

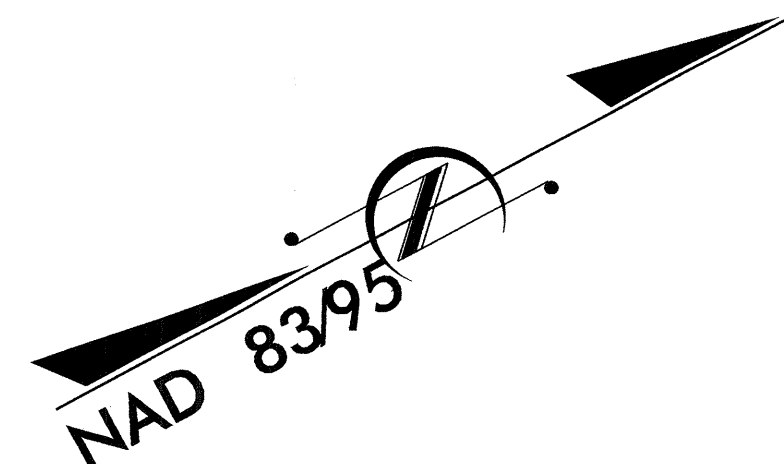
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-2803	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
34860.1.1		P.E.	
34860.2.1		RW & UTILITIES	
34860.3.1		CONST.	

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

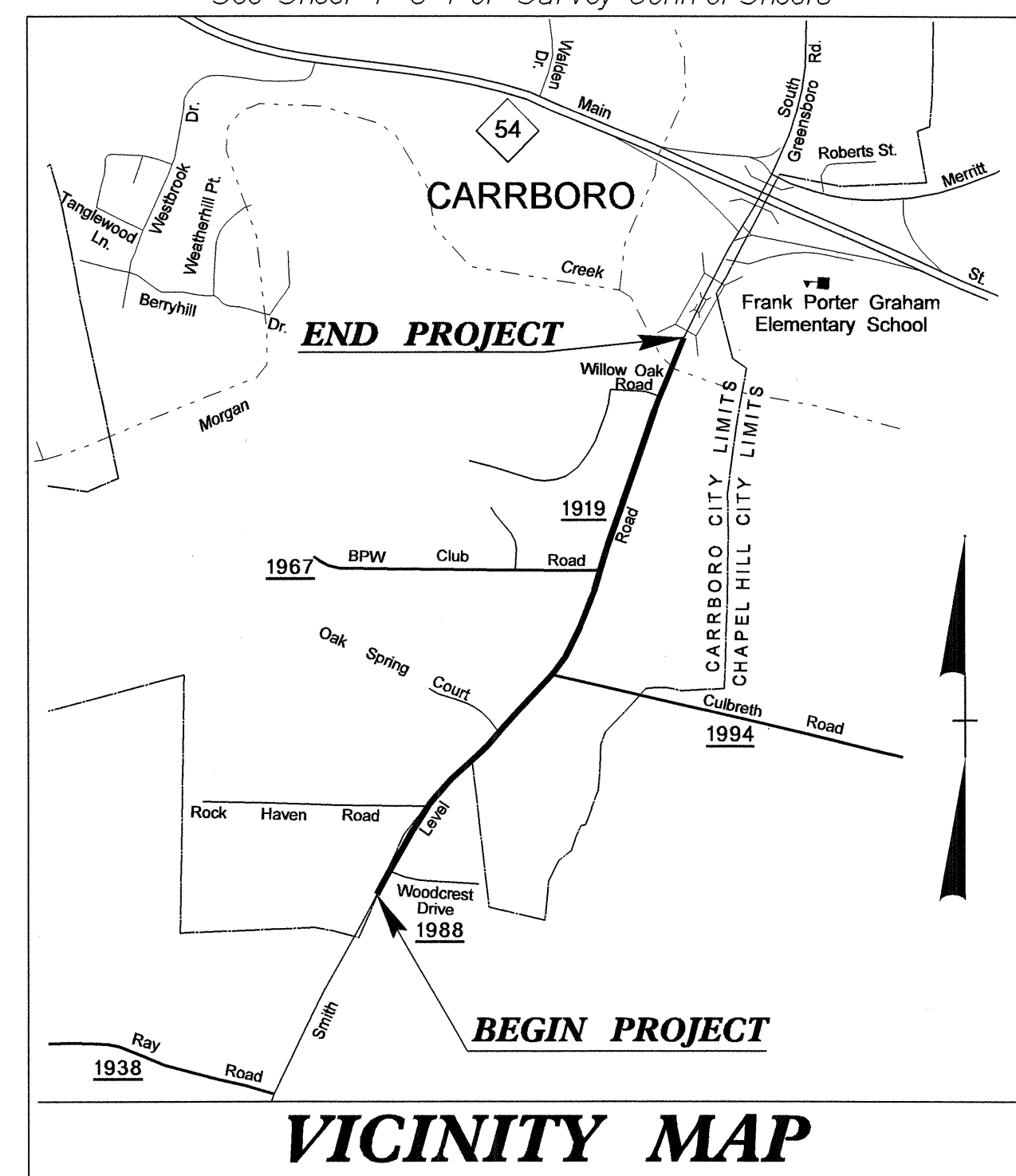
ORANGE COUNTY

**LOCATION: CARRBORO - SR 1919 (SMITH LEVEL ROAD)
FROM ROCK HAVEN ROAD TO BRIDGE NO. 88
OVER MORGAN CREEK**

**TYPE OF WORK: WIDENING, DRAINAGE, GRADING, PAVING, SIGNALS
AND CURB & GUTTER**



See Sheet 1-A For Index of Sheets
See Sheet 1-B For Conventional Symbols
See Sheet 1-C For Survey Control Sheets



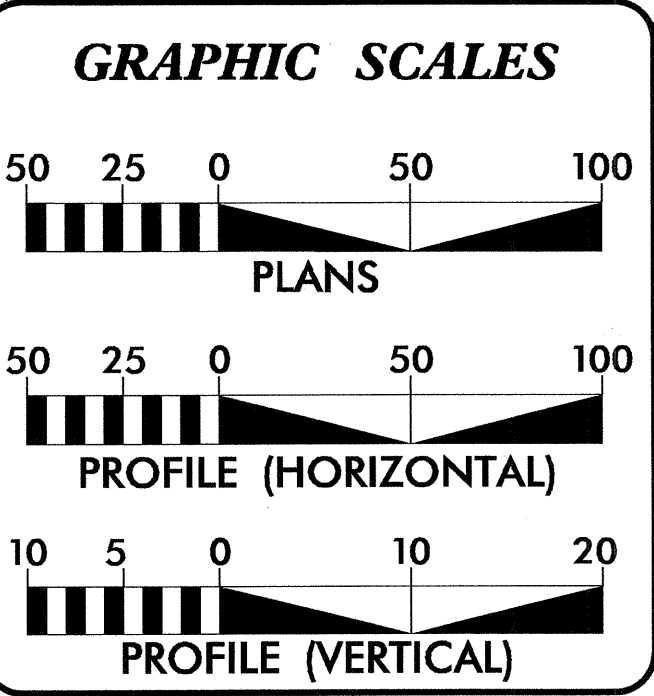
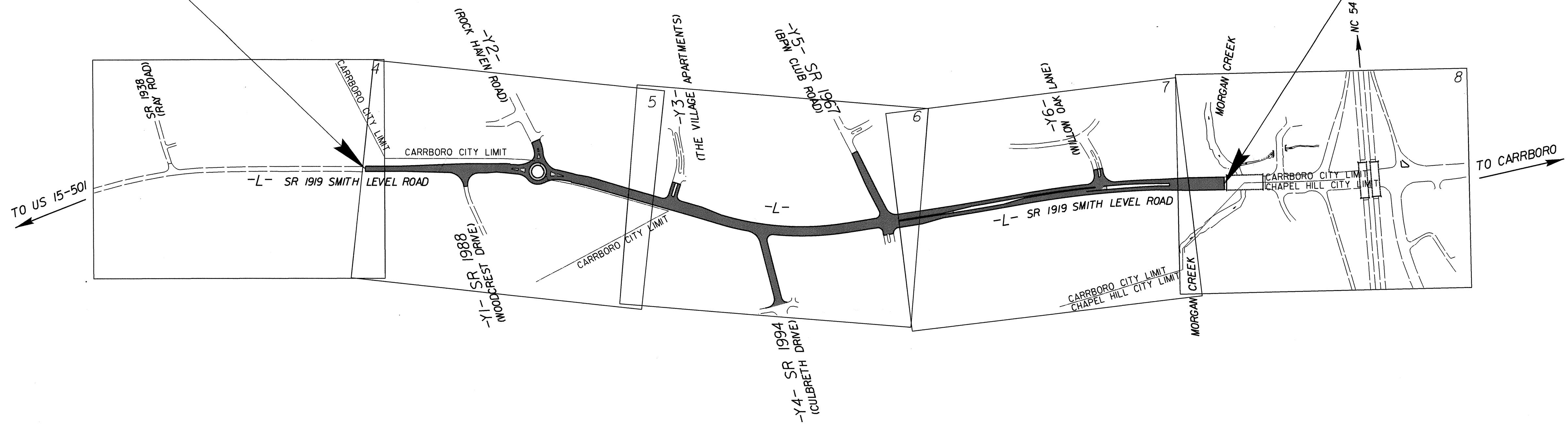
VICINITY MAP

TIP PROJECT: U-2803

CONTRACT: C203028

STA. 55+73.27 -L- END TIP PROJECT U-2803

STA. 13+00.00 -L- BEGIN TIP PROJECT U-2803



DESIGN DATA

ADT 2012 =	20,200
ADT 2032 =	24,500
DHV =	10 %
D =	60 %
T =	4 % *
V =	50 MPH
* TTST 1% DUAL 3%	
FUNC. CLASS =	MINOR ARTERIAL SUBREGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT U-2803	=	0.809 MILES
TOTAL LENGTH STATE TIP PROJECT U-2803	=	0.809 MILES

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

2012 STANDARD SPECIFICATIONS	
RIGHT OF WAY DATE:	JUNE 29, 2011
LETTING DATE:	DECEMBER 18, 2012
	BRENDA MOORE, PE PROJECT ENGINEER
	TATIA L. WHITE, PE PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

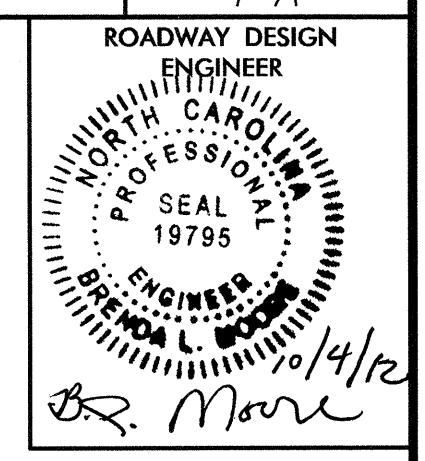
SEAL 019732
10-02-2012
SIGNATURE: *[Signature]* P.E.

ROADWAY DESIGN ENGINEER

SEAL 19795
10/2/12
SIGNATURE: *[Signature]* P.E.

**DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA**

25-SEP-2012 14:02
P:\Roadway\Proj\U2803_rdy_tsh.dgn
\$\$\$\$\$USERNAME\$\$\$\$\$



INDEX OF SHEETS

SHEET NUMBER	SHEET
1	TITLE SHEET
1-A	INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARD DRAWINGS
1-B	CONVENTIONAL SYMBOLS
1-C	SURVEY CONTROL SHEET
2 THROUGH 2-C	PAVEMENT SCHEDULE, TYPICAL SECTIONS, WEDGING DETAILS
2-D	DETAIL OF ROUNDABOUT AT Y2 AND DETAIL OF LEFTOVER AT Y6
2-E	DITCH DETAILS
2-F THROUGH 2-H	DRY DETENTION BASIN DETAILS
2-I	METHOD FOR PLACEMENT OF DROP INLETS IN CONCRETE ISLANDS
2-J	CURB RAMPS
2-K	TEMPORARY STEEL PLATE COVERS FOR MASONRY DRAINAGE STRUCTURE
3 (2 SHEETS)	SUMMARY OF QUANTITIES
3-A THROUGH 3-G	SUMMARY OF DRAINAGE QUANTITIES SUMMARY OF GUARDRAIL, ASPHALT PAVEMENT REMOVAL SUMMARY OF EARTHWORK
3-H	PARCEL INDEX SHEET
4 THROUGH 8	PLAN SHEETS
9 THROUGH 12	PROFILE SHEETS
TMP-1 THROUGH TMP-11	TRANSPORTATION MANAGEMENT PLANS
SD-1	WORK ZONE SIGN DETAIL
PMP-1 THROUGH PMP-6	PAVEMENT MARKING PLANS
EC-1 THROUGH EC-14	EROSION CONTROL PLANS
RF-1	REFORESTATION DETAIL
SIGN-1 THROUGH SIGN-5	SIGNING PLANS
SIG-1 THROUGH SIG-36	SIGNAL PLANS
UC-1 THROUGH UC-16	UTILITY CONSTRUCTION
UD-1 THROUGH UD-8	UTILITIES BY OTHERS
X-1A THROUGH X-1B	CROSS-SECTIONS INDEX, CROSS-SECTIONS VOLUME SUMMARY
X-1 THROUGH X-33	CROSS-SECTIONS

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	
200.02	Method of Clearing - Method II
225.02	Guide for Grading Subgrade - Secondary and Local
225.04	Method of Obtaining Super-elevation - Two Lane Pavement
240.01	Guide for Berm Ditch Construction
DIVISION 3 - PIPE CULVERTS	
300.01	Method of Pipe Installation
310.10	Driveway Pipe Construction
DIVISION 5 - SUBGRADE, BASES AND SHOULDERS	
560.01	Method of Shoulder Construction - High Side of Super-elevated Curve - Method I
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
840.01	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
840.18	Concrete Grated Drop Inlet Type "B" - 12" thru 36" Pipe
840.24	Frames and Narrow Slot Sog Grates
840.27	Brick Grated Drop Inlet Type "B" - 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
840.35	Traffic Bearing Grated Drop Inlet - for Cast Iron Double Frame and Grates
840.45	Precast Drainage Structure
840.46	Traffic Bearing Precast Drainage Structure
840.52	Precast Manhole - 4', 5' and 6' Diameter
840.54	Manhole Frame and Cover
840.66	Drainage Structure Steps
840.72	Pipe Collar
846.01	Concrete Curb, Gutter and Curb & Gutter
848.01	Concrete Sidewalk
848.03	Driveway Turnout - Drop Curb Type
848.04	Street Turnout
848.05	Curb Ramp - Proposed Curb & Gutter
850.01	Concrete Paved Ditches
850.10	Guide for Berm Drainage Outlet - 15" and 18" Pipe
852.01	Concrete Islands
852.02	Concrete Mountable Median - for Use with Rigid or Flexible Pavement
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
852.10	Median Construction - with Curb and Gutter
862.01	Guardrail Placement
862.02	Guardrail Installation
862.03	Structure Anchor Units
862.04	Anchoring End of Guardrail - B-77 and B-83 Anchor Units
866.01	Chain Link Fence - 4', 5' and 6' High Fence
876.01	Rip Rap in Channels
876.02	Guide for Rip Rap at Pipe Outlets
876.04	Drainage Ditches with Class 'B' Rip Rap

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 II.
- 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 STD. NO. 560.01.
- 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.
- BERM DITCHES:
BERM DITCHES SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 240.01 AT LOCATIONS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
- 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. 848.03 AT LOCATIONS SHOWN ON PLANS OR AS DIRECTED BY THE ENGINEER.
- STREET TURNOUT:
STREET RETURNS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 848.04 USING THE RADII 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.
- UTILITIES:
UTILITY OWNERS ON THIS PROJECT ARE Piedmont EMC, AT&T, Time Warner, Town of Carrboro, OWASA- Water/Sewer, PSNC Energy, Duke Energy, Level 3 Communications
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 848.05 OR DETAIL 2-J.

8/17/99

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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	□ EOM
Parcel/Sequence Number	⑩ 23
Existing Fence Line	-x-x-x-
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	○
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	○ CSX TRANSPORTATION 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	○ RW
Proposed Right of Way Line with Iron Pin and Cap Marker	○ RW
Proposed Right of Way Line with Concrete or Granite RW Marker	△ RW
Proposed Control of Access Line with Concrete CA Marker	○ CA
Existing Control of Access	○ CA
Proposed Control of Access	○ CA
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	-----
Proposed Guardrail	-----
Existing Cable Guiderail	-----
Proposed Cable Guiderail	-----
Equality Symbol	⊕
Pavement Removal	⊗

VEGETATION:

Single Tree	⊕
Single Shrub	⊕
Hedge	-----
Woods Line	-----

Orchard	⊕
Vineyard	□ 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	□
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	□
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	□
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

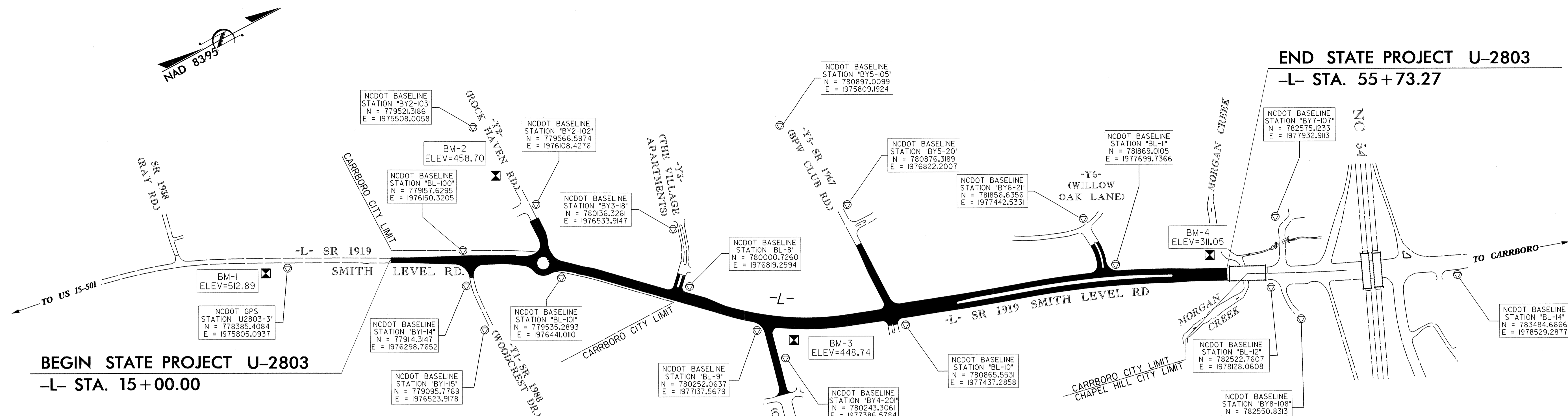
SANITARY SEWER:

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	----- ZUTL
U/G Tank; Water, Gas, Oil	□
Underground Storage Tank, Approx. Loc.	⊕
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.

U-2803 SURVEY CONTROL SHEET



BEGIN STATE PROJECT U-2803
-L- STA. 15+00.00

END STATE PROJECT U-2803
-L- STA. 55+73.27

BENCHMARK DATA

.....
 BM1 ELEVATION = 512.89
 N 778274 E 1975792
 L STATION 10+00.00
 S 03°01'36.66" E DIST 119.06
 RR SPIKE IN BASE OF POWER POLE

 BM2 ELEVATION = 458.70
 N 779512 E 1975876
 L STATION 10+00.00
 S 78°50'9.46" W DIST 138.71
 RR SPIKE IN BASE OF LIGHT POLE

 BM3 ELEVATION = 448.74
 N 780337 E 1977233
 L STATION 34+38.00 69 RIGHT
 RR SPIKE IN ROOT OF 14" SWEET GUM

 BM4 ELEVATION = 311.05
 N 782318 E 1977855
 L STATION 54+91.00 93 LEFT
 RR SPIKE IN BASE OF POWER POLE

BASILINE DATA

BL POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
3	U2803-3	778385.4084	1975805.0937	510.29	10+02.44	20.63 RT
100	BL-100	779157.6295	1976150.3205	483.26	18+46.48	35.05 LT
101	BL-101	779535.2893	1976441.0110	471.21	23+20.80	16.53 RT
8	BL-8	780000.7260	1976819.2594	455.18	29+20.38	25.87 LT
9	BL-9	780252.0637	1977137.5679	445.55	33+18.09	38.55 RT
10	BL-10	780865.5531	1977437.2858	414.13	39+91.30	51.05 RT
11	BL-11	781869.0105	1977699.7366	337.97	50+22.74	36.40 LT
12	BL-12	782522.7607	1978128.0608	322.04	57+97.51	57.50 RT
14	BL-14	783484.6666	1978529.2877	335.25	OUTSIDE PROJECT LIMITS	
BY1						
A100	BL-100	779157.6295	1976150.3205	483.25	OUTSIDE PROJECT LIMITS	
114	BY1-14	779114.3147	1976298.7652	487.03	12+20.50	15.91 LT
115	BY1-15	779095.7769	1976523.9178	493.82	OUTSIDE PROJECT LIMITS	
BY2						
103	BY2-103	779521.3186	1975508.0058	455.39	OUTSIDE PROJECT LIMITS	
102	BY2-102	779566.5974	1976108.4276	473.36	10+95.53	29.86 LT
A101	BL-101	779535.2893	1976441.0110	471.20	OUTSIDE PROJECT LIMITS	
BY3						
18	BY3-18	780136.3261	1976533.9147	447.38	10+02.19	6.79 RT
A8	BL-8	780000.7260	1976819.2594	455.16	13+16.56	34.55 LT
BY4						
A9	BL-9	780252.0637	1977137.5679	445.53	17+22.21	28.60 LT
201	BY4-201	780243.3061	1977386.5784	438.96	14+78.15	21.59 RT
19	BY4-19	780126.8710	1977849.2947	422.52	10+01.02	17.50 RT
104	BY4-104	779940.9432	1978607.9171	439.28	OUTSIDE PROJECT LIMITS	
BY5						
105	BY5-105	780897.0099	1975809.1924	410.30	OUTSIDE PROJECT LIMITS	
20	BY5-20	780876.3189	1976822.2007	406.23	10+00.16	17.52 LT
A10	BL-10	780865.5531	1977437.2858	414.13	OUTSIDE PROJECT LIMITS	
BY6						
21	BY6-21	781856.6356	1977442.5331	351.82	OUTSIDE PROJECT LIMITS	
A11	BL-11	781869.0105	1977699.7366	337.97	12+36.79	45.08 LT
BY7						
107	BY7-107	782575.1233	1977932.9113	312.45	57+55.98	140.23 LT
A12	BL-12	782522.7607	1978128.0608	322.04	57+97.51	57.50 RT
BY8						
B12	BL-12	782522.7607	1978128.0608	322.04	57+97.51	57.50 RT
108	BY8-108	782550.8313	1978390.5837	343.42	OUTSIDE PROJECT LIMITS	

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR THE NCGS MONUMENT "INN" WITH NAD 1983/95 STATE PLANE GRID COORDINATES OF NORTHING: 785189.0038(ft) EASTING: 1993666.1012(ft) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.999918159 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM NCGS MONUMENT "INN" TO L- STATION 15+00.00 IS S 70° 11' 40" W 18,754.9013ft ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NGVD 29

NOTES

- THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:

[HTTP://WWW.DOH.DOT.STATE.NC.US/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT/](http://www.doh.dot.state.nc.us/preconstruct/highway/location/project/)
 THE FILES TO BE FOUND ARE AS FOLLOWS:
 U2803_LS_CONTROL.TXT

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

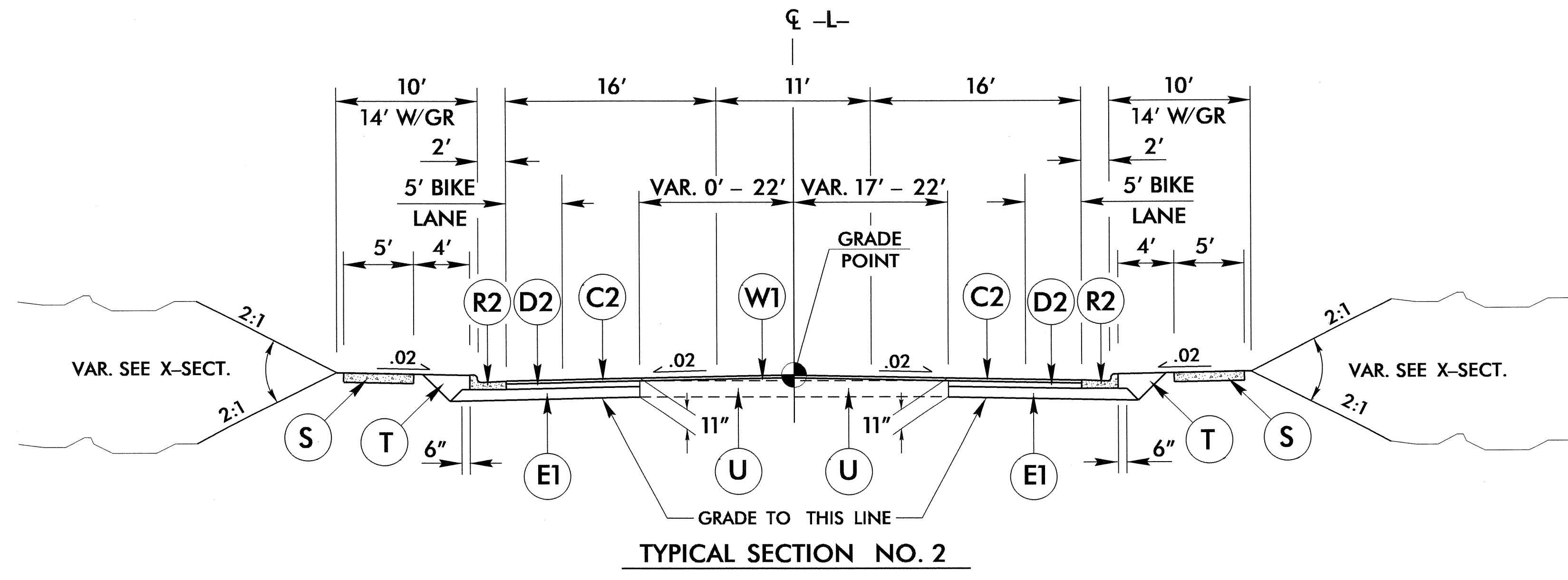
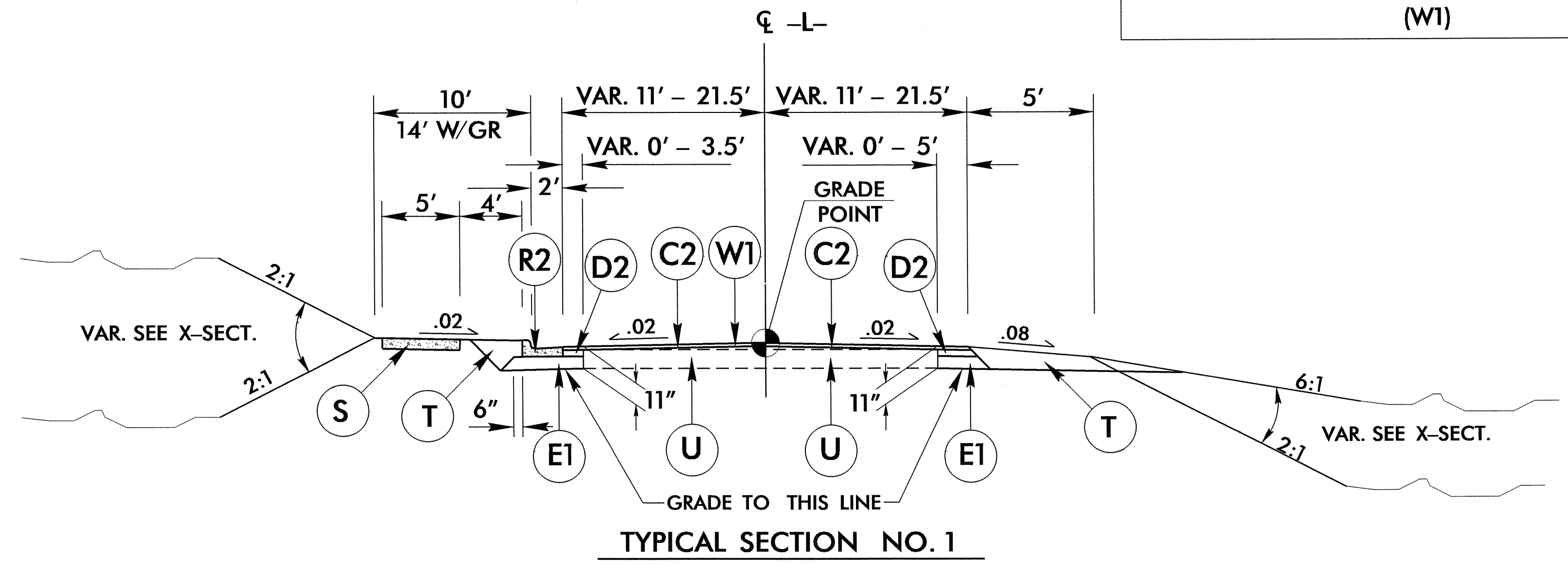
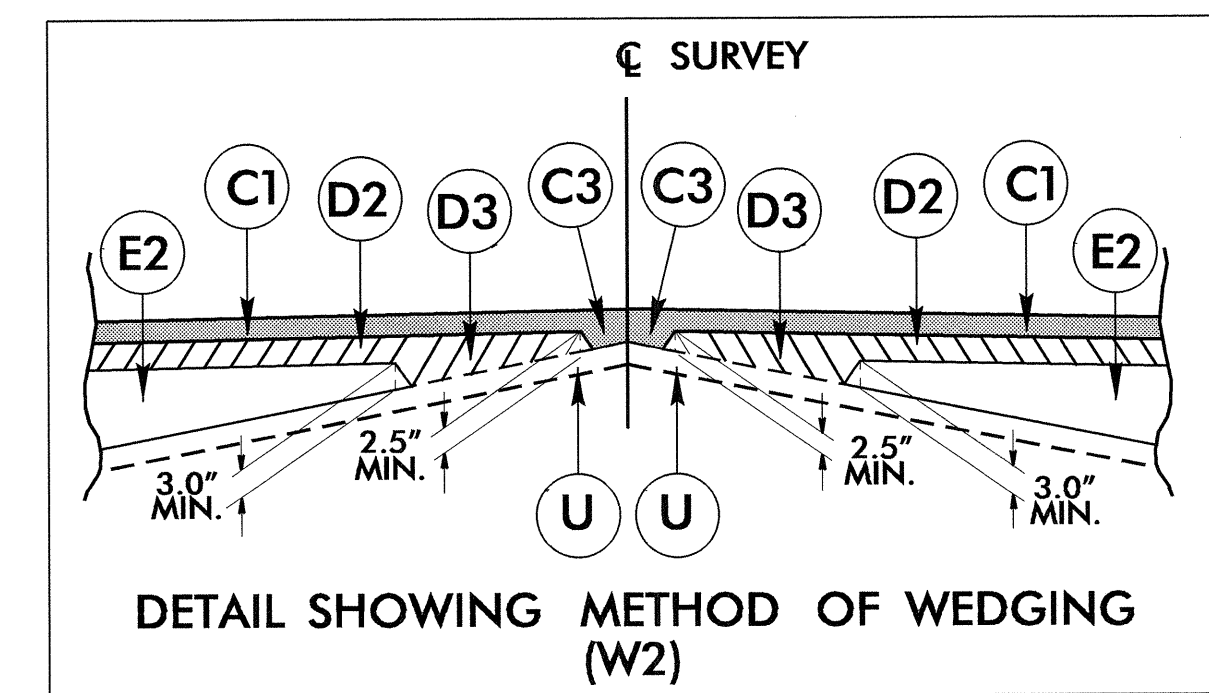
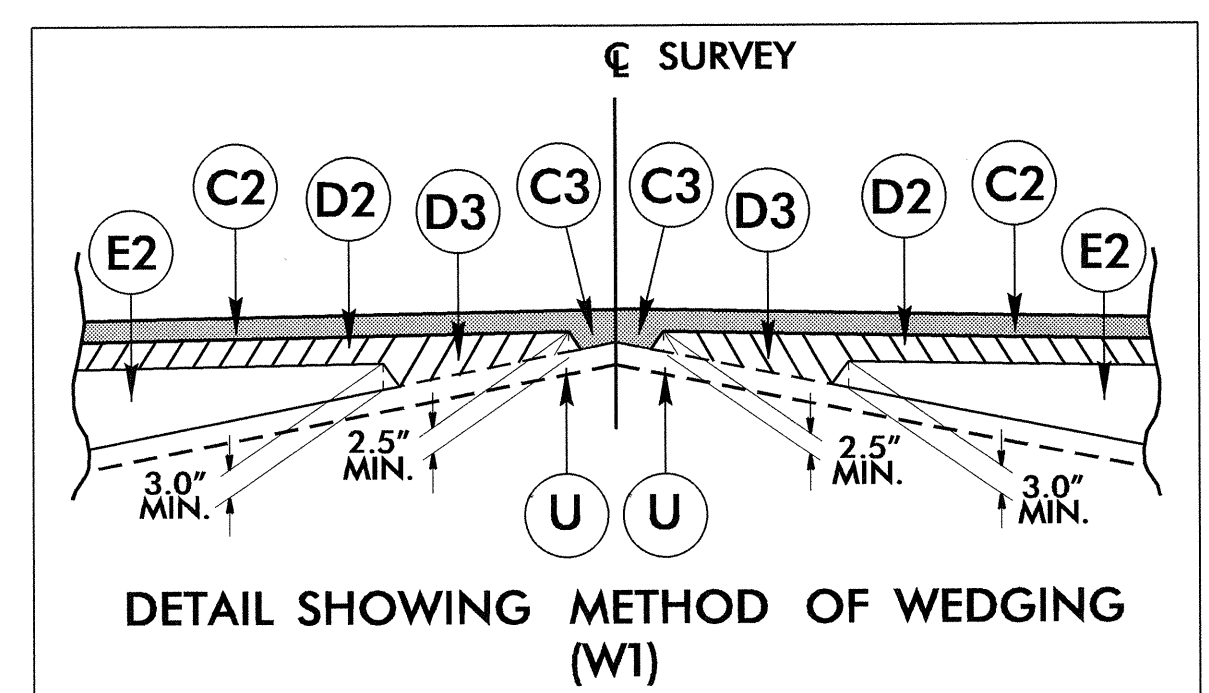
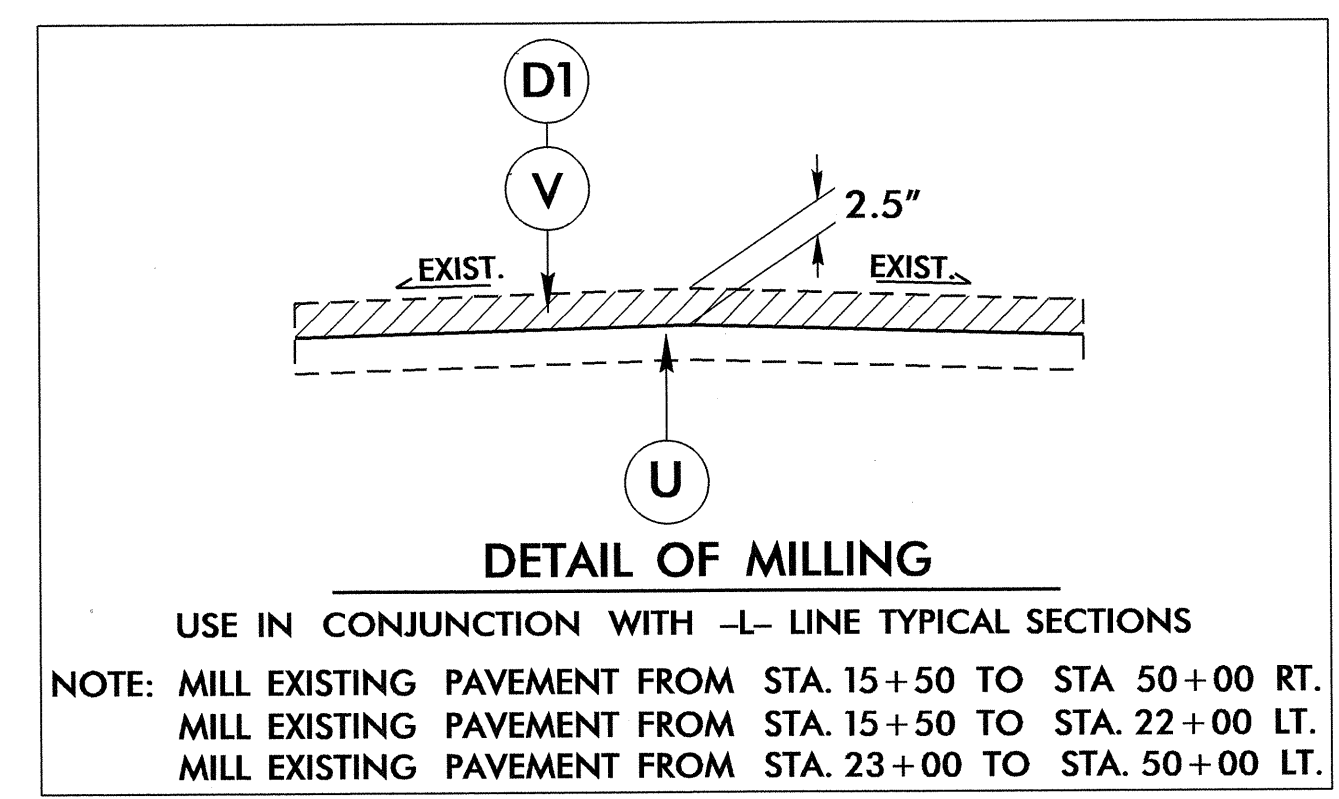
 ⊕ INDICATES GEODETIC CONTROL MONUMENTS USED OR SET FOR HORIZONTAL PROJECT CONTROL BY THE NCDOT LOCATION AND SURVEYS UNIT.
 PROJECT CONTROL ESTABLISHED USING GLOBAL POSITIONING SYSTEM FROM EXISTING NCGS MONUMENTATION.

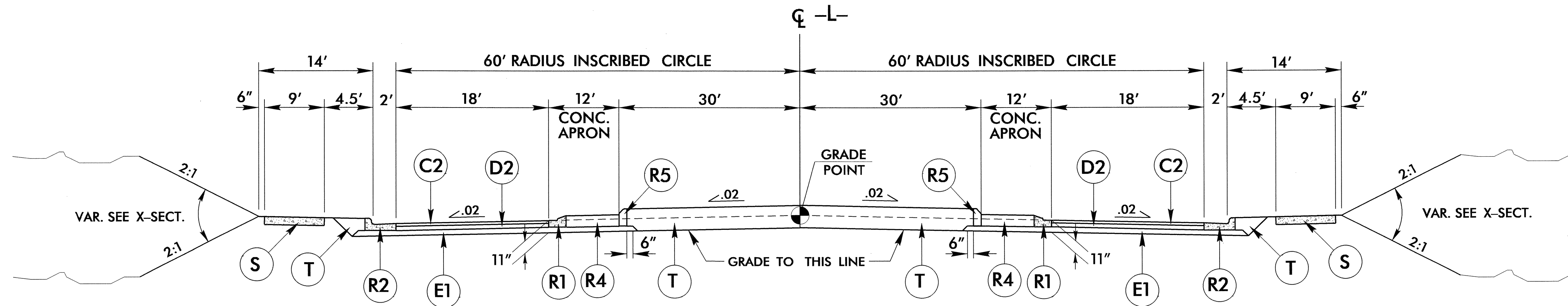
NOTE: DRAWING NOT TO SCALE

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PAVEMENT SCHEDULE (FINAL PAVEMENT DESIGN)			
C1	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.	R2	2'-6" CONCRETE CURB AND GUTTER.
C2	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.	R3	5" MONOLITHIC CONCRETE ISLAND (KEYED IN).
C3	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 LESS THAN 1½" IN DEPTH OR GREATER THAN 2" IN DEPTH.	R4	12" CONCRETE ISLAND COVER
D1	PROP. APPROX. 2½" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.	R5	8" x 18" CONCRETE CURB.
D2	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	S	4" CONCRETE SIDEWALK.
D3	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 2½" IN DEPTH OR GREATER THAN 4" IN DEPTH.	T	EARTH MATERIAL.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	U	EXISTING PAVEMENT.
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 4" IN DEPTH OR GREATER THAN 5½" IN DEPTH.	V	MILLING ASPHALT PAVEMENT, 2½" DEPTH (SEE DETAIL THIS SHEET).
R1	1'-6" CONCRETE CURB AND GUTTER.	W1	VARIABLE DEPTH ASPHALT PAVEMENT (SEE WEDGING DETAIL THIS SHEET).
		W2	VARIABLE DEPTH ASPHALT PAVEMENT (SEE WEDGING DETAIL THIS SHEET).

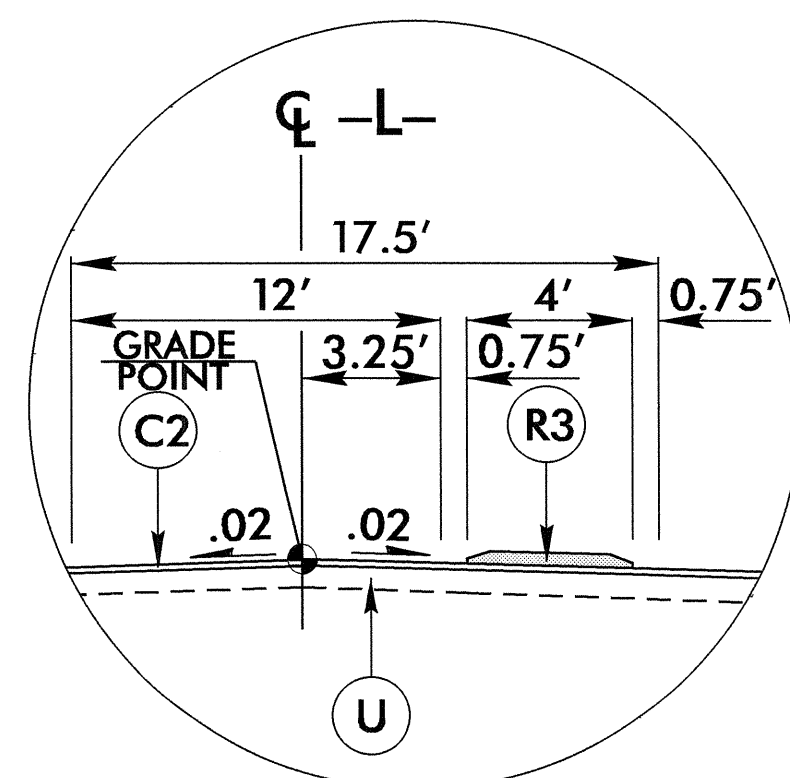
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.



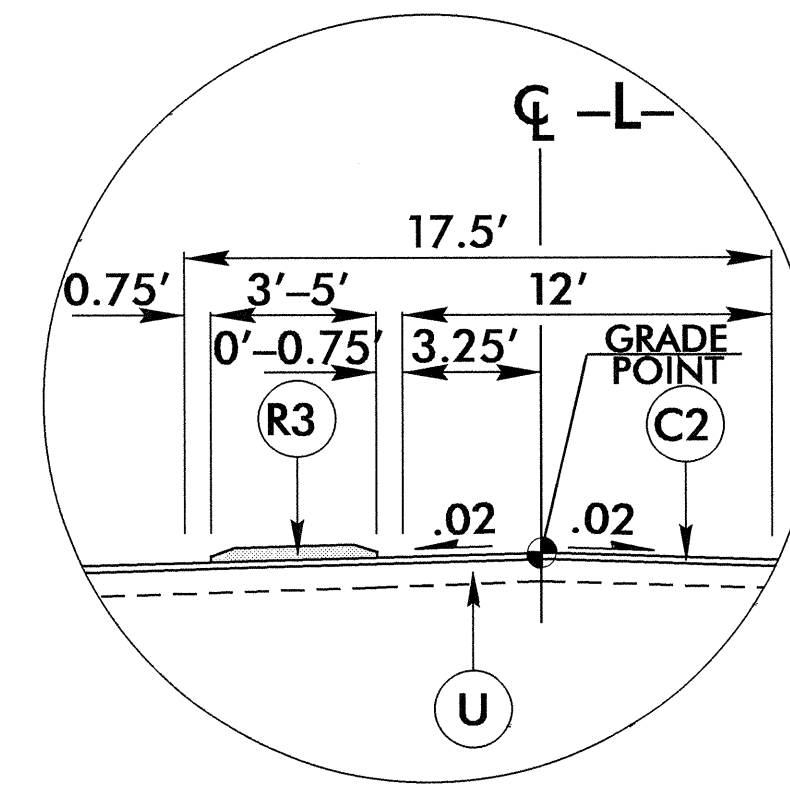


TYPICAL SECTION NO. 3

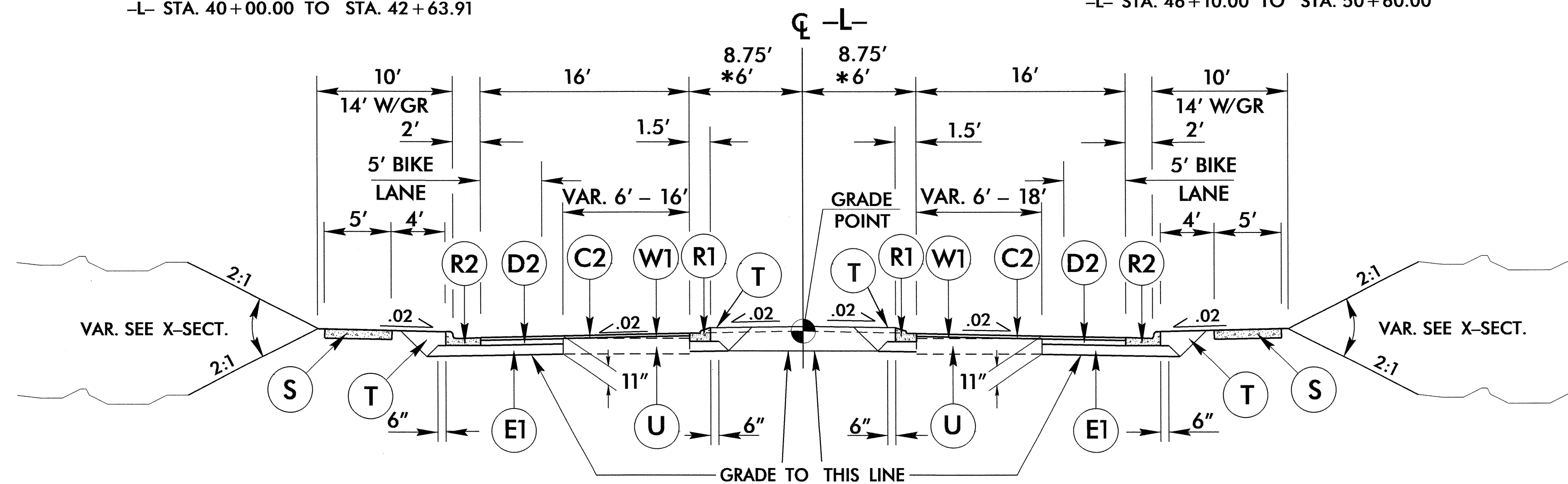
USE TYPICAL SECTION NO. 3
-L- STA. 21+73.22 TO STA. 22+93.22



USE INSET A WITH TYPICAL SECTION NO. 4
-L- STA. 40+00.00 TO STA. 42+63.91



USE INSET B WITH TYPICAL SECTION NO. 4
-L- STA. 46+10.00 TO STA. 50+60.00



TYPICAL SECTION NO. 4

USE TYPICAL SECTION NO. 4
-L- STA. 39+56.28 TO STA. 51+05.00

*-L- STA. 52+55.00 TO STA. 53+11.27

NOTE: TRANSITION FROM 17.5' MEDIAN TO 12' MEDIAN

-L- STA. 51+05.00 TO STA. 52+55.00

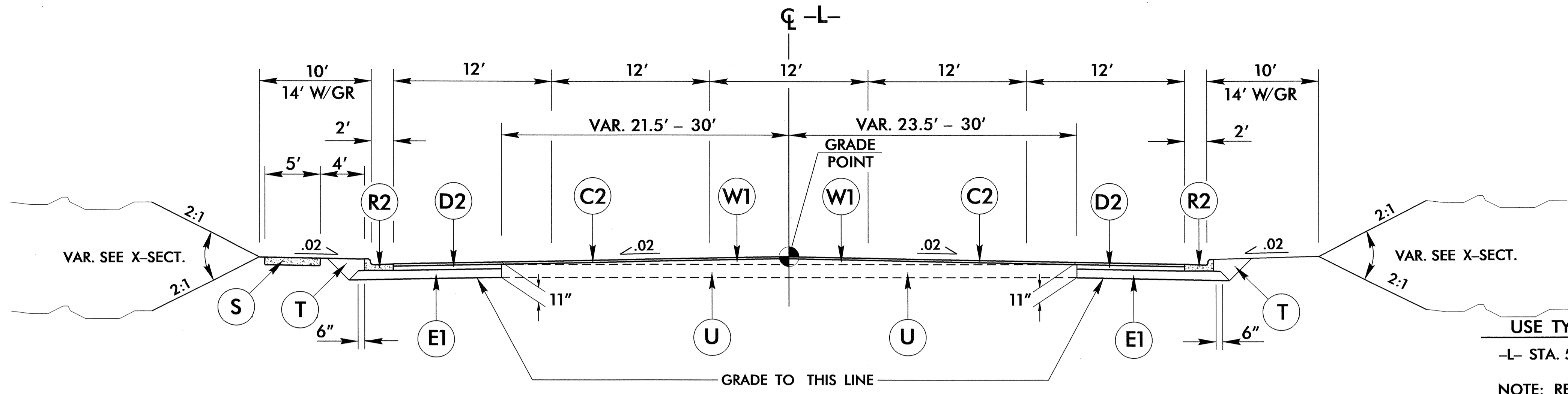
NOTE: BIKE LANE TRANSITIONS FROM 5' TO 0'

-L- STA. 53+05.27 TO STA. 54+05.27

PAVEMENT SCHEDULE (FINAL PAVEMENT DESIGN)	
C1	1 1/2" S9.5B
C2	3" S9.5B
C3	VAR. S9.5B
D1	2 1/2" I19.0B
D2	4" I19.0B
D3	VAR. I19.0B
E1	4" B25.0B
E2	VAR. B25.0B
R1	1'-6" C&G
R2	2'-6" C&G
R3	5" MONO. ISLAND
R4	12" CONC. ISL. COVER
R5	8" x 18" CONC. CURB
S	4" CONC. SIDEWALK
T	EARTH MATERIAL
U	EXIST. PAVEMENT
V	MILLING
W1	WEDGING
W2	WEDGING

6/2/99

PROJECT REFERENCE NO. U-2803	SHEET NO. 2-B
Brenda L. Moore	Vladimir G. Mikhlin

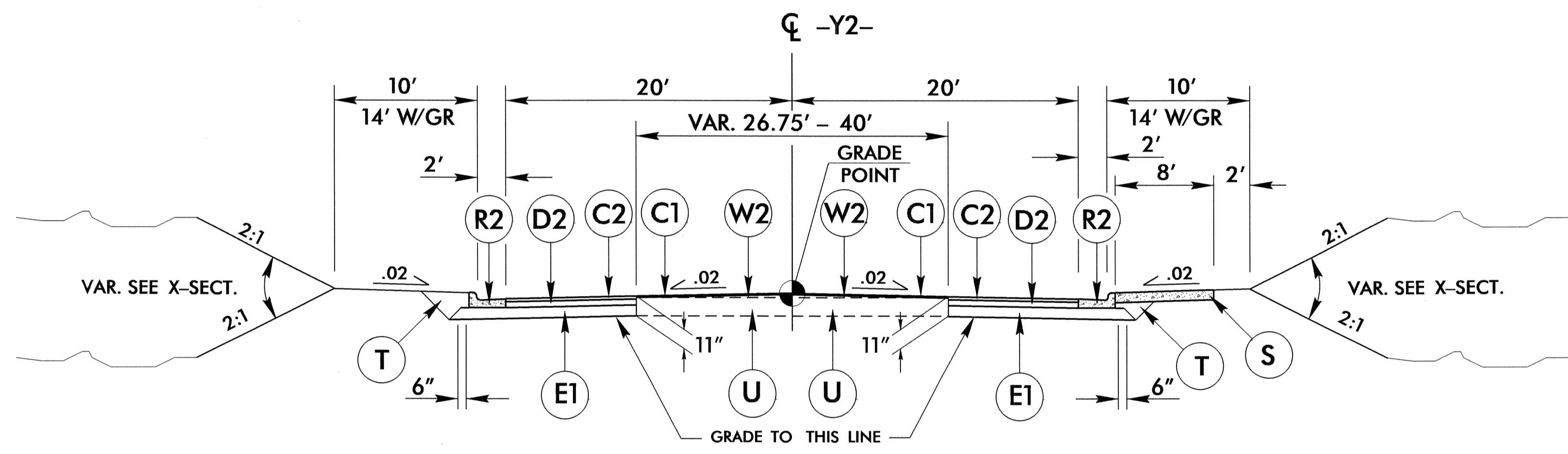


TYPICAL SECTION NO. 5

USE TYPICAL SECTION NO. 5

-L- STA. 53+11.27 TO STA. 55+73.27

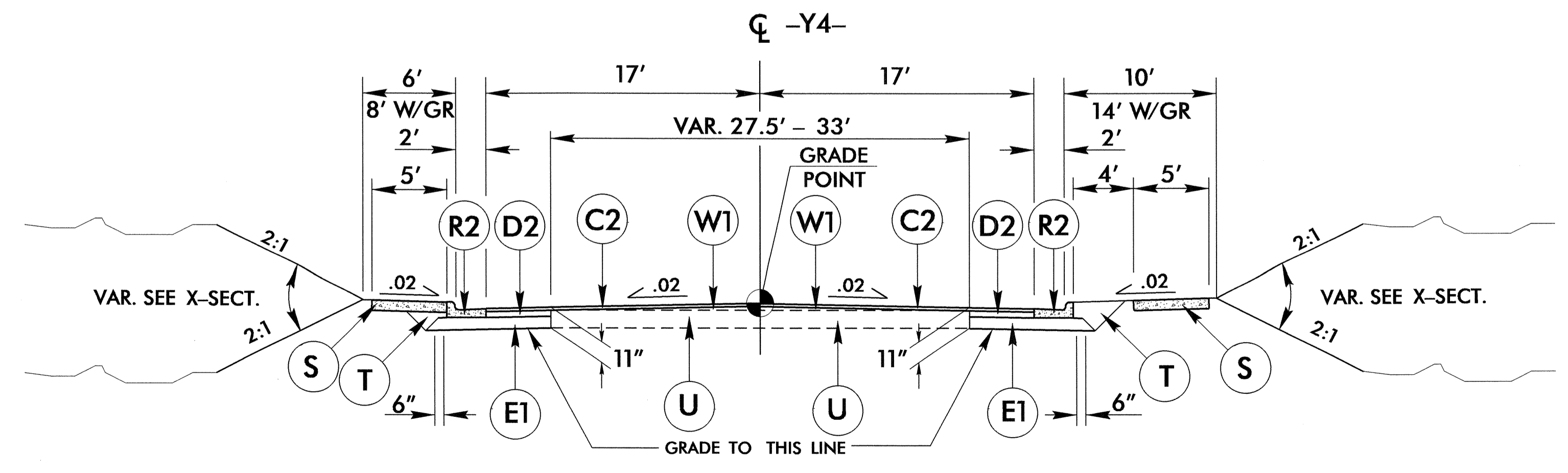
NOTE: REMOVE EXISTING PAVEMENT AND REPLACE WITH NEW PAVEMENT
-L- STA. 53+40.00 TO STA. 53+90.00 LT.



TYPICAL SECTION NO. 6

USE TYPICAL SECTION NO. 6

-Y2- STA. 12+30.00 TO STA. 13+36.13



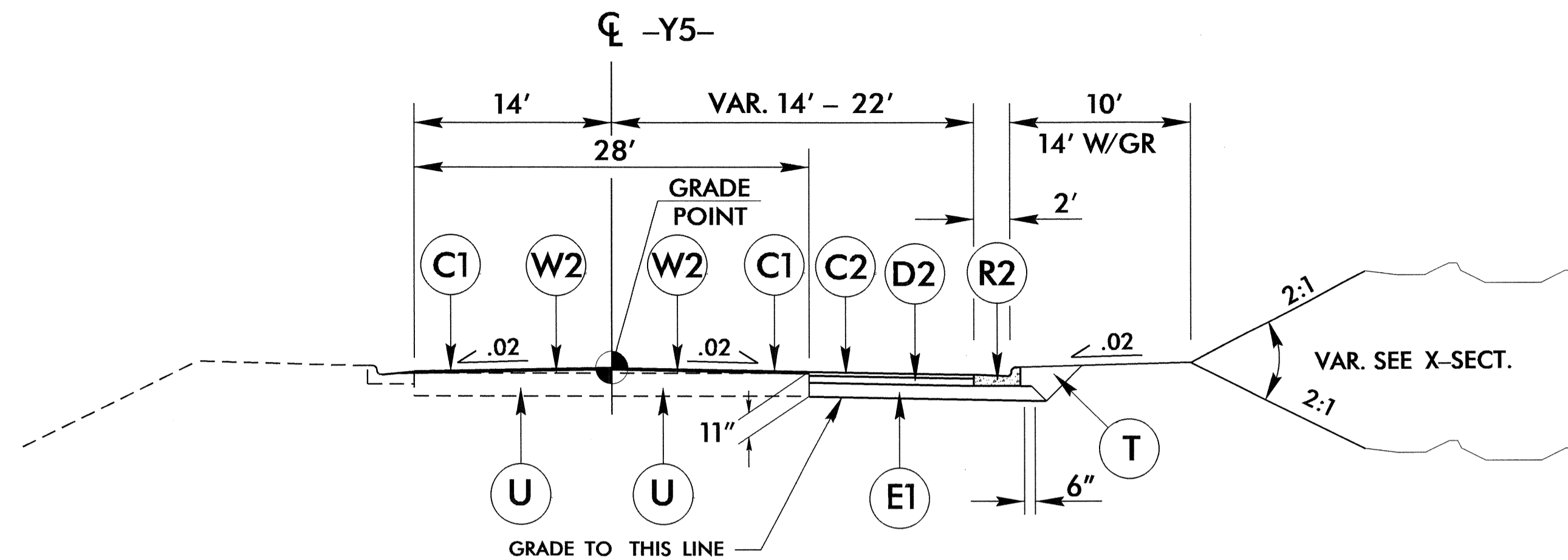
TYPICAL SECTION NO. 7

USE TYPICAL SECTION NO. 7

-Y4- STA. 13+78.00 TO STA. 17+28.69

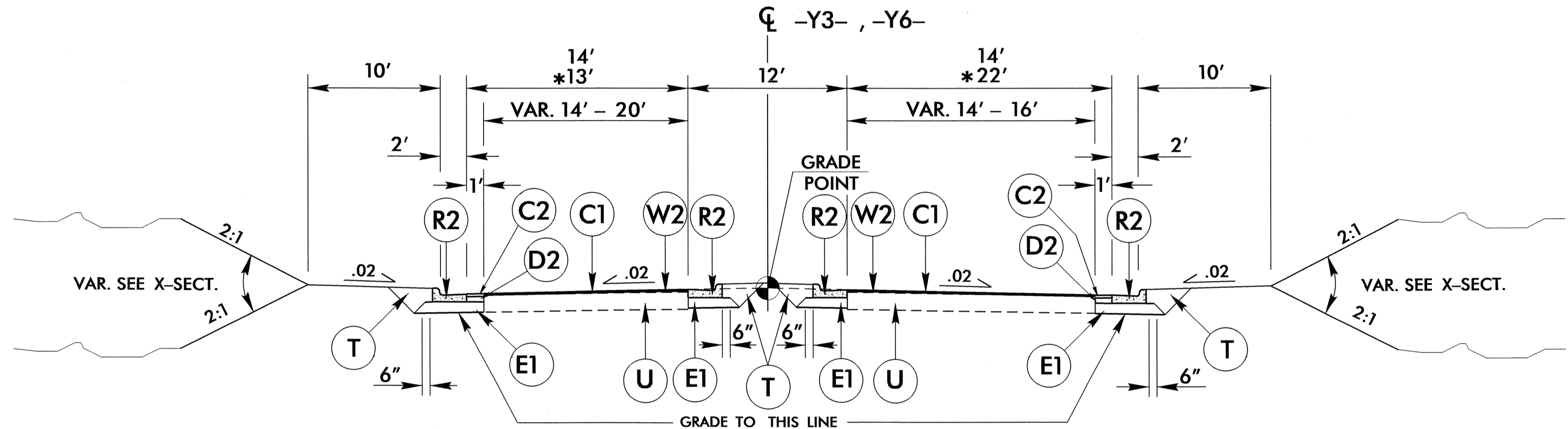
PAVEMENT SCHEDULE	
(FINAL PAVEMENT DESIGN)	
C1	1 1/2" S9.5B
C2	3" S9.5B
C3	VAR. S9.5B
D1	2 1/2" I19.0B
D2	4" I19.0B
D3	VAR. I19.0B
E1	4" B25.0B
E2	VAR. B25.0B
R1	1'-6" C&G
R2	2'-6" C&G
R3	5" MONO. ISLAND
R4	12" CONC. ISL. COVER
R5	8" x 18" CONC. CURB
S	4" CONC. SIDEWALK
T	EARTH MATERIAL
U	EXIST. PAVEMENT
V	MILLING
W1	WEDGING
W2	WEDGING

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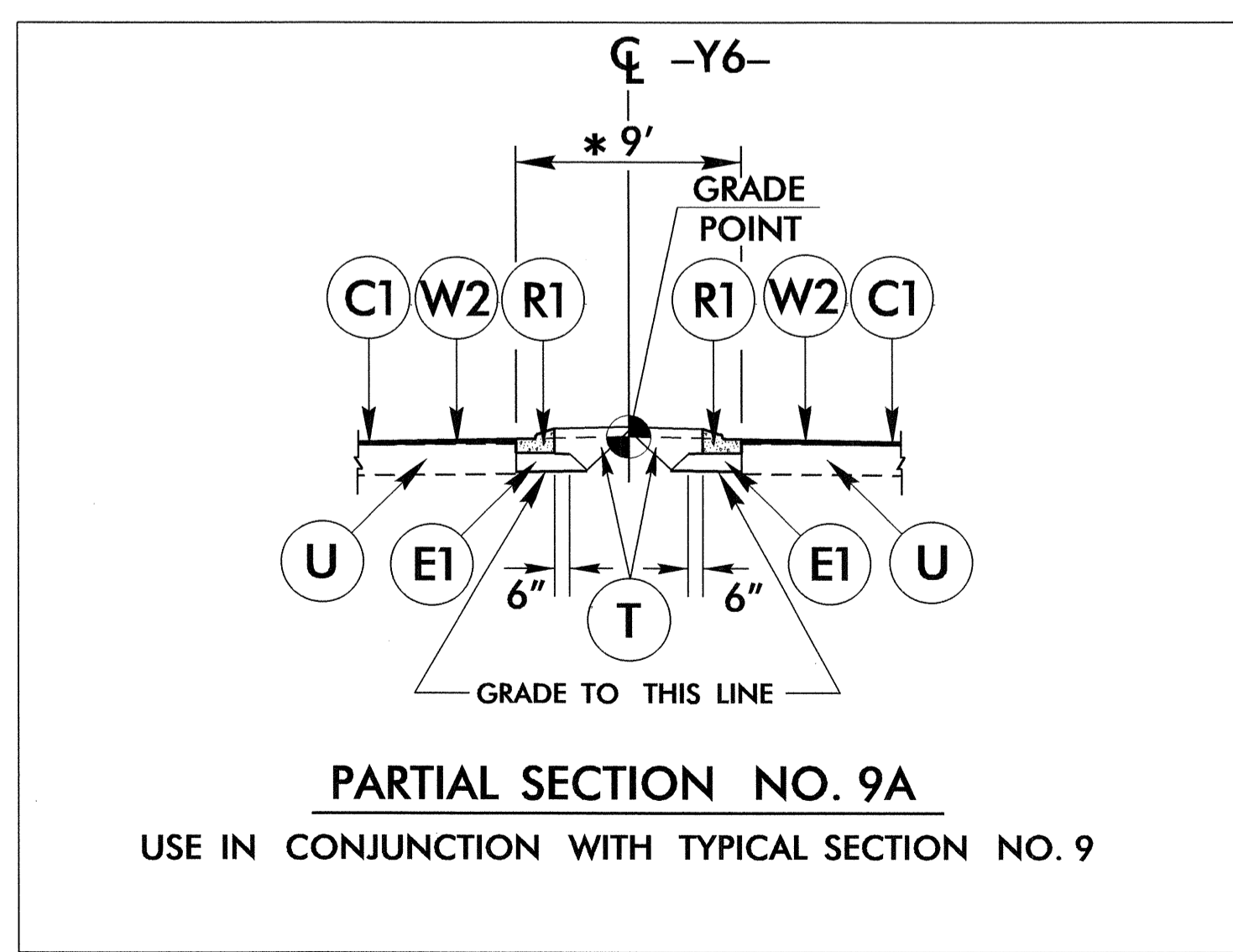
TYPICAL SECTION NO. 8

USE TYPICAL SECTION NO. 8
-Y5- STA. 11+88.00 TO STA. 15+31.56



TYPICAL SECTION NO. 9

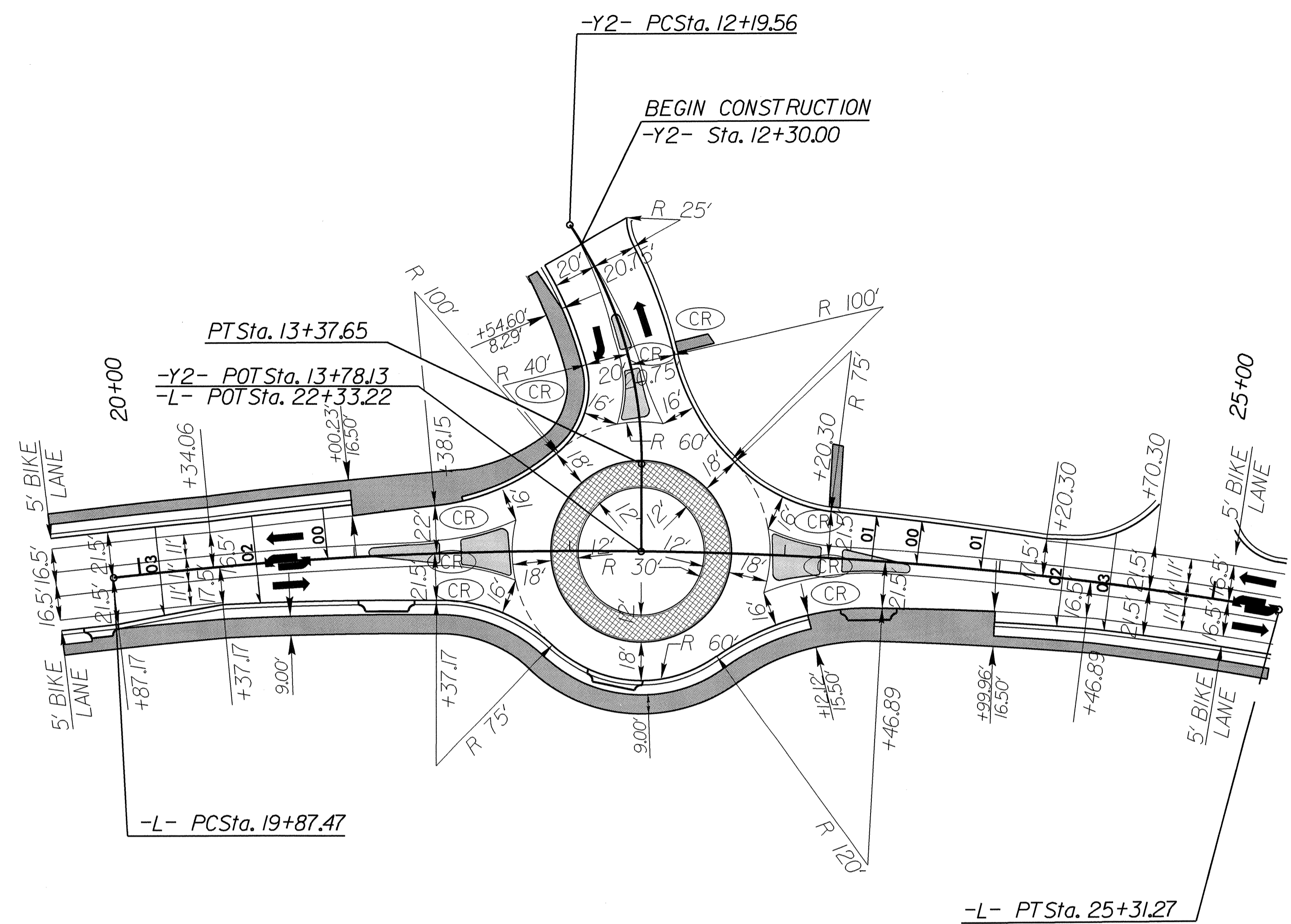
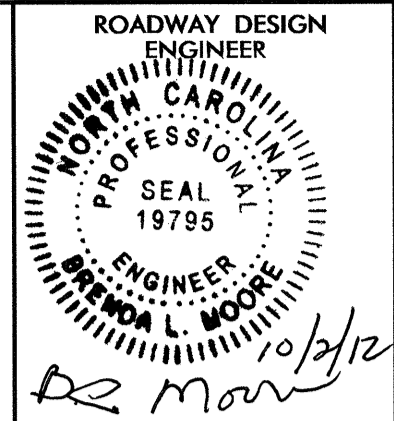
USE TYPICAL SECTION NO. 9
-Y3- STA. 12+33.00 TO STA. 13+00.00
* -Y6- STA. 11+80.00 TO STA. 12+47.10
(SEE PARTIAL SECTION NO. 9A)



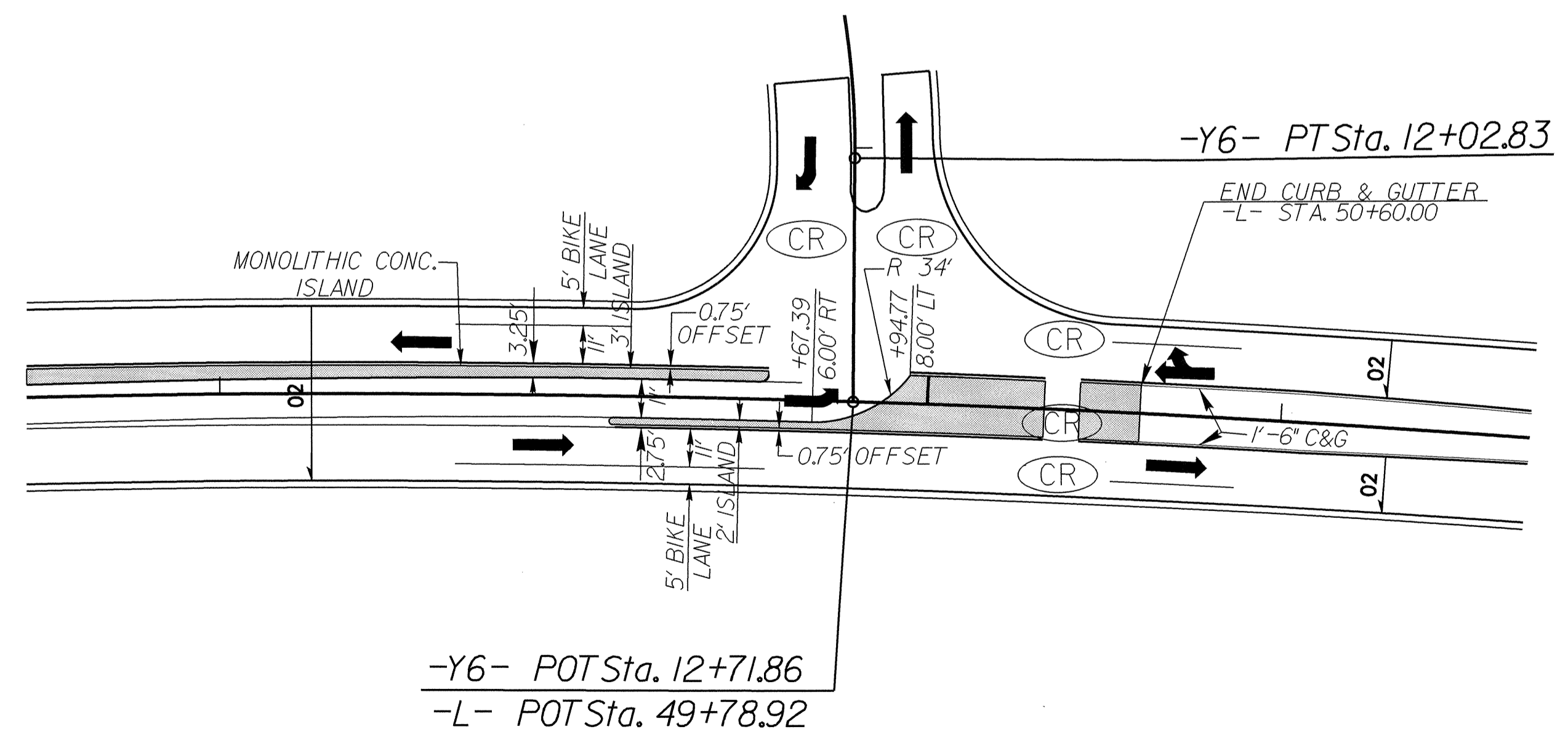
PARTIAL SECTION NO. 9A
USE IN CONJUNCTION WITH TYPICAL SECTION NO. 9

PAVEMENT SCHEDULE (FINAL PAVEMENT DESIGN)	
C1	1 1/2" S9.5B
C2	3" S9.5B
C3	VAR. S9.5B
D1	2 1/2" I19.0B
D2	4" I19.0B
D3	VAR. I19.0B
E1	4" B25.0B
E2	VAR. B25.0B
R1	1'-6" C&G
R2	2'-6" C&G
R3	5" MONO. ISLAND
R4	12" CONC. ISL. COVER
R5	8" x 18" CONC. CURB
S	4" CONC. SIDEWALK
T	EARTH MATERIAL
U	EXIST. PAVEMENT
V	MILLING
W1	WEDGING
W2	WEDGING

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DETAIL OF ROUNDABOUT @ -Y2-

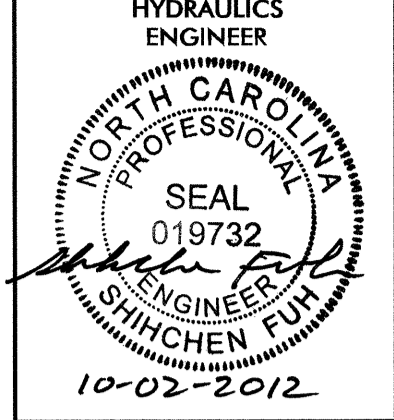


DETAIL OF LEFTOVER @ -Y6-

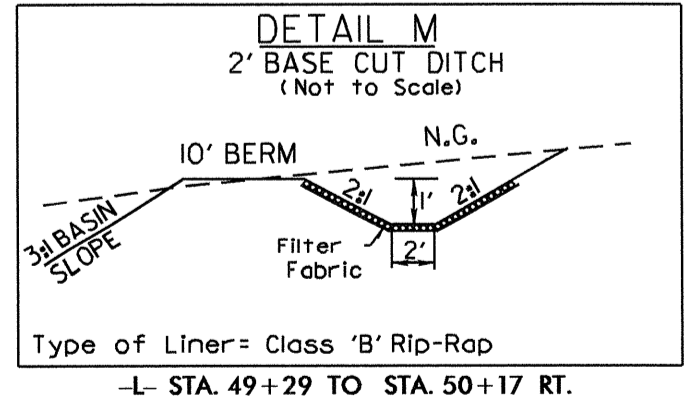
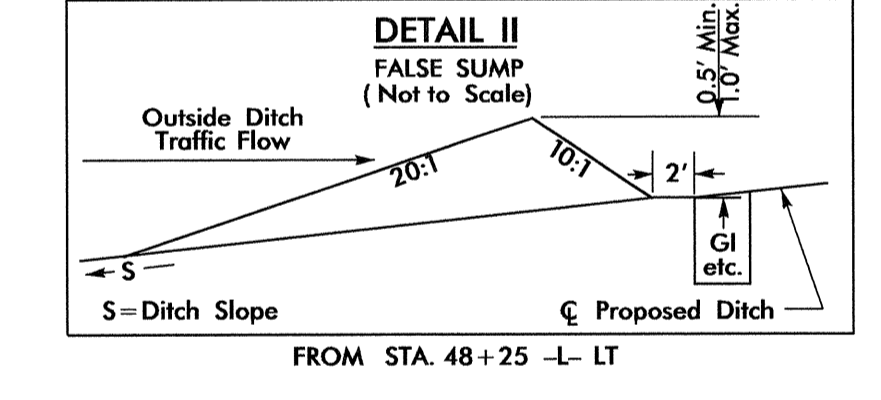
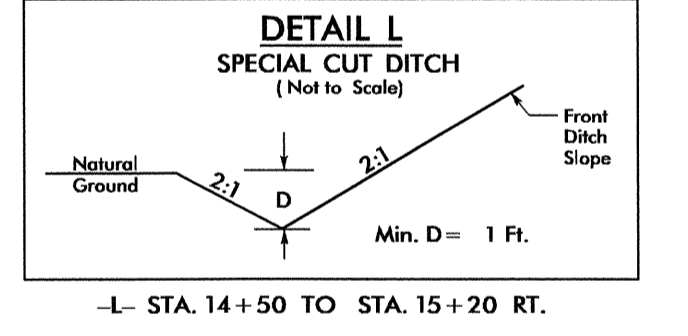
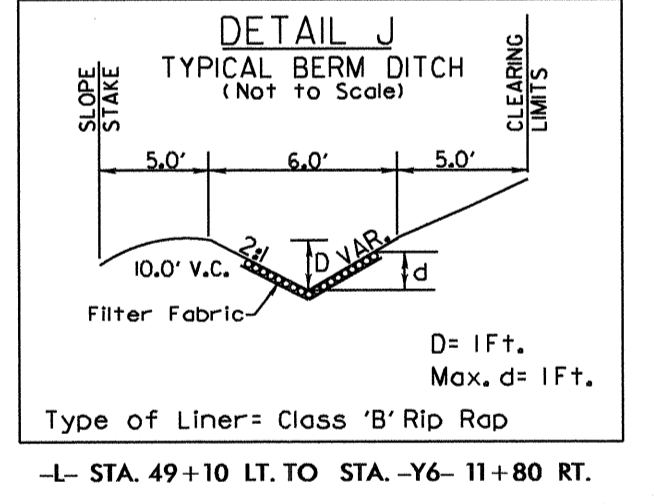
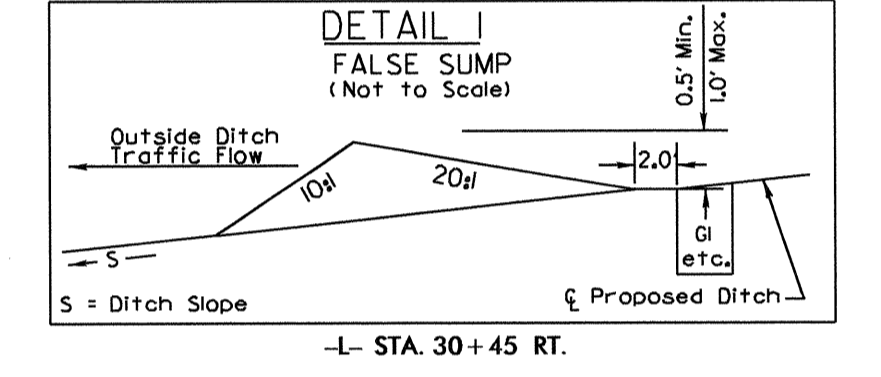
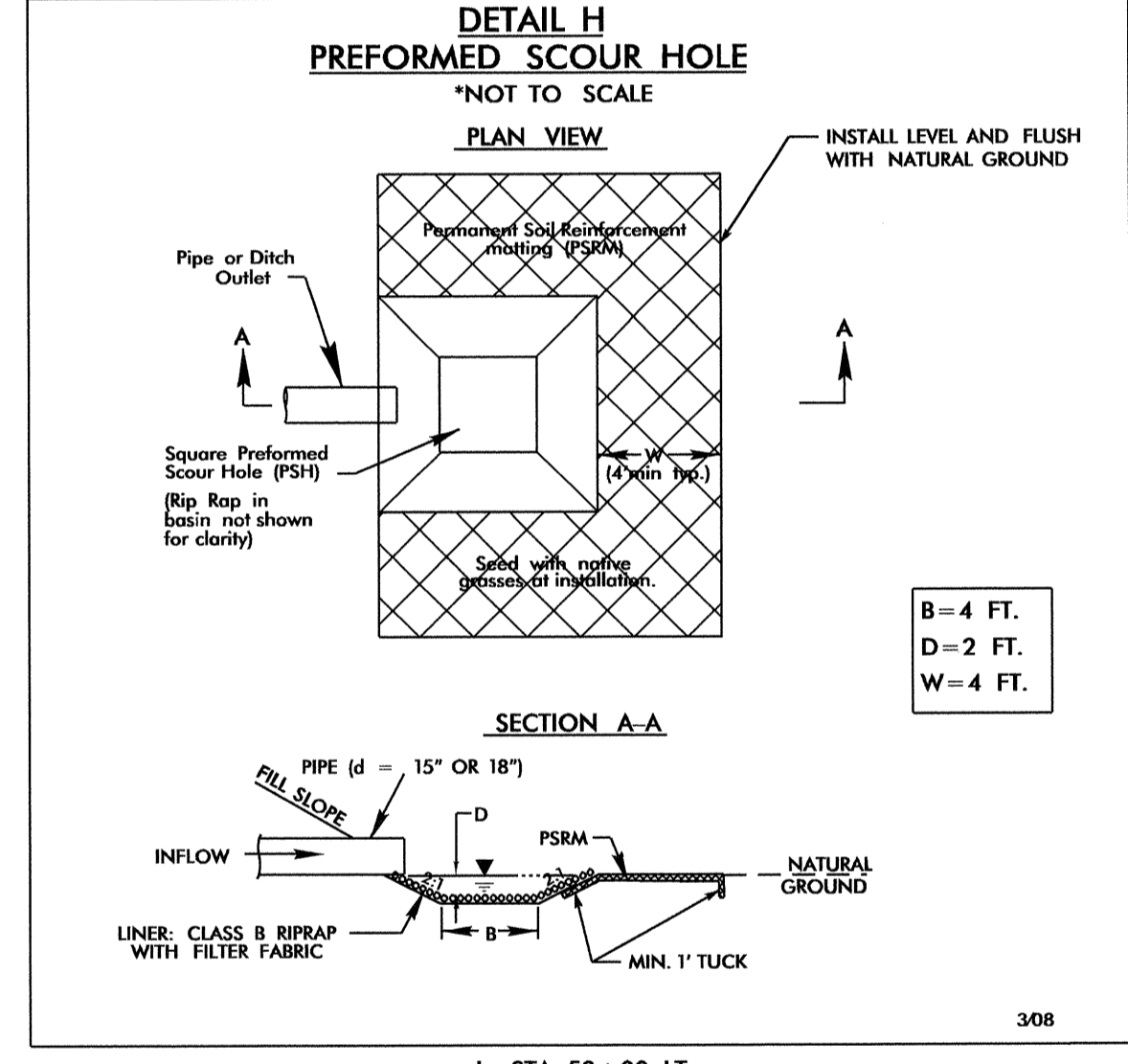
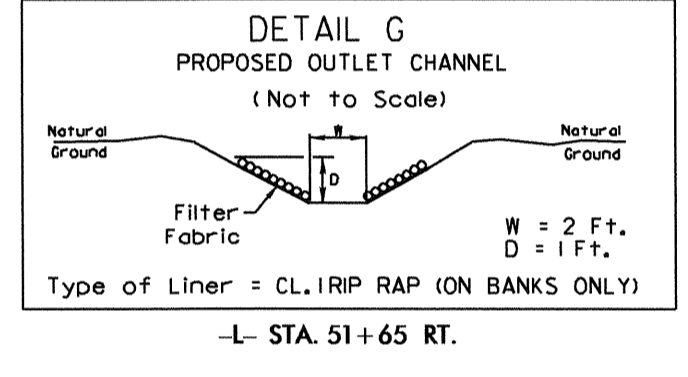
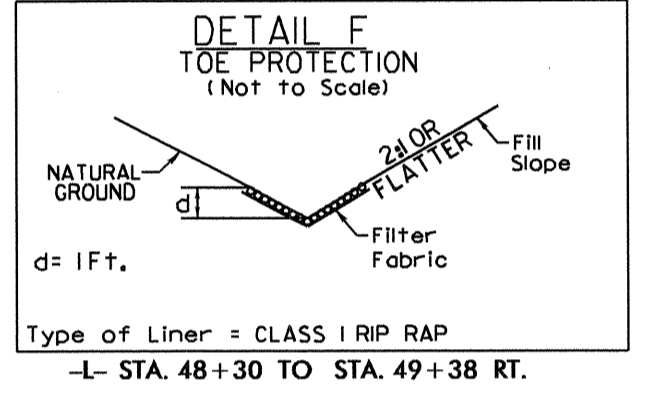
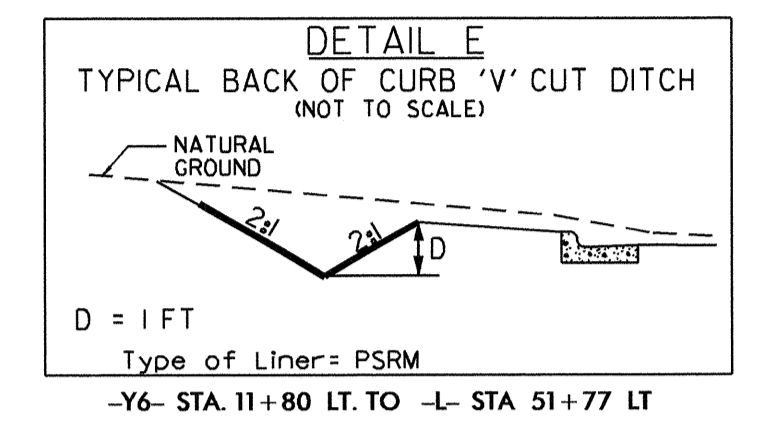
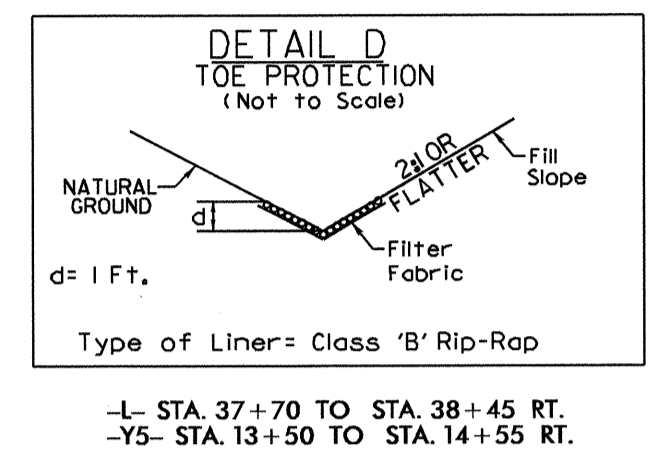
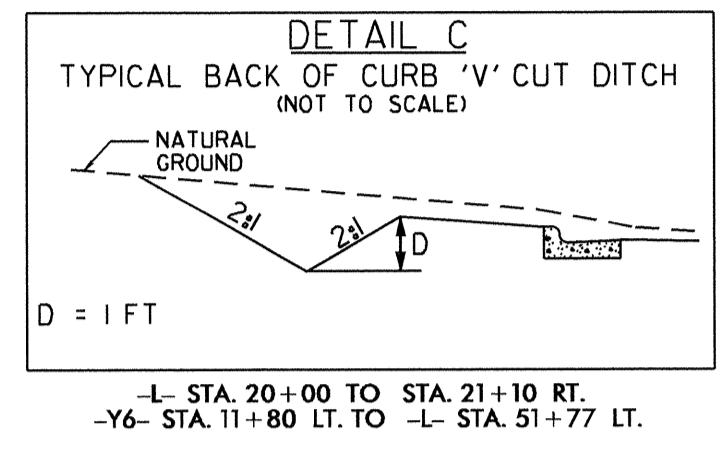
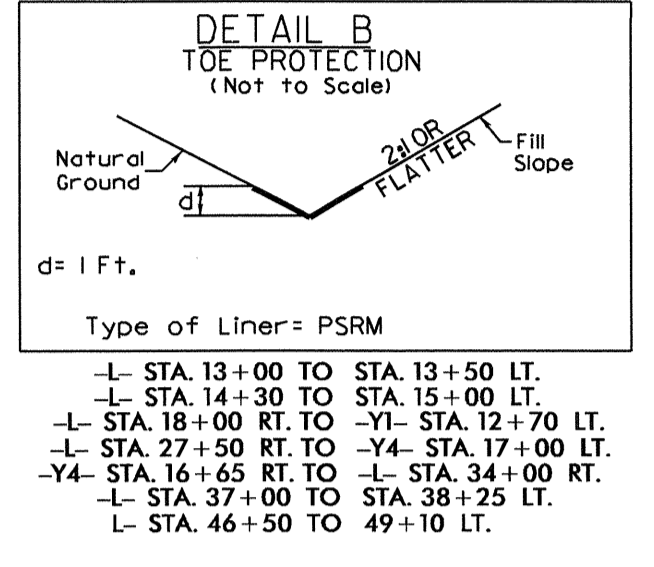
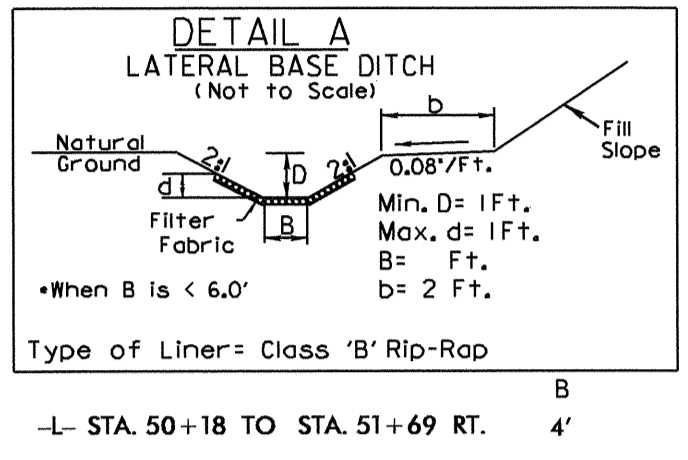
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DITCH DETAILS



6/2/99

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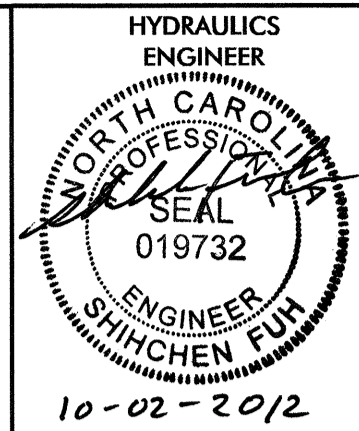
MATERIALS

A	GEOTEXTILE FABRIC
B	CLASS B RIP RAP
C	SLUICE GATE
D	24" OUTLET PIPE
F	PRECAST DI BOX (OUTLET STRUCTURE)
H	PERMANENT SOIL REINFORCEMENT MAT TO BE USED ON ALL 2:1 SLOPES THAT ARE NOT RIP RAPPED EST 200 SY FF
I	IMPERVIOUS LINER (GEOTEXTILE FABRIC)

NOTE:

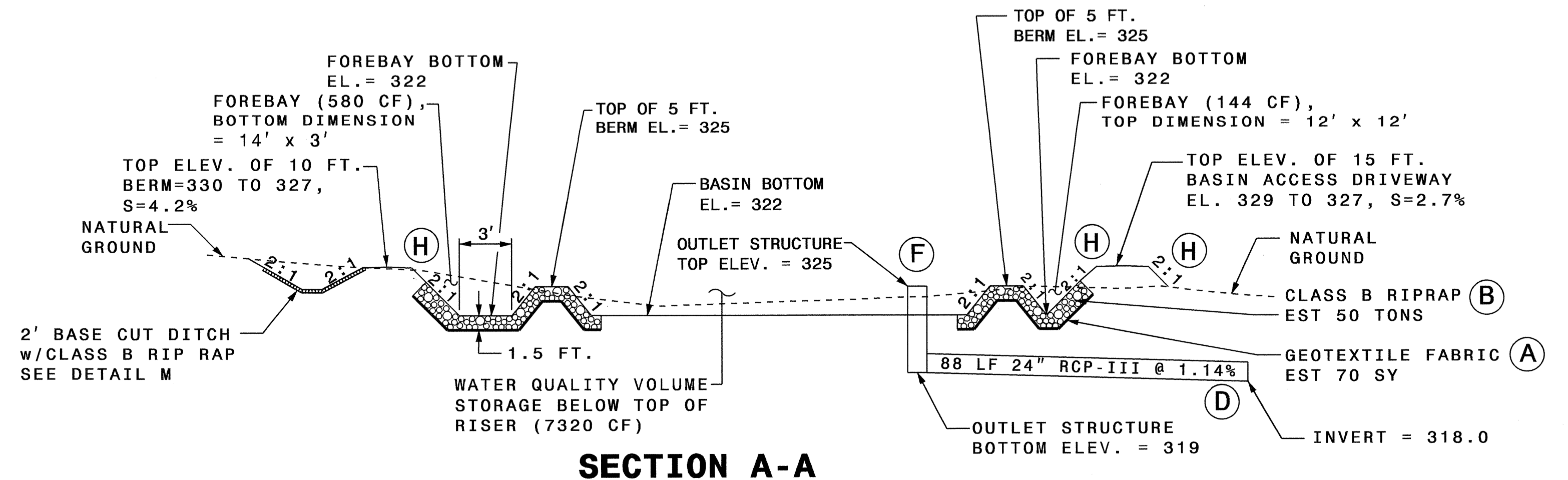
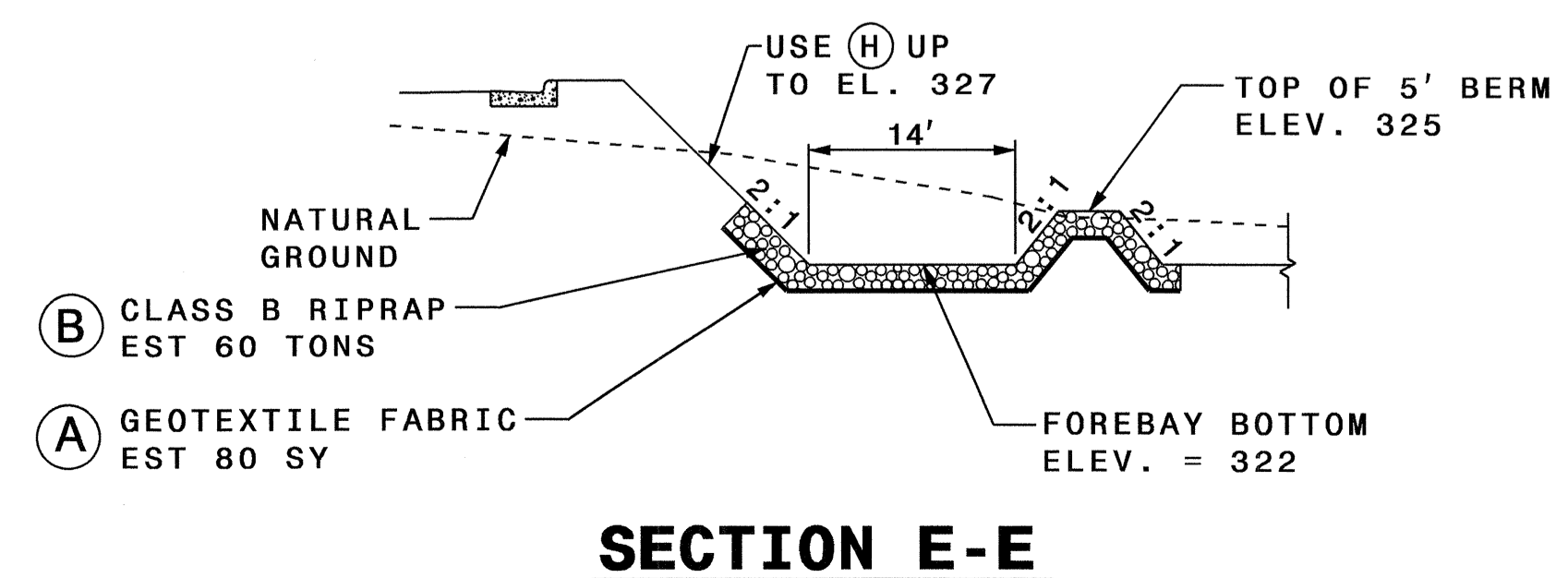
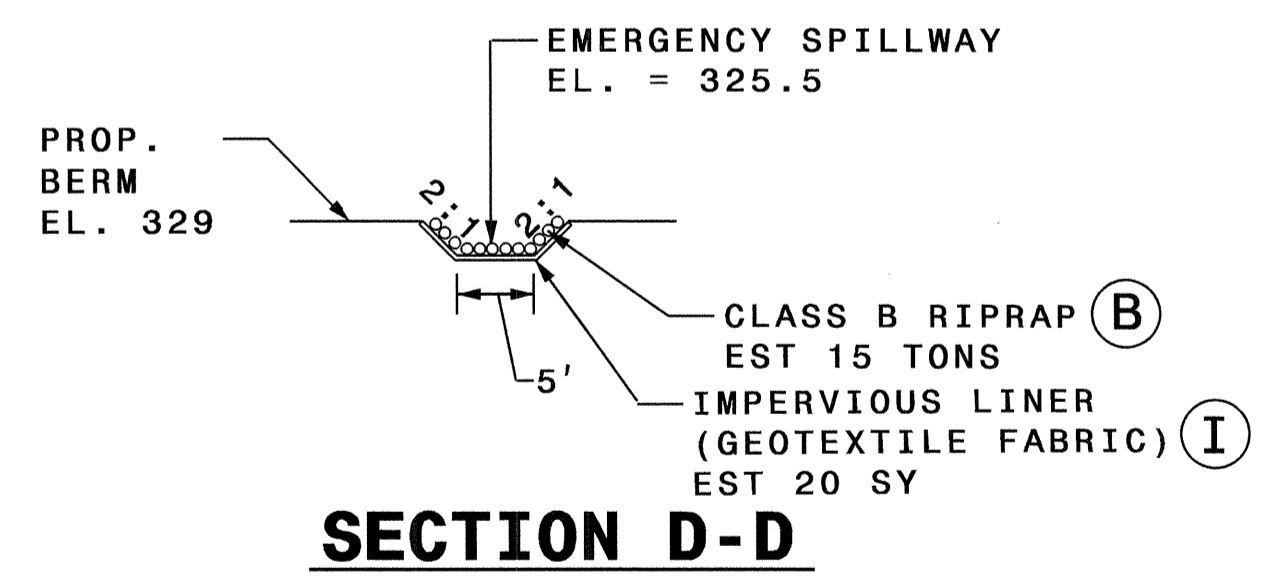
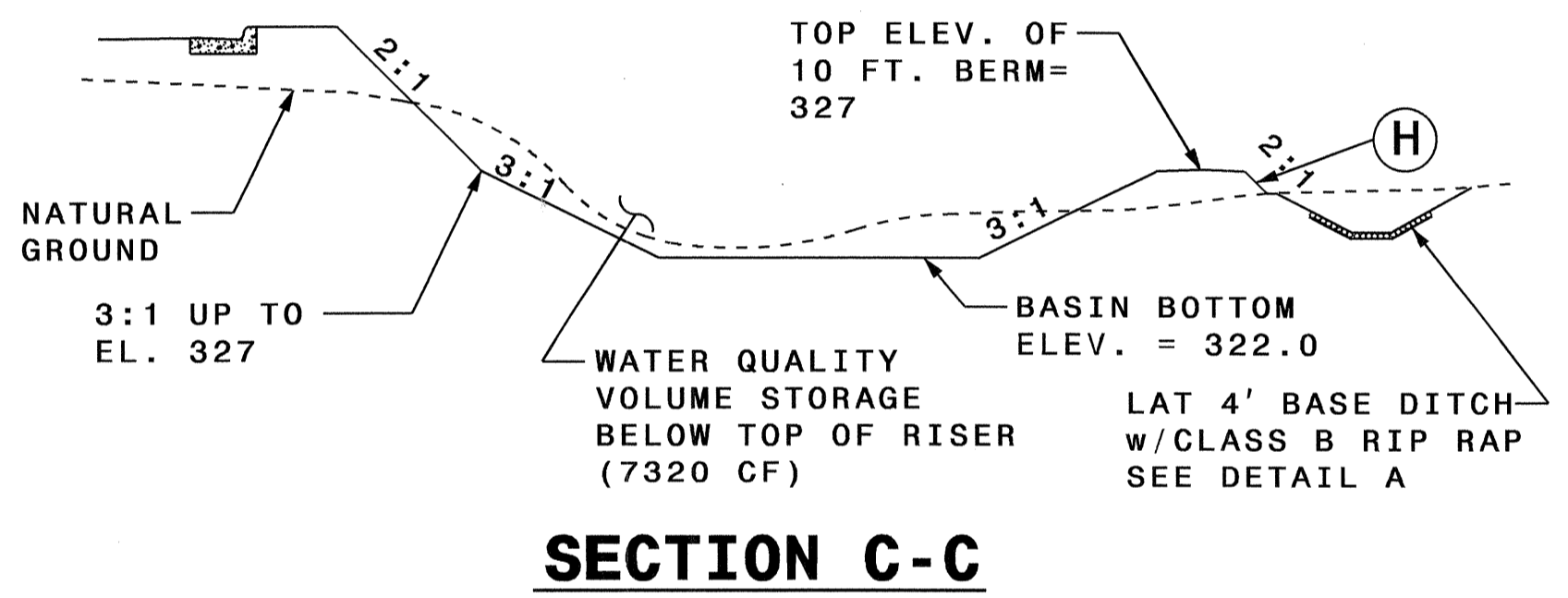
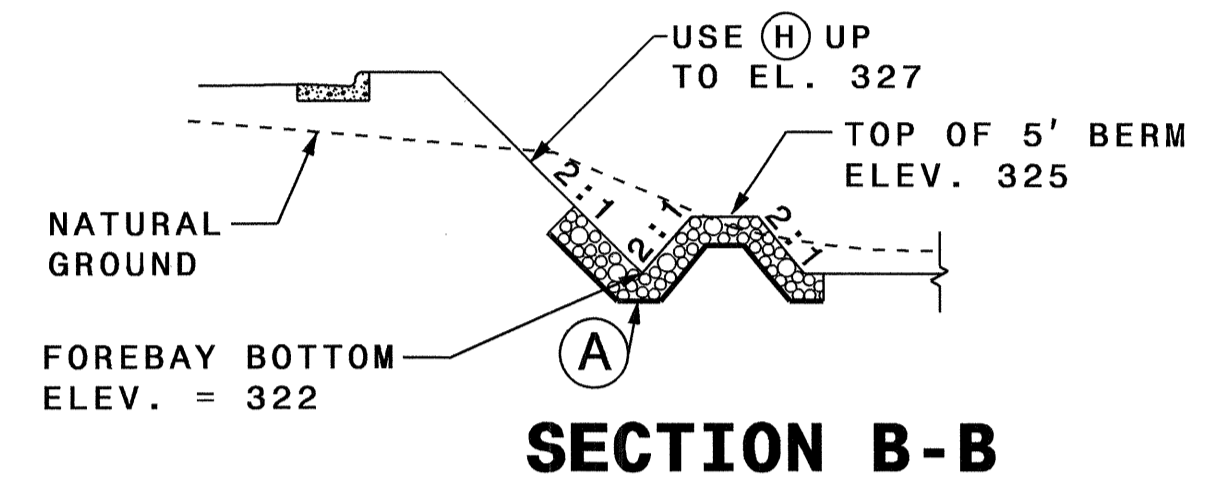
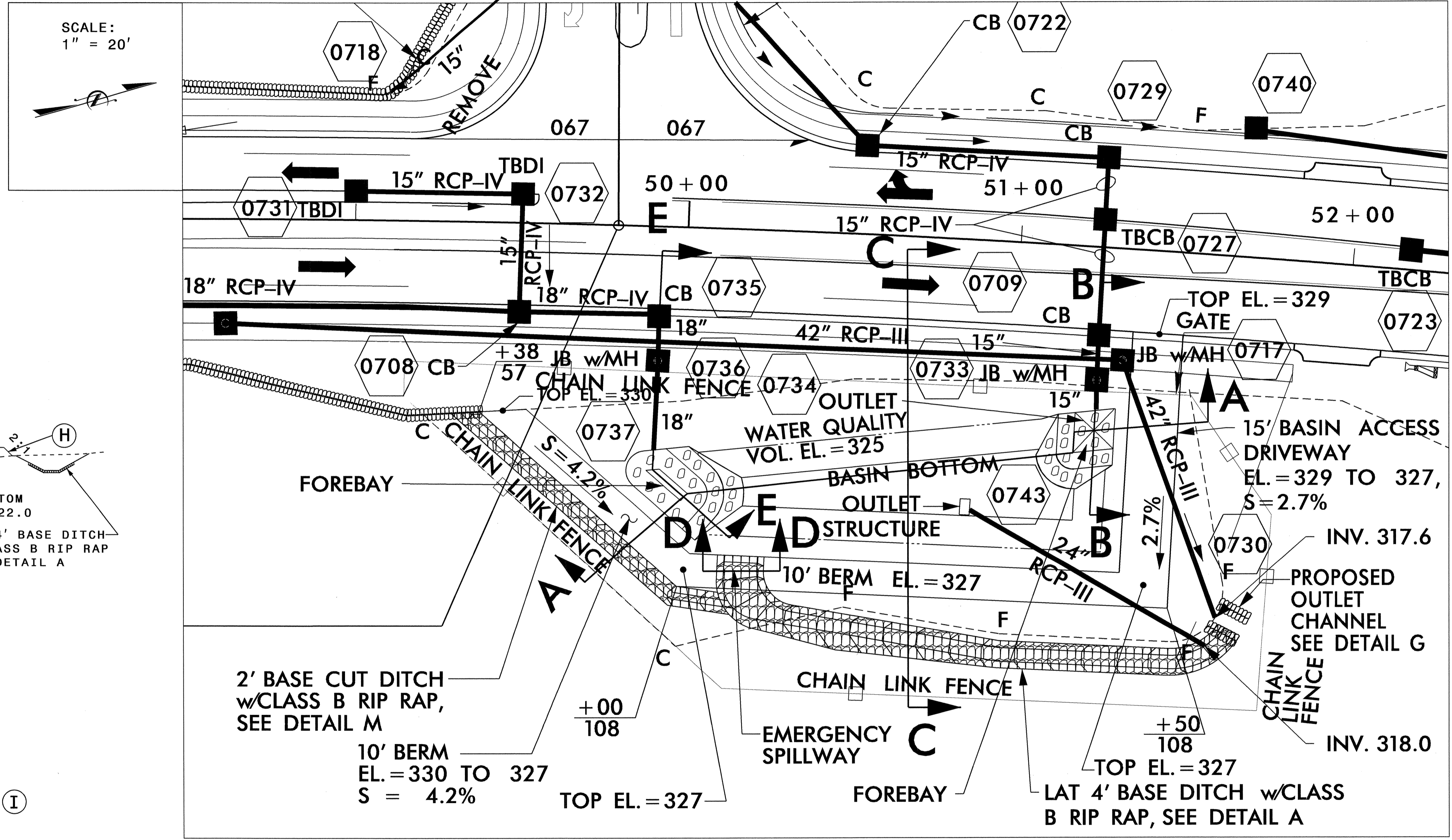
BOTTOM OF TOTAL BASIN SURFACE AREA AT ELEV.322 = 1430 SF
 BOTTOM OF TOTAL FOREBAY SURFACE AREA AT ELEV.322 = 42 SF

ALL EARTHWORK FOR THE DRY DETENTION BASIN SHALL BE INCLUDED IN LUMP SUM GRADING.



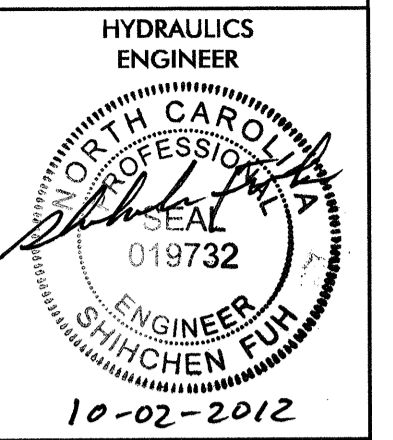
DRY DETENTION BASIN DETAIL (-L- 51+00 RT.)

SCALE:
 1" = 20'

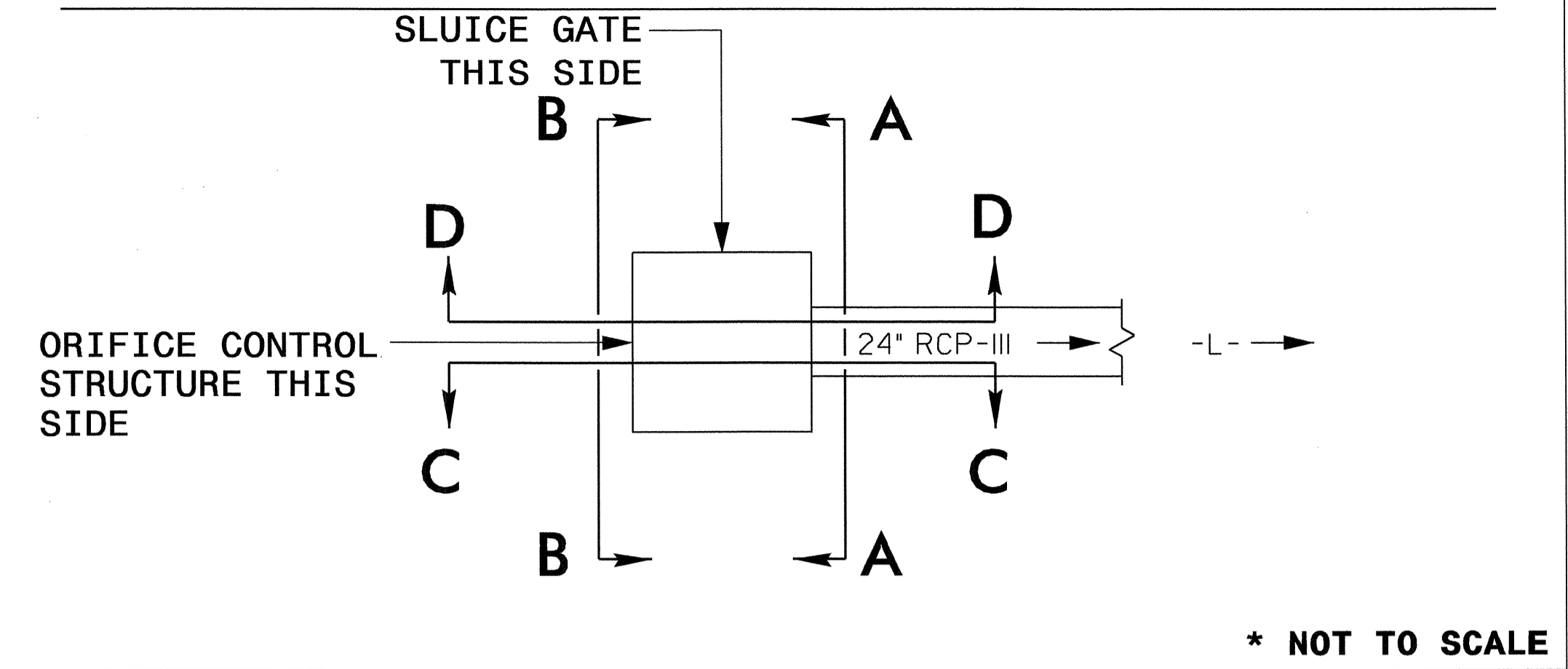


REVISIONS

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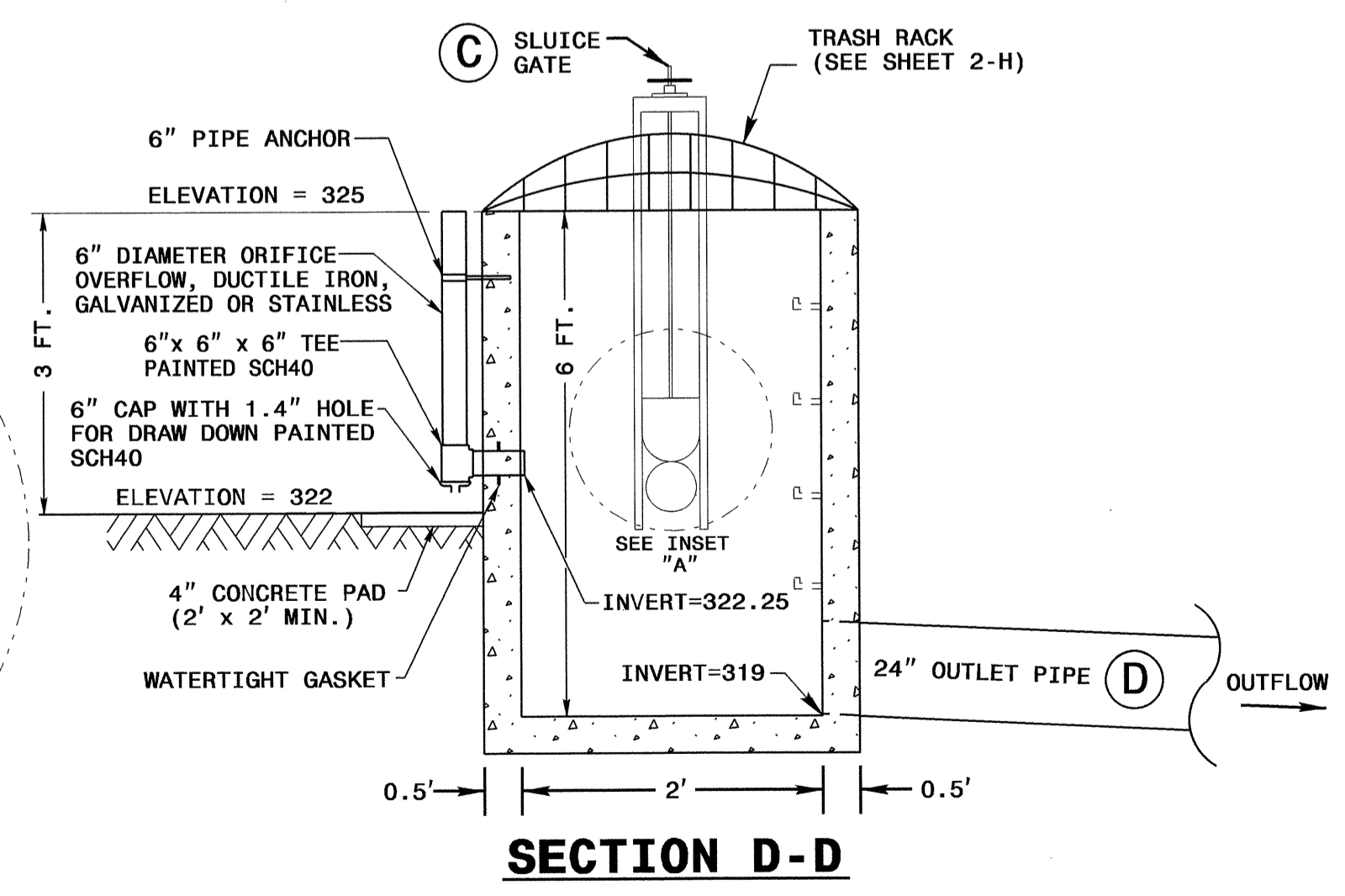
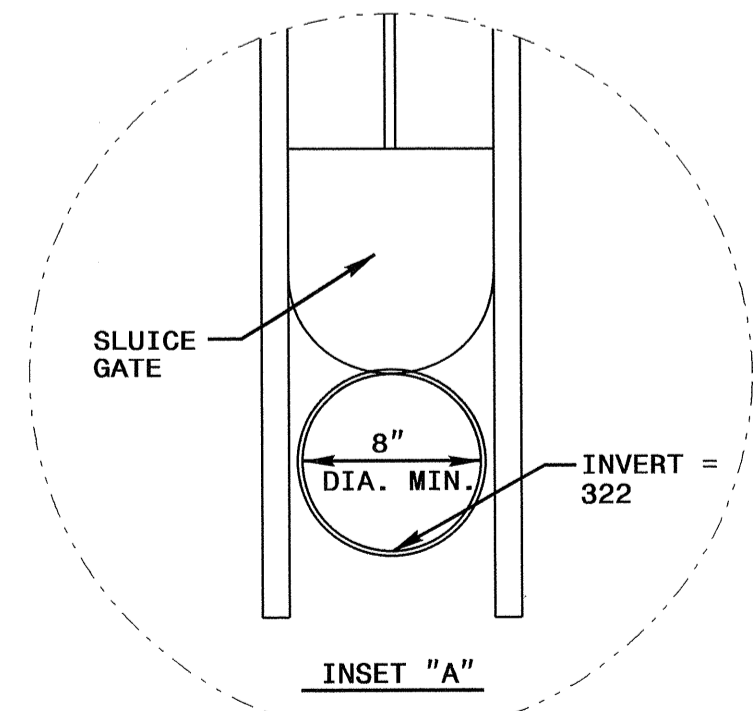
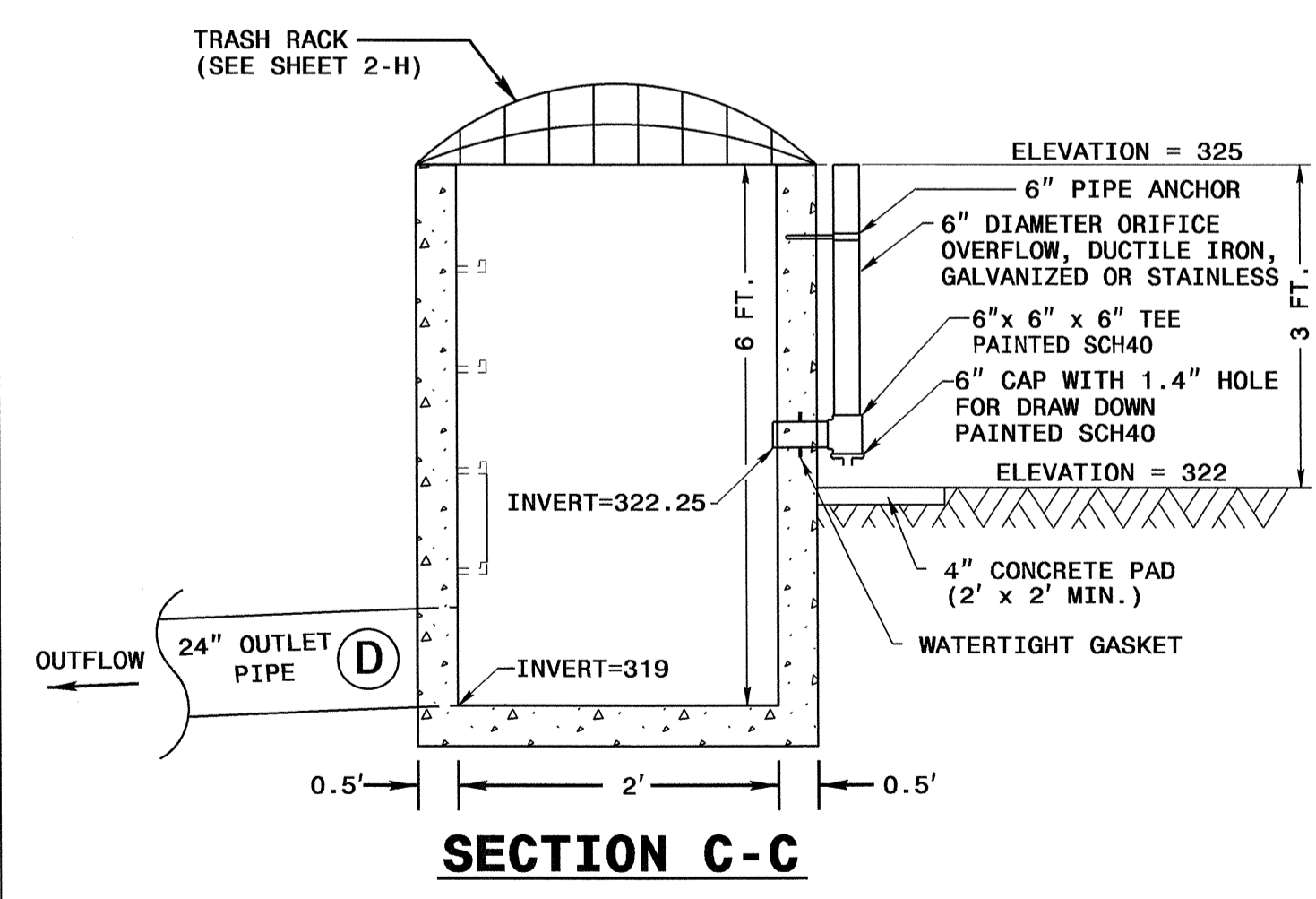
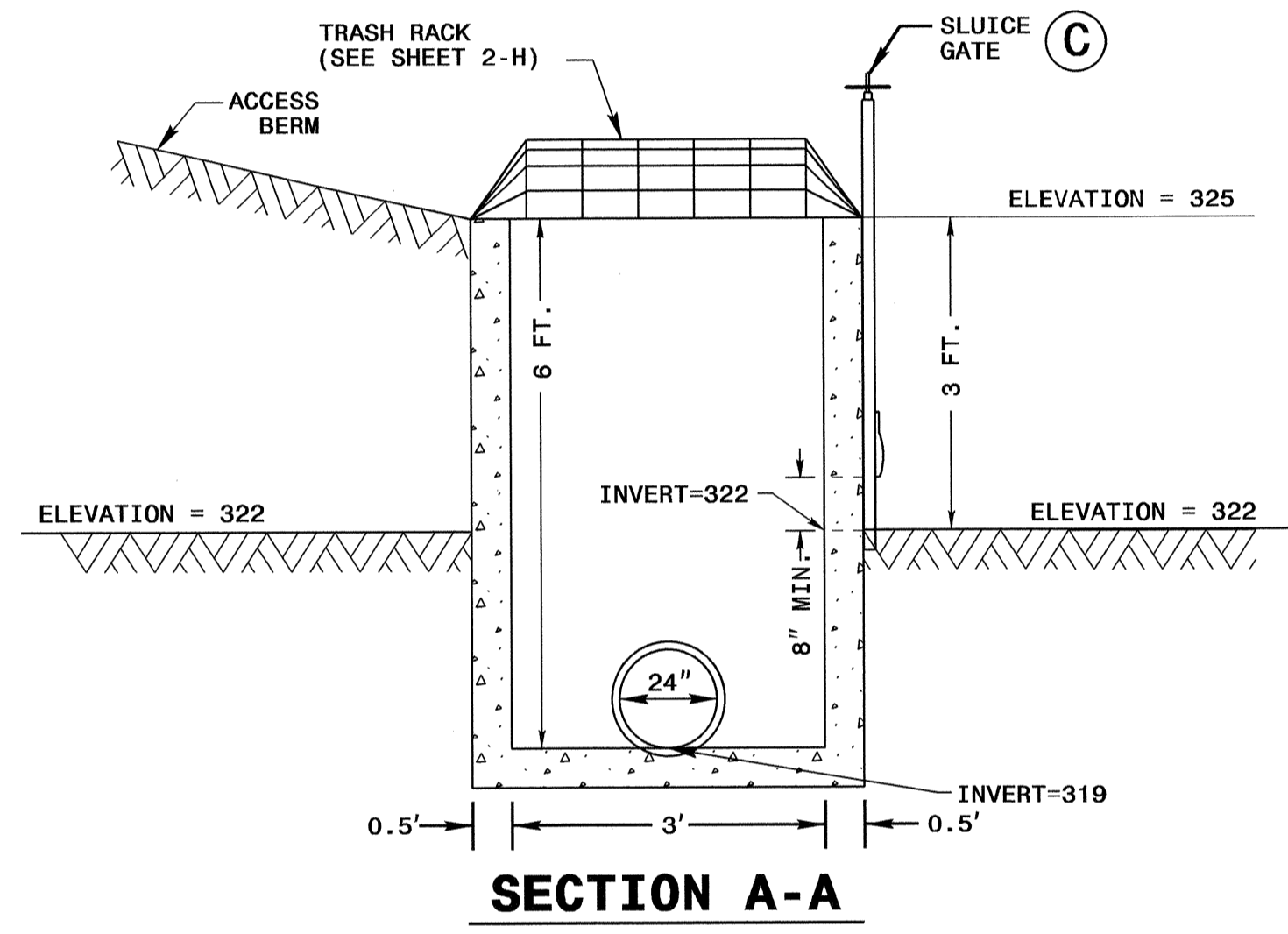
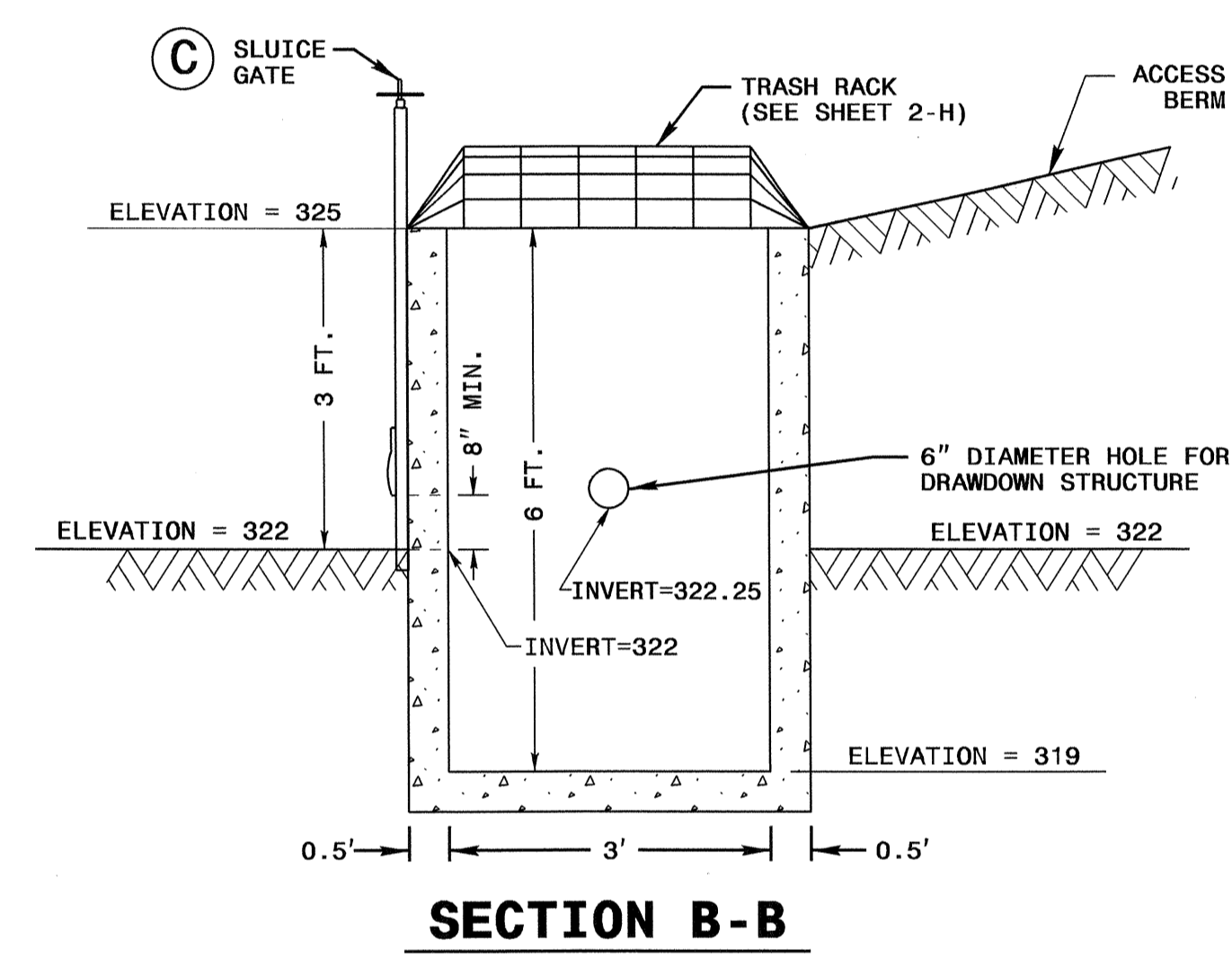
SECTION VIEW SCHEMATIC OF OUTLET STRUCTURE



**-L- STA. 51+00 RT.
 DRY DETENTION BASIN
 OUTLET CONTROL STRUCTURE
 (SEE SHEET 2 - F)**

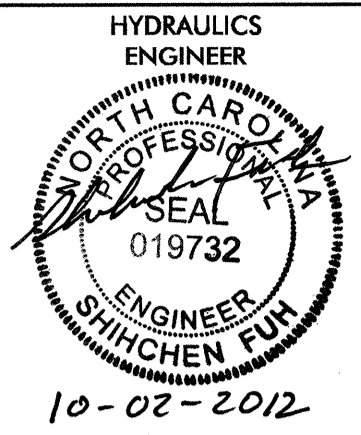
DRY DETENTION BASIN
 OUTLET CONTROL STRUCTURE

DRY DETENTION BASIN
 OUTLET CONTROL STRUCTURE



NOTES
 1. 8" MIN. SLUICE GATE IS FOR MAINTENANCE AND SHOULD REMAIN CLOSED DURING NORMAL OPERATION.

*** NOT TO SCALE**



DRY DETENTION BASIN NOTES

SEQUENCE OF CONSTRUCTION FOR DRY DETENTION BASIN

1. INSTALL ALL EROSION CONTROL MEASURES (AS NEEDED THROUGH CONSTRUCTION STAGES).
2. EXCAVATE FOR THE BASIN AND FOREBAY. PREPARE THE BASIN FLOOR AT THE GIVEN GRADE.
3. CONSTRUCT FOREBAY.
4. CONSTRUCT MAIN POND.
5. CONSTRUCT AND INSTALL BOXES. CREATE OPENINGS IN BOXES AND CONNECT PIPES WITH BOXES.
6. ADD GRATES/TRASH RACK ON ALL BOXES.

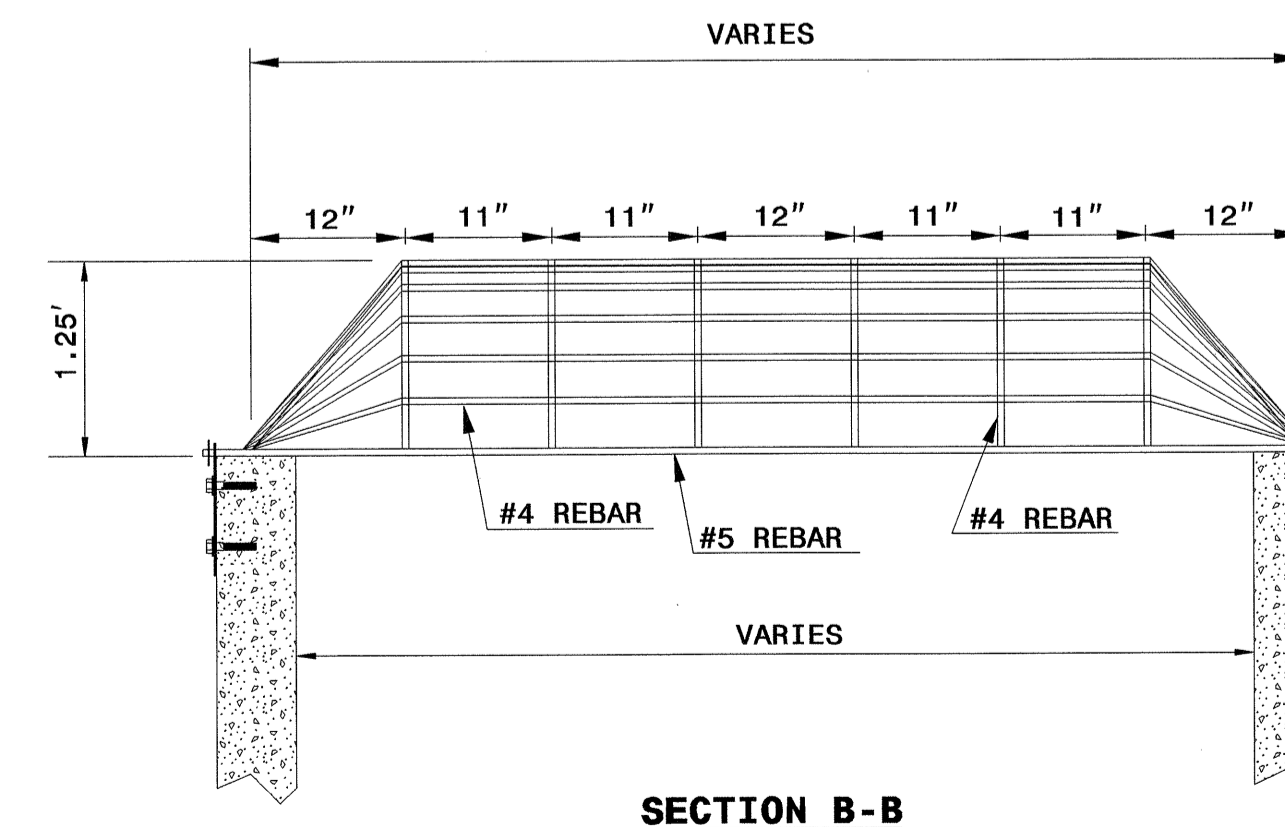
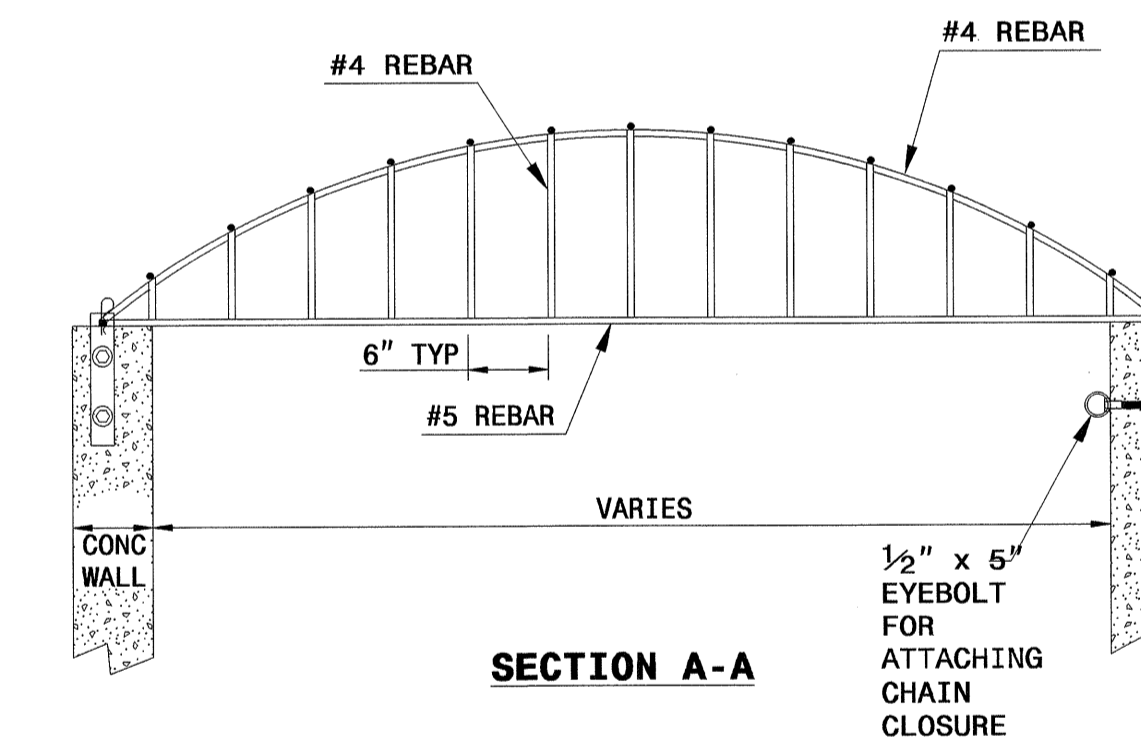
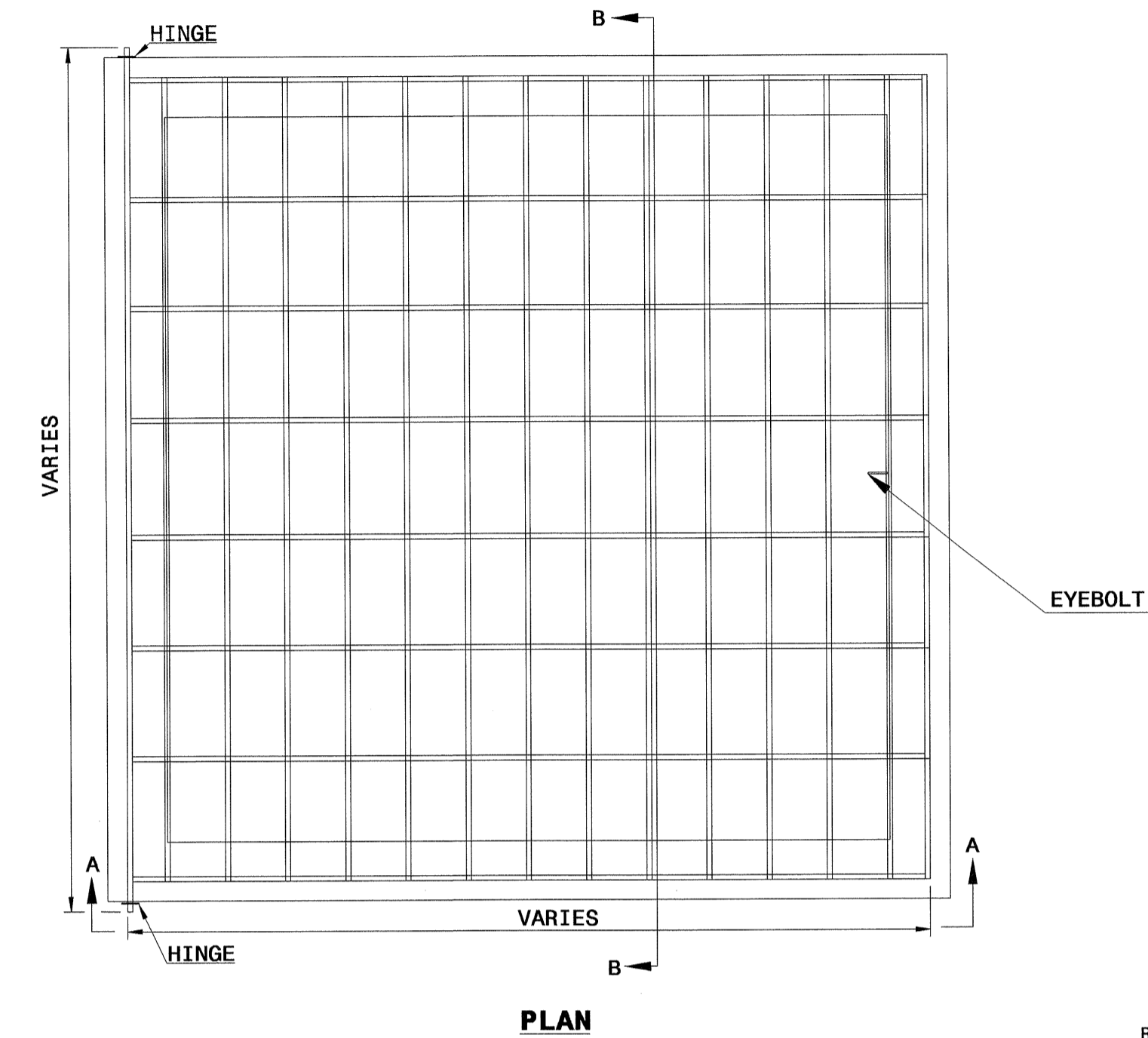
GENERAL NOTES FOR DRY DETENTION BASIN

1. APPLY SEEDING OVER THE SIDE SLOPES AND ANY EXPOSED SURFACE THAT NEEDS TO BE PROTECTED AGAINST IMMEDIATE POTENTIAL STORM EVENT.
2. THE SURVEYOR SHALL VERIFY THE INVERTS AND ELEVATIONS AT THE FOLLOWING POINTS AT THE END OF EACH PHASE OF CONSTRUCTION:
 -INVERTS IN THE PIPE AND THE BOXES.
3. THE BERM SHALL BE CONSTRUCTED WITH SUITABLE FILL MATERIAL PER THE ENGINEER.
4. ANY FILL MATERIAL SHALL BE COMPACTED.

MAINTENANCE RECOMMENDATIONS

1. REMOVE DEBRIS, TRASH AND SEDIMENT BUILDUP FROM THE BASIN AS NECESSARY TO MINIMIZE OUTLET CLOGGING AND IMPROVE AESTHETICS.
2. REPAIR AND REVEGETATE ERODED AREAS AS NEEDED.
3. CHECK INLETS AND OUTLETS FOR STRUCTURAL REPAIR TO CONFIRM THAT THEY ARE OPERATIONAL.
4. MOW AS NECESSARY TO LIMIT UNWANTED VEGETATION AND REMOVE CLIPPINGS AS PRACTICAL.
5. NO PORTION OF THE DRY DETENTION POND SHOULD BE FERTILIZED AFTER THE FIRST INITIAL FERTILIZATION THAT IS REQUIRED TO ESTABLISH VEGETATION.
6. STABLE GROUND COVER SHOULD BE MAINTAINED IN THE DRAINAGE AREA TO REDUCE THE SEDIMENT LOAD TO THE DRY DETENTION POND.
7. ONCE A YEAR, A DAM SAFETY EXPERT SHOULD INSPECT THE EMBANKMENT (IF APPLICABLE).
8. RECORDS OF OPERATION AND MAINTENANCE SHOULD BE KEPT IN A KNOWN SET LOCATION AND MUST BE AVAILABLE UPON REQUEST.

TRASH RACKS FOR OUTLET STRUCTURES



- RISER TRASH RACK NOTES:
1. ALL JOINTS SHALL BE FULLY WELDED AROUND JOINT WITH A MINIMUM OF A 1/4" BEAD.
 2. IF BOLTS ARE ANCHORED IN CONCRETE, FOLLOW STD. DWG. 862.03 AND 862.04 FOR ANCHORING PROCEDURE.
 3. EYEBOLT FOR CHAIN CLOSURE SHALL BE INSTALLED BY THE SAME METHOD AS THE HINGE PLATE BOLTS.
 4. RACK AND HARDWARE SHALL BE REBAR AND GALVANIZED IN ACCORDANCE WITH ASTM A-153.

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

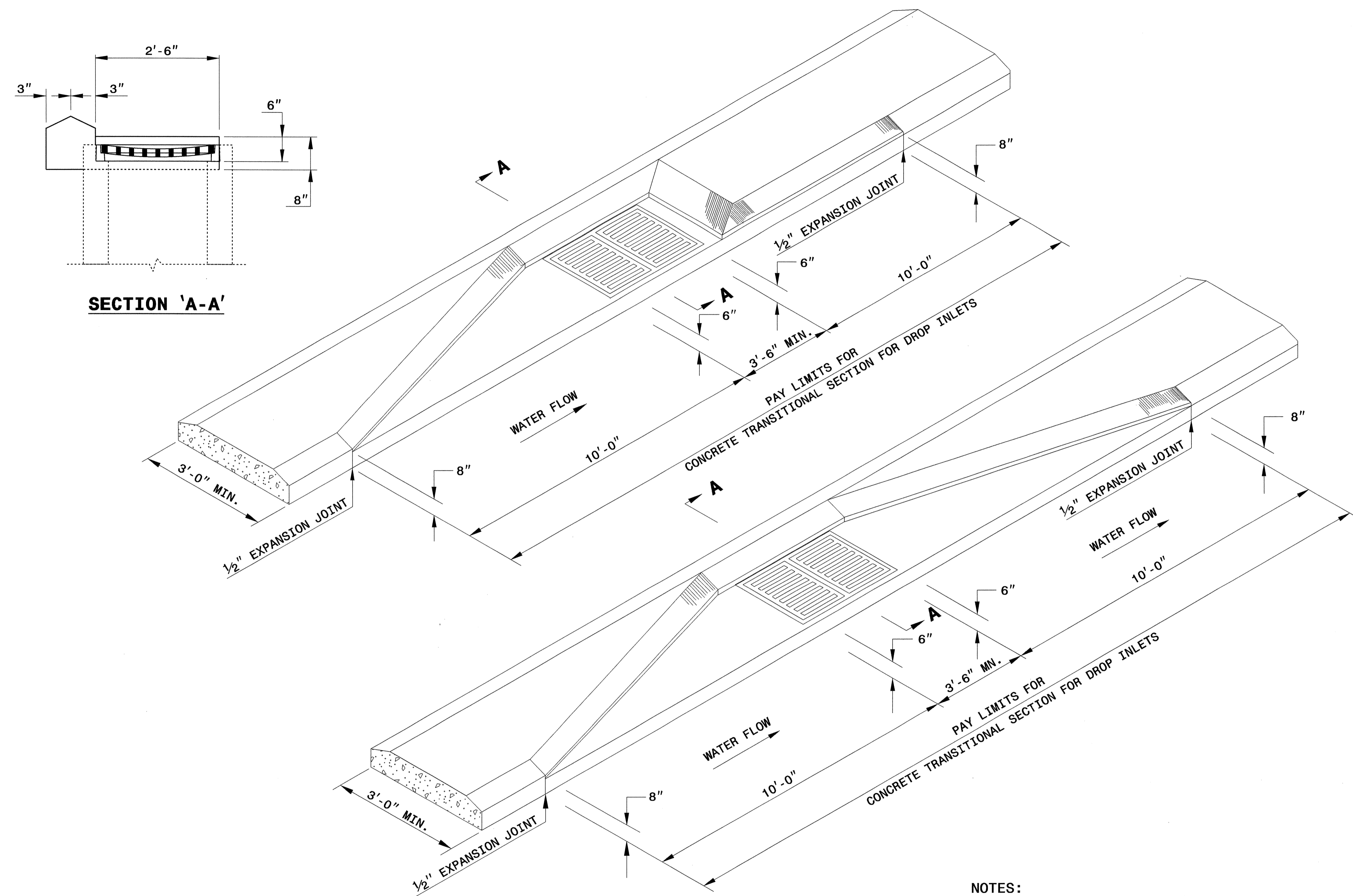
ENGLISH DETAIL DRAWING FOR
**METHOD FOR PLACEMENT OF
DROP INLETS IN CONCRETE ISLANDS**

SHEET 1 OF 1
852D06

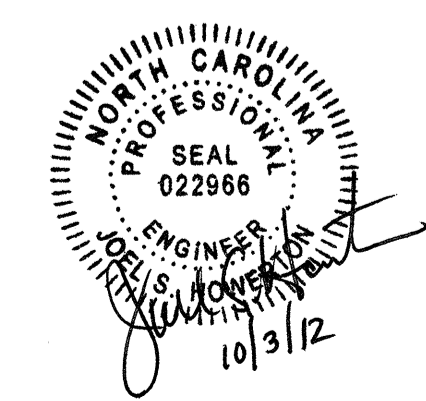
STATE OF
NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

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

SHEET 1 OF 1
852D06



NOTES:
-REFER TO STD. NO. 840.46 FOR DRAINAGE STRUCTURE.
-REFER TO STD. NO. 840.29 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: DATE:
CHECKED BY: DATE: 11/1/12
FILE SPEC.: KKEMPF\ENGLISH\852D0601.DGN

\$\$\$\$\$ USER: JKH \$\$\$\$\$\$

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
ROADWAY SUMMARY OF QUANTITIES FOR CONTRACT - C203028

ItemNumber	Sec #	Quantity	Unit	Description
0000100000-N	800	Lump Sum		MOBILIZATION
0000400000-N	801	Lump Sum		CONSTRUCTION SURVEYING
0043000000-N	226	Lump Sum		GRADING
0050000000-E	226	1	ACR	SUPPLEMENTARY CLEARING & GRUB-BING
0057000000-E	226	1,000	CY	UNDERCUT EXCAVATION
0134000000-E	240	80	CY	DRAINAGE DITCH EXCAVATION
0141000000-E	240	90	LF	BERM DITCH CONSTRUCTION
0195000000-E	265	1,000	CY	SELECT GRANULAR MATERIAL
0196000000-E	270	2,700	SY	GEOTEXTILE FOR SOIL STABILIZATION
0318000000-E	300	1,165	TON	FOUNDATION CONDITIONING MATERIAL, MINOR STRUCTURES
0320000000-E	300	2,040	SY	FOUNDATION CONDITIONING GEOTEXTILE
0335200000-E	305	1,248	LF	15" DRAINAGE PIPE
0335300000-E	305	44	LF	18" DRAINAGE PIPE
0335400000-E	305	128	LF	24" DRAINAGE PIPE
0366000000-E	310	24	LF	15" RC PIPE CULVERTS, CLASS III
0378000000-E	310	164	LF	24" RC PIPE CULVERTS, CLASS III
0384000000-E	310	56	LF	30" RC PIPE CULVERTS, CLASS III
0396000000-E	310	584	LF	42" RC PIPE CULVERTS, CLASS III
0448200000-E	310	2,700	LF	15" RC PIPE CULVERTS, CLASS IV
0448300000-E	310	948	LF	18" RC PIPE CULVERTS, CLASS IV
0448400000-E	310	180	LF	24" RC PIPE CULVERTS, CLASS IV
0542000000-E	310	250	LF	*** PVC PIPE CULVERTS (4")
0582000000-E	310	16	LF	15" CS PIPE CULVERTS, 0.064" THICK
0636000000-E	310	1	EA	*** CS PIPE ELBOWS, ***** THICK (15", 0.064")
0995000000-E	340	740	LF	PIPE REMOVAL
0996000000-N	350	4	EA	PIPE CLEAN-OUT
1099500000-E	505	500	CY	SHALLOW UNDERCUT
1099700000-E	505	1,000	TON	CLASS IV SUBGRADE STABILIZATION
1220000000-E	545	5,000	TON	INCIDENTAL STONE BASE
1297000000-E	607	11,400	SY	MILLING ASPHALT PAVEMENT, **** DEPTH (2-1/2")
1330000000-E	607	1,350	SY	INCIDENTAL MILLING
1489000000-E	610	3,700	TON	ASPHALT CONC BASE COURSE, TYPE B25.0B
1498000000-E	610	5,960	TON	ASPHALT CONC INTERMEDIATE COURSE, TYPE I19.0B
1519000000-E	610	4,320	TON	ASPHALT CONC SURFACE COURSE, TYPE S9.5B
1575000000-E	620	710	TON	ASPHALT BINDER FOR PLANT MIX
1693000000-E	654	598	TON	ASPHALT PLANT MIX, PAVEMENT REPAIR
2022000000-E	815	224	CY	SUBDRAIN EXCAVATION
2033000000-E	815	168	CY	SUBDRAIN FINE AGGREGATE
2044000000-E	815	1,000	LF	6" PERFORATED SUBDRAIN PIPE
2070000000-N	815	2	EA	SUBDRAIN PIPE OUTLET
2077000000-E	815	12	LF	6" OUTLET PIPE
2190000000-N	828	5	EA	TEMPORARY STEEL PLATE COVERS FOR MASONRY DRAINAGE STRUCTURE
2209000000-E	838	5	CY	ENDWALLS
2253000000-E	840	3	CY	PIPE COLLARS
2286000000-N	840	79	EA	MASONRY DRAINAGE STRUCTURES
2308000000-E	840	36	LF	MASONRY DRAINAGE STRUCTURES
2364000000-N	840	14	EA	FRAME WITH TWO GRATES, STD 840.16
2366000000-N	840	3	EA	FRAME WITH TWO GRATES, STD 840.24

SUMMARY OF QUANTITIES

ItemNumber	Sec #	Quantity	Unit	Description
2367000000-N	840	2	EA	FRAME WITH TWO GRATES, STD 840.29
2374000000-N	840	26	EA	FRAME WITH GRATE & HOOD, STD 840.03, TYPE ** (F)
2374000000-N	840	19	EA	FRAME WITH GRATE & HOOD, STD 840.03, TYPE ** (G)
2396000000-N	840	14	EA	FRAME WITH COVER, STD 840.54
2440000000-N	852	3	EA	CONCRETE TRANSITIONAL SECTION FOR CATCH BASIN
2451000000-N	852	2	EA	CONCRETE TRANSITIONAL SECTION FOR DROP INLET
2462000000-E	SP	1	EA	*** SLUICE GATE (8")
2535000000-E	846	190	LF	***X*** CONCRETE CURB (8" X 18")
2542000000-E	846	1,500	LF	1'-6" CONCRETE CURB & GUTTER
2549000000-E	846	8,950	LF	2'-6" CONCRETE CURB & GUTTER
2591000000-E	848	4,550	SY	4" CONCRETE SIDEWALK
2605000000-N	848	37	EA	CONCRETE CURB RAMP
2612000000-E	848	350	SY	6" CONCRETE DRIVEWAY
2619000000-E	850	11	SY	4" CONCRETE PAVED DITCH
2633000000-E	852	285	SY	12" CONCRETE ISLAND COVER
2655000000-E	852	730	SY	5" MONOLITHIC CONCRETE ISLANDS (KEYED IN)
2830000000-N	858	1	EA	ADJUSTMENT OF MANHOLES
3030000000-E	862	650	LF	STEEL BM GUARDRAIL
3150000000-N	862	5	EA	ADDITIONAL GUARDRAIL POSTS
3270000000-N	SP	4	EA	GUARDRAIL ANCHOR UNITS, TYPE 350
3360000000-E	863	600	LF	REMOVE EXISTING GUARDRAIL
3533000000-E	866	670	LF	CHAIN LINK FENCE, *** FABRIC (72")
3539000000-E	866	60	EA	METAL LINE POSTS FOR *** CHAIN LINK FENCE (72")

ItemNumber	Sec #	Quantity	Unit	Description
3545000000-E	866	8	EA	METAL TERMINAL POSTS FOR *** CHAIN LINK FENCE (72")
3551000000-E	866	2	EA	METAL GATE POSTS FOR *** CHAIN LINK FENCE, SINGLE GATE (72")
3557000000-E	866	50	LF	ADDITIONAL BARBED WIRE
3564000000-E	866	1	EA	SINGLE GATES, *** HIGH, *** WIDE, *** OPENING (72", 20", 20")
3628000000-E	876	100	TON	RIP RAP, CLASS I
3649000000-E	876	335	TON	RIP RAP, CLASS B
3656000000-E	876	4,120	SY	GEOTEXTILE FOR DRAINAGE
3659000000-N	SP	3	EA	PREFORMED SCOUR HOLES WITH LEVEL SPREADER APRON
4072000000-E	903	1,041	LF	SUPPORTS, 3-LB STEEL U-CHANNEL
4096000000-N	904	2	EA	SIGN ERECTION, TYPE D
4102000000-N	904	83	EA	SIGN ERECTION, TYPE E
4108000000-N	904	1	EA	SIGN ERECTION, TYPE F
4116100000-N	904	5	EA	SIGN ERECTION, RELOCATE, TYPE **** (GROUND MOUNTED) (D)
4116100000-N	904	8	EA	SIGN ERECTION, RELOCATE, TYPE **** (GROUND MOUNTED) (E)
4155000000-N	907	31	EA	DISPOSAL OF SIGN SYSTEM, U-CHANNEL
4192000000-N	907	12	EA	DISPOSAL OF SUPPORT, U-CHANNEL
4400000000-E	1110	200	SF	WORK ZONE SIGNS (STATIONARY)
4405000000-E	1110	180	SF	WORK ZONE SIGNS (PORTABLE)
4415000000-N	1115	1	EA	FLASHING ARROW BOARD
4422000000-N	1120	112	DAY	PORTABLE CHANGEABLE MESSAGE SIGN (SHORT TERM)
4430000000-N	1130	280	EA	DRUMS
4435000000-N	1135	30	EA	CONES
4455000000-N	1150	640	DAY	FLAGGER
4480000000-N	1165	1	EA	TMA
4510000000-N	SP	64	HR	LAW ENFORCEMENT
4516000000-N	1180	125	EA	SKINNY DRUM
4650000000-N	1251	375	EA	TEMPORARY RAISED PAVEMENT MARKERS
4685000000-E	1205	2,863	LF	THERMOPLASTIC PAVEMENT MARKING LINES (4", 90 MILS)
4686000000-E	1205	17,290	LF	THERMOPLASTIC PAVEMENT MARKING LINES (4", 120 MILS)
4695000000-E	1205	825	LF	THERMOPLASTIC PAVEMENT MARKING LINES (8", 90 MILS)
4697000000-E	1205	1,267	LF	THERMOPLASTIC PAVEMENT MARKING LINES (8", 120 MILS)
4710000000-E	1205	666	LF	THERMOPLASTIC PAVEMENT MARKING LINES (24", 120 MILS)
4721000000-E	1205	19	EA	THERMOPLASTIC PAVEMENT MARKING CHARACTER (120 MILS)
4725000000-E	1205	68	EA	THERMOPLASTIC PAVEMENT MARKING SYMBOL (90 MILS)
4810000000-E	1205	105,000	LF	PAINT PAVEMENT MARKING LINES (4")
4820000000-E	1205	4,800	LF	PAINT PAVEMENT MARKING LINES (8")
4825000000-E	1205	43	LF	PAINT PAVEMENT MARKING LINES (12")
4835000000-E	1205	1,500	LF	PAINT PAVEMENT MARKING LINES (24")
4840000000-N	1205	90	EA	PAINT PAVEMENT MARKING CHARACTER
4845000000-N	1205	184	EA	PAINT PAVEMENT MARKING SYMBOL
4850000000-E	1205	5,100	LF	REMOVAL OF PAVEMENT MARKING LINES (4")
4860000000-E	1205	300	LF	REMOVAL OF PAVEMENT MARKING LINES (8")
4870000000-E	1205	150	LF	REMOVAL OF PAVEMENT MARKING LINES (24")
4875000000-N	1205	8	EA	REMOVAL OF PAVEMENT MARKING SYMBOLS & CHARACTERS
4900000000-N	1251	544	EA	PERMANENT RAISED PAVEMENT MARKERS
5325200000-E	1510	65	LF	2" WATER LINE

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STATE OF NORTH CAROLINA SUMMARY OF QUANTITIES

PROJECT REFERENCE No. 4-2823	SHEET No. 3 (2 of 2)
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ItemNumber	Sec #	Quantity	Unit	Description
5325600000-E	1510	75	LF	6" WATER LINE
5325800000-E	1510	593	LF	8" WATER LINE
5326200000-E	1510	4,269	LF	12" WATER LINE
5536000000-E	1515	1	EA	2" VALVE
5540000000-E	1515	3	EA	6" VALVE
5546000000-E	1515	7	EA	8" VALVE
5558000000-E	1515	14	EA	12" VALVE
5648000000-N	1515	9	EA	RELOCATE WATER METER
5649000000-N	1515	4	EA	RECONNECT WATER METER
5666000000-E	1515	3	EA	FIRE HYDRANT
5672000000-N	1515	2	EA	RELOCATE FIRE HYDRANT
5691300000-E	1520	541	LF	8" SANITARY GRAVITY SEWER
5768000000-N	1520	15	EA	SANITARY SEWER CLEAN-OUT
5775000000-E	1525	5	EA	4' DIA UTILITY MANHOLE
5776000000-E	1525	3	EA	5' DIA UTILITY MANHOLE
5781000000-E	1525	11	LF	UTILITY MANHOLE WALL, 4' DIA
5782000000-E	1525	22.7	LF	UTILITY MANHOLE WALL, 5' DIA
5801000000-E	1530	904	LF	ABANDON 8" UTILITY PIPE
5804000000-E	1530	4,192	LF	ABANDON 12" UTILITY PIPE
5816000000-N	1530	1	EA	ABANDON UTILITY MANHOLE
5882000000-N	SP	21	EA	GENERIC UTILITY ITEM BREAKDOWN AND REBUILD MANHOLE (MASONRY MANHOLE)
5882000000-N	SP	10	EA	GENERIC UTILITY ITEM BREAKDOWN AND REBUILD MANHOLE (PRECAST MANHOLE)
6000000000-E	1605	4,700	LF	TEMPORARY SILT FENCE
6006000000-E	1610	2,575	TON	STONE FOR EROSION CONTROL, CLASS A
6009000000-E	1610	650	TON	STONE FOR EROSION CONTROL, CLASS B
6012000000-E	1610	1,125	TON	SEDIMENT CONTROL STONE
6015000000-E	1615	12	ACR	TEMPORARY MULCHING
6018000000-E	1620	350	LB	SEED FOR TEMPORARY SEEDING
6021000000-E	1620	2.75	TON	FERTILIZER FOR TEMPORARY SEED- ING
6024000000-E	1622	500	LF	TEMPORARY SLOPE DRAINS
6029000000-E	SP	400	LF	SAFETY FENCE
6030000000-E	1630	16,500	CY	SILT EXCAVATION
6036000000-E	1631	11,000	SY	MATting FOR EROSION CONTROL
6037000000-E	SP	125	SY	COIR FIBER MAT
6038000000-E	SP	925	SY	PERMANENT SOIL REINFORCEMENT MAT
6042000000-E	1632	3,700	LF	1/4" HARDWARE CLOTH
6071012000-E	SP	750	LF	COIR FIBER WATTLE
6071020000-E	SP	450	LB	POLYACRYLAMIDE (PAM)
6071030000-E	1640	900	LF	COIR FIBER BAFFLE
6071050000-E	SP	9	EA	*** SKIMMER (1-1/2')
6084000000-E	1660	10	ACR	SEEDING & MULCHING
6087000000-E	1660	5	ACR	MOWING
6090000000-E	1661	150	LB	SEED FOR REPAIR SEEDING
6093000000-E	1661	0.25	TON	FERTILIZER FOR REPAIR SEEDING
6096000000-E	1662	225	LB	SEED FOR SUPPLEMENTAL SEEDING
6108000000-E	1665	6.25	TON	FERTILIZER TOPDRESSING
6114500000-N	1667	15	MHR	SPECIALIZED HAND MOWING
6117000000-N	SP	100	EA	RESPONSE FOR EROSION CONTROL
6123000000-E	1670	0.5	ACR	REFORESTATION
7048500000-E	1705	14	EA	PEDESTRIAN SIGNAL HEAD (16", 1 SECTION W/COUNTDOWN)
7060000000-E	1705	4,775	LF	SIGNAL CABLE
7120000000-E	1705	19	EA	VEHICLE SIGNAL HEAD (12", 3 SECTION)

ItemNumber	Sec #	Quantity	Unit	Description
7132000000-E	1705	4	EA	VEHICLE SIGNAL HEAD (12", 4 SECTION)
7144000000-E	1705	3	EA	VEHICLE SIGNAL HEAD (12", 5 SECTION)
7229000000-N	SP	14	EA	APS DETECTOR STATION
7230000000-N	SP	2	EA	CENTRAL CONTROL UNIT APS DETECTOR STATION
7252000000-E	1710	3,350	LF	MESSENGER CABLE (1/4")
7264000000-E	1710	1,000	LF	MESSENGER CABLE (3/8")
7300000000-E	1715	625	LF	UNPAVED TRENCHING (***** (1, 2")
7300100000-E	1715	2,425	LF	UNPAVED TRENCHING FOR TEMP- ORARY LEAD-IN
7324000000-N	1716	9	EA	JUNCTION BOX (STANDARD SIZE)
7360000000-N	1720	12	EA	WOOD POLE
7372000000-N	1721	27	EA	GUY ASSEMBLY
7396000000-E	1722	8	EA	1/2" RISER WITH WEATHERHEAD
7408000000-E	1722	3	EA	1" RISER WITH WEATHERHEAD
7420000000-E	1722	16	EA	2" RISER WITH WEATHERHEAD
7432000000-E	1722	3	EA	2" RISER WITH HEAT SHRINK TUBING
7444000000-E	1725	5,500	LF	INDUCTIVE LOOP SAWCUT
7456000000-E	1726	12,625	LF	LEAD-IN CABLE (***** (14-2)
7516000000-E	1730	7,400	LF	COMMUNICATIONS CABLE (**FIBER) (12)
7540000000-N	1731	2	EA	SPLICE ENCLOSURE
7552000000-N	1731	3	EA	INTERCONNECT CENTER
7564000000-N	1732	3	EA	FIBER-OPTIC TRANSCEIVER, DROP & REPEAT
7575160000-E	1734	200	LF	REMOVE EXISTING COMMUNICATIONS CABLE
7575180000-N	1735	2	EA	CABLE TRANSFER
7636000000-N	1745	3	EA	SIGN FOR SIGNALS
7642100000-N	1743	4	EA	TYPE I POST WITH FOUNDATION
7642200000-N	1743	1	EA	TYPE II PEDESTAL WITH FOUND- ATION
7684000000-N	1750	2	EA	SIGNAL CABINET FOUNDATION
7756000000-N	1751	2	EA	CONTROLLER WITH CABINET (TYPE 2070L, BASE MOUNTED)
7768000000-N	1751	1	EA	CONTROLLER WITH CABINET (TYPE 2070L, POLE MOUNTED)
7780000000-N	1751	16	EA	DETECTOR CARD (TYPE 2070L)
7901000000-N	1753	2	EA	CABINET BASE EXTENDER

DIVISION OF HIGHWAYS
 STATE OF NORTH CAROLINA

SUMMARY OF EARTHWORK

IN CUBIC YARDS

LOCATION	UNCLASSIFIED EXCAVATION	UNDERCUT	EMBT + %	BORROW	WASTE
SUMMARY NO. 1					
-L- STA. 13+00.00 TO -L- 34+50.00	2219		5520	3301	
-Y1- STA. 12+50.00 TO STA. 13+12.70	12		62	50	
-Y2- STA. 12+30.00 TO STA. 13+18.11	136		19		117
-Y3- STA. 12+33.00 TO STA. 13+09.54	18		382	364	
-Y4- STA. 13+78.00 TO STA. 17+28.69	106		206	100	
SUMMARY NO. 1 SUBTOTAL	2491		6189	3815	117
SUMMARY NO. 2					
-L- STA. 34+50.00 TO STA. 55+73.27	3881		7635	3754	
-Y5- STA. 11+88.00 TO STA. 15+31.56	244		606	362	
-Y6- STA. 11+80.00 TO STA. 12+47.10	108		4		104
SUMMARY NO. 2 SUBTOTAL	4233		8245	4116	104
TOTAL					
	6724		14434	7931	221
LOSS DUE TO CLEARING AND GRUBBING					
	-400			400	
EARTH WASTE TO REPL. BORROW					
				-221	-221
SHOULDER MATERIAL					
			126	126	
PROJECT TOTAL					
	6324		14560	8236	
EST. 5% TO REPLACE TOPSOIL ON BORROW PITS					
				412	
GRAND TOTAL					
	6324			8648	
SAY					
	6400			8700	

ESTIMATED UNDERCUT = 1000 CY PER GEOTECH RECS DATED 07/24/12

ESTIMATED SHALLOW UNDERCUT = 500 CY PER GEOTECH RECS DATED 07/24/12

DRAINAGE DITCH EXCAVATION = 80 CY

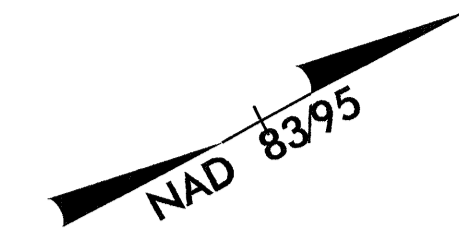
Note: Approximate quantities only. Unclassified Excavation, Borrow Excavation, Fine Grading, Clearing and Grubbing, and Removal of Existing Pavement will be paid for at the contract lump sum price for "Grading."

Note: 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.

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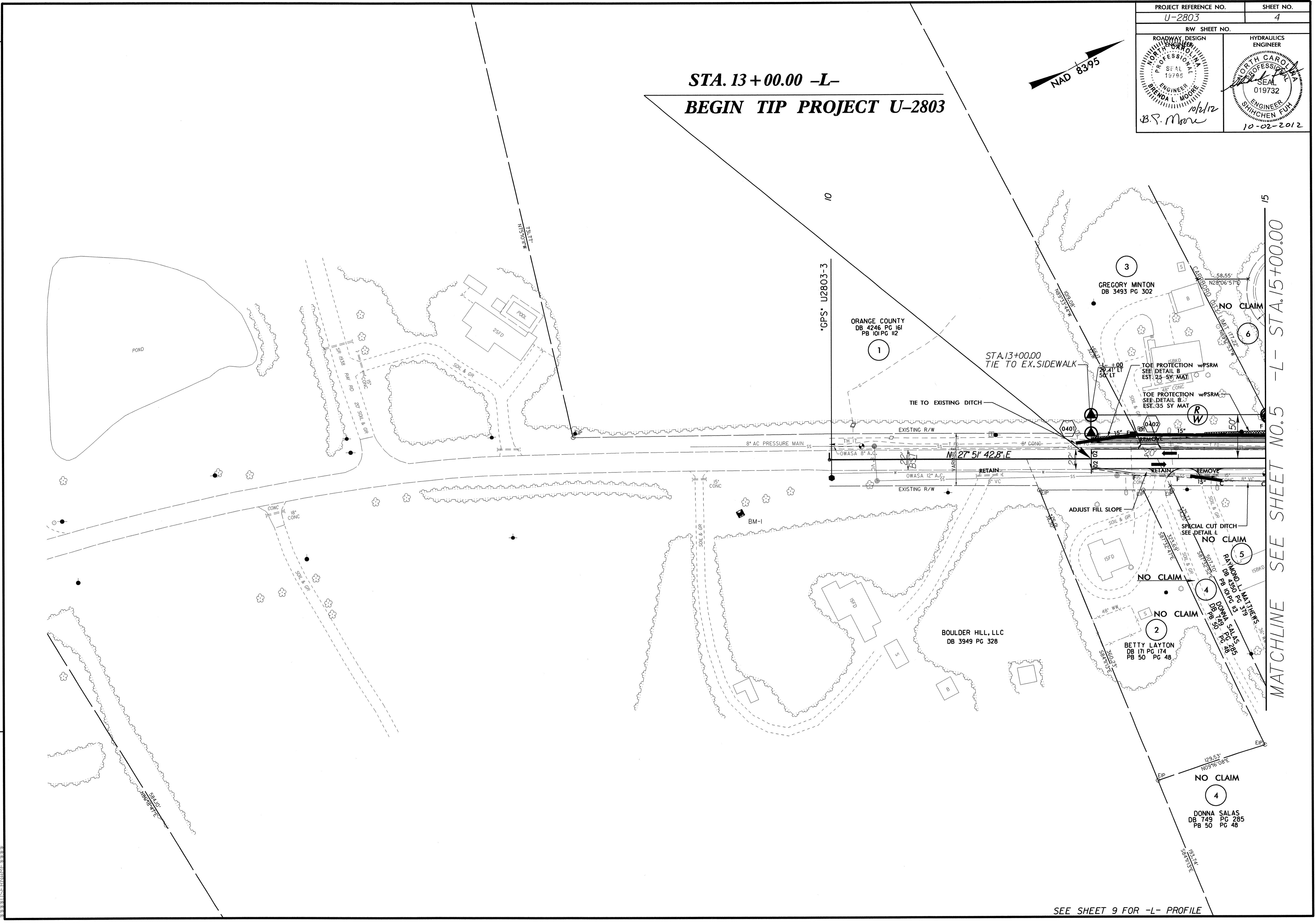
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RW SHEET NO.	
ROADWAY DESIGN ENGINEER BRENDA L. MOORE 10/2/12 B.P. Moore	HYDRAULICS ENGINEER SHIHCHEN FUH 019732 10-02-2012

**STA. 13+00.00 -L-
BEGIN TIP PROJECT U-2803**



REVISIONS

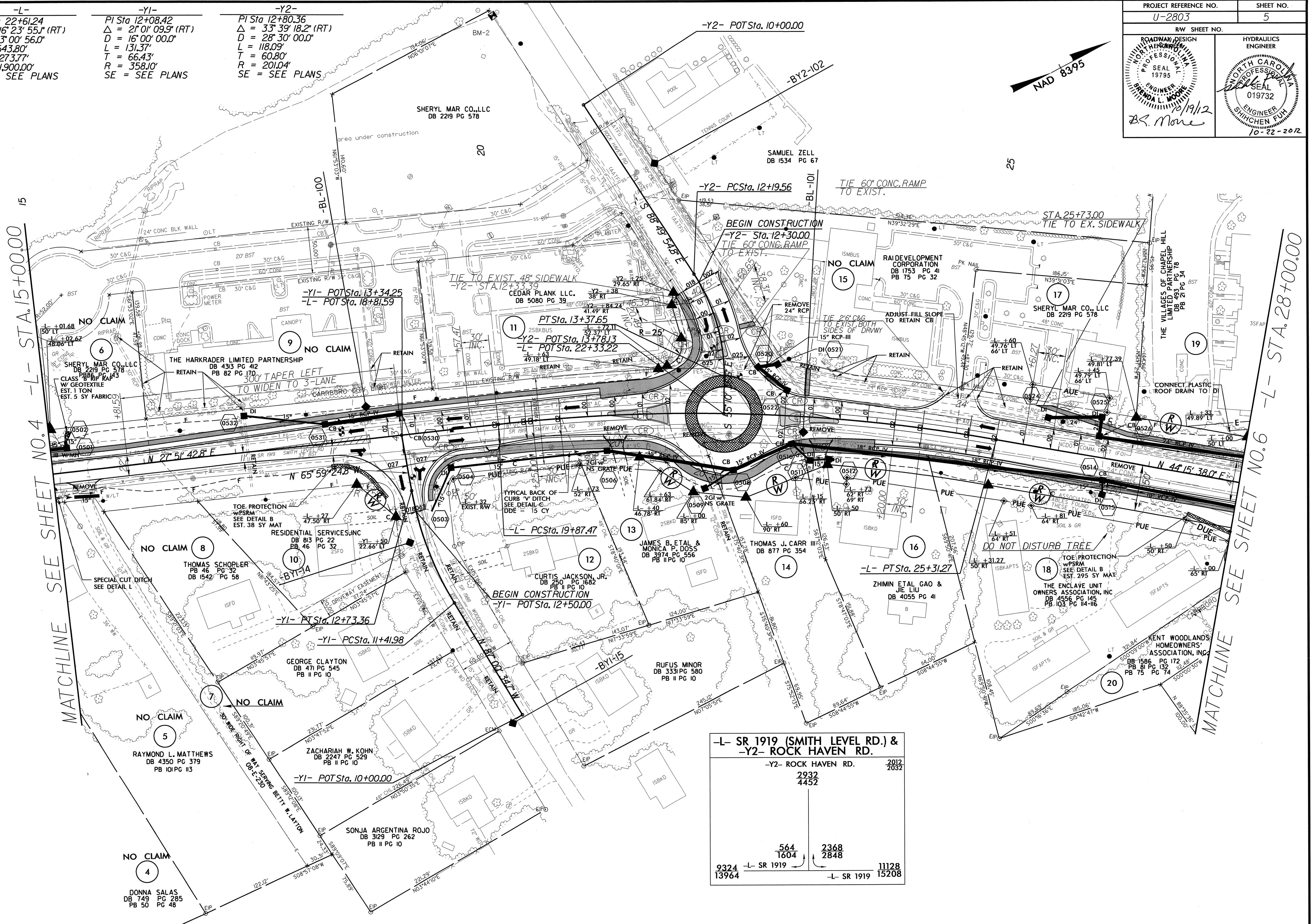
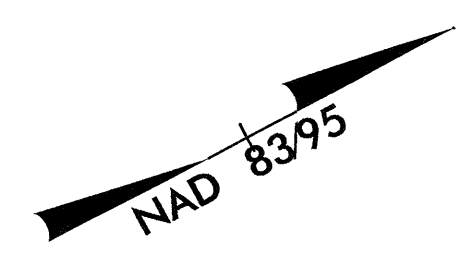
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MATCHLINE SEE SHEET NO.5 -L- STA.15+00.00

SEE SHEET 9 FOR -L- PROFILE

-L-	-Y1-	-Y2-
PI Sta 22+61.24	PI Sta 12+08.42	PI Sta 12+80.36
$\Delta = 16^{\circ} 23' 55.1''$ (RT)	$\Delta = 21^{\circ} 01' 09.9''$ (RT)	$\Delta = 33^{\circ} 39' 18.2''$ (RT)
D = 3' 00" 56.0"	D = 16' 00" 00.0"	D = 28' 30" 00.0"
L = 543.80'	L = 131.37'	L = 118.09'
T = 273.77'	T = 66.43'	T = 60.80'
R = 1,900.00'	R = 358.10'	R = 201.04'
SE = SEE PLANS	SE = SEE PLANS	SE = SEE PLANS



REVISIONS

MATCHLINE SEE SHEET NO. 4 -L- STA. 15+00.00

MATCHLINE SEE SHEET NO. 6 -L- STA. 28+00.00

-L- SR 1919 (SMITH LEVEL RD.) & -Y2- ROCK HAVEN RD.		2012
		2032
		2932
		4452
		564
		1604
		2368
		2848
9324	-L- SR 1919	11128
13964		15208

SEE SHEET 9 FOR -L- PROFILE
SEE SHEET 11 FOR -Y1- PROFILE
SEE SHEET 11 FOR -Y2- PROFILE

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BRUNDA L. MOORE

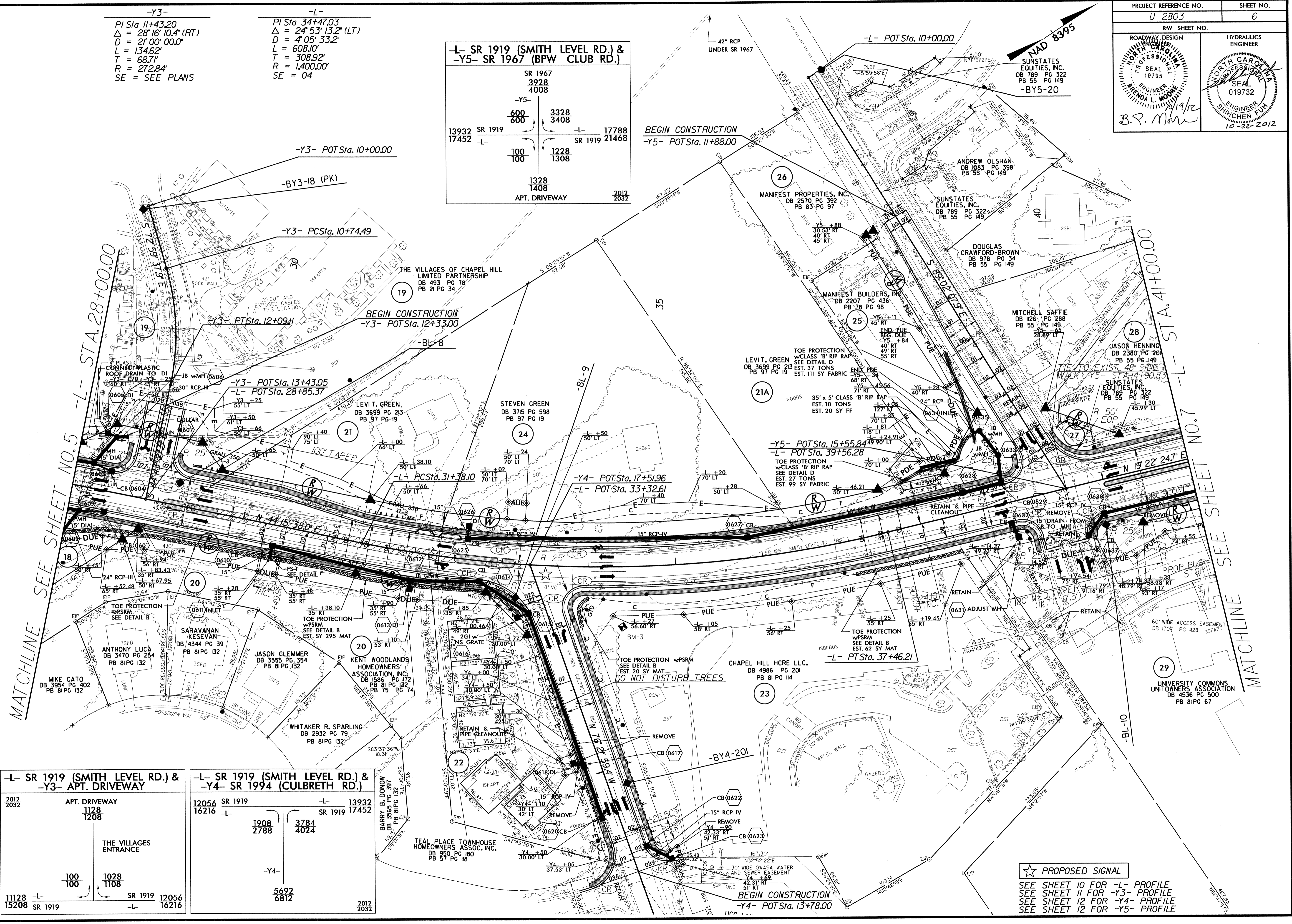
-Y3-
 PI Sta 11+43.20
 $\Delta = 28' 16" 10.4" (RT)$
 $D = 2' 00" 00.0"$
 $L = 1346.2'$
 $T = 68.71'$
 $R = 272.84'$
 SE = SEE PLANS

-L-
 PI Sta 34+47.03
 $\Delta = 24' 53" 13.2" (LT)$
 $D = 4' 05" 33.2"$
 $L = 608.10'$
 $T = 308.92'$
 $R = 1,400.00'$
 SE = 04

-L- SR 1919 (SMITH LEVEL RD.) & -Y5- SR 1967 (BPW CLUB RD.)

SR 1967 3928 4008			
-Y5- 600 600		3328 3408	
13932 17452	SR 1919	-L- 17788 21468	SR 1919
	100 100	1228 1308	
		1328 1408	2012 2032
		APT. DRIVEWAY	

REVISIONS



-L- SR 1919 (SMITH LEVEL RD.) & -Y3- APT. DRIVEWAY

2012 2032	APT. DRIVEWAY 1128 1208		
		100 100	1028 1108
11128 15208	SR 1919	-L- 12056 16216	SR 1919
			5692 6812
			2012 2032

-L- SR 1919 (SMITH LEVEL RD.) & -Y4- SR 1994 (CULBRETH RD.)

12056 16216	SR 1919	-L- 13932 17452	SR 1919
	1908 2788	3784 4024	
			5692 6812
			2012 2032

★ PROPOSED SIGNAL
 SEE SHEET 10 FOR -L- PROFILE
 SEE SHEET 11 FOR -Y3- PROFILE
 SEE SHEET 12 FOR -Y4- PROFILE
 SEE SHEET 12 FOR -Y5- PROFILE

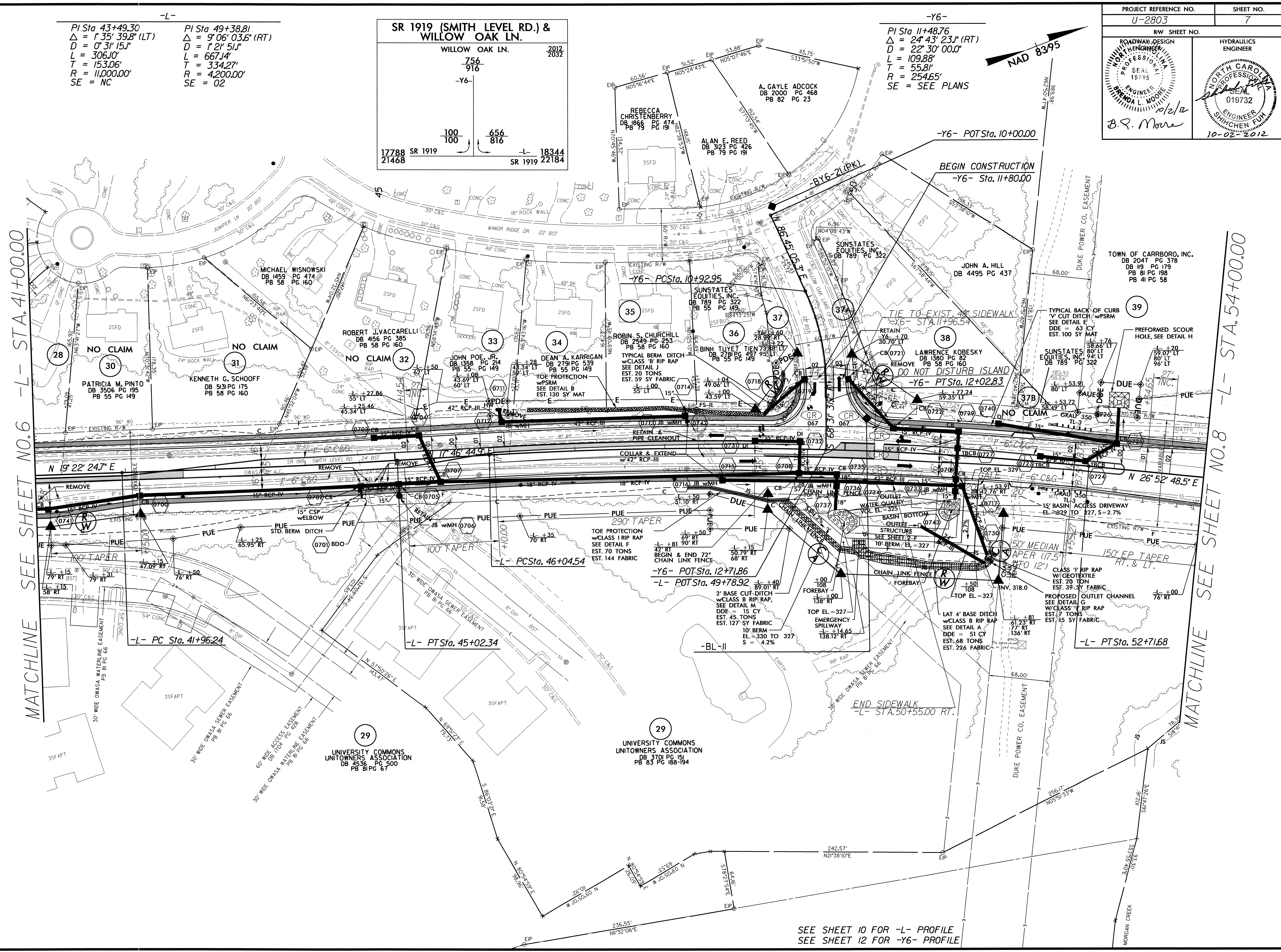
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-L-
 PI Sta 43+49.30
 $\Delta = 1' 35'' 39.8''$ (LT)
 $D = 0' 31'' 15.1''$
 $L = 306.10'$
 $T = 153.06'$
 $R = 11,000.00'$
 $SE = NC$

PI Sta 49+38.81
 $\Delta = 9' 06'' 03.6''$ (RT)
 $D = 1' 21'' 51.1''$
 $L = 667.14'$
 $T = 334.27'$
 $R = 4,200.00'$
 $SE = 02$

SR 1919 (SMITH LEVEL RD.) & WILLOW OAK LN.
 WILLOW OAK LN.
 756
 916
 -Y6-
 100
 100
 656
 816
 17788 SR 1919 21468
 -L- 18344
 SR 1919 22184

-Y6-
 PI Sta 11+48.76
 $\Delta = 24' 43'' 23.1''$ (RT)
 $D = 22' 30'' 00.0''$
 $L = 109.88'$
 $T = 55.81'$
 $R = 254.65'$
 $SE = SEE PLANS$



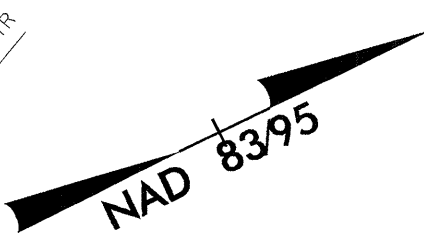
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MATCHLINE SEE SHEET NO.8 -L- STA. 54+00.00

REVISIONS

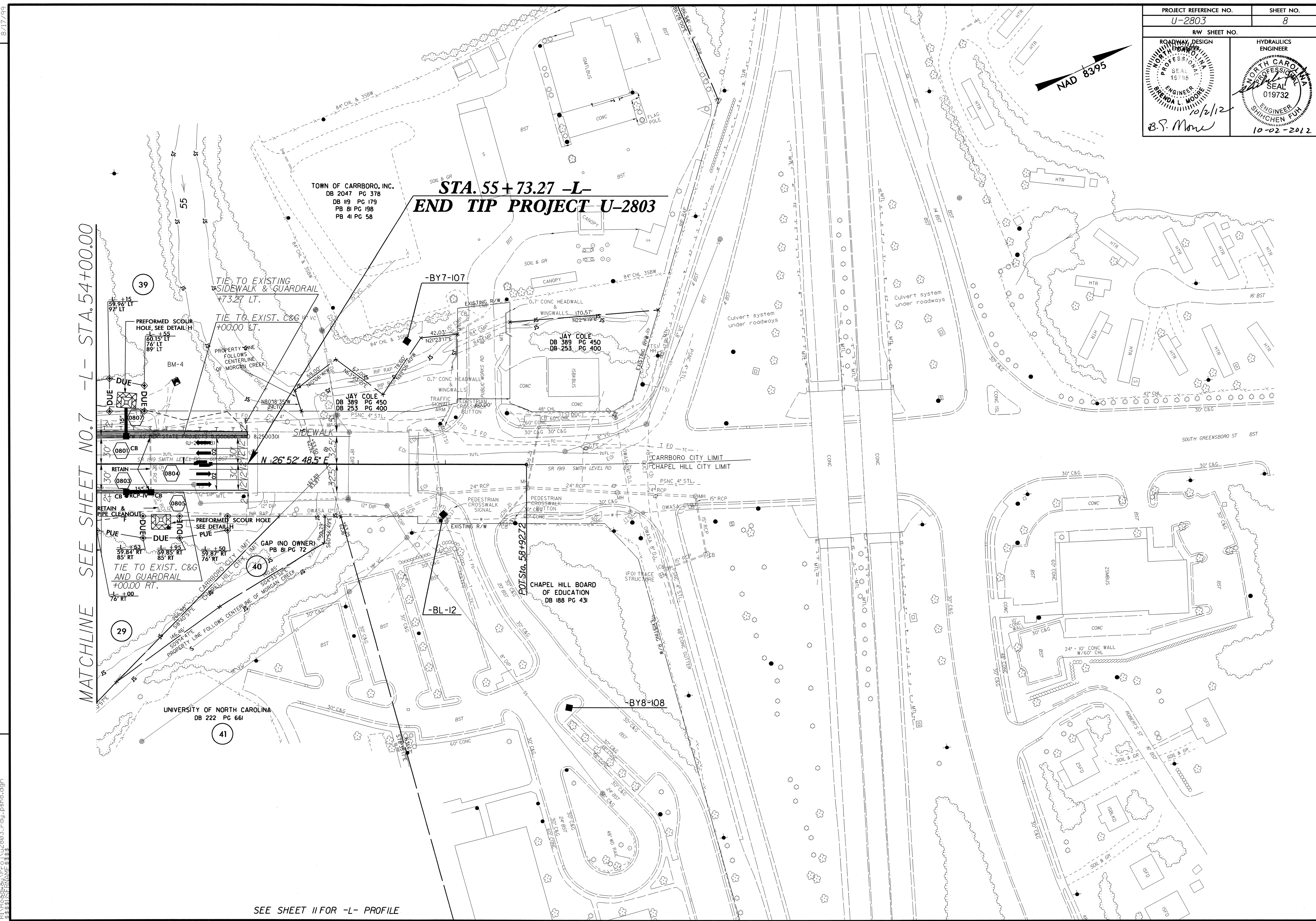
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SEE SHEET 10 FOR -L- PROFILE
 SEE SHEET 12 FOR -Y6- PROFILE



**STA. 55+73.27 -L-
END TIP PROJECT U-2803**

MATCHLINE SEE SHEET NO.7 -L- STA. 54+00.00



REVISIONS

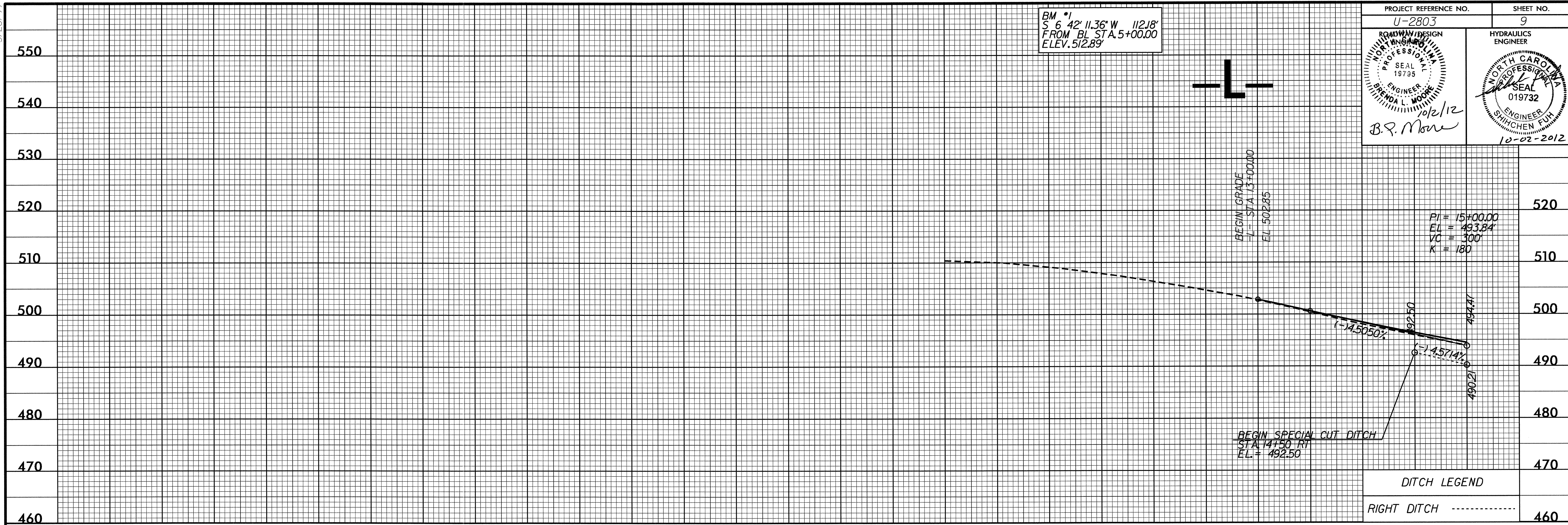
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SEE SHEET II FOR -L- PROFILE

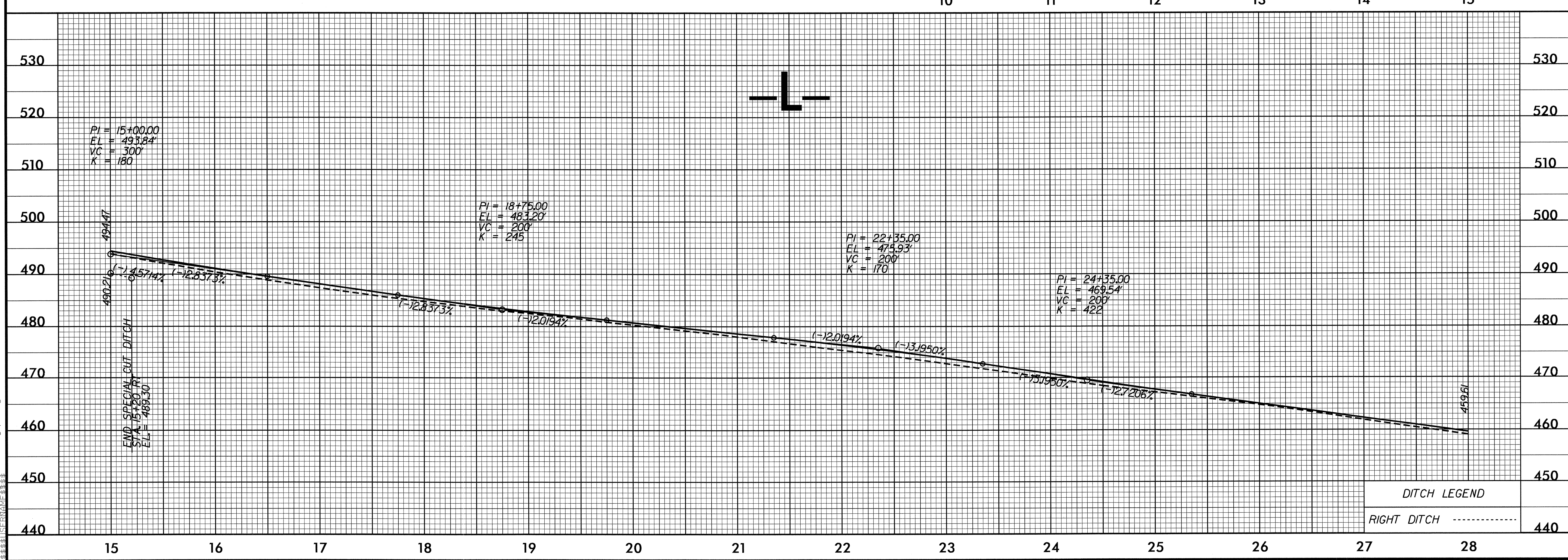
5/28/99

BM *1
S 6 42' 11.36" W 112.18'
FROM BL STA. 5+00.00
ELEV. 512.89'

PROJECT REFERENCE NO. U-2803	SHEET NO. 9
B.P. Moore	



DITCH LEGEND	
RIGHT DITCH	-----

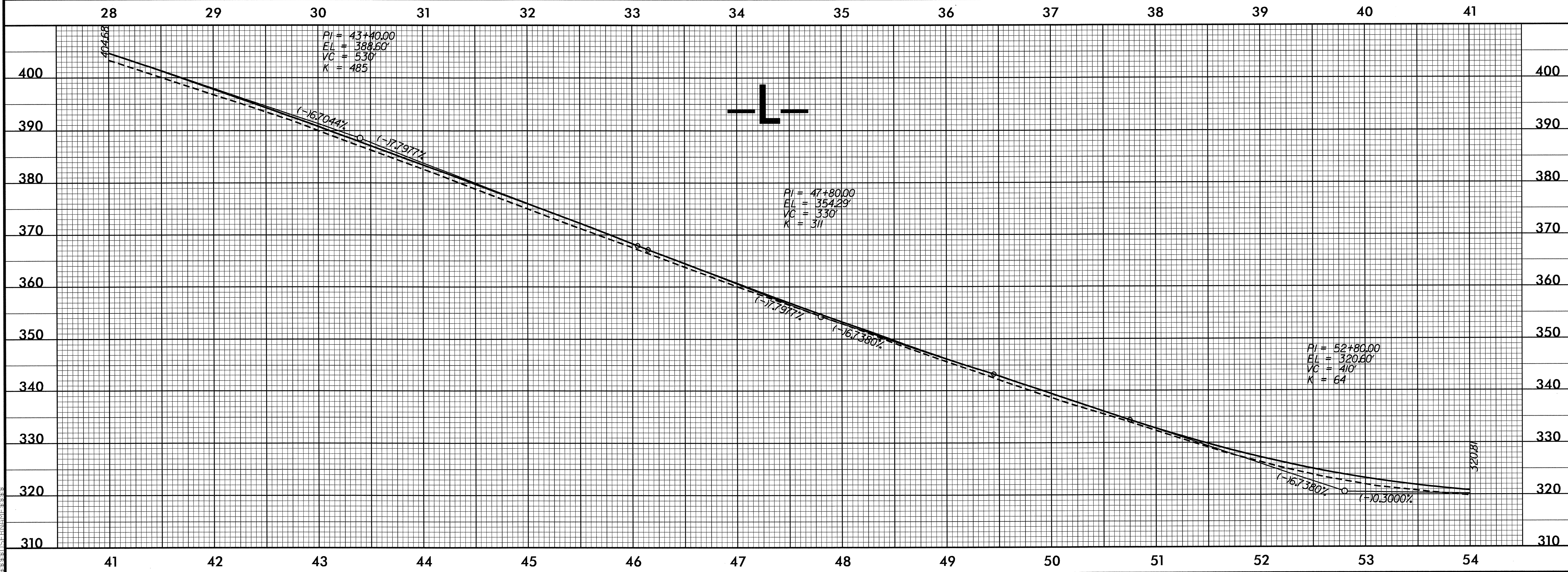
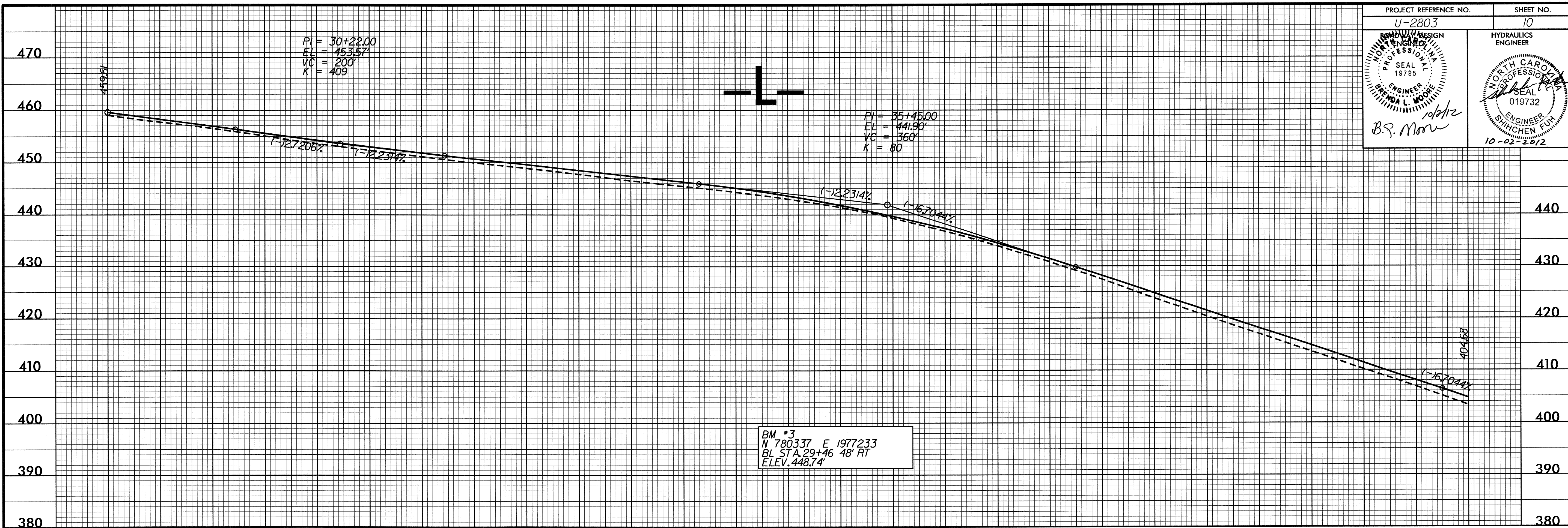


DITCH LEGEND	
RIGHT DITCH	-----

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5/28/99

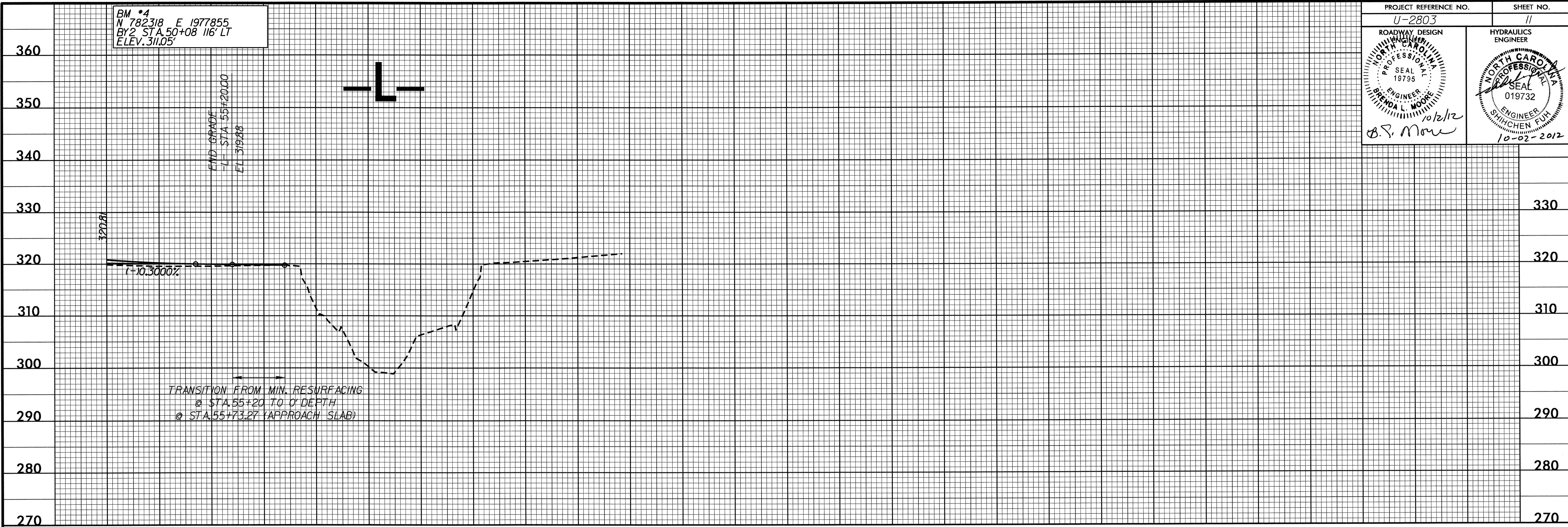
PROJECT REFERENCE NO. U-2803	SHEET NO. 10
HYDRAULICS ENGINEER	



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 BRENDA L. MOORE

5/28/09

BM *4
N 782318 E 1977855
BY2 STA 50+08 116' LT
ELEV. 311.05



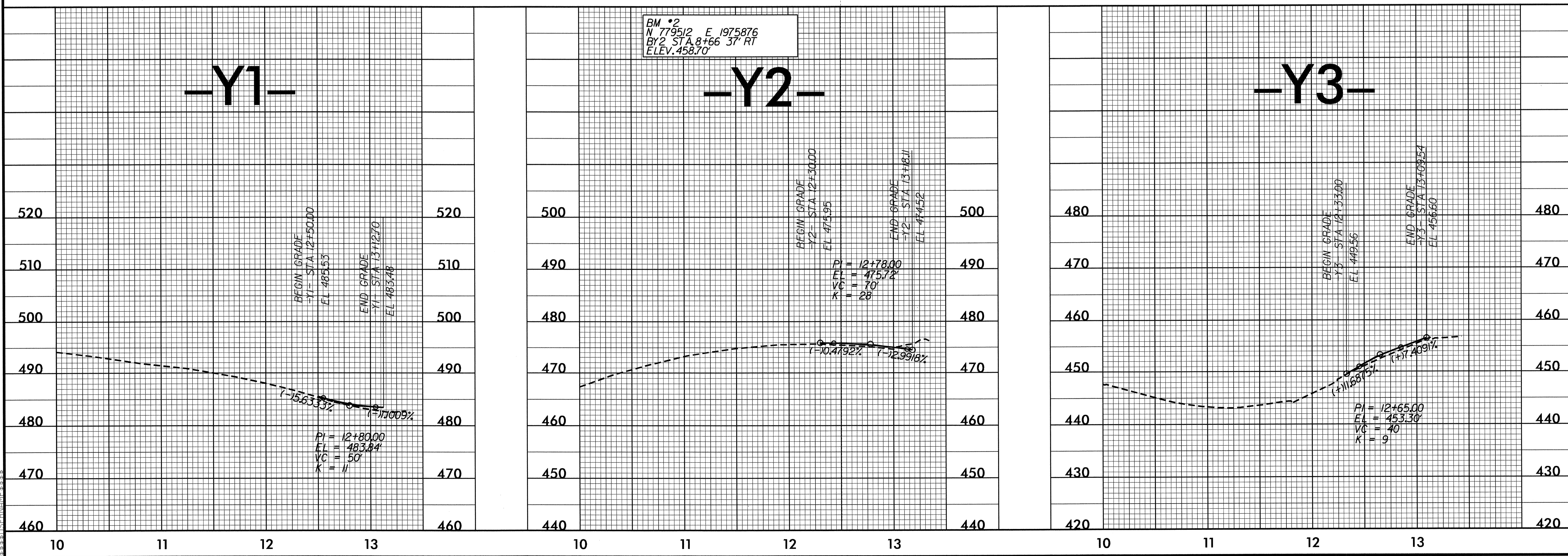
PROJECT REFERENCE NO. U-2803	SHEET NO. 11
ROADWAY DESIGN ENGINEER BRENDA L. WOODS PROFESSIONAL SEAL 19795	HYDRAULICS ENGINEER SHICHEN FU PROFESSIONAL SEAL 019732
10/2/12 B.S. Now	10-02-2012

-Y1-

-Y2-

-Y3-

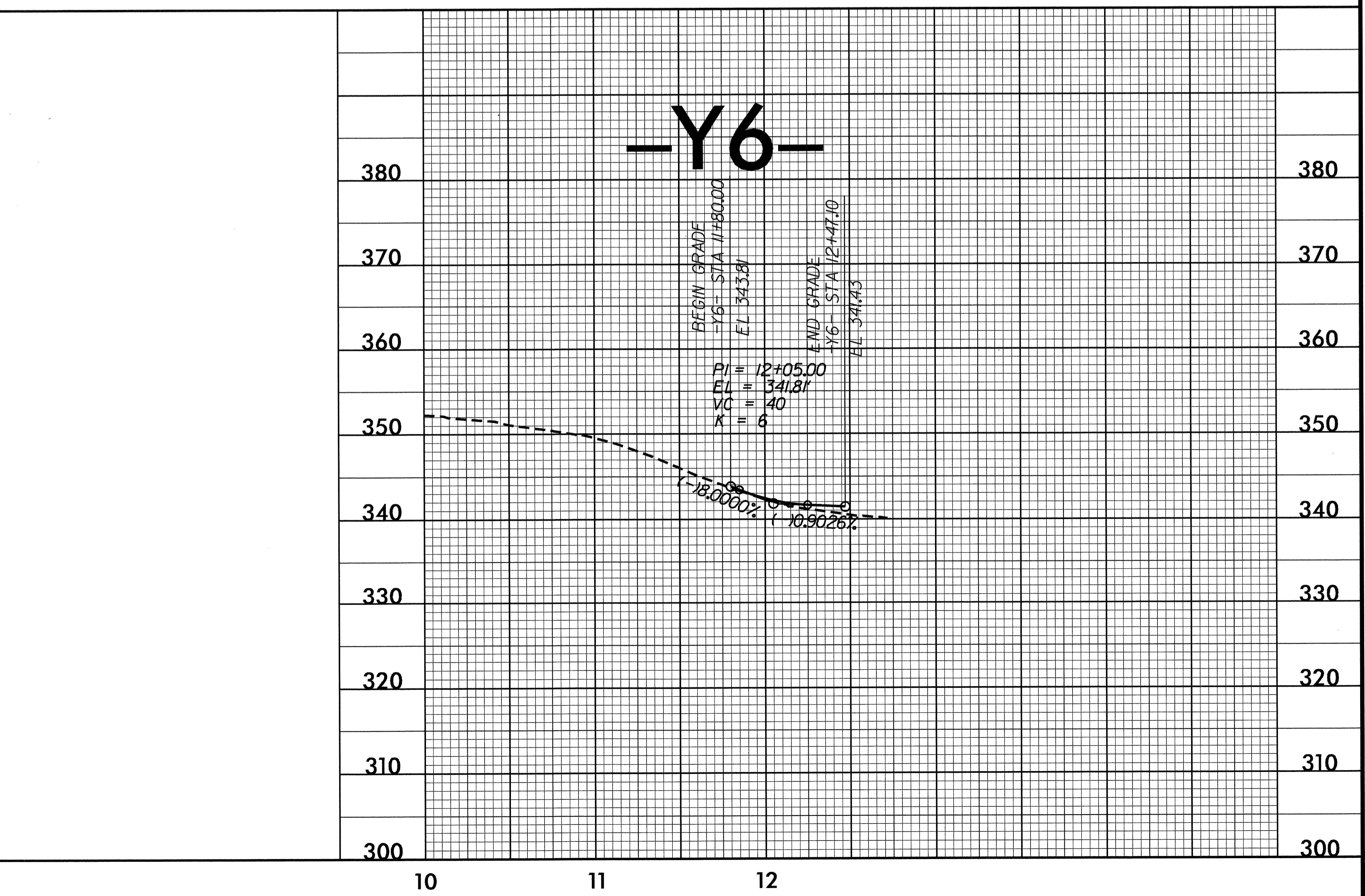
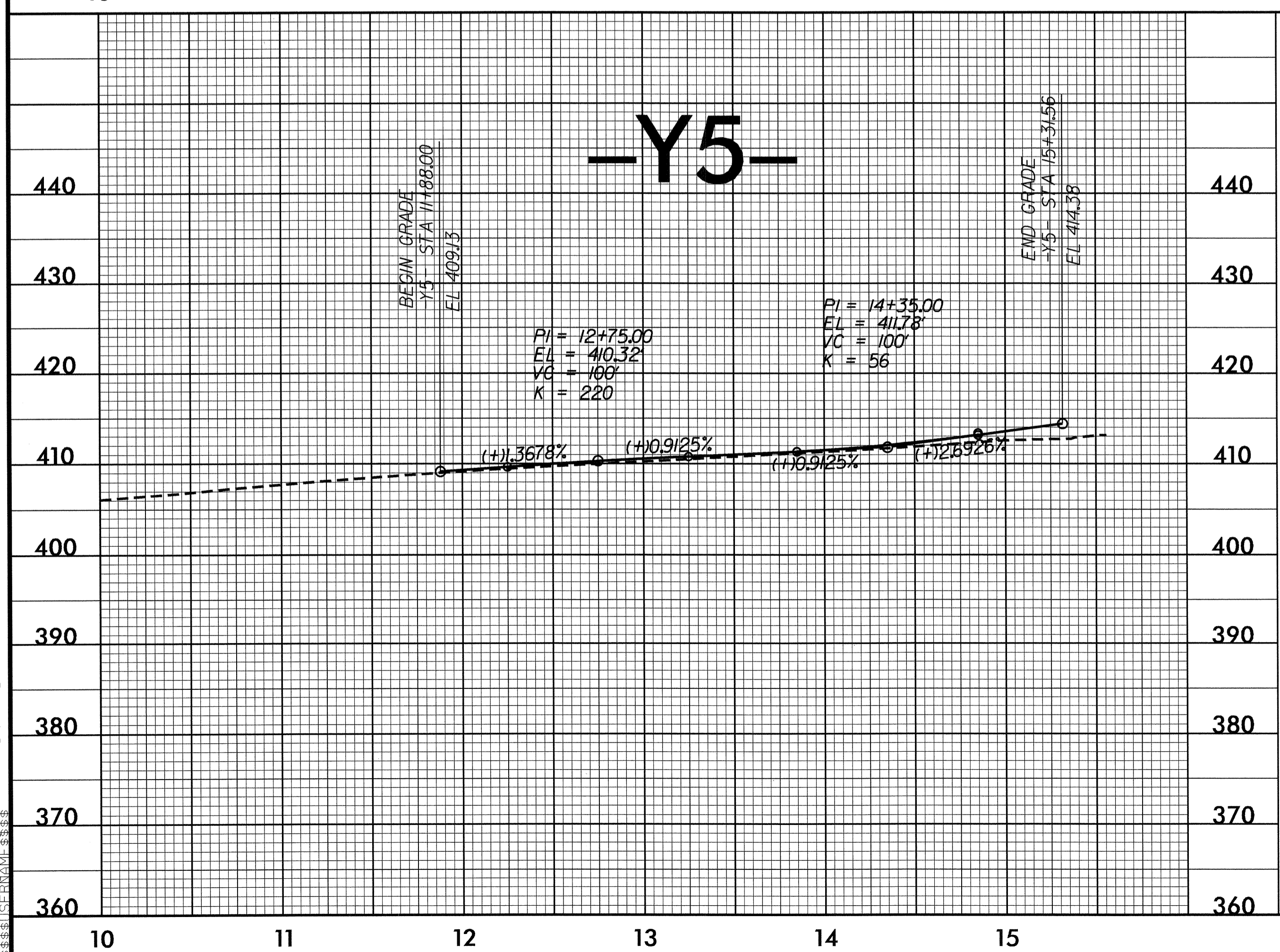
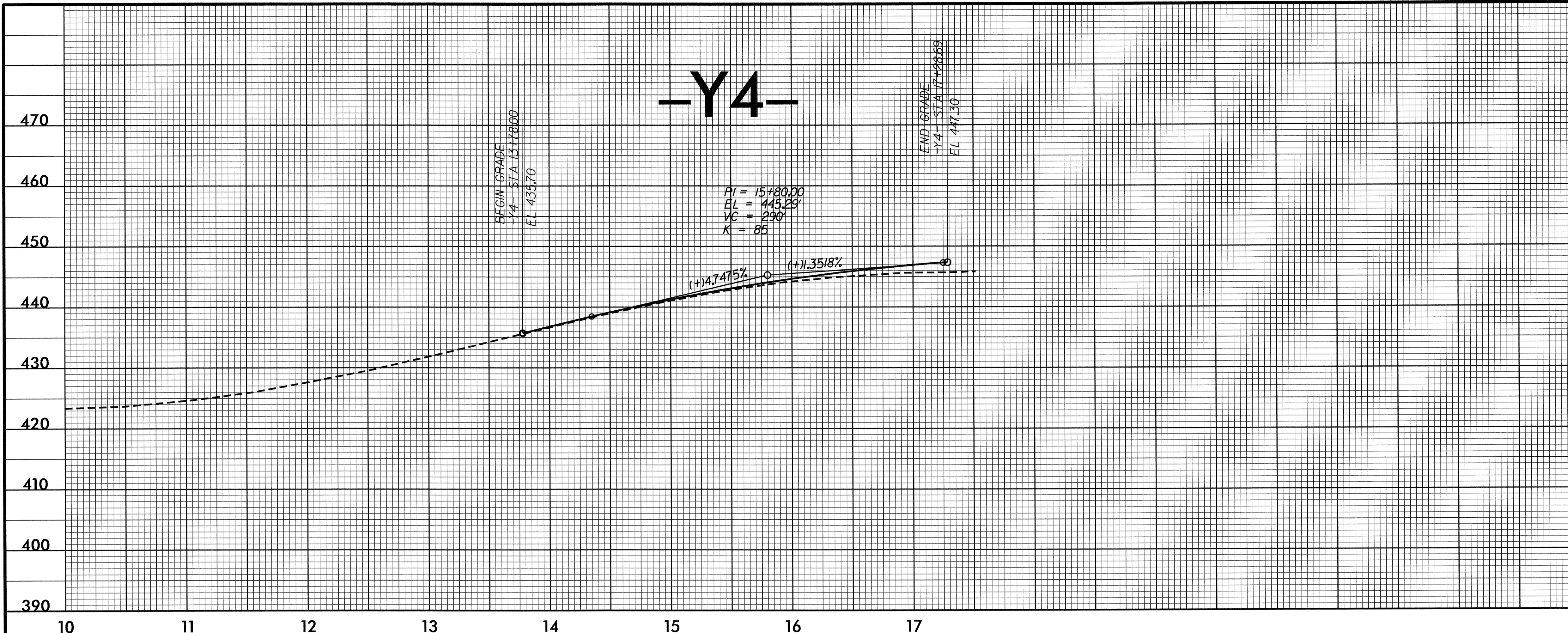
BM *2
N 779512 E 1975876
BY2 STA 8+66 37' RT
ELEV. 458.70



11-SEP-2012 13:53
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5/28/99

PROJECT REFERENCE NO. U-2803	SHEET NO. 12
ROADWAY DESIGN PROFESSIONAL SEAL 19795 BRENDA L. MOORE	HYDRAULICS ENGINEER PROFESSIONAL SEAL 019732 SHICHEN FUN
10/2/12 B.R. Moore	
10-02-2012	



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