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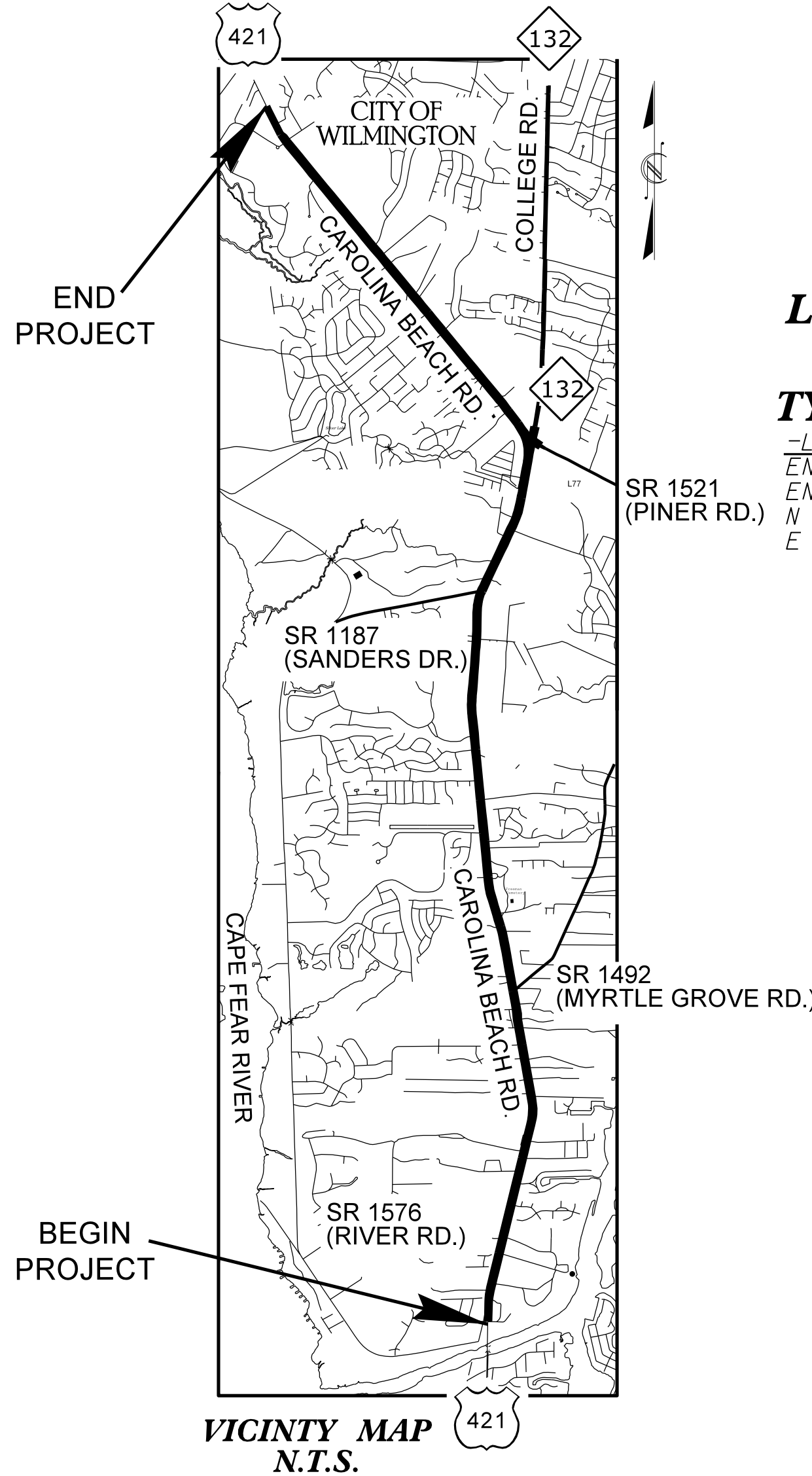
**This file or an individual page
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09/08/19
 12-AUG-2015 16:08
 C:\ROY\ADTHREE\NEW HANOVER W-5103_41867_1.L1.L1.US 421 Median Crossover Relet (use this file)\ROADWAY\Proj\Plan_Sheets\W5103A.D03.Rdy_1.L.TSH.dgn
 \$\$\$SERVERNAME\$\$\$

TIP PROJECT: W-5103A

CONTRACT NO.: C203755

See Sheet 1-A For Index of Sheets

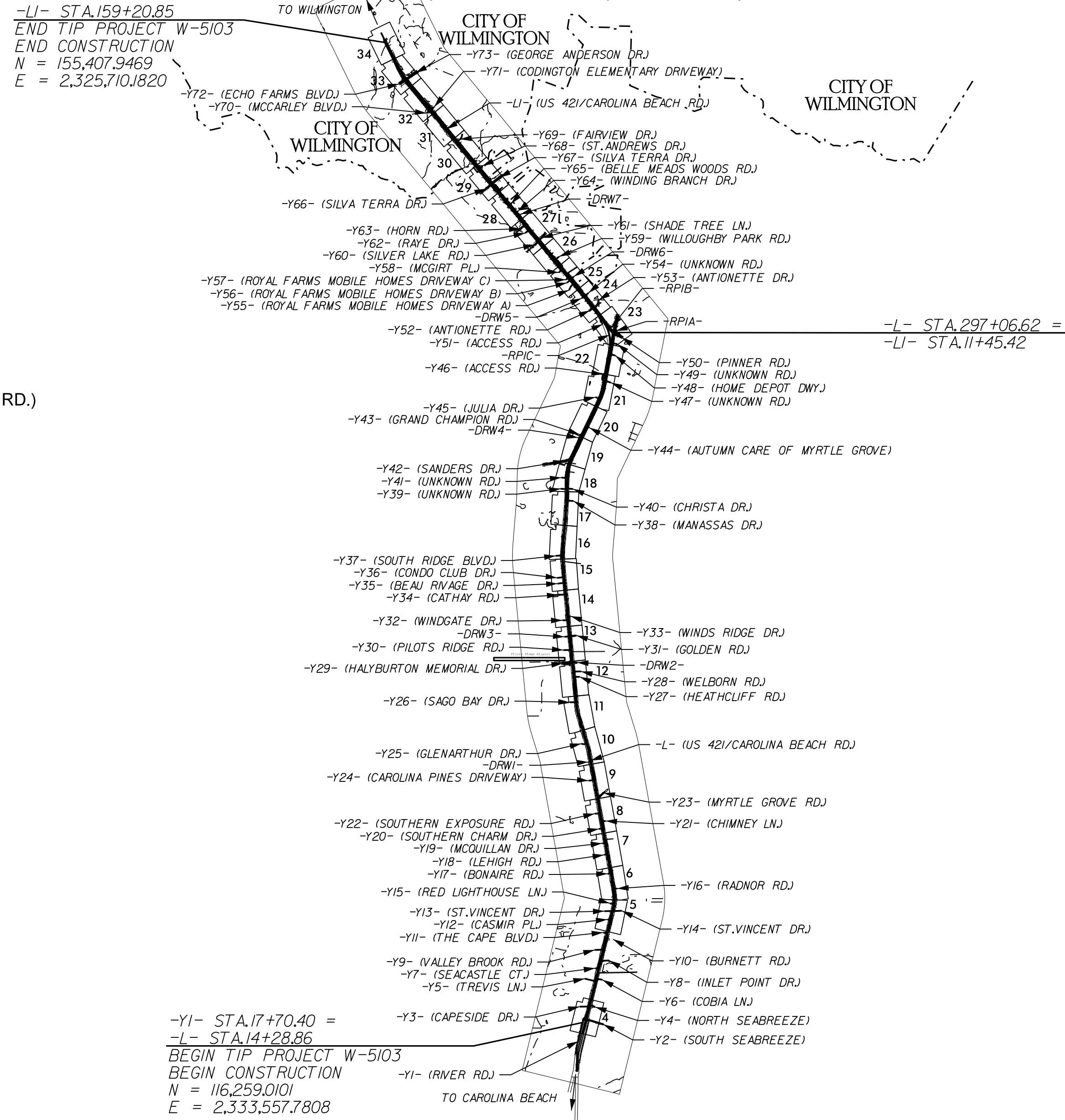


STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

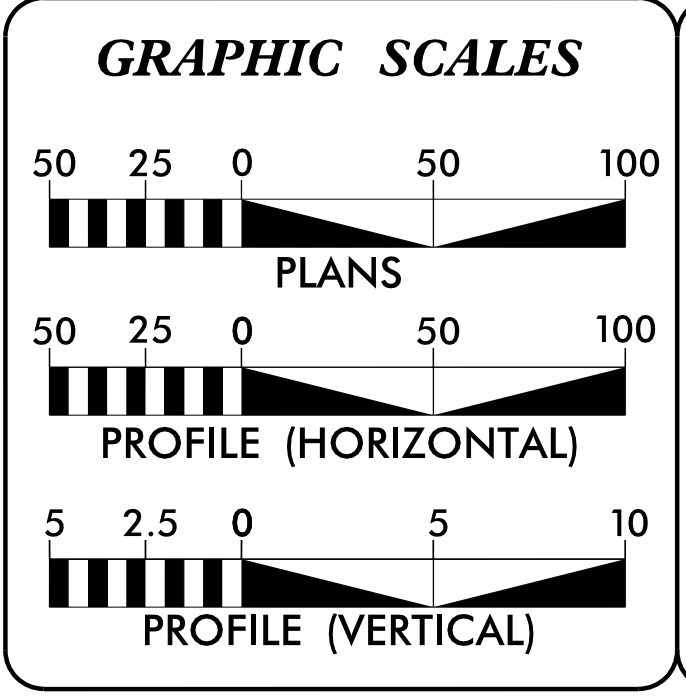
NEW HANOVER COUNTY

LOCATION: US 421 (CAROLINA BEACH RD.) FROM BRIDGE NO. 30 (SNOW'S CUT BRIDGE) TO 0.31 MI. NORTH OF GEORGE ANDERSON DR. (NON-SYSTEM).

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



STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	W-5103A	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
41867.3.2	STPNHS-0421(46)	CONST.	
2016CPT.03.03.10651		RESURF.	



DESIGN DATA

2013 AADT
 -L- 42,000
 -L1- 29,000

REGIONAL TIER

PROJECT LENGTH =

-L- = 5.447 MI.
 -L1- = 2.798 MI.
TOTAL = 8.245 MI.

Prepared in the Office of:
DIVISION OF HIGHWAYS
 5501 BARBADOS BLVD., CASTLE HAYNE, NC, 28429

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
NA

LETTING DATE:
SEPTEMBER 15, 2015

DAVID B. LEONARD
PROJECT ENGINEER

DOUGLAS N. LAFAVE
PROJECT DESIGN ENGINEER

JONATHAN W. GILES
PROJECT DESIGN TECHNICIAN

HYDRAULICS ENGINEER

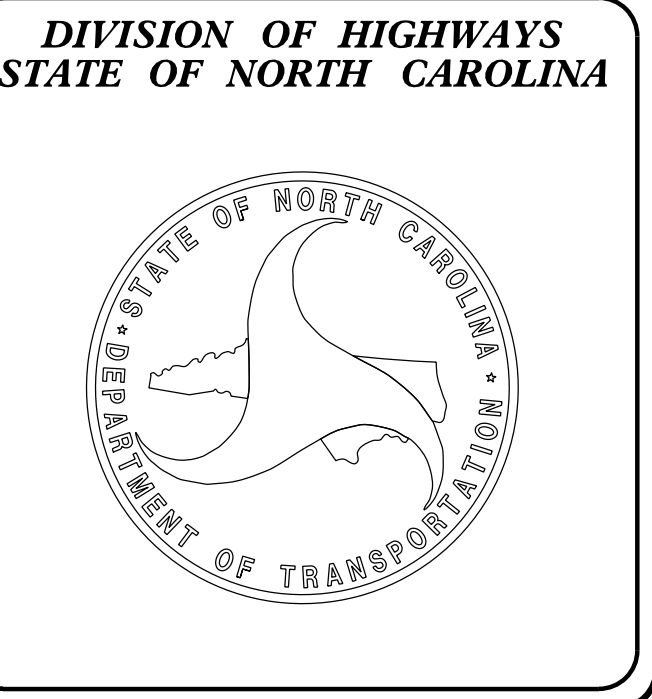
DocuSigned by:
 Jonathan W. Giles
 8/13/2015 9:00 AM ET P.E.

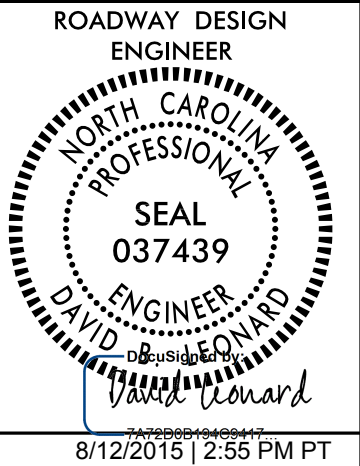
ROADWAY DESIGN ENGINEER

DocuSigned by:
 David Leonard
 8/12/2015 2:55 PM PT P.E.

Professional Engineer Seal: DAVID B. LEONARD, SEAL 039745

Professional Engineer Seal: DAVID B. LEONARD, SEAL 037439





8/12/2015 2:55 PM PT

EFF. 01-17-2012
REV. 10-30-2012

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
225.03	Deceleration and Acceleration Lanes
225.05	Method of Obtaining Superelevation - Divided Highways
225.06	Method of Grading Sight Distance at Intersections
DIVISION 3 - PIPE CULVERTS	
300.01	Method of Pipe Installation
310.02	Parallel Pipe End Section - Precast Concrete Section for 15" to 24" Pipe
310.10	Driveway Pipe Construction
DIVISION 5 - SUBGRADE, BASES AND SHOULDERS	
560.01	Method of Shoulder Construction - High Side of Superelevated Curve - Method I
DIVISION 6 - ASPHALT BASES AND PAVEMENTS	
654.01	Pavement Repairs
DIVISION 8 - INCIDENTALS	
815.02	Subsurface Drain
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
840.18	Concrete Grated Drop Inlet Type 'B' - 12" thru 36" Pipe
840.19	Concrete Grated Drop Inlet Type 'D' - 12" thru 36" Pipe
840.20	Frames and Wide Slot Flat Grates
840.22	Frames and Wide 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
840.27	Brick Grated Drop Inlet Type 'B' - 12" thru 36" Pipe
840.28	Brick Grated Drop Inlet Type 'D' - 12" thru 36" Pipe
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
840.72	Pipe Collar
846.01	Concrete Curb, Gutter and Curb & Gutter
846.02	Drop Inlet Installation in Expressway Gutter
848.02	Driveway Turnout - Radius Type
848.04	Street Turnout
852.01	Concrete Islands
852.06	Method for Placement of Drop Inlets in Concrete Islands
852.10	Median Construction - with Curb and Gutter
876.02	Guide for Rip Rap at Pipe Outlets
DIVISION 9 - SIGNING	
904.10	Orientation of Ground Mounted Sign Supports
904.50	Mounting of Type "D", "E", and "F" Signs on "U" Channel Posts

SHEET NUMBER	SHEET
1	TITLE SHEET
1A	INDEX OF SHEETS, GENERAL NOTES, AND STANDARD DRAWINGS
1B	CONVENTIONAL SYMBOLS
1C-1 THRU 1C-9	SURVEY CONTROL SHEETS
1D-1 THRU 1D-8	ALIGNMENT DESCRIPTIONS
2A-1 THRU 2A-7	PAVEMENT SCHEDULE AND TYPICAL SECTIONS
2B-1 THRU 2B-5	INTERSECTION DETAILS
2B-6 THRU 2B-7	ROADWAY DETAILS
3B-1	ROADWAY SUMMARIES
3D-1 THRU 3D-6	DRAINAGE SUMMARIES
4 THRU 51	PLAN AND PROFILE SHEETS
PMP-1 THRU PMP-33	PAVEMENT MARKING PLANS
EC-1 THRU EC-33	EROSION CONTROL PLANS
SIGN-1 THRU SIGN-34	SIGNING PLANS
SIG-1.0 THRU SIG-15.0	SIGNAL PLANS
X-1A THRU X-1B	CROSS-SECTION SUMMARY SHEET
X-1 THRU X-108	CROSS-SECTIONS

GENERAL NOTES:
2012 SPECIFICATIONS
EFFECTIVE: 01-17-2012
REVISED: 10-31-2014

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. 225.05 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.

DRIVEWAYS:
DRIVEWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. 848.02 USING 900 MM RADII OR RADII 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 RADII NOTED ON PLANS.

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

SUBSURFACE PLANS:
NO SUBSURFACE PLANS ARE AVAILABLE ON THIS PROJECT. THE CONTRACTOR SHOULD MAKE HIS OWN INVESTIGATION AS TO THE SUBSURFACE CONDITIONS.

UTILITIES:
UTILITY OWNERS ON THIS PROJECT ARE: AT&T, CHRIS BENTZ 910-619-5500, CAPE FEAR UTILITIES, JIM TAYSON 910-332-6738, PIEDMONT NATURAL GAS, HAROLD R. WILCOX 910-251-2808, DUKE ENERGY, EDDIE WATKINS 919-518-5248. ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS.

NOTE:
CONSTRUCTION NOTES ON PLAN SHEETS REFER TO PROPOSED EDGE OF PAVEMENT.

8/17/99
03-AUG-2015 14:17 NEW HANDOVER W-5103-41867-1.1.1.US 421 Medham Crossover Relet (use this file)\ROADWAY\Proj\Plan_Sheets\W5103A-D03-RdJ-1A.dgn

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

Note: Not to Scale

*S.U.E. = *Subsurface Utility Engineering*

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	-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-
Existing Historic Property Boundary	-HPB-
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	○
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	○
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 RW Marker	△
Proposed Control of Access Line with Concrete CA Marker	△
Existing Control of Access	△
Proposed Control of Access	△
Existing Easement Line	-----
Proposed Temporary Construction Easement	-----
Proposed Temporary Drainage Easement	-----
Proposed Permanent Drainage Easement	-----
Proposed Permanent Drainage / Utility Easement	-----
Proposed Permanent Utility Easement	-----
Proposed Temporary Utility Easement	-----
Proposed Aerial Utility Easement	-----
Proposed Permanent Easement with Iron Pin and Cap Marker	△

ROADS AND RELATED FEATURES:

Existing Edge of Pavement	-----
Existing Curb	-----
Proposed Slope Stakes Cut	-----
Proposed Slope Stakes Fill	-----
Proposed Curb Ramp	-----
Existing Metal Guardrail	-----
Proposed Guardrail	-----
Existing Cable Guiderail	-----
Proposed Cable Guiderail	-----
Equality Symbol	⊕
Pavement Removal	▭
Single Tree	○
Single Shrub	○
Hedge	-----
Woods Line	-----

VEGETATION:

Orchard	-----
Vineyard	-----

EXISTING STRUCTURES:

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

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	-----
Designated U/G Power Line (S.U.E.*)	-----

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	-----
Designated U/G Telephone Cable (S.U.E.*)	-----
Recorded U/G Telephone Conduit	-----
Designated U/G Telephone Conduit (S.U.E.*)	-----
Recorded U/G Fiber Optics Cable	-----
Designated U/G Fiber Optics Cable (S.U.E.*)	-----

WATER:

Water Manhole	-----
Water Meter	-----
Water Valve	-----
Water Hydrant	-----
Recorded U/G Water Line	-----
Designated U/G Water Line (S.U.E.*)	-----
Above Ground Water Line	-----

TV:

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

GAS:

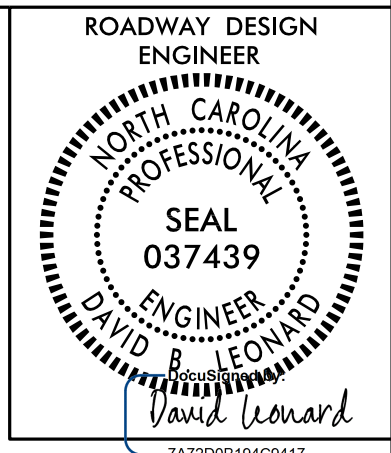
Gas Valve	-----
Gas Meter	-----
Recorded U/G Gas Line	-----
Designated U/G Gas Line (S.U.E.*)	-----
Above Ground Gas Line	-----

SANITARY SEWER:

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

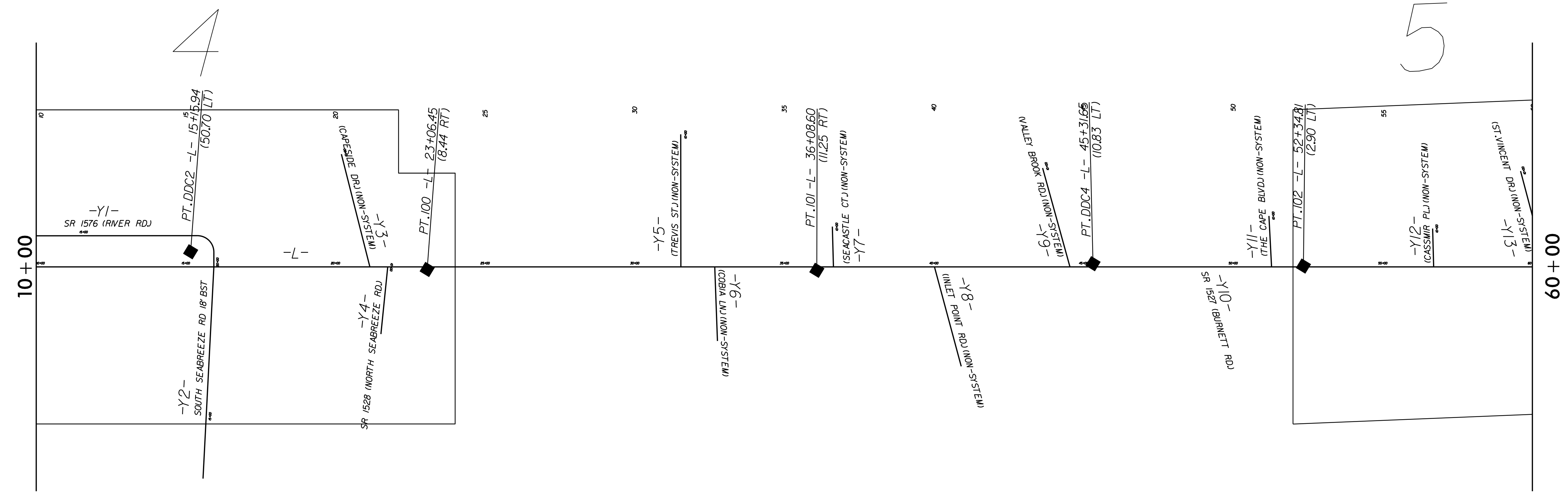
MISCELLANEOUS:

Utility Pole	-----
Utility Pole with Base	-----
Utility Located Object	-----
Utility Traffic Signal Box	-----
Utility Unknown U/G Line	-----
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	-----
End of Information	-----



NAD 83/NSRS 2007

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
SURVEY CONTROL SHEET



DATUM DESCRIPTION
 THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCGS FOR MONUMENT "ENNIS"
 WITH NAD 83/NSRS 2007 STATE PLANE GRID COORDINATES OF
 NORTHING: 136261.243sft(fft) EASTING: 2332811.338sft(fft)
 ELEVATION: 49.278sft(fft)
 THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 1.000072815
 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "ENNIS" TO -L- PNT Sta. 15+93.59 IS
 N 02°35'42"W 19.90.7797'
 ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
 VERTICAL DATUM USED IS NAVD 88

CONTROL POINTS LIST (THIS SHEET):
 PT 100 : N 11708125 : E 2333889.71 : Z 11.61
 PT 101 : N 118345.34 : E 2334202.22 : Z 13.34
 PT 102 : N 119928.23 : E 2334575.34 : Z 12.99
 PT DDC2 : N 116327.50 : E 2333644.20 : Z 11.46
 PT DDC4 : N 119247.14 : E 2334400.36 : Z 15.53

NOT TO SCALE

03-AUG-2015 15:47 NEW HANDOVER W-5103-41867-1.1.1 US 421 Median Crossover Relet (use this file) \ROADWAY\Proj\Plan_Sheets\W5103A_D03_RdJ_IC-1.dgn
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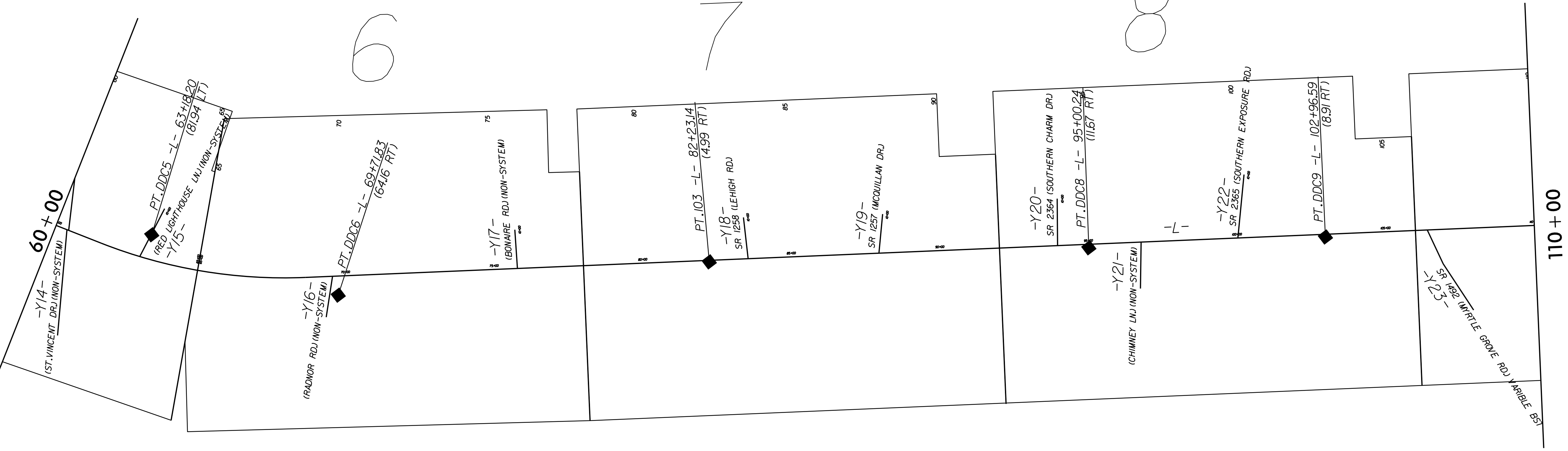


NAD 83/NSRS 2007

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
SURVEY CONTROL SHEET

REVISIONS

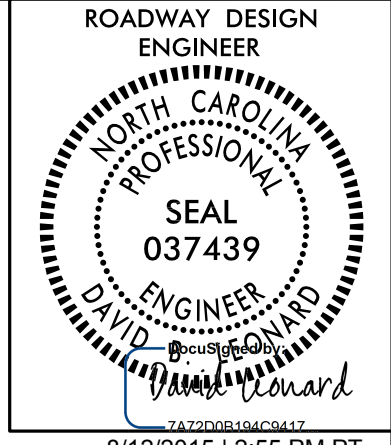
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CONTROL POINTS LIST (THIS SHEET):
 PT.103 : N 122863.36 : E 2334585.88 : Z 19.73
 PT.DDC5 : N 120993.38 : E 2334747.80 : Z 14.77
 PT.DDC6 : N 121642.12 : E 2334864.90 : Z 18.27
 PT.DDC8 : N 124121.60 : E 2334367.12 : Z 24.72
 PT.DDC9 : N 124904.98 : E 2334223.90 : Z 25.54

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PROJECT REFERENCE NO. W-5103A	SHEET NO. 1C-3
RW SHEET NO.	



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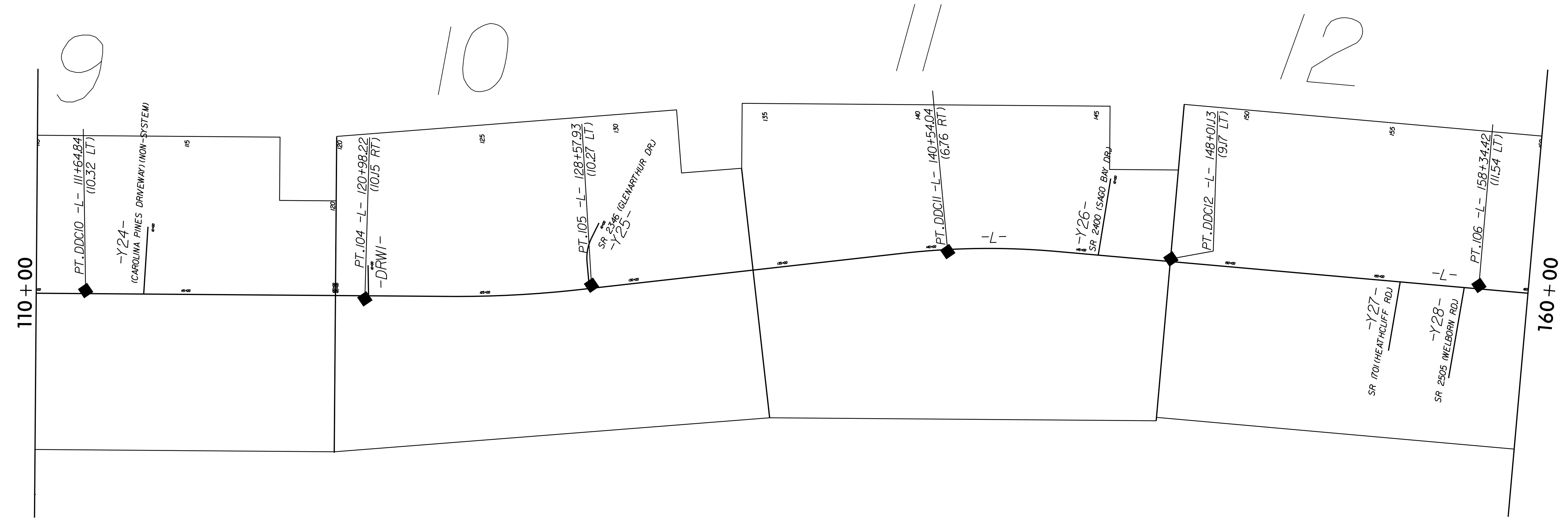


STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
SURVEY CONTROL SHEET

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REVISIONS

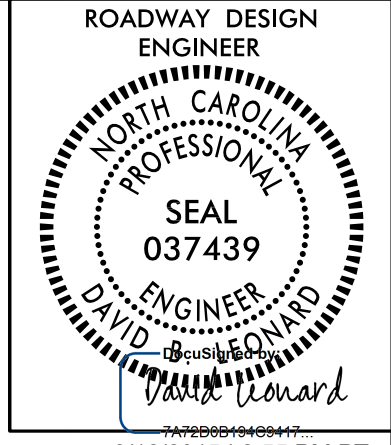
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\$\$\$\$\$SUSTAINABLE\$\$\$\$\$



CONTROL POINTS LIST (THIS SHEET):
 P1 104 : N 126678.56 : E 2333907.23 : Z 28.19
 P1 105 : N 127414.75 : E 2333723.03 : Z 25.09
 P1 106 : N 130329.90 : E 2333177.91 : Z 34.39
 P1 DDC10 : N 125756.22 : E 2334051.77 : Z 26.12
 P1 DDC11 : N 128564.27 : E 2333393.45 : Z 26.60
 P1 DDC12 : N 129301.68 : E 2333280.06 : Z 28.79

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PROJECT REFERENCE NO. W-5103A	SHEET NO. 1C-4
RW SHEET NO.	



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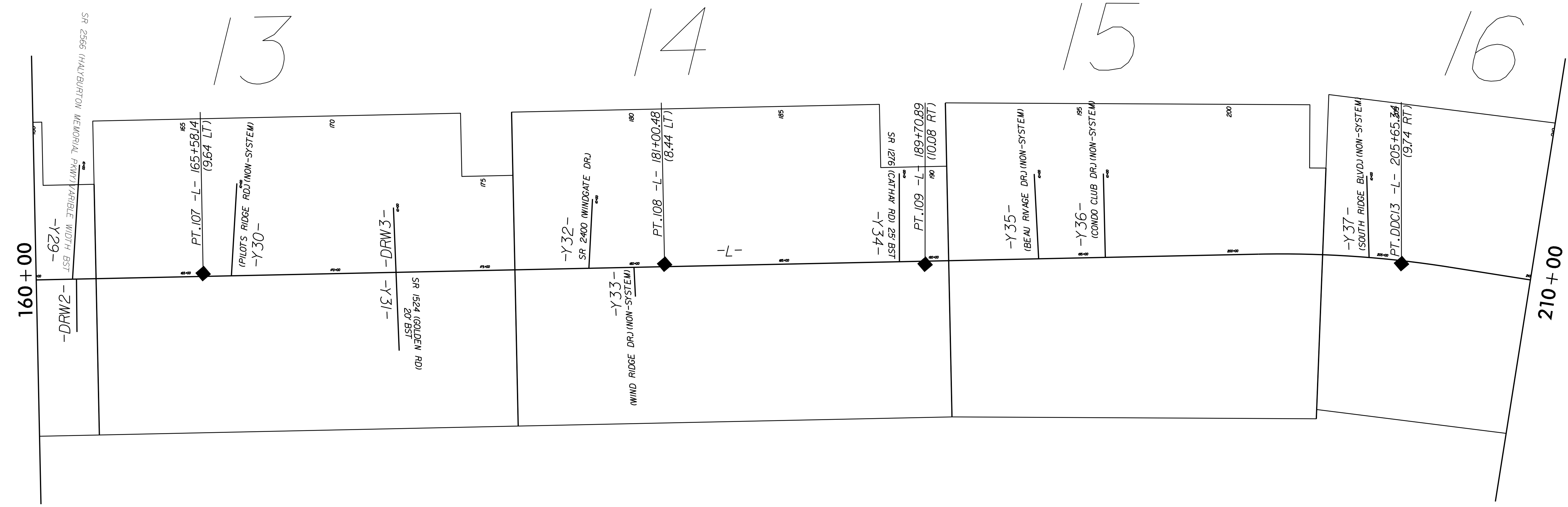
NAD 83/NSRS 2007

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
SURVEY CONTROL SHEET

8/17/99

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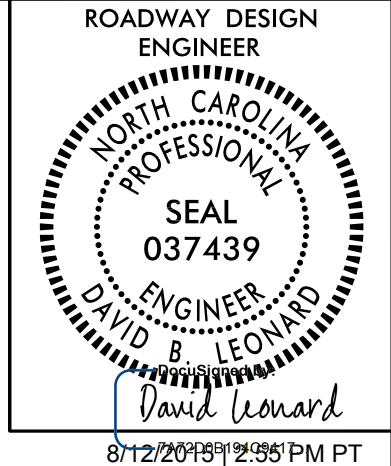
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 PT 108 : N 132585.67 : E 2332962.15 : Z 53.17
 PT 109 : N 133453.80 : E 2332896.53 : Z 52.70
 PT DDC13 : N 135041.13 : E 2332774.16 : Z 42.09

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PROJECT REFERENCE NO. W-5103A	SHEET NO. 1C-5
RW SHEET NO.	



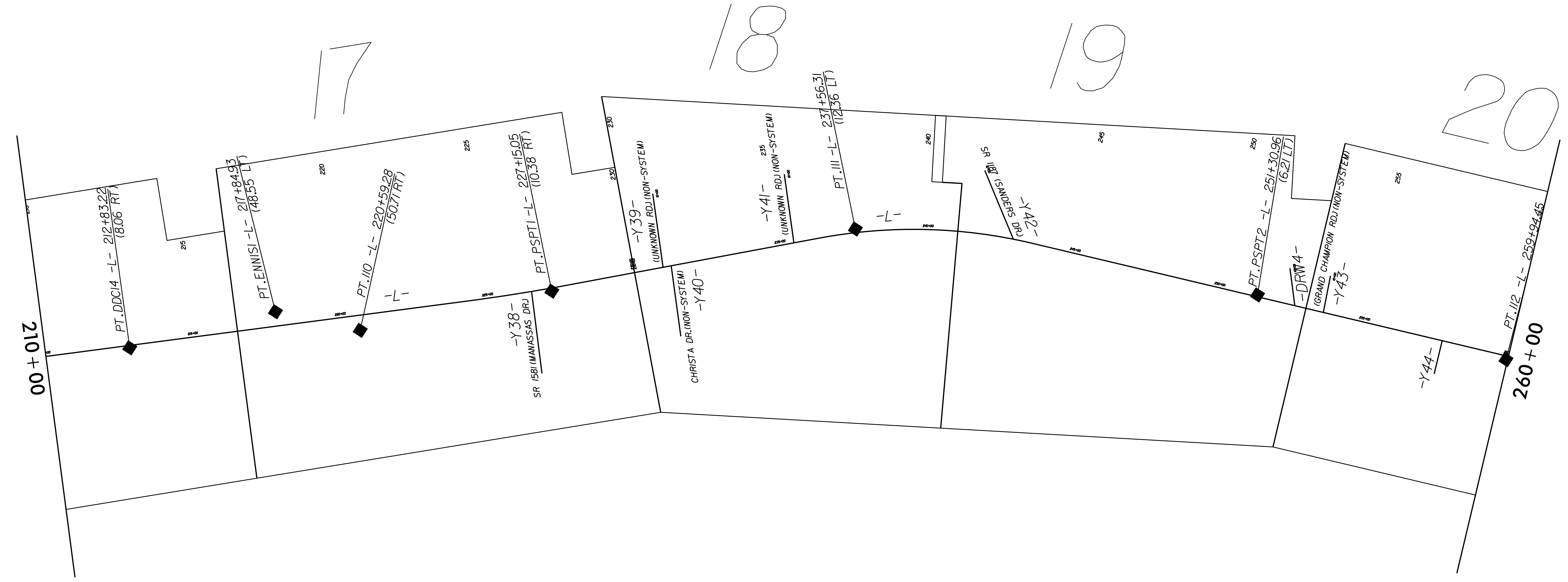
NAD 83/NSRS 2007

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
SURVEY CONTROL SHEET

8/17/99

REVISIONS

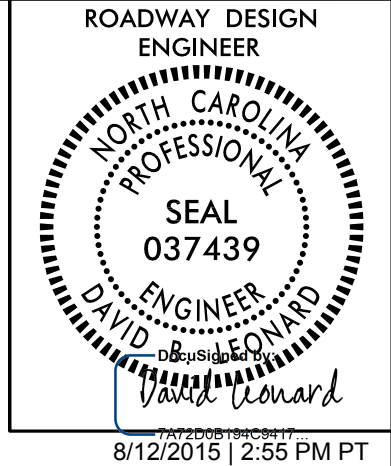
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\$\$\$\$\$SUSPENSE\$\$\$\$\$



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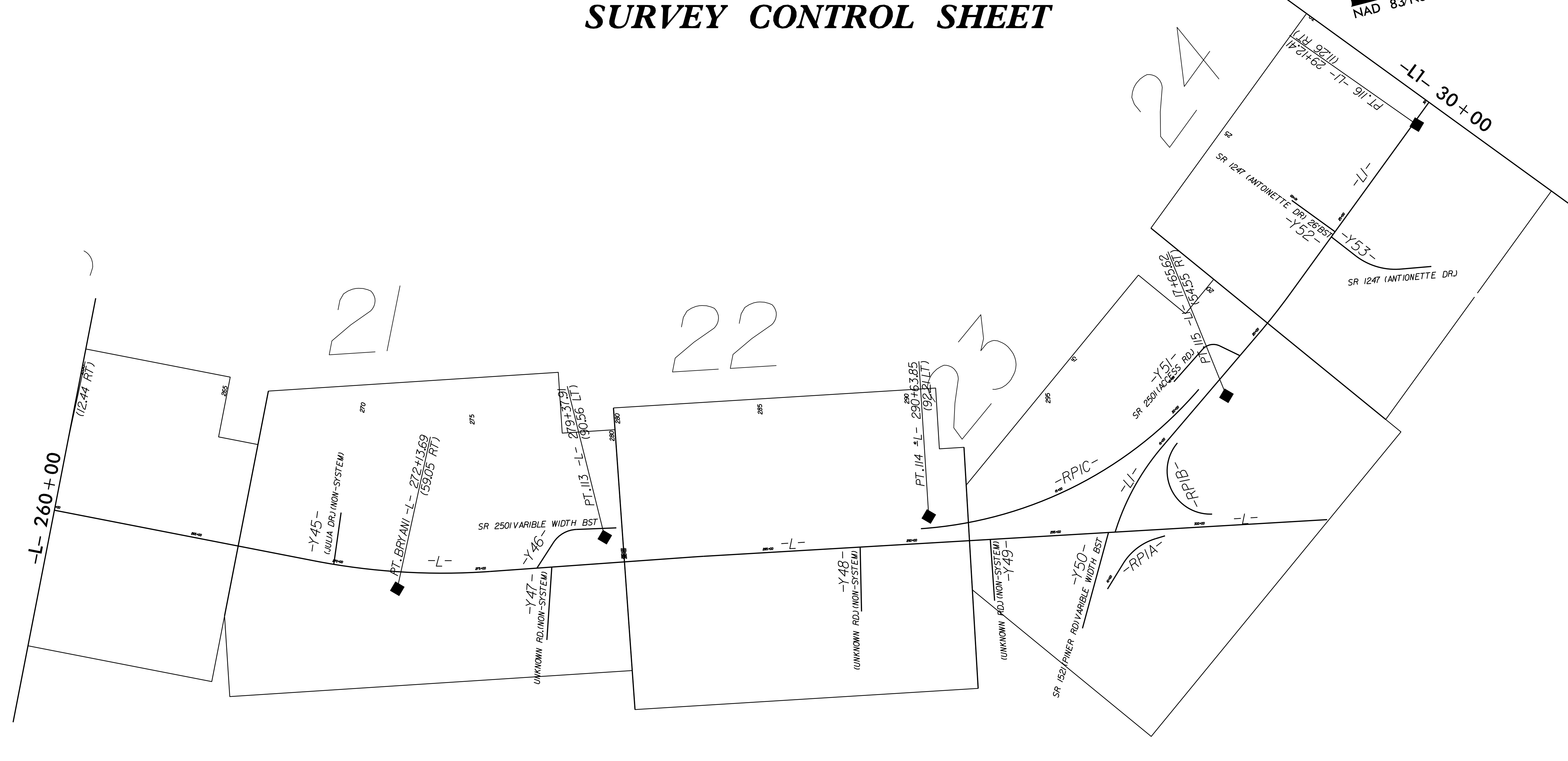
PT I10	: N 136526.65	: E 2332932.50	: Z 49.74
PT III	: N 138226.66	: E 2332949.22	: Z 39.20
PT II2	: N 140273.32	: E 2333839.35	: Z 35.54
PT DDC14	: N 135756.60	: E 2332827.09	: Z 47.35
PT ENNIS1	: N 136261.24	: E 2332811.34	: Z 49.23
PT PSPT1	: N 137184.42	: E 2332939.04	: Z 44.25
PT PSPT2	: N 139502.06	: E 2333450.61	: Z 34.34

NOT TO SCALE



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
SURVEY CONTROL SHEET

NAD 83/NSRS 2007

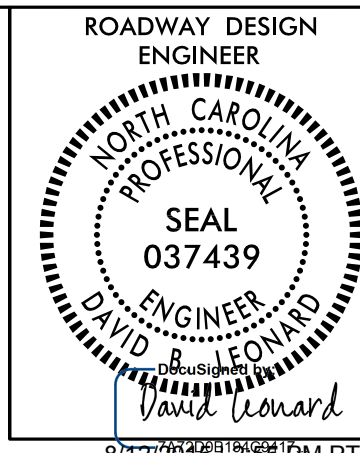


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 PT 114 : N 143217.10 : E 2334610.89 : Z 28.84
 PT 115 : N 144322.43 : E 2334463.53 : Z 23.83
 PT 116 : N 145197.84 : E 2333717.28 : Z 18.83
 PT BRYANI : N 141367.87 : E 2334392.17 : Z 38.04

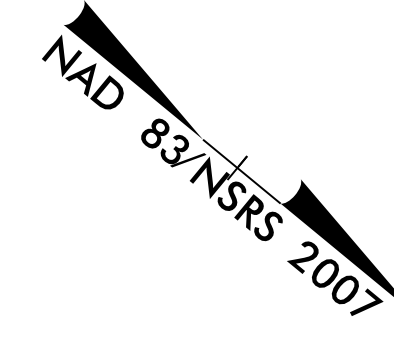
NOT TO SCALE

REVISIONS
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PROJECT REFERENCE NO. W-5103A	SHEET NO. 1C-7
RW SHEET NO.	

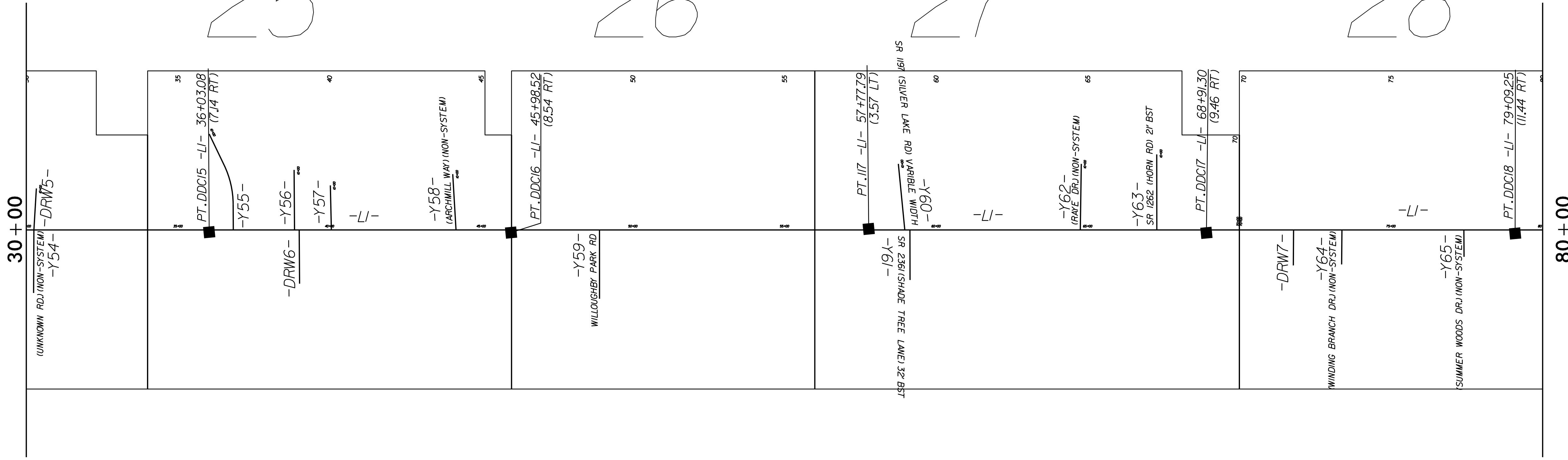


8/12/2016 2:58 PM PT



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
SURVEY CONTROL SHEET

25 26 27 28



CONTROL POINTS LIST (THIS SHEET):
 P1 N17 : N 147397.14 : E 2331880.52 : Z 18.39
 P1 DDC15 : N 145727.61 : E 2333274.13 : Z 21.03
 P1 DDC16 : N 146495.82 : E 2332641.09 : Z 19.90
 P1 DDC17 : N 148263.78 : E 2331181.24 : Z 21.30
 P1 DDC18 : N 149049.72 : E 2330534.30 : Z 21.75

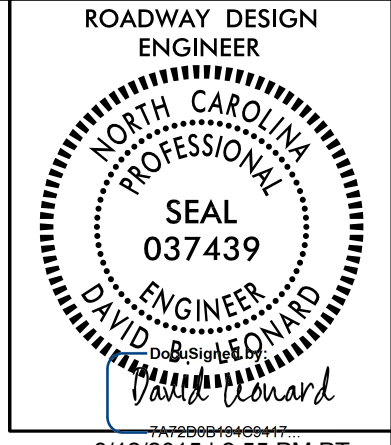
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REVISIONS

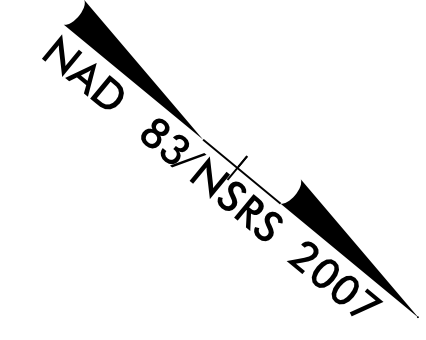
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 \$\$\$SUSTAINABLE\$\$\$

PROJECT REFERENCE NO. W-5103A	SHEET NO. 1C-8
RW SHEET NO.	



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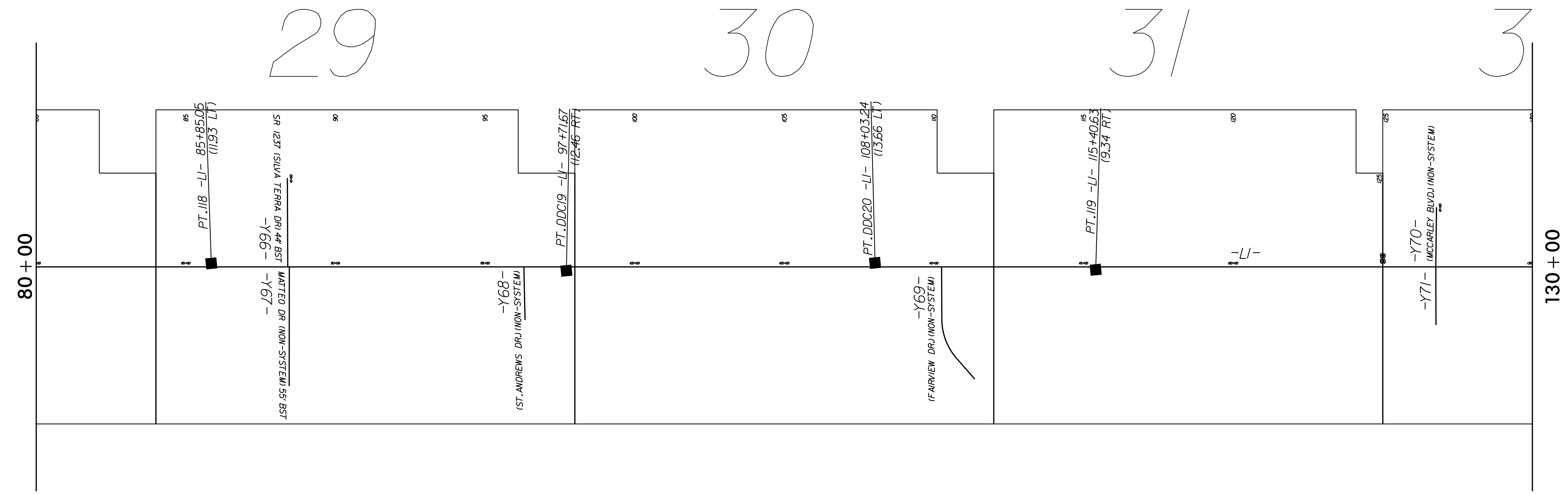


STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
SURVEY CONTROL SHEET

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REVISIONS

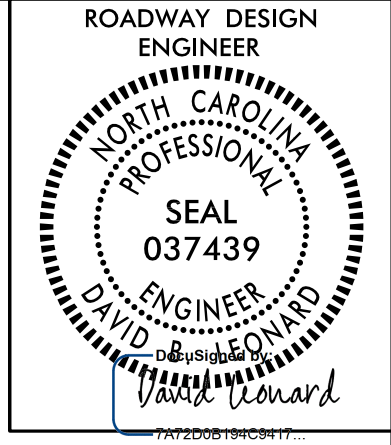
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\$\$\$\$\$SUSTAINABLE\$\$\$\$\$



CONTROL POINTS LIST (THIS SHEET):
 P1 118 : N 149555.77 : E 2330085.79 : Z 20.42
 P1 119 : N 151847.60 : E 2328219.39 : Z 18.15
 P1 DDC19 : N 150486.01 : E 2329348.68 : Z 10.40
 P1 DDC20 : N 151264.55 : E 2328671.40 : Z 18.00

NOT TO SCALE

PROJECT REFERENCE NO. W-5103A	SHEET NO. 1C-9
RW SHEET NO.	



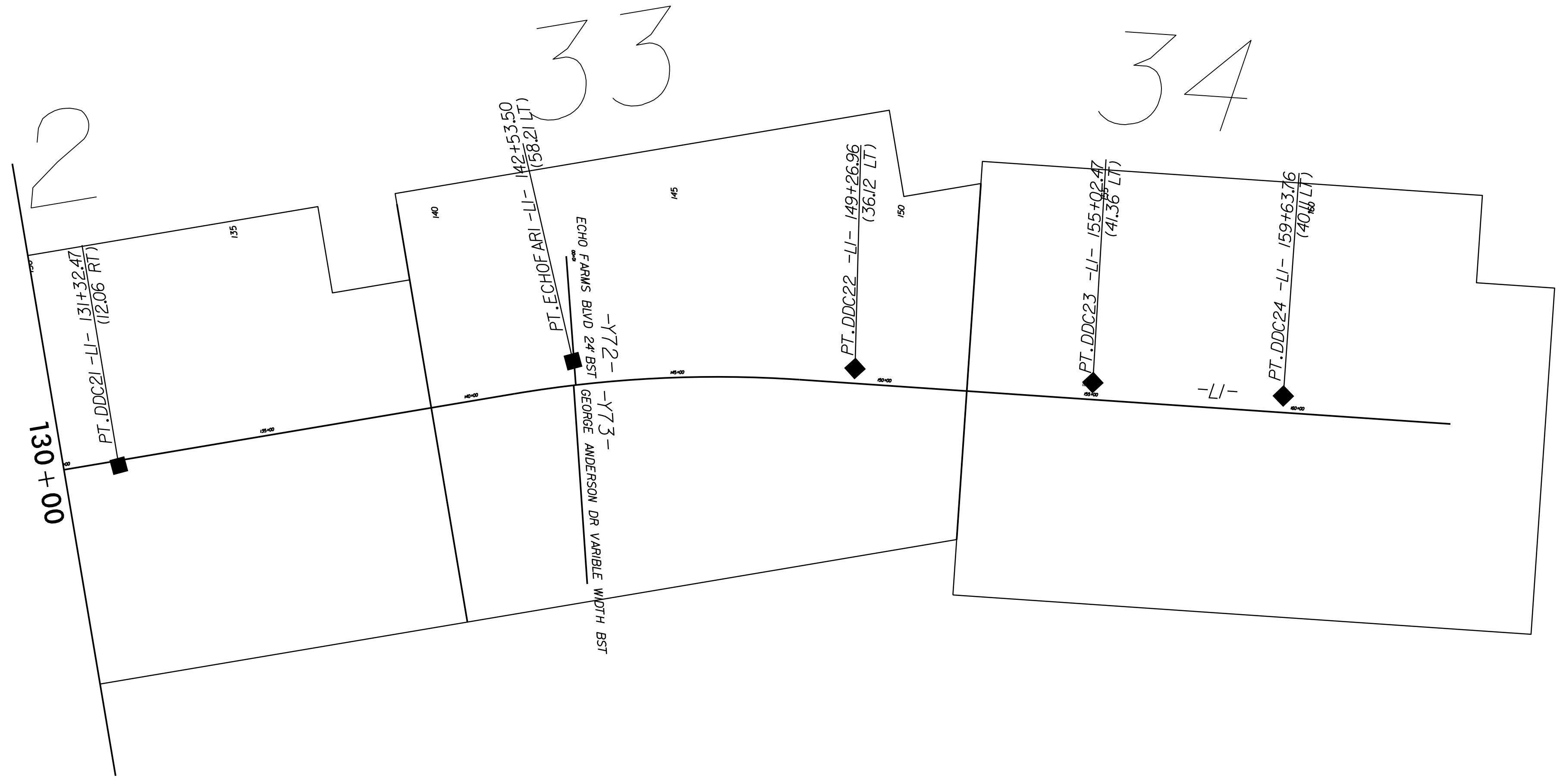
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DIVISION OF HIGHWAYS
SURVEY CONTROL SHEET

8/17/99

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CONTROL POINTS LIST (THIS SHEET):
 PT DDC21 : N 153076.39 : E 2327207.45 : Z 21.04
 PT DDC22 : N 154499.52 : E 2326115.02 : Z 26.25
 PT DDC23 : N 155014.04 : E 2325857.11 : Z 24.75
 PT DDC24 : N 155428.83 : E 2325655.29 : Z 27.63
 PT ECHOFARI : N 153900.48 : E 2326440.31 : Z 26.71

NOT TO SCALE



STATE OF NORTH CAROLINA
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ALIGNMENT DESCRIPTIONS

Chain L contains:
MEDIAN1 MEDIAN24 CUR MDC1 CUR MDC2 CUR MDC3 CUR MDC4
CUR MDC5 CUR MDC6 CUR MDC7 CUR MDC11 MEDIAN37

Beginning chain L description

Point MEDIAN1 N 115,814.3110 E 2,333,570.7048 Sta 10+00.00
Course from MEDIAN1 to MEDIAN24 N 13° 45' 45.05" E Dist 5,162.5886
Point MEDIAN24 N 120,828.6824 E 2,334,798.8746 Sta 61+62.59

Curve Data
Curve MDC1
P.I. Station = 65+18.53 N 121,744.4088 E 2,334,883.5533
Delta = 23° 55' 29.91" (LT)
Degree = 3° 24' 37.67"
Tangent = 355.9456
Length = 701.5169
Radius = 1,680.0000
External = 37.2936
Long Chord = 696.4313
Mid.Ord. = 36.4837
P.C. Station = 61+62.59 N 120,828.6824 E 2,334,798.8746
P.T. Station = 68+64.11 N 121,524.7700 E 2,334,820.7503
C.C. = N 121,228.3511 E 2,333,167.1072
Back = N 13° 45' 45.05" E
Ahead = N 10° 09' 44.85" W
Chord Bear = N 1° 48' 00.10" E

Course from PT MDC1 to PC MDC2 N 10° 09' 44.85" W Dist 5,513.3386

Curve Data
Curve MDC2
P.I. Station = 125+98.31 N 127,169.0120 E 2,333,809.0083
Delta = 6° 51' 35.92" (LT)
Degree = 1° 33' 17.42"
Tangent = 220.8649
Length = 441.2020
Radius = 3,685.0000
External = 6.6130
Long Chord = 440.9385
Mid.Ord. = 6.6011
P.C. Station = 123+77.44 N 126,951.6122 E 2,333,847.9777
P.T. Station = 128+18.65 N 127,380.2009 E 2,333,744.3510
C.C. = N 126,301.4313 E 2,330,220.7901
Back = N 10° 09' 44.85" W
Ahead = N 17° 01' 20.77" W
Chord Bear = N 13° 35' 32.81" W

Course from PT MDC2 to PC MDC3 N 17° 01' 20.77" W Dist 1,086.0928

Curve Data
Curve MDC3
P.I. Station = 141+62.08 N 128,664.7757 E 2,333,351.0669
Delta = 11° 28' 49.65" (RT)
Degree = 2° 14' 17.22"
Tangent = 257.3374
Length = 512.9518
Radius = 2,560.0000
External = 12.9016
Long Chord = 512.0941
Mid.Ord. = 12.8369
P.C. Station = 139+04.74 N 128,418.7122 E 2,333,426.4015
P.T. Station = 144+17.69 N 128,920.9103 E 2,333,326.2146
C.C. = N 129,168.1424 E 2,335,874.2484
Back = N 17° 01' 20.77" W
Ahead = N 5° 32' 31.12" W
Chord Bear = N 11° 16' 55.95" W

Course from PT MDC3 to PC MDC4 N 5° 32' 31.12" W Dist 5,667.9422

Curve Data
Curve MDC4
P.I. Station = 204+06.37 N 134,881.5919 E 2,332,747.8582
Delta = 10° 11' 26.83" (RT)
Degree = 1° 35' 34.36"
Tangent = 320.7322
Length = 639.7724
Radius = 3,597.0000
External = 14.2710
Long Chord = 638.9295
Mid.Ord. = 14.2146
P.C. Station = 200+85.63 N 134,562.3589 E 2,332,778.8329
P.T. Station = 207+25.41 N 135,201.2689 E 2,332,773.8529
C.C. = N 134,909.7392 E 2,336,359.0195
Back = N 5° 32' 31.12" W
Ahead = N 4° 38' 55.71" E
Chord Bear = N 0° 26' 47.71" W

Course from PT MDC4 to PC MDC5 N 4° 38' 55.71" E Dist 1,699.4451

Curve Data
Curve MDC5
P.I. Station = 226+01.34 N 137,071.0314 E 2,332,925.8936
Delta = 3° 06' 00.55" (LT)
Degree = 0° 52' 42.60"
Tangent = 176.4889
Length = 352.8916
Radius = 6,522.0000
External = 2.3875
Long Chord = 352.8485
Mid.Ord. = 2.3866
P.C. Station = 224+24.85 N 136,895.1232 E 2,332,911.5895
P.T. Station = 227+77.74 N 137,247.4558 E 2,332,930.6634
C.C. = N 137,423.7183 E 2,326,411.0456
Back = N 4° 38' 55.71" E
Ahead = N 1° 32' 55.16" E
Chord Bear = N 3° 05' 55.43" E

Course from PT MDC5 to PC MDC6 N 1° 32' 55.16" E Dist 855.2407

Curve Data
Curve MDC6
P.I. Station = 239+98.02 N 138,467.2861 E 2,332,963.6423
Delta = 23° 57' 51.03" (RT)
Degree = 3° 19' 52.14"
Tangent = 365.0353
Length = 719.3964
Radius = 1,720.0000
External = 38.3091
Long Chord = 714.1642
Mid.Ord. = 37.4744
P.C. Station = 236+32.98 N 138,102.3841 E 2,332,953.7770
P.T. Station = 243+52.38 N 138,796.7263 E 2,333,120.8679
C.C. = N 138,055.8997 E 2,334,673.1487
Back = N 1° 32' 55.16" E
Ahead = N 25° 30' 46.18" E
Chord Bear = N 13° 31' 50.67" E

Course from PT MDC6 to PC MDC7 N 25° 30' 46.18" E Dist 2,566.4600

Curve Data
Curve MDC7
P.I. Station = 272+27.21 N 141,391.2264 E 2,334,359.0941
Delta = 15° 06' 36.86" (LT)
Degree = 2° 27' 51.60"
Tangent = 308.3678
Length = 613.1570
Radius = 2,325.0000
External = 20.3605
Long Chord = 611.3816
Mid.Ord. = 20.1837
P.C. Station = 269+18.84 N 141,112.9279 E 2,334,226.2760
P.T. Station = 275+32.00 N 141,694.5257 E 2,334,414.7741
C.C. = N 142,114.3360 E 2,332,127.9894
Back = N 25° 30' 46.18" E
Ahead = N 10° 24' 09.32" E
Chord Bear = N 17° 57' 27.75" E

Course from PT MDC7 to PC MDC11 N 10° 24' 09.32" E Dist 702.6235

Curve Data
Curve MDC11
P.I. Station = 282+54.74 N 142,405.3903 E 2,334,545.2754
Delta = 0° 43' 13.83" (RT)
Degree = 1° 47' 25.78"
Tangent = 20.1207
Length = 40.2408
Radius = 3,200.0000
External = 0.0633
Long Chord = 40.2405
Mid.Ord. = 0.0633
P.C. Station = 282+34.62 N 142,385.6004 E 2,334,541.6423
P.T. Station = 282+74.86 N 142,425.1330 E 2,334,549.1570
C.C. = N 141,807.7968 E 2,337,689.0449
Back = N 10° 24' 09.32" E
Ahead = N 11° 07' 23.15" E
Chord Bear = N 10° 45' 46.24" E

Course from PT MDC11 to MEDIAN37 N 11° 07' 23.15" E Dist 2,168.8786

Point MEDIAN37 N 144,553.2692 E 2,334,967.5718 Sta 304+43.74

Ending chain L description

Chain LI contains:
MEDIAN25 CUR MDC8 CUR MDC9 CUR MDC10 MEDIAN32

Beginning chain LI description

Point MEDIAN25 N 143,759.9920 E 2,334,952.8031 Sta 10+00.00
Course from MEDIAN25 to PC MDC8 N 61° 49' 09.30" W Dist 95.0471

Curve Data
Curve MDC8
P.I. Station = 12+93.25 N 143,898.4824 E 2,334,694.3110
Delta = 26° 46' 06.57" (RT)
Degree = 6° 52' 41.68"
Tangent = 198.2066
Length = 389.1762
Radius = 833.0000
External = 23.2563
Long Chord = 385.6464
Mid.Ord. = 22.6246
P.C. Station = 10+95.05 N 143,804.8785 E 2,334,869.0226
P.T. Station = 14+84.22 N 144,060.7429 E 2,334,580.4806
C.C. = N 144,539.1364 E 2,335,262.4107
Back = N 61° 49' 09.30" W
Ahead = N 35° 03' 02.73" W
Chord Bear = N 48° 26' 06.02" W

Course from PT MDC8 to PC MDC9 N 35° 03' 02.73" W Dist 514.6672

Curve Data
Curve MDC9
P.I. Station = 20+89.65 N 144,556.3749 E 2,334,232.7806
Delta = 4° 31' 10.96" (LT)
Degree = 2° 29' 28.04"
Tangent = 90.7635
Length = 181.4328
Radius = 2,300.0000
External = 1.7902
Long Chord = 181.3858
Mid.Ord. = 1.7888
P.C. Station = 19+98.89 N 144,482.0719 E 2,334,284.9063
P.T. Station = 21+80.32 N 144,626.3392 E 2,334,174.9619
C.C. = N 143,161.775 E 2,332,402.0261
Back = N 35° 03' 02.73" W
Ahead = N 39° 34' 13.70" W
Chord Bear = N 37° 18' 38.21" W

Course from PT MDC9 to PC MDC10 N 39° 34' 13.70" W Dist 1,923.2492

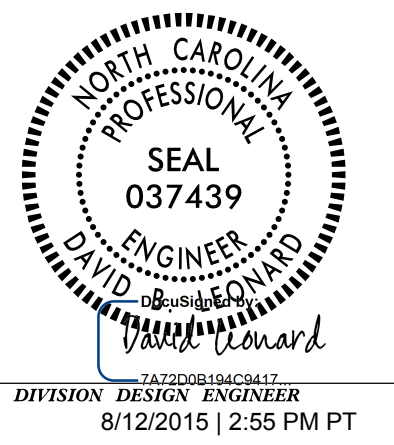
Curve Data
Curve MDC10
P.I. Station = 144+50.75 N 154,084.8915 E 2,326,358.3743
Delta = 13° 28' 09.40" (RT)
Degree = 1° 56' 55.81"
Tangent = 347.1727
Length = 691.1448
Radius = 2,940.0000
External = 20.4271
Long Chord = 689.5544
Mid.Ord. = 20.2862
P.C. Station = 141+03.57 N 153,817.2763 E 2,326,579.5326
P.T. Station = 147+94.72 N 154,396.6590 E 2,326,205.6329
C.C. = N 155,690.1351 E 2,328,845.8071
Back = N 39° 34' 13.70" W
Ahead = N 26° 06' 04.29" W
Chord Bear = N 32° 50' 08.99" W

Course from PT MDC10 to MEDIAN32 N 26° 06' 04.29" W Dist 1,576.4274

Point MEDIAN32 N 155,812.3198 E 2,325,512.0713 Sta 163+71.14

Ending chain LI description

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STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
ALIGNMENT DESCRIPTIONS

Chain Y1 contains:
1000 CUR Y1 C1 1002

Beginning chain Y1 description

Point 1000 N 115,507.2502 E 2,333,388.7400 Sta 10+00.00

Course from 1000 to PC Y1 C1 N 13° 43' 02.68" E Dist 880.0834

Curve Data
-----x-----

Curve Y1 C1
P.J. Station 19+35.13 N 116,415.7044 E 2,333,610.4897
Delta = 90° 02' 42.37" (RT)
Degree = 104° 10' 26.92"
Tangent = 55.0433
Length = 86.4371
Radius = 55.0000
External = 22.8124
Long Chord = 77.8124
Mid.Ord. = 16.1244
P.C. Station 18+80.08 N 116,362.2311 E 2,333,597.4371
P.T. Station 19+66.52 N 116,402.6097 E 2,333,663.9528
C.C. N 116,349.1887 E 2,333,650.8684
Back = N 13° 43' 02.68" E
Ahead = S 76° 14' 14.95" E
Chord Bear = N 58° 44' 23.87" E

Course from PT Y1 C1 to 1002 S 76° 14' 14.95" E Dist 49.3843

Point 1002 N 116,390.8613 E 2,333,711.9192 Sta 20+15.90

Ending chain Y1 description

Chain Y2 contains:
1003 1004

Beginning chain Y2 description

Point 1003 N 116,390.8613 E 2,333,711.9192 Sta 10+00.00

Course from 1003 to 1004 S 73° 18' 29.22" E Dist 708.6613

Point 1004 N 116,187.3161 E 2,334,390.7198 Sta 17+08.66

Ending chain Y2 description

Chain Y3 contains:
1005 1006

Beginning chain Y3 description

Point 1005 N 116,894.4639 E 2,333,447.2576 Sta 10+00.00

Course from 1005 to 1006 N 89° 35' 12.73" E Dist 388.7056

Point 1006 N 116,897.2667 E 2,333,835.9531 Sta 13+88.71

Ending chain Y3 description

Chain Y4 contains:
1007 1008

Beginning chain Y4 description

Point 1007 N 116,955.2414 E 2,333,850.1528 Sta 10+00.00

Course from 1007 to 1008 S 70° 26' 44.77" E Dist 225.7608

Point 1008 N 116,879.6795 E 2,334,062.8929 Sta 12+25.76

Ending chain Y4 description

Chain Y5 contains:
1010 1011

Beginning chain Y5 description

Point 1010 N 118,011.7133 E 2,333,652.6612 Sta 10+00.00

Course from 1010 to 1011 S 76° 17' 56.93" E Dist 443.6256

Point 1011 N 117,906.6394 E 2,334,083.6637 Sta 14+43.63

Ending chain Y5 description

Chain Y6 contains:
1012 1013

Beginning chain Y6 description

Point 1012 N 118,016.7216 E 2,334,110.4111 Sta 10+00.00

Course from 1012 to 1013 S 78° 19' 47.77" E Dist 247.8448

Point 1013 N 117,966.5887 E 2,334,352.8626 Sta 12+47.84

Ending chain Y6 description

Chain Y7 contains:
1014 1015

Beginning chain Y7 description

Point 1014 N 118,430.5016 E 2,334,072.7821 Sta 10+00.00

Course from 1014 to 1015 S 77° 47' 01.72" E Dist 134.7730

Point 1015 N 118,401.9835 E 2,334,204.5033 Sta 11+34.77

Ending chain Y7 description

Chain Y8 contains:
1016 1017

Beginning chain Y8 description

Point 1016 N 118,729.9707 E 2,334,284.8372 Sta 10+00.00

Course from 1016 to 1017 N 88° 43' 08.75" E Dist 344.2361

Point 1017 N 118,737.6658 E 2,334,628.9873 Sta 13+44.24

Ending chain Y8 description

Chain Y9 contains:
1018 1019

Beginning chain Y9 description

Point 1018 N 119,159.6207 E 2,334,049.8376 Sta 10+00.00

Course from 1018 to 1019 N 88° 18' 51.52" E Dist 342.8524

Point 1019 N 119,169.7063 E 2,334,392.5416 Sta 13+42.85

Ending chain Y9 description

Chain Y10 contains:
1020 1021

Beginning chain Y10 description

Point 1020 N 119,576.9566 E 2,334,492.2894 Sta 10+00.00

Course from 1020 to 1021 N 87° 48' 53.09" E Dist 287.2324

Point 1021 N 119,587.9089 E 2,334,779.3130 Sta 12+87.23

Ending chain Y10 description

Chain Y11 contains:
1022 1023

Beginning chain Y11 description

Point 1022 N 119,856.1059 E 2,334,385.3160 Sta 10+00.00

Course from 1022 to 1023 S 79° 11' 26.88" E Dist 170.5378

Point 1023 N 119,824.1234 E 2,334,552.8280 Sta 11+70.54

Ending chain Y11 description

Chain Y12 contains:
1024 1025

Beginning chain Y12 description

Point 1024 N 120,377.4581 E 2,334,556.3884 Sta 10+00.00

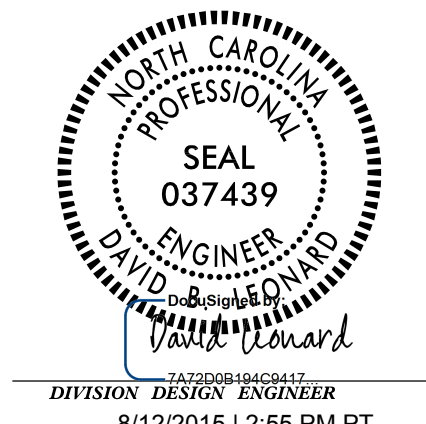
Course from 1024 to 1025 S 77° 45' 47.90" E Dist 128.2245

Point 1025 N 120,350.2809 E 2,334,681.6997 Sta 11+28.22

Ending chain Y12 description

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STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
ALIGNMENT DESCRIPTIONS



Chain Y13 contains:
1026 1027

Beginning chain Y13 description

Point 1026 N 120,708.6360 E 2,334,439.7321 Sta 10+00.00

Course from 1026 to 1027 N 88° 57' 05.03" E Dist 331.2799

Point 1027 N 120,714.6986 E 2,334,770.9565 Sta 13+31.28

Ending chain Y13 description

Chain Y14 contains:
1028 1029

Beginning chain Y14 description

Point 1028 N 120,708.6229 E 2,334,769.4684 Sta 10+00.00

Course from 1028 to 1029 N 87° 19' 54.36" E Dist 357.4025

Point 1029 N 120,725.2609 E 2,335,126.4834 Sta 13+57.40

Ending chain Y14 description

Chain Y15 contains:
1030 1031

Beginning chain Y15 description

Point 1030 N 121,024.5085 E 2,334,655.1990 Sta 10+00.00

Course from 1030 to 1031 S 70° 18' 54.22" E Dist 181.4863

Point 1031 N 120,963.3753 E 2,334,826.0791 Sta 11+81.49

Ending chain Y15 description

Chain Y16 contains:
1032 1033

Beginning chain Y16 description

Point 1032 N 121,614.6905 E 2,334,804.6319 Sta 10+00.00

Course from 1032 to 1033 S 88° 56' 30.19" E Dist 139.2646

Point 1033 N 121,612.1183 E 2,334,943.8728 Sta 11+39.26

Ending chain Y16 description

Chain Y16 contains:
1032 1033

Beginning chain Y16 description

Point 1032 N 121,614.6905 E 2,334,804.6319 Sta 10+00.00

Course from 1032 to 1033 S 88° 56' 30.19" E Dist 139.2646

Point 1033 N 121,612.1183 E 2,334,943.8728 Sta 11+39.26

Ending chain Y16 description

Chain Y17 contains:
1034 1035

Beginning chain Y17 description

Point 1034 N 122,200.8989 E 2,334,566.7649 Sta 10+00.00

Course from 1034 to 1035 N 78° 24' 45.56" E Dist 130.7452

Point 1035 N 122,227.1606 E 2,334,694.8454 Sta 11+30.75

Ending chain Y17 description

Chain Y18 contains:
1036 1037

Beginning chain Y18 description

Point 1036 N 122,957.1224 E 2,334,422.2711 Sta 10+00.00

Course from 1036 to 1037 N 75° 48' 19.37" E Dist 139.8498

Point 1037 N 122,991.4159 E 2,334,557.8511 Sta 11+39.85

Ending chain Y18 description

Chain Y19 contains:
1038 1039

Beginning chain Y19 description

Point 1038 N 123,419.3485 E 2,334,348.1441 Sta 10+00.00

Course from 1038 to 1039 N 87° 39' 56.26" E Dist 132.1440

Point 1039 N 123,424.7309 E 2,334,480.1784 Sta 11+32.14

Ending chain Y19 description

Chain Y20 contains:
1040 1041

Beginning chain Y20 description

Point 1040 N 123,993.9063 E 2,334,217.6163 Sta 10+00.00

Course from 1040 to 1041 N 81° 46' 27.06" E Dist 158.1080

Point 1041 N 124,016.5276 E 2,334,374.0977 Sta 11+58.11

Ending chain Y20 description

Chain Y21 contains:
1042 1043

Beginning chain Y21 description

Point 1042 N 124,293.2450 E 2,334,324.4955 Sta 10+00.00

Course from 1042 to 1043 N 83° 04' 44.67" E Dist 156.3903

Point 1043 N 124,312.0899 E 2,334,479.7463 Sta 11+56.39

Ending chain Y21 description

Chain Y22 contains:
1044 1045

Beginning chain Y22 description

Point 1044 N 124,605.5497 E 2,334,052.7107 Sta 10+00.00

Course from 1044 to 1045 N 87° 47' 28.95" E Dist 214.4812

Point 1045 N 124,613.8155 E 2,334,267.0326 Sta 12+14.48

Ending chain Y22 description

Chain Y23 contains:
1046 1047 1048

Beginning chain Y23 description

Point 1046 N 125,241.1771 E 2,334,154.5767 Sta 10+00.00

Course from 1046 to 1047 N 57° 03' 54.90" E Dist 126.0093

Point 1047 N 125,309.6863 E 2,334,260.3351 Sta 11+26.01

Course from 1047 to 1048 N 48° 55' 25.93" E Dist 186.1191

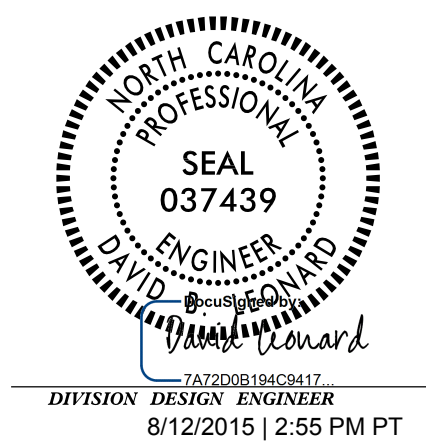
Point 1048 N 125,431.9780 E 2,334,400.6386 Sta 13+12.13

Ending chain Y23 description

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Chain Y24 contains:
1049 1050

Beginning chain Y24 description

```

Point 1049      N      125,921.9735 E      2,333,804.0422 Sta      10+00.00
Course from 1049 to 1050 N 83° 02' 05.72" E Dist 225.2662
Point 1050      N      125,949.2903 E      2,334,027.6460 Sta      12+25.27
  
```

Ending chain Y24 description

Chain Y25 contains:
1053 CUR Y25C1 1055

Beginning chain Y25 description

```

Point 1053      N      127,401.0971 E      2,333,514.0474 Sta      10+00.00
Course from 1053 to PC Y25C1 S 74° 09' 07.81" E Dist 55.8371
  
```

Curve Data

```

Curve Y25C1
P.I. Station    10+98.35 N      127,374.2395 E      2,333,608.6585
Delta          =      31° 38' 49.17" (LT)
Degree         =      38° 11' 49.87"
Tangent        =      42.5122
Length         =      82.8516
Radius         =      150.0000
External       =      5.9079
Long Chord     =      81.8024
Mid.Ord.       =      5.6841
P.C. Station    10+55.84 N      127,385.8489 E      2,333,567.7622
P.T. Station    11+38.69 N      127,385.8142 E      2,333,649.5646
C.C.           N      127,530.1475 E      2,333,608.7247
Back           = S 74° 09' 07.81" E
Ahead          = N 74° 12' 03.02" E
Chord Bear     = S 89° 58' 32.39" E
  
```

Course from PT Y25C1 to 1055 N 74° 12' 03.02" E Dist 89.0108

```

Point 1055      N      127,410.0488 E      2,333,735.2128 Sta      12+27.70
  
```

Ending chain Y25 description

Chain Y26 contains:
1056 1057

Beginning chain Y26 description

```

Point 1056      N      129,054.6304 E      2,333,053.4399 Sta      10+00.00
Course from 1056 to 1057 N 88° 38' 06.93" E Dist 259.2744
Point 1057      N      129,060.8056 E      2,333,312.6407 Sta      12+59.27
  
```

Ending chain Y26 description

Chain Y27 contains:
1058 1059

Beginning chain Y27 description

```

Point 1058      N      130,069.1703 E      2,333,214.8005 Sta      10+00.00
Course from 1058 to 1059 N 89° 05' 24.28" E Dist 233.0723
Point 1059      N      130,072.8716 E      2,333,447.8435 Sta      12+33.07
  
```

Ending chain Y27 description

Chain Y28 contains:
1060 1061

Beginning chain Y28 description

```

Point 1060      N      130,282.9876 E      2,333,194.0542 Sta      10+00.00
Course from 1060 to 1061 N 89° 11' 27.01" E Dist 306.9980
Point 1061      N      130,287.3230 E      2,333,501.0215 Sta      13+07.00
  
```

Ending chain Y28 description

Chain Y29 contains:
1062 1063

Beginning chain Y29 description

```

Point 1062      N      130,610.8813 E      2,332,778.5525 Sta      10+00.00
Course from 1062 to 1063 N 89° 09' 00.57" E Dist 383.1773
Point 1063      N      130,616.5646 E      2,333,161.6877 Sta      13+83.18
  
```

Ending chain Y29 description

Chain Y30 contains:
1066 1067

Beginning chain Y30 description

```

Point 1066      N      131,140.0227 E      2,332,800.8443 Sta      10+00.00
Course from 1066 to 1067 N 89° 03' 04.91" E Dist 309.5980
Point 1067      N      131,145.1484 E      2,333,110.3999 Sta      13+09.60
  
```

Ending chain Y30 description

Chain Y31 contains:
1071 1072

Beginning chain Y31 description

```

Point 1071      N      131,692.8811 E      2,333,057.2542 Sta      10+00.00
Course from 1071 to 1072 N 83° 21' 35.59" E Dist 262.0280
Point 1072      N      131,723.1801 E      2,333,317.5245 Sta      12+62.03
  
```

Ending chain Y31 description

Chain Y32 contains:
1075 1076

Beginning chain Y32 description

```

Point 1075      N      132,329.0382 E      2,332,763.1745 Sta      10+00.00
Course from 1075 to 1076 N 88° 38' 05.47" E Dist 231.8841
Point 1076      N      132,334.5626 E      2,332,994.9928 Sta      12+31.88
  
```

Ending chain Y32 description

Chain Y33 contains:
1077 1078

Beginning chain Y33 description

```

Point 1077      N      132,484.5135 E      2,332,980.4433 Sta      10+00.00
Course from 1077 to 1078 N 82° 48' 08.21" E Dist 97.9758
Point 1078      N      132,496.7893 E      2,333,077.6470 Sta      10+97.98
  
```

Ending chain Y33 description

Chain Y34 contains:
1079 1080

Beginning chain Y34 description

```

Point 1079      N      133,344.8194 E      2,332,600.2583 Sta      10+00.00
Course from 1079 to 1080 N 85° 33' 55.95" E Dist 295.3790
Point 1080      N      133,367.6577 E      2,332,894.7530 Sta      12+95.38
  
```

Ending chain Y34 description

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Chain Y35 contains:
1081 1082

Beginning chain Y35 description

Point 1081 N 133,794.6504 E 2,332,568.1586 Sta 10+00.00

Course from 1081 to 1082 N 82° 40' 01.75" E Dist 283.9697

Point 1082 N 133,830.8943 E 2,332,849.8059 Sta 12+83.97

Ending chain Y35 description

Chain Y36 contains:
1083 1084

Beginning chain Y36 description

Point 1083 N 134,024.9572 E 2,332,549.3583 Sta 10+00.00

Course from 1083 to 1084 N 84° 18' 58.57" E Dist 280.3024

Point 1084 N 134,052.7176 E 2,332,828.2827 Sta 12+80.30

Ending chain Y36 description

Chain Y37 contains:
1085 1086

Beginning chain Y37 description

Point 1085 N 134,903.1868 E 2,332,490.2716 Sta 10+00.00

Course from 1085 to 1086 N 84° 01' 11.12" E Dist 273.3020

Point 1086 N 134,931.6610 E 2,332,762.0863 Sta 12+73.30

Ending chain Y37 description

Chain Y38 contains:
1087 1088

Beginning chain Y38 description

Point 1087 N 137,117.6787 E 2,332,925.8613 Sta 10+00.00

Course from 1087 to 1088 S 85° 05' 59.14" E Dist 278.0927

Point 1088 N 137,093.9237 E 2,333,202.9376 Sta 12+78.09

Ending chain Y38 description

Chain Y39 contains:
1089 1090

Beginning chain Y39 description

Point 1089 N 137,585.2927 E 2,332,689.6295 Sta 10+00.00

Course from 1089 to 1090 S 85° 51' 10.48" E Dist 250.3335

Point 1090 N 137,567.1893 E 2,332,939.3076 Sta 12+50.33

Ending chain Y39 description

Chain Y40 contains:
1091 1092

Beginning chain Y40 description

Point 1091 N 137,594.9741 E 2,332,940.0588 Sta 10+00.00

Course from 1091 to 1092 S 85° 37' 28.09" E Dist 239.6142

Point 1092 N 137,576.6932 E 2,333,178.9746 Sta 12+39.61

Ending chain Y40 description

Chain Y41 contains:
1093 1094

Beginning chain Y41 description

Point 1093 N 138,031.6634 E 2,332,718.6357 Sta 10+00.00

Course from 1093 to 1094 S 85° 49' 56.49" E Dist 233.3879

Point 1094 N 138,014.7020 E 2,332,951.4064 Sta 12+33.39

Ending chain Y41 description

Chain Y42 contains:
1097 1098

Beginning chain Y42 description

Point 1097 N 138,693.5526 E 2,332,848.0604 Sta 10+00.00

Course from 1097 to 1098 N 79° 35' 33.26" E Dist 250.5990

Point 1098 N 138,738.8225 E 2,333,094.5365 Sta 12+50.60

Ending chain Y42 description

Chain Y43 contains:
1103 1104

Beginning chain Y43 description

Point 1103 N 139,755.5868 E 2,333,439.6733 Sta 10+00.00

Course from 1103 to 1104 S 66° 45' 33.64" E Dist 125.3740

Point 1104 N 139,706.1150 E 2,333,554.8740 Sta 11+25.37

Ending chain Y43 description

Chain Y44 contains:
1105 1106

Beginning chain Y44 description

Point 1105 N 140,077.0214 E 2,333,731.8892 Sta 10+00.00

Course from 1105 to 1106 S 64° 14' 45.29" E Dist 115.0979

Point 1106 N 140,027.0103 E 2,333,835.5541 Sta 11+15.10

Ending chain Y44 description

Chain Y45 contains:
1107 1108

Beginning chain Y45 description

Point 1107 N 141,245.2807 E 2,334,087.3887 Sta 10+00.00

Course from 1107 to 1108 S 67° 26' 41.39" E Dist 181.5683

Point 1108 N 141,175.6361 E 2,334,255.0689 Sta 11+81.57

Ending chain Y45 description

Chain Y46 contains:
1111 CUR Y46CI 1109

Beginning chain Y46 description

Point 1111 N 141,855.1696 E 2,334,444.2653 Sta 10+00.00

Course from 1111 to PC Y46CI N 42° 40' 10.58" W Dist 105.5550

Curve Data			

Curve Y46CI			
P.I. Station	11+57.52 N	141,970.9870 E	2,334,337.5056
Delta	=	54° 54' 49.32" (RT)	
Degree	=	57° 17' 44.81"	
Tangent	=	51.9610	
Length	=	95.8425	
Radius	=	100.0000	
External	=	12.6940	
Long Chord	=	92.2161	
Mid.Ord.	=	11.2642	
P.C. Station	11+05.56 N	141,932.7814 E	2,334,372.7233
P.T. Station	12+01.40 N	142,021.7661 E	2,334,348.5254
C.C.	N	142,000.5584 E	2,334,446.2507
Back	= N	42° 40' 10.58" W	
Ahead	= N	12° 14' 38.74" E	
Chord Bear	= N	15° 12' 45.92" W	

Course from PT Y46CI to 1109 N 12° 14' 38.74" E Dist 138.4304

Point 1109 N 142,157.0476 E 2,334,377.8833 Sta 13+39.83

Ending chain Y46 description

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Chain Y47 contains:
1112 1113

Beginning chain Y47 description

Point 1112 N 141,906.1388 E 2,334,453.6222 Sta 10+00.00

Course from 1112 to 1113 S 71° 38' 17.20" E Dist 253.5882

Point 1113 N 141,826.2540 E 2,334,694.2992 Sta 12+53.59

Ending chain Y47 description

Chain Y48 contains:
1114 1115

Beginning chain Y48 description

Point 1114 N 142,959.8862 E 2,334,654.2953 Sta 10+00.00

Course from 1114 to 1115 S 76° 44' 32.23" E Dist 223.5770

Point 1115 N 142,908.6130 E 2,334,871.9136 Sta 12+23.58

Ending chain Y48 description

Chain Y49 contains:
1116 1117

Beginning chain Y49 description

Point 1116 N 143,403.9909 E 2,334,741.6111 Sta 10+00.00

Course from 1116 to 1117 S 79° 31' 24.52" E Dist 213.1655

Point 1117 N 143,365.2305 E 2,334,951.2230 Sta 12+13.17

Ending chain Y49 description

Chain Y50 contains:
1154 1155

Beginning chain Y50 description

Point 1154 N 143,807.3002 E 2,334,820.9061 Sta 10+00.00

Course from 1154 to 1155 S 60° 18' 29.76" E Dist 344.8697

Point 1155 N 143,636.4748 E 2,335,120.4954 Sta 13+44.87

Ending chain Y50 description

Chain Y51 contains:
1127 CUR Y51C1 1129

Beginning chain Y51 description

Point 1127 N 144,158.2269 E 2,334,370.8409 Sta 10+00.00

Course from 1127 to PC Y51C1 N 34° 02' 05.76" W Dist 150.3265

Curve Data

Curve Y51C1
P.I. Station 11+88.26 N 144,314.2344 E 2,334,265.4741
Delta = 74° 22' 04.37" (RT)
Degree = 114° 35' 29.61"
Tangent = 37.9300
Length = 64.8982
Radius = 50.0000
External = 12.7589
Long Chord = 60.4376
Mid.Ord. = 10.1650
P.C. Station 11+50.33 N 144,282.8019 E 2,334,286.7034
P.T. Station 12+15.22 N 144,343.1483 E 2,334,290.0235
C.C. N 144,310.7869 E 2,334,328.1383
Back = N 34° 02' 05.76" W
Ahead = N 40° 19' 58.61" E
Chord Bear = N 3° 08' 56.42" E

Course from PT Y51C1 to 1129 N 40° 19' 58.61" E Dist 78.1233

Point 1129 N 144,402.7013 E 2,334,340.5870 Sta 12+93.35

Ending chain Y51 description

Chain Y52 contains:
1130 1131

Beginning chain Y52 description

Point 1130 N 144,711.7273 E 2,333,863.4922 Sta 10+00.00

Course from 1130 to 1131 N 50° 25' 13.35" E Dist 185.6993

Point 1131 N 144,830.0456 E 2,334,006.6180 Sta 11+85.70

Ending chain Y52 description

Chain Y53 contains:
1132 CUR Y53C1 1134

Beginning chain Y53 description

Point 1132 N 144,813.0622 E 2,334,020.6532 Sta 10+00.00

Course from 1132 to PC Y53C1 N 52° 21' 29.07" E Dist 106.2450

Curve Data

Curve Y53C1
P.I. Station 11+94.39 N 144,931.7828 E 2,334,174.5818
Delta = 42° 47' 14.62" (LT)
Degree = 25° 27' 53.25"
Tangent = 88.1480
Length = 168.0257
Radius = 225.0000
External = 16.6507
Long Chord = 164.1485
Mid.Ord. = 15.5034
P.C. Station 11+06.24 N 144,877.9486 E 2,334,104.7825
P.T. Station 12+74.27 N 145,018.7038 E 2,334,189.2377
C.C. N 145,056.1133 E 2,333,967.3694
Back = N 52° 21' 29.07" E
Ahead = N 9° 34' 14.45" E
Chord Bear = N 30° 57' 51.76" E

Course from PT Y53C1 to 1134 N 9° 34' 14.45" E Dist 106.2048

Point 1134 N 145,123.4304 E 2,334,206.8957 Sta 13+80.48

Ending chain Y53 description

Chain Y54 contains:
1137 1138

Beginning chain Y54 description

Point 1137 N 145,277.4907 E 2,333,636.8475 Sta 10+00.00

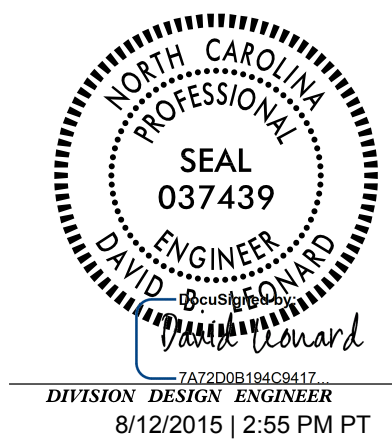
Course from 1137 to 1138 N 50° 42' 04.37" E Dist 208.0012

Point 1138 N 145,409.2312 E 2,333,797.8100 Sta 12+08.00

Ending chain Y54 description

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Chain Y55 contains:
1139 CUR Y55CI 1141

Beginning chain Y55 description
=====

Point 1139 N 145,521.3042 E 2,333,024.5504 Sta 10+00.00

Course from 1139 to PC Y55CI N 24° 48' 36.42" E Dist 114.4932

Curve Data

Curve Y55CI
P.I. Station 11+81.74 N 145,686.2704 E 2,333,100.8108
Delta = 25° 16' 07.53" (RT)
Degree = 19° 05' 54.94"
Tangent = 67.2470
Length = 132.3069
Radius = 300.0000
External = 7.4446
Long Chord = 131.2373
Mid. Ord. = 7.2643
P.C. Station 11+14.49 N 145,625.2300 E 2,333,072.5932
P.T. Station 12+46.80 N 145,729.4249 E 2,333,152.3844
C.C. = N 145,499.3463 E 2,333,344.9042
Back = N 24° 48' 36.42" E
Ahead = N 50° 04' 43.95" E
Chord Bear = N 37° 26' 40.19" E

Course from PT Y55CI to 1141 N 50° 04' 43.95" E Dist 85.5517

Point 1141 N 145,784.3262 E 2,333,217.9965 Sta 13+32.35

Ending chain Y55 description
=====

Chain Y56 contains:
1142 1143

Beginning chain Y56 description
=====

Point 1142 N 145,812.6141 E 2,332,937.5318 Sta 10+00.00

Course from 1142 to 1143 N 50° 01' 32.23" E Dist 198.1786

Point 1143 N 145,939.9330 E 2,333,089.4024 Sta 11+98.18

Ending chain Y56 description
=====

Chain Y57 contains:
1176 1177

Beginning chain Y57 description
=====

Point 1176 N 145,937.3496 E 2,332,900.8364 Sta 10+00.00

Course from 1176 to 1177 N 49° 07' 08.55" E Dist 147.0387

Point 1177 N 146,033.5849 E 2,333,012.0080 Sta 11+47.04

Ending chain Y57 description
=====

Chain Y58 contains:
1146 1147

Beginning chain Y58 description
=====

Point 1146 N 146,224.7185 E 2,332,615.0568 Sta 10+00.00

Course from 1146 to 1147 N 47° 04' 30.06" E Dist 184.5455

Point 1147 N 146,350.4014 E 2,332,750.1895 Sta 11+84.55

Ending chain Y58 description
=====

Chain Y59 contains:
1148 1149

Beginning chain Y59 description
=====

Point 1148 N 146,715.1031 E 2,332,448.7985 Sta 10+00.00

Course from 1148 to 1149 N 50° 24' 05.61" E Dist 227.0542

Point 1149 N 146,859.8282 E 2,332,623.7507 Sta 12+27.05

Ending chain Y59 description
=====

Chain Y60 contains:
1150 1151

Beginning chain Y60 description
=====

Point 1150 N 147,335.8391 E 2,331,652.9850 Sta 10+00.00

Course from 1150 to 1151 N 44° 51' 38.11" E Dist 219.0546

Point 1151 N 147,491.1105 E 2,331,807.5027 Sta 12+19.05

Ending chain Y60 description
=====

Chain Y61 contains:
1152 1153

Beginning chain Y61 description
=====

Point 1152 N 147,504.1443 E 2,331,796.7316 Sta 10+00.00

Course from 1152 to 1153 N 50° 18' 17.15" E Dist 165.1845

Point 1153 N 147,609.6483 E 2,331,923.8333 Sta 11+65.18

Ending chain Y61 description
=====

Chain Y62 contains:
1178 1179

Beginning chain Y62 description
=====

Point 1178 N 147,800.9227 E 2,331,268.7983 Sta 10+00.00

Course from 1178 to 1179 N 51° 17' 28.23" E Dist 217.9218

Point 1179 N 147,937.2029 E 2,331,438.8501 Sta 12+17.92

Ending chain Y62 description
=====

Chain Y63 contains:
1156 1157

Beginning chain Y63 description
=====

Point 1156 N 147,972.6600 E 2,331,086.1186 Sta 10+00.00

Course from 1156 to 1157 N 50° 22' 06.90" E Dist 249.3132

Point 1157 N 148,131.6835 E 2,331,278.1305 Sta 12+49.31

Ending chain Y63 description
=====

Chain Y64 contains:
1182 1183

Beginning chain Y64 description
=====

Point 1182 N 148,602.2363 E 2,330,889.2637 Sta 10+00.00

Course from 1182 to 1183 N 50° 56' 23.38" E Dist 113.8055

Point 1183 N 148,673.9492 E 2,330,977.6319 Sta 11+13.81

Ending chain Y64 description
=====

Chain Y65 contains:
1174 1175

Beginning chain Y65 description
=====

Point 1174 N 148,912.1667 E 2,330,633.1359 Sta 10+00.00

Course from 1174 to 1175 N 50° 04' 42.10" E Dist 88.6954

Point 1175 N 148,969.0860 E 2,330,701.1583 Sta 10+88.70

Ending chain Y65 description
=====

Chain Y66 contains:
1158 1159

Beginning chain Y66 description
=====

Point 1158 N 149,570.1394 E 2,329,704.1444 Sta 10+00.00

Course from 1158 to 1159 N 50° 10' 45.36" E Dist 296.9619

Point 1159 N 149,760.3101 E 2,329,932.2266 Sta 12+96.96

Ending chain Y66 description
=====

Chain Y67 contains:
1160 1161

Beginning chain Y67 description
=====

Point 1160 N 149,764.3358 E 2,329,928.8997 Sta 10+00.00

Course from 1160 to 1161 N 50° 29' 16.75" E Dist 398.6291

Point 1161 N 150,017.9596 E 2,330,236.4386 Sta 13+98.63

Ending chain Y67 description
=====

Chain Y68 contains:
1162 1163

Beginning chain Y68 description
=====

Point 1162 N 150,368.6240 E 2,329,429.5134 Sta 10+00.00

Course from 1162 to 1163 N 49° 11' 52.10" E Dist 177.4449

Point 1163 N 150,484.5753 E 2,329,563.8339 Sta 11+77.44

Ending chain Y68 description
=====

Chain Y69 contains:
1164 CUR Y69CI 1187

Beginning chain Y69 description
=====

Point 1164 N 151,444.6500 E 2,328,540.2810 Sta 10+00.00

Course from 1164 to PC Y69CI N 50° 09' 19.62" E Dist 175.3007

Curve Data

Curve Y69CI
P.I. Station 12+50.10 N 151,604.8889 E 2,328,732.3018
Delta = 41° 00' 35.04" (LT)
Degree = 28° 38' 52.40"
Tangent = 74.7963
Length = 143.1510
Radius = 200.0000
External = 13.5287
Long Chord = 140.1148
Mid. Ord. = 12.6715
P.C. Station 11+75.30 N 151,556.9664 E 2,328,674.8743
P.T. Station 13+18.45 N 151,678.7343 E 2,328,744.1904
C.C. = N 151,710.5235 E 2,328,546.7329
Back = N 50° 09' 19.62" E
Ahead = N 9° 08' 44.58" E
Chord Bear = N 29° 39' 02.10" E

Course from PT Y69CI to 1187 N 9° 08' 44.58" E Dist 91.4417

Point 1187 N 151,769.0136 E 2,328,758.7247 Sta 14+09.89

Ending chain Y69 description
=====

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STATE OF NORTH CAROLINA
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Chain Y70 contains:
1166 1167

Beginning chain Y70 description

Point 1166 N 152,592.4626 E 2,327,332.8475 Sta 10+00.00
Course from 1166 to 1167 N 51° 05' 26.65" E Dist 199.5659
Point 1167 N 152,717.8078 E 2,327,488.1380 Sta 11+99.57

Ending chain Y70 description

Chain Y71 contains:
1168 1169

Beginning chain Y71 description

Point 1168 N 152,717.8078 E 2,327,488.1380 Sta 10+00.00
Course from 1168 to 1169 N 50° 15' 23.59" E Dist 194.1519
Point 1169 N 152,841.9390 E 2,327,637.4243 Sta 11+94.15

Ending chain Y71 description

Chain Y72 contains:
1170 1171

Beginning chain Y72 description

Point 1170 N 153,759.6573 E 2,326,228.9308 Sta 10+00.00
Course from 1170 to 1171 N 55° 45' 46.76" E Dist 312.1393
Point 1171 N 153,935.2724 E 2,326,486.9818 Sta 13+12.14

Ending chain Y72 description

Chain Y73 contains:
1172 1173

Beginning chain Y73 description

Point 1172 N 153,931.1019 E 2,326,490.0902 Sta 10+00.00
Course from 1172 to 1173 N 56° 05' 20.69" E Dist 481.2533
Point 1173 N 154,199.5946 E 2,326,889.4851 Sta 14+81.25

Ending chain Y73 description

Chain DRW1 contains:
1051 1052

Beginning chain DRW1 description

Point 1051 N 126,668.5224 E 2,333,794.9777 Sta 10+00.00
Course from 1051 to 1052 N 78° 27' 31.25" E Dist 102.1464
Point 1052 N 126,688.9593 E 2,333,895.0588 Sta 11+02.15

Ending chain DRW1 description

Chain DRW2 contains:
1064 1065

Beginning chain DRW2 description

Point 1064 N 130,629.7180 E 2,333,160.4114 Sta 10+00.00
Course from 1064 to 1065 N 85° 08' 32.58" E Dist 176.8628
Point 1065 N 130,644.6947 E 2,333,336.6389 Sta 11+76.86

Ending chain DRW2 description

Chain DRW3 contains:
1069 1070

Beginning chain DRW3 description

Point 1069 N 131,667.8132 E 2,332,841.9188 Sta 10+00.00
Course from 1069 to 1070 N 83° 21' 35.59" E Dist 216.7897
Point 1070 N 131,692.8811 E 2,333,057.2542 Sta 12+16.79

Ending chain DRW3 description

Chain DRW4 contains:
1101 1102

Beginning chain DRW4 description

Point 1101 N 139,627.6684 E 2,333,385.9582 Sta 10+00.00
Course from 1101 to 1102 S 85° 17' 04.37" E Dist 126.9270
Point 1102 N 139,617.2341 E 2,333,512.4555 Sta 11+26.93

Ending chain DRW4 description

Chain DRW5 contains:
1135 1136

Beginning chain DRW5 description

Point 1135 N 145,196.4918 E 2,333,526.0710 Sta 10+00.00
Course from 1135 to 1136 N 53° 49' 33.73" E Dist 137.2307
Point 1136 N 145,277.4907 E 2,333,636.8475 Sta 11+37.23

Ending chain DRW5 description

Chain DRW6 contains:
1144 1145

Beginning chain DRW6 description

Point 1144 N 145,951.8018 E 2,333,079.5939 Sta 10+00.00
Course from 1144 to 1145 N 50° 01' 32.23" E Dist 177.2918
Point 1145 N 146,065.7021 E 2,333,215.4583 Sta 11+77.29

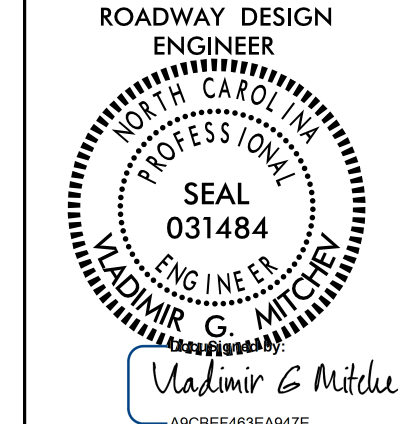
Ending chain DRW6 description

Chain DRW7 contains:
1180 1181

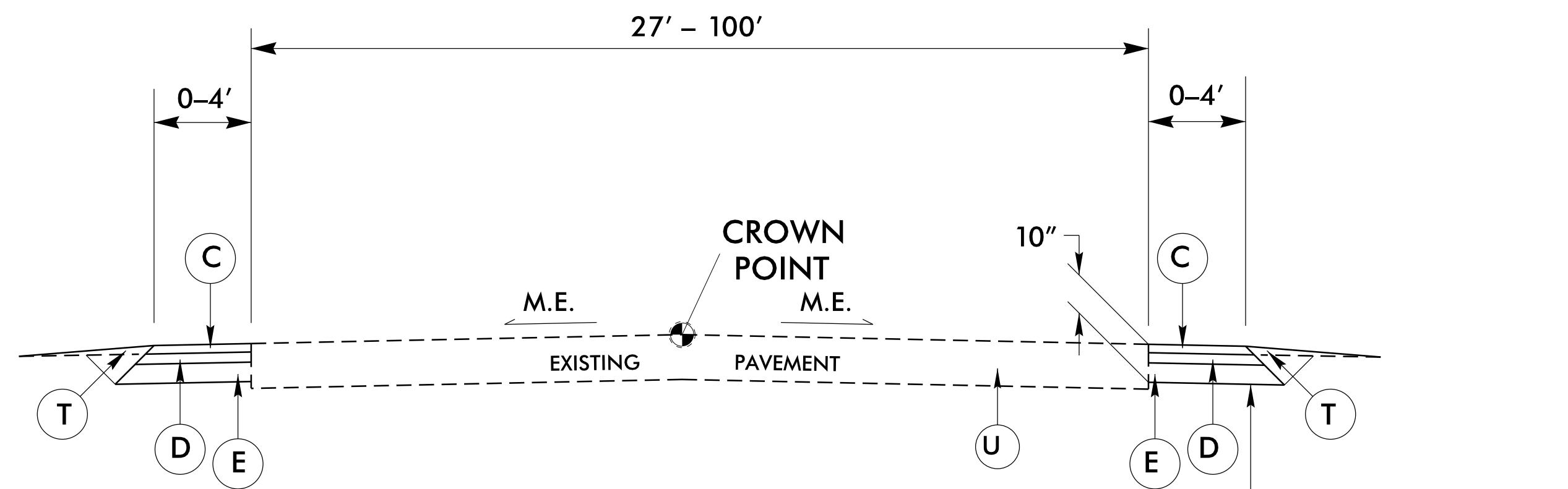
Beginning chain DRW7 description

Point 1180 N 148,479.2997 E 2,330,990.8590 Sta 10+00.00
Course from 1180 to 1181 N 50° 50' 08.30" E Dist 116.9792
Point 1181 N 148,553.1776 E 2,331,081.5574 Sta 11+16.98

Ending chain DRW7 description



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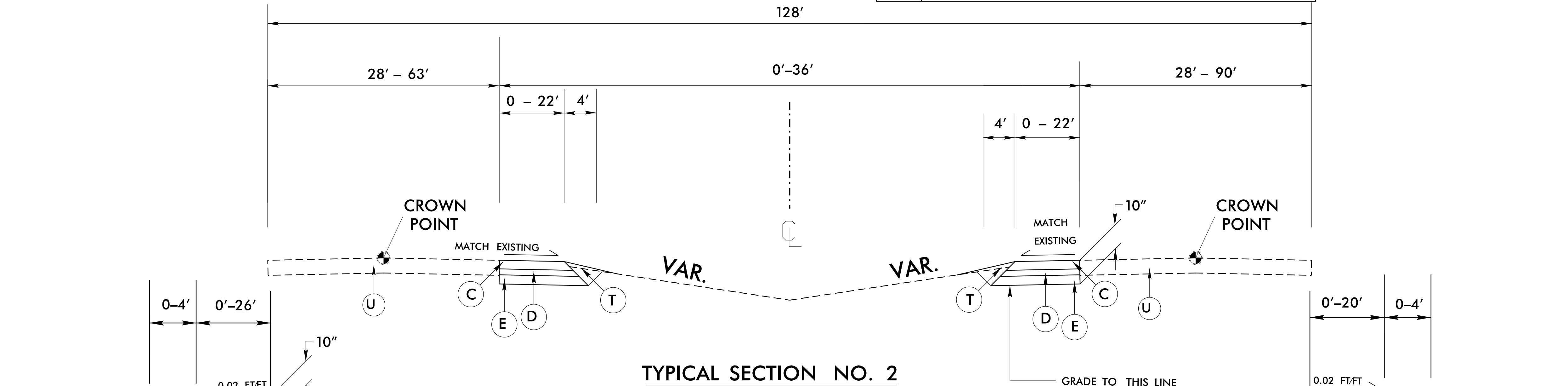


TYPICAL SECTION NO. 1

-Y1- STA. 17+70.40 TO 19+45.99
-L- STA. 16+14.50 TO 17+72.79

PAVEMENT SCHEDULE		R3	EXISTING CONCRETE ISLAND
C	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.	R4	EXISTING 1'-6" CONCRETE CURB AND GUTTER.
C1	PROP. APPROX. 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.	R5	EXISTING 2'-6" CONCRETE CURB AND GUTTER.
D	PROP. APPROX. 2 1/2" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.	R6	4" CONCRETE ISLAND COVER.
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	T	EARTH MATERIAL.
E	PROP. APPROX. 4 1/2" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 513 LBS. PER SQ. YD.	U	EXISTING PAVEMENT.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	V	1 1/2" FINE MILLING
R	5" MONOLITHIC CONCRETE ISLAND (SURFACED MOUNTED)	V1	4" MILLING
R1	2'-6" CONCRETE CURB AND GUTTER.	V2	1 1/2" TO 4" MILLING
R2	EXPRESSWAY GUTTER		

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

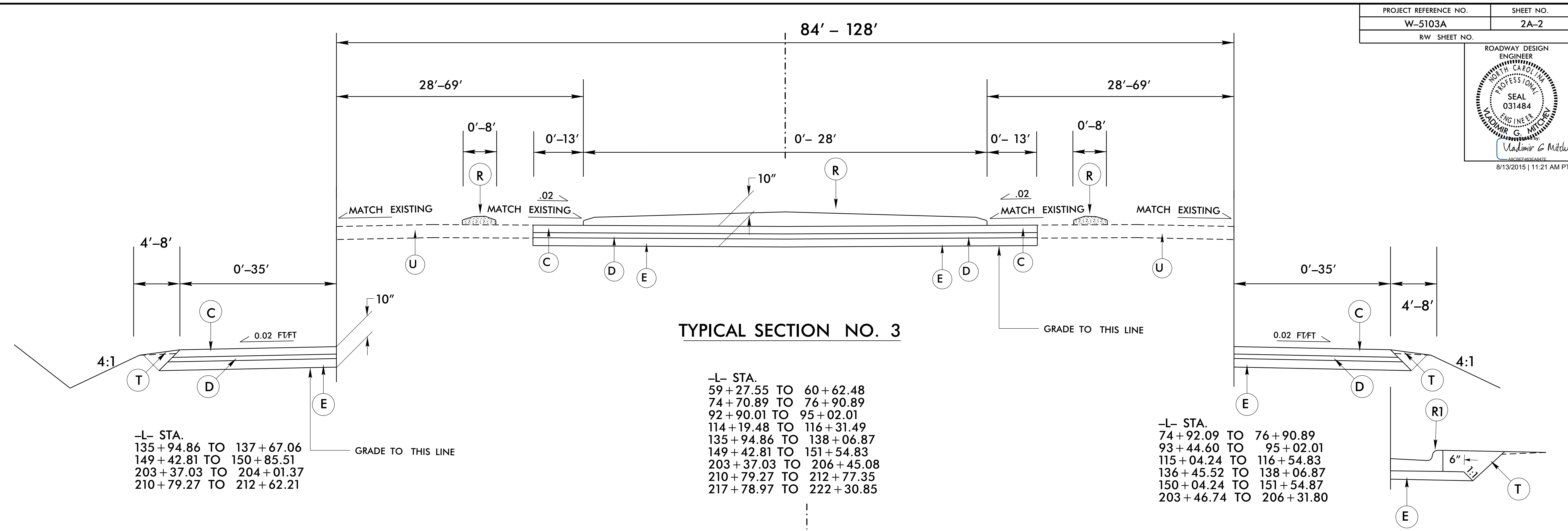
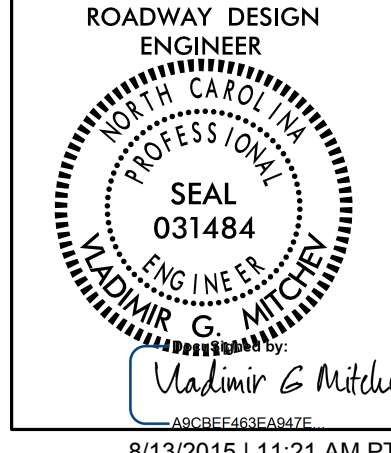


TYPICAL SECTION NO. 2

-L- STA.
135+12.17 TO 135+94.82
148+05.69 TO 149+42.75
202+78.47 TO 203+36.62

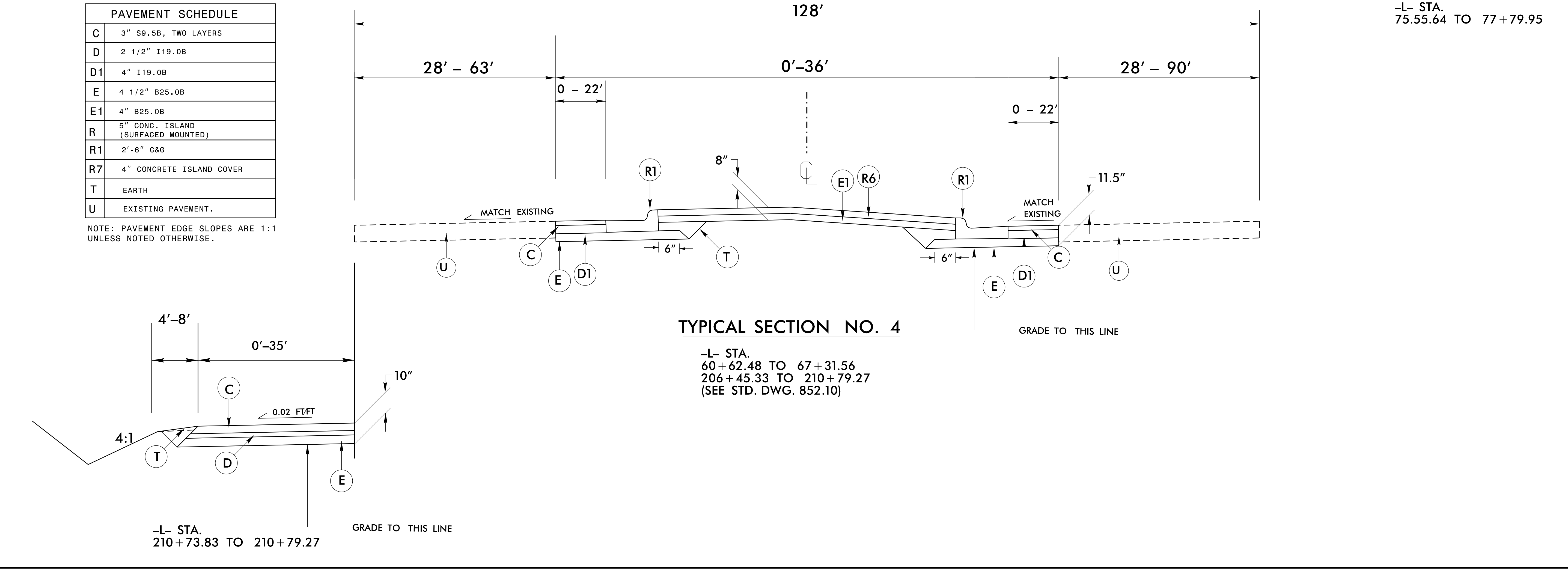
-L- STA.
53+05.85 TO 59+27.55
68+47.72 TO 74+70.89
76+90.89 TO 85+61.29
86+76.17 TO 92+90.01
95+02.01 TO 101+15.12
108+05.21 TO 114+19.48
116+31.49 TO 122+45.45
129+82.54 TO 135+94.86
138+06.87 TO 149+42.81
151+54.83 TO 157+67.90
197+18.18 TO 203+37.03
212+77.35 TO 213+73.40
215+86.90 TO 217+79.00
222+30.85 TO 225+08.15

-L- STA.
76+90.89 TO 78+03.58
95+02.01 TO 96+35.25
116+31.49 TO 117+28.30
138+06.87 TO 138+84.40
151+54.83 TO 155+46.20

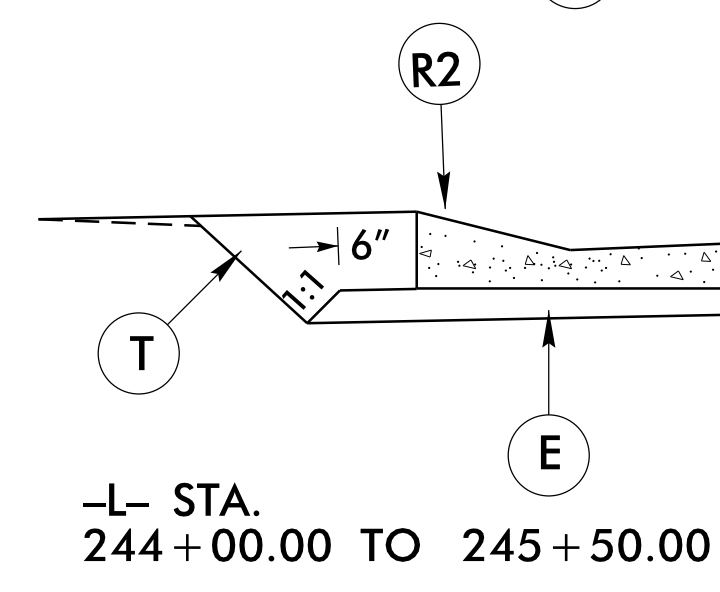
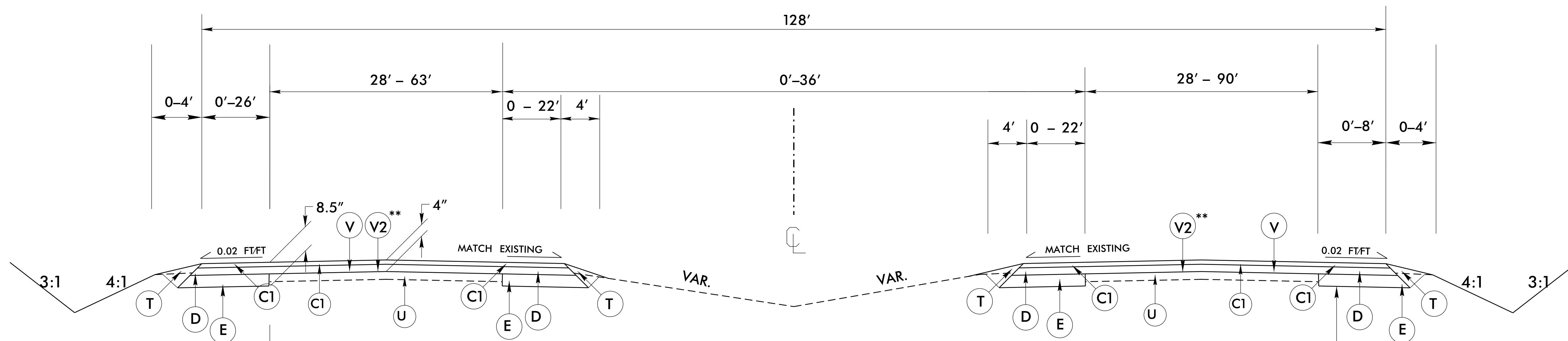
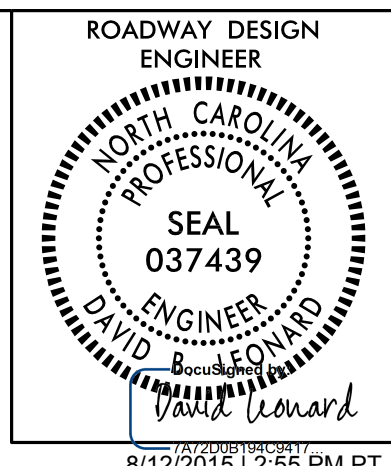


PAVEMENT SCHEDULE	
C	3" S9.5B, TWO LAYERS
D	2 1/2" I19.0B
D1	4" I19.0B
E	4 1/2" B25.0B
E1	4" B25.0B
R	5" CONG. ISLAND (SURFACED MOUNTED)
R1	2'-6" C&G
R7	4" CONCRETE ISLAND COVER
T	EARTH
U	EXISTING PAVEMENT.

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



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** 1 1/2" TO 4" MILLING
 -L- STA.
 273+03.24 TO 274+03.24

-L1-
 28+97.00 TO 30+00.00
 94+09.86 TO 95+09.86
 103+00.00 TO 104+00.00
 123+00.00 TO 124+00.00
 130+00.00 TO 131+00.00

TYPICAL SECTION NO. 5

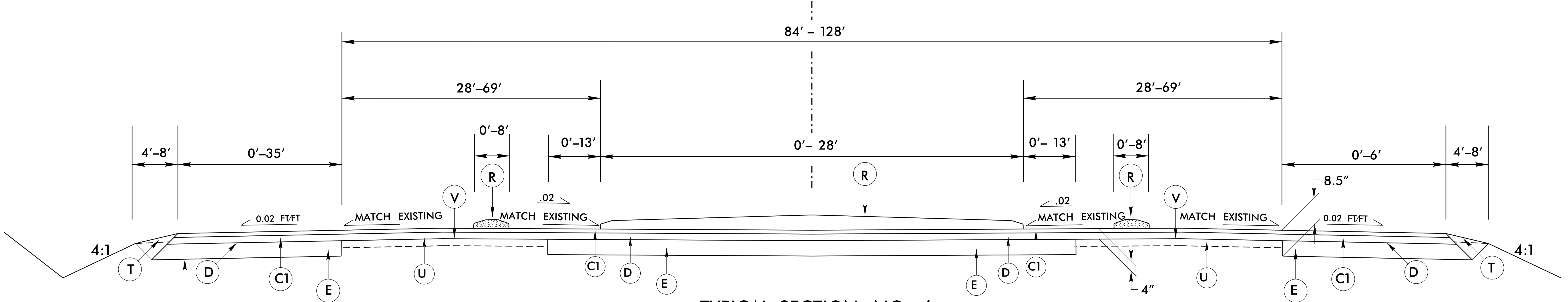
-L- STA.
 235+00.00 TO 256+64.81
 258+76.81 TO 263+95.51
 264+73.97 TO 274+03.24

-L1- STA.
 28+96.93 TO 37+76.72
 40+54.96 TO 52+90.87
 53+99.32 TO 58+03.07
 59+69.30 TO 66+20.12
 68+32.02 TO 76+98.75
 78+11.74 TO 95+09.86
 103+00.00 TO 109+17.89
 111+29.90 TO 124+00.00
 130+00.00 TO 144+45.81

STEPS FOR TYPICAL SECTION NO. 5:
 STEP 1: PERFORM WIDENING WITH BASE COURSE. LEAVE BASE COURSE 1 1/2" BELOW EXISTING GRADE.
 STEP 2: MILL EXISTING PAVEMENT.
 STEP 3: PLACE INTERMEDIATE LAYER ACROSS ENTIRE ROADWAY.
 STEP 4: PLACE SURFACE COURSE ACROSS ENTIRE ROADWAY.

PAVEMENT SCHEDULE	
C1	1 1/2" S9.5B
D	2 1/2" I19.0B
E	4 1/2" B25.0B
R	5" CONC. ISLAND (SURFACED MOUNTED)
R2	EXPRESSWAY GUTTER
T	EARTH
U	EXISTING PAVEMENT.
V	1 1/2" FINE MILLING
V2	1 1/2" - 4" MILLING

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

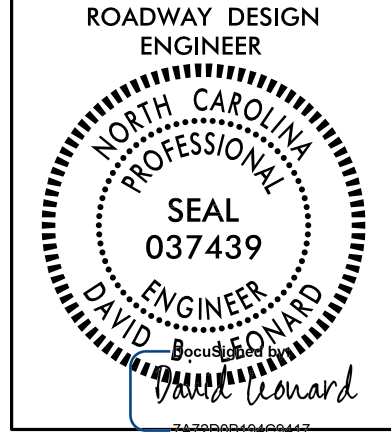


STEPS FOR TYPICAL SECTION NO. 6:
 STEP 1: PERFORM WIDENING WITH BASE COURSE. LEAVE BASE COURSE 1 1/2" BELOW EXISTING GRADE.
 STEP 2: MILL EXISTING PAVEMENT.
 STEP 3: PLACE INTERMEDIATE LAYER ACROSS ENTIRE ROADWAY.
 STEP 4: PLACE SURFACE COURSE ACROSS ENTIRE ROADWAY.

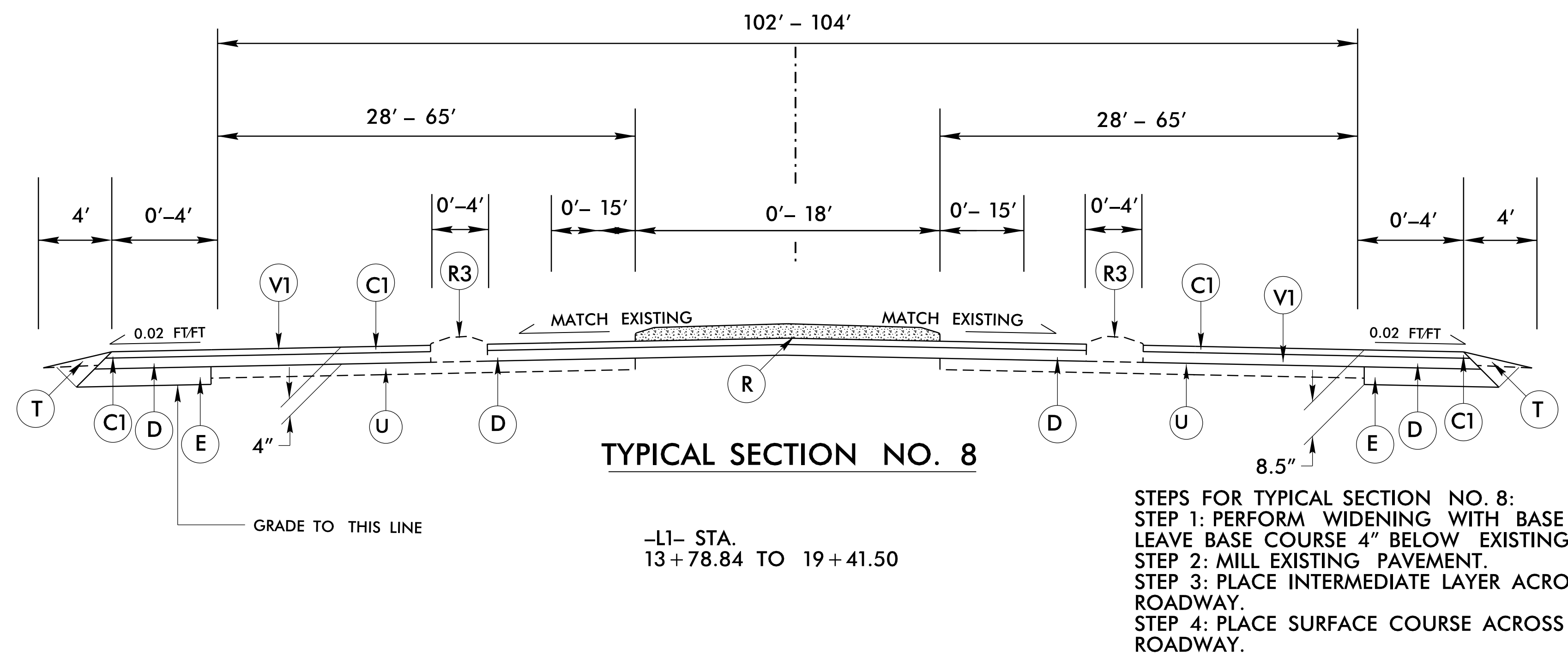
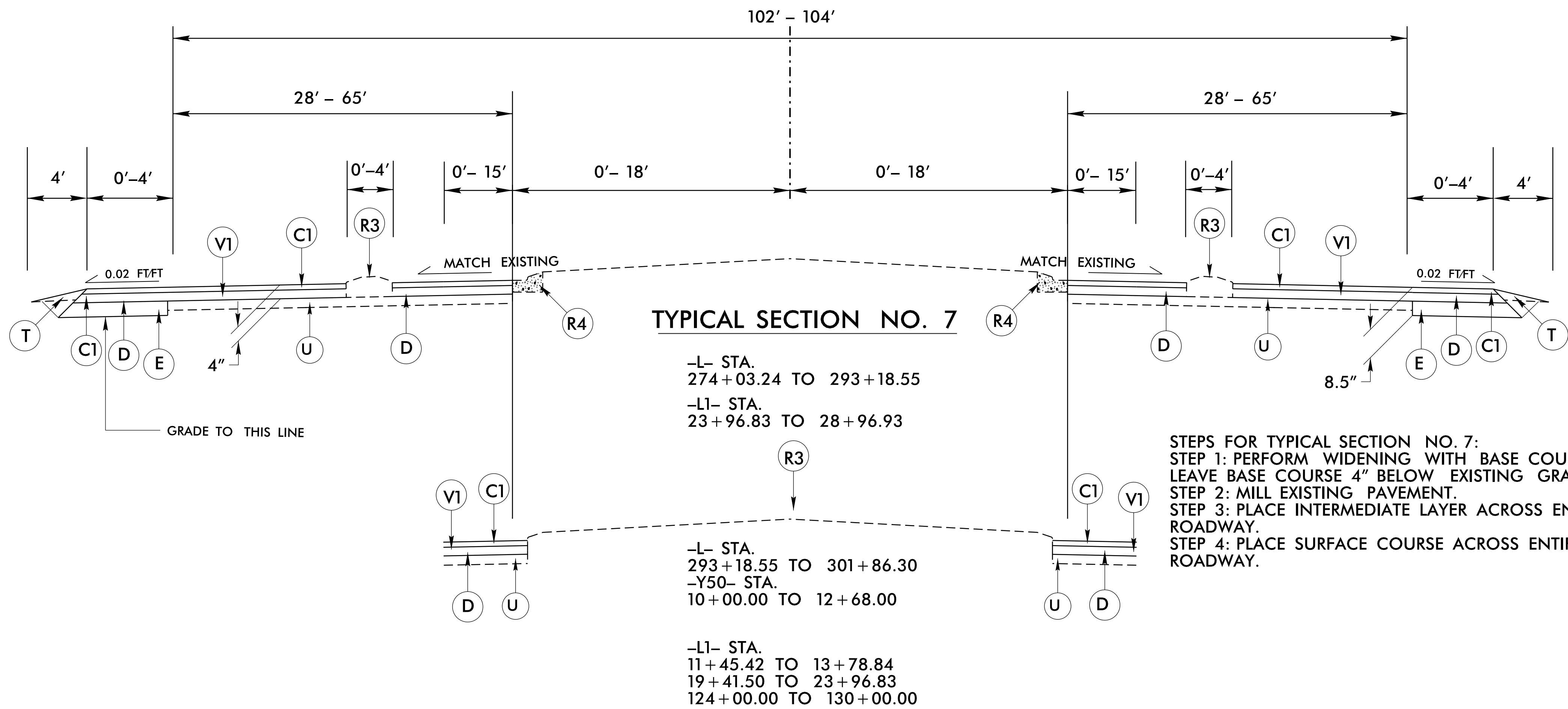
-L- STA.
 256+64.81 TO 258+76.81
 263+95.51 TO 264+73.97

-L1- STA.
 37+76.72 TO 40+54.96
 52+90.87 TO 53+99.32
 58+03.07 TO 59+69.30
 66+20.12 TO 68+32.02
 76+98.75 TO 78+11.74
 109+17.89 TO 111+29.90
 144+45.81 TO 147+74.75

TYPICAL SECTION NO. 6



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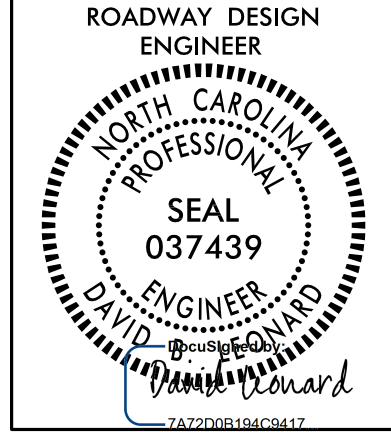


PAVEMENT SCHEDULE	
C1	1 1/2" S9.5B
D	2 1/2" I19.0B
E	4 1/2" B25.0B
R	5" CONC. ISLAND (SURFACED MOUNTED)
R3	EXIST. CONC. ISLAND
R4	EXIST. 1'-6" C&G
T	EARTH
U	EXISTING PAVEMENT.
V1	4" MILLING

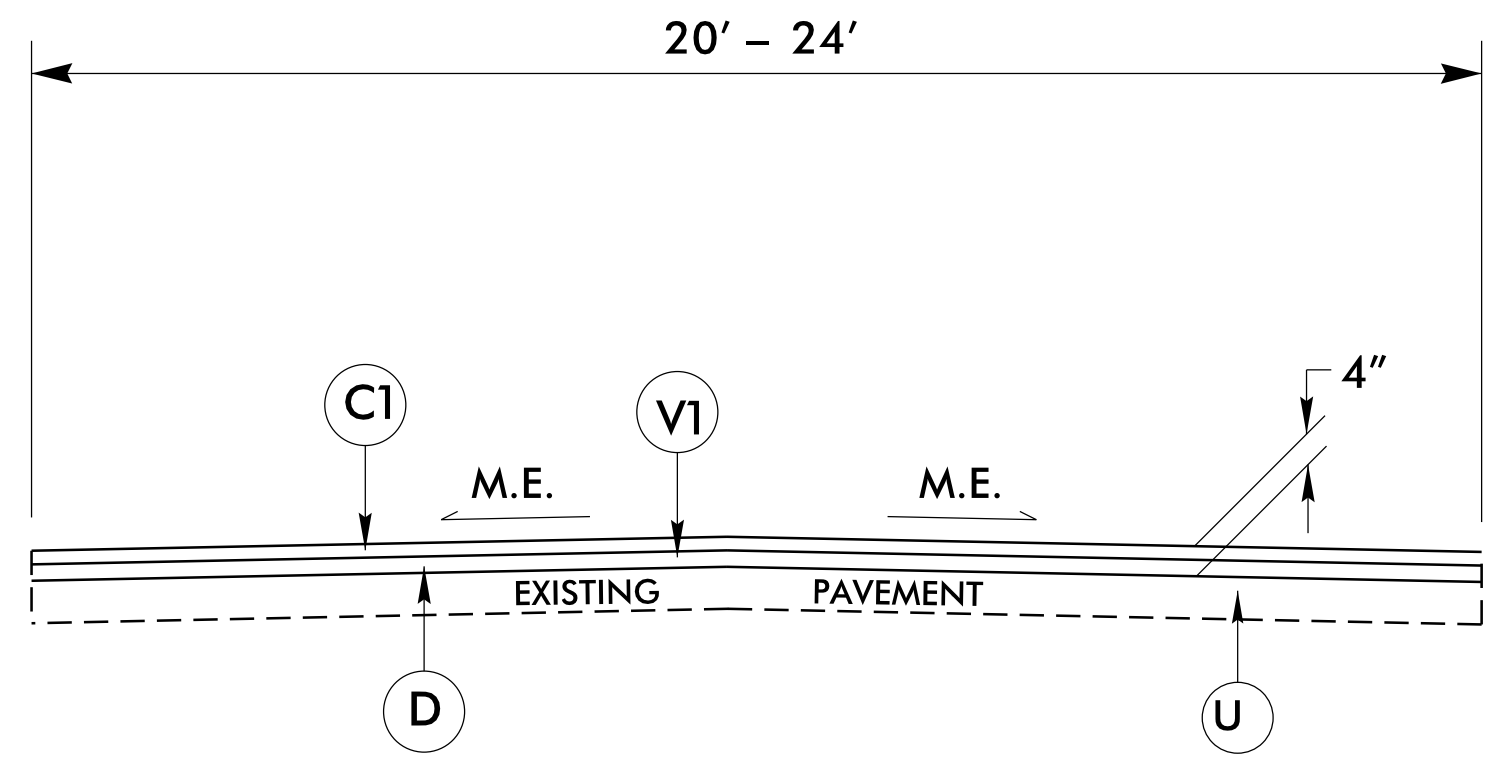
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS NOTED OTHERWISE.

5/14/99

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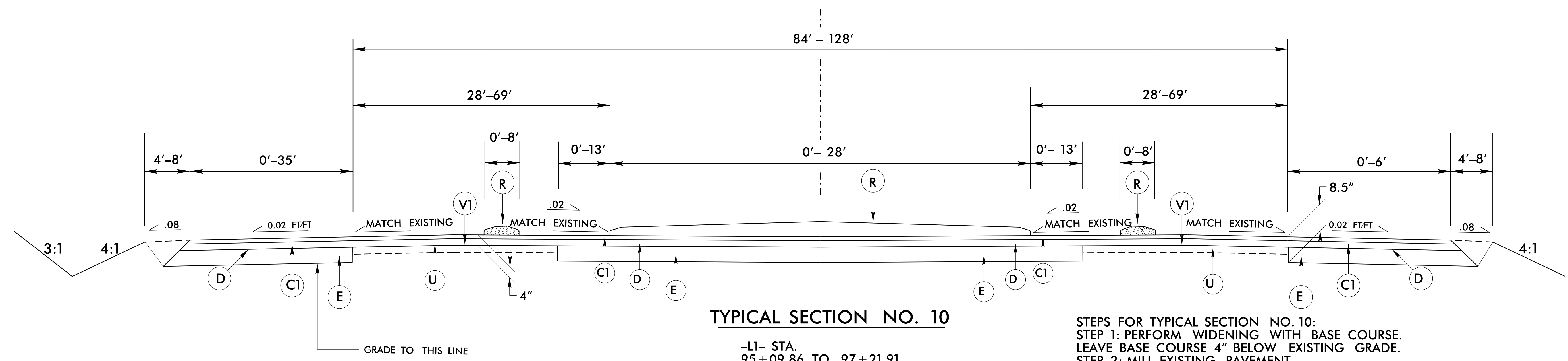


TYPICAL SECTION NO. 9

-RPIA- STA. 10+72.50 TO 11+80.39
 -RP1B- STA. 10+72.84 TO 12+62.82
 -RP1C- STA. 11+68.54 TO 18+62.61

PAVEMENT SCHEDULE	
C1	1 1/2" S9.5B
D	2 1/2" I19.0B
E	4 1/2" B25.0B
R	5" CONC. ISLAND (SURFACED MOUNTED)
U	EXISTING PAVEMENT.
V1	4" MILLING

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



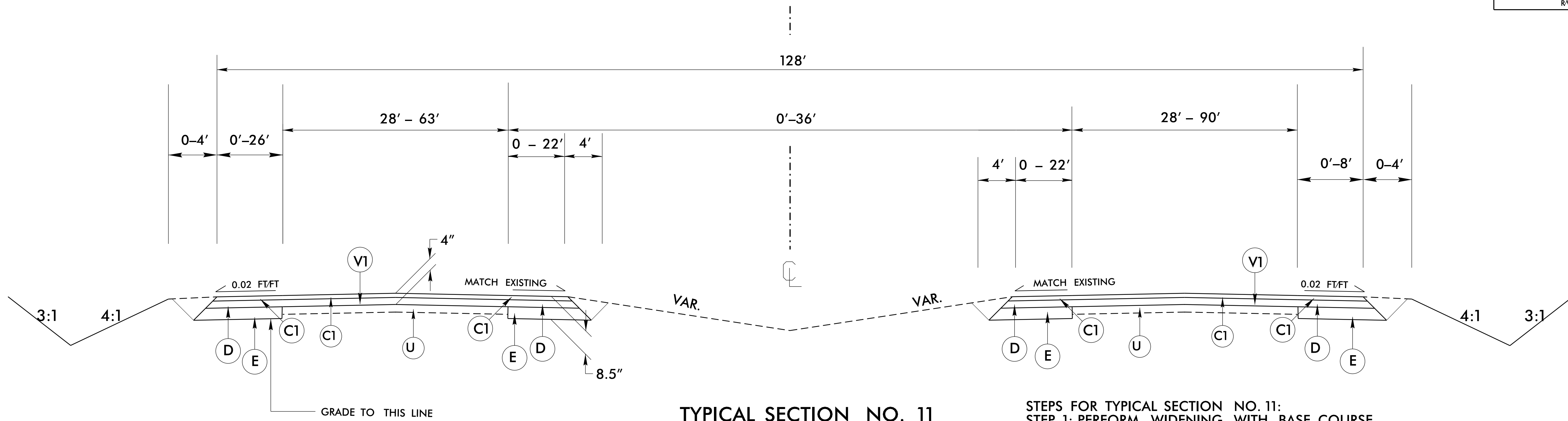
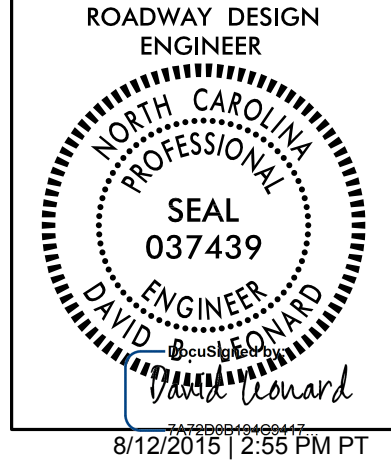
TYPICAL SECTION NO. 10

-L1- STA. 95+09.86 TO 97+21.91
 144+45.81 TO 147+74.95

STEPS FOR TYPICAL SECTION NO. 10:
 STEP 1: PERFORM WIDENING WITH BASE COURSE. LEAVE BASE COURSE 4" BELOW EXISTING GRADE.
 STEP 2: MILL EXISTING PAVEMENT.
 STEP 3: PLACE INTERMEDIATE LAYER ACROSS ENTIRE ROADWAY.
 STEP 4: PLACE SURFACE COURSE ACROSS ENTIRE ROADWAY.

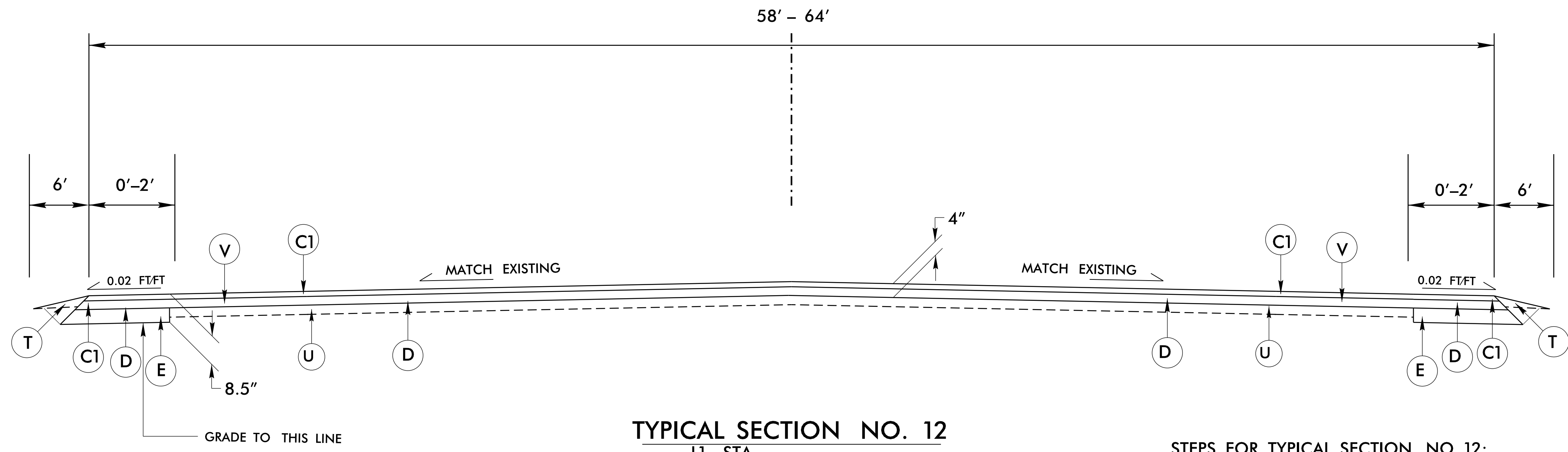
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TYPICAL SECTION NO. 11
 -L1- STA.
 97+21.91 TO 103+00.00

STEPS FOR TYPICAL SECTION NO. 11:
 STEP 1: PERFORM WIDENING WITH BASE COURSE. LEAVE BASE COURSE 4" BELOW EXISTING GRADE.
 STEP 2: MILL EXISTING PAVEMENT.
 STEP 3: PLACE INTERMEDIATE LAYER ACROSS ENTIRE ROADWAY.
 STEP 4: PLACE SURFACE COURSE ACROSS ENTIRE ROADWAY.



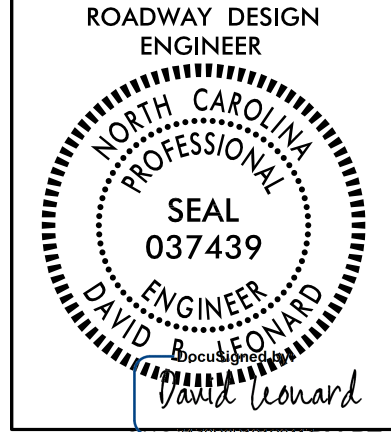
TYPICAL SECTION NO. 12
 -L1- STA.
 147+74.95 TO 159+20.85

STEPS FOR TYPICAL SECTION NO. 12:
 STEP 1: PERFORM WIDENING WITH BASE COURSE. LEAVE BASE COURSE 1 1/2" BELOW EXISTING GRADE.
 STEP 2: MILL EXISTING PAVEMENT.
 STEP 3: PLACE INTERMEDIATE LAYER ACROSS ENTIRE ROADWAY.
 STEP 4: PLACE SURFACE COURSE ACROSS ENTIRE ROADWAY.

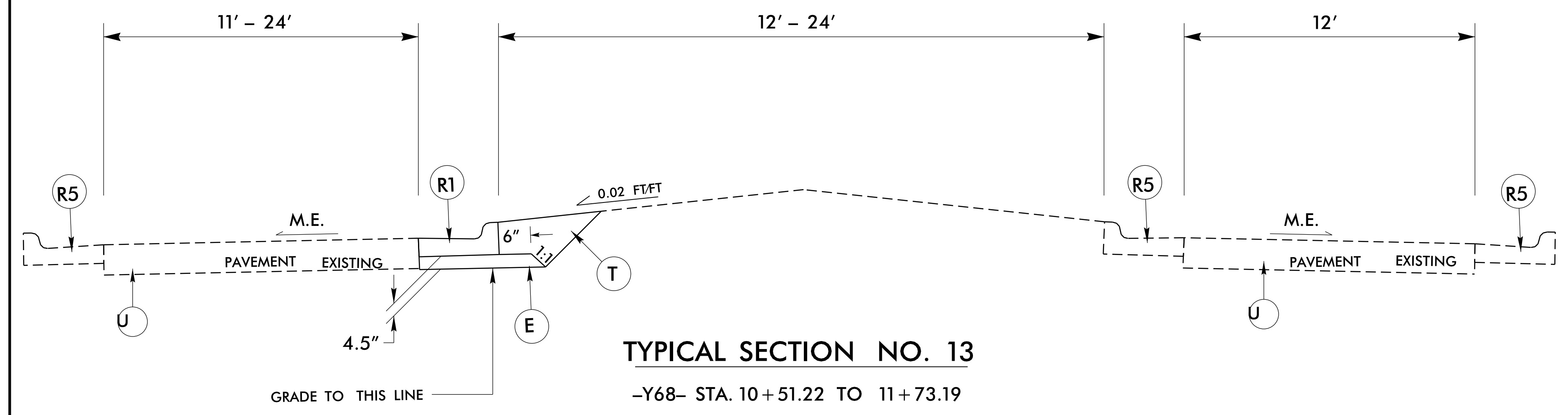
PAVEMENT SCHEDULE	
C1	1 1/2" S9.5B
D	2 1/2" I19.0B
E	4 1/2" B25.0B
T	EARTH
U	EXISTING PAVEMENT.
V	1 1/2" FINE MILLING
V1	4" MILLING

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

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 03-AUG-2015 14:04
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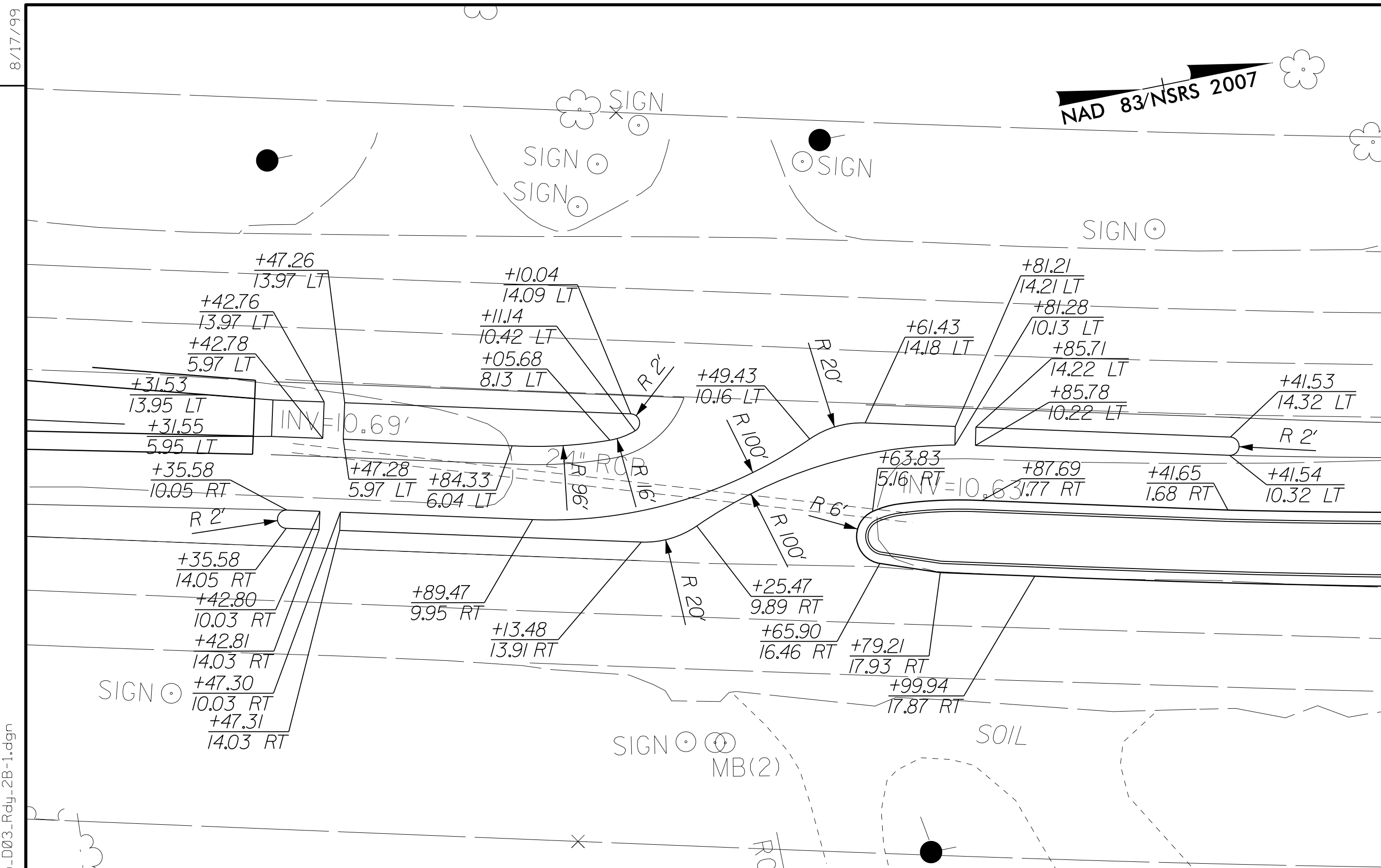
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TYPICAL SECTION NO. 13
 -Y68- STA. 10+51.22 TO 11+73.19

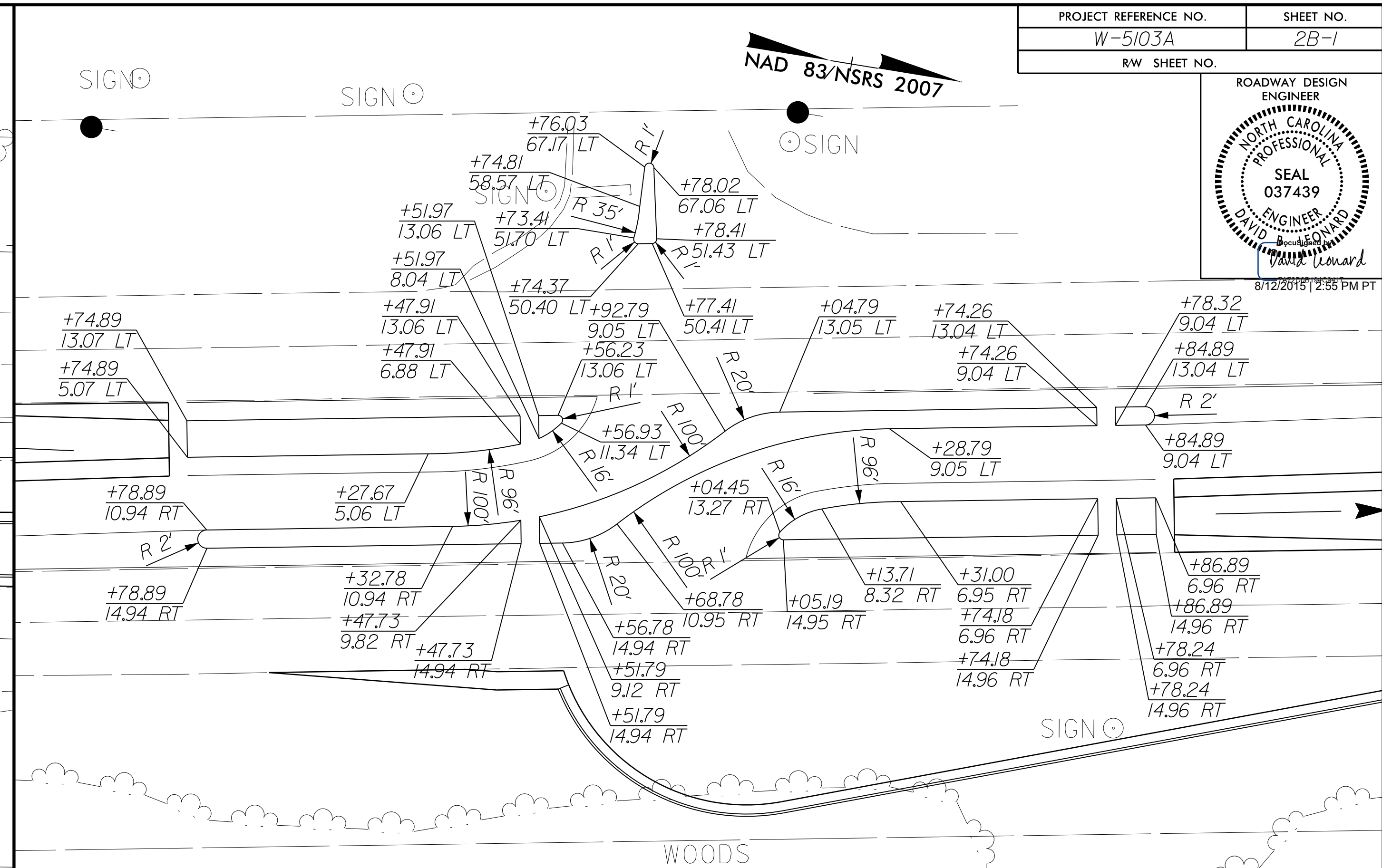
PAVEMENT SCHEDULE	
E	4 1/2" B25.0B
R1	2'-6" C&G
R5	EXISTING 2'-6" C&G
R6	1'-6" C&G
T	EARTH
U	EXISTING PAVEMENT.

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



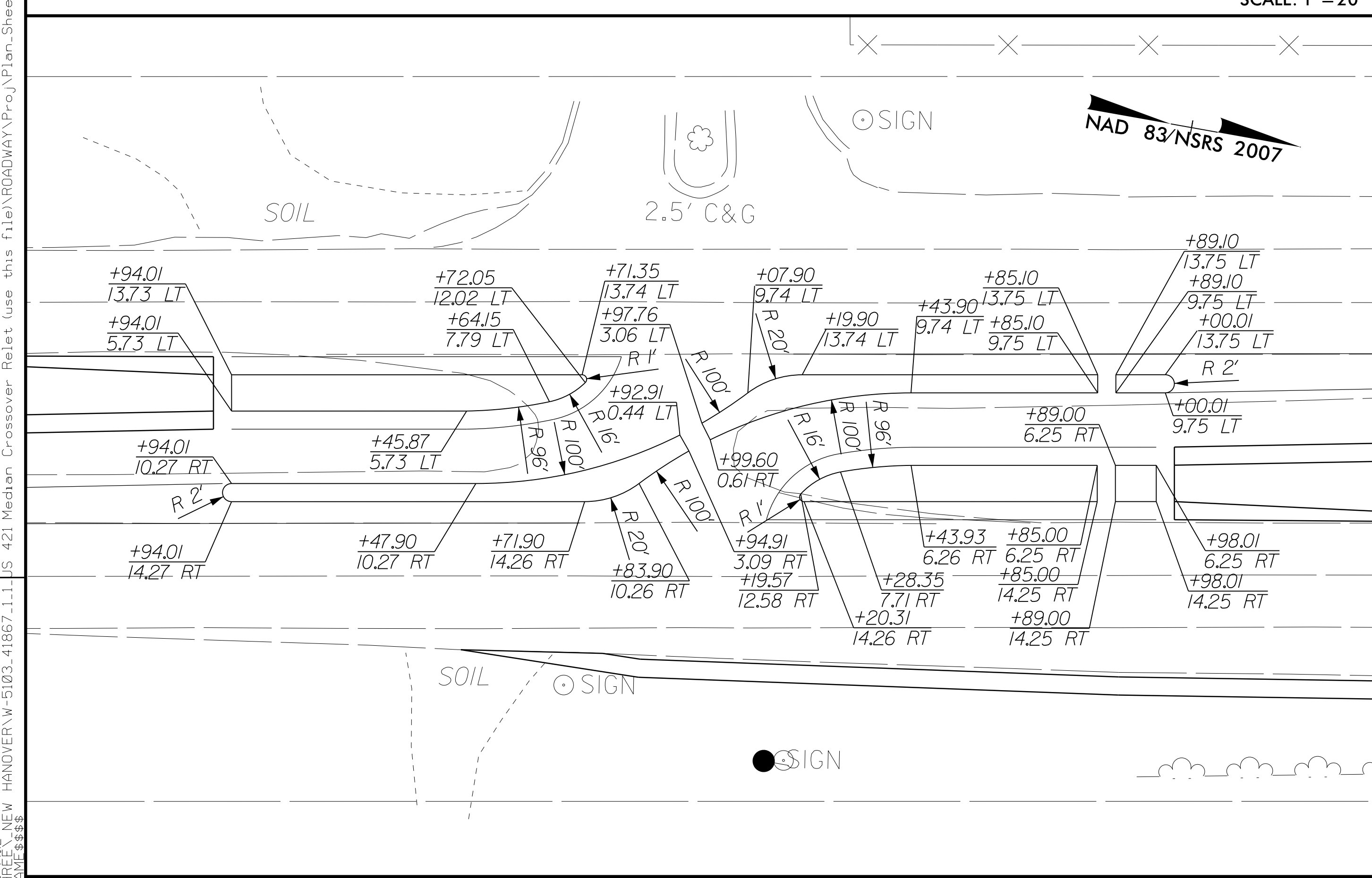
DETAIL A -L- STA. 60+21

SCALE: 1" = 20'



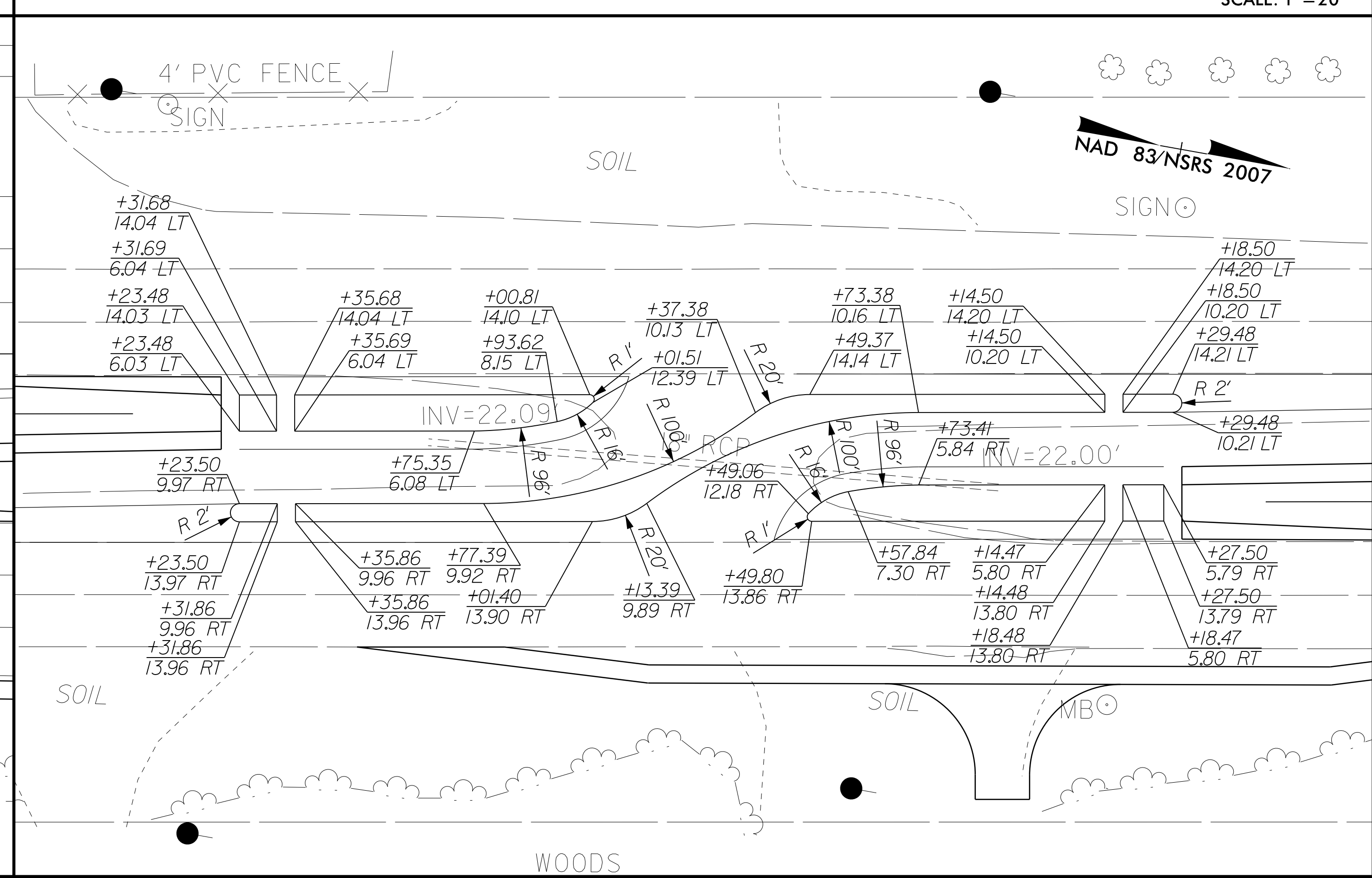
DETAIL B -L- STA. 75+65

SCALE: 1" = 20'



DETAIL C -L- STA. 93+80

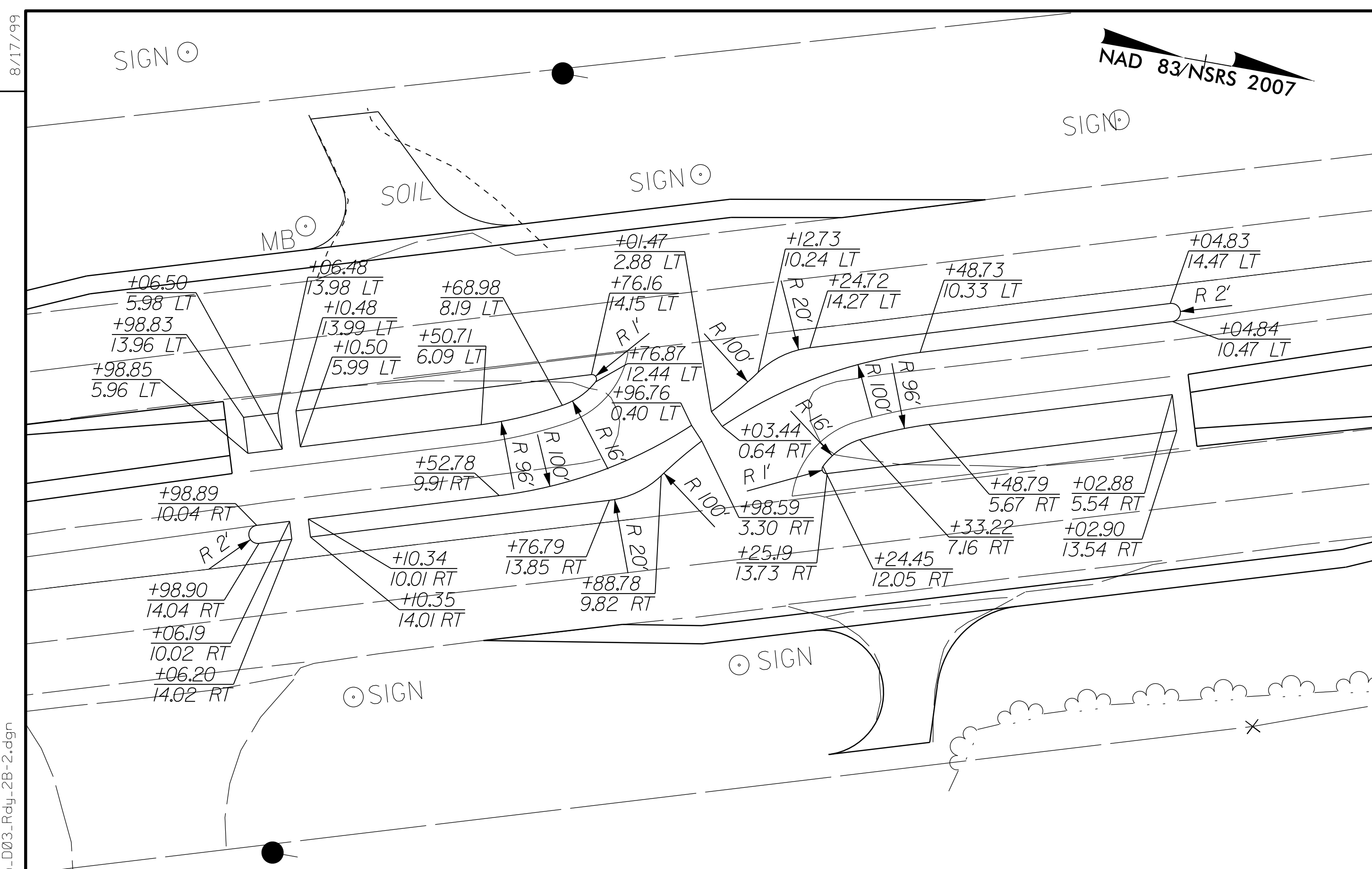
SCALE: 1" = 20'



DETAIL D -L- STA. 115+09

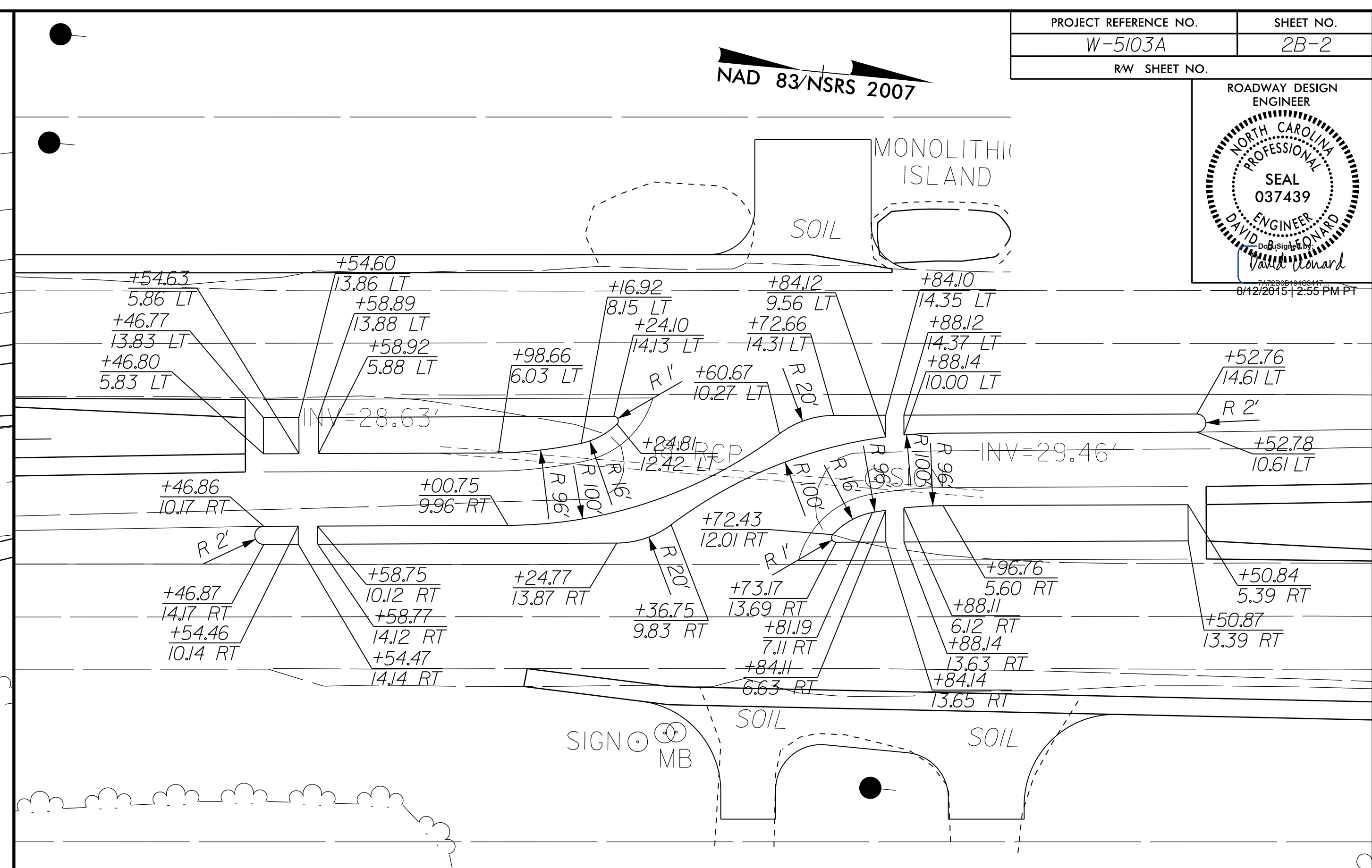
SCALE: 1" = 20'

REVISIONS
 03-AUG-2015 14:42 NEW HANDOVER W-5103-41867-1.1 US 421 Median Crossover Relet (use this file) \ROADWAY\Proj\Plan_Sheets\W5103A-D03-RdJ-2B-1.dgn
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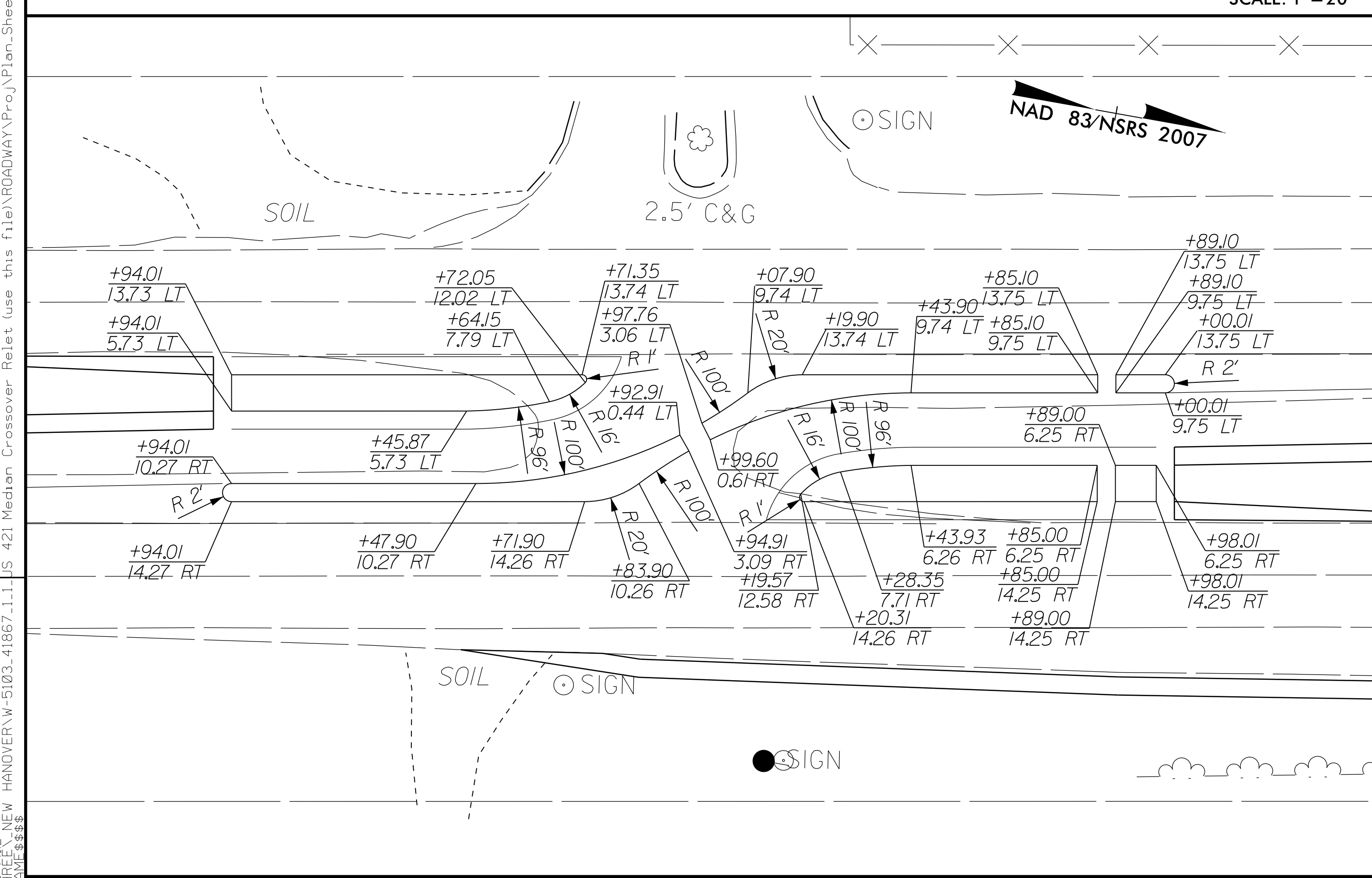
DETAIL E -L- STA. 136 + 85

SCALE: 1" = 20'



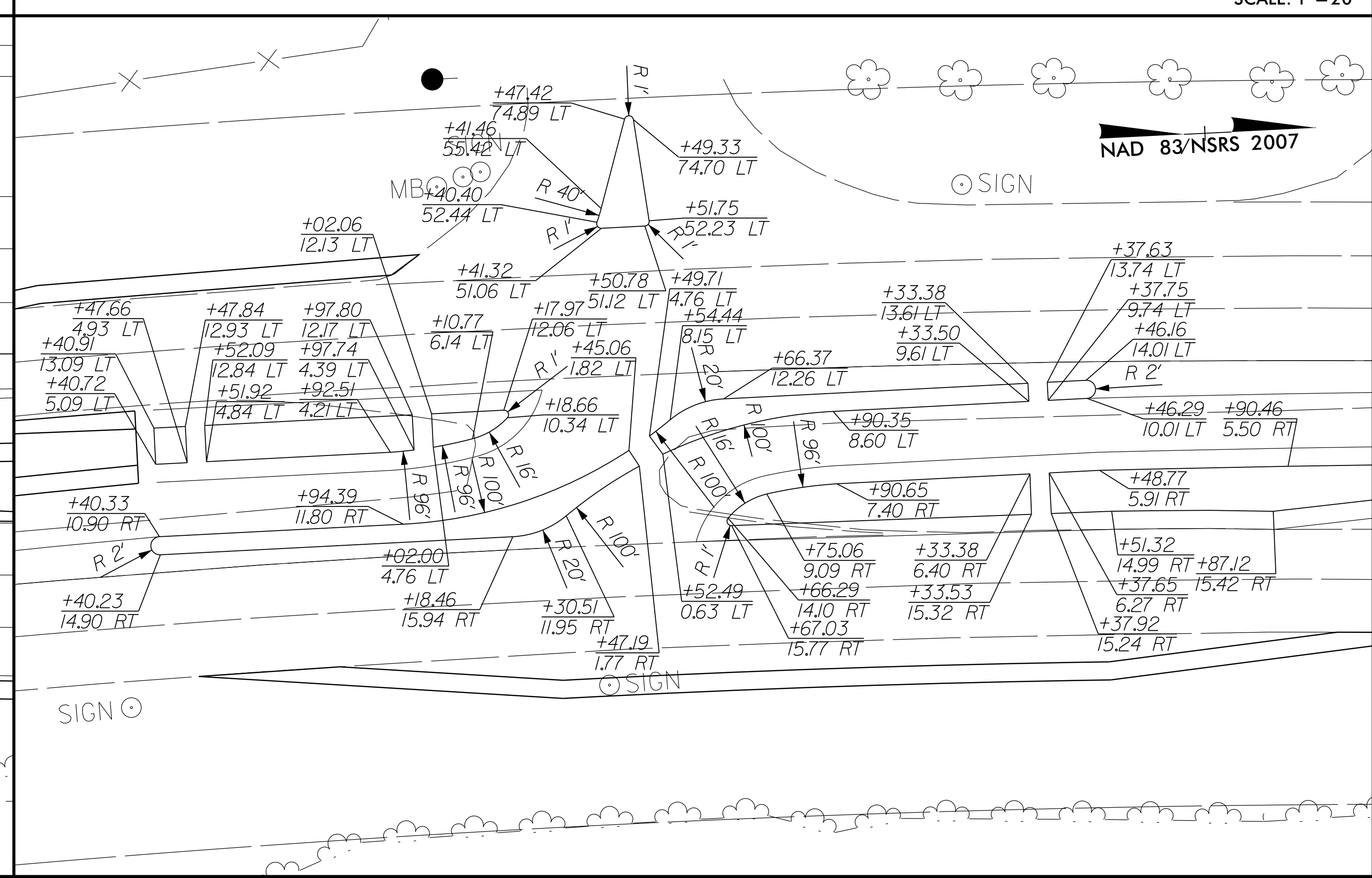
DETAIL F -L- STA. 150 + 33

SCALE: 1" = 20'



DETAIL G -L- STA. 188 + 68

SCALE: 1" = 20'

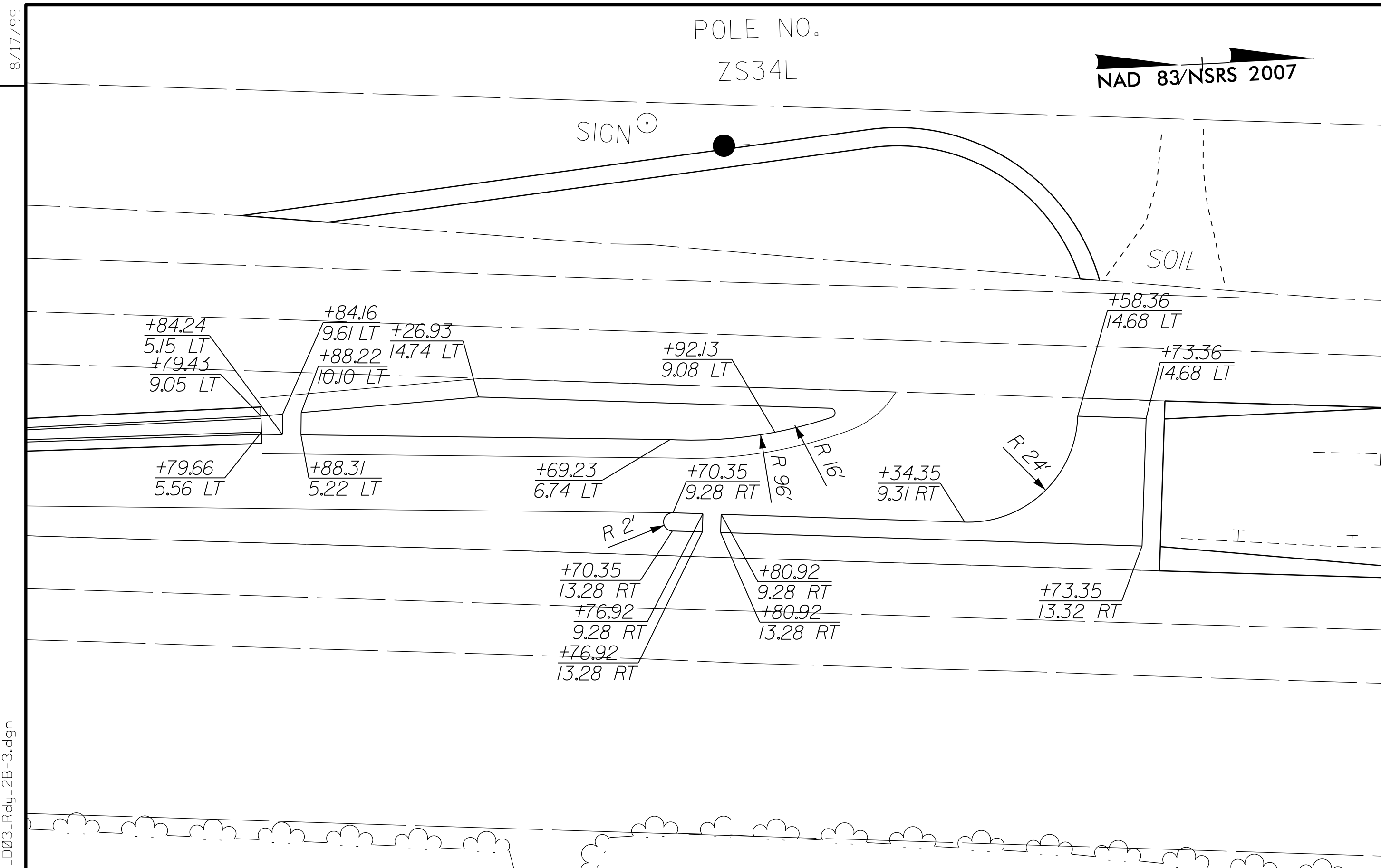


DETAIL H -L- STA. 204 + 27

SCALE: 1" = 20'

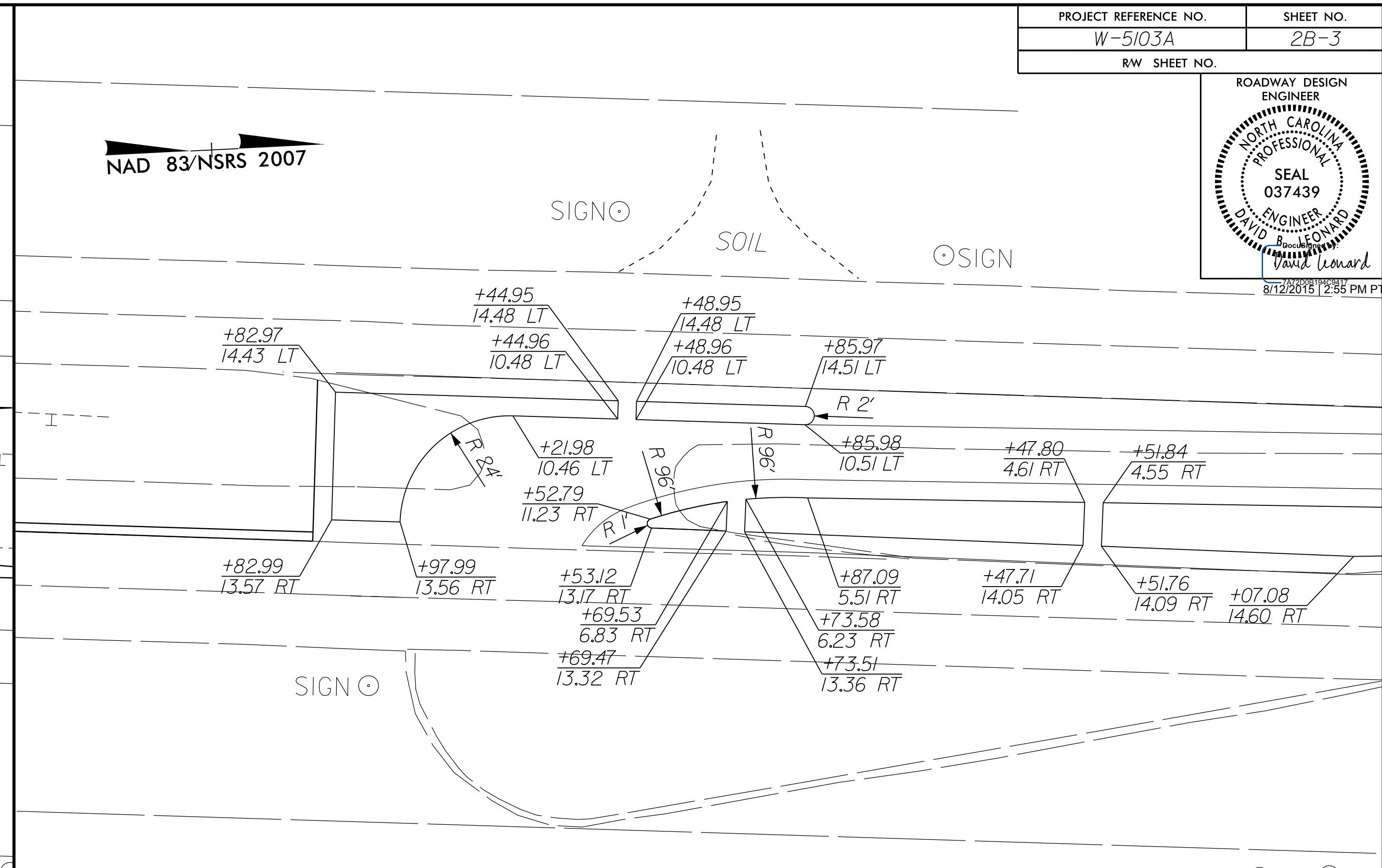
REVISIONS

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03-AUG-2015 14:42 NEW HANDOVER W-5103A-41867-1.1 US 421 Median Crossover Relet (use this file) \ROADWAY\Proj\Plan_Sheets\W5103A-D03_RdJ_2B-2.dgn



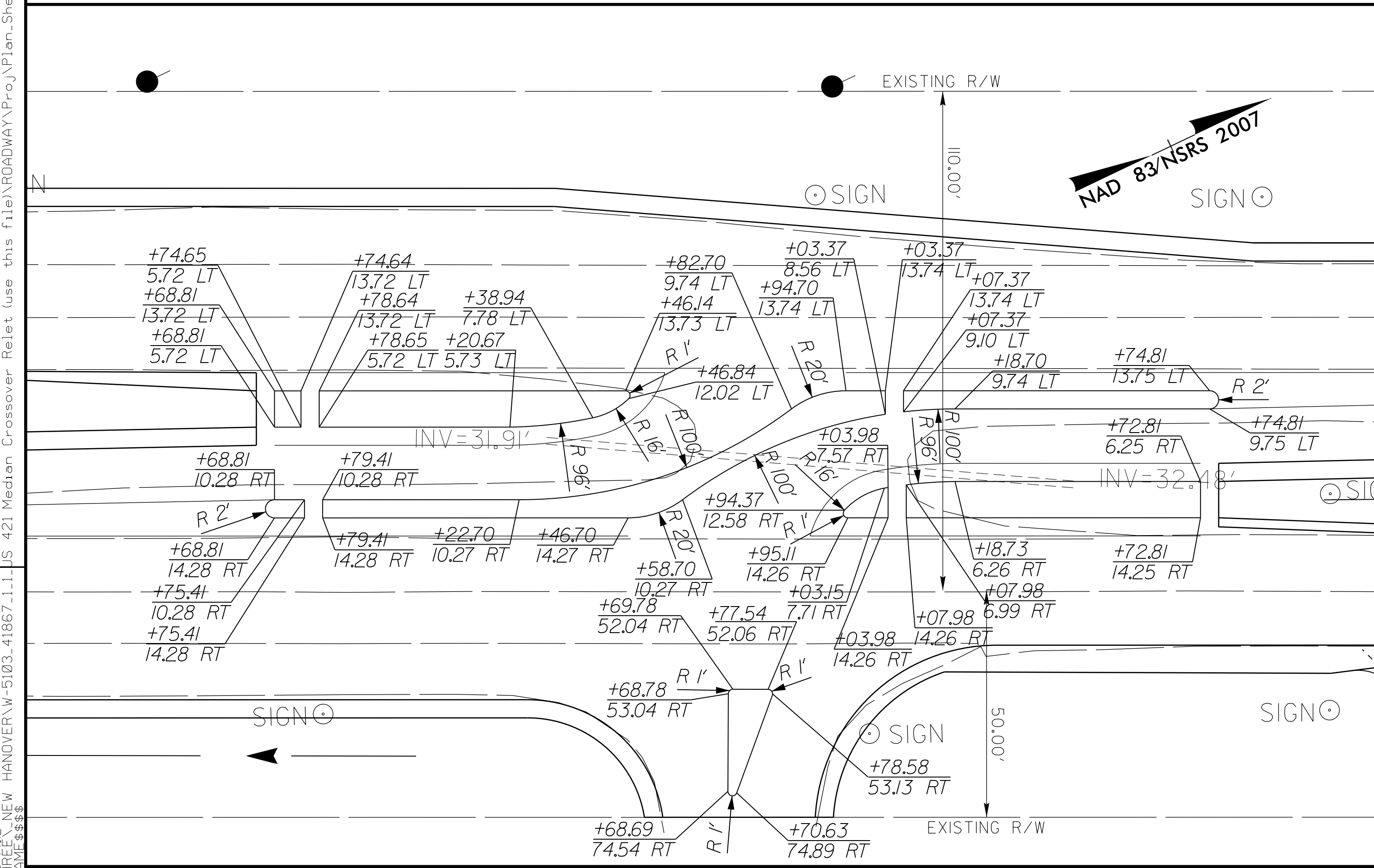
DETAIL J -L- STA. 212 + 18

SCALE: 1" = 20'



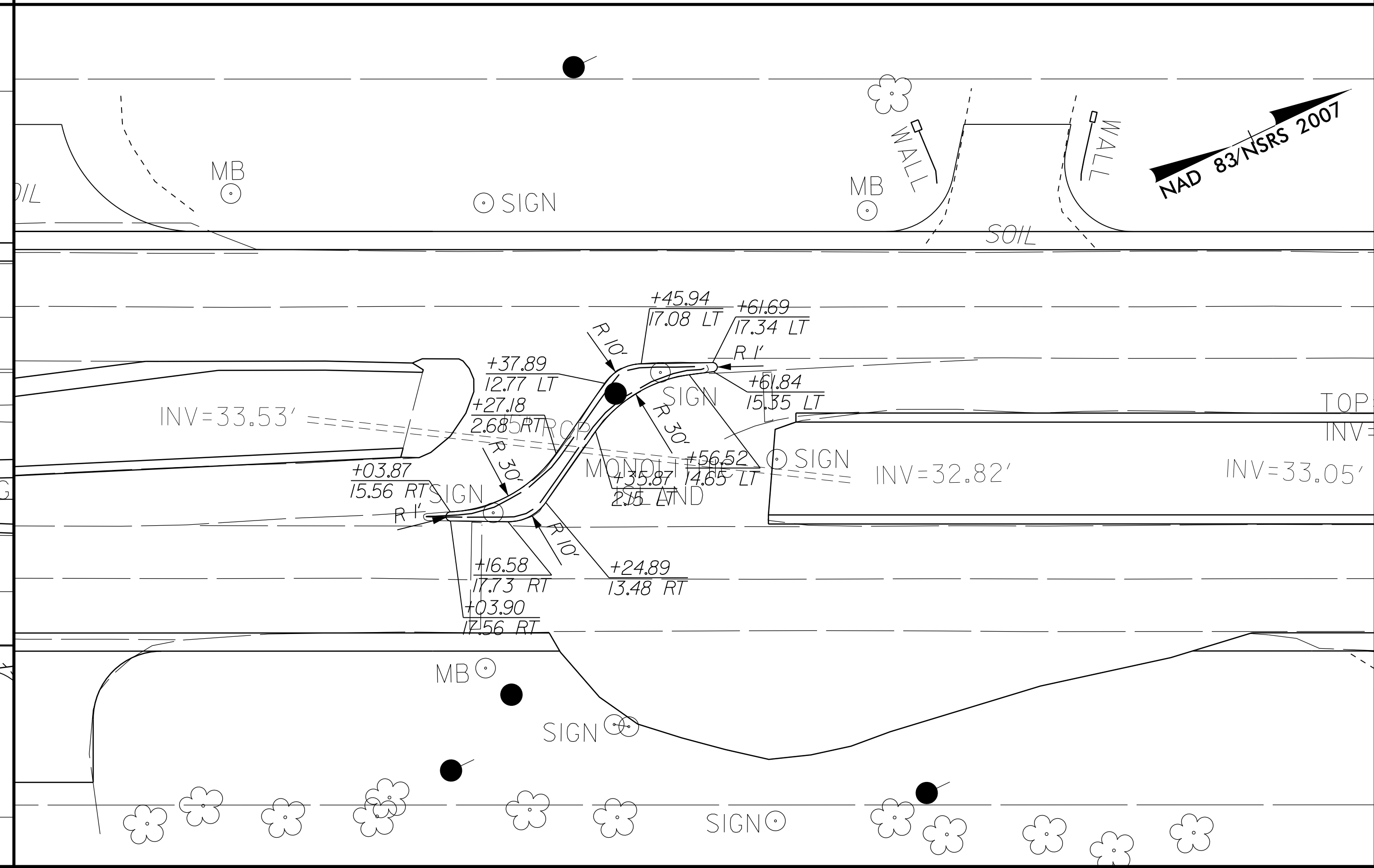
DETAIL K -L- STA. 218 + 38

SCALE: 1" = 20'



DETAIL L -L- STA. 257 + 55

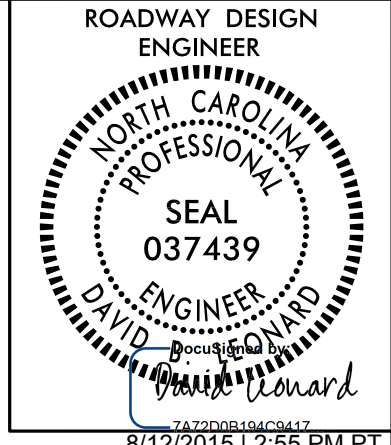
SCALE: 1" = 20'



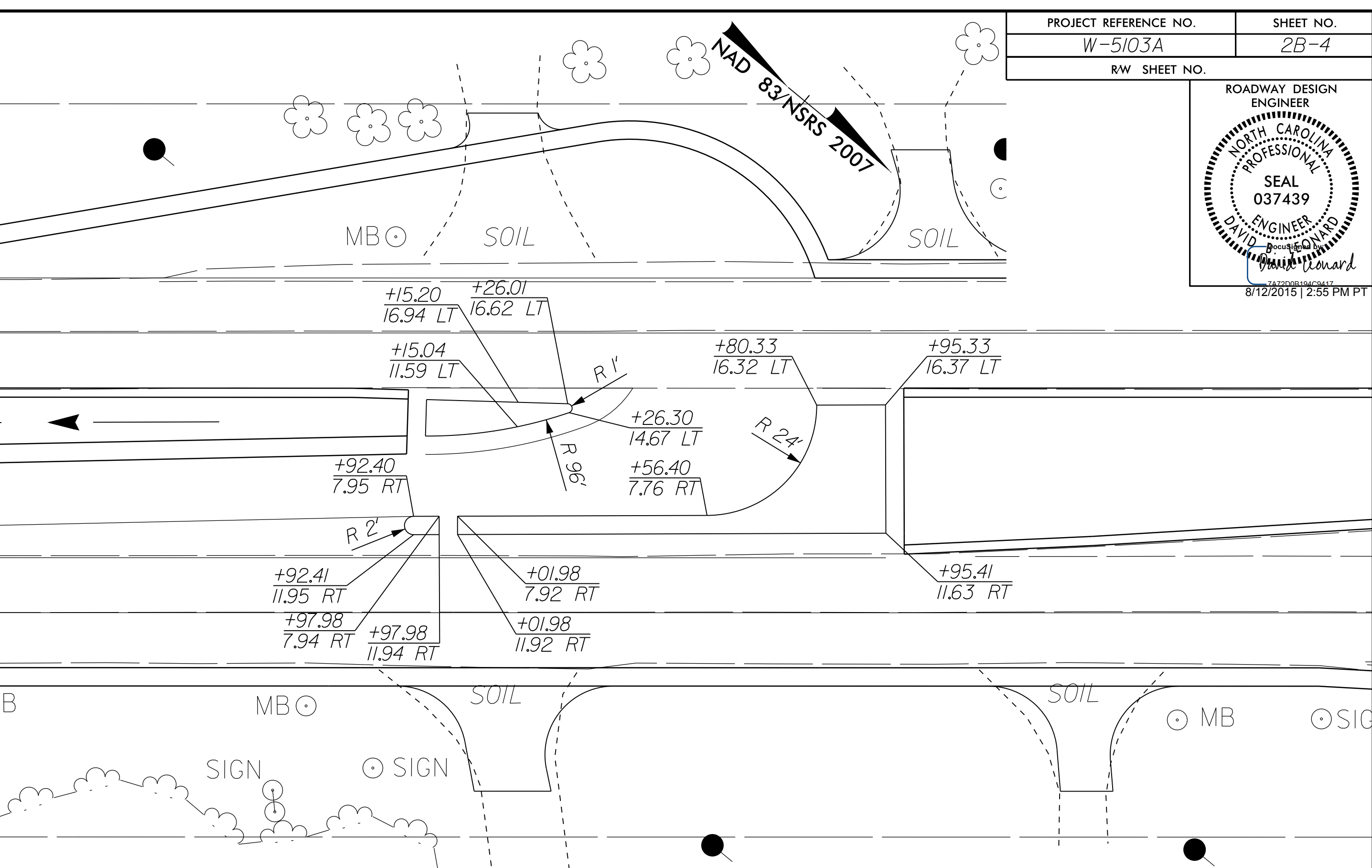
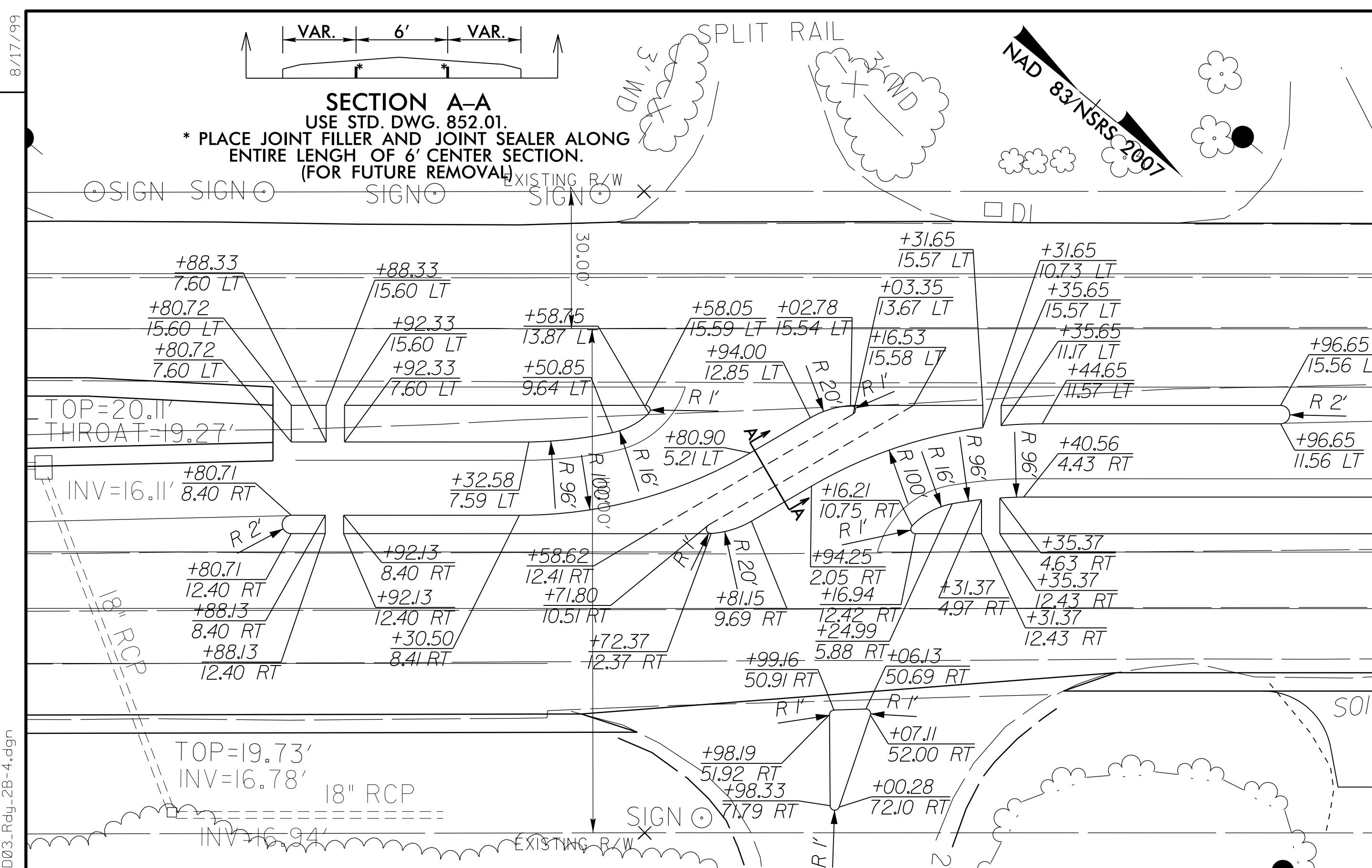
DETAIL M -L- STA. 264 + 05

SCALE: 1" = 20'

8/17/99
 REVISIONS
 03-AUG-2015 14:2 NEW HANDOVER W-5103-41867-1.1 US 421 Median Crossover Relet (use this file) \ROADWAY\Pro\N\Plan_Sheets\W5103A-D03-RdJ-2B-3.dgn
 \$\$\$SUSPEND\$\$



SECTION A-A
USE STD. DWG. 852.01.
* PLACE JOINT FILLER AND JOINT SEALER ALONG ENTIRE LENGTH OF 6' CENTER SECTION.
(FOR FUTURE REMOVAL)

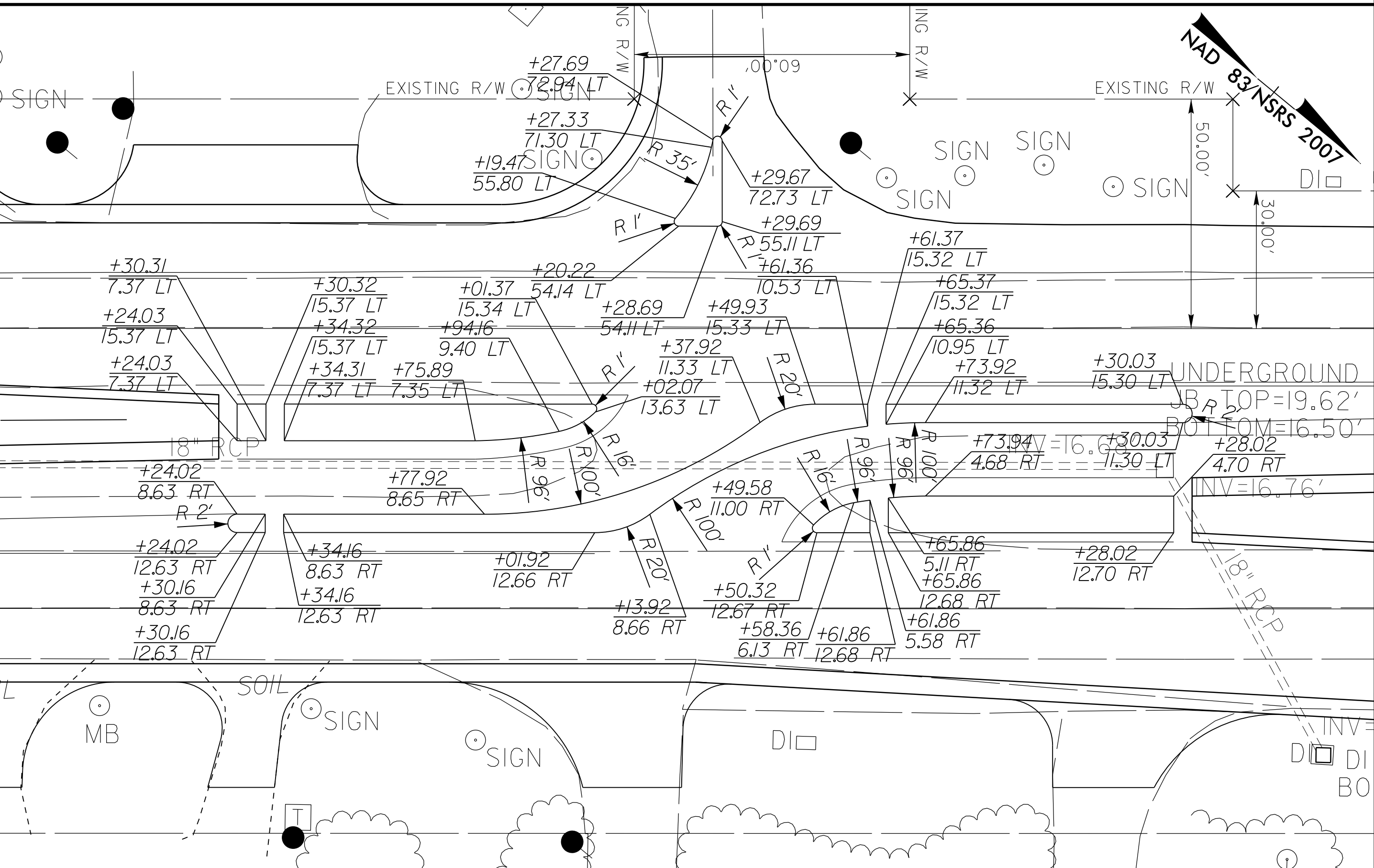
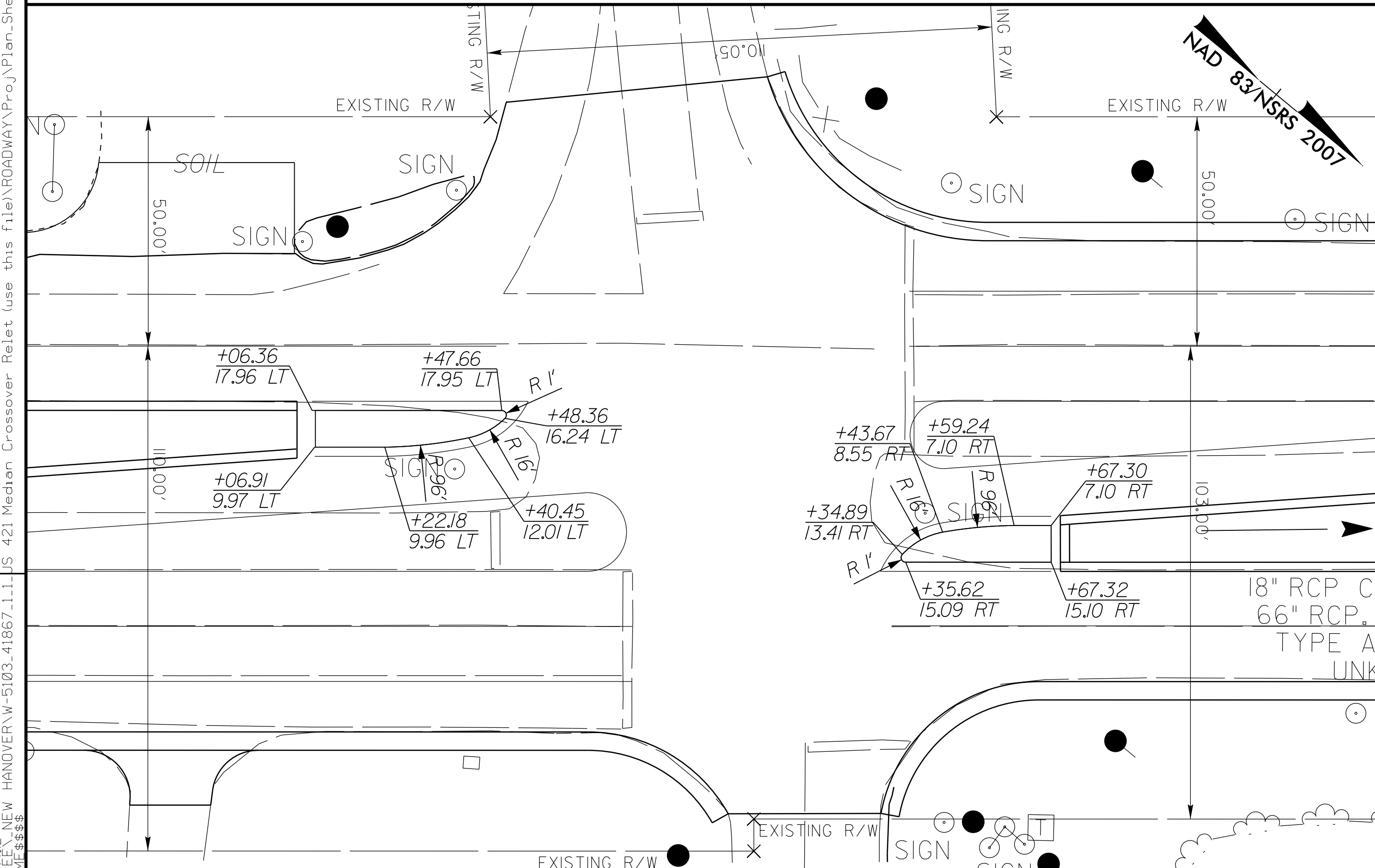


DETAIL N -L1- STA. 38+67

SCALE: 1" = 20'

DETAIL P -L1- STA. 53+40

SCALE: 1" = 20'



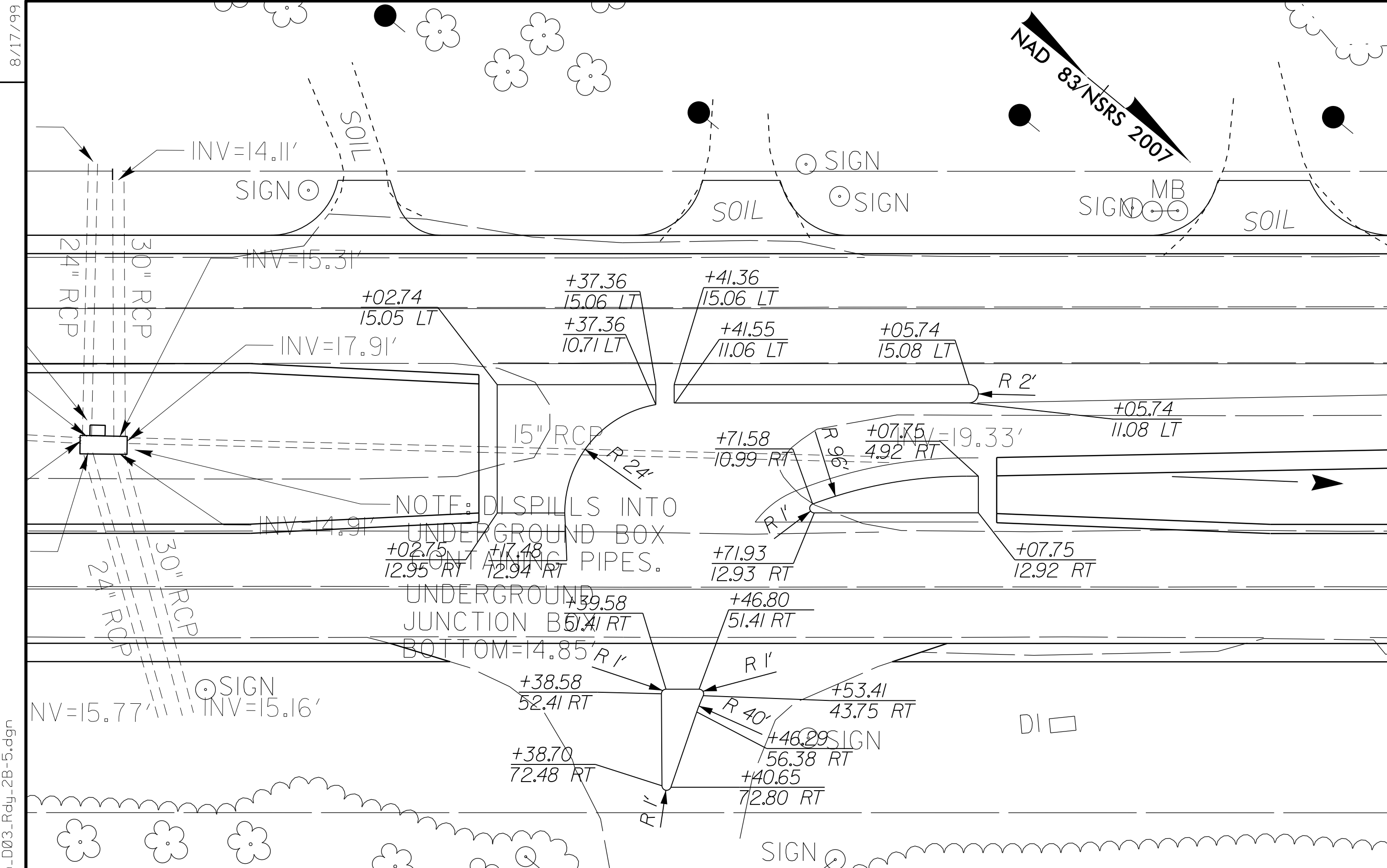
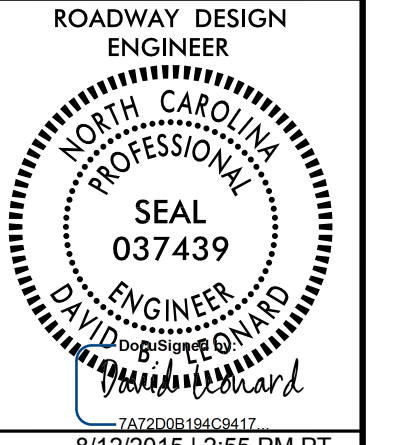
DETAIL Q -L1- STA. 58+48

SCALE: 1" = 20'

DETAIL R -L1- STA. 67+10

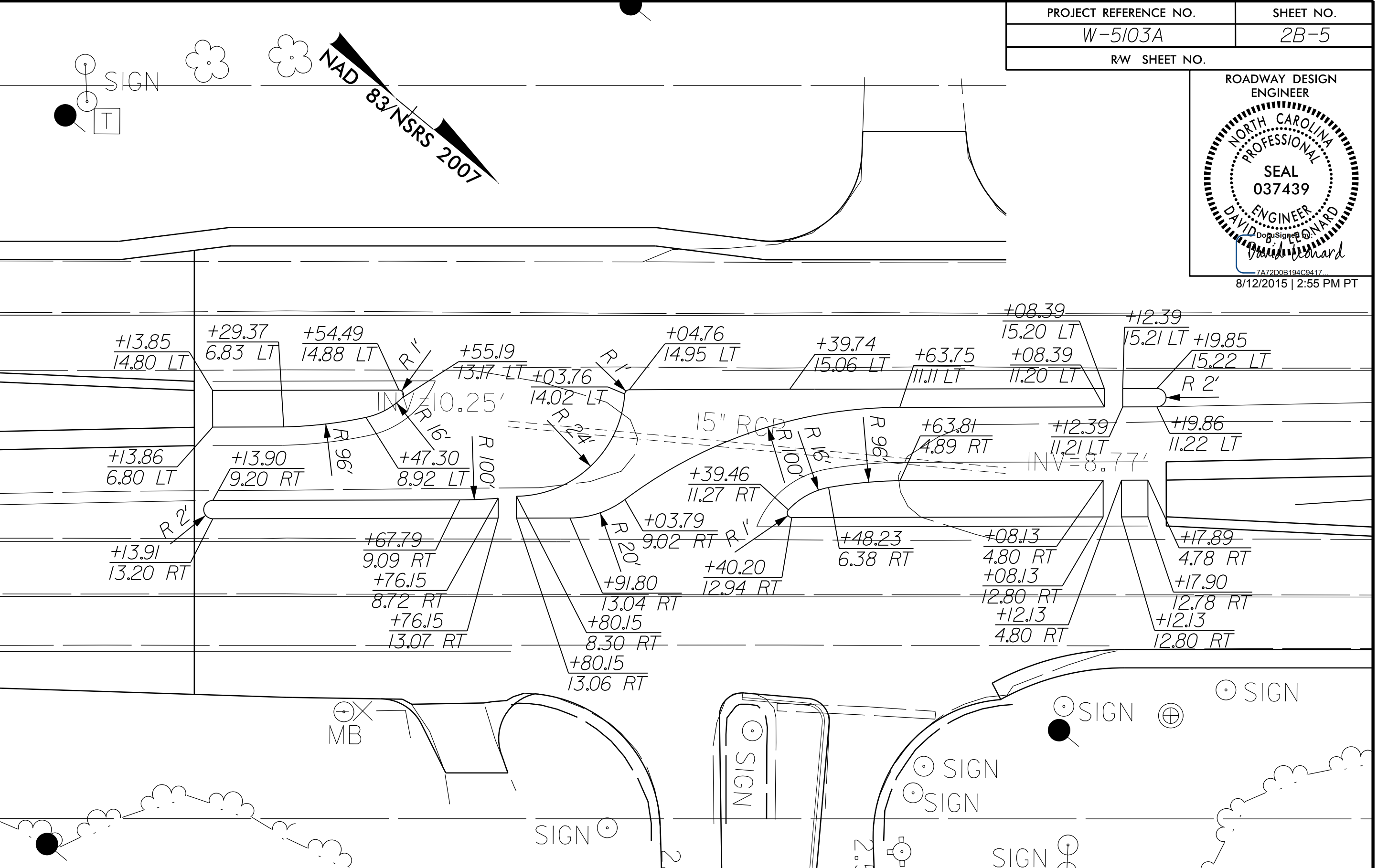
SCALE: 1" = 20'

REVISIONS
 03-AUG-2015 14:21 NEW HANDOVER W-5103-41867-1.1.1 US 421 Median Crossover Relet (use this file) \ROADWAY\Proj\Plan_Sheets\W5103A-D03_RdJ_2B-4.dgn
 \$\$\$\$\$\$



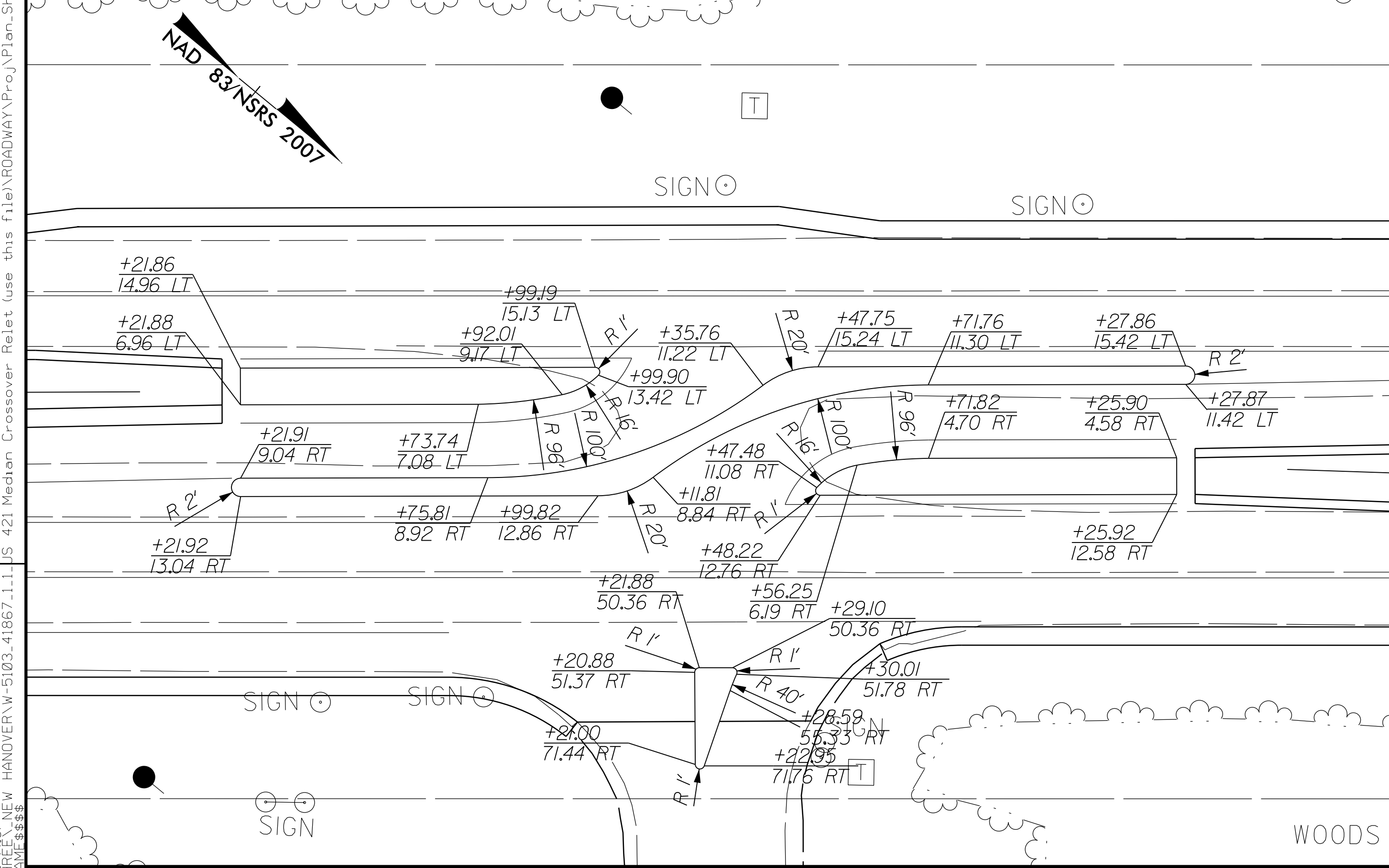
DETAIL S -L1- STA. 77 + 57

SCALE: 1"=20'



DETAIL T -L1- STA. 96 + 00

SCALE: 1"=20'



DETAIL U -L1- STA. 110 + 08

SCALE: 1"=20'

8/17/99
 REVISIONS
 04-AUG-2015 14:51 NEW HANDOVER W-5103-41867-1.1.1 US 421 Median Crossover Relet (use this file) \ROADWAY\Proj\Plan_Sheets\W5103A-D03_Rdy_2B-5.dgn
 \$\$\$SUSTAINABLE\$\$\$

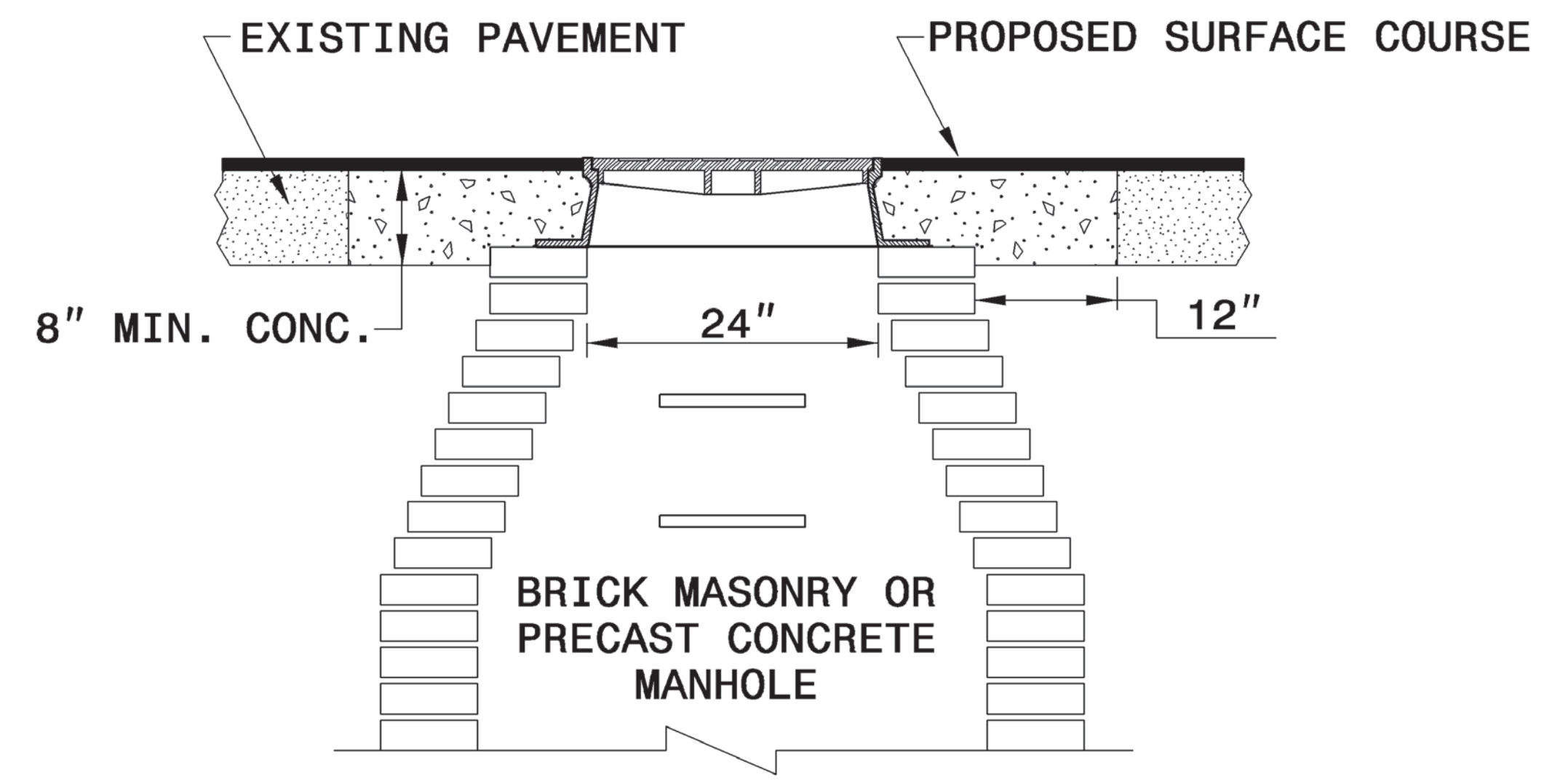
STATE OF
NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR
MANHOLE AND VALVE BOX ADJUSTMENTS

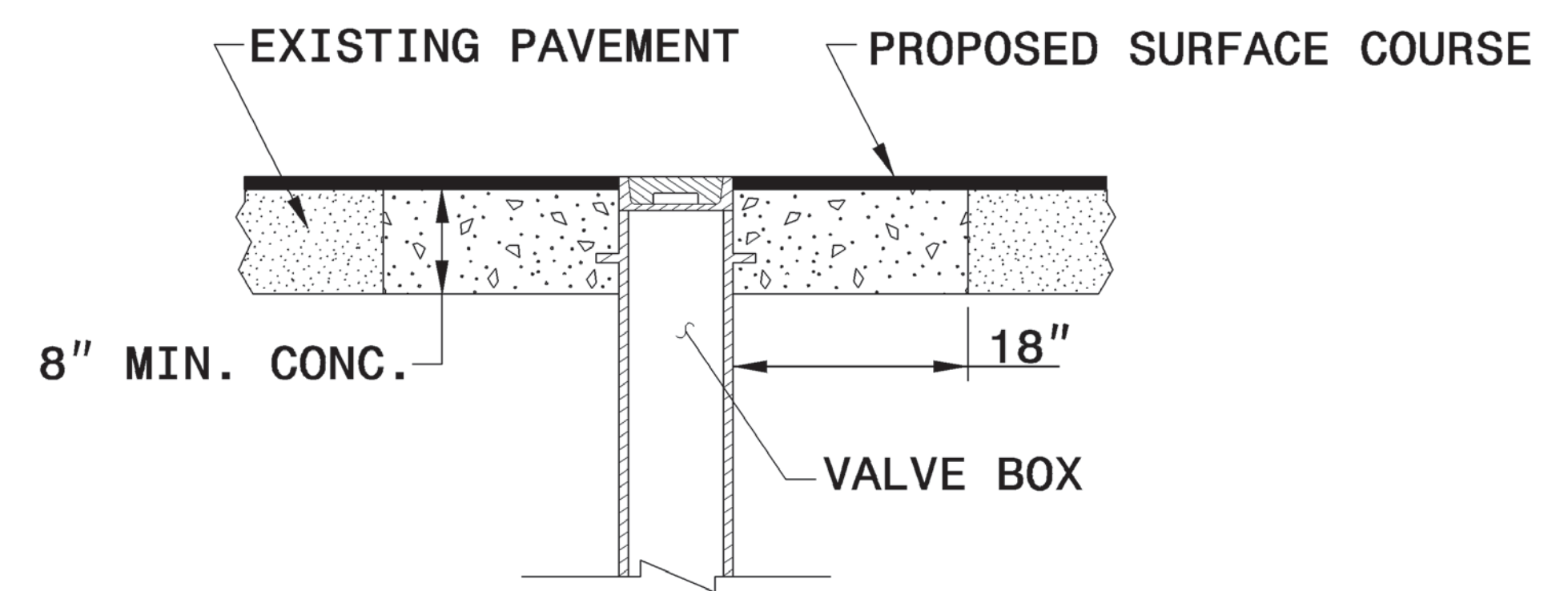
SHEET 1 OF 1
840D55

GENERAL NOTES:

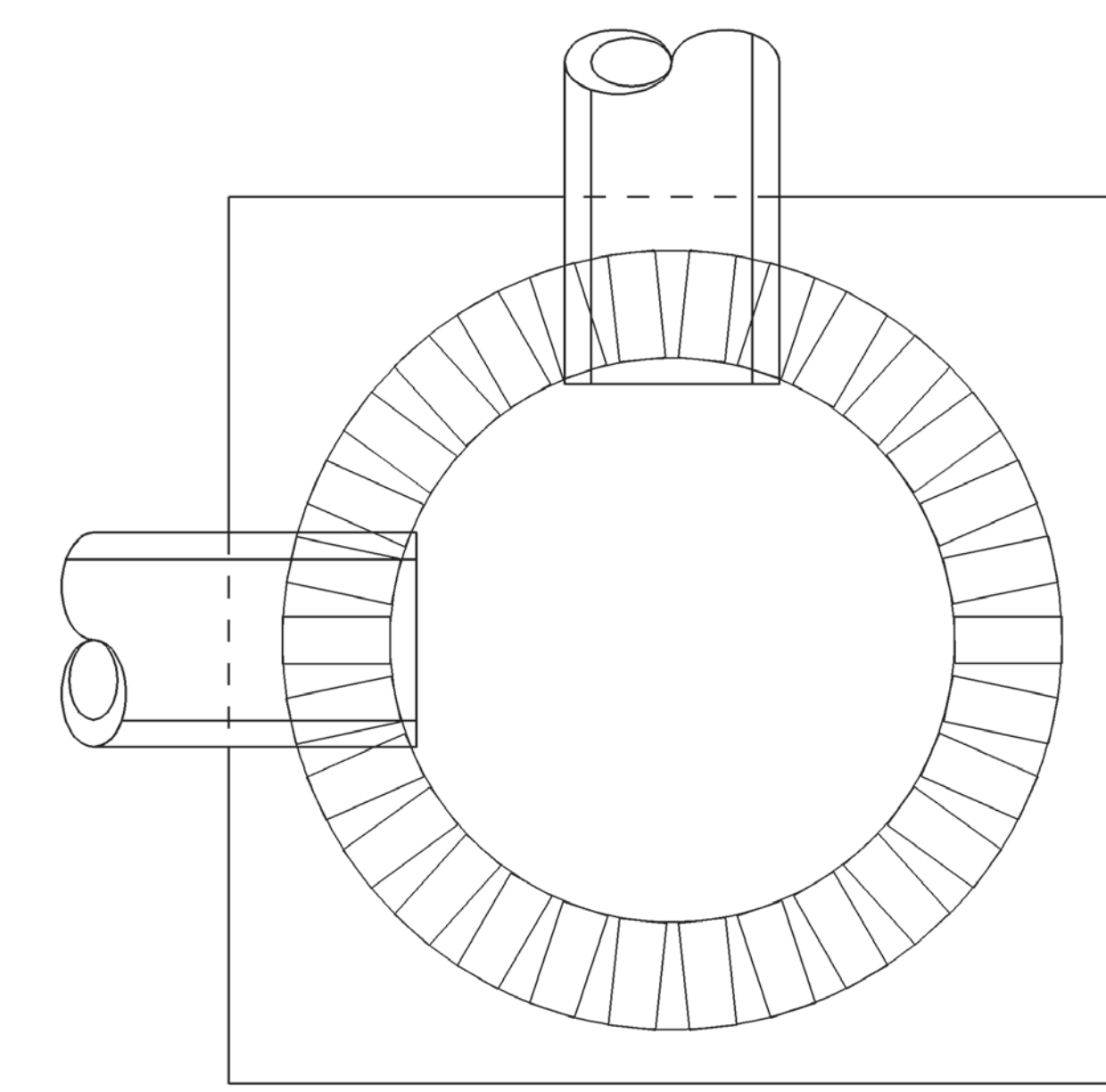
1. USE RAPID SET GROUT, MORTAR, OR CONCRETE WITH A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI.
2. REMOVE ALL FAULTY EXISTING BRICKWORK AND REPLACE WITH NEW BRICK MASONRY.
3. SHEER CUT EXCAVATION FOR THE ADJUSTMENT ON ALL SIDES.
4. FILL AREA BELOW 8" DEPTH WITH 78M OR NO. 57 CLEAN STONE.
5. MIX MORTAR TO NCDOT SPECIFICATIONS.
6. MORTAR JOINTS $\frac{1}{2}$ " +/- $\frac{1}{8}$ "



MANHOLE CONCRETE ENCASEMENT



VALVE BOX CONCRETE ENCASEMENT



ELEVATION VIEW

PLACE BRICK ACCORDING TO ELEVATION VIEW

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

ENGLISH DETAIL DRAWING FOR
MANHOLE AND VALVE BOX ADJUSTMENTS

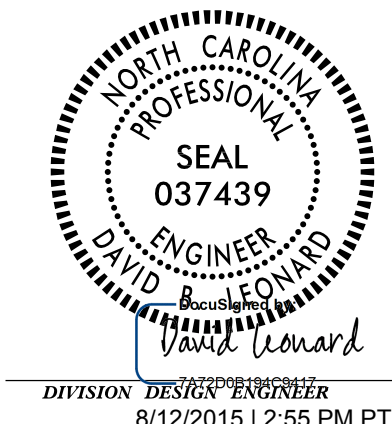
SHEET 1 OF 1
840D55

PROJECT SERVICES UNIT
STANDARDS AND SPECIAL DESIGN
Office 919-250-4128 FAX 919-250-4119

SEE PLATE FOR TITLE

ORIGINAL BY:	DATE:
MODIFIED BY: E.E. WARD	DATE:
CHECKED BY:	DATE:
FILE SPEC.: /usr/details/stand/840d55.dgn	

07-DEC-2005 14:25 S:\Contracts\Contractors\Special_Details\erward\usr\details\stand\840d55.dgn erward



SUMMARY OF PAVEMENT REMOVAL

STATION	STATION	LOCATION LT /RT /CL	ASPHALT REMOVAL (S.Y.)
-L- 78 + 32	-L- 83 + 84	CL	62
-L- 216 + 00	-L- 217 + 79	CL	60
-L1- 31 + 10	-L1- 33 + 19	CL	86
-L1- 34 + 46	-L1- 37 + 62	CL	196
-L1- 41 + 33	-L1- 46 + 77	CL	287
-L1- 73 + 89	-L1- 76 + 99	CL	189
PROJECT TOTALS:			880
SAY:			880

SUMMARY OF EARTHWORK

STATION	STATION	UNCL. EXCAV. (C.Y.)	UNDERCUT (C.Y.)	EMBANK. + % (C.Y.)	BORROW (C.Y.)	TOTAL WASTE (C.Y.)
-Y1- 17 + 70	-Y1- 19 + 46	20		3		18
-L- 15 + 14	-L- 17 + 73	30		4		26
-L- 53 + 00	-L- 67 + 00	869		1,414	632	87
-L- 69 + 00	-L- 84 + 00	789		203		587
-L- 88 + 00	-L- 100 + 00	612		183		430
-L- 108 + 50	-L- 122 + 00	786		100		686
-L- 130 + 50	-L- 143 + 50	965		54		911
-L- 144 + 00	-L- 157 + 00	698		105		593
-L- 198 + 00	-L- 213 + 00	1,029		323		707
-L- 215 + 50	-L- 224 + 50	420		3		418
-L- 235 + 00	-L- 251 + 00	496		60		436
-L- 251 + 50	-L- 264 + 00	624		343		282
-L- 264 + 50	-L- 274 + 00	188		88		101
-L1- 29 + 50	-L1- 45 + 50	804		533		272
-L1- 46 + 00	-L1- 58 + 50	514		558	95	51
-L1- 59 + 50	-L1- 74 + 00	677		648	38	68
-L1- 74 + 50	-L1- 88 + 00	538		604	120	54
-L1- 89 + 00	-L1- 102 + 50	475		596	169	48
-L1- 103 + 50	-L1- 117 + 00	536		643	160	54
-L1- 117 + 50	-L1- 142 + 00	688		559		129
-L1- 143 + 50	-L1- 159 + 00	249		481	257	25
PROJECT TOTALS:		12,007		7,497	1,469	5,977
WASTE IN LIEU OF BORROW					-1,469	-1,469
GRAND TOTALS:		12,007		7,497		4,508
SAY:		12,010		7,500		4,510

DDE = 1,800 C.Y.
 SHALLOW UNDERCUT = 2,500 C.Y.
 UNDERCUT EXCAVATION = 1000 C.Y.
 SELECT GRANULAR MATERIAL = 1000 C.Y.
 CLASS IV SUBGRADE STABILIZATION = 4,780 TONS
 CLASS IV AGGREGATE STABILIZATION = 500 TONS

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

COMPUTED BY: JLMOORE DATE: 6/1/2015
CHECKED BY: PA JORDAN DATE: 6/1/15

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROJECT NO. W-5103
SHEET NO. 3D-6

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

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

Table with columns for Station, Location (L.R. or CL), Structure No., Top 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 V, Quantities for Drainage Structures, Frame, Grates, and Hood Standard, Concrete Transitional Section, and Abbreviations. Includes summary rows for SHEET TOTALS and PROJECT TOTALS.

13C3D3D7448

REVISIONS

10

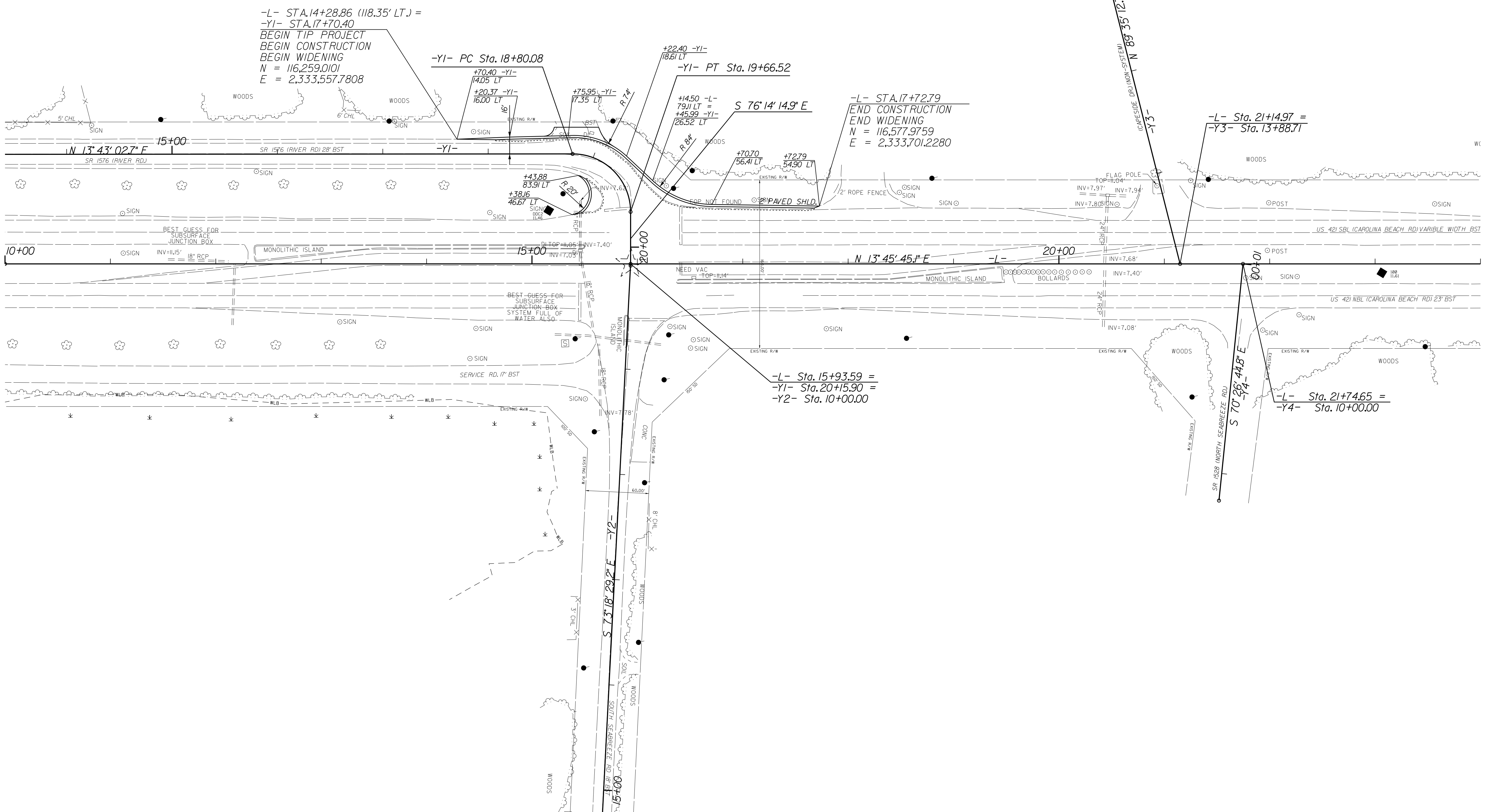
15

20

-Y1- CURVE 1
 PI Sta 19+35.13
 $\Delta = 90^{\circ} 02' 42.4" (RT)$
 $D = 104^{\circ} 10' 26.9"$
 $L = 86.44'$
 $T = 55.04'$
 $R = 55.00'$

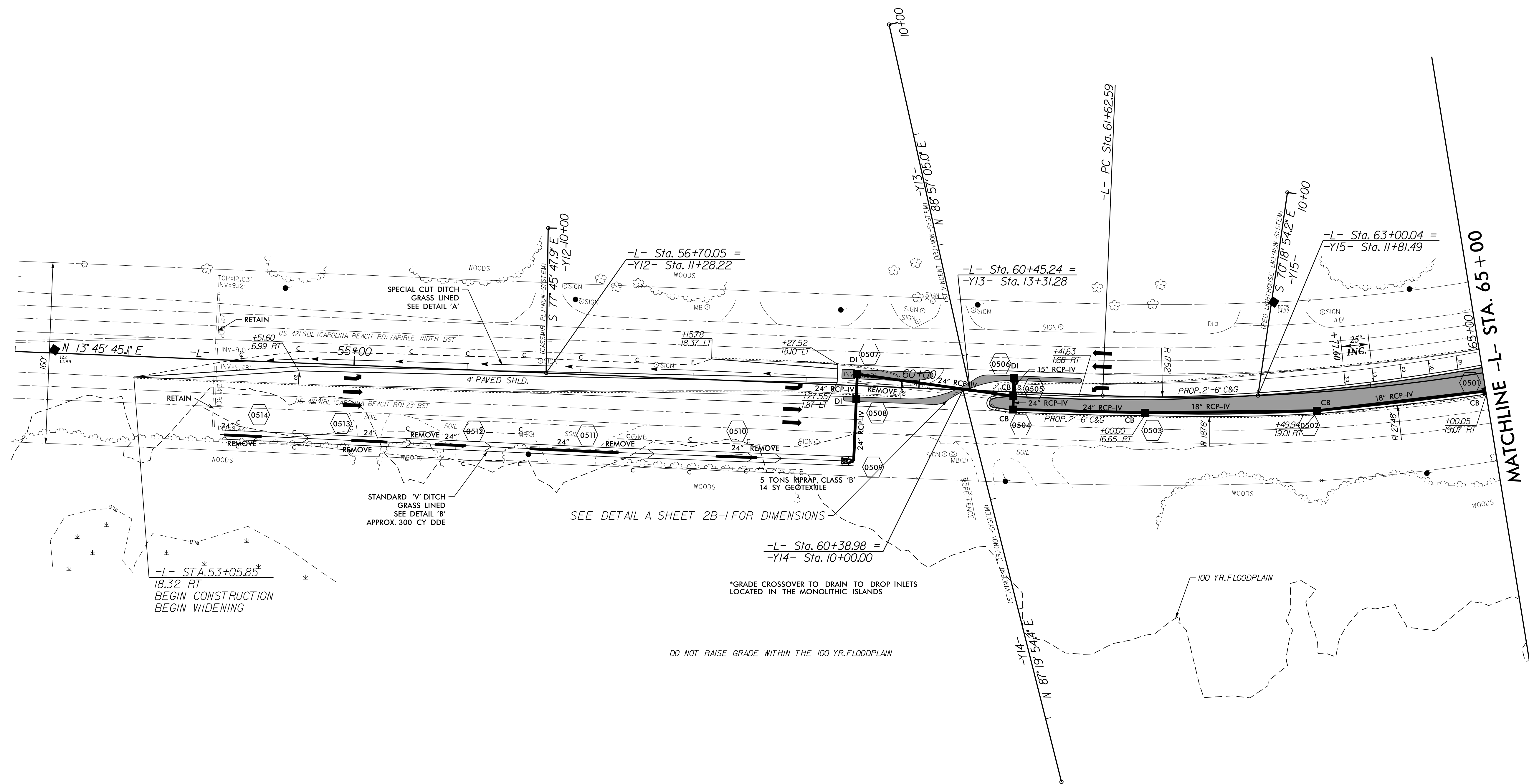
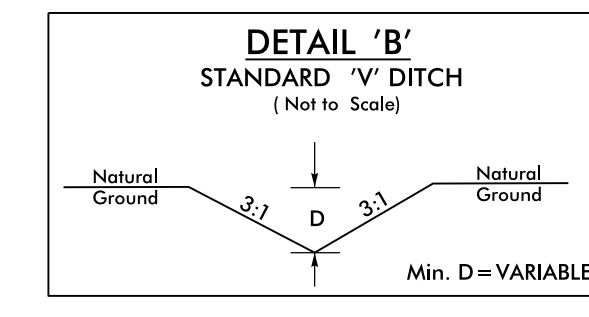
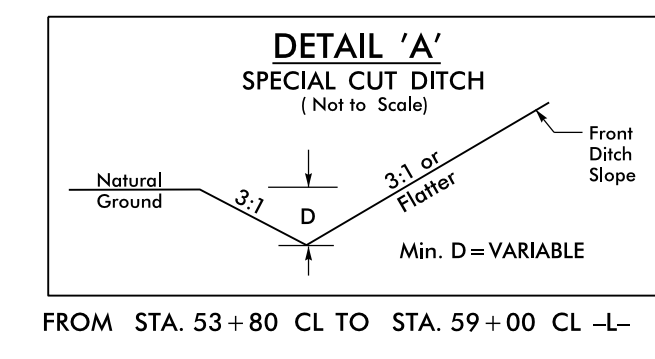
NAD 83/NSRS 2007

PROJECT REFERENCE NO. W-5103A		SHEET NO. 4	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER DAVID B. BOONARD SEAL 037439		HYDRAULICS ENGINEER LYLE M. MOORE SEAL 039745	
8/12/2015 2:55 PM PT		8/13/2015 9:00 AM ET	



10 AUG 2016 10:13 AM HANDOVER\W-5103A-41867-1.1.1.US 421 Median Crossover Relet (use this file)\ROADWAY\Proj\Plan_Sheets\W5103A-D03-Rdy_PSH_4.dgn

NAD 83/NSRS 2007

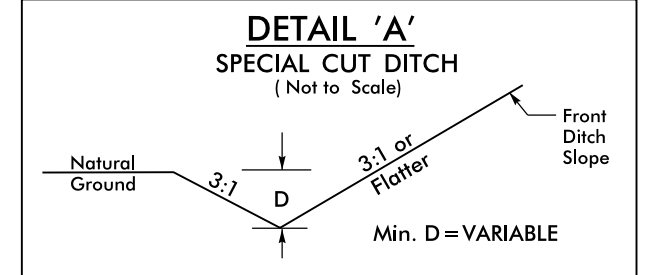


REVISIONS

8/17/99
 I:\AUG-2015\1513 NEW HANDOVER\W-5103A-41867-1.1.1\15 421 Median Crossover Relet (use this file)\ROADWAY\Proj\Plan_Sheets\W5103A-D03-Rdy_PSH_5.dgn
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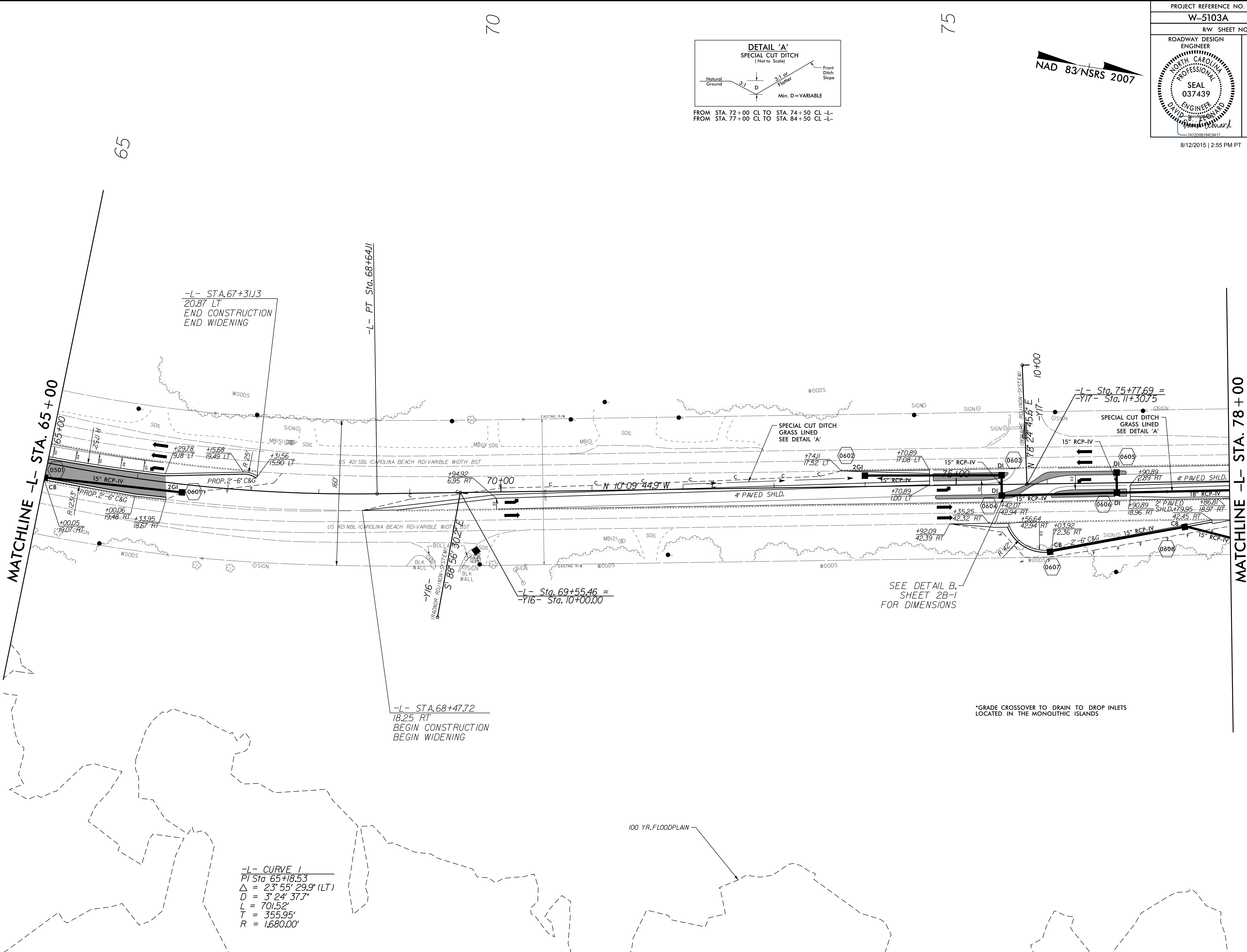
REVISIONS

PROJECT REFERENCE NO. W-5103A	SHEET NO. 6
RW SHEET NO.	
ROADWAY DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 037439 DAVID B. EDWARDS	HYDRAULICS ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 039745 LARRY E. MOUNTS
8/12/2015 2:55 PM PT	8/13/2015 9:00 AM ET



FROM STA. 72+00 CL TO STA. 74+50 CL -L-
FROM STA. 77+00 CL TO STA. 84+50 CL -L-

NAD 83/NSRS 2007



MATCHLINE -L- STA. 65+00

MATCHLINE -L- STA. 78+00

-L- STA. 67+31.13
20.87 LT
END CONSTRUCTION
END WIDENING

-L- PT Sta. 68+64.11

-L- STA. 68+47.72
18.25 RT
BEGIN CONSTRUCTION
BEGIN WIDENING

-L- Sta. 69+55.46 =
-Y16- Sta. 10+00.00

-L- Sta. 75+77.69 =
-Y17- Sta. 11+30.75

SEE DETAIL B,
SHEET 2B-1
FOR DIMENSIONS

*GRADE CROSSOVER TO DRAIN TO DROP INLETS
LOCATED IN THE MONOLITHIC ISLANDS

-L- CURVE 1
PI Sta 65+18.53
 $\Delta = 23^\circ 55' 29.9''$ (LT)
D = 3' 24' 37.7"
L = 701.52'
T = 355.95'
R = 1,680.00'

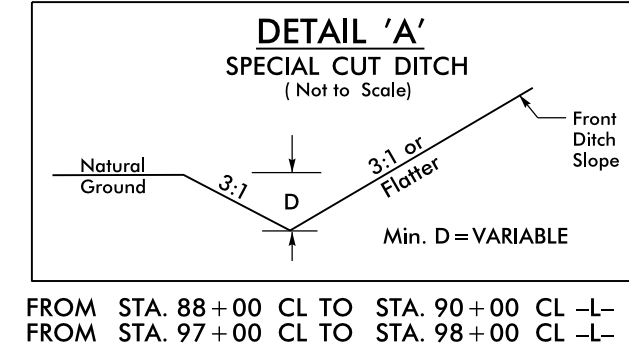
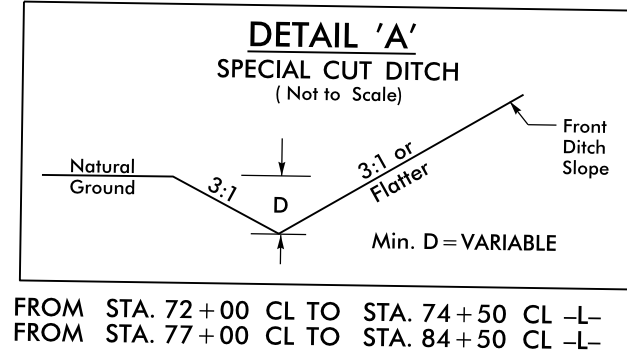
100 YR. FLOODPLAIN

REVISIONS

80

85

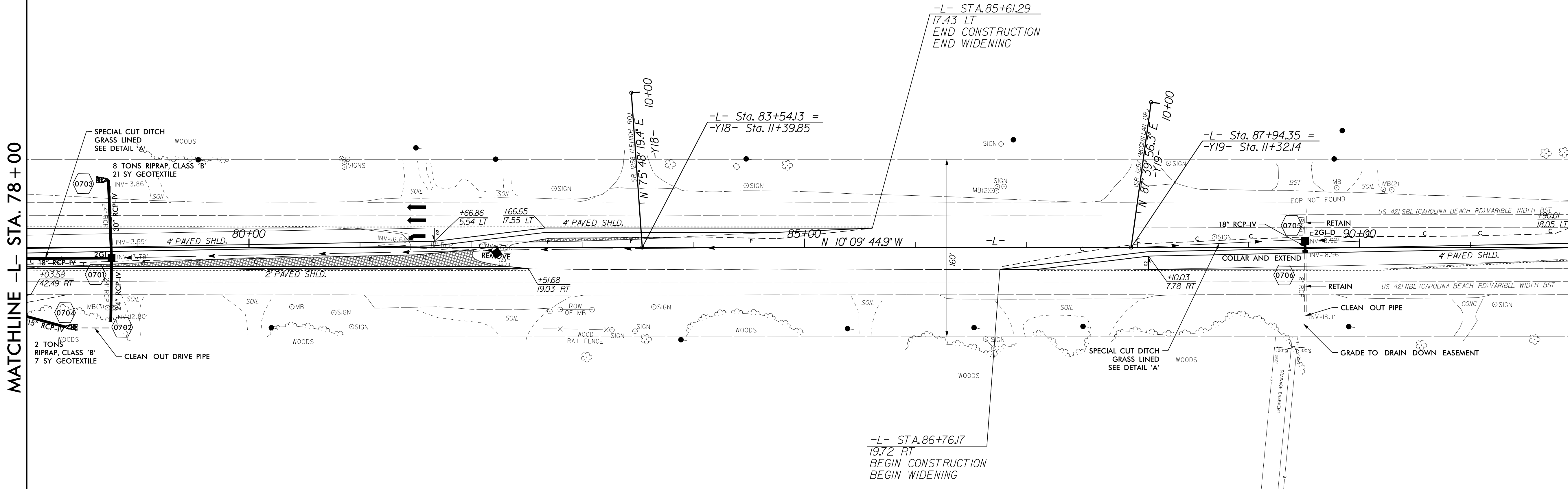
90



PROJECT REFERENCE NO. W-5103A	SHEET NO. 7
RW SHEET NO.	
ROADWAY DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 037439 <i>David Edward</i>	HYDRAULICS ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 039745 <i>Lyle</i>
8/12/2015 2:55 PM PT	8/13/2015 9:00 AM ET

MATCHLINE -L- STA. 78+00

MATCHLINE -L- STA. 92+00



-L- STA.86+76.17
19.72 RT
BEGIN CONSTRUCTION
BEGIN WIDENING

-L- STA.85+61.29
17.43 LT
END CONSTRUCTION
END WIDENING

-L- Sta.83+54.13 =
-Y18- Sta.11+39.85

-L- Sta.87+94.35 =
-Y19- Sta.11+32.14

N 75°48'19.4" E
10+00

N 87°39'56.3" E
10+00

N 10°09'44.9" W

8/17/99

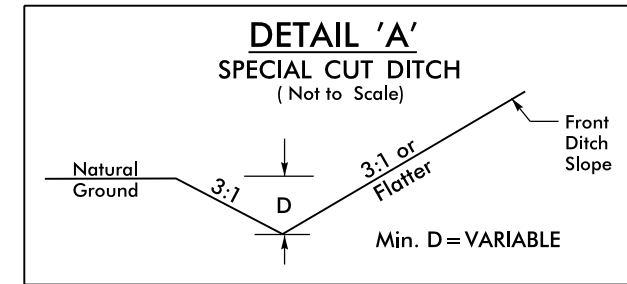
10-AUG-2016 10:13 AM HANDOVER\W-5103-41867-1.1.1-US 421 Median Crossover Relet (use this file)\ROADWAY\Proj\Plan_Sheets\W5103A-D03_PSH_B.dgn

REVISIONS

95

100

105



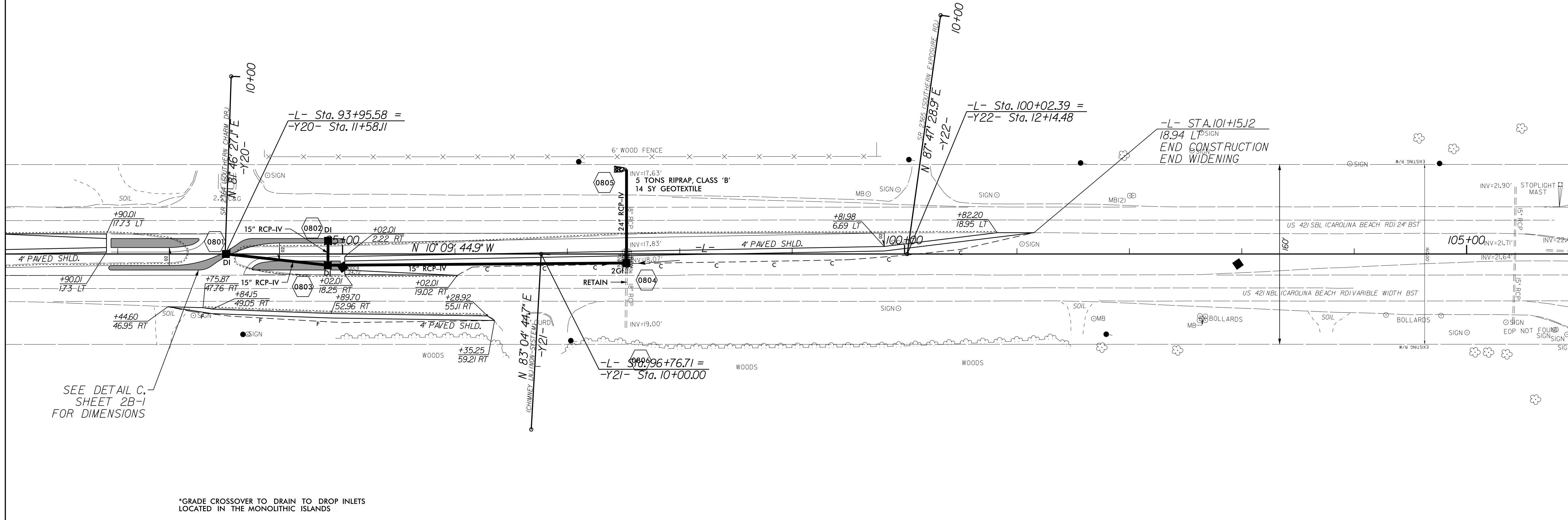
FROM STA. 88+00 CL TO STA. 90+00 CL -L-
 FROM STA. 97+00 CL TO STA. 98+00 CL -L-



PROJECT REFERENCE NO. W-5103A	SHEET NO. 8
RW SHEET NO.	
ROADWAY DESIGN ENGINEER DAVID B. BROWN SEAL 037439	HYDRAULICS ENGINEER DAVID B. BROWN SEAL 039745
8/12/2015 2:55 PM PT	
8/13/2015 9:00 AM ET	

MATCHLINE -L- STA. 92+00

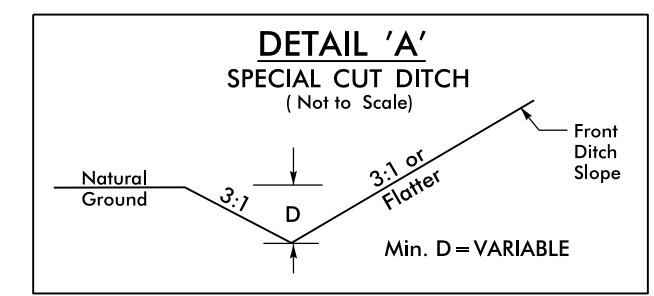
MATCHLINE -L- STA. 106+00



SEE DETAIL C,
 SHEET 2B-1
 FOR DIMENSIONS

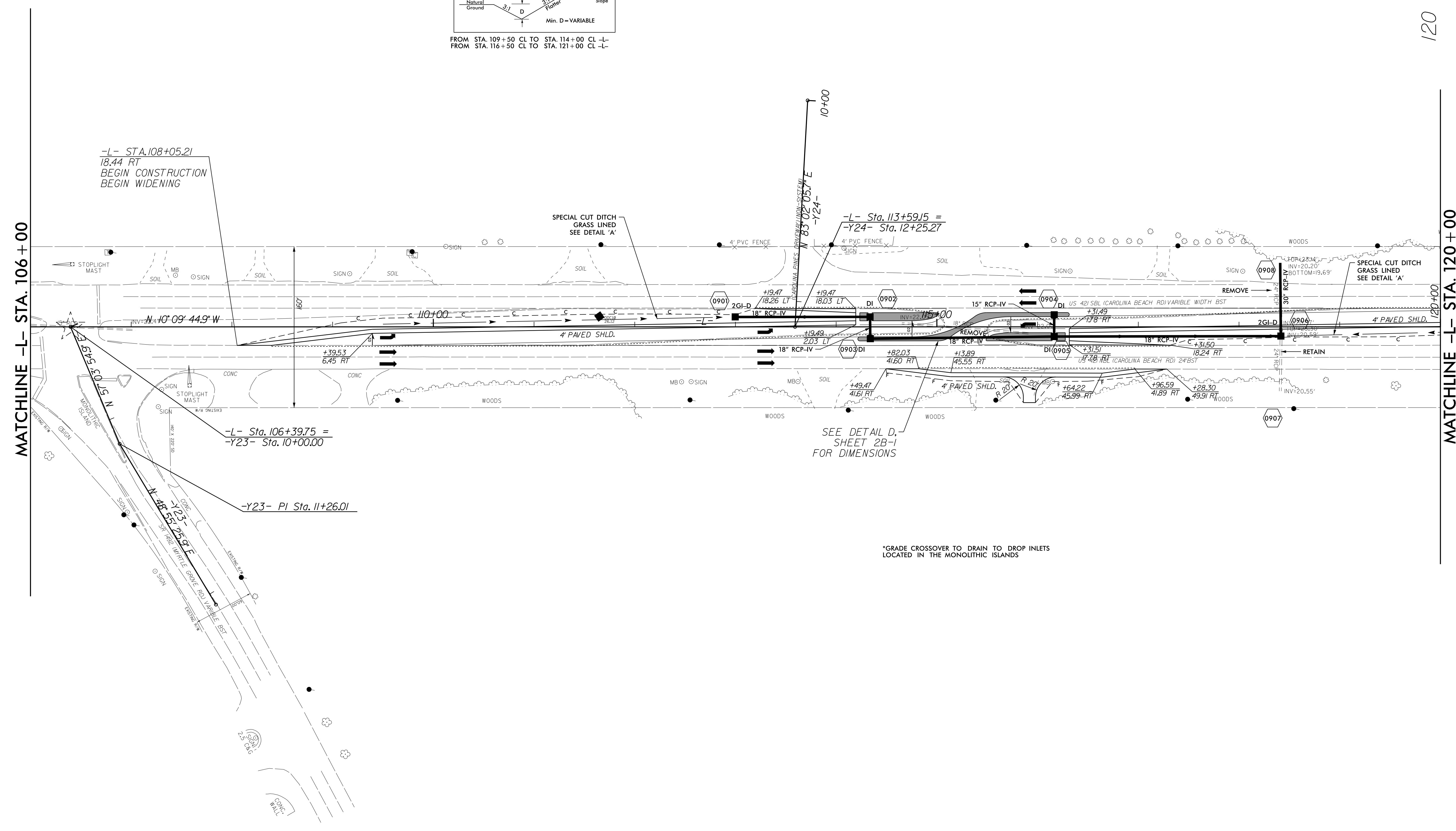
*GRADE CROSSOVER TO DRAIN TO DROP INLETS
 LOCATED IN THE MONOLITHIC ISLANDS

PROJECT REFERENCE NO. W-5103A	SHEET NO. 9
RW SHEET NO.	
ROADWAY DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 037439 DAVID S. LYON	HYDRAULICS ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 039745 DAVID S. LYON
8/12/2015 2:55 PM PT	8/13/2015 9:00 AM ET





FROM STA. 109+50 CL TO STA. 114+00 CL -L-
FROM STA. 116+50 CL TO STA. 121+00 CL -L-

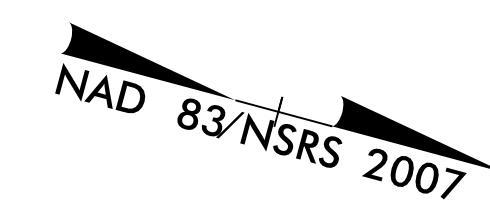
8/17/99
 REVISIONS
 I:\AUG-2015\1513 NEW HANDOVER\W-5103A-41867-1.1.1\US 421 Median Crossover Relet (use this file)\ROADWAY\Proj\Plan_Sheets\W5103A-D03_Rdy_PSH_9.dgn
 \$\$\$\$\$\$SUSPENSE\$\$\$\$\$\$



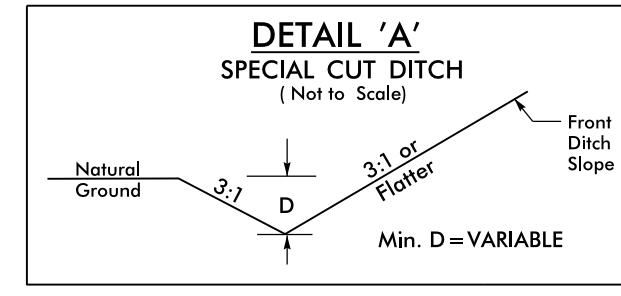
120

REVISIONS

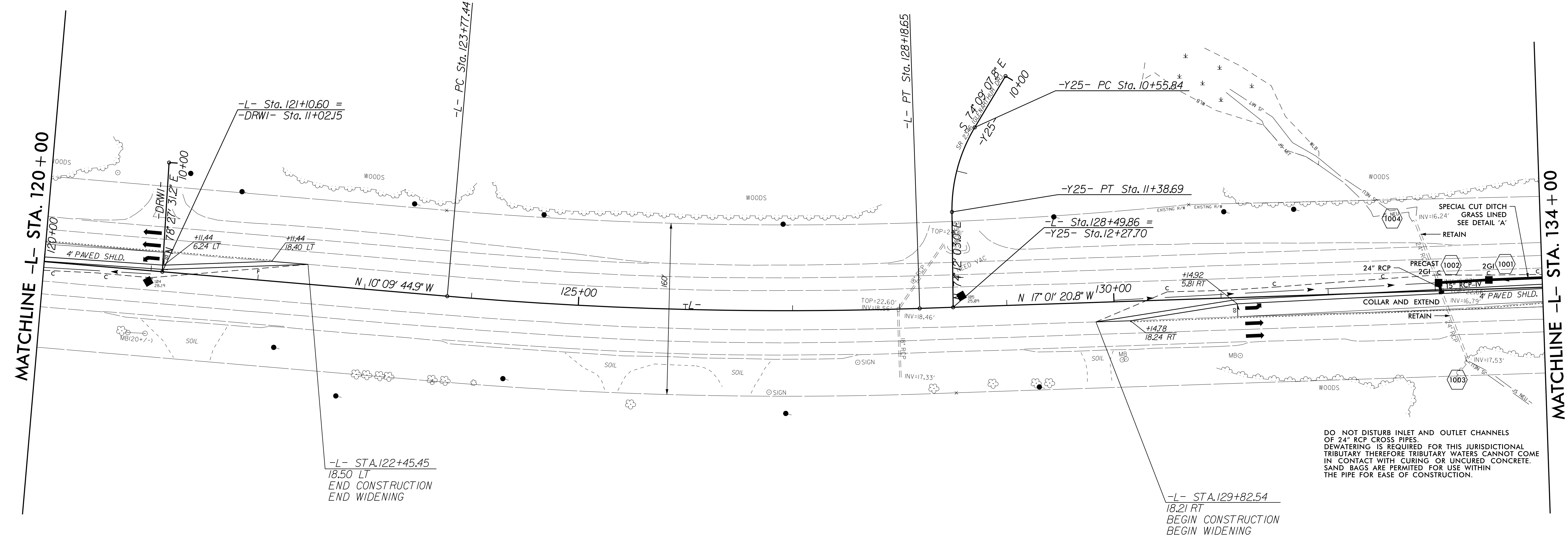
PROJECT REFERENCE NO. W-5103A		SHEET NO. 10	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
			
8/12/2015 2:55 PM PT		8/13/2015 9:00 AM ET	



-Y25- CURVE 1
 PI Sta 10+98.35
 $\Delta = 31^{\circ} 38' 49.2''$ (LT)
 $D = 38^{\circ} 11' 49.9''$
 $L = 82.85'$
 $T = 42.5'$
 $R = 150.00'$



FROM STA. 130+50 CL TO STA. 135+50 CL -L-

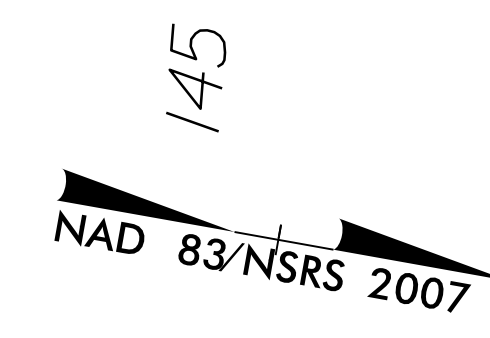


DO NOT DISTURB INLET AND OUTLET CHANNELS OF 24" RCP CROSS PIPES DEWATERING IS REQUIRED FOR THIS JURISDICTIONAL TRIBUTARY THEREFORE TRIBUTARY WATERS CANNOT COME IN CONTACT WITH CURING OR UNCURED CONCRETE. SAND BAGS ARE PERMITTED FOR USE WITHIN THE PIPE FOR EASE OF CONSTRUCTION.

-L- CURVE 2
 PI Sta 125+98.31
 $\Delta = 6^{\circ} 51' 35.9''$ (LT)
 $D = 1^{\circ} 33' 17.4''$
 $L = 441.20'$
 $T = 220.86'$
 $R = 3,685.00'$

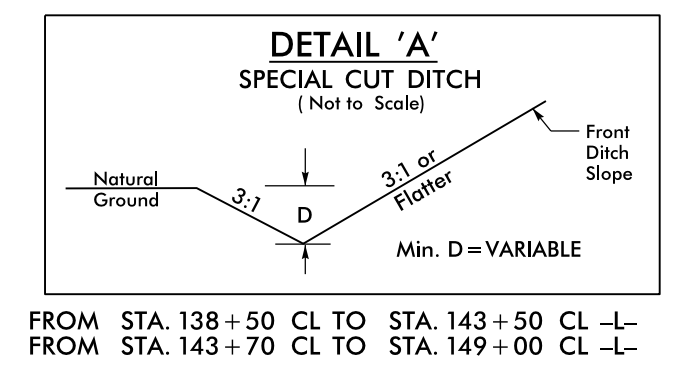
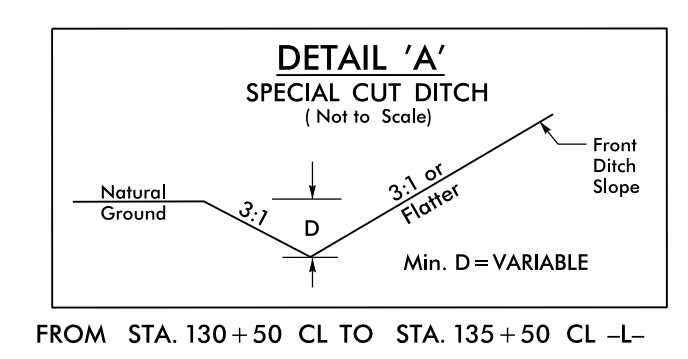
MATCHLINE -L- STA. 120+00

MATCHLINE -L- STA. 134+00

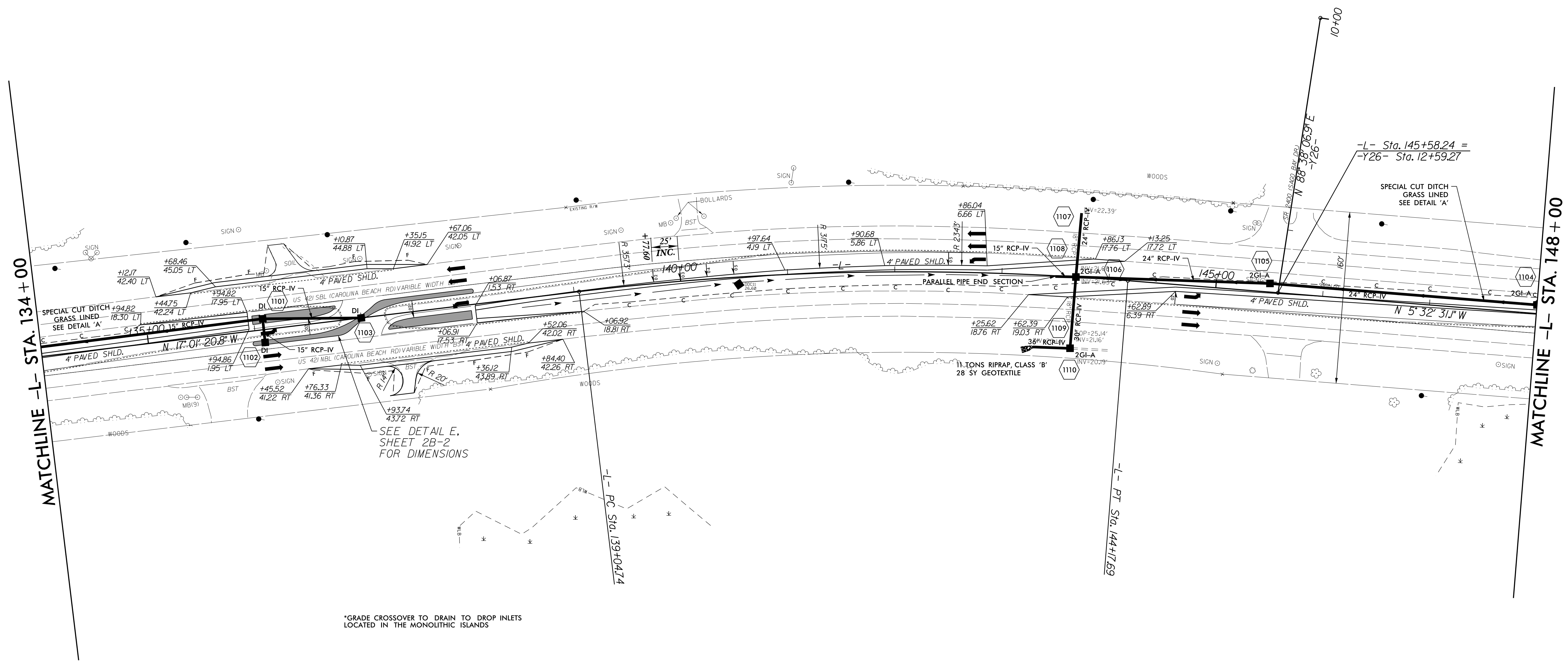


135
8/17/99

140



REVISIONS
 ID: AUG 2015 11:11 AM NEW HANDOVER W-5103A.DWG 41867.1.1.1 US 421 Median Crossover Relet (use this file) \ROADWAY\Proj\Plan_Sheets\W5103A-D03_PSH_11.dgn
 \$\$\$\$\$\$



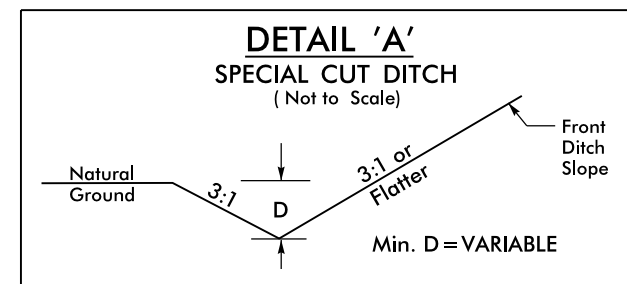
*GRADE CROSSOVER TO DRAIN TO DROP INLETS LOCATED IN THE MONOLITHIC ISLANDS

-L- CURVE 3
 PI Sta 141+62.08
 $\Delta = 11^{\circ} 28' 49.6''$ (RT)
 D = 2' 14' 17.2"
 L = 512.95'
 T = 257.34'
 R = 2,560.00'

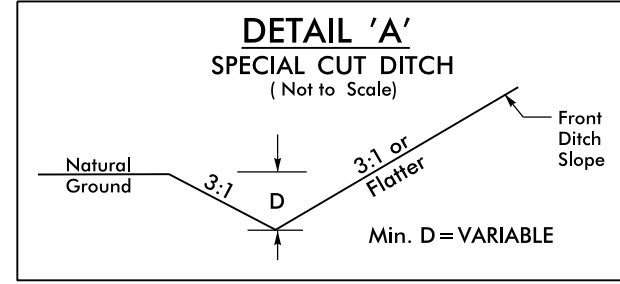
8/17/99

10 AUG 2015 10:41 AM NEW HANDOVER W-5103-41867-1.1.1 US 421 Median Crossover Relet (use this file) \ROADWAY\Proj\Plan_Sheets\W5103A-D03_PSH_12.dgn

REVISIONS

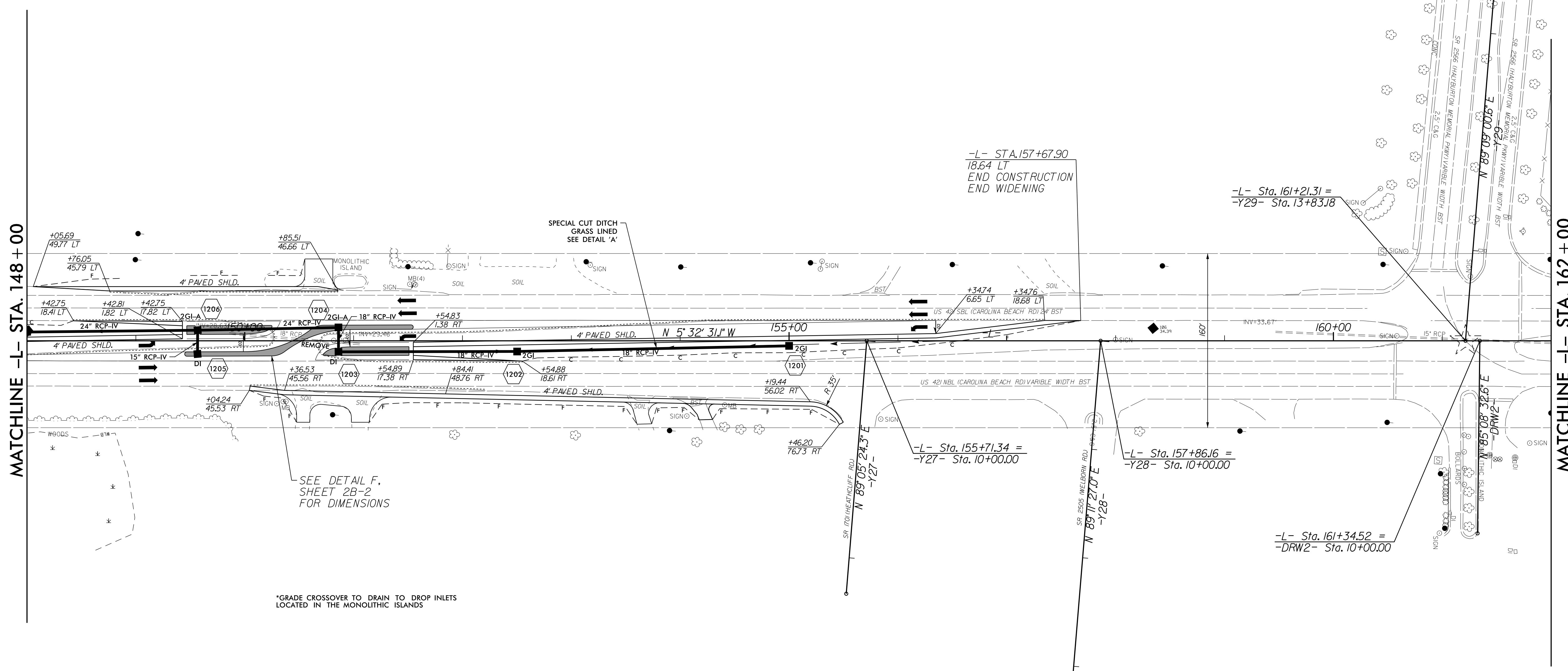


FROM STA. 138+50 CL TO STA. 143+50 CL -L-
 FROM STA. 143+70 CL TO STA. 149+00 CL -L-



FROM STA. 152+00 CL TO STA. 156+50 CL -L-

MATCHLINE -L- STA. 148+00



*GRADE CROSSOVER TO DRAIN TO DROP INLETS
 LOCATED IN THE MONOLITHIC ISLANDS

SEE DETAIL F,
 SHEET 2B-2
 FOR DIMENSIONS

SPECIAL CUT DITCH
 GRASS LINED
 SEE DETAIL 'A'

-L- STA. 157+67.90
 18.64 LT
 END CONSTRUCTION
 END WIDENING

-L- Sta. 161+21.31 =
 -Y29- Sta. 13+83.18

-L- Sta. 155+71.34 =
 -Y27- Sta. 10+00.00

-L- Sta. 157+86.16 =
 -Y28- Sta. 10+00.00

-L- Sta. 161+34.52 =
 -DRW2- Sta. 10+00.00

160



PROJECT REFERENCE NO. W-5103A		SHEET NO. 12	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
8/12/2015 2:55 PM PT		8/13/2015 9:00 AM ET	

MATCHLINE -L- STA. 162+00

REVISIONS

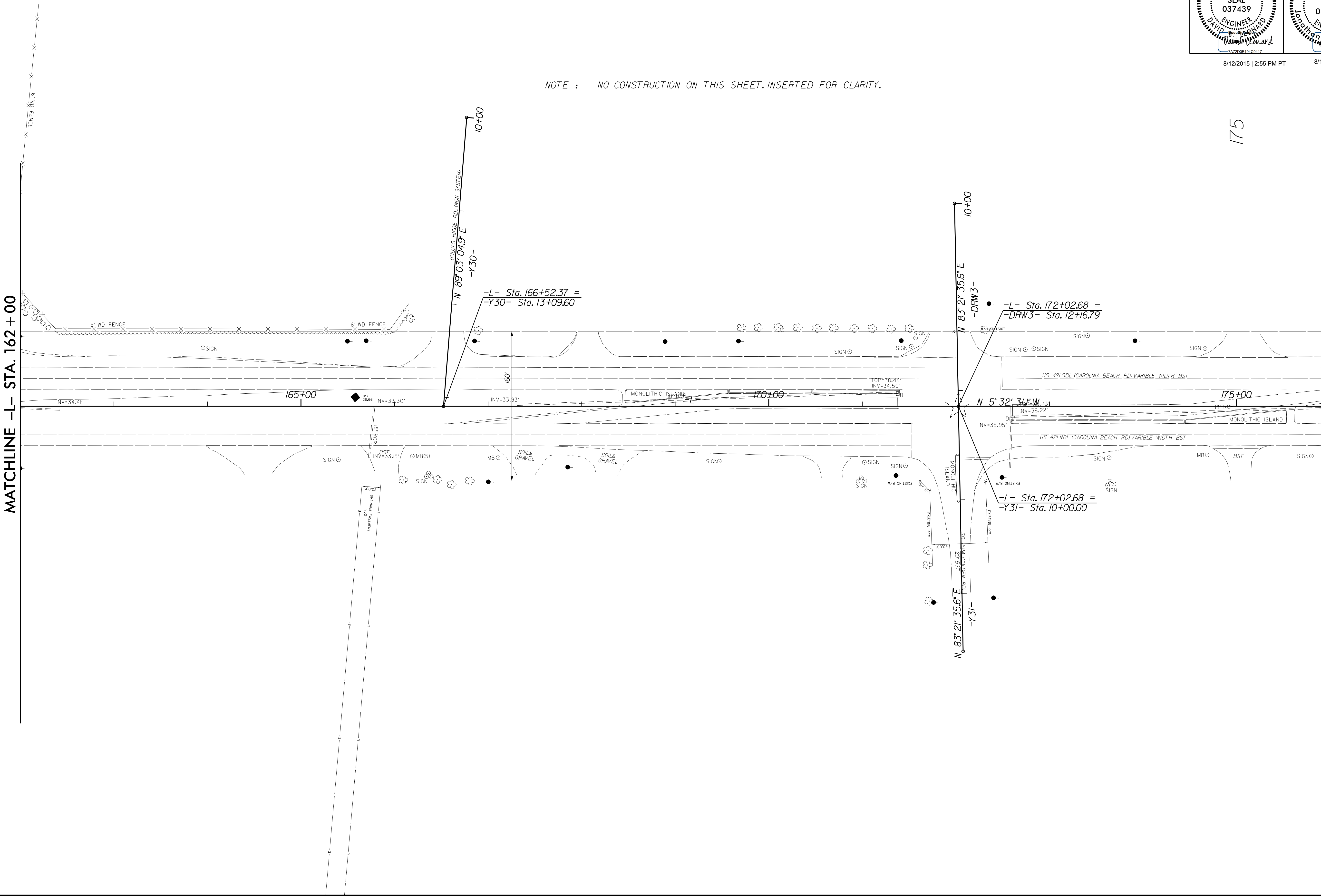
PROJECT REFERENCE NO. W-5103A	SHEET NO. 13
RW SHEET NO.	
ROADWAY DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 037439 DAVID B. LEONARD	HYDRAULICS ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 039745 DAVID B. LEONARD



8/12/2015 | 2:55 PM PT 8/13/2015 | 9:00 AM ET

MATCHLINE -L- STA. 162 + 00

MATCHLINE -L- STA. 176 + 00



NOTE : NO CONSTRUCTION ON THIS SHEET. INSERTED FOR CLARITY.

165

170

175

$$-L- \text{Sta. } 166+52.37 = -Y30- \text{Sta. } 13+09.60$$

$$-L- \text{Sta. } 172+02.68 = -DRW3- \text{Sta. } 12+16.79$$

$$-L- \text{Sta. } 172+02.68 = -Y31- \text{Sta. } 10+00.00$$

N 89° 03' 04.9" E
-Y30-
10+00

N 83° 21' 35.6" E
-DRW3-
10+00

N 5° 32' 31.1" W 131

ASSY
INVERTED PIPEWAY

N 83° 21' 35.6" E
-Y31-

INVERT

INVERT

INVERT

INVERT

INVERT

INVERT

INVERT

INVERT

INVERT

INVERT

INVERT

INVERT

INVERT

INVERT

INVERT

INVERT

INVERT

INVERT

8/17/99

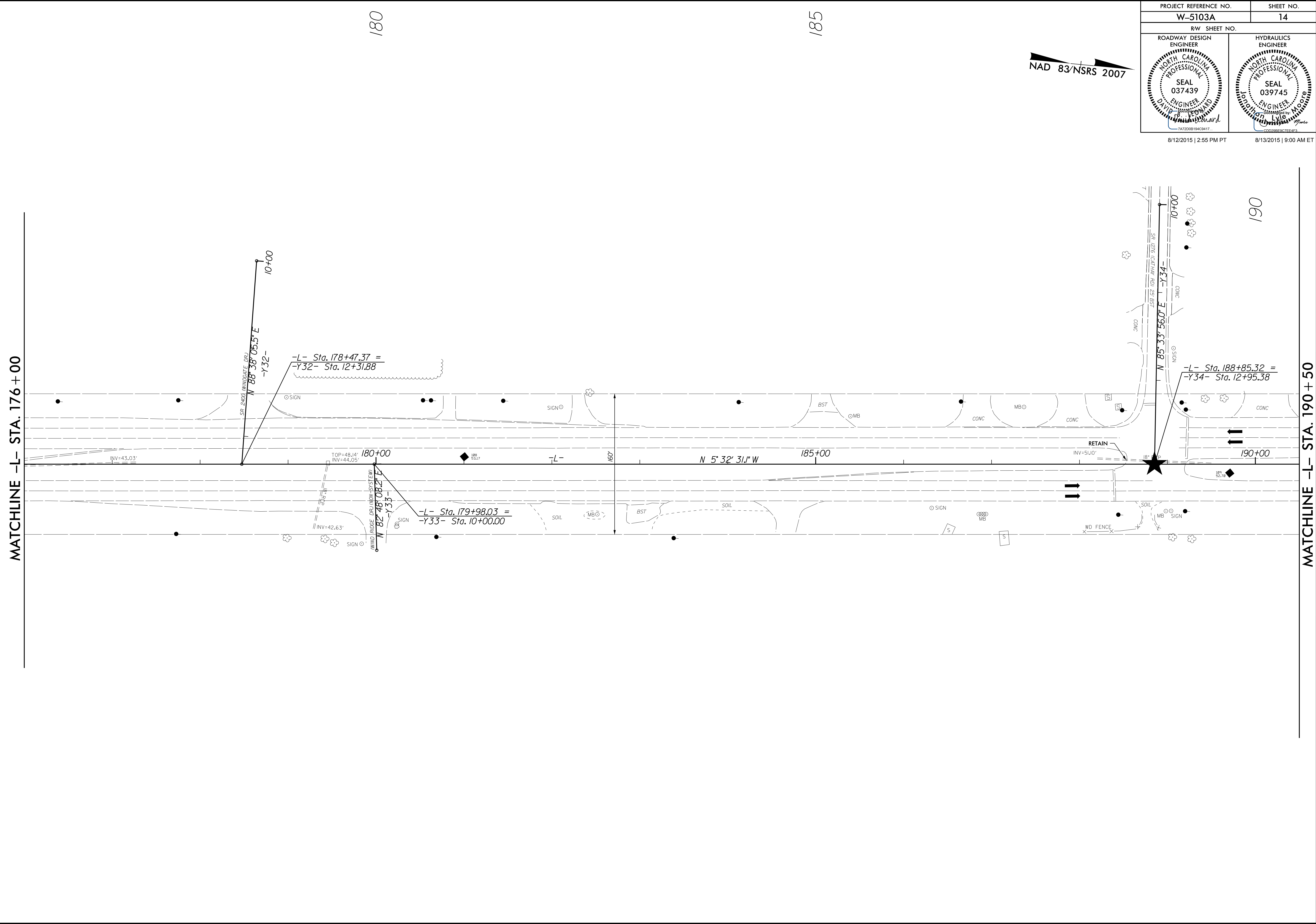
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REVISIONS

PROJECT REFERENCE NO. W-5103A	SHEET NO. 14
RW SHEET NO.	
ROADWAY DESIGN ENGINEER DAVID L. MOATE SEAL 037439 NORTH CAROLINA PROFESSIONAL ENGINEER	HYDRAULICS ENGINEER DAVID L. MOATE SEAL 039745 NORTH CAROLINA PROFESSIONAL ENGINEER



8/12/2015 | 2:55 PM PT 8/13/2015 | 9:00 AM ET



MATCHLINE -L- STA. 176 + 00

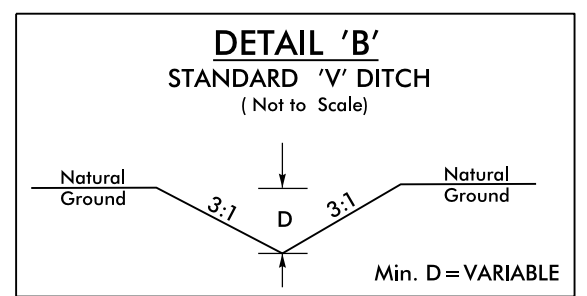
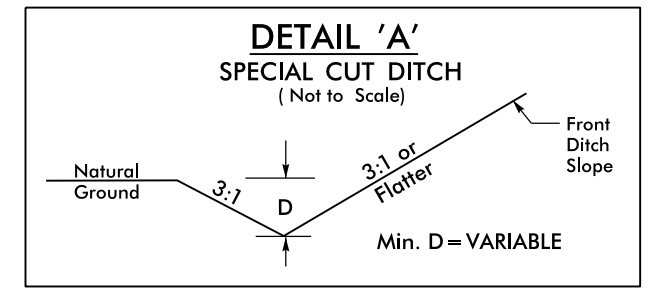
MATCHLINE -L- STA. 190 + 50

180

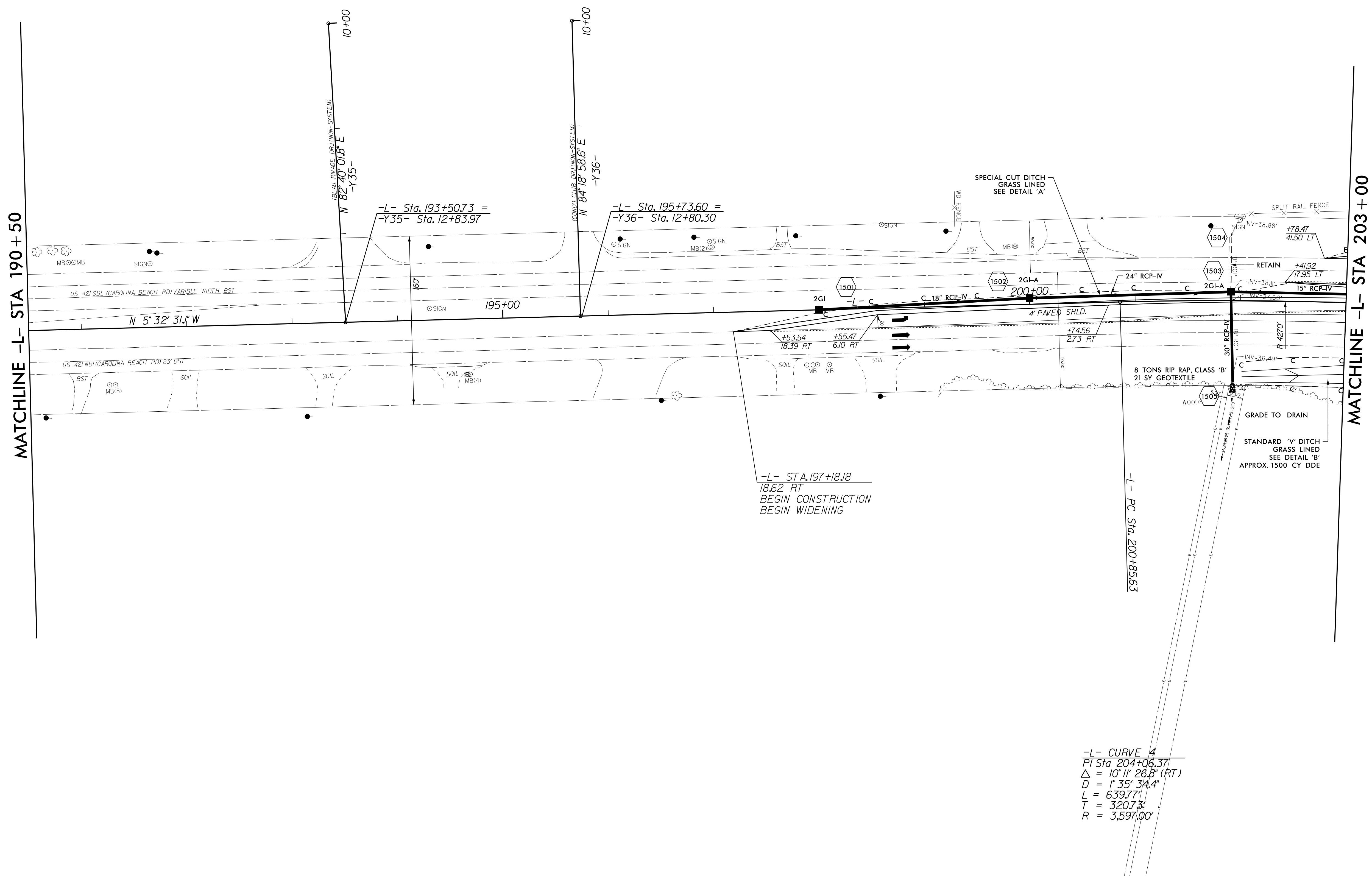
185

190

PROJECT REFERENCE NO. W-5103A	SHEET NO. 15
RW SHEET NO.	
ROADWAY DESIGN ENGINEER DAVID B. BOWMAN SEAL 037439 ENGINEER	HYDRAULICS ENGINEER DAVID B. BOWMAN SEAL 039745 ENGINEER
8/12/2015 2:55 PM PT	8/13/2015 9:00 AM ET



FROM STA. 193+50 CL TO STA. 195+50 CL -L-
FROM STA. 199+00 CL TO STA. 203+00 CL -L-



-L- CURVE 4
PI Sta 204+06.37
Δ = 10' 11" 26.8" (RT)
D = 1' 35' 34.4"
L = 639.77'
T = 320.73'
R = 3,597.00'

-L- STA. 197+18.18
18.62 RT
BEGIN CONSTRUCTION
BEGIN WIDENING

-L- Sta. 193+50.73 =
-Y35- Sta. 12+83.97

-L- Sta. 195+73.60 =
-Y36- Sta. 12+80.30

10+00
N 82° 40' 01.8" E
-Y35-

10+00
N 84° 18' 58.6" E
-Y36-

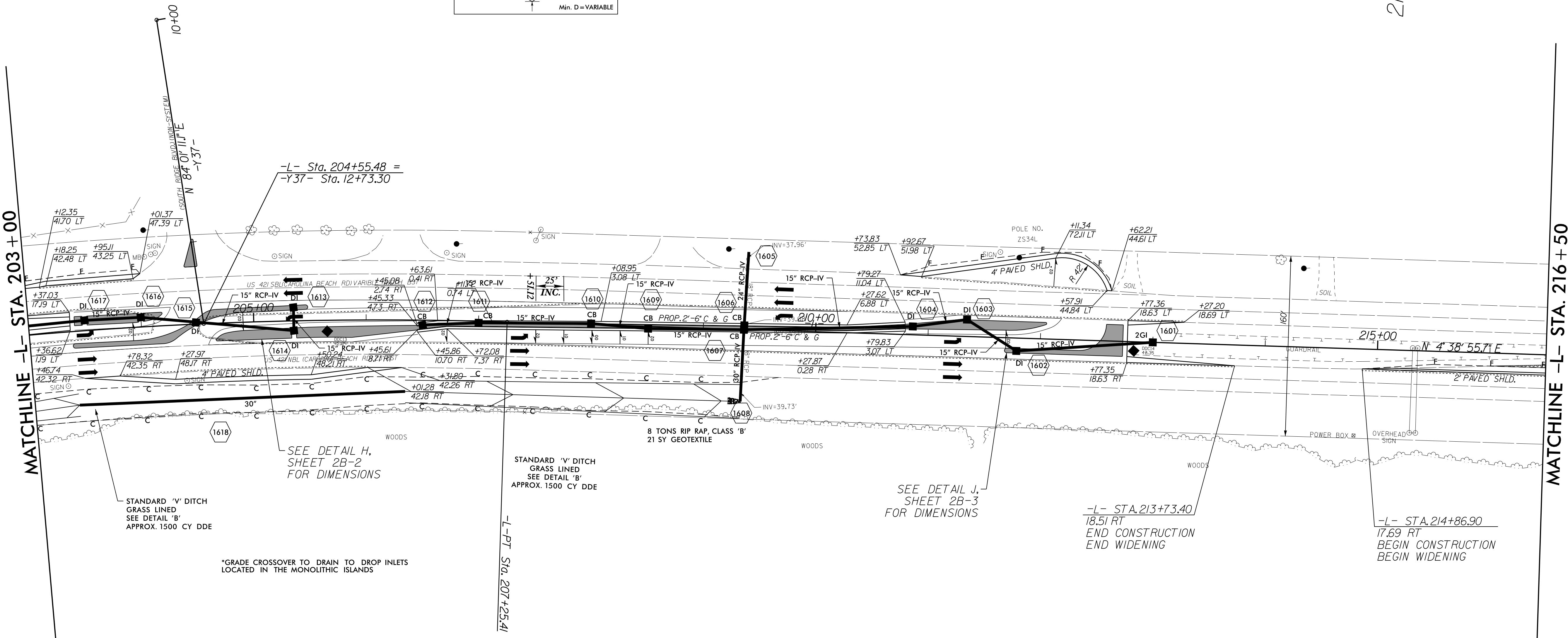
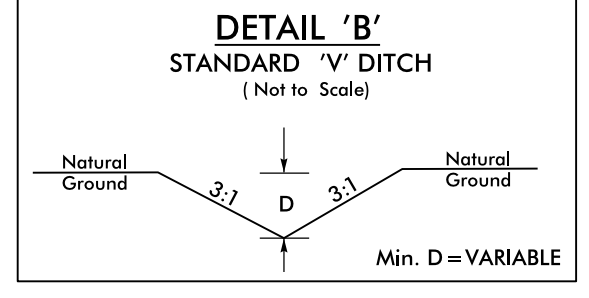
MATCHLINE -L- STA 190+50

MATCHLINE -L- STA 203+00

195

200

NAD 83/NSRS 2007



MATCHLINE -L- STA. 203 + 00

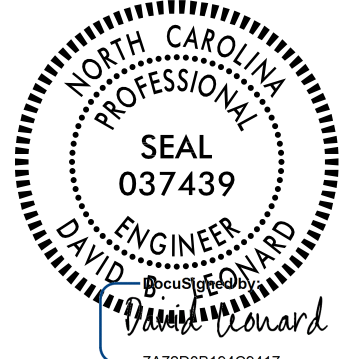
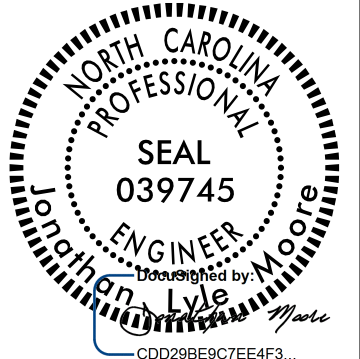
MATCHLINE -L- STA. 216 + 50

-L- CURVE 4
 PI Sta 204+06.37
 $\Delta = 10^\circ 11' 26.8''$ (RT)
 $D = 1^\circ 35' 34.4''$
 $L = 639.77'$
 $T = 320.73'$
 $R = 3,597.00'$

REVISIONS

8/17/99

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 \$\$\$SUSSENAVE\$\$\$

PROJECT REFERENCE NO. W-5103A		SHEET NO. 17	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
			
8/12/2015 2:55 PM PT		8/13/2015 9:00 AM ET	

NAD 83/NSRS 2007

220

225

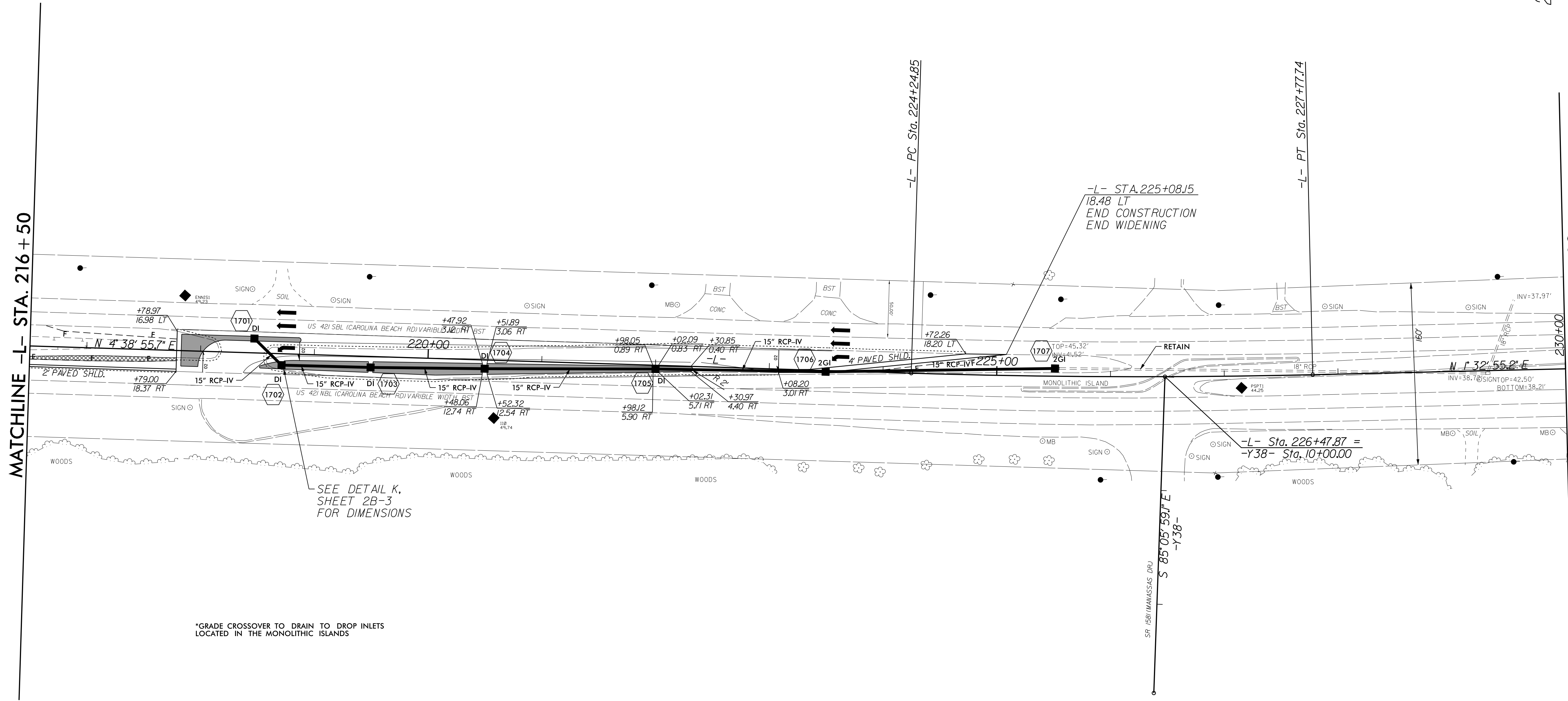
230

REVISIONS

I:\AUGUST 2015\NEW HANDOVER\W-5103A\11.1\US 421 Median Crossover Relet (use this file)\ROADWAY\Proj\Plan_Sheets\W5103A-D03_RdJ_PSH_17.dgn
 8/17/15

MATCHLINE -L- STA. 216 +50

MATCHLINE -L- STA. 230 +00



*GRADE CROSSOVER TO DRAIN TO DROP INLETS LOCATED IN THE MONOLITHIC ISLANDS

SEE DETAIL K, SHEET 2B-3 FOR DIMENSIONS

-L- CURVE 5
 PI Sta. 226+01.34
 $\Delta = 3^{\circ}06'00.6''$ (LT)
 $D = 0^{\circ}52'42.6''$
 $L = 352.89'$
 $T = 176.49'$
 $R = 6,522.00'$

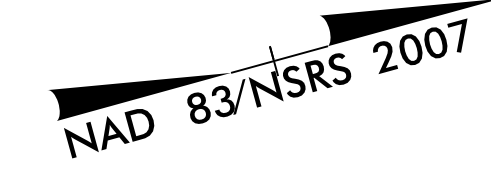
REVISIONS

PROJECT REFERENCE NO. W-5103A	SHEET NO. 18
RW SHEET NO.	
ROADWAY DESIGN ENGINEER DAVID S. TEAGARD	HYDRAULICS ENGINEER JOHN L. MOSE
8/12/2015 2:55 PM PT	8/13/2015 9:00 AM ET

230

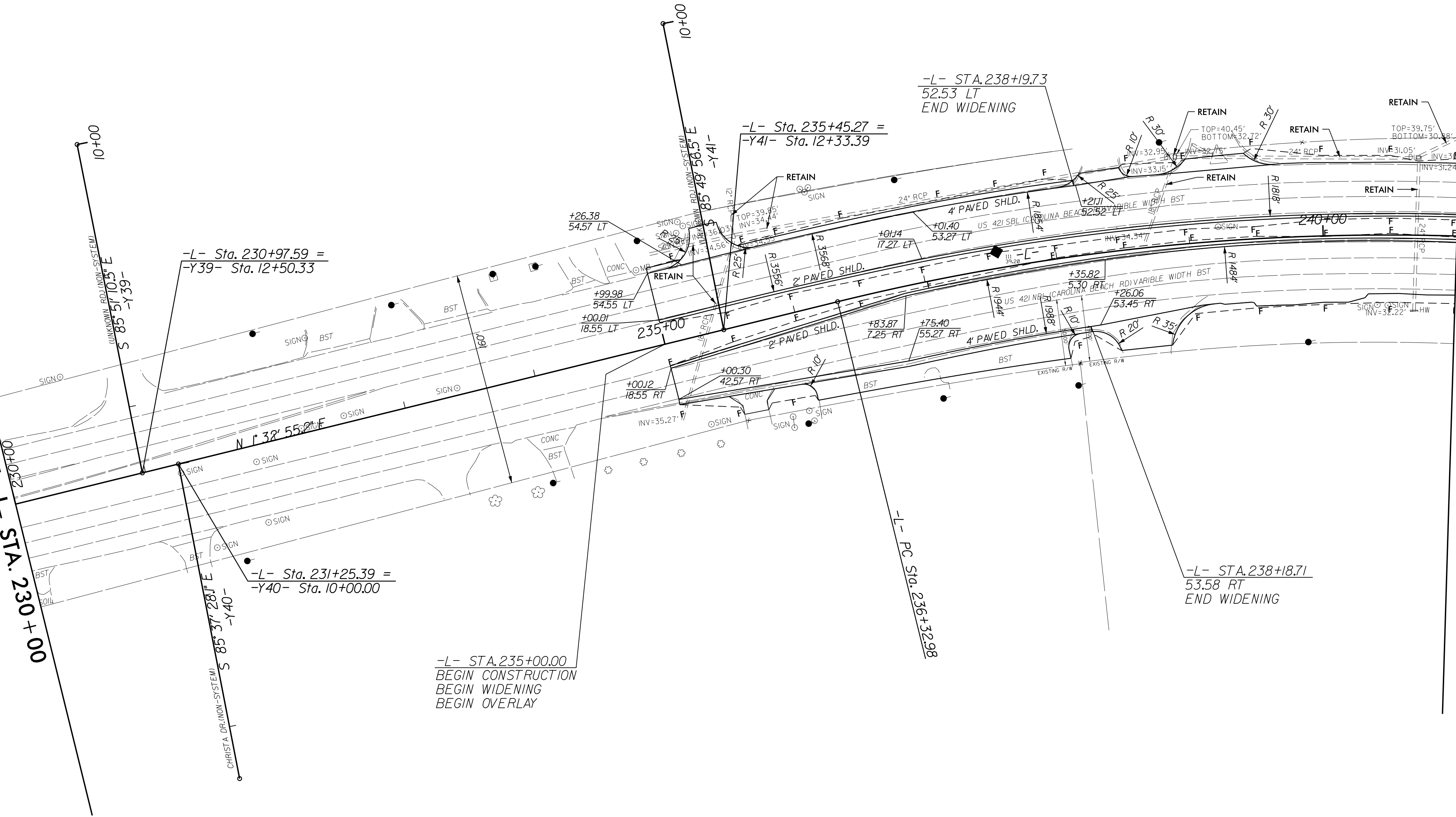
235

240



MATCHLINE -L- STA. 230+00

MATCHLINE -L- STA. 241+00



-L- Sta. 230+97.59 =
-Y39- Sta. 12+50.33

-L- Sta. 231+25.39 =
-Y40- Sta. 10+00.00

-L- STA. 235+00.00
BEGIN CONSTRUCTION
BEGIN WIDENING
BEGIN OVERLAY

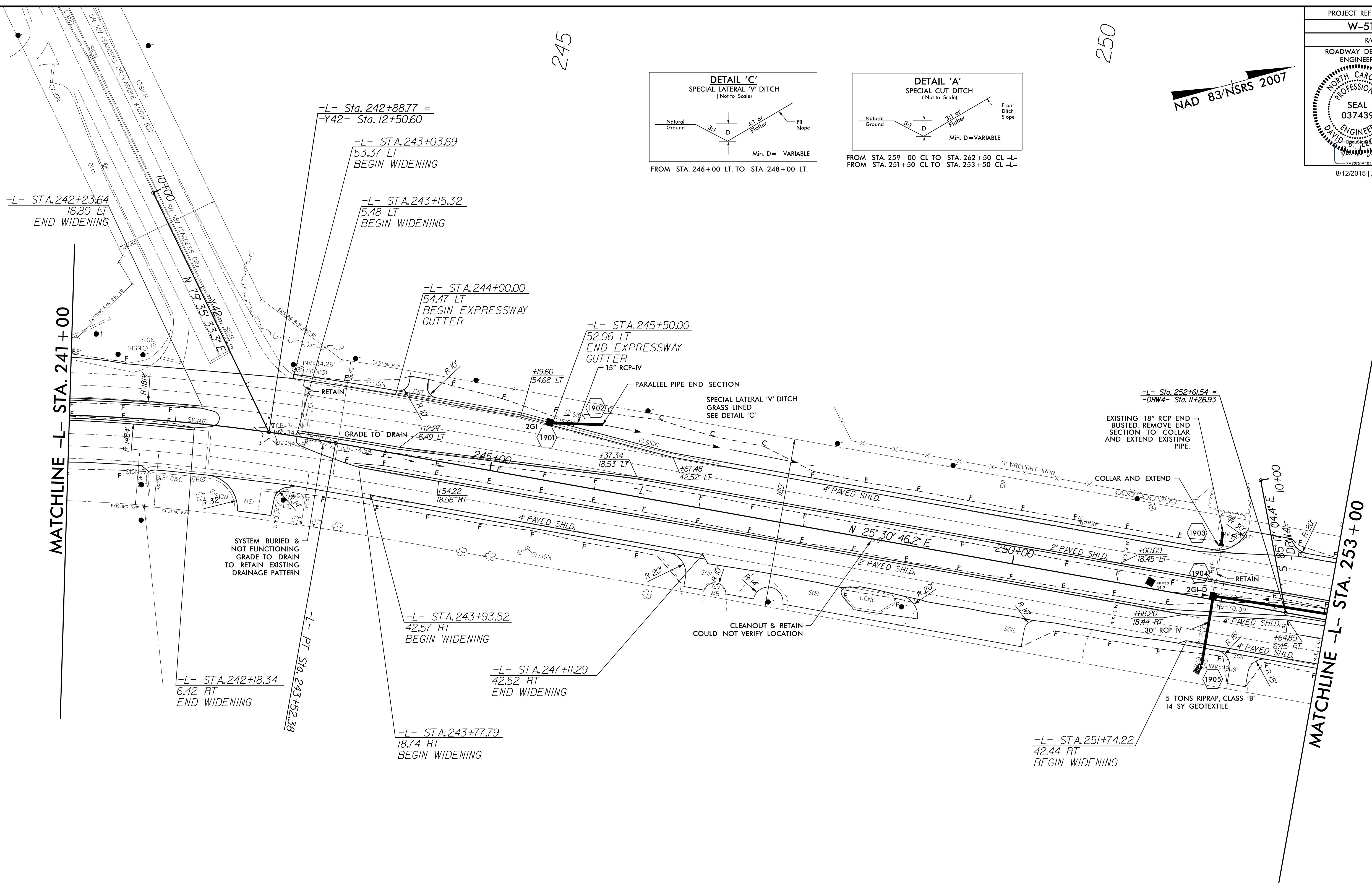
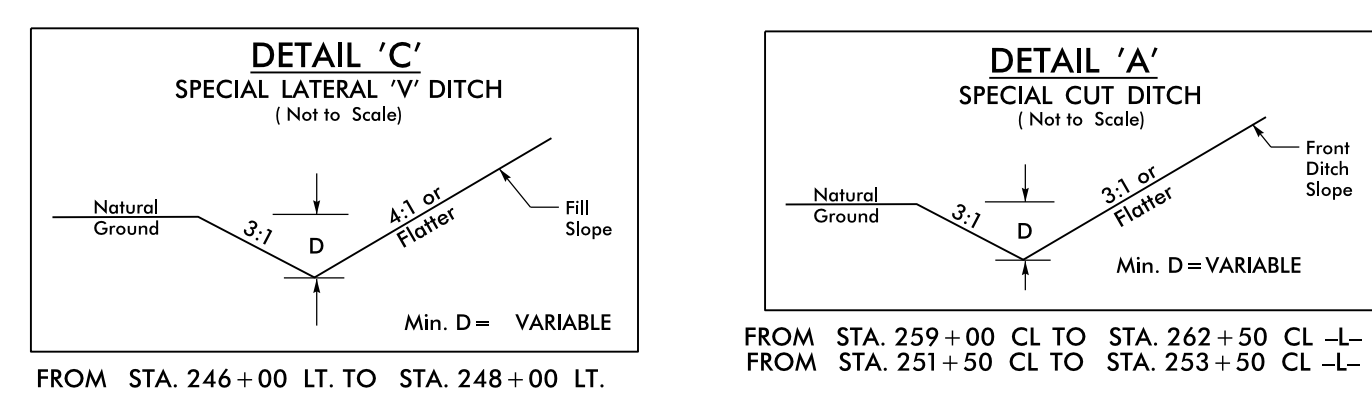
-L- Sta. 235+45.27 =
-Y41- Sta. 12+33.39

-L- STA. 238+9.73
52.53 LT
END WIDENING

-L- STA. 238+18.71
53.58 RT
END WIDENING

-L- CURVE 6
 PI Sta 239+98.02
 $\Delta = 23^\circ 57' 51.0''$ (RT)
 D = 3' 19' 52.1"
 L = 719.40'
 T = 365.04'
 R = 1,720.00'

NAD 83/NSRS 2007



MATCHLINE -L- STA. 241+00

MATCHLINE -L- STA. 253+00

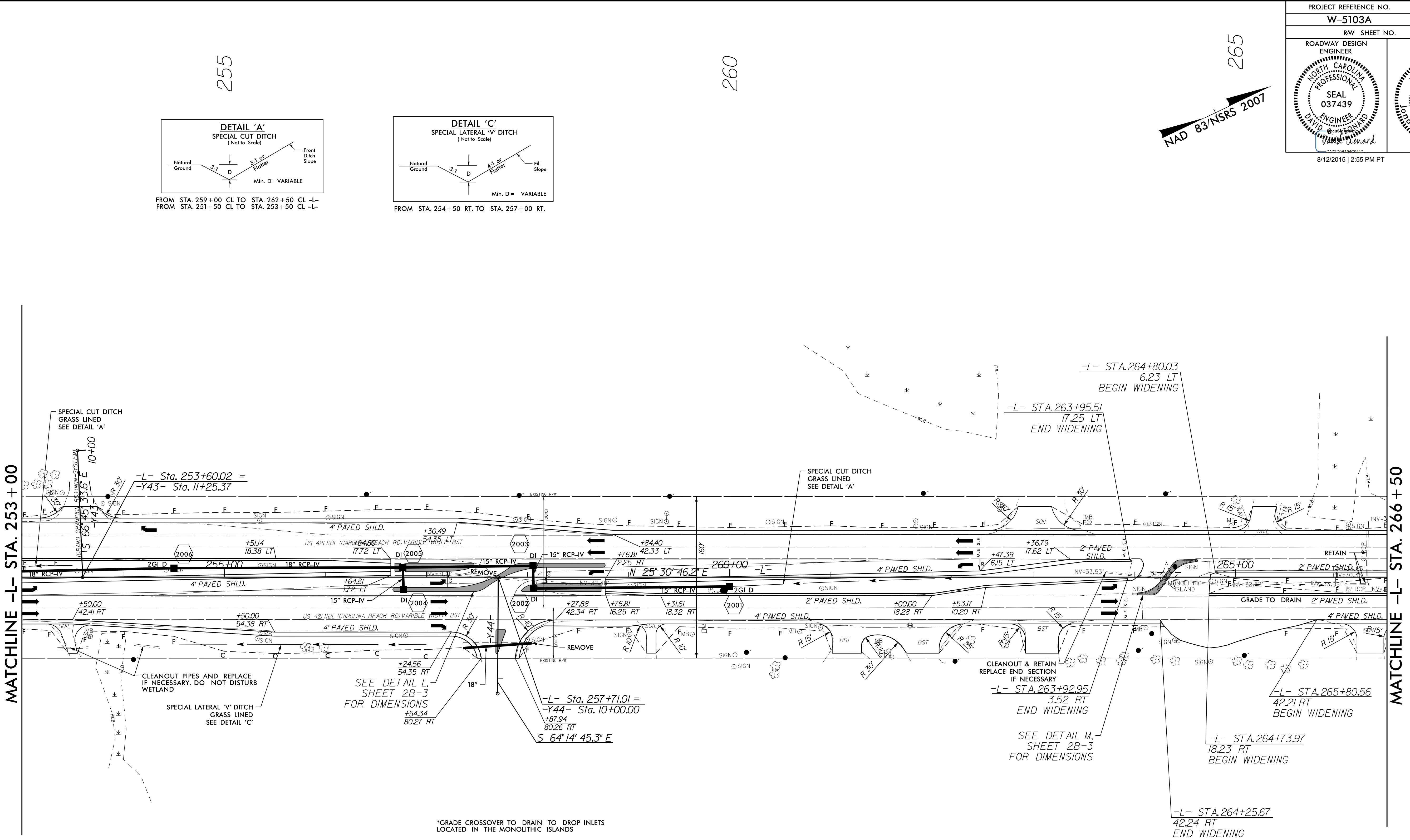
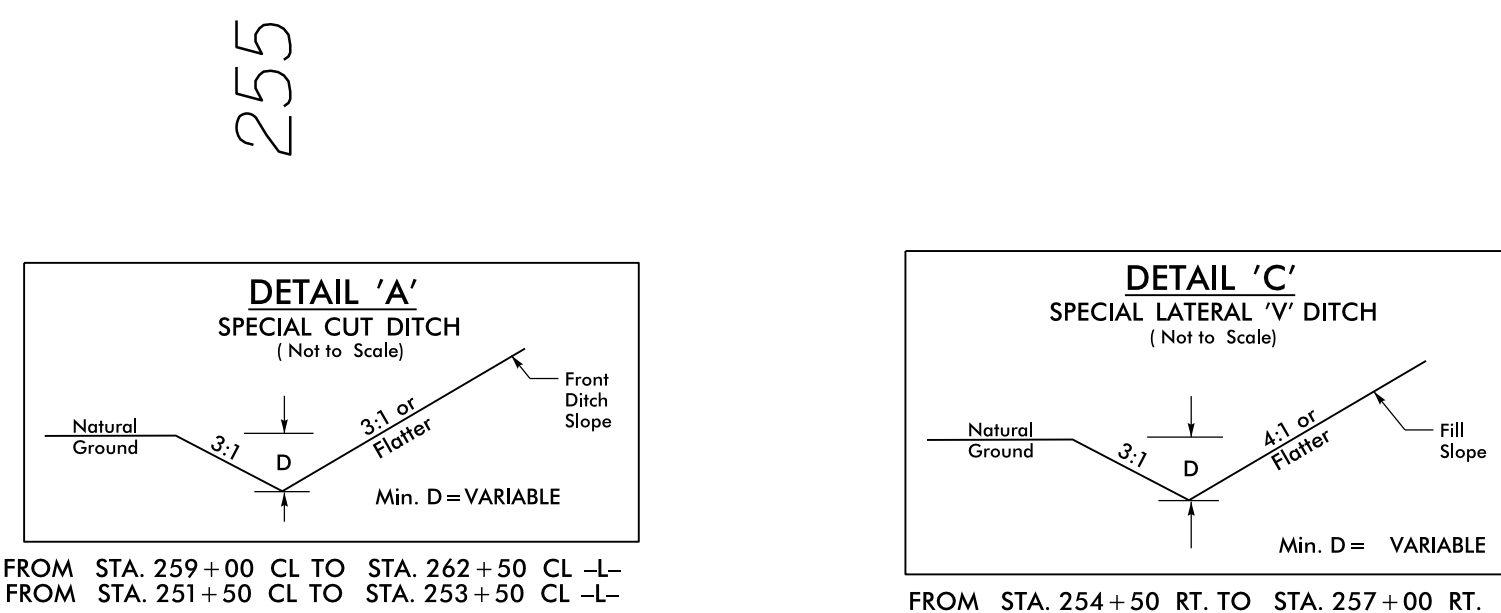
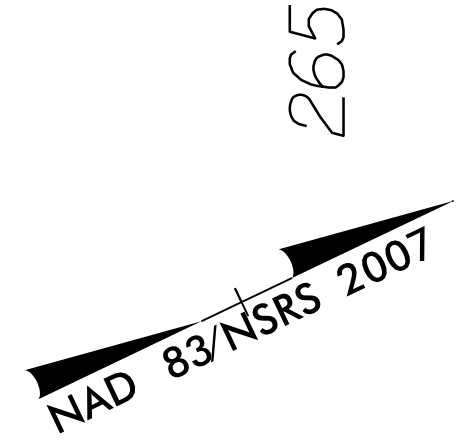
-L- CURVE 6
PI Sta 239+98.02
Δ = 23° 57' 51.0" (RT)
D = 3' 19" 52.1"
L = 719.40'
T = 365.04'
R = 1,720.00'

REVISIONS

8/17/99
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 \$\$\$\$\$\$

REVISIONS

PROJECT REFERENCE NO. W-5103A	SHEET NO. 20
RW SHEET NO.	
ROADWAY DESIGN ENGINEER DAVID B. DENARD SEAL 037439 NORTH CAROLINA PROFESSIONAL ENGINEER	HYDRAULICS ENGINEER DAVID B. DENARD SEAL 039745 NORTH CAROLINA PROFESSIONAL ENGINEER
8/12/2015 2:55 PM PT	8/13/2015 9:00 AM ET



MATCHLINE -L- STA. 253 + 00

MATCHLINE -L- STA. 266 + 50

255

260

265

*GRADE CROSSOVER TO DRAIN TO DROP INLETS LOCATED IN THE MONOLITHIC ISLANDS

FROM STA. 259+00 CL TO STA. 262+50 CL -L-
FROM STA. 251+50 CL TO STA. 253+50 CL -L-

FROM STA. 254+50 RT. TO STA. 257+00 RT.

-L- Sta. 253+60.02 =
-Y43- Sta. 11+25.37

-L- Sta. 257+71.01 =
-Y44- Sta. 10+00.00

-L- STA. 264+80.03
6.23 LT
BEGIN WIDENING

-L- STA. 263+95.51
17.25 LT
END WIDENING

-L- STA. 263+92.95
3.52 RT
END WIDENING

-L- STA. 265+80.56
42.21 RT
BEGIN WIDENING

-L- STA. 264+73.97
18.23 RT
BEGIN WIDENING

-L- STA. 264+25.67
42.24 RT
END WIDENING

SEE DETAIL L,
SHEET 2B-3
FOR DIMENSIONS

SEE DETAIL M,
SHEET 2B-3
FOR DIMENSIONS

CLEANOUT PIPES AND REPLACE
IF NECESSARY. DO NOT DISTURB
WETLAND

CLEANOUT & RETAIN
REPLACE END SECTION
IF NECESSARY

REVISIONS

PROJECT REFERENCE NO. W-5103A	SHEET NO. 21
RW SHEET NO.	
ROADWAY DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 037439 DAVID B. LEONARD	HYDRAULICS ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 039745 DAVID B. LEONARD
8/12/2015 2:55 PM PT	8/13/2015 9:00 AM ET

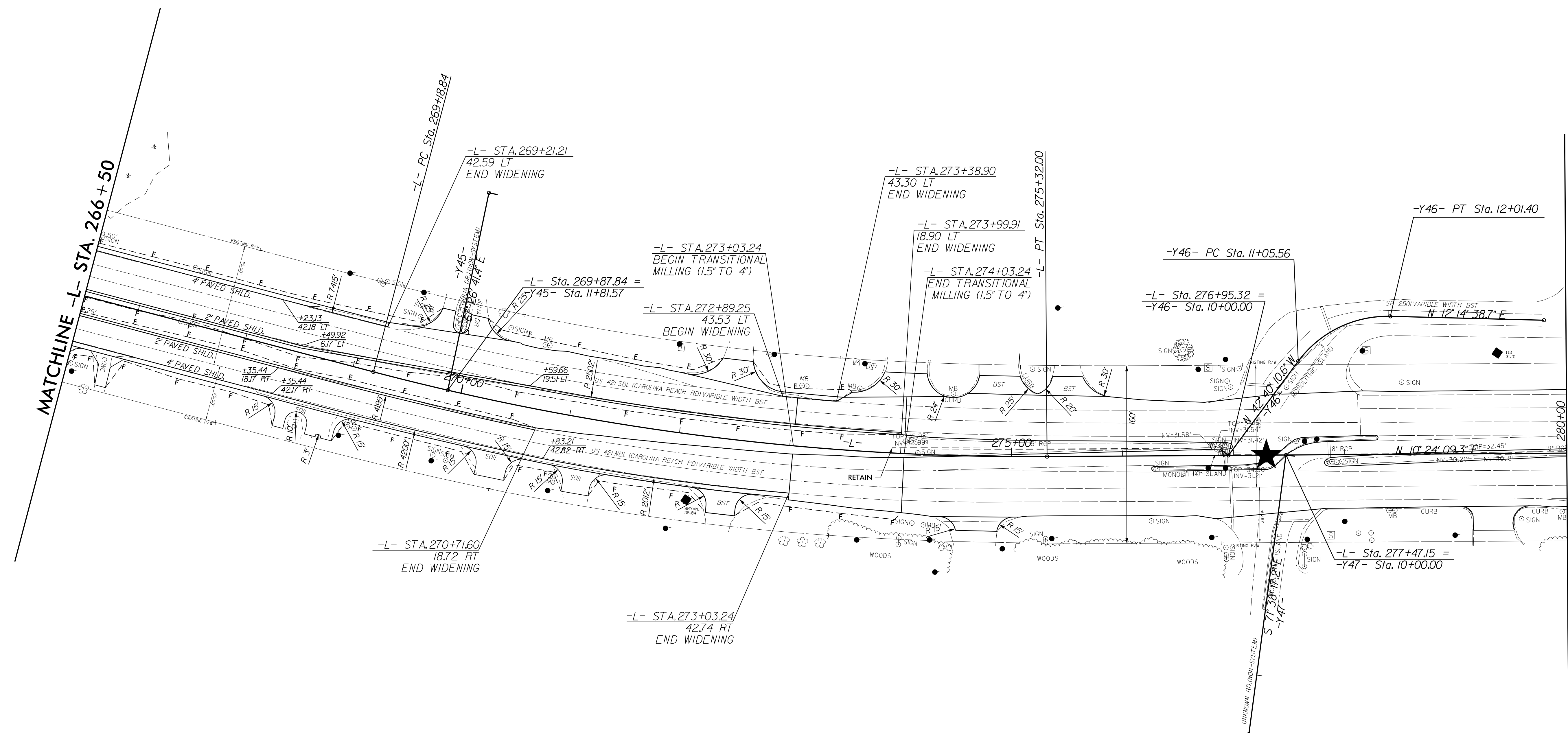
NAD 83/NSRS 2007

-Y46- CURVE 1
 PI Sta. 11+57.52
 $\Delta = 54^{\circ} 54' 49.3''$ (RT)
 $D = 57^{\circ} 17' 44.8''$
 $L = 95.84'$
 $T = 51.96'$
 $R = 100.00'$

270

275

280



-L- CURVE 7
 PI Sta. 272+27.21
 $\Delta = 15^{\circ} 06' 36.9''$ (LT)
 $D = 2^{\circ} 27' 51.6''$
 $L = 613.16'$
 $T = 308.37'$
 $R = 2,325.00'$

MATCHLINE -L- STA. 280+00

NAD 83/NSRS 2007

8/17/99

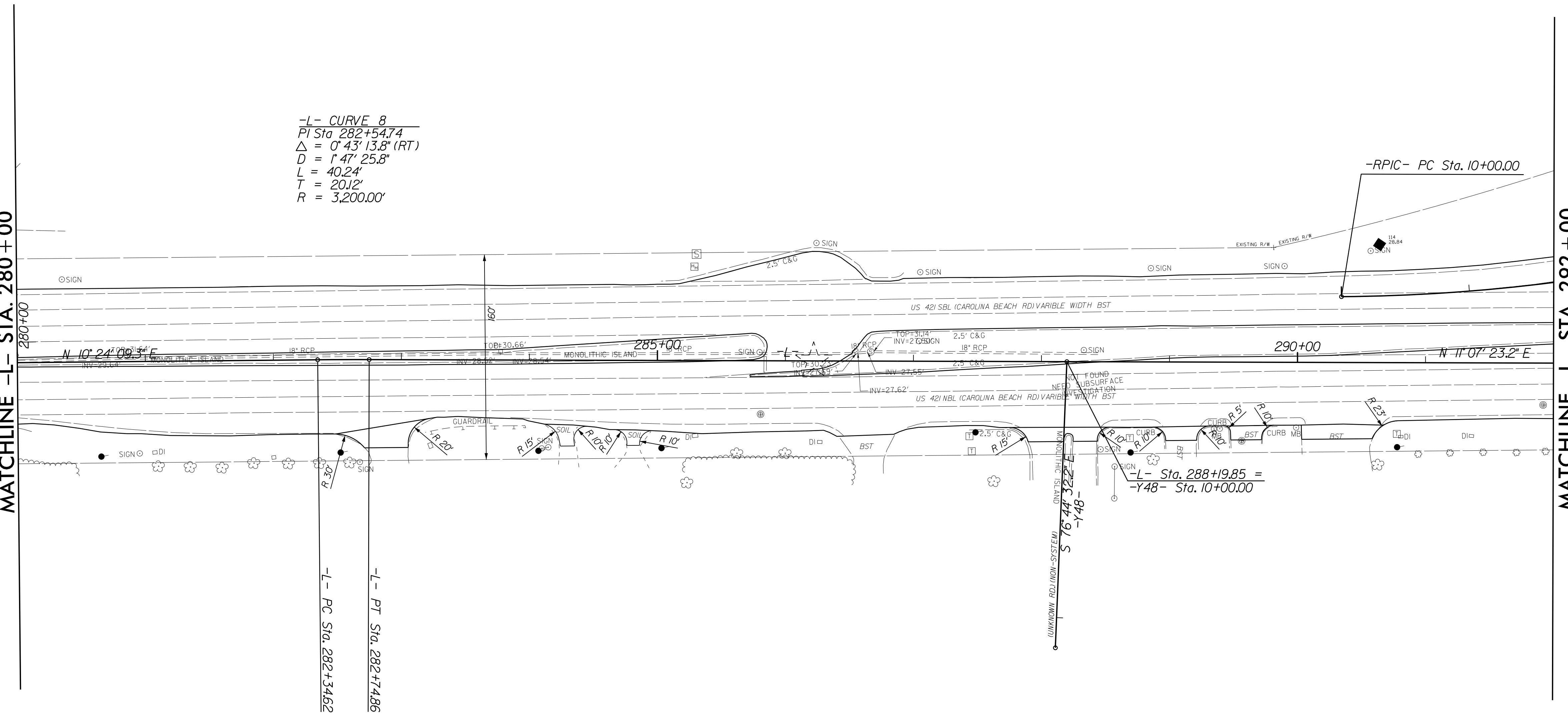
MATCHLINE -L- STA. 280 + 00

MATCHLINE -L- STA. 292 + 00

-L- CURVE 8
 PI Sta. 282+54.74
 $\Delta = 0^{\circ} 43' 13.8" (RT)$
 $D = 1^{\circ} 47' 25.8"$
 $L = 40.24'$
 $T = 20.12'$
 $R = 3,200.00'$

REVISIONS

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 \$\$\$SUSPENSE\$\$\$



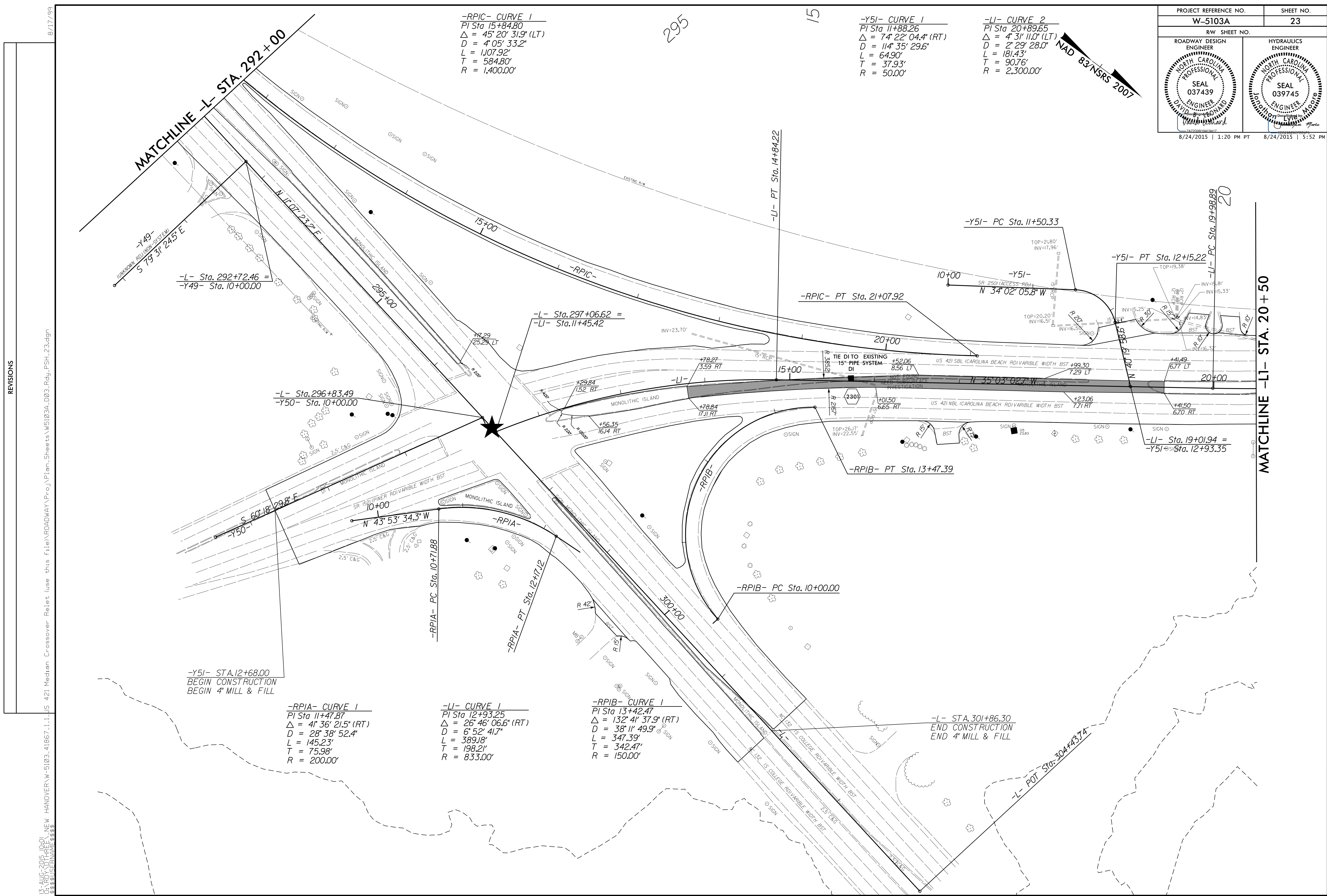
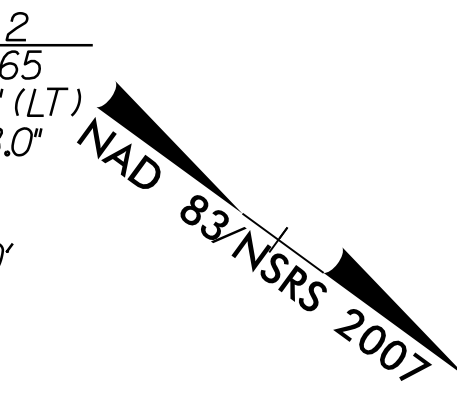
10

280

285

290

PROJECT REFERENCE NO. W-5103A	SHEET NO. 23
RW SHEET NO.	
ROADWAY DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 037439 DAVID B. BOWMAN	HYDRAULICS ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 039745 TIMOTHY M. MOORE
8/24/2015 1:20 PM PT	8/24/2015 5:52 PM ET



-RPIC- CURVE 1
 PI Sta 15+84.80
 $\Delta = 45^\circ 20' 31.9"$ (LT)
 $D = 4^\circ 05' 33.2"$
 $L = 1,107.92'$
 $T = 584.80'$
 $R = 1,400.00'$

-Y5I- CURVE 1
 PI Sta 11+88.26
 $\Delta = 74^\circ 22' 04.4"$ (RT)
 $D = 114^\circ 35' 29.6"$
 $L = 64.90'$
 $T = 37.93'$
 $R = 50.00'$

-LI- CURVE 2
 PI Sta 20+89.65
 $\Delta = 4^\circ 31' 11.0"$ (LT)
 $D = 2^\circ 29' 28.0"$
 $L = 181.43'$
 $T = 90.76'$
 $R = 2,300.00'$

-RPIA- CURVE 1
 PI Sta 11+47.87
 $\Delta = 41^\circ 36' 21.5"$ (RT)
 $D = 28^\circ 38' 52.4"$
 $L = 145.23'$
 $T = 75.98'$
 $R = 200.00'$

-LI- CURVE 1
 PI Sta 12+93.25
 $\Delta = 26^\circ 46' 06.6"$ (RT)
 $D = 6^\circ 52' 41.7"$
 $L = 389.18'$
 $T = 198.21'$
 $R = 833.00'$

-RPIB- CURVE 1
 PI Sta 13+42.47
 $\Delta = 132^\circ 41' 37.9"$ (RT)
 $D = 38^\circ 11' 49.9"$
 $L = 347.39'$
 $T = 342.47'$
 $R = 150.00'$

REVISIONS

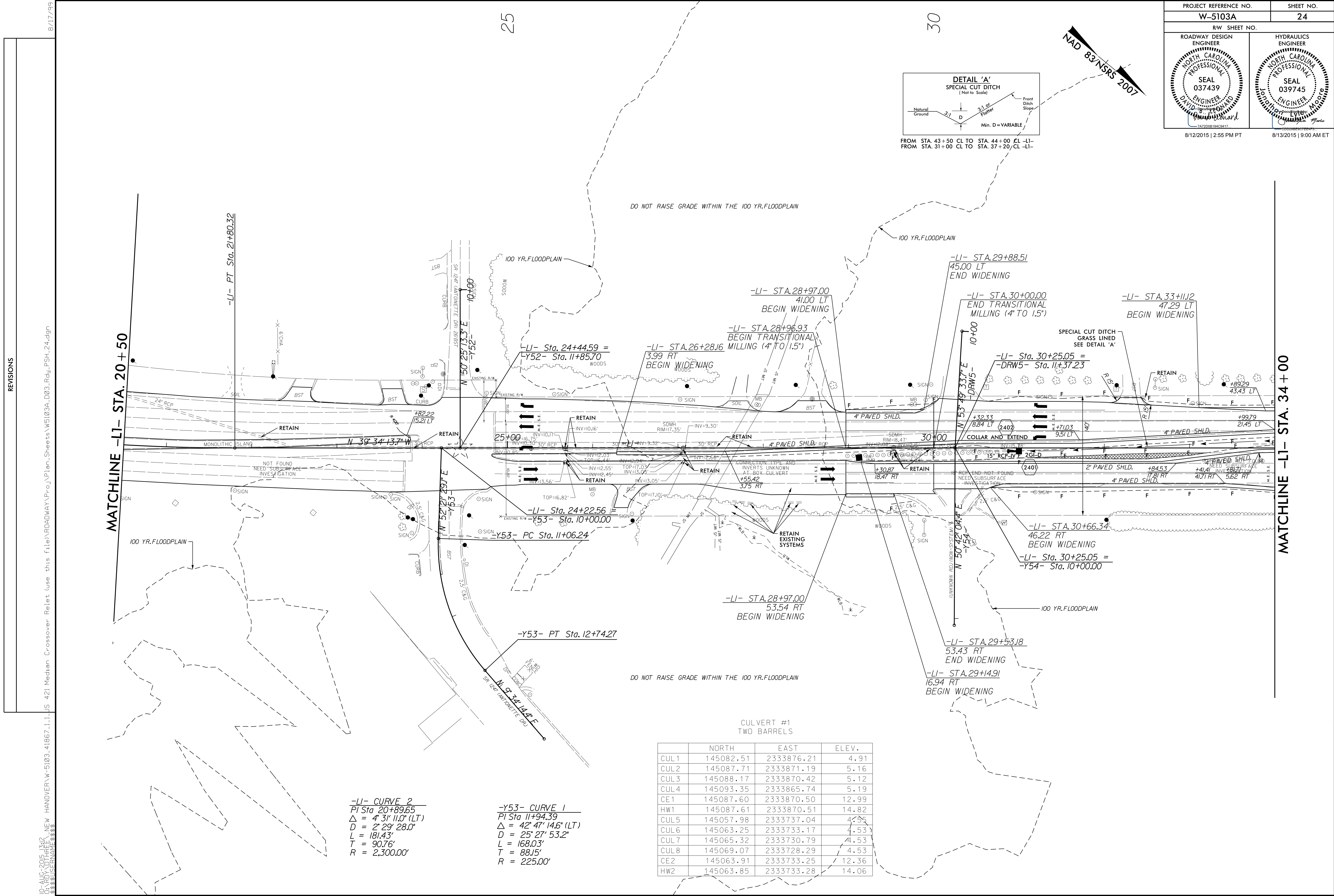
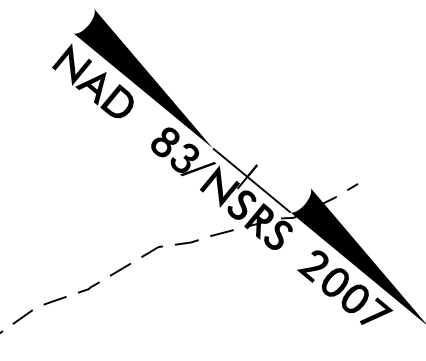
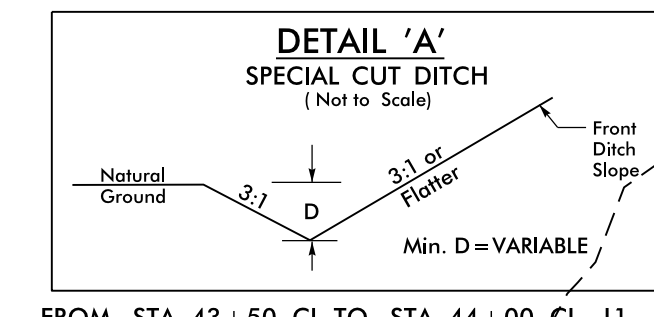
8/17/19 13 AUG 2015 10:01 AM NEW HANDOVER W-5103A-41867-1.1.1 US 421 Median Crossover Relet (use this file) \ROADWAY\Proj\Plan_Sheets\W5103A-D03_RdL_PSH_L23.dgn

MATCHLINE -L- STA. 292+00

MATCHLINE -LI- STA. 20+50

-Y5I- STA. 12+68.00
 BEGIN CONSTRUCTION
 BEGIN 4' MILL & FILL

-L- STA. 301+86.30
 END CONSTRUCTION
 END 4' MILL & FILL



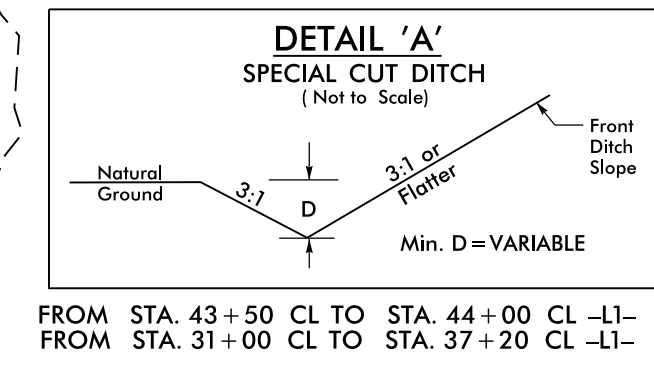
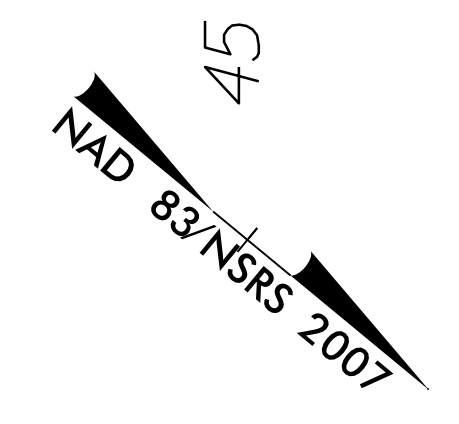
REVISIONS

8/17/99
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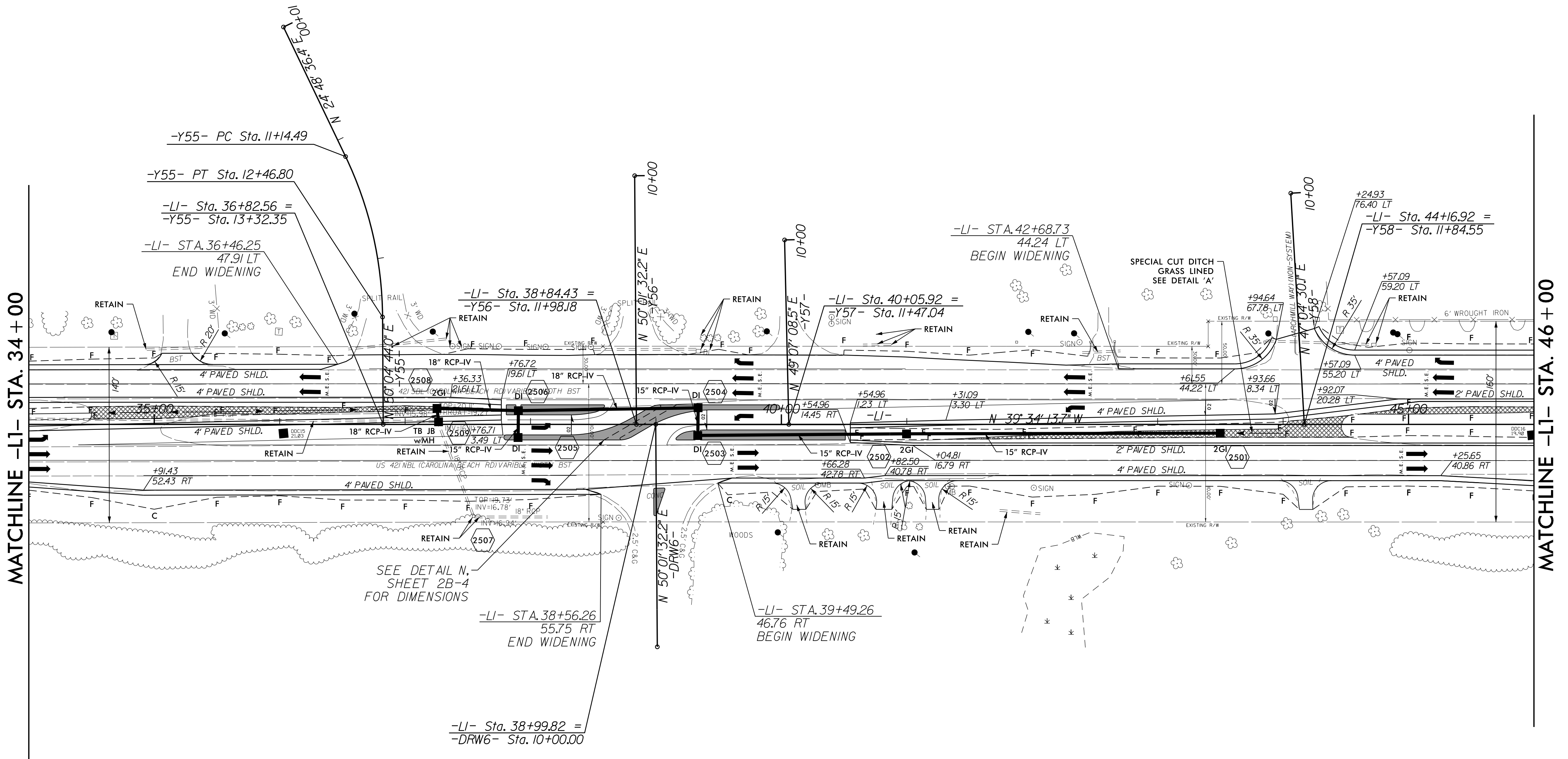
-LI- CURVE 2
 PI Sta 20+89.65
 $\Delta = 4' 31'' 11.0''$ (LT)
 $D = 2' 29'' 28.0''$
 $L = 181.43'$
 $T = 90.76'$
 $R = 2,300.00'$

-Y53- CURVE 1
 PI Sta 11+94.39
 $\Delta = 42' 47'' 14.6''$ (LT)
 $D = 25' 27'' 53.2''$
 $L = 168.03'$
 $T = 88.15'$
 $R = 225.00'$

	NORTH	EAST	ELEV.
CUL 1	145082.51	2333876.21	4.91
CUL 2	145087.71	2333871.19	5.16
CUL 3	145088.17	2333870.42	5.12
CUL 4	145093.35	2333865.74	5.19
CE 1	145087.60	2333870.50	12.99
HW 1	145087.61	2333870.51	14.82
CUL 5	145057.98	2333737.04	4.55
CUL 6	145063.25	2333733.17	4.53
CUL 7	145065.32	2333730.79	4.53
CUL 8	145069.07	2333728.29	4.53
CE 2	145063.91	2333733.25	12.36
HW 2	145063.85	2333733.28	14.06



-Y55- CURVE 1
 PI Sta 11+81.74
 $\Delta = 25^\circ 16' 07.5''$ (RT)
 $D = 19^\circ 05' 54.9''$
 $L = 132.31'$
 $T = 67.25'$
 $R = 300.00'$



MATCHLINE -LI- STA. 34 + 00

MATCHLINE -LI- STA. 46 + 00

SEE DETAIL N,
 SHEET 2B-4
 FOR DIMENSIONS

*GRADE CROSSOVER TO DRAIN TO DI'S
 IN MONOLITHIC ISLAND

REVISIONS

8/17/99

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 \$\$\$\$\$\$SUSPENSE\$\$\$\$\$\$

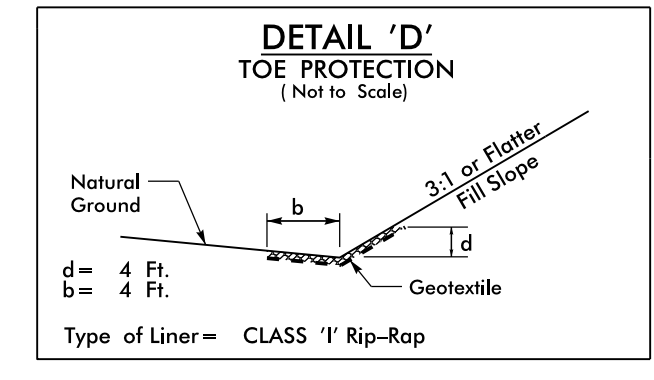
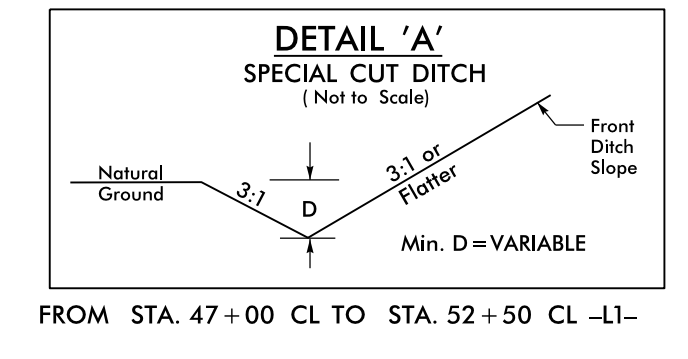
8/17/99

REVISIONS

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 \$\$\$\$\$\$SUSPENSE\$\$\$\$\$\$

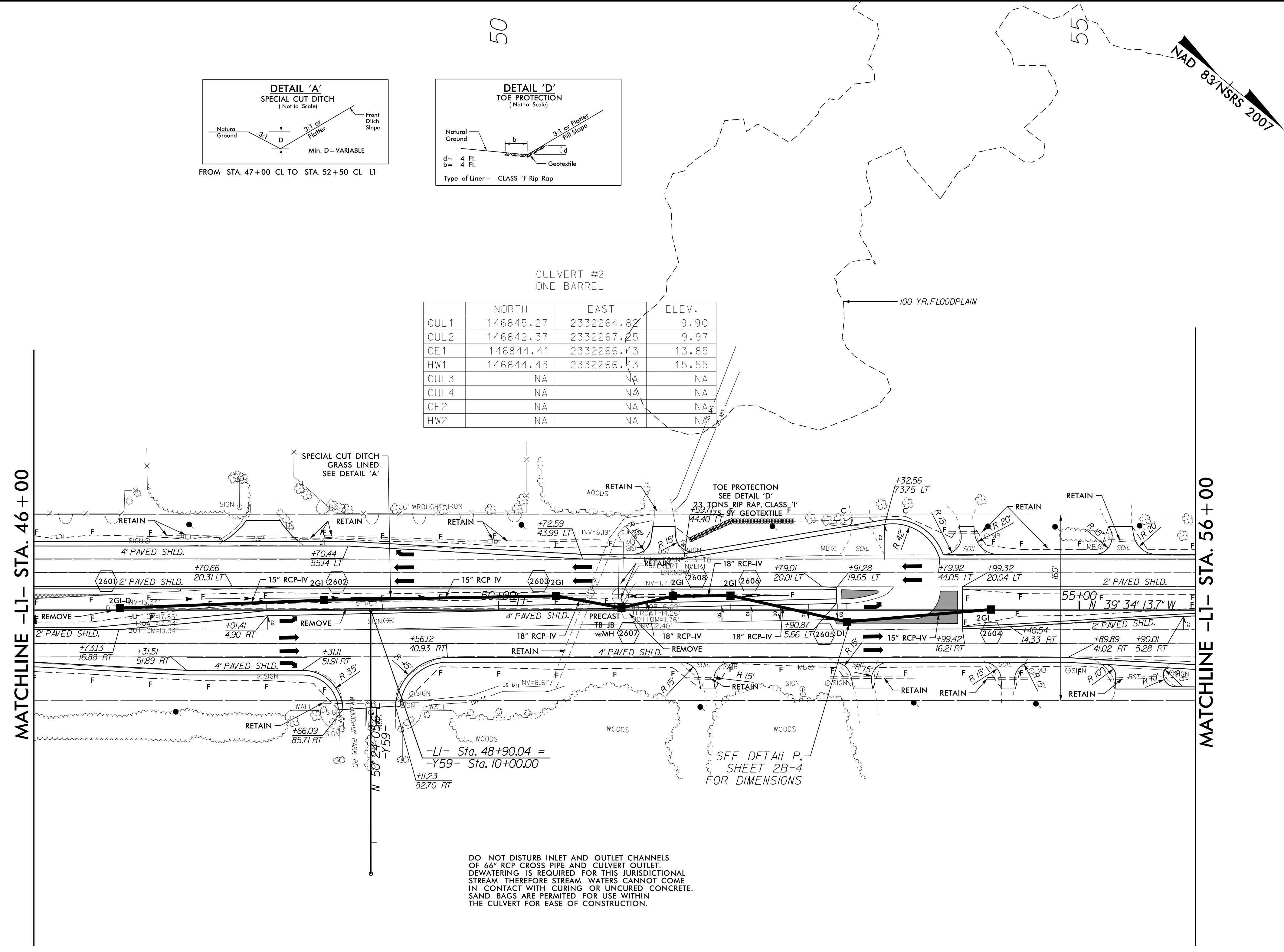
MATCHLINE -LI- STA. 46+00

MATCHLINE -LI- STA. 56+00

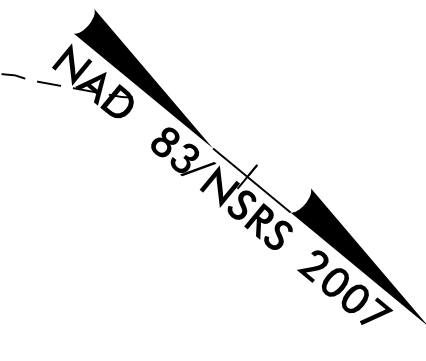


CULVERT #2
ONE BARREL

	NORTH	EAST	ELEV.
CUL 1	146845.27	2332264.87	9.90
CUL 2	146842.37	2332267.25	9.97
CE 1	146844.41	2332266.43	13.85
HW 1	146844.43	2332266.43	15.55
CUL 3	NA	NA	NA
CUL 4	NA	NA	NA
CE 2	NA	NA	NA
HW 2	NA	NA	NA



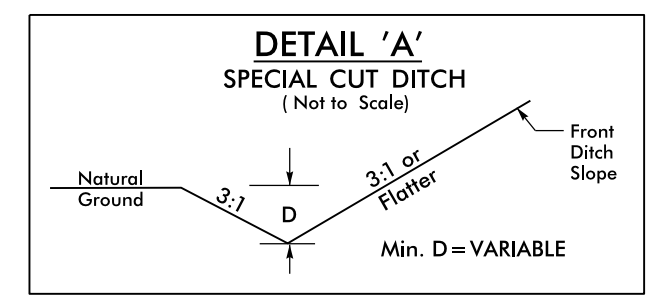
DO NOT DISTURB INLET AND OUTLET CHANNELS OF 66" RCP CROSS PIPE AND CULVERT OUTLET. DEWATERING IS REQUIRED FOR THIS JURISDICTIONAL STREAM. THEREFORE STREAM WATERS CANNOT COME IN CONTACT WITH CURING OR UNCURED CONCRETE. SAND BAGS ARE PERMITTED FOR USE WITHIN THE CULVERT FOR EASE OF CONSTRUCTION.



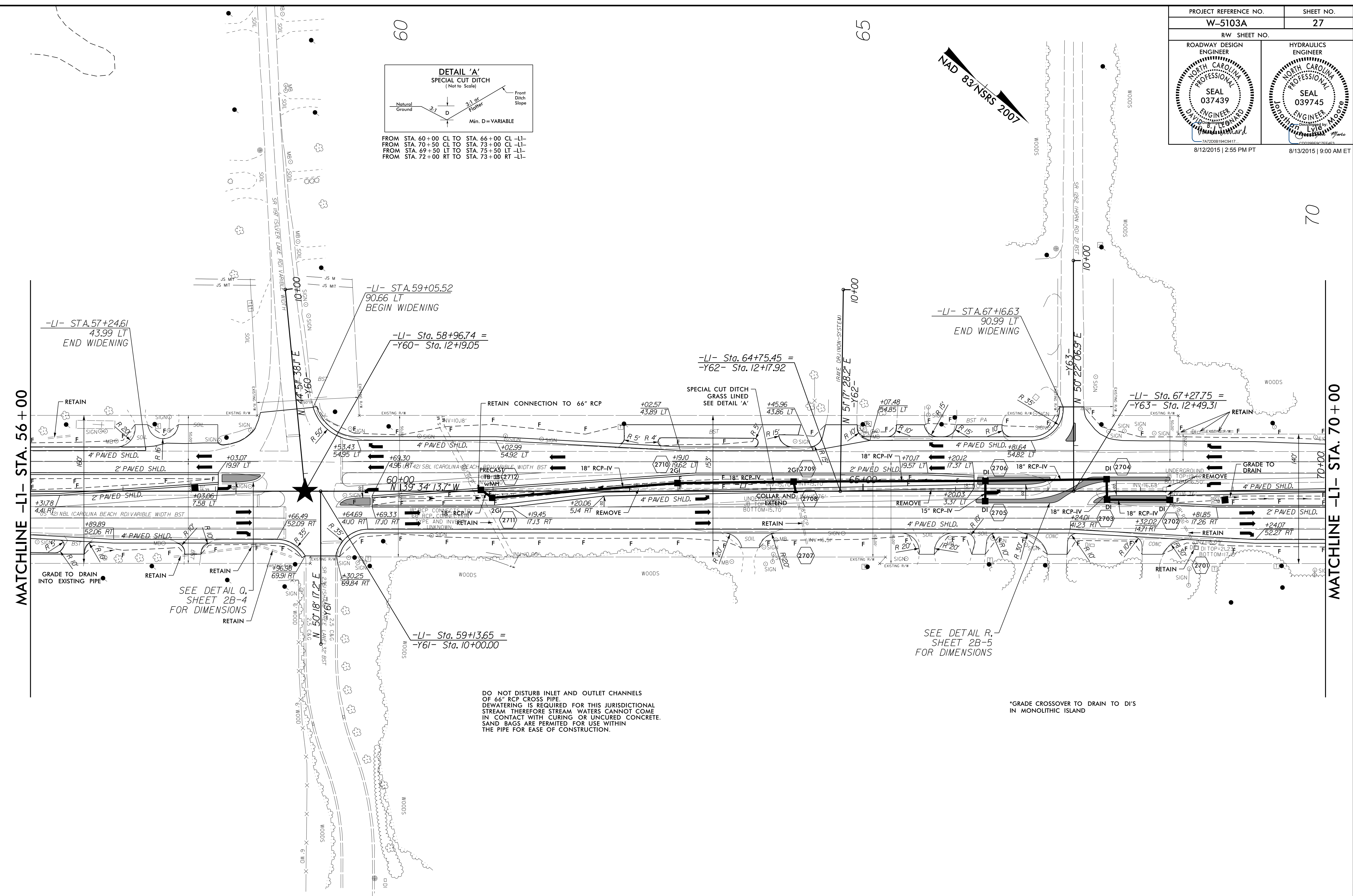
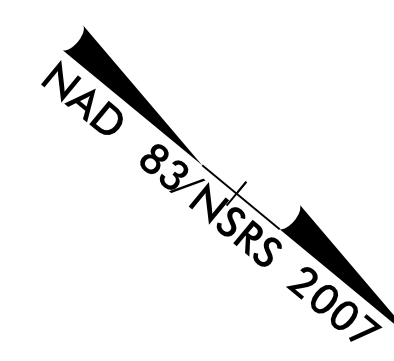
SEE DETAIL P. SHEET 2B-4 FOR DIMENSIONS

-LI- Sta. 48+90.04 =
-Y59- Sta. 10+00.00

PROJECT REFERENCE NO. W-5103A	SHEET NO. 27
RW SHEET NO.	
ROADWAY DESIGN ENGINEER SEAL 037439	HYDRAULICS ENGINEER SEAL 039745
8/12/2015 2:55 PM PT	
8/13/2015 9:00 AM ET	



FROM STA. 60+00 CL TO STA. 66+00 CL -LI-
 FROM STA. 70+50 CL TO STA. 73+00 CL -LI-
 FROM STA. 69+50 LT TO STA. 75+50 LT -LI-
 FROM STA. 72+00 RT TO STA. 73+00 RT -LI-



MATCHLINE -LI- STA. 56+00

MATCHLINE -LI- STA. 70+00

DO NOT DISTURB INLET AND OUTLET CHANNELS OF 66" RCP CROSS PIPE. DEWATERING IS REQUIRED FOR THIS JURISDICTIONAL STREAM THEREFORE STREAM WATERS CANNOT COME IN CONTACT WITH CURING OR UNCURED CONCRETE. SAND BAGS ARE PERMITTED FOR USE WITHIN THE PIPE FOR EASE OF CONSTRUCTION.

SEE DETAIL R, SHEET 2B-5 FOR DIMENSIONS

SEE DETAIL Q, SHEET 2B-4 FOR DIMENSIONS

*GRADE CROSSOVER TO DRAIN TO D'S IN MONOLITHIC ISLAND

REVISIONS

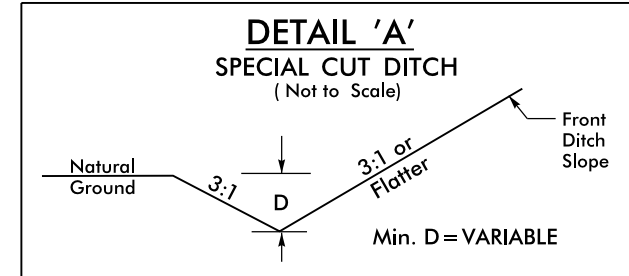
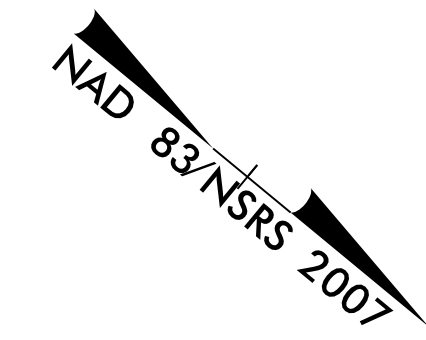
8/17/99
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 \$\$\$\$\$\$

70

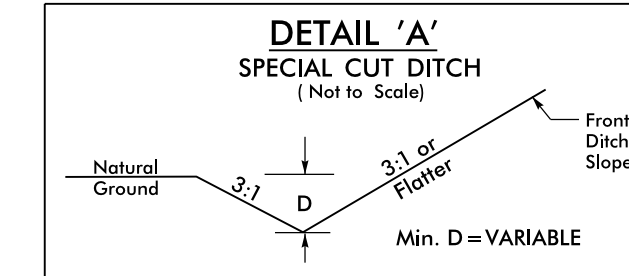
75

80

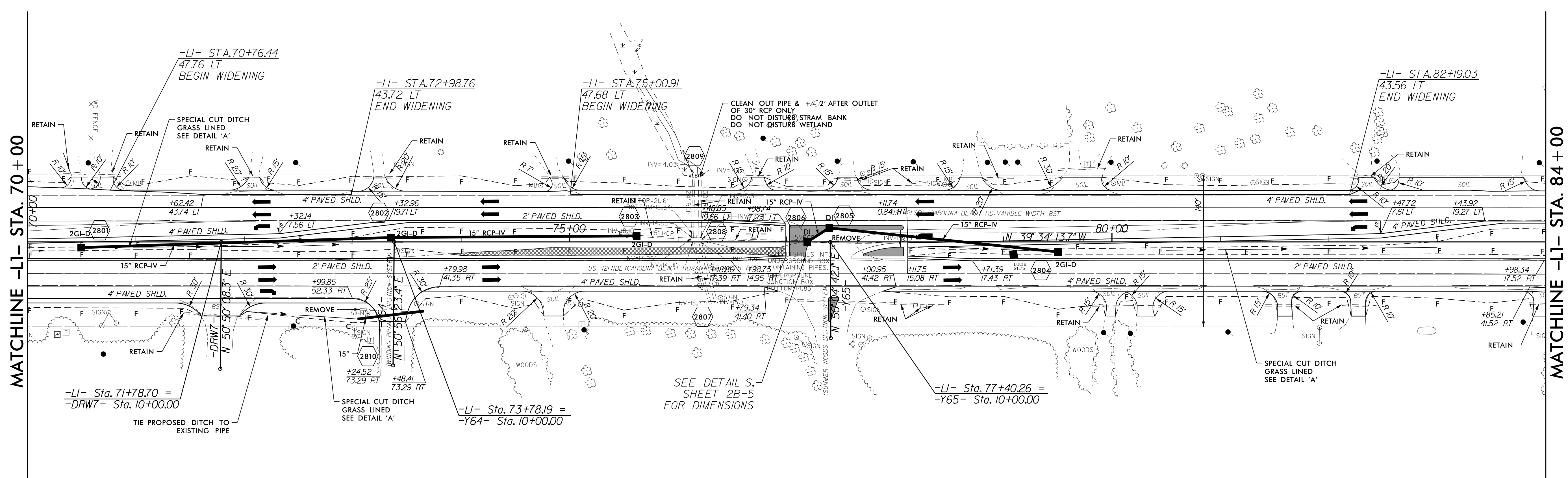
PROJECT REFERENCE NO. W-5103A	SHEET NO. 28
RW SHEET NO.	
ROADWAY DESIGN ENGINEER DAVID B. BOWMAN SEAL 037439	HYDRAULICS ENGINEER DAVID B. BOWMAN SEAL 039745
8/12/2015 2:55 PM PT	8/13/2015 9:00 AM ET



FROM STA. 60+00 CL TO STA. 66+00 CL -LI-
 FROM STA. 70+50 CL TO STA. 73+00 CL -LI-
 FROM STA. 72+00 RT TO STA. 73+00 RT -LI-



FROM STA. 78+50 CL TO STA. 83+00 CL -LI-
 FROM STA. 86+25 RT TO STA. 87+50 RT -LI-



REVISIONS

*GRADE CROSSOVER TO DRAIN TO DI'S IN MONOLITHIC ISLAND

SEE DETAIL S, SHEET 2B-5 FOR DIMENSIONS

-LI- Sta. 71+78.70 =
 -DRW7- Sta. 10+00.00
 TIE PROPOSED DITCH TO EXISTING PIPE

SPECIAL CUT DITCH GRASS LINED
 SEE DETAIL 'A'

-LI- Sta. 73+78.19 =
 -Y64- Sta. 10+00.00

-LI- Sta. 77+40.26 =
 -Y65- Sta. 10+00.00

SPECIAL CUT DITCH GRASS LINED
 SEE DETAIL 'A'

MATCHLINE -LI- STA. 70+00

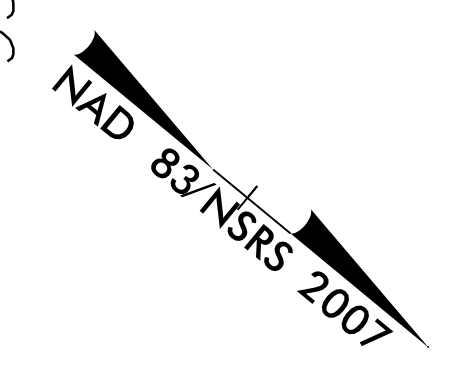
MATCHLINE -LI- STA. 84+00

REVISIONS

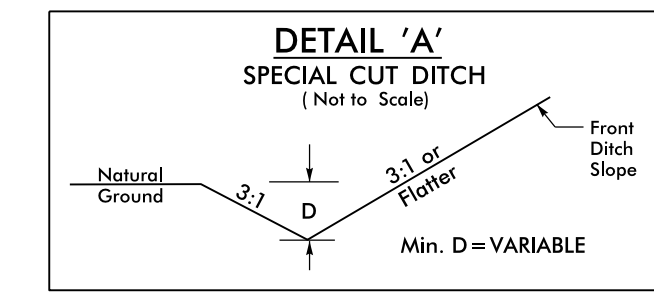
85

90

95



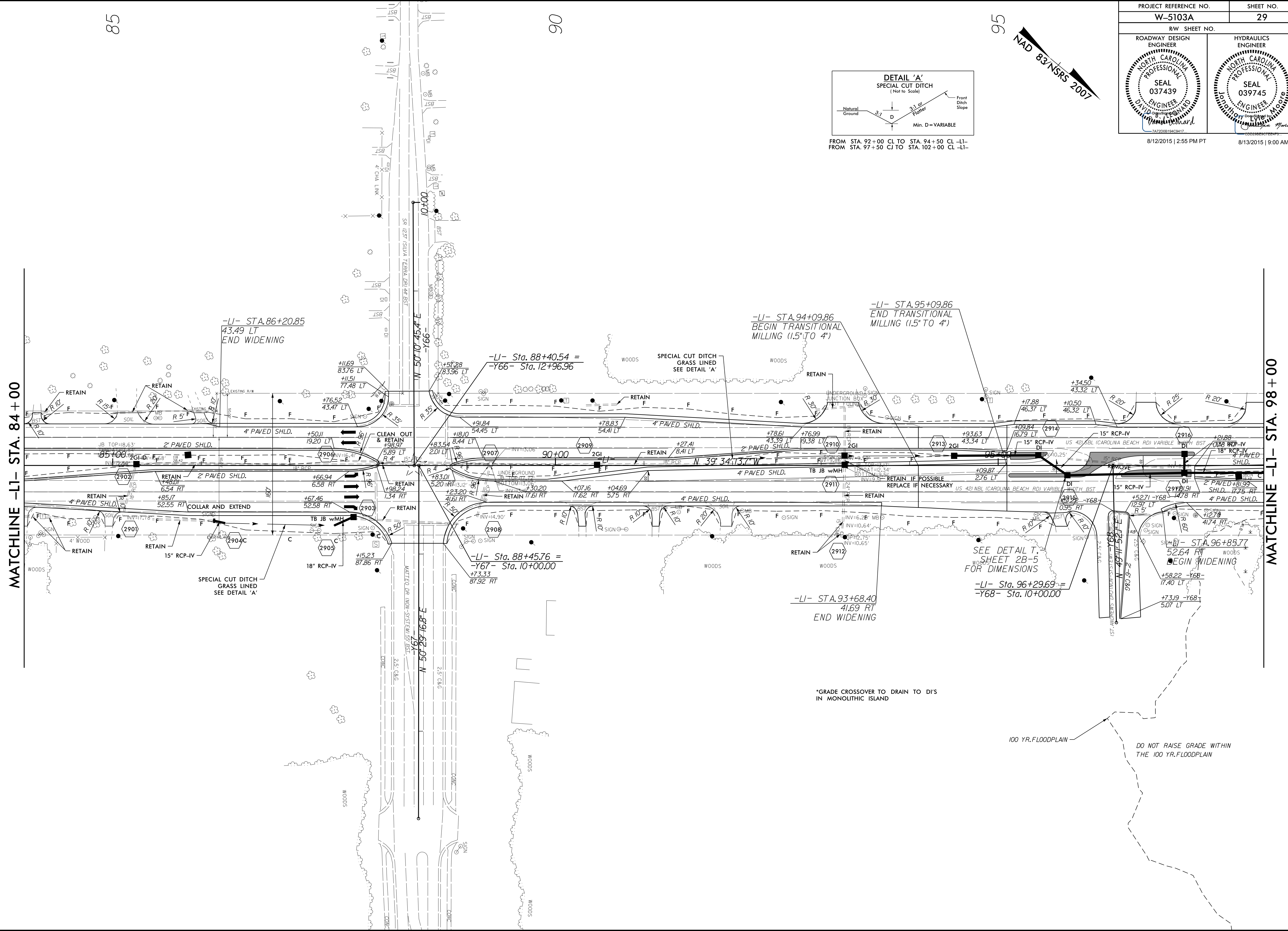
PROJECT REFERENCE NO. W-5103A		SHEET NO. 29	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
8/12/2015 2:55 PM PT		8/13/2015 9:00 AM ET	



FROM STA. 92+00 CL TO STA. 94+50 CL -LI-
FROM STA. 97+50 CJ TO STA. 102+00 CL -LI-

MATCHLINE -LI- STA. 84+00

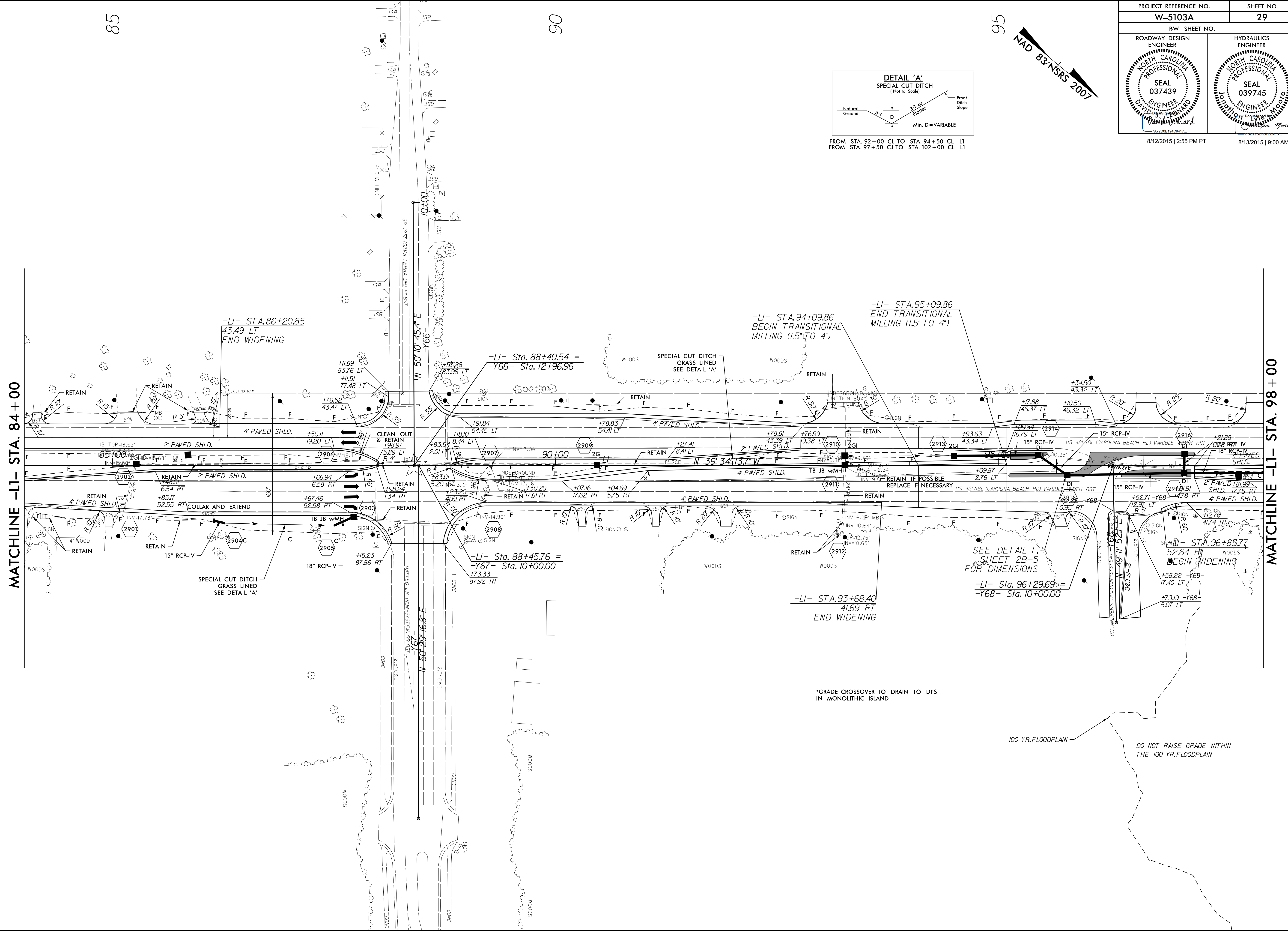
MATCHLINE -LI- STA. 98+00



*GRADE CROSSOVER TO DRAIN TO DI'S
IN MONOLITHIC ISLAND

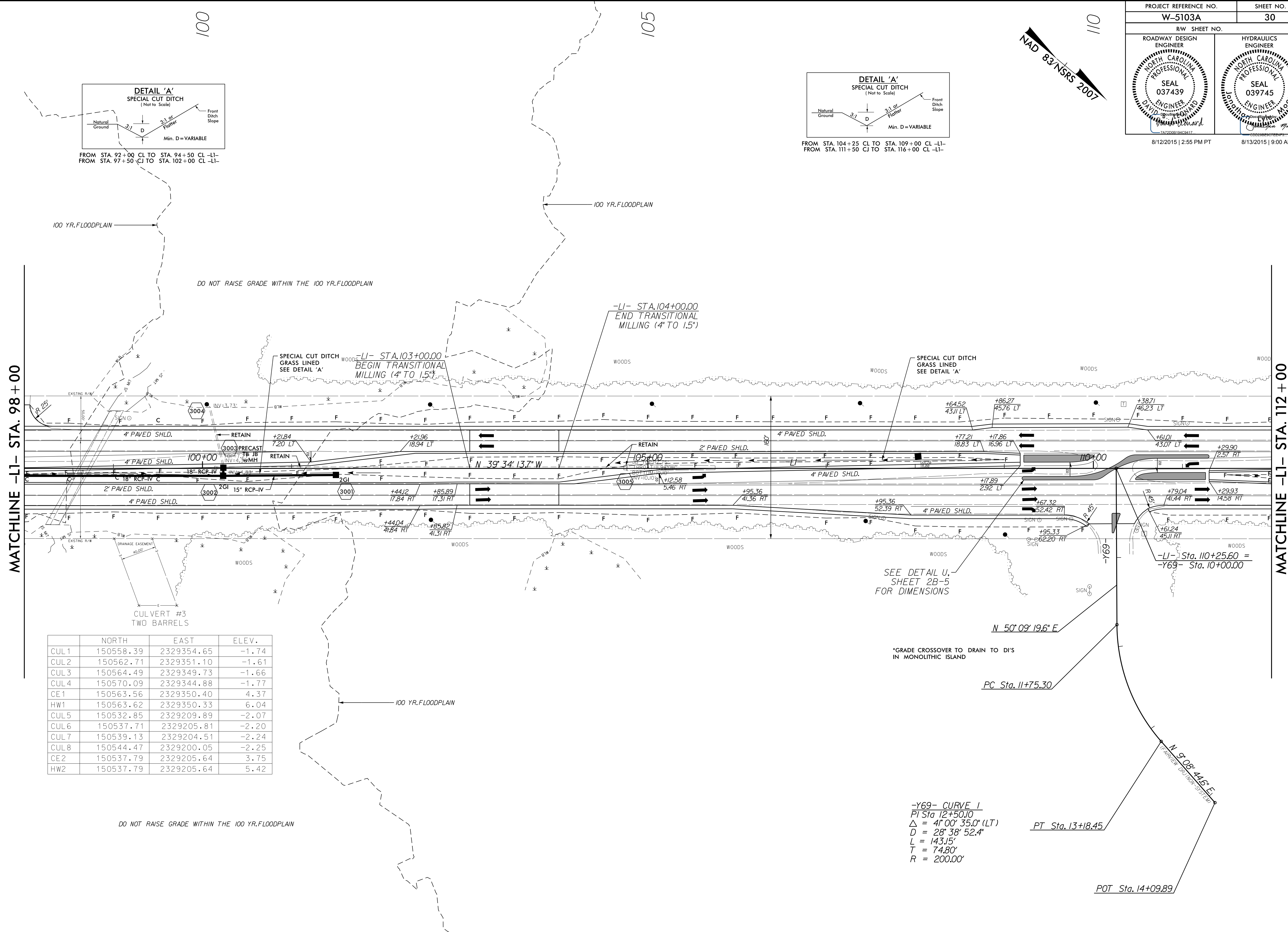
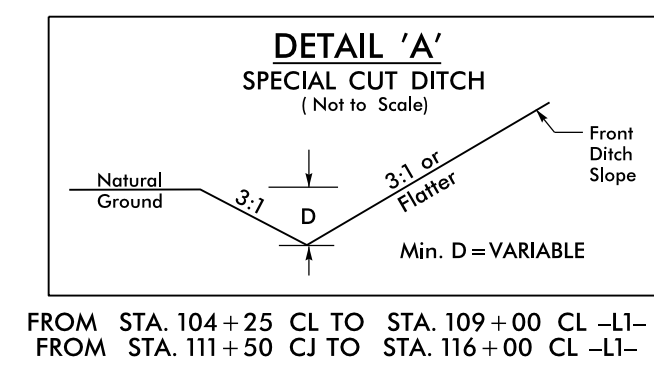
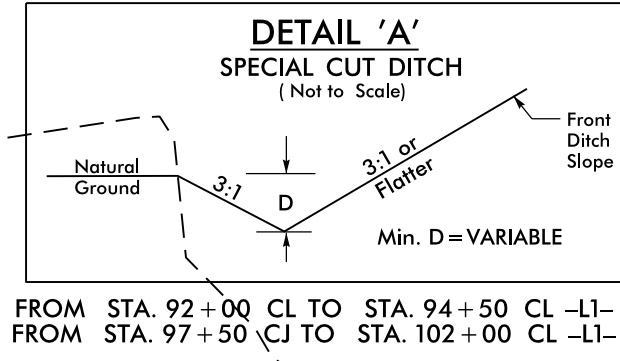
100 YR. FLOODPLAIN
DO NOT RAISE GRADE WITHIN
THE 100 YR. FLOODPLAIN

SEE DETAIL T,
SHEET 2B-5
FOR DIMENSIONS



REVISIONS

PROJECT REFERENCE NO. W-5103A	SHEET NO. 30
RW SHEET NO.	
ROADWAY DESIGN ENGINEER DAVID S. LEONARD SEAL 037439	HYDRAULICS ENGINEER DAVID S. LEONARD SEAL 039745
8/12/2015 2:55 PM PT	8/13/2015 9:00 AM ET



	NORTH	EAST	ELEV.
CUL1	150558.39	2329354.65	-1.74
CUL2	150562.71	2329351.10	-1.61
CUL3	150564.49	2329349.73	-1.66
CUL4	150570.09	2329344.88	-1.77
CE1	150563.56	2329350.40	4.37
HW1	150563.62	2329350.33	6.04
CUL5	150532.85	2329209.89	-2.07
CUL6	150537.71	2329205.81	-2.20
CUL7	150539.13	2329204.51	-2.24
CUL8	150544.47	2329200.05	-2.25
CE2	150537.79	2329205.64	3.75
HW2	150537.79	2329205.64	5.42

-Y69- CURVE 1
 PI Sta. 12+50.10
 $\Delta = 41^{\circ}00'35.0''$ (LT)
 $D = 28^{\circ}38'52.4''$
 $L = 143.15'$
 $T = 74.80'$
 $R = 200.00'$

POT Sta. 14+09.89

N 50°09'19.6" E

PC Sta. 11+75.30

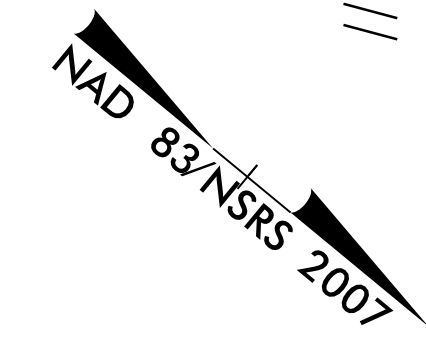
-LI- Sta. 110+25.60 =
 -Y69- Sta. 110+00.00

*GRADE CROSSOVER TO DRAIN TO DI'S
 IN MONOLITHIC ISLAND

DO NOT RAISE GRADE WITHIN THE 100 YR. FLOODPLAIN

MATCHLINE -LI- STA. 98+00

MATCHLINE -LI- STA. 112+00



8/17/99

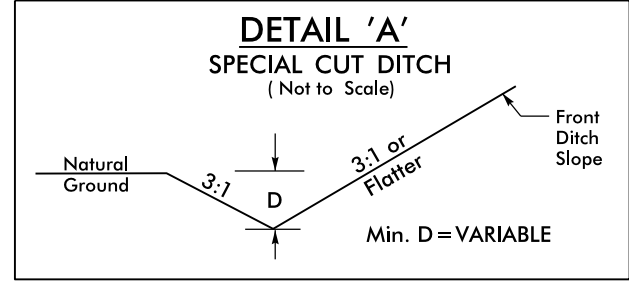
REVISIONS

10-AUG-2016 12:18 PM HANDOVER\W-5103-41867-1.1.1-US 421 Median Crosscover Relet (use this file)\ROADWAY\Proj\Plan_Sheets\W5103A-D03_PSH_31.dgn

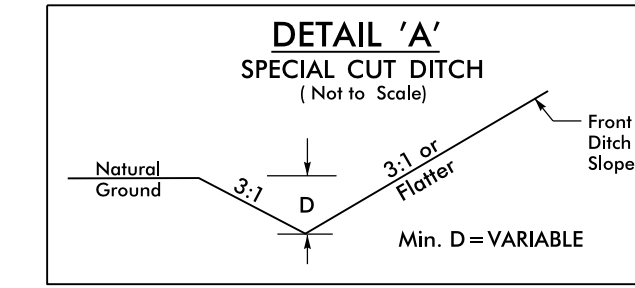
115

120

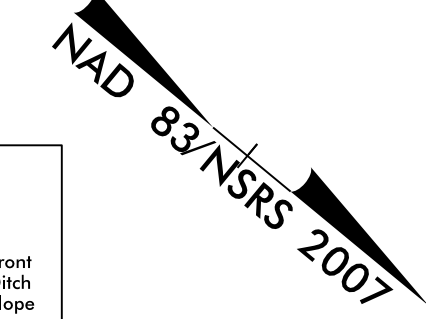
125



FROM STA. 104+25 CL TO STA. 109+00 CL -LI-
 FROM STA. 111+50 CJ TO STA. 116+00 CL -LI-



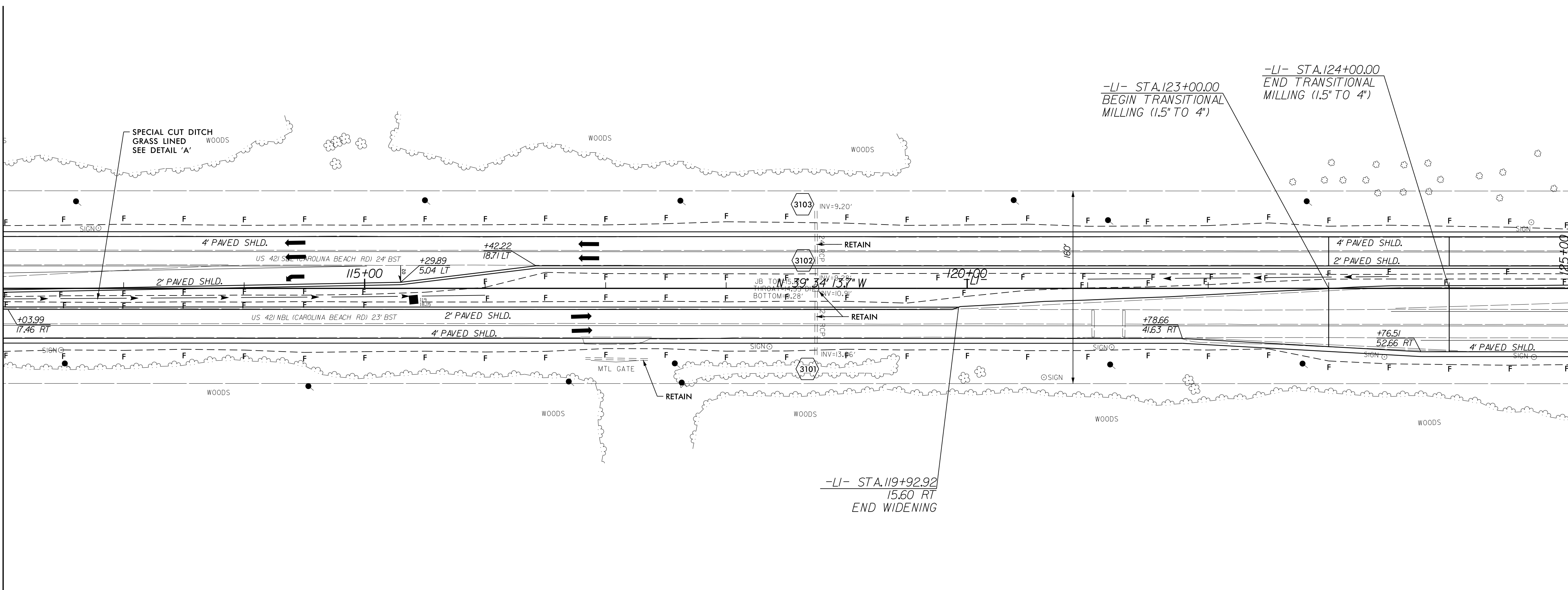
FROM STA. 121+00 CL TO STA. 123+50 CL -LI-



PROJECT REFERENCE NO. W-5103A	SHEET NO. 31
RW SHEET NO.	
ROADWAY DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 037439 DAVID B. EDWARDS	HYDRAULICS ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 039745 DAVID B. EDWARDS
8/12/2015 2:55 PM PT	8/13/2015 9:00 AM ET

MATCHLINE -LI- STA. 112+00

MATCHLINE -LI- STA. 125+00



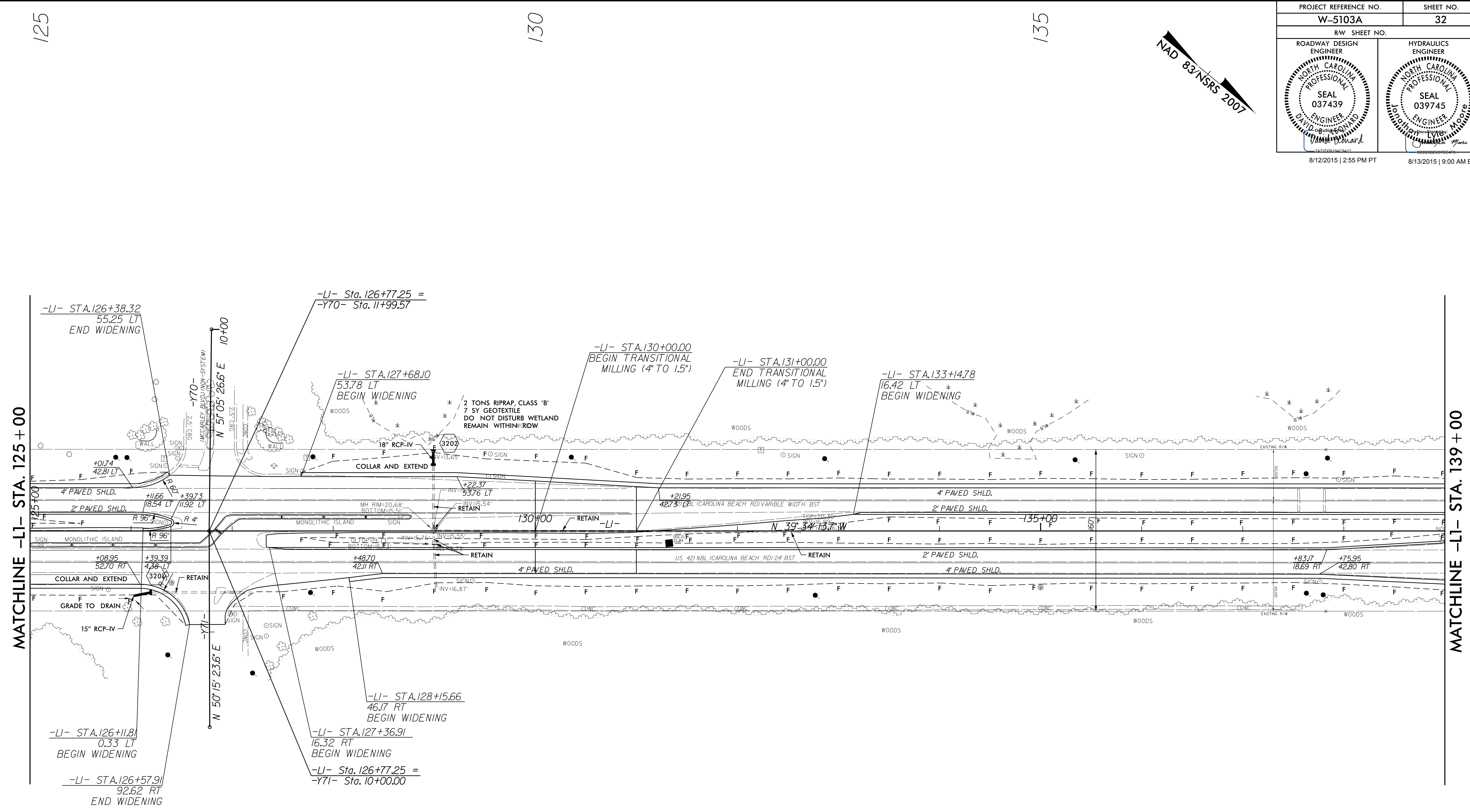
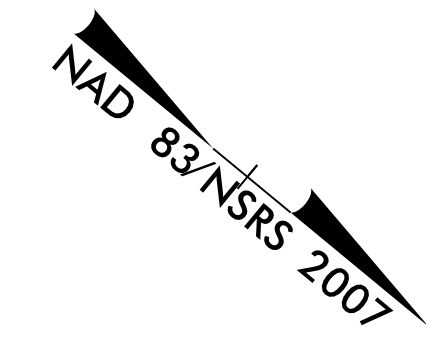
-LI- STA. 123+00.00
 BEGIN TRANSITIONAL MILLING (1.5" TO 4")

-LI- STA. 124+00.00
 END TRANSITIONAL MILLING (1.5" TO 4")

-LI- STA. 119+92.92
 15.60 RT
 END WIDENING

REVISIONS

PROJECT REFERENCE NO. W-5103A	SHEET NO. 32
RW SHEET NO.	
ROADWAY DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 037439 DAVID G. SQUAWD	HYDRAULICS ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 039745 DAVID G. SQUAWD
8/12/2015 2:55 PM PT	8/13/2015 9:00 AM ET



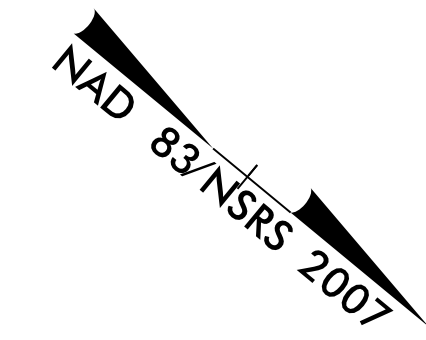
MATCHLINE -LI- STA. 125+00

MATCHLINE -LI- STA. 139+00

125

130

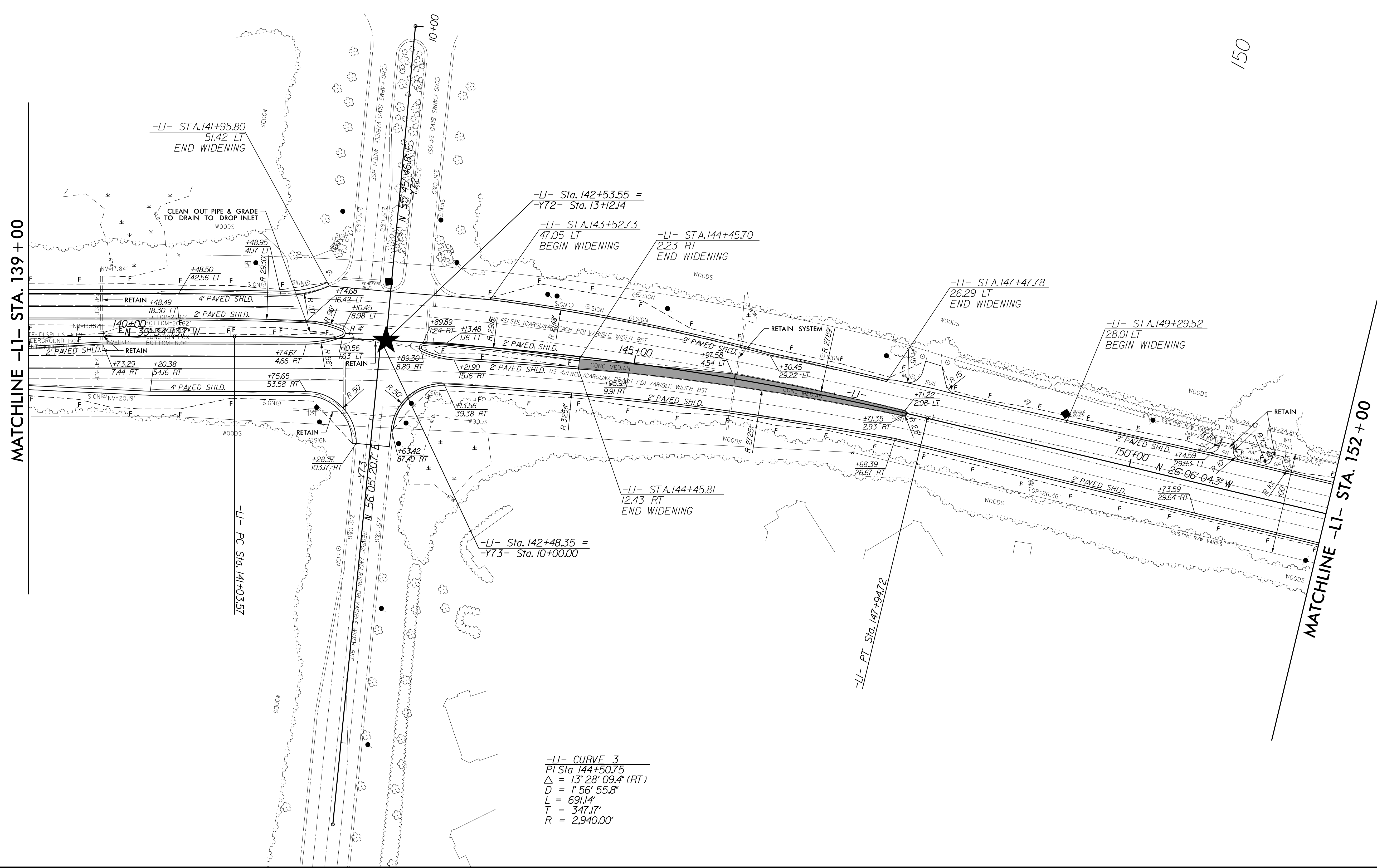
135



8/17/99

REVISIONS

I:\AUGUST\2015\15K NEW HANDOVER\W-5103A\41867.1.1.1\IS 421 Mediam Crossover Relet (use this file)\ROADWAY\Pro\Plan_Sheets\W5103A_D03_Rdwy_PSH_33.dgn

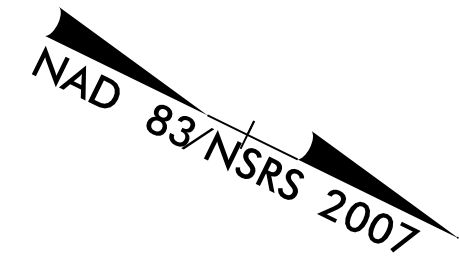


-LI- CURVE 3
 PI Sta 144+50.75
 $\Delta = 13^\circ 28' 09.4''$ (RT)
 $D = 1^\circ 56' 55.8''$
 $L = 691.14'$
 $T = 347.17'$
 $R = 2,940.00'$

140

145

150

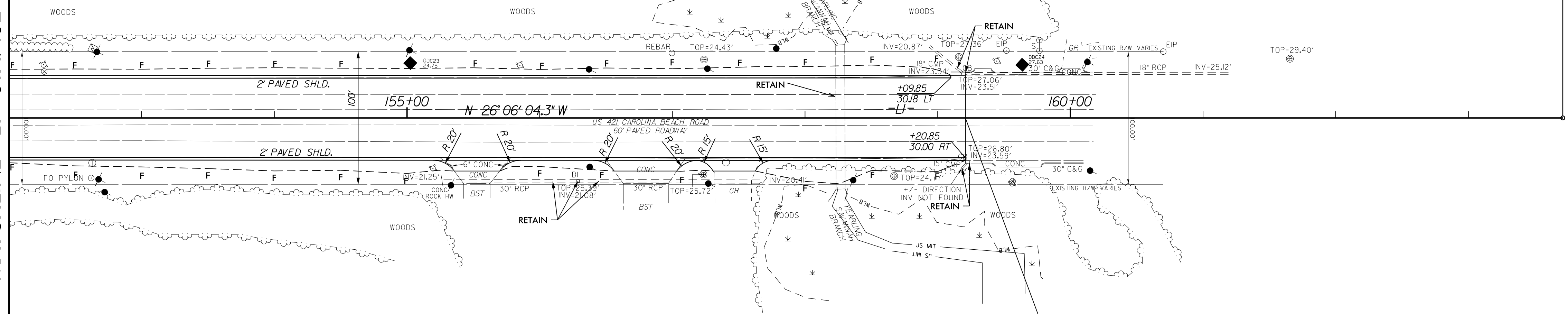


8/17/99

REVISIONS

ID: AUG-2016 IER NEW HANDOVER W-5103-41867-1.1.1 US 421 Median Crossover Relet (use this file) \ROADWAY\Proj\Plan_Sheets\W5103A.D03_RdJ_PSH_34.dgn
 \$\$\$SUSPENSE\$\$\$

MATCHLINE -LI- STA. 152 + 00



-LI- STA. 159+20.85
 END TIP PROJECT
 END CONSTRUCTION
 END WIDENING
 END OVERLAY
 N = 155,407.9469
 E = 2,325,710.1820

CULVERT #1
ONE BARREL

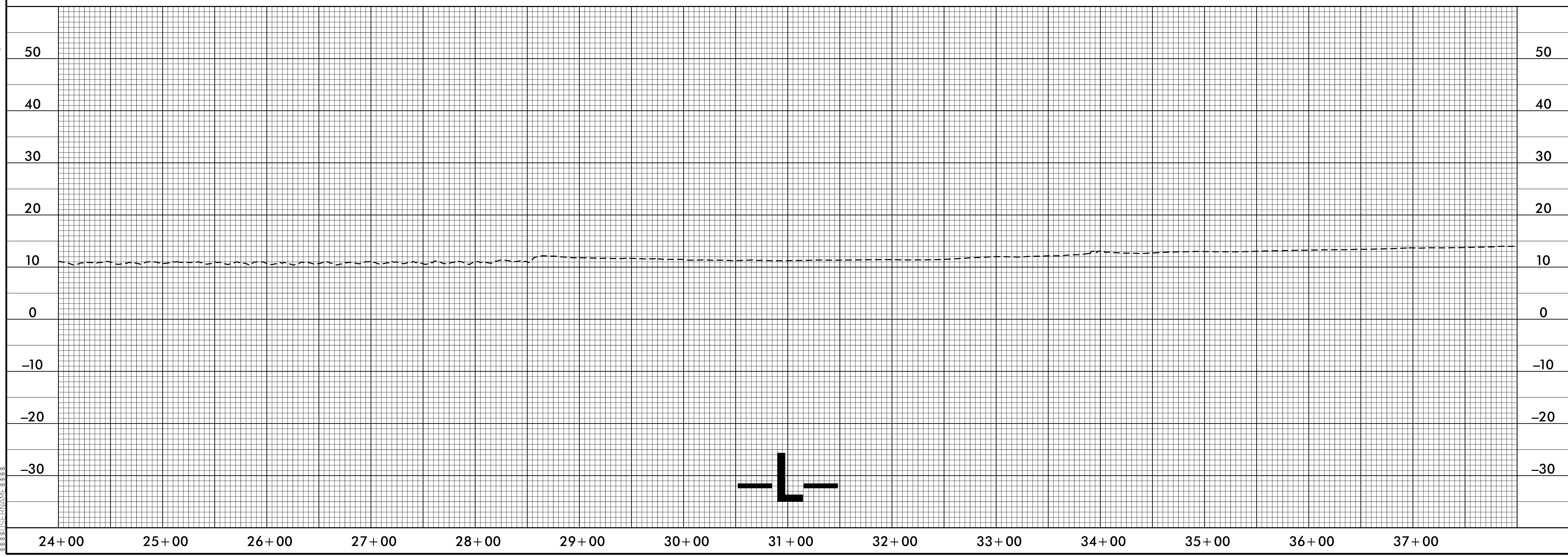
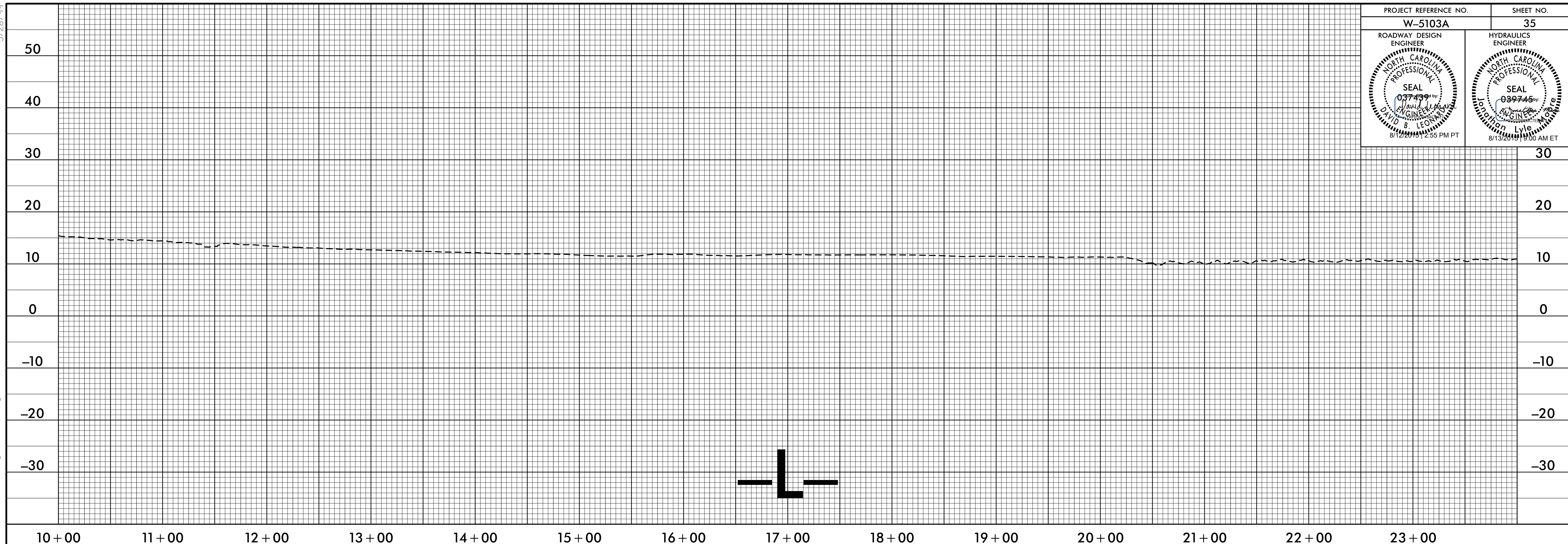
	NORTH	EAST	ELEV.
CUL1	155295.36	2325703.05	11.04
CUL2	155301.35	2325699.96	11.00
CE1	155298.96	2325701.55	16.41
HW1	155299.11	2325701.77	18.01
CUL3	155349.94	2325798.42	11.49
CUL4	155344.31	2325801.06	11.44
CE2	155347.31	2325799.26	16.87
HW2	155347.32	2325799.28	18.46

-LI- POT. Sta. 163+71.14

PROJECT REFERENCE NO. W-5103A	SHEET NO. 35
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

5/28/99

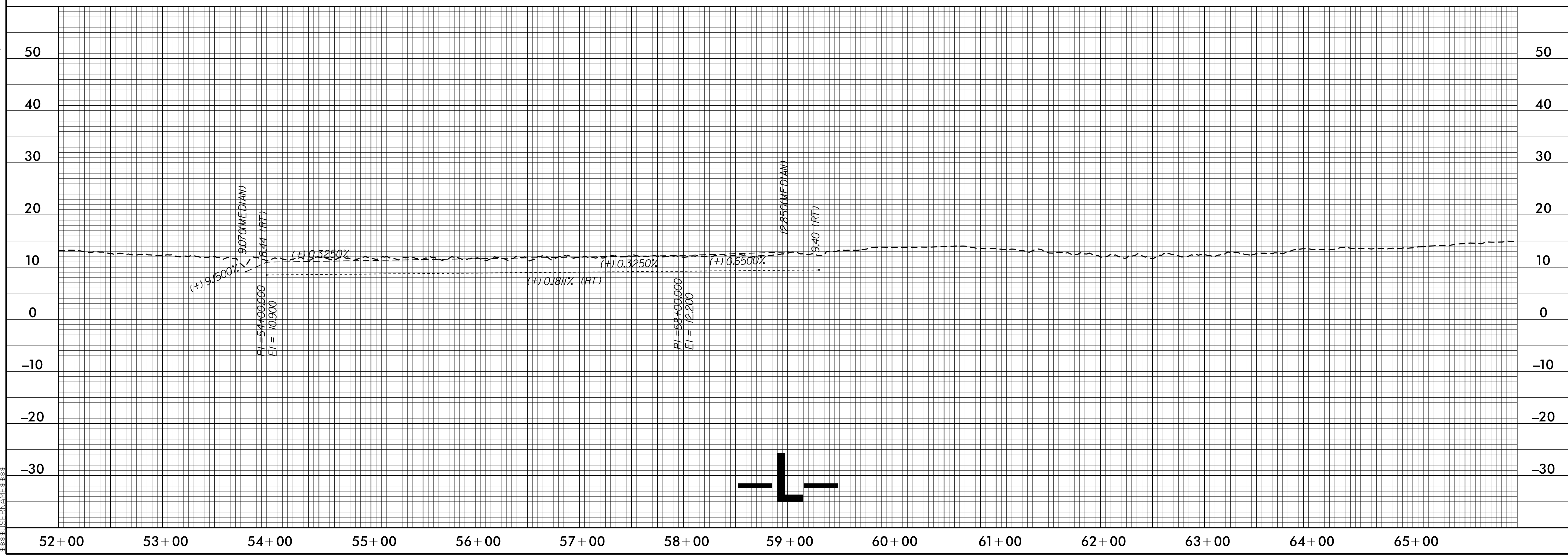
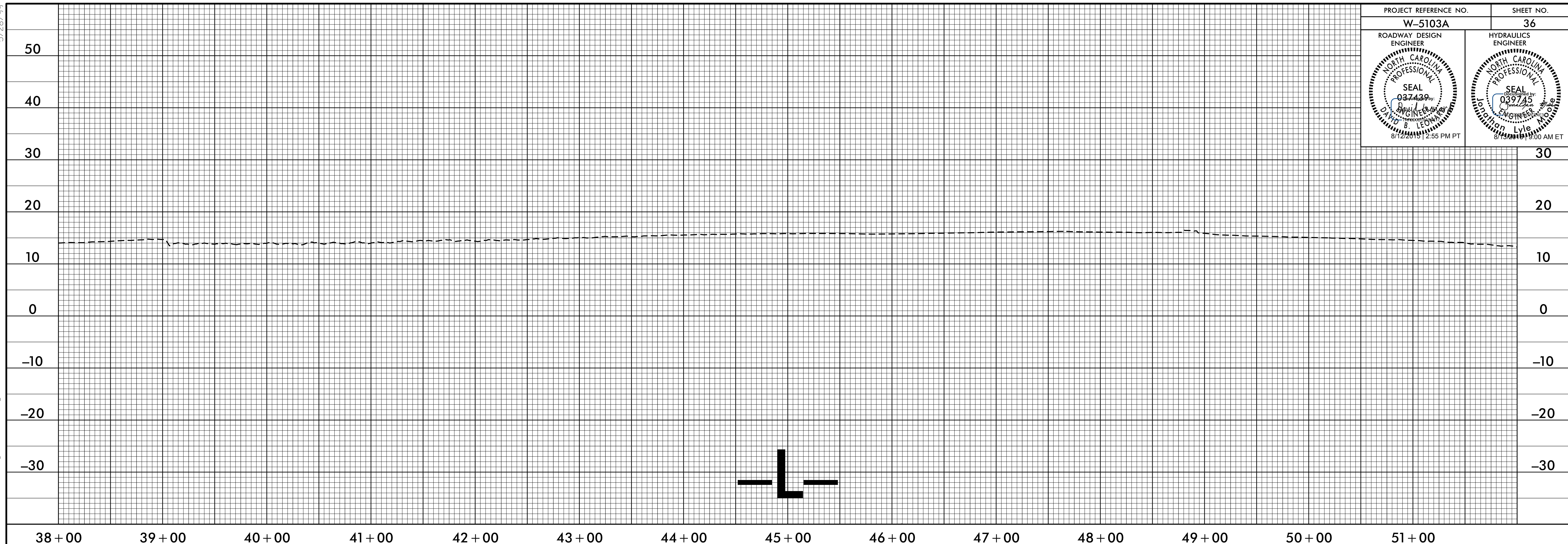
I:\AUGUST 2010\PROJECTS\NEW HANDOVER\W-5103A-41867-1.1.1.US 421 Median Crossover-Relief (use this file)\ROADWAY\Proj\Plan_Sheets\W5103A-D03_Rdy_PRO_L_35.dgn
 \$\$\$\$ USER NAME: \$\$\$

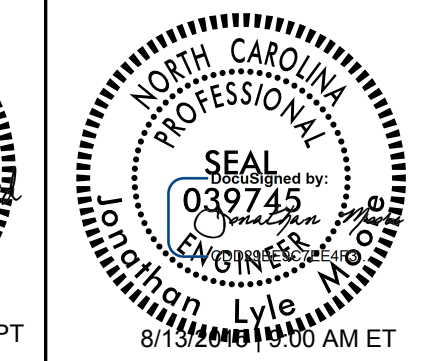
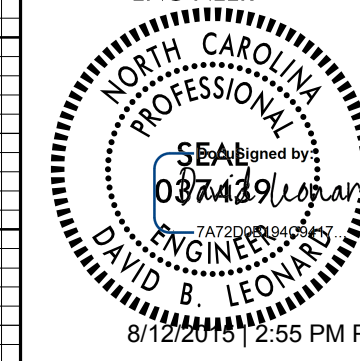


PROJECT REFERENCE NO. W-5103A	SHEET NO. 36
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
8/12/2018 12:55 PM PT	8/12/2018 12:00 AM ET

5/28/99

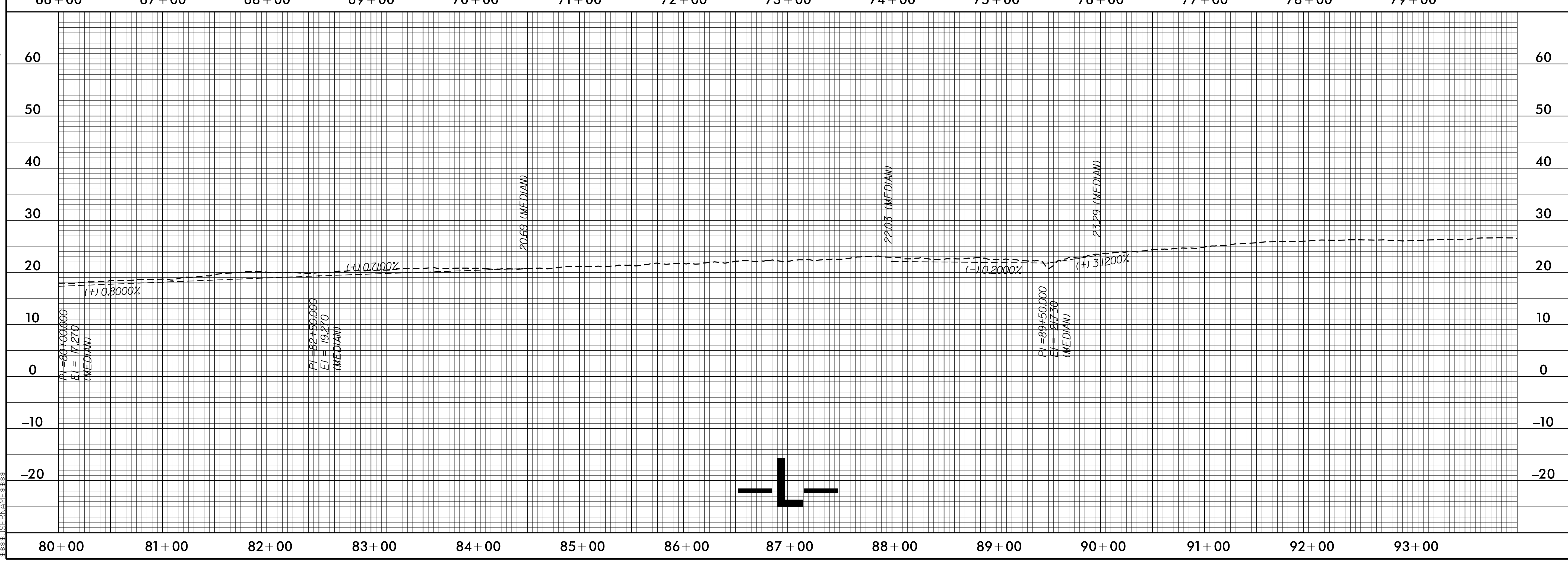
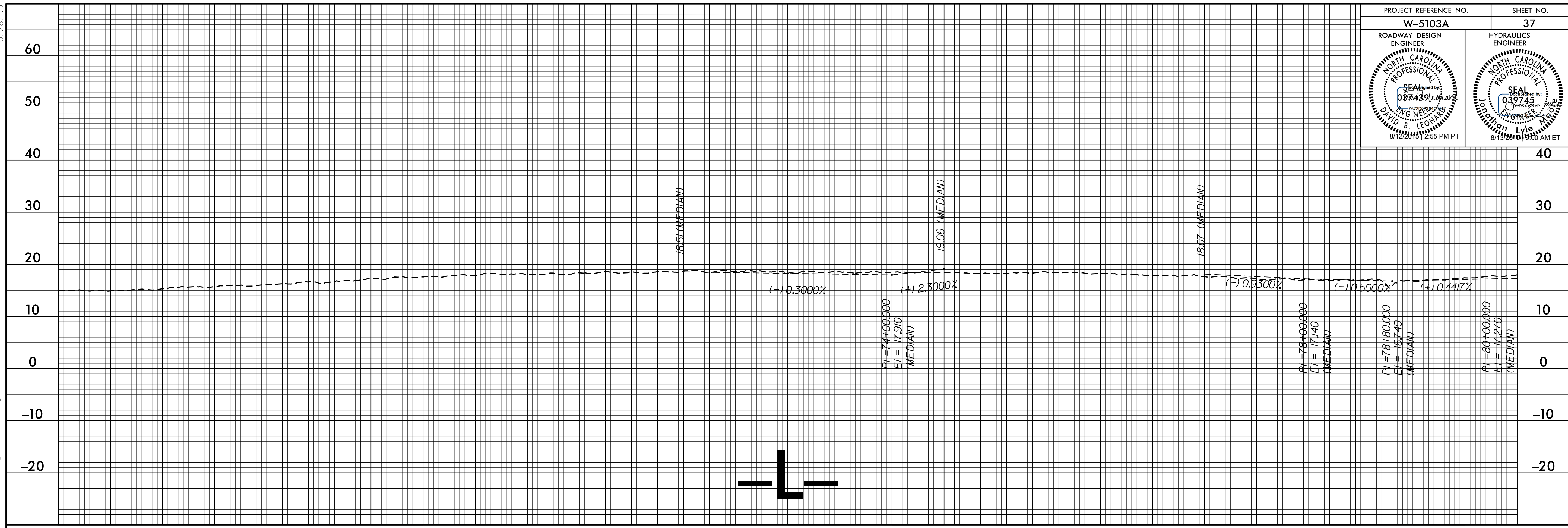
I:\AUG_2015\1523_NEW_HANOVER\W-5103A_41867-1.1.LUS_421 Median Crossover Relet (use this file)\ROADWAY\Proj\Plan_Sheets\W5103A-D03_Rdy_PRO_L_36.dgn





5/28/99

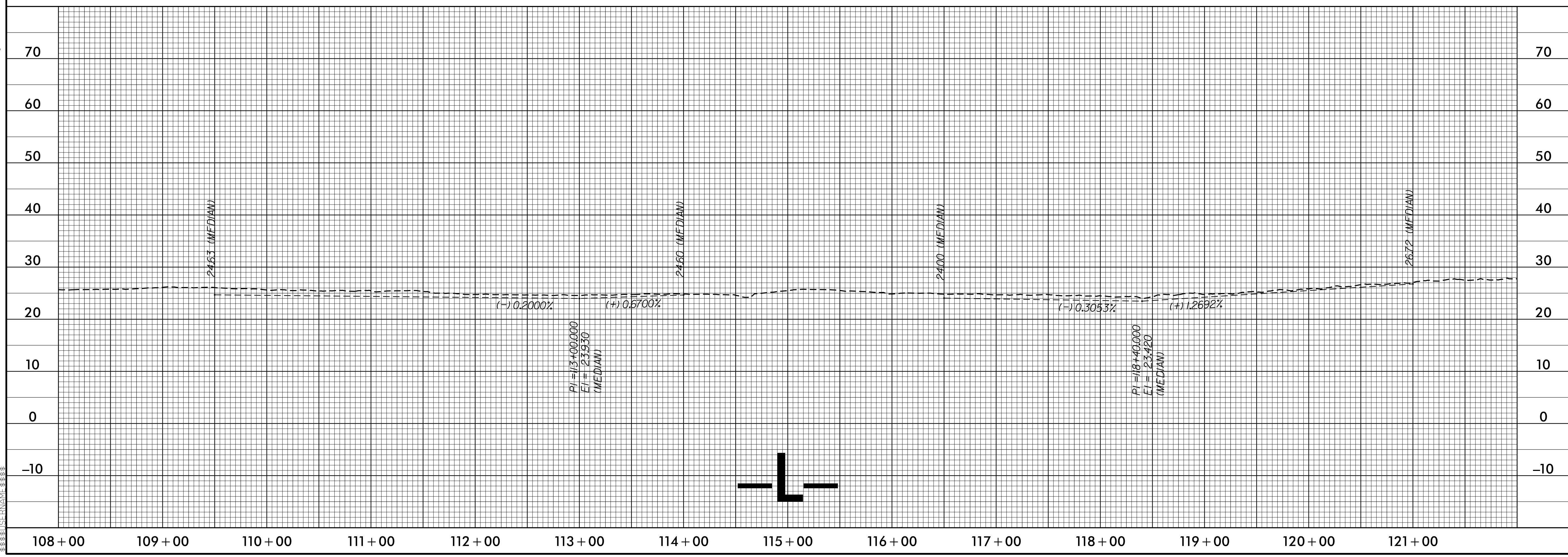
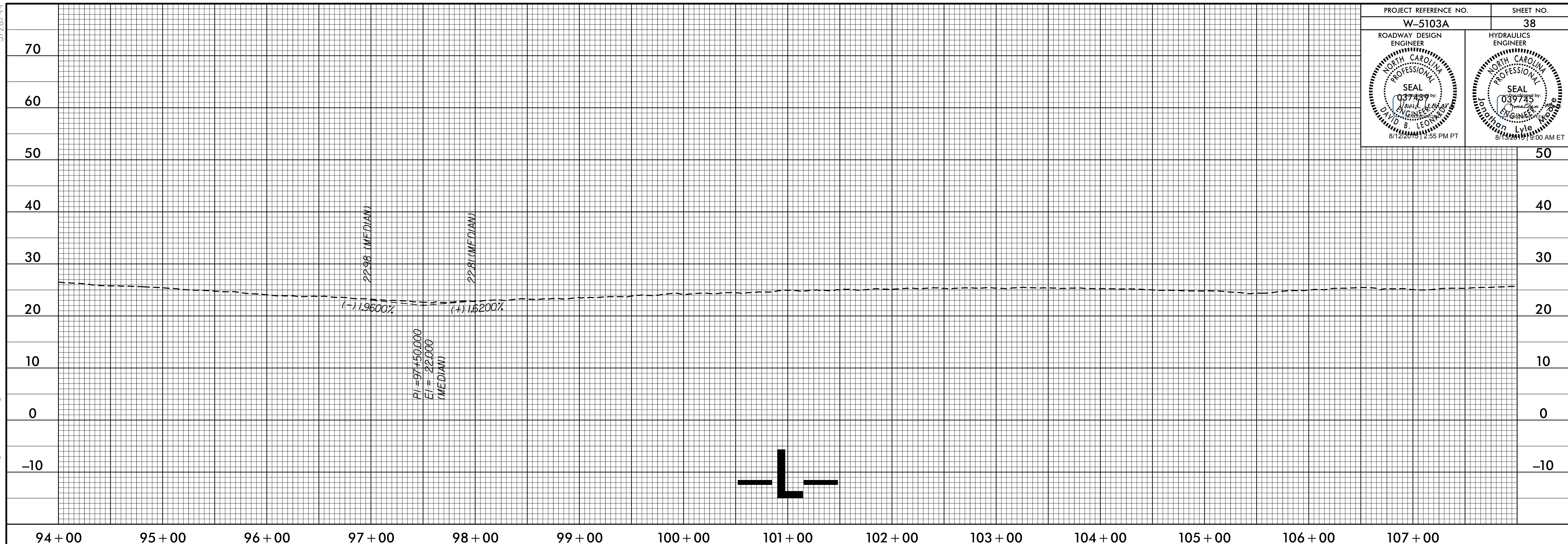
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 \$\$\$\$\$\$ USER NAME: \$\$\$\$\$\$



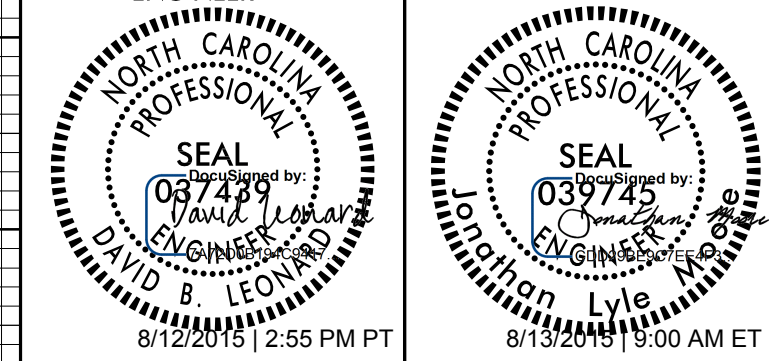
PROJECT REFERENCE NO. W-5103A	SHEET NO. 38
ROADWAY DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 037439 DAVID B. LEONARD 8/12/2019 2:55 PM PT	HYDRAULICS ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 039745 Jonathan Lyle 8/12/2019 9:00 AM ET

5/28/99

I:\AUGUST 2019\PROJECTS\NEW HANDOVER\W-5103A-41867-1.1.LUS 421 Median Crossover Relet (use this file)\ROADWAY\Proj\Plan_Sheets\W5103A-D03_Rdy_PRO_L_38.dgn
 \$\$\$\$\$\$ USER NAME: \$\$\$\$\$\$

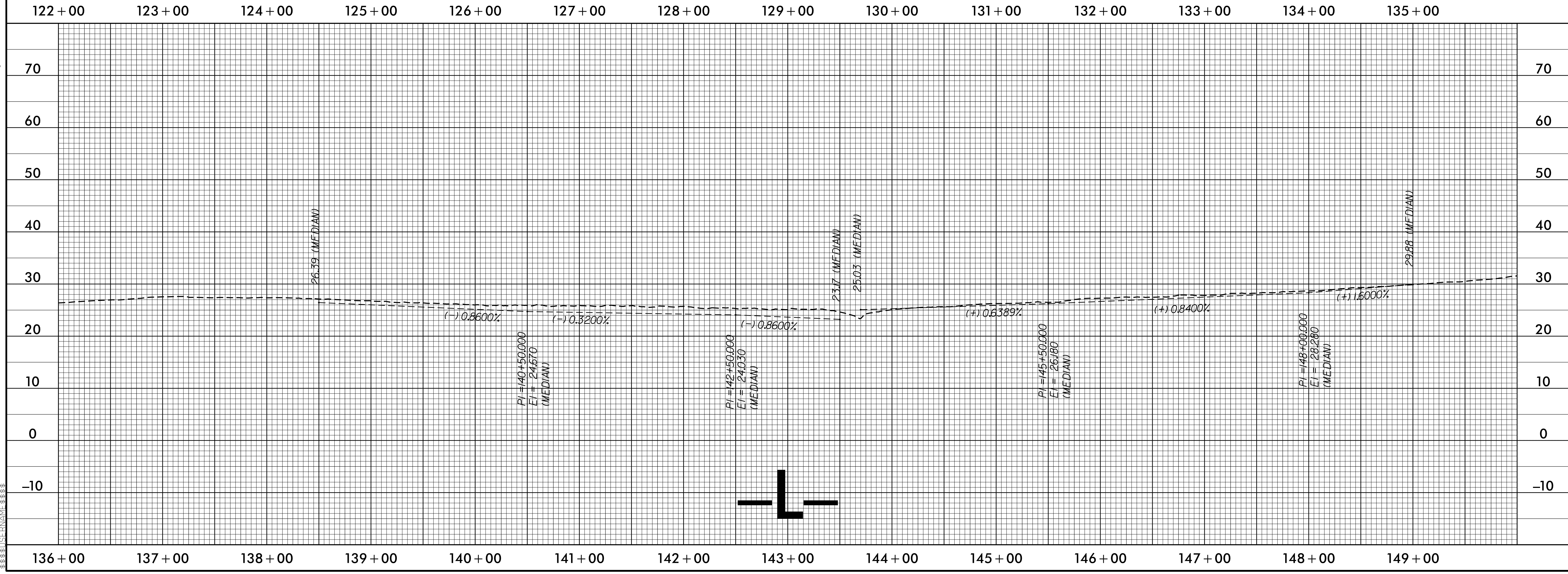
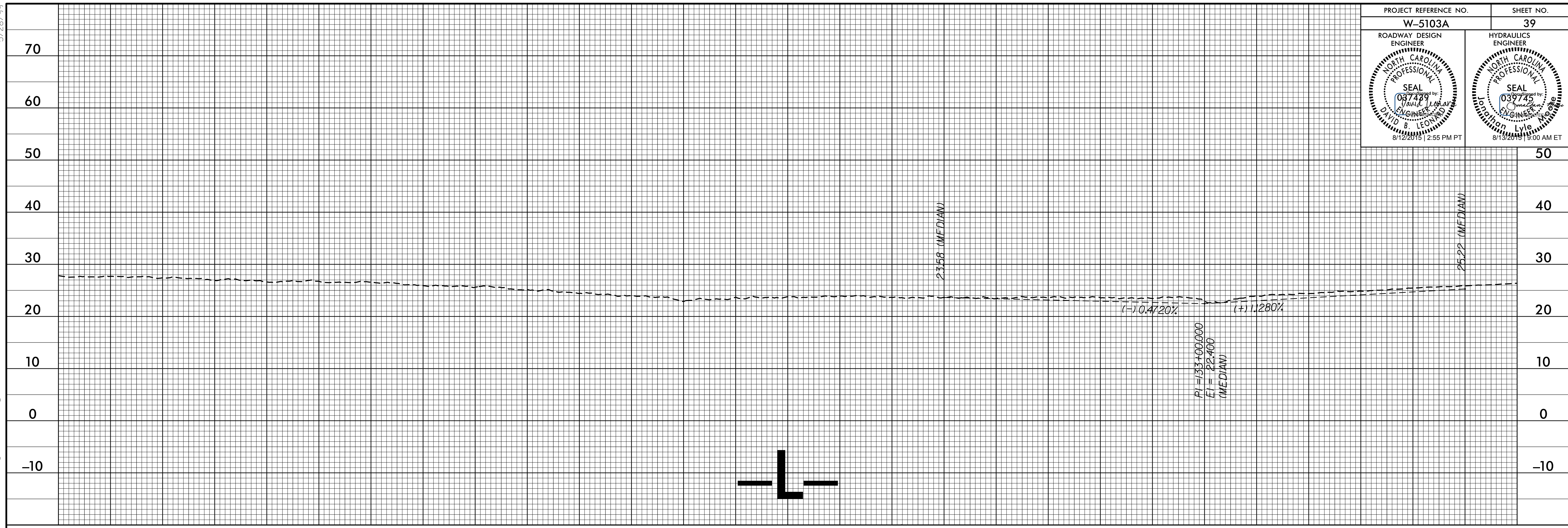


PROJECT REFERENCE NO. W-5103A	SHEET NO. 39
ROADWAY DESIGN ENGINEER DAVID B. LEONARD 8/12/2015 12:55 PM PT	HYDRAULICS ENGINEER DAVID B. LEONARD 8/12/2015 12:00 AM ET



5/28/99

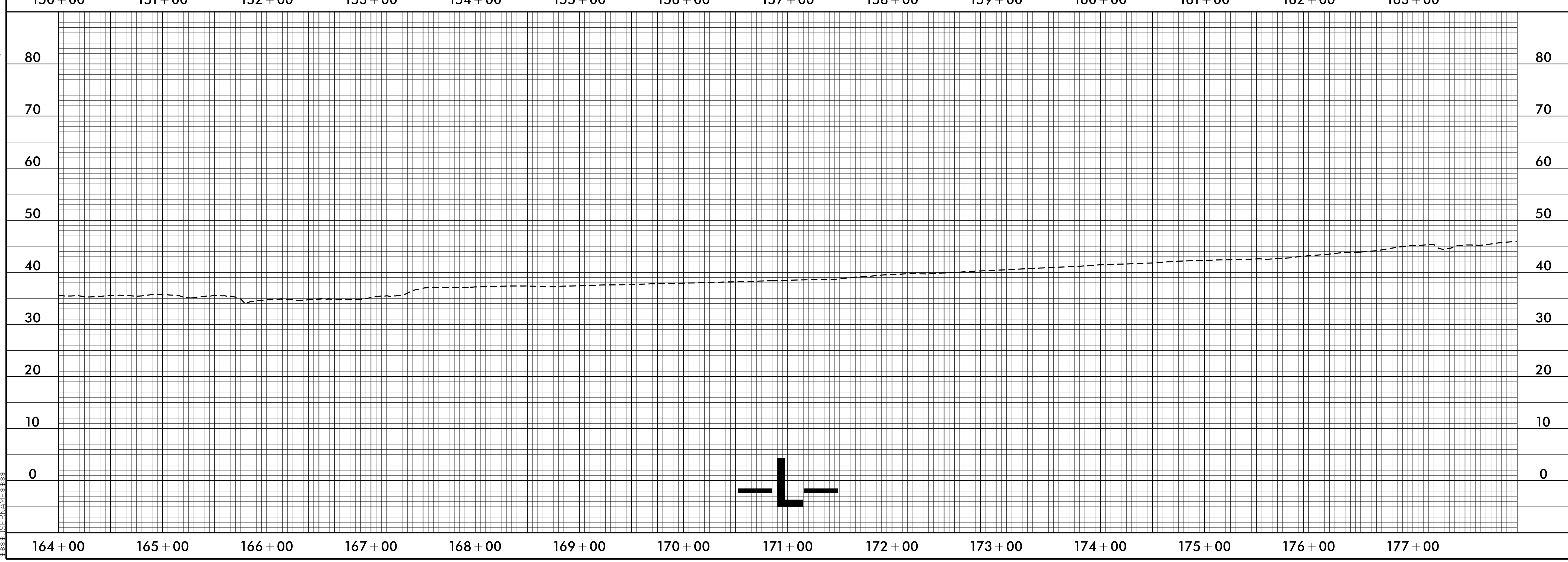
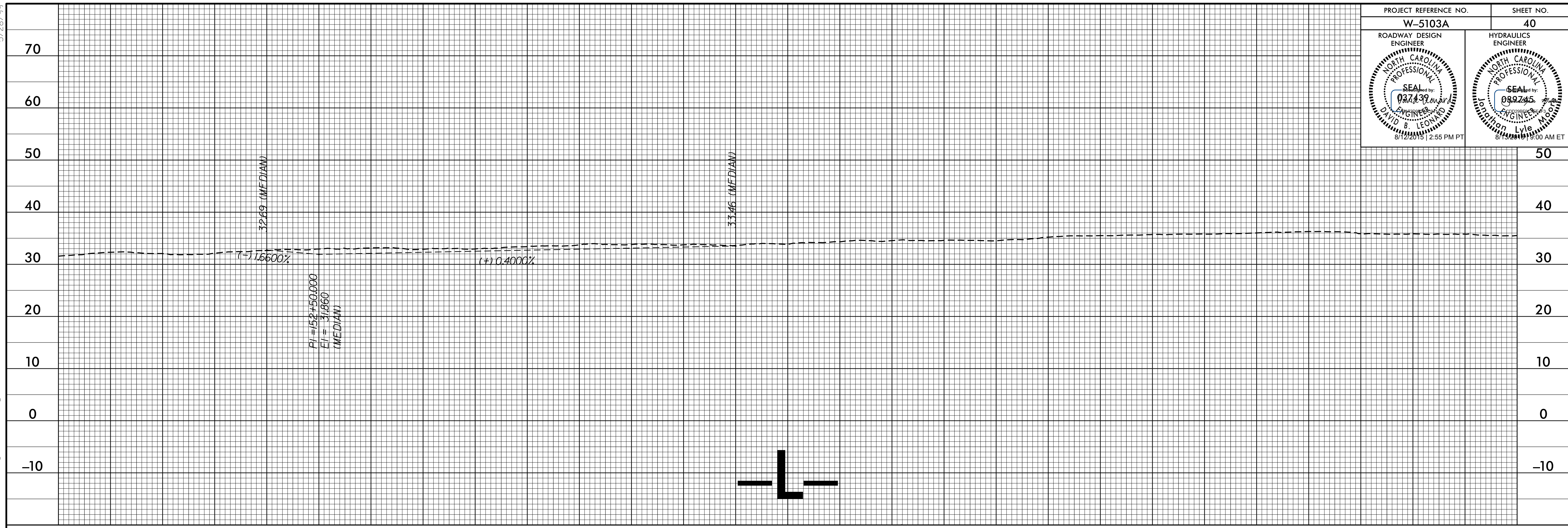
I:\AUGUST 2015\PROJECTS\NEW HANDOVER\W-5103A-41867-1.1.LUS 421 Median Crossover-Reliet (use this file)\ROADWAY\Proj\Plan_Sheets\W5103A-D03_Rdy_PRO_L_39.dgn
 \$\$\$\$\$\$ (USER NAME) \$\$\$\$\$\$



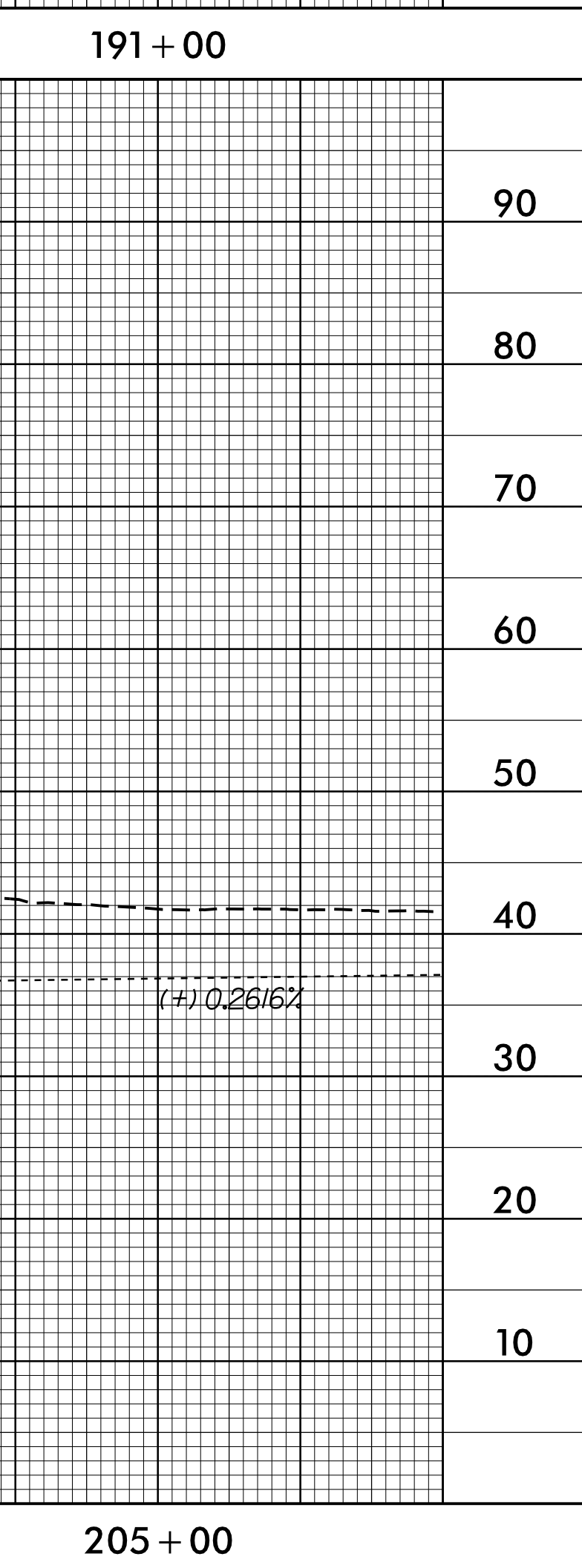
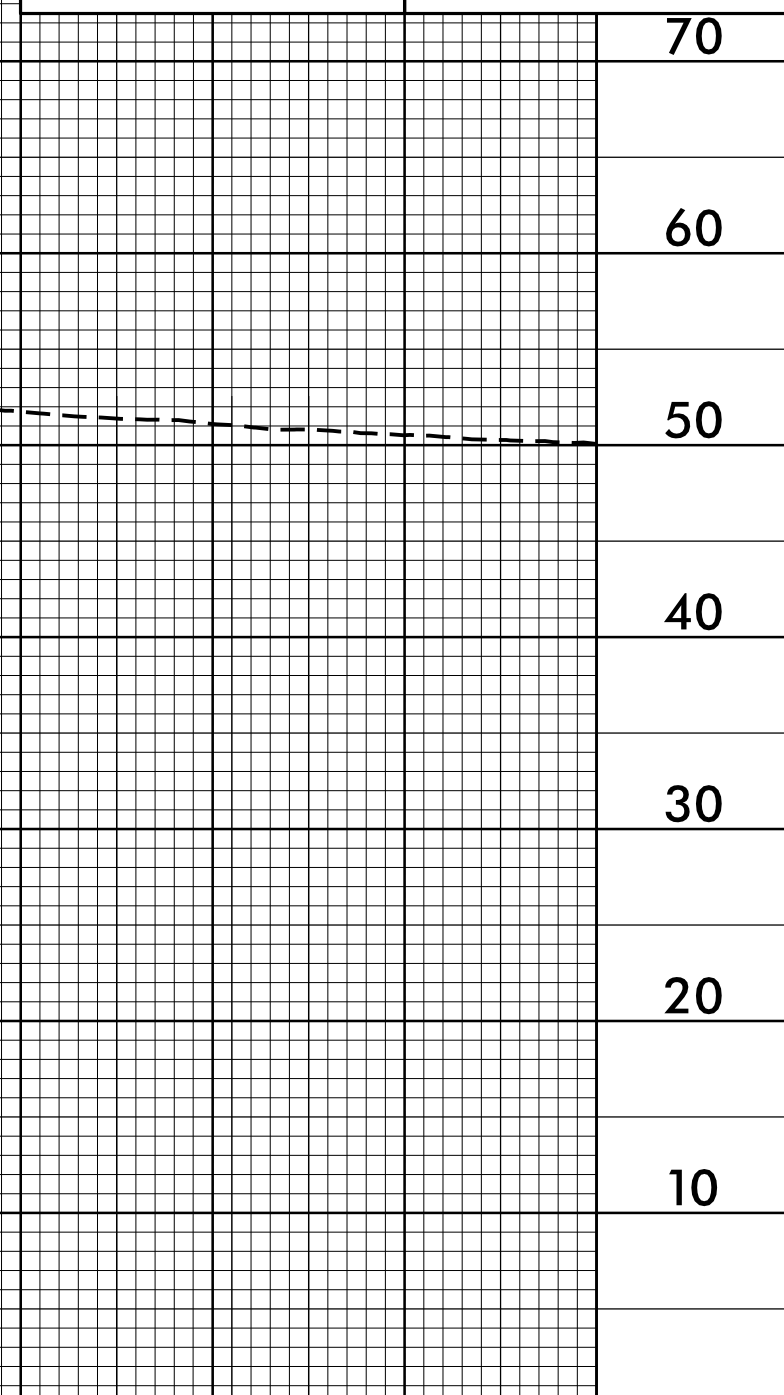
PROJECT REFERENCE NO. W-5103A	SHEET NO. 40
ROADWAY DESIGN ENGINEER DAVID B. LEONARD 8/12/19 2:55 PM PT	HYDRAULICS ENGINEER JOSHUA LYLE 8/12/19 9:00 AM ET

5/28/19

I:\AUGUST 2019\PROJECTS\NEW HANDOVER\W-5103A_41867-1.1.1.US 421 Median Crossover-Relief (use this file)\ROADWAY\Proj\Plan_Sheets\W5103A-D03-Rdy-PR0-L-40.dgn
 \$\$\$\$\$\$ USER NAME: \$\$\$\$\$\$



PROJECT REFERENCE NO. W-5103A	SHEET NO. 41
ROADWAY DESIGN ENGINEER DAVID B. LEONARD 8/12/2016 2:55 PM PT	HYDRAULICS ENGINEER DAVID B. LEONARD 8/13/2016 10:00 AM ET

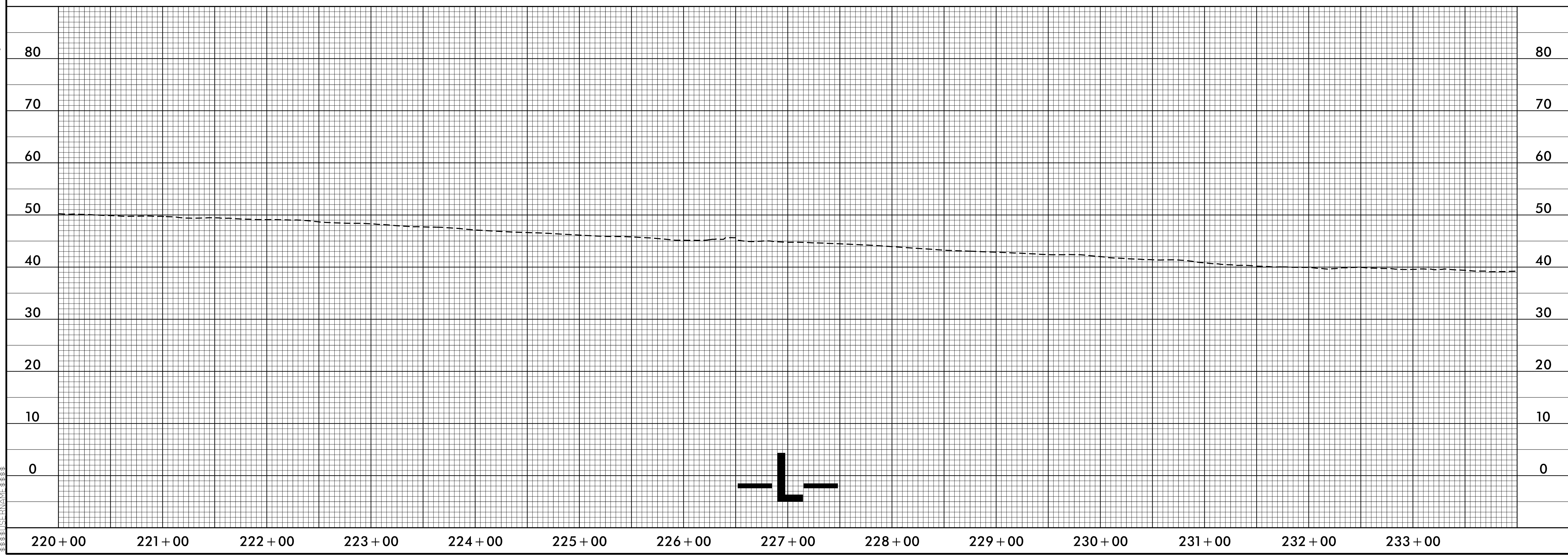
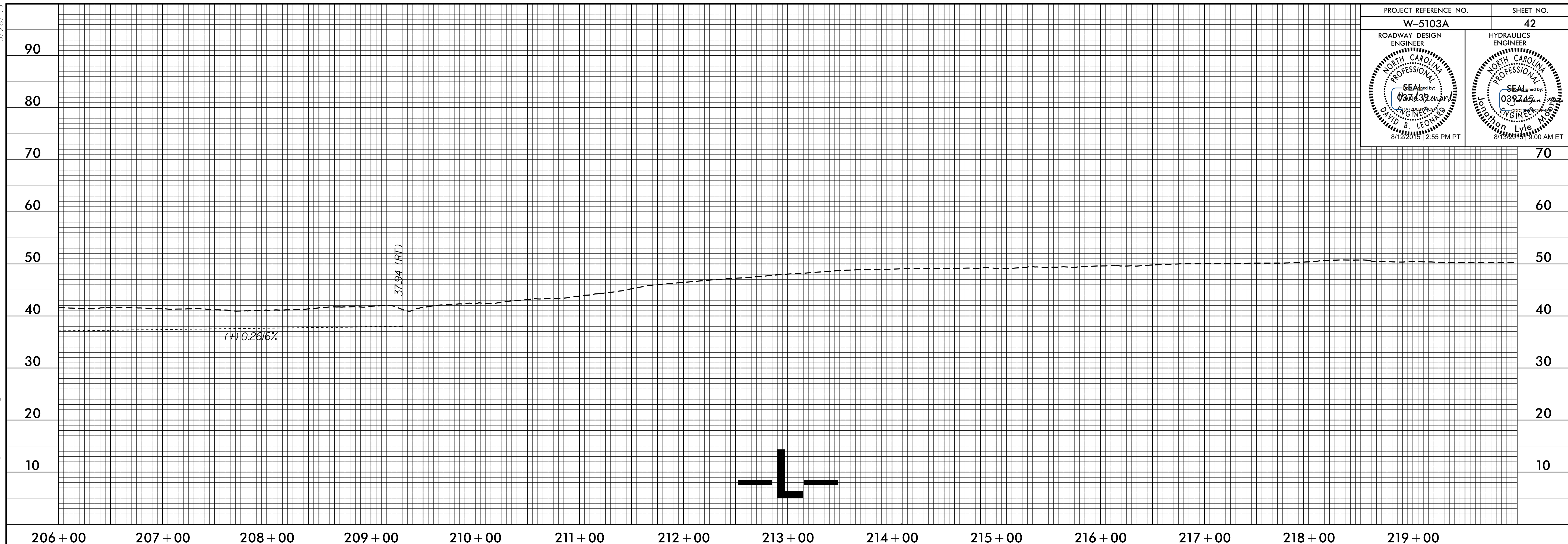


5/28/99
 10_AUG_2016 11:10 NEW HANDOVER\W-5103-41867-1.1.LUS 421 Median Crossover-Relief (use this file)\ROADWAY\Proj\Plan_Sheets\W5103A-D03_Rdy_PRO.L-41.dgn
 \$\$\$\$\$\$ (USER NAME) \$\$\$\$\$\$

PROJECT REFERENCE NO. W-5103A	SHEET NO. 42
ROADWAY DESIGN ENGINEER SEAL DAVID B. LEONARD 8/12/2011 2:55 PM PT	HYDRAULICS ENGINEER SEAL Johnathan Lyle 8/12/2011 10:00 AM ET

5/28/99

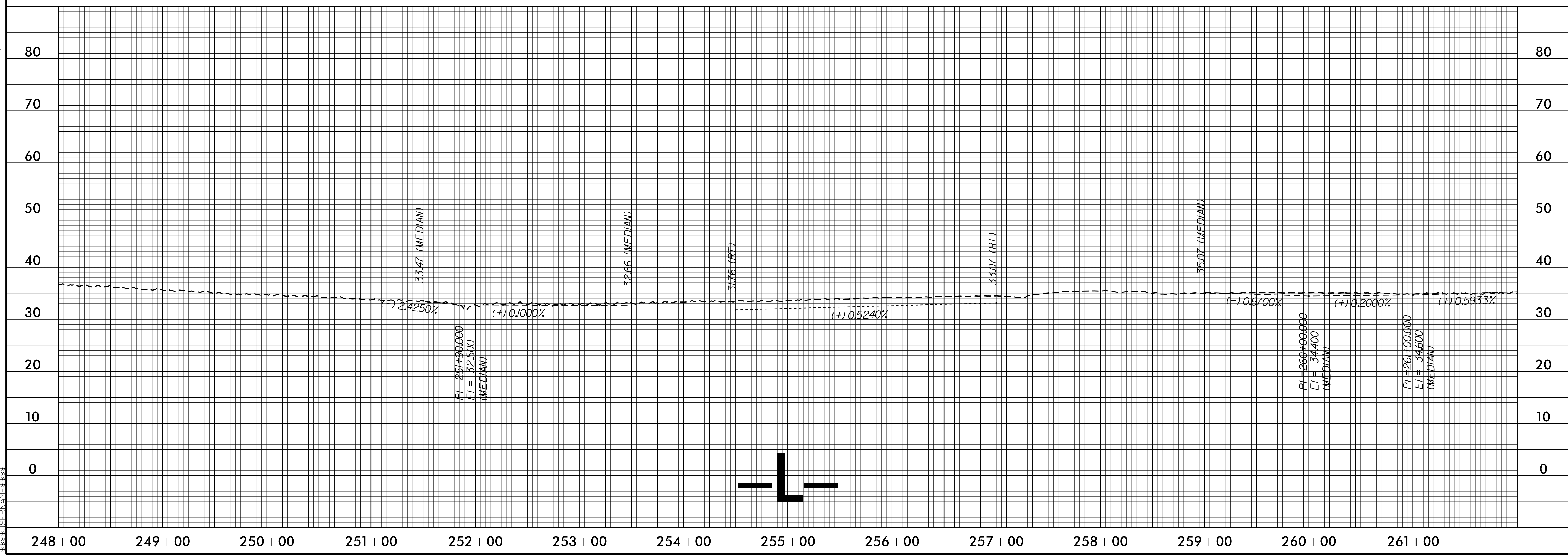
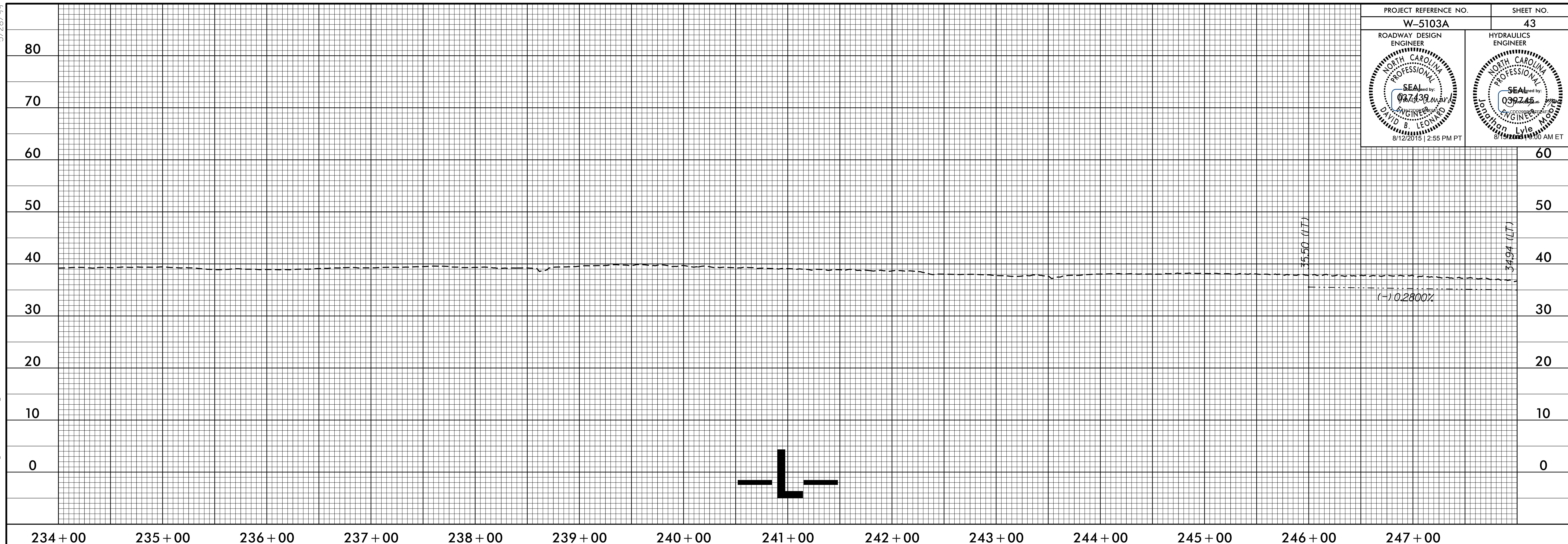
I:\AUGUST 2011\NEW HANDOVER\W-5103A-41867-1.1.US 421 Median Crossover-Relief (use this file)\ROADWAY\Proj\Plan_Sheets\W5103A-D03-Rdy-PR0-L-42.dgn
 \$\$\$\$\$\$ USER NAME: \$\$\$\$\$\$



PROJECT REFERENCE NO. W-5103A	SHEET NO. 43
ROADWAY DESIGN ENGINEER DAVID B. LEONARD 8/12/2015 2:55 PM PT	HYDRAULICS ENGINEER Jonathan Lyle 8/12/2015 10:00 AM ET

5/28/99

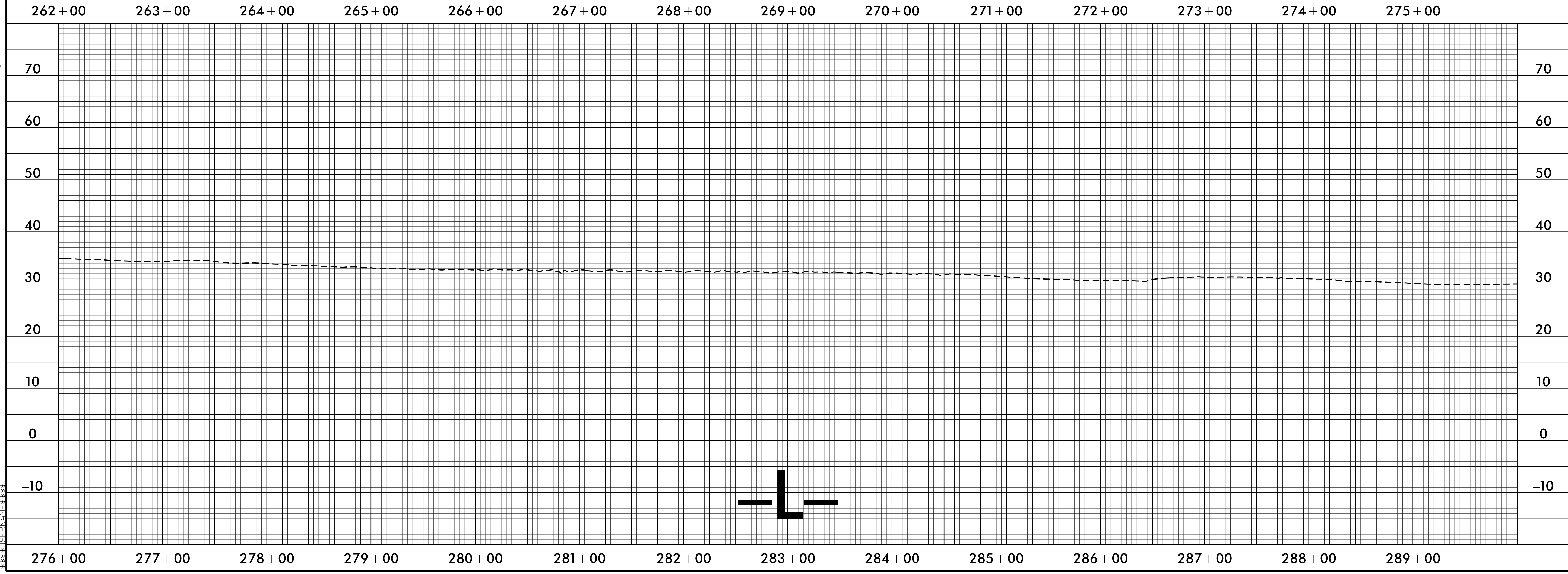
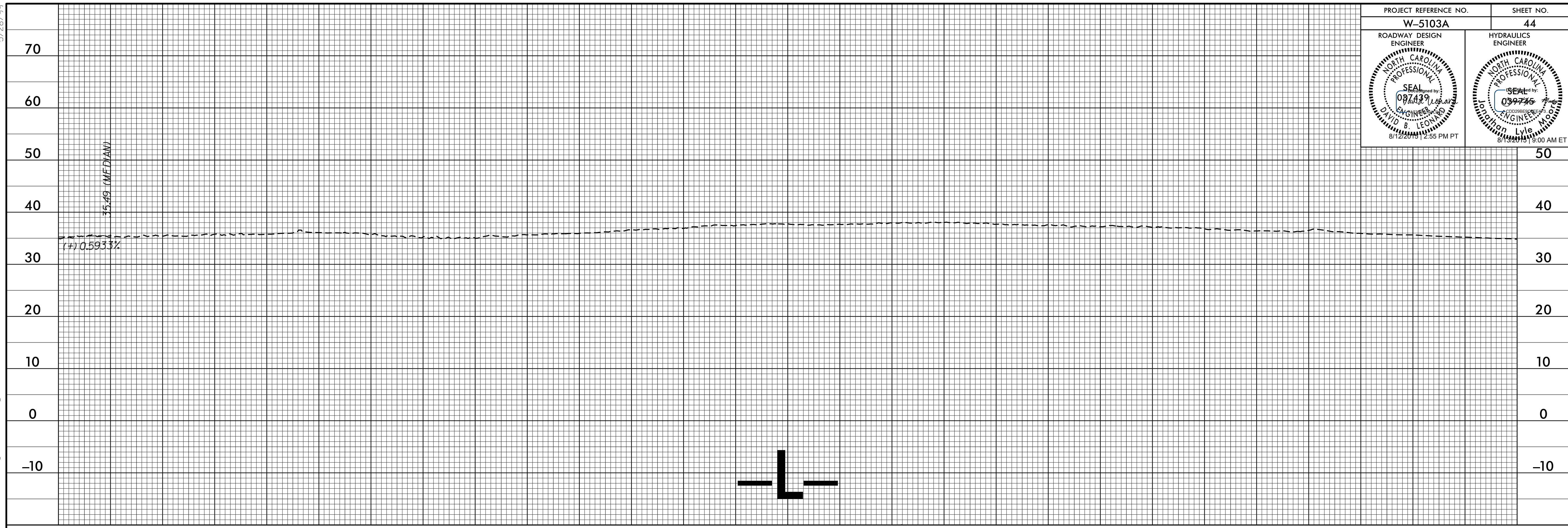
I:\AUGUST 2015\PROJECTS\NEW HANDOVER\W-5103A_41867-1.1.LUS 421 Median Crossover-Relief (use this file)\ROADWAY\Proj\Plan_Sheets\W5103A-D03_Rdy_PRO.L_43.dgn
 3:53:51 (USER NAME)



PROJECT REFERENCE NO. W-5103A	SHEET NO. 44
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

5/28/99

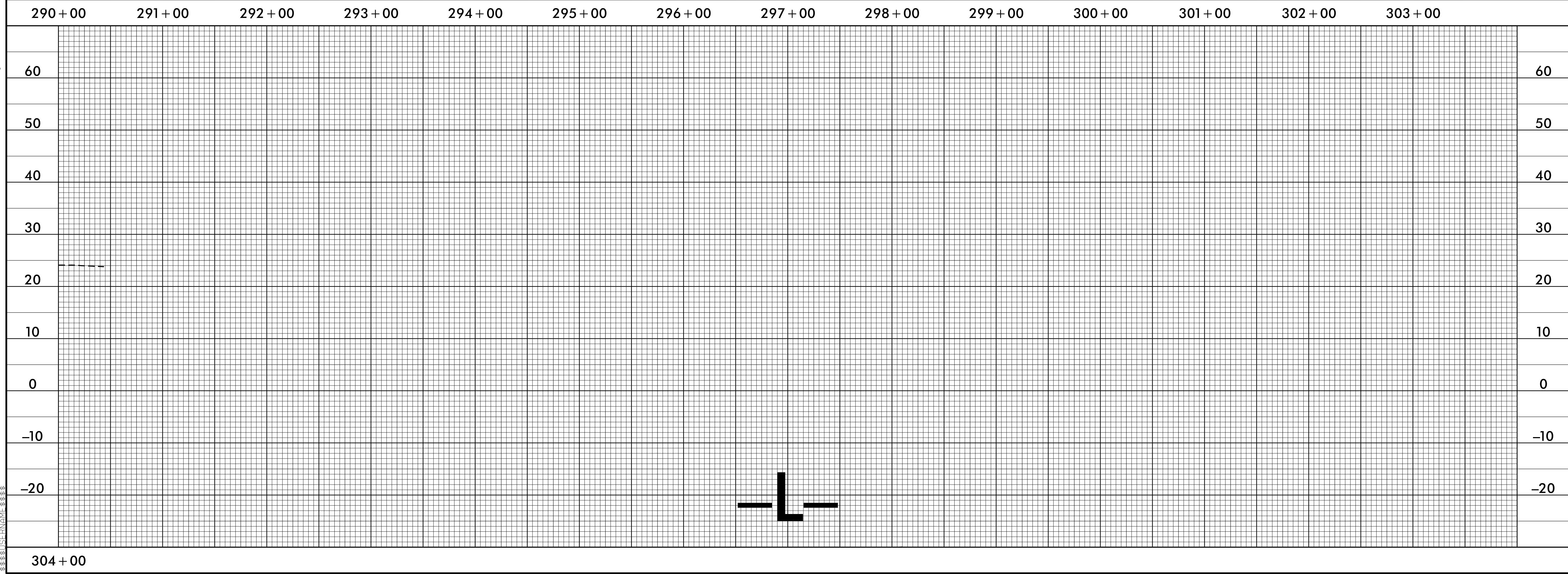
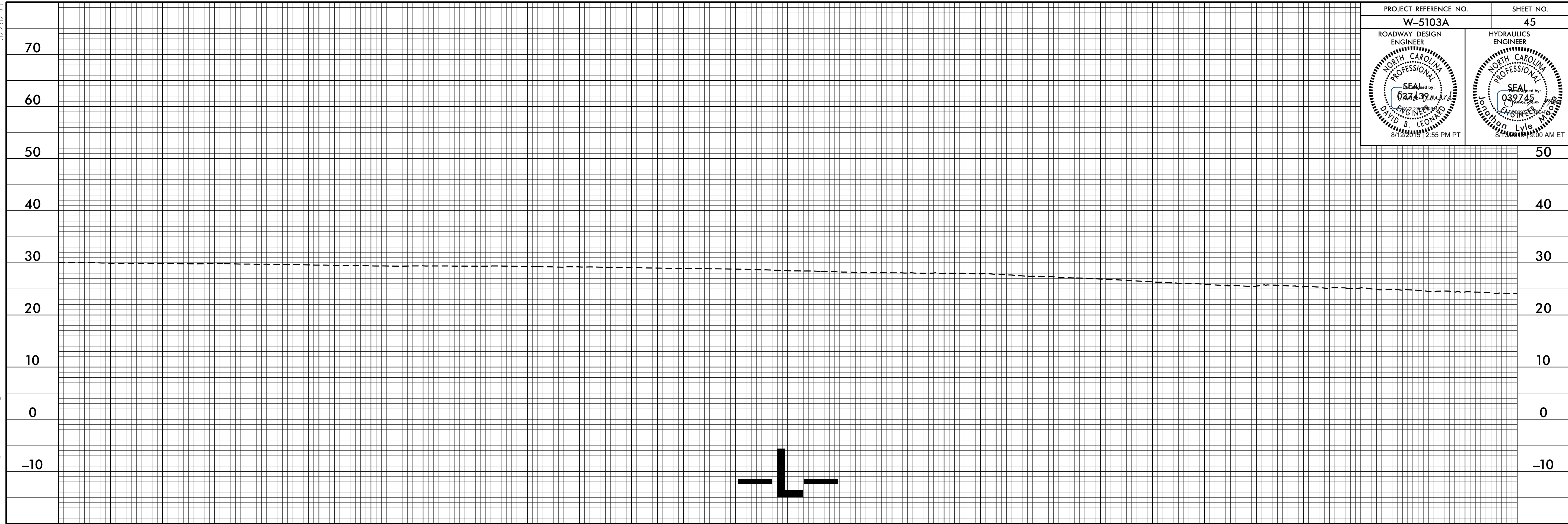
I:\AUGUST 2019 FILES\NEW HANDOVER\W-5103A-41867-1.1.US 421 Median Crossover Relet (use this file)\ROADWAY\Proj\Plan Sheets\W5103A-D03_Rdy_PRO_L-44.dgn
 \$\$\$\$\$\$ USER NAME \$\$\$\$\$\$



5/28/99

D:\AUS\2015\FILE\NEW HANDOVER\W-5103A-41867-1.1.US 421 Median Crossover-Relief (use this file)\ROADWAY\Proj\Plan_Sheets\W5103A-D03_Rdy_PRO.L_45.dgn

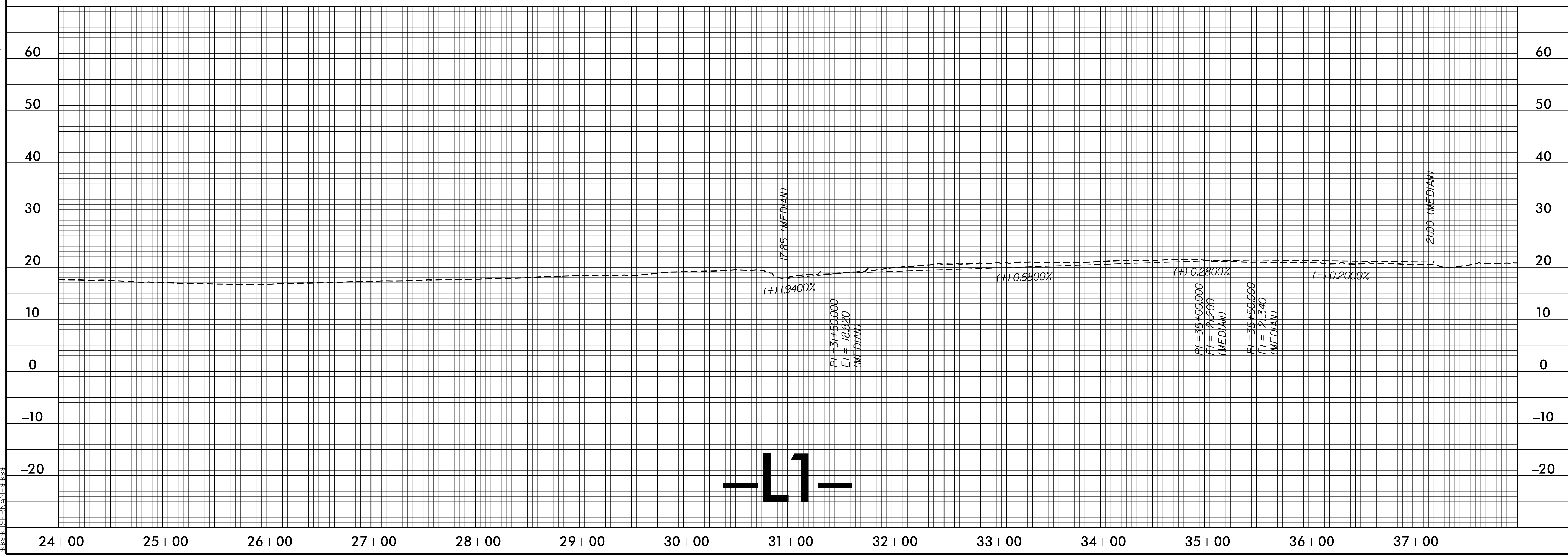
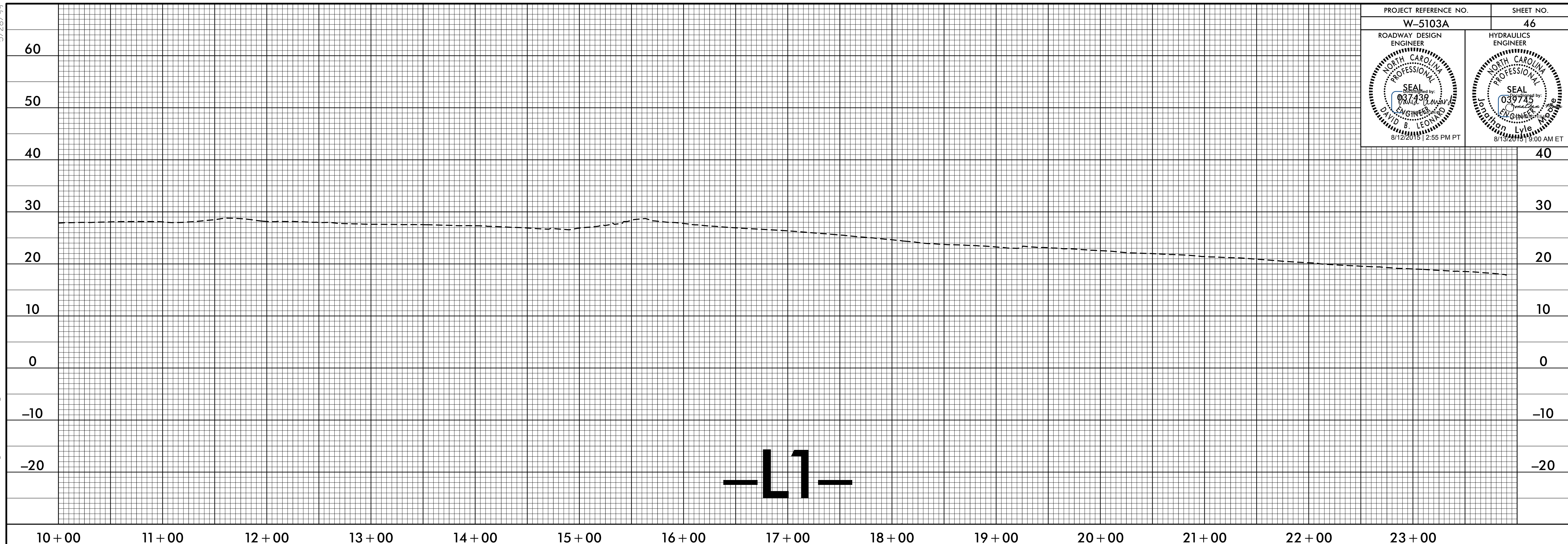
PROJECT REFERENCE NO. W-5103A	SHEET NO. 45
ROADWAY DESIGN ENGINEER SEAL 8/12/2019 12:55 PM PT DAVID B. LEONARD	HYDRAULICS ENGINEER SEAL 8/12/2019 9:00 AM ET Jonathan Lyle



PROJECT REFERENCE NO. W-5103A	SHEET NO. 46
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
8/12/25 2:55 PM PT	8/13/25 9:00 AM ET

5/28/99

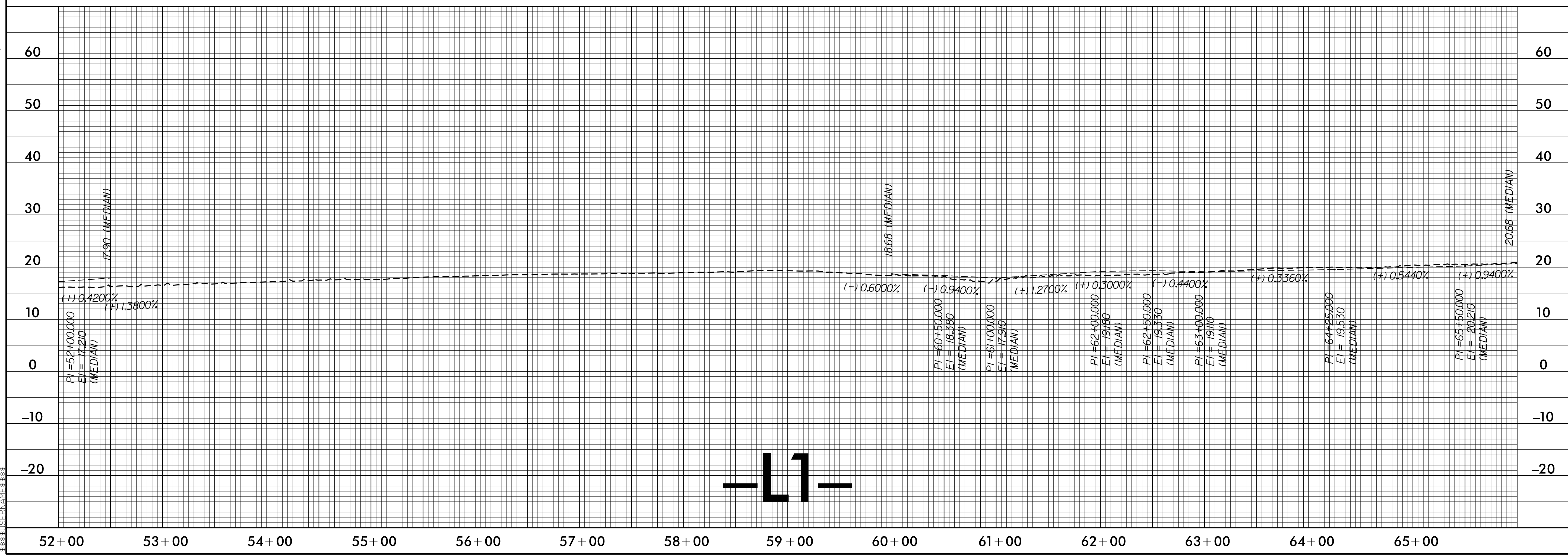
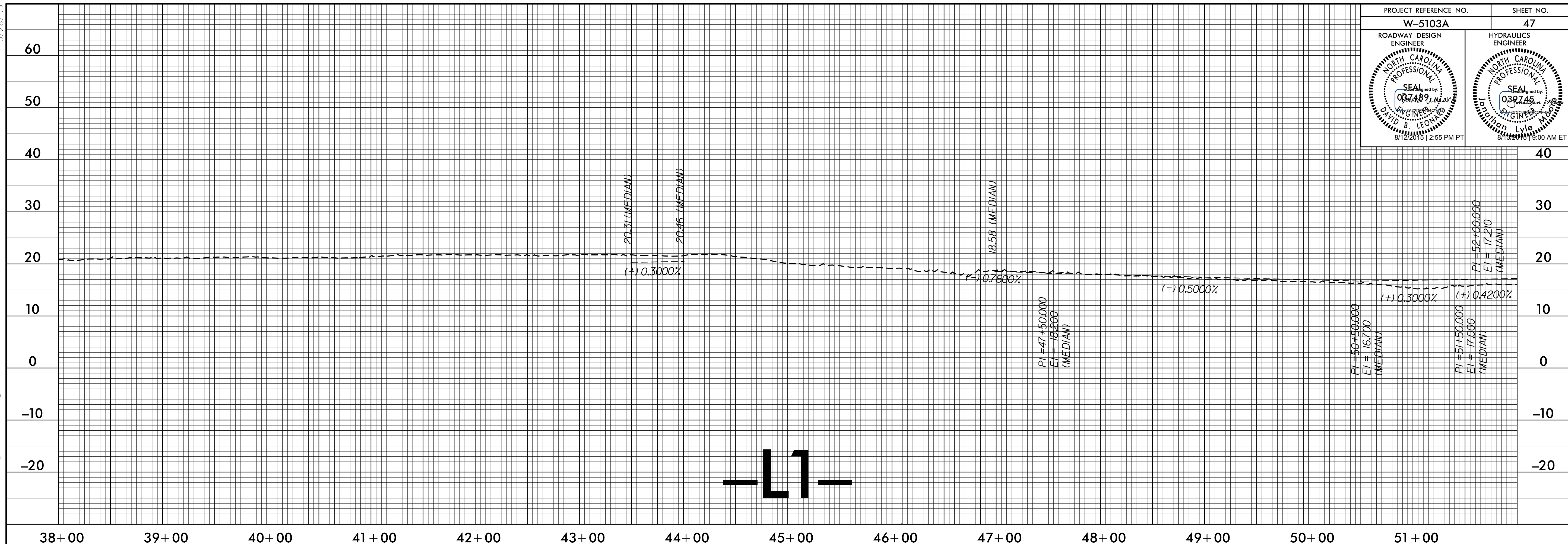
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 \$\$\$\$\$\$ USER NAME: \$\$\$\$\$\$



PROJECT REFERENCE NO. W-5103A	SHEET NO. 47
ROADWAY DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL ENGINEER DAVID B. LEONARD 0397149 8/12/2015 2:55 PM PT	HYDRAULICS ENGINEER NORTH CAROLINA PROFESSIONAL ENGINEER Lyle 0397149 8/12/2015 9:00 AM ET

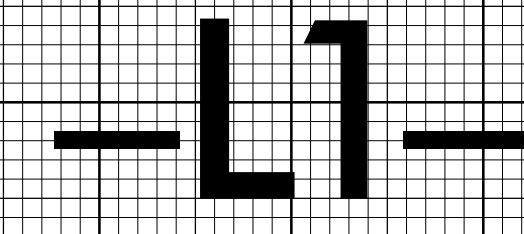
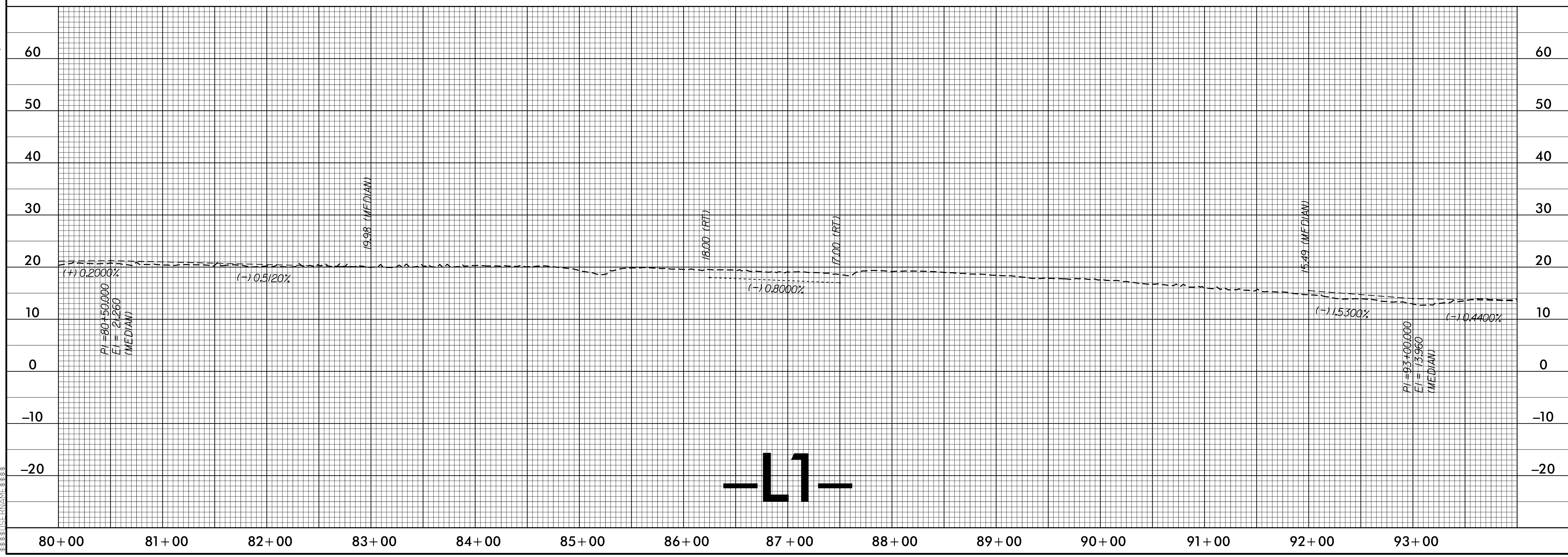
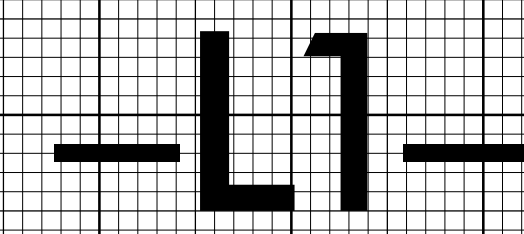
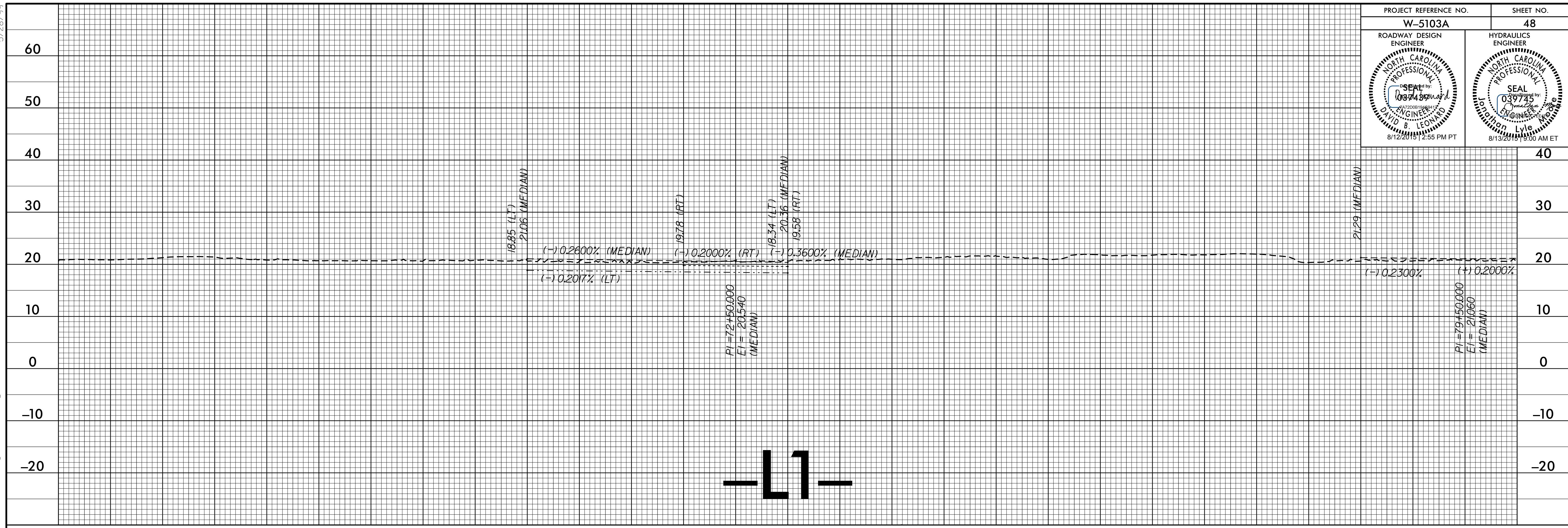
5/28/99

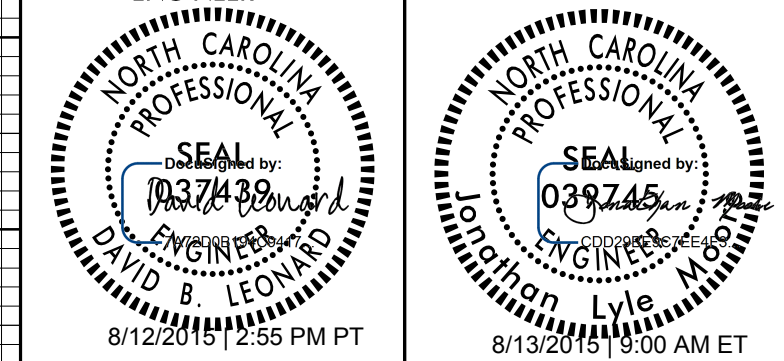
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 \$\$\$\$\$\$ (USE EXACT) \$\$\$\$\$\$



5/28/99

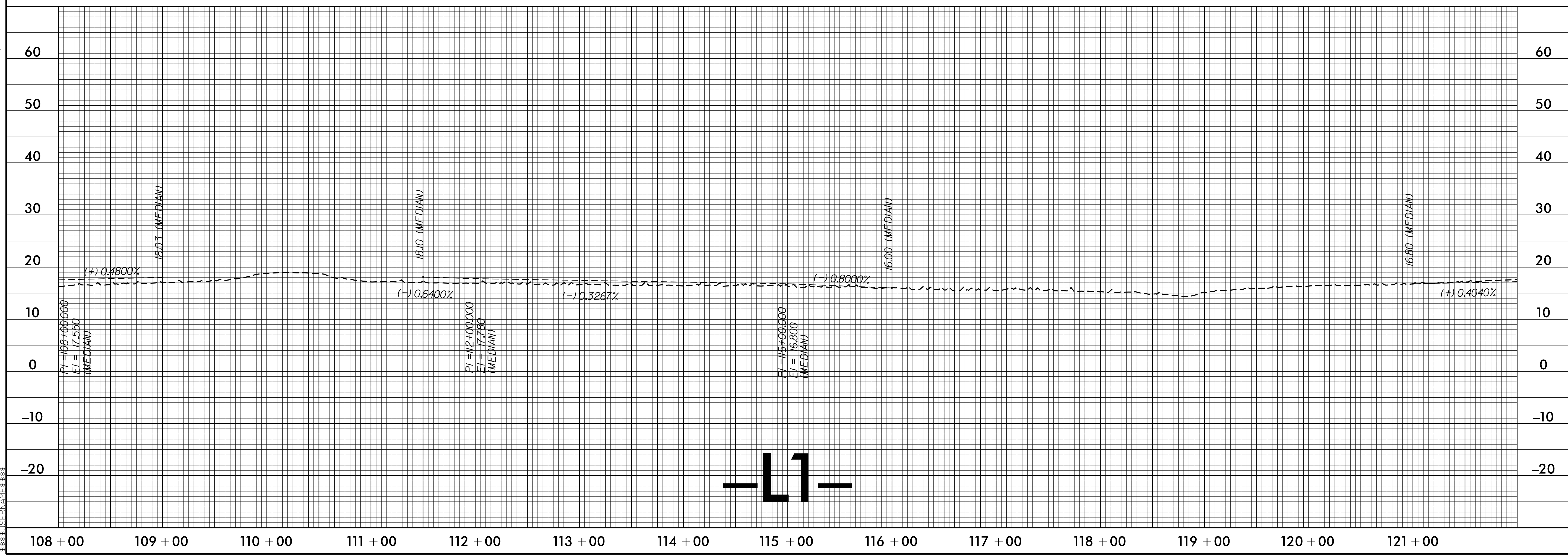
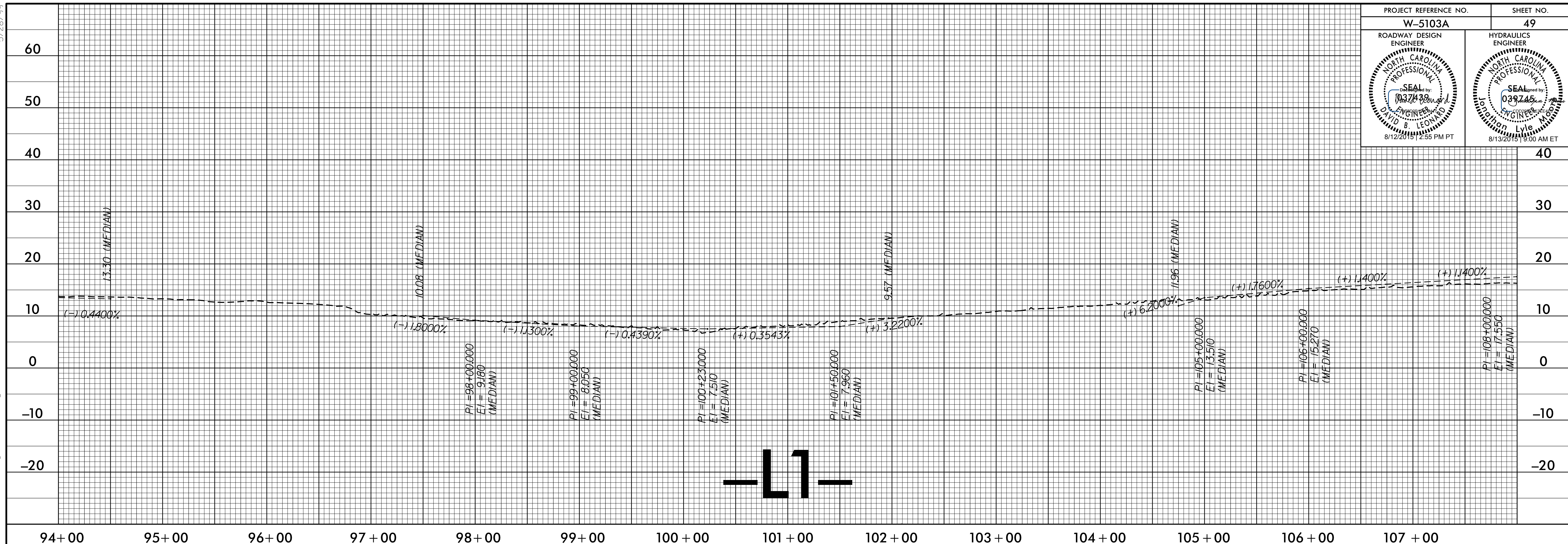
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 \$\$\$\$\$\$ USER NAME: \$\$\$\$\$\$





5/28/99

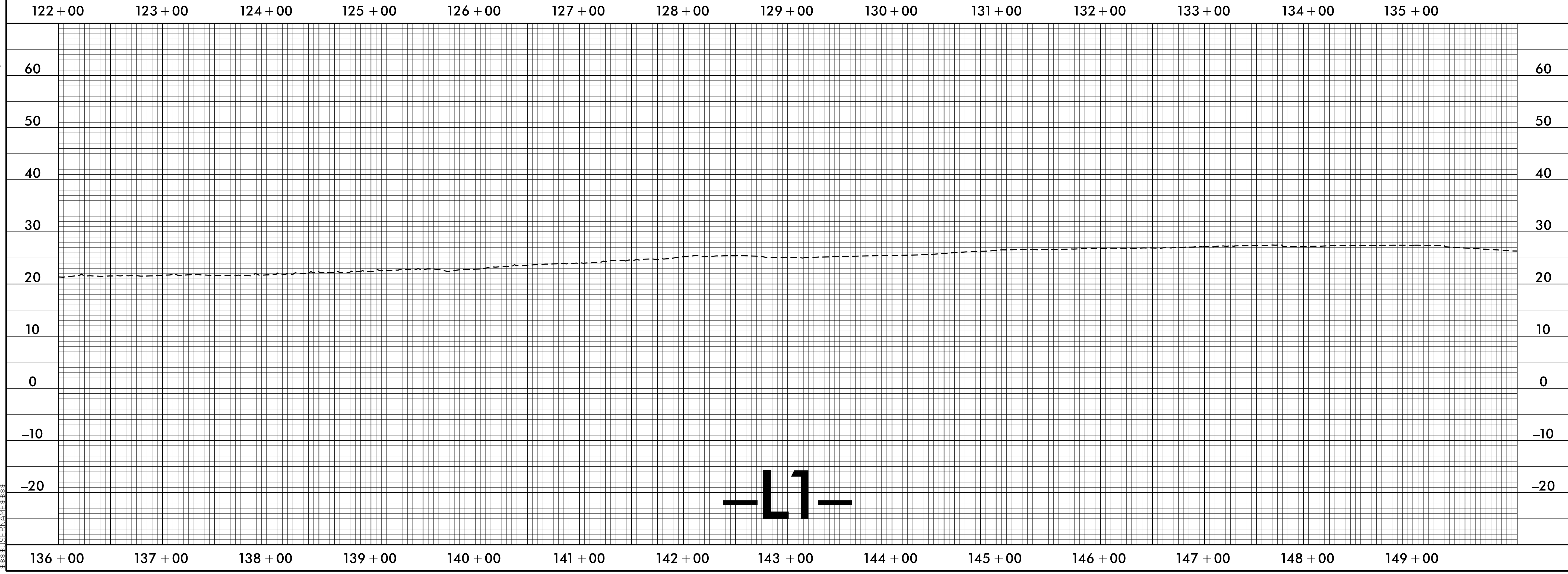
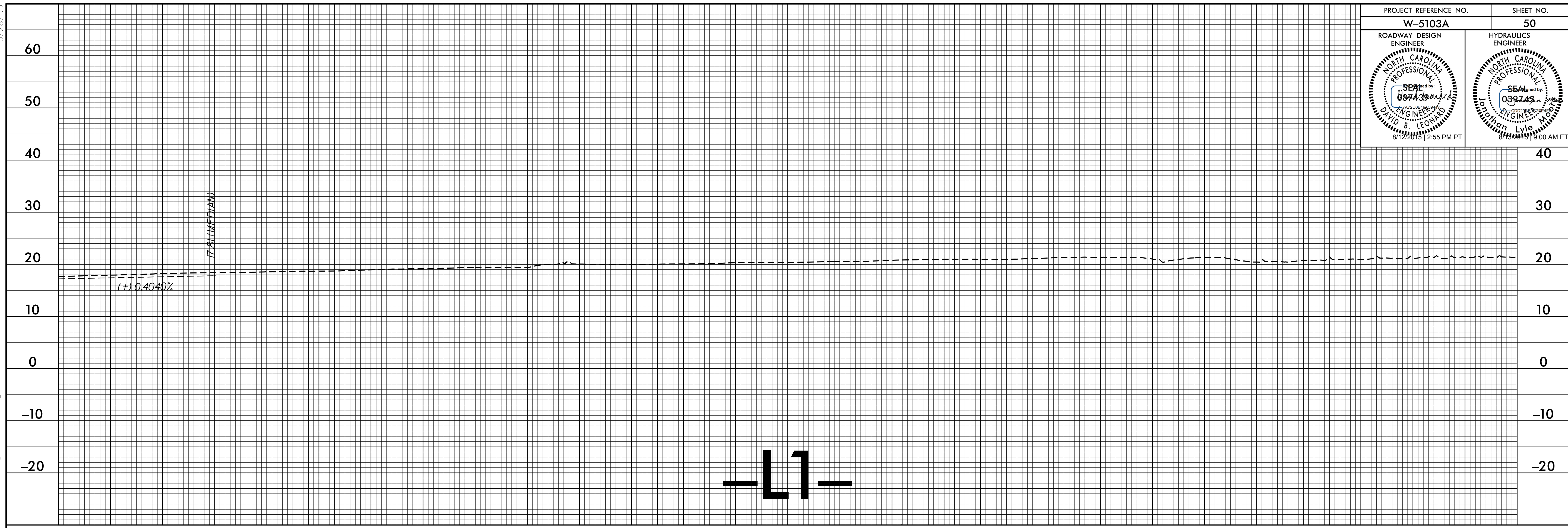
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PROJECT REFERENCE NO. W-5103A	SHEET NO. 50
ROADWAY DESIGN ENGINEER SEAL 037439	HYDRAULICS ENGINEER SEAL 039243
DAVID B. LEONARD 8/12/2019 12:55 PM PT	Jonathan Lyle 8/12/2019 9:00 AM ET

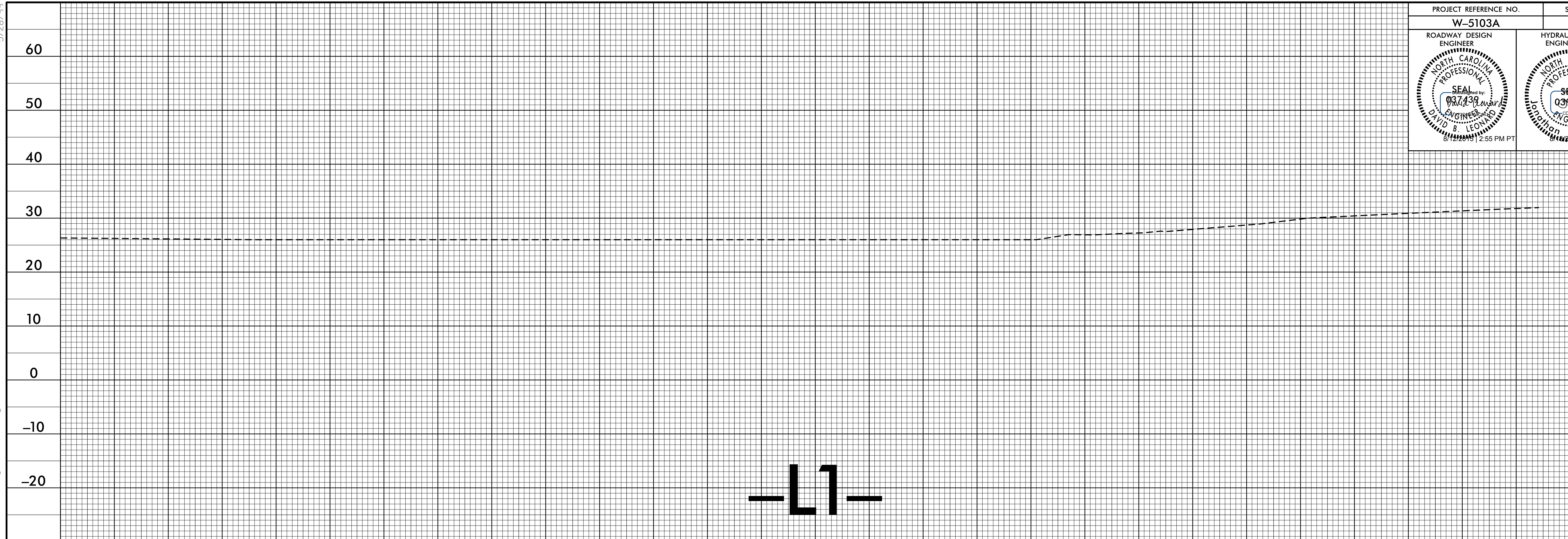
5/28/99

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 \$\$\$BLSRNAME\$\$\$



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PROJECT REFERENCE NO. W-5103A	SHEET NO. 51
ROADWAY DESIGN ENGINEER DAVID B. LEONARD 8/12/99 12:55 PM PT	HYDRAULICS ENGINEER JOHNATHAN LYLE 8/12/99 10:40 AM ET



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