PROJECT: R-0505

TIP P

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-0505	EC-1	

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

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

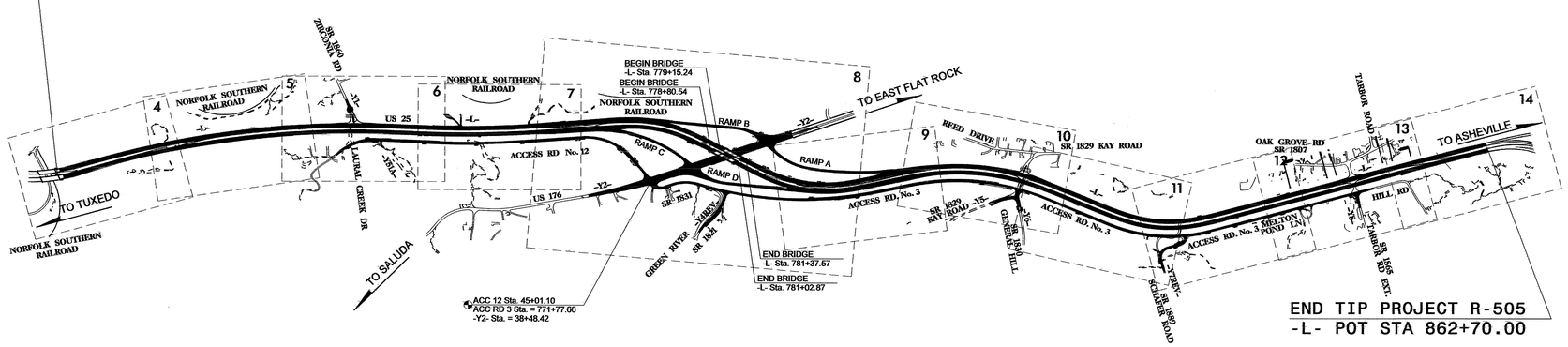
NAD 83/95

PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL

HENDERSON COUNTY

LOCATION: NC 225–US 25/I–26 CONNECTOR FROM US 25 AT ZIRCONIA TO I–26
TYPE OF WORK: GRADING, PAVING, DRAINAGE, STRUCTURES, GUARDRAIL, AND NOISE WALL

BEGIN TIP PROJECT R-505
-L- POC STA 708+72.00



END TIP PROJECT R-505
-L- POT STA 862+70.00

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	
1630.01	Riser Basin	
	Silt Basin Type B	
1633.01	Temporary Rock Silt Check Type-A	
	Temporary Rock Silt Check Type-B	
	Wattle	
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.

ENVIRONMENTALLY SENSITIVE AREA(S) EXIST ON THIS PROJECT

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

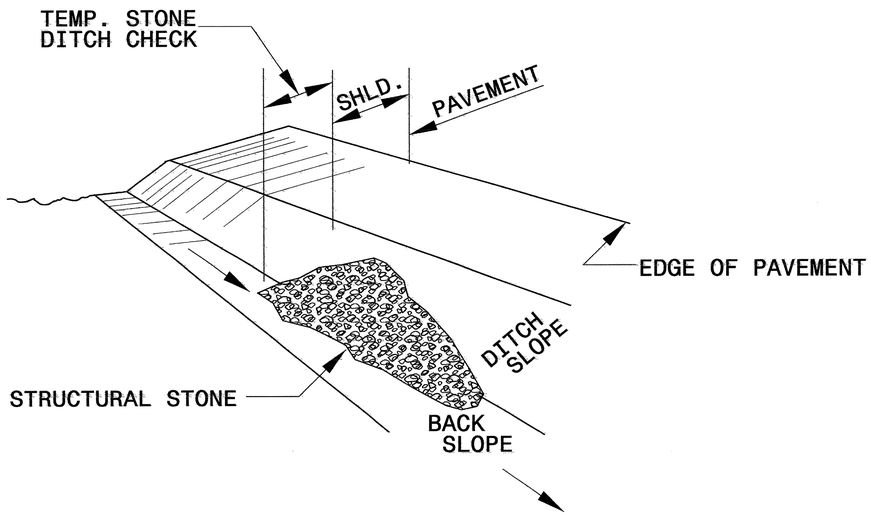
The following roadway english standards as appear in "Roadway Standard Drawings"– Roadway Design Unit – N. C. Department of Transportation – Raleigh, N. C., dated July 18, 2006 and the latest revison thereto are applicable to this project and by reference hereby are considered a part of these plans.

1605.01	Temporary Silt Fence	1630.06	Special Stilling Basin
1606.01	Special Sediment Control Fence	1632.01	Rock Inlet Sediment Trap Type A
1607.01	Gravel Construction Entrance	1632.02	Rock Inlet Sediment Trap Type B
1622.01	Temporary Berms and Slope Drains	1632.03	Rock Inlet Sediment Trap Type C
1630.03	Temporary Silt Ditch	1633.01	Temporary Rock Silt Check Type A
1630.05	Temporary Diversion	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

17-DEC-2008 10:41
r:\hydro\proj\r505_ec_tsh.dgn
jennifer.pash RE:NV242003

PROJECT REFERENCE NO.	SHEET NO.
R-0505	EC-2
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

TEMPORARY ROCK SILT CHECK TYPE 'B' DETAIL

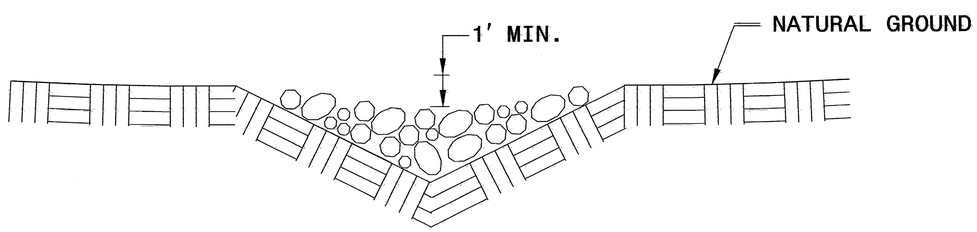


ISOMETRIC VIEW

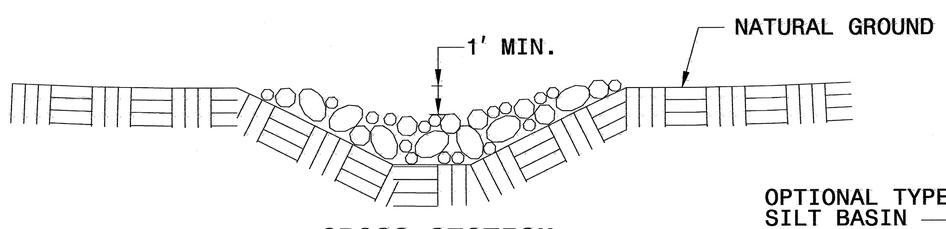
NOTES:

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

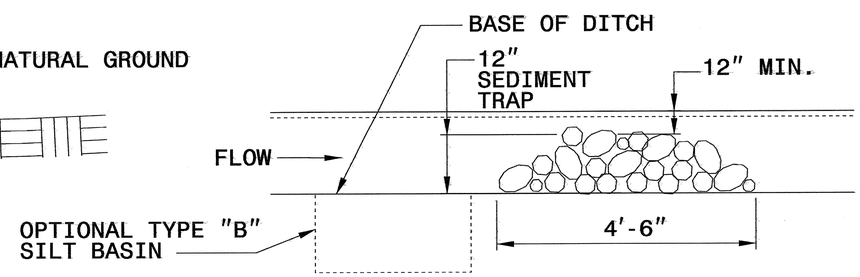
THE ENGINEER MAY DIRECT THE OPTION OF CLASS "A" STONE FOR SITES HAVING LESS THAN ONE (1) ACRE DRAINAGE AREA AND A DITCH GRADE LESS THAN 3%.



CROSS SECTION
VEE DITCH



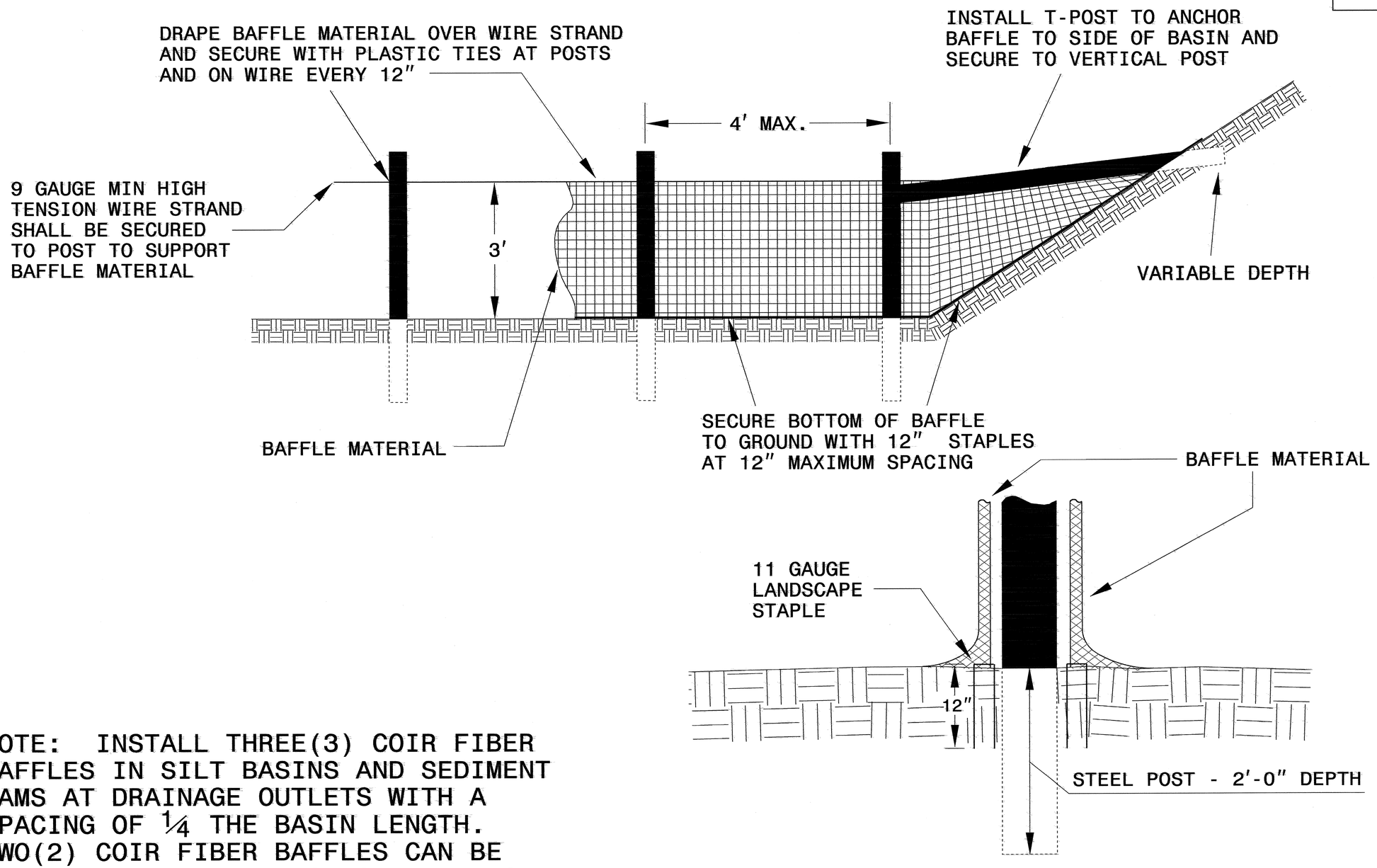
CROSS SECTION
TRAPEZOIDAL DITCH



ELEVATION VIEW

PROJECT REFERENCE NO.	SHEET NO.
R-0505	EC-2A
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

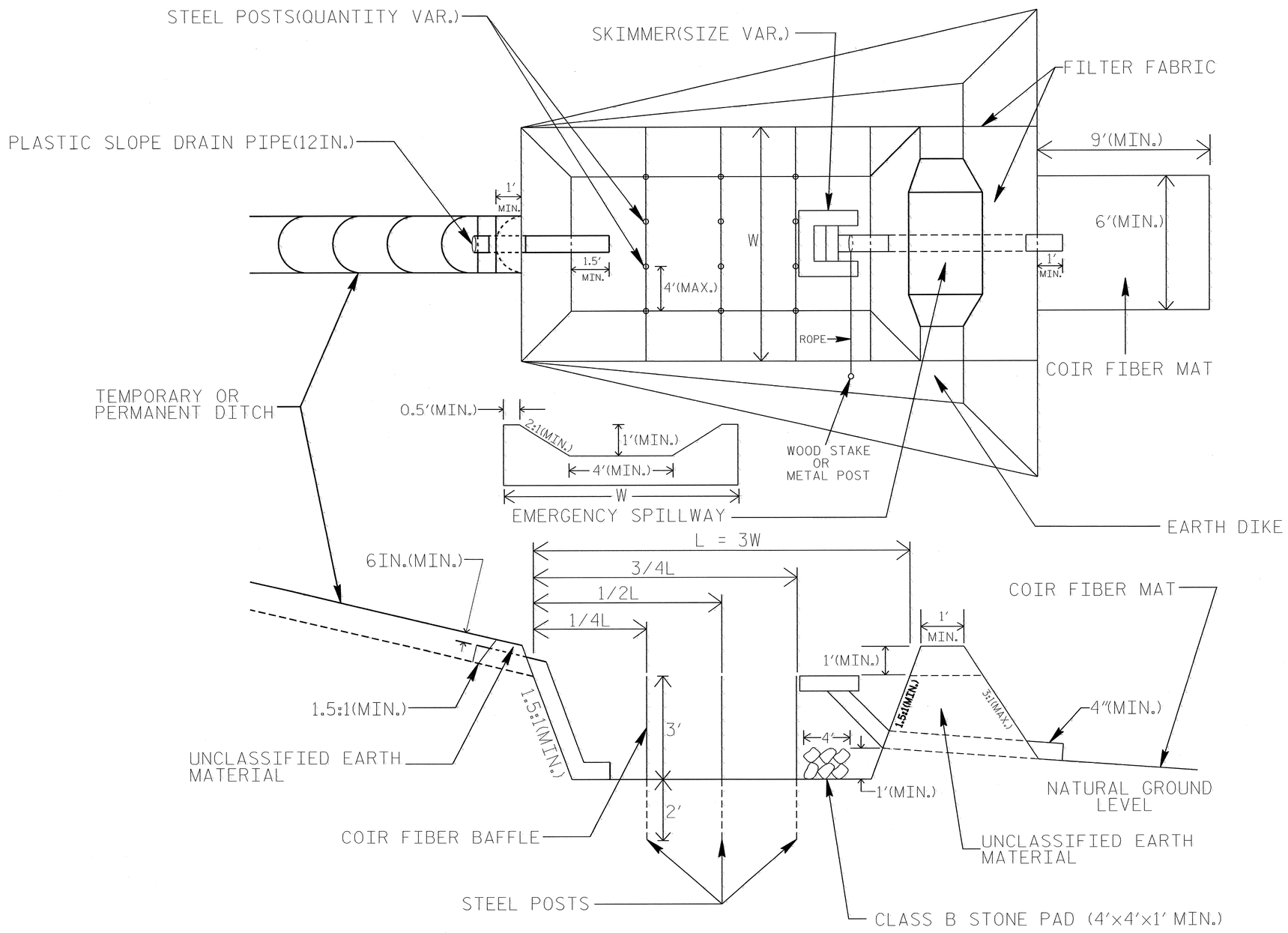
COIR FIBER BAFFLE DETAIL

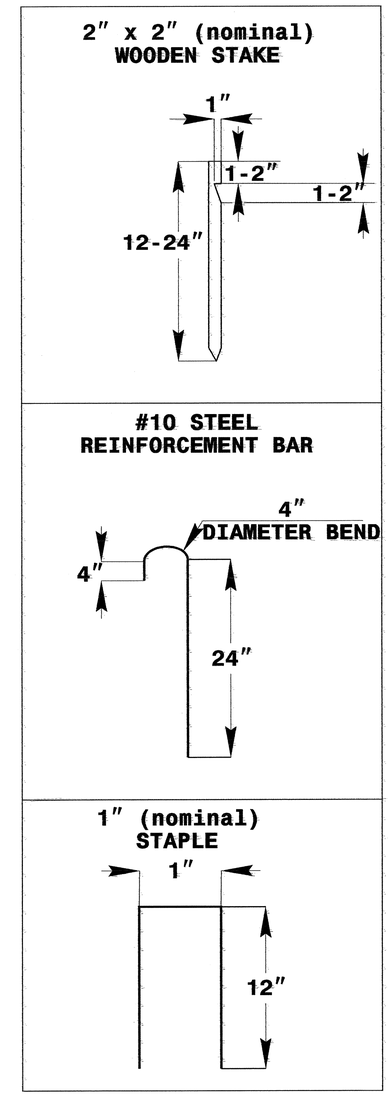


NOTE: INSTALL THREE(3) COIR FIBER BAFFLES IN SILT BASINS AND SEDIMENT DAMS AT DRAINAGE OUTLETS WITH A SPACING OF ¼ THE BASIN LENGTH. TWO(2) COIR FIBER BAFFLES CAN BE INSTALLED IN SILT BASINS AND DAMS LESS THAN 20 FT. IN LENGTH WITH A SPACING OF 1/3 THE BASIN LENGTH.

PROJECT REFERENCE NO.	SHEET NO.
R-0505	EC-2B
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SKIMMER BASIN WITH BAFFLES DETAIL





COIR FIBER MAT ANCHOR OPTIONS

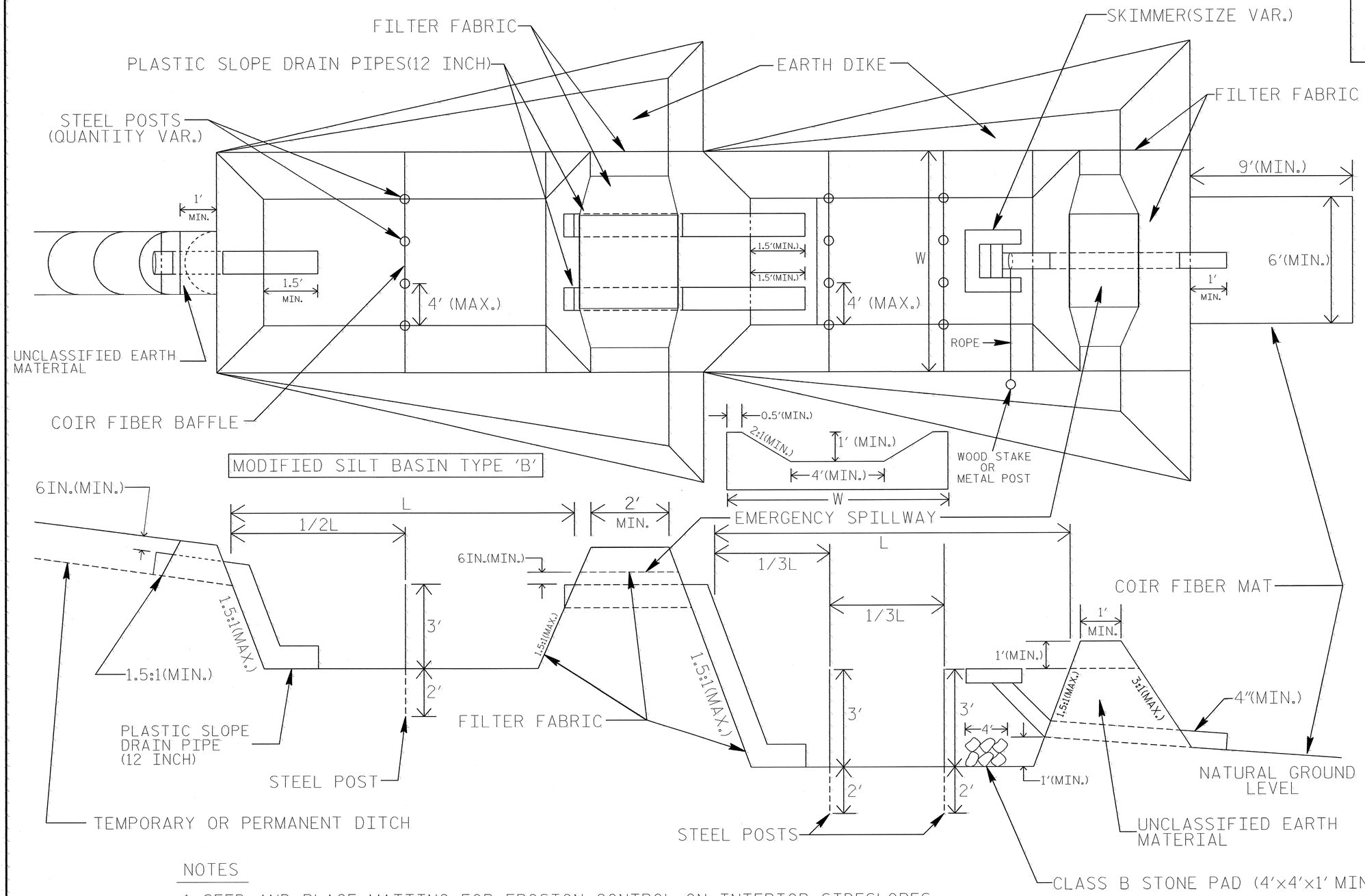
NOTES

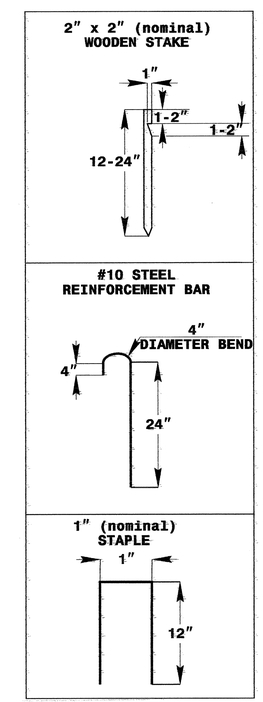
1. SEED AND PLACE MATTING FOR EROSION CONTROL ON INTERIOR SIDESLOPES.
2. LIMIT EARTH DIKE HEIGHT TO 5 FT.
3. THE MINIMUM BASIN WIDTH SHALL BE 9 FT.
4. DETERMINE EMERGENCY SPILLWAY LENGTH (FT.) USING Q/0.8, WHERE Q IS FLOW RATE (CFS) INTO BASIN.

NOT TO SCALE

PROJECT REFERENCE NO.	SHEET NO.
R-0505	EC-2C
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

TIERED SKIMMER BASIN DETAIL





COIR FIBER MAT ANCHOR OPTIONS

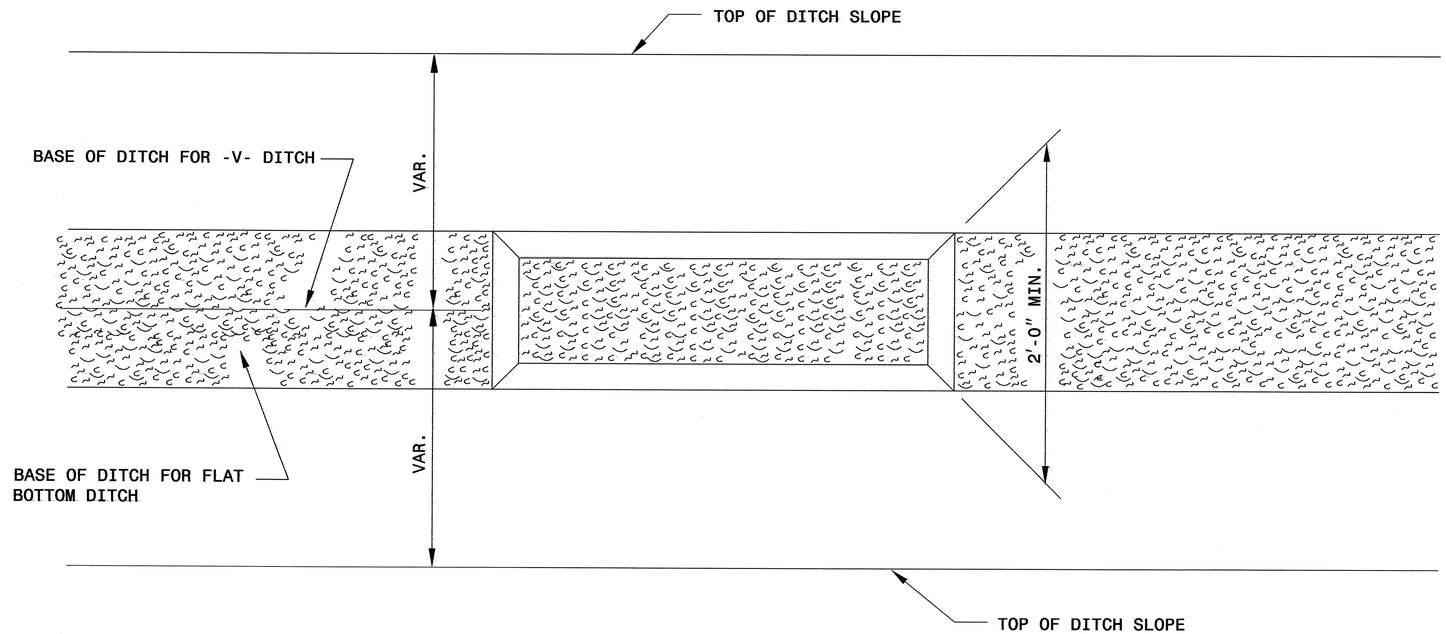
NOTES

1. SEED AND PLACE MATTING FOR EROSION CONTROL ON INTERIOR SIDESLOPES OF BASINS.
2. LIMIT HEIGHT OF EARTH DIKES TO 5 FT.
3. ADDITIONAL MODIFIED SILT BASINS TYPE 'B' MAY BE NEEDED DEPENDING ON SLOPE.
4. THE MINIMUM BASIN WIDTHS SHALL BE 9 FT.
5. DETERMINE EMERGENCY SPILLWAY LENGTHS (FT.) USING Q/0.8, WHERE Q IS FLOW RATE (CFS) INTO UPPER BASIN.

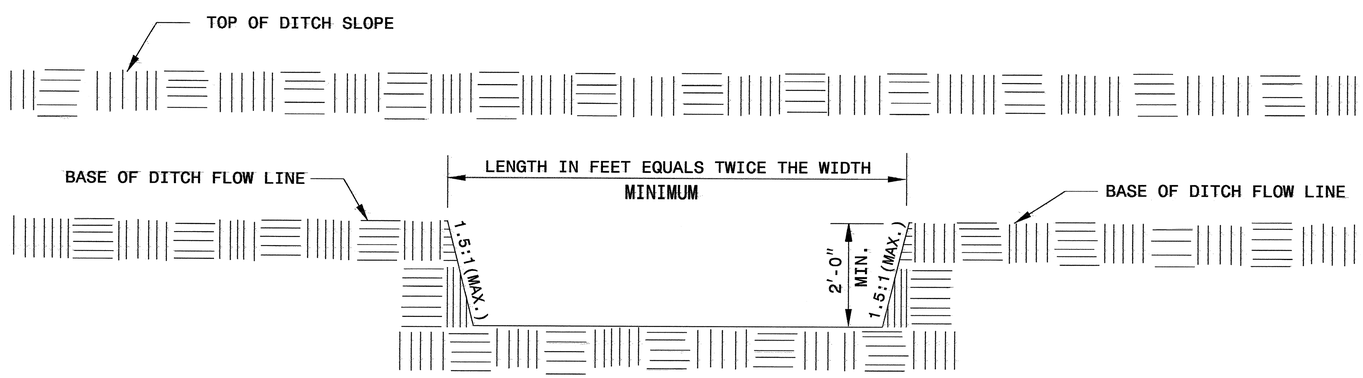
NOT TO SCALE

PROJECT REFERENCE NO.	SHEET NO.
R-0505	EC-2D
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SILT BASIN 'B' DETAIL



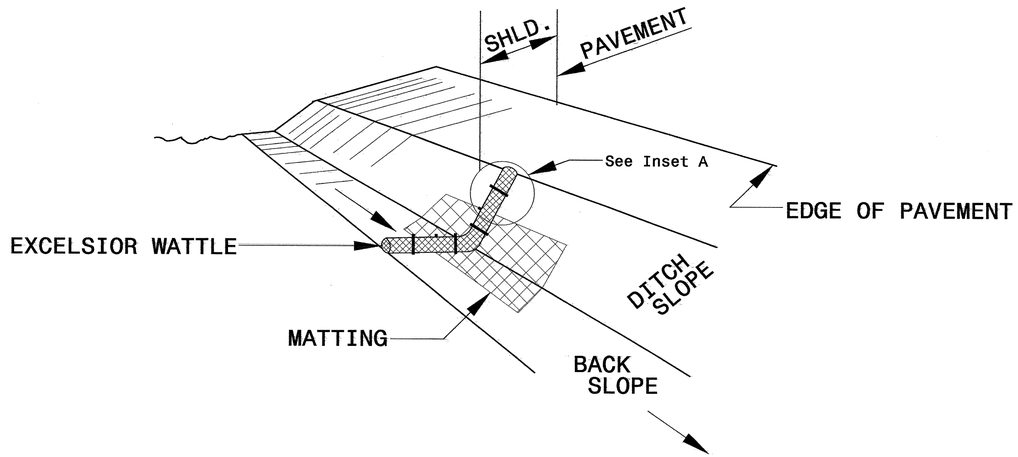
PLAN



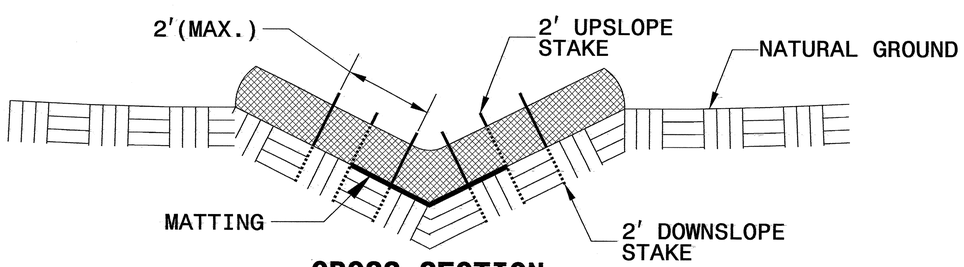
ELEVATION

PROJECT REFERENCE NO.	SHEET NO.
R-0505	EC-2E
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

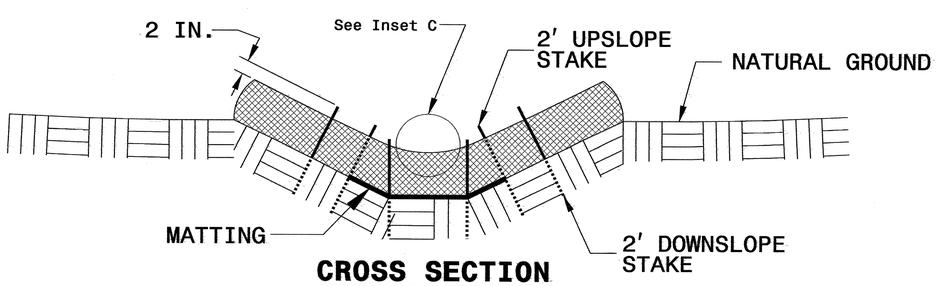
WATTLE WITH POLYACRYLAMIDE DETAIL



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. CROSS SECTION.

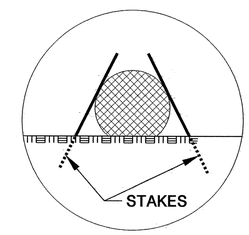
INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.

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

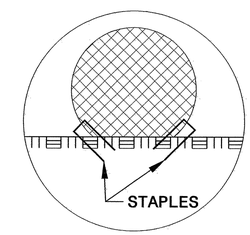
INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

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

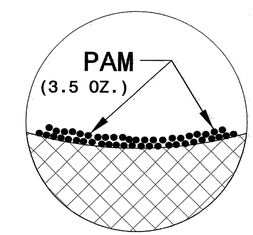
INITIALLY APPLY 3.5 OUNCES OF ANIONIC OR NEUTRALLY CHARGED POLYACRYLAMIDE (PAM) OVER WATTLE WHERE WATER WILL FLOW AND AFTER EVERY RAINFALL EVENT THAT IS EQUAL TO OR EXCEEDS 0.25 IN.



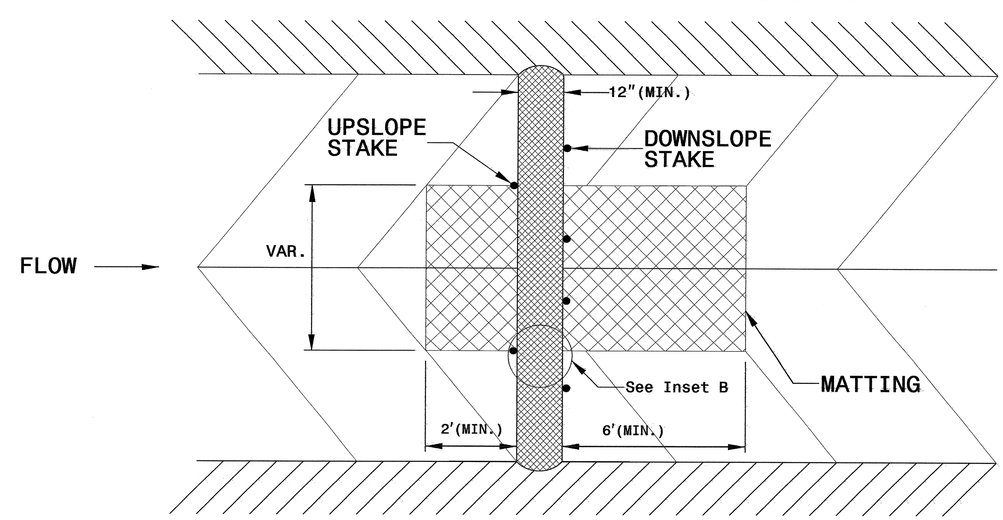
INSET A



INSET B



INSET C



TOP VIEW

PROJECT REFERENCE NO.	SHEET NO.
R-505	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-	709+50	762+00	MED	5895
4	-L-	715+00	716+00	RT	135
4	-L-	717+00	720+50	RT	360
5	-L-	728+00	729+00	RT	105
5	-L-	734+00	747+00	RT	2920
6	-L-	741+00	743+50	LT	175
6	-ACC12-	18+91	23+96	LT	405
7	-L-	754+00	759+50	RT	500
7	-ACC12-	28+51	31+54	LT	275
7	-ACC12-	36+54	41+50	LT	350
8	-L-	782+00	861+00	MED	8880
8	-RAMP C-	4+91	7+41	RT	335
8	-L-	768+50	770+00	RT	140
8	-L-	773+00	774+00	RT	135
8	-ACC 3-	784+49	808+45	LT	5380
8	-ACC 12-	43+00	44+50	RT	170
8	-Y2-	31+50	32+00	RT	35
10	-ACC 3-	809+41	839+48	LT	4325
10	-L-	811+00	812+50	LT	105
12	-ACC 3-	831+95	834+48	RT	180
12	-ACC 3-	839+98	846+98	RT	565
13	-ACC 3-	840+98	846+48	LT	560
13	-L-	840+50	851+00	RT	1295
13	-ACC 3-	847+98	848+98	RT	85
				SUBTOTAL	33310
MISCELLANEOUS MATTING TO BE INSTALLED AS DIRECTED BY THE ENGINEER					38545
				TOTAL	71855
				SAY	72000

PERMANENT SOIL REINFORCEMENT MAT

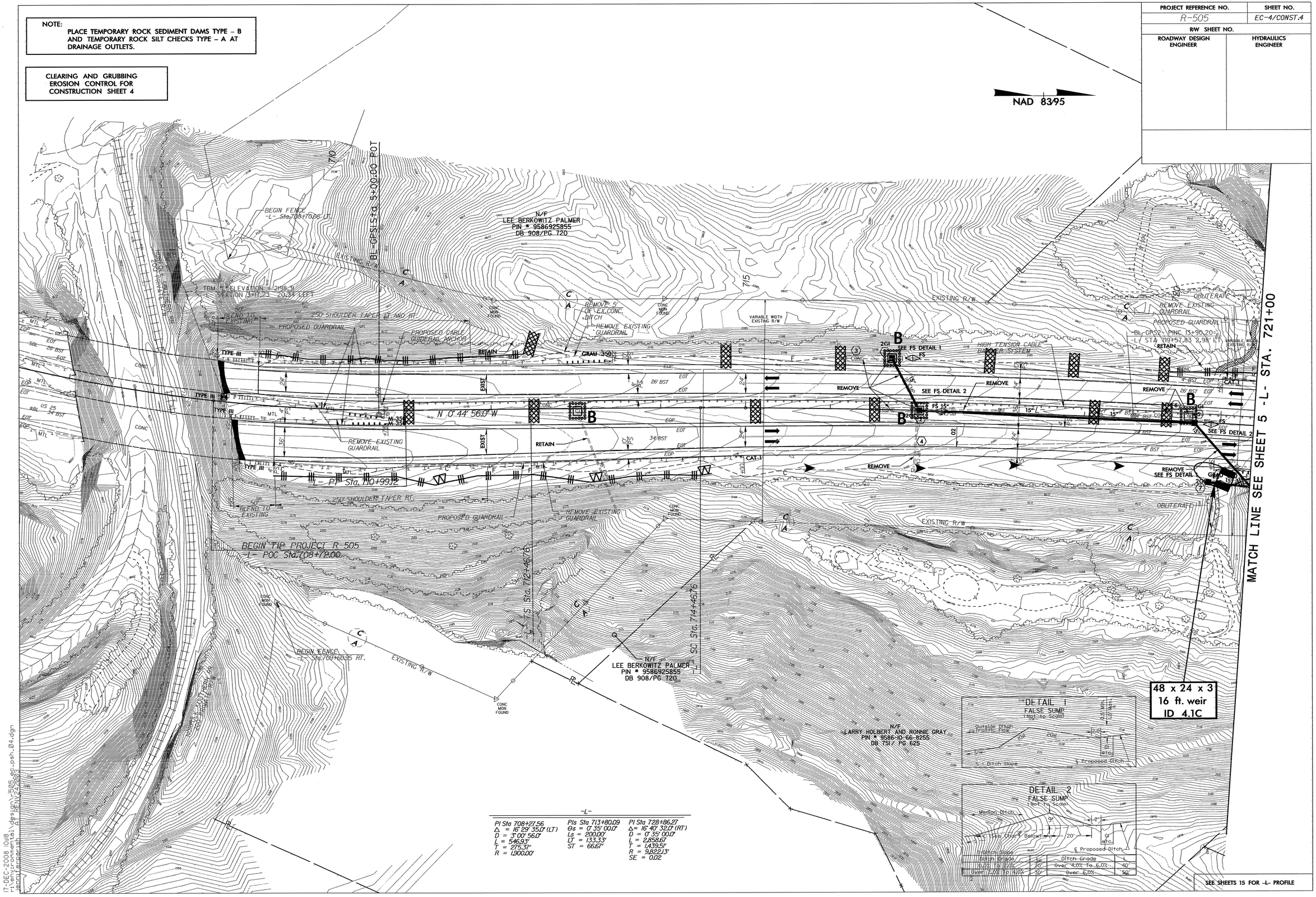
CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
6	-ACC 12-	14+92	18+91	RT	280
6	-ACC 12-	10+00	10+50	LT	35
6	-RY51A-	10+20	10+80	LT	45
6	-RY51A-	10+20	10+80	RT	45
6	-Y1-	10+25	11+50	RT	75
6	-Y1-	10+50	11+00	LT	30
7	-L-	762+50	766+50	LT BERM	485
8	-L-	769+50	771+50	LT BERM	245
8	-RAMP D-	5+67	8+45	LT	255
8	-ACC 3-	784+49	807+02	RT	2365
8	-ACC 3-	772+50	784+00	LT	915
8	-ACC 3-	773+00	773+50	RT	35
8	-ACC 3-	774+50	777+50	RT	210
8	-ACC 3-	781+00	784+00	RT	420
8	-ACC 12-	41+50	44+50	LT	305
8	-Y4REV-	10+50	11+00	LT	35
8	-Y4REV-	12+00	14+00	LT	100
10	-ACC 3-	813+71	817+69	RT	405
12	-Y7REV-	12+00	14+50	RT	125
12	-Y7REV-	13+00	15+00	LT	140
13	-L-	847+50	848+50	LT	60
13	-Y8-	10+50	11+50	RT	70
				SUBTOTAL	6680
		ADDITIONAL PSRM TO BE INSTALLED			625
				TOTAL	7305
				SAY	7400

PROJECT REFERENCE NO.	SHEET NO.
R-505	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

NAD 83/95



-L-

PI Sta 708+27.56	PIs Sta 713+80.09	PI Sta 728+86.27
Δ = 16° 29' 35.0" (LT)	Θs = 0° 35' 00.0"	Δ= 16° 40' 32.0" (RT)
D = 3° 00' 56.0"	Ls = 200.00'	D = 0° 35' 00.0"
L = 546.93'	LT = 133.33'	L = 2,858.67'
T = 275.37'	ST = 66.67'	T = 1,439.51'
R = 1,900.00'		R = 9,822.13'
		SE = 0.02

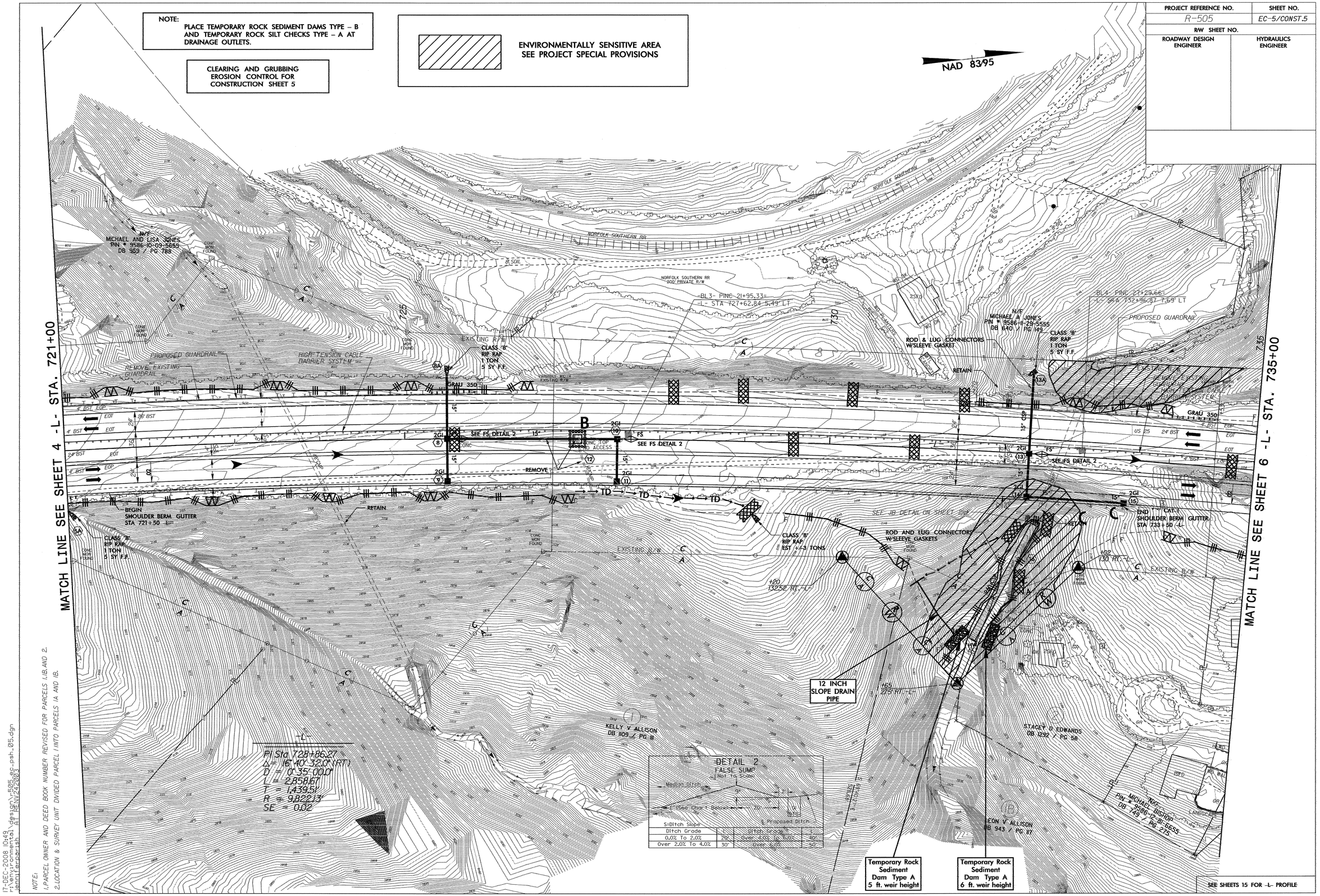
17-DEC-2008 10:08
r:\environmental\design\r-505_ec-psh_04.dgn
REV 24 2002

PROJECT REFERENCE NO.	SHEET NO.
R-505	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

ENVIRONMENTALLY SENSITIVE AREA
SEE PROJECT SPECIAL PROVISIONS



SEE SHEETS 15 FOR -L- PROFILE

17-DEC-2008 10:49
r:\environmental\design\r-505_sc_psh_05.dgn
jennifer.parish AT RENV242003

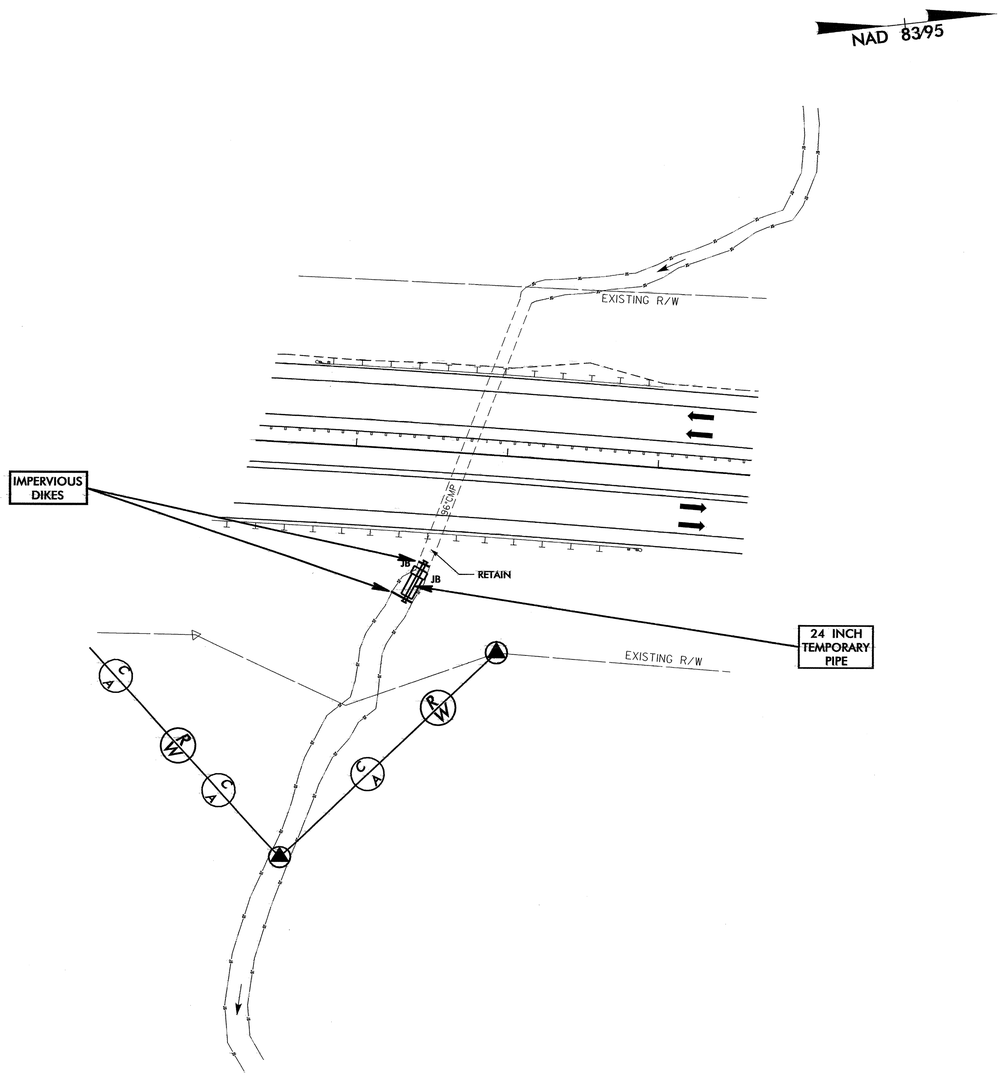
NOTE:
1. PARCEL OWNER AND DEED BOOK NUMBER REVISED FOR PARCELS 1.1B AND 2.
2. LOCATION & SURVEY UNIT DIVIDED PARCEL 1 INTO PARCELS 1A AND 1B.

PIPE CONSTRUCTION SEQUENCE STA. 732 + 75.29 –L–

PROJECT REFERENCE NO.	SHEET NO.
R-505	EC-6/CONST.5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

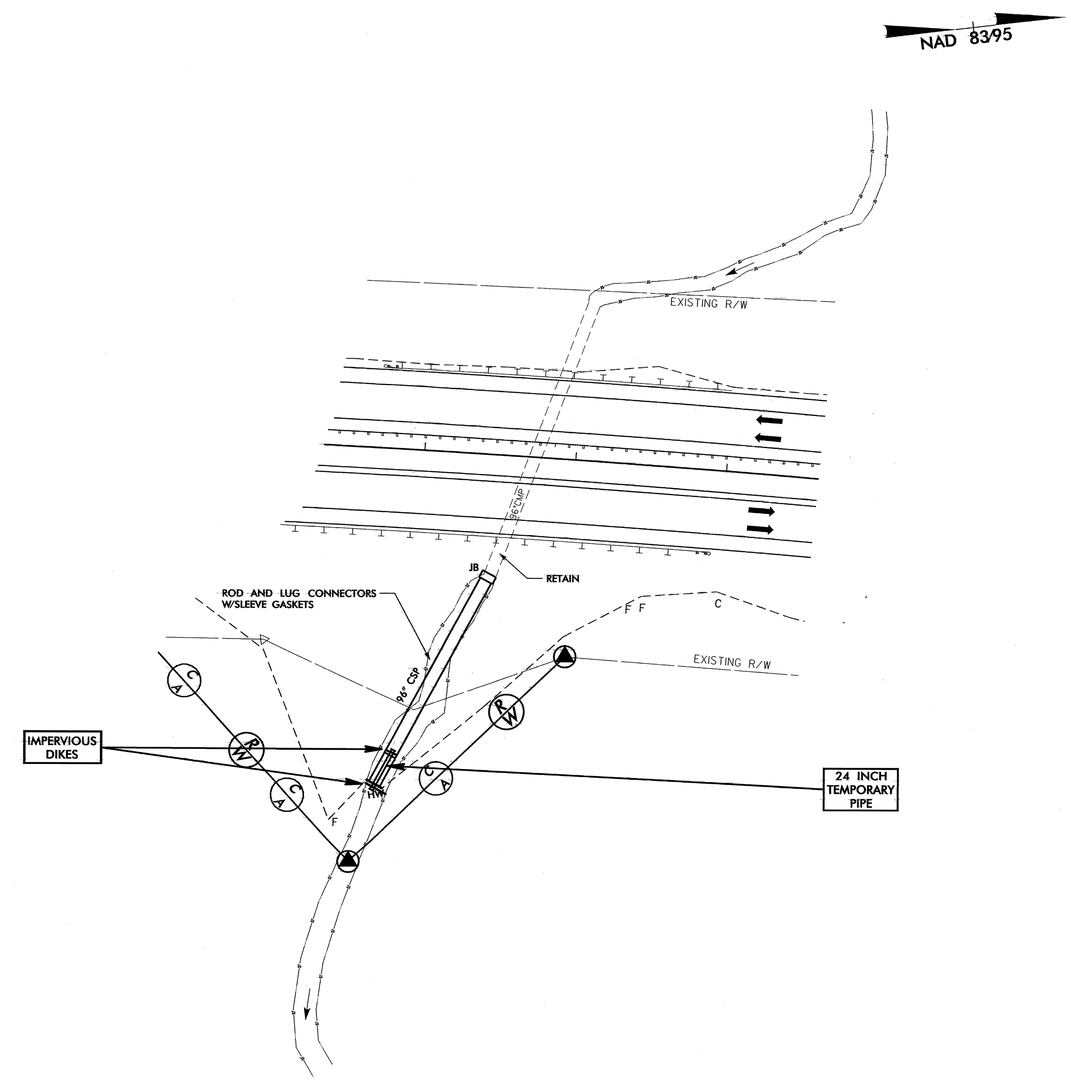
PHASE I

1. UTILIZE SPECIAL STILLING BASIN(S) AS NEEDED THROUGHOUT PIPE CONSTRUCTION.
2. CONSTRUCT IMPERVIOUS DIKES IN OUTLET OF EXISTING 96" CMP AND IN THE STREAM, AND INSTALL 30' OF 24" TEMPORARY PIPE, DIVERTING FLOW THROUGH TEMPORARY PIPE.
3. CONSTRUCT JUNCTION BOX AND ONE SECTION OF PROPOSED 96" CSP.



PHASE II

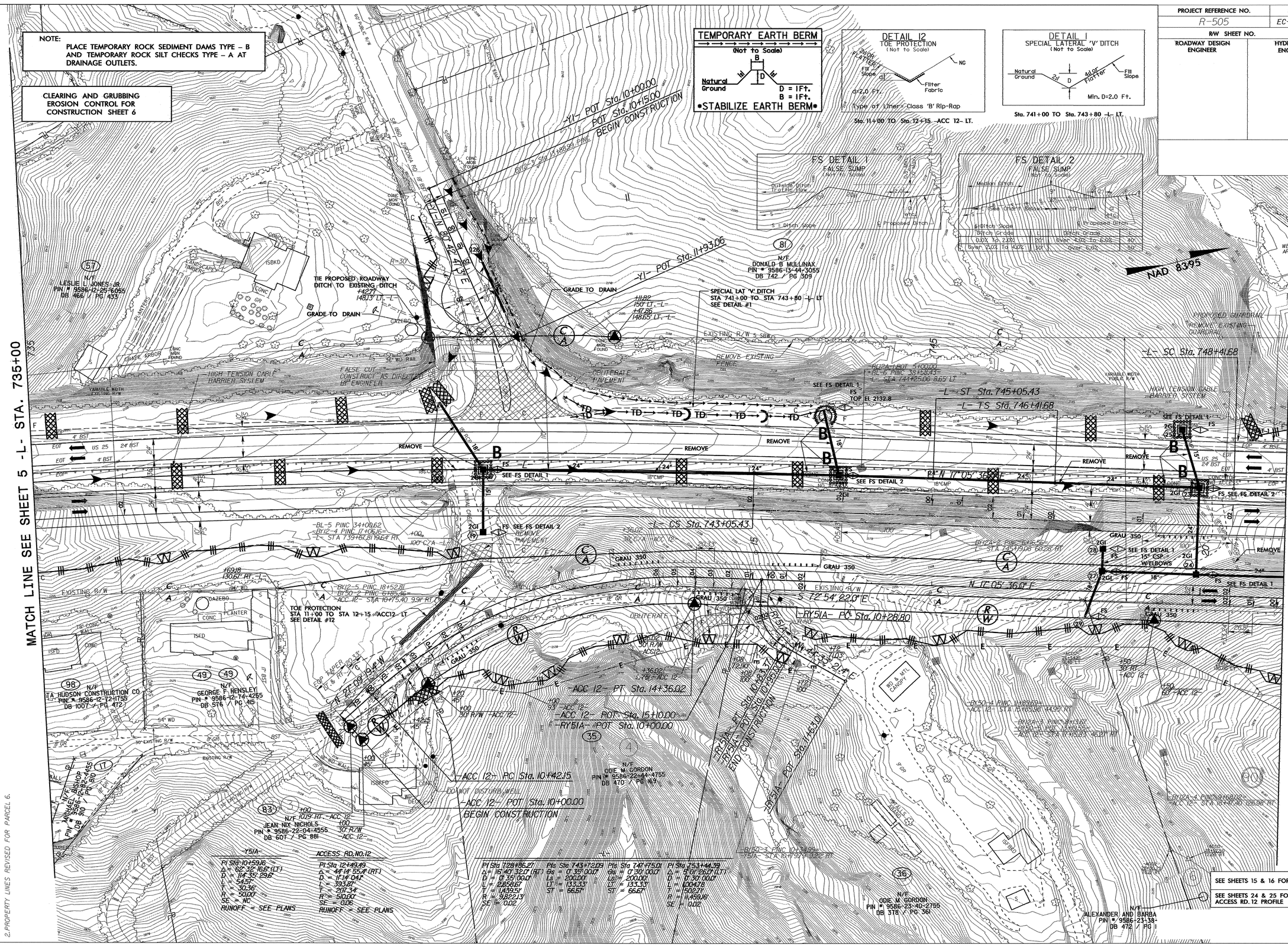
4. MOVE IMPERVIOUS DIKES AND 24" TEMPORARY PIPE TO OUTLET OF NEW 96"CSP, AND CONTINUE EXTENSION OF THE PROPOSED PIPE.
5. REPEAT THIS PROCESS UNTIL THE PROPOSED PIPE EXTENSION IS COMPLETE.
6. ONCE PROPOSED PIPE EXTENSION IS COMPLETE, REMOVE ALL IMPERVIOUS DIKES, TEMPORARY PIPE, AND SPECIAL STILLING BASIN(S).
7. COMPLETE ROADWAY.



PROJECT REFERENCE NO.	SHEET NO.
R-505	EC-7/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



NOTE:
1. PARCEL OWNER AND DEED BOOK NUMBER REVISED FOR PARCEL 3.
2. PROPERTY LINES REVISED FOR PARCEL 6.

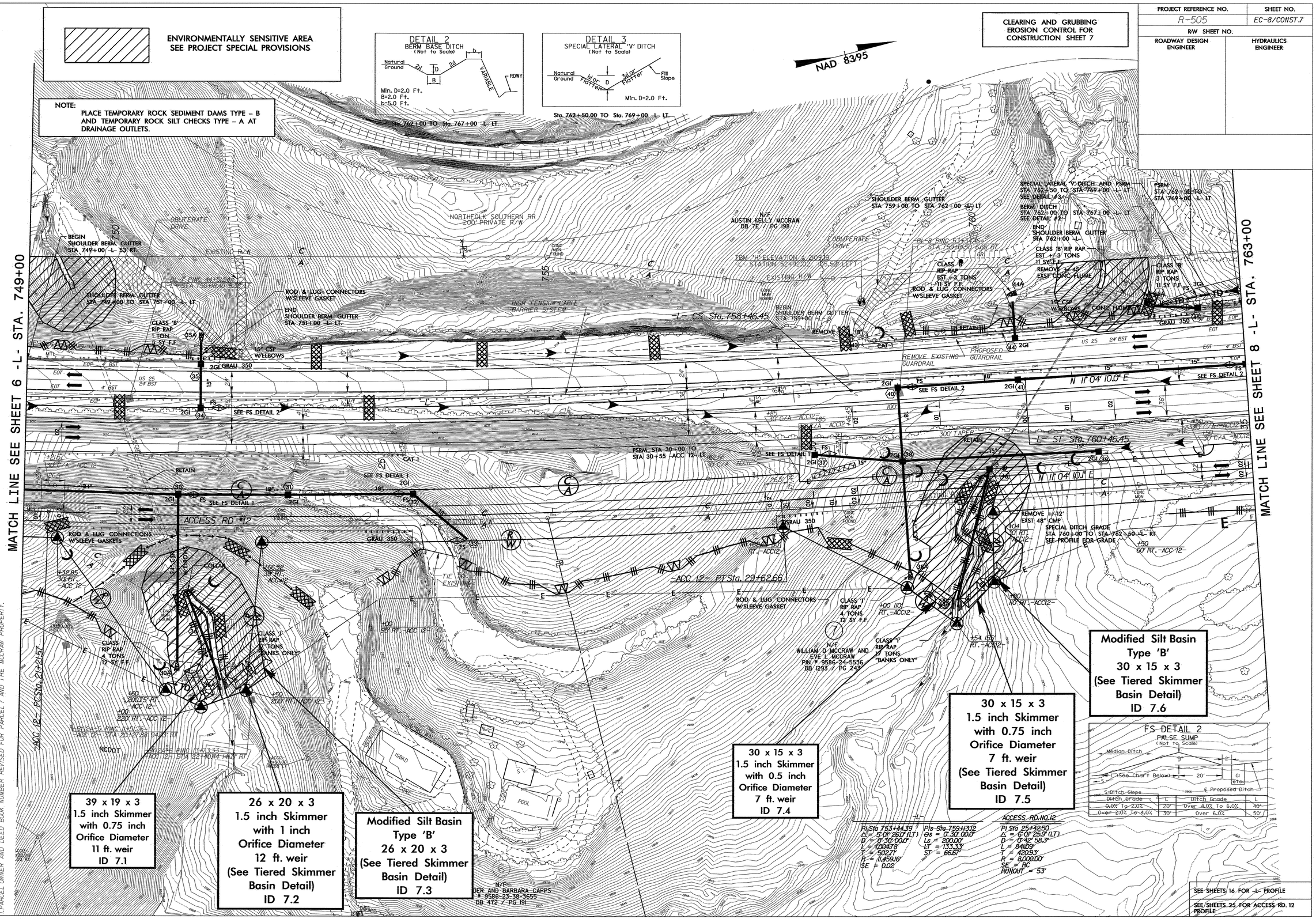
17-DEC-2008 11:00
r:\environmental\design\r505
samniterprash A1 REN\242003

PROJECT REFERENCE NO.	SHEET NO.
R-505	EC-8/CONST.7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

ENVIRONMENTALLY SENSITIVE AREA
SEE PROJECT SPECIAL PROVISIONS

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.



17-DEC-2008 11:03
r:\environmental\design\r-505_ec-psh_07.dgn
jennifer.parish 41 REN\242003

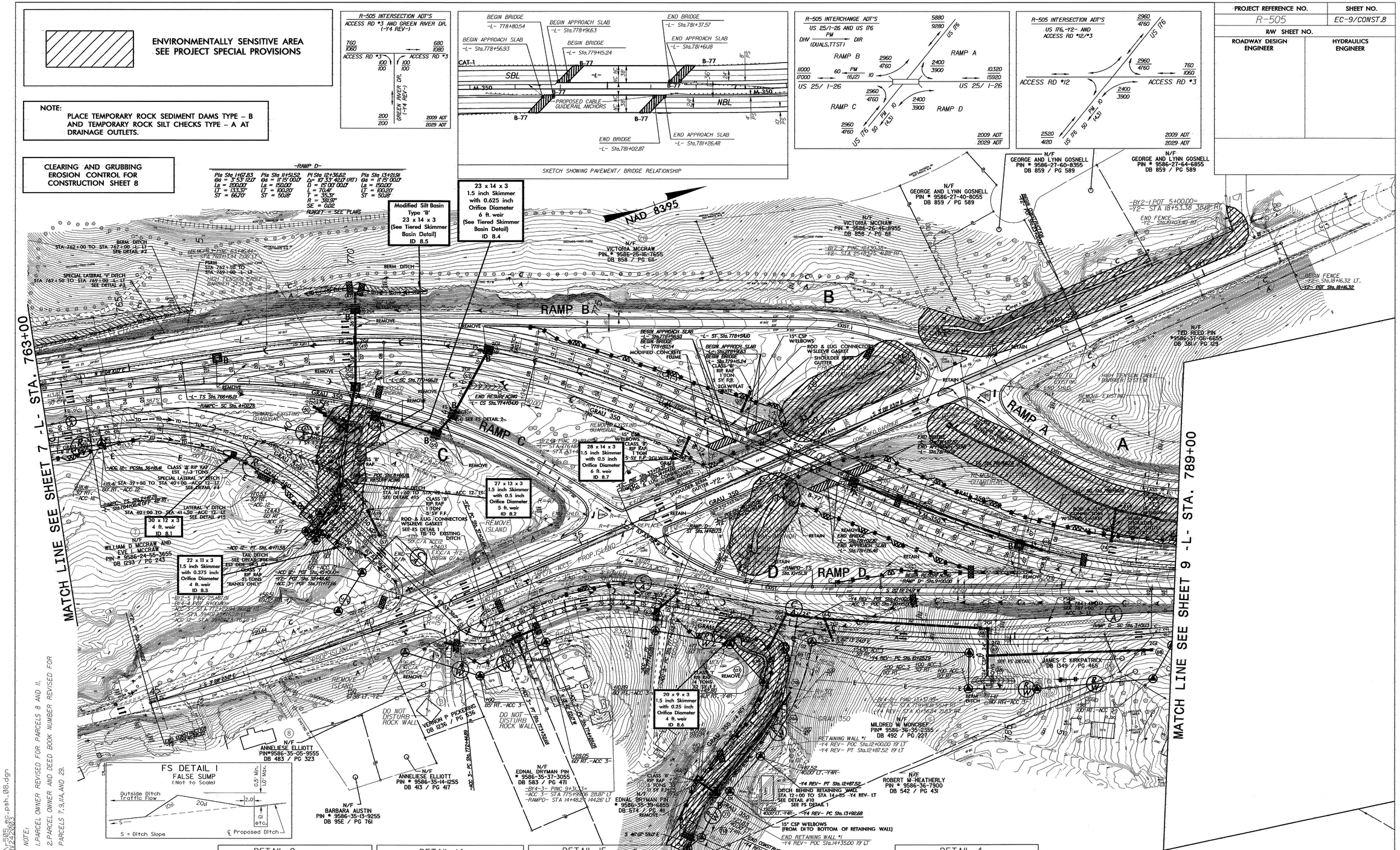
NOTE:
1. PARCEL OWNER AND DEED BOOK NUMBER REVISED FOR PARCEL 7 AND THE MCCRAW PROPERTY.

PROJECT REFERENCE NO.	SHEET NO.
R-505	EC-9/CONST.8
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

ENVIRONMENTALLY SENSITIVE AREA
SEE PROJECT SPECIAL PROVISIONS

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

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 8



NOTE:
1. PARCEL OWNER REVISED FOR PARCELS 8 AND 11.
2. PARCEL OWNER AND DEED BOOK NUMBER REVISED FOR PARCELS 7, 9, 11A AND 29.

SEE SHEETS 16 & 17 FOR –L– PROFILE
SEE SHEETS 25 FOR ACCESS RD. 12 PROFILE
SEE SHEETS 21 FOR ACCESS RD. 3 PROFILE
SEE SHEETS 26 & 27 FOR –Y2– PROFILE
SEE SHEET 28 FOR –Y4REV– PROFILE AND RETAINING WALL
SEE SHEET 31 FOR RAMP C AND D PROFILE

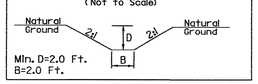
17-DEC-2008 11:06
r:\environmental\design\r505_ec-9-const8-psh_08.dgn
jamesperry
ENV22.2003

PROJECT REFERENCE NO.	SHEET NO.
R-505	EC-10/CONST.9
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

ENVIRONMENTALLY SENSITIVE AREA
SEE PROJECT SPECIAL PROVISIONS

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 9

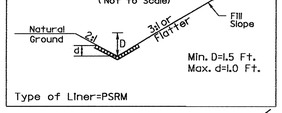
DETAIL 5
STANDARD BASE DITCH
(Not to Scale)



Min. D=2.0 Ft.
B=2.0 Ft.

Sta. 792+80 TO Sta. 793+10 -L- RT.

DETAIL 6
SPECIAL LATERAL 'V' DITCH
(Not to Scale)

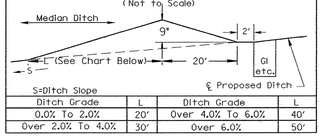


Min. D=1.5 Ft.
Max. d=1.0 Ft.

Type of Liner=PSRM

Sta. 799+42 TO Sta. 800+00 -L- LT.

FS DETAIL 2
FALSE SUMP
(Not to Scale)

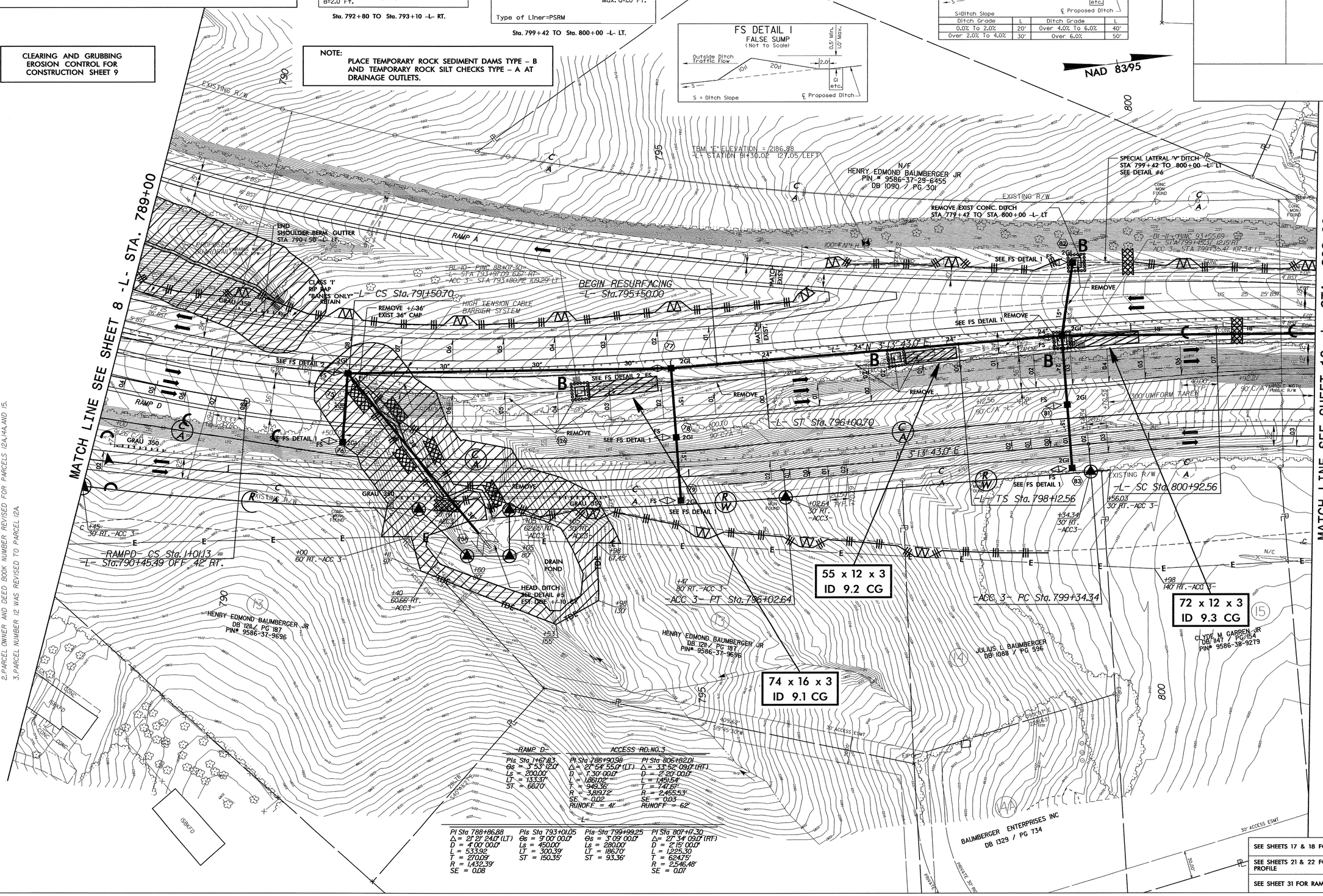


S=Ditch Slope			
Ditch Grade	L	Ditch Grade	L
0.0% To 2.0%	20'	Over 4.0% To 6.0%	40'
Over 2.0% To 4.0%	30'	Over 6.0%	50'

FS DETAIL 1
FALSE SUMP
(Not to Scale)

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

NAD 83/95



NOTE:
1. DEED BOOK NUMBER REVISED FOR PARCEL 13.
2. PARCEL OWNER AND DEED BOOK NUMBER REVISED FOR PARCELS 12A, 14A AND 15.
3. PARCEL NUMBER 12 WAS REVISED TO PARCEL 12A.

-RAMP D-	ACCESS RD.NO.3	
PIs Sta. 1+67.83	PI Sta 786+90.98	PI Sta 806+82.01
Gs = 3°53'12.0"	Δ = 27°54'55.0" (LT)	Δ = 33°52'09.0" (RT)
Ls = 200.00'	D = 1°30'00.0"	D = 2°20'00.0"
LT = 133.37'	L = 1,861.02'	L = 1,451.54'
ST = 66.70'	T = 948.36'	T = 741.27'
	R = 3,819.72'	R = 2,455.53'
	SE = 0.02	SE = 0.03
	RUNOFF = 41'	RUNOFF = 62'

PI Sta 788+86.88	PIs Sta 793+01.05	PIs Sta 799+99.25	PI Sta 807+17.30
Δ = 21°21'24.0" (LT)	Gs = 9°00'00.0"	Gs = 3°09'00.0"	Δ = 27°34'09.0" (RT)
D = 4°00'00.0"	Ls = 450.00'	Ls = 280.00'	D = 2°15'00.0"
L = 533.92'	LT = 300.39'	LT = 186.70'	L = 1,225.30'
T = 270.09'	ST = 150.35'	ST = 93.36'	T = 624.75'
R = 1,432.39'			R = 2,546.48'
SE = 0.08			SE = 0.07

SEE SHEETS 17 & 18 FOR -L- PROFILE

SEE SHEETS 21 & 22 FOR ACCESS RD. 3 PROFILE

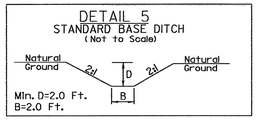
SEE SHEET 31 FOR RAMP D PROFILE

05-JAN-2009 15:45
r:\environmental\design\r-505_ec-psh_09.dgn
jennifergarrish AT RENY242003

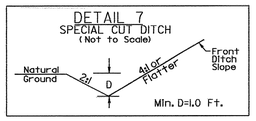
PROJECT REFERENCE NO.	SHEET NO.
R-505	EC-11/CONST.10
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 10

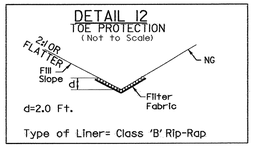
NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE – B AND TEMPORARY ROCK SILT CHECKS TYPE – A AT DRAINAGE OUTLETS.



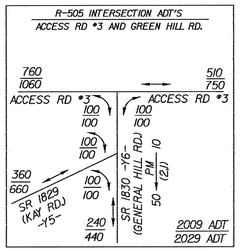
Sta. 11+00 –Y5– LT.

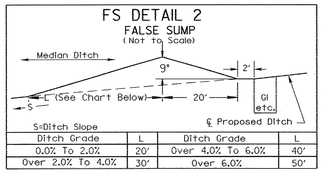


Sta. 810+50 TO Sta. 811+50 –L– RT.
Sta. 811+00 TO Sta. 812+50 –L– LT.

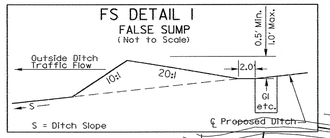


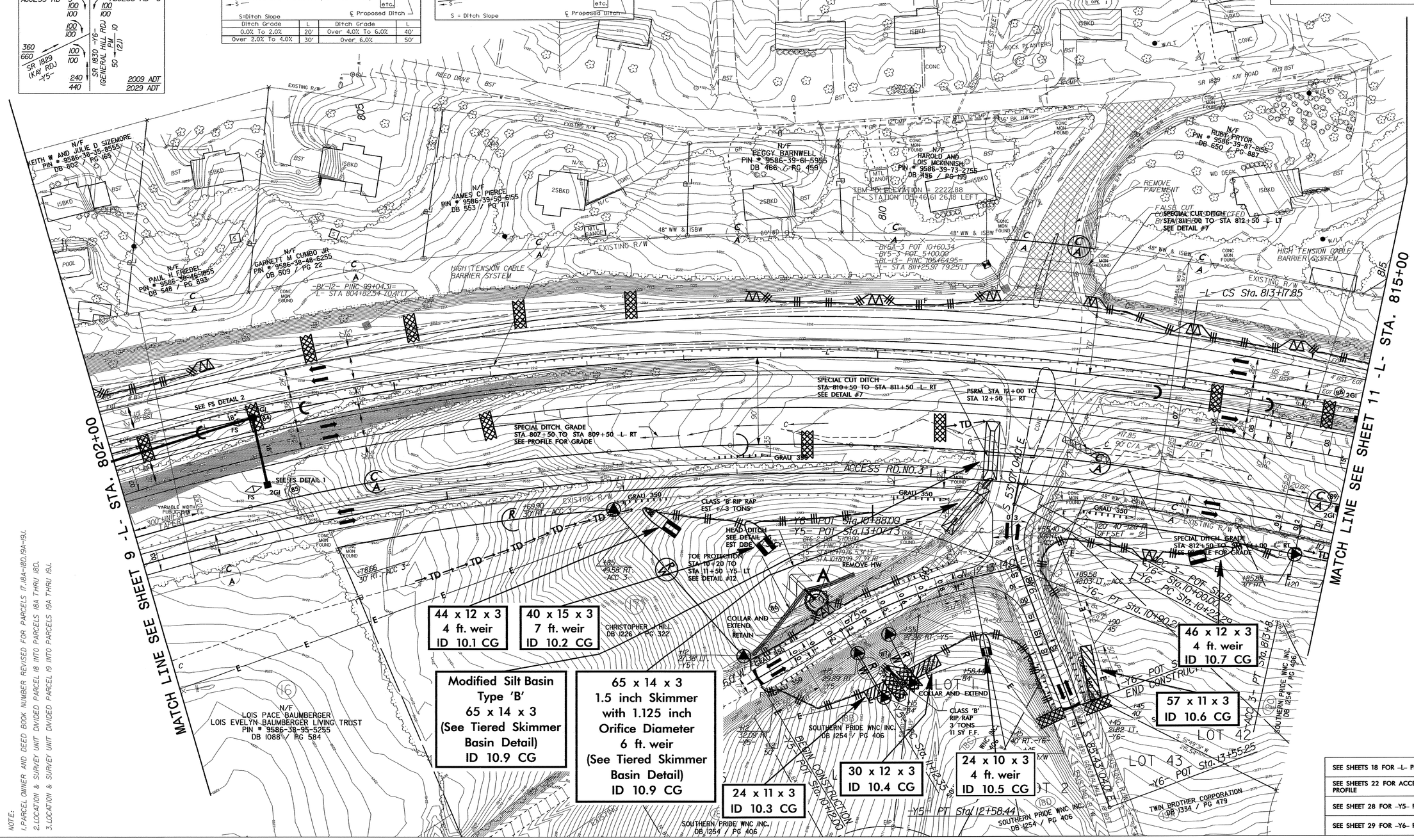
Sta. 10+20 TO Sta. 11+50 –Y5– LT.





Ditch Grade	L	Ditch Grade	L
0.0% To 2.0%	20'	Over 4.0% To 6.0%	40'
Over 2.0% To 4.0%	30'	Over 6.0%	50'





SEE SHEETS 18 FOR –L– PROFILE
SEE SHEETS 22 FOR ACCESS RD. 3 PROFILE
SEE SHEET 28 FOR –Y5– PROFILE
SEE SHEET 29 FOR –Y6– PROFILE

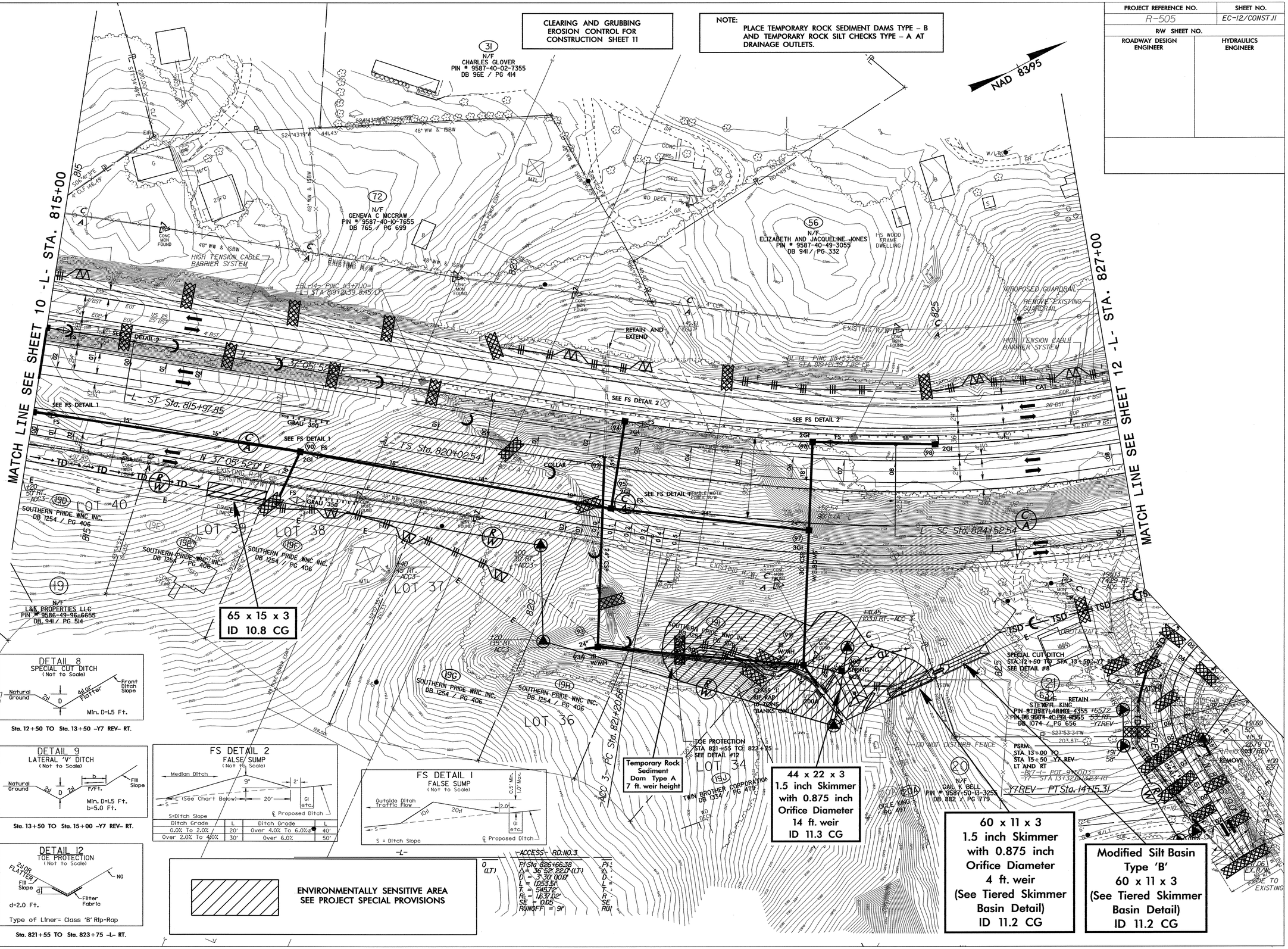
NOTE:
1. PARCEL OWNER AND DEED BOOK NUMBER REVISED FOR PARCELS 17, 18A–18D, 19A–19J.
2. LOCATION & SURVEY UNIT DIVIDED PARCEL 18 INTO PARCELS 18A THRU 18D.
3. LOCATION & SURVEY UNIT DIVIDED PARCEL 19 INTO PARCELS 19A THRU 19J.

05-JAN-2009 16:07
r:\environmental\design\r-505_ec_psh_10.dgn
jennifergarrish AT FENY242003

PROJECT REFERENCE NO.	SHEET NO.
R-505	EC-12/CONST.JI
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.



DETAIL 8
SPECIAL CUT DITCH
(Not to Scale)
Natural Ground, 2:1, D, 4:1 or Flatter, Front Ditch Slope, CONC
Min. D=1.5 Ft.
Sta. 12+50 TO Sta. 13+50 –Y7 REV– RT.

DETAIL 9
LATERAL 'V' DITCH
(Not to Scale)
Natural Ground, 2:1, D, 2:1, b, P/Ft., Fill Slope
Min. D=1.5 Ft.
b=5.0 Ft.
Sta. 13+50 TO Sta. 15+00 –Y7 REV– RT.

DETAIL 12
TOE PROTECTION
(Not to Scale)
2:1 OR FLATTER, Fill Slope, d, NG, Filter Fabric
d=2.0 Ft.
Type of Liner= Class 'B' Rip-Rap
Sta. 821+55 TO Sta. 823+75 –L– RT.

FS DETAIL 2
FALSE SUMP
(Not To Scale)
Median Ditch, 9", 2', L (See Chart Below), 20', GI etc., ℄ Proposed Ditch
S=Ditch Slope

Ditch Grade	L	Ditch Grade	L
0.0% To 2.0%	20'	Over 4.0% To 6.0%	40'
Over 2.0% To 4.0%	30'	Over 6.0%	50'

FS DETAIL 1
FALSE SUMP
(Not to Scale)
Outside Ditch Traffic Flow, 10:1, 20:1, 2.0', 0.5' Min., 1.0' Max., GI etc., ℄ Proposed Ditch
S = Ditch Slope

NOTE:
1. PARCEL OWNER AND DEED BOOK NUMBER REVISED FOR PARCELS 19D-19J, 20A-20B.
2. LOCATION & SURVEY UNIT DIVIDED PARCEL 19 INTO PARCELS 19A THRU 19J.
3. LOCATION & SURVEY UNIT DIVIDED PARCEL 20 INTO PARCELS 20A THRU 20B.

05-JAN-2009 16:10
r:\environmental\design\r-505_ec-psh_11.dgn
jennifer.parish AT RENV242003

PROJECT REFERENCE NO.	SHEET NO.
R-505	EC-13/CONST.12
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

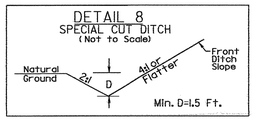
NOTE:
1. PARCEL OWNER AND DEED BOOK NUMBER REVISED FOR PARCEL 22.
2. LOCATION & SURVEY UNIT REVISED THE EXISTING R/W FOR PARCEL 22. THE PROPOSED R/W WAS REVISED ACCORDINGLY.

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.

NAD 83/95

DETAIL 8
SPECIAL CUT DITCH
(Not to Scale)

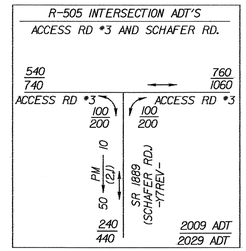


Sta. 12+50 TO Sta. 13+50 –Y7 REV– RT.

DETAIL 11
STANDARD BASE DITCH
(Not to Scale)

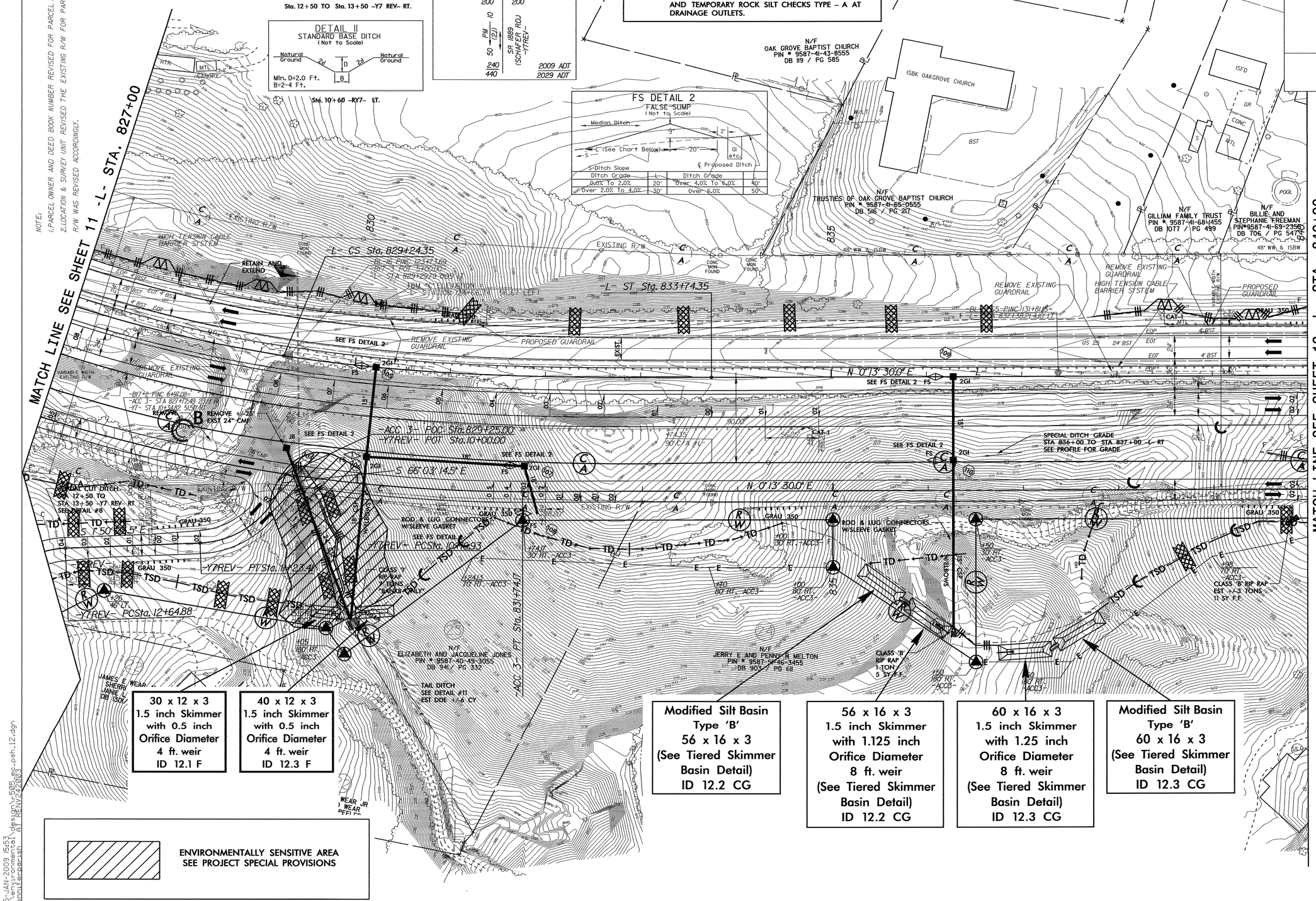
Sta. 10+60 –RY7– LT.

R-505 INTERSECTION ADT'S
ACCESS RD #3 AND SCHAFER RD.



FS DETAIL 2
FALSE SUMP
(Not to Scale)

S=Ditch Slope			
Ditch Grade	L	Ditch Grade	L
0.0% To 2.0%	20'	Over 4.0% To 6.0%	40'
Over 2.0% To 4.0%	30'	Over 6.0%	50'



30 x 12 x 3
1.5 inch Skimmer
with 0.5 inch
Orifice Diameter
4 ft. weir
ID 12.1 F

40 x 12 x 3
1.5 inch Skimmer
with 0.5 inch
Orifice Diameter
4 ft. weir
ID 12.3 F

Modified Silt Basin
Type 'B'
56 x 16 x 3
(See Tiered Skimmer
Basin Detail)
ID 12.2 CG

56 x 16 x 3
1.5 inch Skimmer
with 1.125 inch
Orifice Diameter
8 ft. weir
(See Tiered Skimmer
Basin Detail)
ID 12.2 CG

60 x 16 x 3
1.5 inch Skimmer
with 1.25 inch
Orifice Diameter
8 ft. weir
(See Tiered Skimmer
Basin Detail)
ID 12.3 CG

Modified Silt Basin
Type 'B'
60 x 16 x 3
(See Tiered Skimmer
Basin Detail)
ID 12.3 CG

ENVIRONMENTALLY SENSITIVE AREA
SEE PROJECT SPECIAL PROVISIONS

SEE SHEETS 19 FOR –L– PROFILE

SEE SHEETS 23 FOR ACCESS RD. 3 PROFILE

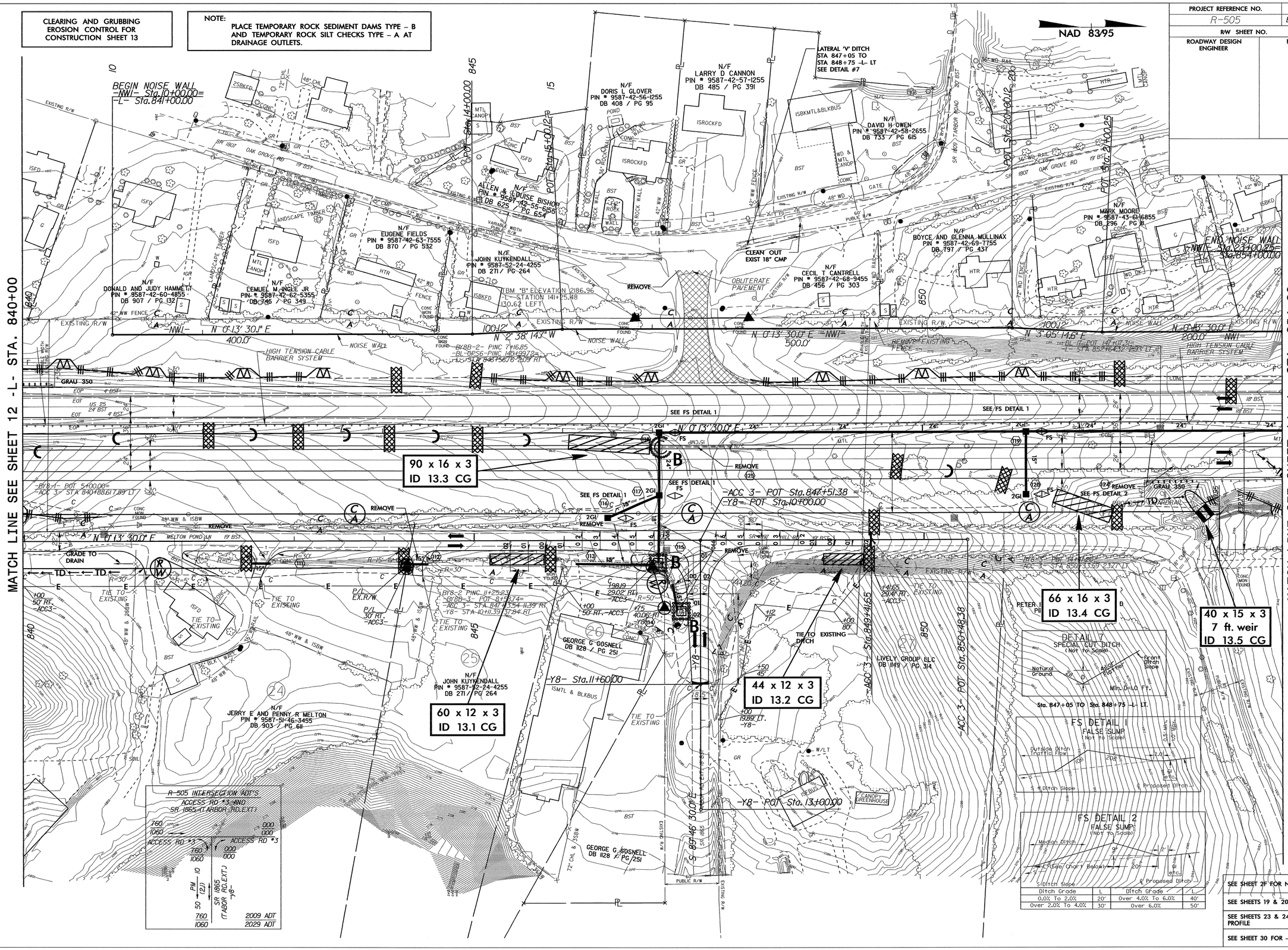
SEE SHEET 29 FOR –Y7REV– PROFILE

05-JAN-2009 15:53
r:\environmental\design\r505_ec_psh_12.dgn
jennifer@orian AT RENV2.2.0003

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-505	EC-14/CONST.13
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



Ditch Grade	L	Ditch Grade	L
0.0% To 2.0%	20'	Over 4.0% To 6.0%	40'
Over 2.0% To 4.0%	30'	Over 6.0%	50'

SEE SHEET 2F FOR NW1 ENVELOPE

SEE SHEETS 19 & 20 FOR -L- PROFILE

SEE SHEETS 23 & 24 FOR ACCESS RD. 3 PROFILE

SEE SHEET 30 FOR -Y8- PROFILE

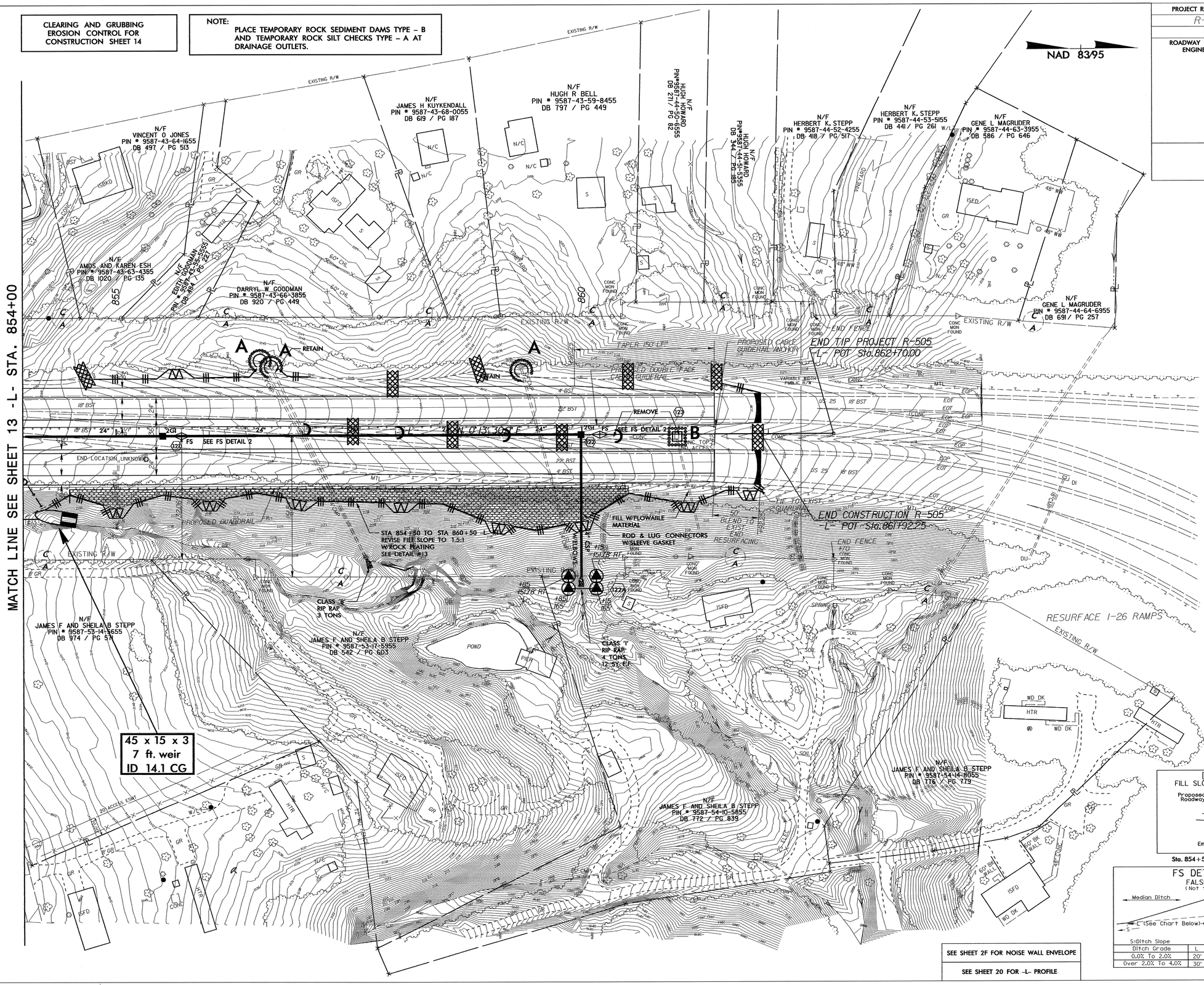
NOTE:
1. PARCEL OWNER AND DEED BOOK NUMBER REVISED FOR PARCELS 26 AND 27.

05-JAN-2009 16:12
r:\environmental\design\505_sec-psh_13.dgn
Jennifer parish AT REINV242003

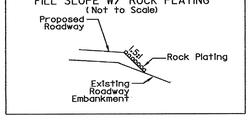
CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 14

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

PROJECT REFERENCE NO.	SHEET NO.
R-505	EC-15/CONST.14
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

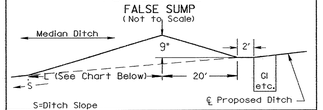


DETAIL 13
FILL SLOPE W/ ROCK PLATING
(Not to Scale)



Sta. 854+50 TO Sta. 860+50 -L- RT.

FS DETAIL 2
FALSE SUMP
(Not to Scale)

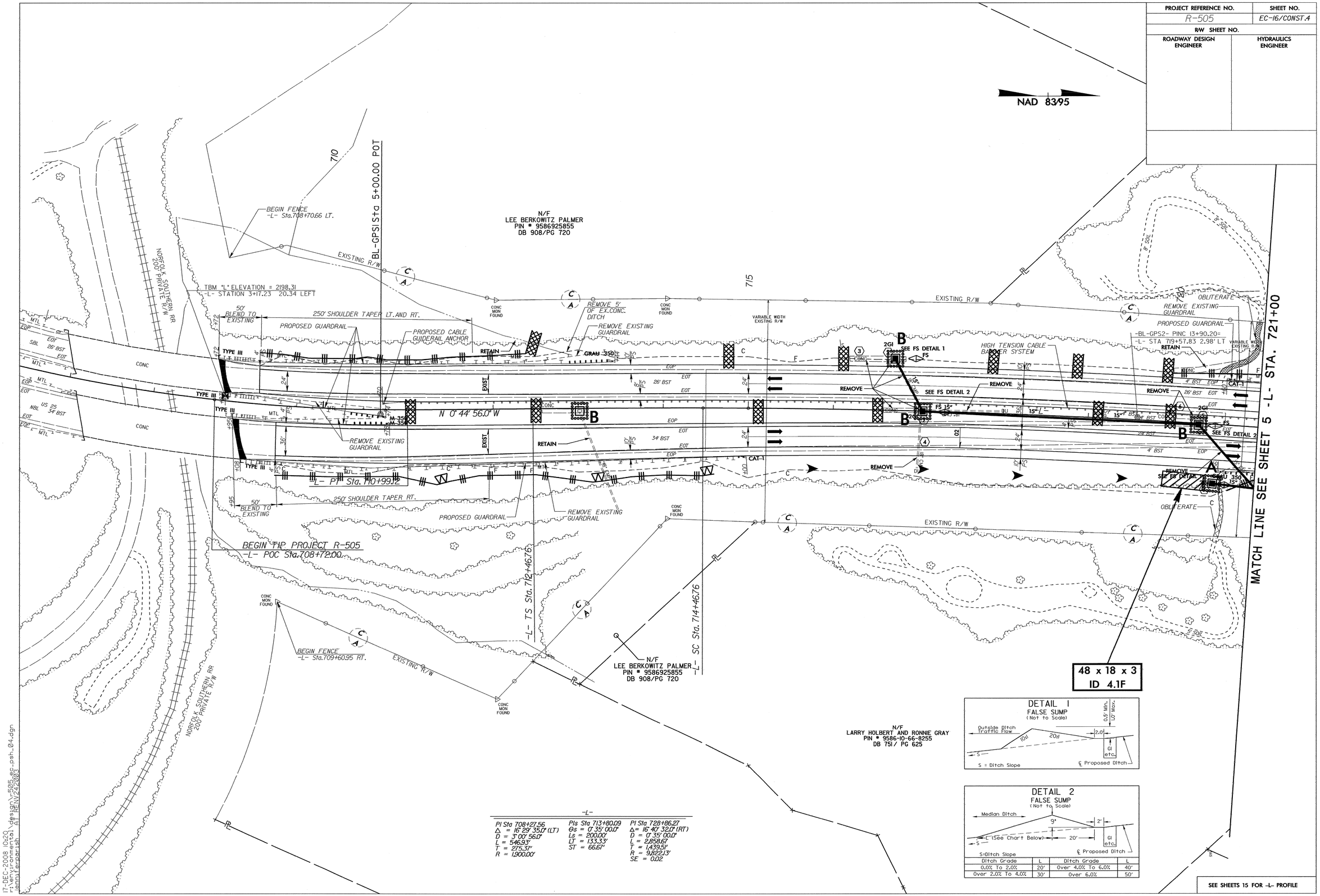


S=Ditch Slope

Ditch Grade	L	Ditch Grade	L
0.0% To 2.0%	20'	Over 4.0% To 6.0%	40'
Over 2.0% To 4.0%	30'	Over 6.0%	50'

05-JAN-2009 15:50
r:\environmental\design\r505_ec_psh_14.dgn
jennifferparish AT RENV242003

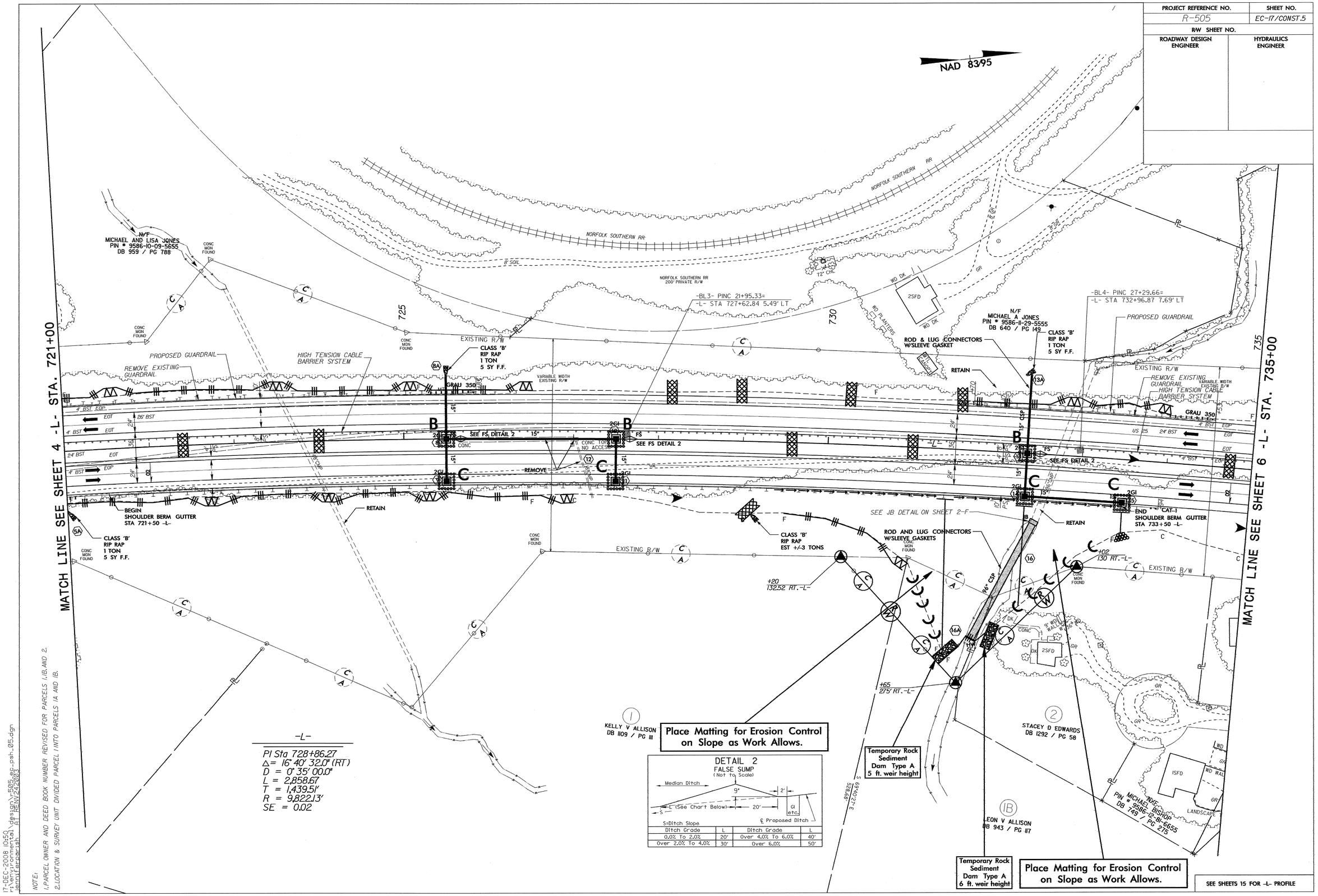
PROJECT REFERENCE NO.	SHEET NO.
R-505	EC-16/CONST.4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



-L-

PI Sta 708+27.56	PIs Sta 713+80.09	PI Sta 728+86.27
Δ = 16° 29' 35.0" (LT)	Θs = 0° 35' 00.0"	Δ= 16° 40' 32.0" (RT)
D = 3° 00' 56.0"	Ls = 200.00'	D = 0° 35' 00.0"
L = 546.93'	LT = 133.33'	L = 2,858.67'
T = 275.37'	ST = 66.67'	T = 1,439.51'
R = 1,900.00'		R = 9,822.13'
		SE = 0.02

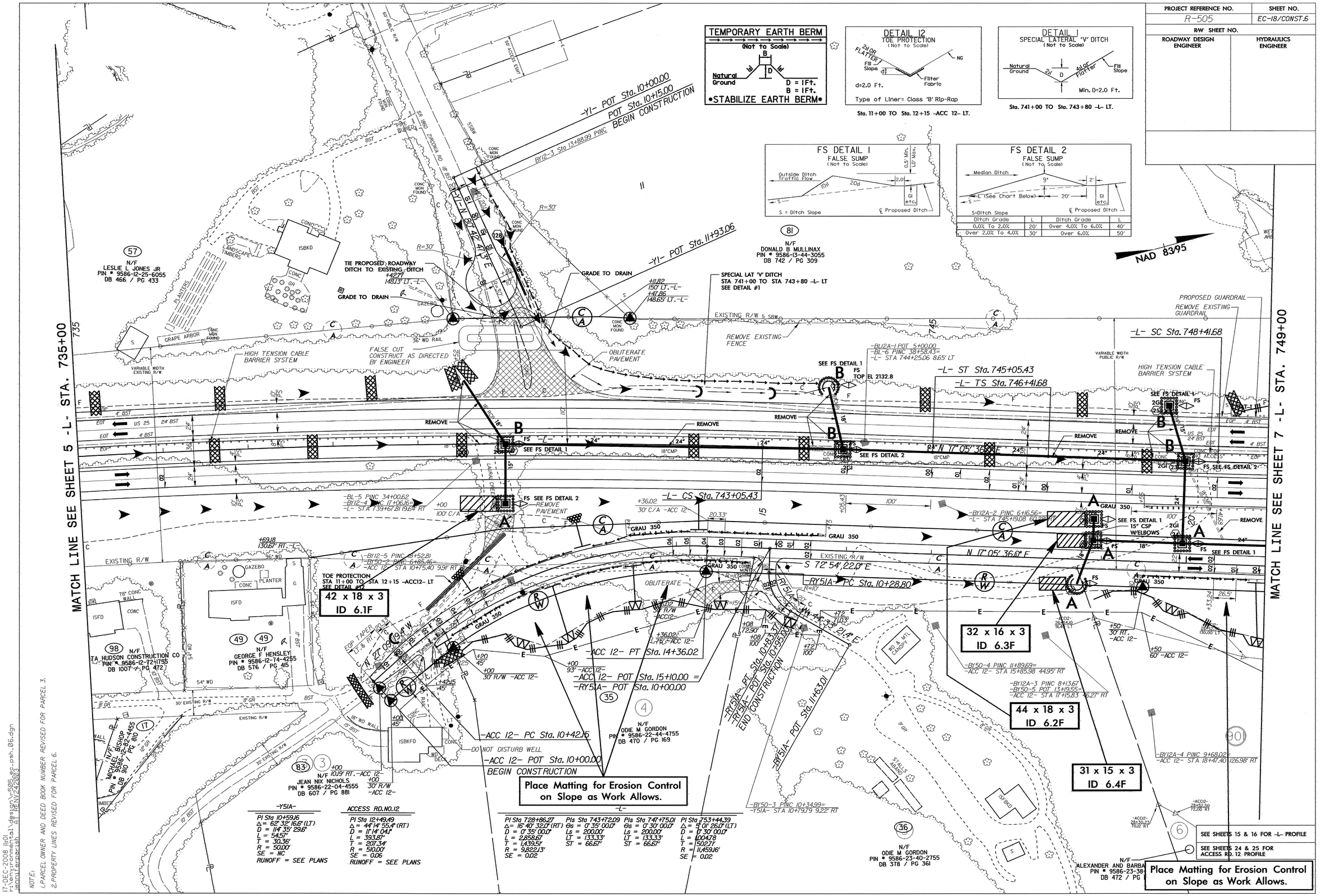
PROJECT REFERENCE NO.	SHEET NO.
R-505	EC-17/CONST.5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



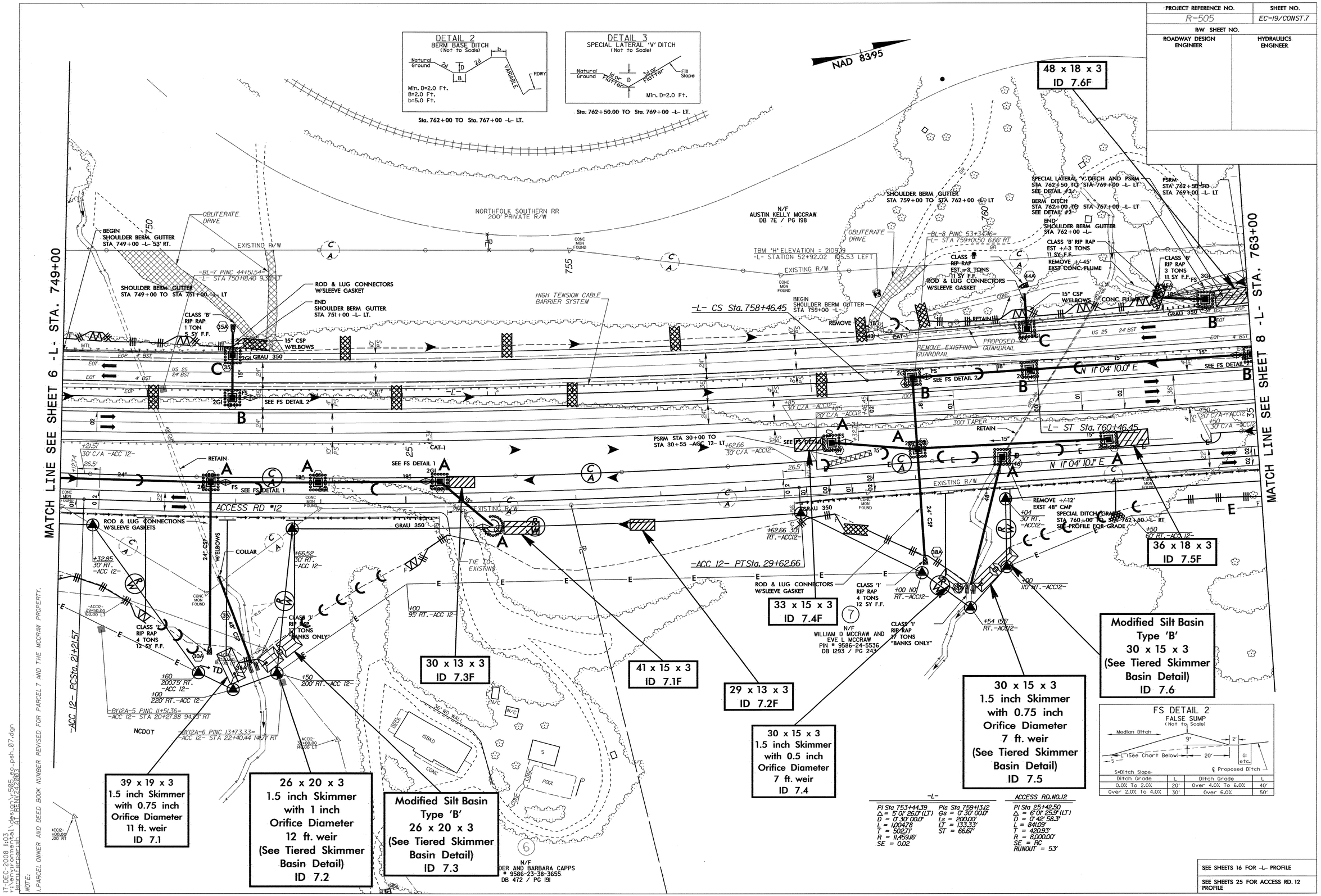
NOTE:
1. PARCEL OWNER AND DEED BOOK NUMBER REVISED FOR PARCELS 1, 1B AND 2.
2. LOCATION & SURVEY UNIT DIVIDED PARCEL 1 INTO PARCELS 1A AND 1B.

17-DEC-2008 10:50
r:\environmental\design\r-505_ec-psh_05.dgn
emilfarpsh AT REN/242003

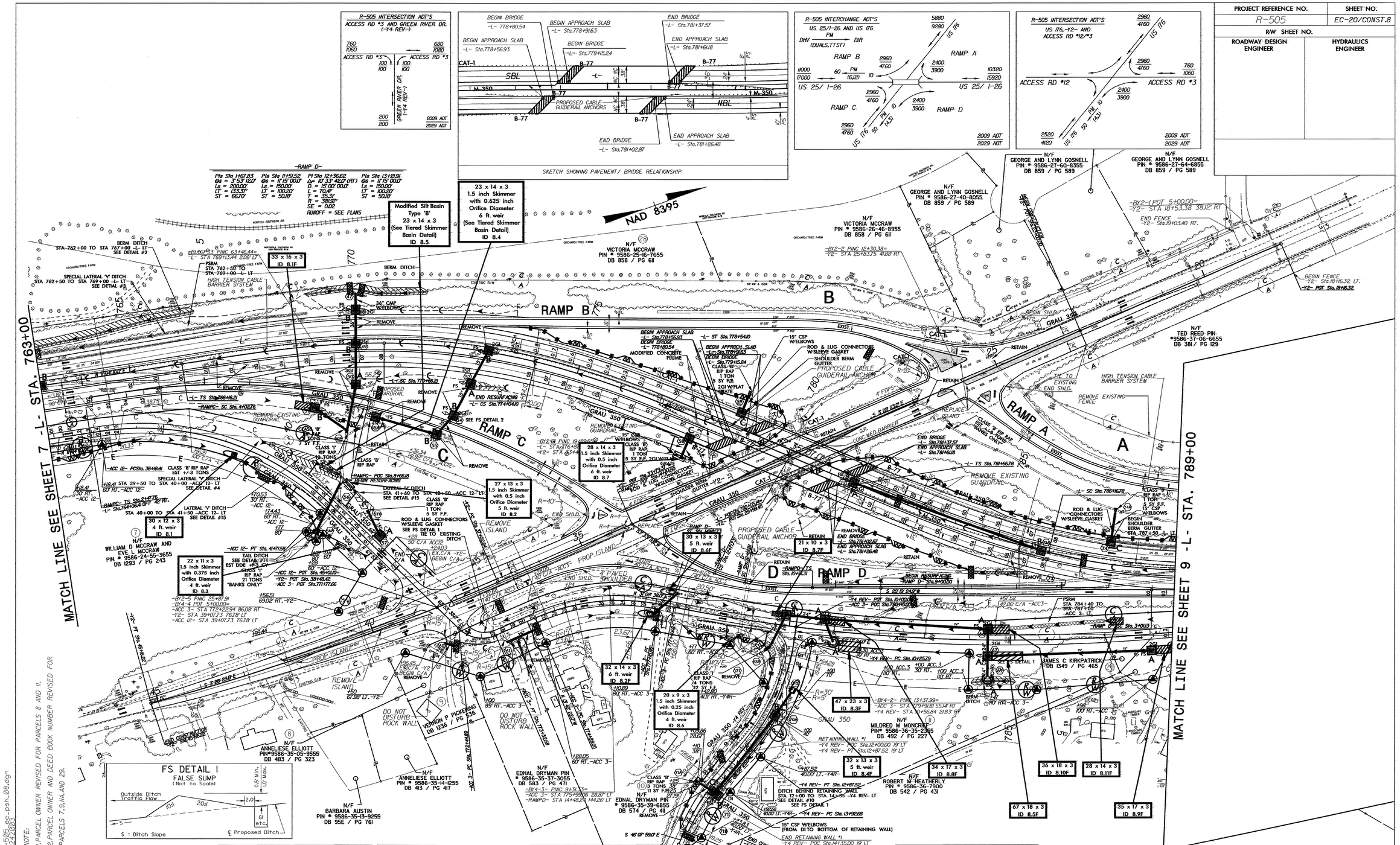
PROJECT REFERENCE NO.	SHEET NO.
R-505	EC-18/CONST.6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



PROJECT REFERENCE NO.	SHEET NO.
R-505	EC-19/CONST.7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



PROJECT REFERENCE NO.	SHEET NO.
R-505	EC-20/CONST.8
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



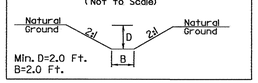
NOTE:
1. PARCEL OWNER REVISED FOR PARCELS 8 AND 11.
2. PARCEL OWNER AND DEED BOOK NUMBER REVISED FOR PARCELS 7, 9, 11A AND 29.

SEE SHEETS 16 & 17 FOR -L- PROFILE
SEE SHEETS 25 FOR ACCESS RD. 12 PROFILE
SEE SHEETS 21 FOR ACCESS RD. 3 PROFILE
SEE SHEETS 26 & 27 FOR -Y2- PROFILE
SEE SHEET 28 FOR -Y4REV- PROFILE AND RETAINING WALL
SEE SHEET 31 FOR RAMP C AND D PROFILE

17-DEC-2008 13:42
r:\environmental\design\r505_ec-psh_08.dgn
ENGINEERING DIVISION
REVISED 12/2008

PROJECT REFERENCE NO.	SHEET NO.
R-505	EC-21/CONST.9
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

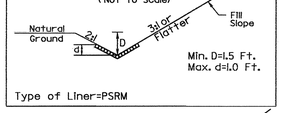
DETAIL 5
STANDARD BASE DITCH
(Not to Scale)



Min. D=2.0 Ft.
B=2.0 Ft.

Sta. 792+80 TO Sta. 793+10 -L- RT.

DETAIL 6
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



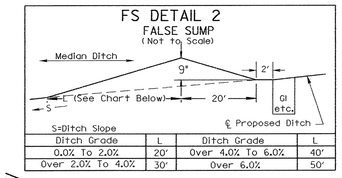
Min. D=1.5 Ft.
Max. d=1.0 Ft.

Type of Liner=PSRM

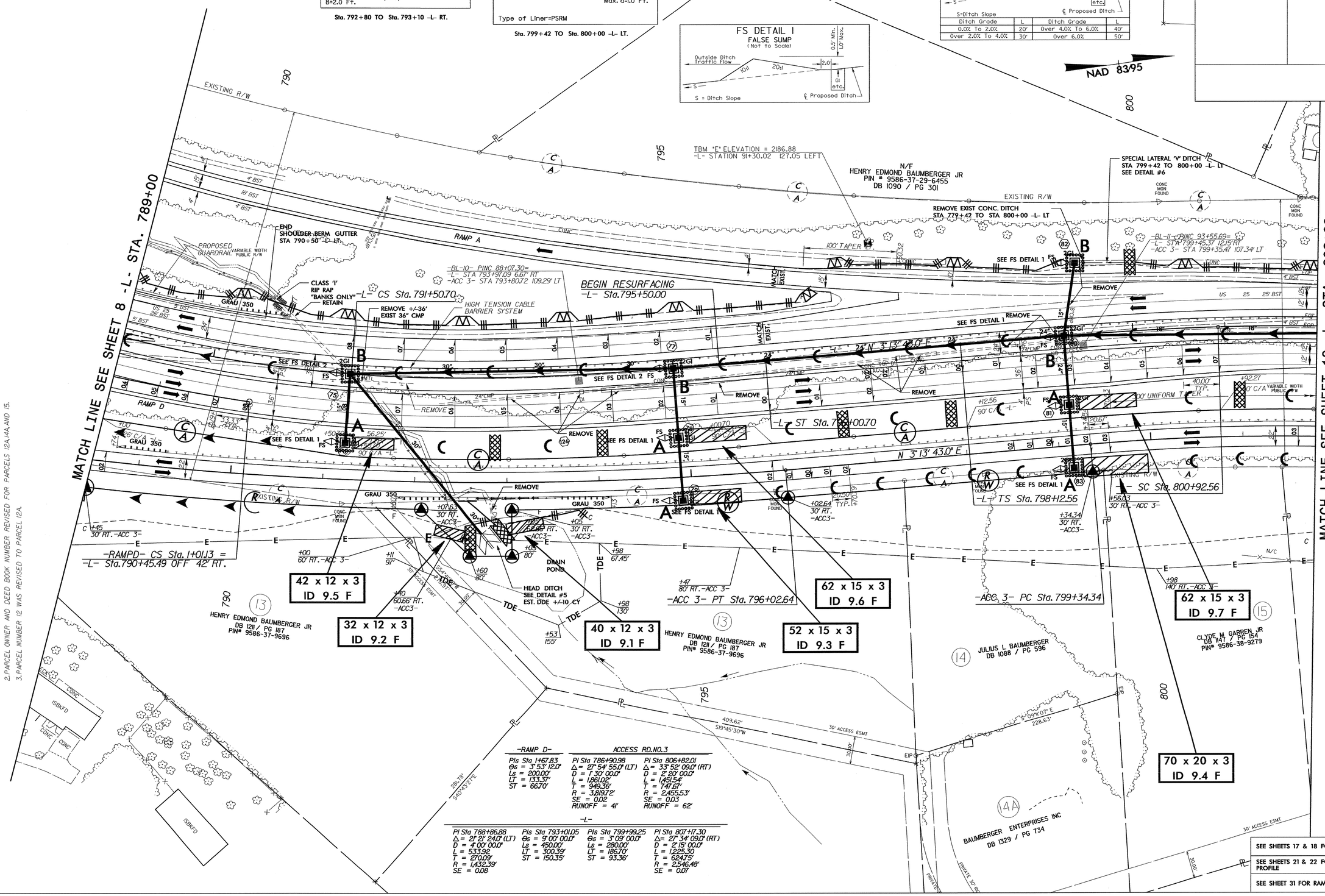
Sta. 799+42 TO Sta. 800+00 -L- LT.

FS DETAIL 1
FALSE SUMP
(Not to Scale)

FS DETAIL 2
FALSE SUMP
(Not to Scale)



S=Ditch Slope			
Ditch Grade	L	Ditch Grade	L
0.0% To 2.0%	20'	Over 4.0% To 6.0%	40'
Over 2.0% To 4.0%	30'	Over 6.0%	50'



-RAMP D-

PIs Sta 1+67.83		
Θs = 3°53'12.0"		
Ls = 200.00'		
LT = 133.37'		
ST = 66.70'		

ACCESS RD.NO.3

PI Sta 786+90.98	PI Sta 806+82.01
Δ = 27°54'55.0" (LT)	Δ = 33°52'09.0" (RT)
D = 1°30'00.0"	D = 2°20'00.0"
L = 1,861.02'	L = 1,451.54'
T = 949.36'	T = 747.67'
R = 3,819.72'	R = 2,455.53'
SE = 0.02	SE = 0.03
RUNOFF = 41'	RUNOFF = 62'

-L-

PI Sta 788+86.88	PIs Sta 793+01.05	PIs Sta 799+99.25	PI Sta 807+17.30
Δ = 21°21'24.0" (LT)	Θs = 9°00'00.0"	Θs = 3°09'00.0"	Δ= 27°34'09.0" (RT)
D = 4°00'00.0"	Ls = 450.00'	Ls = 280.00'	D = 2°15'00.0"
L = 533.92'	LT = 300.39'	LT = 186.70'	L = 1,225.30'
T = 270.02'	ST = 150.35'	ST = 93.36'	T = 624.76'
R = 1,432.39'			R = 2,546.48'
SE = 0.08			SE = 0.07

NOTE:
1. DEED BOOK NUMBER REVISED FOR PARCEL 13.
2. PARCEL OWNER AND DEED BOOK NUMBER REVISED FOR PARCELS 12A, 14A, AND 15.
3. PARCEL NUMBER 12 WAS REVISED TO PARCEL 12A.

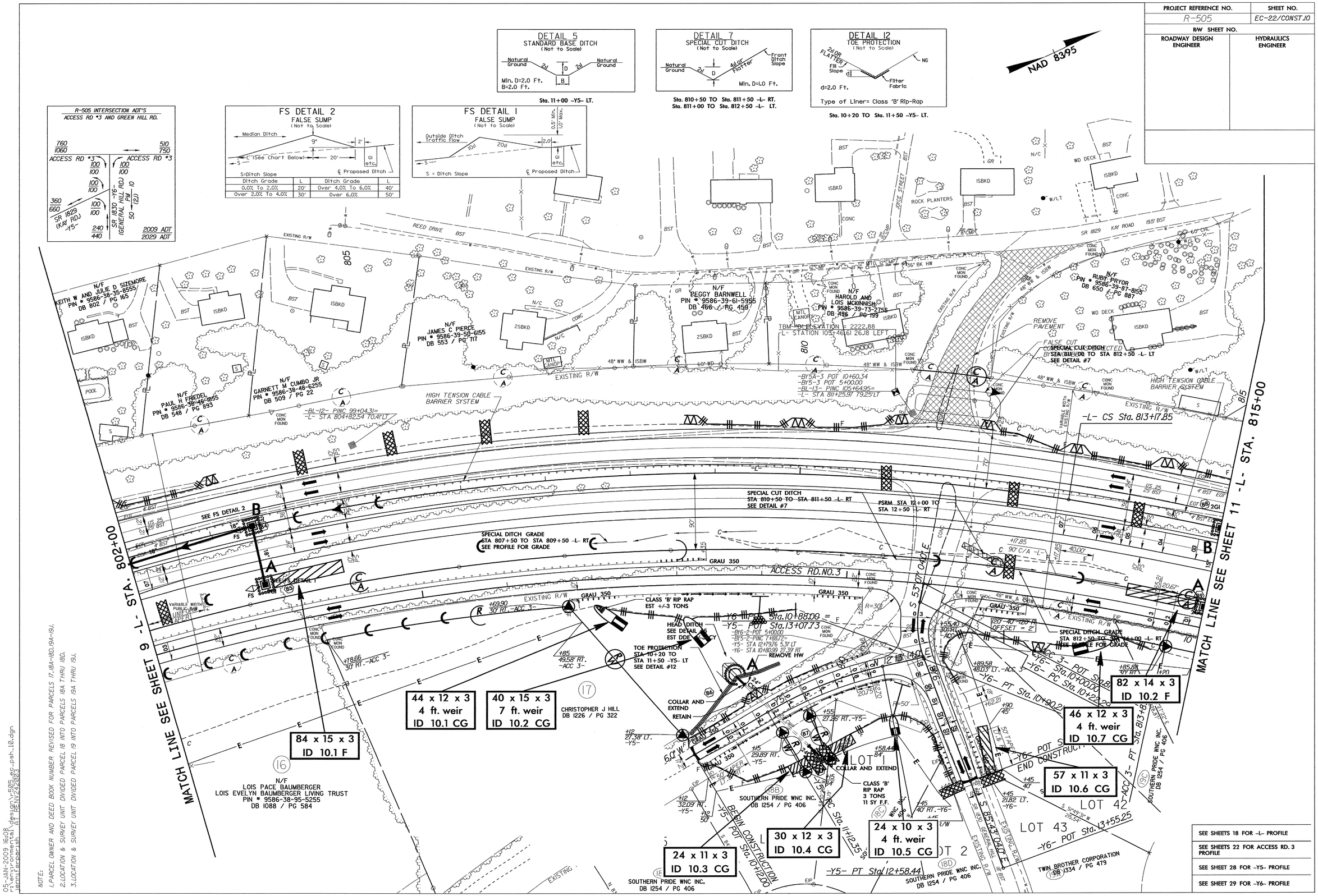
SEE SHEETS 17 & 18 FOR -L- PROFILE

SEE SHEETS 21 & 22 FOR ACCESS RD. 3 PROFILE

SEE SHEET 31 FOR RAMP D PROFILE

05-JAN-2009 15:47
r:\environmental\design\r505_ec_psh_09.dgn
jennifarparish AT RENV24.2003

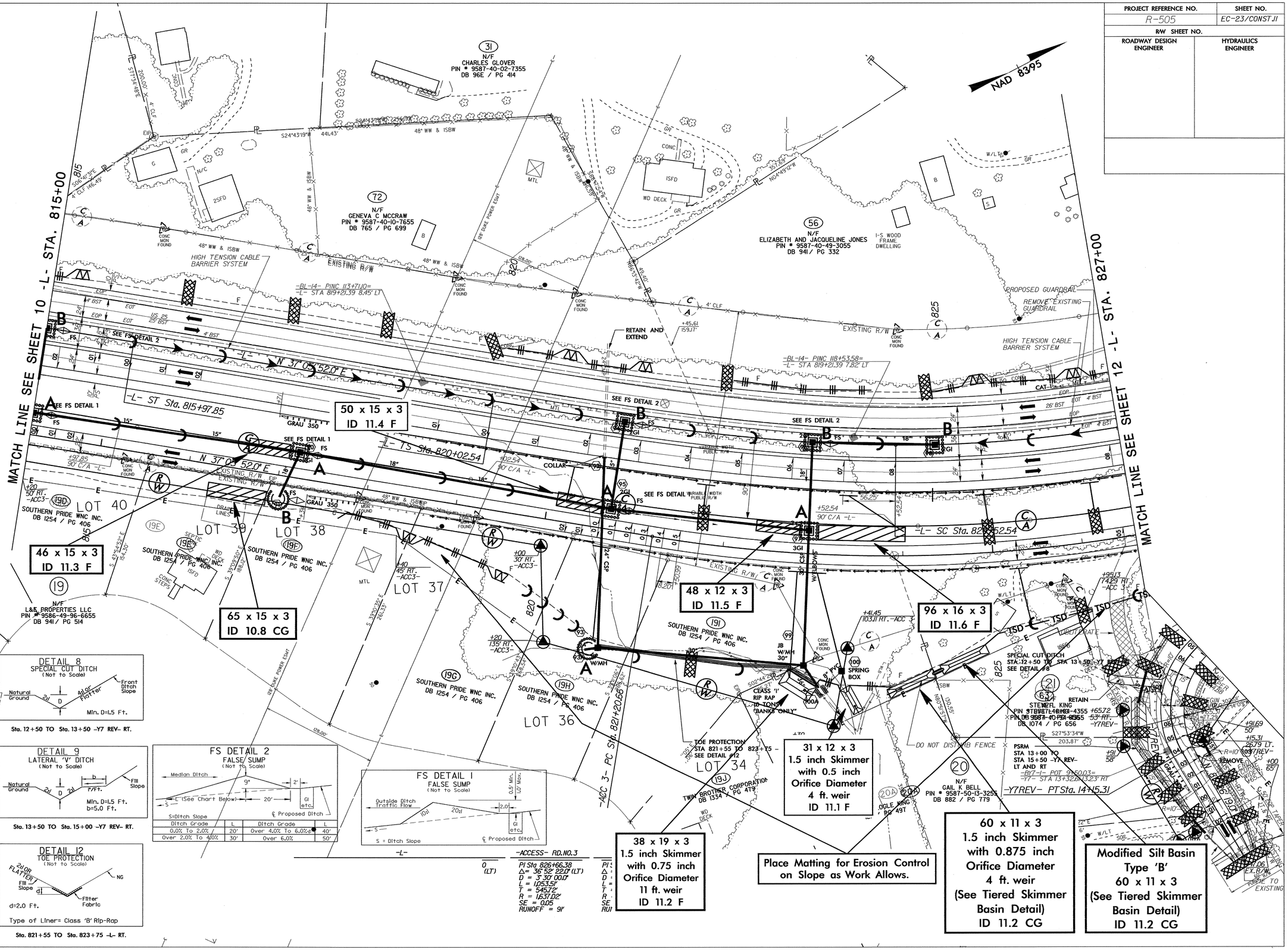
PROJECT REFERENCE NO.	SHEET NO.
R-505	EC-22/CONST.10
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



NOTE:
1. PARCEL OWNER AND DEED BOOK NUMBER REVISED FOR PARCELS 17, 18A-18D, 19A-19J.
2. LOCATION & SURVEY UNIT DIVIDED PARCEL 18 INTO PARCELS 18A THRU 18D.
3. LOCATION & SURVEY UNIT DIVIDED PARCEL 19 INTO PARCELS 19A THRU 19J.

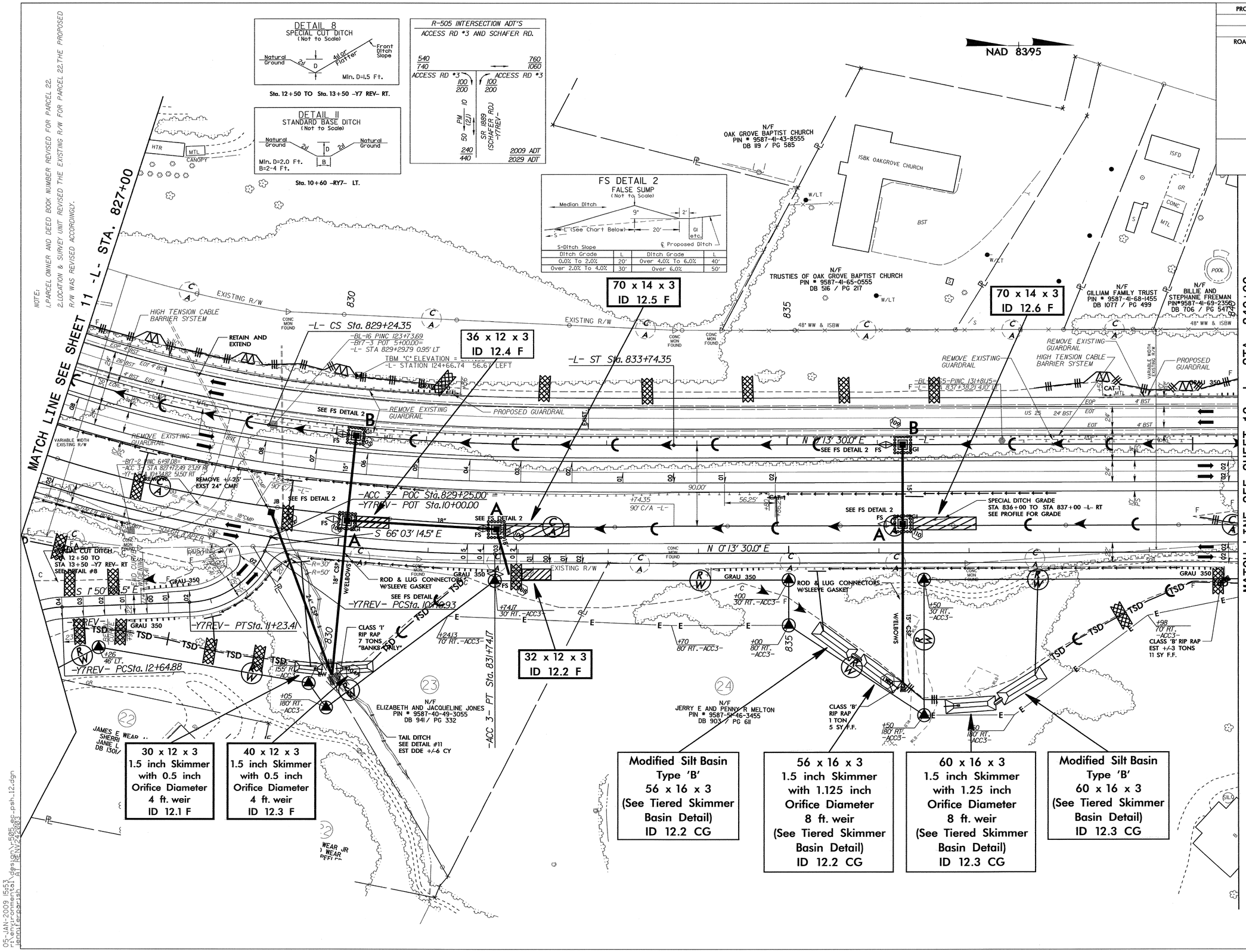
05-JAN-2009 16:08
r:\environmental\design\r-505
jennifergarrish AT REINV24.2003
ec-psh_10.dgn

PROJECT REFERENCE NO.	SHEET NO.
R-505	EC-23/CONST.II
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



PROJECT REFERENCE NO.	SHEET NO.
R-505	EC-24/CONST.12
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NOTE:
1. PARCEL OWNER AND DEED BOOK NUMBER REVISED FOR PARCEL 22.
2. LOCATION & SURVEY UNIT REVISED THE EXISTING R/W FOR PARCEL 22. THE PROPOSED R/W WAS REVISED ACCORDINGLY.



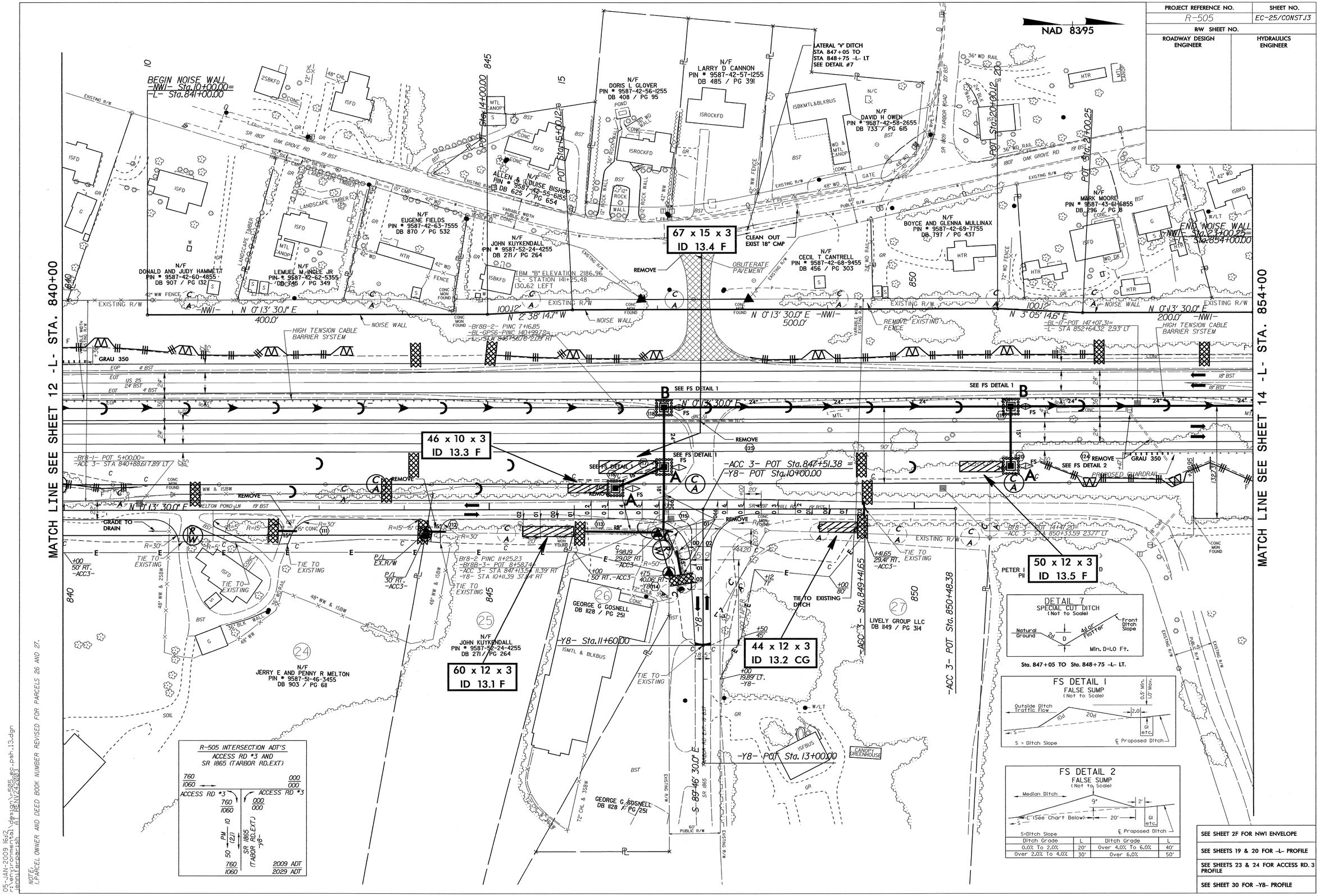
SEE SHEETS 19 FOR -L- PROFILE

SEE SHEETS 23 FOR ACCESS RD. 3 PROFILE

SEE SHEET 29 FOR -Y7REV- PROFILE

05-JAN-2009 15:53
r:\environmental\design\r-505\ec-psh_12.dgn
jennifer.parsian AT RENV242003

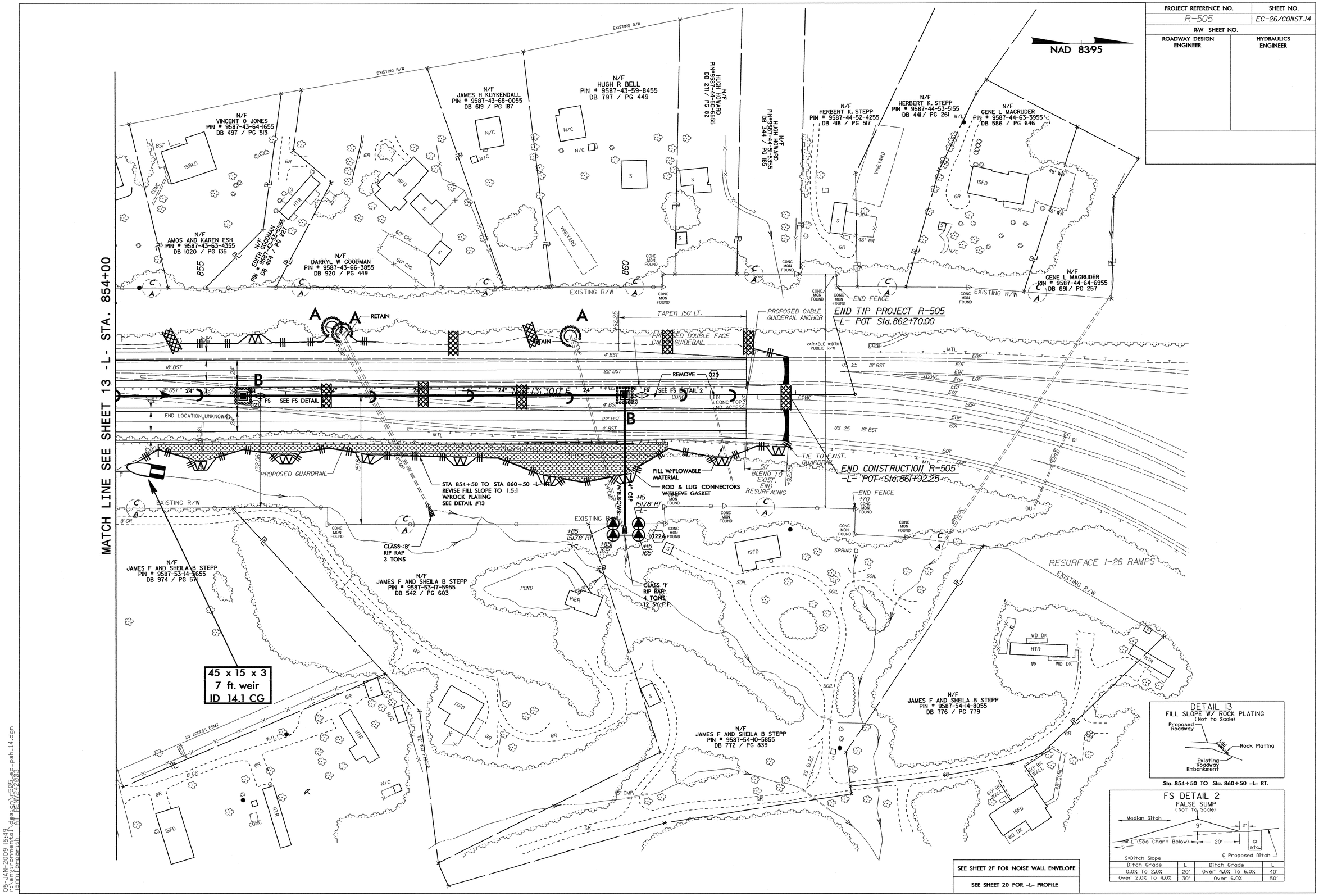
PROJECT REFERENCE NO.	SHEET NO.
R-505	EC-25/CONST.13
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



NOTE:
1. PARCEL OWNER AND DEED BOOK NUMBER REVISED FOR PARCELS 26 AND 27.

05-JAN-2009 16:12
r:\environmental\design\r505_ec_psh_13.dgn
jennifer@parish AT RENV242003

PROJECT REFERENCE NO.	SHEET NO.
R-505	EC-26/CONST.14
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



05-JAN-2009 15:49
r:\environmental\design\r-505_ec-psh_14.dgn
jennifer parish AT REN/24.2003