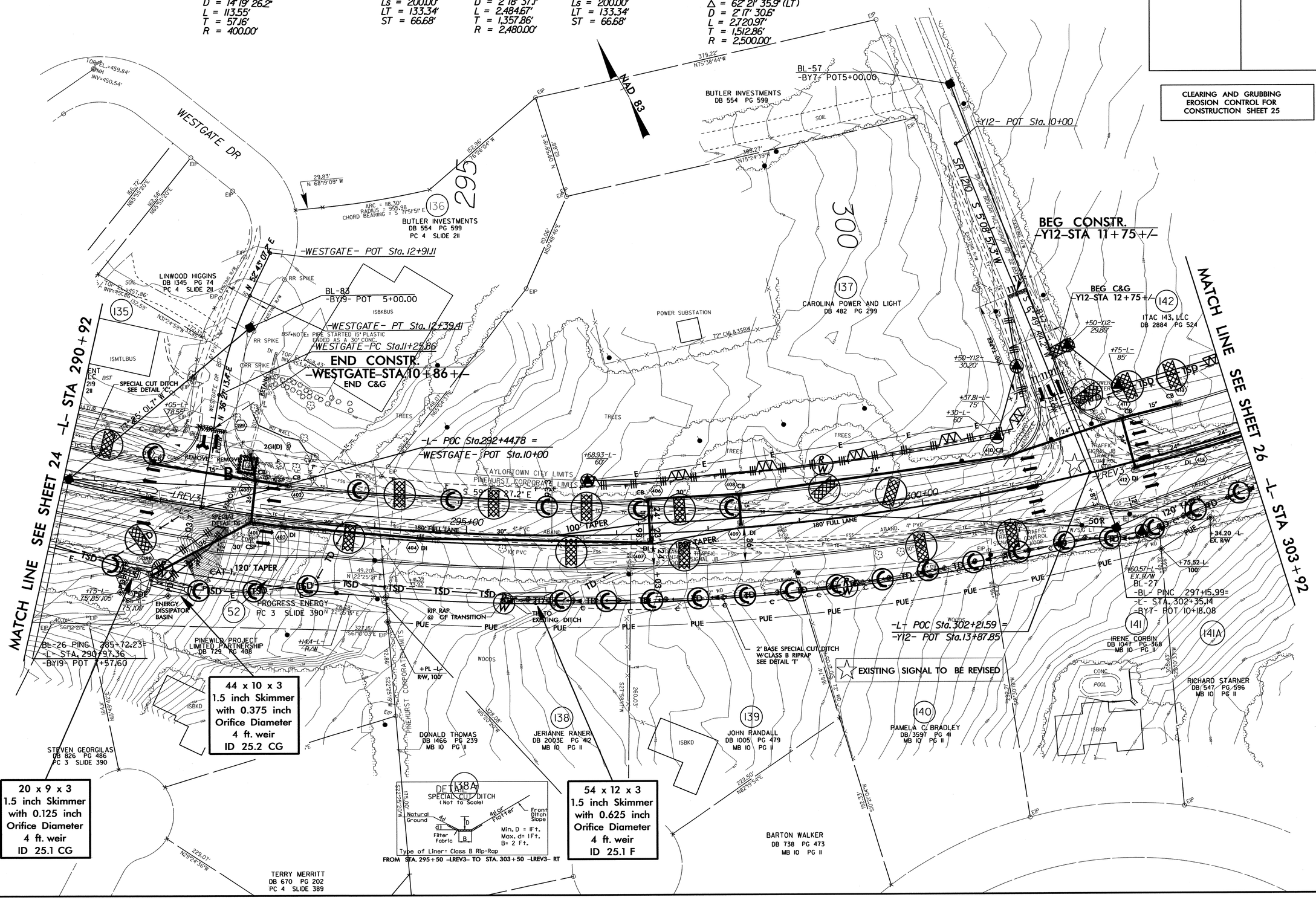
-WESTGATE-
PI Sta 11+83.02
Δ = 16° 15' 53.8" (RT)
D = 14° 19' 26.2"
L = 113.55'
T = 57.16'
R = 400.00'

-LREV3-
PIs Sta 289+06.57
θs = 2° 18' 37.1"
Ls = 200.00'
LT = 133.34'
ST = 66.68'

PI Sta 303+31.09
Δ = 57° 24' 13.0" (LT)
D = 2° 18' 37.1"
L = 2,484.67'
T = 1,357.86'
R = 2,480.00'

PIs Sta 315+24.57
θs = 2° 18' 37.1"
Ls = 200.00'
LT = 133.34'
ST = 66.68'

-L-
PI Sta 302+92.62
Δ = 62° 21' 35.9" (LT)
D = 2° 17' 30.6"
L = 2,720.97'
T = 1,512.86'
R = 2,500.00'



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$$$$USER$$$$ AT PRN\PA9578

PROJECT REFERENCE NO.	SHEET NO.
R-2812	EC-28/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.

-Y13-

PI Sta 12+69.75
Δ = 13° 42' 10.2" (LT)
D = 1° 09' 43.1"
L = 191.33'
T = 96.12'
R = 800.00'

PI Sta 15+04.21
Δ = 18° 54' 59.9" (LT)
D = 28° 38' 52.4"
L = 66.03'
T = 33.32'
R = 200.00'

-L-

PIs Sta 315+67.40
Θs = 2° 17' 30.6"
Ls = 200.00'
LT = 133.34'
ST = 66.68'

EXISTING SIGNAL TO BE REVISED

SEE SHEET 25 -L- STA 303+92

MATCH LINE SEE SHEET 27 -L- STA 317+92

NAD 83

305

310

315

-Y13- POT Sta. 10+00.00

BL-60
POT 5+00.00

148
OLMSTED VILLAGE WEST LIMITED PARTNERSHIP
DB 981 PG 411

CS Sta. 315+00.72

BL-58
-BL- PINC 309+91.07=
-L- STA. 314+73.38
-BY8- POT 8+75.88

FRANK A. MCNEILL
DB 1257 PG 187

ACCESS EASEMENT
DB 1257 PG 187

142
ITAC 143, LLC
DB 2884 PG 524

EXISTING DITCH SPILLS OUT

CHORD

TAYLORTOWN CITY LIMITS
PINEHURST CORPORATE LIMITS

100' TAPER

180' FULL LANE

2' BASE SPECIAL CUT DITCH SEE DETAIL 'X'

SPECIAL CUT DITCH SEE DETAIL 'C'

EXISTING CROSS PIPE IS NOT FUNCTIONAL - OUTLET END IS BURIED ON NORTH SIDE

CLASS 'B' RIP RAP
EST. 2 TONS
7 SY FILTER FABRIC

-LREV3- CS Sta. 314+57.89

-LREV3- POS Sta. 314+82.33 =
-Y13- POT Sta. 14+35.86

-LREV3- ST Sta. 316+57.89
-Y13-PC Sta. 14+70.89
-Y13-PT Sta. 15+36.92

END CONSTR.
-Y13- STA. 13+36.5
BEG C&G
BEGIN SIDEWALK

END CONSTR.
-Y13- STA. 15+60
END SW (LT)
END C&G (LT&RT)

-LREV3- POT Sta. 316+48.3 BK =
-L- POT Sta. 317+10.00 AH.

-Y13- PC Sta. 11+73.63

159
BEG CONSTR.
-Y13- STA. 13+36.5
BEG C&G
BEGIN SIDEWALK

149
DELTA WELLS, LLC
DB 3825 PG 276

-Y13- PT 13+64.95

-Y13- POT Sta. 18+33.92

151
MOORE COUNTY
DB 1556 PG 98
MB 10 PG 12

150
LENA GORDON
DB 2004E PG 197
MB 10 PG 11

BL-28
-L- STA. 311+86.89 =
PINC 306+87.90

JOSEPH PESEK
DB 3455 PG 142
MB 10 PG 11

RICHARD STARNER
DB 547 PG 596
MB 10 PG 11

HAZEL ELMORE
DB 1104 PG 270
MB 10 PG 11

VINCENT & CHERYAL KORFMAN
DB 2410 PG 312
MB 10 PG 11

VINCENT & CHERYAL KORFMAN
DB 2410 PG 312
MB 10 PG 11

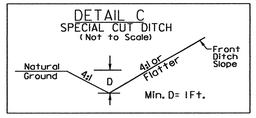
LOUIS DI STEFANO
DB 1338 PG 24
MB 10 PG 11

CHRISTOPHER MARTIN
DB 1837 PG 269
MB 10 PG 11

WAYNE J. PENSENSTADLER
DB 1086 PG 454
MB 10 PG 11

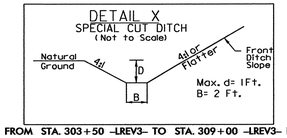
BL-59
-BY8- POT 14+23.99

DETAIL C
SPECIAL CUT DITCH
(Not to Scale)



FROM STA. 309+00 -LREV3- TO STA. 314+50 -LREV3- RT.

DETAIL X
SPECIAL CUT DITCH
(Not to Scale)



FROM STA. 303+50 -LREV3- TO STA. 309+00 -LREV3- RT

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Bpolifer@parsh
A: REV 2409.78

8/17/99

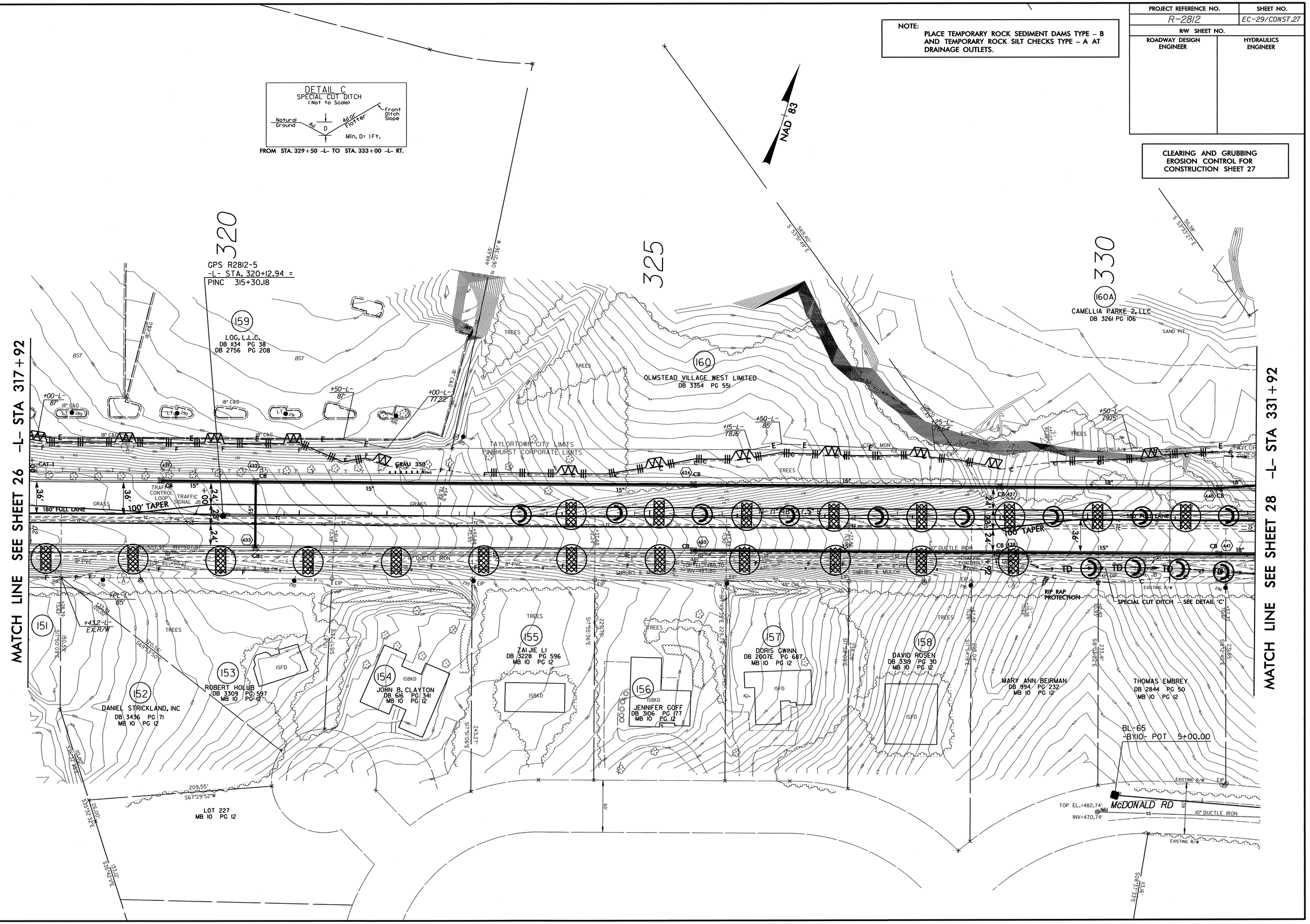
PROJECT REFERENCE NO.	SHEET NO.
R-2812	EC-29/CONST.27
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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 27

DETAIL C
SPECIAL CUT DITCH
(Not to Scale)

FROM STA. 329+50 -L- TO STA. 333+00 -L- RT.



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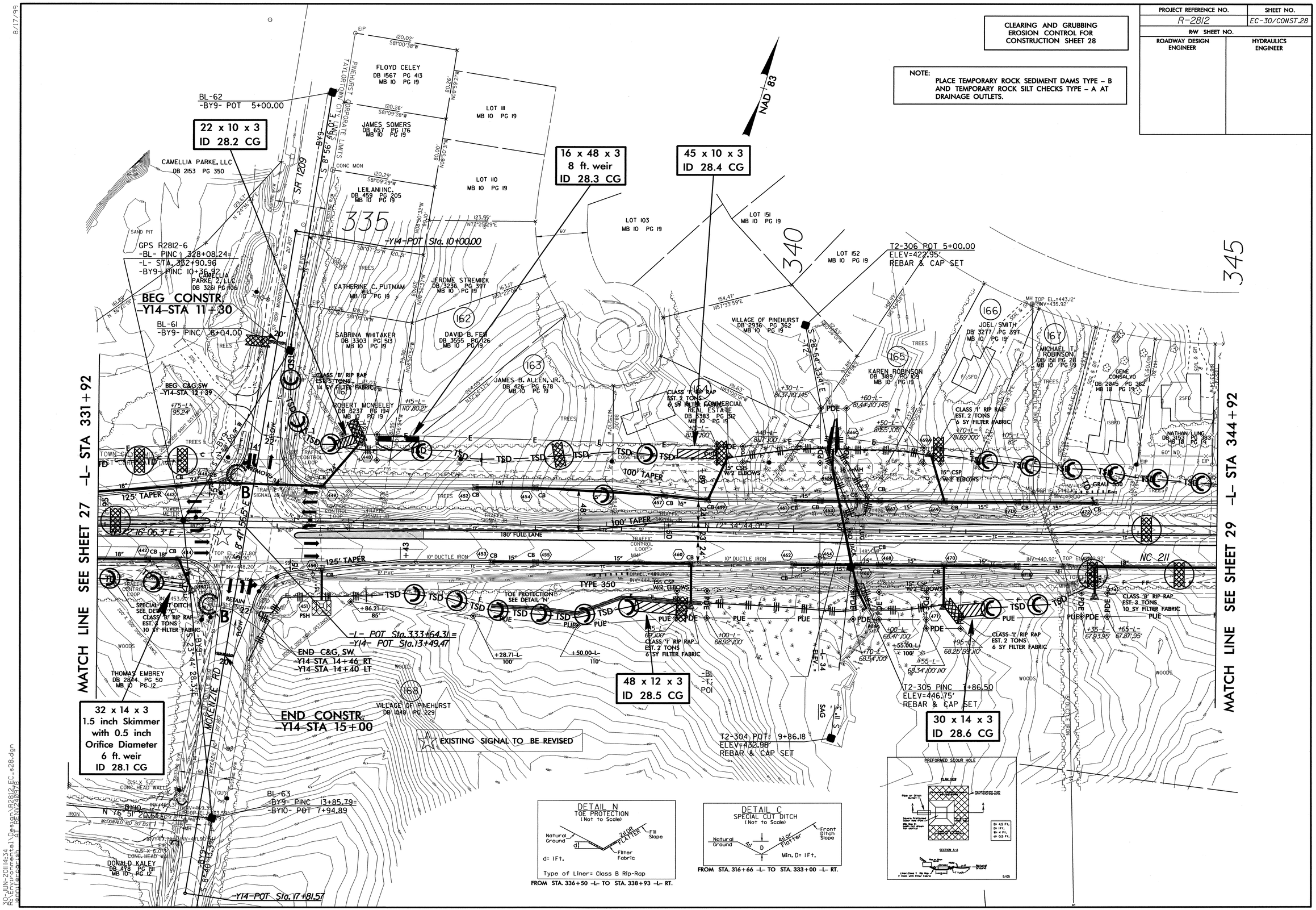
bmilfergerish
AT REN\298578

PROJECT REFERENCE NO.	SHEET NO.
R-2812	EC-30/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.



8/17/99

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jennifer.parish AT RENV240978

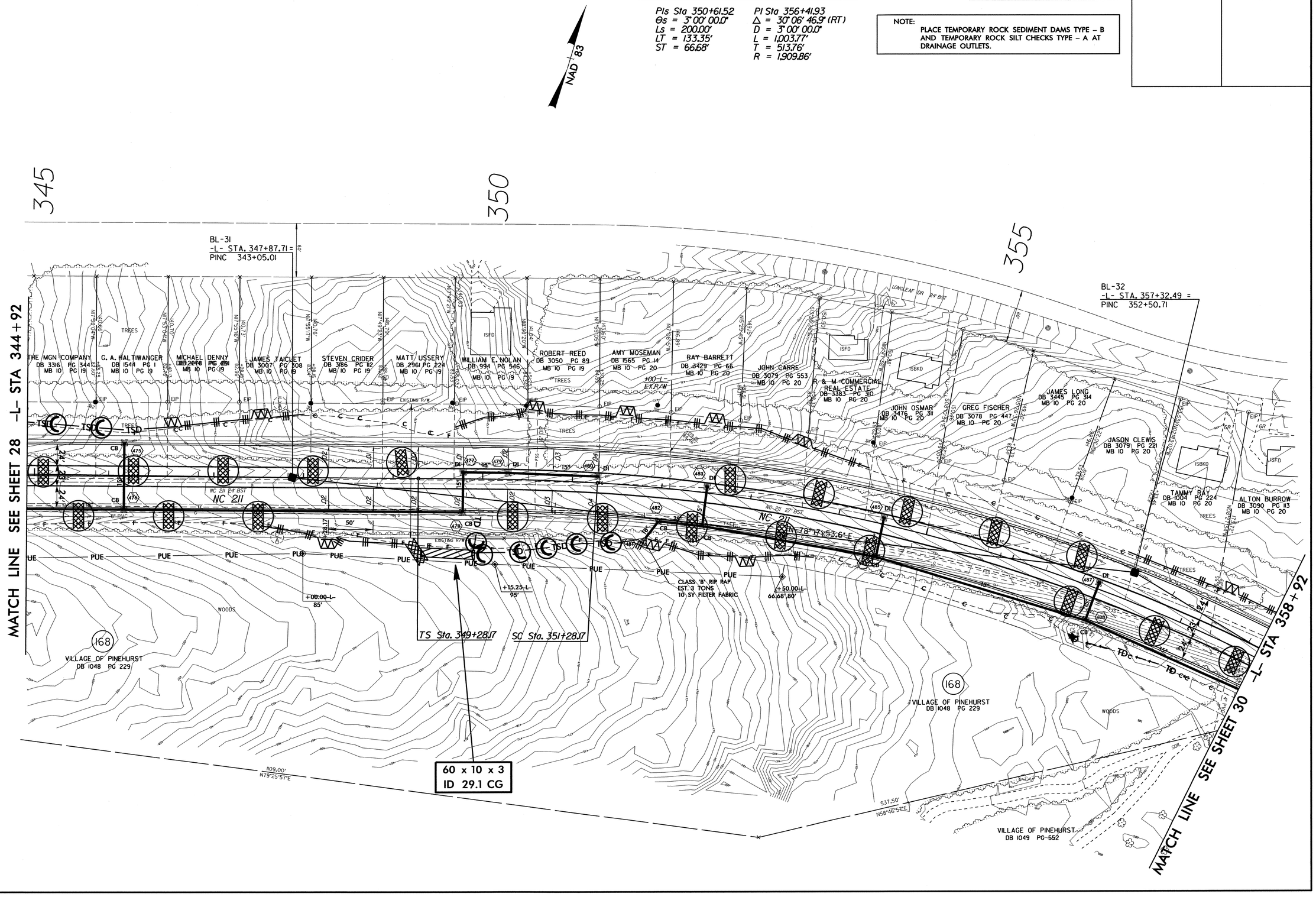
PROJECT REFERENCE NO.	SHEET NO.
R-2812	EC-31/CONST.29
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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.

-L-

PIs Sta 350+61.52	PI Sta 356+41.93
Θs = 3° 00' 00.0"	Δ = 30° 06' 46.9" (RT)
Ls = 200.00'	D = 3° 00' 00.0"
LT = 133.35'	L = 1,003.77'
ST = 66.68'	T = 513.76'
	R = 1,909.86'



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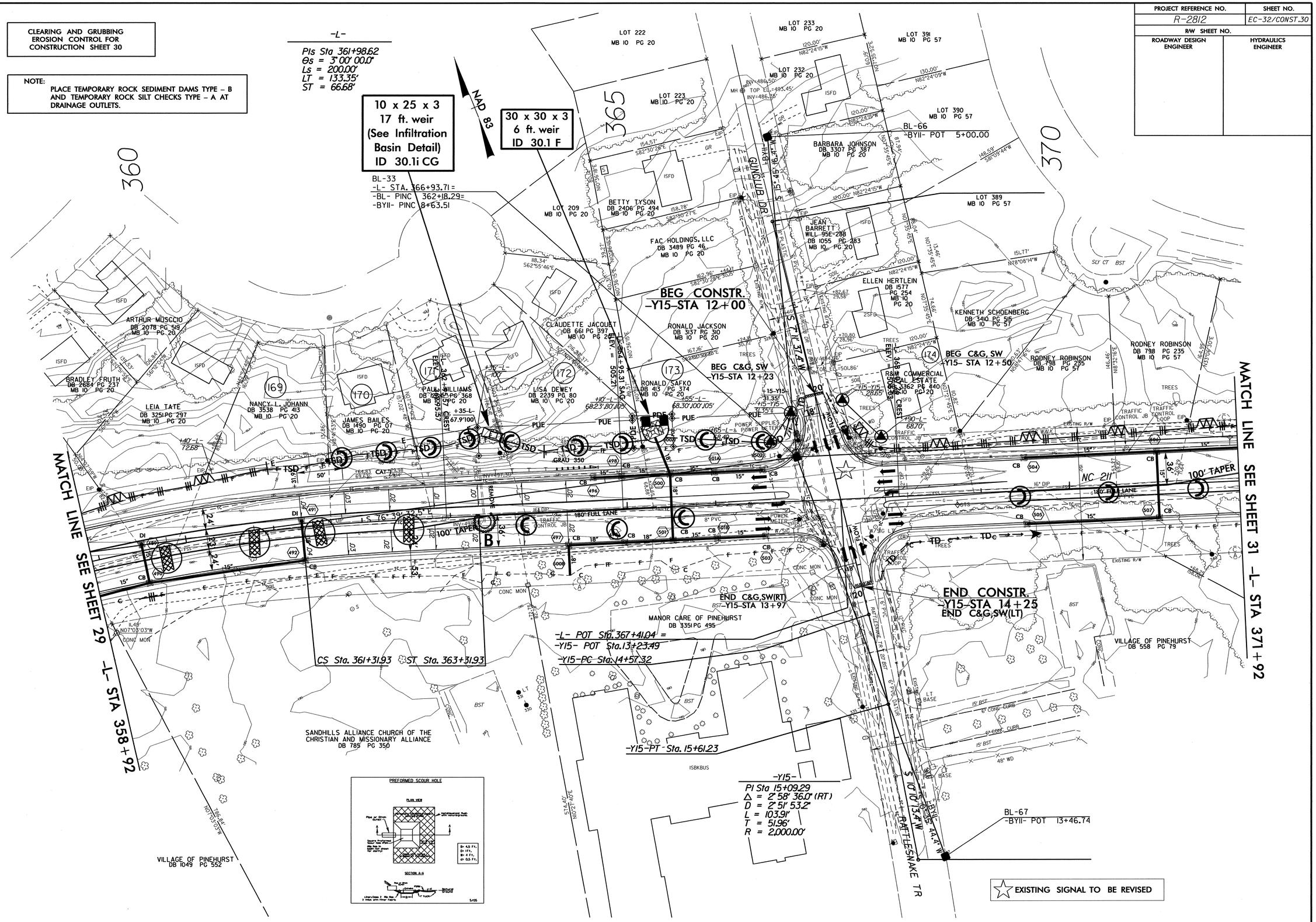
jennifer.parish AT RENV240978

PROJECT REFERENCE NO.	SHEET NO.
R-2812	EC-32/CONST.30
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 30

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



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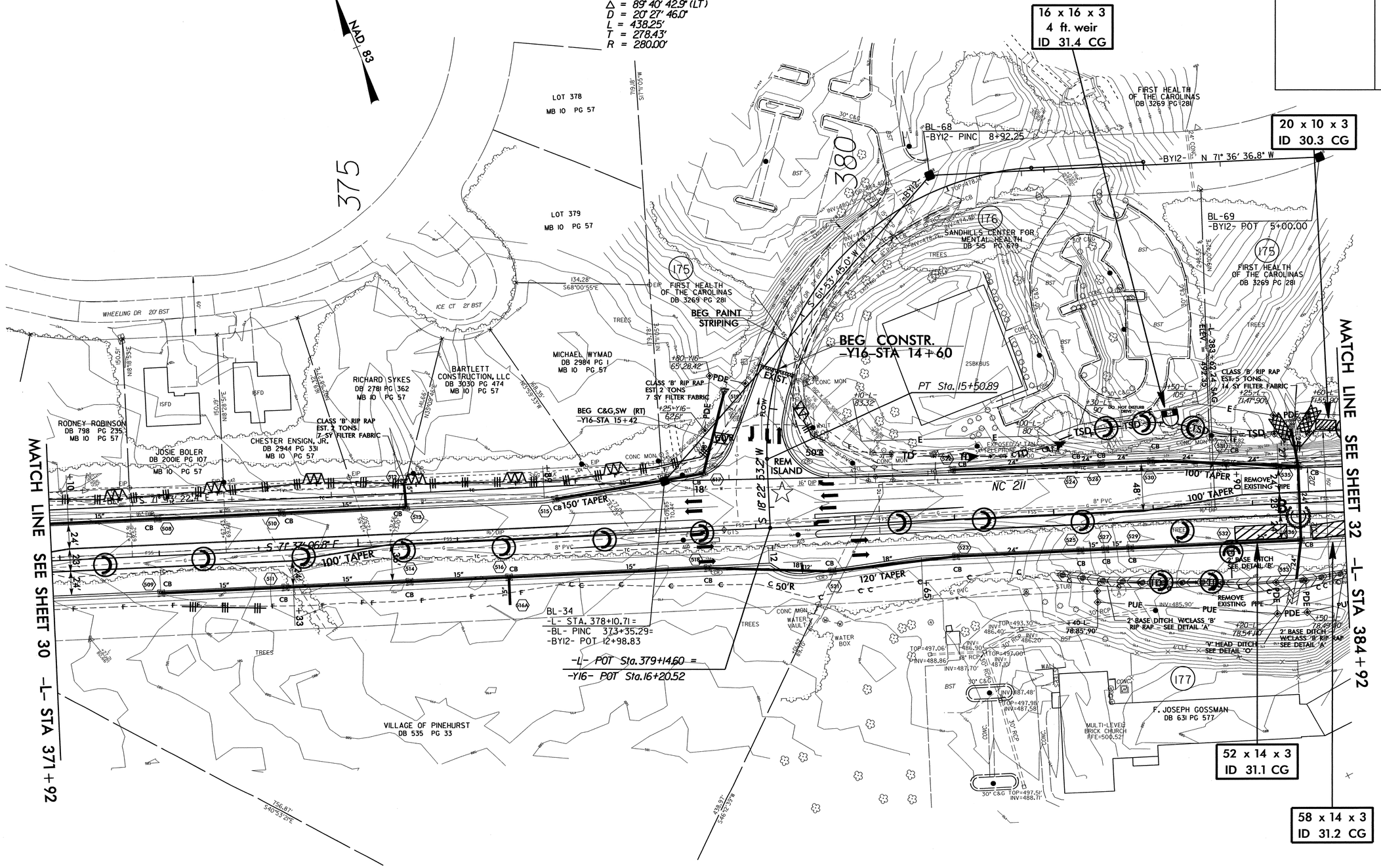
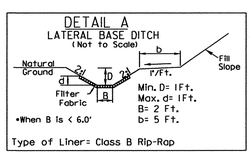
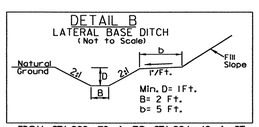
PROJECT REFERENCE NO.	SHEET NO.
R-2812	EC-33/CONST.31
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 31

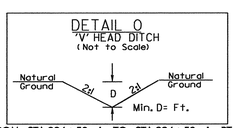
NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE – B AND TEMPORARY ROCK SILT CHECKS TYPE – A AT DRAINAGE OUTLETS.







FROM STA.383+72 -L- TO STA.384+40 -L- RT.



FROM STA.384+50 -L- TO STA.384+50 -L- RT.

5/14/99

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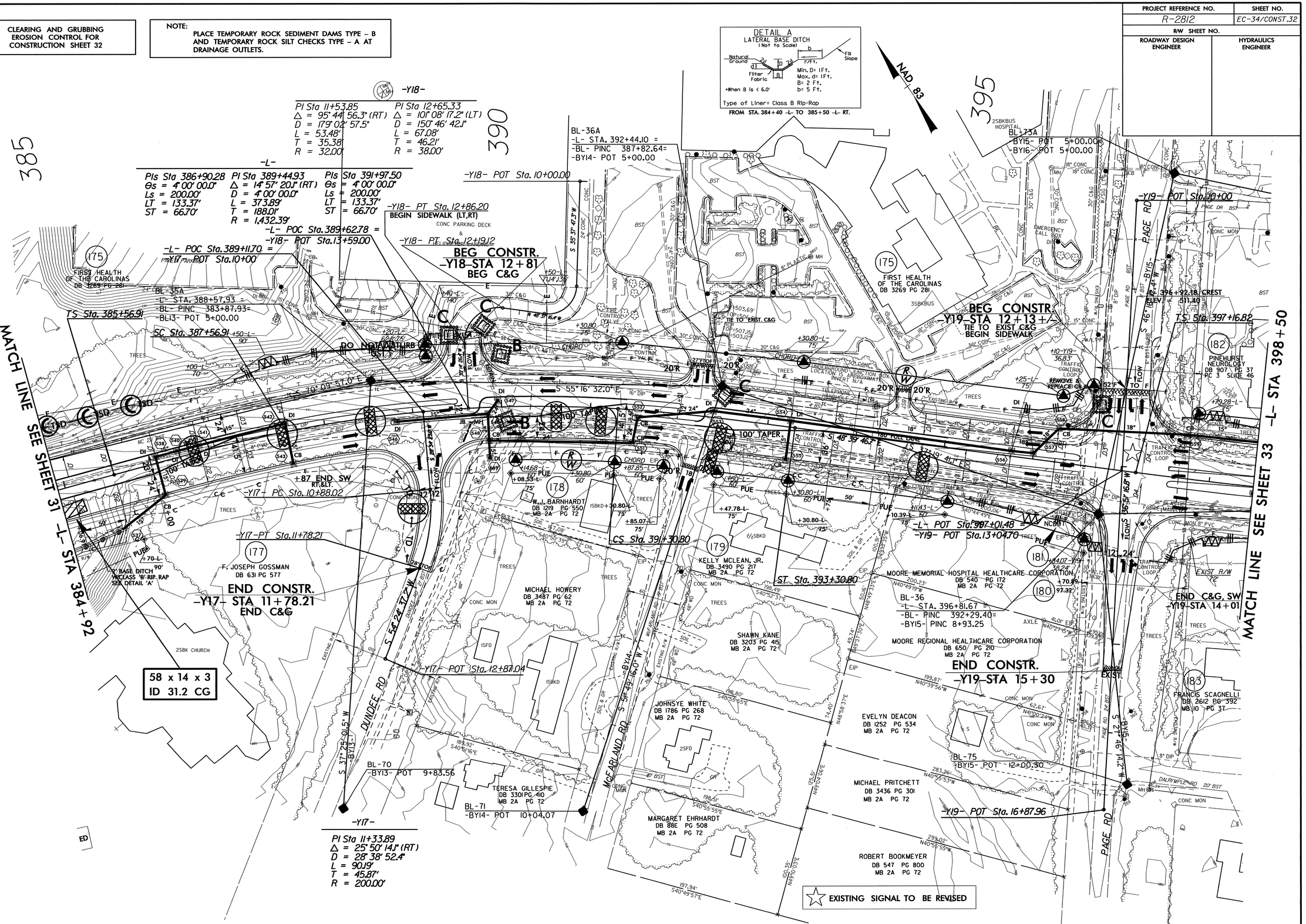
PROJECT REFERENCE NO.	SHEET NO.
R-2812	EC-34/CONST.32
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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.



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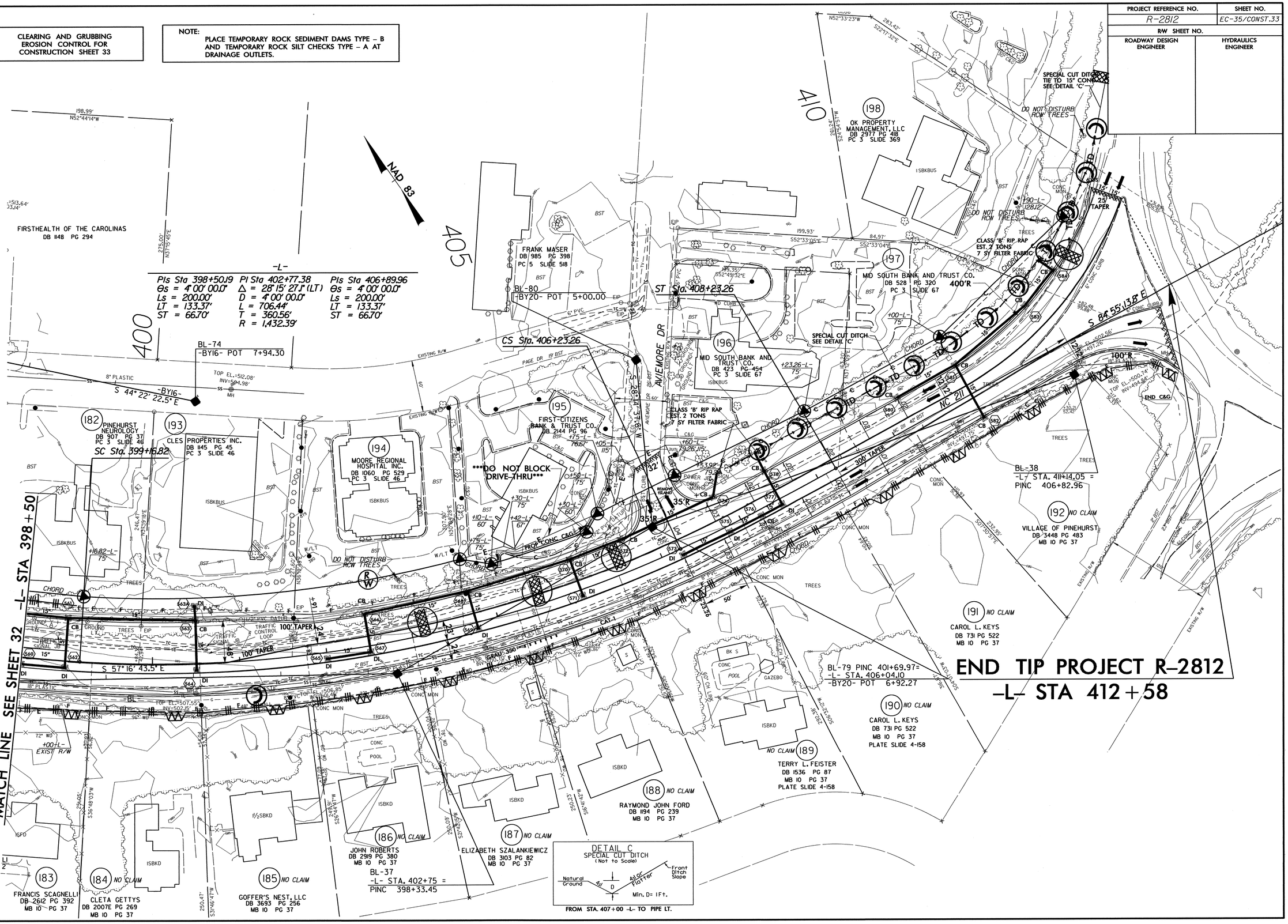
Jennifer Emerick

PROJECT REFERENCE NO.	SHEET NO.
R-2812	EC-35/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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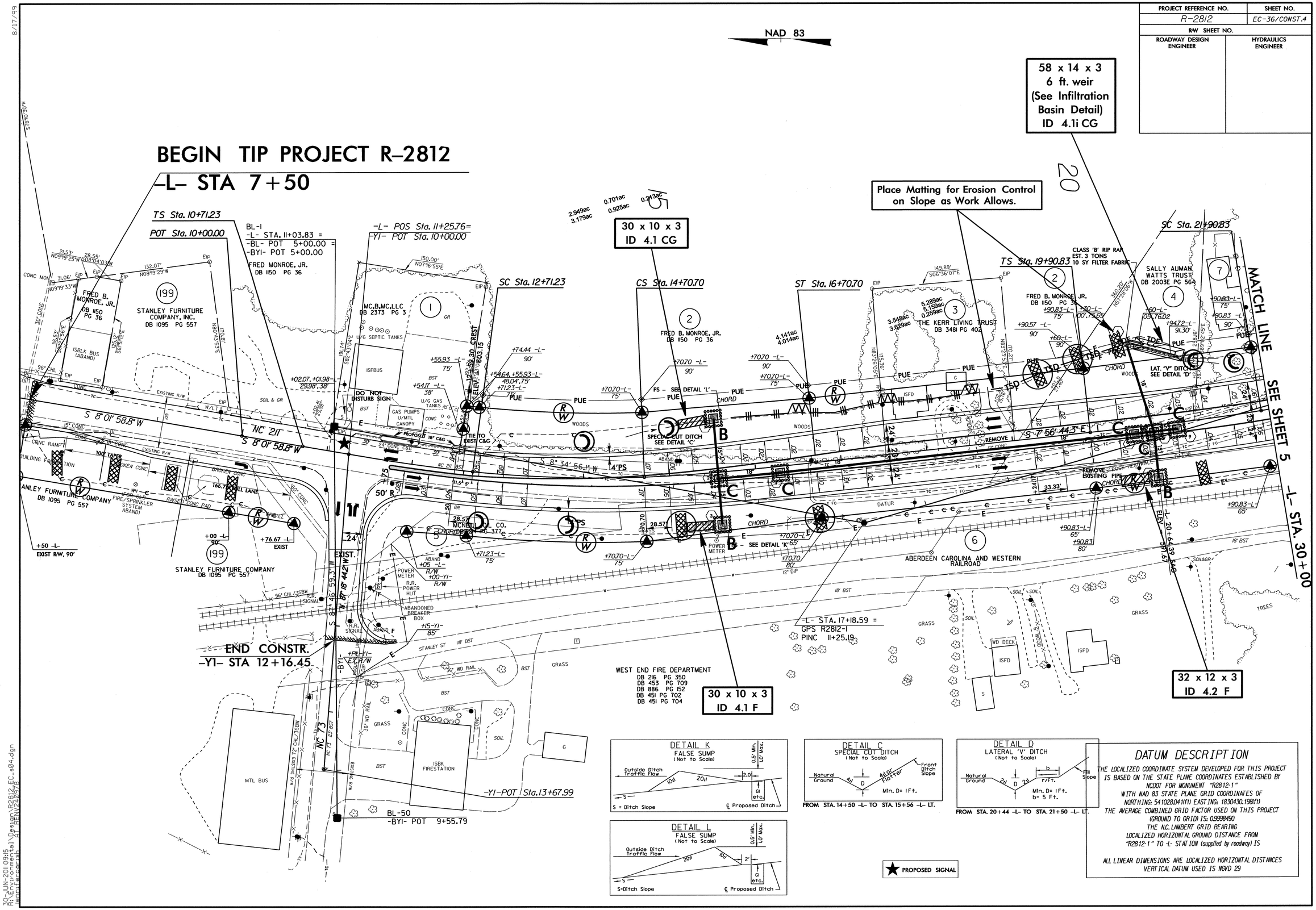
PROJECT REFERENCE NO.	SHEET NO.
R-2812	EC-36/CONST.4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "R2812-1" WITH NAD 83 STATE PLANE GRID COORDINATES OF NORTHING: 541028.041(f1) EASTING: 1830430.198(f1) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.9998490 THE N.C. LAMBERT GRID BEARING LOCALIZED HORIZONTAL GROUND DISTANCE FROM "R2812-1" TO -L- STATION (supplied by roadway) IS

ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NGVD 29

8/17/99

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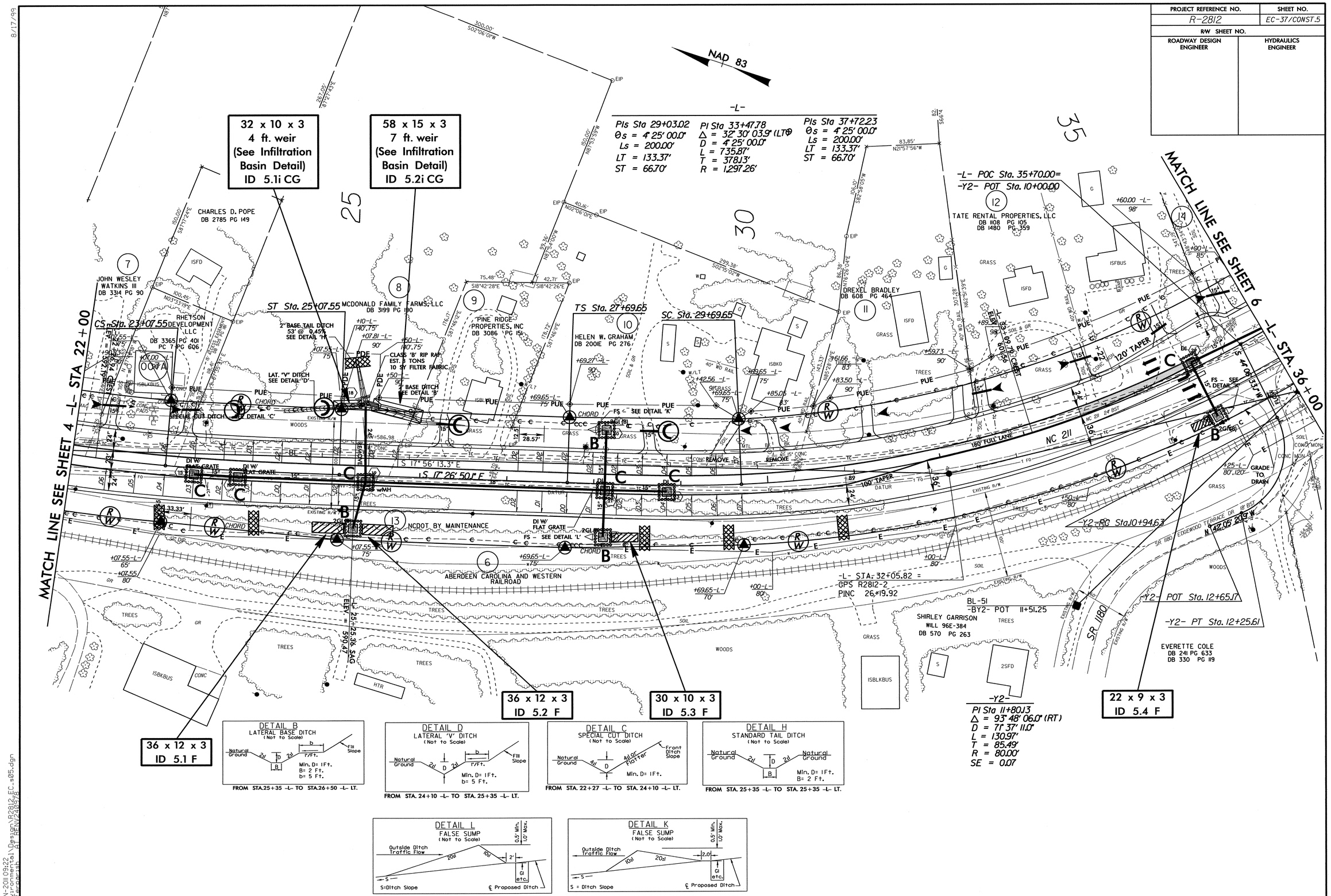
lenniferparish AT RENV240978

PROJECT REFERENCE NO.	SHEET NO.
R-2812	EC-37/CONST.5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



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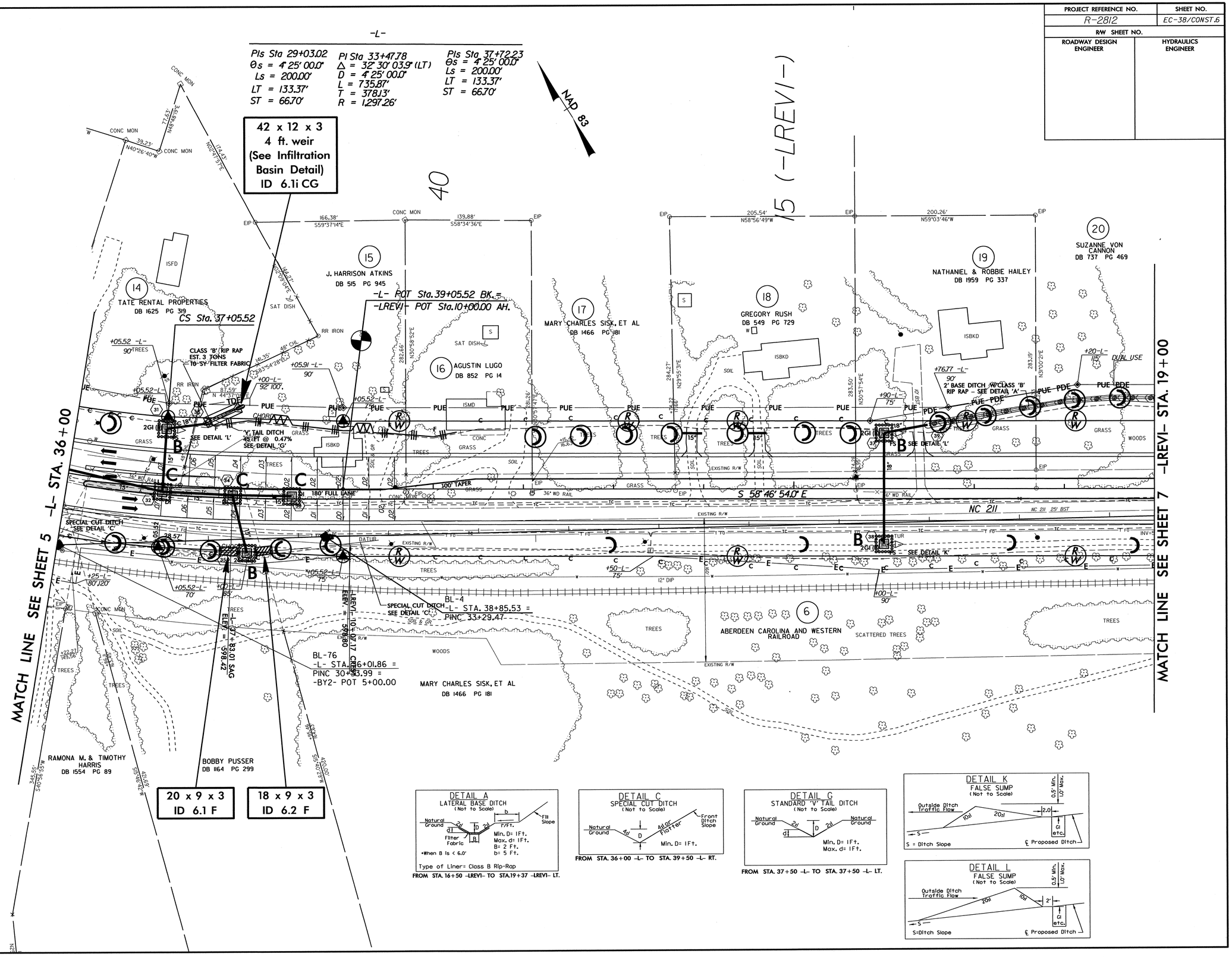
jennifer.c.smith
AT REN\240976
8/17/99

PROJECT REFERENCE NO.	SHEET NO.
R-2812	EC-38/CONST.6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



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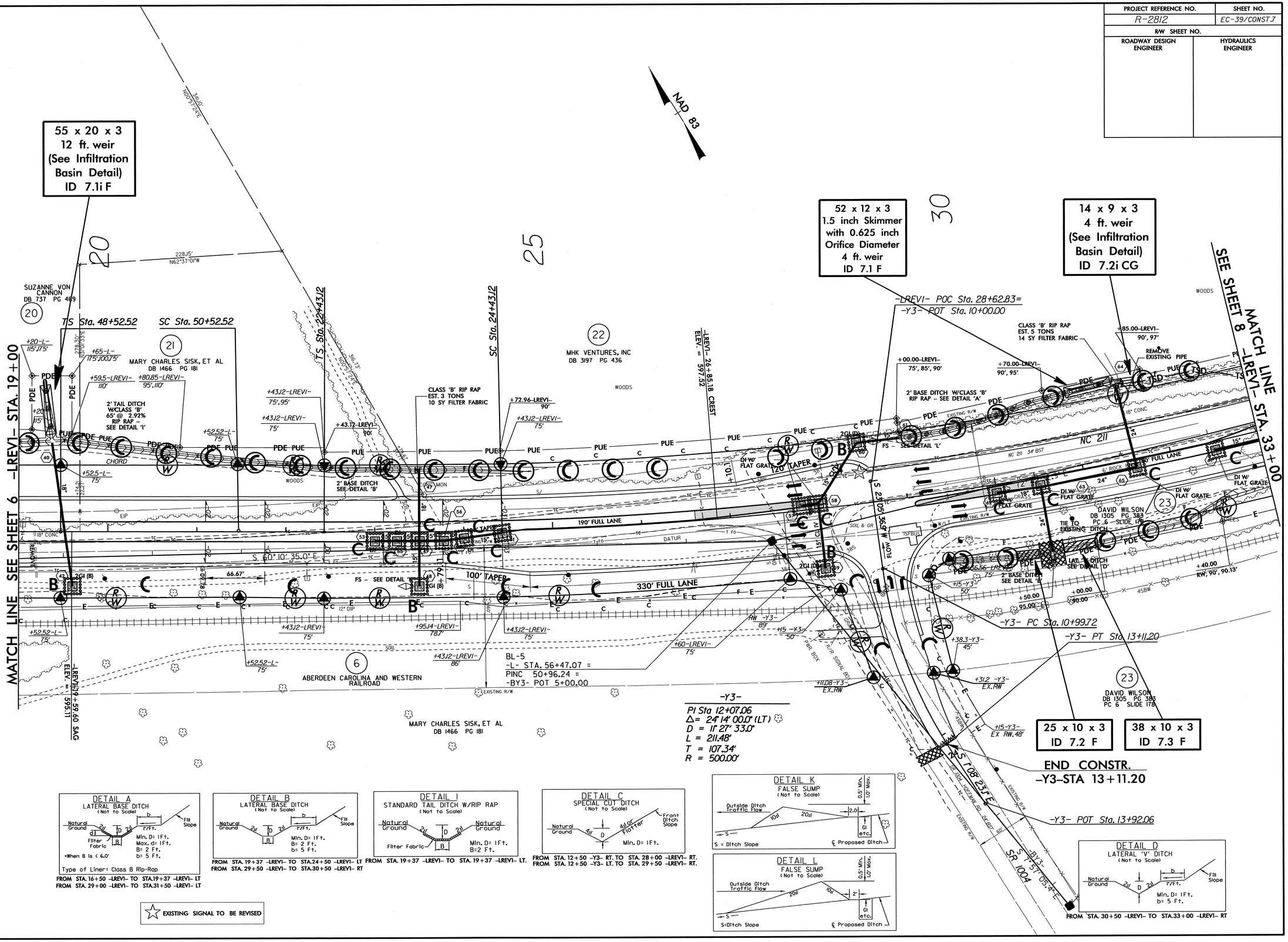
jennifer.poersch

PROJECT REFERENCE NO.	SHEET NO.
R-2812	EC-39/CONST.7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



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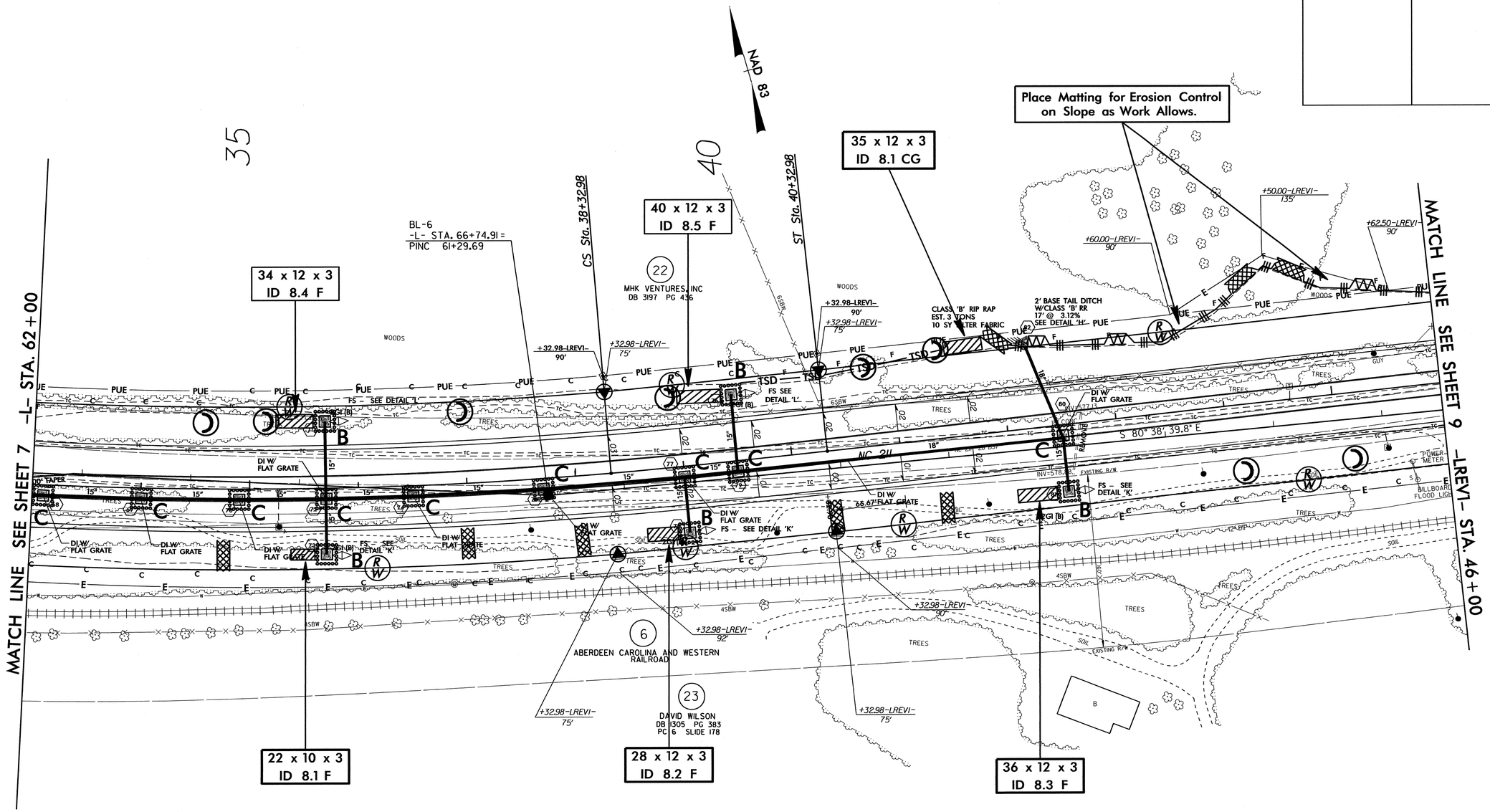
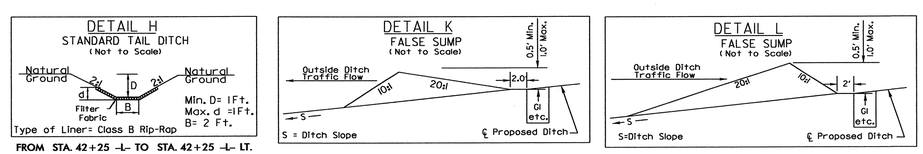
(emilfrederick) AT PENV2400978

PROJECT REFERENCE NO.	SHEET NO.
R-2812	EC-40/CONST.8
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER





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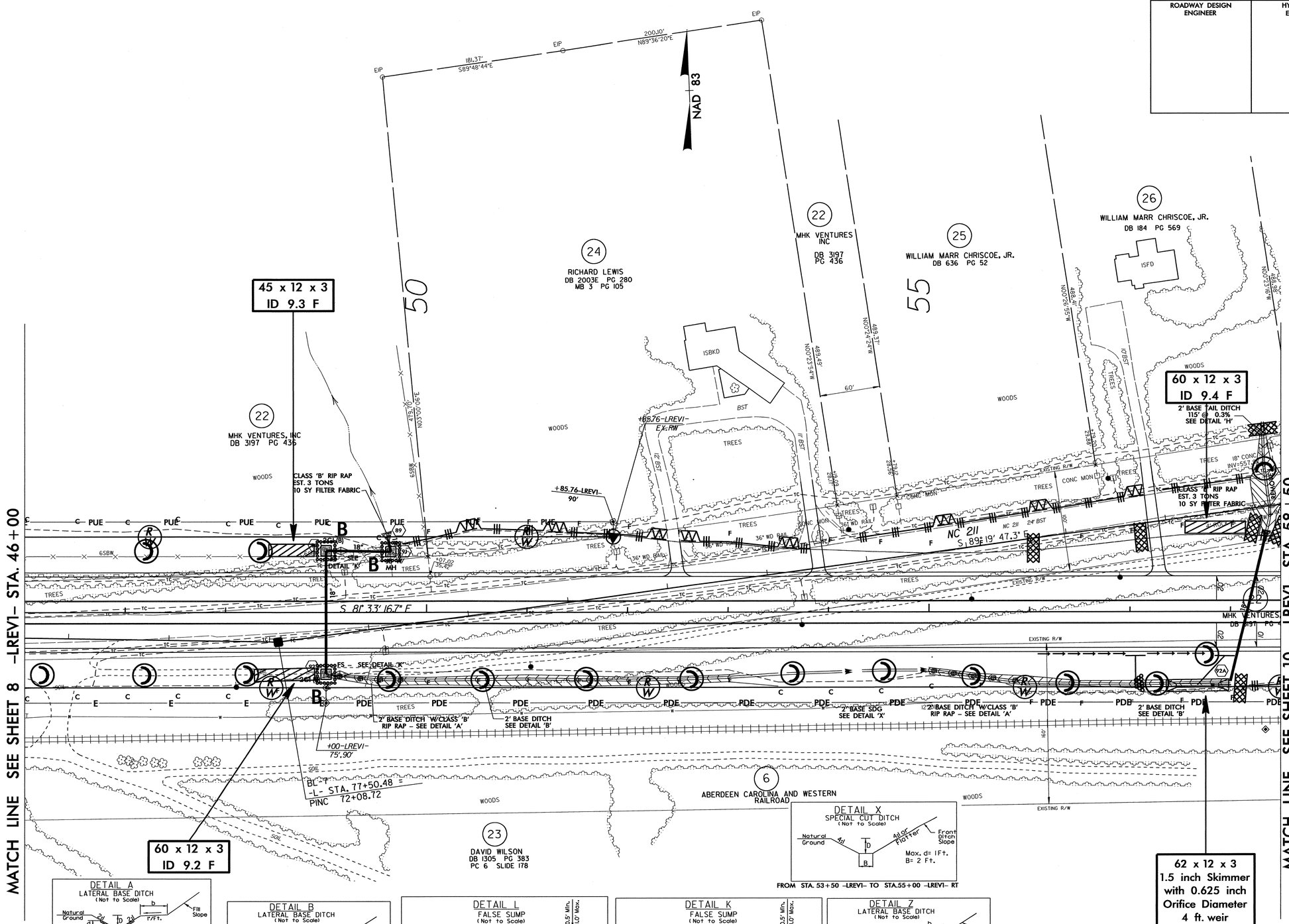
jennifer.parish AT RENV240978

PROJECT REFERENCE NO.	SHEET NO.
R-2812	EC-41/CONST.9
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



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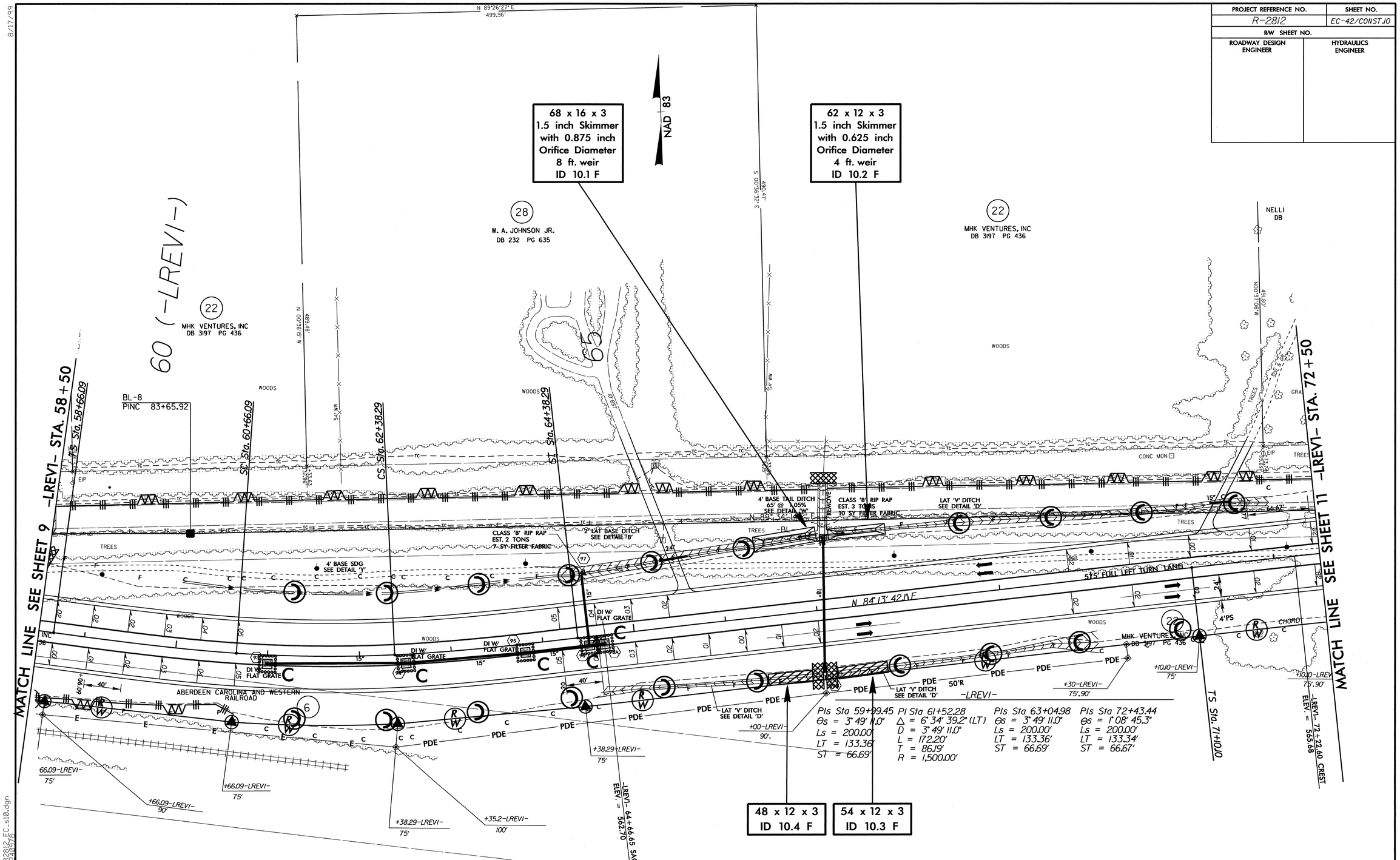
mpmcgregor
AT PREV\210978

PROJECT REFERENCE NO.	SHEET NO.
R-2812	EC-42/CONSTJO
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



8/17/99

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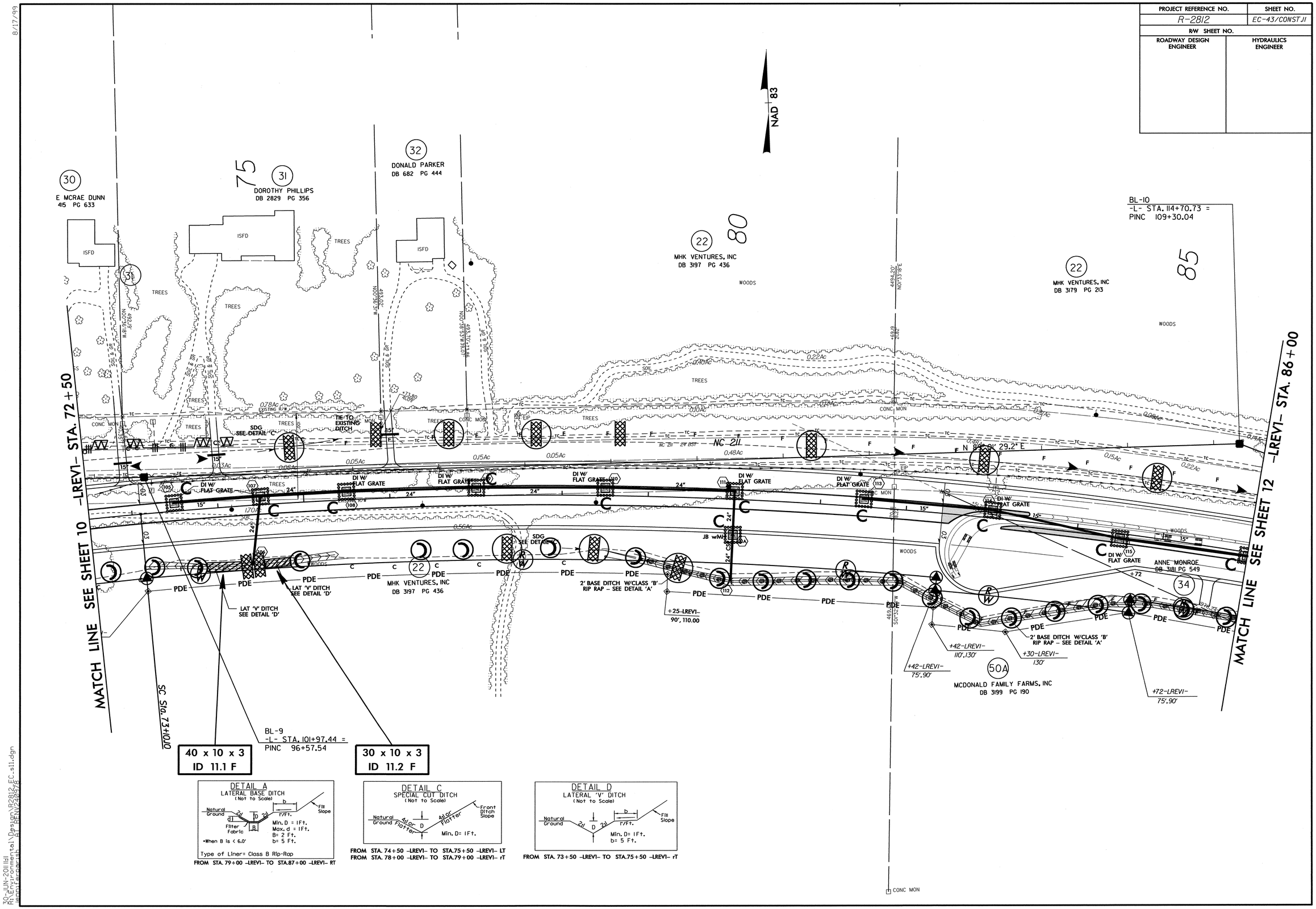
jenpfarparish AT REN\240976

PROJECT REFERENCE NO.	SHEET NO.
R-2812	EC-43/CONST.11
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



FROM STA. 79+00 -LREV1- TO STA.87+00 -LREV1- RT

FROM STA. 74+50 -LREV1- TO STA.75+50 -LREV1- LT
FROM STA. 78+00 -LREV1- TO STA.79+00 -LREV1- rT

FROM STA. 73+50 -LREV1- TO STA.75+50 -LREV1- rT

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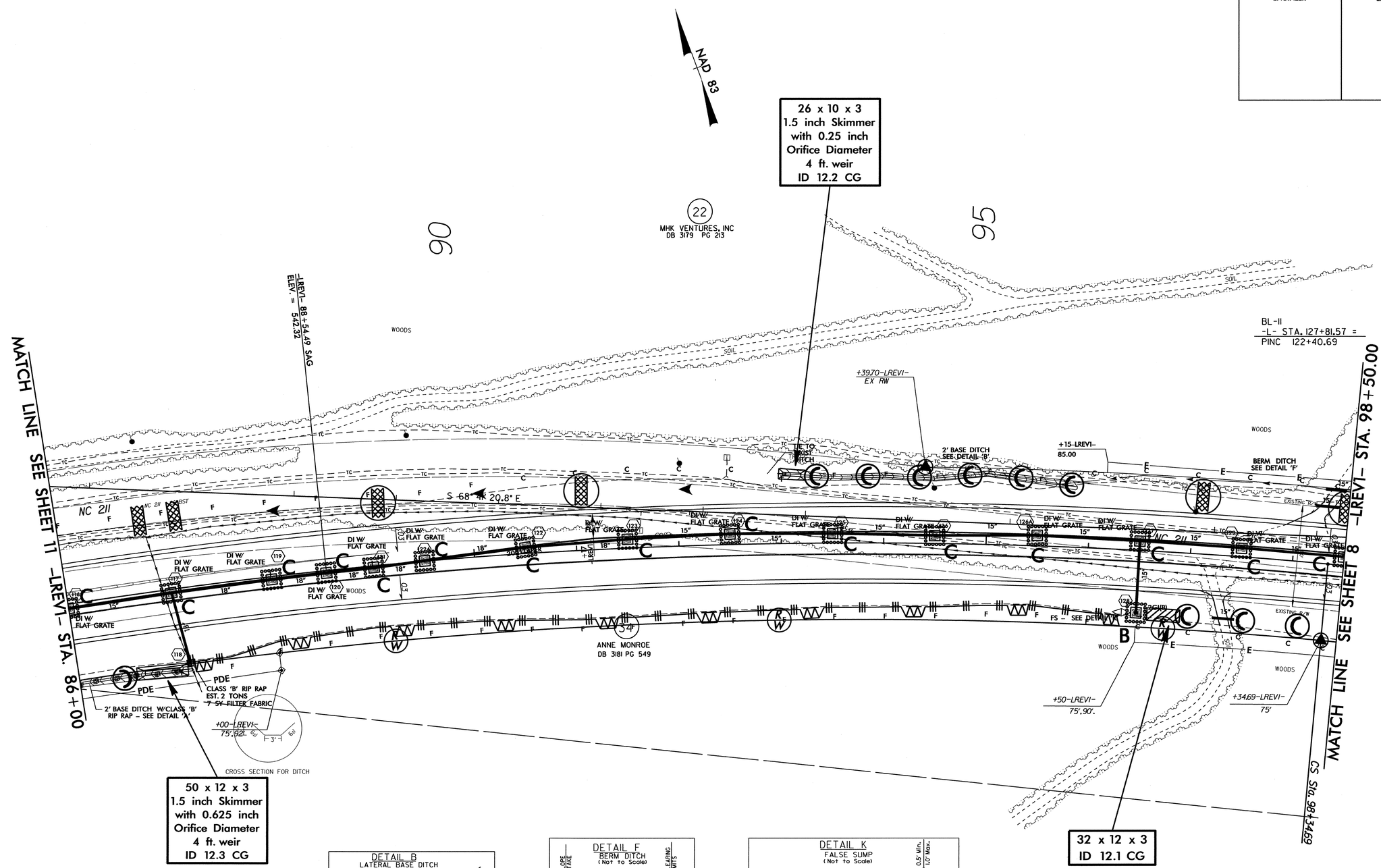
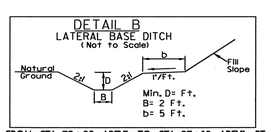
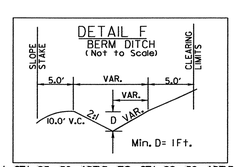
dgnlib\ncdot.dgnlib
BY: BENJAMIN.FARNSH

PROJECT REFERENCE NO.	SHEET NO.
R-2812	EC-44/CONST.12
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

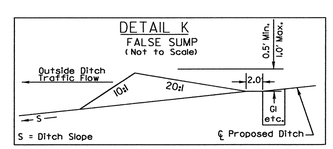




FROM STA. 79+00 -LREV1- TO STA. 87+10 -LREV1- RT
FROM STA. 93+00 -LREV1- TO STA. 95+50 -LREV1- LT.



FROM STA. 95+50 -LREV1- TO STA. 99+50 -LREV1- LT.



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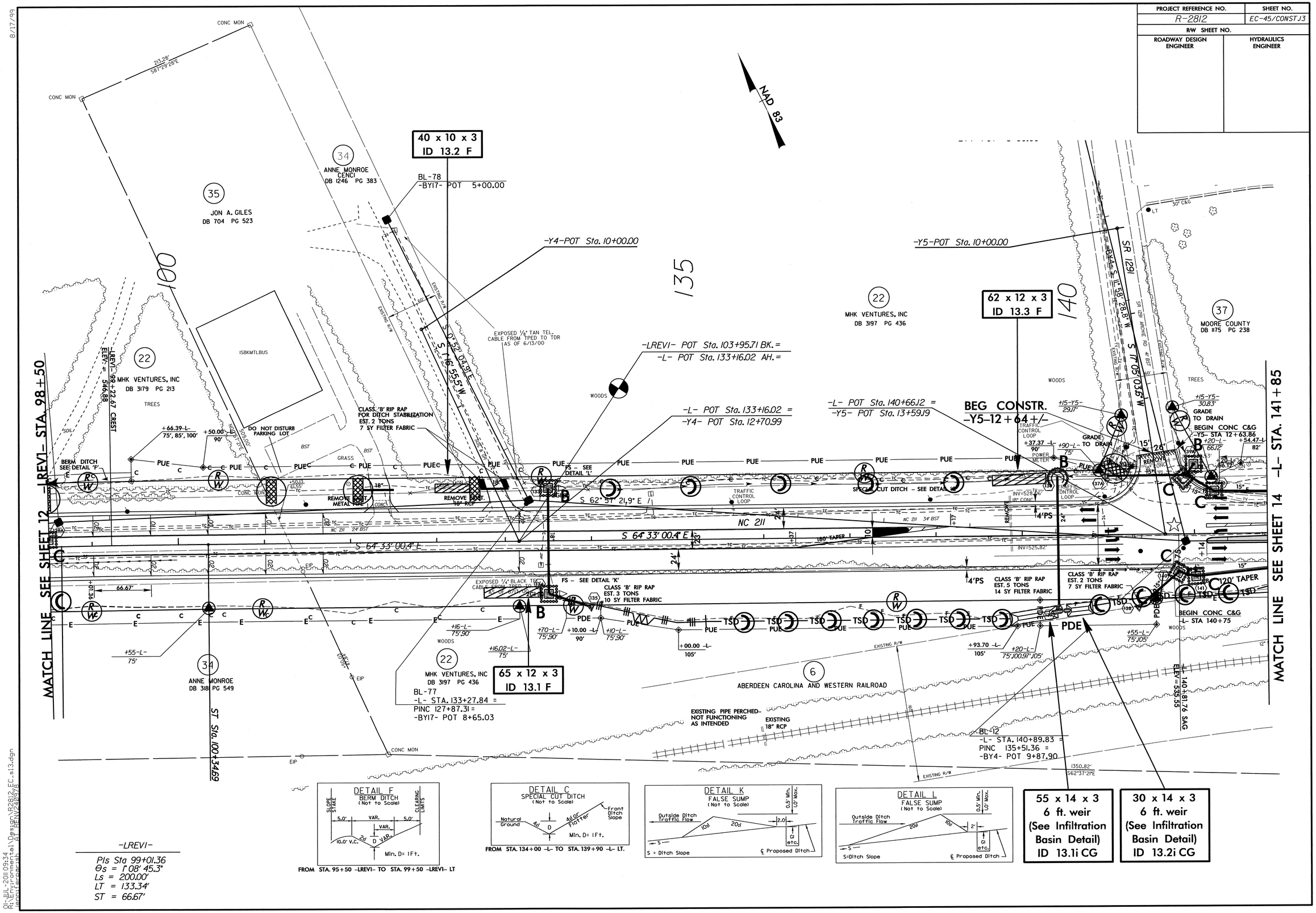
jennifer.parrish AT RENV240976

PROJECT REFERENCE NO.	SHEET NO.
R-2812	EC-45/CONST.13
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



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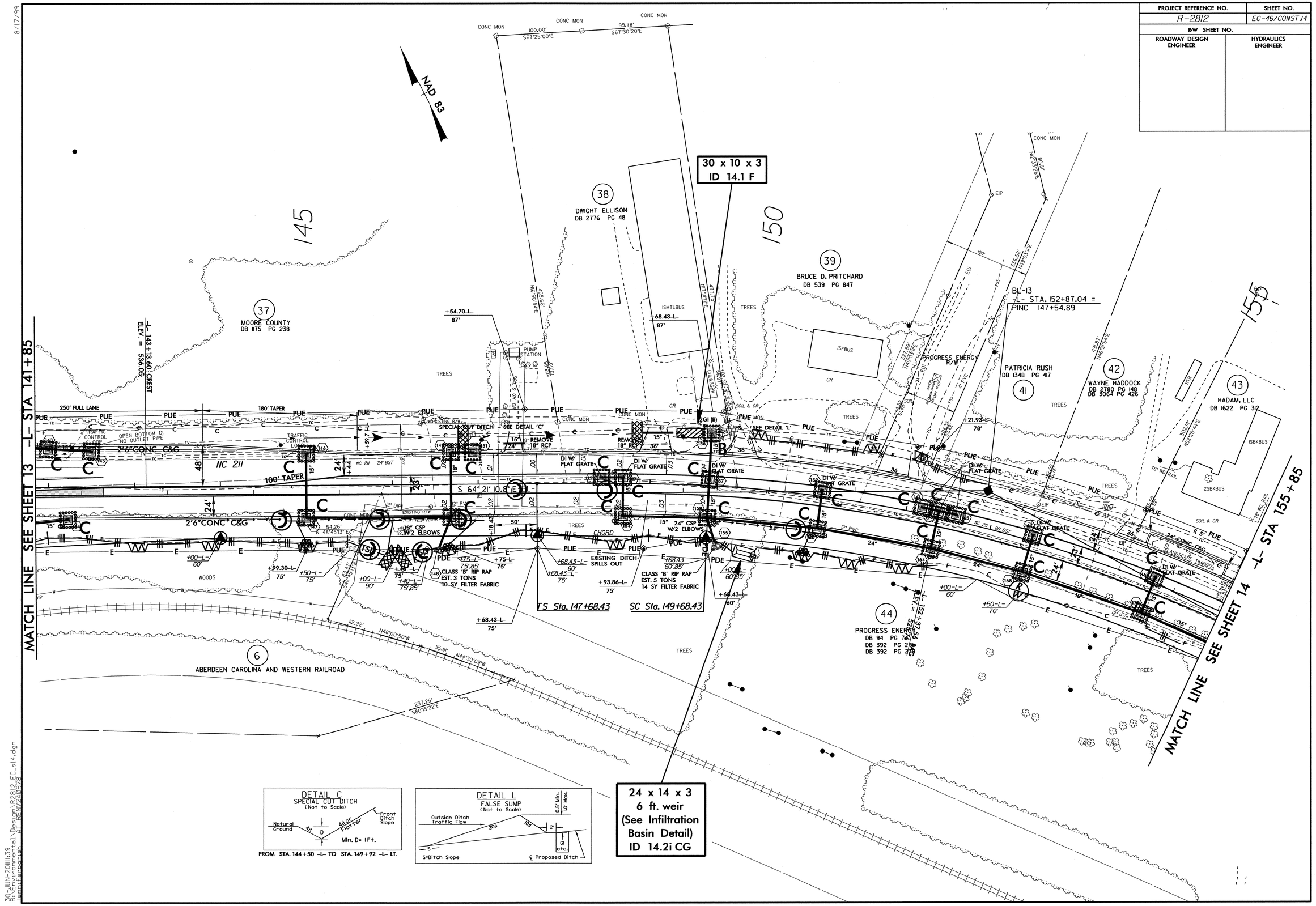
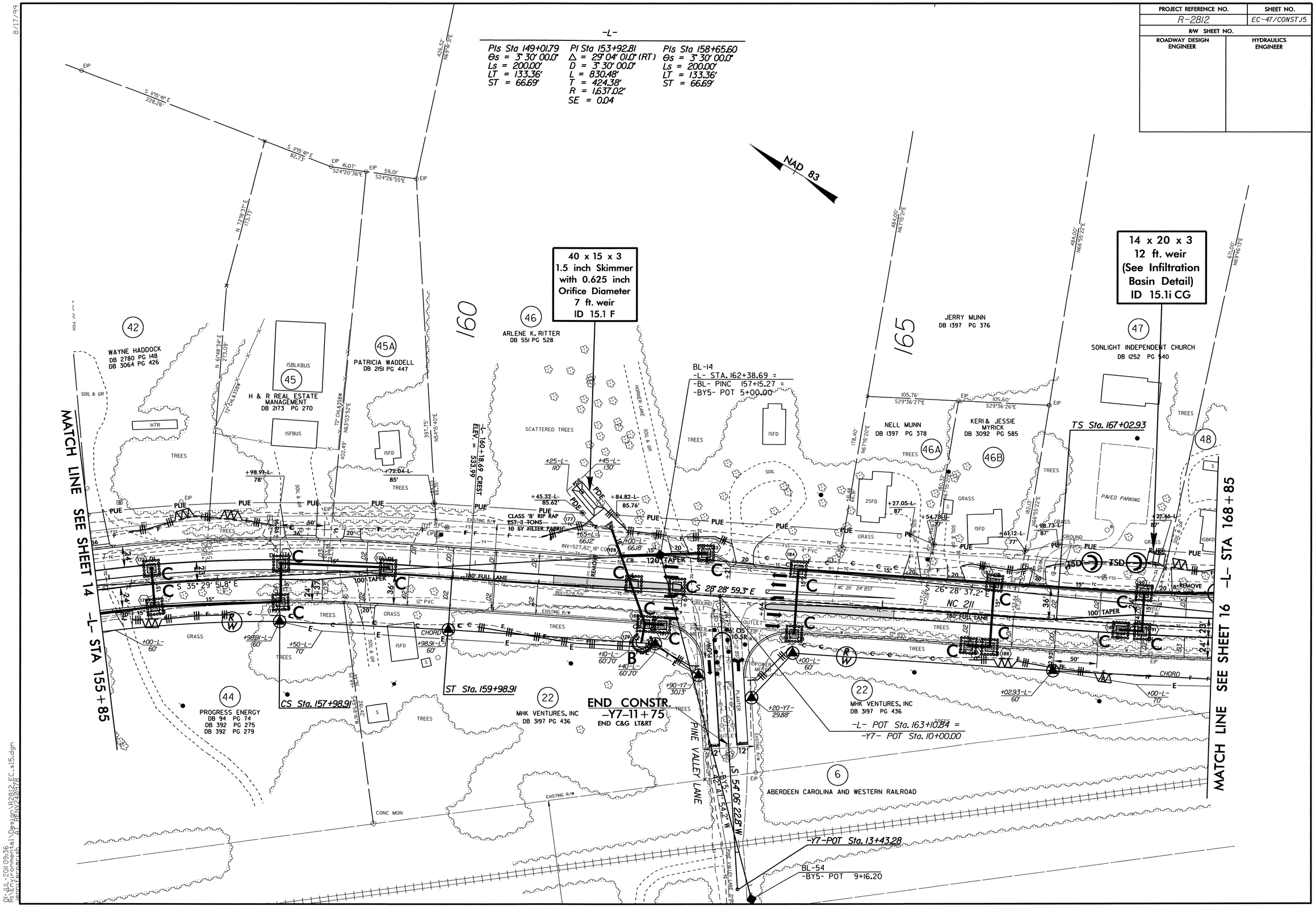
BY: PENNY4896

PROJECT REFERENCE NO.	SHEET NO.
R-2812	EC-46/CONST14
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



PROJECT REFERENCE NO.	SHEET NO.
R-2812	EC-47/CONST.15
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



8/17/99

01-JUL-2011 09:36
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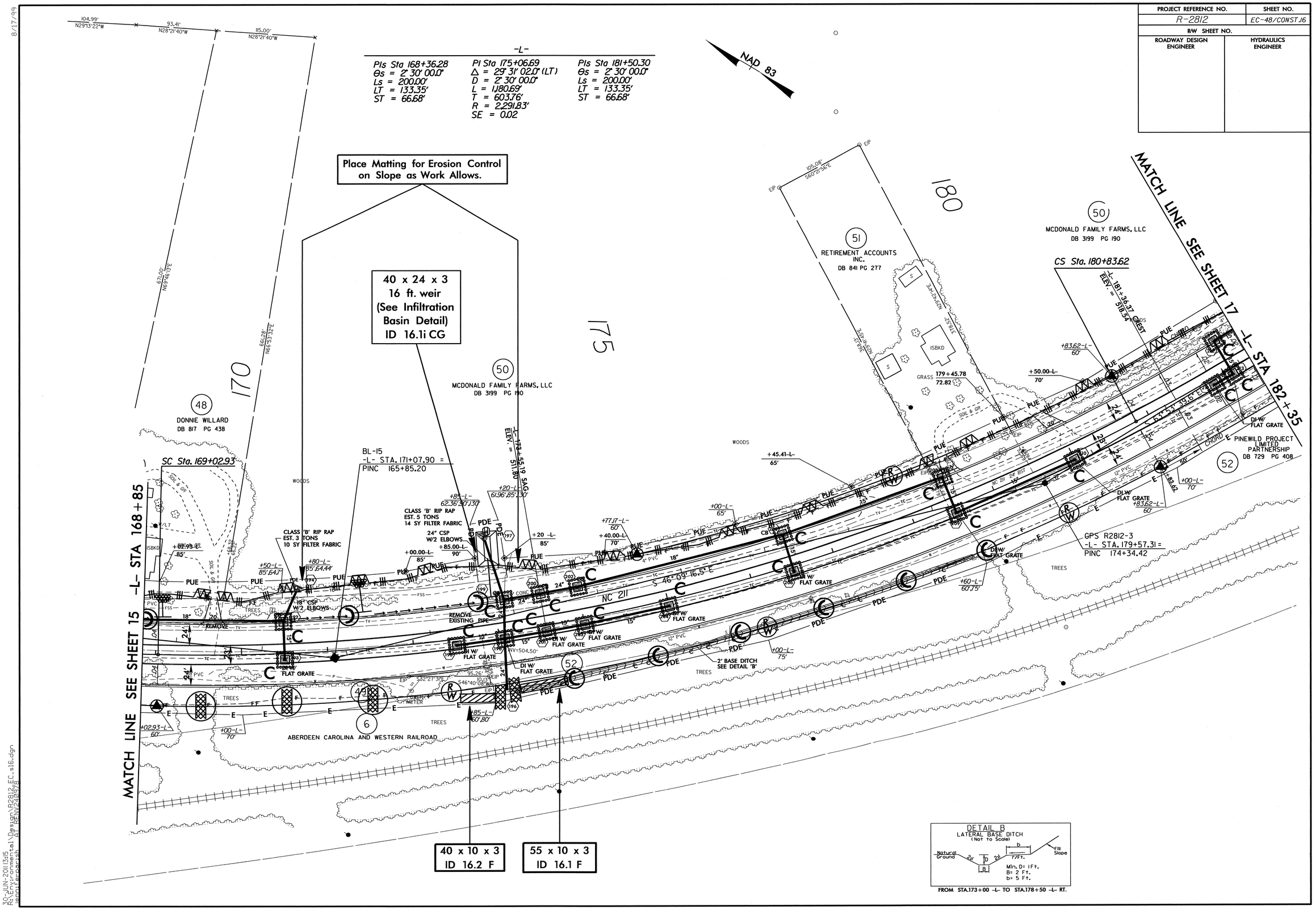
jennifer parish AT RENV240978

PROJECT REFERENCE NO.	SHEET NO.
R-2812	EC-48/CONST.16
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



8/17/99

30-JUN-2011 13:15
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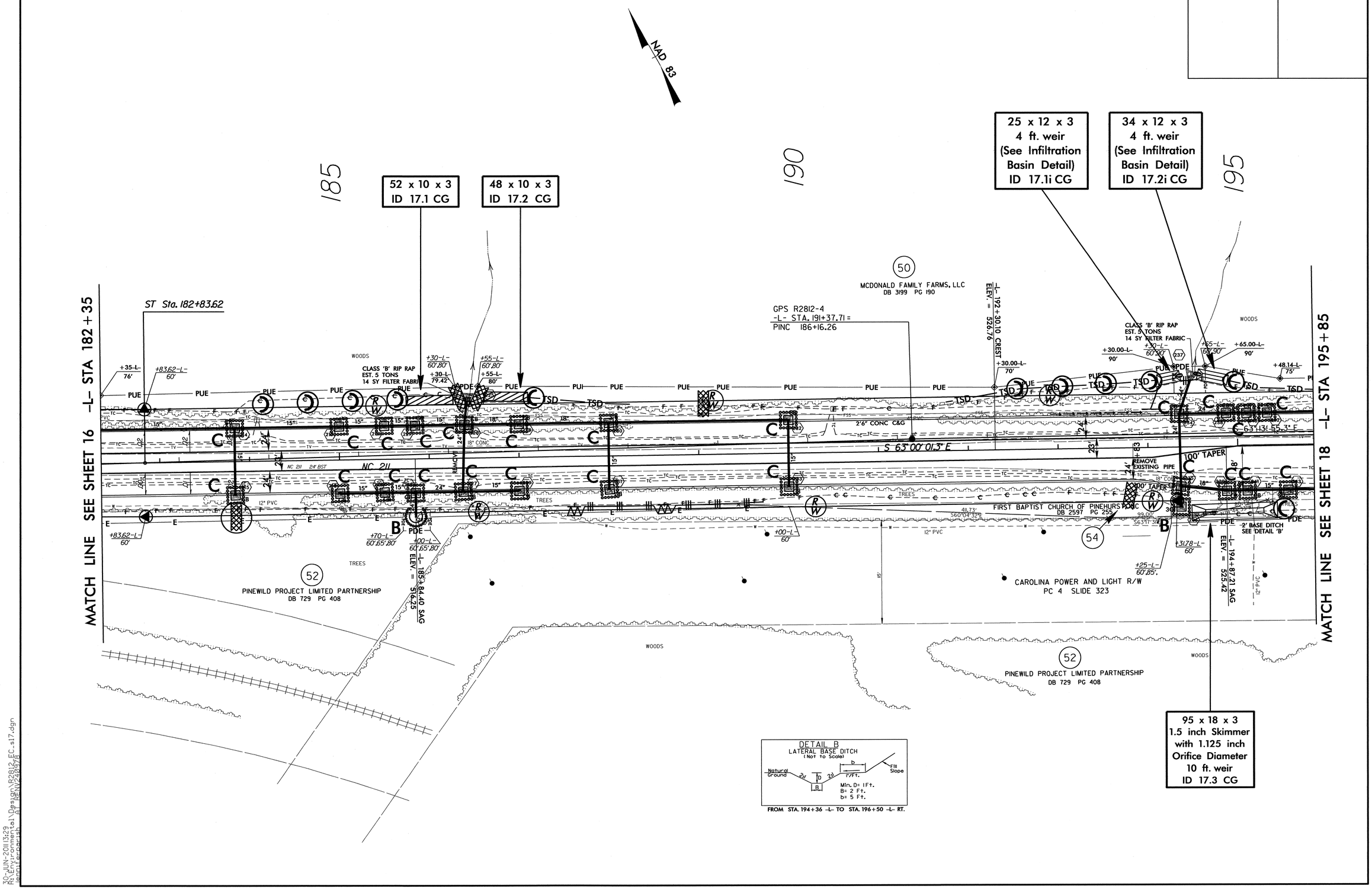
jenniferparish AT RENV240978

PROJECT REFERENCE NO.	SHEET NO.
R-2812	EC-49/CONST.17
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



8/17/99

30-JUN-2011 13:29
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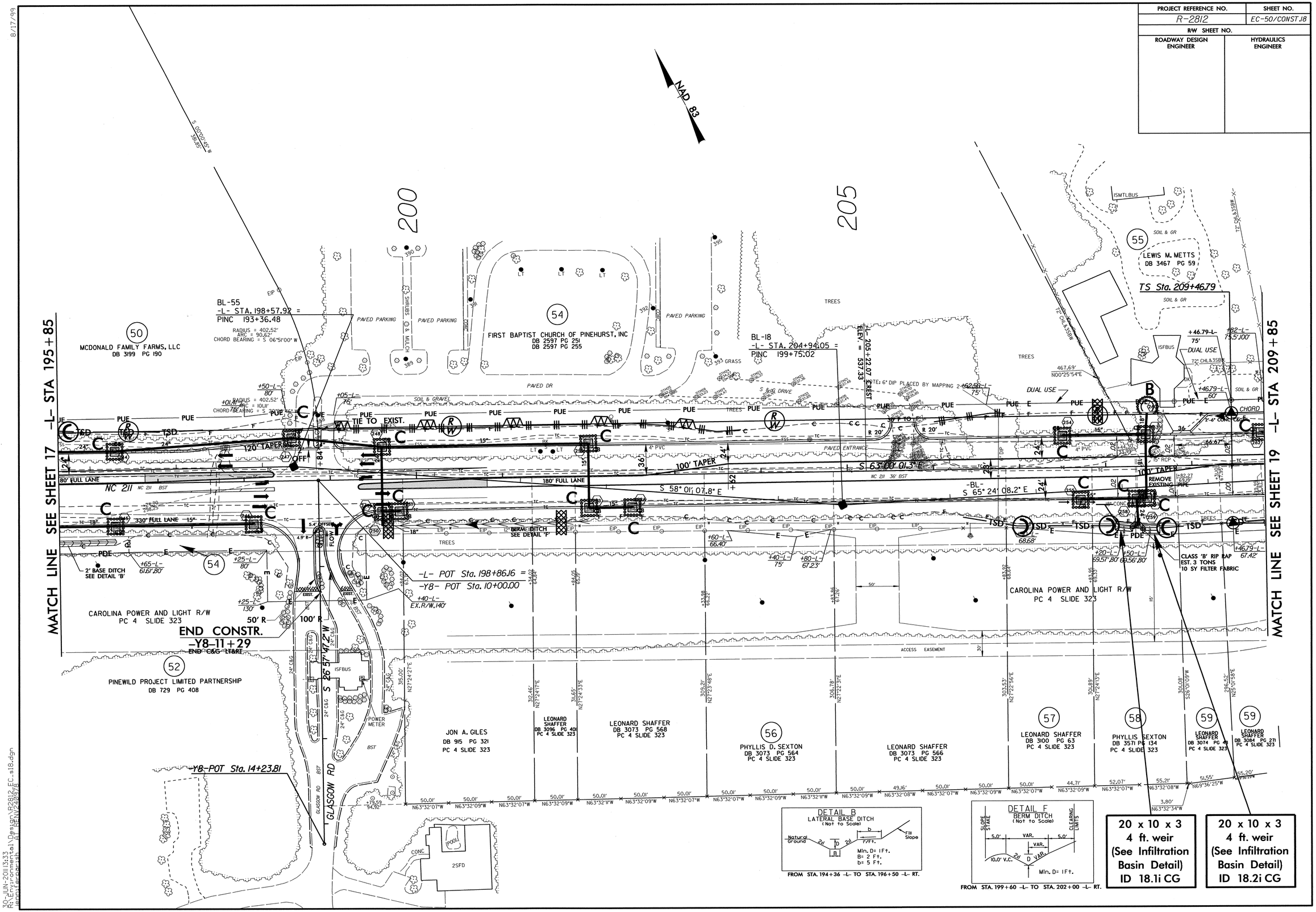
jenniferparish AT RENV240978

PROJECT REFERENCE NO.	SHEET NO.
R-2812	EC-50/CONST.18
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



8/17/99

30-JUN-2011 13:33
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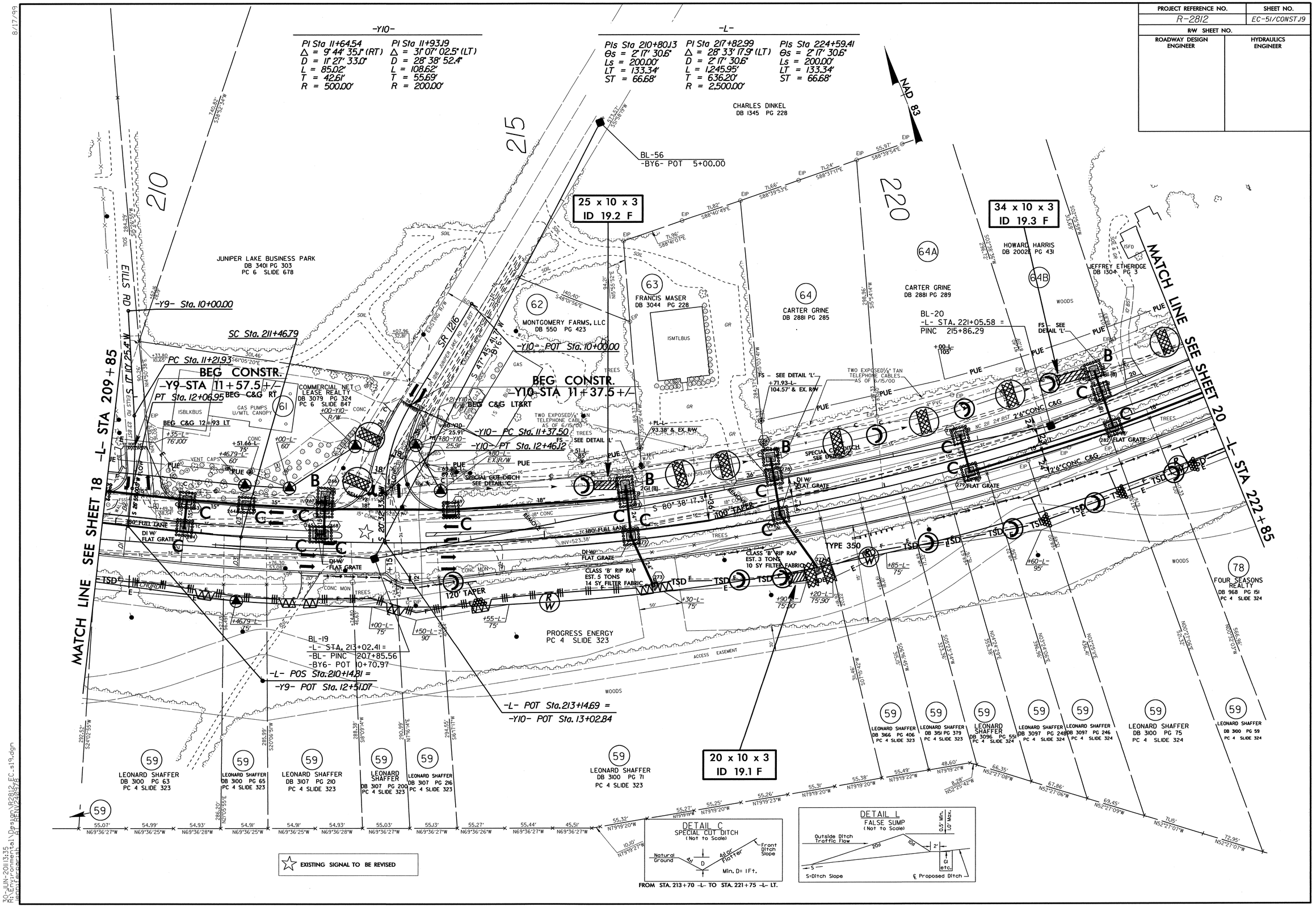
jennifer parish AT RENV240978

PROJECT REFERENCE NO.	SHEET NO.
R-2812	EC-51/CONST.19
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



8/17/99

30-JUN-2011 13:35
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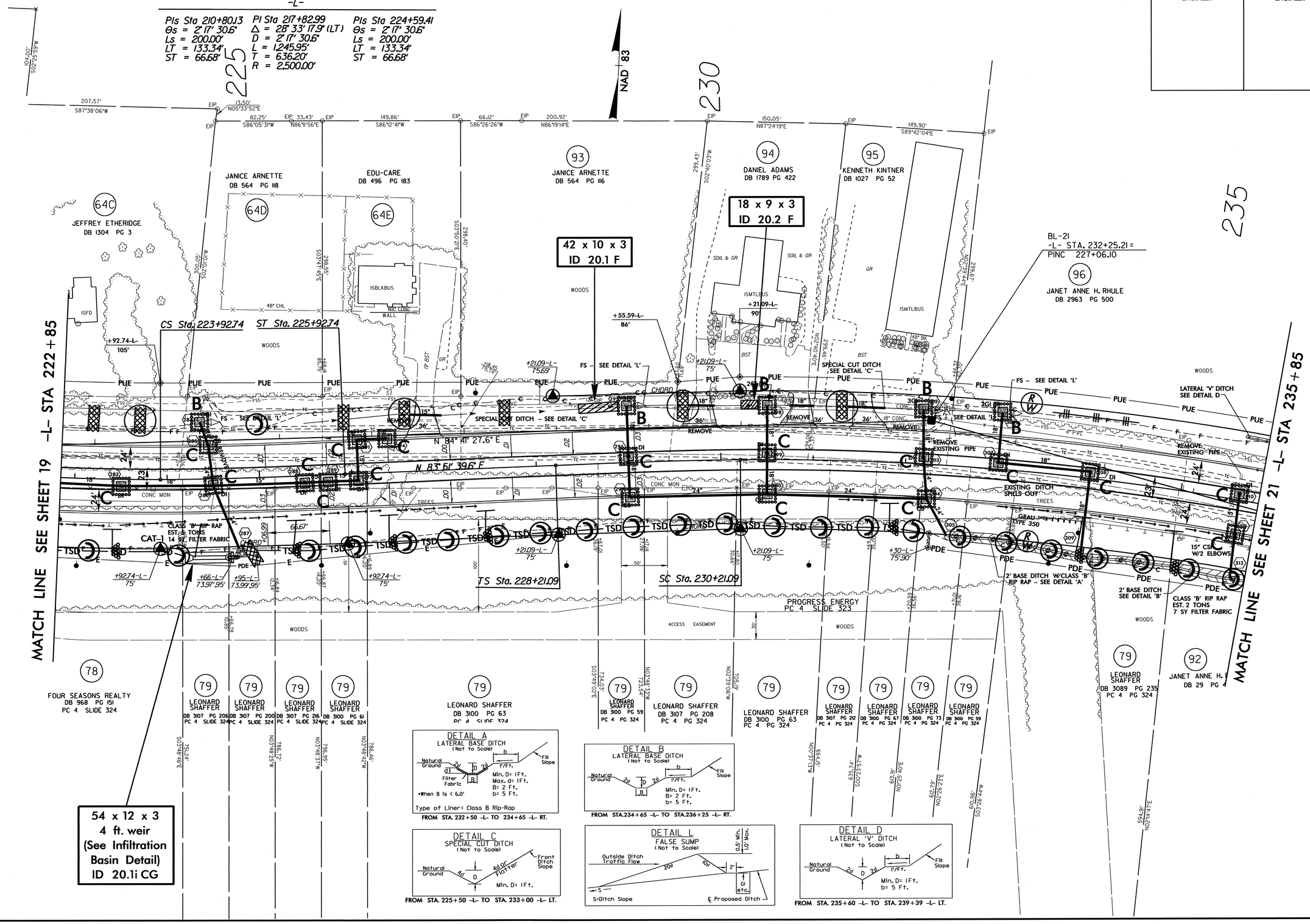
amjiffarish
A: REV 240476

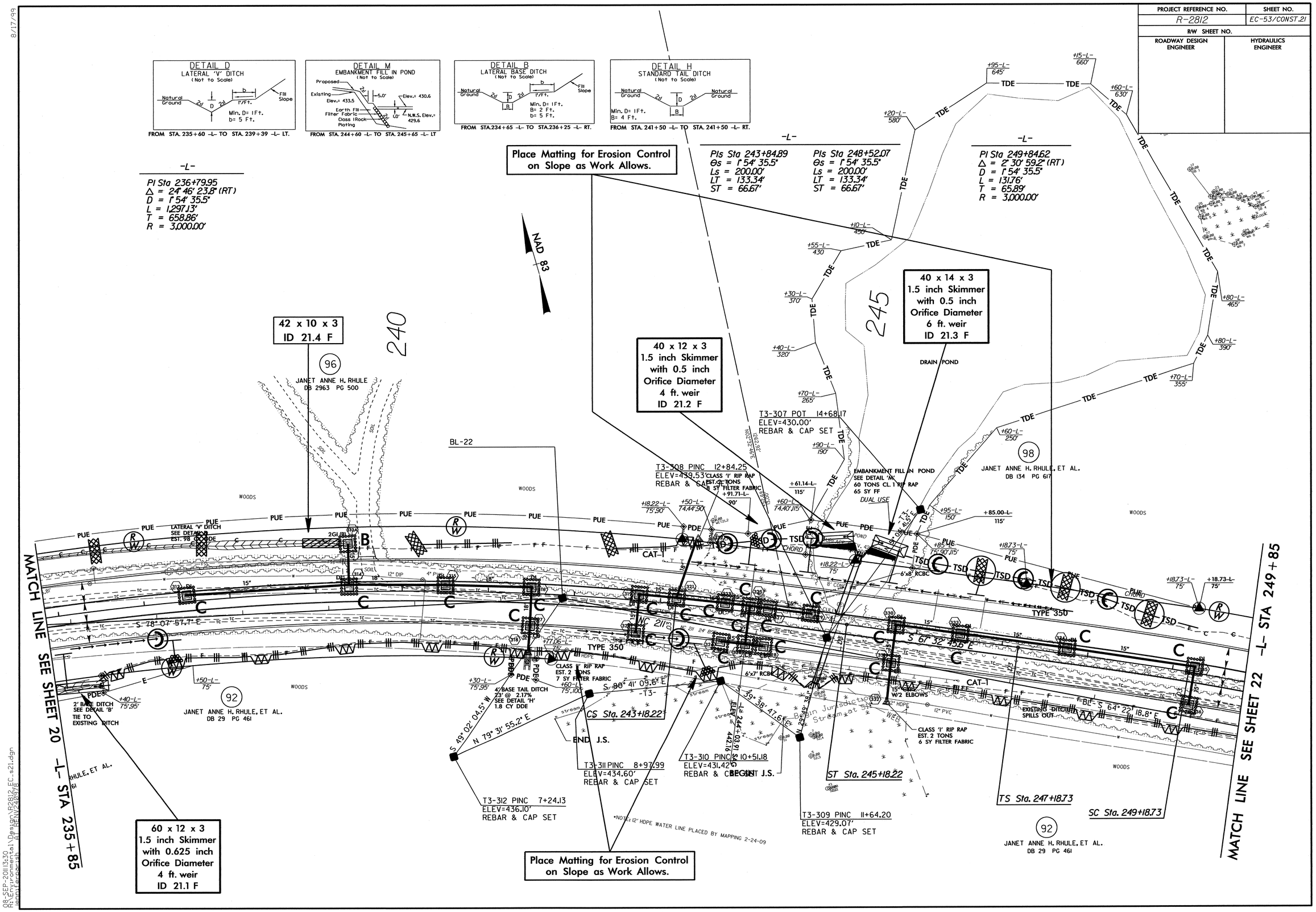
PROJECT REFERENCE NO.	SHEET NO.
R-2812	EC-52/CONST.20
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



8/17/99

30-JUN-2011 13:53
R:\Hydraulics\Roadway\Design\R2812_EC_s20.dgn
jennifer.porcash@ncdot.gov

PROJECT REFERENCE NO.	SHEET NO.
R-2812	EC-53/CONST.21
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



8/17/99

08-SEP-2011 13:30
R:\Projects\Div11\Design\R2812_EC_s21.dgn
jennifer.parrish@ncdot.gov

PROJECT REFERENCE NO.	SHEET NO.
R-2812	EC-54/CONST.22
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

8/17/99

-L-

PIs Sta 251+17.17
Θs = 1° 54' 35.5"
Ls = 200.00'
LT = 133.34'
ST = 66.67'

PIs Sta 254+68.12
Θs = 1° 08' 45.3"
Ls = 200.00'
LT = 133.34'
ST = 66.67'

-LREV3-

PIs Sta 255+94.86
Θs = 1° 08' 45.3"
Ls = 200.00'
LT = 133.34'
ST = 66.67'

PI Sta 259+73.44
Δ = 7° 08' 21.4" (LT)
D = 1° 08' 45.3"
L = 623.02'
T = 311.91'
R = 5,000.00'

PIs Sta 263+51.22
Θs = 1° 08' 45.3"
Ls = 200.00'
LT = 133.34'
ST = 66.67'

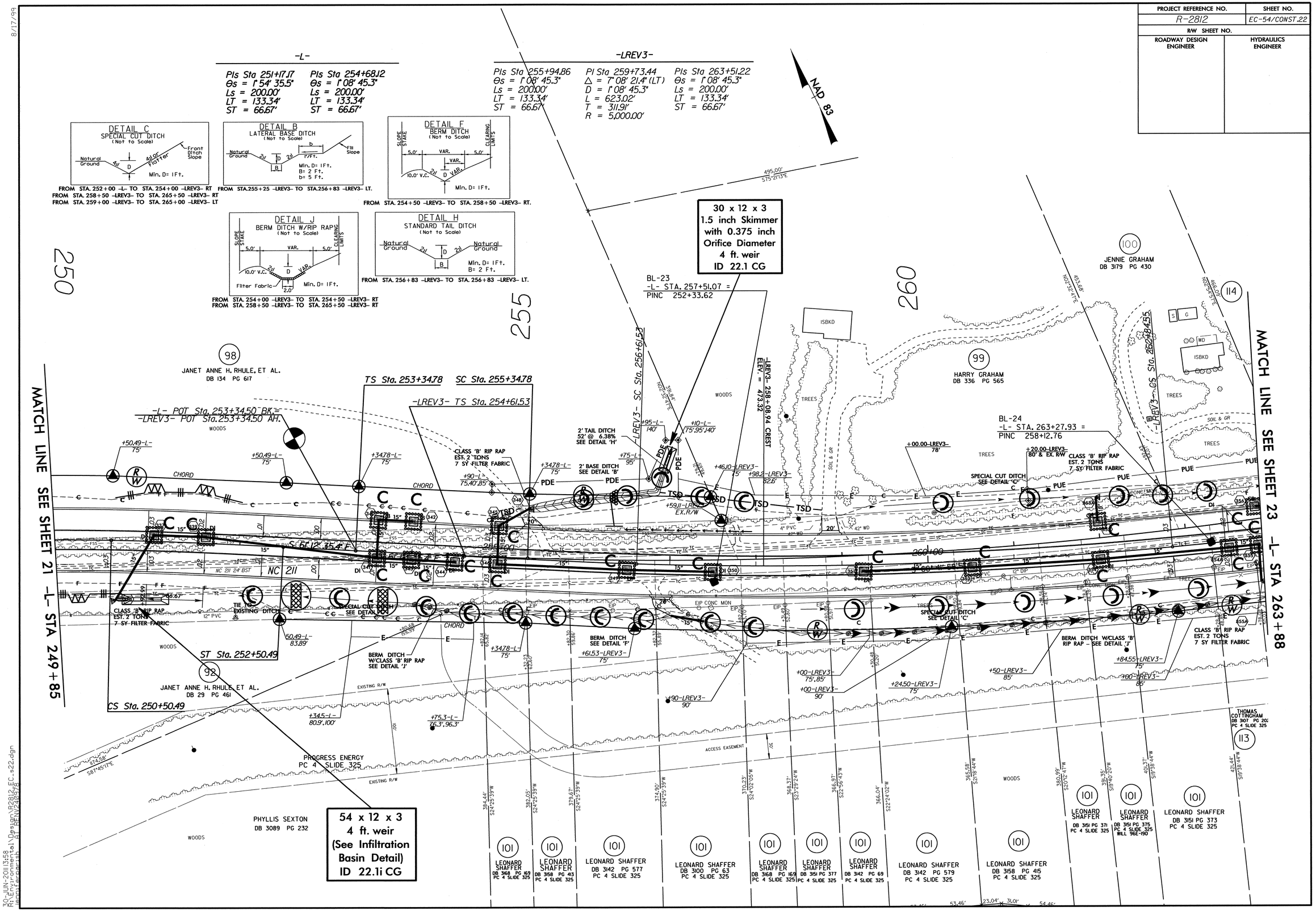
FROM STA. 252+00 -L- TO STA. 254+00 -LREV3- RT
FROM STA. 258+50 -LREV3- TO STA. 265+50 -LREV3- RT
FROM STA. 259+00 -LREV3- TO STA. 265+00 -LREV3- LT

FROM STA.255+25 -LREV3- TO STA.256+83 -LREV3- LT.

FROM STA. 254+50 -LREV3- TO STA. 258+50 -LREV3- RT.

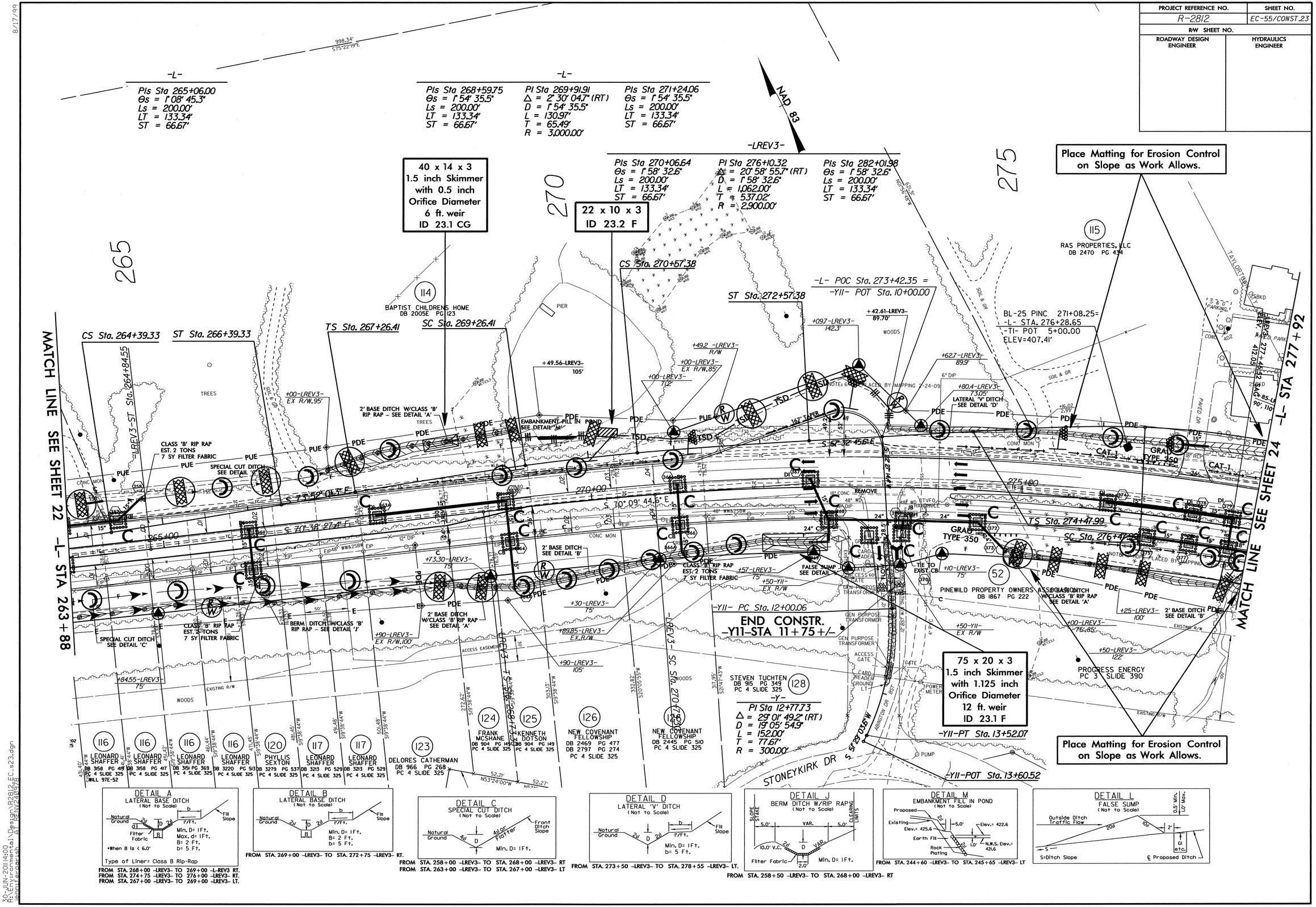
FROM STA. 254+00 -LREV3- TO STA. 254+50 -LREV3- RT
FROM STA. 258+50 -LREV3- TO STA. 265+50 -LREV3- RT

FROM STA. 256+83 -LREV3- TO STA. 256+83 -LREV3- LT.



30-JUN-2011 13:58
R:\Roadway\Proj\R2812_EC_s22.dgn
jennifer.poarch@ncdot.gov

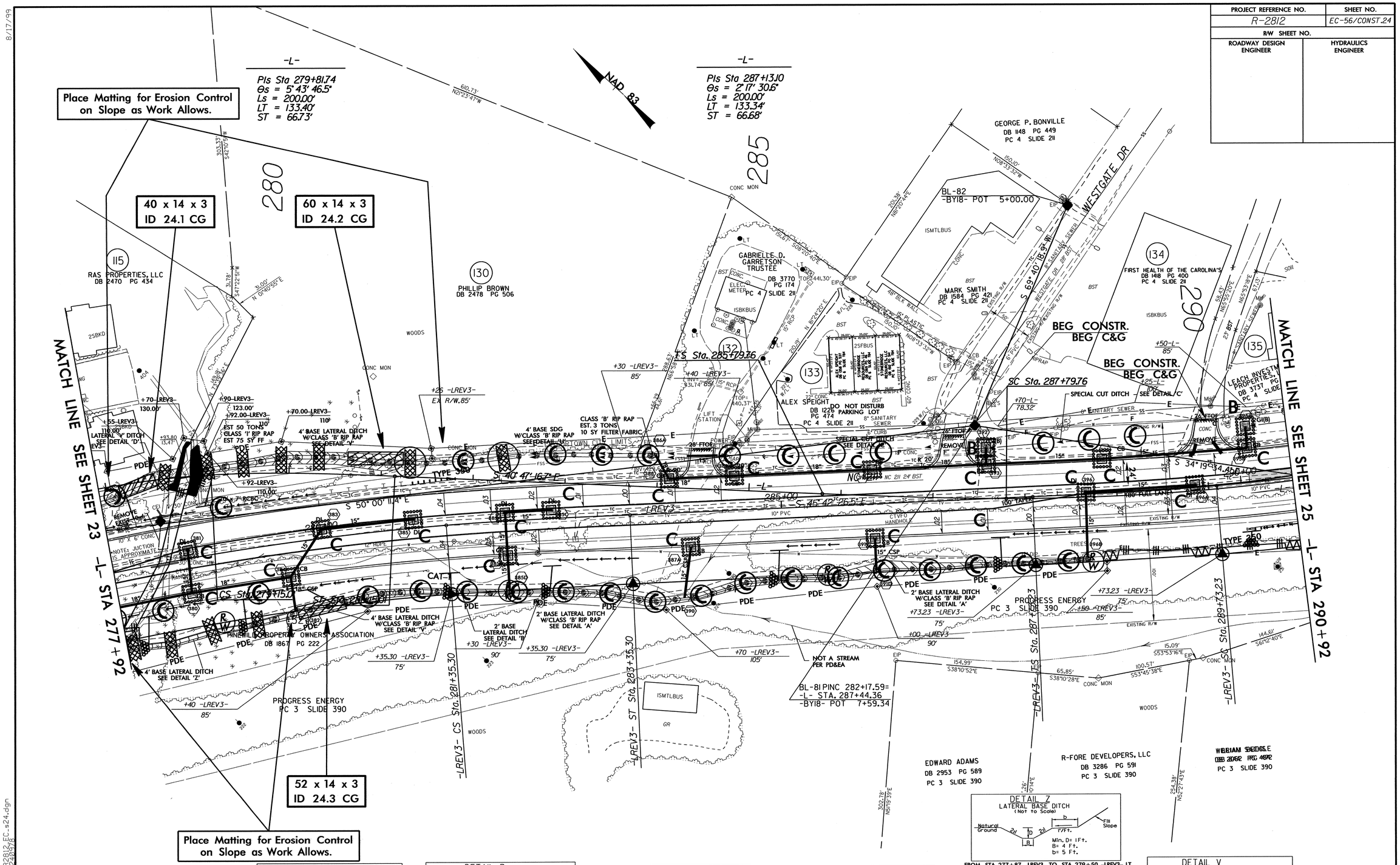
PROJECT REFERENCE NO.	SHEET NO.
R-2812	EC-55/CONST.23
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



8/17/99

30-JUN-2011 14:00
R:\Environmental\Design\R2812_EC_s23.dgn
jenniferparish AT RENV240978

PROJECT REFERENCE NO.	SHEET NO.
R-2812	EC-56/CONST.24
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



8/17/99

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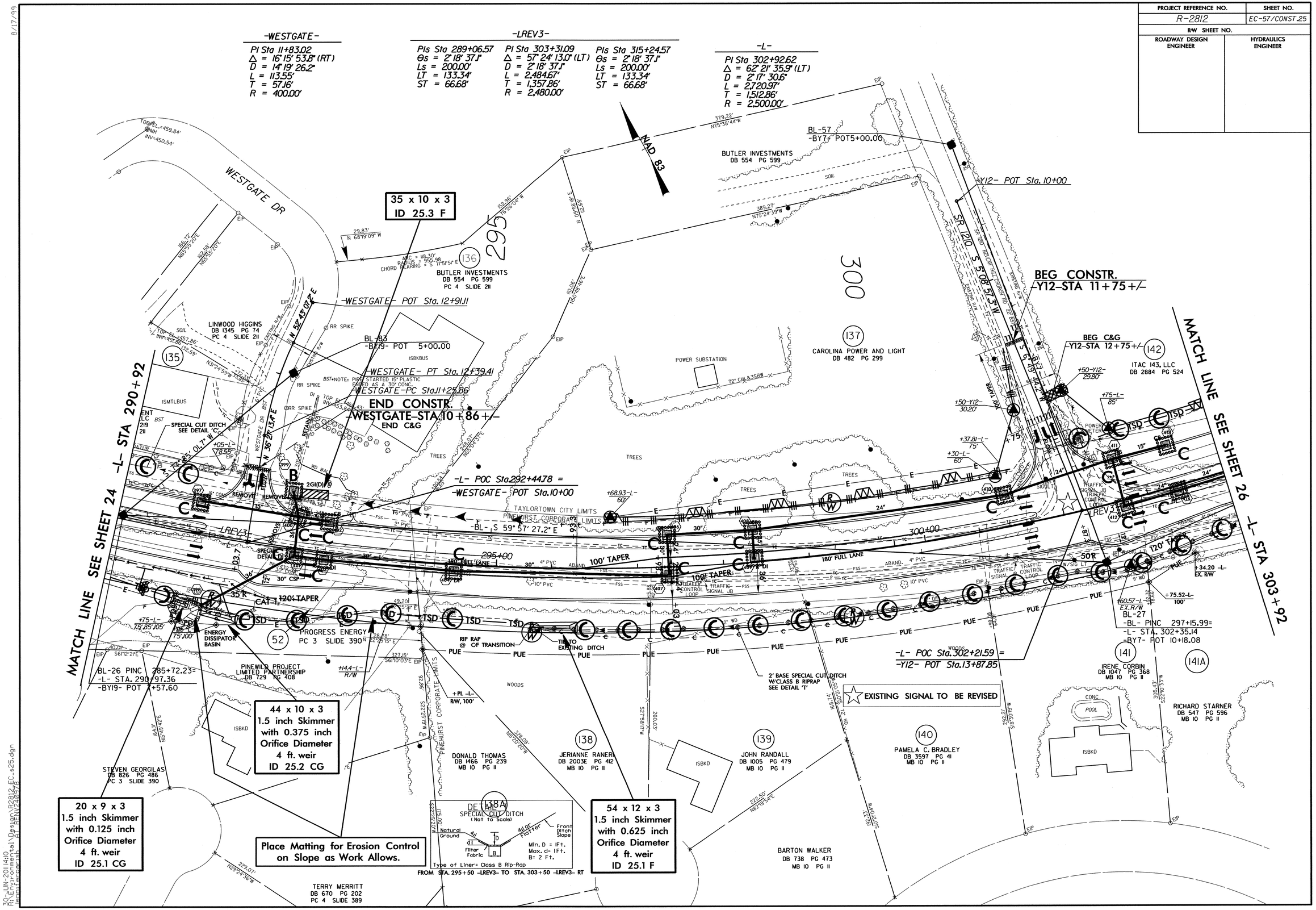
Date: 2011 09:38
User: ppenland
Project: R-2812 PENV 249978

PROJECT REFERENCE NO.	SHEET NO.
R-2812	EC-57/CONST.25
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



8/17/99

30-JUN-2011 14:10
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Bentley Microstation V8 (Version 08.11.07.443)

PROJECT REFERENCE NO.	SHEET NO.
R-2812	EC-58/CONST.26
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

-Y13-

PI Sta 12+69.75
Δ = 13° 42' 10.2" (LT)
D = 7° 09' 43.1"
L = 191.33'
T = 96.12'
R = 800.00'

PI Sta 15+04.21
Δ = 18° 54' 59.9" (LT)
D = 28° 38' 52.4"
L = 66.03'
T = 33.32'
R = 200.00'

-L-

PIs Sta 315+67.40
Θs = 2° 17' 30.6"
Ls = 200.00'
LT = 133.34'
ST = 66.68'

☆ EXISTING SIGNAL TO BE REVISED

Place Matting for Erosion Control on Slope as Work Allows.

-Y13- POT Sta. 10+00.00

BL-60
POT 5+00.00

-LREV3- POT Sta. 316+74.63 BK.=
-L- POT Sta. 317+10.00 AH.

-Y13- PC Sta. 11+73.63

BEG CONSTR.
-Y13-STA.13+36.5
BEG C&G ST Sta. 317+00.72
BEGIN SIDEWALK

CS Sta. 315+00.72

BL-58
-BL- PINC 309+91.07=
-L- STA. 314+73.38
-BY8- POT 8+75.88

-Y13- PT 13+64.95

-LREV3- ST Sta. 316+57.89
-Y13-PC Sta. 14+70.89
-Y13-PT Sta. 15+36.92

END CONSTR.
-Y13-STA.15+60
END SW (LT)
END C&G (LT&RT)

-LREV3- CS Sta. 314+57.89

-LREV3- POS Sta. 314+82.33 =
-Y13- POT Sta. 14+35.86

-Y13- POT Sta. 18+33.92

BL-59
-BY8- POT 14+23.99

BL-28
-L- STA. 311+86.89 =
PINC 306+87.90

MATCH LINE SEE SHEET 25 -L- STA 303+92

MATCH LINE SEE SHEET 27 -L- STA 317+92

NAD 83

305 310 315

148 OLMSTED VILLAGE WEST LIMITED PARTNERSHIP DB 981 PG 411

149 DELTA WELLS, LLC DB 3825 PG 271

142 ITAC 143, LLC DB 2884 PG 524

150 LENA GORDON DB 2004E PG 197 MB 10 PG 11

151 MOORE COUNTY DB 1556 PG 98 MB 10 PG 12

FRANK A. MCNEILL DB 1257 PG 187

ACCESS EASEMENT DB 1257 PG 187

RICHARD STARNER DB 547 PG 596 MB 10 PG 11

HAZEL ELMORE DB 1104 PG 270 MB 10 PG 11

VINCENT & CHERYAL KORFMAN DB 2410 PG 312 MB 10 PG 11

VINCENT & CHERYAL KORFMAN DB 2410 PG 312 MB 10 PG 11

LOUIS DI STEFANO DB 1338 PG 24 MB 10 PG 11

JOSEPH PESEK DB 3455 PG 142 MB 10 PG 11

CHRISTOPHER MARTIN DB 1837 PG 269 MB 10 PG 11

WAYNE J. PENSENSTADLER DB 1086 PG 454 MB 10 PG 11

TAYLORTOWN CITY LIMITS
PINEHURST CORPORATE LIMITS

EXISTING DITCH SPILLS OUT

2' BASE SPECIAL CUT DITCH – SEE DETAIL 'X'

SPECIAL CUT DITCH SEE DETAIL 'C'

EXISTING CROSS PIPE IS NOT FUNCTIONAL – OUTLET END IS BURIED ON NORTH SIDE

CLASS 'B' RIP RAP EST. 2 TONS 7 SY FILTER FABRIC

100' TAPER · 120' TAPER · 180' FULL LANE · 50' TAPER

CENTRAL PARK AVE · S 2° 48' 41.7" E · S 7° 29' 31.1" E · S 16° 30' 58.5" E

N 74° 59' 47.31" E · N 72° 14' 06.3" E · N 61° 03' 19.7" E

S 34° 23' 36.8" E -BY8- · S 35° 25' 53.8" E

DETAIL C
SPECIAL CUT DITCH
(Not to Scale)
Natural Ground · 4d · D · 4d or Flatter · Front Ditch Slope
Min. D= 1Ft.
FROM STA. 309+00 -LREV3- TO STA. 314+50 -LREV3- RT.

DETAIL X
SPECIAL CUT DITCH
(Not to Scale)
Natural Ground · 4d · D · B · 4d or Flatter · Front Ditch Slope
Max. d= 1Ft.
B= 2 Ft.
FROM STA. 303+50 -LREV3- TO STA. 309+00 -LREV3- RT

8/17/99

30-JUN-2011 14:15
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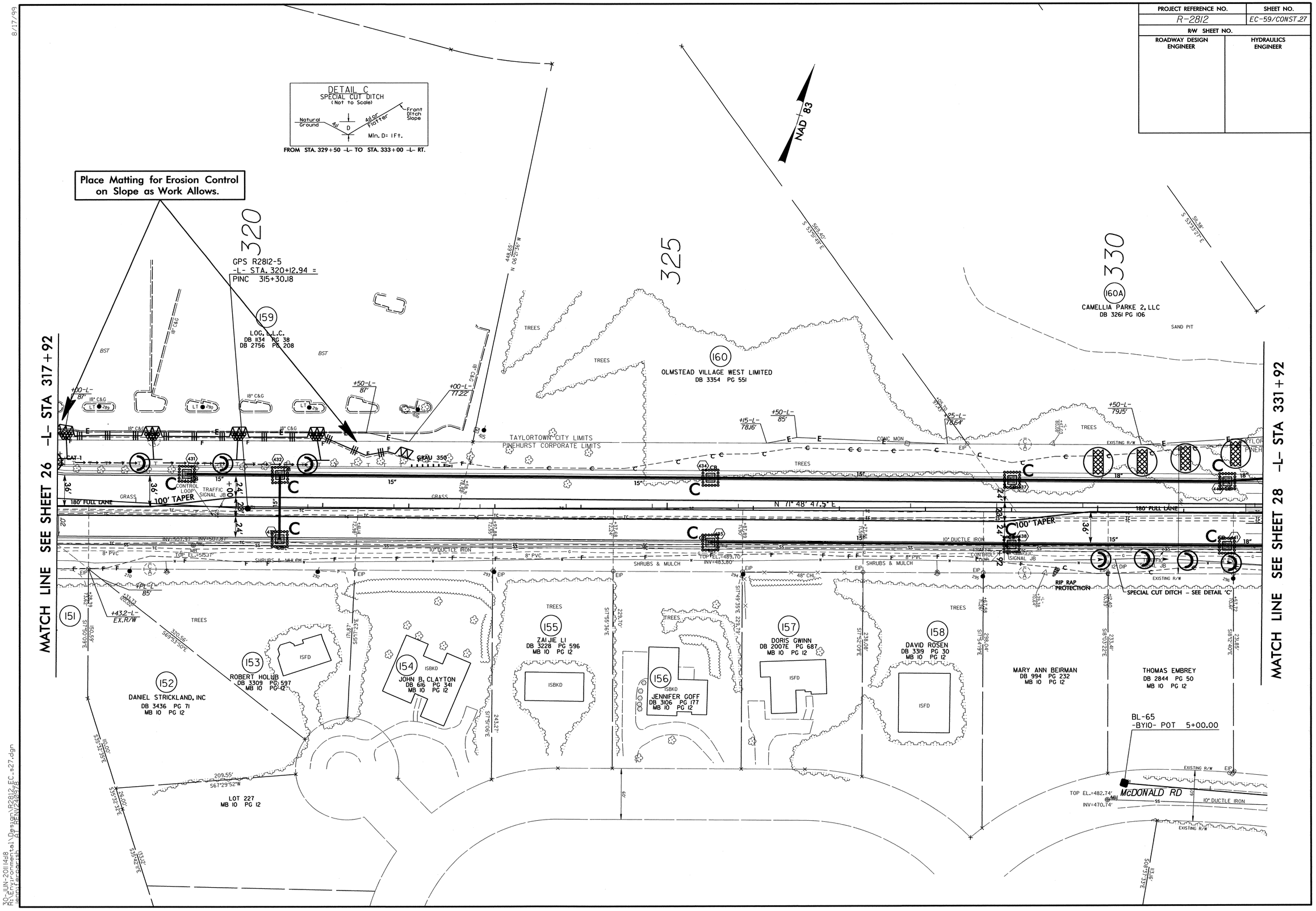
Proj: Fergusonsh
A: PENV24093/8

PROJECT REFERENCE NO.	SHEET NO.
R-2812	EC-59/CONST.27
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



8/17/99

30-JUN-2011 14:18
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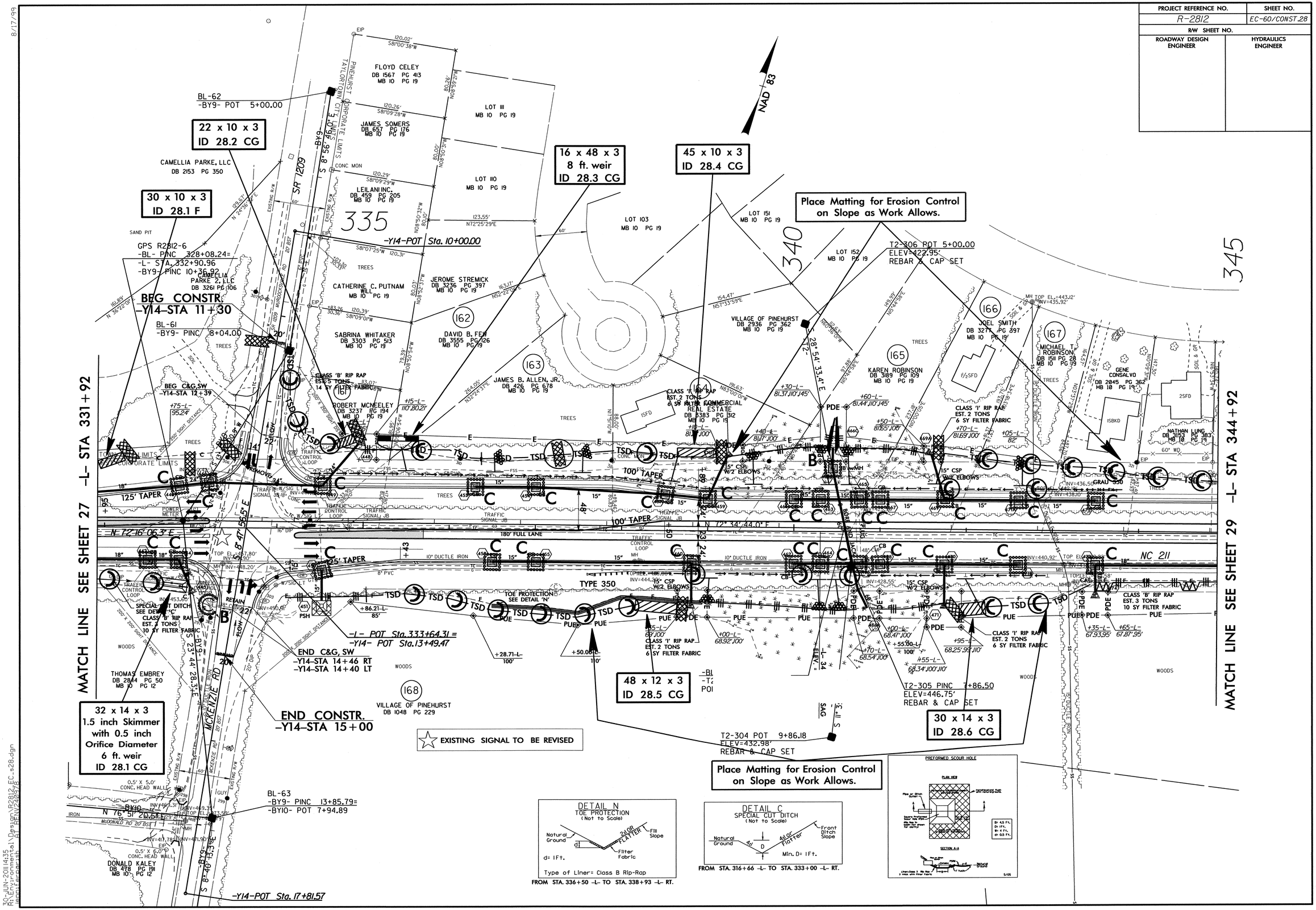
jennifergarish AT RENV240978

PROJECT REFERENCE NO.	SHEET NO.
R-2812	EC-60/CONST.28
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



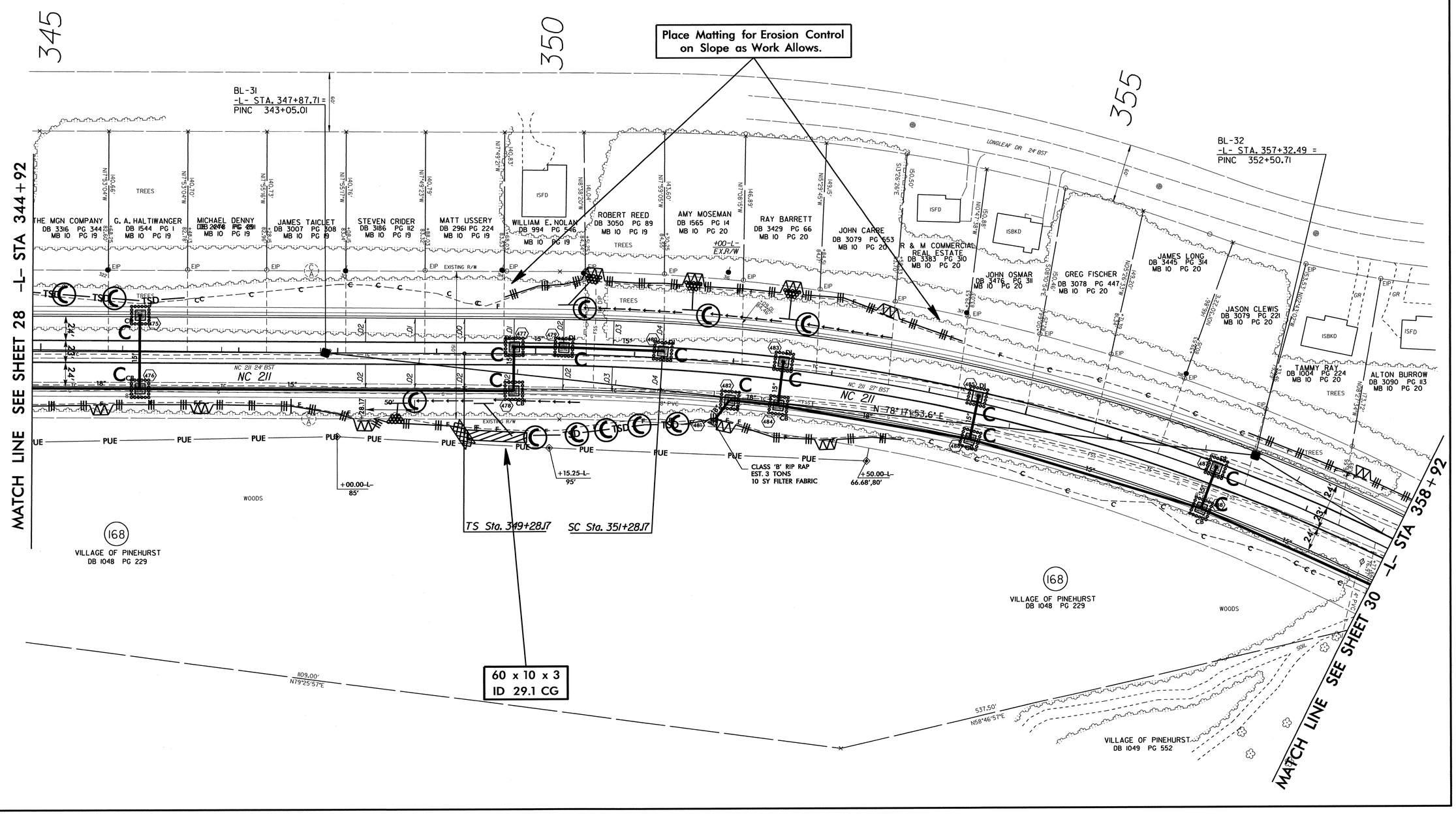
30-JUN-2011 14:35
R:\Hydraulics\Hydro_Tool\Design\R2812_EC_s28.dgn
jennifer.fancourt@ncdot.gov
AT REN\V2400976

PROJECT REFERENCE NO.	SHEET NO.
R-2812	EC-61/CONST.29
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

-L-

PIs Sta 350+61.52
Θs = 3° 00' 00.0"
Ls = 200.00'
LT = 133.35'
ST = 66.68'

PI Sta 356+41.93
Δ = 30° 06' 46.9" (RT)
D = 3° 00' 00.0"
L = 1,003.77'
T = 513.76'
R = 1,909.86'



8/17/99

30-JUN-2011 14:37
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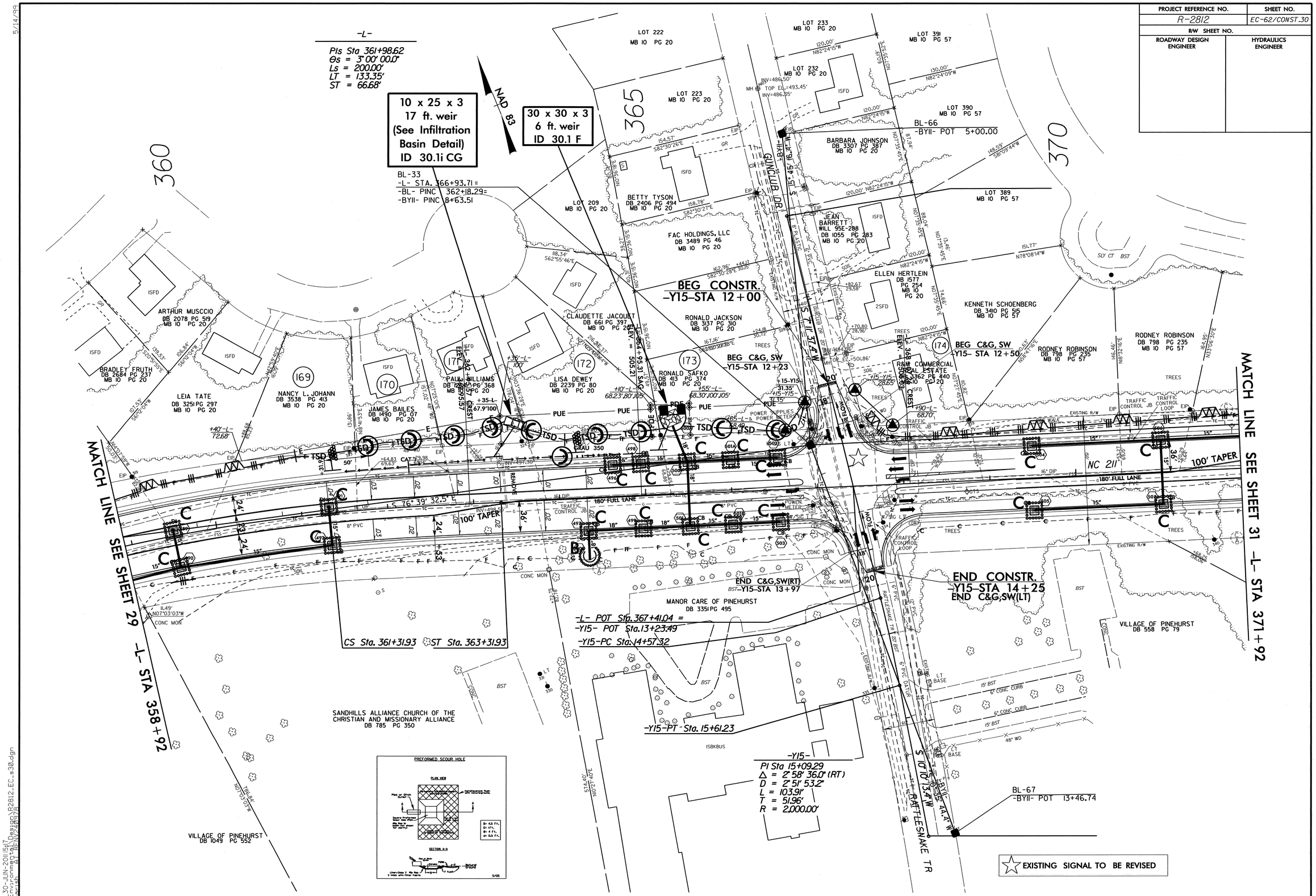
jpotter@parish AT PRN\240978

PROJECT REFERENCE NO.	SHEET NO.
R-2812	EC-62/CONST.30
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



5/14/99

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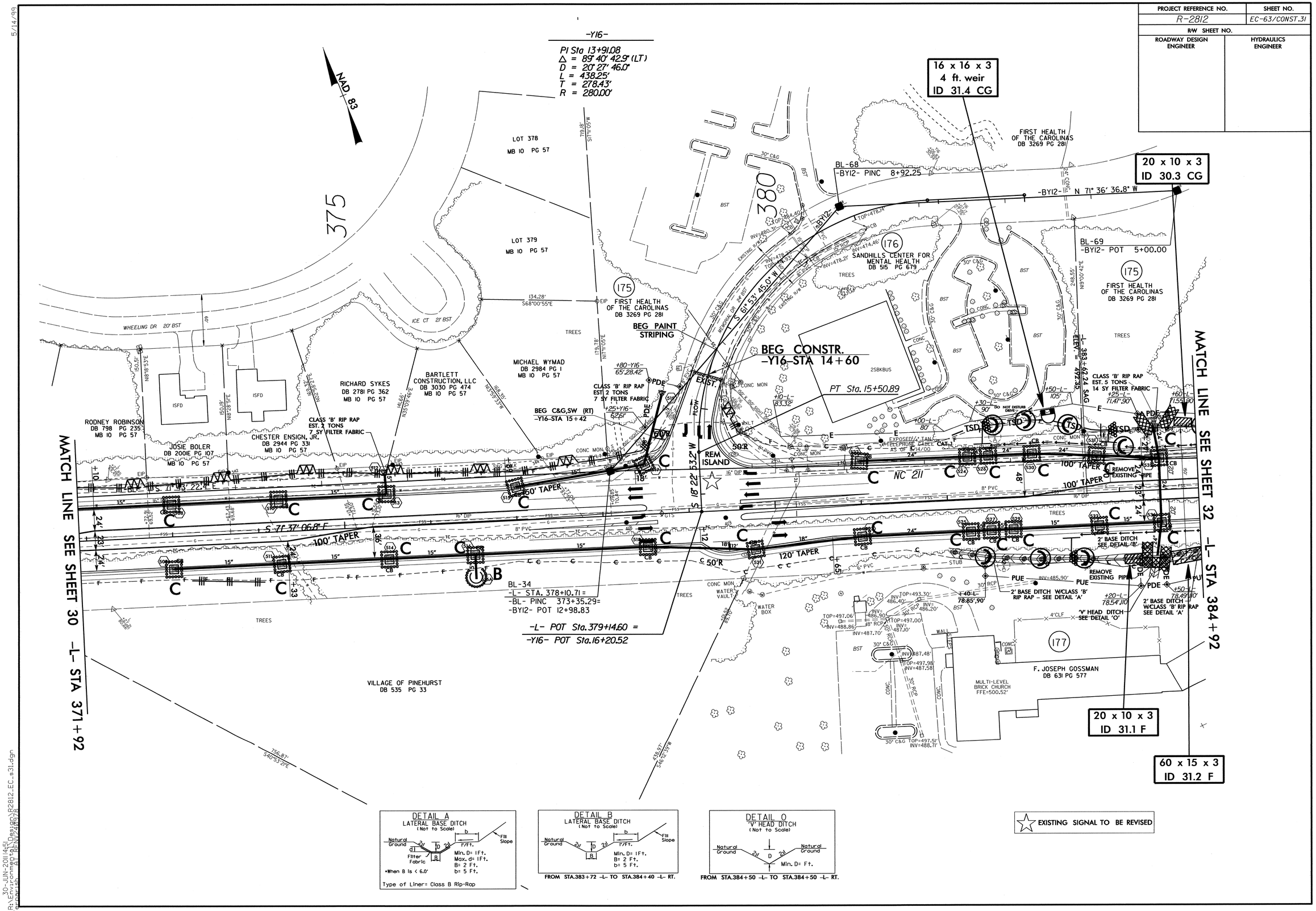
jennifer.parish

PROJECT REFERENCE NO.	SHEET NO.
R-2812	EC-63/CONST.31
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



5/14/99

30-JUN-2011 14:51
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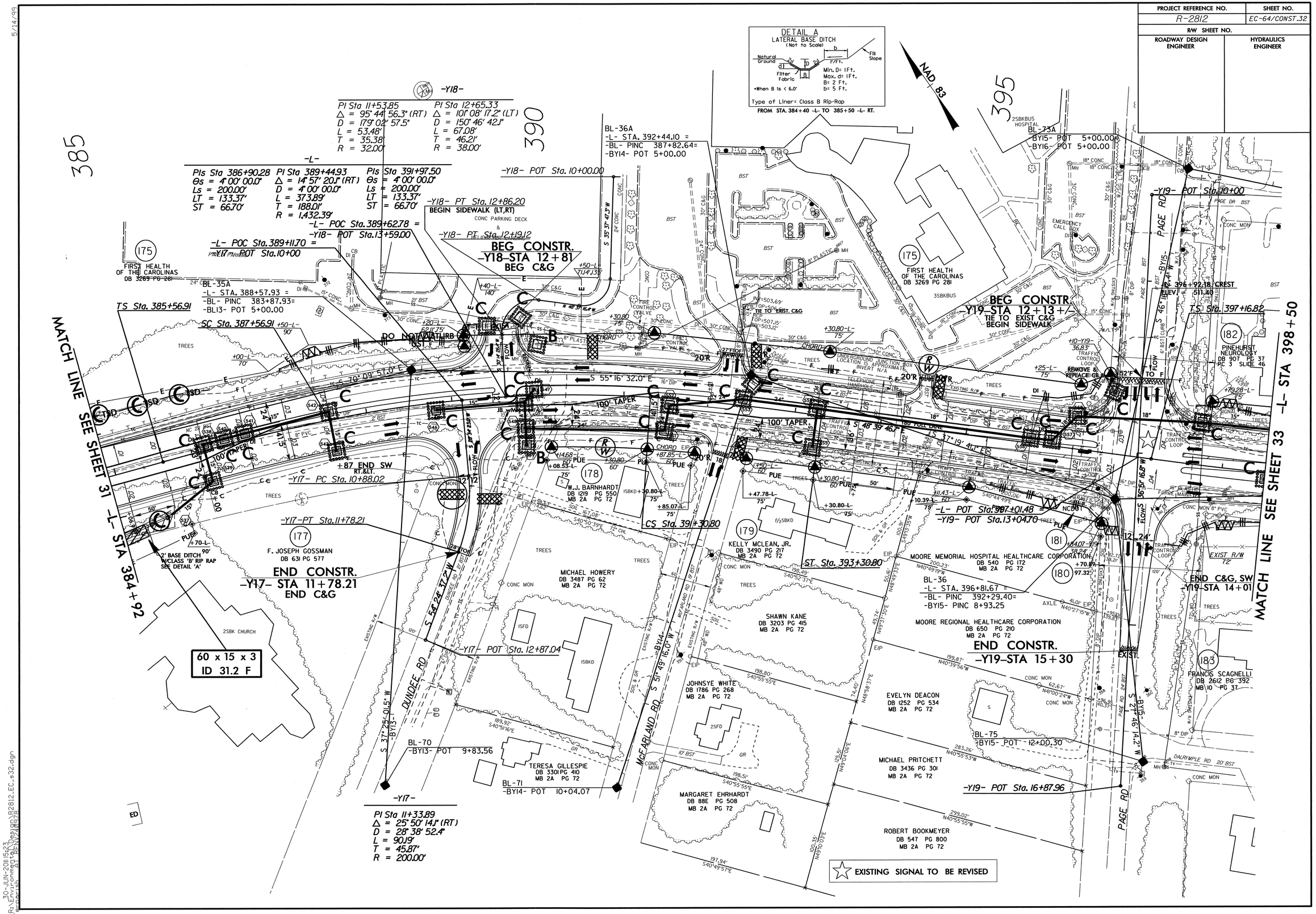
PROJECT REFERENCE NO.	SHEET NO.
R-2812	EC-64/CONST.32
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



5/14/99

30-JUN-2011 15:23
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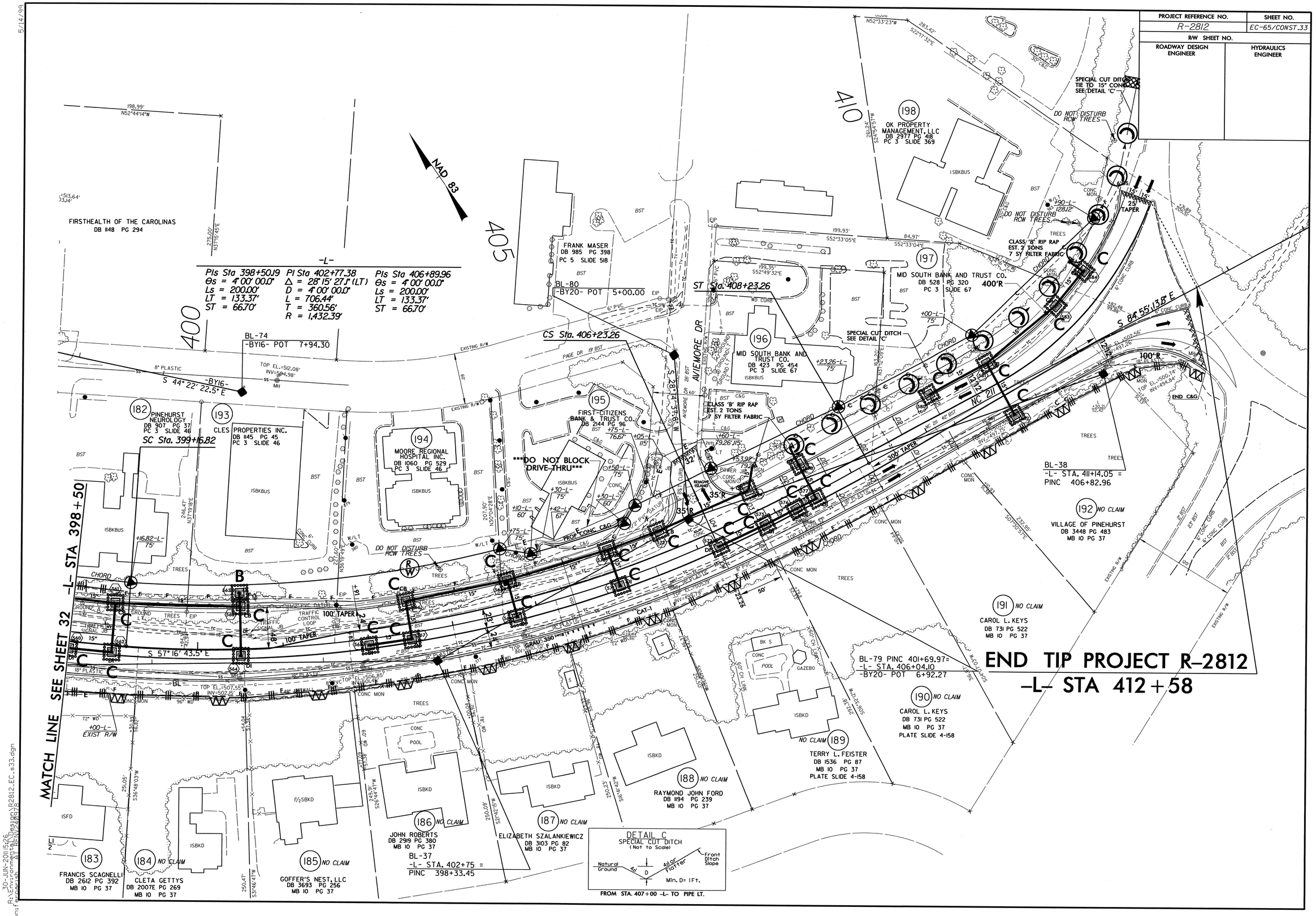
PROJECT REFERENCE NO.	SHEET NO.
R-2812	EC-65/CONST.33
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



5/14/99

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