

See Sheet 1-A For Index of Sheets

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-2810B	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
34866.1.1	STP-1003(22)	P.E.	
34866.2.2	STP-1003(22)	RW & UTIL	
34866.3.2	STP-1003(69)	CONSTR.	

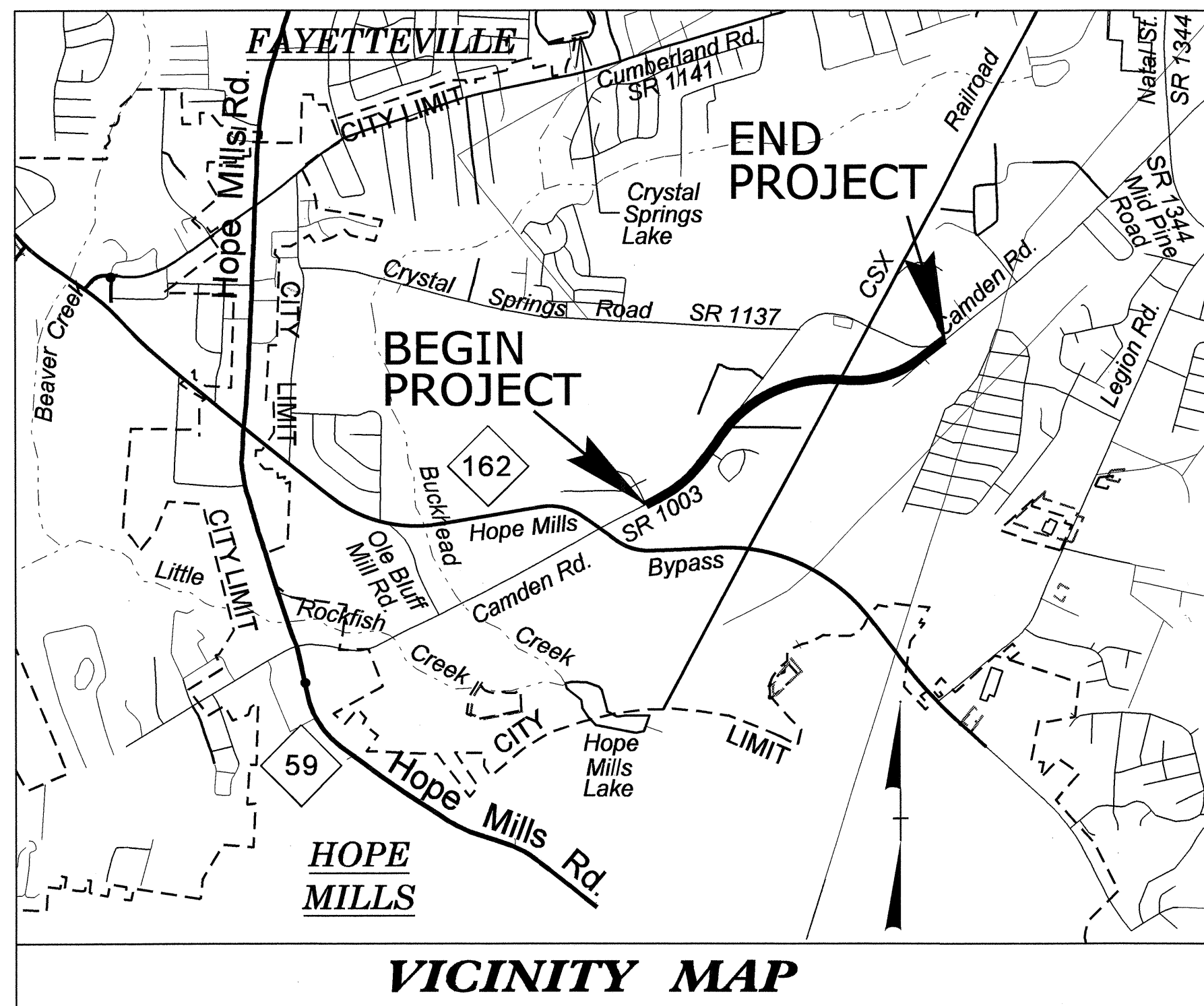
CUMBERLAND COUNTY

LOCATION: SR 1003 (CAMDEN ROAD) FROM NC 162 (HOPE MILLS BYPASS) TO EAST OF OAKLAND AVENUE

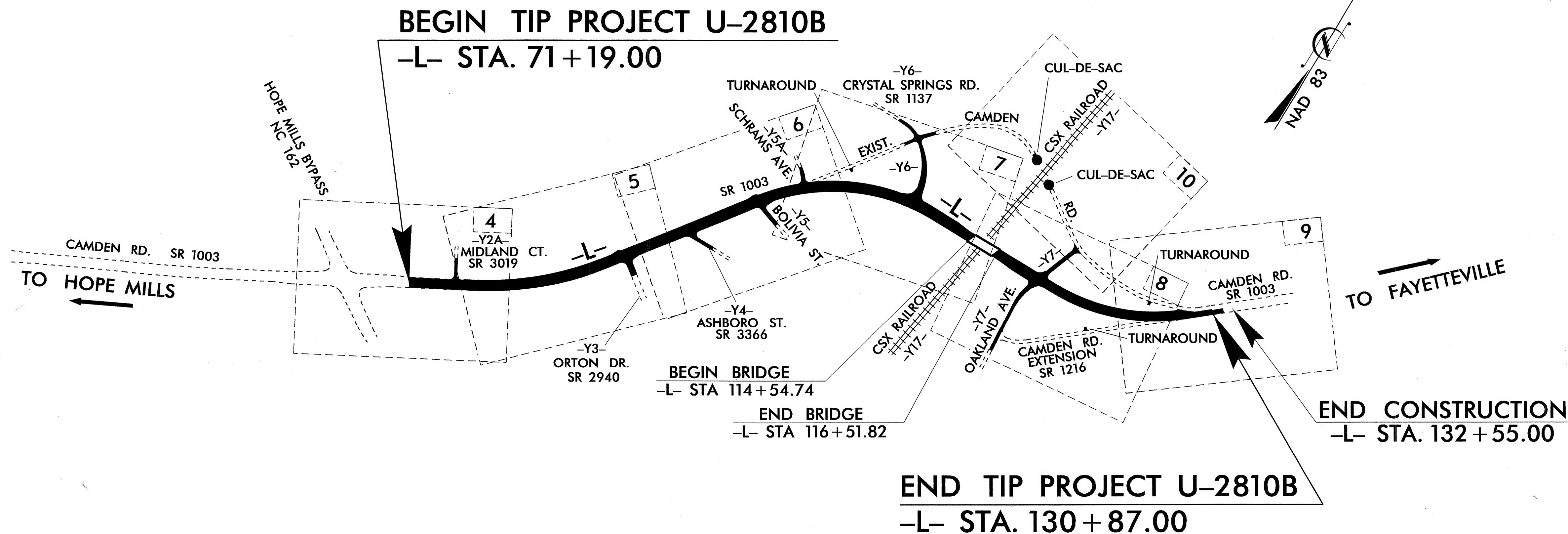
TYPE OF WORK: GRADING, PAVING, DRAINAGE, WIDENING, RESURFACING, CURB & GUTTER, SIGNAL, AND STRUCTURE

TIP PROJECT: U-2810B

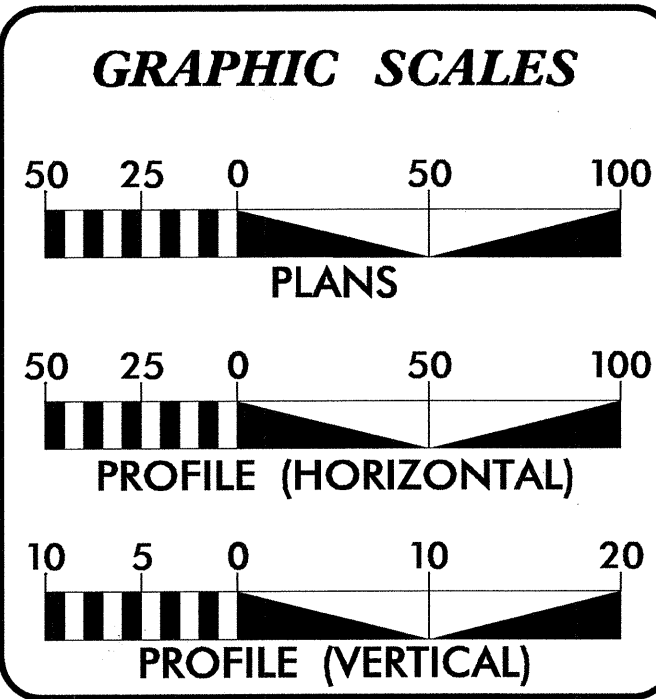
CONTRACT: C202243



VICINITY MAP



END TIP PROJECT U-2810B
-L- STA. 130 + 87.00



DESIGN DATA

ADT 2012 =	19,150
ADT 2032 =	27,650
DHV =	60 %
D =	10 %
T =	5 % *
V =	50 MPH
* TTST 1 % +	DUAL 4 %
TIER =	SUB-REGIONAL

PROJECT LENGTH

LENGTH ROADWAY TIP PROJ. U-2810B =	1.093 MILES
LENGTH STRUCTURES TIP PROJ. U-2810B =	0.037 MILES
TOTAL LENGTH OF TIP PROJ. U-2810B =	1.130 MILES

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

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: SEPTEMBER 29, 2006	REKHA PATEL, PE PROJECT ENGINEER
LETTING DATE: DECEMBER 18, 2012	SAMUEL L. ST. CLAIR PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

ROADWAY DESIGN ENGINEER

10-4-12

REKHA V. PATEL

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

25-SEP-2012 10:56
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\$\$\$\$USERNAME\$\$\$\$



SHEET NUMBER	TITLE SHEET
1	TITLE SHEET
1-A	INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARD DRAWINGS
1-B	CONVENTIONAL SYMBOLS
1-C THRU 1-E	SURVEY CONTROL SHEET
1-F	CENTERLINE COORDINATE LIST
2 THRU 2-E	PAVEMENT SCHEDULE, TYPICAL SECTIONS, AND WEDGING DETAIL
2-F	DRAINAGE DITCH DETAILS
2-G	DETAIL OF PAVEMENT - BRIDGE RELATIONSHIP
2-H	UNDERCUT DETAILS
2-I	INTERSECTION DETAILS
2-J	DETAIL OF METHOD FOR PLACEMENT OF CATCH BASINS IN MEDIAN ISLAND
2-K	DETAIL OF METHOD FOR PLACEMENT OF DROP INLETS IN CONCRETE ISLAND
2-L	DETAIL FOR METHOD OF SHOULDER CONSTRUCTION
3	SUMMARY OF QUANTITIES
3-A THRU 3-H	SUMMARY OF DRAINAGE QUANTITIES
3-I	SUMMARIES OF GUARDRAIL, PAVEMENT REMOVAL, BREAKING OF EXISTING ASPHALT, AND EARTHWORK
3-J	PARCEL INDEX SHEET
4 THRU 10	PLAN SHEETS
11 THRU 15	PROFILE SHEETS
TMP-1 THRU TMP-23	TRAFFIC MANAGEMENT PLANS
PMP-1 THRU PMP-8	PAVEMENT MARKING PLANS
EC-1 THRU EC-17	EROSION CONTROL PLANS
SIGN-1 THRU SIGN-6	SIGNING PLANS
SIG-1 THRU SIG-15	SIGNAL PLANS
UC-1 THRU UC-17	UTILITY CONSTRUCTION PLANS
UO-1 THRU UO-8	UTILITIES BY OTHERS PLANS
X-0	CROSS-SECTION INDEX
X-0A AND X-0B	CROSS-SECTION SUMMARY SHEETS
X-1 THRU X-40	CROSS-SECTIONS
S-1 THRU S-39	STRUCTURE PLANS

GENERAL NOTES:

2012 SPECIFICATIONS
EFFECTIVE: 01-17-12
REVISED: 07/30/12

GRADING AND SURFACING OR RESURFACING AND WIDENING:

THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. WHERE NO GRADE LINES ARE SHOWN, THE PROFILES SHOWN DENOTE THE TOP ELEVATION OF THE EXISTING PAVEMENT ALONG THE CENTER LINE OF SURVEY ON WHICH THE PROPOSED RESURFACING WILL BE PLACED. GRADE LINES MAY BE ADJUSTED BY THE ENGINEER IN ORDER TO SECURE A PROPER TIE-IN.

CLEARING:

CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.

SUPERELEVATION:

ALL CURVES ON THIS PROJECT SHALL BE SUPERELEVATED IN ACCORDANCE WITH STD. NO. 225.04 USING THE RATE OF SUPERELEVATION AND RUNOFF SHOWN ON THE PLANS. SUPERELEVATION IS TO BE REVOLVED ABOUT THE GRADE POINTS SHOWN ON THE TYPICAL SECTIONS.

SHOULDER CONSTRUCTION:

ASPHALT, EARTH, AND CONCRETE SHOULDER CONSTRUCTION ON THE HIGH SIDE OF SUPERELEVATED CURVES SHALL BE IN ACCORDANCE WITH DETAIL DRAWING 560001.

SIDE ROADS:

THE CONTRACTOR WILL BE REQUIRED TO DO ALL NECESSARY WORK TO PROVIDE SUITABLE CONNECTIONS WITH ALL ROADS, STREETS, AND DRIVES ENTERING THIS PROJECT. THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR THE PARTICULAR ITEMS INVOLVED.

UNDERDRAINS:

UNDERDRAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 815.03 AT LOCATIONS DIRECTED BY THE ENGINEER.

DRIVEWAYS:

DRIVEWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. 848.02 USING 3' RADIUS OR RADIUS AS SHOWN ON THE PLANS. LOCATIONS OF DRIVES WILL BE AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

STREET TURNOUT:

STREET RETURNS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 848.04 USING THE RADIUS NOTED ON PLANS.

GUARDRAIL:

THE GUARDRAIL LOCATIONS SHOWN ON THE PLANS MAY BE ADJUSTED DURING CONSTRUCTION AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHOULD CONSULT WITH THE ENGINEER PRIOR TO ORDERING GUARDRAIL MATERIAL.

TEMPORARY SHORING:

SHORING REQUIRED FOR THE MAINTENANCE OF TRAFFIC WILL BE PAID FOR AS "EXTRA WORK" IN ACCORDANCE WITH SECTION 104-7.

END BENTS:

THE ENGINEER SHALL CHECK THE STRUCTURE END BENT PLANS, DETAILS, AND CROSS-SECTION PRIOR TO SETTING OF THE SLOPE STAKES FOR THE EMBANKMENT OR EXCAVATION APPROACHING A BRIDGE.

UTILITIES:

UTILITY OWNERS ON THIS PROJECT ARE PWC of Fayetteville (power), Progress Energy (power transmission), Progress Energy (power distribution), Century Link (telephone), AT&T (telephone - fiber optic), Time Warner (cable), Piedmont Natural Gas (gas), Aqua North Carolina (water), MCI (telephone - fiber optic)

ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS, EXCEPT AS SHOWN ON THE PLANS.

RIGHT-OF-WAY MARKERS:

ALL RIGHT-OF-WAY MARKERS ON THIS PROJECT SHALL BE PLACED BY OTHERS.

CURB RAMPS

CURB RAMPS ARE SHOWN ON THE PLANS AT APPROXIMATE LOCATIONS. CONSTRUCT ALL CURB RAMPS ACCORDANCE WITH STD. NO. 848.05 and/or 848.06.

2012 ROADWAY ENGLISH STANDARD DRAWINGS

The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch - N. C. Department of Transportation - Raleigh, N. C., Dated January, 2012 are applicable to this project and by reference hereby are considered a part of these plans:

STD.NO.	TITLE
DIVISION 2 - EARTHWORK	
200.03	Method of Clearing - Method III
225.02	Guide for Grading Subgrade - Secondary and Local
225.04	Method of Obtaining Superlevation - Two Lane Pavement
225.06	Method of Grading Sight Distance at Intersections
DIVISION 3 - PIPE CULVERTS	
300.01	Method of Pipe Installation
310.10	Driveway Pipe Construction
DIVISION 4 - MAJOR STRUCTURES	
422.10	Reinforced Bridge Approach Fills
DIVISION 6 - ASPHALT BASES AND PAVEMENTS	
654.01	Pavement Repairs
DIVISION 8 - INCIDENTALS	
815.03	Pipe Underdrain and Blind Drain
838.01	Concrete Endwall for Single and Double Pipe Culverts - 15" thru 48" Pipe 90 Skew
838.11	Brick Endwall for Single and Double Pipe Culverts - 15" thru 48" Pipe 90 Skew
838.80	Precast Endwalls - 12" thru 72" Pipe 90 Skew
840.00	Concrete Base Pad for Drainage Structures
840.01	Brick Catch Basin - 12" thru 54" Pipe
840.02	Concrete Catch Basin - 12" thru 54" Pipe
840.03	Frame, Grates and Hood - for Use on Standard Catch Basin
840.14	Concrete Drop Inlet - 12" thru 30" Pipe
840.15	Brick Drop Inlet - 12" thru 30" Pipe
840.16	Drop Inlet Frame and Grates - for use with Std. Dwg 840.14 and 840.15
840.17	Concrete Grated Drop Inlet Type 'A' - 12" thru 72" Pipe
840.19	Concrete Grated Drop Inlet Type 'D' - 12" thru 36" Pipe
840.24	Frames and Narrow Slot Sag Grates
840.25	Anchorage for Frames - Brick or Concrete or Precast
840.26	Brick Grated Drop Inlet Type 'A' - 12" thru 72" Pipe
840.28	Brick Grated Drop Inlet Type 'D' - 12" thru 36" Pipe
840.29	Frames and Narrow Slot Flat Grates
840.31	Concrete Junction Box - 12" thru 66" Pipe
840.32	Brick Junction Box - 12" thru 66" Pipe
840.34	Traffic Bearing Junction Box - for Use with Pipes 42" and Under
840.45	Precast Drainage Structure
840.46	Traffic Bearing Precast Drainage Structure
840.54	Manhole Frame and Cover
840.66	Drainage Structure Steps
846.01	Concrete Curb, Gutter and Curb & Gutter
848.01	Concrete Sidewalk
848.02	Driveway Turnout - Radius Type
848.04	Street Turnout
848.05	Curb Ramp - Proposed Curb & Gutter
852.01	Concrete Islands
852.05	Median Curb for Catch Basin - for Use with 1'-6" Curb and Gutter
852.06	Method for Placement of Drop Inlets in Concrete Islands
862.01	Guardrail Placement
862.02	Guardrail Installation
862.03	Structure Anchor Units
876.02	Guide for Rip Rap at Pipe Outlets
876.04	Drainage Ditches with Class 'B' Rip Rap

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04/16/11

Note: Not to Scale

*S.U.E. = Subsurface Utility Engineering

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

State Line	-----
County Line	-----
Township Line	-----
City Line	-----
Reservation Line	-----
Property Line	-----
Existing Iron Pin	○ EIP
Property Corner	✕
Property Monument	□ ECM
Parcel/Sequence Number	⑫③
Existing Fence Line	×-×-×-×
Proposed Woven Wire Fence	○
Proposed Chain Link Fence	□
Proposed Barbed Wire Fence	◇
Existing Wetland Boundary	WLB
Proposed Wetland Boundary	WLB
Existing Endangered Animal Boundary	EAB
Existing Endangered Plant Boundary	EPB
Known Soil Contamination: Area or Site	☠ ☠
Potential Soil Contamination: Area or Site	☠ ?

BUILDINGS AND OTHER CULTURE:

Gas Pump Vent or U/G Tank Cap	○
Sign	○ S
Well	○ W
Small Mine	✕
Foundation	▭
Area Outline	▭
Cemetery	⊕
Building	▭
School	▭
Church	▭
Dam	▭

HYDROLOGY:

Stream or Body of Water	-----
Hydro, Pool or Reservoir	▭
Jurisdictional Stream	JS
Buffer Zone 1	BZ 1
Buffer Zone 2	BZ 2
Flow Arrow	←
Disappearing Stream	→
Spring	○
Wetland	⊥
Proposed Lateral, Tail, Head Ditch	▭
False Sump	▭

RAILROADS:

Standard Gauge	-----
RR Signal Milepost	○ MILEPOST 35
Switch	□ SWITCH
RR Abandoned	-----
RR Dismantled	-----

RIGHT OF WAY:

Baseline Control Point	◆
Existing Right of Way Marker	△
Existing Right of Way Line	-----
Proposed Right of Way Line	○
Proposed Right of Way Line with Iron Pin and Cap Marker	○
Proposed Right of Way Line with Concrete or Granite Marker	○
Existing Control of Access	⊗
Proposed Control of Access	⊗
Existing Easement Line	E
Proposed Temporary Construction Easement	E
Proposed Temporary Drainage Easement	TDE
Proposed Permanent Drainage Easement	PDE
Proposed Permanent Drainage / Utility Easement	DUE
Proposed Permanent Utility Easement	PUE
Proposed Temporary Utility Easement	TUE
Proposed Aerial Utility Easement	AUE
Proposed Permanent Easement with Iron Pin and Cap Marker	◆

ROADS AND RELATED FEATURES:

Existing Edge of Pavement	-----
Existing Curb	-----
Proposed Slope Stakes Cut	C
Proposed Slope Stakes Fill	F
Proposed Curb Ramp	CR
Existing Metal Guardrail	T
Proposed Guardrail	T
Existing Cable Guiderail	▭
Proposed Cable Guiderail	▭
Equality Symbol	⊕
Pavement Removal	▭

VEGETATION:

Single Tree	○
Single Shrub	○
Hedge	~~~~~
Woods Line	~~~~~

Orchard	○
Vineyard	▭

EXISTING STRUCTURES:

MAJOR:	
Bridge, Tunnel or Box Culvert	CONC
Bridge Wing Wall, Head Wall and End Wall	CONC WW
MINOR:	
Head and End Wall	CONC HW
Pipe Culvert	-----
Footbridge	-----
Drainage Box: Catch Basin, DI or JB	CB
Paved Ditch Gutter	-----
Storm Sewer Manhole	⊕
Storm Sewer	S

UTILITIES:

POWER:	
Existing Power Pole	●
Proposed Power Pole	○
Existing Joint Use Pole	●
Proposed Joint Use Pole	○
Power Manhole	⊕
Power Line Tower	⊗
Power Transformer	⊗
U/G Power Cable Hand Hole	PH
H-Frame Pole	●
Recorded U/G Power Line	P
Designated U/G Power Line (S.U.E.*)	P

TELEPHONE:

Existing Telephone Pole	●
Proposed Telephone Pole	○
Telephone Manhole	⊕
Telephone Booth	⊕
Telephone Pedestal	⊕
Telephone Cell Tower	⊕
U/G Telephone Cable Hand Hole	PH
Recorded U/G Telephone Cable	T
Designated U/G Telephone Cable (S.U.E.*)	T
Recorded U/G Telephone Conduit	TC
Designated U/G Telephone Conduit (S.U.E.*)	TC
Recorded U/G Fiber Optics Cable	T FO
Designated U/G Fiber Optics Cable (S.U.E.*)	T FO

WATER:

Water Manhole	⊕
Water Meter	○
Water Valve	⊗
Water Hydrant	⊕
Recorded U/G Water Line	W
Designated U/G Water Line (S.U.E.*)	W
Above Ground Water Line	A/G Water

TV:

TV Satellite Dish	⊕
TV Pedestal	⊕
TV Tower	⊕
U/G TV Cable Hand Hole	PH
Recorded U/G TV Cable	TV
Designated U/G TV Cable (S.U.E.*)	TV
Recorded U/G Fiber Optic Cable	TV FO
Designated U/G Fiber Optic Cable (S.U.E.*)	TV FO

GAS:

Gas Valve	◇
Gas Meter	⊕
Recorded U/G Gas Line	G
Designated U/G Gas Line (S.U.E.*)	G
Above Ground Gas Line	A/G Gas

SANITARY SEWER:

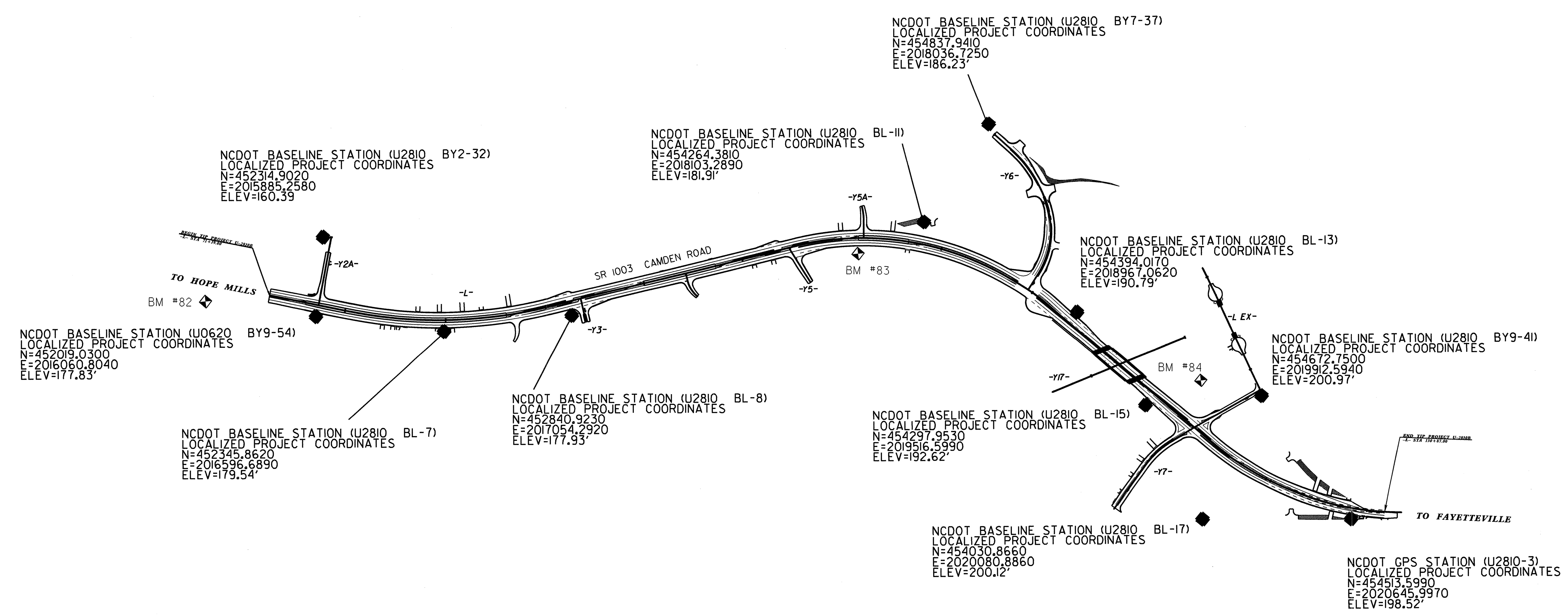
Sanitary Sewer Manhole	⊕
Sanitary Sewer Cleanout	⊕
U/G Sanitary Sewer Line	SS
Above Ground Sanitary Sewer	A/G Sanitary Sewer
Recorded SS Forced Main Line	FSS
Designated SS Forced Main Line (S.U.E.*)	FSS

MISCELLANEOUS:

Utility Pole	●
Utility Pole with Base	□
Utility Located Object	○
Utility Traffic Signal Box	⊕
Utility Unknown U/G Line	U/TL
U/G Tank; Water, Gas, Oil	▭
Underground Storage Tank, Approx. Loc.	UST
A/G Tank; Water, Gas, Oil	▭
Geoenvironmental Boring	⊕
U/G Test Hole (S.U.E.*)	⊕
Abandoned According to Utility Records	AATUR
End of Information	E.O.I.

SURVEY CONTROL SHEET U-2810B

PROJECT REFERENCE NO.	SHEET NO.
U-2810B	I-C
Location and Surveys	



DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCGS FOR MONUMENT "TASTEE" WITH NAD 83 STATE PLANE GRID COORDINATES OF NORTHING: 470471.294(±) EASTING: 2011708.950(±) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99988238 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "TASTEE" TO -L- STATION IS+00.00 IS S02°41'30.62"W 20,670.32 ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NGVD 29

NOTES:

1. THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:
[HTTP://WWW.NCDOT.GOV/DOH/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT/](http://www.ncdot.gov/DOH/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT/)

SITE CALIBRATION INFORMATION HAS NOT BEEN PROVIDED FOR THIS PROJECT. IF FURTHER INFORMATION IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

© INDICATES GEODETIC CONTROL MONUMENTS USED OR SET FOR HORIZONTAL PROJECT CONTROL BY THE NCDOT LOCATION AND SURVEYS UNIT.
 PROJECT CONTROL ESTABLISHED USING GLOBAL POSITIONING SYSTEM.
 NETWORK ESTABLISHED FROM EXISTING HARN MONUMENTATION
 SEE GPS CALIBRATION SHEET FOR HORIZONTAL AND VERTICAL COORDINATE VALUES.

NOTE: DRAWING NOT TO SCALE

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SURVEY CONTROL SHEET U-2810 B

Table with Project Reference No. (U-2810B), Sheet No. (I-D), and Location and Surveys.

Main survey data table with columns: BL POINT, DESC., NORTH, EAST, ELEVATION, L STATION, OFFSET. Includes points 101 through 106.

BM80 ELEVATION = 135.52
N 449737 E 2010940
L STATION 17.09 78 RIGHT
R/R SPIKE IN BASE OF 24" PINE

BM85 ELEVATION = 202.28
N 455380 E 2021793
L STATION 143.63 72 RIGHT
R/R SPIKE IN BASE OF 12" PINE

DATUM DESCRIPTION
THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCGS FOR MONUMENT 'TASTE'

BY1 POINT, DESC., NORTH, EAST, ELEVATION, Y1 STATION, OFFSET. Points 31, 303.

BY2 POINT, DESC., NORTH, EAST, ELEVATION, STATION, OFFSET. Points 32, 254.

BY3 POINT, DESC., NORTH, EAST, ELEVATION, Y3 STATION, OFFSET. Points 208, 33.

BY4 POINT, DESC., NORTH, EAST, ELEVATION, Y4 STATION, OFFSET. Points 209, 34.

BY5 POINT, DESC., NORTH, EAST, ELEVATION, Y5 STATION, OFFSET. Points 210, 35.

BY6 POINT, DESC., NORTH, EAST, ELEVATION, STATION, OFFSET. Points 36, 211.

BY7 POINT, DESC., NORTH, EAST, ELEVATION, STATION, OFFSET. Points 236, 37.

BY8 POINT, DESC., NORTH, EAST, ELEVATION, L STATION, OFFSET. Points 38, 39, 40.

BY9 POINT, DESC., NORTH, EAST, ELEVATION, Y7 STATION, OFFSET. Points 41, 403.

BY10 POINT, DESC., NORTH, EAST, ELEVATION, Y9 STATION, OFFSET. Points 42, 219.

BY11 POINT, DESC., NORTH, EAST, ELEVATION, Y10 STATION, OFFSET. Points 221, 43.

BY12 POINT, DESC., NORTH, EAST, ELEVATION, Y11 STATION, OFFSET. Points 44, 45.

BY13 POINT, DESC., NORTH, EAST, ELEVATION, Y12 STATION, OFFSET. Points 46, 222.

BY14 POINT, DESC., NORTH, EAST, ELEVATION, L STATION, OFFSET. Points 47, 503, 48.

BY14A POINT, DESC., NORTH, EAST, ELEVATION, Y13 STATION, OFFSET. Points 54, 255.

BY15 POINT, DESC., NORTH, EAST, ELEVATION, Y14 STATION, OFFSET. Points 49, 229, 50.

BY16 POINT, DESC., NORTH, EAST, ELEVATION, Y15 STATION, OFFSET. Points 230, 51.

BY17 POINT, DESC., NORTH, EAST, ELEVATION, Y16 STATION, OFFSET. Points 52, 205, 53.

NOTES:
THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:
HTTP://NCDDOT.GOV/DOH/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CENTERLINE COORDINATE LIST

Point #	Chain	Station	Northing (Y)	Easting (X)
1	L	71+00.00	451918.7742	2015823.2336
2	L	72+00.00	451966.7898	2015910.9519
3	L	73+00.00	452014.8053	2015998.6703
4	L	74+00.00	452062.8209	2016086.3886
5	L	75+00.00	452110.8364	2016174.1070
6	L	76+00.00	452159.8400	2016261.2709
7	L	77+00.00	452212.4528	2016346.3021
8	L	78+00.00	452268.7243	2016428.9577
9	L	79+00.00	452328.5473	2016509.0802
10	L	80+00.00	452391.8081	2016586.5172
11	L	81+00.00	452458.3861	2016661.1213
12	L	82+00.00	452528.1547	2016732.7506
13	L	83+00.00	452600.9812	2016801.2687
14	L	84+00.00	452676.7268	2016866.5451
15	L	85+00.00	452755.2475	2016928.4557
16	L	86+00.00	452835.4360	2016988.2033
17	L	87+00.00	452915.6485	2017047.9190
18	L	88+00.00	452995.8609	2017107.6347
19	L	89+00.00	453076.0733	2017167.3504
20	L	90+00.00	453156.2858	2017227.0661
21	L	91+00.00	453236.4982	2017286.7818
22	L	92+00.00	453316.7106	2017346.4976
23	L	93+00.00	453396.9231	2017406.2133
24	L	94+00.00	453477.1355	2017465.9290
25	L	95+00.00	453557.3479	2017525.6447
26	L	96+00.00	453637.5604	2017585.3604
27	L	97+00.00	453717.7728	2017645.0761
28	L	98+00.00	453797.6454	2017705.2395
29	L	99+00.00	453873.9545	2017769.8377
30	L	100+00.00	453945.6106	2017839.5615
31	L	101+00.00	454012.2703	2017914.0765
32	L	102+00.00	454073.6140	2017993.0255
33	L	103+00.00	454129.3477	2018076.0301
34	L	104+00.00	454179.2042	2018162.6923
35	L	105+00.00	454222.9444	2018252.5967
36	L	106+00.00	454260.3586	2018345.3123
37	L	107+00.00	454291.2676	2018440.3946
38	L	108+00.00	454315.5231	2018537.3877
39	L	109+00.00	454333.0088	2018635.8268
40	L	110+00.00	454343.6410	2018735.2399
41	L	111+00.00	454347.3686	2018835.1504
42	L	112+00.00	454347.0732	2018935.1499
43	L	113+00.00	454346.7528	2019035.1494
44	L	114+00.00	454346.4325	2019135.1489
45	L	115+00.00	454346.1122	2019235.1484
46	L	116+00.00	454345.7919	2019335.1479
47	L	117+00.00	454345.4715	2019435.1474
48	L	118+00.00	454345.1512	2019535.1469
49	L	119+00.00	454344.8309	2019635.1463
50	L	120+00.00	454344.5106	2019735.1458
51	L	121+00.00	454344.1902	2019835.1453
52	L	122+00.00	454344.2198	2019935.1434
53	L	123+00.00	454349.5597	2020034.9807
54	L	124+00.00	454361.7953	2020134.2092
55	L	125+00.00	454380.8678	2020232.3532
56	L	126+00.00	454406.6859	2020328.9421
57	L	127+00.00	454439.1257	2020423.5131
58	L	128+00.00	454478.0318	2020515.6126
59	L	129+00.00	454523.2175	2020604.7992
60	L	130+00.00	454574.4664	2020690.6453
61	L	131+00.00	454631.5328	2020772.7394
62	L	132+00.00	454693.9217	2020850.8735
63	L	133+00.00	454757.6781	2020927.9132
64	Y6	9+00.00	454825.9534	2017995.6399
65	Y6	10+00.00	454823.0920	2018095.5990
66	Y6	11+00.00	454820.2306	2018195.5581
67	Y6	12+00.00	454810.2244	2018294.9432
68	Y6	13+00.00	454783.9120	2018391.2995
69	Y6	14+00.00	454741.9790	2018481.9554
70	Y6	15+00.00	454684.9604	2018563.9006
71	Y6	16+00.00	454610.3723	2018630.1173
72	Y6	17+00.00	454521.7208	2018675.8221
73	Y6	18+00.00	454424.5597	2018698.4998
74	Y6	18+83.77	454341.6288	2018710.3212
75	Y7	10+00.00	454697.8003	2019906.4375
76	Y7	11+00.00	454604.2492	2019871.1077
77	Y7	12+00.00	454510.6981	2019835.7779
78	Y7	13+00.00	454417.1470	2019800.4482
79	Y7	14+00.00	454323.5959	2019765.1184
80	Y7	15+00.00	454230.0390	2019729.8041

Point #	Chain	Station	Northing (Y)	Easting (X)
81	Y7	16+00.00	454133.1383	2019705.9468
82	Y7	17+00.00	454033.3554	2019703.9453
83	Y7	18+00.00	453933.6157	2019711.1566
84	Y7	19+00.00	453833.8761	2019718.3679
85	Y7	19+50.00	453784.0062	2019721.9736

Point #	Chain	Station	Northing (Y)	Easting (X)
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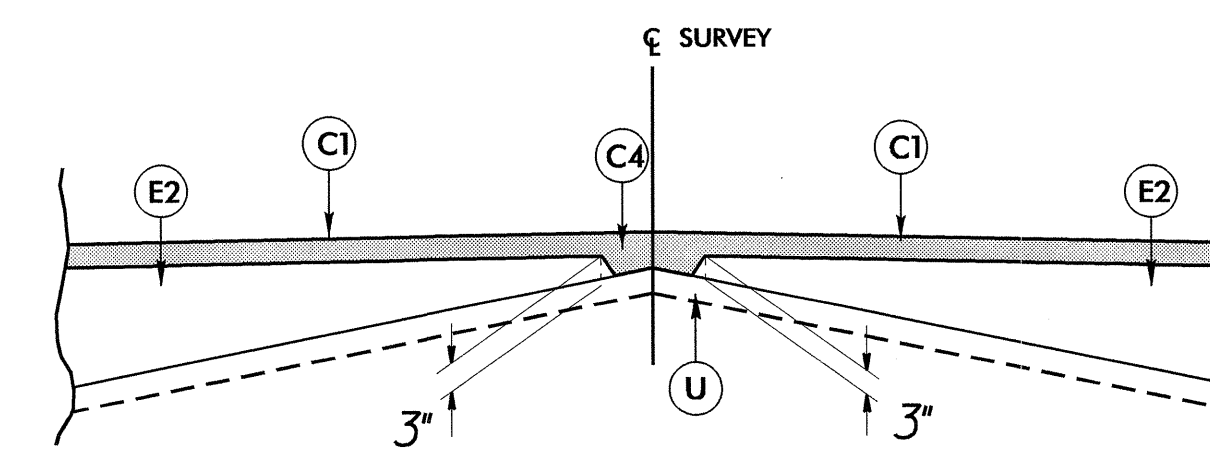
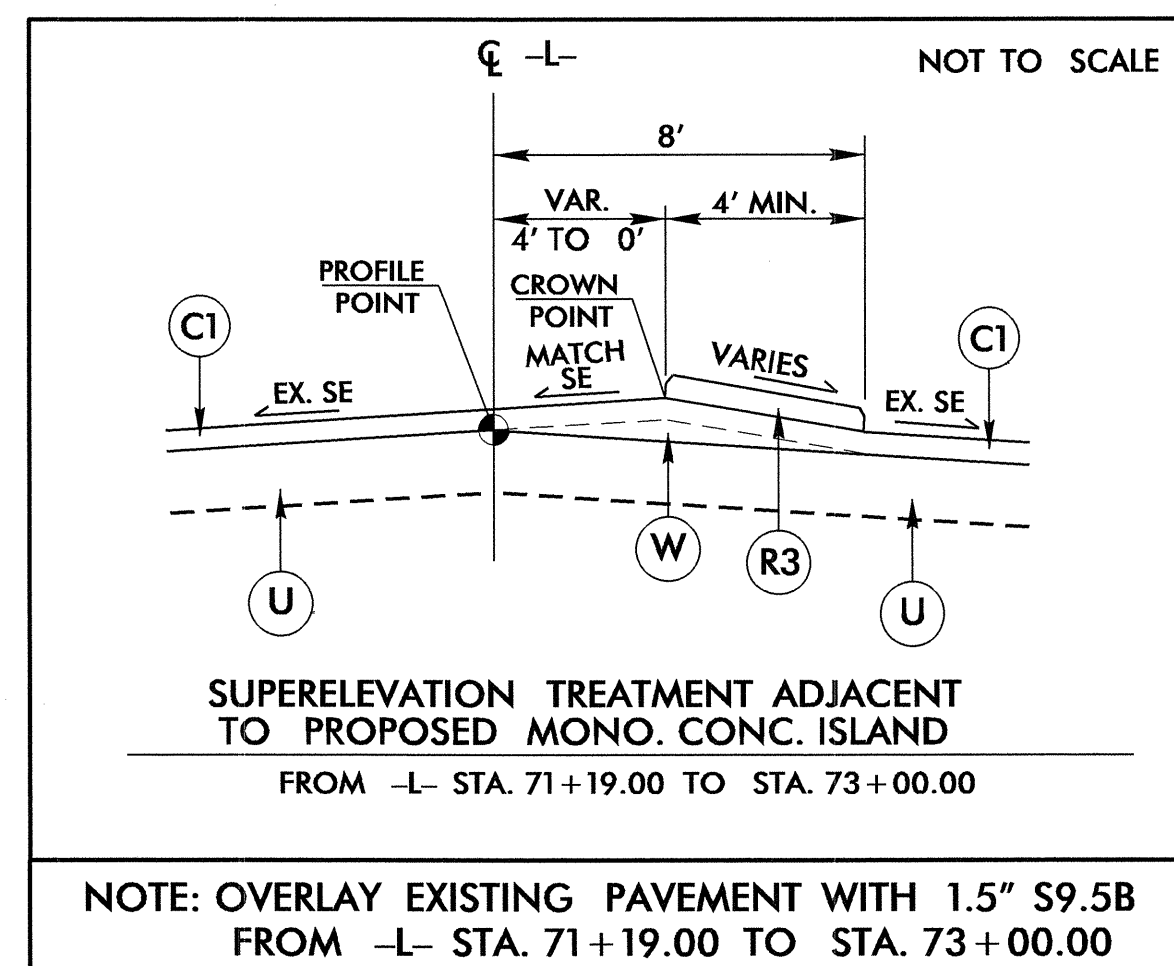
Point #	Chain	Station	Northing (Y)	Easting (X)
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Point #	Chain	Station	Northing (Y)	Easting (X)
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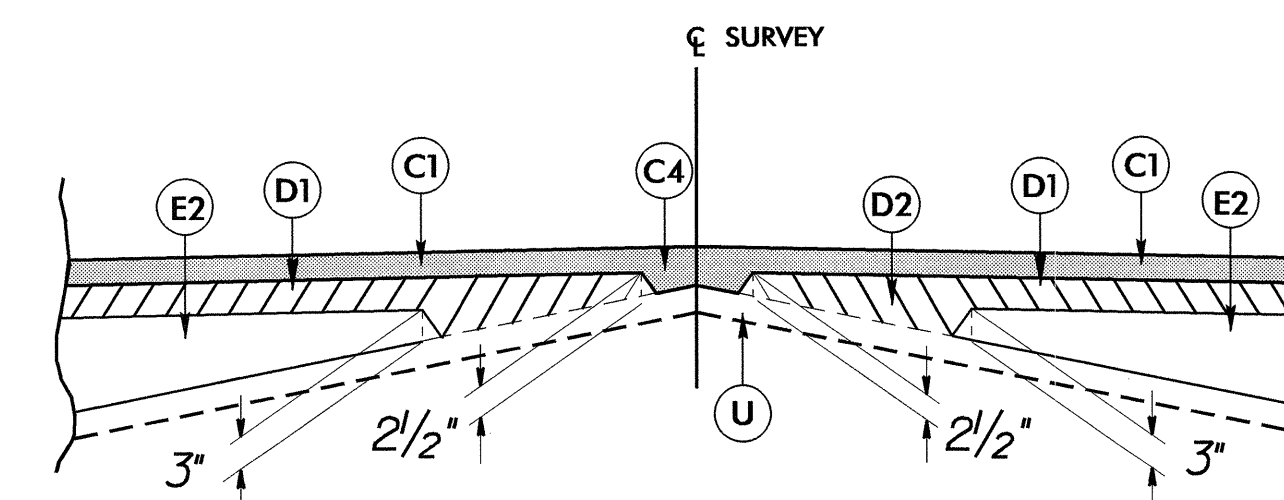
FINAL PAVEMENT SCHEDULE

C1	PROP. APPROX. 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.	T	EARTH MATERIAL.
C2	PROP. APPROX. 2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B AT AN AVERAGE RATE OF 224 LBS. PER SQ. YD.	U	EXISTING PAVEMENT.
C3	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.	W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE WEDGING DETAILS)
C4	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 2" IN DEPTH.		
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.		
D2	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 2 1/2" IN DEPTH OR GREATER THAN 4" IN DEPTH.		
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.		
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5 1/2" IN DEPTH.		
R1	2'-6" CONCRETE CURB AND GUTTER.		
R2	1'-6" CONCRETE CURB AND GUTTER.		
R3	5" MONOLITHIC CONCRETE ISLAND (SURFACE MOUNTED).		

NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.



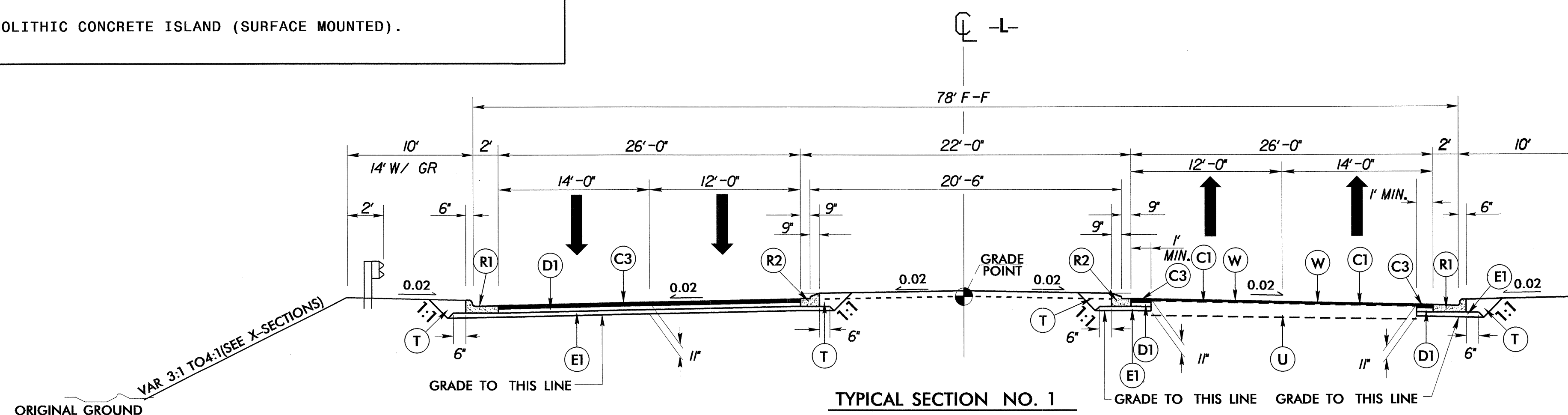
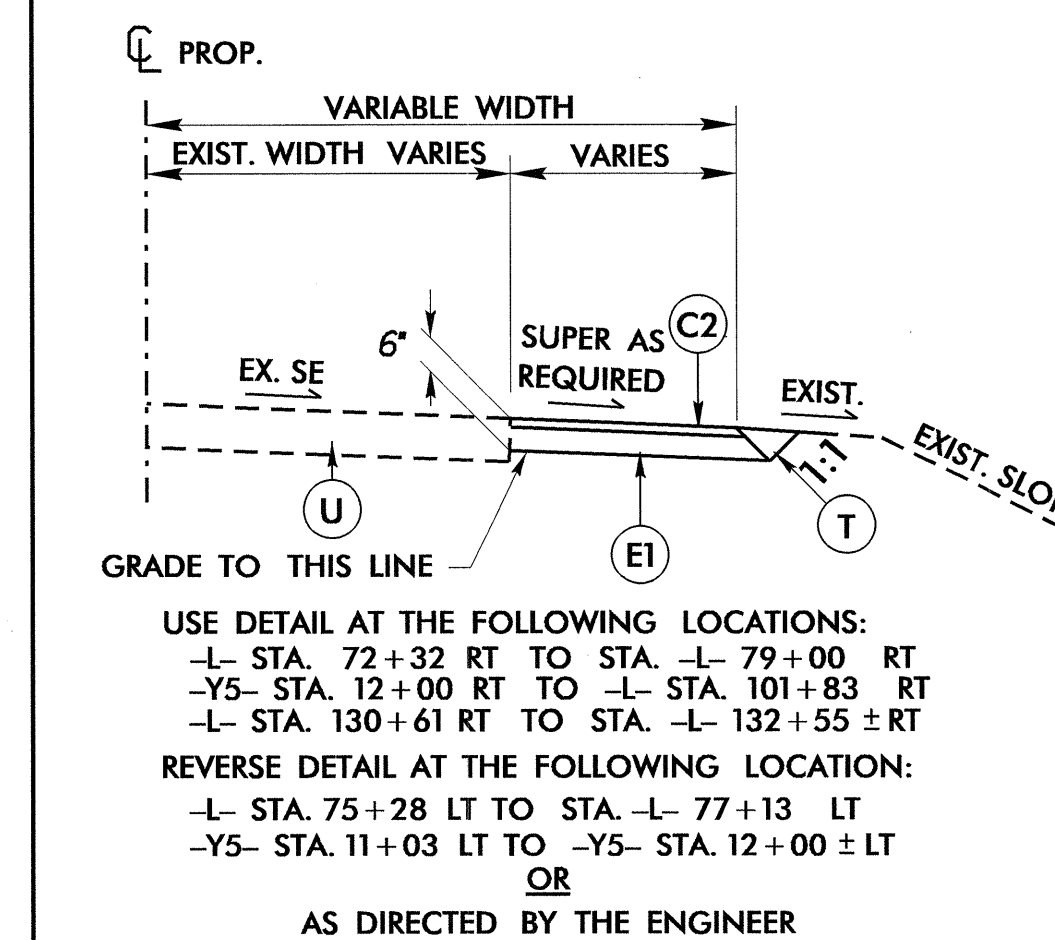
Detail Showing Method of Wedging



Detail Showing Method of Wedging

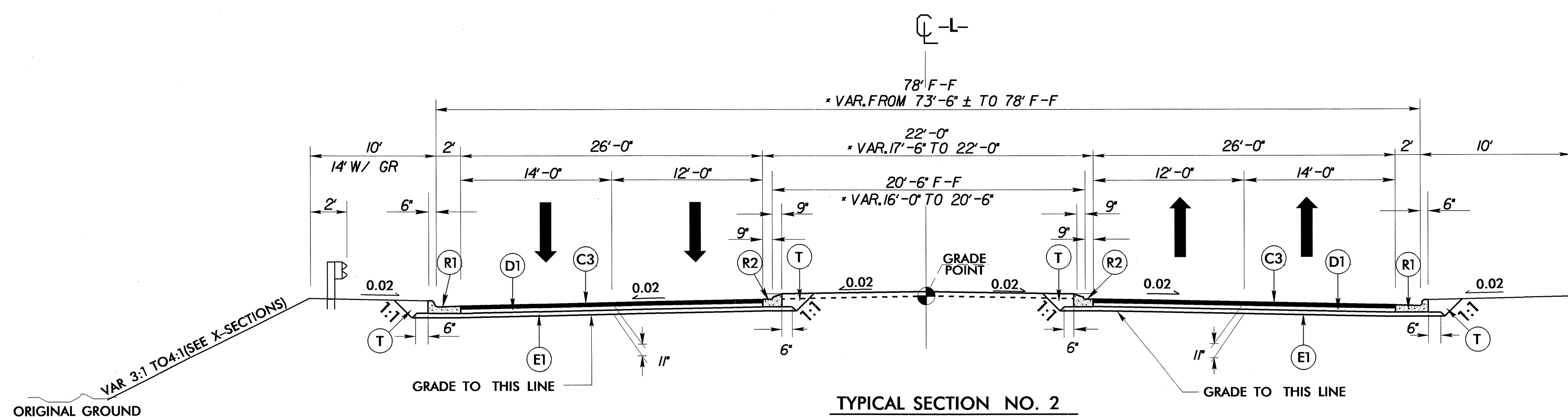
DETAIL FOR TEMPORARY PAVEMENT

(FOR PLAN VIEW, REFER TO TRAFFIC MANAGEMENT PLANS)



VAR 3:1 TO 4:1
(SEE X-SECTIONS)

USE TYPICAL SECTION NO. 1 AT THE FOLLOWING LOCATIONS:
 FROM -L- STA. 77+50.00 TO STA. 93+50.00

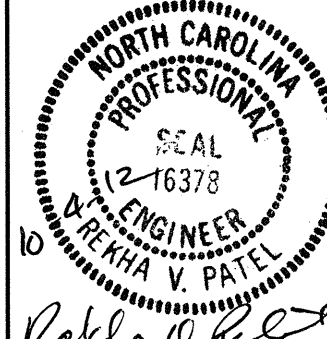
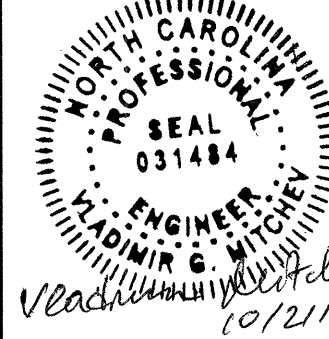


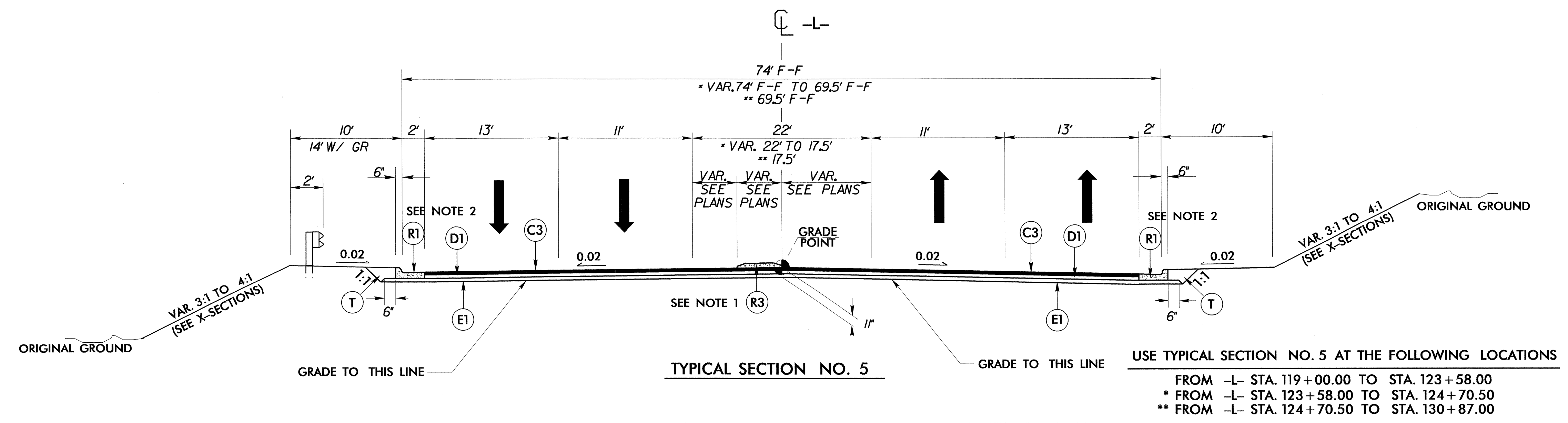
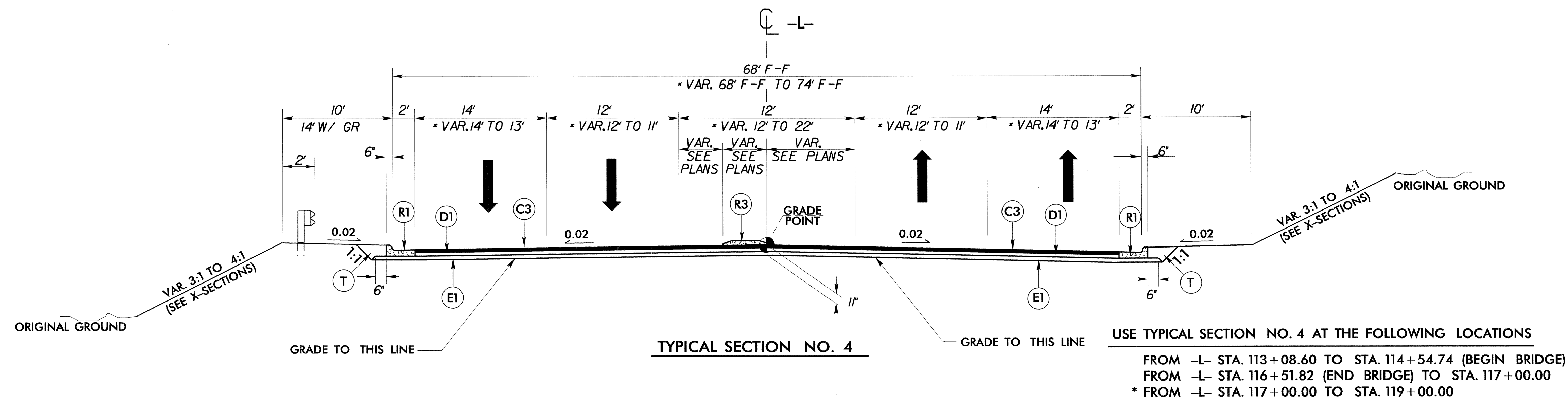
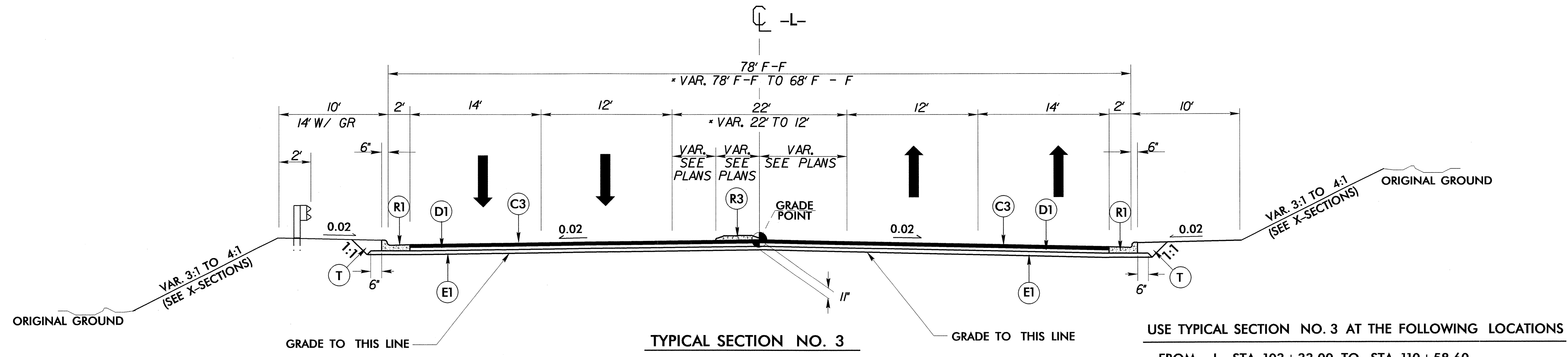
VAR 3:1 TO 4:1
(SEE X-SECTIONS)

USE TYPICAL SECTION NO. 2 AT THE FOLLOWING LOCATIONS:
 * FROM -L- STA. 73+00.00 TO STA. 74+12.40
 FROM -L- STA. 74+12.40 TO STA. 77+50.00
 FROM -L- STA. 93+50.00 TO STA. 103+33.00

PROJECT REFERENCE NO. U-2810B	SHEET NO. 2
ROADWAY DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 16378 REKHA V. PATEL	PAVEMENT DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 031484 V. S. MURTHY

27-SEP-2012 07:39
 C:\pwork\2810b_r.dwg - t.j.p.dgn

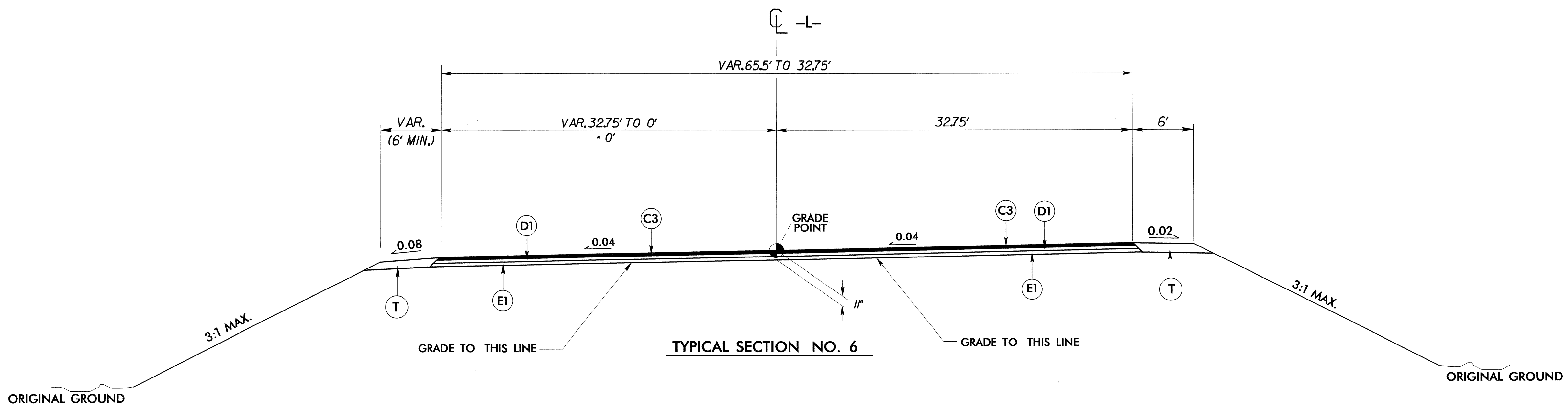
PROJECT REFERENCE NO. U-2810B	SHEET NO. 2-A
ROADWAY DESIGN ENGINEER 	PAVEMENT DESIGN ENGINEER 



NOTE 1: FUTURE 5" MONO. CONC. ISLAND FROM -L- STA. 124+70.50 TO STA. 130+87.00
 NOTE 2: END CURB & GUTTER -L- STA. 129+14.00 LEFT AND STA. 129+03.00 RIGHT

PAVEMENT SCHEDULE

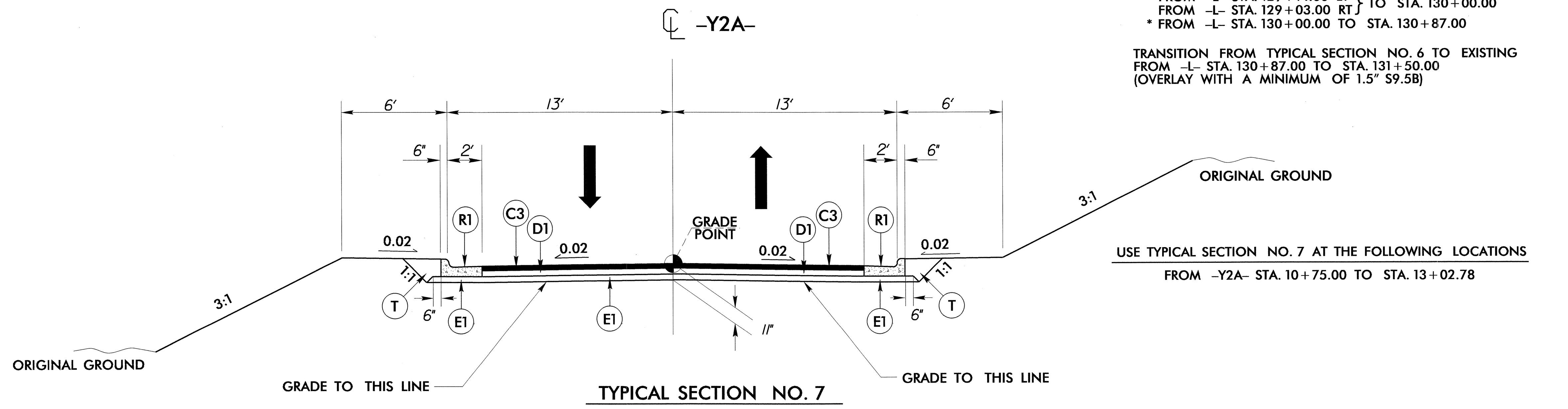
C3	3" S9.5B
D1	4" I19.0B
E1	4" B25.0B
R1	2'-6" CURB AND GUTTER
R3	5" MONO. CONC. ISL.
T	EARTH



USE TYPICAL SECTION NO. 6 AT THE FOLLOWING LOCATIONS

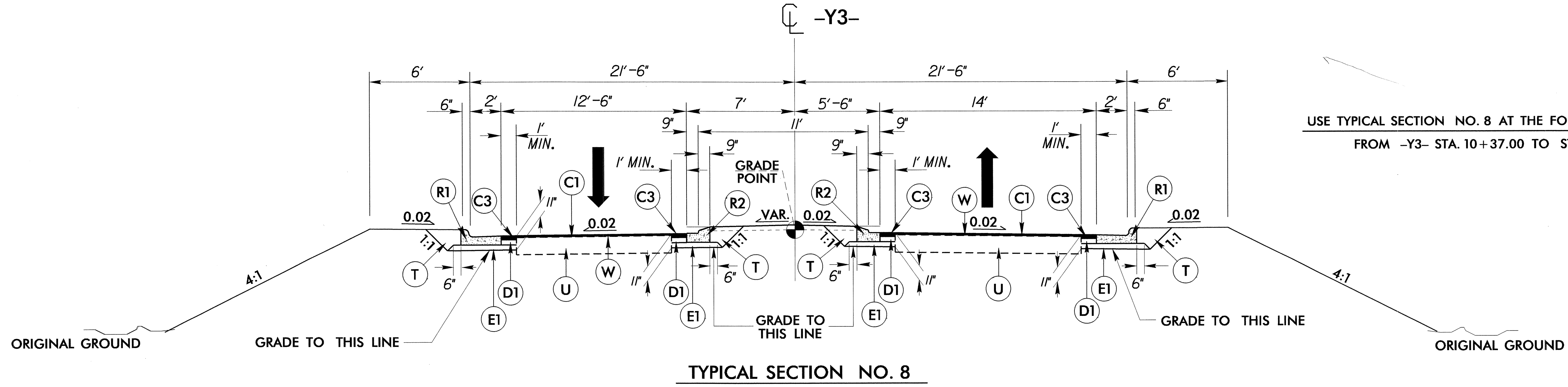
FROM -L- STA. 129+14.00 LT } TO STA. 130+00.00
 FROM -L- STA. 129+03.00 RT }
 * FROM -L- STA. 130+00.00 TO STA. 130+87.00

TRANSITION FROM TYPICAL SECTION NO. 6 TO EXISTING
 FROM -L- STA. 130+87.00 TO STA. 131+50.00
 (OVERLAY WITH A MINIMUM OF 1.5" S9.5B)



USE TYPICAL SECTION NO. 7 AT THE FOLLOWING LOCATIONS

FROM -Y2A- STA. 10+75.00 TO STA. 13+02.78

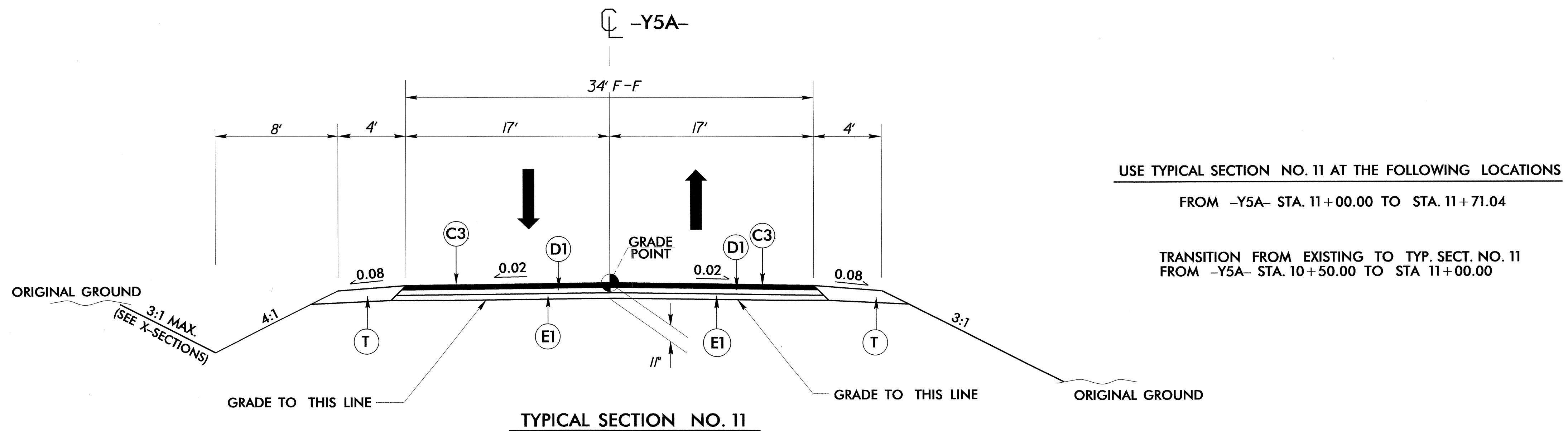
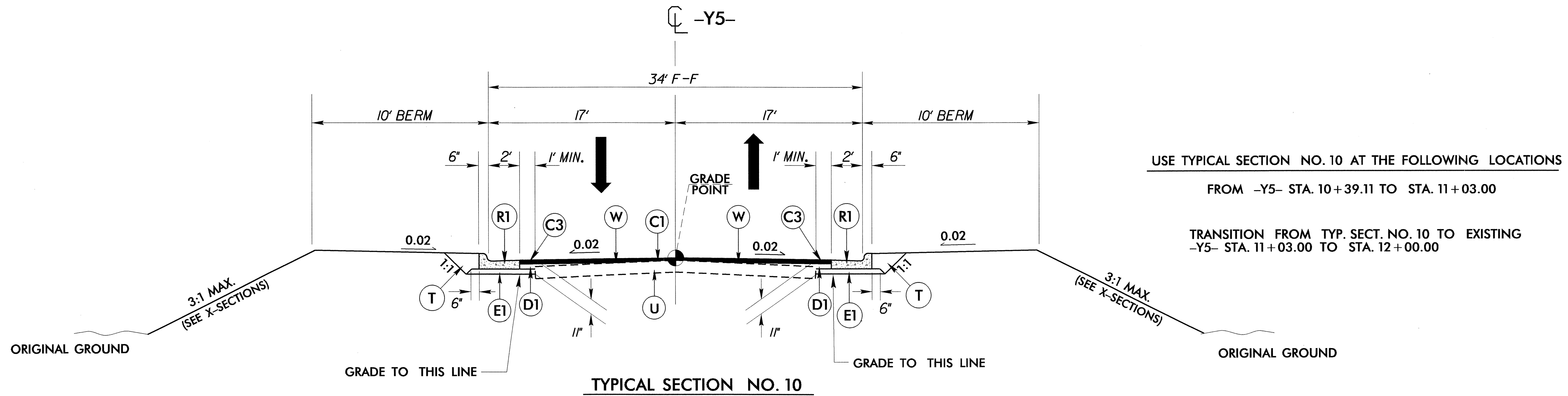
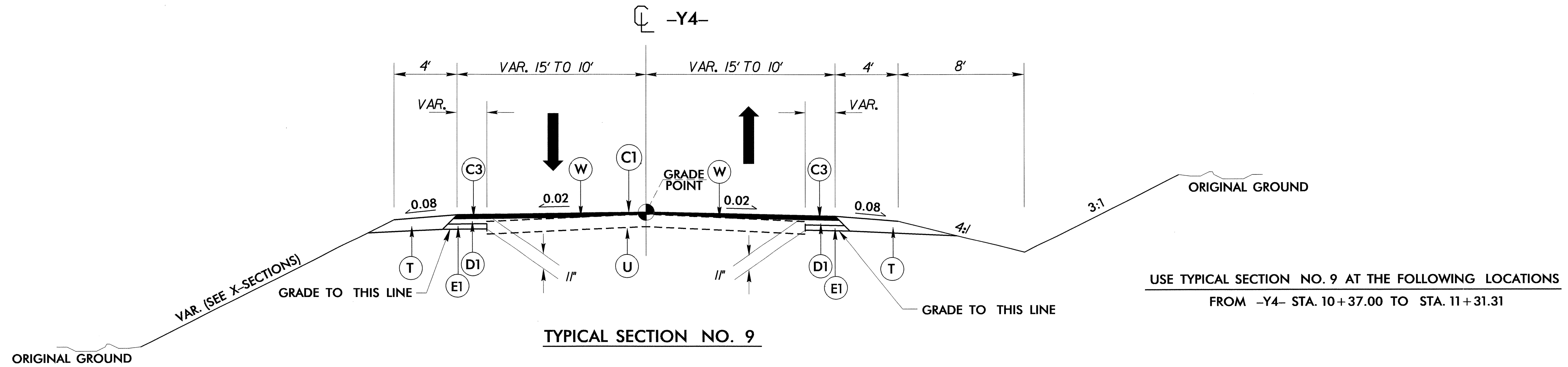


USE TYPICAL SECTION NO. 8 AT THE FOLLOWING LOCATIONS

FROM -Y3- STA. 10+37.00 TO STA. 11+17.00

PAVEMENT SCHEDULE

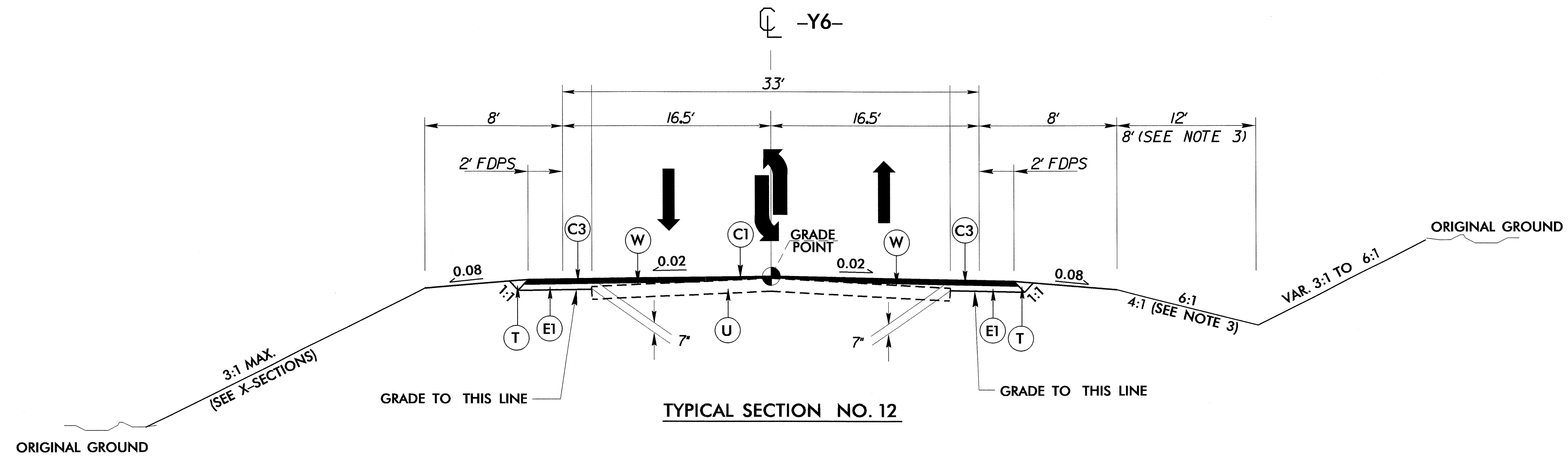
C1	1 1/2" S9.5B
C3	3" S9.5B
D1	4" I19.0B
E1	4" B25.0B
R1	2'-6" CURB & GUTTER
R2	1'-6" CURB & GUTTER
T	EARTH
U	EXISTING PAVEMENT.
W	WEDGING



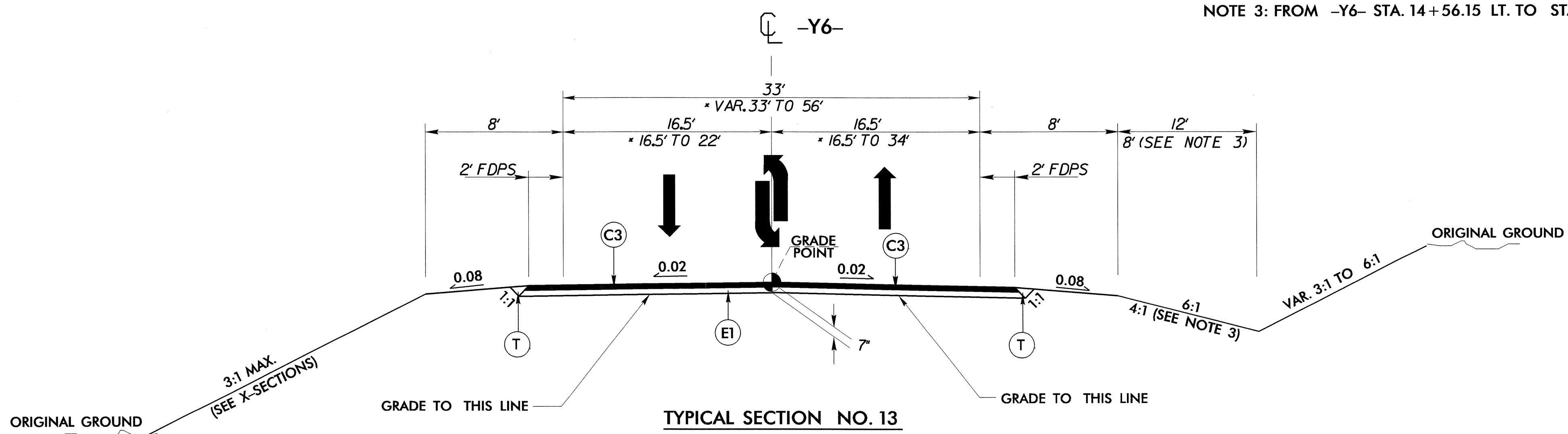
PAVEMENT SCHEDULE

C1	1½" S9.5B
C3	3" S9.5B
D1	4" I19.0B
E1	4" B25.0B
R1	2'-6" CURB & GUTTER
T	EARTH
U	EXISTING PAVEMENT.
W	WEDGING

18 SEP 2012 08:01 \\u2810b_rdy_tup.dgn
 6/2/09

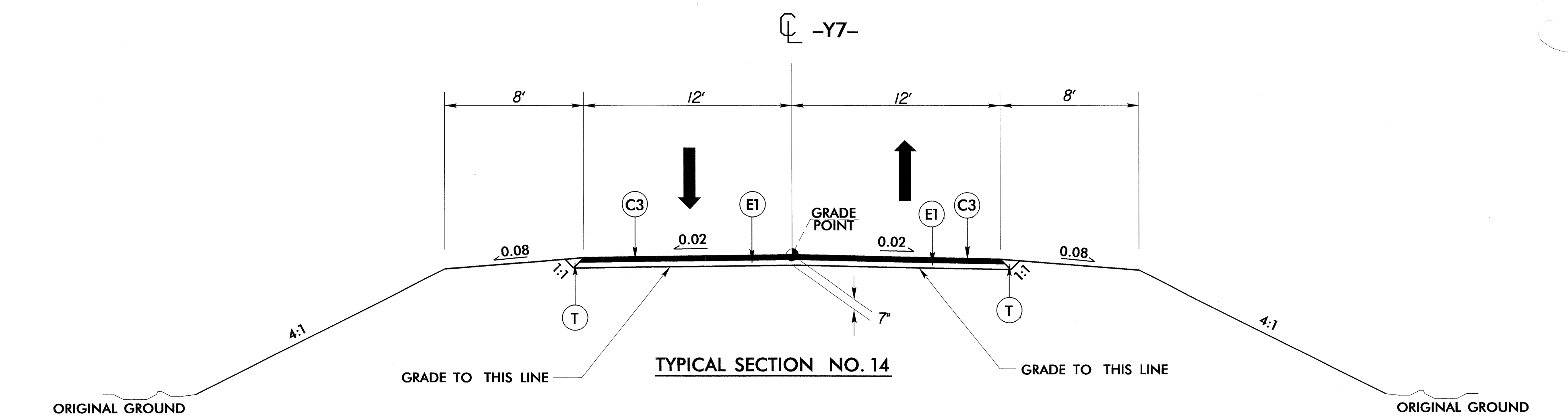


USE TYPICAL SECTION NO. 12 AT THE FOLLOWING LOCATIONS
FROM -Y6- STA. 10+00.00 TO STA. 12+50.00



NOTE 3: FROM -Y6- STA. 14+56.15 LT. TO STA. 15+25 LT. +/-

USE TYPICAL SECTION NO. 13 AT THE FOLLOWING LOCATIONS
FROM -Y6- STA. 12+50.00 TO STA. 14+56.15
* FROM -Y6- STA. 14+56.15 TO STA. 18+46.72



USE TYPICAL SECTION NO. 14 AT THE FOLLOWING LOCATIONS
FROM -Y7- STA. 10+11.55 TO STA. 13+40.41

PAVEMENT SCHEDULE

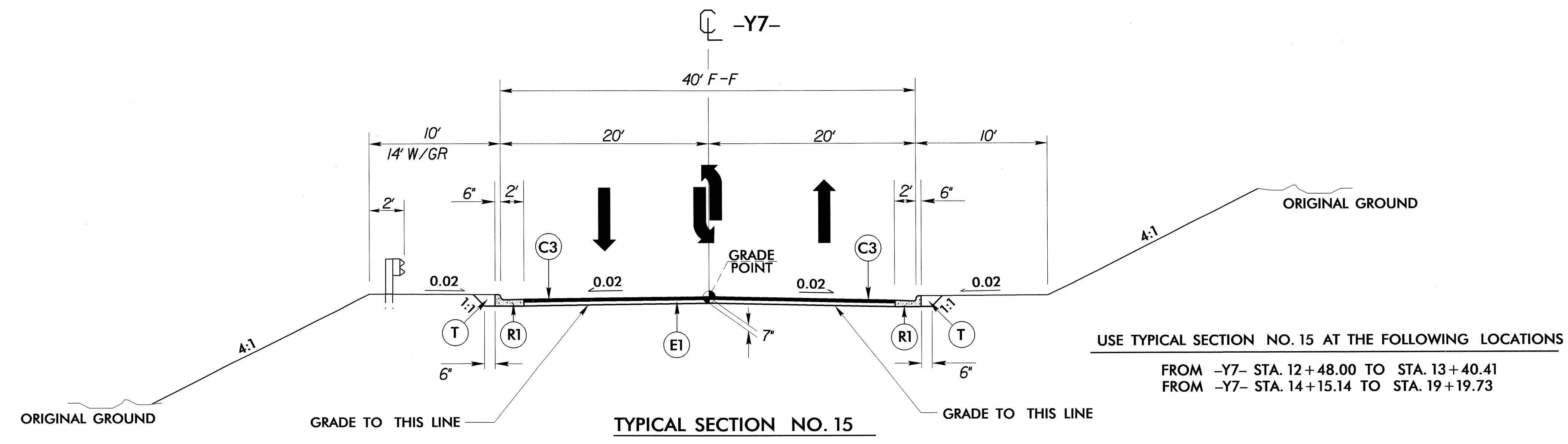
C1	1 1/2" S9.5B
C3	3" S9.5B
E1	4" B25.0B
T	EARTH
U	EXISTING PAVEMENT
W	WEDGING

6/2/09

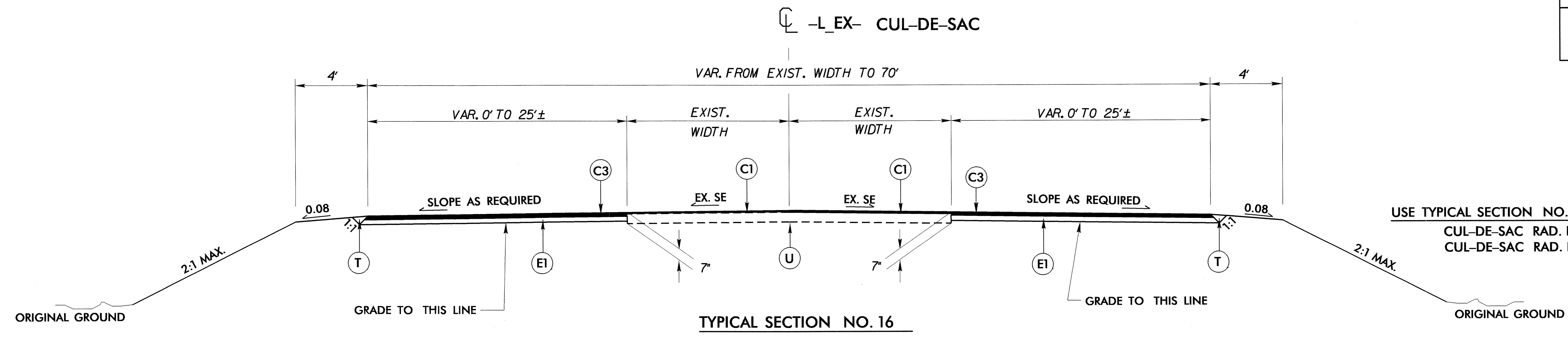
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PAVEMENT SCHEDULE

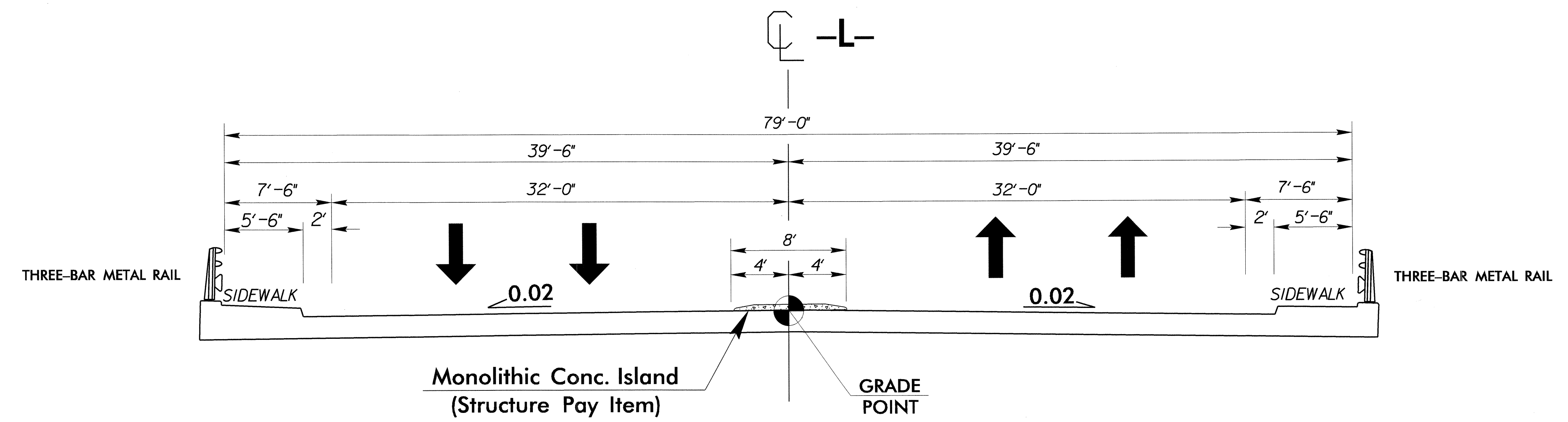
C1	1 1/2" S9.5B
C3	3" S9.5B
E1	4" B25.0B
R1	2'-6" CURB & GUTTER
T	EARTH
U	EXISTING PAVEMENT.



USE TYPICAL SECTION NO. 15 AT THE FOLLOWING LOCATIONS
 FROM -Y7- STA. 12+48.00 TO STA. 13+40.41
 FROM -Y7- STA. 14+15.14 TO STA. 19+19.73



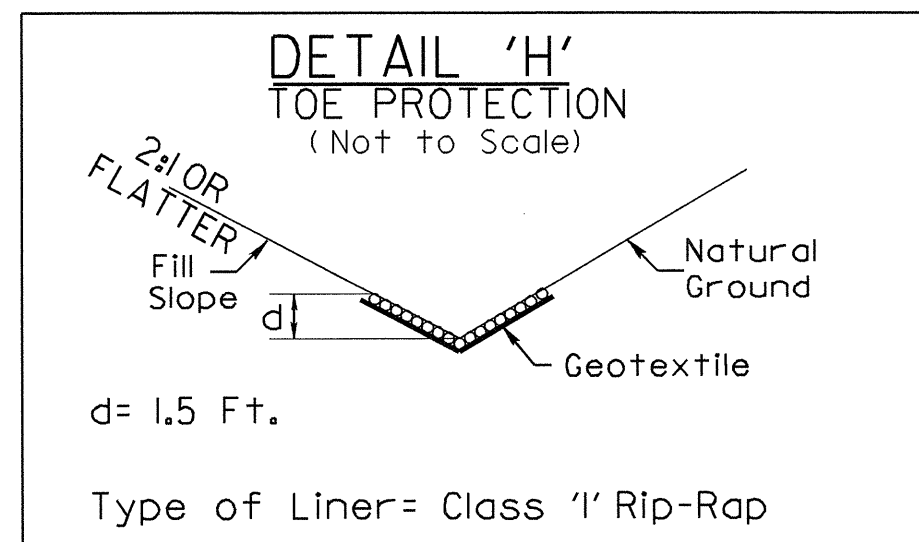
USE TYPICAL SECTION NO. 16 AT THE FOLLOWING LOCATIONS
 CUL-DE-SAC RAD. POINT -L EX- STA. 10+95.00
 CUL-DE-SAC RAD. POINT -L EX- STA. 13+65.00



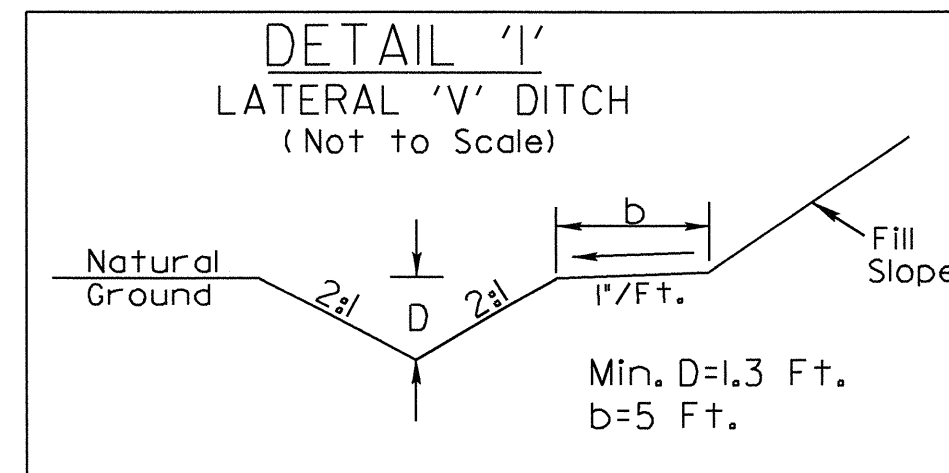
FROM -L- STA. 114+54.74 (BEGIN BRIDGE) TO STA. 116+51.82 (END BRIDGE)

6/2/12 10:51:01 AM U:\2810b_rdy_tup.dgn

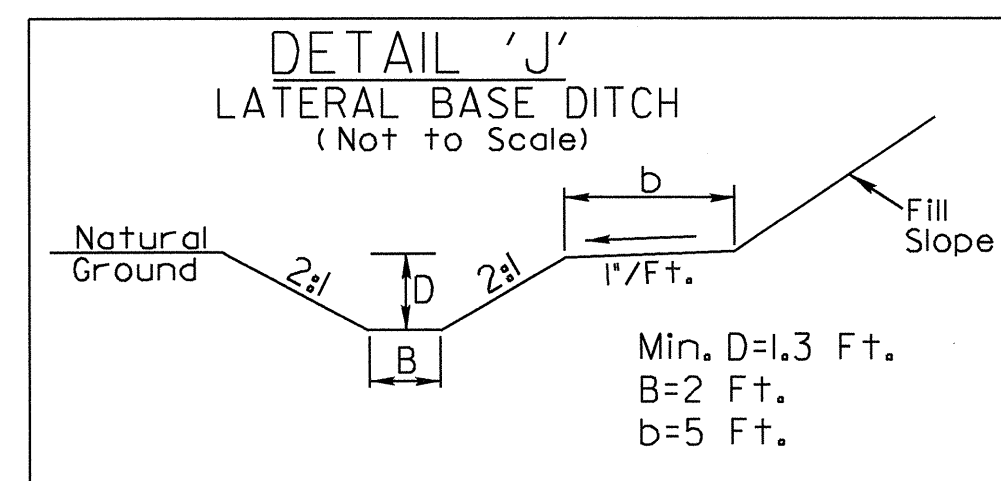
DRAINAGE DITCH DETAILS



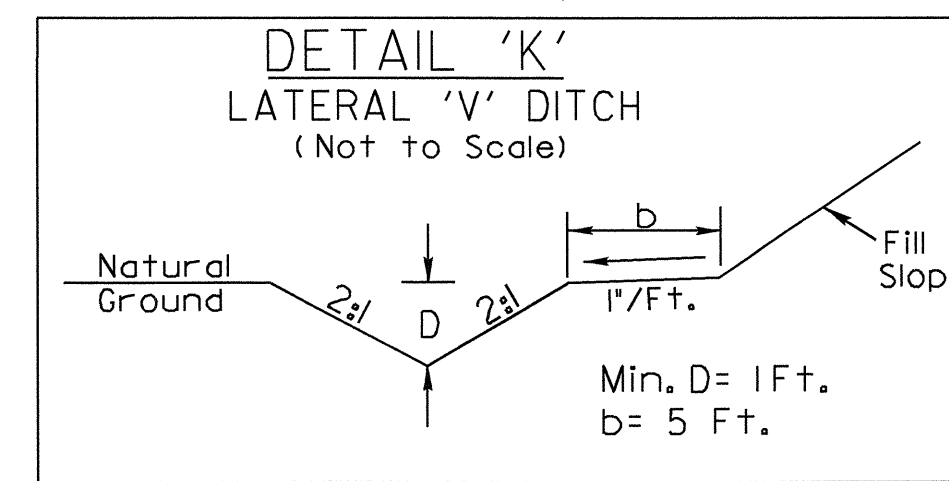
FROM STA. 98+50 TO STA. 99+50 -L- (RT)
EST. CLASS '1' RIP RAP = 90 TONS
EST. GEOTEXTILE = 100 SY



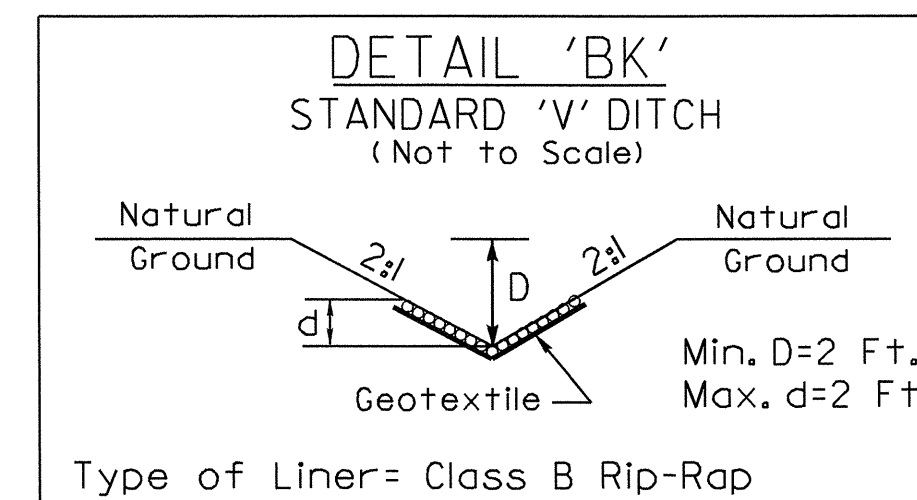
FROM STA. 11+80 TO STA. 13+00 -Y7-(RT)
EST. DDE = 48 CY



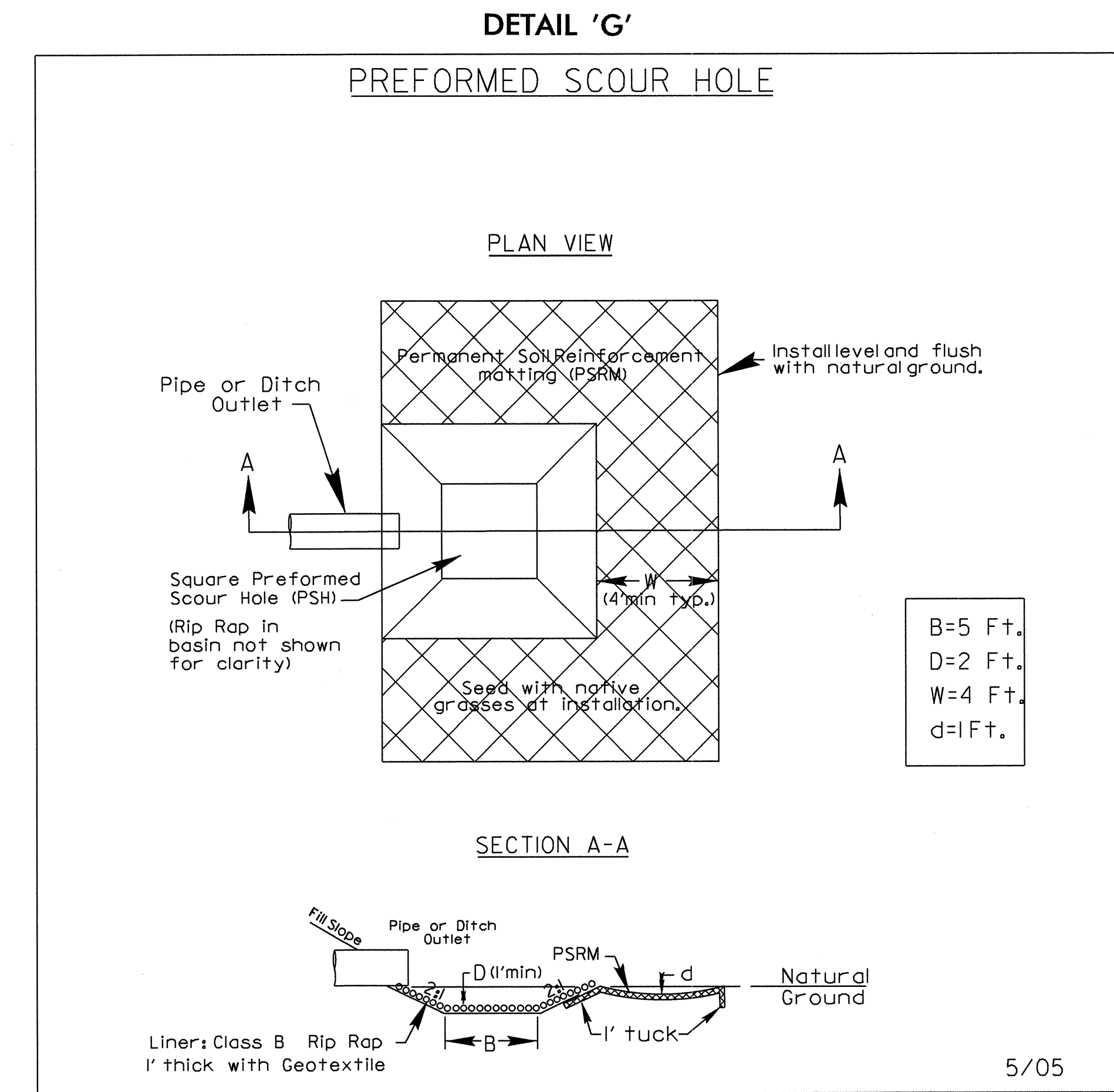
FROM STA. 117+00 TO STA. 120+00 -L-(LT)
EST. DDE = 172 CY



FROM STA. 128+00 TO STA. 129+00 -L- (RT)
EST. DDE = 13 CY

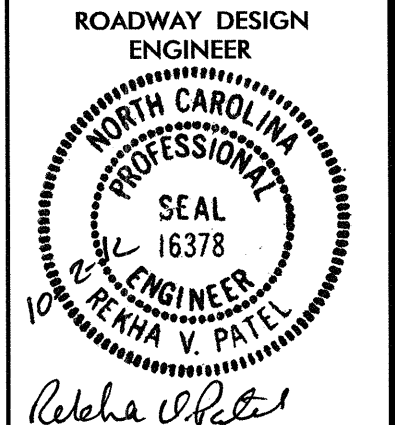


FROM STA. 129+50 TO STA. 130+36 -L- (LT)
EST. CLASS B RIP RAP = 49 TONS
EST. GEOTEXTILE = 133 SY

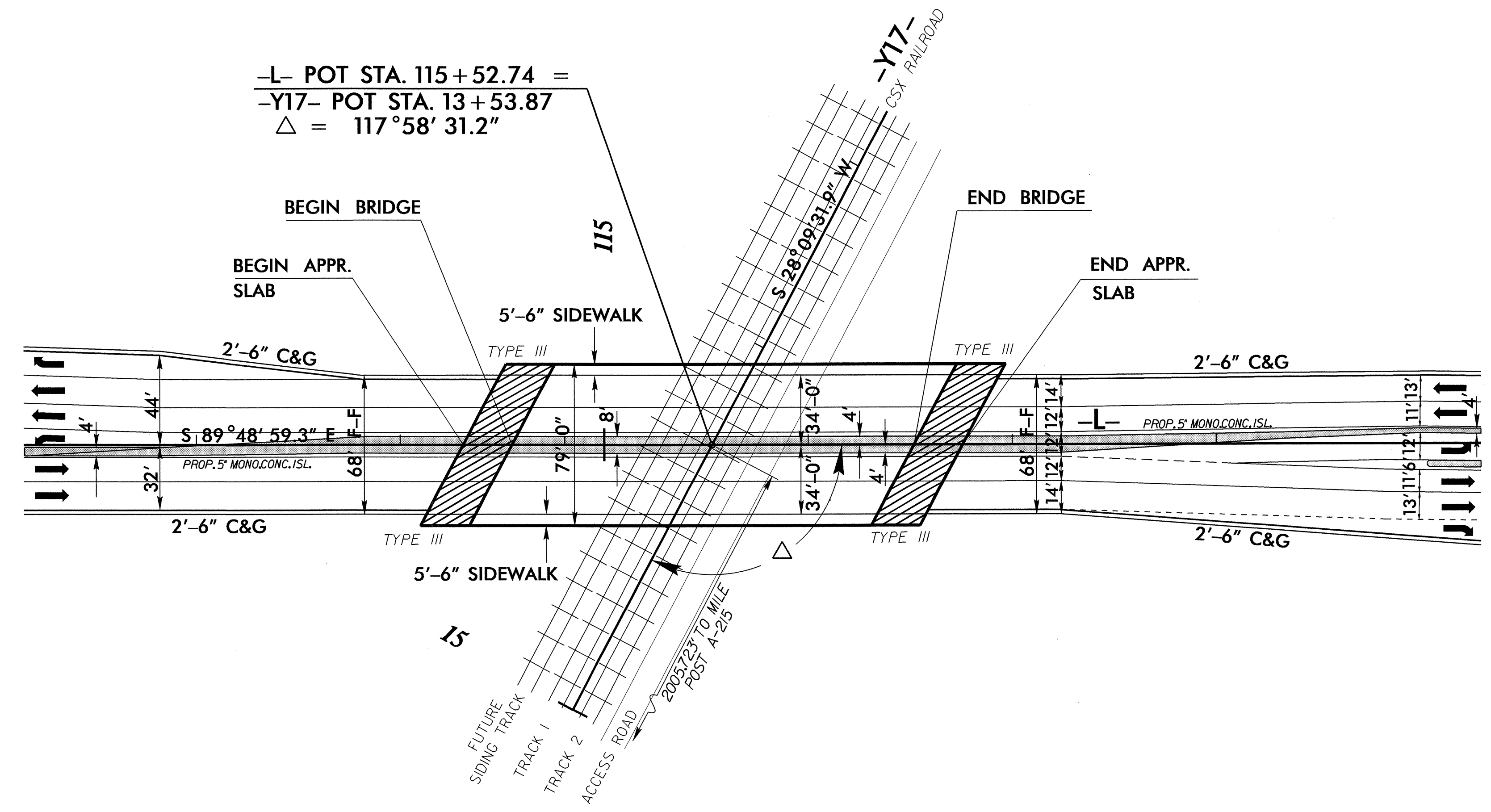


STA 117+03 -L- (RT)

5/05



REVISIONS

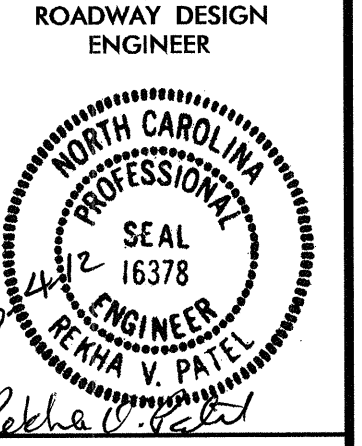


DETAIL SHOWING PAVEMENT-BRIDGE RELATIONSHIP FOR -L- OVER CSX RAILROAD (-Y17-)

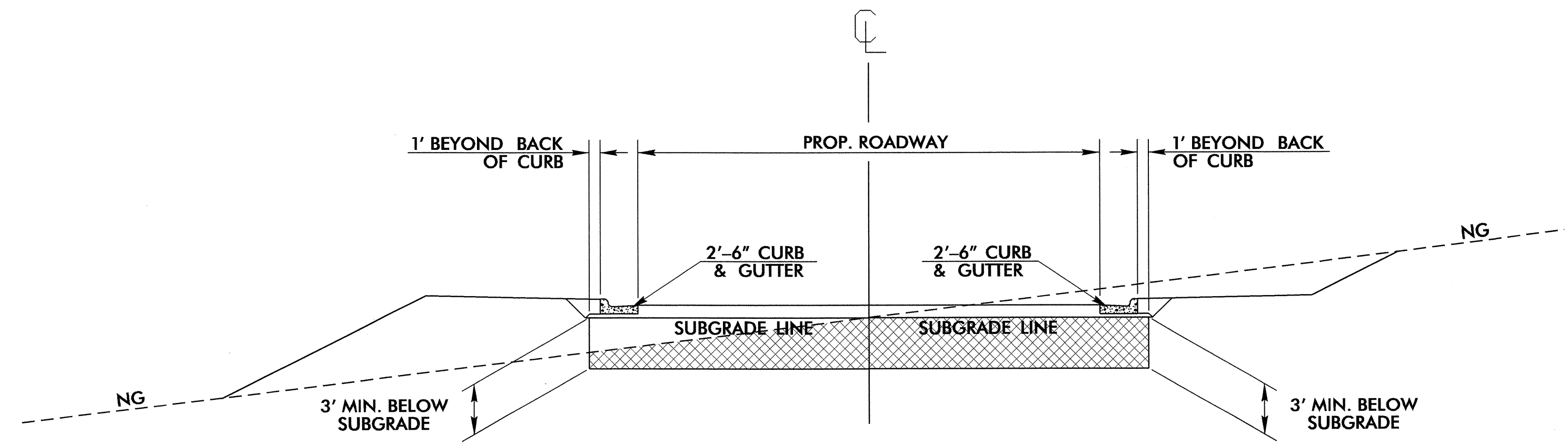
NOT TO SCALE

8/17/99

I:\SEP-2012\1653\U-2810B-rdy-stre.trec.dgn
 8/17/2012 11:53 AM
 8/17/2012 11:53 AM



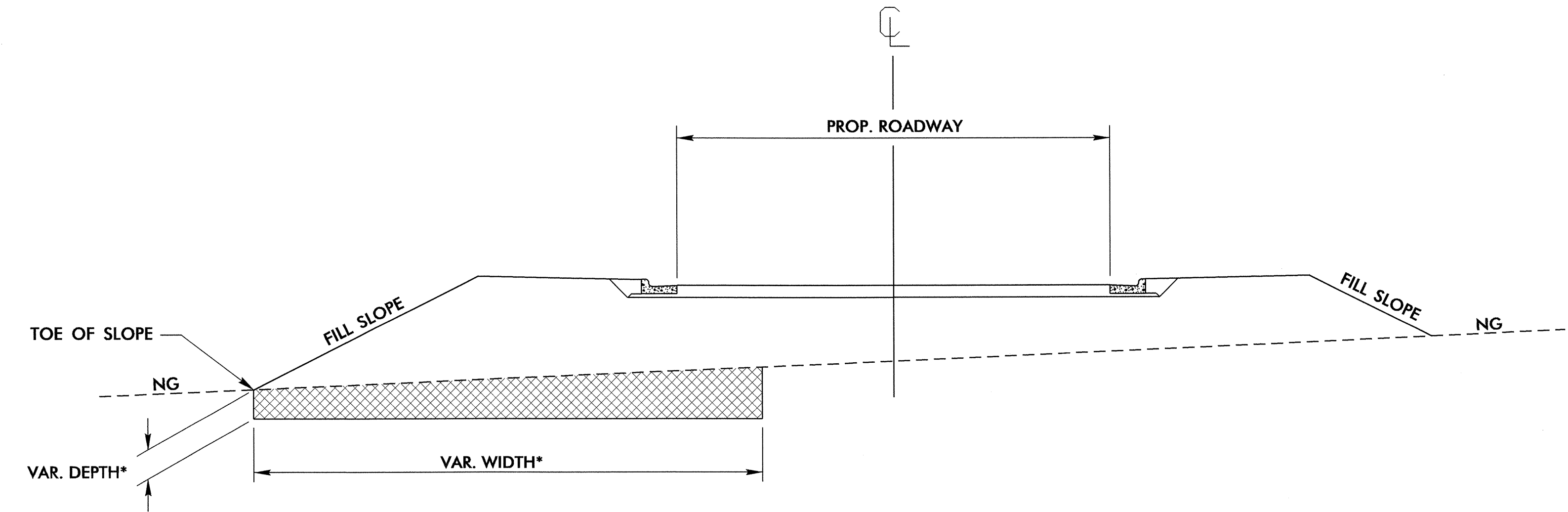
UNDERCUT DETAILS



FOR SUBGRADE STABILITY

-L- STA. 94+75 TO STA. 95+75
OR
AS DIRECTED BY ENGINEER

 UNDERCUT EXCAVATION



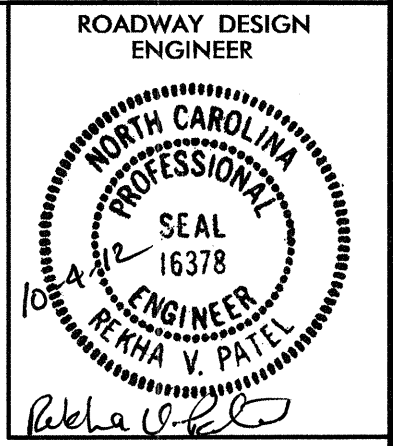
FOR SLOPE / EMBANKMENT STABILITY

* SEE X-SECTIONS

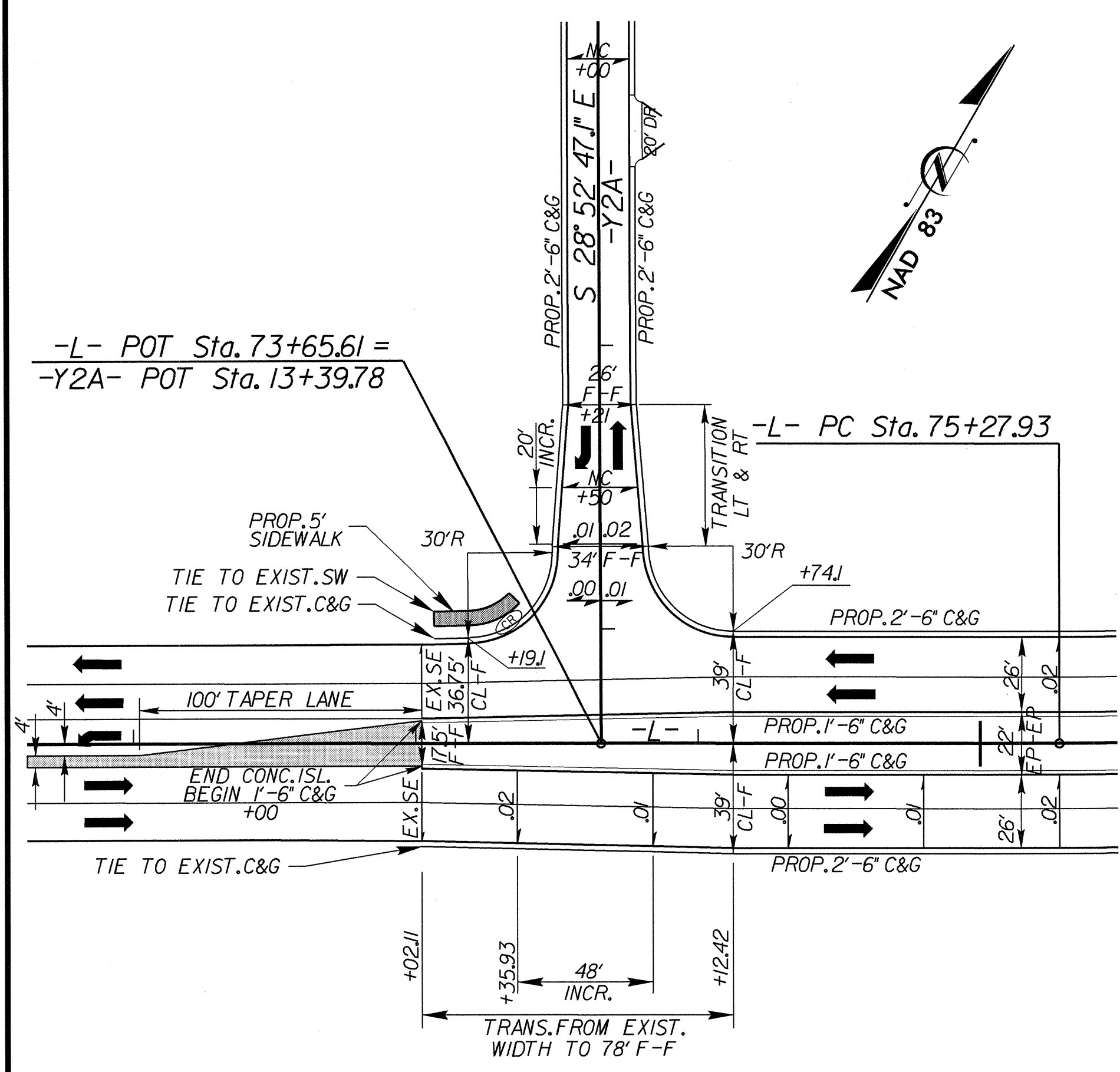
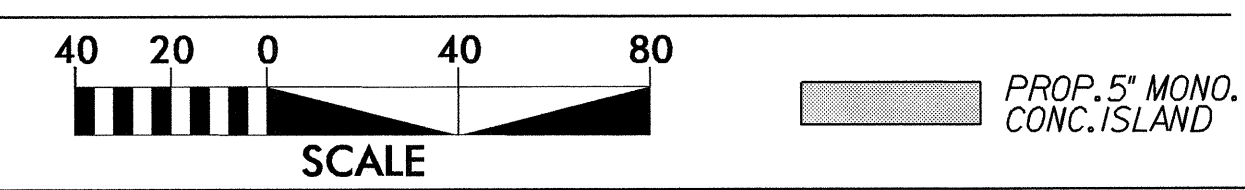
-L- STA. 95+95 TO STA. 97+95
OR
AS DIRECTED BY ENGINEER

5/14/99

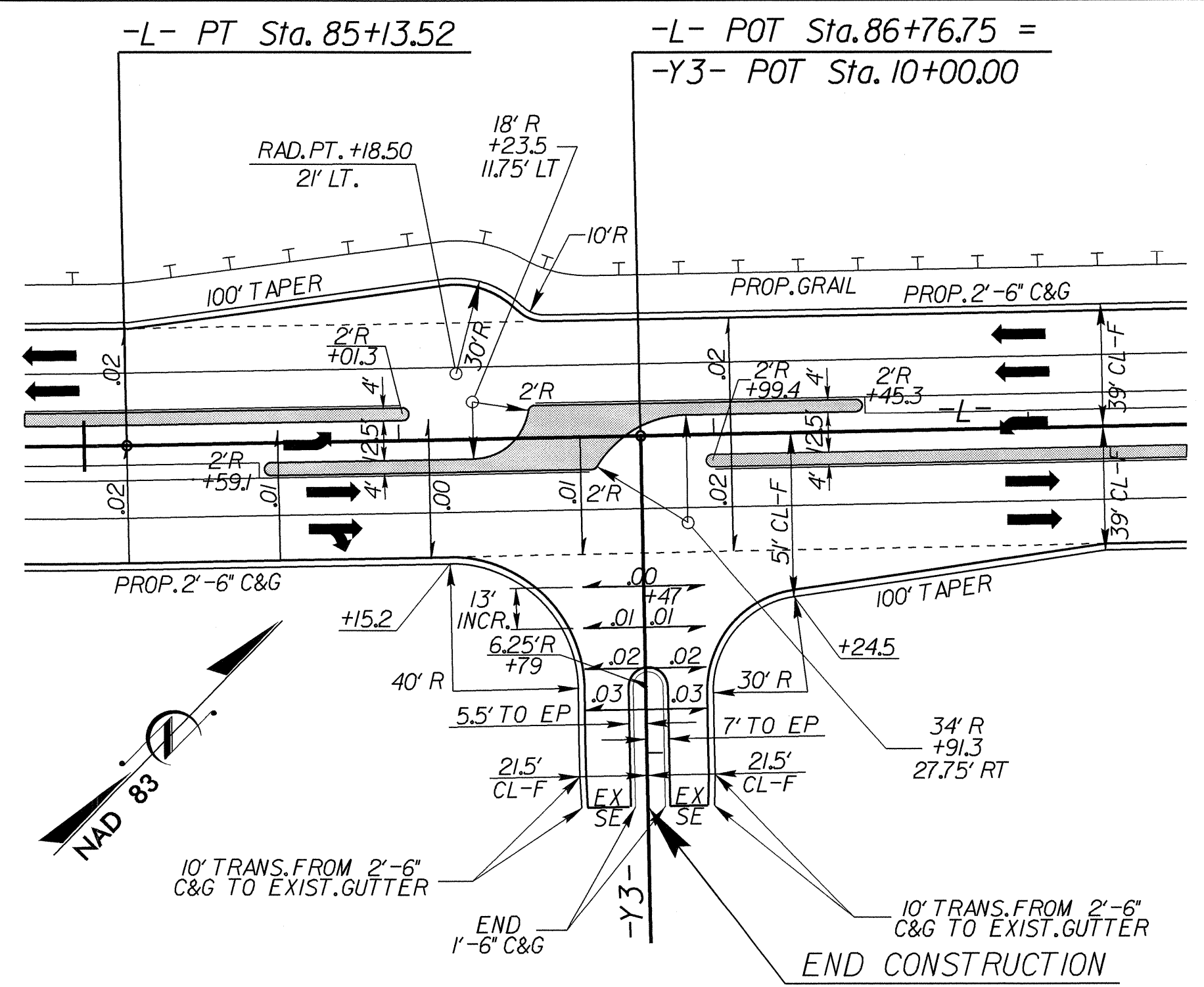
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R:\Roadway\Projects\U-2810B_Rdy-undercut_detail.dgn



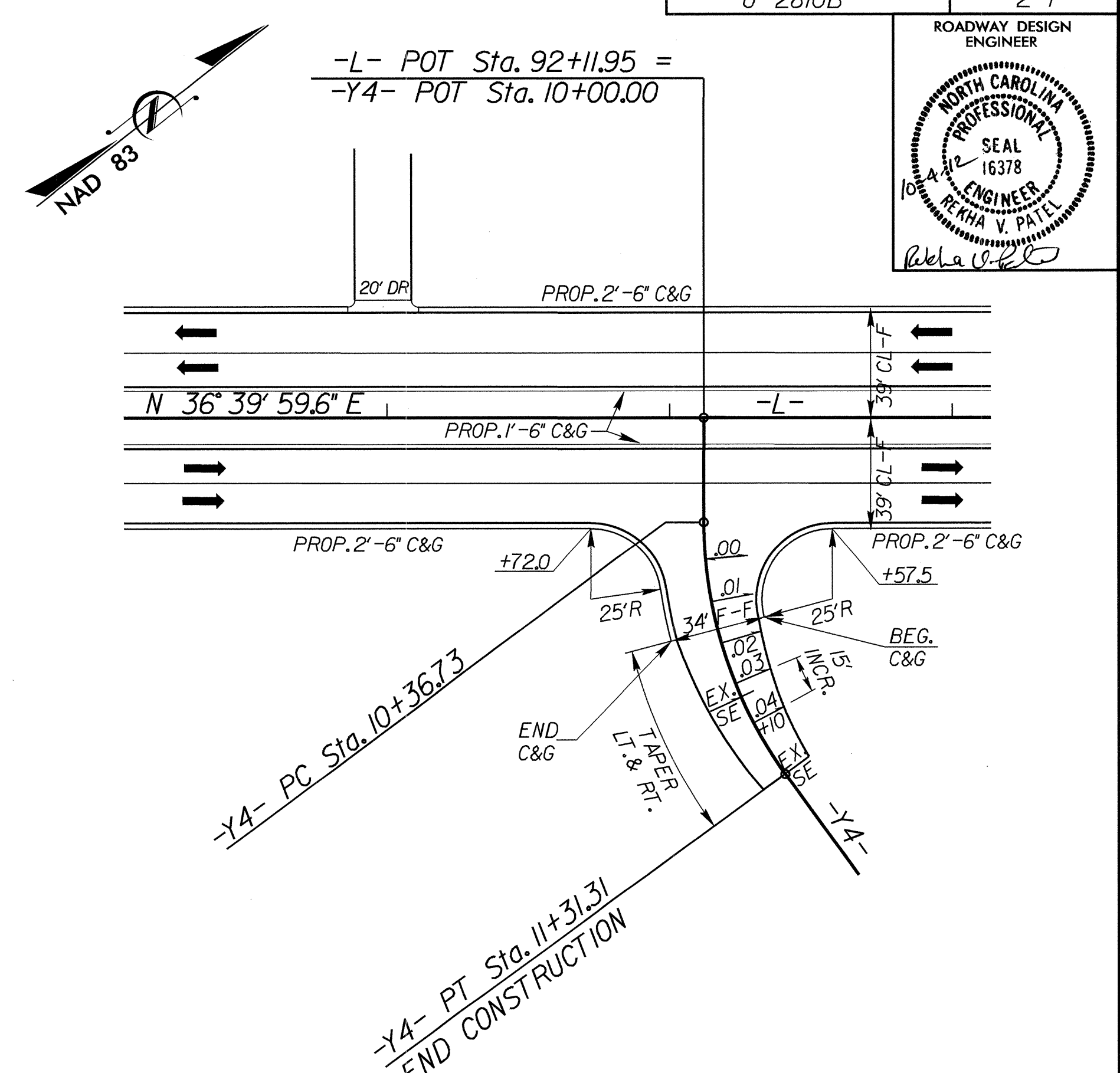
INTERSECTION DETAILS



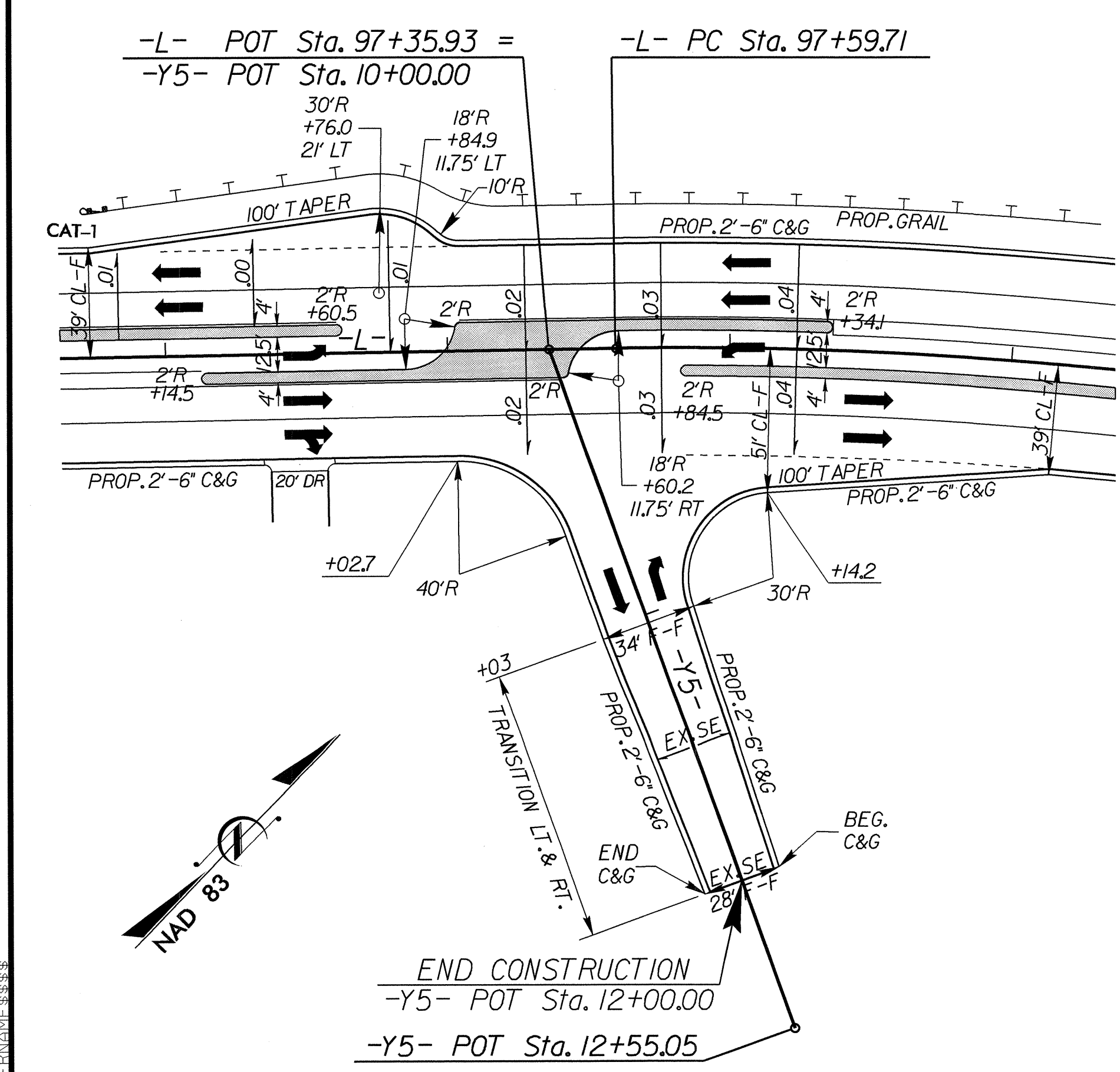
DETAIL OF INTERSECTION -L- AND -Y2A-



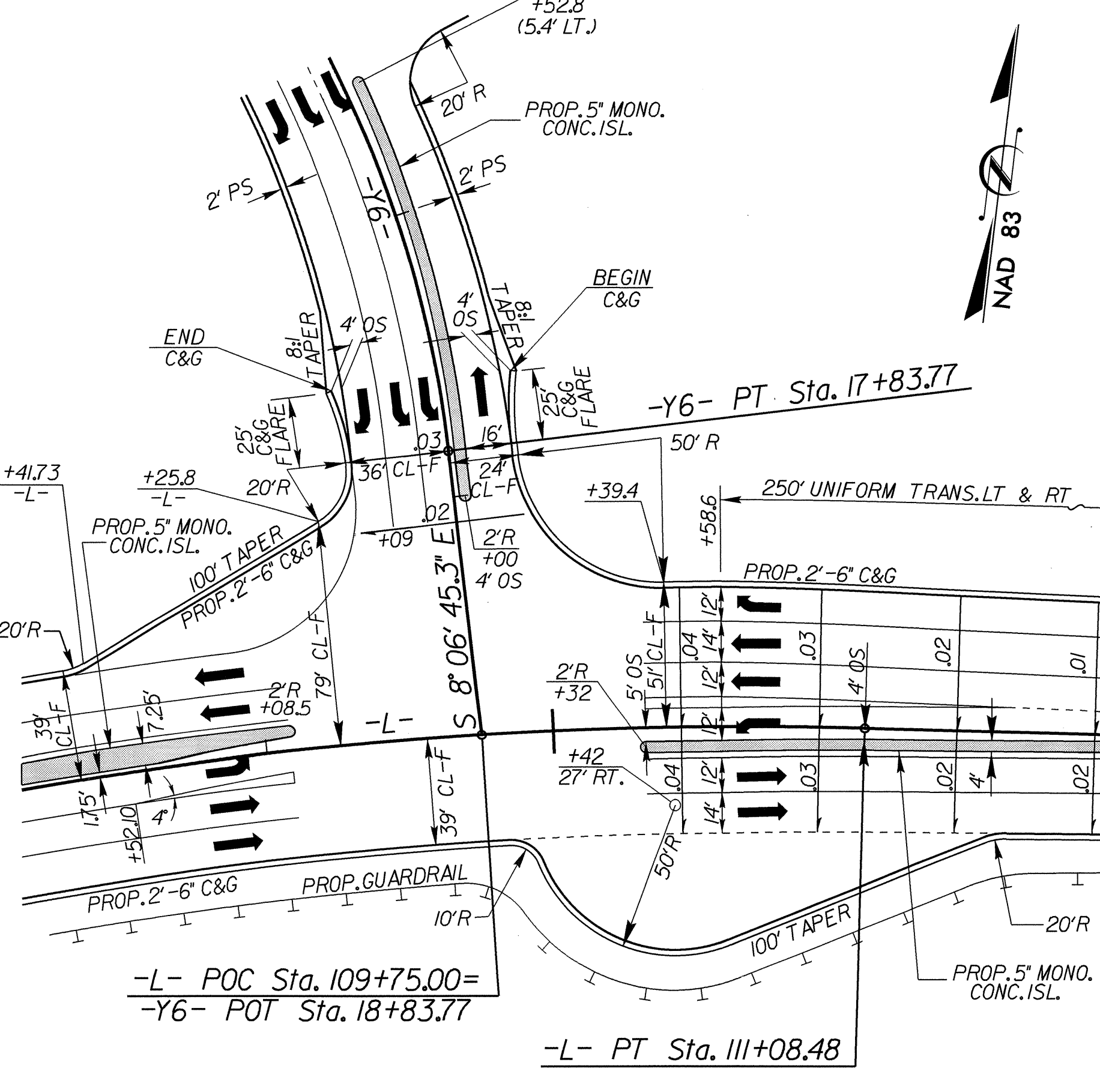
DETAIL OF INTERSECTION -L- AND -Y3-



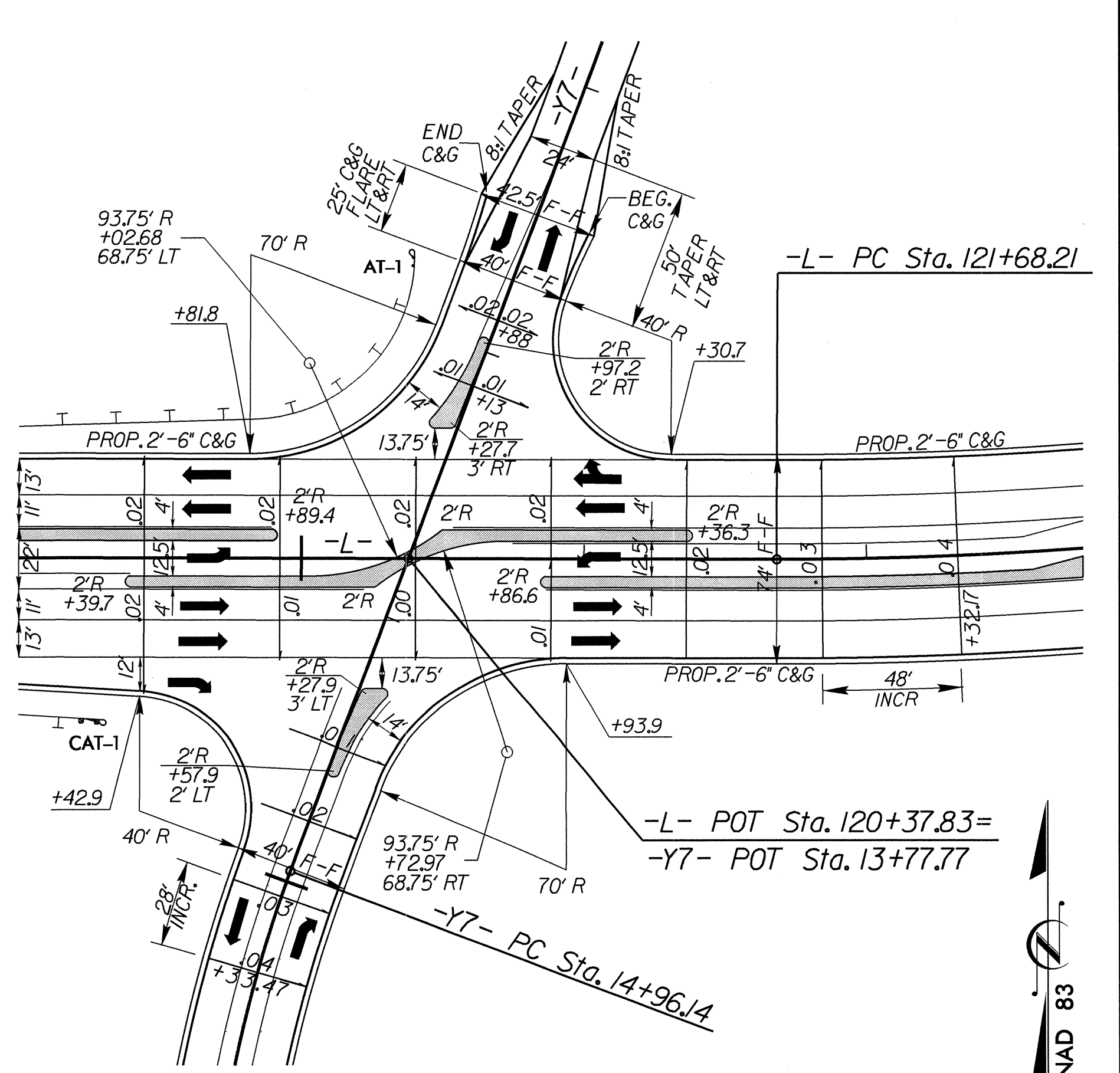
DETAIL OF INTERSECTION -L- AND -Y4-



DETAIL OF INTERSECTION -L- AND -Y5-

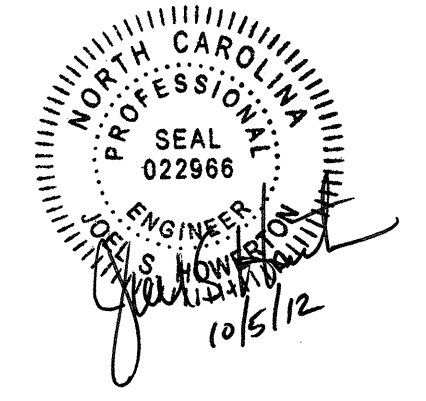
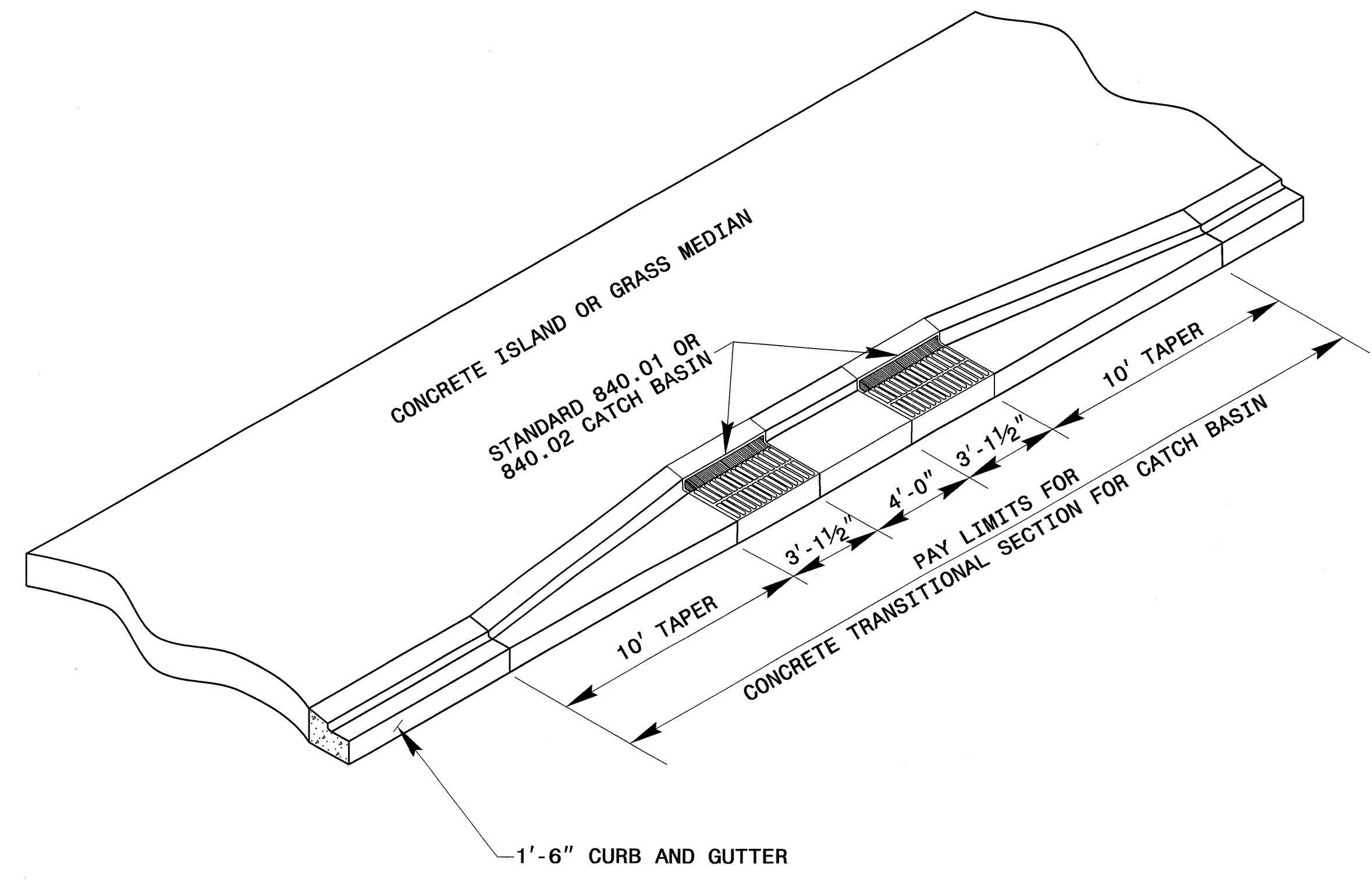
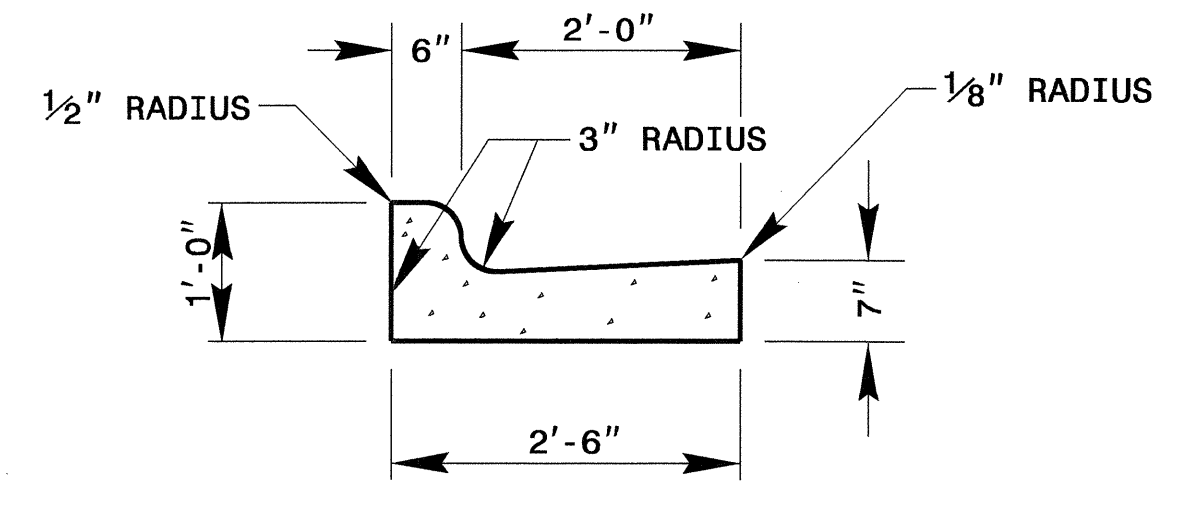
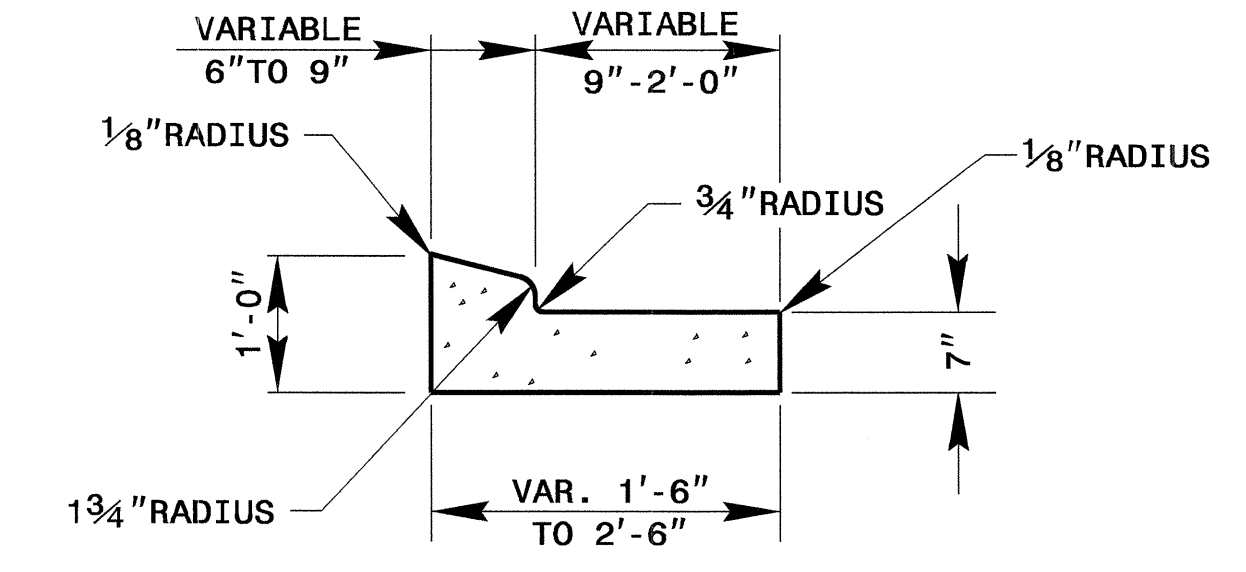
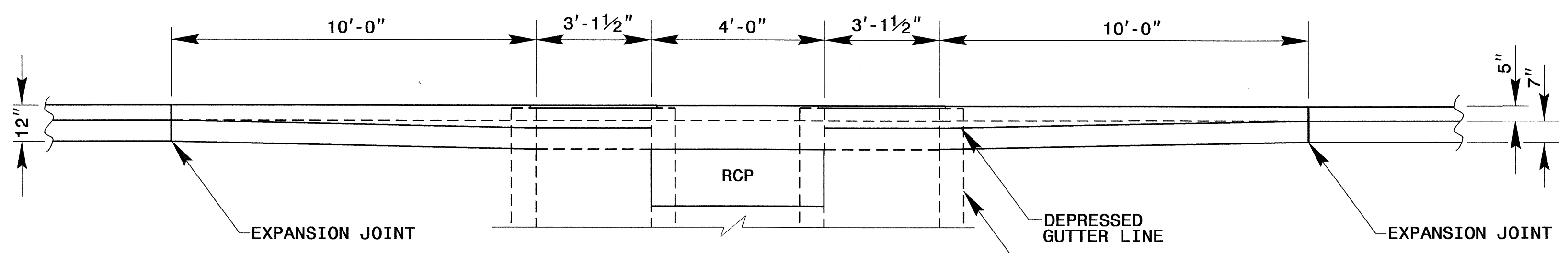
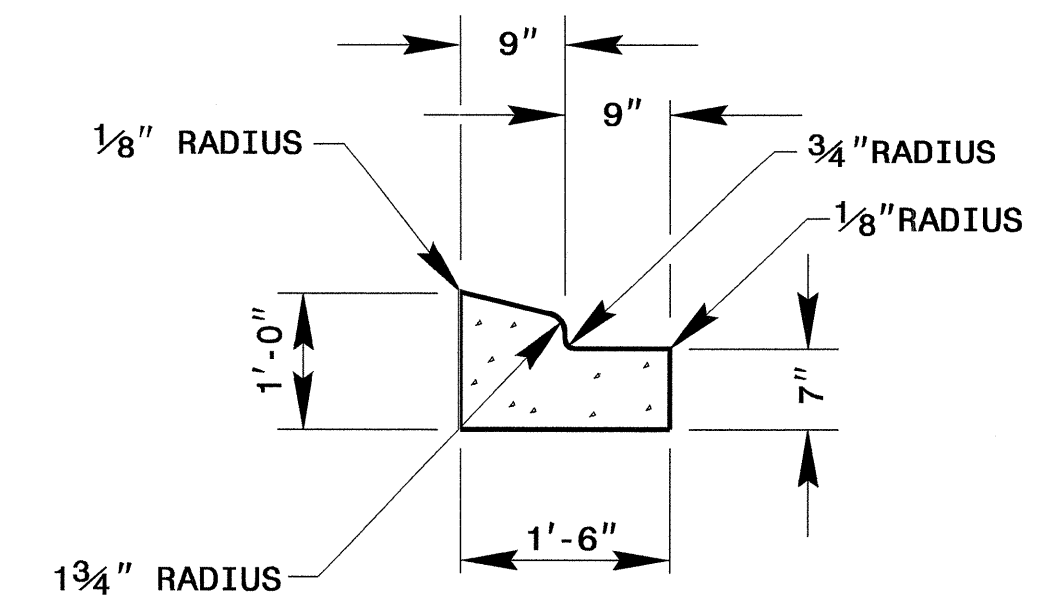
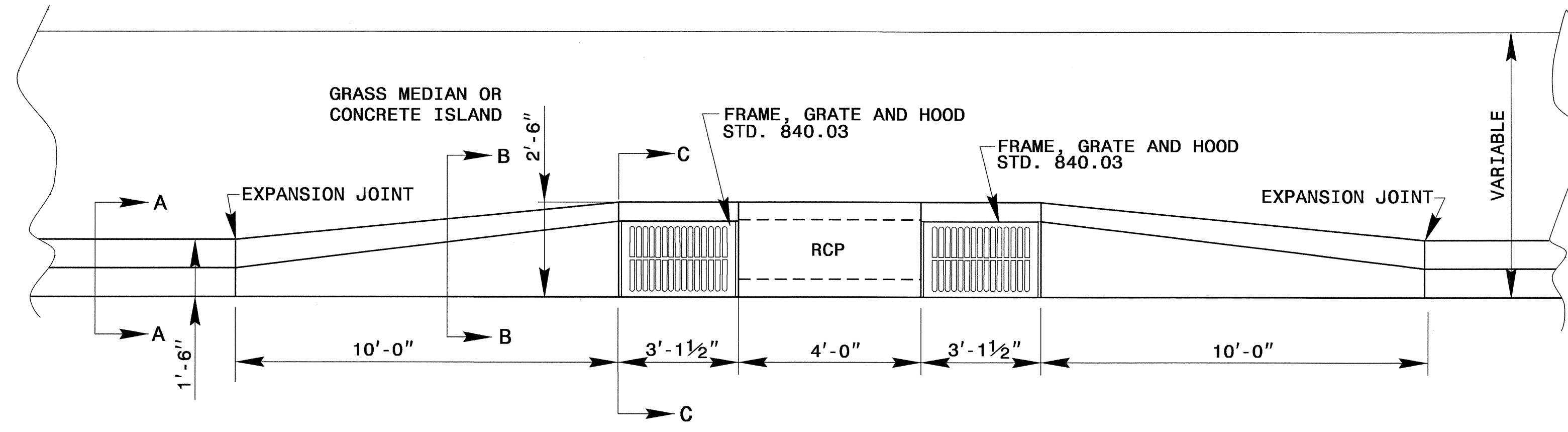


DETAIL OF INTERSECTION -L- AND -Y6-



DETAIL OF INTERSECTION -L- AND -Y7-

03-OCT-2012 16:03 R:\Projects\U2810B_rdy.dwg:intersection.dgn
 6/12/09



**CONTRACT STANDARDS & DEVELOPMENT UNIT
STANDARDS AND SPECIAL DESIGN**
Office 919-250-4128 FAX 919-250-4119

**METHOD FOR PLACEMENT
OF CATCH BASINS
IN MEDIAN ISLAND**

ORIGINAL BY: rnbritt DATE: 08-02-12
 MODIFIED BY: [Signature] DATE: [Blank]
 CHECKED BY: [Signature] DATE: 9/10/12
 FILE SPEC.: details/nbritt/eng1ish/hydro/di42.dgn

5/14/99

STATE OF
NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

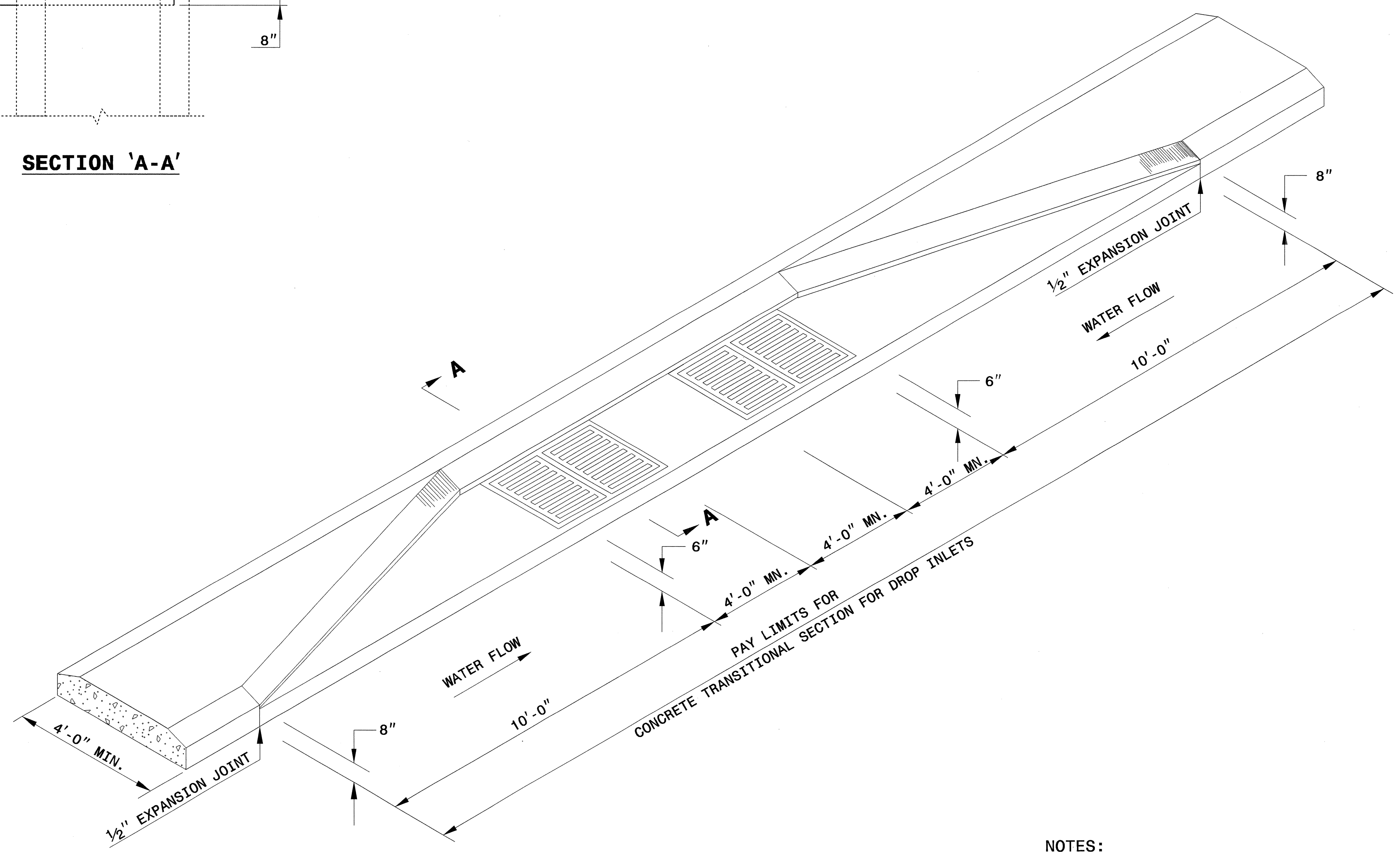
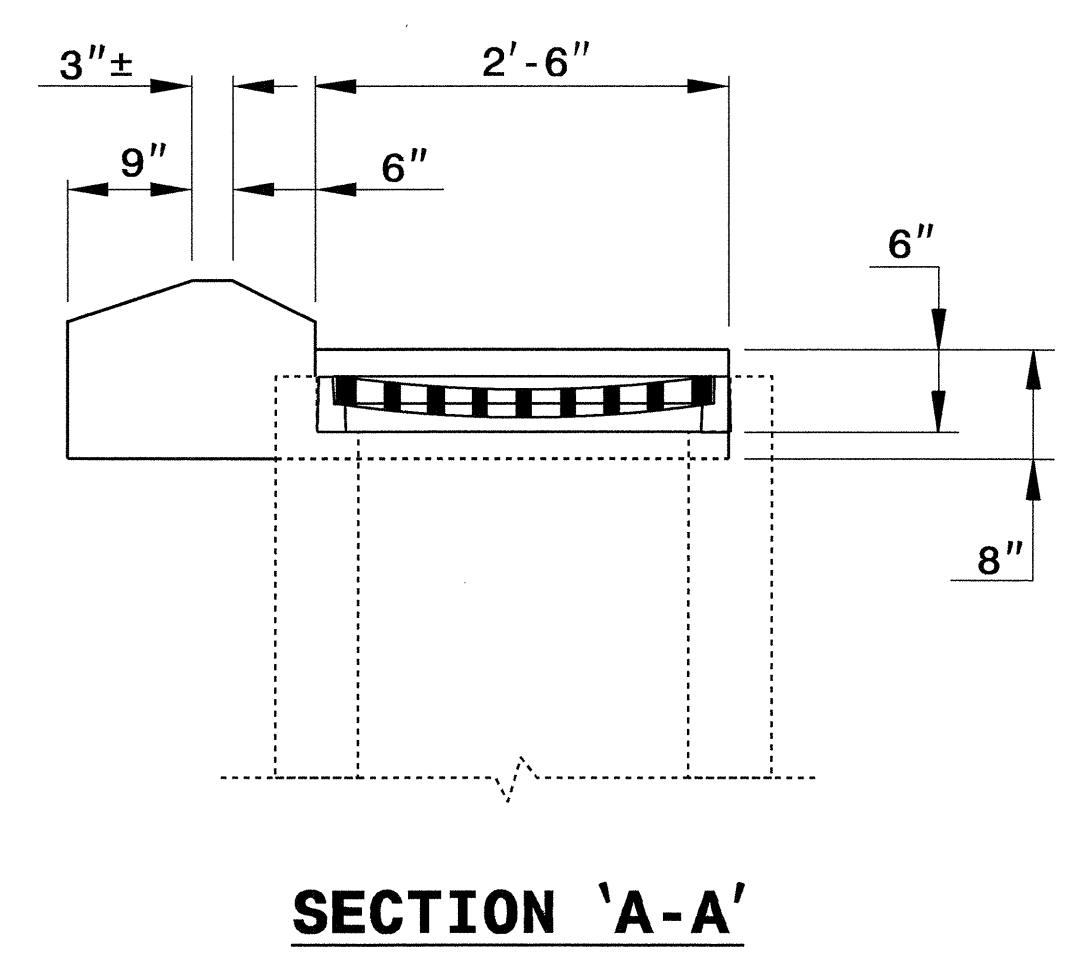
ENGLISH DETAIL DRAWING FOR
**METHOD FOR PLACEMENT OF
DROP INLETS IN CONCRETE ISLANDS**

SHEET 1 OF 1
852D06

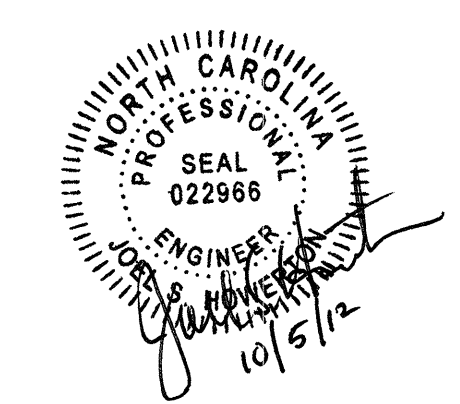
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DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR
**METHOD FOR PLACEMENT OF
DROP INLETS IN CONCRETE ISLANDS**

SHEET 1 OF 1
852D06



NOTES:
-REFER TO STD. NO. 840.14 OR 840.15 FOR DRAINAGE STRUCTURE.
-REFER TO STD. NO. 840.16 FOR GRATE AND FRAME.



**CONTRACT STANDARDS
AND DEVELOPMENT UNIT**
Office 919-707-6950 FAX 919-250-4119

SEE TITLE PLATE

ORIGINAL BY: KKEMPF DATE: 8/2/10
MODIFIED BY: *[Signature]* DATE: *[Signature]*
CHECKED BY: *[Signature]* DATE: 9/10/12
FILE SPEC: KKEMPF\ENGLISH\852D0601.DGN

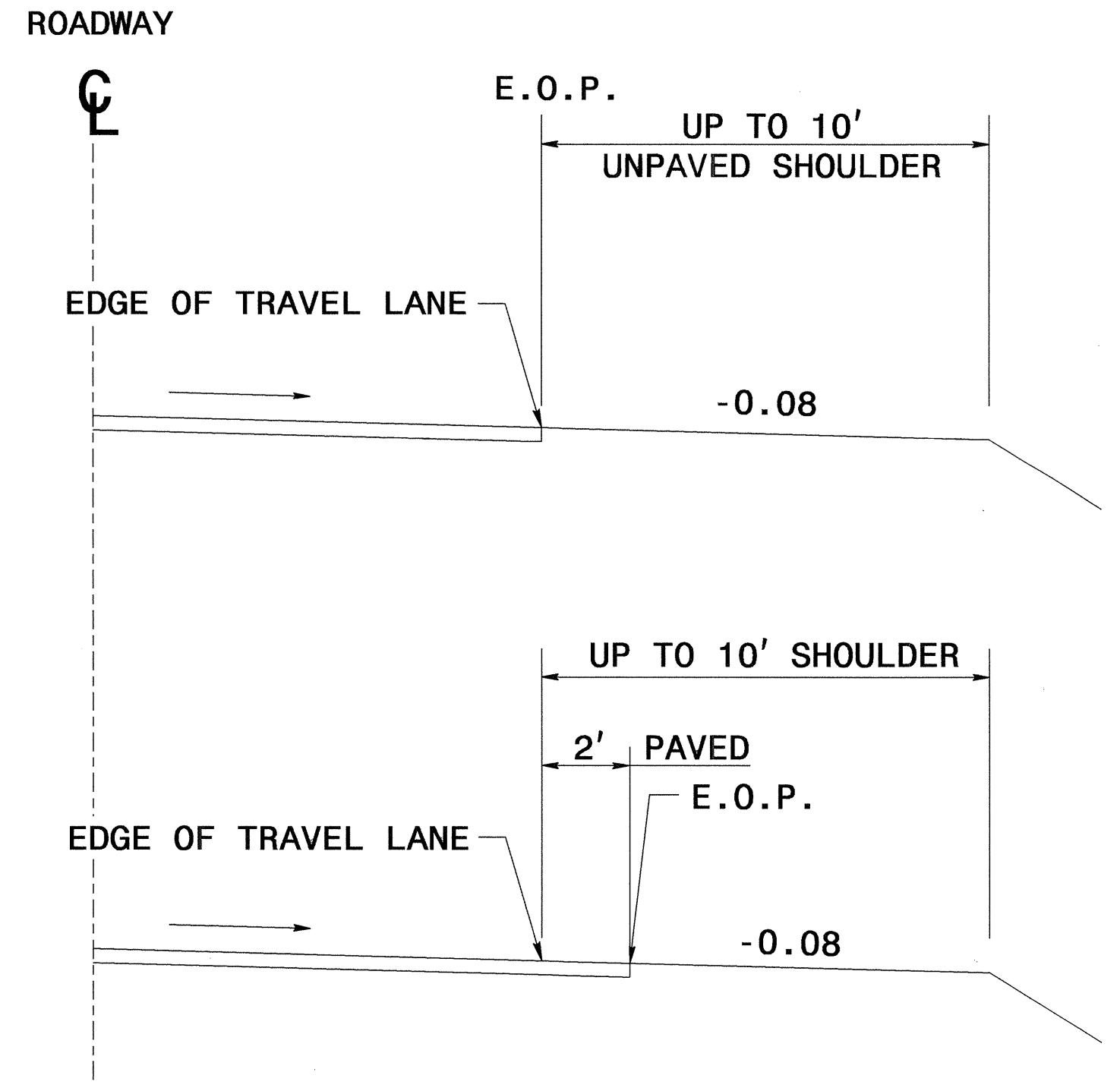
CUSTOMER'S NAME

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

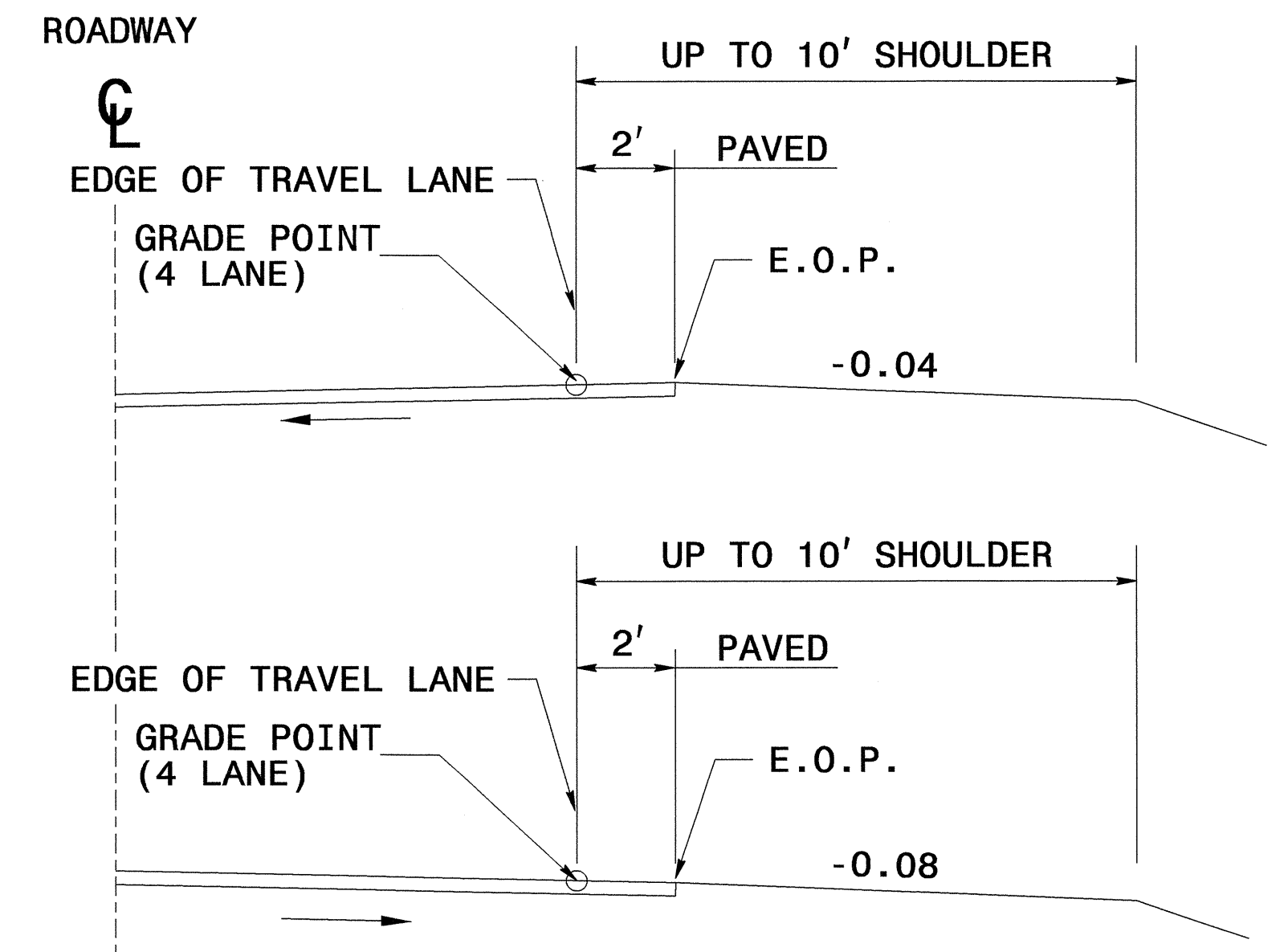
ENGLISH DETAIL DRAWING FOR
METHOD OF SHOULDER CONSTRUCTION
HIGH SIDE OF SUPERELEVATED CURVE
METHOD I (SHOULDERS UP TO 10')

SHEET 1 OF 1
560D01

NORMAL OUTSIDE SHOULDER SLOPES

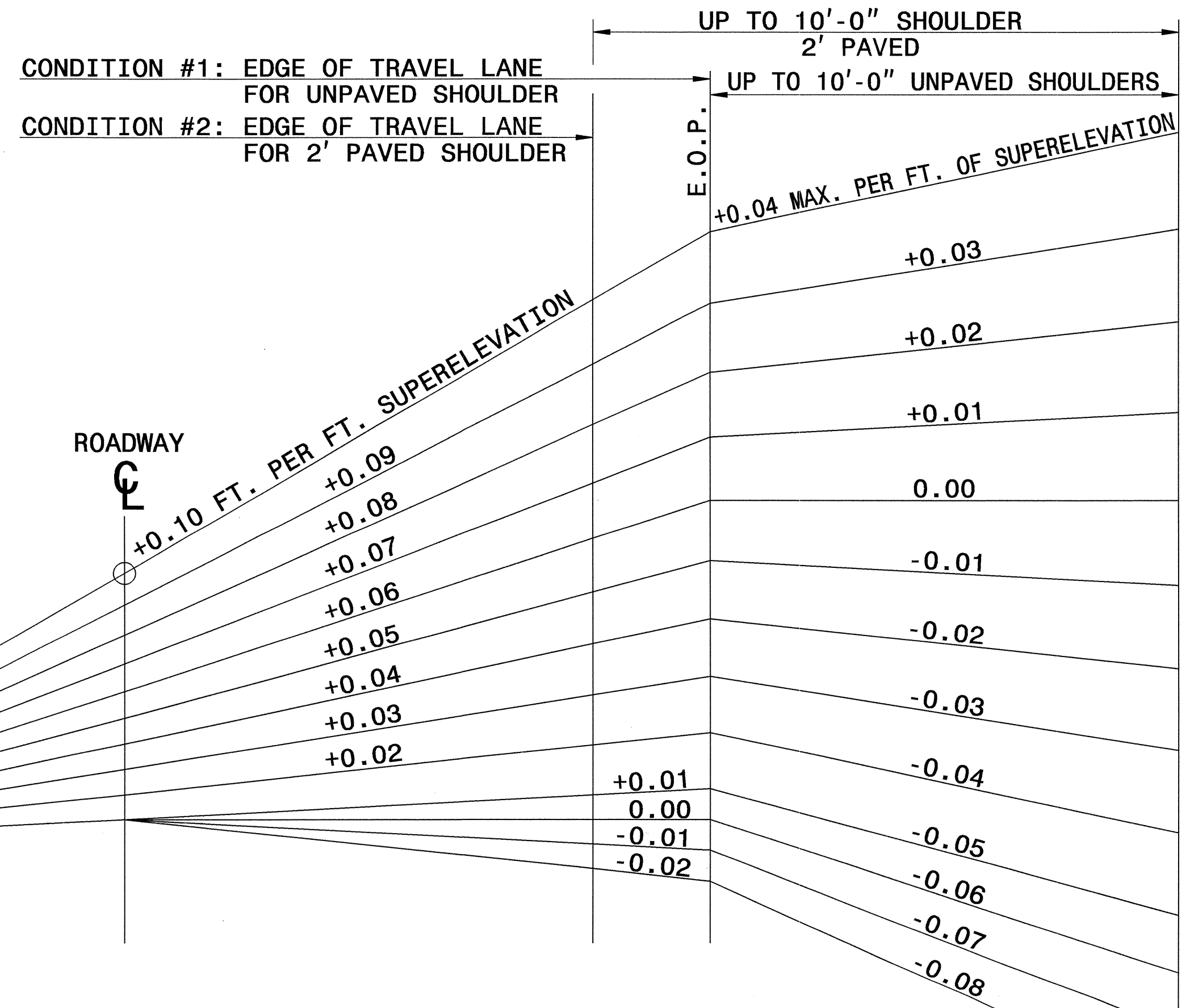


NORMAL MEDIAN SHOULDER SLOPES



NOTE: ON LOW SIDE OF SUPERELEVATED PAVEMENT USE NORMAL SHOULDER SLOPE UNLESS NORMAL SHOULDER SLOPE IS FLATTER THAN SUPERELEVATION, THEN USE SUPER-ELEVATION RATE ON SHOULDER.

NOTE: "ROLL-OVER" ALGEBRAIC DIFFERENCE IN RATES OF CROSS SLOPE NOT TO EXCEED 0.06 AS SHOWN. IF SUPER-ELEVATION IS REVOLVED ABOUT CENTER LINE OF PAVEMENT, SAME APPLIES. ON DIVIDED ROADWAYS, GRADE POINT TO BE AT THE MEDIAN EDGE OF TRAVEL LANE.



STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
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RALEIGH, N.C.

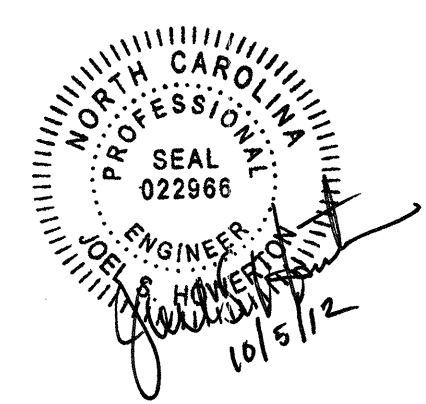
ENGLISH DETAIL DRAWING FOR
METHOD OF SHOULDER CONSTRUCTION
HIGH SIDE OF SUPERELEVATED CURVE
METHOD I (SHOULDERS UP TO 10')

SHEET 1 OF 1
560D01

CONTRACT STANDARDS AND DEVELOPMENT UNIT
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ORIGINAL BY: KKempf DATE: 5-15-09
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5/14/99

**STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
ROADWAY SUMMARY OF QUANTITIES FOR CONTRACT - C202243**

ItemNumber	Sec #	Quantity	Unit	Description
0000100000-N	800	Lump Sum		MOBILIZATION
0000400000-N	801	Lump Sum		CONSTRUCTION SURVEYING
0001000000-E	200	Lump Sum		CLEARING & GRUBBING . ACRE(S)
0008000000-E	200	1	ACR	SUPPLEMENTARY CLEARING & GRUBBING
0015000000-N	205	11	EA	SEALING ABANDONED WELLS
0022000000-E	225	2,700	CY	UNCLASSIFIED EXCAVATION
0029000000-N	SP	Lump Sum		REINFORCED BRIDGE APPROACH FILL, STATION ***** (115+52.74 -L)
0036000000-E	225	2,360	CY	UNDERCUT EXCAVATION
0106000000-E	230	211,000	CY	BORROW EXCAVATION
0134000000-E	240	240	CY	DRAINAGE DITCH EXCAVATION
0156000000-E	250	7,770	SY	REMOVAL OF EXISTING ASPHALT PAVEMENT
0177000000-E	250	2,630	SY	BREAKING OF EXISTING ASPHALT PAVEMENT
0194000000-E	SP	2,400	CY	SELECT GRANULAR MATERIAL, CLASS III
0196000000-E	270	4,100	SY	GEOTEXTILE FOR SOIL STABILIZATION
0318000000-E	300	1,825	TON	FOUNDATION CONDITIONING MATERIAL, MINOR STRUCTURES
0320000000-E	300	3,710	SY	FOUNDATION CONDITIONING GEOTEXTILE
0335200000-E	305	856	LF	15" DRAINAGE PIPE
0335300000-E	305	128	LF	18" DRAINAGE PIPE
0335500000-E	305	772	LF	30" DRAINAGE PIPE
0335600000-E	305	176	LF	36" DRAINAGE PIPE
0335700000-E	305	44	LF	42" DRAINAGE PIPE
0448200000-E	310	5,736	LF	15" RC PIPE CULVERTS, CLASS IV
0448300000-E	310	1,300	LF	18" RC PIPE CULVERTS, CLASS IV
0448400000-E	310	848	LF	24" RC PIPE CULVERTS, CLASS IV
0448500000-E	310	420	LF	30" RC PIPE CULVERTS, CLASS IV

ItemNumber	Sec #	Quantity	Unit	Description
3150000000-N	862	10	EA	ADDITIONAL GUARDRAIL POSTS
3195000000-N	862	1	EA	GUARDRAIL ANCHOR UNITS, TYPE AT-1
3210000000-N	862	4	EA	GUARDRAIL ANCHOR UNITS, TYPE CAT-1
3215000000-N	862	4	EA	GUARDRAIL ANCHOR UNITS, TYPE III
3270000000-N	SP	3	EA	GUARDRAIL ANCHOR UNITS, TYPE 350
3628000000-E	876	120	TON	RIP RAP, CLASS I
3649000000-E	876	50	TON	RIP RAP, CLASS B
3656000000-E	876	1,955	SY	GEOTEXTILE FOR DRAINAGE
3659000000-N	SP	1	EA	PREFORMED SCOUR HOLES WITH LEVEL SPREADER APRON
4072000000-E	903	999	LF	SUPPORTS, 3-LB STEEL U-CHANNEL
4102000000-N	904	58	EA	SIGN ERECTION, TYPE E
4155000000-N	907	33	EA	DISPOSAL OF SIGN SYSTEM, U-CHANNEL
4400000000-E	1110	576	SF	WORK ZONE SIGNS (STATIONARY)
4405000000-E	1110	224	SF	WORK ZONE SIGNS (PORTABLE)
4410000000-E	1110	175	SF	WORK ZONE SIGNS (BARRICADE MOUNTED)
4420000000-N	1120	2	EA	PORTABLE CHANGEABLE MESSAGE SIGN
4430000000-N	1130	351	EA	DRUMS
4445000000-E	1145	448	LF	BARRICADES (TYPE III)
4455000000-N	1150	82	DAY	FLAGGER
4650000000-N	1251	370	EA	TEMPORARY RAISED PAVEMENT MARKERS
4685000000-E	1205	12,242	LF	THERMOPLASTIC PAVEMENT MARKING LINES (4", 90 MILS)
4686000000-E	1205	15,381	LF	THERMOPLASTIC PAVEMENT MARKING LINES (4", 120 MILS)
4695000000-E	1205	3,317	LF	THERMOPLASTIC PAVEMENT MARKING LINES (8", 90 MILS)
4710000000-E	1205	202	LF	THERMOPLASTIC PAVEMENT MARKING LINES (24", 120 MILS)

SUMMARY OF QUANTITIES - U-2810B

ItemNumber	Sec #	Quantity	Unit	Description
0448600000-E	310	404	LF	36" RC PIPE CULVERTS, CLASS IV
0448700000-E	310	220	LF	42" RC PIPE CULVERTS, CLASS IV
0576000000-E	310	72	LF	*** CS PIPE CULVERTS, ***** THICK (36", 0.079")
0582000000-E	310	68	LF	15" CS PIPE CULVERTS, 0.064" THICK
0594000000-E	310	76	LF	24" CS PIPE CULVERTS, 0.064" THICK
0636000000-E	310	2	EA	*** CS PIPE ELBOWS, ***** THICK (15", 0.064")
0636000000-E	310	2	EA	*** CS PIPE ELBOWS, ***** THICK (24", 0.064")
0636000000-E	310	2	EA	*** CS PIPE ELBOWS, ***** THICK (36", 0.079")
0995000000-E	340	400	LF	PIPE REMOVAL
1011000000-N	500	Lump Sum		FINE GRADING
1099500000-E	505	500	CY	SHALLOW UNDERCUT
1099700000-E	505	1,000	TON	CLASS IV SUBGRADE STABILIZATION
1110000000-E	510	1,000	TON	STABILIZER AGGREGATE
1220000000-E	545	400	TON	INCIDENTAL STONE BASE
1330000000-E	607	1,730	SY	INCIDENTAL MILLING
1489000000-E	610	11,990	TON	ASPHALT CONC BASE COURSE, TYPE B25.0B
1498000000-E	610	9,030	TON	ASPHALT CONC INTERMEDIATE COURSE, TYPE I19.0B
1519000000-E	610	9,400	TON	ASPHALT CONC SURFACE COURSE, TYPE S9.5B
1575000000-E	620	1,525	TON	ASPHALT BINDER FOR PLANT MIX
1693000000-E	654	184	TON	ASPHALT PLANT MIX, PAVEMENT REPAIR
2022000000-E	815	45	CY	SUBDRAIN EXCAVATION
2033000000-E	815	34	CY	SUBDRAIN FINE AGGREGATE
2044000000-E	815	200	LF	6" PERFORATED SUBDRAIN PIPE

ItemNumber	Sec #	Quantity	Unit	Description
4725000000-E	1205	71	EA	THERMOPLASTIC PAVEMENT MARKING SYMBOL (90 MILS)
4770000000-E	1205	515	LF	COLD APPLIED PLASTIC PAVEMENT MARKING LINES, TYPE ** (4") (III)
4810000000-E	1205	85,027	LF	PAINT PAVEMENT MARKING LINES (4")
4820000000-E	1205	254	LF	PAINT PAVEMENT MARKING LINES (8")
4835000000-E	1205	754	LF	PAINT PAVEMENT MARKING LINES (24")
4845000000-N	1205	74	EA	PAINT PAVEMENT MARKING SYMBOL
4850000000-E	1205	16,060	LF	REMOVAL OF PAVEMENT MARKING LINES (4")
4875000000-N	1205	16	EA	REMOVAL OF PAVEMENT MARKING SYMBOLS & CHARACTERS
4900000000-N	1251	580	EA	PERMANENT RAISED PAVEMENT MARKERS
4915000000-E	1264	15	EA	7 U-CHANNEL POSTS
4955000000-N	1264	15	EA	OBJECT MARKERS (END OF ROAD)
5325200000-E	1510	300	LF	2" WATER LINE
5325800000-E	1510	3,844	LF	8" WATER LINE
5326200000-E	1510	7,464	LF	12" WATER LINE
5536000000-E	1515	1	EA	2" VALVE
5546000000-E	1515	12	EA	8" VALVE
5558000000-E	1515	17	EA	12" VALVE
5606000000-E	1515	4	EA	2" BLOW OFF
5643000000-E	1515	42	EA	*** WATER METER (5/8")
5648000000-N	1515	1	EA	RELOCATE WATER METER
5666000000-E	1515	26	EA	FIRE HYDRANT
5835700000-E	1540	84	LF	16" ENCASMENT PIPE
5836000000-E	1540	266	LF	24" ENCASMENT PIPE
5871700000-E	1550	66	LF	TRENCHLESS INSTALLATION OF 12" IN SOIL

ItemNumber	Sec #	Quantity	Unit	Description
2070000000-N	815	1	EA	SUBDRAIN PIPE OUTLET
2077000000-E	815	6	LF	6" OUTLET PIPE
2209000000-E	838	5	CY	ENDWALLS
2286000000-N	840	135	EA	MASONRY DRAINAGE STRUCTURES
2308000000-E	840	43	LF	MASONRY DRAINAGE STRUCTURES
2364000000-N	840	35	EA	FRAME WITH TWO GRATES, STD 840.16
2366000000-N	840	3	EA	FRAME WITH TWO GRATES, STD 840.24
2367000000-N	840	5	EA	FRAME WITH TWO GRATES, STD 840.29
2374000000-N	840	9	EA	FRAME WITH GRATE & HOOD, STD 840.03, TYPE ** (E)
2374000000-N	840	24	EA	FRAME WITH GRATE & HOOD, STD 840.03, TYPE ** (F)
2374000000-N	840	55	EA	FRAME WITH GRATE & HOOD, STD 840.03, TYPE ** (G)
2396000000-N	840	3	EA	FRAME WITH COVER, STD 840.54
2440000000-N	852	10	EA	CONCRETE TRANSITIONAL SECTION FOR CATCH BASIN
2451000000-N	852	19	EA	CONCRETE TRANSITIONAL SECTION FOR DROP INLET
2542000000-E	846	3,085	LF	1'-6" CONCRETE CURB & GUTTER
2549000000-E	846	11,630	LF	2'-6" CONCRETE CURB & GUTTER
2591000000-E	848	20	SY	4" CONCRETE SIDEWALK
2605000000-N	848	1	EA	CONCRETE CURB RAMP
2612000000-E	848	360	SY	6" CONCRETE DRIVEWAY
2647000000-E	852	3,000	SY	5" MONOLITHIC CONCRETE ISLANDS (SURFACE MOUNTED)
3030000000-E	862	2,225	LF	STEEL BM GUARDRAIL
3045000000-E	862	350	LF	STEEL BM GUARDRAIL, SHOP CURVED
3105000000-N	862	10	EA	STEEL BM GUARDRAIL TERMINAL SECTIONS

ItemNumber	Sec #	Quantity	Unit	Description
5888000000-E	SP	836	LF	GENERIC UTILITY ITEM 12" RJ DI WATER LINE
5888000000-E	SP	94	LF	GENERIC UTILITY ITEM 8" RJ DI WATER LINE
6000000000-E	1605	17,200	LF	TEMPORARY SILT FENCE
6006000000-E	1610	1,110	TON	STONE FOR EROSION CONTROL, CLASS A
6009000000-E	1610	3,980	TON	STONE FOR EROSION CONTROL, CLASS B
6012000000-E	1610	2,910	TON	SEDIMENT CONTROL STONE
6015000000-E	1615	24.5	ACR	TEMPORARY MULCHING
6018000000-E	1620	750	LB	SEED FOR TEMPORARY SEEDING
6021000000-E	1620	3.75	TON	FERTILIZER FOR TEMPORARY SEEDING
6024000000-E	1622	3,000	LF	TEMPORARY SLOPE DRAINS
6029000000-E	SP	400	LF	SAFETY FENCE
6030000000-E	1630	7,550	CY	SILT EXCAVATION
6036000000-E	1631	40,000	SY	MATTING FOR EROSION CONTROL
6037000000-E	SP	120	SY	COIR FIBER MAT
6042000000-E	1632	6,000	LF	1/4" HARDWARE CLOTH
6071010000-E	SP	300	LF	WATTLE
6071020000-E	SP	170	LB	POLYACRYLAMIDE (PAM)
6071030000-E	1640	1,750	LF	COIR FIBER BAFFLE
6071050000-E	SP	8	EA	*** SKIMMER (1-1/2")
6071050000-E	SP	1	EA	*** SKIMMER (2")
6084000000-E	1660	20	ACR	SEEDING & MULCHING
6087000000-E	1660	10	ACR	MOWING
6090000000-E	1661	250	LB	SEED FOR REPAIR SEEDING
6093000000-E	1661	1.25	TON	FERTILIZER FOR REPAIR SEEDING
6096000000-E	1662	800	LB	SEED FOR SUPPLEMENTAL SEEDING
6108000000-E	1665	23.5	TON	FERTILIZER TOPDRESSING

SUMMARY OF QUANTITIES - U-2810B

ItemNumber	Sec #	Quantity	Unit	Description
6114500000-N	1667	40	MHR	SPECIALIZED HAND MOWING
6117000000-N	SP	75	EA	RESPONSE FOR EROSION CONTROL
7060000000-E	1705	1,530	LF	SIGNAL CABLE
7120000000-E	1705	7	EA	VEHICLE SIGNAL HEAD (12", 3 SECTION)
7132000000-E	1705	1	EA	VEHICLE SIGNAL HEAD (12", 4 SECTION)
7144000000-E	1705	2	EA	VEHICLE SIGNAL HEAD (12", 5 SECTION)
7264000000-E	1710	470	LF	MESSENGER CABLE (3/8")
7300000000-E	1715	700	LF	UNPAVED TRENCHING (*****) (1, 2")
7300100000-E	1715	680	LF	UNPAVED TRENCHING FOR TEMP- ORARY LEAD-IN
7324000000-N	1716	7	EA	JUNCTION BOX (STANDARD SIZE)
7444000000-E	1725	1,650	LF	INDUCTIVE LOOP SAWCUT
7456000000-E	1726	5,640	LF	LEAD-IN CABLE (*****) (14-2)
7576000000-N	SP	4	EA	METAL STRAIN SIGNAL POLE
7613000000-N	SP	4	EA	SOIL TEST
7614100000-E	SP	36	CY	DRILLED PIER FOUNDATION
7636000000-N	1745	4	EA	SIGN FOR SIGNALS
7684000000-N	1750	1	EA	SIGNAL CABINET FOUNDATION
7756000000-N	1751	1	EA	CONTROLLER WITH CABINET (TYPE 2070L, BASE MOUNTED)
7780000000-N	1751	5	EA	DETECTOR CARD (TYPE 2070L)
7901000000-N	1753	1	EA	CABINET BASE EXTENDER

STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS

SUB-REGIONAL & REGIONAL
 LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48" & UNDER)

NOTE: Invert Elevations are for Bid Purposes only and shall not be used for project construction stakeout.
 See "Standard Specifications For Roads and Structures, Section 300-5".

STATION	SIZE	THICKNESS OR GAUGE	LOCATION (L, RT, OR CL)	STRUCTURE NO.	TOP ELEVATION	INVERT ELEVATION	INVERT ELEVATION	SLOPE CRITICAL	DRAINAGE PIPE (RCP, CSP, CAAP, HDPE, or PVC)								C.S. PIPE							R.C. PIPE (CLASS III)							R.C. PIPE (CLASS IV)							ENDWALLS	QUANTITIES FOR THESE STRUCTURES	* TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL. 'B')	FRAME, GRATES AND HOOD STANDARD 840.03	CONCRETE TRANSITIONAL SECTION	TYPE OF GRATE			CATCH BASIN	DROP INLET	D.I. STD. 840.14 OR STD. 840.15	D.I. FRAME & GRATES STD. 840.16	G.D.I. TYPE "A" STD. 840.17 OR 840.26	G.D.I. TYPE "B" STD. 840.18 OR 840.27	G.D.I. TYPE "D" STD. 840.19 OR 840.28	T.B.G.D.I. STD. 840.36	STEEL GRATE AND FRAME STD. 840.37	G.D.I. (N.S.) FRAME WITH GRATE STD. 840.24	G.D.I. (N.S.) FRAME WITH TWO GRATES STD. 840.24	J.B. STD. 840.31 OR 840.32	T.B.J.B. STD. 840.34	M.H. FRAME & COVER STD. 840.54	G.D.I. (N.S.) FRAME WITH TWO GRATES STD. 840.29	CORR. STEEL ELBOWS NO. & SIZE	CONC. COLLARS CL. "B" C.Y. STD. 840.72	CONC. & BRICK PIPE PLUG, C.Y. STD. 840.71	PIPE REMOVAL LIN. FT.	REMARKS			
									12"	15"	18"	24"	30"	36"	42"	48"	12"	15"	18"	24"	30"	36"	42"	48"	12"	15"	18"	24"	30"	36"	42"	48"	12"	15"	18"	24"	30"						36"	42"	48"																					E	F	G
									DO NOT USE RCP								DO NOT USE CSP							DO NOT USE CAAP							DO NOT USE HDPE																																			PER EACH (0' THRU 5.0')	5.0' THRU 10.0'	
SHEET 3-A TOTALS =									100									672	320	84													19	3.63	16	4	5	7	6																													
SHEET 3-B TOTALS =									240		120							320	304	212												18	13.54	9	2	2	5	2	2	9	9							2@36	64																			
SHEET 3-C TOTALS =									224								76	1164	180	76												20	3.69	14		7	7		1	5	5							2@24	66																			
SHEET 3-D TOTALS =									152		176	44						532	128	404	220										4.5	22	10.45	1.36	12	3	1	8	1	6	8	8	1									260																
SHEET 3-E TOTALS =											652							1004	424	72											21	0.37	7																																			
SHEET 3-F TOTALS =									60									932	284	208												19	8.83	0.02	19		6	13										2@15																				
SHEET 3-G TOTALS =									80	128								112	92	184											16			11		3	8			4	4	4																										
U-2810B TOTAL =									856	128	772	176	44					5736	1300	848	404	220								4.5	135	40.51	1.38	88	9	24	55	10	19	35	35	4	4							2@15 2@24 2@36	390																	
											SAY 5				SAY 43				SAY 400																																																	

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STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS

"N" = DISTANCE FROM EDGE OF LANE TO FACE OF GUARDRAIL.
 TOTAL SHOULDER WIDTH = DISTANCE FROM EDGE OF TRAVEL LANE TO SHOULDER BREAK POINT.
 FLARE LENGTH = DISTANCE FROM LAST SECTION OF PARALLEL GUARDRAIL TO END OF GUARDRAIL.
 W = TOTAL WIDTH OF FLARE FROM BEGINNING OF TAPER TO END OF GUARDRAIL.
 G = GATING IMPACT ATTENUATOR TYPE 350
 NG = NON-GATING IMPACT ATTENUATOR TYPE 350

GUARDRAIL SUMMARY

SURVEY LINE	BEG. STA.	END STA.	LOCATION	LENGTH			WARRANT POINT		"N" DIST. FROM E.O.L.	TOTAL SHOUL. WIDTH	FLARE LENGTH		W		ANCHORS										IMPACT ATTENUATOR TYPE 350			SINGLE FACED GUARDRAIL	REMOVE EXISTING GUARDRAIL	REMOVE AND STOCKPILE EXISTING GUARDRAIL	REMARKS						
				STRAIGHT	SHOP CURVED	DOUBLE FACED	APPROACH END	TRAILING END			APPROACH END	TRAILING END	APPROACH END	TRAILING END	XI MOD	XI	GRAU 350 TL-3	TES	TYPE III	CAT-1	VI MOD	BIC	AT-1	EA	G	NG											
L	84+25	90+79	LEFT	581.25	68.75		90+00	84+50	14'	14' BERM																											
L	95+72	99+74	LEFT	312.5	43.75		98+50	96+00	14'	14' BERM																											
L	103+86		LEFT	25																																	
L	107+58	114+34	RIGHT	537.5	137.5		109+13	114+34	7.5'	14' BERM	240'		6.5'																								
L	112+00	114+76	LEFT	275			114+76	112+00	7.5'	14' BERM	67.5'	6.5'																									
L	116+31	119+31	RIGHT	300			116+31	119+25	7.5'	14' BERM	275'		4'																								
L EX	-L- 116+73 11+36	-Y7- RT 12+76.03	CENTER	312.5 37.5	87.5		120+00	116+73	7.5'	14' BERM	285'	6.5'										1															
L EX	13+24		CENTER	37.5																																	
L	125+90		LEFT	25																																	
L	126+93		RIGHT	25																																	
			SUBTOTAL	2,468.75	337.5																		1														
			LESS ANCHORS																																		
			CAT-1 4@6.25'	25																																	
			AT-1 1@6.25'	6.25																																	
			TYPE III 4@18.75'	75																																	
			GRAU 350 3@50'	150																																	
			TOTAL DEDUCTIONS	(-) 256.25																																	
			TOTAL	2,212.50	337.5																		1														
			SAY	2,225	350																																

SUMMARY OF BREAKING EXISTING ASPHALT PAVEMENT

SURVEY LINE	STATION	STATION	LOCATION L/R/V/CL	YD ²
L	93+75	94+75	RT	245.44
L	95+75	102+12	RT	1,501.11
Y2A	11+25	13+29	CL	777.11
Y5A	11+25	11+80	LT	97.11
			TOTAL:	2,620.78
			SAY:	2,630

PAVEMENT REMOVAL SUMMARY

SURVEY LINE	STATION	STATION	LOCATION L/R/V/CL	YD ²
L	73+02	81+23	CL	1,312.00
L	94+75	95+75	RT	241.11
L	101+50	103+84	LT	594.67
L	125+80	127+14	LT	354.78
L	127+35	127+89	LT	152.00
L	126+91	128+22	RT	336.78
Y4	10+38	11+04	RT	69.89
Y5A	10+97	11+80	LT	45.56
Y6	11+53	13+55	LT	984.00
L EX	11+28	11+59	CL	76.89
L EX	13+03	13+32	CL	69.44
			TEMPORARY PAVEMENT	
L	73+32	79+00		537.00
L	75+28	77+13		47.00
L	130+61	132+55		80.00
	-Y5- 12+00	-L- 101+83		1,375.00
			TOTAL:	7,762.56
			SAY:	7,770

Earthwork quantities are calculated by the Roadway Design Unit. These earthwork quantities are based in part on subsurface data provided by the Geotechnical Engineering Unit.

SUMMARY OF EARTHWORK (IN CUBIC YARDS)

STATION	STATION	UNCL. EXCAV.	UNDERCUT	EMBank. +%	BORROW	WASTE
-L- 73+00.00 LT	-L- 96+00.00 LT	20		36,360	36,340	
-Y2A- 10+75.00	-Y2A- 13+02.78	13		979	966	
	SUBTOTAL:	33		37,339	37,306	
-L- 96+00.00 LT	-L- 103+33.00 LT	2	1,206	17,631	17,629	1,206
-Y5A- 10+50.00	-Y5A- 11+71.04	12		493	481	
	SUBTOTAL:	14	1,206	18,124	18,110	1,206
-L- 73+00.00 RT	-L- 103+33.00 RT	547	132	11,885	11,338	132
-Y3- 10+37.00	-Y3- 11+17.00	51		13	39	
-Y4- 10+37.00	-Y4- 11+31.31	210		38	172	
-Y5- 10+39.11	-Y5- 12+00.00	30		360	330	
	SUBTOTAL:	838	132	12,296	11,668	343
-L- 103+33.00	-L- 114+54.74 (BB)	205		53,778	53,573	
-Y6- 10+00.00	-Y6- 13+46.83	157		156	1	
-Y6- 13+83.45	-Y6- 18+34.70	201		5,478	5,277	
	SUBTOTAL:	563		59,411	58,849	1
-L- 116+51.82 (EB)	-L- 131+50.00	1,349		56,708	55,359	
-Y7- 10+11.55	-Y7- 13+43.61	0		5,299	5,299	
-Y7- 14+11.94	-Y7- 19+45.00	310		11,013	10,703	
	SUBTOTAL:	1,659		73,019	71,360	
	TOTAL:	3,107	1,338	200,189	197,292	1,550
	Est. Shoulder Material			188	188	
	Loss Due to Clearing & Grubbing	-435			435	
	Additional Undercut (per Geotech)		1,000	1,250	1,250	1,000
	Waste to replace Borrow				-212	-212
	PROJECT TOTAL:	2,672	2,338	201,626	198,953	2,338
	Est. 5% for replacing Topsoil on Borrow Pit				9,948	
	GRAND TOTAL:	2,672	2,338	201,626	208,901	2,338
	SAY	2,700	2,360		211,000	

EST. DDE = 240 CY
 CONTINGENCY ITEM PER GEOTECHNICAL REPORT:
 CL IV SUBGRADE STABILIZATION = 1000 TONS
 SELECT MATERIAL CL III = 2400 CY

**STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS**

PARCEL INDEX SHEET

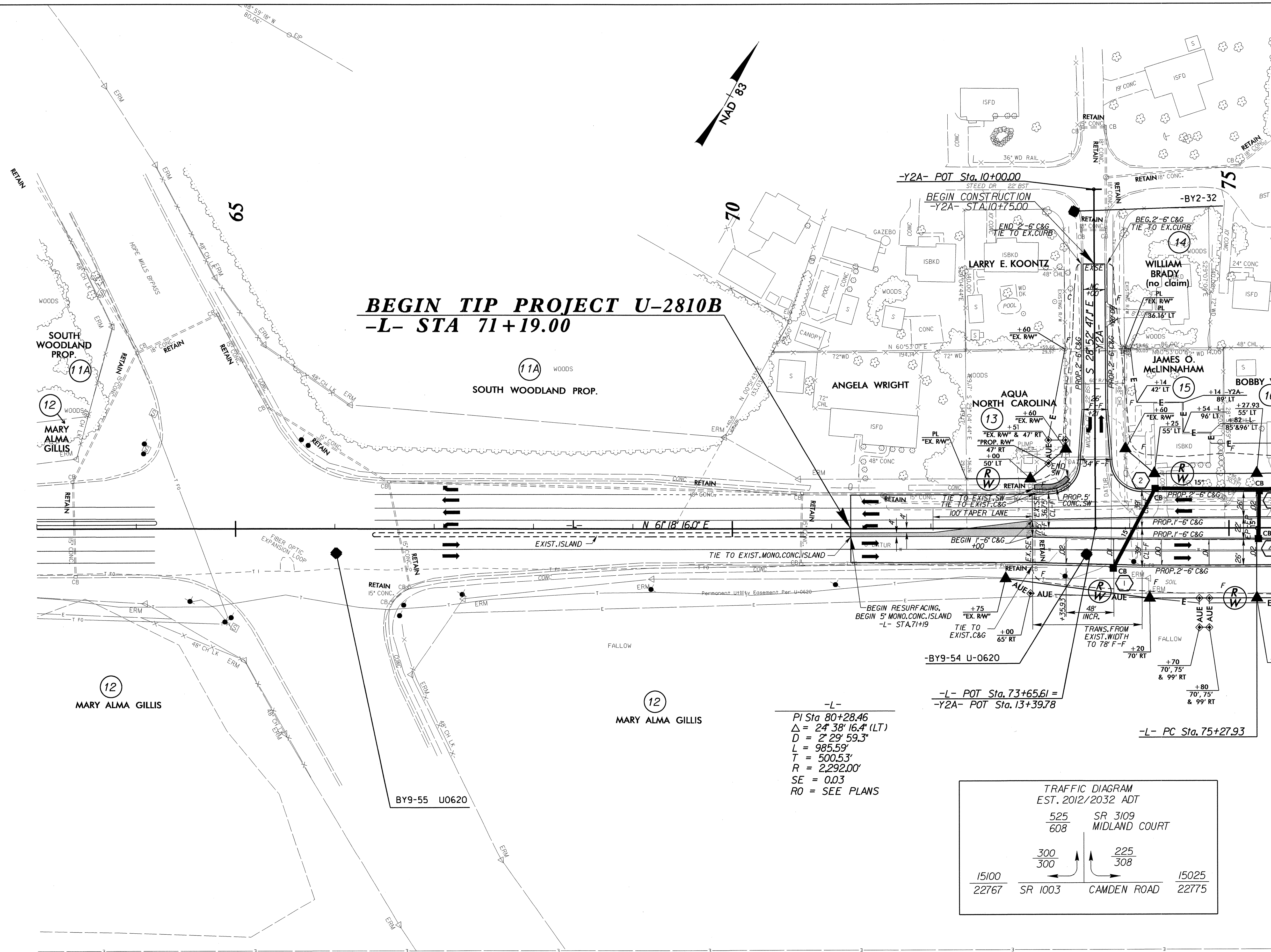
PARCEL No.	SHEET No.	PROPERTY OWNER NAME
11A	4	SOUTH WOODLAND PROP.
12	4,5	MARY ALMA GILLIS
13	4	AQUA NORTH CAROLINA
14	4	WILLIAM BRADY (NO CLAIM)
15	4	JAMES O. McLINNAHAM
16	4,5	BOBBY W. BEARD
17	5	PAULA FEUDO
18	5	SHIRL CLARK
19	5	EARL DEMPSEY HAIRR
20	5	JAMES E. HAGER
21	5	JOHN A. WATKINS, III
22	5	KACEY SHUPE
23	5	CELIA MAE WILLIAMS
23A	5	LINDA F. WILLIAMS & BRENDA WILLIAMS YOUNG
24	5	ROBERT G. BASS
25	5	PAUL W. TAYLOR JR.
26	5	EVELYN C. YOUNG
27	5	BESSIE M. BOGNER
28	5	EDNA BLACKWELL
29	5,6	J. V. JESSUP
30	5	KENNETH D. BIDWELL
32	5,6	LLOYD F. BALES
33	5,6	DOUGLAS L. HORNE
34	6	SHAWN SCHULTZ
35	6	JOHN W. DOWDY SR.
36	6	ROBERT D. DAVIS
37	6	HENRY R. FAIRFAX
38	6	MARK A. BARRETT
39	6	NORMAN R. BECERRA
40	6	PETER R. EVANS JR.
41	6,7	ROBERT L. MORRIS
42	6	GRACE MEUSE (NO CLAIM)
43	6,7	ANNIE SHAW
901	7	NCDOT (formerly) TEMPLE OF FAITH PENTECOSTAL CHURCH
44	7	DONALD SUGGS (NO CLAIM)
45	7	ANDRES V. PATAWARAN JR.
46	7	ELTON W. LONG JR.
48	7,8	DURWOOD MARSHBURN
49	7	DONALD SUGGS
50	7	LINDA S. HIGH
51	7	JAMES E. ROBINSON
51A	7	RYAN THOMAS
51B	7	RICHARD W. RADER (NO CLAIM)
52	10	JOE B. RAYNOR JR.
53	7,10	JIM CAMERON (NO CLAIM)
54	7	ALLSTATE CONTRACTING & CLEANING SERVICE, LLC
55	7,8,10	FAIRLEY K. CARTER
56	7,10	CITY OF FAYETTEVILLE
57	8	GERALDINE M. ENNIS
58	8	PATRICK KENNY JR.
59	8,10	CAROLINA POWER & LIGHT
60	8	EVELYN LOUISE KENNY
61	8,10	DAVID LEON AUTRY
62	8	FREDDIE McLEAN
63	8	LLOYD A. TATUM
64	8	STEVE A. HUDSON
65	8	LEE JACKSON (NO CLAIM)
66	8	WENDA E. McCUTCHAN
66A	8	STEVEN A. CARNES
67	8	EVELYN LOUISE KENNY

PARCEL No.	SHEET No.	PROPERTY OWNER NAME
68	8	ROY EDDIE SWEATT
69	8,10	ALICE M. BATEMAN
70	8	ELIZABETH REGINA BRUNO
71	8	MARTIN C. DARDEN
72	8	WILLIAM F. SCHULTZ
73	8,9	MISSIONARY HOLINESS CONFERENCE (NO CLAIM)
74	8,9	BRYAN CARR JR.
75	9	HARRY G. WEST
76	9	JAMES E. HORTON JR. (NO CLAIM)
76A	9	ROBERT E. POOLE
77	9	FREDDIE McLEAN
78	9	WOODROW SWEAT
79	9	MARTIN N. WILLIAMS
80	9	JAMES ALVIN CAPPS JR.
81	9	DORIS VAN BROOME
82	9	J.E. HUDSON
83	9	SAMMY JACKSON & RONALD JACKSON
84	9	CHRISTINE CHAPMAN
85	9	WILLIAM H. HUDSON
86	9	HENRY G. JOYNER
86A	9	JAMES BARNWELL, JR.
87	9	WILLIAM KEVIN HUDSON
88	9	WILLIAM H. HUDSON
89	9	JAMES D. SHUFFIELD
90	9	BILLY L. GAINES
91	9	WILLIAM P. DUNN
92	9	DANNY L. JOYNER
93	9	ROBERT E. WILLIAMS
186	10	REGAL INDUSTRIES INC.

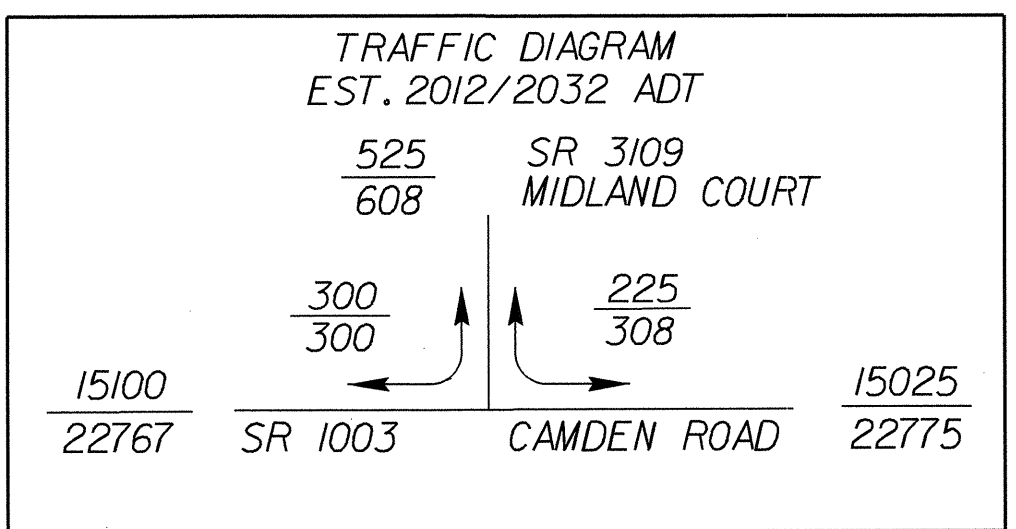
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REVISIONS

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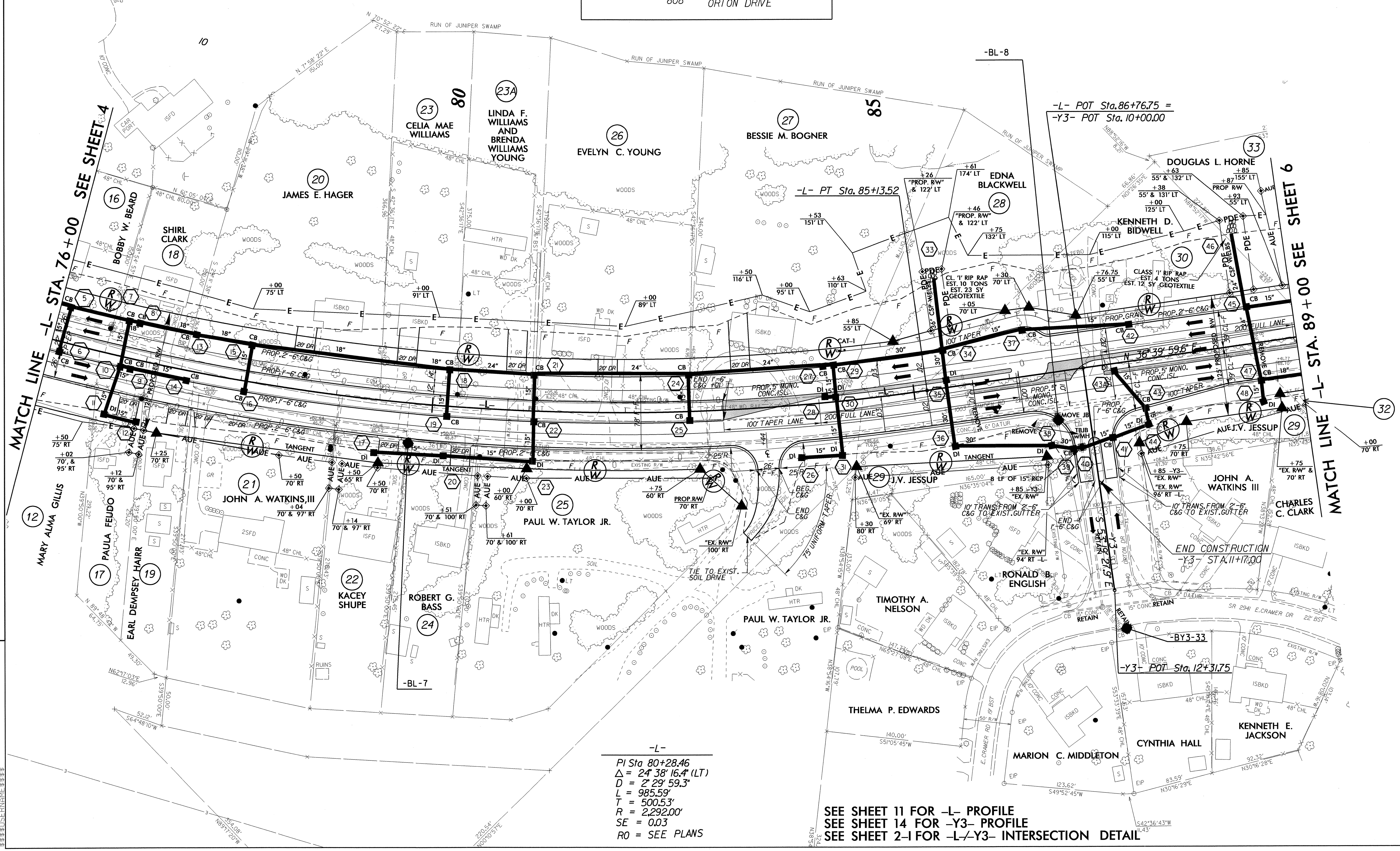
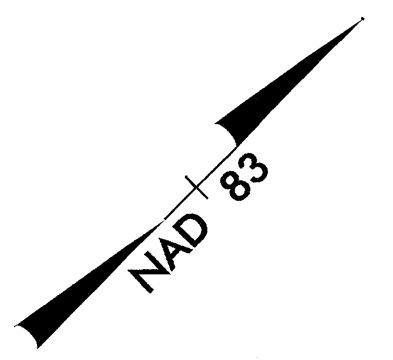
-L-
 PI Sta 80+28.46
 $\Delta = 24^\circ 38' 16.4''$ (LT)
 $D = 2^\circ 29' 59.3''$
 $L = 985.59'$
 $T = 500.53'$
 $R = 2,292.00'$
 $SE = 0.03$
 $RO = \text{SEE PLANS}$



SEE SHEET 11 FOR -L- PROFILE
 SEE SHEET 14 FOR -Y2A- PROFILE
 SEE SHEET 2-I FOR -L/-Y2A- INTERSECTION DETAIL

TRAFFIC DIAGRAM
EST. 2012/2032 ADT

15025 22775	SR 1003	CAMDEN ROAD	15100 22767
	325 408	400 400	
	725 808	SR 2940 ORTON DRIVE	



MATCH LINE -L- STA. 76+00 SEE SHEET 4

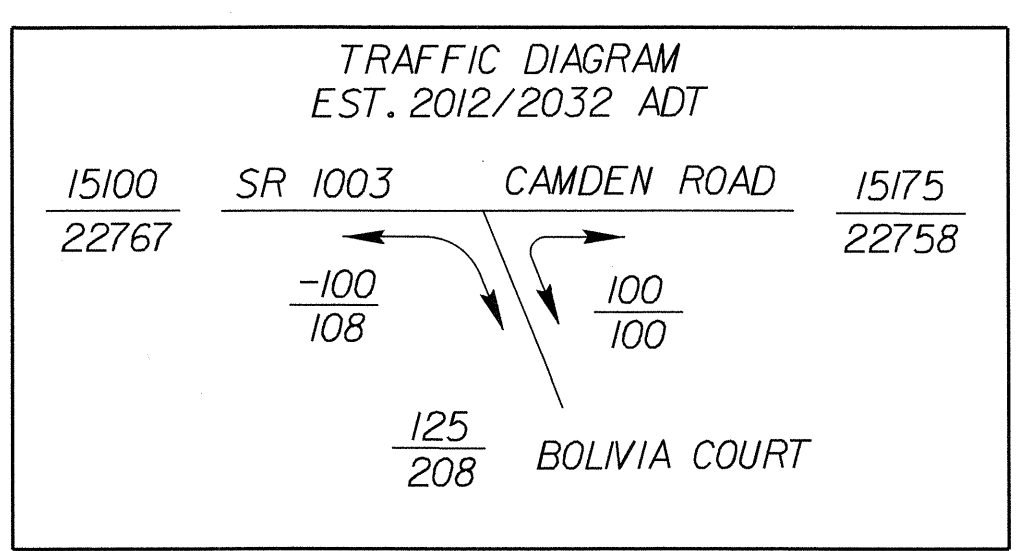
MATCH LINE -L- STA. 89+00 SEE SHEET 6

-L-
 PI Sta 80+28.46
 $\Delta = 24^\circ 38' 16.4''$ (LT)
 $D = 2^\circ 29' 59.3''$
 $L = 985.59'$
 $T = 500.53'$
 $R = 2,292.00'$
 $SE = 0.03$
 $RO = \text{SEE PLANS}$

SEE SHEET 11 FOR -L- PROFILE
 SEE SHEET 14 FOR -Y3- PROFILE
 SEE SHEET 2-1 FOR -L/-Y3- INTERSECTION DETAIL

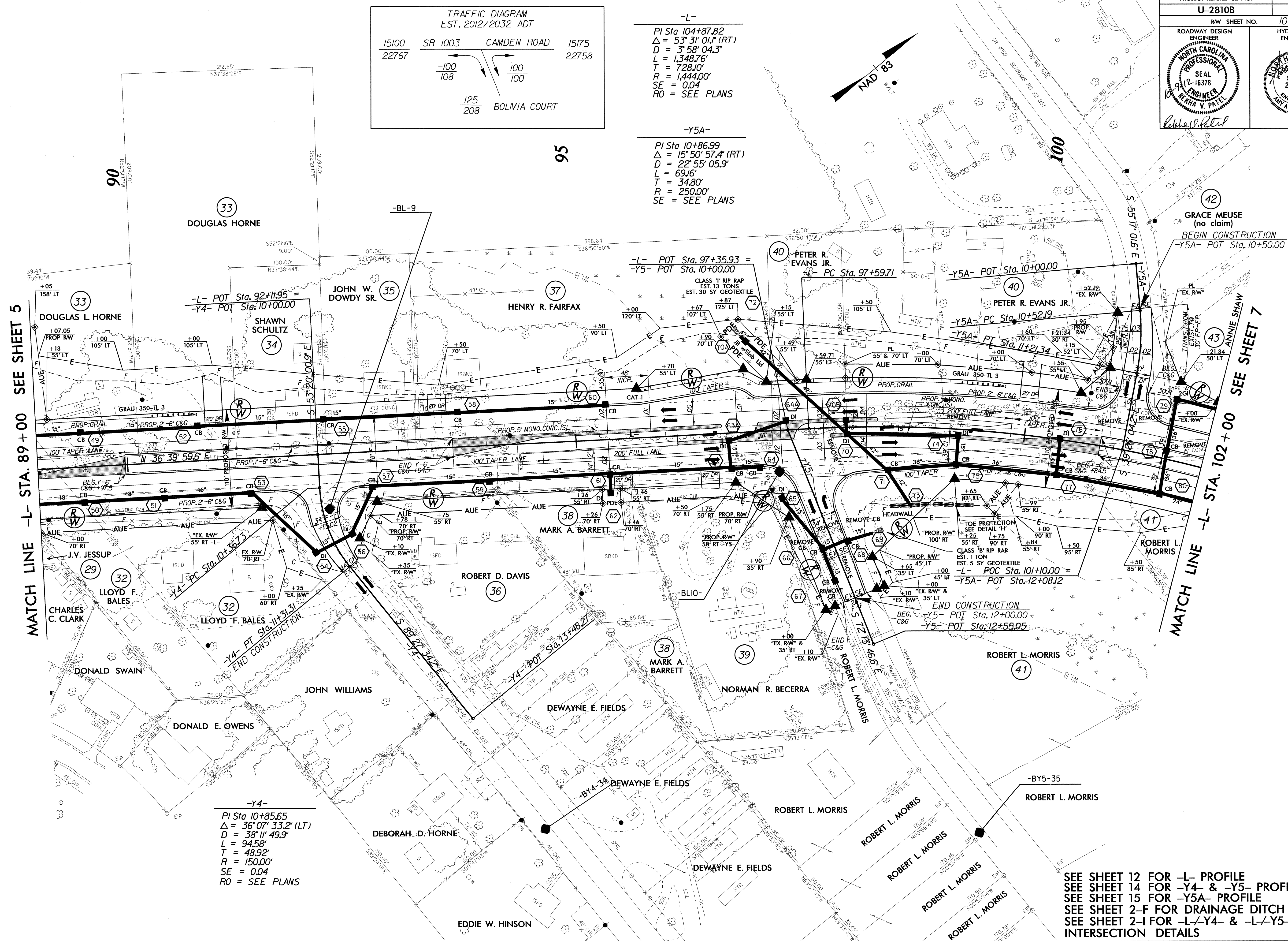
REVISIONS

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 s5.dgn



-L-
PI Sta 104+87.82
 $\Delta = 53^{\circ} 31' 01.1''$ (RT)
 $D = 3^{\circ} 58' 04.3''$
 $L = 1,348.76'$
 $T = 728.10'$
 $R = 1,444.00'$
 $SE = 0.04$
 $RO = \text{SEE PLANS}$

-Y5A-
PI Sta 10+86.99
 $\Delta = 15^{\circ} 50' 57.4''$ (RT)
 $D = 22^{\circ} 55' 05.9''$
 $L = 69.16'$
 $T = 34.80'$
 $R = 250.00'$
 $SE = \text{SEE PLANS}$



MATCH LINE -L- STA. 89+00 SEE SHEET 5

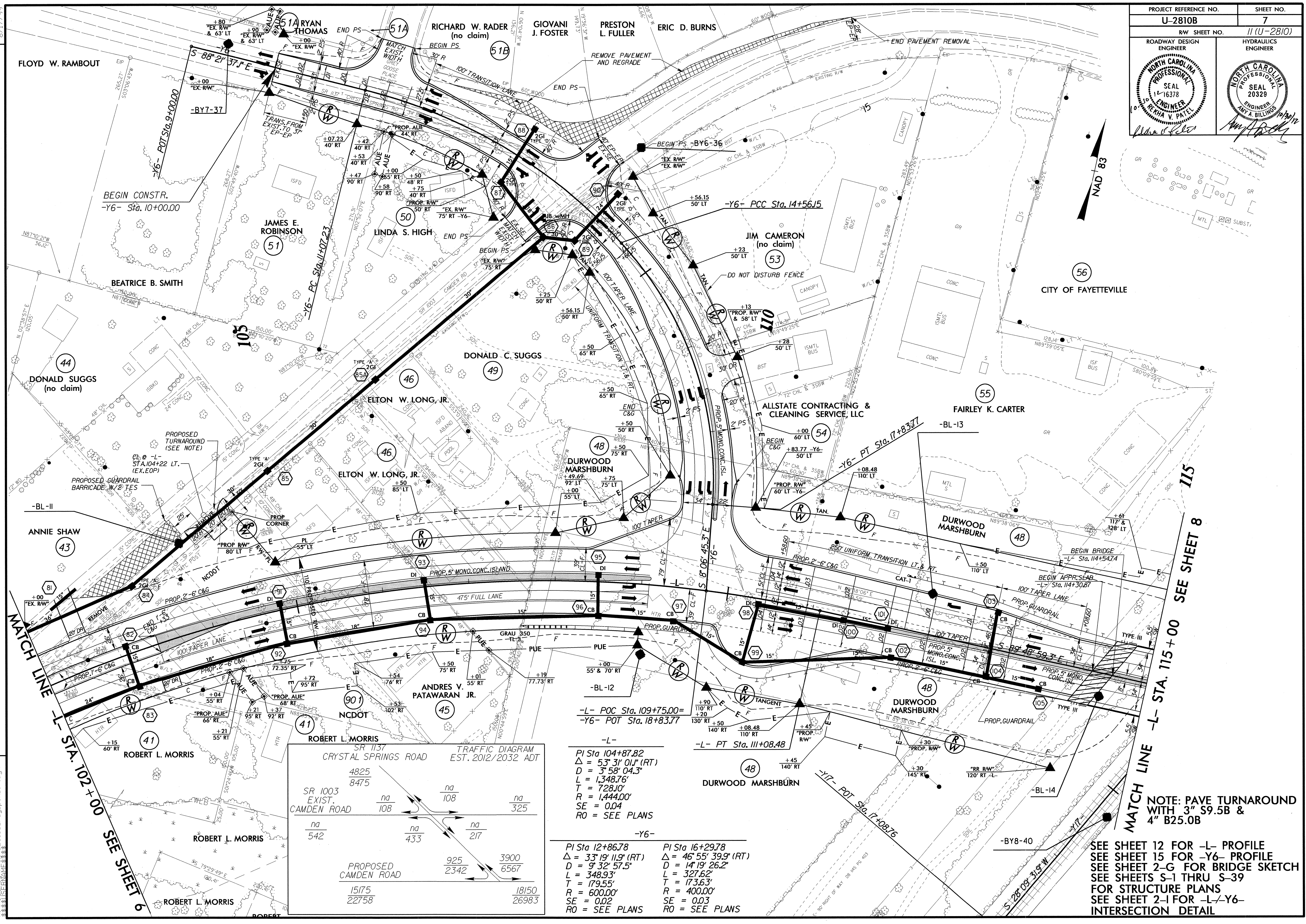
MATCH LINE -L- STA. 102+00 SEE SHEET 7

-Y4-
PI Sta 10+85.65
 $\Delta = 36^{\circ} 07' 33.2''$ (LT)
 $D = 38^{\circ} 11' 49.9''$
 $L = 94.58'$
 $T = 48.92'$
 $R = 150.00'$
 $SE = 0.04$
 $RO = \text{SEE PLANS}$

SEE SHEET 12 FOR -L- PROFILE
SEE SHEET 14 FOR -Y4- & -Y5- PROFILE
SEE SHEET 15 FOR -Y5A- PROFILE
SEE SHEET 2-F FOR DRAINAGE DITCH DETAILS
SEE SHEET 2-I FOR -L/-Y4- & -L/-Y5- INTERSECTION DETAILS

REVISIONS

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REVISIONS

TRAFFIC DIAGRAM
EST. 2012/2032 ADT

SR 1137 CRYSTAL SPRINGS ROAD	4825	na	na
SR 1003 EXIST. CAMDEN ROAD	8475	108	325
na	542	433	217
na	na	na	na
PROPOSED CAMDEN ROAD	925	2342	3900
15175	22758	18150	26983

PI Sta 104+87.82
 $\Delta = 53^\circ 31' 01''$ (RT)
 $D = 3^\circ 58' 04.3''$
 $L = 1,348.76'$
 $T = 728.10'$
 $R = 1,444.00'$
 $SE = 0.04$
 $RO = \text{SEE PLANS}$

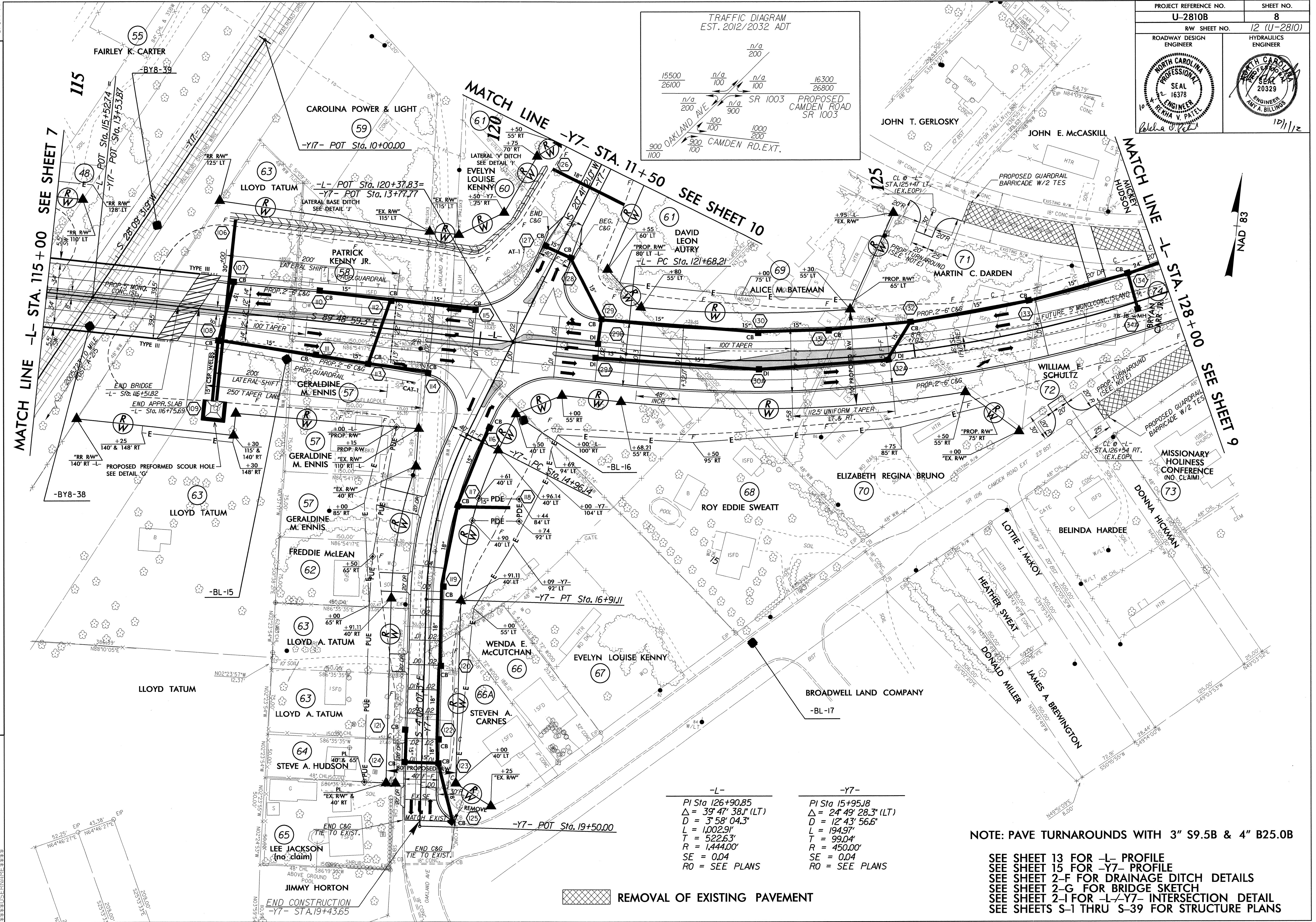
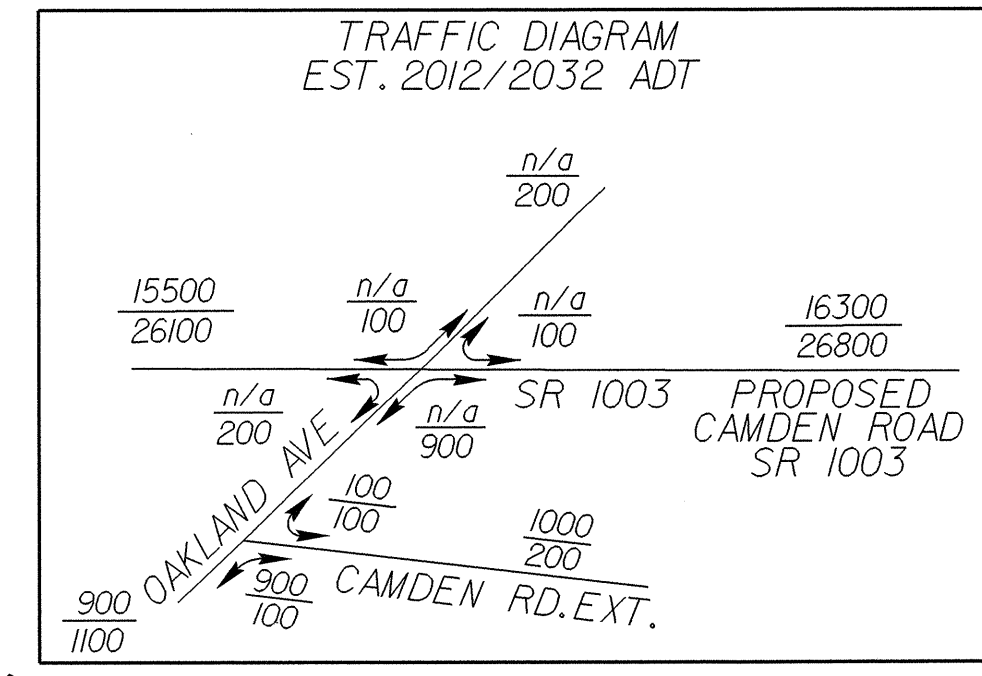
PI Sta 12+86.78
 $\Delta = 33^\circ 19' 11.9''$ (RT)
 $D = 9^\circ 32' 57.5''$
 $L = 348.93'$
 $T = 179.55'$
 $R = 600.00'$
 $SE = 0.02$
 $RO = \text{SEE PLANS}$

PI Sta 16+29.78
 $\Delta = 46^\circ 55' 39.9''$ (RT)
 $D = 14^\circ 19' 26.2''$
 $L = 327.62'$
 $T = 173.63'$
 $R = 400.00'$
 $SE = 0.03$
 $RO = \text{SEE PLANS}$

NOTE: PAVE TURNAROUND WITH 3" S9.5B & 4" B25.0B

SEE SHEET 12 FOR -L- PROFILE
 SEE SHEET 15 FOR -Y6- PROFILE
 SEE SHEET 2-G FOR BRIDGE SKETCH
 SEE SHEETS S-1 THRU S-39 FOR STRUCTURE PLANS
 SEE SHEET 2-I FOR -L/-Y6- INTERSECTION DETAIL

23-OCT-2012 14:37
 2810b_rdy_psh_s7.dgn
 8:17:09



REVISIONS

-L-	-Y7-
PI Sta 126+90.85	PI Sta 15+95.18
$\Delta = 39^{\circ} 47' 38.1''$ (LT)	$\Delta = 24^{\circ} 49' 28.3''$ (LT)
$D = 3^{\circ} 58' 04.3''$	$D = 12^{\circ} 43' 56.6''$
$L = 1,002.91'$	$L = 194.97'$
$T = 522.63'$	$T = 99.04'$
$R = 1,444.00'$	$R = 450.00'$
$SE = 0.04$	$SE = 0.04$
$RO = \text{SEE PLANS}$	$RO = \text{SEE PLANS}$

NOTE: PAVE TURNAROUNDS WITH 3" S9.5B & 4" B25.0B

SEE SHEET 13 FOR -L- PROFILE
 SEE SHEET 15 FOR -Y7- PROFILE
 SEE SHEET 2-F FOR DRAINAGE DITCH DETAILS
 SEE SHEET 2-G FOR BRIDGE SKETCH
 SEE SHEET 2-I FOR -L/-Y7- INTERSECTION DETAIL
 SEE SHEETS S-1 THRU S-39 FOR STRUCTURE PLANS

REMOVAL OF EXISTING PAVEMENT

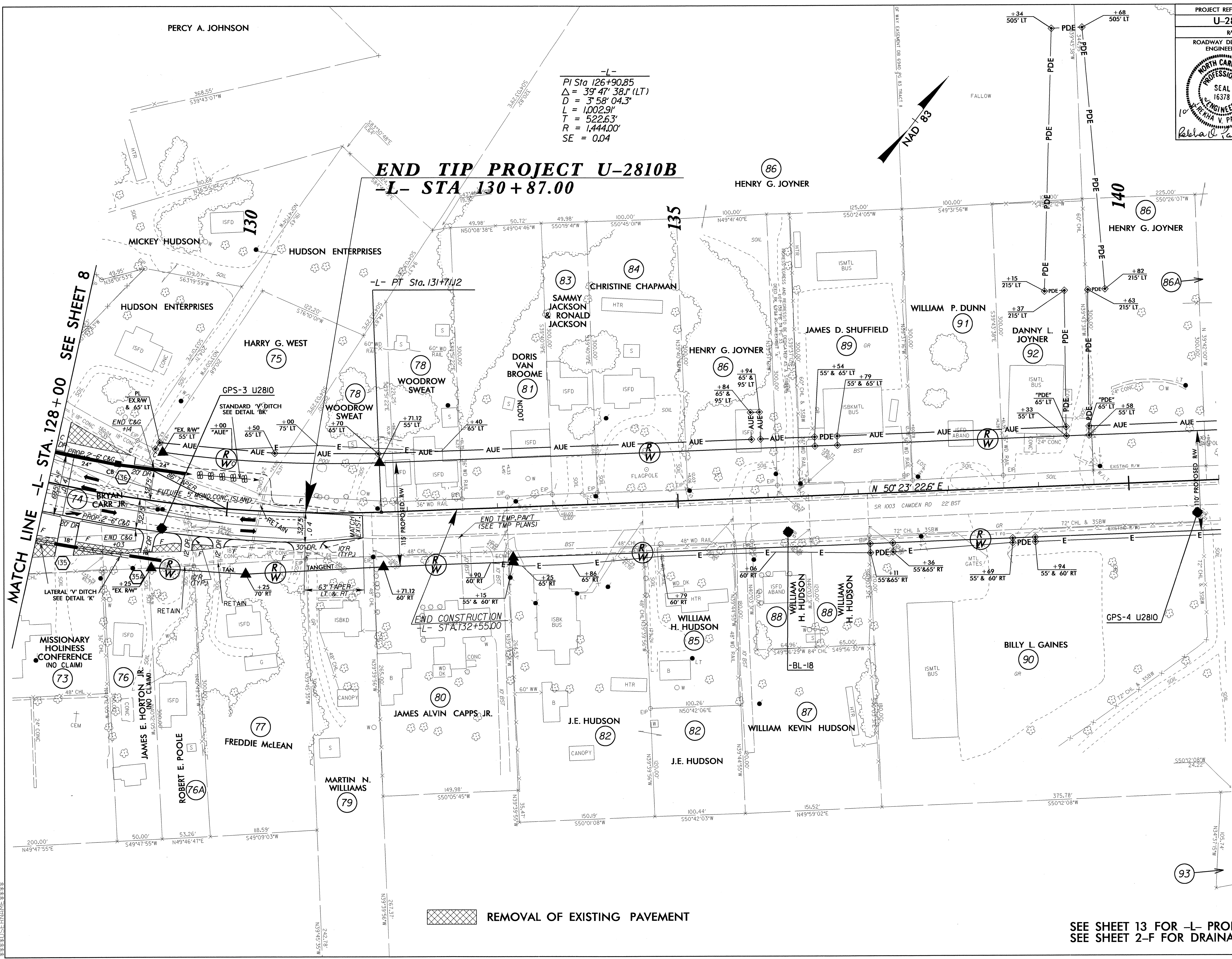
8/17/99

25-SEP-2012 10:57
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PROJECT REFERENCE NO.	SHEET NO.
U-2810B	9
R/W SHEET NO.	13 (U-2810)
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

-L-
 PI Sta 126+90.85
 $\Delta = 39^{\circ} 47' 38.1''$ (LT)
 $D = 3' 58'' 04.3''$
 $L = 1,002.91'$
 $T = 522.63'$
 $R = 1,444.00'$
 $SE = 0.04$

END TIP PROJECT U-2810B
-L- STA 130+87.00



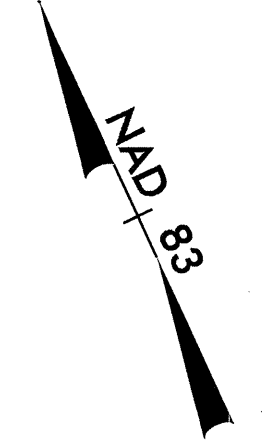
MATCH LINE -L- STA. 128+00 SEE SHEET 8

REMOVAL OF EXISTING PAVEMENT

SEE SHEET 13 FOR -L- PROFILE
 SEE SHEET 2-F FOR DRAINAGE DITCH DETAILS

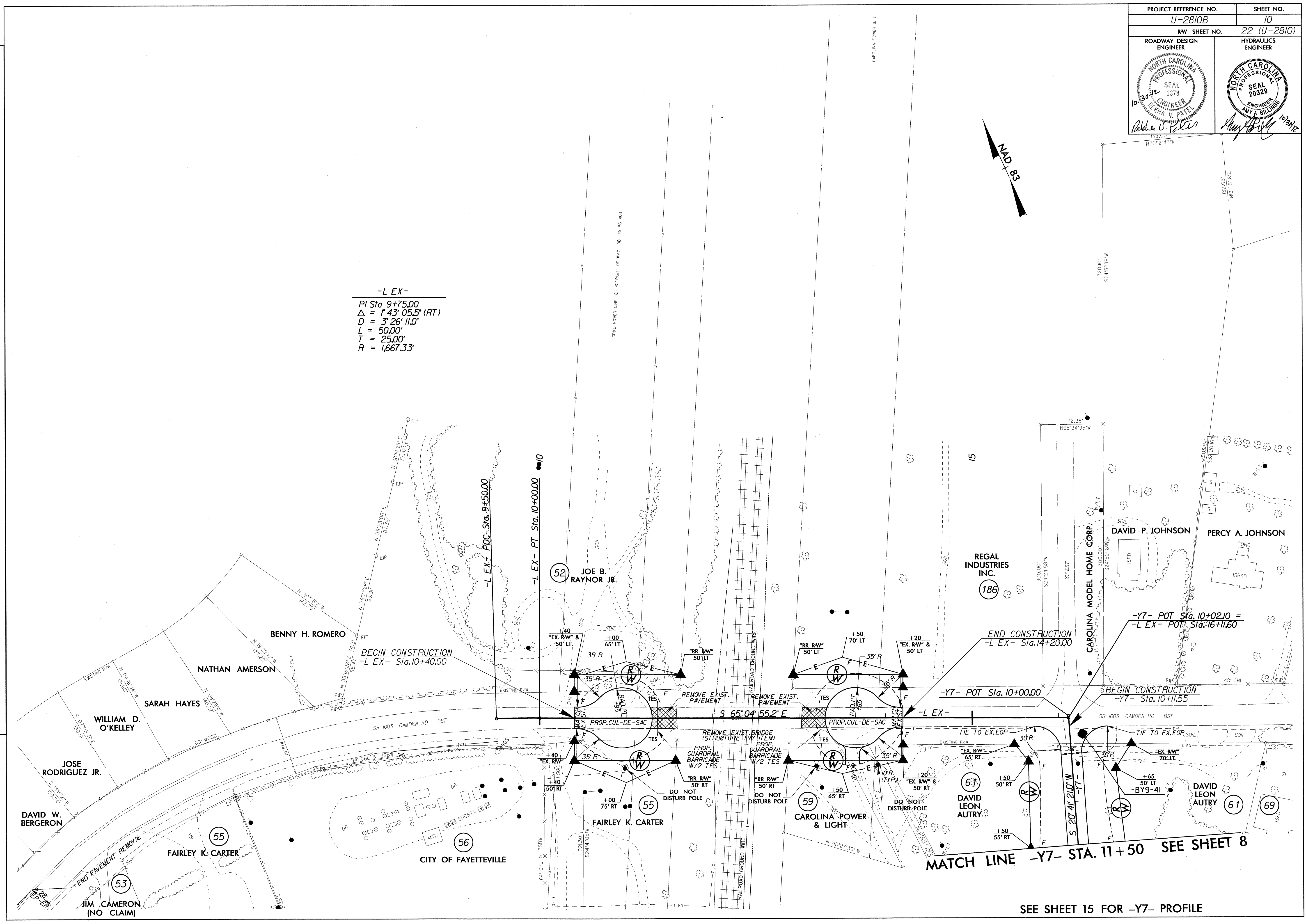
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PROJECT REFERENCE NO. U-2810B	SHEET NO. 10
RAW SHEET NO. 22 (U-2810)	
ROADWAY DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 16378 RUKHA V. PATE	HYDRAULICS ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 20329 AMY A. BILLINGS
<i>Rukha V. Pate</i>	<i>Amy A. Billings</i>



-L EX-
 PI Sta 9+75.00
 $\Delta = 1' 43'' 05.5'' (RT)$
 $D = 3' 26'' 11.0''$
 $L = 50.00'$
 $T = 25.00'$
 $R = 1,667.33'$

REVISIONS

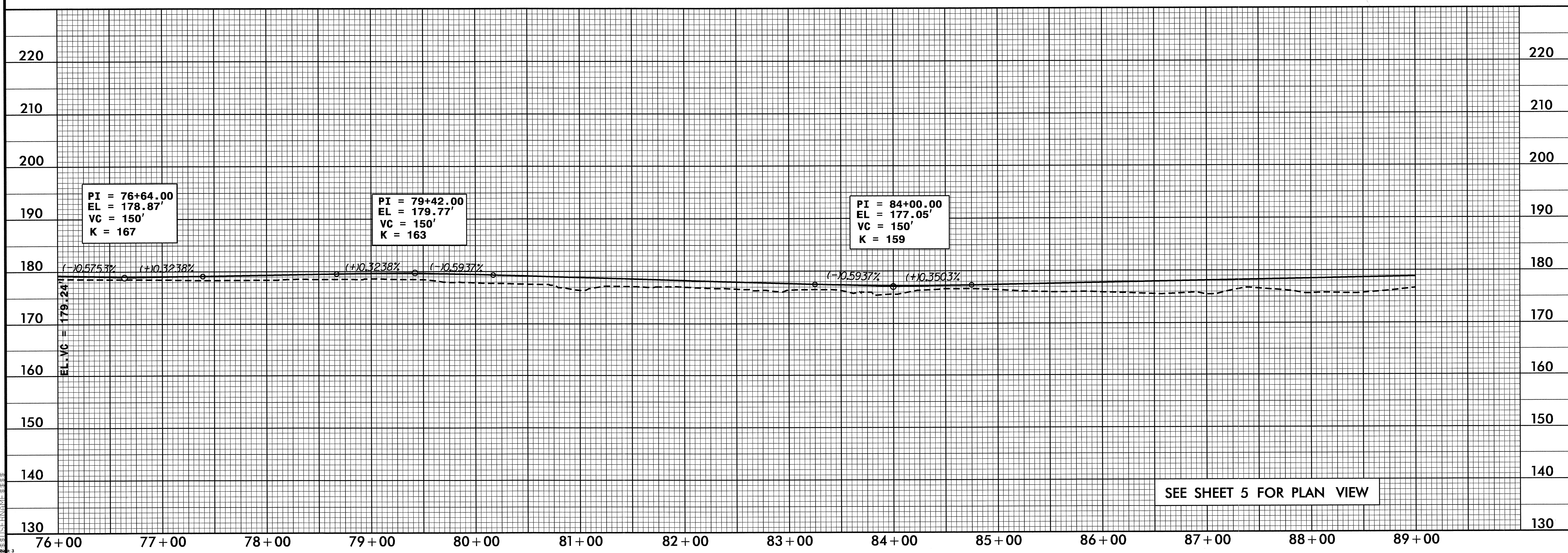
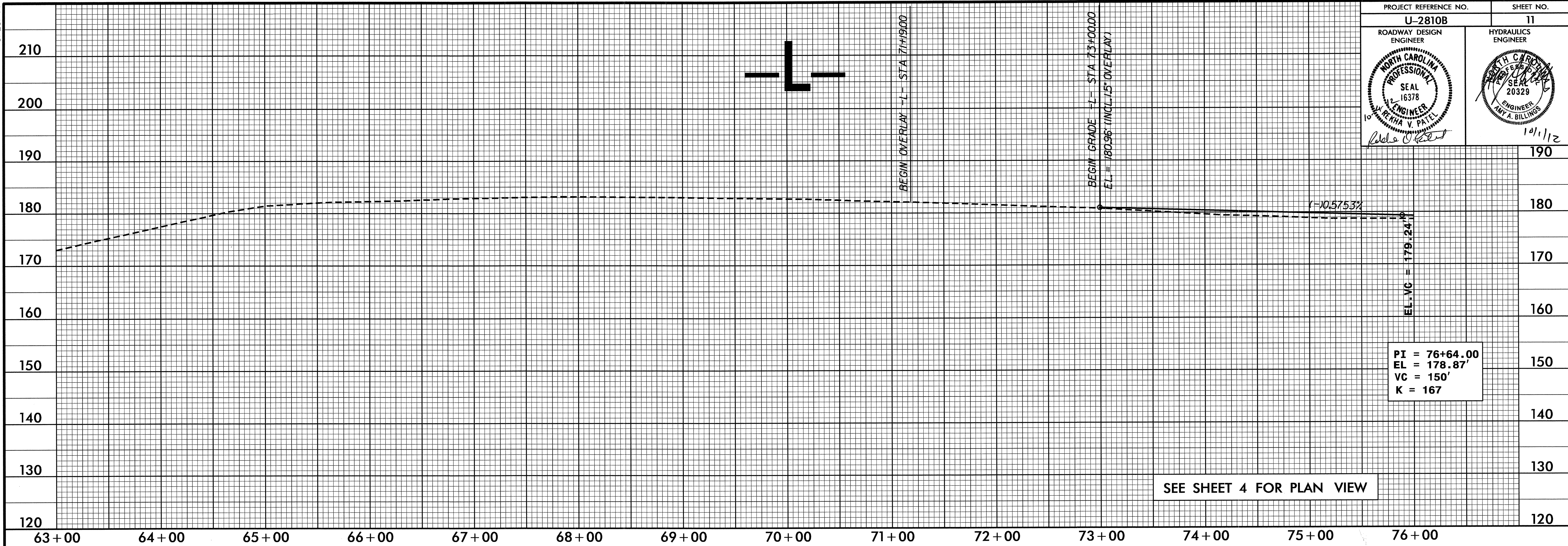


MATCH LINE -Y7- STA. 11+50 SEE SHEET 8

SEE SHEET 15 FOR -Y7- PROFILE

5/28/19

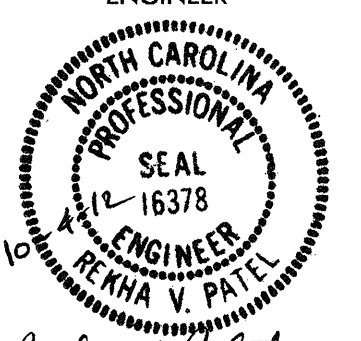
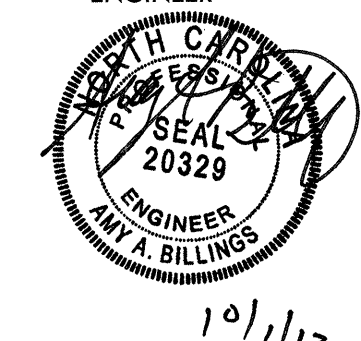
PROJECT REFERENCE NO. U-2810B	SHEET NO. 11
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<i>Neha Patel</i>	<i>10/1/12</i>



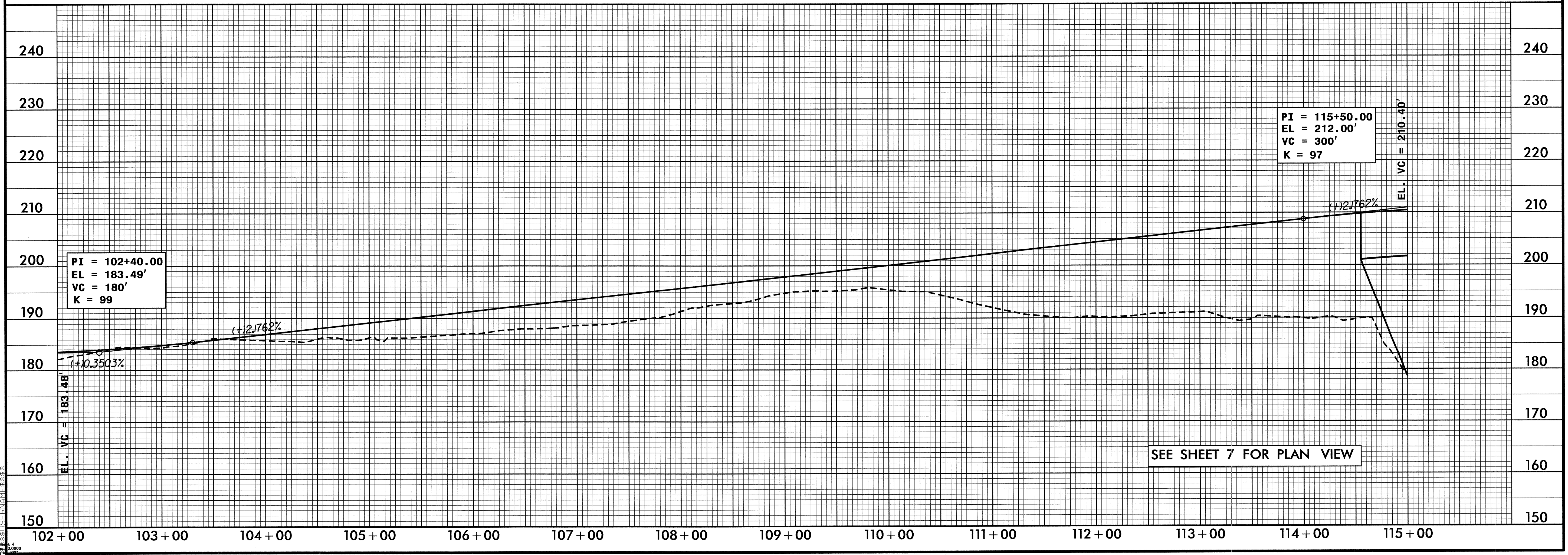
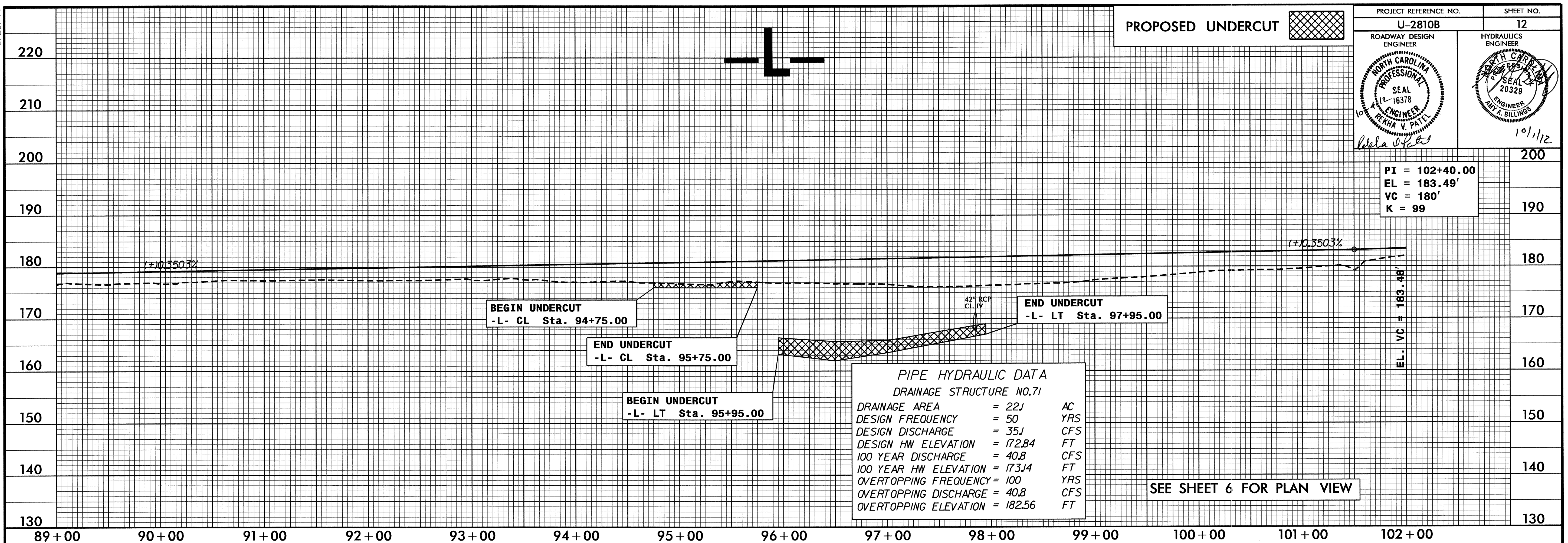
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5/28/99

PROPOSED UNDERCUT 

PROJECT REFERENCE NO. U-2810B	SHEET NO. 12
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
	
10/1/12	

PI = 102+40.00
 EL = 183.49'
 VC = 180'
 K = 99



SEP 2012 10:58 u2810b.rdy.plt.s12.dgn

5/28/99

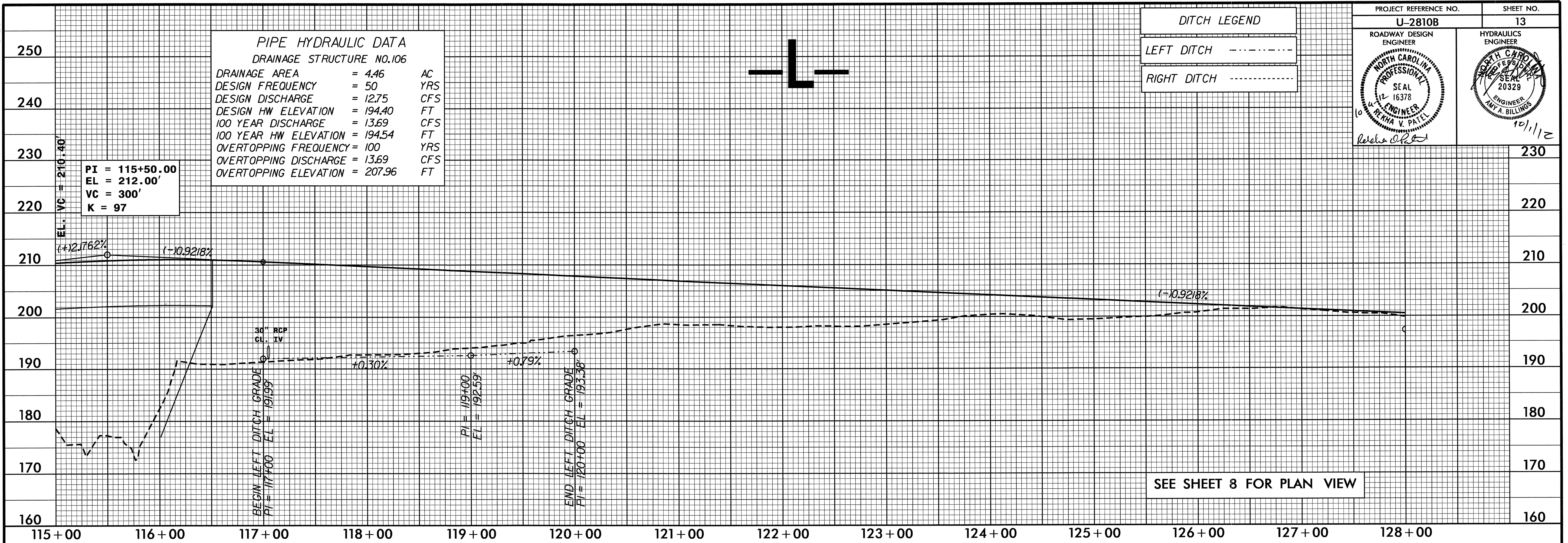
DITCH LEGEND	
LEFT DITCH	-----
RIGHT DITCH	-----

PROJECT REFERENCE NO.	U-2810B	SHEET NO.	13
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	

PIPE HYDRAULIC DATA
DRAINAGE STRUCTURE NO.106

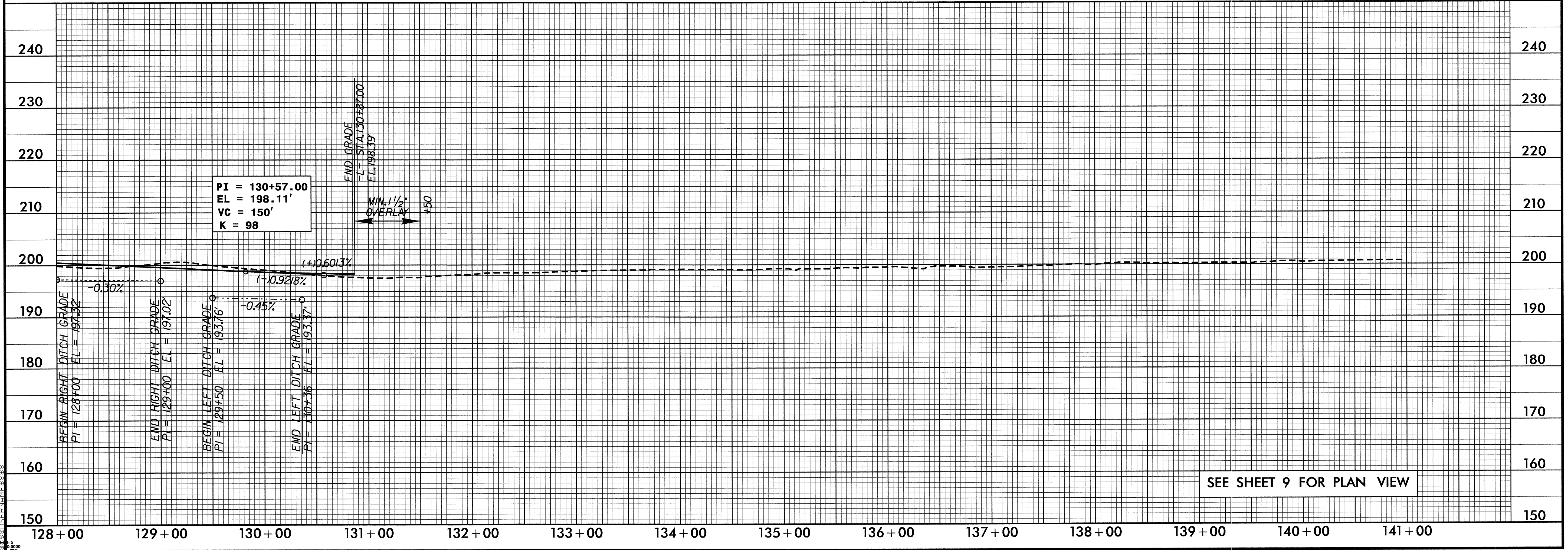
DRAINAGE AREA	= 4.46	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 12.75	CFS
DESIGN HW ELEVATION	= 194.40	FT
100 YEAR DISCHARGE	= 13.69	CFS
100 YEAR HW ELEVATION	= 194.54	FT
OVERTOPPING FREQUENCY	= 100	YRS
OVERTOPPING DISCHARGE	= 13.69	CFS
OVERTOPPING ELEVATION	= 207.96	FT

VC = 210+40'
PI = 115+50.00
EL = 212.00'
VC = 300'
K = 97



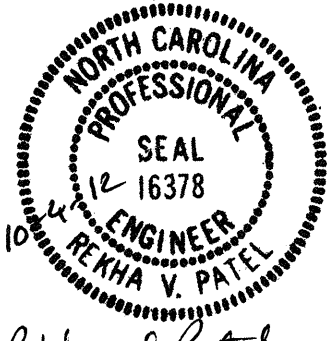
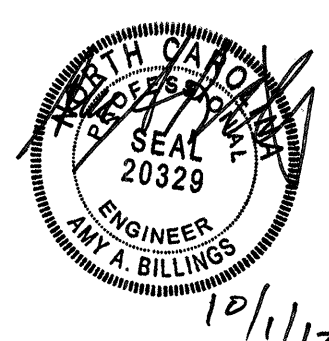
SEE SHEET 8 FOR PLAN VIEW

PI = 130+57.00
EL = 198.11'
VC = 150'
K = 98



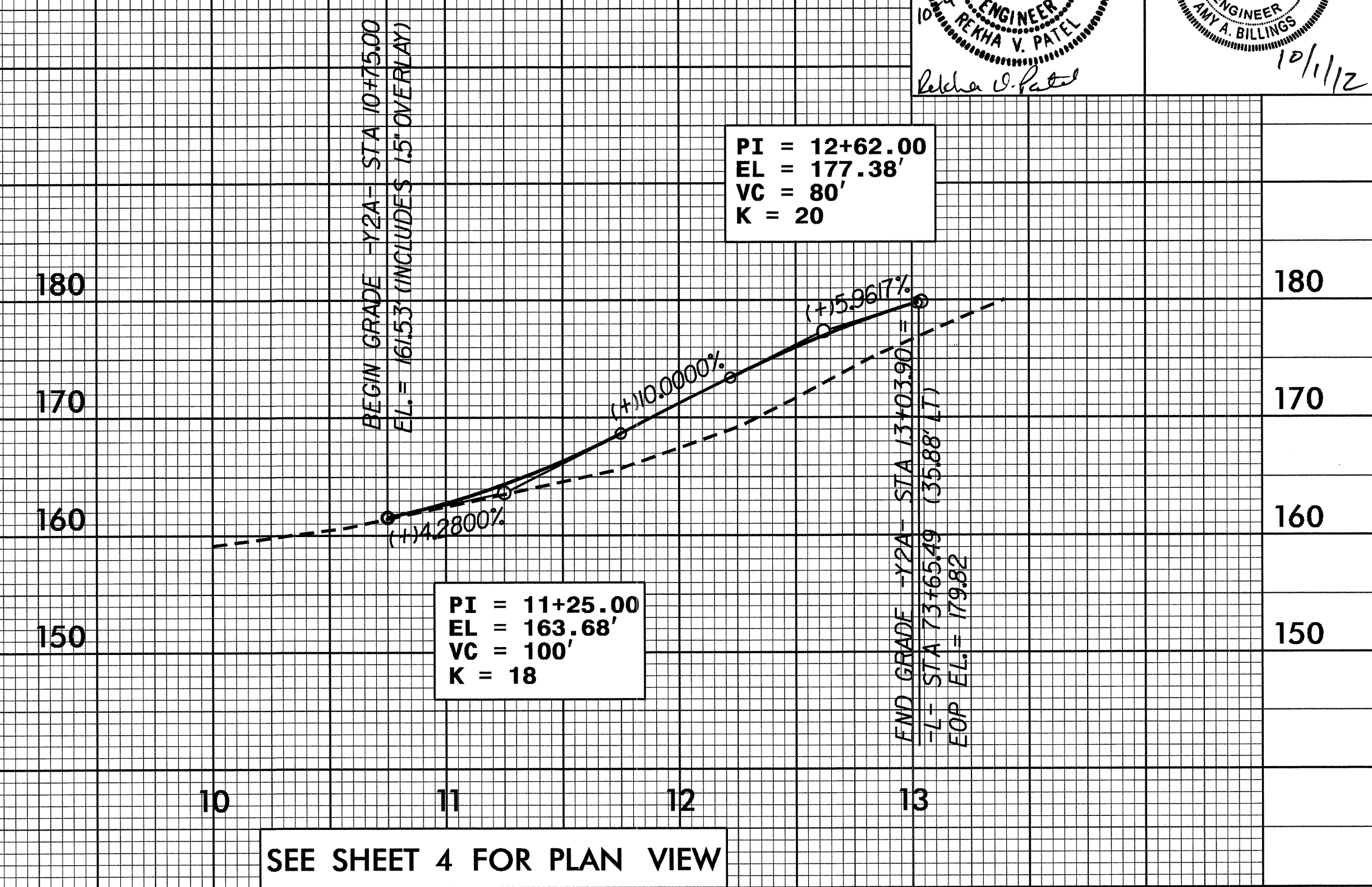
SEE SHEET 9 FOR PLAN VIEW

09-SEP-2012 10:58 u:\2810b-rd-dwg\1-e13.dgn

PROJECT REFERENCE NO. U-2810B	SHEET NO. 14
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
	
<i>Renha V. Patel</i>	

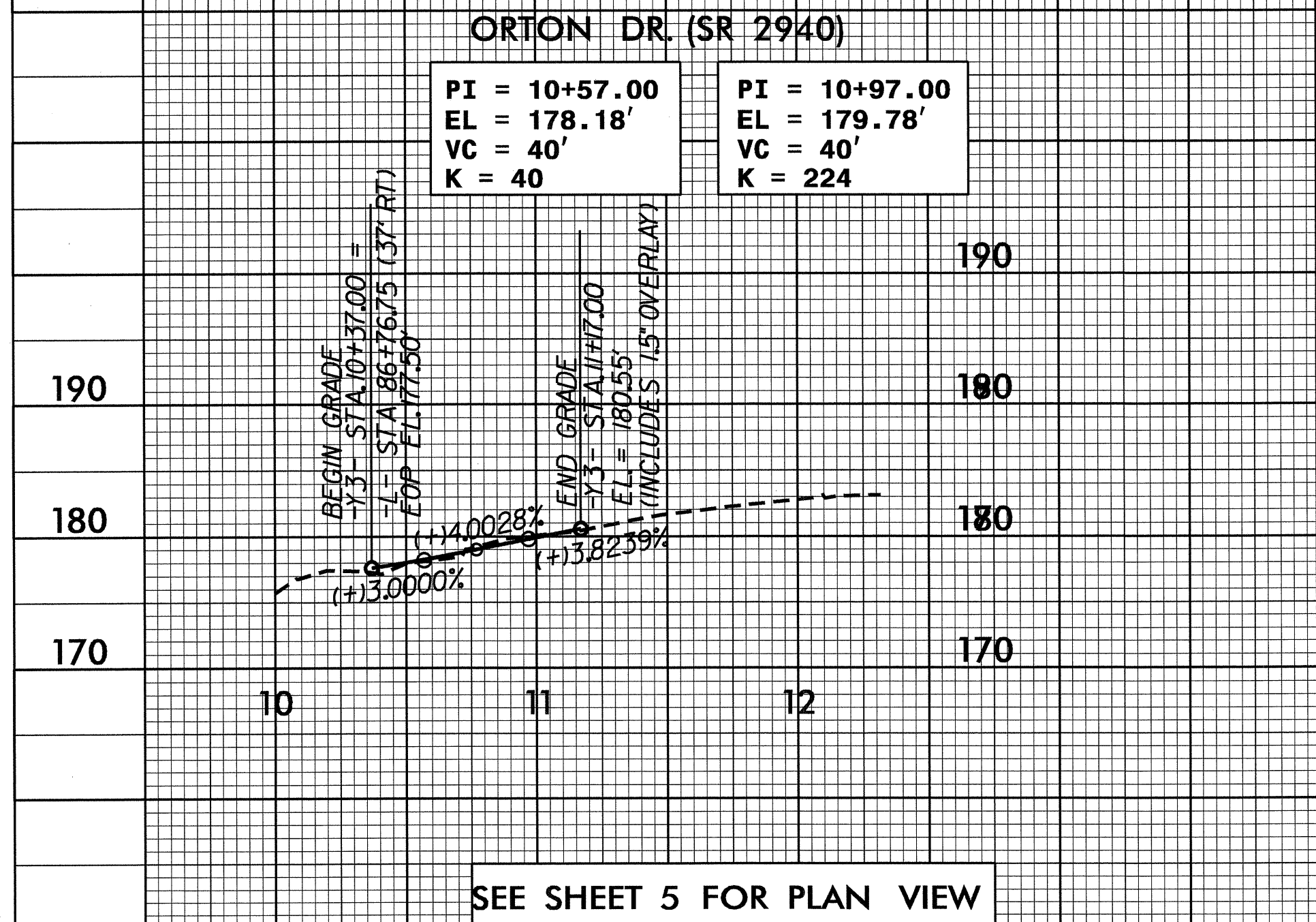
-Y2A-

MIDLAND CT. (SR 3019)



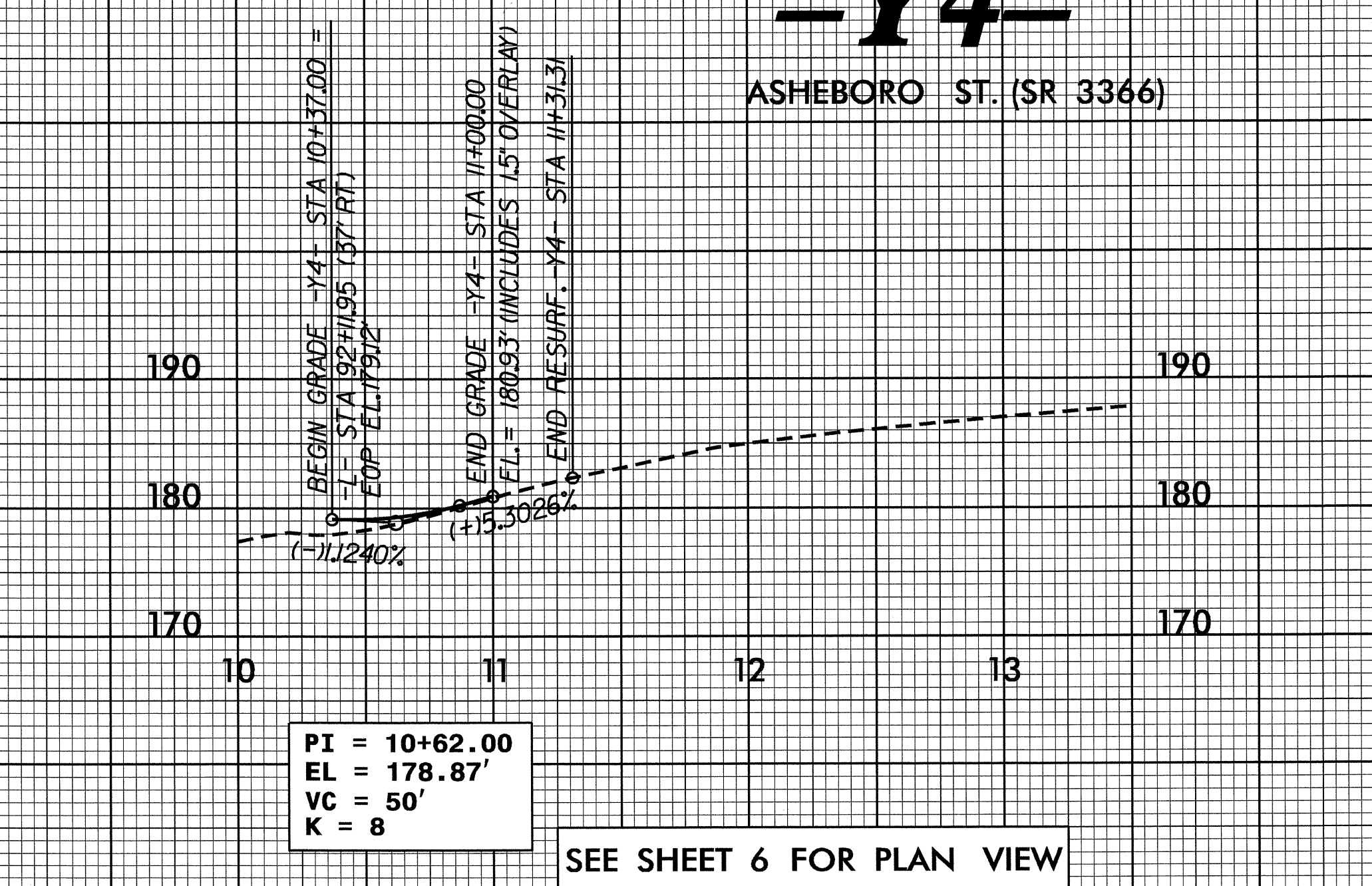
-Y3-

ORTON DR. (SR 2940)



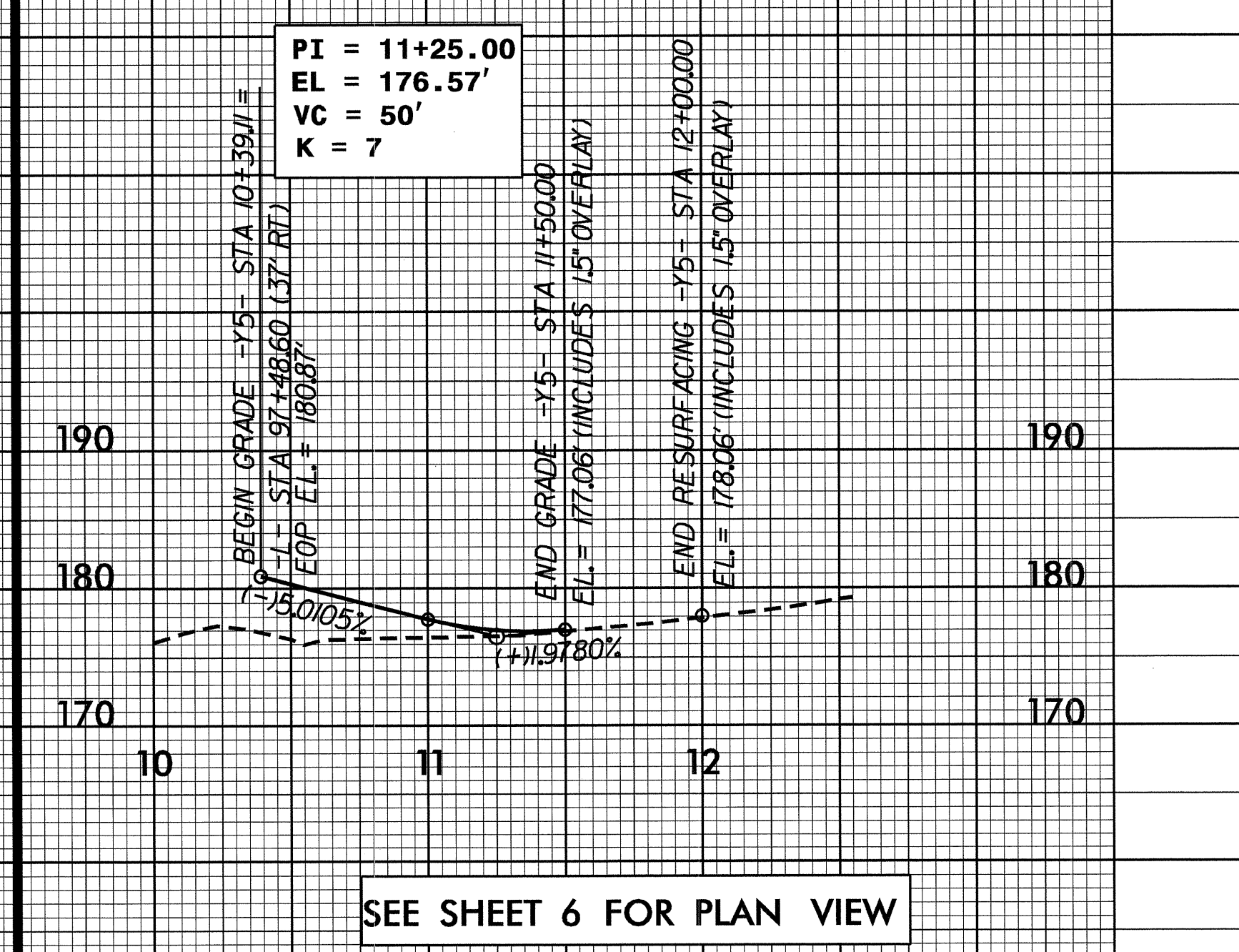
-Y4-

ASHEBORO ST. (SR 3366)



-Y5-

BOLIVIA ST.



DITCH LEGEND	
LEFT DITCH	-----
RIGHT DITCH	-----

5/14/99

-Y5A-

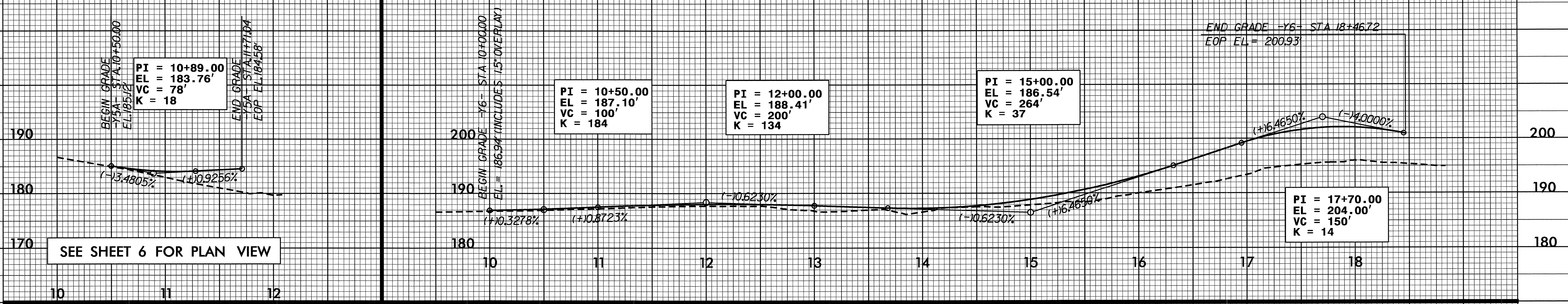
SCHRAMS AVE. (SR 4059)

-Y6-

CRYSTAL SPRINGS RD. (SR 1137)

SEE SHEET 7 FOR PLAN VIEW

PROJECT REFERENCE NO. U-2810B	SHEET NO. 15
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



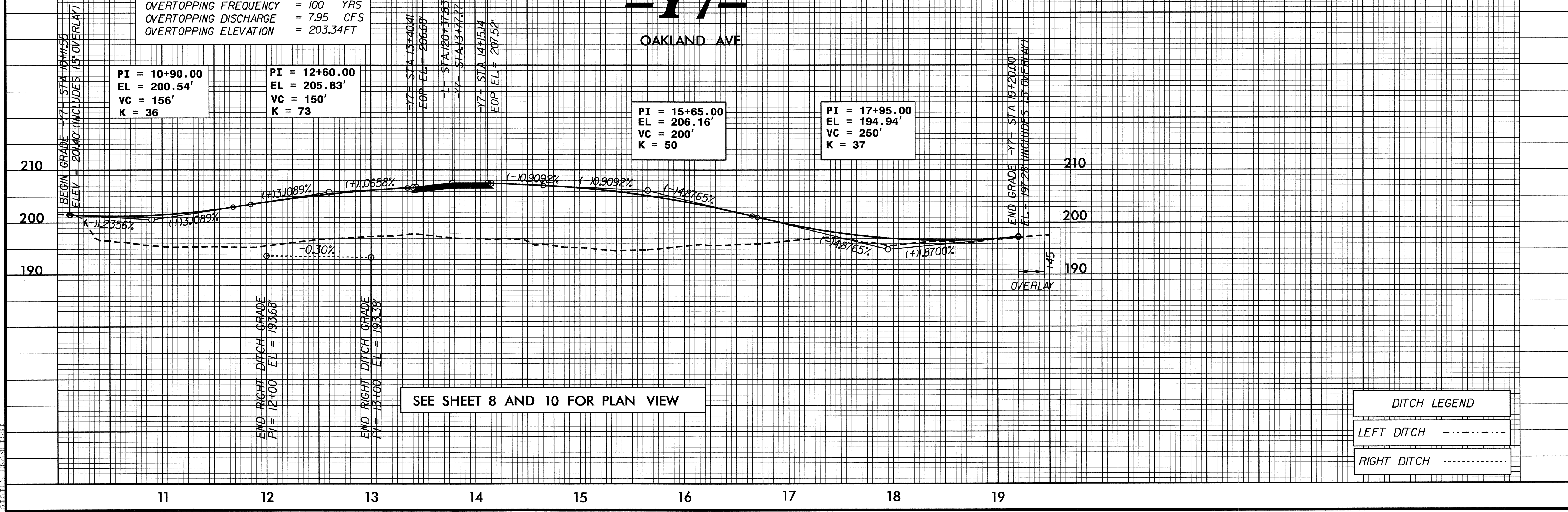
SEE SHEET 6 FOR PLAN VIEW

PIPE HYDRAULIC DATA
DRAINAGE STRUCTURE NO. 126

DRAINAGE AREA	= 2.39 AC
DESIGN FREQUENCY	= 50 YRS
DESIGN DISCHARGE	= 7.40 CFS
DESIGN HW ELEVATION	= 197.39 FT
100 YEAR DISCHARGE	= 7.95 CFS
100 YEAR HW ELEVATION	= 197.56 FT
OVERTOPPING FREQUENCY	= 100 YRS
OVERTOPPING DISCHARGE	= 7.95 CFS
OVERTOPPING ELEVATION	= 203.34 FT

-Y7-

OAKLAND AVE.



SEE SHEET 8 AND 10 FOR PLAN VIEW

DITCH LEGEND

LEFT DITCH	-----
RIGHT DITCH	-----

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