TIP PROJECT: B-4449

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4449	EC-1	

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

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

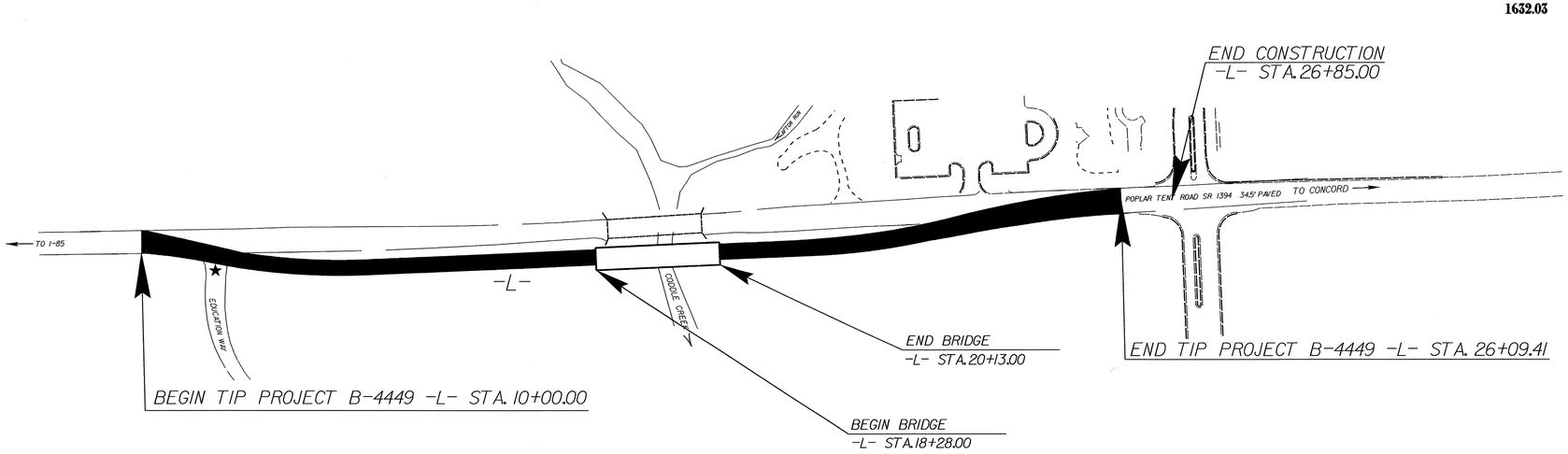
PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL

CABARRUS COUNTY

LOCATION: BRIDGE NO. 2 OVER CODDLE CREEK ON SR 1394 (POPLAR TENT ROAD)

TYPE OF WORK: GRADING, PAVING, DRAINAGE, SIGNAL AND STRUCTURE

NAD 83



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.

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

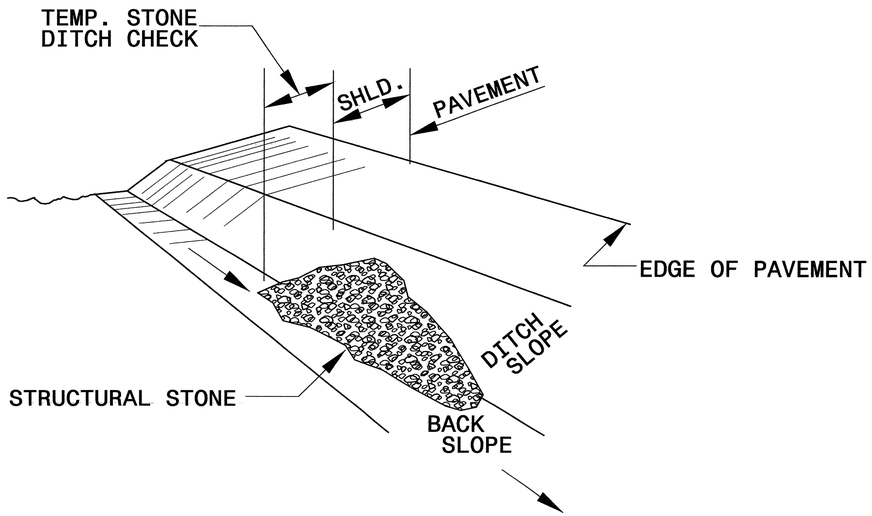
Roadway Standard Drawings

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
1607.01	Gravel Construction Entrance	1632.03	Rock Inlet Sediment Trap Type C
1622.01	Temporary Berms and Slope Drains	1633.01	Temporary Rock Silt Check Type A
1630.05	Temporary Diversion		

PROJECT REFERENCE NO.	SHEET NO.
B-4449	EC-2
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

TEMPORARY ROCK SILT CHECK TYPE 'B' DETAIL

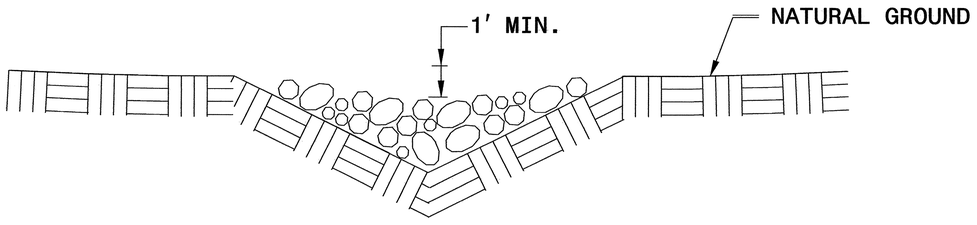


ISOMETRIC VIEW

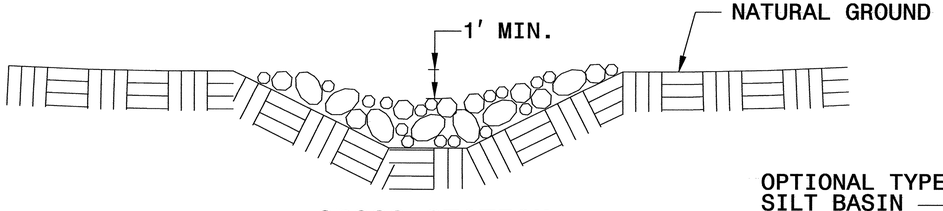
NOTES:

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

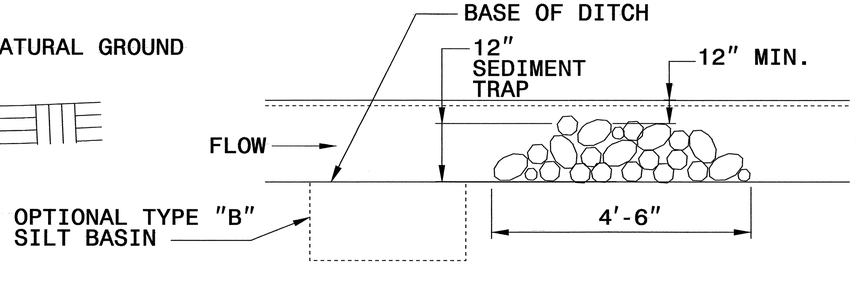
THE ENGINEER MAY DIRECT THE OPTION OF CLASS "A" STONE FOR SITES HAVING LESS THAN ONE (1) ACRE DRAINAGE AREA AND A DITCH GRADE LESS THAN 3%.



CROSS SECTION VEE DITCH



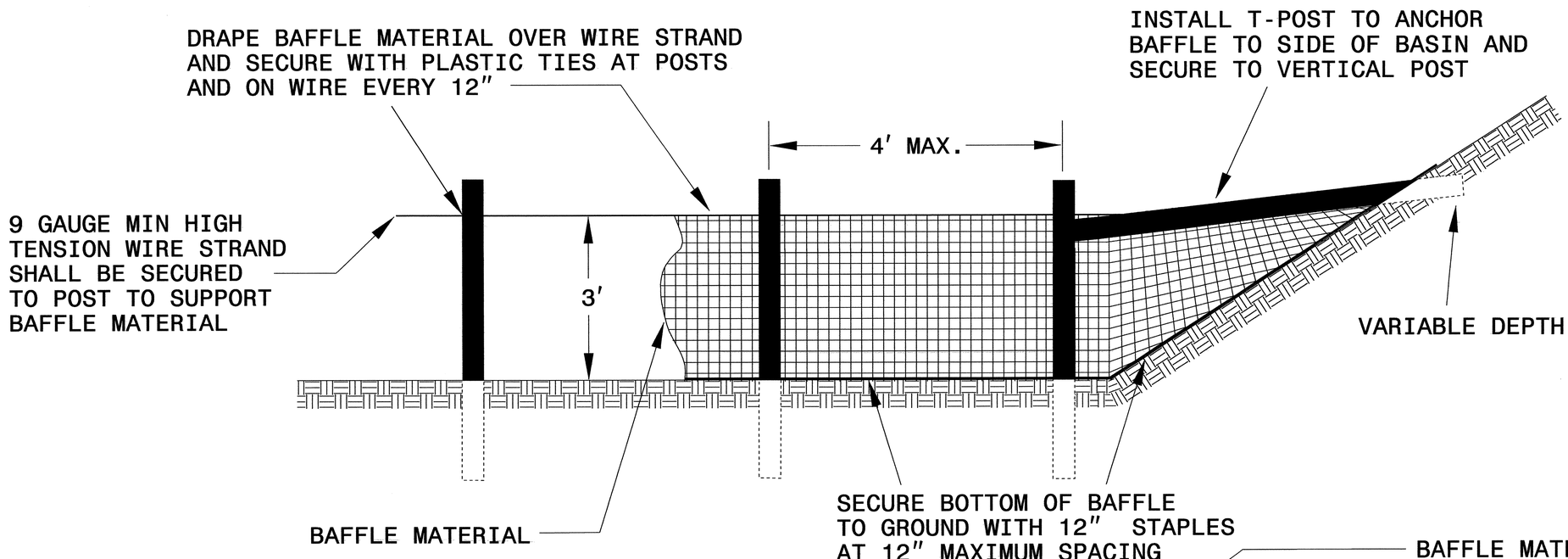
CROSS SECTION TRAPEZOIDAL DITCH

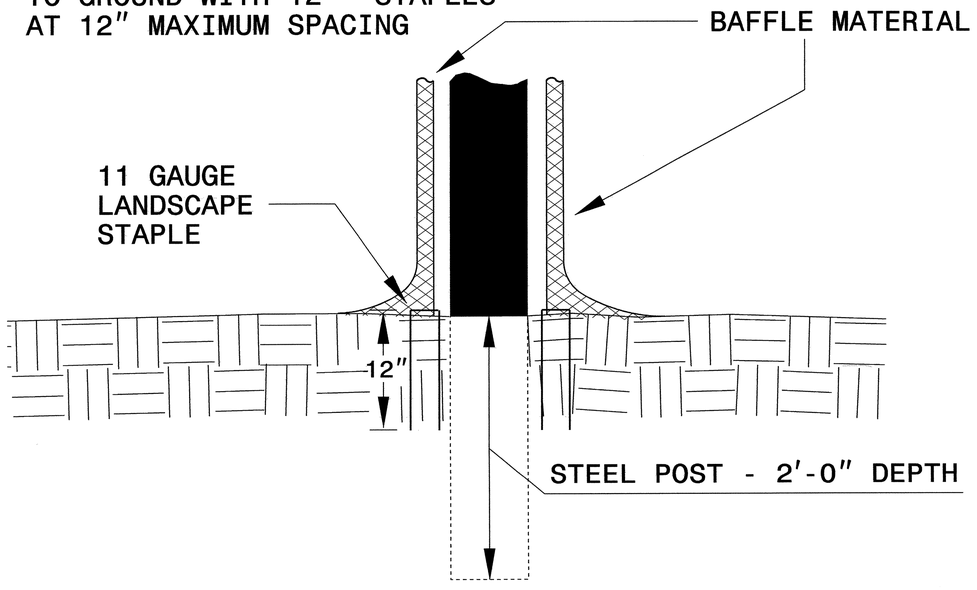


ELEVATION VIEW

PROJECT REFERENCE NO.	SHEET NO.
B-4449	EC-2A
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

COIR FIBER BAFFLE DETAIL



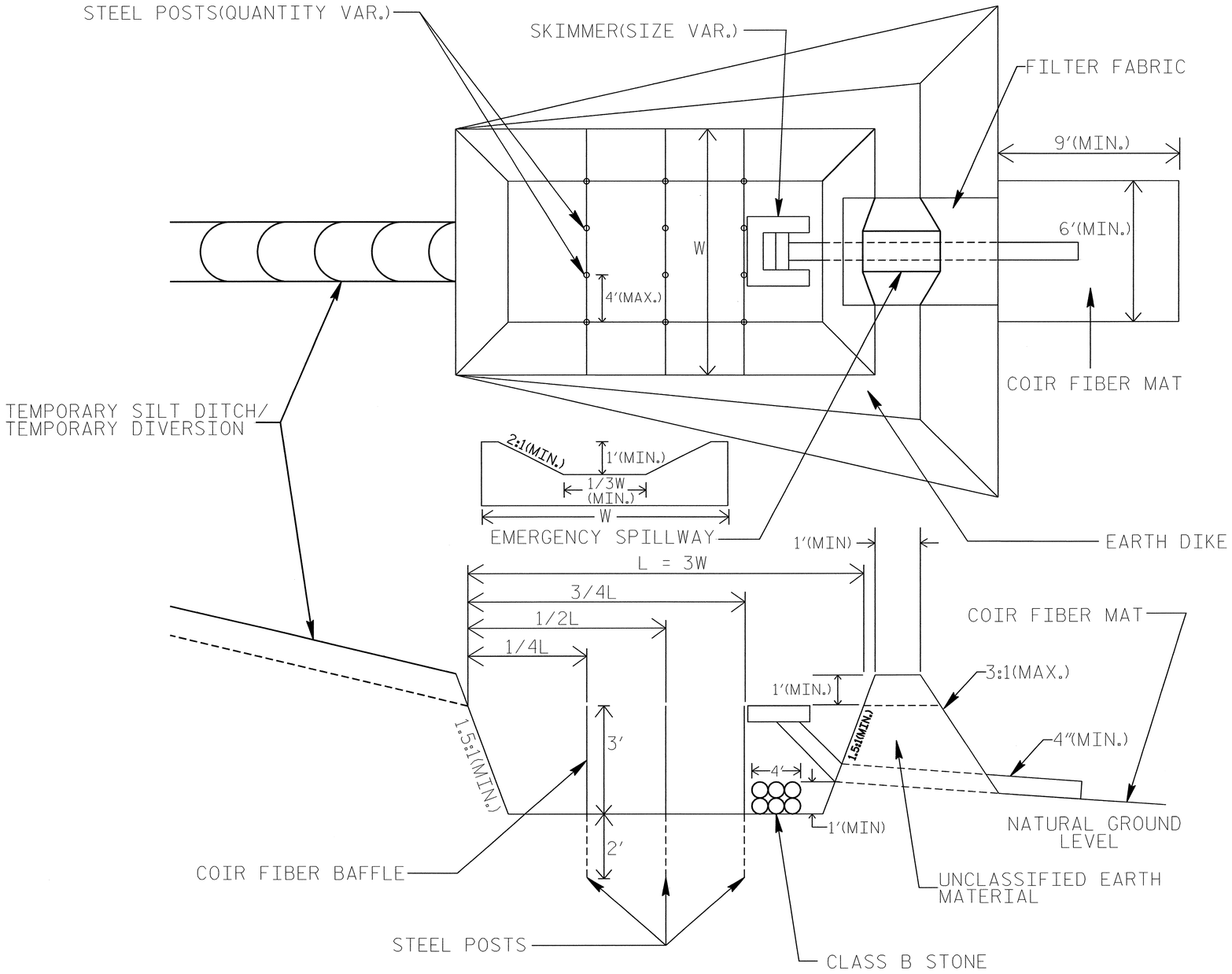


BAFFLE MATERIAL SHALL BE SECURED TO THE BOTTOM AND SIDES OF BASIN USING 12″ LANDSCAPE STAPLES

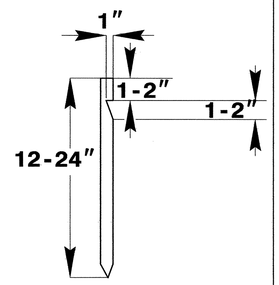
NOTE: INSTALL THREE(3) COIR FIBER BAFFLES IN SILT BASINS AND SEDIMENT DAMS AT DRAINAGE OUTLETS WITH A SPACING OF ¼ THE BASIN LENGTH. TWO(2) COIR FIBER BAFFLES CAN BE INSTALLED IN SILT BASINS AND DAMS LESS THAN 20 FT. IN LENGTH WITH A SPACING OF 1/3 THE BASIN LENGTH.

SKIMMER BASIN WITH BAFFLES DETAIL

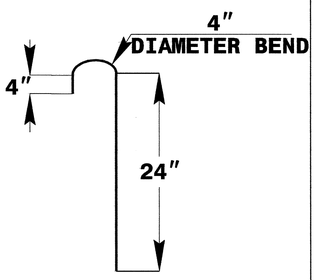
PROJECT REFERENCE NO.	SHEET NO.
B-4449	EC-2B
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



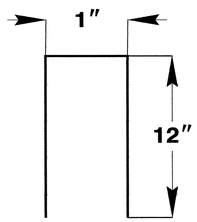
2" x 2" (nominal) WOODEN STAKE



#10 STEEL REINFORCEMENT BAR



1" (nominal) STAPLE

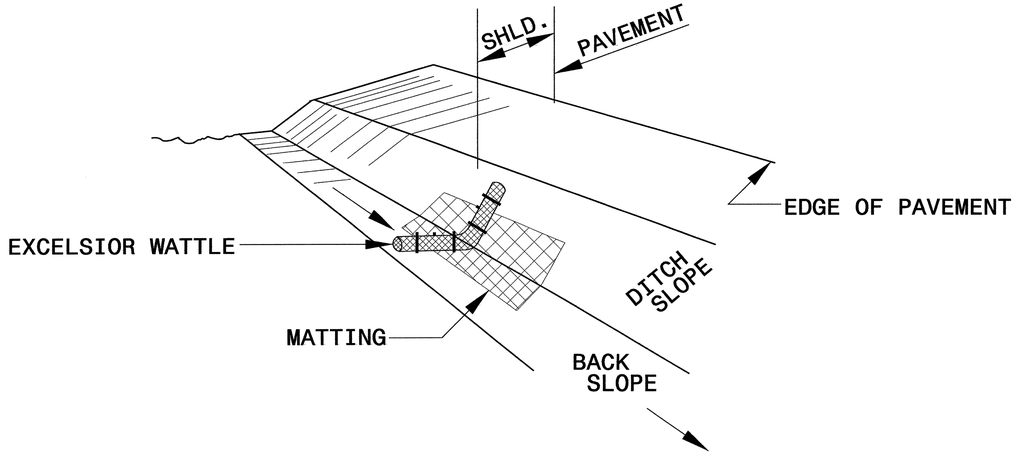


COIR FIBER MAT ANCHOR OPTIONS

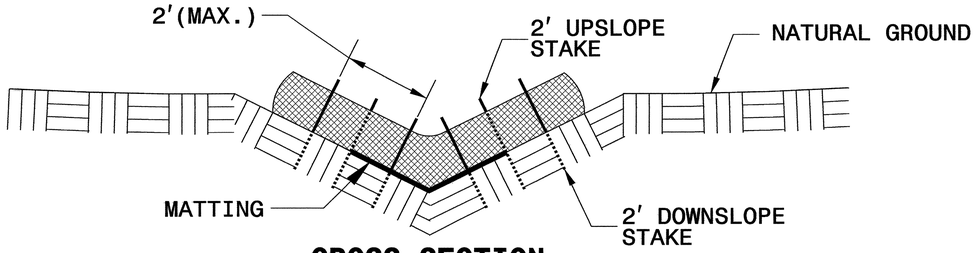
NOTES:
1. SEED AND PLACE MATTING FOR EROSION CONTROL ON SIDESLOPES.
2. LIMIT EARTH DIKE HEIGHT TO 5 FT.

PROJECT REFERENCE NO.	SHEET NO.
B-4449	EC-2C
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

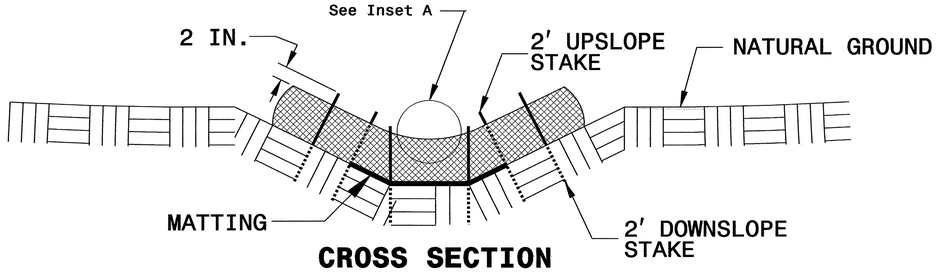
WATTLE WITH POLYACRYLAMIDE DETAIL



ISOMETRIC VIEW



CROSS SECTION VEE DITCH



CROSS SECTION TRAPEZOIDAL DITCH

NOTES:

USE MINIMUM 12 IN. DIAMETER EXCELSIOR WATTLE.

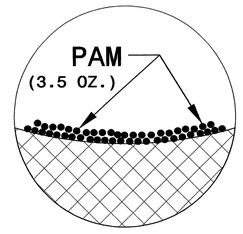
USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. CROSS SECTION.

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

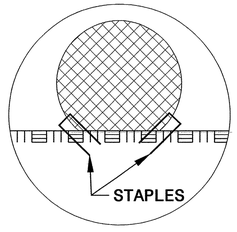
INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

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

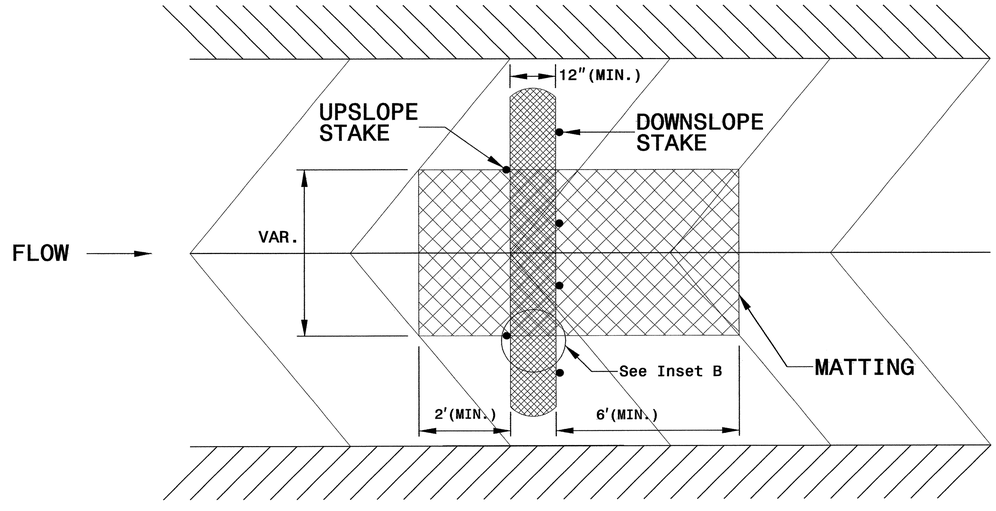
APPLY 3.5 OUNCES OF ANIONIC OR NEUTRALLY CHARGED POLYACRYLAMIDE (PAM) OVER WATTLE WHERE WATER WILL FLOW.



INSET A



INSET B



TOP VIEW

PROJECT REFERENCE NO.	SHEET NO.
B-4449	EC-3
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION SUMMARY SHEET

MATTING FOR EROSION CONTROL

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
4	L	10+50	14+50	RT	370
4	L	10+00	10+50	LT	35
4	L	10+50	14+50	LT	330
4 AND 5	L	20+00	21+50	RT	110
5	L	24+00	26+00	RT	195
5	L	22+00	23+50	LT	150
5	L	25+50	26+00	LT	40
				SUBTOTAL	1230
MISCELLANEOUS MATTING TO BE INSTALLED AS DIRECTED BY THE ENGINEER					1190
				TOTAL	2420
				SAY	2450

MATTING FOR EROSION CONTROL

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

PROJECT REFERENCE NO.	SHEET NO.
B-4449	EC-4/CONST.4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 4

NOTE: PLACE TEMPORARY ROCK SILT CHECKS TYPE – A AT DRAINAGE OUTLETS.

NOTE: UTILIZE SPECIAL STILLING BASIN WHERE APPLICABLE.

REVISIONS

R/W REVISION: ADDED PUE ON THE RIGHT ADJACENT TO THE PROPOSED RIGHT OF WAY ON THE WEST SIDE OF THE PROPOSED STRUCTURE. ALSO, THE PROPOSED RIGHT OF WAY ON THE EAST SIDE OF THE PROPOSED STRUCTURE WAS REDUCED AND A PORTION WAS REPLACED WITH TEMPORARY CONSTRUCTION EASEMENT TO REDUCE IMPACTS ON A DEVELOPMENT. DTP 1-24-08 >>

8/17/99

BEGIN TIP PROJECT B-4449
-L- PC STA. 10+00.00

PI Sta 10+99.61
Δ = 11° 22' 38.4" (RT)
D = 5° 43' 46.5"
L = 198.57'
T = 99.61'
R = 1,000.00'

PI Sta 13+44.55
Δ = 13° 06' 51.1" (LT)
D = 4° 30' 41.3"
L = 290.69'
T = 145.98'
R = 1,270.00'

34 x 9 x 3 1.5 inch Skimmer with 0.875 inch Orifice Diameter 4 ft. weir ID 4.1

PAT Sta. 7+00.00

PC Sta. 10+00.00

PRC Sta. 11+98.57

-L- PT Sta. 14+89.26

BEGIN APPROACH SLAB -L- Sta.18+03

END BRIDGE -L- STA. 20+13.00

PC Sta. 20+97.64

END APPROACH SLAB -L- Sta.20+38

-L- PC Sta. 20+97.64

BEGIN BRIDGE -L- STA.18+28.00

-L- BRC Sta. 11+98.57

Match Line -L- STA. 21+00.00

CONVEYOR BELTS

KINGS CROSSING PROPERTY OWNERS ASSOCIATION DB 1548 PG 221

US TIRE RECYCLING PARTNERS, L.P. DB 856 PG 229 DB 4627 PG 139

CANNON SCHOOL, INC. DB 370 PG 109 DB 420 PG 088

THOMAS J. CHRISTOPHER JANE E. RASMUSSEN DB 2897 PG 308

CAROL A. LOVIN DB 2601PG 295

STEVEN M. PROPST CAROLINE C. PROPST DB 2254 PG 326

OI FUNG CHENG DB 2722 PG 006

JOHN T. AUSTIN, JR. ANGELA M. AUSTIN DB 2797 PG 66

44 x 15 x 3 1.5 inch Skimmer with 1.375 inch Orifice Diameter 5 ft. weir ID 4.3

48 x 16 x 3 1.5 inch Skimmer with 1.375 inch Orifice Diameter 6 ft. weir ID 4.2

45 x 15 x 3 1.5 inch Skimmer with 1.375 inch Orifice Diameter 5 ft. weir ID 4.4

DETAIL A
SPECIAL CUT DITCH
(Not to Scale)
Min. D = 1.0 Ft.
FROM STA. 13+50 LT TO STA. 16+00 LT
FROM STA. 12+00 RT TO STA. 14+50 RT

DETAIL B
LATERAL BASE DITCH
(Not to Scale)
Min. D = 1.0 Ft.
Max. d = 1.0 Ft.
B = 2.0 Ft.
b = 5.0 Ft.
•When B Is < 6.0'
Type of Liner = CLASS B Rip-Rap
FROM STA. 14+50 RT TO STA. 19+00 RT

DETAIL C
STANDARD "V" DITCH
(Not to Scale)
Min. D = 1.0 Ft.
STA. 14+50 LT
STA. 13+15 RT

DETAIL D
RIP RAP AT EMBANKMENT
(Not to Scale)
Type of Liner= CLASS B Rip-Rap
FROM STA. 19+00 RT TO STA. 19+20 RT
FROM STA. 19+50 RT TO STA. 20+00 RT

DETAIL E
LATERAL BASE DITCH
(Not to Scale)
Min. D = 1.0 Ft.
B = 2.0 Ft.
b = 5.0 Ft.
FROM STA. 20+00 RT TO STA. 21+50 RT

-L-

PI Sta 10+99.61	PI Sta 13+44.55
Δ = 11° 22' 38.4" (RT)	Δ = 13° 06' 51.1" (LT)
D = 5° 43' 46.5"	D = 4° 30' 41.3"
L = 198.57'	L = 290.69'
T = 99.61'	T = 145.98'
R = 1,000.00'	R = 1,270.00'

SKETCH SHOWING BRIDGE \ PAVEMENT RELATIONSHIP ON BRIDGE NO.2

B-77 TYPE III CURB AND GUTTER; 14' 12' 16' 12' 2' -L- 28' 35.5' 5.5'

★ DENOTES TRAFFIC SIGNAL

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ACTIVE AT RENV 23813

PROJECT REFERENCE NO.	SHEET NO.
B-4449	EC-5/CONST.5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 5

NOTE:
PLACE TEMPORARY ROCK SILT CHECKS TYPE – A AT DRAINAGE OUTLETS.

REVISIONS

8/17/99 <<R/W REVISION: ADDED PUE ON THE RIGHT ADJACENT TO THE PROPOSED RIGHT OF WAY ON THE WEST SIDE OF THE PROPOSED STRUCTURE. ALSO THE PROPOSED RIGHT OF WAY ON THE EAST SIDE OF THE PROPOSED STRUCTURE WAS REDUCED AND A PORTION WAS REPLACED WITH TEMPORARY CONSTRUTION EASEMENT TO REDUCE IMPACTS ON A DEVELOPMENT.DYP 1-24-08

Match Line –L– STA. 21+00.00

–L– PRC Sta. 23+73.77
PI Sta 22+36.10
Δ = 10° 32' 51.2" (LT)
D = 3° 49' 11.0"
L = 276.13'
T = 138.46'
R = 1,500.00'

PI Sta 24+91.92
Δ = 10° 32' 51.2" (RT)
D = 4° 28' 34.4"
L = 235.63'
T = 118.15'
R = 1,280.00'

–L– POT Sta. 28+74.24

PT Sta. 26+09.41

END CONSTRUCTION
–L– STA. 26+85.00

END TIP PROJECT B-4449
–L– PT STA. 26+09.41

RALPH V. STONER
NATALIE L. STONER
DB 5237 PG 333

CITY OF CONCORD
DB 1714 PG 185
DB 3359 PG 190

MT. PLEASANT PROPERTIES, LLC.
DB 6352 PG 189

PT MOB, LLC.
DB 4589 PG 200

COBLE FAMILY
JOYCE PATTEI

POPLAR TENT RD (SR 1394) PAVED WIDTH VARIES

TO CONCORD

ABANDONED

RETAIN

GRADE TO DRAIN

PROVIDE COVER FOR 18" RCP

End C & G
–L– Sta. 23+85

EST. 5 TONS CL B RIP RAP W/74 SY FILTER FABRIC
EST. XX C.Y. DIDE

2" LATERAL BASE DITCH SEE DETAIL E

50' Taper

GRAU 350

DETAIL A
SPECIAL CUT DITCH
(Not to Scale)

Natural Ground
2:1
D
4:1 or Flatter
Front Ditch Slope
Min. D = 1.0 Ft.

FROM STA. 24+00 RT TO STA. 26+00 RT

DETAIL E
LATERAL BASE DITCH
(Not to Scale)

Natural Ground
2:1
D
2:1
b
T/Ft.
B
Fill Slope
Min. D = 1.0 Ft.
B = 2.0 Ft.
b = 5.0 Ft.

FROM STA. 20+00 RT TO STA. 24+00 RT

–L–

PI Sta 22+36.10	PI Sta 24+91.92
Δ = 10° 32' 51.2" (LT)	Δ = 10° 32' 51.2" (RT)
D = 3° 49' 11.0"	D = 4° 28' 34.4"
L = 276.13'	L = 235.63'
T = 138.46'	T = 118.15'
R = 1,500.00'	R = 1,280.00'

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plotted at FEN23813

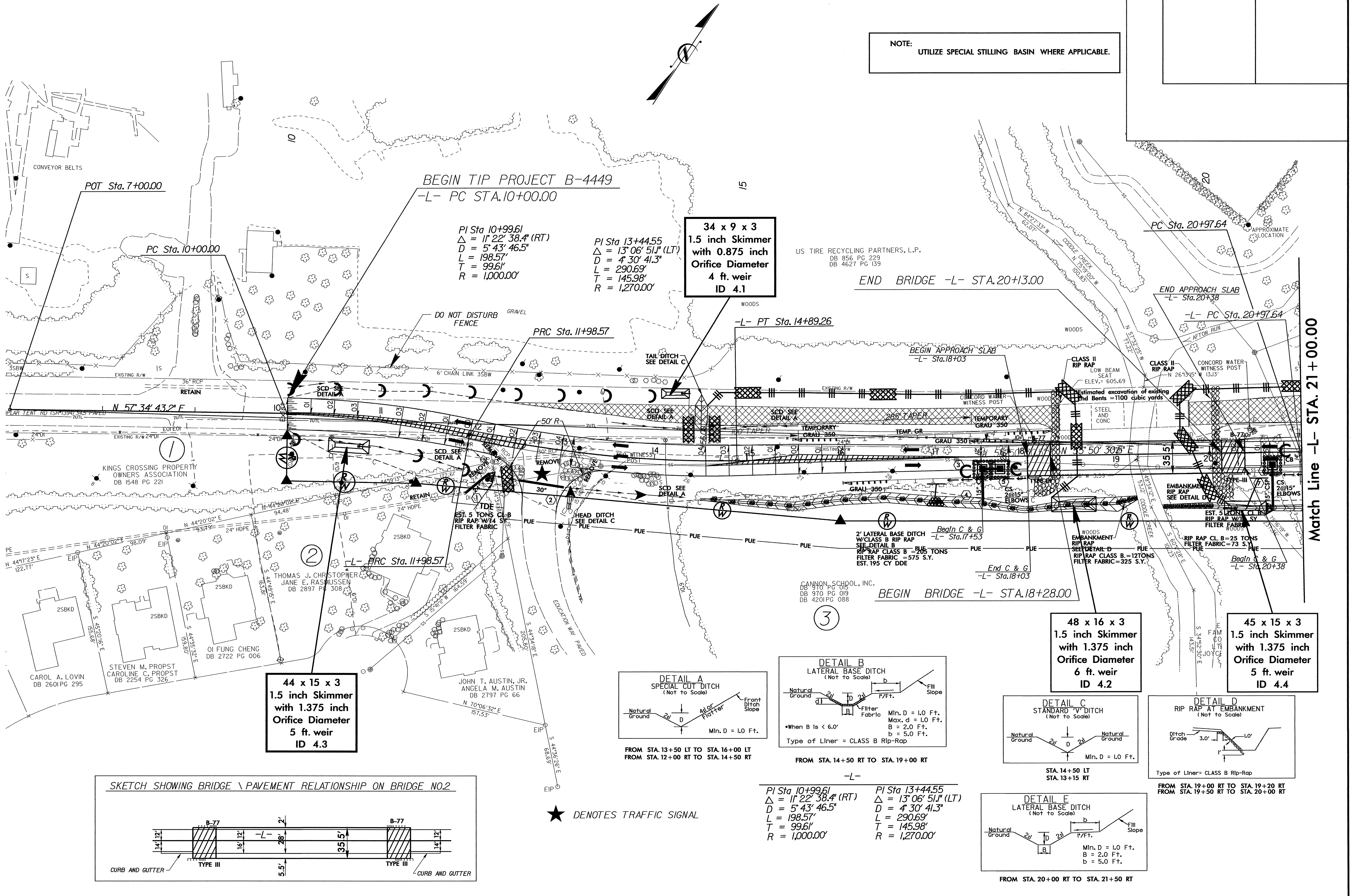
PROJECT REFERENCE NO.	SHEET NO.
B-4449	EC-6/CONST.4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NOTE:
UTILIZE SPECIAL STILLING BASIN WHERE APPLICABLE.

8/17/99

REVISIONS

R/W REVISION: ADDED PUE ON THE RIGHT ADJACENT TO THE PROPOSED RIGHT OF WAY ON THE WEST SIDE OF THE PROPOSED STRUCTURE. ALSO, THE PROPOSED RIGHT OF WAY ON THE EAST SIDE OF THE PROPOSED STRUCTURE WAS REDUCED AND A PORTION WAS REPLACED WITH TEMPORARY CONSTRUCTION EASEMENT TO REDUCE IMPACTS ON A DEVELOPMENT. DYP 1-24-08



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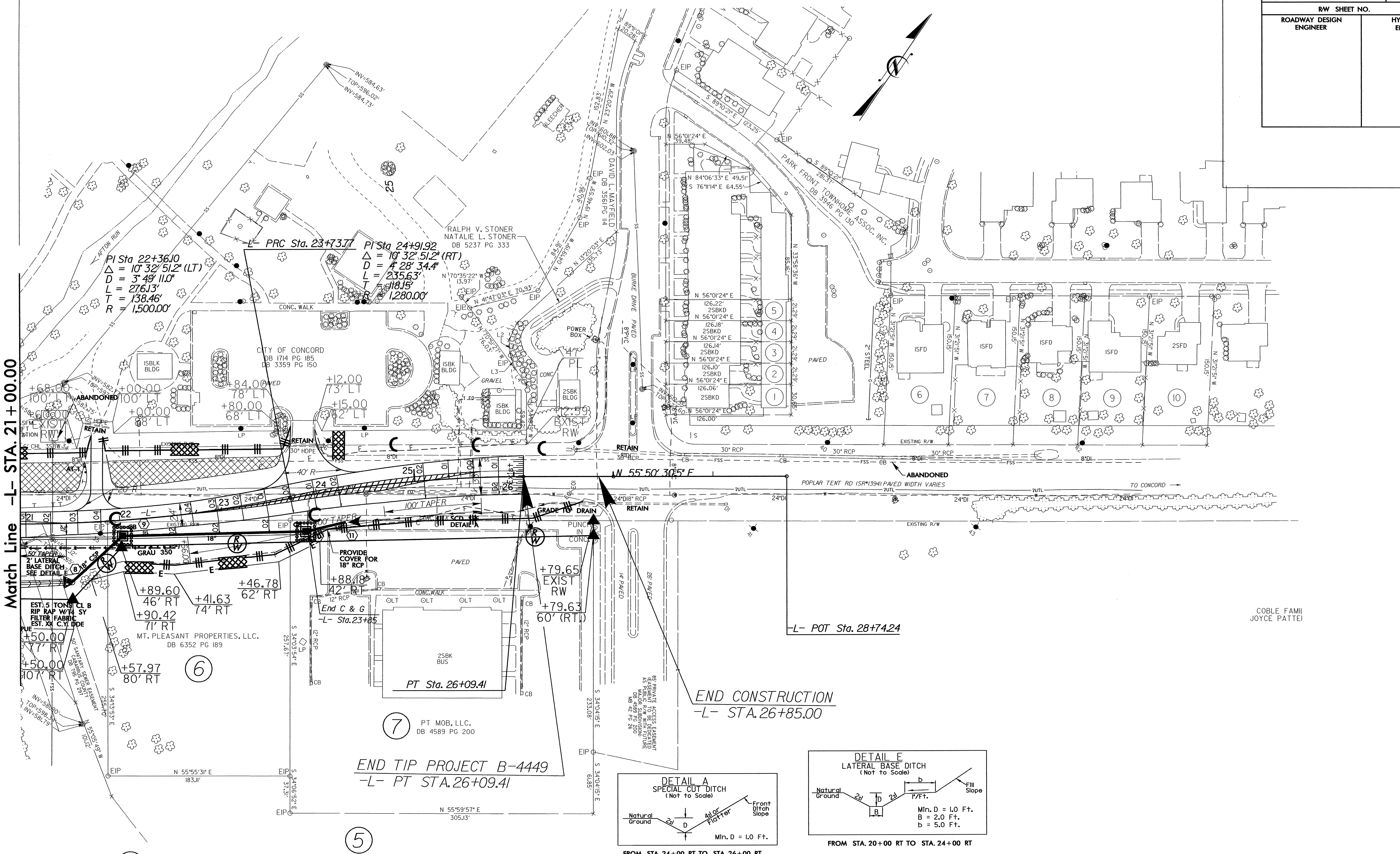
PROJECT REFERENCE NO.	SHEET NO.
B-4449	EC-7/CONST.5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

8/17/99

REVISIONS

<<R/W REVISION: ADDED PUE ON THE RIGHT ADJACENT TO THE PROPOSED RIGHT OF WAY ON THE WEST SIDE OF THE PROPOSED STRUCTURE. ALSO, THE PROPOSED RIGHT OF WAY ON THE EAST SIDE OF THE PROPOSED STRUCTURE WAS REDUCED AND A PORTION WAS REPLACED WITH TEMPORARY CONSTRUCTION EASEMENT TO REDUCE IMPACTS ON A DEVELOPMENT.DYP 1-24-08



-L-

PI Sta 22+36.10	PI Sta 24+91.92
Δ = 10° 32′ 51.2″ (LT)	Δ = 10° 32′ 51.2″ (RT)
D = 3° 49′ 11.0″	D = 4° 28′ 34.4″
L = 276.13′	L = 235.63′
T = 138.46′	T = 118.15′
R = 1,500.00′	R = 1,280.00′

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