TIP PROJECT: U-5824

CONTRACT: C204879

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PLAN FOR PROPOSED HIGHWAY EROSION CONTROL

FORSYTH COUNTY

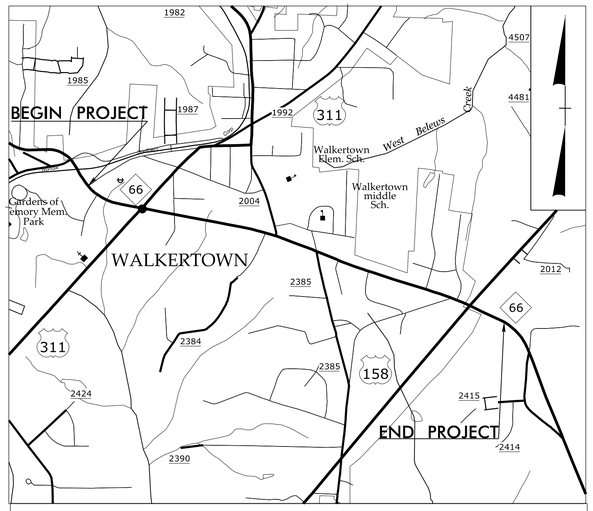
LOCATION: NC 66 (OLD HOLLOW ROAD) WIDENING FROM HARLEY DRIVE TO US 158 IN WALKERTOWN

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

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-5824	EC-1	

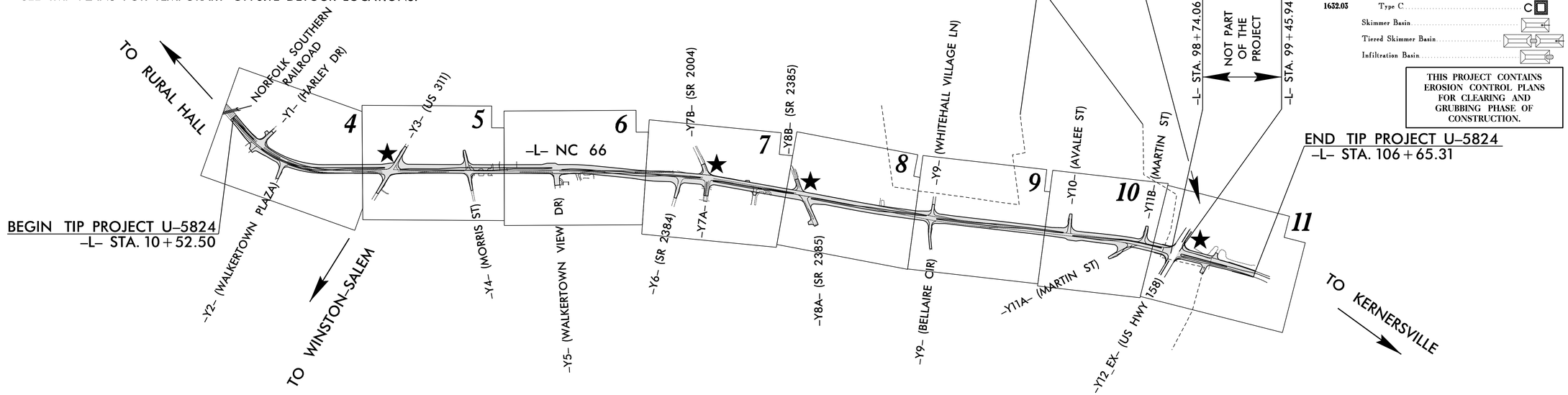
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
44395.1.1		PE
44395.2.1		ROW/UTILITY
44395.3.1		CONSTRUCTION

NAD 83/2011



VICINITY MAP

SEE TMP PLANS FOR TEMPORARY OFFSITE DETOUR LOCATIONS.



THIS PROJECT HAS PARTIAL CONTROL OF ACCESS WITH FULL CONTROL OF ACCESS AT POINTS AS SHOWN ON THE PLANS.

EROSION AND SEDIMENT CONTROL MEASURES

Std. #	Description	Symbol
1630.03	Temporary Silt Ditch	TSD
1630.05	Temporary Diversion	TD
1605.01	Temporary Silt Fence	
1606.01	Special Sediment Control Fence	
1622.01	Temporary Berms and Slope Drains	
1630.02	Silt Basin Type B	
1633.01	Temporary Rock Silt Check Type-A	
	Temporary Rock Silt Check Type-A with Matting and Polyacrylamide (PAM)	
1633.02	Temporary Rock Silt Check Type-B	
	Wattle / Coir Fiber Wattle	SW CW
	Wattle / Coir Fiber Wattle with Polyacrylamide (PAM)	
1634.01	Temporary Rock Sediment Dam Type-A	
1634.02	Temporary Rock Sediment Dam Type-B	
1635.01	Rock Pipe Inlet Sediment Trap Type-A	
1635.02	Rock Pipe Inlet Sediment Trap Type-B	
1630.04	Stilling Basin	
1630.06	Special Stilling Basin	
	Rock Inlet Sediment Trap:	
1632.01	Type A	A
1632.02	Type B	B
1632.03	Type C	C
	Skimmer Basin	
	Tiered Skimmer Basin	
	Infiltration Basin	

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

GRAPHIC SCALE

50 25 0 50 100
PLANS

THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH THE APPLICABLE REGULATIONS SET FORTH BY THE NCG-010000 GENERAL CONSTRUCTION PERMIT EFFECTIVE APRIL 1, 2019 AND ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY DIVISION OF WATER RESOURCES.

SUMMIT
DESIGN AND ENGINEERING SERVICES
FIRM NO. P-0339

Prepared In the Office of:
320 Executive Ct.
Hillsborough, NC 27278-8551
Voice: (919)732-3883
Fax: (919)732-6776
www.summitde.net

Designed by:

HE YANG, PE ***4408***
NAME *LEVEL III CERTIFICATION NO.*

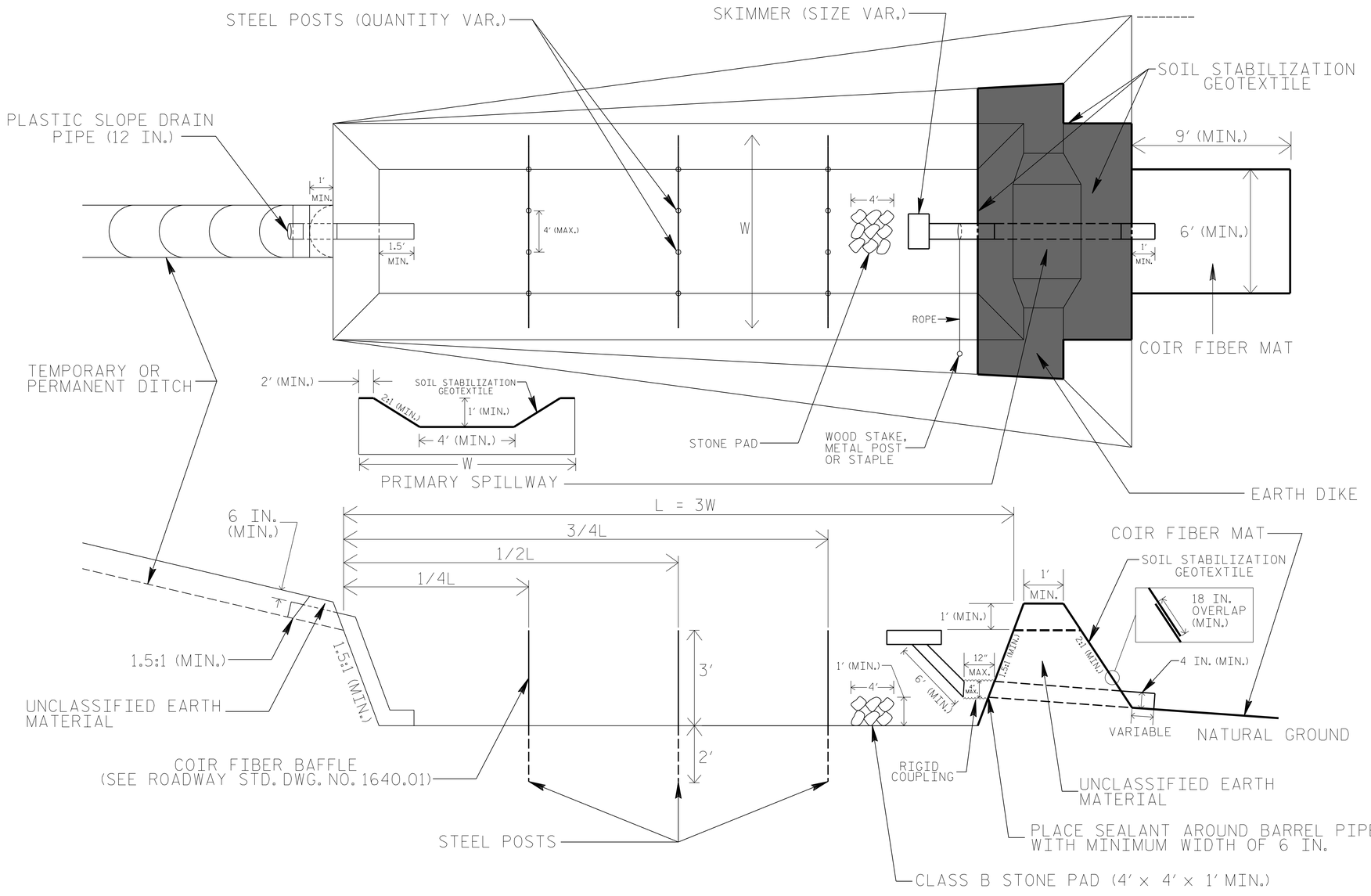
Roadway Standard Drawings

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

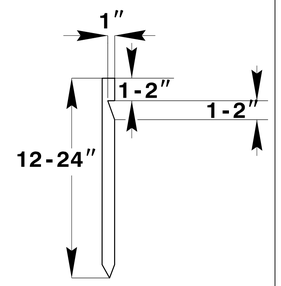
1604.01	Railroad Erosion Control Detail	1632.01	Rock Inlet Sediment Trap Type A
1605.01	Temporary Silt Fence	1632.02	Rock Inlet Sediment Trap Type B
1606.01	Special Sediment Control Fence	1632.03	Rock Inlet Sediment Trap Type C
1607.01	Gravel Construction Entrance	1633.01	Temporary Rock Silt Check Type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

PROJECT REFERENCE NO.	SHEET NO.
U-5824	EC-2
R/W SHEET NO.	___
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

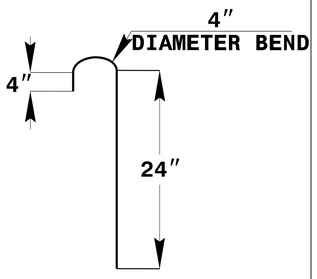
SKIMMER BASIN WITH BAFFLES DETAIL



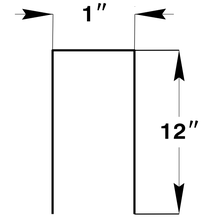
2" x 2" (nominal) WOODEN STAKE



#10 STEEL REINFORCEMENT BAR



1" (nominal) STAPLE



COIR FIBER MAT ANCHOR OPTIONS

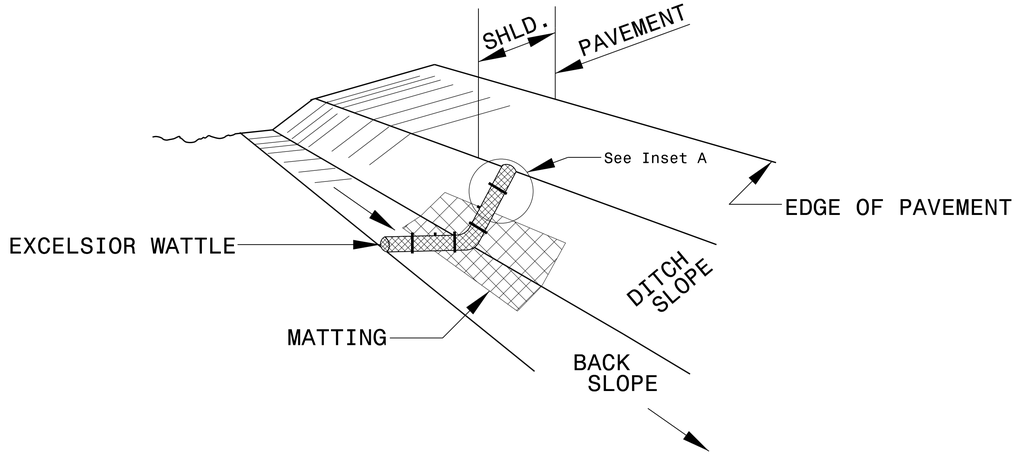
NOTES

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

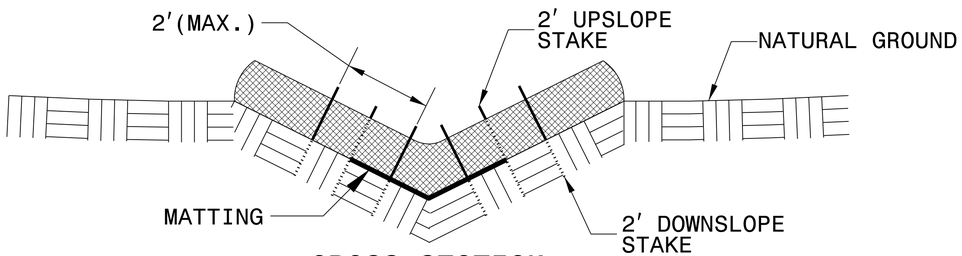
NOT TO SCALE

PROJECT REFERENCE NO.	SHEET NO.
U-5824	EC-2A
R/W SHEET NO.	____
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

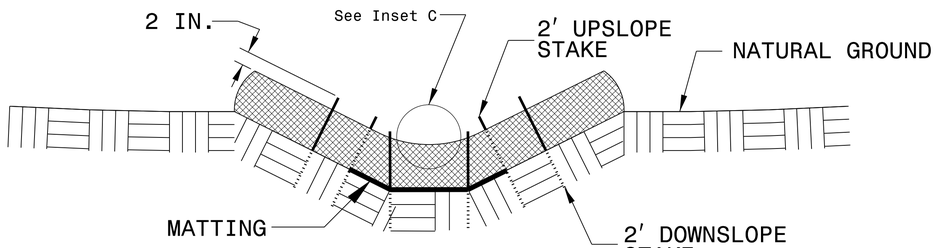
WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL



ISOMETRIC VIEW



CROSS SECTION VEE DITCH



CROSS SECTION TRAPEZOIDAL DITCH

NOTES:

USE MINIMUM 12 IN. DIAMETER EXCELSIOR WATTLE.

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

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

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

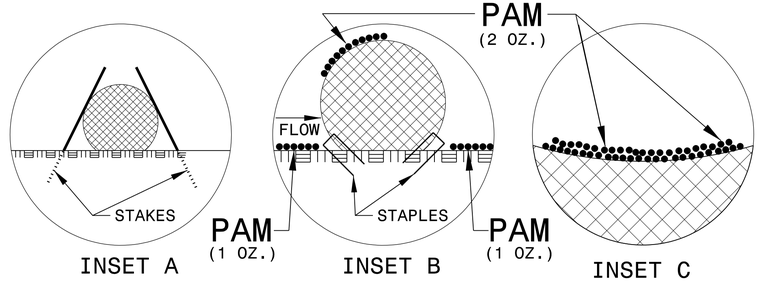
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12″ IN LENGTH.

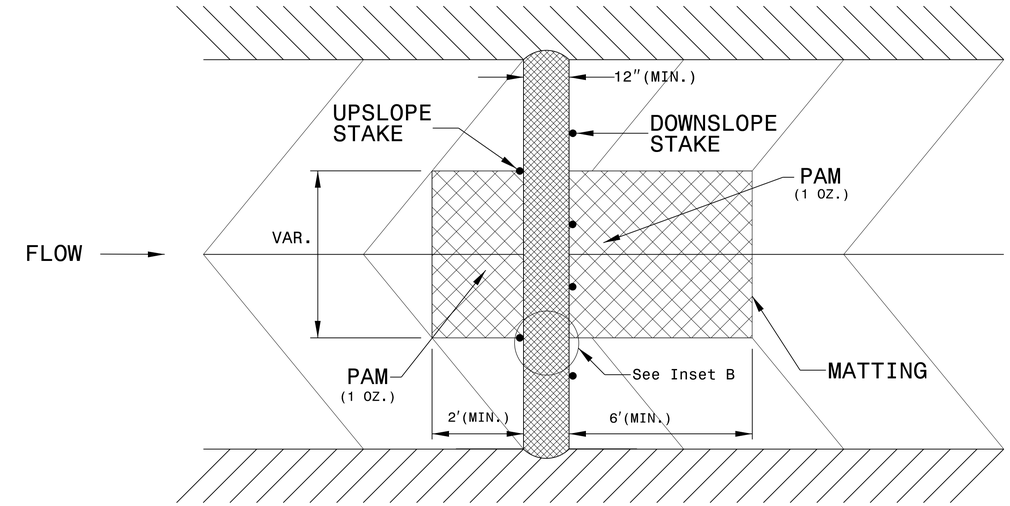
INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

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

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

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

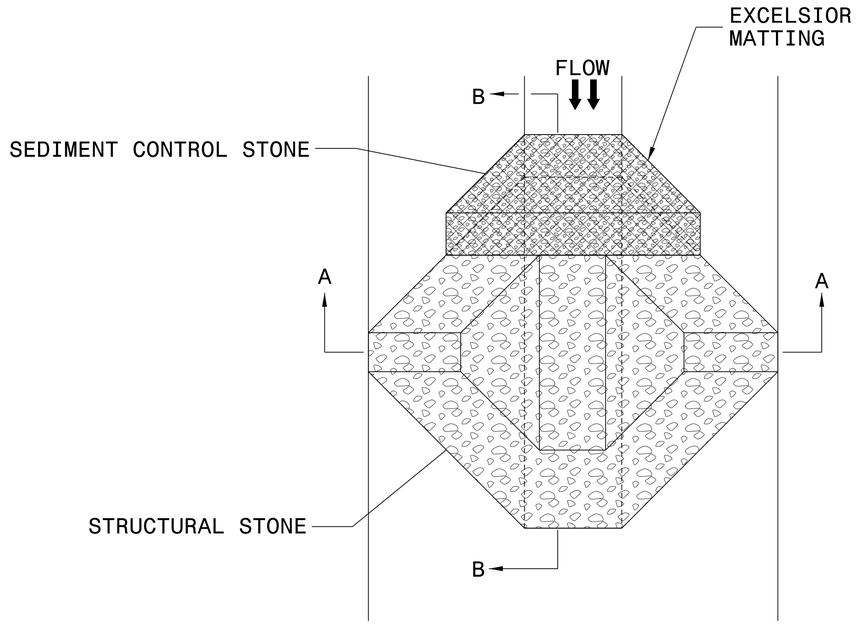




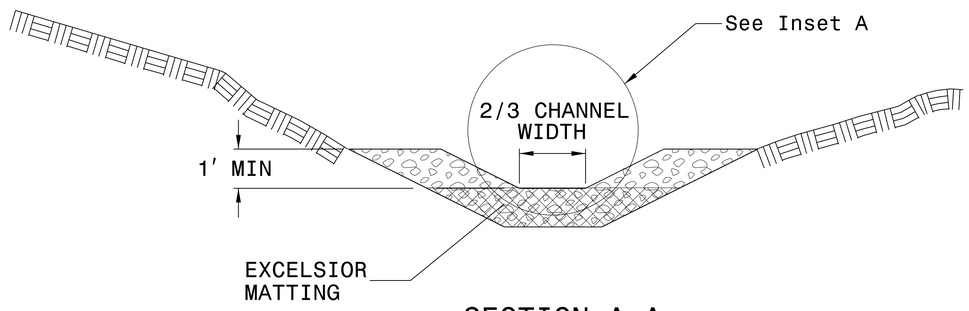
TOP VIEW

PROJECT REFERENCE NO.	SHEET NO.
U-5824	EC-2B
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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



PLAN



SECTION A-A

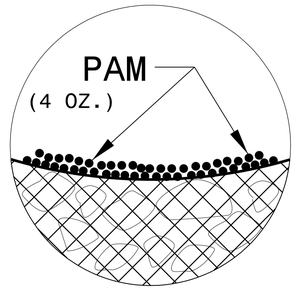
NOTES:

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

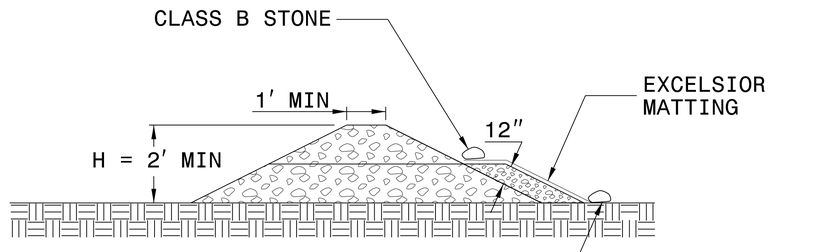
USE EXCELSIOR FOR MATTING MATERIAL AND ANCHOR MATTING SECTION AT TOP AND BOTTOM WITH CLASS B STONE.

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

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



INSET A

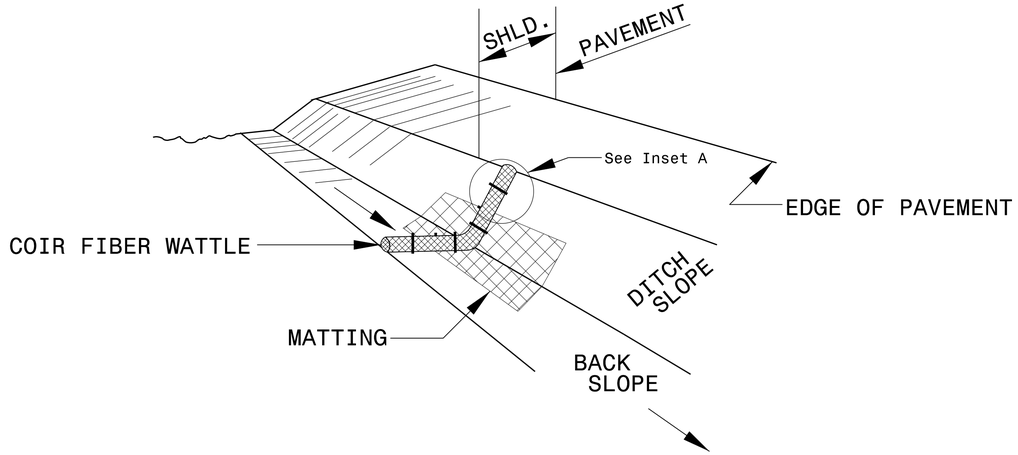


SECTION B-B

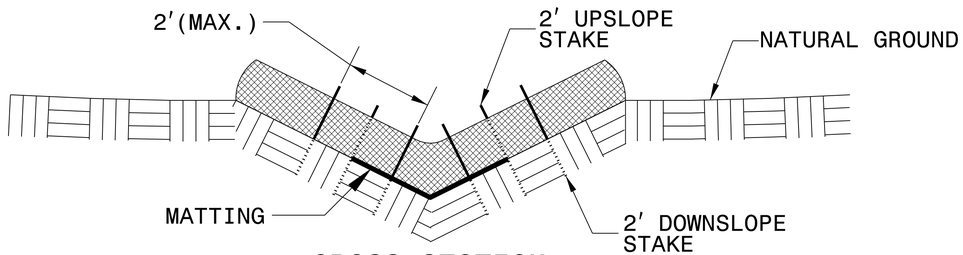
NOT TO SCALE

PROJECT REFERENCE NO.	SHEET NO.
U-5824	EC-2C
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

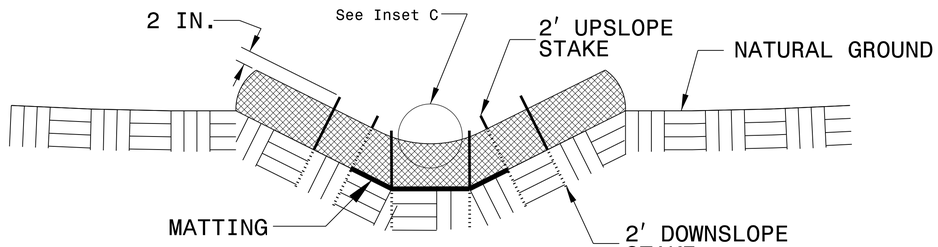
COIR FIBER WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL



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.

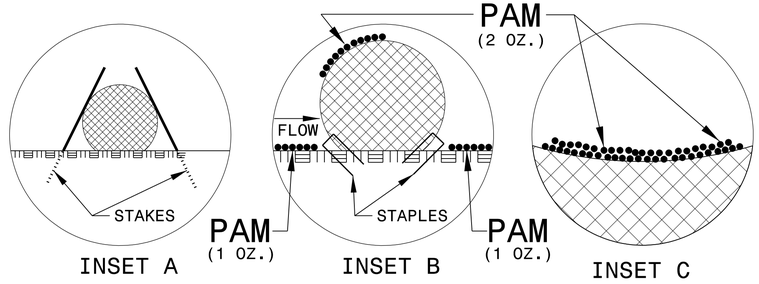
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12″ IN LENGTH.

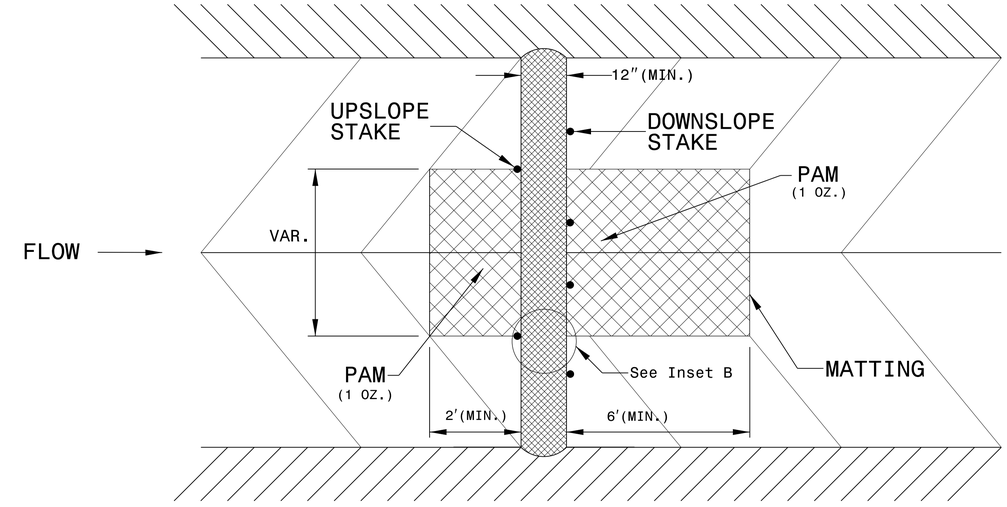
INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

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.





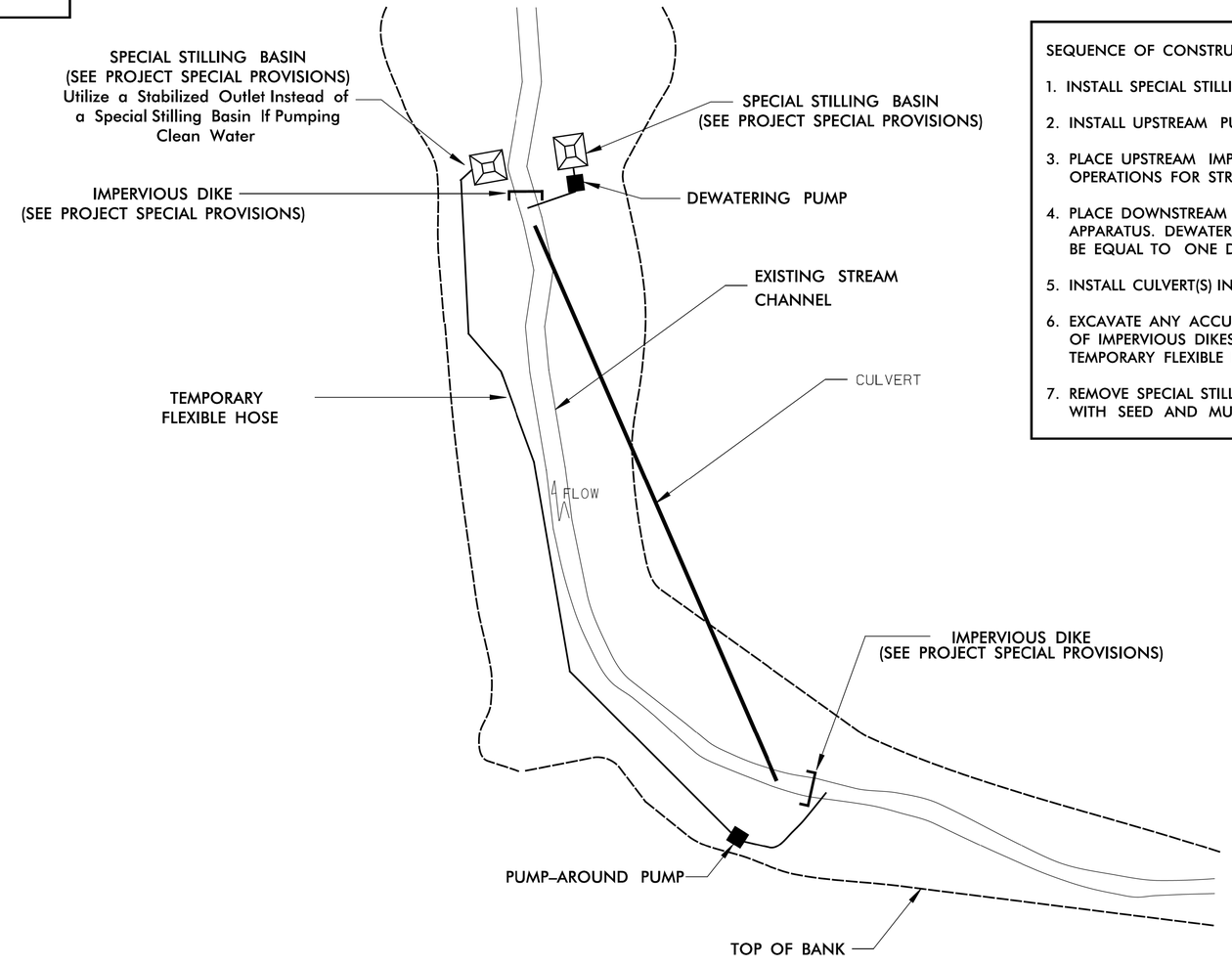
TOP VIEW

PROJECT REFERENCE NO.	SHEET NO.
U-5824	EC-2D
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

Prepared in the Office of: SUMMIT
NC FIRM LICENSE Nos P-0339
320 Executive Ct.
Hillsborough, NC 27278
(919) 732-3883 - (919) 732-6676 (FAX)

EXAMPLE OF PUMP–AROUND OPERATION

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



SEQUENCE OF CONSTRUCTION FOR TYPICAL WORK AREA

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

PROJECT REFERENCE NO.	SHEET NO.
U-5824	EC-3
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION TIMEFRAMES

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

PROJECT REFERENCE NO.	SHEET NO.
U-5824	EC-3A

ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

Prepared in the Office of: SUMMIT DESIGN AND ENGINEERING SERVICES
NC FIRM LICENSE No: P-0339
320 Executive Ct.
Hillsborough, NC 27278
(919) 732-3883
(919) 732-6676 (FAX)

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION SUMMARY SHEET

MATTING FOR CUT AND FILL SLOPES

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
4	-L-	17+00	18+00	LT	209
4	-L-	17+50	18+00	RT	101
4	-L-	18+50	19+00	LT	149
4	-L-	19+50	21+00	LT	489
5	-L-	30+50	32+00	RT	406
6	-L-	43+50	47+00	LT	1255
6	-L-	45+50	47+00	RT	423
	CUT AND FILL SLOPE			TOTAL	3032

MATTING FOR CUT DITCHES

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
4	-L-	17+50	18+50	RT	60
6	-L-	44+00	45+90	LT	365
4	-Y2-	11+25	11+75	LT	30
7	-Y6-	11+50	12+75	LT	200
9	-Y9-	13+00	13+75	LT	65
10	-Y10-	10+25	10+50	LT	25
10	-Y10-	10+50	11+00	LT	55
10	-Y10-	11+00	11+25	LT	30
10	-Y11A-	11+75	12+75	LT	95
10	-Y11A-	11+75	12+75	RT	100
	MATTING FOR CUT DITCH			TOTAL	1025
	CUT AND FILL SLOPE			TOTAL	3032
				SUBTOTAL	4057
	MISC. MATTING TO BE INSTALLED AS DIRECTED BY THE ENGINEER				19485
				TOTAL	23542
				SAY	24000

PROJECT REFERENCE NO.	SHEET NO.
U-5824	EC-3B
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

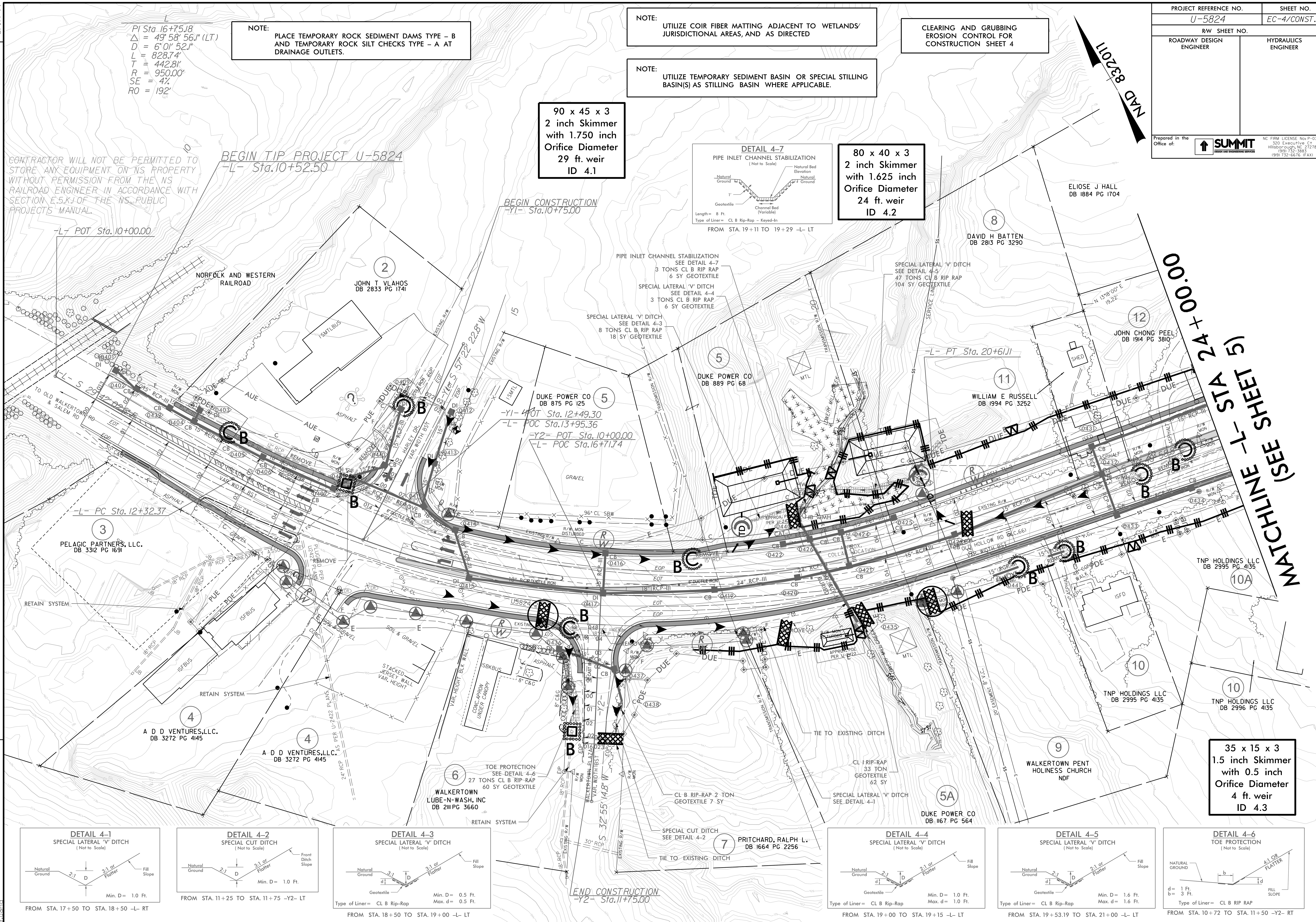
SOIL STABILIZATION SUMMARY SHEET

PERMANENT SOIL REINFORCEMNT MAT

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
5	-L-	31+00	33+00	LT	143
5	-L-	31+00	33+26	RT	153
5	-Y4-	10+25	11+00	RT	50
6	-L-	39+50	41+67	RT	126
6,7	-L-	49+00	52+00	RT	204
6	-L-	40+49	40+70	LT	15
6	-L-	42+49	43+52	LT	70
7	-L-	60+41	61+87	RT	66
8	-L-	67+37	69+50	RT	143
8	-L-	70+00	70+85	RT	58
9	-L-	80+00	85+94	LT	396
9	-L-	81+00	81+42	RT	19
9	-L-	81+54	82+45	RT	41
9	-L-	82+55	83+40	RT	38
10	-L-	93+00	93+50	RT	34
10	-L-	94+06	95+66	LT	108
10	-Y11 B-	10+75	11+12	RT	27
11	-L-	104+02	106+50	LT	259
	PSRM FROM DRAINAGE DETAILS TOTAL				1950

PERMANENT SOIL REINFORCEMENT MAT

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
6	-L-	41+00	42+20	LT	155
6	-L-	43+50	44+00	LT	80
5	-Y3-	14+35	15+25	RT	95
			SUBTOTAL		330
	PSRM FROM DRAINAGE DETAILS TOTAL				1950
				TOTAL	2280
				SAY	2300



PROJECT REFERENCE NO. U-5824
SHEET NO. EC-4/CONST.4
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
Prepared in the Office of: SUMMIT DESIGN AND ENGINEERING SERVICES
NC FIRM LICENSE No: P-0339
320 Executive Ct
Hillsborough, NC 27278
(919) 732-3883
(919) 732-6676 (FAX)
CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 4
NOTE: PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE – B AND TEMPORARY ROCK SILT CHECKS TYPE – A AT DRAINAGE OUTLETS.
NOTE: UTILIZE COIR FIBER MATTING ADJACENT TO WETLANDS/ JURISDICTIONAL AREAS, AND AS DIRECTED
NOTE: UTILIZE TEMPORARY SEDIMENT BASIN OR SPECIAL STILLING BASIN(S) AS STILLING BASIN WHERE APPLICABLE.
NAD 83/2011
REVISIONS
PI Sta 16+75.18
Δ = 49° 58' 56.1" (LT)
D = 6° 01' 52.1"
L = 828.74'
T = 442.81'
R = 950.00'
SE = 4%
RO = 192'
90 x 45 x 3
2 inch Skimmer
with 1.750 inch
Orifice Diameter
29 ft. weir
ID 4.1
80 x 40 x 3
2 inch Skimmer
with 1.625 inch
Orifice Diameter
24 ft. weir
ID 4.2
35 x 15 x 3
1.5 inch Skimmer
with 0.5 inch
Orifice Diameter
4 ft. weir
ID 4.3
CONTRACTOR WILL NOT BE PERMITTED TO STORE ANY EQUIPMENT ON NS PROPERTY WITHOUT PERMISSION FROM THE NS RAILROAD ENGINEER IN ACCORDANCE WITH SECTION E.5.K) OF THE NS PUBLIC PROJECTS MANUAL.
BEGIN TIP PROJECT U-5824
-L- Sta.10+52.50
BEGIN CONSTRUCTION
-Y1- Sta.10+75.00
-L- POT Sta. 10+00.00
-L- PC Sta. 12+32.37
-Y1- POT Sta. 12+49.30
-L- POC Sta.13+95.36
-Y2- POT Sta. 10+00.00
-L- POC Sta.16+71.74
-L- PT Sta. 20+61.11
END CONSTRUCTION
-Y2- Sta.11+75.00
MATCHLINE -L- STA 24+00.00
(SEE SHEET 5)
NORFOLK AND WESTERN RAILROAD
JOHN T VLAHOS
DB 2833 PG 1741
PELAGIC PARTNERS, LLC.
DB 3312 PG 1691
A D D VENTURES, LLC.
DB 3272 PG 4145
WALKERTOWN LUBE-N-WASH, INC
DB 2111 PG 3660
DUKE POWER CO
DB 875 PG 125
DUKE POWER CO
DB 889 PG 68
DUKE POWER CO
DB 1167 PG 564
PRITCHARD, RALPH L.
DB 1664 PG 2256
ELIOSE J HALL
DB 1884 PG 1704
DAVID H BATTEN
DB 2813 PG 3290
WILLIAM E RUSSELL
DB 1994 PG 3252
JOHN CHONG PEEL
DB 1914 PG 3810
TNP HOLDINGS LLC
DB 2995 PG 4135
TNP HOLDINGS LLC
DB 2996 PG 4135
WALKERTOWN PENT HOLINESS CHURCH
NDF
DETAIL 4-7
PIPE INLET CHANNEL STABILIZATION
(Not to Scale)
Length = 8 Ft.
Type of Liner = CL B Rip-Rap – Keyed-In
FROM STA. 19+11 TO 19+29 -L- LT
PIPE INLET CHANNEL STABILIZATION
SEE DETAIL 4-7
3 TONS CL B RIP RAP
6 SY GEOTEXTILE
SPECIAL LATERAL 'V' DITCH
SEE DETAIL 4-4
3 TONS CL B RIP RAP
6 SY GEOTEXTILE
SPECIAL LATERAL 'V' DITCH
SEE DETAIL 4-3
8 TONS CL B RIP RAP
18 SY GEOTEXTILE
SPECIAL LATERAL 'V' DITCH
SEE DETAIL 4-5
47 TONS CL B RIP RAP
104 SY GEOTEXTILE
TOE PROTECTION
SEE DETAIL 4-6
27 TONS CL B RIP-RAP
60 SY GEOTEXTILE
CL B RIP-RAP 2 TON
GEOTEXTILE 7 SY
CL I RIP-RAP
33 TON
GEOTEXTILE
62 SY
SPECIAL LATERAL 'V' DITCH
SEE DETAIL 4-1
SPECIAL CUT DITCH
SEE DETAIL 4-2
TIE TO EXISTING DITCH
RETAIN SYSTEM
DETAIL 4-1
SPECIAL LATERAL 'V' DITCH
(Not to Scale)
Min. D = 1.0 Ft.
FROM STA. 17+50 TO STA. 18+50 -L- RT
DETAIL 4-2
SPECIAL CUT DITCH
(Not to Scale)
Min. D = 1.0 Ft.
FROM STA. 11+25 TO STA. 11+75 -Y2- LT
DETAIL 4-3
SPECIAL LATERAL 'V' DITCH
(Not to Scale)
Min. D = 0.5 Ft.
Max. d = 0.5 Ft.
Type of Liner = CL B Rip-Rap
FROM STA. 18+50 TO STA. 19+00 -L- LT
DETAIL 4-4
SPECIAL LATERAL 'V' DITCH
(Not to Scale)
Min. D = 1.0 Ft.
Max. d = 1.0 Ft.
Type of Liner = CL B Rip-Rap
FROM STA. 19+00 TO STA. 19+15 -L- LT
DETAIL 4-5
SPECIAL LATERAL 'V' DITCH
(Not to Scale)
Min. D = 1.6 Ft.
Max. d = 1.6 Ft.
Type of Liner = CL B Rip-Rap
FROM STA. 19+53.19 TO STA. 21+00 -L- LT
DETAIL 4-6
TOE PROTECTION
(Not to Scale)
d = 1 Ft.
b = 3 Ft.
Type of Liner = CL B RIP RAP
FROM STA. 10+72 TO STA. 11+50 -Y2- RT
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8/17/99

REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
U-5824	EC-4A/CONST.4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

Prepared in the Office of: SUMMIT DESIGN AND ENGINEERING SERVICES
NC FIRM LICENSE No: P-0339
320 Executive Ct
Hillsborough, NC 27278
(919) 732-3883
(919) 732-6676 (FAX)

10 5 0 10 20
PLANS

60" RCP–III CONSTRUCTION SEQUENCE

NOTES:

1. INSTALL PERIMETER SEDIMENT CONTROL DEVICES ALONG AND ADJACENT TO STREAM TO THE GREATEST EXTENT POSSIBLE.

2. INSTALL SPECIAL SEDIMENT CONTROL FENCE BREAKS OR TEMPORARY ROCK SILT CHECK TYPE–A AT LOW POINTS IN SILT FENCE.

3. INSTALL SILT FENCE SUCH THAT ALL EARTH DISTURBANCE IS CONTAINED.

4. FOR CULVERT CONSTRUCTION SEQUENCING, SEE THE PUMP AROUND DETAIL OR CONSULT "BEST MANAGEMENT PRACTICES FOR CONSTRUCTION AND MAINTENANCE ACTIVITIES".

5. ALL EXCAVATION IN JURISDICTIONAL STREAMS SHALL BE PERFORMED IN ONLY DRY OR ISOLATED SECTIONS OF THE WORK ZONE.

6. IMPERVIOUS DIKES ARE TO BE USED TO ISOLATE WORK FROM STREAM FLOW WHEN NECESSARY.

7. MAINTENANCE OF STREAM FLOW OPERATIONS SHALL BE INCIDENTAL TO THE WORK.

8. THIS INCLUDES THE DISCHARGE PAD, DIVERSION PIPES, PUMPS, AND HOSES.

9. PUMPS AND HOSES SHALL BE OF SUFFICIENT SIZE TO MAINTAIN STREAM FLOW AND TO DEWATER THE WORK AREA.

10. INSTALL SPECIAL STILLING BASIN IN VEGETATED AREA WITHIN RIGHT OF WAY. DISCHARGE SHOULD BE DIRECTED THROUGH VEGETATED BUFFER AWAY FROM WORK SITE.

11. INSTALL SILT FENCE AS DIRECTED TO CONTAIN DISTURBED AREAS AND/OR EXCAVATED STOCKPILES.

12. BORROW MATERIAL FROM OR DISPOSAL OF MATERIAL TO ANY UNPERMITTED SITE WILL REQUIRE A RECLAMATION PLAN.

13. INSTALL PIPE IN JURIDICTIONAL AREAS IN ACCORDANCE WITH NCDOT BEST MANAGEMENT PRACTICES FOR CONSTRUCTION AND MAINTENANCE ACTIVITIES MANUAL.

SEQUENCE OF CONSTRUCTION FOR WORK AREA

1. INSTALL SPECIAL STILLING BASIN.

2. INSTALL UPSTREAM PUMP, TEMPORARY FLEXIBLE HOSE, AND STABILIZED DISCHARGE PAD.

3. PLACE UPSTREAM IMPERVIOUS DIKE AND BEGIN PUMPING OPERATIONS FOR STREAM DIVERSION DISCHARGING ONTO STABILIZED OUTLET PAD.

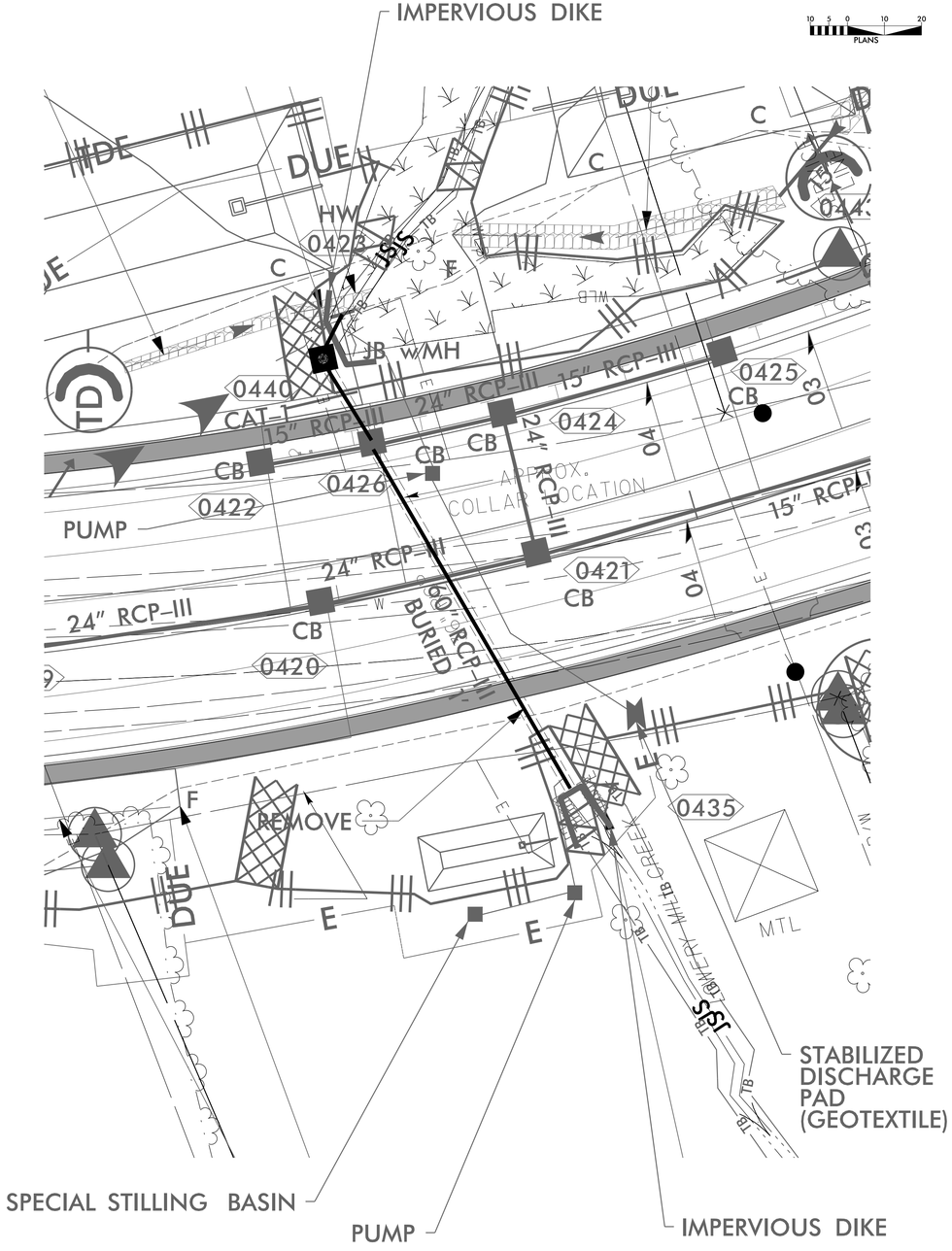
4. PLACE DOWNSTREAM IMPERVIOUS DIKE AND PUMPING APPARATUS. DEWATER WORK ZONE AREA. AREA TO BE DEWATERED SHALL BE EQUAL TO ONE DAY'S WORK.

5. INSTALL 60" RC PIPE AND HEADWALLS, STREAM BED STABILIZATION, AND SLOPE STABILIZATION AS DIRECTED.

6. EXCAVATE ANY ACCUMULATED SILT AND DEWATER BEFORE REMOVAL OF IMPERVIOUS DIKES. REMOVE IMPERVIOUS DIKES.

7. REMOVE SPECIAL STILLING BASIN AND RESTORE AREA TO ORIGINAL CONDITIONS.

8. STABILIZE ALL DISTURBED AREAS THROUGHOUT PROJECT WITH SEED AND MATTING FOR EROSION CONTROL.



8/17/99

REVISIONS

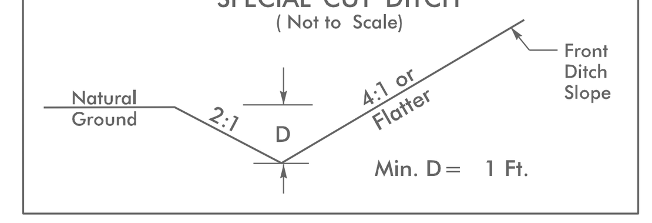
NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE – B AND TEMPORARY ROCK SILT CHECKS TYPE – A AT DRAINAGE OUTLETS

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 5

-L-

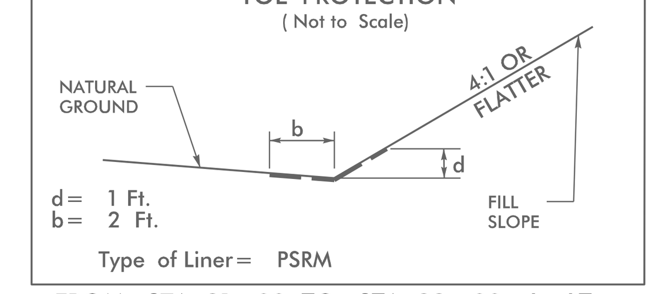
PI Sta 27+14.09	PI Sta 35+33.50
Δ = 0° 41′ 30.0″ (RT)	Δ = 0° 27′ 25.2″ (LT)
D = 0° 17′ 09.8″	D = 0° 17′ 12.9″
L = 241.80′	L = 159.29′
T = 120.90′	T = 79.64′
R = 20,030.00′	R = 19,970.00′
SE = NC	SE = NC

DETAIL 5–1
SPECIAL CUT DITCH
(Not to Scale)



FROM STA. 14+35 TO STA. 15+25 -Y3- RT
FROM STA. 10+50 TO STA. 10+75 -Y3- LT
FROM STA. 13+50 TO STA. 14+00 -Y4- RT

DETAIL 5–2
TOE PROTECTION
(Not to Scale)



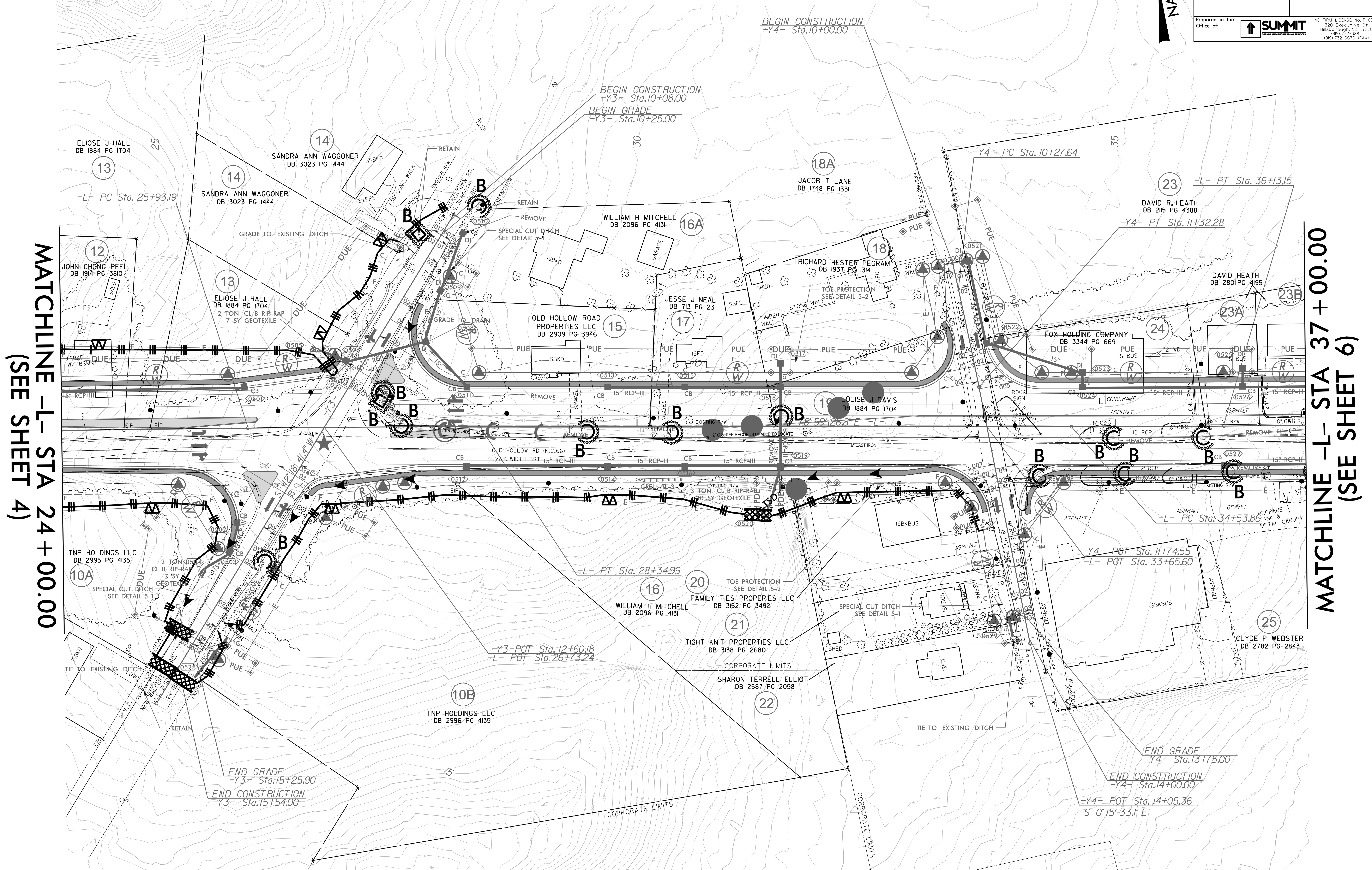
FROM STA. 31+00 TO STA. 33+00 -L- LT
FROM STA. 31+00 TO STA. 33+26 -L- RT
FROM STA. 10+25 TO STA. 11+00 -Y4- RT

-Y4-
PI Sta 10+79.96
Δ = 1° 11′ 56.8″ (RT)
D = 1° 08′ 45.3″
L = 104.64′
T = 52.32′
R = 5,000.00′

NAD 83/2011

PROJECT REFERENCE NO.	SHEET NO.
U-5824	EC-5/CONST.5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

Prepared in the Office of: SUMMIT DESIGN AND ENGINEERING SERVICES
NC FIRM LICENSE No.P-0339
320 Executive Ct.
Hillsborough, NC 27278
(919) 732-3883
(919) 732-6676 (FAX)



MATCHLINE -L- STA 24+00.00 (SEE SHEET 4)
MATCHLINE -L- STA 37+00.00 (SEE SHEET 6)
BEGIN CONSTRUCTION -Y4- Sta.10+00.00
BEGIN CONSTRUCTION -Y3- Sta.10+08.00
BEGIN GRADE -Y3- Sta.10+25.00
-Y4- PC Sta. 10+27.64
-L- PT Sta. 36+13.15
-Y4- PT Sta. 11+32.28
-L- PC Sta. 25+93.19
-L- PT Sta. 28+34.99
-L- PC Sta. 34+53.86
-Y4- POT Sta. 11+74.55
-L- POT Sta. 33+65.60
-Y3- POT Sta. 12+60.18
-L- POT Sta. 26+73.24
END GRADE -Y3- Sta.15+25.00
END CONSTRUCTION -Y3- Sta.15+54.00
END GRADE -Y4- Sta.13+75.00
END CONSTRUCTION -Y4- Sta.14+00.00
-Y4- POT Sta. 14+05.36
S 0° 15′ 33.1″ E
ELIOSE J HALL DB 1884 PG 1704
SANDRA ANN WAGGONER DB 3023 PG 1444
JOHN CHONG PEEL DB 1914 PG 3810
WILLIAM H MITCHELL DB 2096 PG 4131
JACOB T LANE DB 1748 PG 1331
RICHARD HESTER PEGRAM DB 1937 PG 1314
JESSE J NEAL DB 713 PG 23
OLD HOLLOW ROAD PROPERTIES LLC DB 2909 PG 3946
LOUISE J DAVIS DB 1884 PG 1704
DAVID R. HEATH DB 2115 PG 4388
DAVID HEATH DB 2801 PG 4195
FOX HOLDING COMPANY DB 3344 PG 669
TNP HOLDINGS LLC DB 2995 PG 4135
TNP HOLDINGS LLC DB 2996 PG 4135
FAMILY TIES PROPERIES LLC DB 3152 PG 3492
TIGHT KNIT PROPERTIES LLC DB 3138 PG 2680
SHARON TERRELL ELLIOT DB 2587 PG 2058
CLYDE P WEBSTER DB 2782 PG 2843
SPECIAL CUT DITCH SEE DETAIL 5-1
TOE PROTECTION SEE DETAIL 5-2
GRADE TO EXISTING DITCH
GRADE TO DRAIN
TIE TO EXISTING DITCH
2 TON CL B RIP-RAP 7 SY GEOTEXILE
3 TON CL B RIP-RAP 10 SY GEOTEXILE
CORPORATE LIMITS
OLD HOLLOW RD (N.C.66) VAR. WIDTH BST

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PROJECT REFERENCE NO.	SHEET NO.
U-5824	EC-6/CONST.6

R/W SHEET NO.

ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

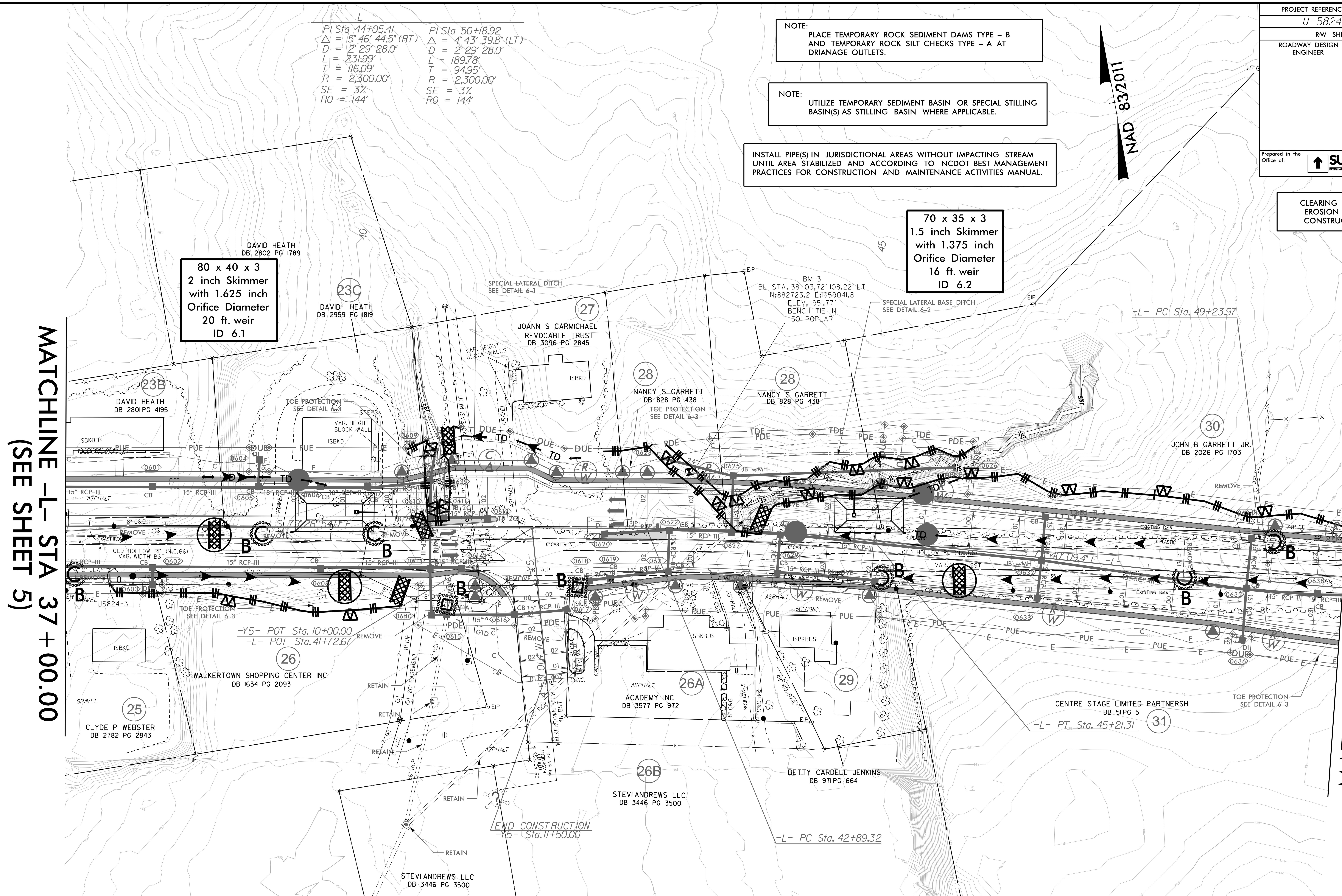
Prepared in the Office of: SUMMIT DESIGN AND ENGINEERING SERVICES
NC FIRM LICENSE No.:P-0339
320 Executive Ct
Hillsborough, NC 27278
(919) 732-3883
(919) 732-6676 (FAX)

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 6

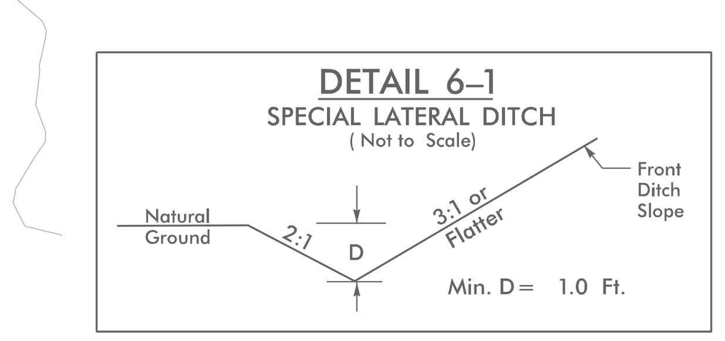
NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE – B AND TEMPORARY ROCK SILT CHECKS TYPE – A AT DRIANAGE OUTLETS.

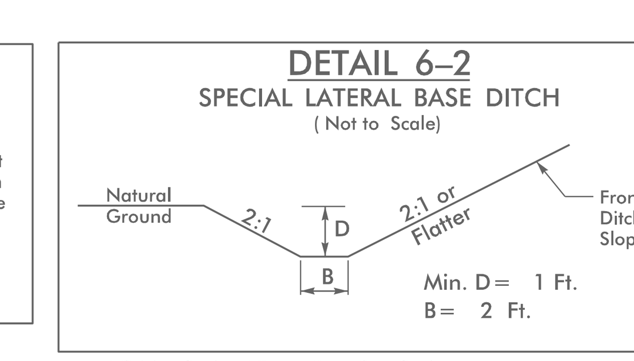
NOTE:
UTILIZE TEMPORARY SEDIMENT BASIN OR SPECIAL STILLING BASIN(S) AS STILLING BASIN WHERE APPLICABLE.

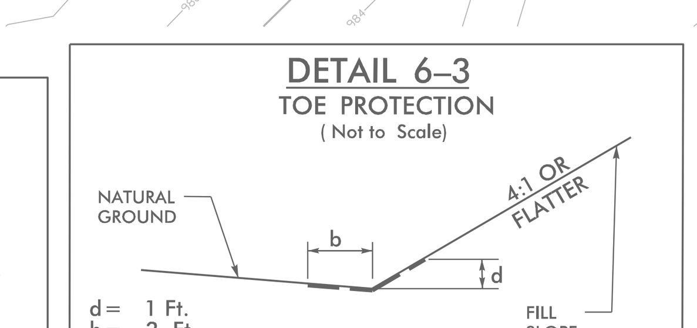
INSTALL PIPE(S) IN JURISDICTIONAL AREAS WITHOUT IMPACTING STREAM UNTIL AREA STABILIZED AND ACCORDING TO NCDOT BEST MANAGEMENT PRACTICES FOR CONSTRUCTION AND MAINTENANCE ACTIVITIES MANUAL.



L
PI Sta 44+05.41
Δ = 5° 46' 44.5" (RT)
D = 2° 29' 28.0"
L = 231.99'
T = 116.09'
R = 2,300.00'
SE = 3%
RO = 144'
PI Sta 50+18.92
Δ = 4° 43' 39.8" (LT)
D = 2° 29' 28.0"
L = 189.78'
T = 94.95'
R = 2,300.00'
SE = 3%
RO = 144'
NAD 83/2011
80 x 40 x 3
2 inch Skimmer
with 1.625 inch
Orifice Diameter
20 ft. weir
ID 6.1
70 x 35 x 3
1.5 inch Skimmer
with 1.375 inch
Orifice Diameter
16 ft. weir
ID 6.2
MATCHLINE -L- STA 37+00.00 (SEE SHEET 5)
MATCHLINE -L- STA 50+00.00 (SEE SHEET 7)
DAVID HEATH DB 2802 PG 1789
23C DAVID HEATH DB 2959 PG 1819
23B DAVID HEATH DB 2801 PG 4195
27 JOANN S CARMICHAEL REVOCABLE TRUST DB 3096 PG 2845
28 NANCY S GARRETT DB 828 PG 438
30 JOHN B GARRETT JR. DB 2026 PG 1703
26 WALKERTOWN SHOPPING CENTER INC DB 1634 PG 2093
25 CLYDE P WEBSTER DB 2782 PG 2843
26A ACADEMY INC DB 3577 PG 972
29
26B STEVI ANDREWS LLC DB 3446 PG 3500
STEVI ANDREWS LLC DB 3446 PG 3500
BETTY CARDELL JENKINS DB 971 PG 664
31 CENTRE STAGE LIMITED PARTNERSH DB 51 PG 51
SPECIAL LATERAL DITCH SEE DETAIL 6-1
SPECIAL LATERAL BASE DITCH SEE DETAIL 6-2
TOE PROTECTION SEE DETAIL 6-3
BM-3 BL STA. 38+03.72' 108.22' LT N:882723.2 E:1659041.8 ELEV.=951.77' BENCH TIE IN 30" POPLAR
-L- PC Sta. 49+23.97
-L- PT Sta. 45+21.31
-L- PC Sta. 42+89.32
-Y5- POT Sta. 10+00.00
-L- POT Sta. 41+72.67
END CONSTRUCTION -Y5- Sta. 11+50.00
OLD HOLLOW RD (N.C. 66)







REVISIONS

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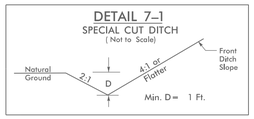

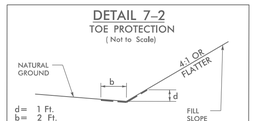

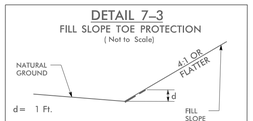

PROJECT REFERENCE NO.	SHEET NO.
U-5824	EC-7/CONST.7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

Prepared in the Office of: SUMMIT DESIGN AND ENGINEERING SERVICES

NC FIRM LICENSE No: P-0339
320 Executive Ct
Hillsborough, NC 27278
(919) 732-3883
(919) 732-6676 (FAX)

8/17/99

REVISIONS

FROM STA. 11+50 TO STA. 12+82 -Y6- LT

-Y7B-
PI Sta 12+35.76
△ = 12° 41′ 34.4″ (RT)
D = 5° 43′ 46.5″
L = 221.53′
T = 111.22′
R = 1,000.00′

-L-

PI Sta 50+18.92
△ = 4° 43′ 39.8″ (LT)
D = 2° 29′ 28.0″
L = 189.78′
T = 94.95′
R = 2,300.00′
SE = 3%
RO = 144′

PI Sta 54+10.21
△ = 9° 11′ 11.0″ (RT)
D = 1° 33′ 09.8″
L = 591.63′
T = 296.45′
R = 3,690.00′
SE = 2%
RO = 96′

FROM STA. 49+00 TO STA. 52+00 -L- RT

FROM STA. 60+41 TO STA. 61+87 -L- RT

UTILIZE FABRIC INSERT INLET PROTECTION DEVICES IN LIEU OF ROCK INLET SEDIMENT TRAPS, TYPE C AS DIRECTED BY 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 7

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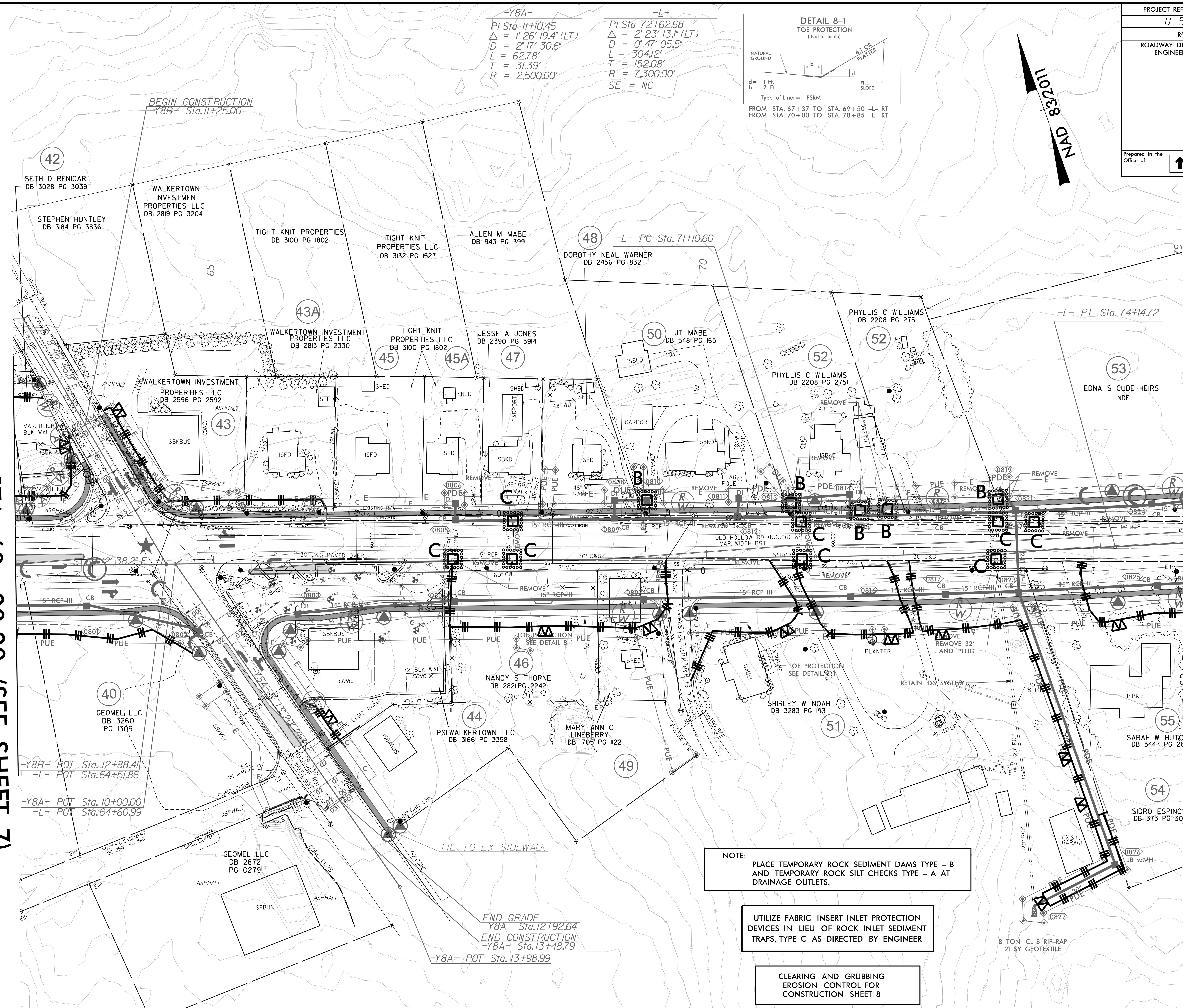
he.wang

PROJECT REFERENCE NO.	SHEET NO.
U-5824	EC-8/CONST.8
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

Prepared in the Office of: SUMMIT DESIGN AND ENGINEERING SERVICES
NC FIRM LICENSE No. P-0339
320 Executive Ct
Hillsborough, NC 27278
(919) 732-3883
(919) 732-6676 (FAX)



-Y8A-
PI Sta 11+10.45
Δ = 1° 26' 19.4" (LT)
D = 2° 17' 30.6"
L = 62.78'
T = 31.39'
R = 2,500.00'
-L-
PI Sta 72+62.68
Δ = 2° 23' 13.1" (LT)
D = 0° 47' 05.5"
L = 304.12'
T = 152.08'
R = 7,300.00'
SE = NC
DETAIL 8-1
TOE PROTECTION
(Not to Scale)
NATURAL GROUND
FILL SLOPE
4:1 OR FLATTER
d= 1 Ft.
b= 2 Ft.
Type of Liner= PSRM
FROM STA. 67+37 TO STA. 69+50 -L- RT
FROM STA. 70+00 TO STA. 70+85 -L- RT
NAD 83/2011
BEGIN CONSTRUCTION
-Y8B- Sta.11+25.00
SETH D RENIGAR
DB 3028 PG 3039
STEPHEN HUNTLEY
DB 3184 PG 3836
WALKERTOWN INVESTMENT PROPERTIES LLC
DB 2819 PG 3204
TIGHT KNIT PROPERTIES
DB 3100 PG 1802
TIGHT KNIT PROPERTIES LLC
DB 3132 PG 1527
ALLEN M MABE
DB 943 PG 399
DOROTHY NEAL WARNER
DB 2456 PG 832
-L- PC Sta. 71+10.60
PHYLLIS C WILLIAMS
DB 2208 PG 2751
-L- PT Sta. 74+14.72
WALKERTOWN INVESTMENT PROPERTIES LLC
DB 2813 PG 2330
TIGHT KNIT PROPERTIES LLC
DB 3100 PG 1802
JESSE A JONES
DB 2390 PG 3914
JT MABE
DB 548 PG 165
EDNA S CUDE HEIRS
NDF
WALKERTOWN INVESTMENT PROPERTIES LLC
DB 2596 PG 2592
MATCHLINE -L- STA 63+00.00 (SEE SHEET 7)
MATCHLINE -L- STA 75+00.00 (SEE SHEET 9)
OLD HOLLOW RD (N.C.66)
VAR. WIDTH BST
TOE PROTECTION SEE DETAIL 8-1
NANCY S THORNE
DB 2821 PG 2242
SHIRLEY W NOAH
DB 3283 PG 193
REMOVE 32' AND PLUG
RETAIN DS SYSTEM
GEOMEL LLC
DB 3260 PG 1309
PSI WALKERTOWN LLC
DB 3166 PG 3358
MARY ANN C LINEBERRY
DB 1705 PG 1122
SARAH W HUTCHINGS
DB 3447 PG 2699
ISIDRO ESPINOSA
DB 373 PG 3012
-Y8B- POT Sta. 12+88.41
-L- POT Sta. 64+51.86
-Y8A- POT Sta. 10+00.00
-L- POT Sta. 64+60.99
GEOMEL LLC
DB 2872 PG 0279
TIE TO EX SIDEWALK
END GRADE
-Y8A- Sta. 12+92.64
END CONSTRUCTION
-Y8A- Sta. 13+48.79
-Y8A- POT Sta. 13+98.99
8 TON CL B RIP-RAP
21 SY GEOTEXTILE

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

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

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 8

REVISIONS

8/17/99

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PROJECT REFERENCE NO.	SHEET NO.
U-5824	EC-9/CONST.9
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

Prepared in the Office of: SUMMIT DESIGN AND ENGINEERING SERVICES — NC FIRM LICENSE No: P-0339, 320 Executive Ct, Hillsborough, NC 27278, (919) 732-3883, (919) 732-6676 (FAX)

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 DRIANAGE OUTLETS.

NOTE:
UTILIZE TEMPORARY SEDIMENT BASIN OR SPECIAL STILLING BASIN(S) AS STILLING BASIN WHERE APPLICABLE.

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

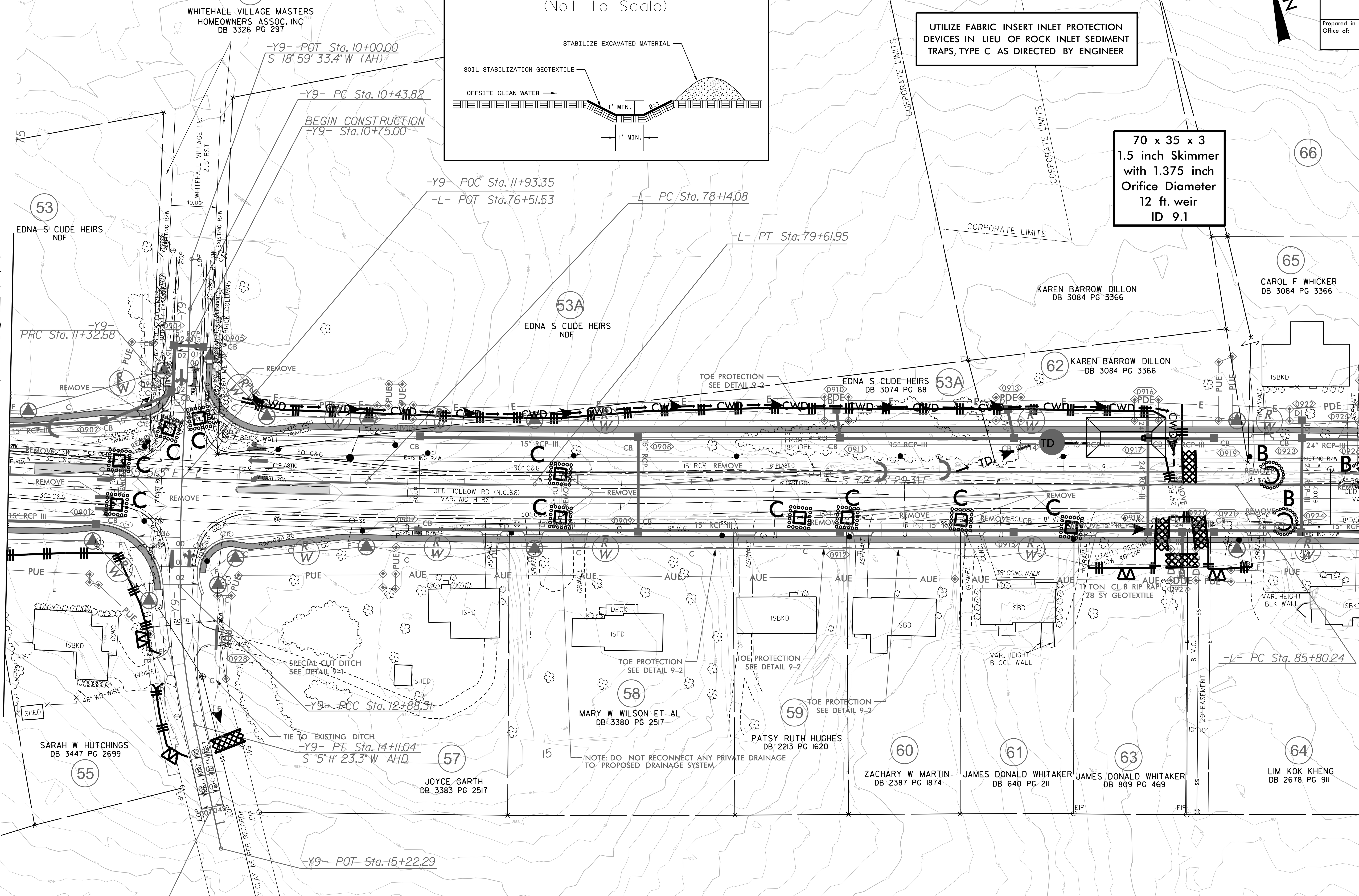
CLEAN WATER DIVERSION

→ → CWD → → CWD → → CWD → → CWD → →

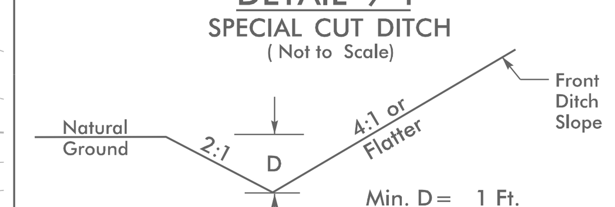
(Not to Scale)

STABILIZE EXCAVATED MATERIAL
SOIL STABILIZATION GEOTEXTILE
OFFSITE CLEAN WATER
1' MIN.
2:1
1' MIN.

70 x 35 x 3
1.5 inch Skimmer
with 1.375 inch
Orifice Diameter
12 ft. weir
ID 9.1

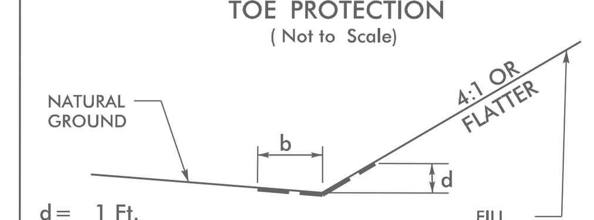


DETAIL 9-1
SPECIAL CUT DITCH
(Not to Scale)



FROM STA. 13+00 TO STA. 13+75 -Y9- LT

DETAIL 9-2
TOE PROTECTION
(Not to Scale)



d= 1 Ft.
b= 2 Ft.
Type of Liner= PSRM

FROM STA. 80+00 TO STA. 85+94 -L- LT
FROM STA. 81+00 TO STA. 81+42 -L- RT
FROM STA. 81+54 TO STA. 82+45 -L- RT
FROM STA. 82+55 TO STA. 83+40 -L- RT

REVISIONS

8/17/99

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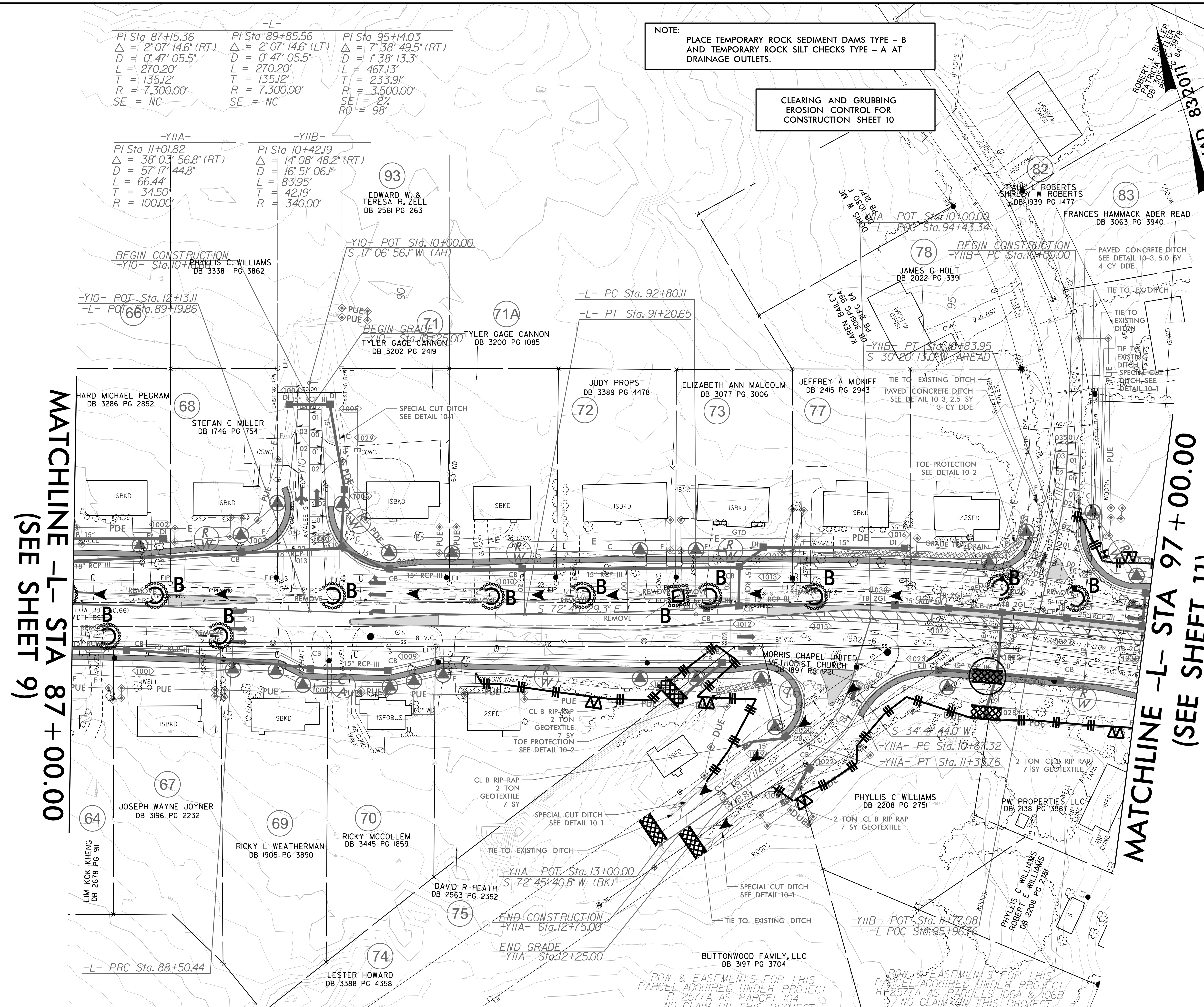
PROJECT REFERENCE NO.	SHEET NO.
U-5824	EC-10/CONST.10
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

Prepared in the Office of: SUMMIT DESIGN AND ENGINEERING SERVICES
NC FIRM LICENSE No.P-0339
320 Executive Ct
Hillsborough, NC 27278
(919) 732-3883
(919) 732-6676 (FAX)

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

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 10

REVISIONS


-L-
PI Sta 87+15.36
Δ = 2° 07' 14.6" (RT)
D = 0° 47' 05.5"
L = 270.20'
T = 135.12'
R = 7,300.00'
SE = NC
PI Sta 89+85.56
Δ = 2° 07' 14.6" (LT)
D = 0° 47' 05.5"
L = 270.20'
T = 135.12'
R = 7,300.00'
SE = NC
PI Sta 95+14.03
Δ = 7° 38' 49.5" (RT)
D = 1° 38' 13.3"
L = 467.13'
T = 233.91'
R = 3,500.00'
SE = .2'
RO = 98'
-YIIA-
PI Sta 11+01.82
Δ = 38° 03' 56.8" (RT)
D = 57° 17' 44.8"
L = 66.44'
T = 34.50'
R = 100.00'
-YIIB-
PI Sta 10+42.19
Δ = 14° 08' 48.2" (RT)
D = 16° 51' 06.1"
L = 83.95'
T = 42.19'
R = 340.00'
BEGIN CONSTRUCTION -YI0- Sta.10+10.00
-YI0- POT Sta. 10+00.00
S 17° 06' 56.1" W (AH)
-YI0- POT Sta. 12+13.11
-L- POT Sta.89+19.86
BEGIN GRADE
-L- PC Sta. 92+80.11
-L- PT Sta. 91+20.65
-YIIA- POT Sta.10+00.00
-L- POC Sta.94+43.34
BEGIN CONSTRUCTION -YIIB- PC Sta.10+00.00
-YIIB- PT Sta.10+83.95
S 30° 20' 13.0" W AHEAD
EDWARD W. & TERESA R. ZELL DB 2561 PG 263
PHYLLIS C. WILLIAMS DB 3338 PG 3862
TYLER GAGE CANNON DB 3202 PG 2419
TYLER GAGE CANNON DB 3200 PG 1085
RICHARD MICHAEL PEGRAM DB 3286 PG 2852
STEFAN C MILLER DB 1746 PG 754
JUDY PROPST DB 3389 PG 4478
ELIZABETH ANN MALCOLM DB 3077 PG 3006
JEFFREY A MIDKIFF DB 2415 PG 2943
JAMES G HOLT DB 2022 PG 3391
PAUL L ROBERTS SHIRLEY W ROBERTS DB 1939 PG 1477
FRANCES HAMMACK ADER READ DB 3063 PG 3940
ROBERT L BUTLER PATRICIA J BUTLER
KAREN BAILEY
MORRIS CHAPEL UNITED METHODIST CHURCH DB 1897 PG 1221
JOSEPH WAYNE JOYNER DB 3196 PG 2232
RICKY L WEATHERMAN DB 1905 PG 3890
RICKY MCCOLLEM DB 3445 PG 1859
LIM KOK KHENG DB 2678 PG 911
DAVID R HEATH DB 2563 PG 2352
LESTER HOWARD DB 3388 PG 4358
PHYLLIS C WILLIAMS DB 2208 PG 2751
PW PROPERTIES LLC DB 2138 PG 3567
PHYLLIS C WILLIAMS ROBERT E WILLIAMS DB 2208 PG 2751
BUTTONWOOD FAMILY, LLC DB 3197 PG 3704
SPECIAL CUT DITCH SEE DETAIL 10-1
TOE PROTECTION SEE DETAIL 10-2
PAVED CONCRETE DITCH SEE DETAIL 10-3, 5.0 SY 4 CY DDE
PAVED CONCRETE DITCH SEE DETAIL 10-3, 2.5 SY 3 CY DDE
TIE TO EXISTING DITCH
CL B RIP-RAP 2 TON GEOTEXTILE 7 SY
2 TON CL B RIP-RAP 7 SY GEOTEXTILE
-YIIA- PC Sta.10+87.32
-YIIA- PT Sta. 11+33.76
S 34° 34' 44.0" W
-YIIA- POT Sta. 13+00.00
S 72° 45' 40.8" W (BK)
END CONSTRUCTION -YIIA- Sta.12+75.00
END GRADE -YIIA- Sta.12+25.00
-L- PRC Sta. 88+50.44
-YIIB- POT Sta. 11+77.08
-L POC Sta.95+96.16
ROW & EASEMENTS FOR THIS PARCEL ACQUIRED UNDER PROJECT R-2577A AS PARCEL 104 - NO CLAIM ON THIS PROJECT
ROW & EASEMENTS FOR THIS PARCEL ACQUIRED UNDER PROJECT R-2577A AS PARCELS 106A & 106B - NO CLAIM ON THIS PROJECT
MATCHLINE -L- STA 87+00.00 (SEE SHEET 9)
MATCHLINE -L- STA 97+00.00 (SEE SHEET 11)
NAD 83/2011

DETAIL 10-1
SPECIAL CUT DITCH
(Not to Scale)
Natural Ground, 2:1, D, 4:1 or Flatter, Front Ditch Slope
Min. D = 1 Ft.

FROM STA. 10+25 TO STA. 11+25 -YI0- LT
FROM STA. 10+75 TO STA. 12+75 -YI1 A- LT
FROM STA. 10+75 TO STA. 12+75 -YI1 A- RT
FROM STA. 10+75 TO STA. 11+00 -YI1 B- LT

DETAIL 10-2
TOE PROTECTION
(Not to Scale)
Natural Ground, b, 4:1 or Flatter, d, Fill Slope
d = 1 Ft.
b = 2 Ft.
Type of Liner = PSRM

FROM STA. 93+00 TO STA. 93+50 -L- RT
FROM STA. 94+06 TO STA. 95+66 -L- RT
FROM STA. 10+75 TO STA. 11+12 -YI1 B- RT

DETAIL 10-3
CONCRETE DITCH
(Not to Scale)
Natural Ground, 2:1, D, d, 2:1, Natural Ground
Min. D = 0.5 Ft.
Max. d = 0.5 Ft.
Type of Liner = CONCRETE
Total DDE = 7 CY

FROM STA. 10+59 TO STA. 10+67 -YI1 B- LT
FROM STA. 10+57 TO STA. 10+67 -YI1 B- RT

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PROJECT REFERENCE NO.	SHEET NO.
U-5824	EC-11/CONST.11
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

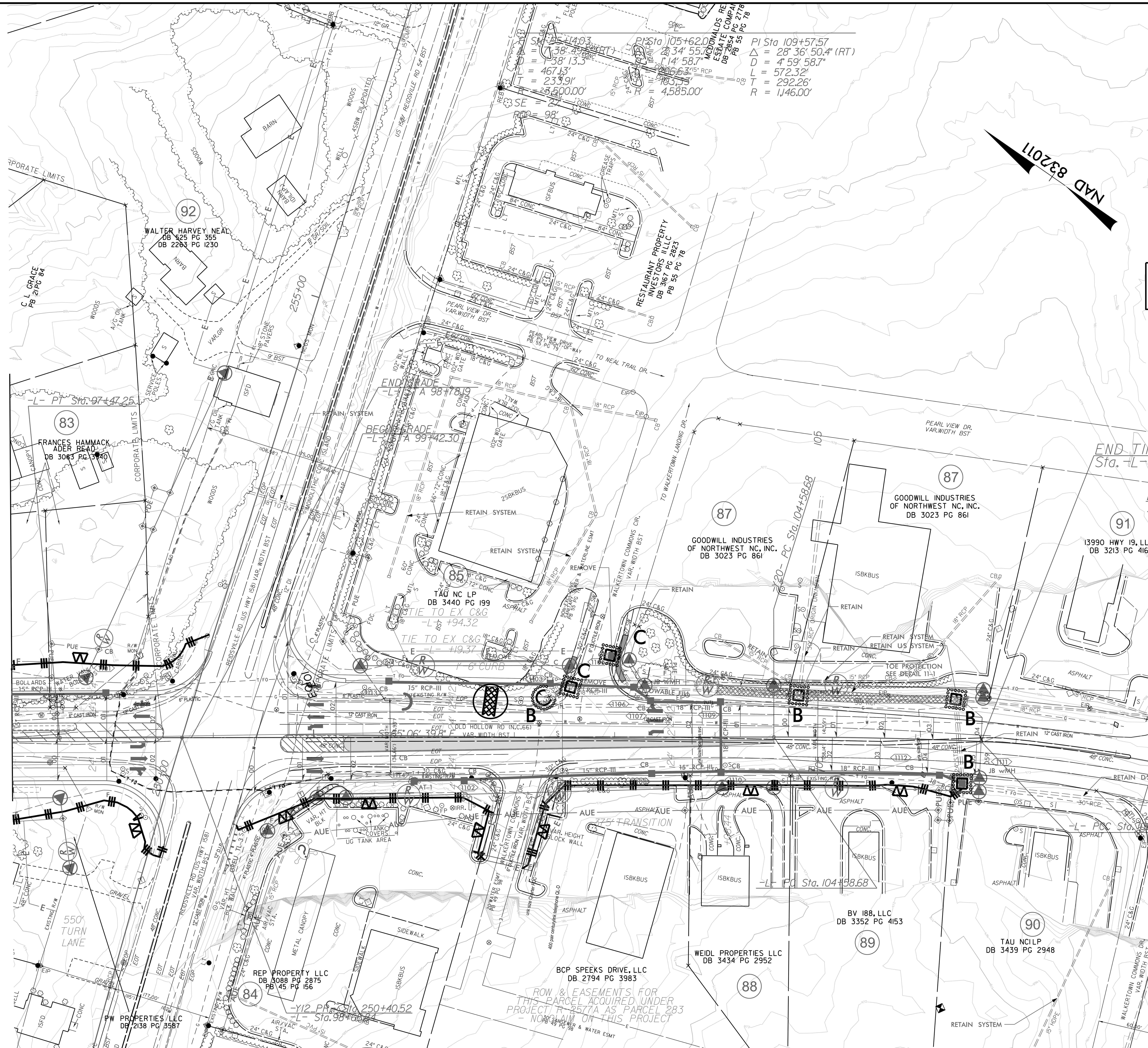
Prepared in the Office of: SUMMIT DESIGN AND ENGINEERING SERVICES — NC FIRM LICENSE No. P-0339, 320 Executive Ct., Hillsborough, NC 27278, (919) 732-3883, (919) 732-6676 (FAX)

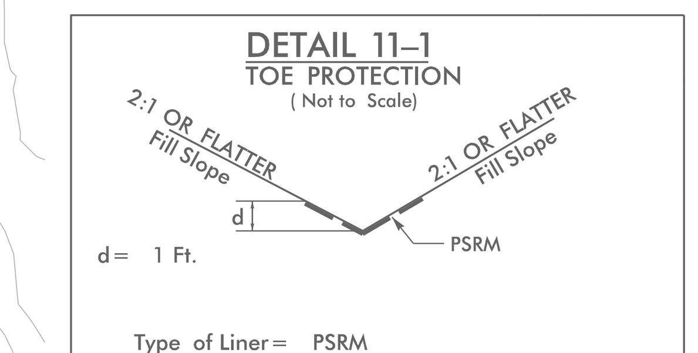
REVISIONS

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 11

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

MATCHLINE -L- STA 97+00.00 (SEE SHEET 10)


NAD 83/2011
WALTER HARVEY NEAL DB 525 PG 355 DB 2263 PG 1230
FRANCES HAMMACK ADER READ DB 3063 PG 3940
TAU NC LP DB 3440 PG 199
RESTAURANT PROPERTY INVESTORS III LLC DB 3621 PG 2823 PB 55 PG 78
GOODWILL INDUSTRIES OF NORTHWEST NC, INC. DB 3023 PG 861
13990 HWY 19, LLC. DB 3213 PG 4166
WALKERTOWN LANDING, LLC NDF
END TIP PROJECT U-5824 Sta. -L- Sta.106+65.31
END TIP PROJECT U-5824 Sta. -L- Sta.108+40.00
REP PROPERTY LLC DB 3088 PG 2875 PB 45 PG 156
PW PROPERTIES LLC DB 2138 PG 3587
BCP SPEEKS DRIVE, LLC DB 2794 PG 3983
WEIDL PROPERTIES LLC DB 3434 PG 2952
BV 188, LLC DB 3352 PG 4153
TAU NC1LP DB 3439 PG 2948
COOKOUT KERNERSVILLE, INC. DB 3301 PG 9261
ROW & EASEMENTS FOR THIS PARCEL ACQUIRED UNDER PROJECT R-2577A AS PARCEL 283
OLD HOLLOW RD (N.C.66) VAR. WIDTH BST
TOE PROTECTION SEE DETAIL 11-1
-L- PC Sta. 104+58.68
-L- POC Sta.106+65.31



FROM STA. 104+02 TO STA. 106+50 -L- LT

8/17/99

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PROJECT REFERENCE NO.
U-5824
SHEET NO.
EC-12/CONST.4
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
Prepared in the Office of:
SUMMIT DESIGN AND ENGINEERING SERVICES
NC FIRM LICENSE No: P-0339
320 Executive Ct
Hillsborough, NC 27278
(919) 732-3883
(919) 732-6676 (FAX)
NAD 83/2011
L
PI Sta 16+75.18
△ = 49° 58' 56.1" (LT)
D = 6° 01' 52.1"
L = 828.74'
T = 442.81'
R = 950.00'
SE = 4%
RO = 192'
PLACE MATTING FOR EROSION CONTROL ON SLOPES ADJACENT TO PERMITTED WETLANDS AS WORK ALLOWS
NOTE: UTILIZE COIR FIBER MATTING ADJACENT TO WETLANDS/ JURISDICTIONAL AREAS, AND AS DIRECTED
INSTALL MATTING FOR EROSION CONTROL IN ALL PROPOSED DETAIL DITCHES.
NOTE: UTILIZE TEMPORARY SEDIMENT BASIN OR SPECIAL STILLING BASIN(S) AS STILLING BASIN WHERE APPLICABLE.
90 x 45 x 3
2 inch Skimmer
with 1.750 inch
Orifice Diameter
29 ft. weir
ID 4.1
80 x 40 x 3
2 inch Skimmer
with 1.625 inch
Orifice Diameter
24 ft. weir
ID 4.2
35 x 15 x 3
1.5 inch Skimmer
with 0.5 inch
Orifice Diameter
4 ft. weir
ID 4.3
CONTRACTOR WILL NOT BE PERMITTED TO STORE ANY EQUIPMENT ON NS PROPERTY WITHOUT PERMISSION FROM THE NS RAILROAD ENGINEER IN ACCORDANCE WITH SECTION E.5.K.I OF THE NS PUBLIC PROJECTS MANUAL.
BEGIN TIP PROJECT U-5824
-L- Sta.10+52.50
-L- POT Sta. 10+00.00
BEGIN CONSTRUCTION
-Y1- Sta.10+75.00
-Y1- POT Sta. 12+49.30
-L- POC Sta.13+95.36
-Y2- POT Sta. 10+00.00
-L- POC Sta.16+71.74
-L- PC Sta. 12+32.37
-L- PT Sta. 20+61.11
END CONSTRUCTION
-Y2- Sta.11+75.00
MATCHLINE -L- STA 24+00.00
(SEE SHEET 5)
NORFOLK AND WESTERN RAILROAD
2
JOHN T VLAHOS
DB 2833 PG 1741
3
PELAGIC PARTNERS, LLC.
DB 3312 PG 1691
4
A D D VENTURES, LLC.
DB 3272 PG 4145
5
DUKE POWER CO
DB 875 PG 125
DUKE POWER CO
DB 889 PG 68
5A
DUKE POWER CO
DB 1167 PG 564
6
WALKERTOWN LUBE-N-WASH, INC
DB 2111 PG 3660
7
PRITCHARD, RALPH L.
DB 1664 PG 2256
8
DAVID H BATTEN
DB 2813 PG 3290
ELIOSE J HALL
DB 1884 PG 1704
9
WALKERTOWN PENT HOLINESS CHURCH
NDF
10
TNP HOLDINGS LLC
DB 2995 PG 4135
TNP HOLDINGS LLC
DB 2996 PG 4135
10A
TNP HOLDINGS LLC
DB 2995 PG 4135
11
WILLIAM E RUSSELL
DB 1994 PG 3252
12
JOHN CHONG PEEL
DB 1914 PG 3810
PIPE INLET CHANNEL STABILIZATION
SEE DETAIL 4-7
3 TONS CL B RIP RAP
6 SY GEOTEXTILE
SPECIAL LATERAL 'V' DITCH
SEE DETAIL 4-4
3 TONS CL B RIP RAP
6 SY GEOTEXTILE
SPECIAL LATERAL 'V' DITCH
SEE DETAIL 4-3
8 TONS CL B RIP RAP
18 SY GEOTEXTILE
SPECIAL LATERAL 'V' DITCH
SEE DETAIL 4-5
47 TONS CL B RIP RAP
104 SY GEOTEXTILE
TOE PROTECTION
SEE DETAIL 4-6
27 TONS CL B RIP RAP
60 SY GEOTEXTILE
RETAIN SYSTEM
REMOVE
CL B RIP-RAP 2 TON
GEOTEXTILE 7 SY
SPECIAL CUT DITCH
SEE DETAIL 4-2
TIE TO EXISTING DITCH
CL I RIP-RAP
33 TON
GEOTEXTILE
62 SY
SPECIAL LATERAL 'V' DITCH
SEE DETAIL 4-1
DETAIL 4-7
PIPE INLET CHANNEL STABILIZATION
(Not to Scale)
Length = 8 Ft.
Type of Liner = CL B Rip-Rap - Keyed-In
FROM STA. 19+11 TO 19+29 -L- LT
DETAIL 4-1
SPECIAL LATERAL 'V' DITCH
(Not to Scale)
Min. D = 1.0 Ft.
FROM STA. 17+50 TO STA. 18+50 -L- RT
DETAIL 4-2
SPECIAL CUT DITCH
(Not to Scale)
Min. D = 1.0 Ft.
FROM STA. 11+25 TO STA. 11+75 -Y2- LT
DETAIL 4-3
SPECIAL LATERAL 'V' DITCH
(Not to Scale)
Type of Liner = CL B Rip-Rap
Min. D = 0.5 Ft.
Max. d = 0.5 Ft.
FROM STA. 18+50 TO STA. 19+00 -L- LT
DETAIL 4-4
SPECIAL LATERAL 'V' DITCH
(Not to Scale)
Type of Liner = CL B Rip-Rap
Min. D = 1.0 Ft.
Max. d = 1.0 Ft.
FROM STA. 19+00 TO STA. 19+15 -L- LT
DETAIL 4-5
SPECIAL LATERAL 'V' DITCH
(Not to Scale)
Type of Liner = CL B Rip-Rap
Min. D = 1.6 Ft.
Max. d = 1.6 Ft.
FROM STA. 19+53.19 TO STA. 21+00 -L- LT
DETAIL 4-6
TOE PROTECTION
(Not to Scale)
d = 1 Ft.
b = 3 Ft.
Type of Liner = CL B RIP RAP
FROM STA. 10+72 TO STA. 11+50 -Y2- RT
REVISIONS
8/17/99
09-AUG-2023 13:30
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PROJECT REFERENCE NO.	SHEET NO.
U-5824	EC-13/CONST.5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

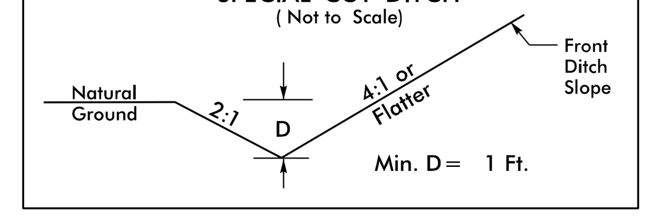
Prepared in the Office of: SUMMIT DESIGN AND ENGINEERING SERVICES
NC FIRM LICENSE No: P-0339
320 Executive Ct
Hillsborough, NC 27278
(919) 732-3883
(919) 732-6676 (FAX)

NAD 83/2011

-L-

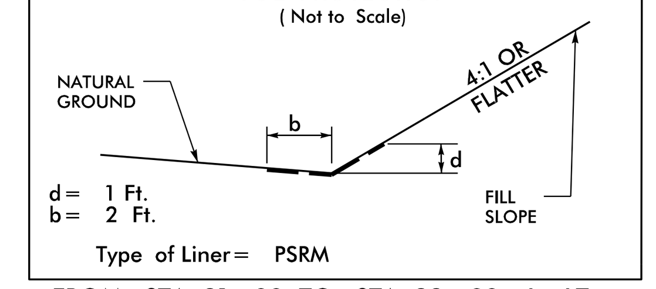
PI Sta 27+14.09	PI Sta 35+33.50
Δ = 0° 41' 30.0" (RT)	Δ = 0° 27' 25.2" (LT)
D = 0° 17' 09.8"	D = 0° 17' 12.9"
L = 241.80'	L = 159.29'
T = 120.90'	T = 79.64'
R = 20,030.00'	R = 19,970.00'
SE = NC	SE = NC

DETAIL 5-1
SPECIAL CUT DITCH
(Not to Scale)



FROM STA. 14+35 TO STA. 15+25 -Y3- RT
FROM STA. 10+50 TO STA. 10+75 -Y3- LT
FROM STA. 13+50 TO STA. 14+00 -Y4- RT

DETAIL 5-2
TOE PROTECTION
(Not to Scale)



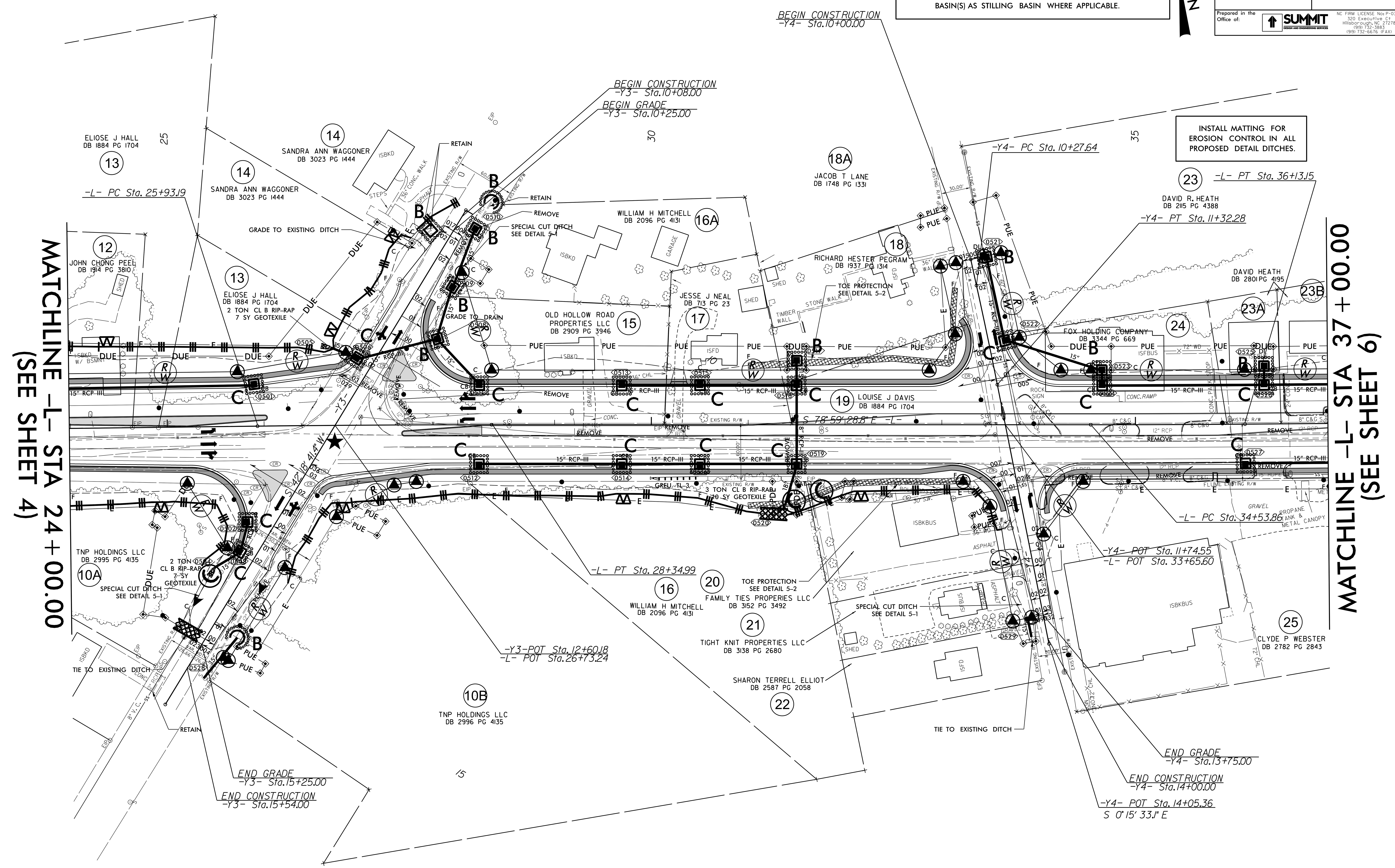
FROM STA. 31+00 TO STA. 33+00 -L- LT
FROM STA. 31+00 TO STA. 33+26 -L- RT
FROM STA. 10+25 TO STA. 11+00 -Y4- RT

-Y4-

PI Sta 10+79.96
Δ = 1° 11' 56.8" (RT)
D = 1° 08' 45.3"
L = 104.64'
T = 52.32'
R = 5,000.00'

NOTE:
UTILIZE TEMPORARY SEDIMENT BASIN OR SPECIAL STILLING BASIN(S) AS STILLING BASIN WHERE APPLICABLE.

INSTALL MATTING FOR EROSION CONTROL IN ALL PROPOSED DETAIL DITCHES.


MATCHLINE -L- STA 24+00.00
(SEE SHEET 4)
MATCHLINE -L- STA 37+00.00
(SEE SHEET 6)
BEGIN CONSTRUCTION
-Y3- Sta.10+08.00
BEGIN GRADE
-Y3- Sta.10+25.00
BEGIN CONSTRUCTION
-Y4- Sta.10+00.00
-L- PC Sta. 25+93.19
-Y4- PC Sta. 10+27.64
-L- PT Sta. 36+13.15
-Y4- PT Sta. 11+32.28
-L- PT Sta. 28+34.99
-Y3-POT Sta. 12+60.18
-L- POT Sta.26+73.24
-L- PC Sta. 34+53.86
-Y4- POT Sta. 11+74.55
-L- POT Sta. 33+65.60
END GRADE
-Y3- Sta.15+25.00
END CONSTRUCTION
-Y3- Sta.15+54.00
END GRADE
-Y4- Sta.13+75.00
END CONSTRUCTION
-Y4- Sta.14+00.00
-Y4- POT Sta. 14+05.36
S 0° 15' 33.1" E
S 78° 59' 28.8" E -L-
ELIOSE J HALL
DB 1884 PG 1704
SANDRA ANN WAGGONER
DB 3023 PG 1444
JOHN CHONG PEEL
DB 1914 PG 3810
WILLIAM H MITCHELL
DB 2096 PG 4131
JACOB T LANE
DB 1748 PG 1331
RICHARD HESTER PEGRAM
DB 1937 PG 1314
JESSE J NEAL
DB 713 PG 23
OLD HOLLOW ROAD PROPERTIES LLC
DB 2909 PG 3946
DAVID R. HEATH
DB 2115 PG 4388
DAVID HEATH
DB 2801 PG 4195
FOX HOLDING COMPANY
DB 3344 PG 669
LOUISE J DAVIS
DB 1884 PG 1704
TNP HOLDINGS LLC
DB 2995 PG 4135
TNP HOLDINGS LLC
DB 2996 PG 4135
FAMILY TIES PROPERIES LLC
DB 3152 PG 3492
TIGHT KNIT PROPERTIES LLC
DB 3138 PG 2680
SHARON TERRELL ELLIOT
DB 2587 PG 2058
CLYDE P WEBSTER
DB 2782 PG 2843
GRADE TO EXISTING DITCH
SPECIAL CUT DITCH
SEE DETAIL 5-1
TOE PROTECTION
SEE DETAIL 5-2
GRADE TO DRAIN
2 TON CL B RIP-RAP
7 SY GEOTEXILE
3 TON CL B RIP-RAP
10 SY GEOTEXILE
TIE TO EXISTING DITCH
RETAIN
REMOVE
15" RCP-III

PROJECT REFERENCE NO.	SHEET NO.
U-5824	EC-14/CONST.6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

Prepared in the Office of: SUMMIT DESIGN AND ENGINEERING SERVICES — NC FIRM LICENSE No. P-0339, 320 Executive Ct, Hillsborough, NC 27278, (919) 732-3883, (919) 732-6676 (FAX)

8/17/99

REVISIONS

L

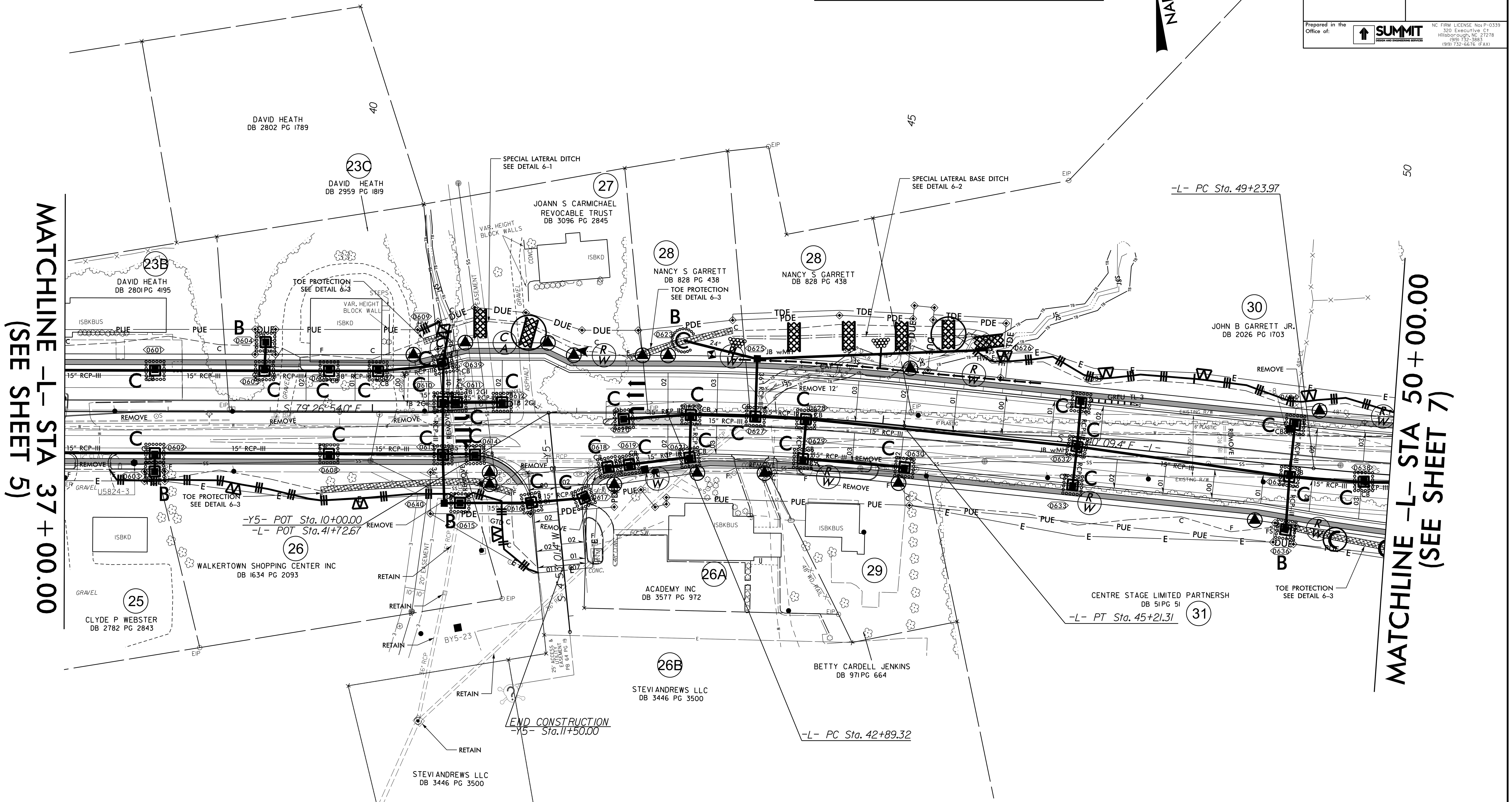
PI Sta 44+05.41	PI Sta 50+18.92
△ = 5° 46′ 44.5″ (RT)	△ = 4° 43′ 39.8″ (LT)
D = 2° 29′ 28.0″	D = 2° 29′ 28.0″
L = 231.99′	L = 189.78′
T = 116.09′	T = 94.95′
R = 2,300.00′	R = 2,300.00′
SE = 3%	SE = 3%
RO = 144′	RO = 144′

INSTALL MATTING FOR EROSION CONTROL IN ALL PROPOSED DETAIL DITCHES.

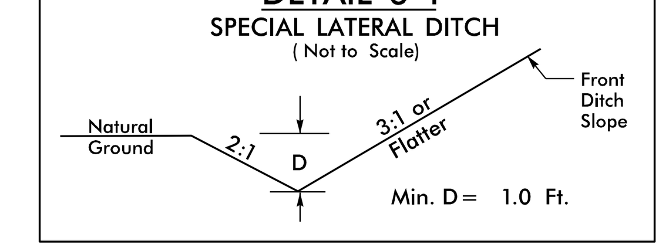
NOTE: UTILIZE COIR FIBER MATTING ADJACENT TO WETLANDS/ JURISDICTIONAL AREAS, AND AS DIRECTED

NOTE: UTILIZE TEMPORARY SEDIMENT BASIN OR SPECIAL STILLING BASIN(S) AS STILLING BASIN WHERE APPLICABLE.

NAD 83/2011

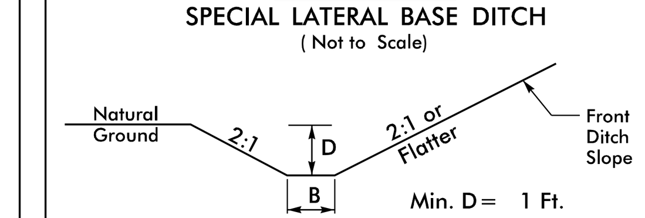


DETAIL 6-1
SPECIAL LATERAL DITCH
(Not to Scale)



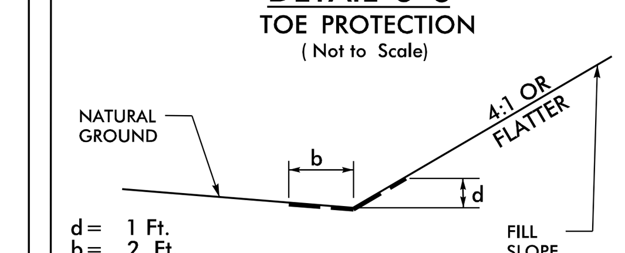
FROM STA. 40+80 TO STA. 42+20 -L- LT

DETAIL 6-2
SPECIAL LATERAL BASE DITCH
(Not to Scale)



FROM STA. 43+50 TO STA. 45+75 -L- LT

DETAIL 6-3
TOE PROTECTION
(Not to Scale)



FROM STA. 39+50 TO STA. 41+67 -L- RT
FROM STA. 49+00 TO STA. 52+00 -L- RT
FROM STA. 40+49 TO STA. 40+70 -L- LT
FROM STA. 42+49 TO STA. 43+52 -L- LT

09-AUG-2023 13:30
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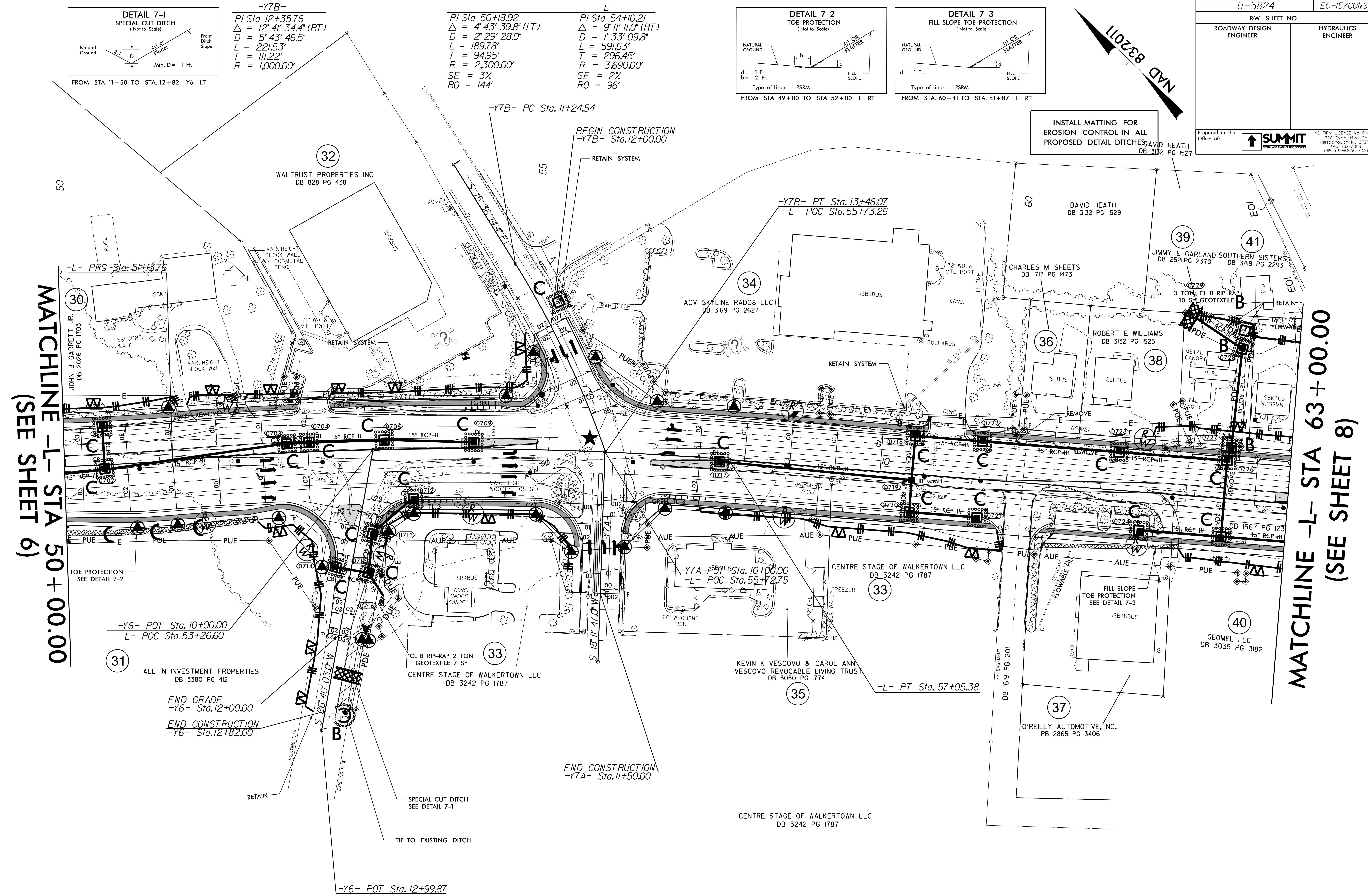
PROJECT REFERENCE NO.	SHEET NO.
U-5824	EC-15/CONST.7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

Prepared in the Office of: SUMMIT DESIGN AND ENGINEERING SERVICES
NC FIRM LICENSE No: P-0339
320 Executive Ct
Hillsborough, NC 27278
(919) 732-3883
(919) 732-6676 (FAX)



DETAIL 7-1
SPECIAL CUT DITCH
(Not to Scale)
FROM STA. 11+50 TO STA. 12+82 -Y6- LT
-Y7B-
PI Sta 12+35.76
Δ = 12° 41' 34.4" (RT)
D = 5° 43' 46.5"
L = 221.53'
T = 111.22'
R = 1,000.00'
-L-
PI Sta 50+18.92
Δ = 4° 43' 39.8" (LT)
D = 2° 29' 28.0"
L = 189.78'
T = 94.95'
R = 2,300.00'
SE = 3%
RO = 144'
PI Sta 54+10.21
Δ = 9° 11' 11.0" (RT)
D = 1° 33' 09.8"
L = 591.63'
T = 296.45'
R = 3,690.00'
SE = 2%
RO = 96'
DETAIL 7-2
TOE PROTECTION
(Not to Scale)
Type of Liner = PSRM
FROM STA. 49+00 TO STA. 52+00 -L- RT
DETAIL 7-3
FILL SLOPE TOE PROTECTION
(Not to Scale)
Type of Liner = PSRM
FROM STA. 60+41 TO STA. 61+87 -L- RT
NAD 83/2011
INSTALL MATTING FOR EROSION CONTROL IN ALL PROPOSED DETAIL DITCHES
-Y7B- PC Sta. 11+24.54
BEGIN CONSTRUCTION -Y7B- Sta. 12+00.00
-Y7B- PT Sta. 13+46.07
-L- POC Sta. 55+73.26
-L- PRC Sta. 51+13.76
MATCHLINE -L- STA 50+00.00 (SEE SHEET 6)
MATCHLINE -L- STA 63+00.00 (SEE SHEET 8)
WALTRUST PROPERTIES INC DB 828 PG 438
ACV SKYLINE RAD08 LLC DB 3169 PG 2627
DAVID HEATH DB 3132 PG 1527
DAVID HEATH DB 3132 PG 1529
CHARLES M SHEETS DB 1717 PG 1473
JIMMY E GARLAND DB 2521 PG 2370
SOUTHERN SISTERS DB 3419 PG 2293
ROBERT E WILLIAMS DB 3132 PG 1525
JOHN B GARRETT JR. DB 2026 PG 1703
ALL IN INVESTMENT PROPERTIES DB 3380 PG 412
CENTRE STAGE OF WALKERTOWN LLC DB 3242 PG 1787
KEVIN K VESCOVO & CAROL ANN VESCOVO REVOCABLE LIVING TRUST DB 3050 PG 1774
GEOMEL LLC DB 3035 PG 3182
O'REILLY AUTOMOTIVE, INC. PB 2865 PG 3406
TOE PROTECTION SEE DETAIL 7-2
FILL SLOPE TOE PROTECTION SEE DETAIL 7-3
SPECIAL CUT DITCH SEE DETAIL 7-1
TIE TO EXISTING DITCH
CL B RIP-RAP 2 TON GEOTEXTILE 7 SY
3 TON CL B RIP RAP 10 SY GEOTEXTILE
-Y6- POT Sta. 10+00.00
-L- POC Sta. 53+26.60
END GRADE -Y6- Sta. 12+00.00
END CONSTRUCTION -Y6- Sta. 12+82.00
-Y6- POT Sta. 12+99.87
-Y7A- POT Sta. 10+00.00
-L- POC Sta. 55+72.75
END CONSTRUCTION -Y7A- Sta. 11+50.00
-L- PT Sta. 57+05.38
RETAIN SYSTEM
RETAIN

PROJECT REFERENCE NO.	SHEET NO.
U-5824	EC-16/CONST.8
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

Prepared in the Office of: SUMMIT DESIGN AND ENGINEERING SERVICES
NC FIRM LICENSE No: P-0339
320 Executive Ct
Hillsborough, NC 27278
(919) 732-3883
(919) 732-6676 (FAX)

-Y8A-
PI Sta 11+10.45
△ = 1° 26' 19.4" (LT)
D = 2° 17' 30.6"
L = 62.78'
T = 31.39'
R = 2,500.00'

-L-
PI Sta 72+62.68
△ = 2° 23' 13.1" (LT)
D = 0° 47' 05.5"
L = 304.12'
T = 152.08'
R = 7,300.00'
SE = NC

DETAIL 8-1
TOE PROTECTION
(Not to Scale)

Type of Liner = PSRM
FROM STA. 67+37 TO STA. 69+50 -L- RT
FROM STA. 70+00 TO STA. 70+85 -L- RT

NAD 1027'38

INSTALL MATTING FOR EROSION CONTROL IN ALL PROPOSED DETAIL DITCHES.

BEGIN CONSTRUCTION
-Y8B- Sta.11+25.00

-L- PC Sta. 71+10.60

-L- PT Sta. 74+14.72

MATCHLINE -L- STA 63+00.00 (SEE SHEET 7)

MATCHLINE -L- STA 75+00.00 (SEE SHEET 9)

42 SETH D RENIGAR DB 3028 PG 3039

STEPHEN HUNTLEY DB 3184 PG 3836

WALKERTOWN INVESTMENT PROPERTIES LLC DB 2819 PG 3204

TIGHT KNIT PROPERTIES DB 3100 PG 1802

TIGHT KNIT PROPERTIES LLC DB 3132 PG 1527

ALLEN M MABE DB 943 PG 399

48 DOROTHY NEAL WARNER DB 2456 PG 832

43A WALKERTOWN INVESTMENT PROPERTIES LLC DB 2813 PG 2330

45 TIGHT KNIT PROPERTIES LLC DB 3100 PG 1802

45A

47 JESSE A JONES DB 2390 PG 3914

50 JT MABE DB 548 PG 165

52 PHYLLIS C WILLIAMS DB 2208 PG 2751

53 EDNA S CUDE HEIRS NDF

43 WALKERTOWN INVESTMENT PROPERTIES LLC DB 2596 PG 2592

40 GEOMEL LLC DB 3260 PG 1309

46 NANCY S THORNE DB 2821PG 2242

44 PSI WALKERTOWN LLC DB 3166 PG 3358

MARY ANN C LINEBERRY DB 1705 PG 1122

49

51 SHIRLEY W NOAH DB 3283 PG 193

55 SARAH W HUTCHINGS DB 3447 PG 2699

54 ISIDRO ESPINOSA DB 373 PG 3012

GEOMEL LLC DB 2872 PG 0279

-Y8B- POT Sta. 12+88.41
-L- POT Sta.64+51.86

-Y8A- POT Sta. 10+00.00
-L- POT Sta.64+60.99

TIE TO EX SIDEWALK

END GRADE
-Y8A- Sta.12+92.64
END CONSTRUCTION
-Y8A- Sta.13+48.79

-Y8A- POT Sta. 13+98.99

TOE PROTECTION SEE DETAIL 8-1

RETAIN DS SYSTEM

REMOVE 32' AND PLUG

8 TON CL B RIP-RAP
21 SY GEOTEXTILE

REVISIONS

8/17/99

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PROJECT REFERENCE NO.	SHEET NO.
U-5824	EC-17/CONST.9
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

Prepared in the Office of: SUMMIT DESIGN AND ENGINEERING SERVICES — NC FIRM LICENSE No: P-0339, 320 Executive Ct, Hillsborough, NC 27278, (919) 732-3883, (919) 732-6676 (FAX)

REVISIONS

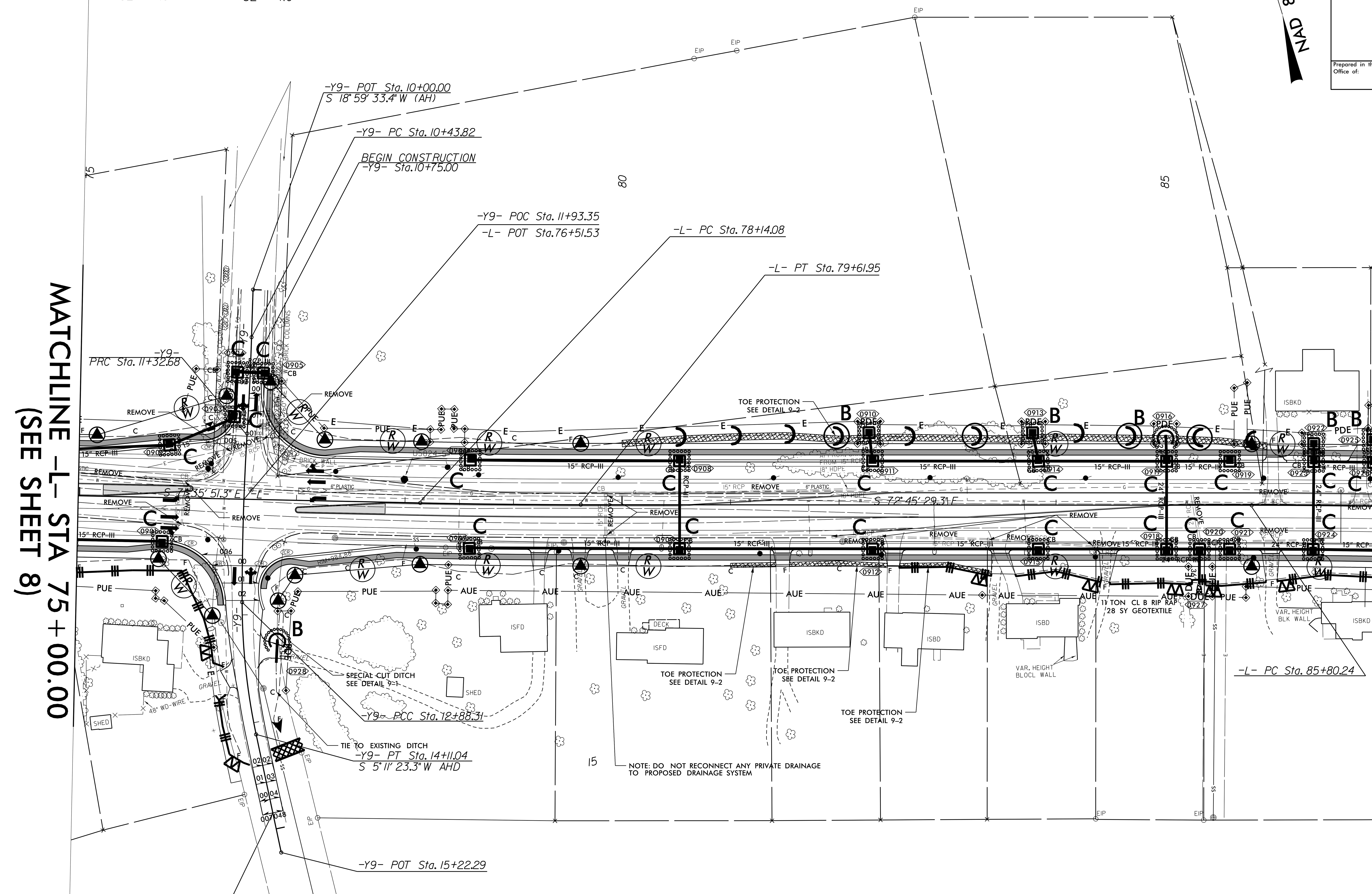
-L-

PI Sta 78+88.02	PI Sta 87+15.36
Δ = 1° 09' 38.0" (LT)	Δ = 2° 07' 14.6" (RT)
D = 0° 47' 05.5"	D = 0° 47' 05.5"
L = 147.86'	L = 270.20'
T = 73.93'	T = 135.12'
R = 7,300.00'	R = 7,300.00'
SE = NC	SE = NC

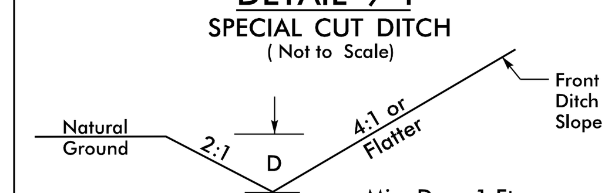
-Y9-

PI Sta 10+88.25	PI Sta 12+10.52	PI Sta 13+49.89
Δ = 1° 41' 49.3" (RT)	Δ = 3° 34' 51.9" (LT)	Δ = 11° 55' 07.5" (LT)
D = 1° 54' 35.5"	D = 2° 18' 03.7"	D = 9° 42' 40.1"
L = 88.86'	L = 155.63'	L = 122.73'
T = 44.43'	T = 77.84'	T = 61.59'
R = 3,000.00'	R = 2,490.00'	R = 590.00'

INSTALL MATTING FOR EROSION CONTROL IN ALL PROPOSED DETAIL DITCHES.

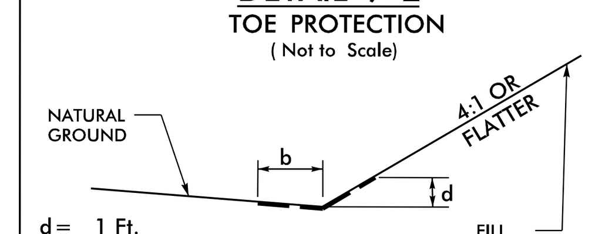


DETAIL 9-1
SPECIAL CUT DITCH
(Not to Scale)



FROM STA. 13+00 TO STA. 13+75 -Y9- LT

DETAIL 9-2
TOE PROTECTION
(Not to Scale)



d = 1 Ft.
b = 2 Ft.

Type of Liner = PSRM

FROM STA. 80+00 TO STA. 85+94 -L- LT
FROM STA. 81+00 TO STA. 81+42 -L- RT
FROM STA. 81+54 TO STA. 82+45 -L- RT
FROM STA. 82+55 TO STA. 83+40 -L- RT

8/17/99

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PROJECT REFERENCE NO.	SHEET NO.
U-5824	EC-18/CONST.10
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

Prepared in the Office of: SUMMIT DESIGN AND ENGINEERING SERVICES
NC FIRM LICENSE No: P-0339
320 Executive Ct
Hillsborough, NC 27278
(919) 732-3883
(919) 732-6676 (FAX)

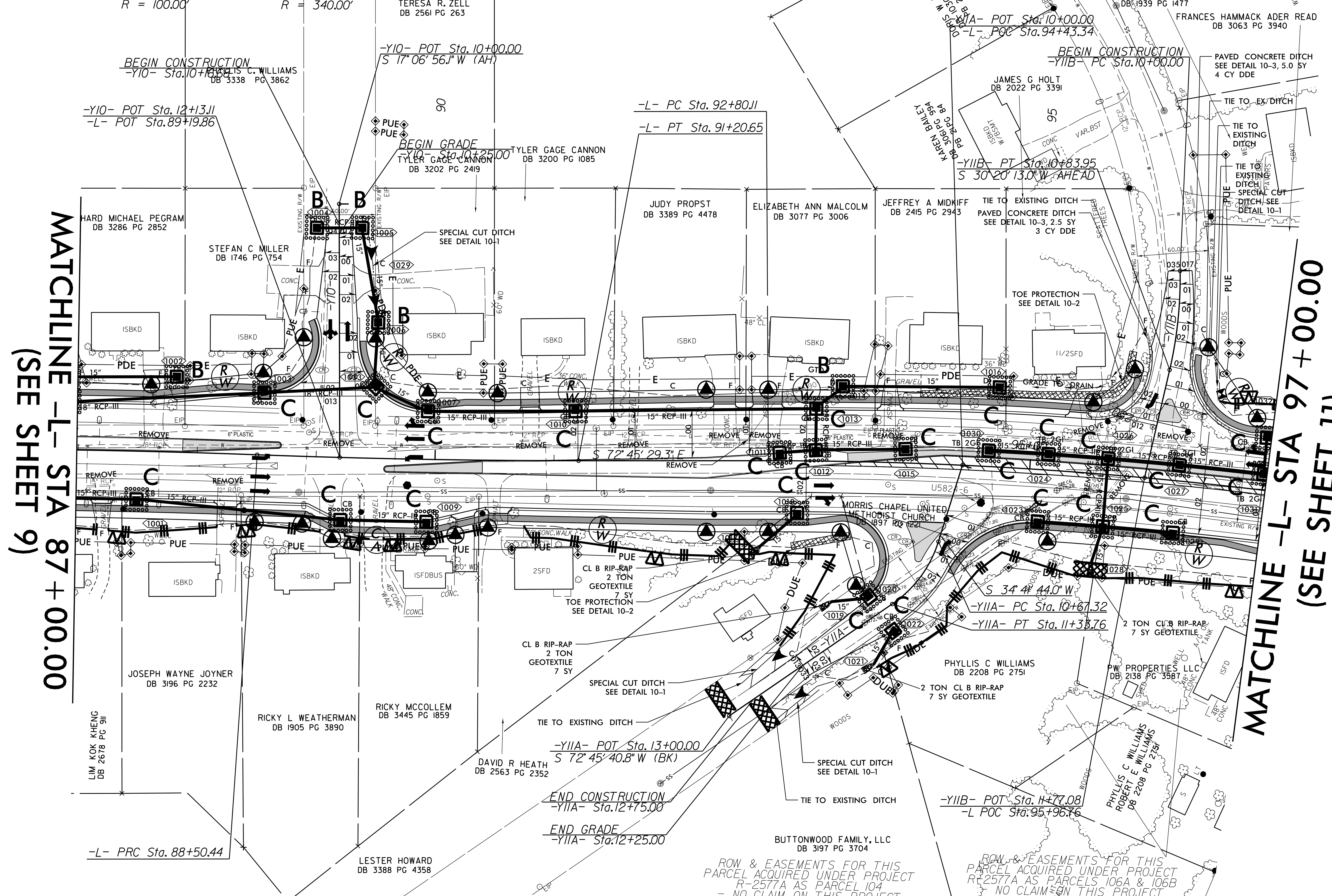
-L-

PI Sta 87+15.36	PI Sta 89+85.56	PI Sta 95+14.03
△ = 2° 07' 14.6" (RT)	△ = 2° 07' 14.6" (LT)	△ = 7° 38' 49.5" (RT)
D = 0° 47' 05.5"	D = 0° 47' 05.5"	D = 1° 38' 13.3"
L = 270.20'	L = 270.20'	L = 467.13'
T = 135.12'	T = 135.12'	T = 233.91'
R = 7,300.00'	R = 7,300.00'	R = 3,500.00'
SE = NC	SE = NC	SE = .27
		RO = 98'

-Y11A-	-Y11B-
PI Sta 11+01.82	PI Sta 10+42.19
△ = 38° 03' 56.8" (RT)	△ = 14° 08' 48.2" (RT)
D = 57° 17' 44.8"	D = 16° 51' 06.1"
L = 66.44'	L = 83.95'
T = 34.50'	T = 42.19'
R = 100.00'	R = 340.00'

NOTE:
UTILIZE TEMPORARY SEDIMENT BASIN OR SPECIAL STILLING BASIN(S) AS STILLING BASIN WHERE APPLICABLE.

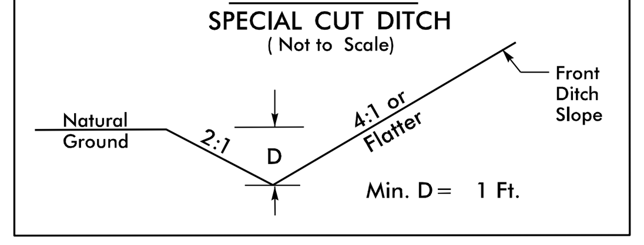
INSTALL MATTING FOR EROSION CONTROL IN ALL PROPOSED DETAIL DITCHES.



MATCHLINE -L- STA 87+00.00 (SEE SHEET 9)
MATCHLINE -L- STA 97+00.00 (SEE SHEET 11)
NAD 83/2011
EDWARD W. & TERESA R. ZELL DB 2561 PG 263
BEGIN CONSTRUCTION -Y10- Sta.10+16.50
PHYLLIS C. WILLIAMS DB 3338 PG 3862
-Y10- POT Sta.10+00.00 S 17° 06' 56.1" W (AH)
-Y10- POT Sta.12+13.11 -L- POT Sta.89+19.86
BEGIN GRADE -Y10- Sta.10+25.00
TYLER GAGE CANNON DB 3202 PG 2419
TYLER GAGE CANNON DB 3200 PG 1085
-L- PC Sta.92+80.11
-L- PT Sta.91+20.65
JUDY PROPST DB 3389 PG 4478
ELIZABETH ANN MALCOLM DB 3077 PG 3006
JEFFREY A MIDKIFF DB 2415 PG 2943
RICHARD MICHAEL PEGRAM DB 3286 PG 2852
STEFAN C MILLER DB 1746 PG 754
SPECIAL CUT DITCH SEE DETAIL 10-1
-Y11A- POT Sta.10+00.00
-L- POC Sta.94+43.34
BEGIN CONSTRUCTION -Y11B- PC Sta.10+00.00
PAUL L ROBERTS SHIRLEY W ROBERTS DB 1939 PG 1477
FRANCES HAMMACK ADER READ DB 3063 PG 3940
PAVED CONCRETE DITCH SEE DETAIL 10-3, 5.0 SY 4 CY DDE
TIE TO EX. DITCH
JAMES G HOLT DB 2022 PG 3391
TIE TO EXISTING DITCH
-Y11B- PT Sta.10+83.95 S 30° 20' 13.0" W AHEAD
TIE TO EXISTING DITCH
PAVED CONCRETE DITCH SEE DETAIL 10-3, 2.5 SY 3 CY DDE
SPECIAL CUT DITCH SEE DETAIL 10-1
TOE PROTECTION SEE DETAIL 10-2
S 72° 45' 29.3" E
MORRIS CHAPEL UNITED METHODIST CHURCH DB 1897 PG 221
CL B RIP-RAP 2 TON GEOTEXTILE 7 SY
TOE PROTECTION SEE DETAIL 10-2
S 34° 41' 44.0" W
-Y11A- PC Sta.10+67.32
-Y11A- PT Sta.11+33.76
2 TON CL B RIP-RAP 7 SY GEOTEXTILE
PHYLLIS C WILLIAMS DB 2208 PG 2751
PW PROPERTIES LLC DB 2138 PG 3567
2 TON CL B RIP-RAP 7 SY GEOTEXTILE
CL B RIP-RAP 2 TON GEOTEXTILE 7 SY
SPECIAL CUT DITCH SEE DETAIL 10-1
TIE TO EXISTING DITCH
JOSEPH WAYNE JOYNER DB 3196 PG 2232
RICKY L WEATHERMAN DB 1905 PG 3890
RICKY MCCOLLEM DB 3445 PG 1859
LIM KOK KHENG DB 2678 PG 911
DAVID R HEATH DB 2563 PG 2352
-Y11A- POT Sta.13+00.00 S 72° 45' 40.8" W (BK)
END CONSTRUCTION -Y11A- Sta.12+75.00
END GRADE -Y11A- Sta.12+25.00
SPECIAL CUT DITCH SEE DETAIL 10-1
TIE TO EXISTING DITCH
PHYLLIS C WILLIAMS ROBERT E WILLIAMS DB 2208 PG 2751
-Y11B- POT Sta.11+77.08 -L POC Sta.95+96.76
-L- PRC Sta.88+50.44
LESTER HOWARD DB 3388 PG 4358
BUTTONWOOD FAMILY, LLC DB 3197 PG 3704
ROW & EASEMENTS FOR THIS PARCEL ACQUIRED UNDER PROJECT R-2577A AS PARCEL 104 - NO CLAIM ON THIS PROJECT
ROW & EASEMENTS FOR THIS PARCEL ACQUIRED UNDER PROJECT R-2577A AS PARCELS 106A & 106B - NO CLAIM ON THIS PROJECT

DETAIL 10-1

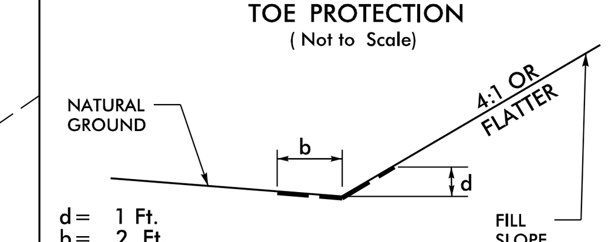
SPECIAL CUT DITCH
(Not to Scale)



FROM STA. 10+25 TO STA. 11+25 -Y10- LT
FROM STA. 10+75 TO STA. 12+75 -Y11 A- LT
FROM STA. 10+75 TO STA. 12+75 -Y11 A- RT
FROM STA. 10+75 TO STA. 11+00 -Y11 B- LT

DETAIL 10-2

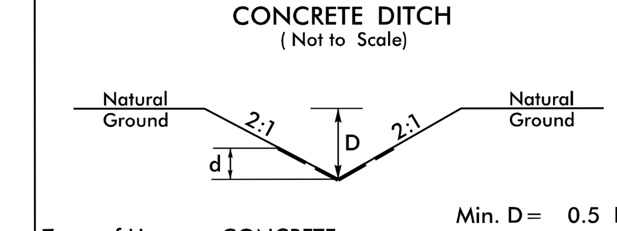
TOE PROTECTION
(Not to Scale)



FROM STA. 93+00 TO STA. 93+50 -L- RT
FROM STA. 94+06 TO STA. 95+66 -L- LT
FROM STA. 10+75 TO STA. 11+12 -Y11 B- RT

DETAIL 10-3

CONCRETE DITCH
(Not to Scale)



FROM STA. 10+59 TO STA. 10+67 -Y11 B- LT
FROM STA. 10+57 TO STA. 10+67 -Y11 B- RT

245

REVISIONS

8/17/99

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PROJECT REFERENCE NO.
U-5824
SHEET NO.
EC-19/CONST.11
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
Prepared in the Office of:
SUMMIT
NAD 83/2011
INSTALL MATTING FOR EROSION CONTROL IN ALL PROPOSED DETAIL DITCHES.
DETAIL 11-1
TOE PROTECTION
(Not to Scale)
2:1 OR FLATTER Fill Slope
d= 1 Ft.
PSRM
Type of Liner= PSRM
FROM STA. 104+02 TO STA. 106+50 -L- LT
PI Sta 95+14.03
Δ = 7° 38' 49.5" (RT)
D = 1° 38' 13.3"
L = 467.13'
T = 233.91'
R = 3,500.00'
SE = .02
RO = 98'
PI Sta 105+62.02
Δ = 2° 34' 55.7"
D = 1° 14' 58.7"
L = 206.63'
T = 103.33'
R = 4,585.00'
PI Sta 109+57.57
Δ = 28° 36' 50.4" (RT)
D = 4° 59' 58.7"
L = 572.32'
T = 292.26'
R = 1,146.00'
MATCHLINE -L- STA 97+00.00
(SEE SHEET 10)
END TIP PROJECT U-5824
Sta. -L- Sta.106+65.31
END TIP PROJECT U-5824
Sta. -L- Sta.108+40.00
-L- PT Sta. 97+47.25
END GRADE
-L- STA 98+78.19
BEGIN GRADE
-L- STA 99+42.30
TIE TO EX C&G
-L- +94.32
TIE TO EX C&G
-L- +19.37
1' 6" CURB
-Y20- PC Sta. 104+58.68
-L- PC Sta. 104+58.68
-L- PCC Sta. 106+65.31
-Y12 PR- Sta. 250+40.52
-L- Sta. 98+68.84
375' TRANSITION
550' TURN LANE
WALTER HARVEY NEAL
DB 525 PG 355
DB 2263 PG 1230
FRANCES HAMMACK ADER READ
DB 3063 PG 3940
TAU NC LP
DB 3440 PG 199
RESTAURANT PROPERTY INVESTORS III LLC
GOODWILL INDUSTRIES OF NORTHWEST NC, INC.
DB 3023 PG 861
13990 HWY 19, LLC.
DB 3213 PG 4166
WALKERTOWN LANDING, LLC
NDF
REP PROPERTY LLC
DB 3088 PG 2875
PB 45 PG 156
PW PROPERTIES LLC
DB 2138 PG 3587
BCP SPEEKS DRIVE, LLC
DB 2794 PG 3983
ROW & EASEMENTS FOR THIS PARCEL ACQUIRED UNDER PROJECT R-2577A AS PARCEL 283
NO CLAIM ON THIS PROJECT
WEIDL PROPERTIES LLC
DB 3434 PG 2952
BV 188, LLC
DB 3352 PG 4153
TAU NC1 LP
DB 3439 PG 2948
COOKOUT KERNERSVILLE, INC.
DB 3301 PG 9261
RETAIN SYSTEM
REMOVE
RETAIN
TOE PROTECTION
SEE DETAIL 11-1
RETAIN U/S SYSTEM
RETAIN D/S SYSTEM
JB w/MH
UG TANK AREA
METAL CANOPY
SIDEWALK
WOODS
REVISIONS
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