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STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	W-5601BV	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
50138.1.75	HSIP-0039(10)	PE	
50138.2.75	HSIP-0039(10)	R/W & UTIL	
50138.3.75	HSIP-0039(10)	CONST.	

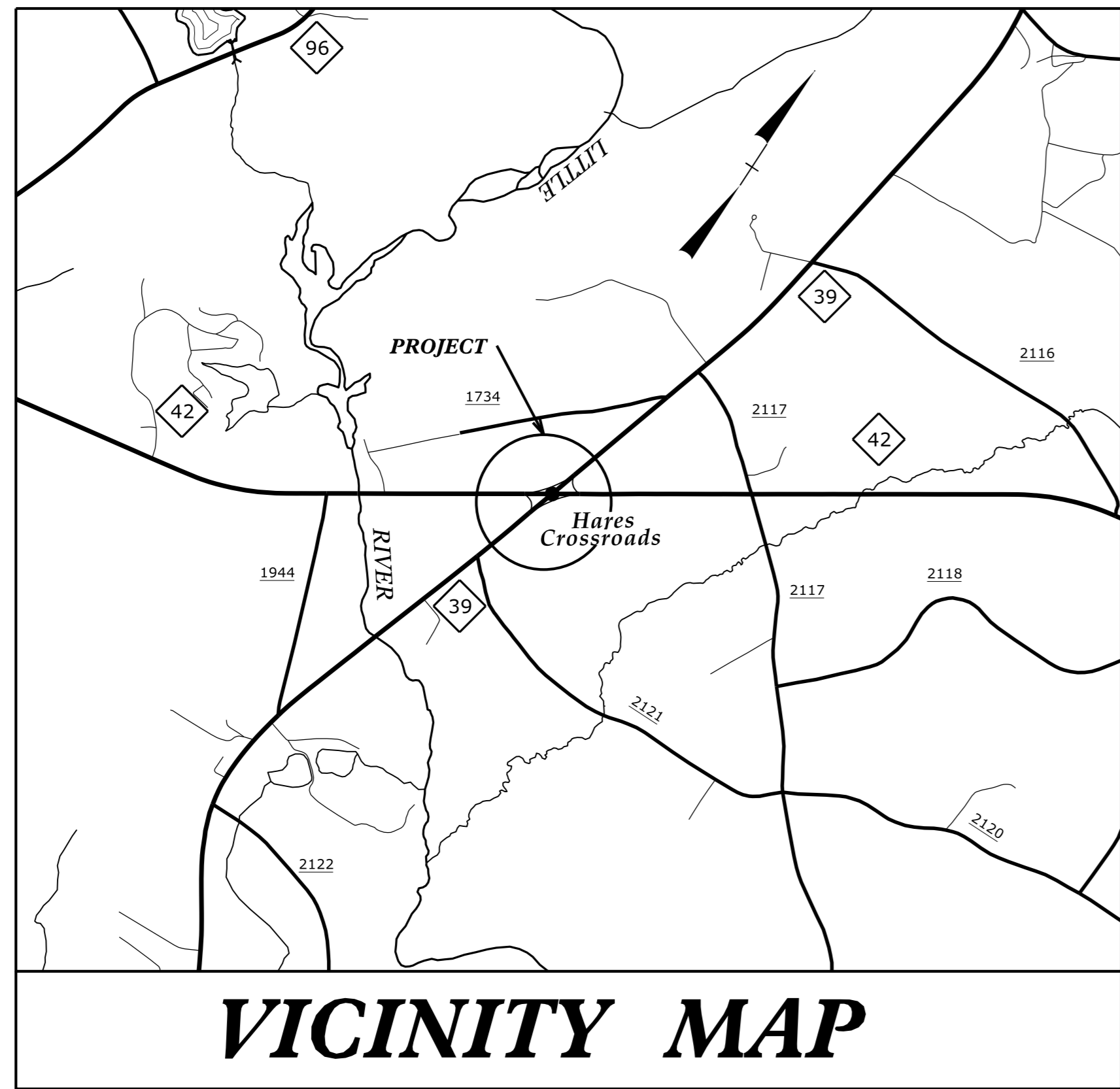
STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

**JOHNSTON COUNTY**

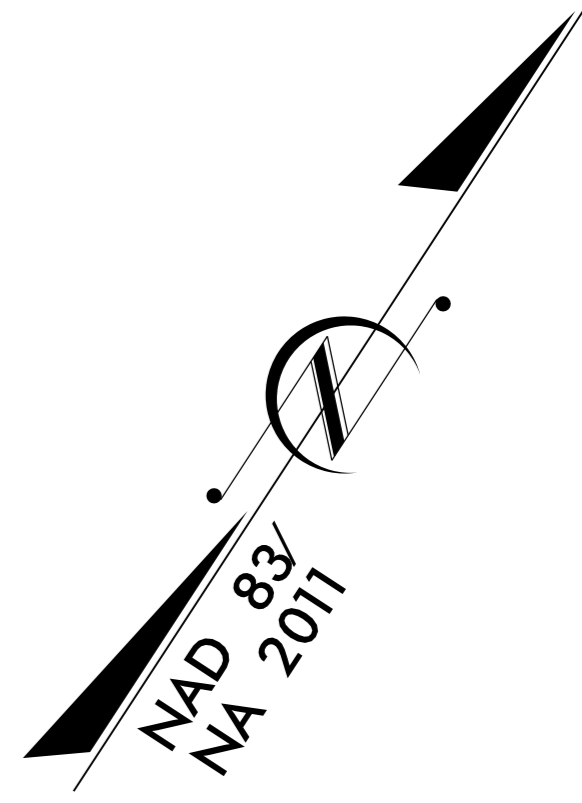
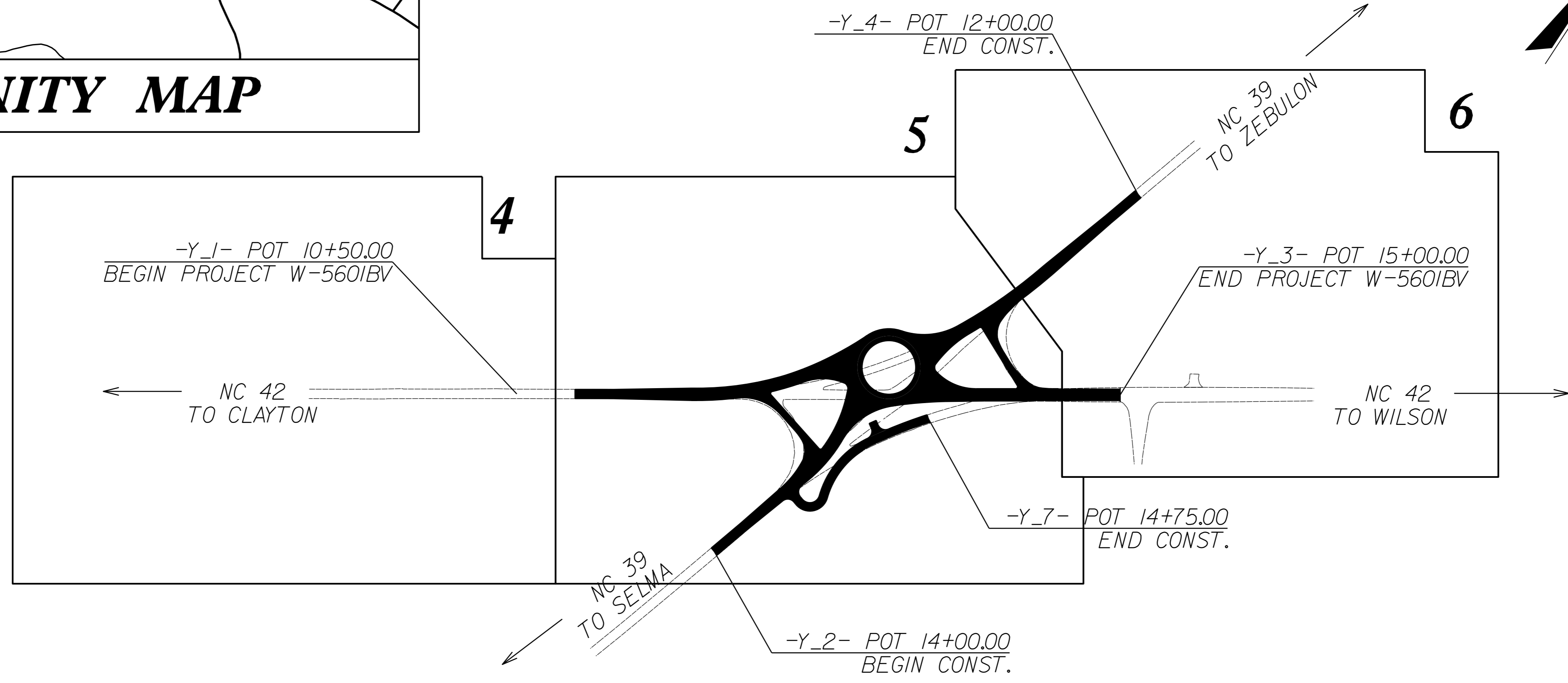
**LOCATION: CONSTRUCT ROUNDABOUT AT INTERSECTION OF NC-42 AND NC-39, KNOWN AS HARES CROSSROADS**

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

See Sheet 1-A For Index of Sheets



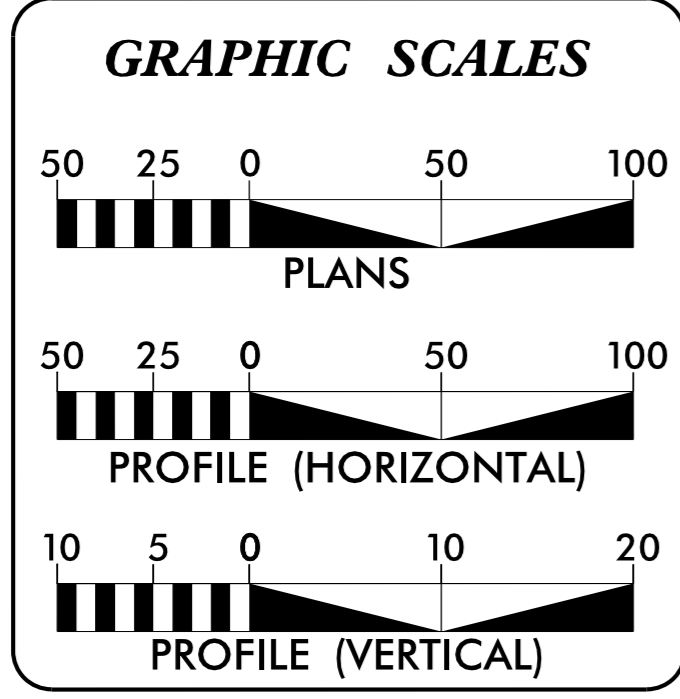
**VICINITY MAP**



DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

**TIP PROJECT: W-5601BV**

**CONTRACT: DD00241**



**DESIGN DATA**

ADT 2015 =	5500
ADT 2040 =	8000
K =	11 %
D =	55 %
T =	9 % *
* TTST = 5 DUAL = 4	
FUNC CLASS =	
MINOR ARTERIAL	

**PROJECT LENGTH**

LENGTH ROADWAY TIP PROJECT W-5601BV =	0.295 MI
TOTAL LENGTH TIP PROJECT W-5601BV =	0.295 MI

Prepared in the Office of:

**DIVISION OF HIGHWAYS**

DIVISION FOUR DDC, 509 WARD BLVD., WILSON NC, 27895

2012 STANDARD SPECIFICATIONS

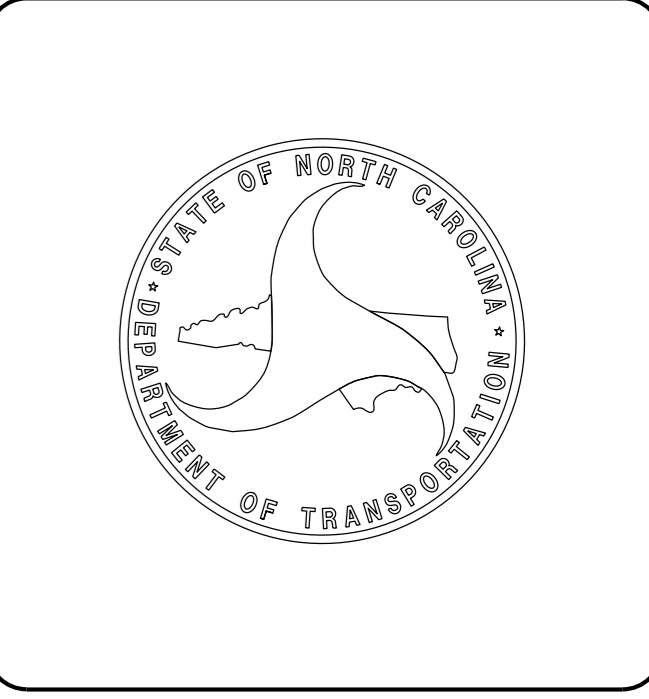
<b>RIGHT OF WAY DATE:</b> APRIL 12, 2017	<b>RONNIE KEETER, PE</b> PROJECT ENGINEER
<b>LETTING DATE:</b> JANUARY 23, 2018	<b>D.R. ETHRIDGE</b> PROJECT DESIGN ENGINEER

**HYDRAULICS ENGINEER**

DocuSigned by:  
Paul A. Jordan  
892E397A1C0A427  
12/13/2017  
SIGNATURE:

**ROADWAY DESIGN ENGINEER**

DocuSigned by:  
Norwood L. Gainey III  
E008680A45044B  
12/8/2017  
SIGNATURE:



08-DEC-2017 11:32  
R:\Roadway\Proj\w5601bv\_ddc4\_t.sh.dgn  
\$\$\$\$\$USERNAME\$\$\$\$\$

# STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

PROJ. REFERENCE NO. W-5601BV	SHEET NO. 1-A
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SHEET NUMBER	INDEX OF SHEETS SHEET
1	TITLE SHEET
1A	INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARD DRAWINGS
1B	CONVENTIONAL SYMBOLS
1C-1 THRU 1C-2	SURVEY CONTROL SHEET
2A-1 THRU 2A-3	PAVEMENT SCHEDULE AND TYPICAL SECTIONS
2B-1	CURVE DATA AND CONTROL POINT SHEET
3B-1	ROADWAY SUMMARIES: EARTHWORK, PAVEMENT REMOVAL, PARCEL INDEX, RIP RAP, MILLING & GUARDRAIL
3D-1 THRU 3D-2	DRAINAGE SUMMARIES
4 THRU 6	PLAN SHEET
7 THRU 10	PROFILE SHEET
TMP-1 THRU TMP-5	TRANSPORTATION MANAGEMENT PLANS
PM-1 THRU PM-3	PAVEMENT MARKING PLANS
E-1	STREET LIGHTING CONDUIT SYSTEM PLANS
EC-1 THRU EC-9	EROSION CONTROL PLANS
SIGN-1 THRU SIGN-11	SIGNING PLANS
X-1A THRU X-1B	CROSS-SECTION SUMMARY
X-1 THRU X-31	CROSS-SECTIONS

**2012 ROADWAY ENGLISH STANDARD DRAWINGS**

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" HIGHWAY DESIGN BRANCH - N. C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N. C., DATED JANUARY, 2012 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD.NO.	TITLE
<b>DIVISION 2 - EARTHWORK</b>	
200.03	METHOD OF CLEARING - METHOD III
225.02	GUIDE FOR GRADING SUBGRADE - SECONDARY AND LOCAL
225.04	METHOD OF OBTAINING SUPERELEVATION - TWO LANE PAVEMENT
225.06	METHOD OF GRADING SIGHT DISTANCE AT INTERSECTIONS
<b>DIVISION 3 - PIPE CULVERTS</b>	
300.01	METHOD OF PIPE INSTALLATION
310.10	DRIVEWAY PIPE CONSTRUCTION
<b>DIVISION 5 - SUBGRADE, BASES AND SHOULDERS</b>	
560.01	METHOD OF SHOULDER CONSTRUCTION - HIGH SIDE OF SUPERELEVATED CURVE - METHOD I
<b>DIVISION 6 - ASPHALT BASES AND PAVEMENTS</b>	
654.01	PAVEMENT REPAIRS
<b>DIVISION 8 - INCIDENTALS</b>	
806.01	CONCRETE RIGHT-OF-WAY MARKER
806.02	GRANITE RIGHT-OF-WAY MARKER
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
840.18	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
840.27	BRICK GRATED DROP INLET TYPE 'B' - 12" THRU 36" PIPE
840.28	BRICK GRATED DROP INLET TYPE 'D' - 12" THRU 36" PIPE
840.45	PRECAST DRAINAGE STRUCTURE
840.66	DRAINAGE STRUCTURE STEPS
840.71	CONCRETE AND BRICK PIPE PLUG
840.72	PIPE COLLAR
846.01	CONCRETE CURB, GUTTER AND CURB & GUTTER
848.04	STREET TURNOUT
852.01	CONCRETE ISLANDS
852.06	METHOD FOR PLACEMENT OF DROP INLETS IN CONCRETE ISLANDS
862.02	GUARDRAIL INSTALLATION
876.01	RIP RAP IN CHANNELS
876.02	GUIDE FOR RIP RAP AT PIPE OUTLETS

**GENERAL NOTES: 2012 SPECIFICATIONS**

- GRADE LINE:**  
**GRADING AND SURFACING:**  
 THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. GRADE LINES MAY BE ADJUSTED AT THEIR BEGINNING AND ENDING AND AT STRUCTURES AS DIRECTED BY THE ENGINEER IN ORDER TO SECURE A PROPER TIE-IN.
- CLEARING:**  
 CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.
- SUPERELEVATION:**  
 ALL CURVES ON THIS PROJECT SHALL BE SUPERELEVATED IN ACCORDANCE WITH STD. NO. 225.04. USING THE RATE OF SUPERELEVATION AND RUNOFF SHOWN ON THE PLANS. SUPERELEVATION IS TO BE REVOLVED ABOUT THE GRADE POINTS SHOWN ON THE TYPICAL SECTIONS.
- SHOULDER CONSTRUCTION:**  
 ASPHALT, EARTH, AND CONCRETE SHOULDER CONSTRUCTION ON THE HIGH SIDE OF SUPERELEVATED CURVES SHALL BE IN ACCORDANCE WITH 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.
- STREET TURNOUT:**  
 STREET RETURNS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 848.04 USING THE RADII NOTED ON PLANS.
- GUARDRAIL:**  
 THE GUARDRAIL LOCATIONS SHOWN ON THE PLANS MAY BE ADJUSTED DURING CONSTRUCTION AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHOULD CONSULT WITH THE ENGINEER PRIOR TO ORDERING GUARDRAIL MATERIAL.
- TEMPORARY SHORING:**  
 SHORING REQUIRED FOR THE MAINTENANCE OF TRAFFIC WILL BE PAID FOR AS "EXTRA WORK" IN ACCORDANCE WITH SECTION 104-7.
- SUBSURFACE PLANS:**  
 NO SUBSURFACE PLANS ARE AVAILABLE ON THIS PROJECT. THE CONTRACTOR SHOULD MAKE HIS OWN INVESTIGATION AS TO THE SUBSURFACE CONDITIONS.
- RIGHT-OF-WAY MARKERS:**  
 ALL RIGHT-OF-WAY MARKERS ON THIS PROJECT SHALL BE PLACED BY CONTRACT.



# STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS CONVENTIONAL PLAN SHEET SYMBOLS

Note: Not to Scale \*S.U.E. = Subsurface Utility Engineering

## BOUNDARIES AND PROPERTY:

State Line	-----
County Line	-----
Township Line	-----
City Line	-----
Reservation Line	-----
Property Line	-----
Existing Iron Pin	○ EIP
Property Corner	-----
Property Monument	□ EDM
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	----- NLB
Proposed Wetland Boundary	----- NLB
Existing Endangered Animal Boundary	----- EAB
Existing Endangered Plant Boundary	----- EPB
Existing Historic Property Boundary	----- HPB
Known Contamination Area: Soil	-----
Potential Contamination Area: Soil	-----
Known Contamination Area: Water	-----
Potential Contamination Area: Water	-----
Contaminated Site: Known or Potential	☠ ?

## BUILDINGS AND OTHER CULTURE:

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

## HYDROLOGY:

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

## RAILROADS:

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

## RIGHT OF WAY:

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

## ROADS AND RELATED FEATURES:

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

## VEGETATION:

Single Tree	☼
Single Shrub	☼
Hedge	-----
Woods Line	-----

Orchard	☼ ☼ ☼ ☼
Vineyard	□ Vineyard

## EXISTING STRUCTURES:

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

## UTILITIES:

POWER:	
Existing Power Pole	●
Proposed Power Pole	○
Existing Joint Use Pole	●
Proposed Joint Use Pole	○
Power Manhole	⊕
Power Line Tower	⊠
Power Transformer	⊠
U/G Power Cable Hand Hole	○
H-Frame Pole	●
U/G Power Line LOS B (S.U.E.*)	----- P
U/G Power Line LOS C (S.U.E.*)	----- P
U/G Power Line LOS D (S.U.E.*)	----- P

## TELEPHONE:

Existing Telephone Pole	●
Proposed Telephone Pole	○
Telephone Manhole	⊕
Telephone Pedestal	⊠
Telephone Cell Tower	⊠
U/G Telephone Cable Hand Hole	○
U/G Telephone Cable LOS B (S.U.E.*)	----- T
U/G Telephone Cable LOS C (S.U.E.*)	----- T
U/G Telephone Cable LOS D (S.U.E.*)	----- T
U/G Telephone Conduit LOS B (S.U.E.*)	----- TC
U/G Telephone Conduit LOS C (S.U.E.*)	----- TC
U/G Telephone Conduit LOS D (S.U.E.*)	----- TC
U/G Fiber Optics Cable LOS B (S.U.E.*)	----- T FO
U/G Fiber Optics Cable LOS C (S.U.E.*)	----- T FO
U/G Fiber Optics Cable LOS D (S.U.E.*)	----- T FO

## WATER:

Water Manhole	⊕
Water Meter	○
Water Valve	⊗
Water Hydrant	⊕
U/G Water Line LOS B (S.U.E.*)	----- W
U/G Water Line LOS C (S.U.E.*)	----- W
U/G Water Line LOS D (S.U.E.*)	----- W
Above Ground Water Line	----- A/G Water

## TV:

TV Pedestal	⊠
TV Tower	⊗
U/G TV Cable Hand Hole	○
U/G TV Cable LOS B (S.U.E.*)	----- TV
U/G TV Cable LOS C (S.U.E.*)	----- TV
U/G TV Cable LOS D (S.U.E.*)	----- TV
U/G Fiber Optic Cable LOS B (S.U.E.*)	----- TV FO
U/G Fiber Optic Cable LOS C (S.U.E.*)	----- TV FO
U/G Fiber Optic Cable LOS D (S.U.E.*)	----- TV FO

## GAS:

Gas Valve	◇
Gas Meter	⊕
U/G Gas Line LOS B (S.U.E.*)	----- G
U/G Gas Line LOS C (S.U.E.*)	----- G
U/G Gas Line LOS D (S.U.E.*)	----- G
Above Ground Gas Line	----- A/G Gas

## SANITARY SEWER:

Sanitary Sewer Manhole	⊕
Sanitary Sewer Cleanout	⊕
U/G Sanitary Sewer Line	----- SS
Above Ground Sanitary Sewer	----- A/G Sanitary Sewer
SS Forced Main Line LOS B (S.U.E.*)	----- FSS
SS Forced Main Line LOS C (S.U.E.*)	----- FSS
SS Forced Main Line LOS D (S.U.E.*)	----- FSS

## MISCELLANEOUS:

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



# SURVEY CONTROL SHEET W-5601-BV

**FINAL**

ROW MARKER IRON PIN AND CAP

ALIGN	STATION	OFFSET	NORTH	EAST
L	13+86.42	50.00	699917.46923	2222145.77523
L	14+35.31	50.00	699857.87517	2222096.15794

ROW MARKER IRON PIN AND CAP

ALIGN	STATION	OFFSET	NORTH	EAST
Y_1	15+15.63	-50.00	699520.77599	2221814.96910

ROW MARKER IRON PIN AND CAP

ALIGN	STATION	OFFSET	NORTH	EAST
Y_2	16+00.00	30.72	699345.89922	2222187.23104

ROW MARKER IRON PIN AND CAP

ALIGN	STATION	OFFSET	NORTH	EAST
Y_4	17+24.00	30.00	700048.22731	2222319.35311

ROW MARKER IRON PIN AND CAP

ALIGN	STATION	OFFSET	NORTH	EAST
Y_4A	10+50.00	50.00	699965.98906	2222248.16181

ROW MARKER IRON PIN AND CAP

ALIGN	STATION	OFFSET	NORTH	EAST
Y_7	10+70.00	37.00	699358.51350	2222255.48267
Y_7	11+05.00	55.00	699410.22481	2222314.21718
Y_7	11+50.00	56.00	699472.58468	2222307.18607
Y_7	12+00.00	35.00	699510.99423	2222283.84360
Y_7	12+50.00	24.25	699555.46745	2222280.15384

ROW MARKER PERMANENT EASEMENT

ALIGN	STATION	OFFSET	NORTH	EAST
Y_7	10+92.00	56.00	699378.90098	2222304.23095
Y_7	11+00.00	63.00	699395.58099	2222319.01970
Y_7	13+06.00	46.00	699590.68378	2222318.20006
Y_7	13+06.00	30.90	699598.17292	2222305.09068
Y_7	13+30.00	31.00	699617.30369	2222317.01024
Y_7	13+30.00	46.00	699609.25750	2222329.66958

L

TYPE	STATION	NORTH	EAST
PC	10+00.00	699762.1123	2222149.2709
PCC	11+28.81	699738.2750	2222262.7600
PCC	12+57.61	699851.7642	2222286.5973
PCC	13+86.42	699875.6014	2222173.1081
PT	15+15.22	699762.1123	2222149.2709

Y\_1

TYPE	STATION	NORTH	EAST
POT	6+00.00	698979.2633	2221074.9032
PC	12+41.00	699329.4473	2221611.7937
PT	12+85.12	699353.4980	2221648.7862
PC	13+30.82	699378.3503	2221687.1349
PT	13+69.18	699399.1959	2221719.3349
PC	14+00.69	699416.3082	2221745.7959
PT	14+99.31	699469.9635	2221828.5399
PC	15+15.63	699478.8588	2221842.2208
PT	19+91.13	699838.5809	2222142.2853

Y\_1A

TYPE	STATION	NORTH	EAST
PC	10+00.00	699692.5891	2222062.3310
PT	11+34.10	699731.1146	2222186.7127

Y\_2

TYPE	STATION	NORTH	EAST
POT	10+00.00	698780.7462	2221983.1058
PC	12+29.27	698999.7887	2222050.8183
PT	12+99.26	699066.7388	2222071.2297
PC	17+07.71	699457.8897	2222188.8213
PT	20+25.61	699763.6800	2222148.2726

Y\_2A

TYPE	STATION	NORTH	EAST
PC	10+00.00	699616.5274	2222201.2590
PT	11+35.24	699735.9724	2222259.0176

Y\_3

TYPE	STATION	NORTH	EAST
POT	10+00.00	700347.2067	2223174.7602
PC	19+44.72	699830.7679	2222383.6932
PT	20+84.88	699745.6962	2222272.4631

Y\_3A

TYPE	STATION	NORTH	EAST
PC	10+00.00	699850.9591	2222414.6215
PT	11+42.61	699863.5423	2222277.2635

Y\_4

TYPE	STATION	NORTH	EAST
POT	10+00.00	700723.4942	2222569.2995
PC	15+23.94	700221.7419	2222418.4579
PRC	17+61.81	700001.4251	2222329.6490
PT	19+50.11	699818.6313	2222299.0961

Y\_4A

TYPE	STATION	NORTH	EAST
PC	10+00.00	699966.0513	2222314.2319
PT	11+29.84	699888.7727	2222212.7263

Y\_5

TYPE	STATION	NORTH	EAST
POT	10+00.00	699585.5569	2221973.3476
POT	12+37.18	699523.7222	2222202.3246

Y\_6

TYPE	STATION	NORTH	EAST
POT	10+00.00	699939.1265	2222549.6740
POT	12+24.85	700035.3044	2222346.4270

Y\_7

TYPE	STATION	NORTH	EAST
POT	10+00.00	699402.6263	2222172.2075
PC	10+43.63	699390.0664	2222213.9861
PRC	11+21.52	699435.2112	2222258.7333
PCC	13+13.77	699620.1787	2222282.2272
PT	15+77.39	699828.7064	2222442.7523

### DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "W-5601-BV-1" WITH NAD 83/NA 2011 STATE PLANE GRID COORDINATES OF NORTHING: 770733.736(ft) EASTING: 2222558.007(ft) ELEVATION: 248.17(ft) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.999892970 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "W-5601-BV-1" TO -L- STATION 10+00 IS S22°48'54.68"W 1054.0957 ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NAVD 88

NOTE: DRAWING NOT TO SCALE

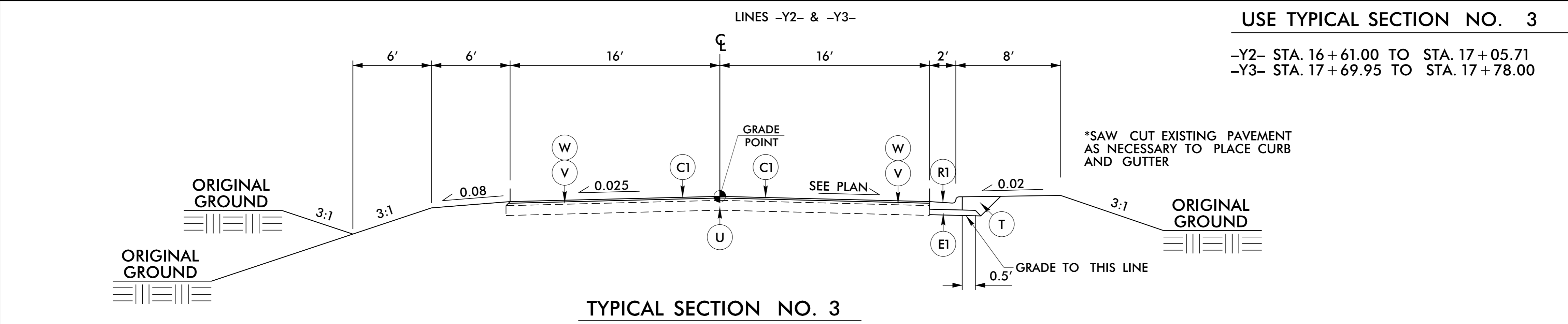
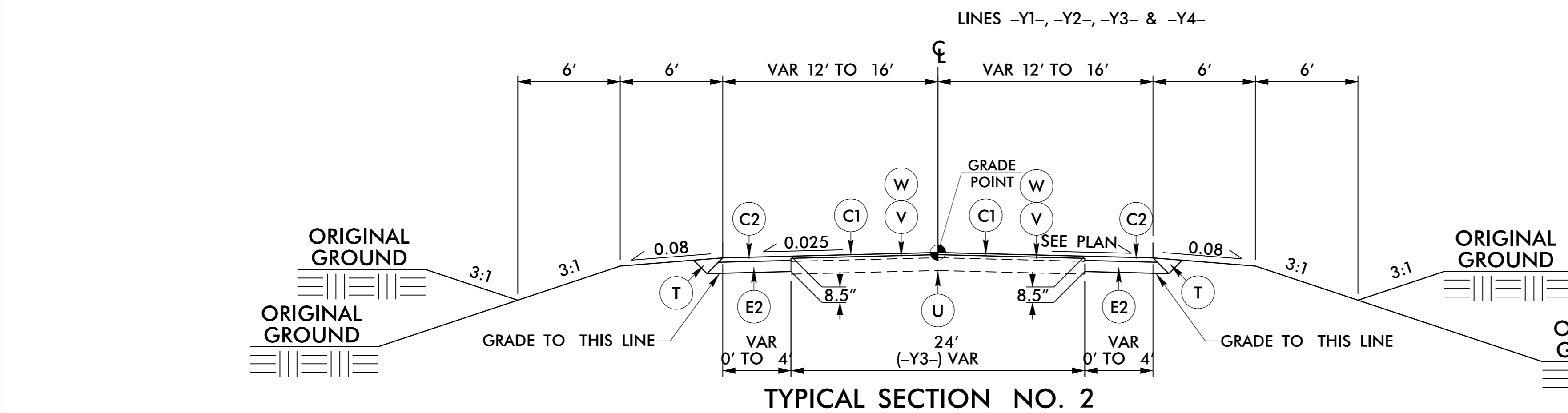
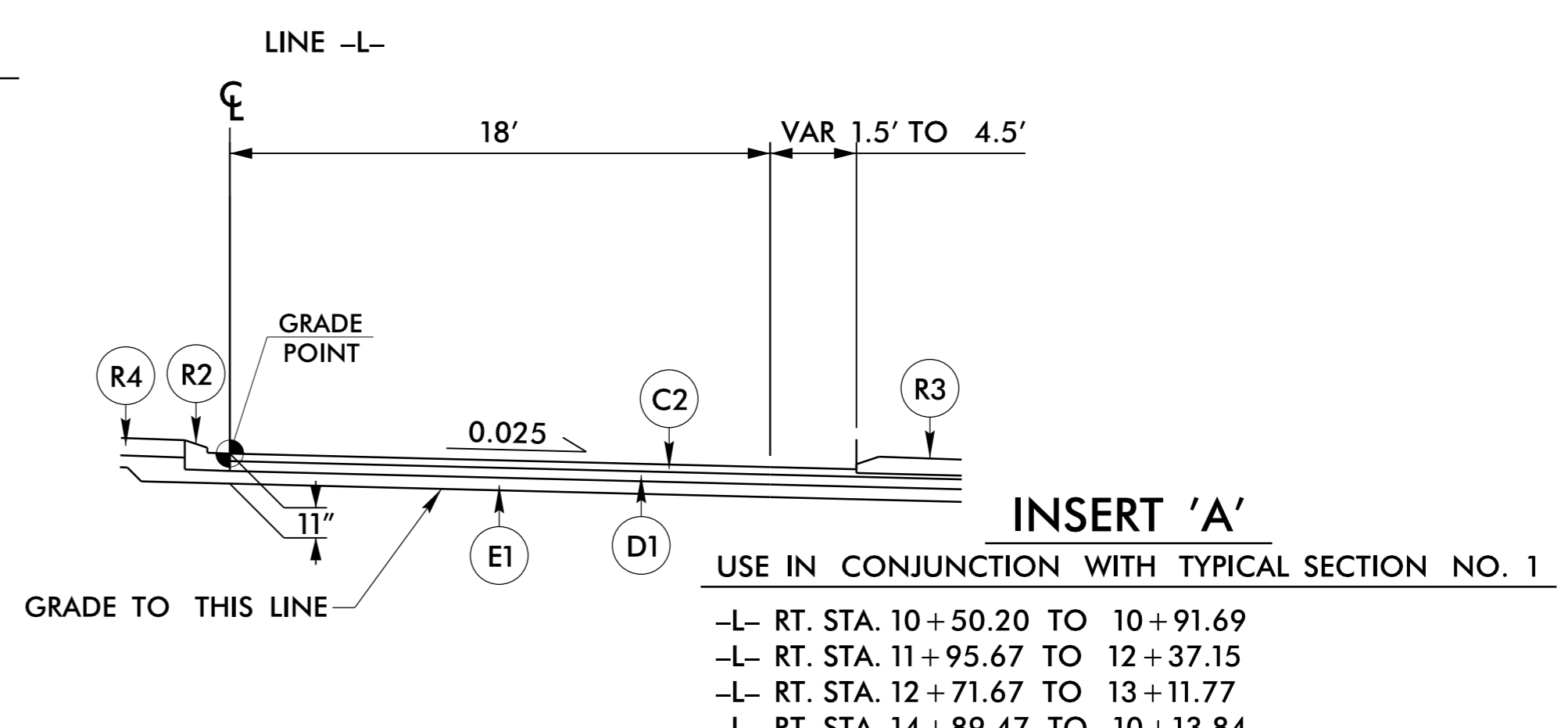
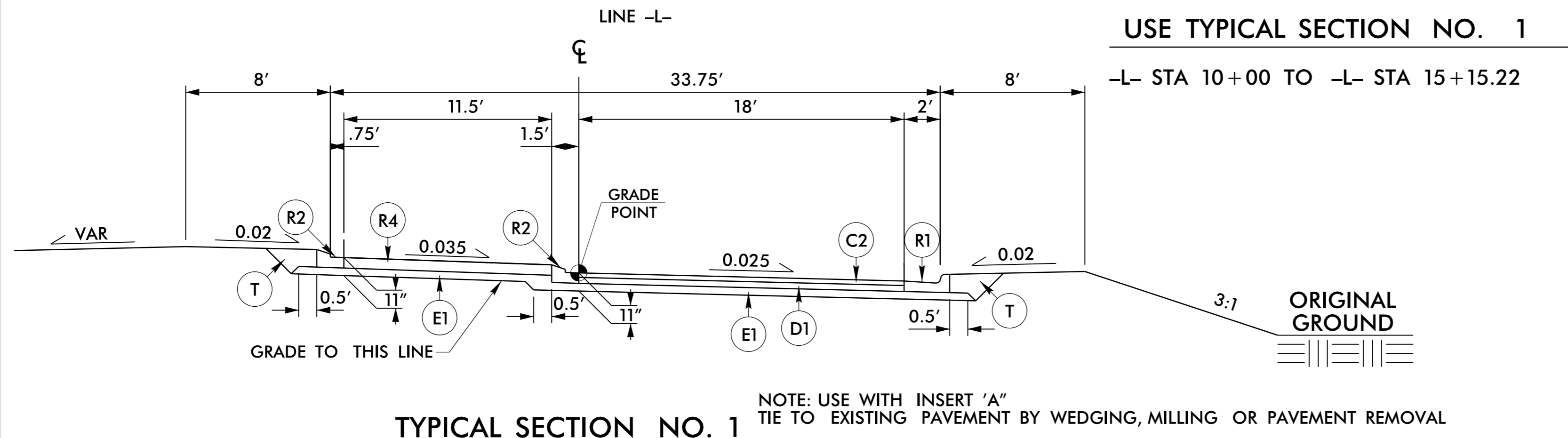
6/2/99

# PAVEMENT SCHEDULE

C1	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YARD.	E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YARD.	R4	7" JOINTED CONCRETE PAVEMENT REINFORCED WITH WIRE MESH. (4X4 W3.5XW3.5 OR 6X6 W5XW5)
C2	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YARD. IN EACH OF TWO LAYERS.	E2	PROP. APPROX. 5.5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 627 LBS. PER SQ. YARD.	T	EARTH MATERIAL
C3	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YARD PER 1" DEPTH TO BE PLACED IN LAYERS NOT TO EXCEED 2" IN DEPTH.	E3	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YARD PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 3" OR GREATER THAN 5.5" IN DEPTH.	U	EXISTING PAVEMENT
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YARD.	R1	2"X 6" CONCRETE CURB AND GUTTER	V	1.5" MILLING
D2	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YARD PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 2.5" OR GREATER THAN 4" IN DEPTH.	R2	1"X 6" CONCRETE CURB AND GUTTER	W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE DETAIL SHOWING METHOD OF WEDGING ON THIS SHEET)
		R3	5" MONOLITHIC CONCRETE ISLAND.		

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

PROJECT REFERENCE NO. <b>W-5601HO</b>	SHEET NO. <b>2A-1</b>
ROADWAY DESIGN ENGINEER 12/8/2017 PROFESSOR SEAL 040774 NORWOOD A. GAINEY III	PAVEMENT DESIGN ENGINEER 12/8/2017 PROFESSOR SEAL 040774 NORWOOD A. GAINEY III
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	



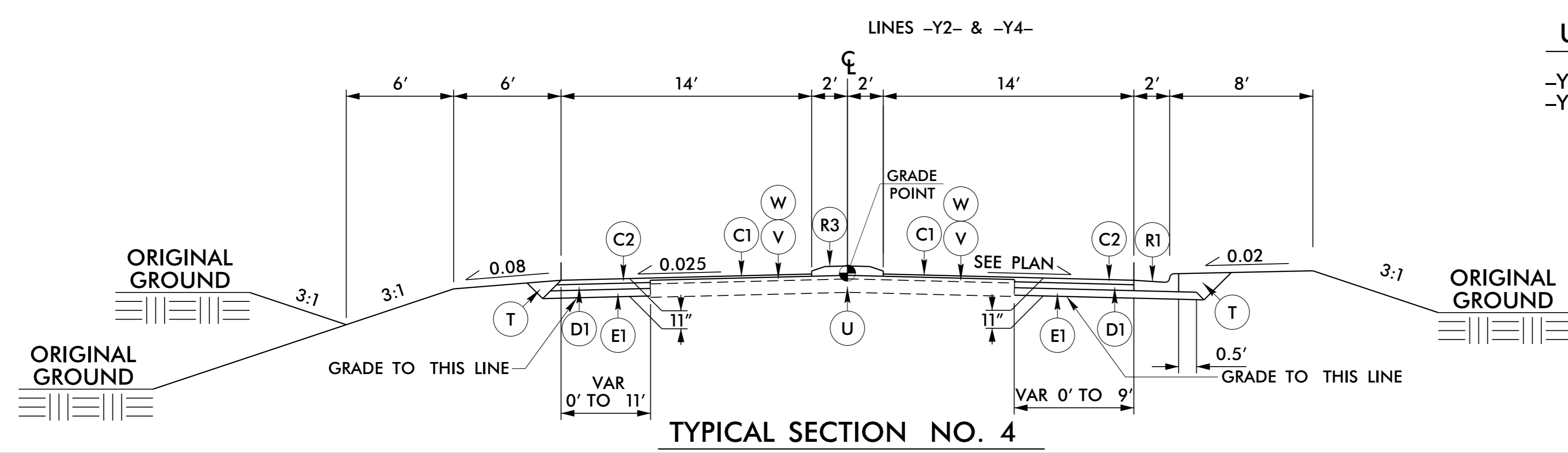
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6/2/99

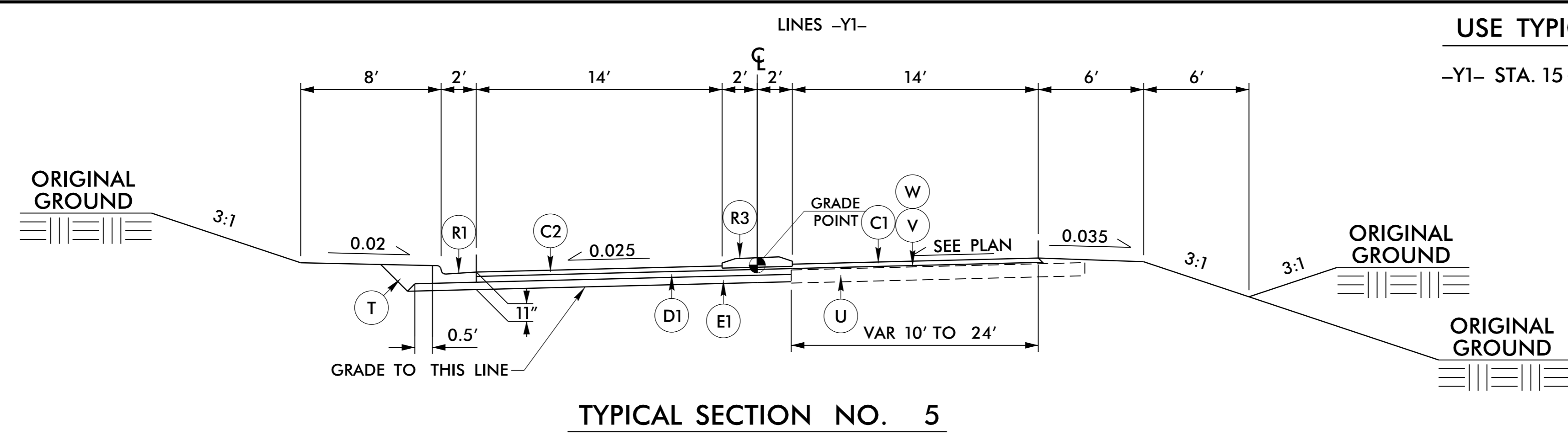
PROJECT REFERENCE NO. W-5601HO	SHEET NO. 2A-2
ROADWAY DESIGN ENGINEER 12/8/2017 PROFESSIONAL SEAL 040774 NORWOOD A. GAIRNEY III	PAVEMENT DESIGN ENGINEER 12/8/2017 PROFESSIONAL SEAL 040774 NORWOOD A. GAIRNEY III

**DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED**



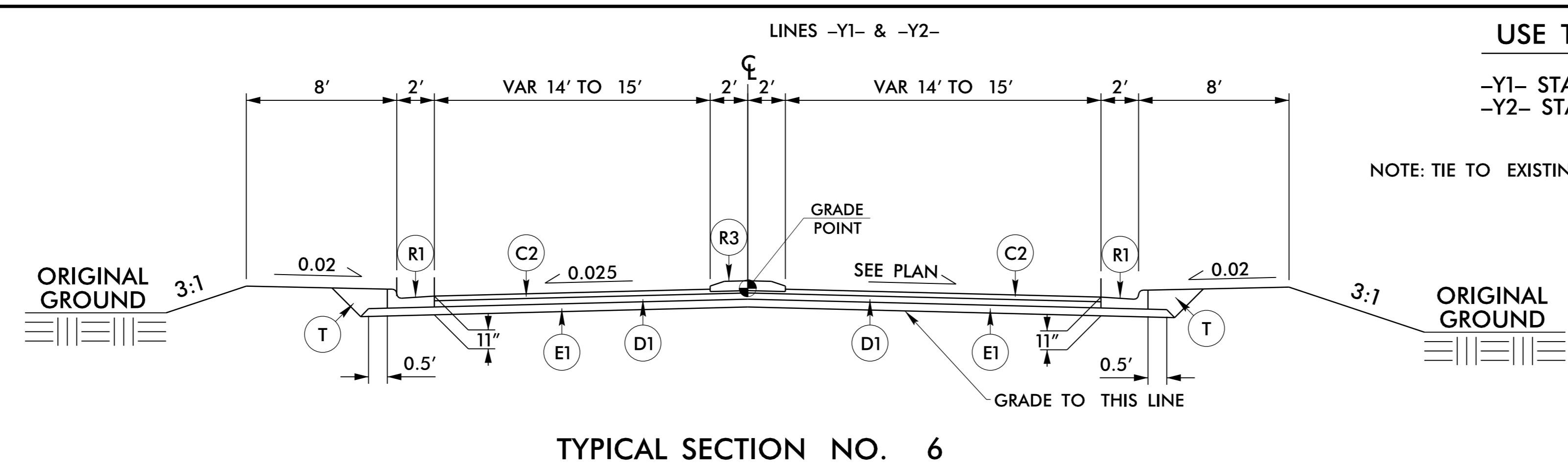
**USE TYPICAL SECTION NO. 4**

-Y2- STA. 17+05.71 TO STA. 17+82.85  
-Y4- STA. 15+23.94 TO STA. 17+27.86



**USE TYPICAL SECTION NO. 5**

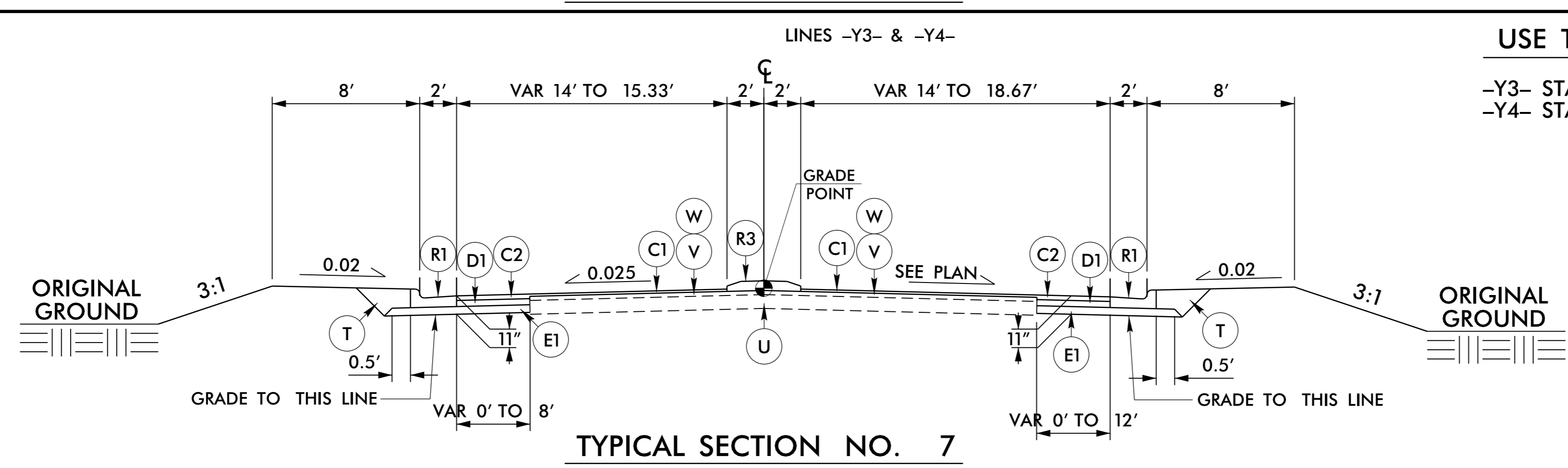
-Y1- STA. 15+15.63 TO STA. 17+02.29



**USE TYPICAL SECTION NO. 6**

-Y1- STA. 17+02.29 TO 18+24.37  
-Y2- STA. 17+82.85 TO 18+68.05

NOTE: TIE TO EXISTING PAVEMENT BY WEDGING, MILLING OR PAVEMENT REMOVAL



**USE TYPICAL SECTION NO. 7**

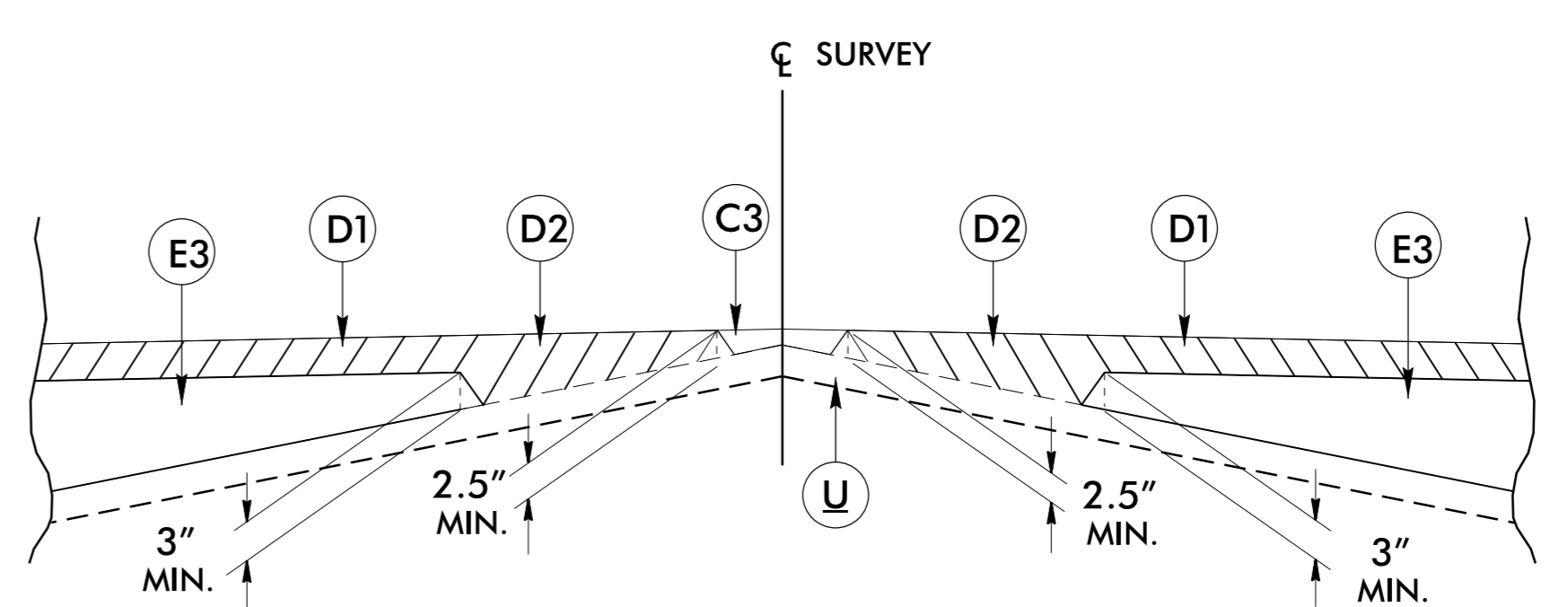
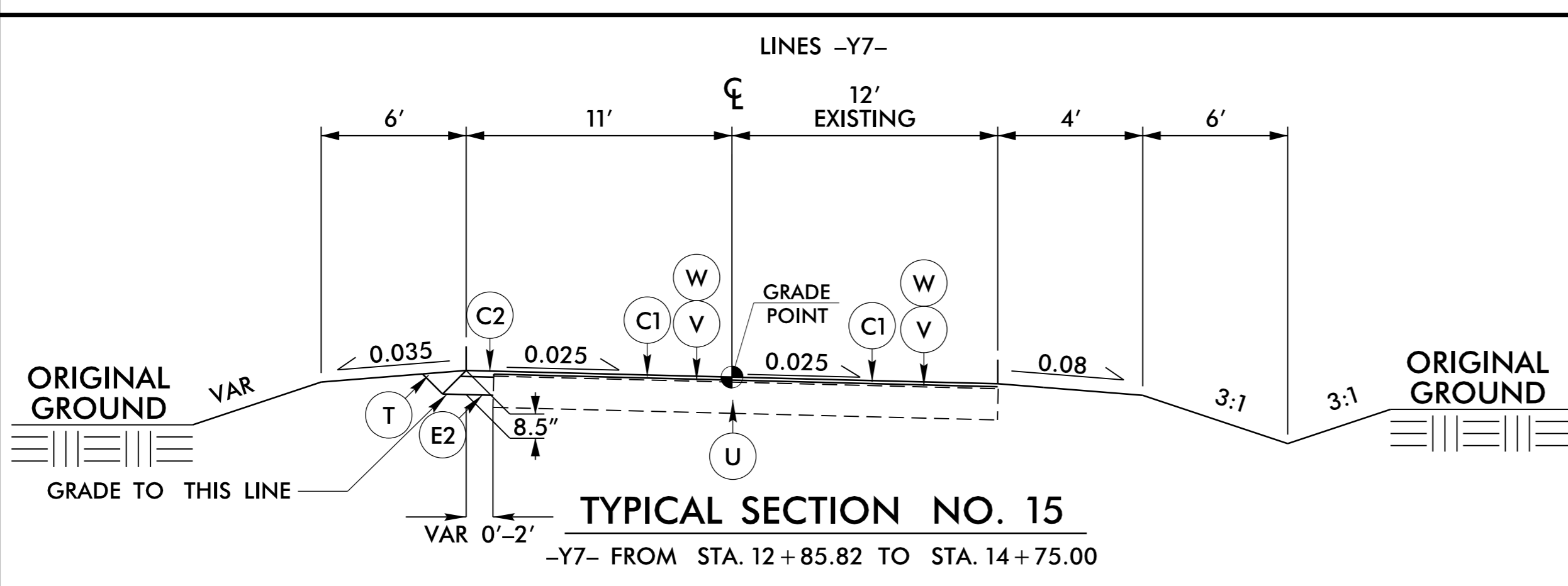
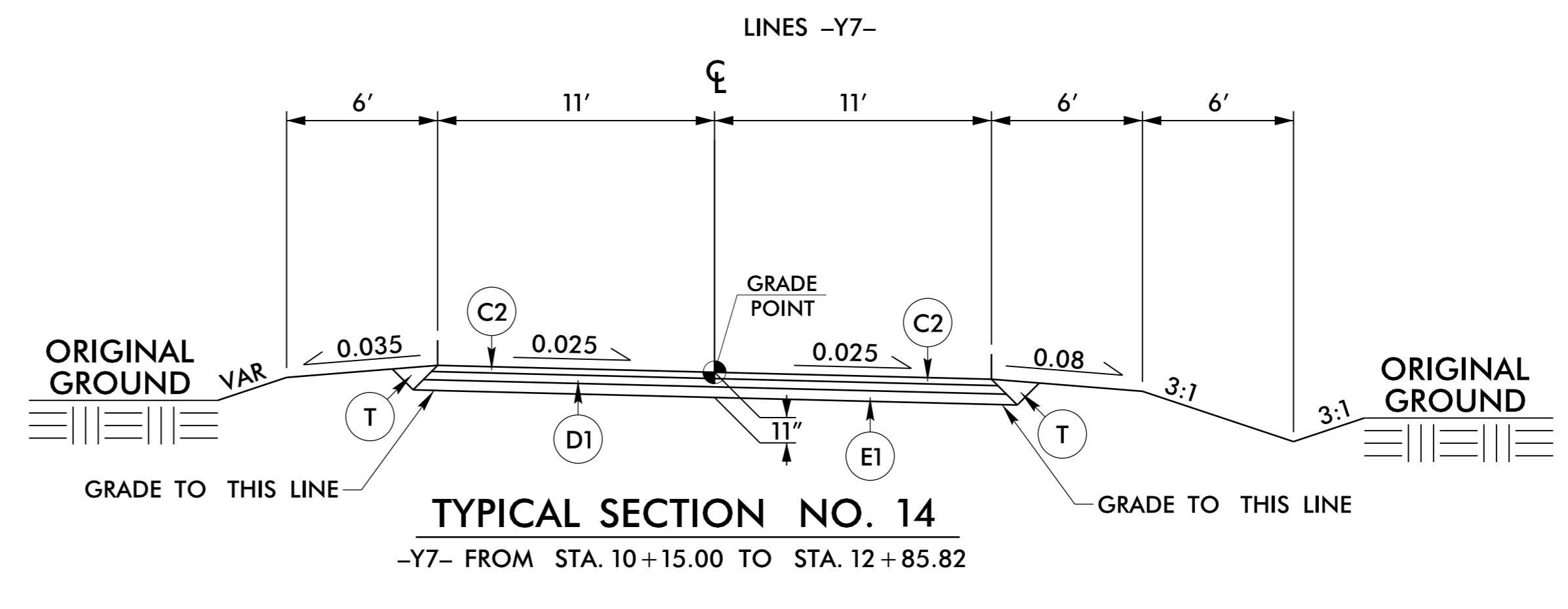
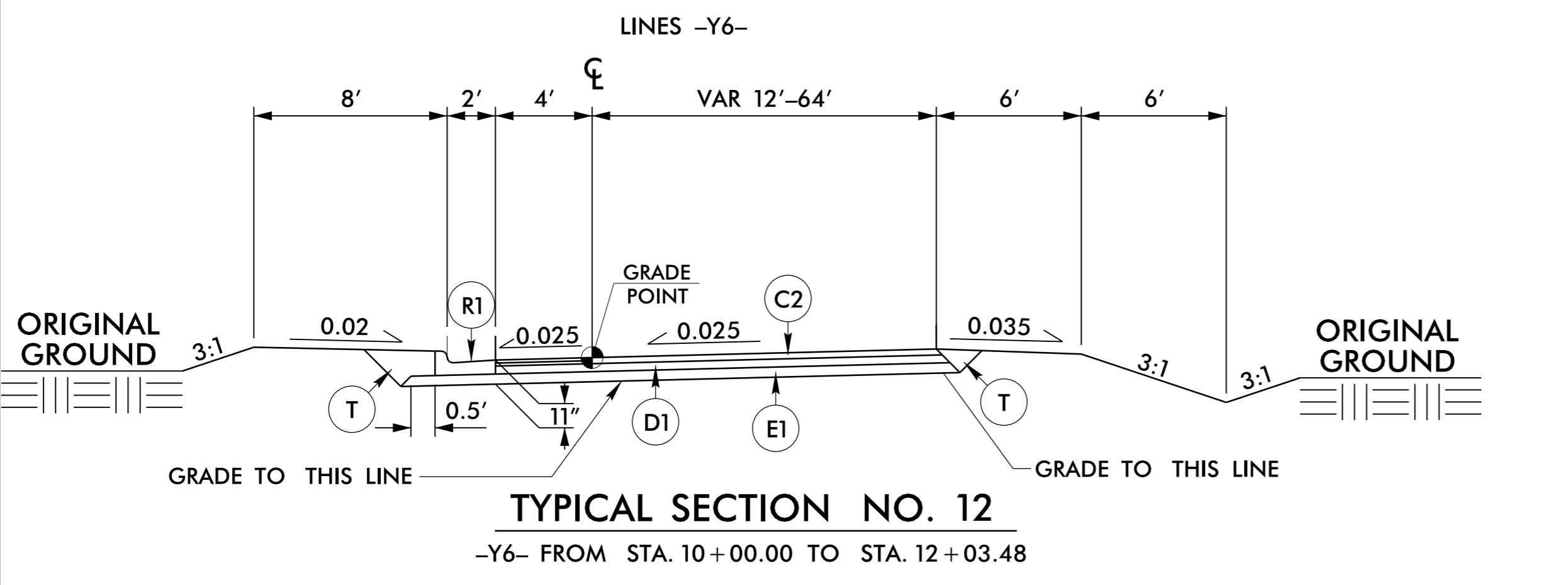
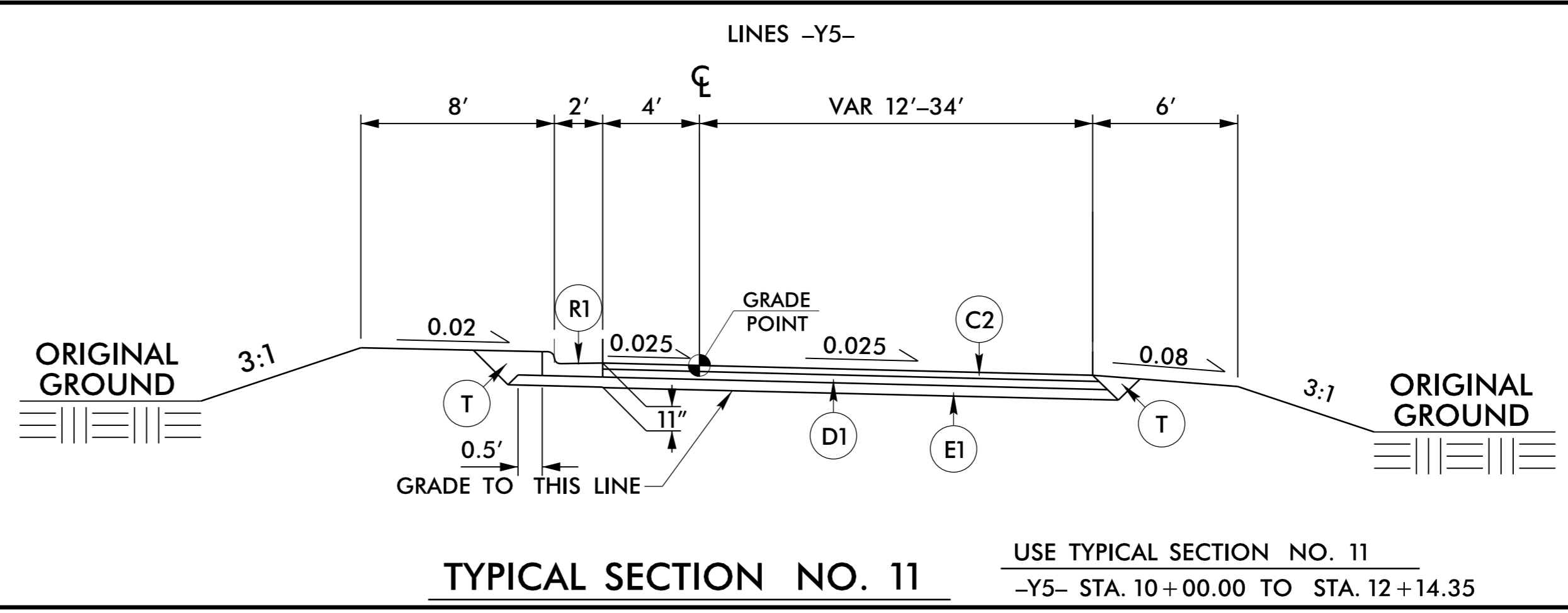
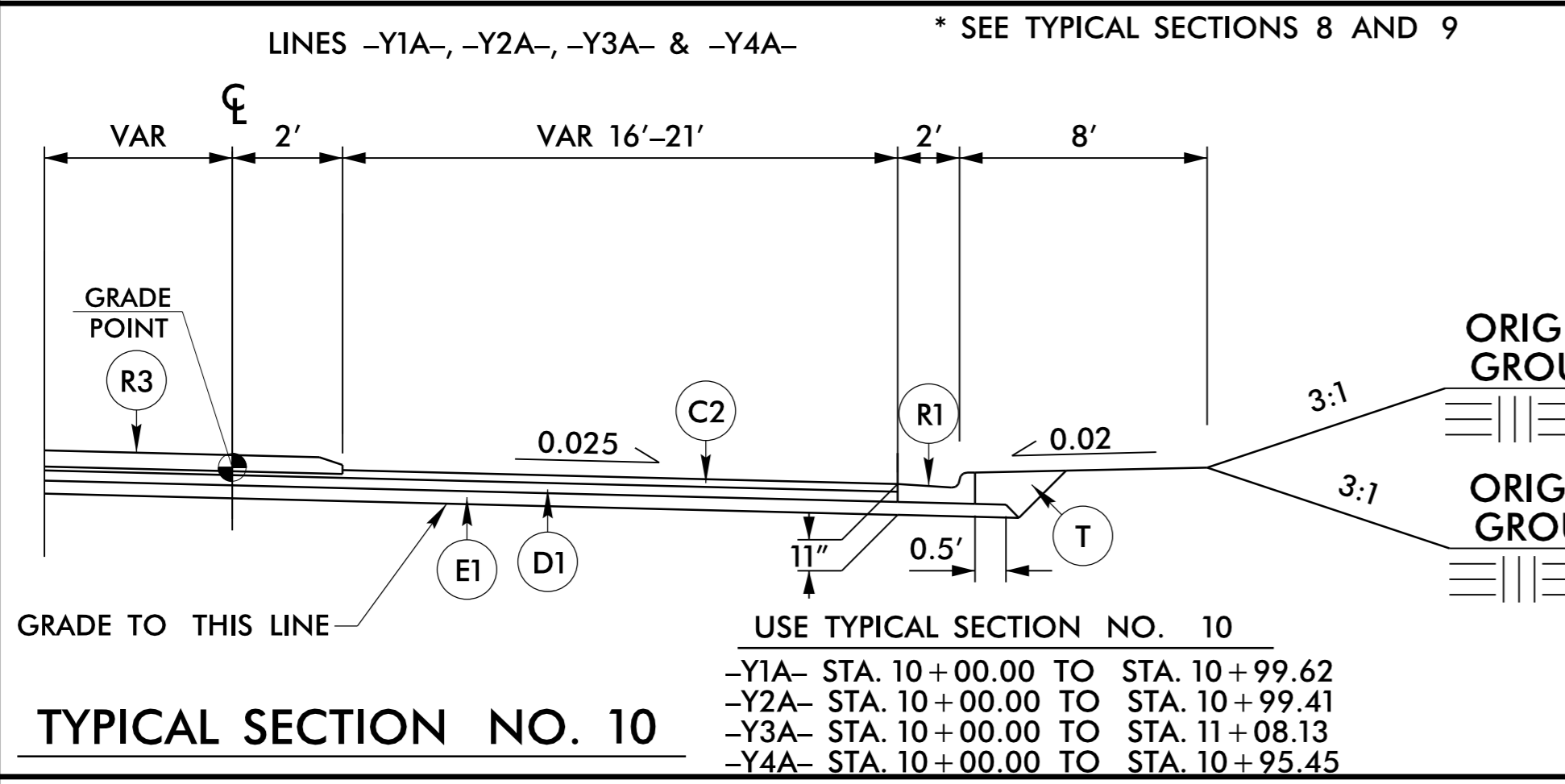
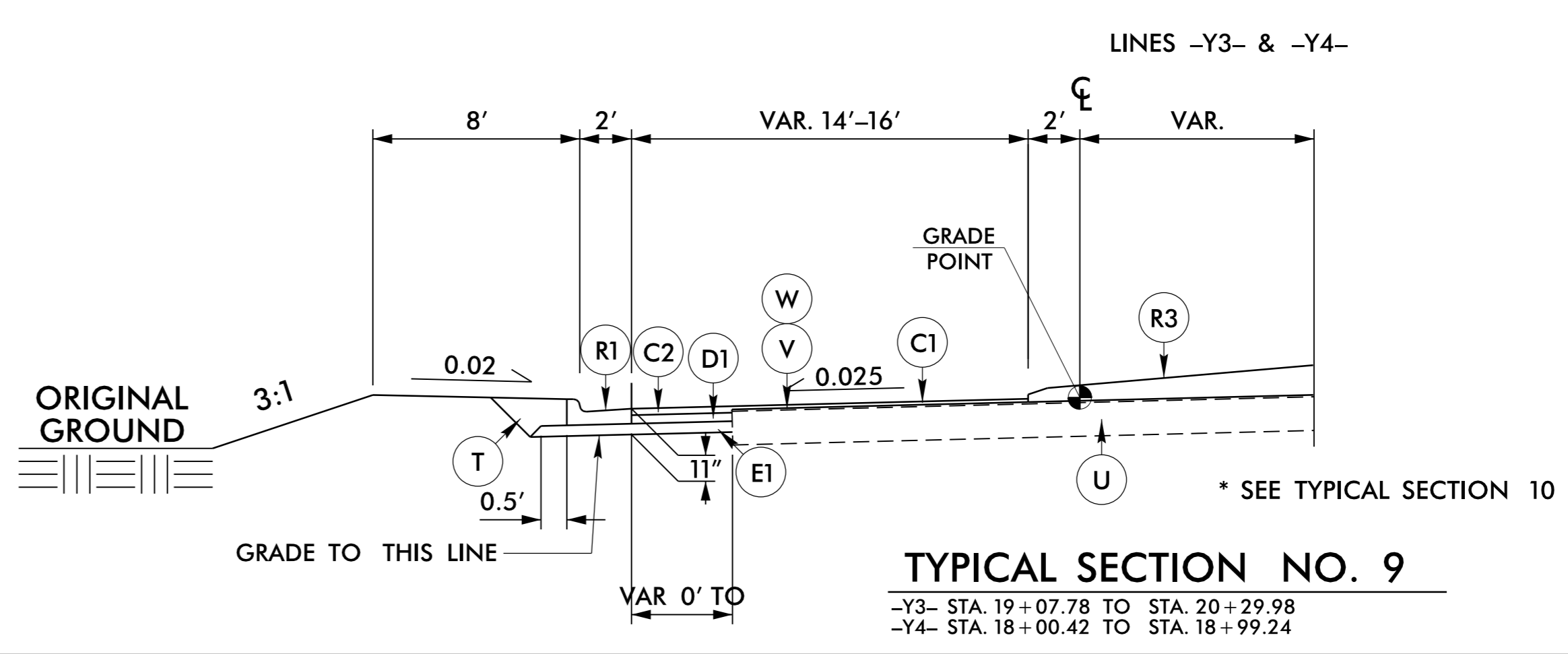
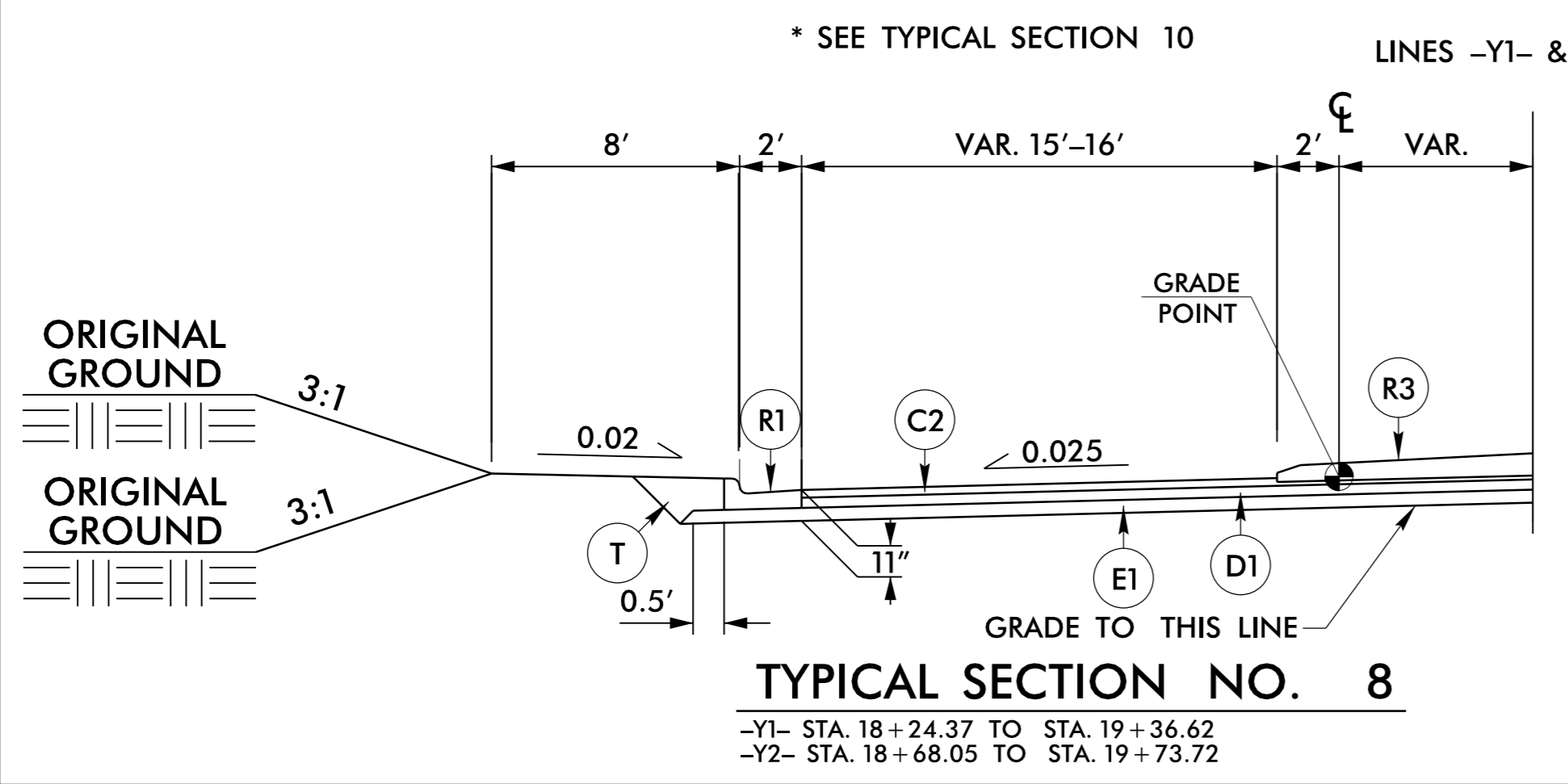
-Y3- STA. 17+78.00 TO STA. 19+07.78  
-Y4- STA. 17+27.86 TO STA. 18+00.42

**PAVEMENT SCHEDULE**

C1	1.5" S9.5B
C2	3" S9.5B
C3	VAR S9.5B
D1	3" I19.0B
D2	4" I19.0B
D2	VAR I19.0B
E1	4" B25.0B
E2	5.5" B25.0B
E3	VAR B25.0B
R1	2.5' C&G
R2	1.5' C&G
R3	5" ISLAND
R4	7" CONC
T	EARTH MATERIAL
U	EXIST. PAVEMENT
V	1.5" MILLING
W	WEDGING

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44390 NSP\RW\NVA\08348





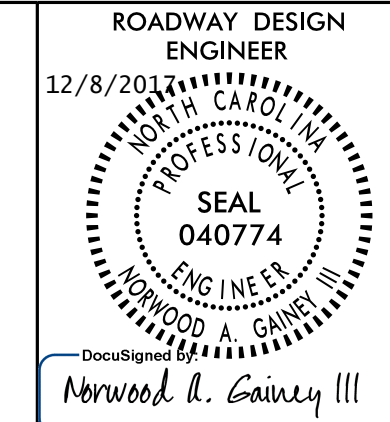
**PAVEMENT SCHEDULE**

C1	1.5" S9.5B
C2	3" S9.5B
C3	VAR S9.5B
D1	3" I19.0B
D2	4" I19.0B
D2	VAR I19.0B
E1	4" B25.0B
E2	5.5" B25.0B
E3	VAR B25.0B
R1	2.5' C&G
R2	1.5' C&G
R3	5" ISLAND
R4	7" CONC
T	EARTH MATERIAL
U	EXIST. PAVEMENT
V	1.5" MILLING
W	WEDGING

6/2/09

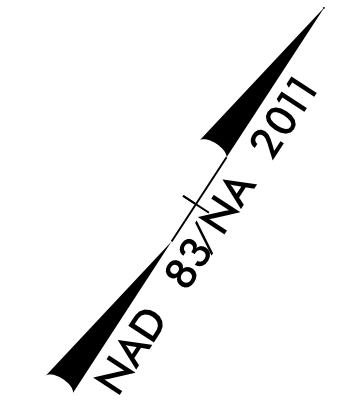
08-DEC-2017 11:33 \\V:\5601HO\ode4-TYP.dgn  
 44830 NOSPRTM\NORWOOD A. GAIRNEY III





**DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED**

CURVE DATA FOR PLAN SHEET 05

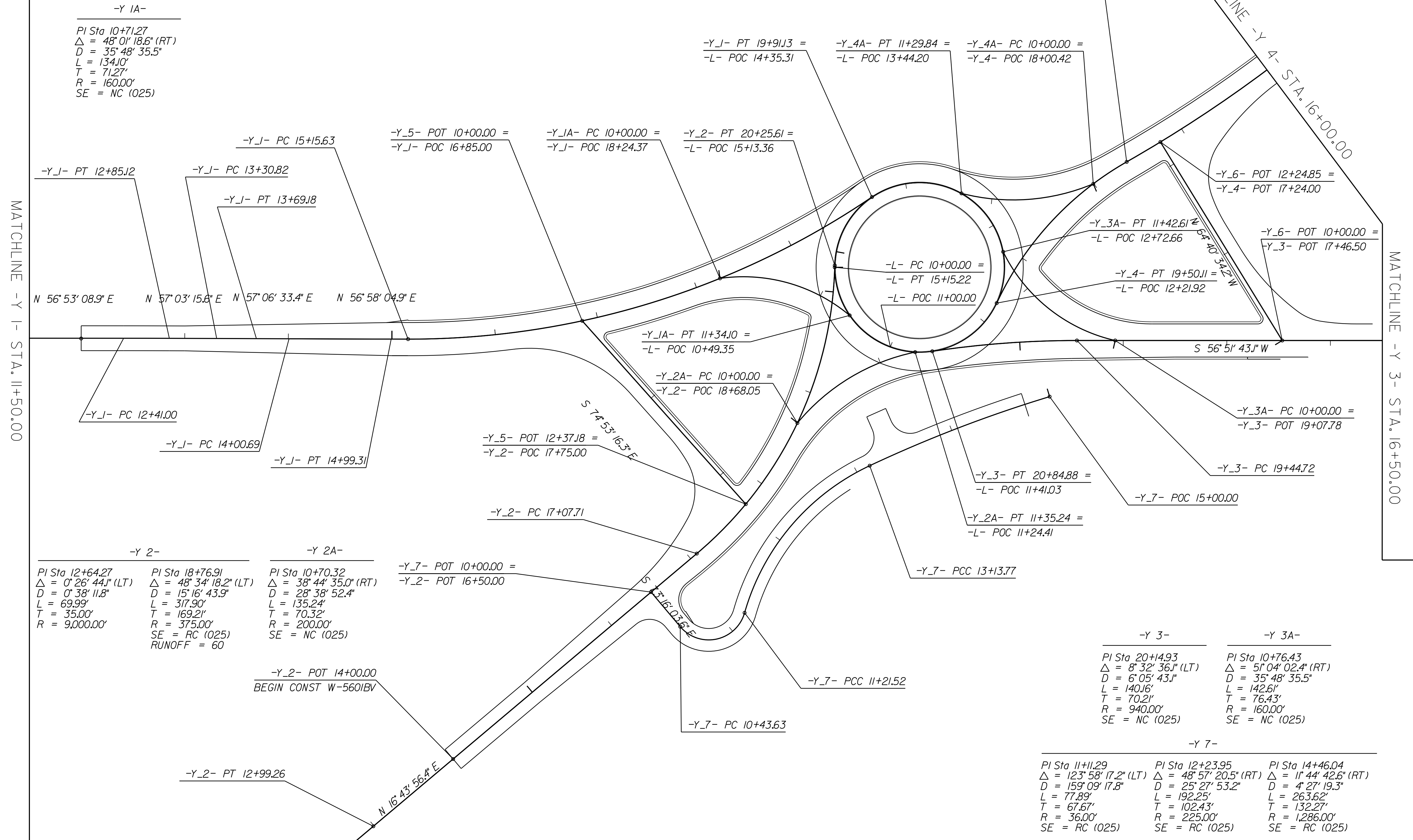


-L-			
PI Sta 10+82.00 Δ = 90° 00' 00.0" (LT) D = 69° 52' 22.4" L = 128.81' T = 82.00' R = 82.00' SE = NC (025)	PI Sta 12+10.81 Δ = 90° 00' 00.0" (LT) D = 69° 52' 22.4" L = 128.81' T = 82.00' R = 82.00' SE = NC (025)	PI Sta 13+39.61 Δ = 90° 00' 00.0" (LT) D = 69° 52' 22.4" L = 128.81' T = 82.00' R = 82.00' SE = NC (025)	PI Sta 14+68.42 Δ = 90° 00' 00.0" (LT) D = 69° 52' 22.4" L = 128.81' T = 82.00' R = 82.00' SE = NC (025)

-Y 4-		-Y 4A-	
PI Sta 16+43.20 Δ = 10° 26' 37.4" (RT) D = 4° 23' 25.7" L = 237.87' T = 119.27' R = 1,305.00' SE = NC (025)	PI Sta 18+59.07 Δ = 35° 22' 27.3" (LT) D = 18° 47' 07.8" L = 188.31' T = 97.26' R = 305.00' SE = NC (025)	PI Sta 10+67.30 Δ = 37° 11' 50.5" (RT) D = 28° 38' 52.4" L = 129.84' T = 67.30' R = 200.00' SE = NC (025) RUNOFF = 60	

-Y 1-			
PI Sta 12+63.06 Δ = 0° 10' 06.7" (RT) D = 0° 22' 55.1" L = 44.12' T = 22.06' R = 15,000.00' SE = NC (025)	PI Sta 13+50.00 Δ = 0° 03' 17.8" (RT) D = 0° 08' 35.7" L = 38.36' T = 19.18' R = 40,000.00' SE = NC (025)	PI Sta 14+50.00 Δ = 0° 08' 28.5" (LT) D = 0° 08' 35.7" L = 98.62' T = 49.31' R = 40,000.00' SE = RC (025) RUNOFF = 60	PI Sta 17+60.73 Δ = 34° 16' 09.4" (LT) D = 7° 12' 25.3" L = 475.50' T = 245.10' R = 795.00' SE = RC (025) RUNOFF = 60

-Y 1A-
PI Sta 10+71.27 Δ = 48° 01' 18.6" (RT) D = 35° 48' 35.5" L = 134.10' T = 71.27' R = 160.00' SE = NC (025)



N 56° 53' 08.9" E    N 57° 03' 15.8" E    N 57° 06' 33.4" E    N 56° 58' 04.9" E

S 56° 51' 43.1" W

S 74° 53' 16.3" E

S 3° 16' 03.8" E

N 16° 43' 56.4" E

MATCHLINE -Y 1- STA. 11+50.00

MATCHLINE -Y 3- STA. 16+50.00

MATCHLINE -Y 4- STA. 16+00.00

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-Y 2-		-Y 2A-	
PI Sta 12+64.27 Δ = 0° 26' 44.1" (LT) D = 0° 38' 11.8" L = 69.99' T = 35.00' R = 9,000.00'	PI Sta 18+76.91 Δ = 48° 34' 18.2" (LT) D = 15° 16' 43.9" L = 317.90' T = 169.21' R = 375.00' SE = RC (025) RUNOFF = 60	PI Sta 10+70.32 Δ = 38° 44' 35.0" (RT) D = 28° 38' 52.4" L = 135.24' T = 70.32' R = 200.00' SE = NC (025)	-Y 7- POT 10+00.00 = -Y 2- POT 16+50.00

-Y 3-	-Y 3A-
PI Sta 20+14.93 Δ = 8° 32' 36.1" (LT) D = 6° 05' 43.1" L = 140.16' T = 70.21' R = 940.00' SE = NC (025)	PI Sta 10+76.43 Δ = 51° 04' 02.4" (RT) D = 35° 48' 35.5" L = 142.61' T = 76.43' R = 160.00' SE = NC (025)

-Y 7-		
PI Sta 11+11.29 Δ = 123° 58' 17.2" (LT) D = 159° 09' 17.8" L = 77.89' T = 67.67' R = 36.00' SE = RC (025)	PI Sta 12+23.95 Δ = 48° 57' 20.5" (RT) D = 25° 27' 53.2" L = 192.25' T = 102.43' R = 225.00' SE = RC (025)	PI Sta 14+46.04 Δ = 11° 44' 42.6" (RT) D = 4° 27' 19.3" L = 263.62' T = 132.27' R = 1,286.00' SE = RC (025)

DIVISION OF HIGHWAYS  
 STATE OF NORTH CAROLINA

SUMMARY OF EARTHWORK  
 Volumes in Cubic Yards

STATION TO STATION				Uncl. Excav.	Undercut	Embank +%	Borrow	Waste
L	10+00.00	TO	15+15.22	217		4839	4731	109
Y1	10+50.00	TO	19+32.62	6368		209		6159
Y1A	10+00.00	TO	10+99.62	47		423	400	24
Y2	14+00.00	TO	19+69.79	154		780	703	77
Y2A	10+00.00	TO	10+99.41	3		235	234	2
Y3	15+00.00	TO	20+29.98	92		290	244	46
Y3A	10+00.00	TO	11+08.13	55		82	55	28
Y4	12+00.00	TO	18+99.24	174		587	500	87
Y4A	10+00.00	TO	10+94.21	187		9		178
Y5	10+25.00	TO	12+20.00	58		213	184	29
Y6	10+25.00	TO	12+08.00	84		152	110	42
Y7	10+14.00	TO	14+75.00	170		1148	1063	85
TOTAL				7609		8967	8224	6866
WASTE TO REPLACE BORROW							-3059	-3059
PROJECT TOTAL				7609		8967	5165	3807
ESTIMATE TO REPLACE TOPSOIL ON BORROW PIT							258	
GRAND TOTAL				7609		8967	5423	3807
SAY				7700			5500	
ESTIMATE UNDERCUT					500			

SUMMARY OF REMOVAL OF EXISTING ASPHALT PAVEMENT

STATION TO STATION					LOC	SQUARE YARDS
L					LT	450.53
Y_1	STA	17+04	TO	18+80	RT	762.61
Y_2	STA	16+74	TO	18+68	RT	382.86
Y_2A	STA	10+00	TO	11+35	RT	324.89
Y_3	STA	17+48	TO	20+01	LT	449.95
Y_4	STA	17+30	TO	19+02	LT	325.24
Y_5	STA	10+00	TO	12+24	RT	387.83
Y_6	STA	10+00	TO	12+14	RT	283.92
TOTAL						3367.82
SAY						3370

PARCEL INDEX

PARCEL NO.	SHEET NO.	PROPERTY OWNERS NAMES
1	5	TIMOTHY NARRON
2	4,5	TIMOTHY NARRON
3	5,6	JIMMY MAC NARRON
4	5	ELOISE C. STEVENS
5	5	WILLIAM SNIPES III
6	5	ELOISE C. STEVENS
7	5	SHANNON RENEE CRECCH
8	5	BRENDA GRACE CREECH
9	5,6	JOHNNIE BURTON ONEAL

SUMMARY OF RIP RAP

LINE	STATION	LOCATION	PIPE SIZE	RIP RAP, CLASS II TONS	RIP RAP, CLASS I TONS	RIP RAP, CLASS B TONS	GEOTEXTILE FOR DRAINAGE SY
Y_1	15+30	LT	15			3	7
Y_3	17+18	LT	36		15		30
Y_6	10+40	RT	15			3	7
Y_7	11+00	RT	24			7	14
Y_7	13+18	RT	18			4	10
TOTAL						15	68
SAY						20	70

MILLING ASPHALT PAVEMENT, 1.5" DEPTH

STATION TO STATION					LOC	SQUARE YARDS
Y_1	STA	12+00	TO	16+25	CL	1149.08
Y_2	STA	14+00	TO	17+50	CL	1001.69
Y_3	STA	15+00	TO	19+50	CL	1612.27
Y_4	STA	12+00	TO	18+00	CL	1746.41
Y_5	STA	11+25	TO	11+78	CL	51.21
Y_6	STA	10+75	TO	11+65	CL	112.78
Y_7	STA	12+02	TO	14+75	CL	594.15
TOTAL						6267.59
SAY						6270

GUARDRAIL

SURVEY LINE	BEGIN STATION	END STATION	LOC	LENGTH STRAIGHT	TERMINAL END SECTION
Y_7	14+75		CL	25	2
TOTAL				25	2





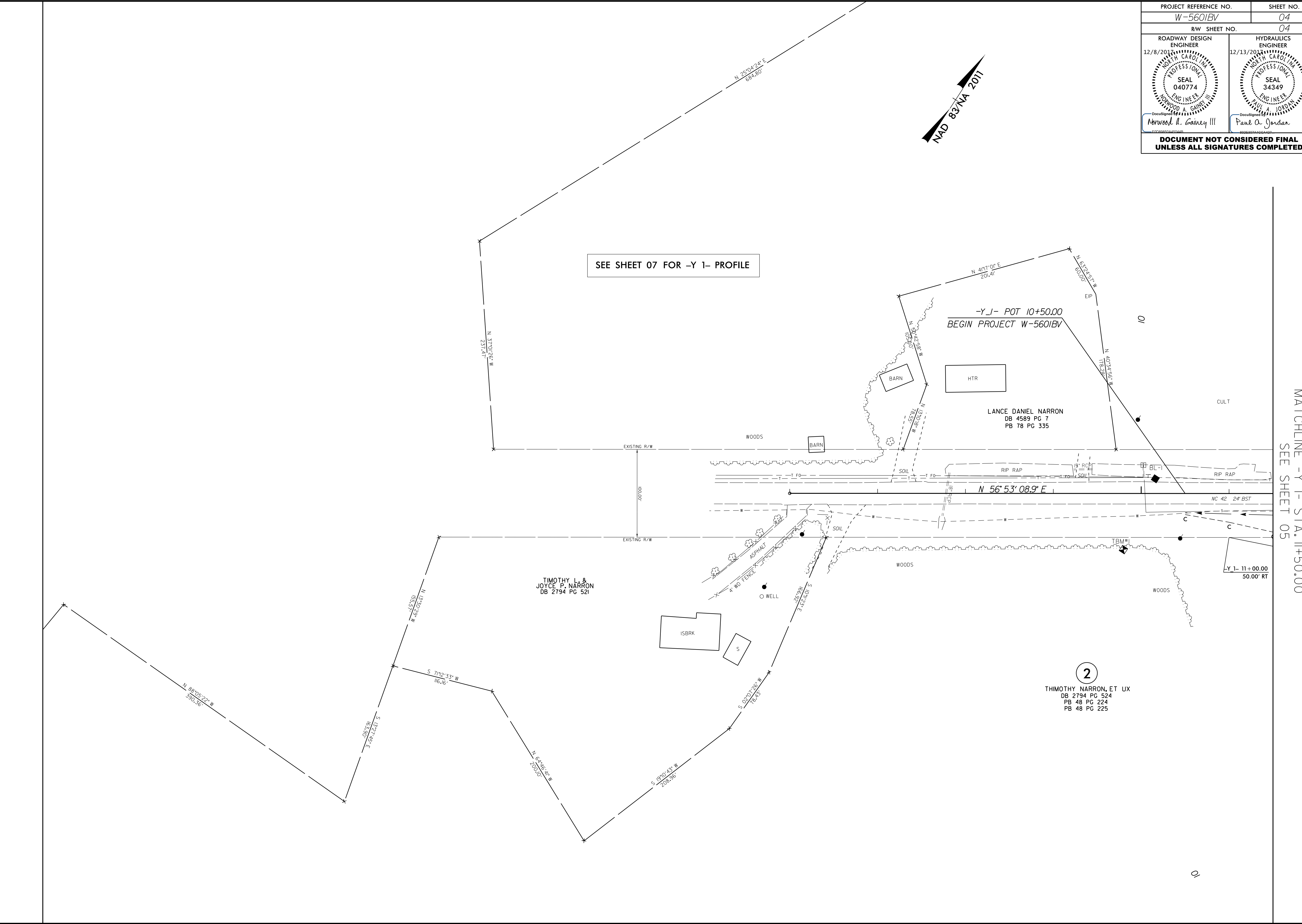


PROJECT REFERENCE NO. W-560/BV	SHEET NO. 04
RW SHEET NO. 04	
ROADWAY DESIGN ENGINEER 12/8/2017 SEAL 040774 NORWOOD A. GAINY III	HYDRAULICS ENGINEER 12/13/2017 SEAL 34349 PAUL A. JORDAN
<p align="center"><b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b></p>	

8/17/99

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SEE SHEET 07 FOR -Y 1- PROFILE

-Y 1- POT 10+50.00  
BEGIN PROJECT W-560/BV

LANCE DANIEL NARRON  
DB 4589 PG 7  
PB 78 PG 335

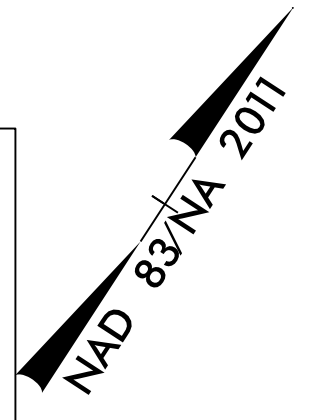
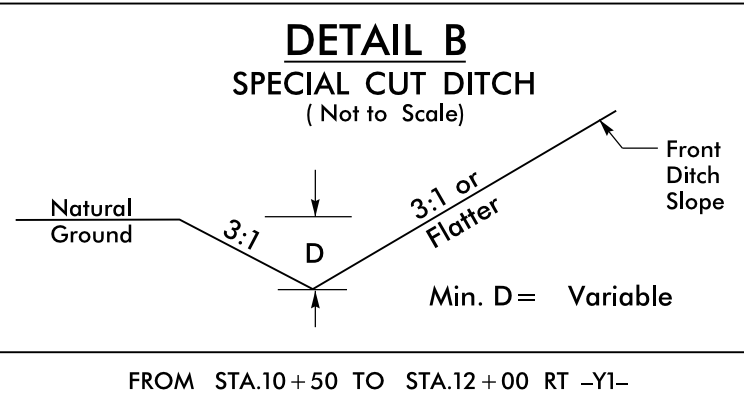
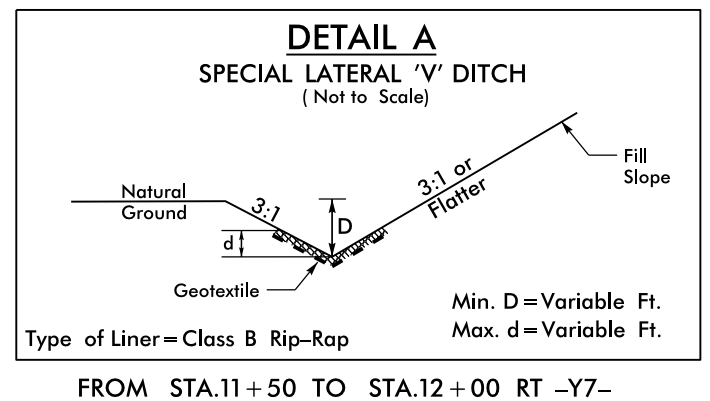
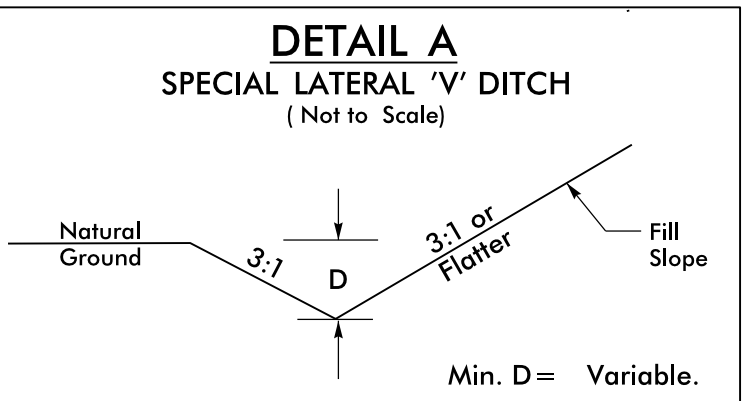
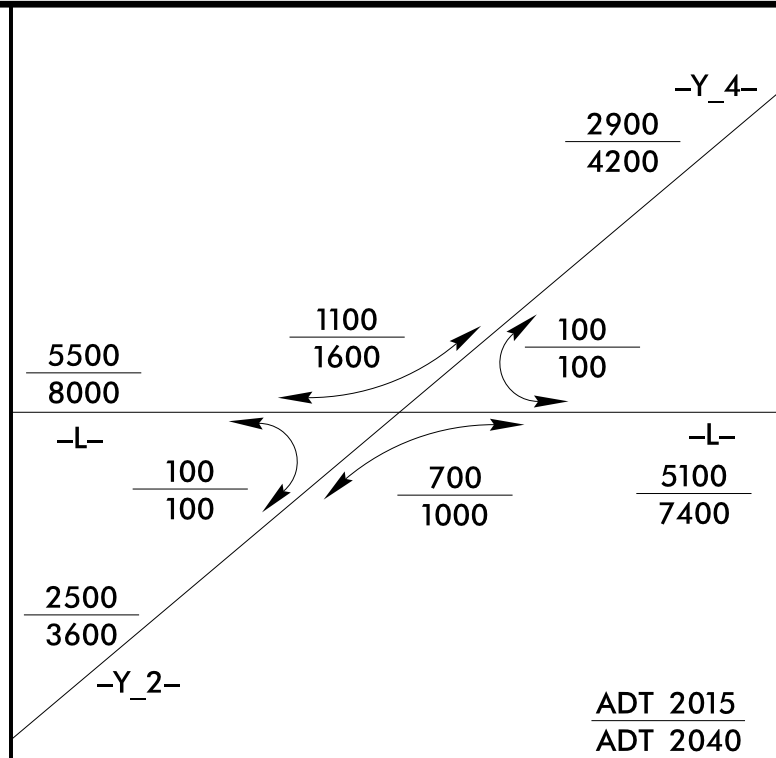
TIMOTHY L. &  
JOYCE P. NARRON  
DB 2794 PG 521

②  
TIMOTHY NARRON, ET UX  
DB 2794 PG 524  
PB 48 PG 224  
PB 48 PG 225

MATCHLINE -Y 1- STA. 11+50.00  
SEE SHEET 05

10





1  
TIMOTHY NARRON, ET UX  
DB 2794 PG 524  
PB 48 PG 224  
PB 48 PG 225

3  
JIMMY MAC NARRON, ET UX  
DB 1551 PG 344  
PB 48 PG 225  
PB 48 PG 208

9  
JOHNNIE BURTON O'NEAL  
DB 651 PG 627  
PB 12 PG III

KYLE DYER  
DB 4604 PG 824  
PB 61 PG 120-122

8  
BRENDA GRICE CREECH  
DB 843 PG 449

7  
SHANNON RENEE CREECH  
DB 1831 PG 189  
PB 54 PG 148

2  
TIMOTHY NARRON, ET UX  
DB 2794 PG 524  
PB 48 PG 224  
PB 48 PG 225

5  
WILLIAM SNIPES, III  
DB 4732 PG 283

4  
ELOISE C. STEVENS  
DB 3984 PG 785  
PB 50 PG 404

SEE SHEET 07 FOR -Y 1- AND -L- PROFILES  
SEE SHEET 08 FOR -Y 2- AND -Y 3- PROFILES  
SEE SHEET 09 FOR -Y 4-, -Y 5, AND -Y 6- PROFILES  
SEE SHEET 10 FOR -Y 7-, -Y 1A-, -Y 2A-, -Y 3A-,  
AND -Y 4A- PROFILES

SEE SHEET 2B-1 FOR STATION  
LABELS AND CURVE DATA



200' TAPER START AT  
Y 2 STA. 15+00.00  
REMOVE AND REPLACE  
Pipe separated at the shoulder  
BYI-2

MATCHLINE - Y 1- STA. 11+50.00  
SEE SHEET 04

MATCHLINE - Y 3- STA. 16+50.00  
SEE SHEET 06

MATCHLINE - Y 4- STA. 16+00.00  
SEE SHEET 06

REVISIONS

8/17/99

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PROJECT REFERENCE NO. W-560/BV	SHEET NO. 06
ROADWAY DESIGN ENGINEER 12/8/2011 SEAL 040774 NORWOOD A. GAINY III	HYDRAULICS ENGINEER 12/13/2011 SEAL 34349 PAUL A. JORDAN
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	

PI Sta 16+43.20  
 $\Delta = 10' 26' 37.4" (RT)$   
 $D = 4' 23' 25.7"$   
 $L = 237.87'$   
 $T = 119.27'$   
 $R = 1,305.00'$   
 $SE = NC (025)$

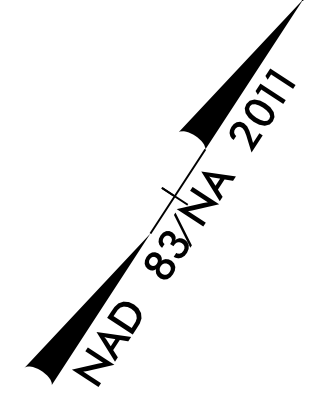
**3**  
 JIMMY MAC NARRON, ET UX  
 DB 1551 PG 344  
 PB 48 PG 224  
 PB 48 PG 208

**9**  
 JOHNNIE BURTON O'NEAL  
 DB 651 PG 627  
 PB 12 PG III

KYLE DYER  
 DB 4604 PG 824  
 PB 61 PG 120-122

TERESA S. FARMER  
 DB 3290 PG 320  
 PB 61 PG 120-122

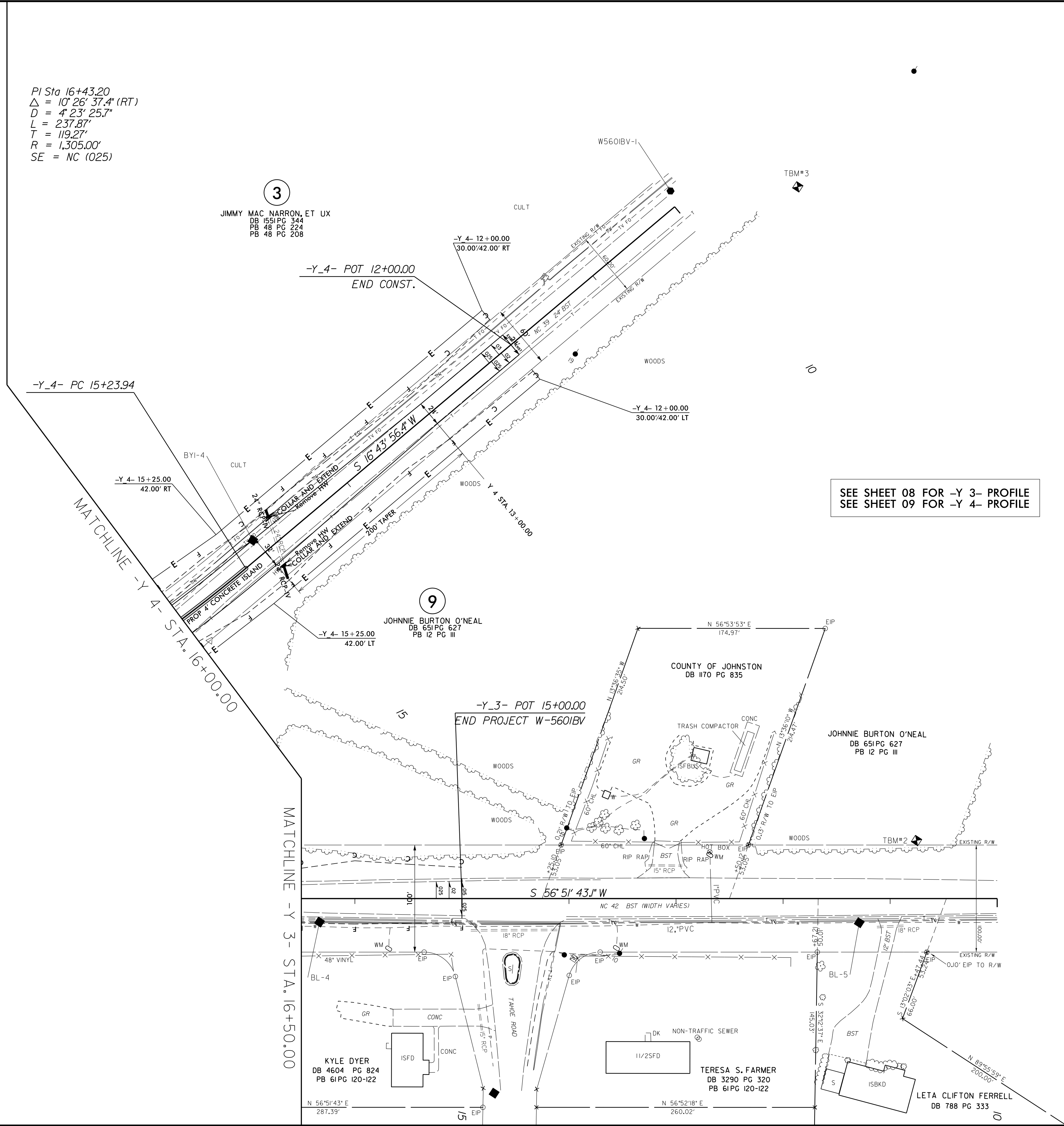
LETA CLIFTON FERRELL  
 DB 788 PG 333



SEE SHEET 08 FOR -Y 3- PROFILE  
 SEE SHEET 09 FOR -Y 4- PROFILE

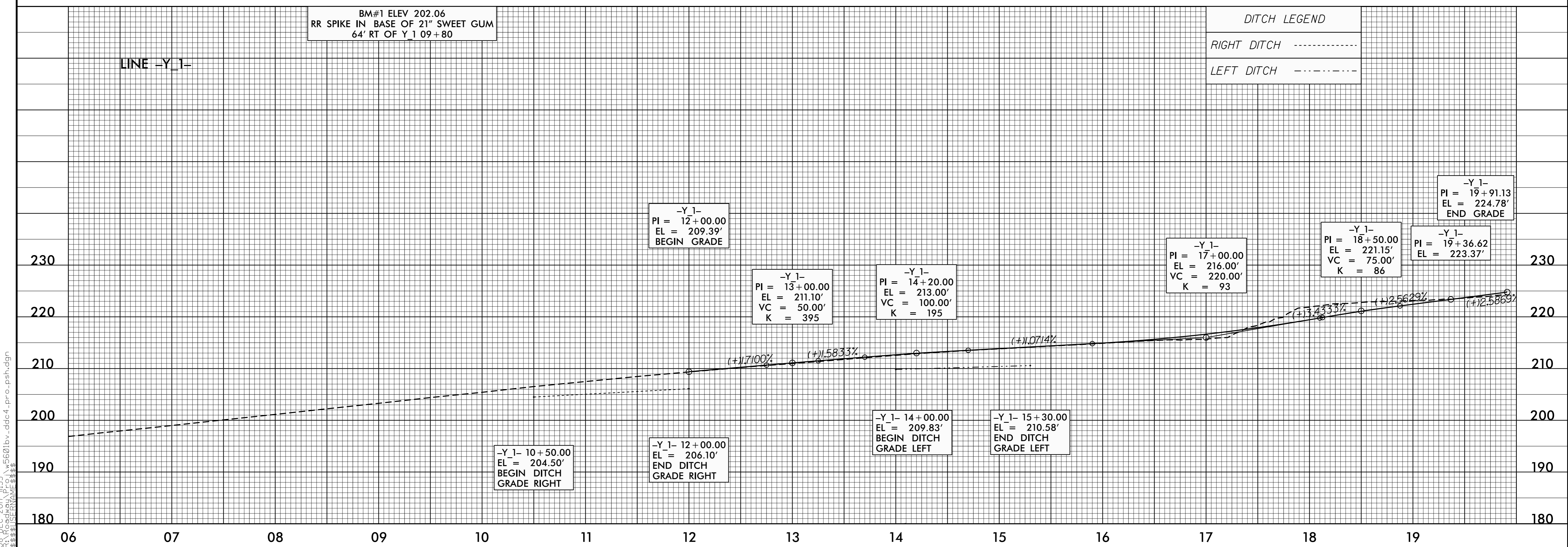
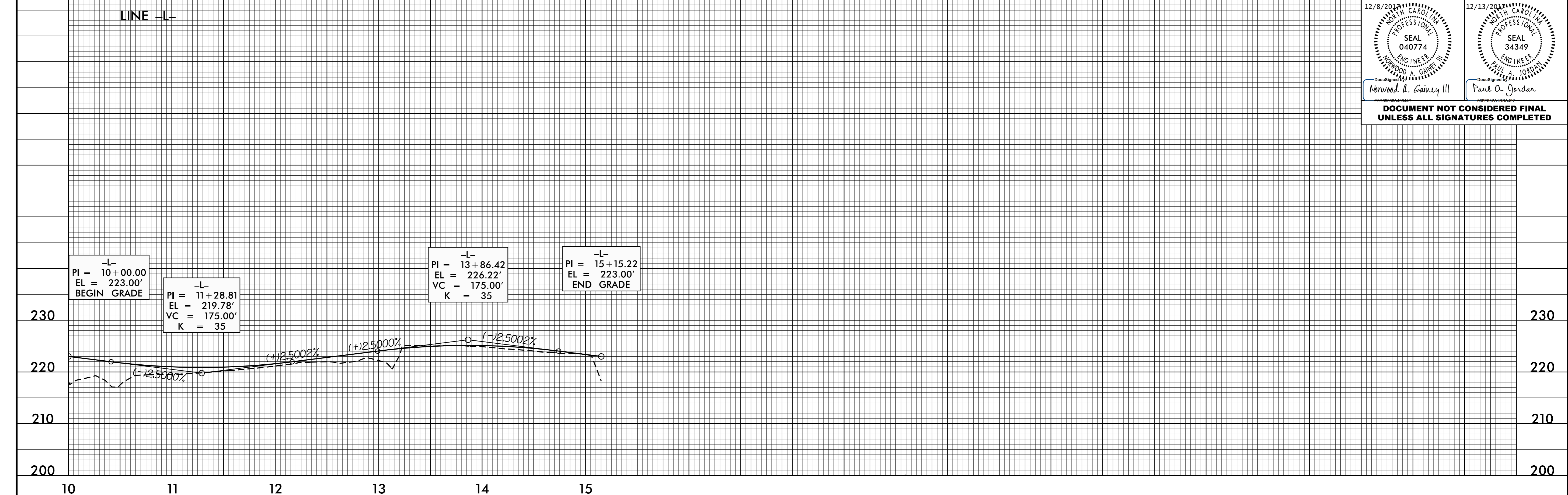
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PROJECT REFERENCE NO. W-560/BV	SHEET NO. 07
ROADWAY DESIGN ENGINEER 12/8/2011 PROFESSIONAL SEAL 040774 ABRAHAM A. GAINY III	HYDRAULICS ENGINEER 12/13/2011 PROFESSIONAL SEAL 34349 PAUL A. JORDAN
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	

5/28/99



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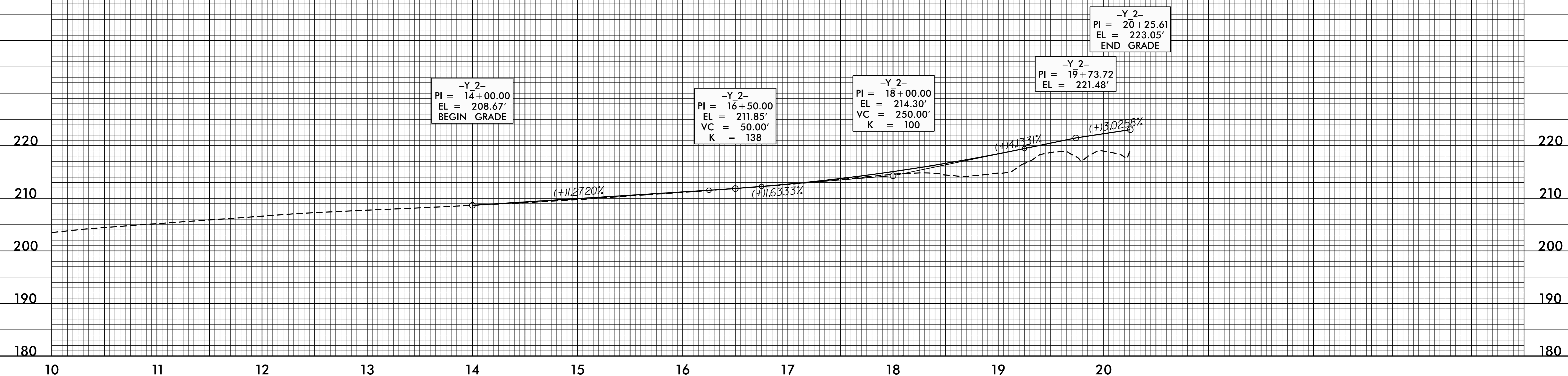
5/28/99

BM#4 ELEV 195.00  
RR SPIKE IN BASE OF 20" SWEET GUM  
RT OF Y 2 (OUT OF PROJECT LIMITS)

LINE -Y 2-

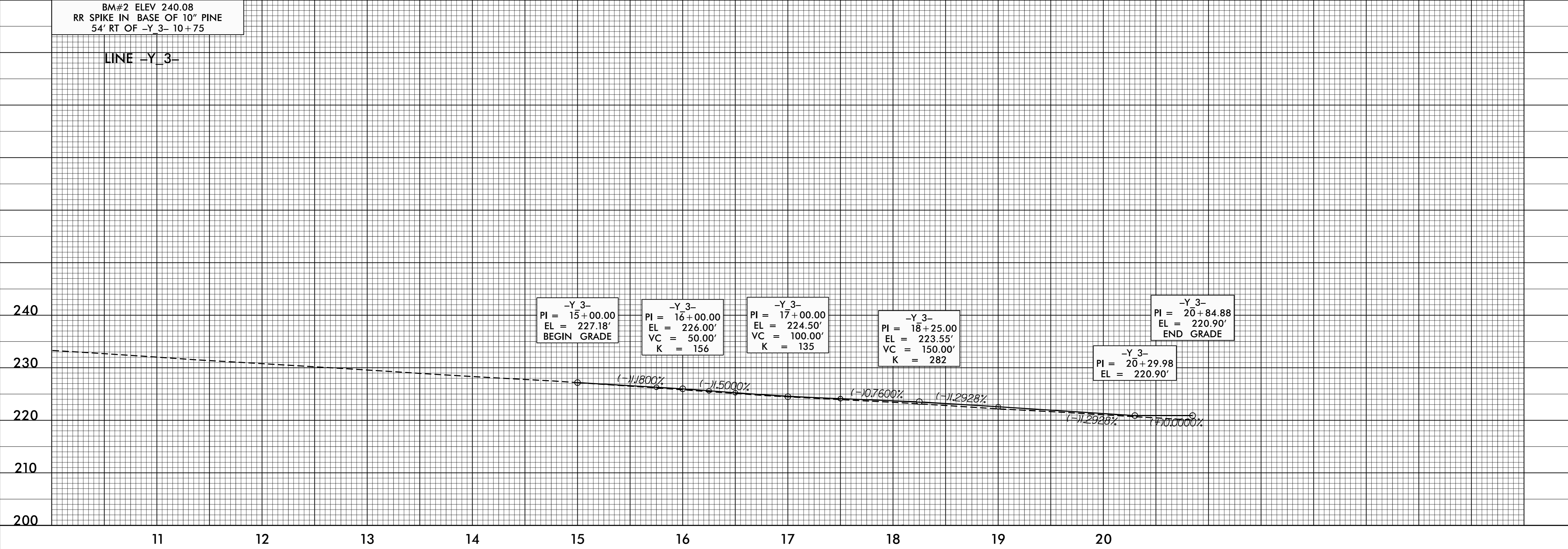
PROJECT REFERENCE NO. W-560/BV	SHEET NO. 08
ROADWAY DESIGN ENGINEER 12/8/2017 PROFESSOR SEAL 040774 WOODWARD A. GAINY III	HYDRAULICS ENGINEER 12/13/2017 PROFESSOR SEAL 34349 PAUL A. JORDAN

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BM#2 ELEV 240.08  
RR SPIKE IN BASE OF 10" PINE  
54' RT OF -Y 3- 10+75

LINE -Y 3-



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BM#3 ELEV 253.02  
RR SPIKE IN BASE OF 12" PINE  
LT OF Y 4 (OUT OF PROJECT LIMITS)

LINE -Y\_4-

-Y 4-  
PI = 12+00.00  
EL = 242.81'  
BEGIN GRADE

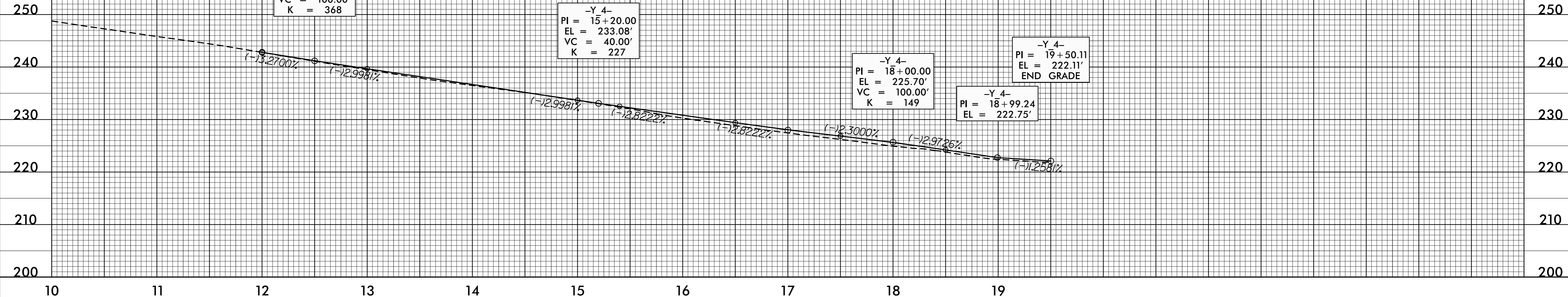
-Y 4-  
PI = 12+50.00  
EL = 241.18'  
VC = 100.00'  
K = 368

-Y 4-  
PI = 15+20.00  
EL = 233.08'  
VC = 40.00'  
K = 227

-Y 4-  
PI = 18+00.00  
EL = 225.70'  
VC = 100.00'  
K = 149

-Y 4-  
PI = 19+50.11  
EL = 222.11'  
END GRADE

-Y 4-  
PI = 18+99.24  
EL = 222.75'



LINE -Y\_5-

-Y 5- PI = 10+00.00 EL = 216.32' BEGIN GRADE	-Y 5- PI = 10+18.35 EL = 216.91'	-Y 5- PI = 12+20.99 EL = 214.06'	-Y 5- PI = 12+37.18 EL = 214.39' END GRADE
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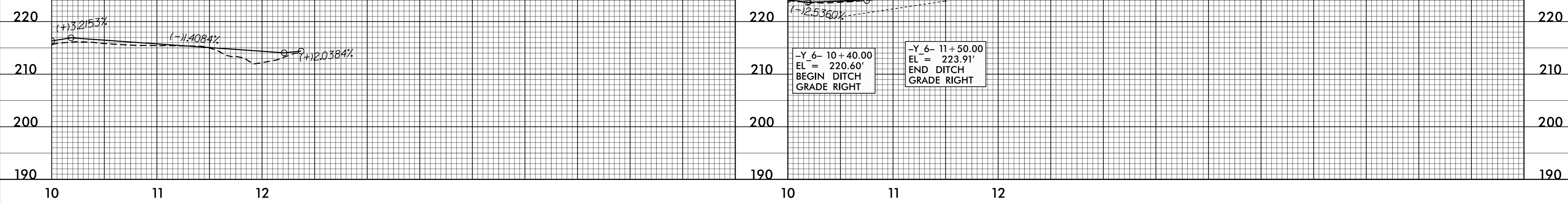
LINE -Y\_6-

-Y 6- PI = 10+00.00 EL = 224.15' BEGIN GRADE	-Y 6- PI = 10+18.77 EL = 223.67'	-Y 6- PI = 12+08.86 EL = 227.07'	-Y 6- PI = 12+24.85 EL = 227.47' END GRADE
---	--	--	---

-Y 6- PI = 10+75.00 EL = 224.00' VC = 110.00' K = 53	-Y 6- PI = 11+50.00 EL = 226.00' VC = 40.00' K = 47
--	---

-Y 6- 10+40.00  
EL = 220.60'  
BEGIN DITCH  
GRADE RIGHT

-Y 6- 11+50.00  
EL = 223.91'  
END DITCH  
GRADE RIGHT



PROJECT REFERENCE NO. W-5601BV	SHEET NO. 09
ROADWAY DESIGN ENGINEER 12/8/2017 PROFESSIONAL SEAL 040774 NORWOOD A. GAINY III	HYDRAULICS ENGINEER 12/13/2017 PROFESSIONAL SEAL 34349 PAUL A. JORDAN

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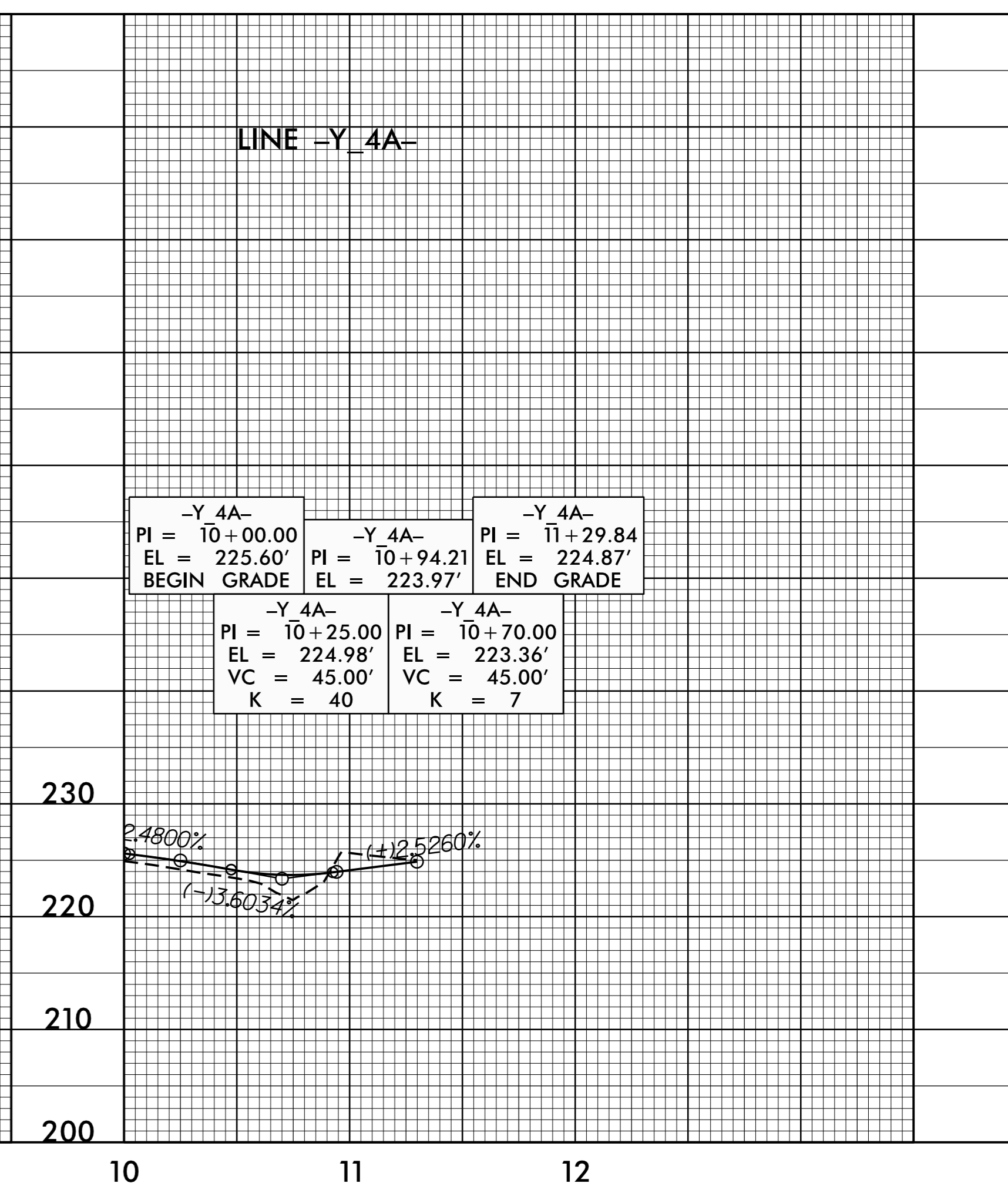
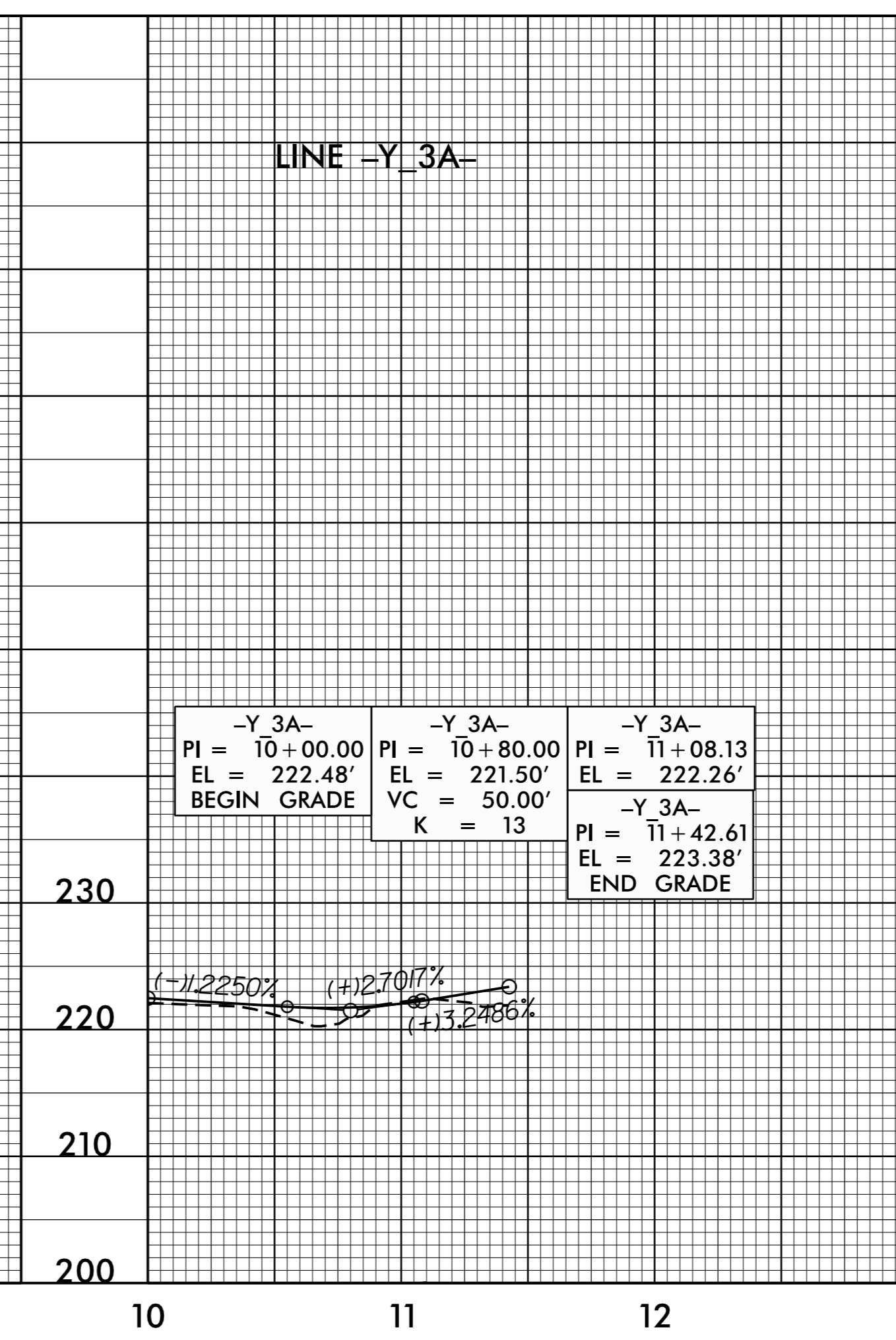
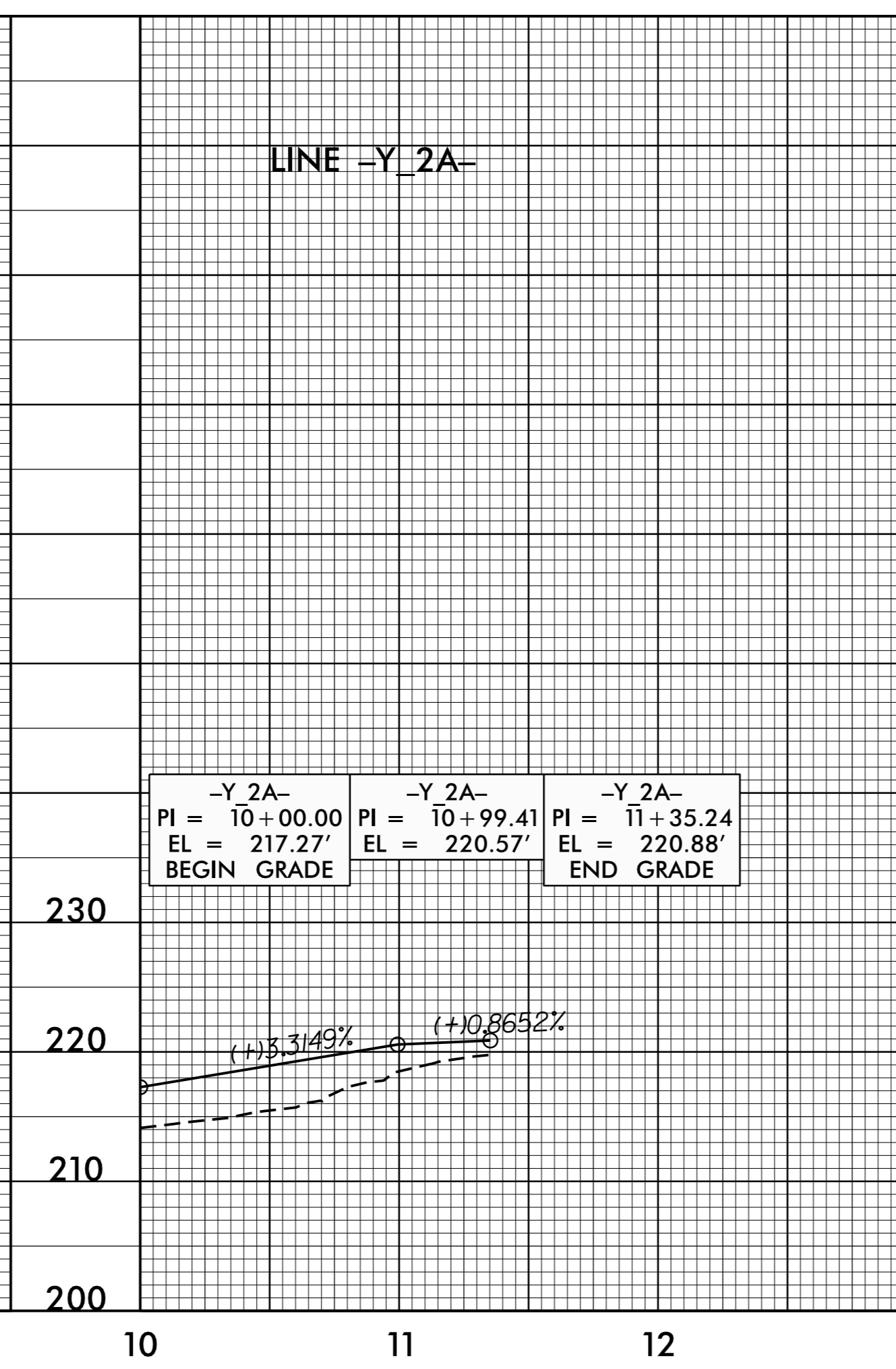
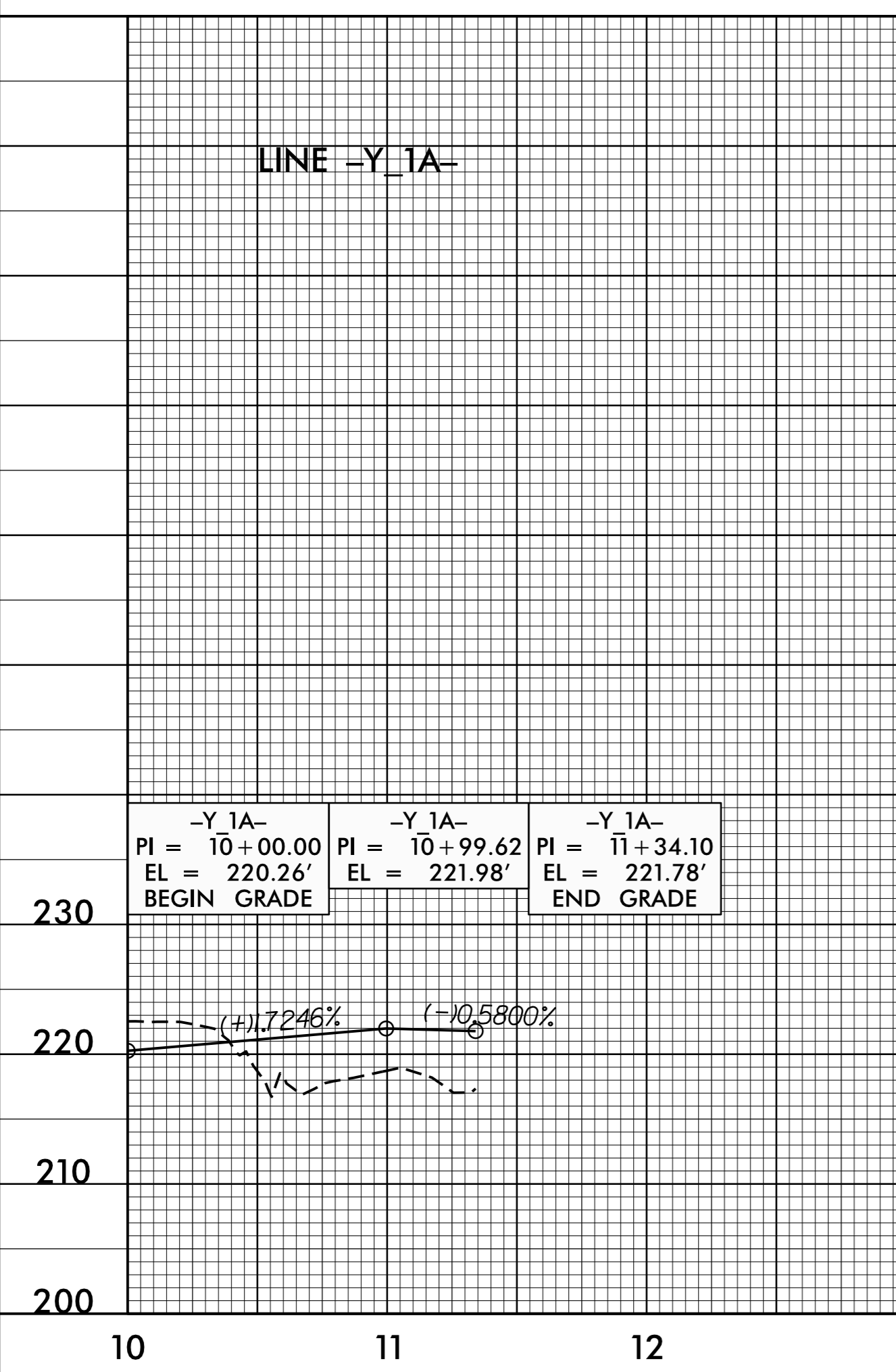
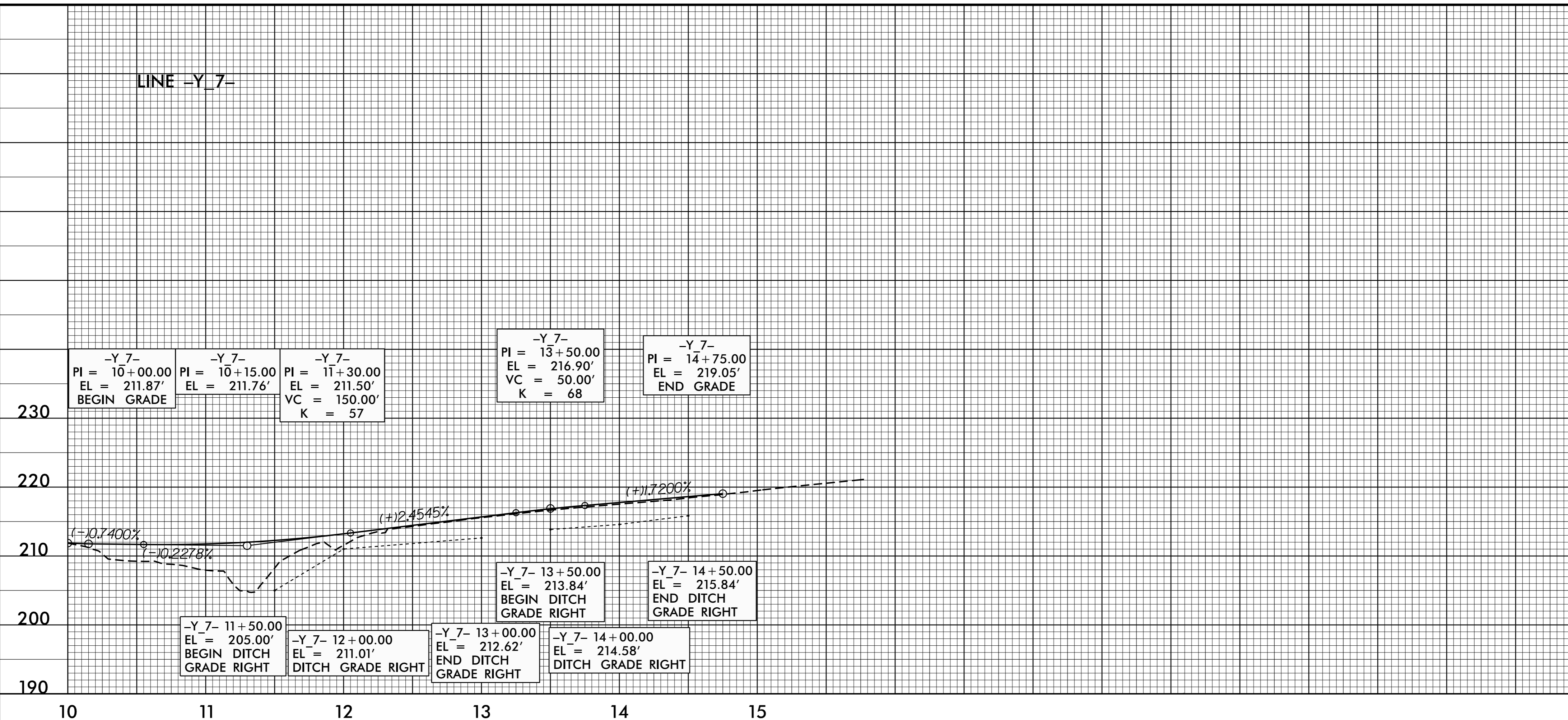
5/28/99

**DITCH LEGEND**

RIGHT DITCH -----

PROJECT REFERENCE NO. <b>W-560/BV</b>	SHEET NO. <b>10</b>
ROADWAY DESIGN ENGINEER 12/8/2017 <b>ARWOOD A. GAINY III</b> PROFESSIONAL SEAL 040774 ENGINEER ARWOOD A. GAINY III	HYDRAULICS ENGINEER 12/13/2017 <b>PAUL A. JORDAN</b> PROFESSIONAL SEAL 34349 ENGINEER PAUL A. JORDAN

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