

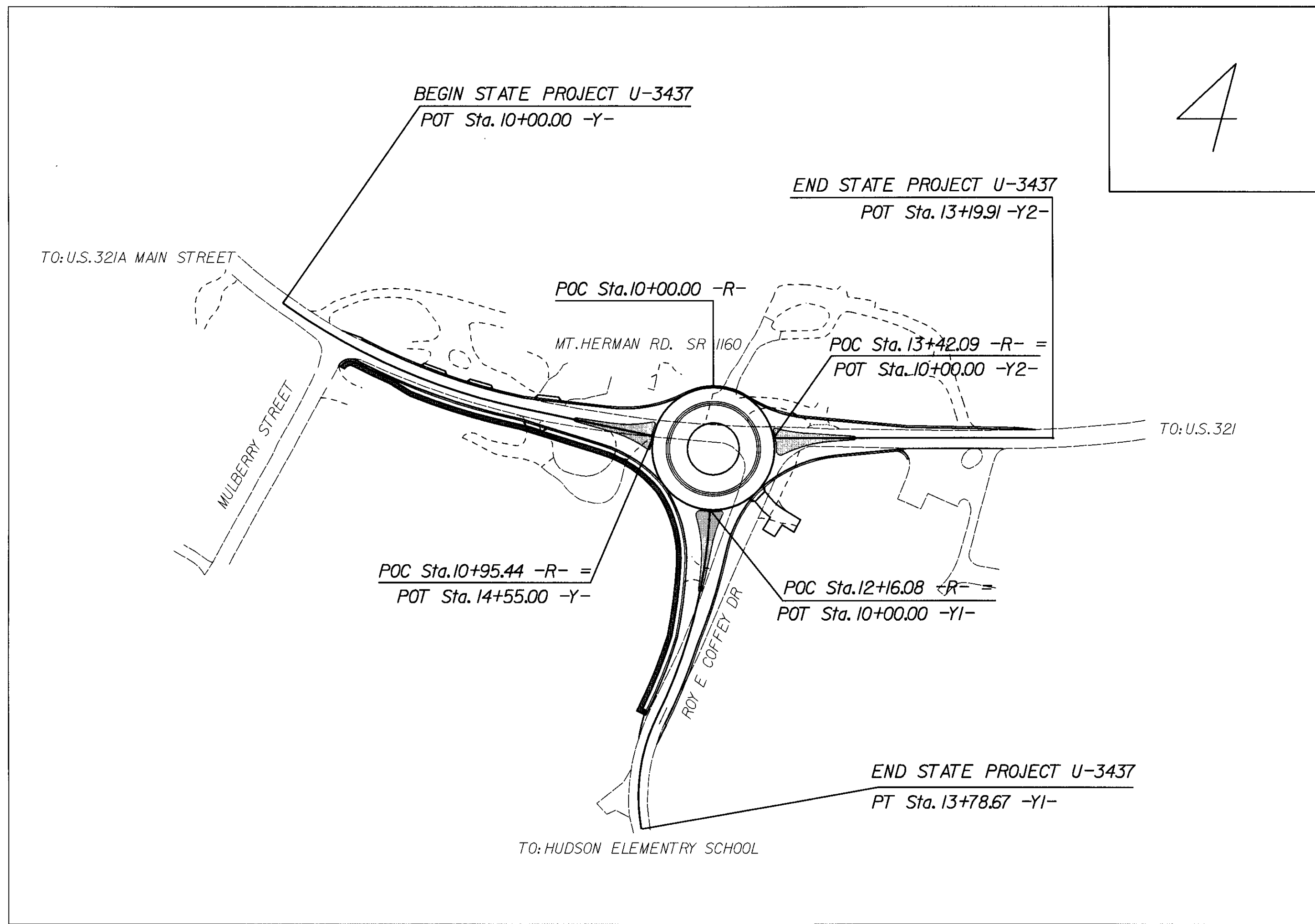
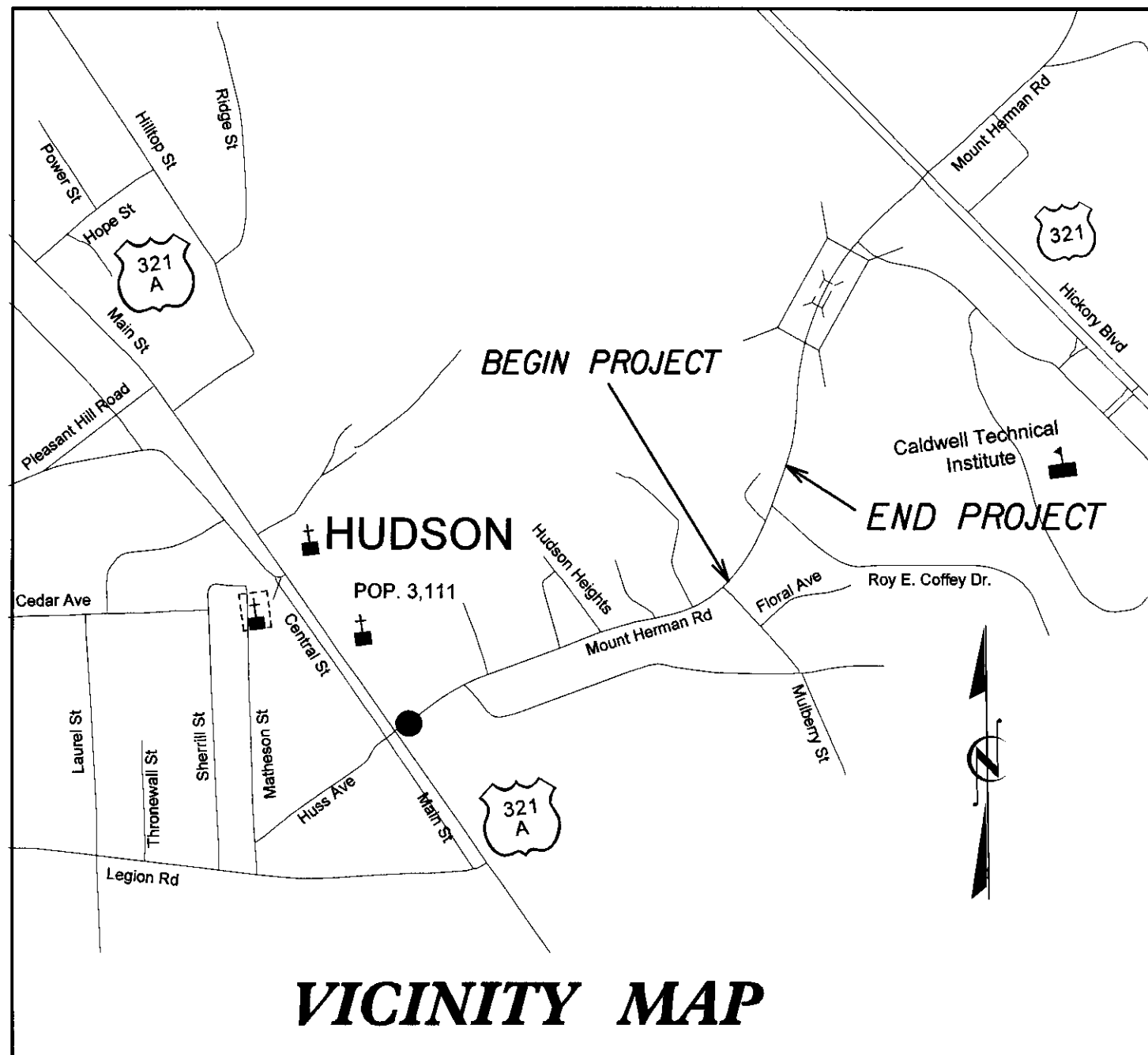
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-3437	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
34945.1.1	STP-1159 (1)	PE	
34945.3.1	STP-1160 (2)	RW	
34945.2.2	STP-1159 (3)	CONST.	

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CALDWELL COUNTY

LOCATION: SR 1160 (MT. HERMAN RD)

TYPE OF WORK: INTERSECTION IMPROVEMENTS AT SR 1160
(MT. HERMAN RD.) AND ROY E. COFFEY DRIVE



TIP PROJECT: U-3437

CONTRACT: DK00076

GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

DESIGN DATA

ADT 2010 = 4400
ADT 2035 = 9700
DHV = 11 %
D = 55 %
T = 5 % *
V = 40 MPH
* TTST =1 DUAL 4

**REGIONAL TIER DESIGN
FUNCTIONAL
CLASSIFICATION: LOCAL**

PROJECT LENGTH

LENGTH ROADWAY STATE PROJECT U-3437 = 0.52 MILES

Prepared In the Office of:
DIVISION OF HIGHWAYS
801 Statesville Road, North Wilkesboro, NC, 28659

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
August 19, 2011

LETTING DATE:
October 25, 2012

DIVISION ENGINEER
M.A. PETTYJOHN, PE

SIGNATURE: _____ P.E.
DATE: _____

HYDRAULICS ENGINEER
R. C. HENEGAR, PE

SIGNATURE: *R. C. Henegar* P.E.
DATE: 9-28-12

DIVISION PROJECT MANAGER
JOSEPH L. LAWS, PE

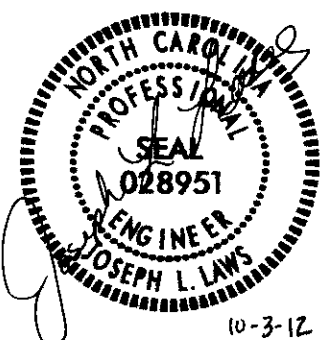
SIGNATURE: *Joseph L. Laws* P.E.
DATE: 10-2-2012

8/17/99

PROJECT REFERENCE NO.
U-3437

SHEET NO.
1-A

ROADWAY DESIGN
ENGINEER



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

INDEX OF SHEETS

SHEET NUMBER	SHEET
1	TITLE SHEET
1-A	INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARD DRAWINGS
1-B	CONVENTIONAL SYMBOLS
1-C THRU 1-E	SURVEY CONTROL SHEETS
2-2A	PAVEMENT SCHEDULE, TYPICAL SECTIONS, AND WEDGING DETAILS
3	SUMMARY OF QUANTITIES
3A-3D	SUMMARY OF DRAINAGE QUANTITIES, SUMMARY OF SIDEWALK, EARTHWORK SUMMARY, ASPHALT PAVEMENT REMOVAL SUMMARY, AND PARCEL INDEX SHEET
4	PLAN SHEET
5 THRU 8	PROFILE SHEET
TMP-1 THRU TMP-5	TRANSPORTATION MANAGEMENT PLAN
PMP-1 THRU PMP-2	PAVEMENT MARKING PLANS
EC-1 THRU EC-5	EROSION CONTROL PLANS
SIGN-1 THRU SIGN-6	SIGNING PLANS
UC-1 THRU UC-5	UTILITY CONSTRUCTION PLANS
UD-1 THRU UD-2	UTILITIES BY OTHERS
X	CROSS-SECTION INDEX
X-A	CROSS-SECTION SUMMARY
X-1 THRU X-13	CROSS-SECTIONS

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

GRADING AND SURFACING OR RESURFACING AND WIDENING:

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

CLEARING:

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

SUPERELEVATION:

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

SHOULDER CONSTRUCTION:

ASPHALT, EARTH, AND CONCRETE SHOULDER CONSTRUCTION ON THE HIGH SIDE OF SUPERELEVATED CURVES SHALL BE IN ACCORDANCE WITH STD. NO. 560.01.

UNDERDRAINS:

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

DRIVEWAYS:

DRIVEWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. 848.03 AT LOCATIONS SHOWN ON PLANS OR AS DIRECTED BY THE ENGINEER.

STREET TURNOUT:

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

TEMPORARY SHORING:

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

UTILITIES:

UTILITY OWNERS ON THIS PROJECT ARE Duke Energy, AT&T, Charter Communication, and Piedmont Natural Gas

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

RIGHT-OF-WAY MARKERS:

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

CURB RAMPS

CURB RAMPS ARE SHOWN ON THE PLANS AT APPROXIMATE LOCATIONS.
Error 2023

2012 ROADWAY ENGLISH STANDARD DRAWINGS

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

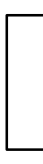
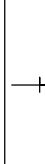
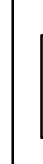
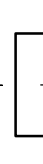
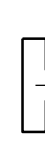
STD.NO.	TITLE
DIVISION 2 - EARTHWORK	
200.02	Method of Clearing - Method II
225.02	Guide for Grading Subgrade - Secondary and Local
225.04	Method of Obtaining Superelevation - Two Lane Pavement
225.06	Method of Grading Sight Distance at Intersections
DIVISION 3 - PIPE CULVERTS	
300.01	Method of Pipe Installation
310.10	Driveway Pipe Construction
DIVISION 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	
806.02	Granite Right-of-Way Marker
815.02	Subsurface Drain
816.01	Concrete Pads - for Shoulder Drain Installation
816.04	Markers for Drainage Structure and Concrete Pad
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
840.25	Anchorage for Frames - Brick or Concrete or Precast
840.27	Brick Grated Drop Inlet Type 'B' - 12" thru 36" Pipe
840.29	Frames and Narrow Slot Flat Grates
840.36	Traffic Bearing Grated Drop Inlet - for Steel (840.37) Double Frame and Grates
840.37	Steel Grate and Frame
840.45	Precast Drainage Structure
840.46	Traffic Bearing Precast Drainage Structure
840.66	Drainage Structure Steps
846.01	Concrete Curb, Gutter and Curb & Gutter
848.01	Concrete Sidewalk
848.03	Driveway Turnout - Drop Curb Type
848.05	Curb Ramp - Proposed Curb & Gutter
852.01	Concrete Islands
876.02	Guide for Rip Rap at Pipe Outlets

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	
Property Corner	_____
Property Monument	
Parcel/Sequence Number	 (23)
Existing Fence Line	_____X_____X_____X_____X_____X_____
Proposed Woven Wire Fence	_____○_____
Proposed Chain Link Fence	_____□_____
Proposed Barbed Wire Fence	_____◇_____
Existing Wetland Boundary	_____NB_____NB_____NB_____NB_____NB_____
Proposed Wetland Boundary	_____NB_____NB_____NB_____NB_____NB_____
Existing Endangered Animal Boundary	_____LAB_____
Existing Endangered Plant Boundary	_____EPB_____
Known Soil Contamination: Area or Site	
Potential Soil Contamination: Area or Site	

BUILDINGS AND OTHER CULTURE:

Gas Pump Vent or UG 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:

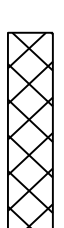
Standard Gauge	_____
RR Signal Milepost	
Switch	
RR Abandoned	_____
RR Dismantled	_____

RIGHT OF WAY:

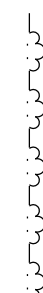
Baseline Control Point	
Existing Right of Way Marker	_____△_____
Existing Right of Way Line	_____
Proposed Right of Way Line	_____Ⓜ_____
Proposed Right of Way Line with Iron Pin and Cap Marker	_____Ⓜ_____▲_____
Proposed Right of Way Line with Concrete or Granite RW Marker	_____▲_____Ⓜ_____
Proposed Control of Access Line with Concrete C/A Marker	_____Ⓜ_____ⓐ_____
Existing Control of Access	_____Ⓜ_____ⓐ_____
Proposed Control of Access	_____Ⓜ_____ⓐ_____
Existing Easement Line	_____E_____

Proposed Temporary Construction Easement	_____E_____
Proposed Temporary Drainage Easement	_____TDE_____
Proposed Permanent Drainage Easement	_____PDE_____
Proposed Permanent Drainage / Utility Easement	_____DUE_____
Proposed Permanent Utility Easement	_____PUE_____
Proposed Temporary Utility Easement	_____TUE_____
Proposed Aerial Utility Easement	_____AUE_____
Proposed Permanent Easement with Iron Pin and Cap Marker	

ROADS AND RELATED FEATURES:

Existing Edge of Pavement	_____
Existing Curb	_____
Proposed Slope Stakes Cut	_____C_____
Proposed Slope Stakes Fill	_____F_____
Proposed Curb Ramp	
Existing Metal Guardrail	_____T_____T_____T_____T_____T_____
Proposed Guardrail	_____T_____T_____T_____T_____T_____
Existing Cable Guidrail	_____□_____□_____□_____□_____□_____
Proposed Cable Guidrail	_____□_____□_____□_____□_____□_____
Equality Symbol	
Pavement Removal	

VEGETATION:

Single Tree	
Single Shrub	
Hedge	
Woods Line	

WATER:

Water Manhole	
Water Meter	
Water Valve	
Water Hydrant	
Recorded UG Water Line	_____W_____
Designated UG Water Line (S.U.E.*)	_____W_____
Above Ground Water Line	

TV:

TV Satellite Dish	
TV Pedestal	
TV Tower	
UG TV Cable Hand Hole	
Recorded UG TV Cable	_____TV_____
Designated UG TV Cable (S.U.E.*)	_____TV_____
Recorded UG Fiber Optic Cable	_____TV FO_____
Designated UG Fiber Optic Cable (S.U.E.*)	_____TV FO_____

GAS:

Gas Valve	
Gas Meter	
Recorded UG Gas Line	_____G_____
Designated UG Gas Line (S.U.E.*)	_____G_____
Above Ground Gas Line	

SANITARY SEWER:

Sanitary Sewer Manhole	
Sanitary Sewer Cleanout	
UG Sanitary Sewer Line	_____SS_____
Above Ground Sanitary Sewer	
Recorded SS Forced Main Line	_____FSS_____
Designated SS Forced Main Line (S.U.E.*)	_____FSS_____

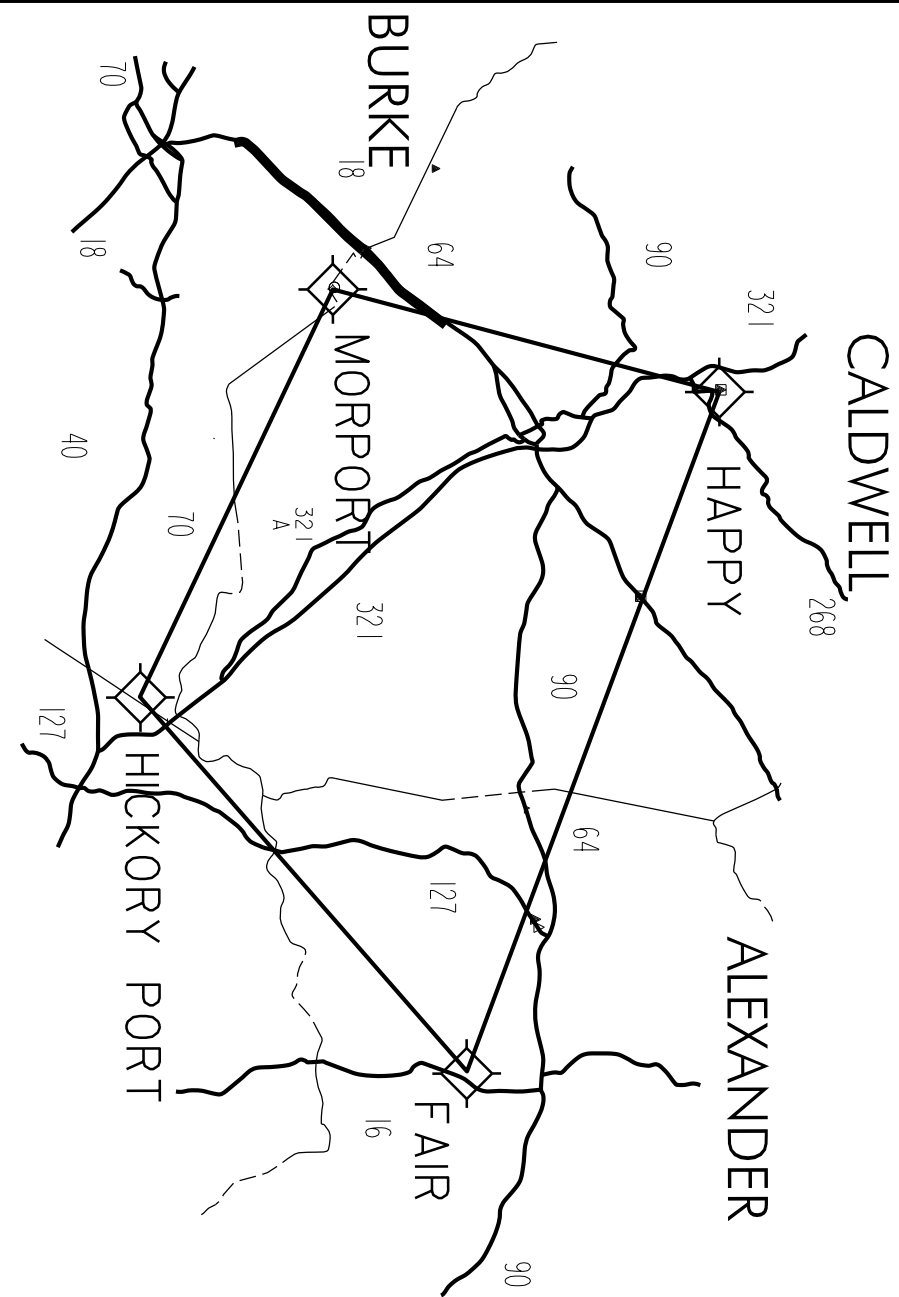
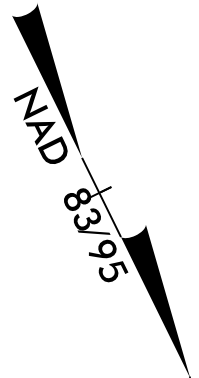
MISCELLANEOUS:

Utility Pole	
Utility Pole with Base	
Utility Located Object	
Utility Traffic Signal Box	
Utility Unknown UG Line	_____2UL_____
UG Tank; Water, Gas, Oil	
Underground Storage Tank, Approx. Loc.	
AG Tank; Water, Gas, Oil	
Geoenvironmental Boring	
UG Test Hole (S.U.E.*)	
Abandoned According to Utility Records	
End of Information	

PROJECT REFERENCE NO.	SHEET NO.
34945.1.1	1-C
Location and Surveys	

SURVEY CONTROL SHEET U-3437

▲	NCDOT GPS STATION U3437-1	NCDOT GPS STATION U3437-2	▲	NCDOT GPS STATION U3437-3	▲	NCDOT GPS STATION U3437-4
	N = 775746.911	N = 774946.526		N = 774080.226		N = 774253.200
	E = 1258931.987	E = 1259371.009		E = 1260533.067		E = 1261257.312



GPS CONTROL NETWORK

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "U3437-4" WITH NAD 83/95 STATE PLANE GRID COORDINATES OF NORTHING: 774253.2000(++) EASTING: 1261257.3120(++) ELEVATION: 1260.46(++) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99987380 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "U3437-4" TO -Y- STATION 10+00.00 IS N 77°26'26.18" E 651.81 ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NAVD 88

NOTES:

1. THE SITE CALIBRATION SHOWN IS BASED UPON A NETWORK TIED TO THE HARN (HIGH ACCURACY REFERENCE NETWORK) NAD 83/95 ADJUSTMENT. THIS CALIBRATION WILL ALLOW THE END USER TO WORK WITHIN THE SAME COORDINATE SYSTEM WHEN USING RTK (REAL TIME KINEMATIC) GPS AND A LOCAL BASE STATION. IF ANOTHER SYSTEM SUCH AS VRS (VIRTUAL REFERENCE STATION) IS USED, ADDITIONAL FIELD TIES MAY BE NEEDED TO REDUCE POSSIBLE ERRORS OR BIASES.

2. THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT: [HTTP://WWW.NCDOT.ORG/DHPRECONSTRUCTION/HIGHWAY/LOCATION/PROJECT/](http://www.ncdot.org/dohpreconstruction/highway/location/project/)

THE FILES TO BE FOUND ARE AS FOLLOWS:

U3437_LS_GPSCALIB.PDF
U3437_LS_WGS84.TXT
U3437_LS_LOCAL.TXT
U3437_LS_CONTROL.TXT

THE WGS84 AND LOCAL FILES ARE COMMA DELIMITED AND CAN BE USED TO REPRODUCE THE SITE CALIBRATION FOR THE END USER'S GPS EQUIPMENT. IF FURTHER INFORMATION IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

▲ INDICATES GEODETIC CONTROL MONUMENTS USED OR SET FOR HORIZONTAL PROJECT CONTROL BY THE NCDOT LOCATION AND SURVEYS UNIT.

PROJECT CONTROL ESTABLISHED USING GLOBAL POSITIONING SYSTEM. NETWORK ESTABLISHED FROM EXISTING HARN MONUMENTATION. SEE GPS CALIBRATION SHEET FOR HORIZONTAL AND VERTICAL COORDINATE VALUES.

BEGIN STATE PROJECT U-3437
POT Sta. 10+00.00 -Y-

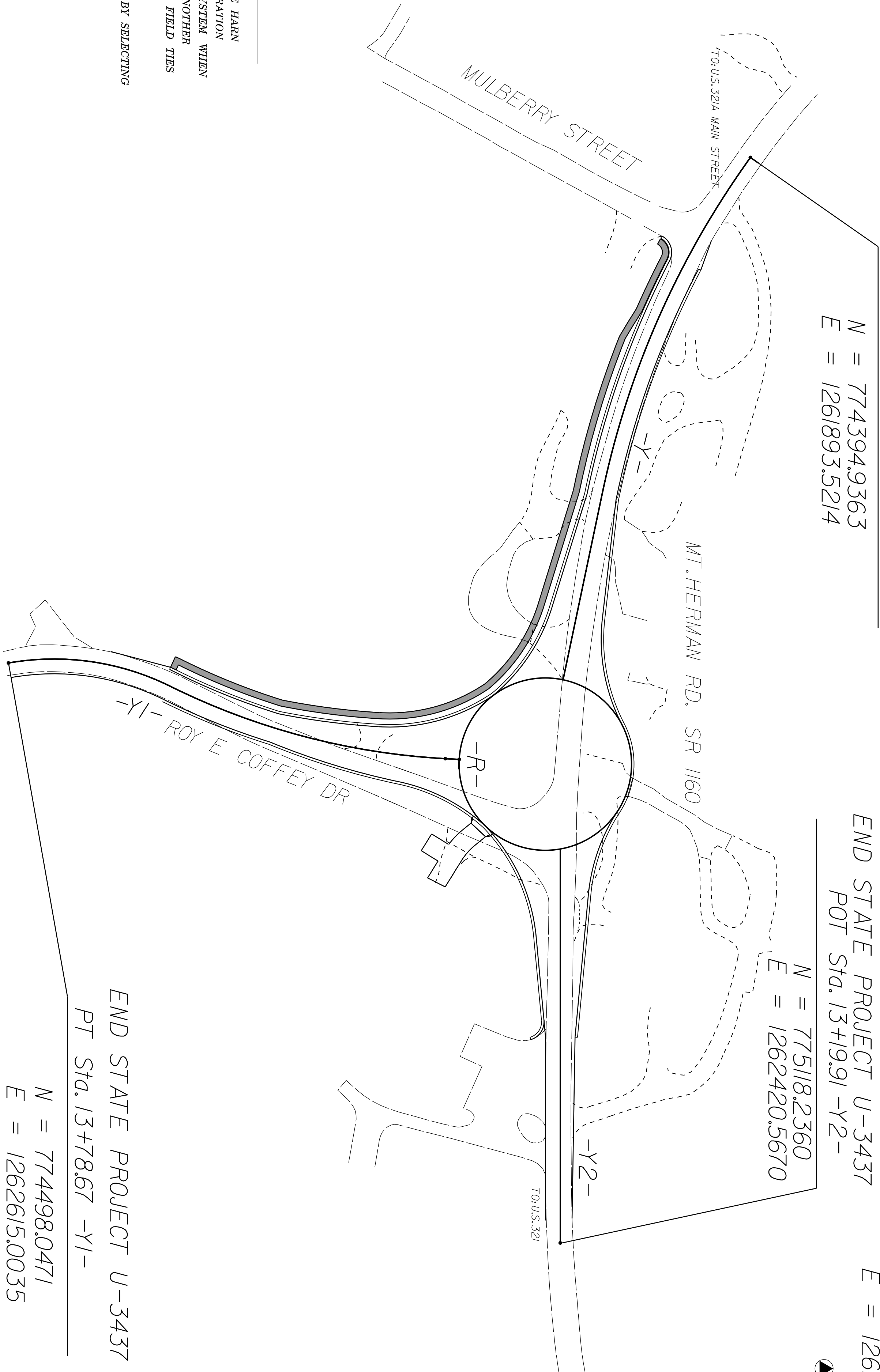
N = 774394.9363
E = 1261893.5214

END STATE PROJECT U-3437
POT Sta. 13+19.91 -Y2-

N = 775118.2360
E = 1262420.5670

NCDOT GPS STATION U3437-5

N = 776276.322
E = 1262921.482



END STATE PROJECT U-3437
PT Sta. 13+78.67 -Y1-

N = 774498.0471
E = 1262615.0035

NCDOT GPS STATION U3437-6
N = 775746.064
E = 1263621.044

NOTE: DRAWING NOT TO SCALE

SURVEY CONTROL SHEET U-3437

GPS Calibration Report

Project : U3437

TIP Number	U-3437	Date & Time	11:13:19 AM 6/1/2011
User name	reginald	Zone	North Carolina 3200
Coordinate System	US State Plane 1983 (at ground)		
Horizontal Datum	NAD 1983 (Coms)		
Vertical Datum		Geoid Model	GEOID99 (Coms) NC Sub Grd
Coordinate Units	US survey feet		
Distance Units	US survey feet		
Height Units	US survey feet		
LOCAL SITE INFORMATION			
Localized around			
Latitude	35°51'06.72129"N		
Longitude	81°29'35.26108"W		
Site Scale Factor	1.0001262200		
Height	1154.2665ft		

Contents

Datum Transformation Parameters	
Updated Default Projection Definition	
Horizontal Adjustment Parameters	
Vertical Adjustment Parameters	
Geoid Model Definition	
Residual Differences Between GPS And Known Coordinates	

Datum Transformation Parameters

Datum Transformation computation not requested

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Updated Default Projection (Transverse Mercator) Definition

Updated default projection not requested

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Horizontal Adjustment Parameters

Northing coordinate of rotation center	776173.2135ft
Easting coordinate of rotation center	1267340.0175ft
Rotation about the center point	0°00'00"
Translation north	0.0035ft
Translation east	0.0045ft
Scale factor	1.000000006

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DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCODT FOR MONUMENT "U3437-4"

WITH NAD 83/95 STATE PLANE GRID COORDINATES OF NORTHING: 774253.2000(++) EASTING: 1261257.3120(++) ELEVATION: 1260.46(++)

THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99987380

THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "U3437-4" TO -Y- STATION 10+00.00 IS

N 77°26'26.18" E 651.81

ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES

VERTICAL DATUM USED IS NAD 88

Northing coordinate of origin point	775746.9125ft
Easting coordinate of origin point	1258931.9885ft
Vertical separation at origin	0.0385ft
Slope north	0.723ppm
Slope east	0.509ppm

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Geoid Model Definition

GEOID99 (Coms) NC Sub Grd

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Residual Differences Between GPS And Known Coordinates

Summary					
	Maximum error	Root Mean Square error	Point		
Horizontal	0.0135ft	0.002	HICKORY PORT_GPS		
Vertical	0.0155ft	0.002	HICKORY PORT_GPS		
Three-dimensional	0.0205ft	0.003	HICKORY PORT_GPS		
Point Residuals					
GPS point		Calculated point	Control point		
Point	U3437-1_GPS	Northing	775746.9125ft	Point	U3437-1
Latitude	35°51'20.90921°N	Easting	1258931.9885ft	Northing	775746.9115ft
Longitude	81°30'03.95393°W	Elevation	1279.4835ft	Easting	1258931.9875ft
Height	1173.2465ft	Horizontal error	0.0025ft	Elevation	1279.4815ft
		Vertical error	0.0015ft	Type	Horz and Vert
		3D error	0.0025ft	Point quality	Adjusted quality
Point	U3437-2_GPS	Northing	774946.5265ft	Point	U3437-2
Latitude	35°51'13.10622°N	Easting	1259371.0105ft	Northing	774946.5265ft
Longitude	81°29'58.37798°W	Elevation	1282.3095ft	Easting	1259371.0095ft
Height	1176.0755ft	Horizontal error	0.0005ft	Elevation	1282.3085ft
		Vertical error	0.0015ft	Type	Horz and Vert
		3D error	0.0015ft	Point quality	Adjusted quality
Point	U3437-3_GPS	Northing	774080.2235ft	Point	U3437-3
Latitude	35°51'04.83132°N	Easting	1260533.0675ft	Northing	774080.2265ft
Longitude	81°29'44.00261°W	Elevation	1269.7605ft	Easting	1260533.0675ft
Height	1163.5285ft	Horizontal error	0.0035ft	Elevation	1269.7605ft
		Vertical error	0.0005ft	Type	Horz and Vert
		3D error	0.0035ft	Point quality	Adjusted quality
Point	U3437-4_GPS	Northing	774253.1995ft	Point	U3437-4
Latitude	35°51'06.72124°N	Easting	1261257.3125ft	Northing	774253.2005ft
Longitude	81°29'35.26113°W	Elevation	1260.4645ft	Easting	1261257.3125ft
Height	1154.2285ft	Horizontal error	0.0025ft	Elevation	1260.4645ft
		Vertical error	0.0005ft	Type	Horz and Vert
		3D error	0.0025ft	Point quality	Adjusted quality
Point	U3437-5_GPS	Northing	776276.3235ft	Point	U3437-5
Latitude	35°51'27.13399°N	Easting	1262921.4815ft	Northing	776276.3225ft

Longitude	81°29'15.66929"W	Elevation	1180.9075ft	Easting	1262921.4825ft
Height	1074.6545ft	Horizontal error	0.0015ft	Elevation	1180.9075ft
		Vertical error	0.0005ft	Type	Horz and Vert
		3D error	0.0015ft	Point quality	Adjusted quality
Point	U3437-6_GPS	Northing	775746.0665ft	Point	U3437-6
Latitude	35°51'22.06530"N	Easting	1263621.0435ft	Northing	775746.0645ft
Longitude	81°29'07.01284"W	Elevation	1187.4285ft	Easting	1263621.0445ft
Height	1081.11755ft	Horizontal error	0.0025ft	Elevation	1187.4285ft
		Vertical error	0.0005ft	Type	Horz and Vert
		3D error	0.0025ft	Point quality	Adjusted quality
Point	P6_GPS	Northing	775958.2175ft	Point	P6
Latitude	35°51'23.45804"N	Easting	1260780.5225ft	Northing	775958.2175ft
Longitude	81°29'41.57109"W	Elevation	1211.1795ft	Easting	1260780.5215ft
Height	1104.9345ft	Horizontal error	0.0015ft	Elevation	1211.1785ft
		Vertical error	0.0015ft	Type	Horz and Vert
		3D error	0.0025ft	Point quality	Adjusted quality
Point	MORPORT_GPS	Northing	764694.8935ft	Point	MORPORT
Latitude	35°49'23.34565"N	Easting	1226293.9725ft	Northing	764694.8875ft
Longitude	81°36'36.74641"W	Elevation	1252.7515ft	Easting	1226293.9725ft
Height	1146.7235ft	Horizontal error	0.0065ft	Elevation	1252.7375ft
		Vertical error	0.0145ft	Type	Horz and Vert
		3D error	0.0155ft	Point quality	Control quality
Point	HAPPY_GPS	Northing	826765.3635ft	Point	HAPPY
Latitude	35°39'41.21479"N	Easting	1242949.3425ft	Northing	826765.3635ft
Longitude	81°33'34.00965"W	Elevation	1230.3935ft	Easting	1242949.3385ft
Height	1124.3825ft	Horizontal error	0.0045ft	Elevation	1230.4045ft
		Vertical error	0.0115ft	Type	Horz and Vert
		3D error	0.0125ft	Point quality	Control quality
Point	HICKORY PORT_GPS	Northing	733563.1825ft	Point	HICKORY PORT
Latitude	35°44'31.86126"N	Easting	1291707.8145ft	Northing	733563.1955ft
Longitude	81°23'13.61523"W	Elevation	1170.1965ft	Easting	1291707.8135ft
Height	1064.4655ft	Horizontal error	0.0135ft	Elevation	1170.2115ft
		Vertical error	0.0155ft	Type	Horz and Vert
		3D error	0.0205ft	Point quality	Control quality
Point	FAIR_GPS	Northing	785874.4685ft	Point	FAIR
Latitude	35°53'22.84487"N	Easting	1352372.6845ft	Northing	785874.4615ft
Longitude	81°11'11.89836"W	Elevation	1171.6595ft	Easting	1352372.6895ft
Height	1065.0045ft	Horizontal error	0.0095ft	Elevation	1171.6515ft
		Vertical error	0.0085ft	Type	Horz and Vert
		3D error	0.0125ft	Point quality	Control quality

Back to top

NOTES:

- THE SITE CALIBRATION SHOWN IS BASED UPON A NETWORK TIED TO THE HARN (HIGH ACCURACY REFERENCE NETWORK) NAD 83/95 ADJUSTMENT. THIS CALIBRATION WILL ALLOW THE END USER TO WORK WITHIN THE SAME COORDINATE SYSTEM WHEN USING RTK (REAL TIME KINEMATIC)/GPS AND A LOCAL BASE STATION. IF ANOTHER SYSTEM SUCH AS VRS (VIRTUAL REFERENCE STATION) IS USED, ADDITIONAL FIELD TIES MAY BE NEEDED TO REDUCE POSSIBLE ERRORS OR BIASES.

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

PROJECT CONTROL DATA AT:
HTTP://WWW.NCDDOT.ORG/DOT/RECONSTRUCT/HIGHWAY/LOCATION/PROJECT/
U3437_LS.GPSCALIB.PDF
U3437_LS.WGS84.TXT
U3437_LS.LOCAL.TXT
U3437_LS.CONTROL.TXT

INDICATES GEODETIC CONTROL MONUMENTS USED OR SET FOR HORIZONTAL PROJECT CONTROL BY THE NCODT LOCATION AND SURVEYS UNIT.

PROJECT CONTROL ESTABLISHED USING GLOBAL POSITIONING SYSTEM.

NETWORK ESTABLISHED FROM EXISTING HARN MONUMENTATION

SEE GPS CALIBRATION SHEET FOR HORIZONTAL AND VERTICAL COORDINATE VALUES.

SURVEY CONTROL SHEET U-3437

PROJECT REFERENCE NO.	SHEET NO.
34945.1.1	1-E
Location and Surveys	

BY3						
POINT	DESC.	NORTH	EAST	ELEVATION	R STATION	OFFSET
BY332	BY3-32	774405.5858	1261950.1462	1233.94	10+91.98	403.72 RT
BY333	BY3-33	774827.2754	1262258.2728	1229.28	13+63.83	6.54 LT
BY334	BY3-34	775341.2049	1262512.9741	1210.97	13+32.92	560.32 RT
BY3						
POINT	DESC.	NORTH	EAST	ELEVATION	Y STATION	OFFSET
BY332	BY3-32	774405.5858	1261950.1462	1233.94	10+53.59	19.36 RT
BY333	BY3-33	774827.2754	1262258.2728	1229.28		
BY334	BY3-34	775341.2049	1262512.9741	1210.97		
BY3						
POINT	DESC.	NORTH	EAST	ELEVATION	Y1 STATION	OFFSET
BY332	BY3-32	774405.5858	1261950.1462	1233.94		
BY333	BY3-33	774827.2754	1262258.2728	1229.28		
BY334	BY3-34	775341.2049	1262512.9741	1210.97		
BY3						
POINT	DESC.	NORTH	EAST	ELEVATION	Y2 STATION	OFFSET
BY332	BY3-32	774405.5858	1261950.1462	1233.94		
BY333	BY3-33	774827.2754	1262258.2728	1229.28		
BY334	BY3-34	775341.2049	1262512.9741	1210.97		

BM1 ELEVATION = 1279.51
N 775747 E 1258932
R STATION 10+12.00 3400 RIGHT
GPS CAP STAMPED U3437-1

DATUM DESCRIPTION
THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "U3437-4" WITH NAD 83/95 STATE PLANE GRID COORDINATES OF NORTHING: 774253.2000(++) EASTING: 1261257.3120(++) ELEVATION: 1260.46(++) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99987380 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "U3437-4" TO -Y- STATION 10+00.00 IS N 77°26'26.18" E 651.81 ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NAVD 88

BM2 ELEVATION = 1216.38
N 775962 E 1260115
R STATION 14+36.00 2387 RIGHT
8" SPIKE SET IN ROOT OF 48" TWIN WHITE OAK

BM3 ELEVATION = 1183.59
N 775667 E 1261026
R STATION 14+28.00 1459 RIGHT
8" SPIKE SET IN ROOT OF 10" WHITE PINE

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

1. THE SITE CALIBRATION SHOWN IS BASED UPON A NETWORK TIED TO THE HARN (HIGH ACCURACY REFERENCE NETWORK) NAD 83/95 ADJUSTMENT. THIS CALIBRATION WILL ALLOW THE END USER TO WORK WITHIN THE SAME COORDINATE SYSTEM WHEN USING RTK (REAL TIME KINEMATIC) GPS AND A LOCAL BASE STATION. IF ANOTHER SYSTEM SUCH AS VRS (VIRTUAL REFERENCE STATION) IS USED, ADDITIONAL FIELD TIES MAY BE NEEDED TO REDUCE POSSIBLE ERRORS OR BIASES.
2. THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:
HTTP://WWW.NCDOT.ORG/DOH/RECONSTRUCT/HIGHWAY/LOCATION/PROJECT/

THE FILES TO BE FOUND ARE AS FOLLOWS:
U3437_LS.GPSCALIB.PDF
U3437_LS.WGS84.TXT
U3437_LS.LOCAL.TXT
U3437_LS.CONTROL.TXT

THE WGS84 AND LOCAL FILES ARE COMMA DELIMITED AND CAN BE USED TO REPRODUCE THE SITE CALIBRATION FOR THE END USER'S GPS EQUIPMENT. IF FURTHER INFORMATION IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

NOTE: DRAWING NOT TO SCALE

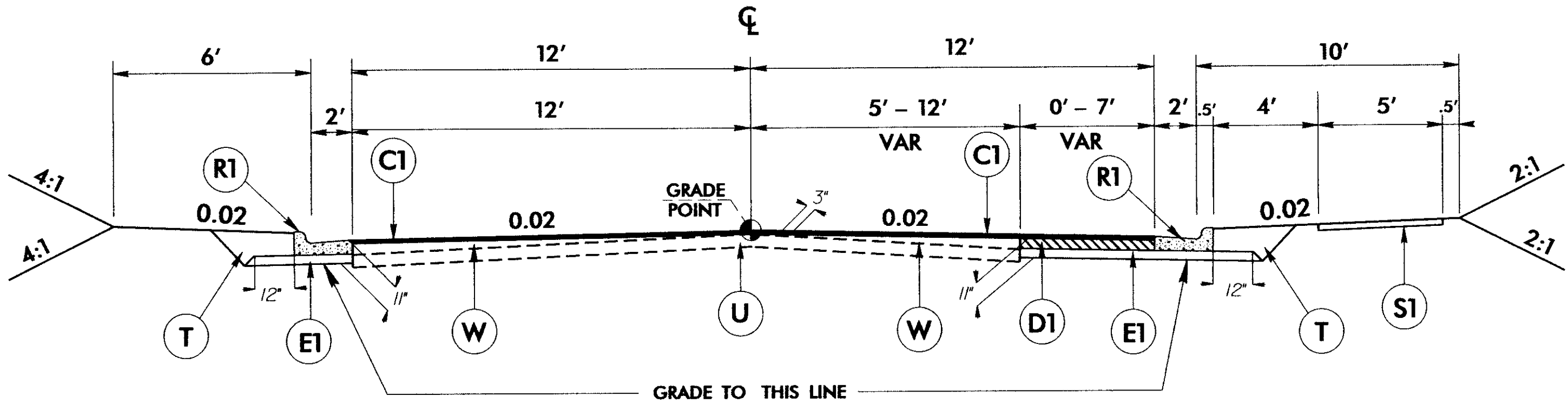
PROJECT REFERENCE NO.
U-3437

SHEET NO.
2

ROADWAY DESIGN
ENGINEER

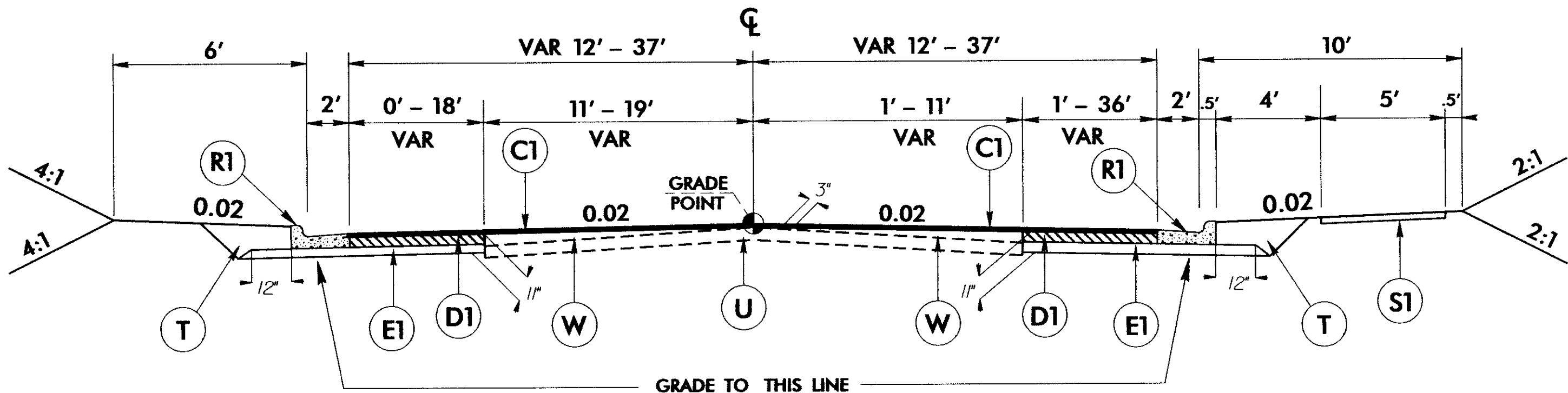
PAVEMENT DESIGN
ENGINEER

PROFESSIONAL
SEAL
NO28951
JOSEPH L. LAYS
10-3-12



TYPICAL SECTION NO. 1

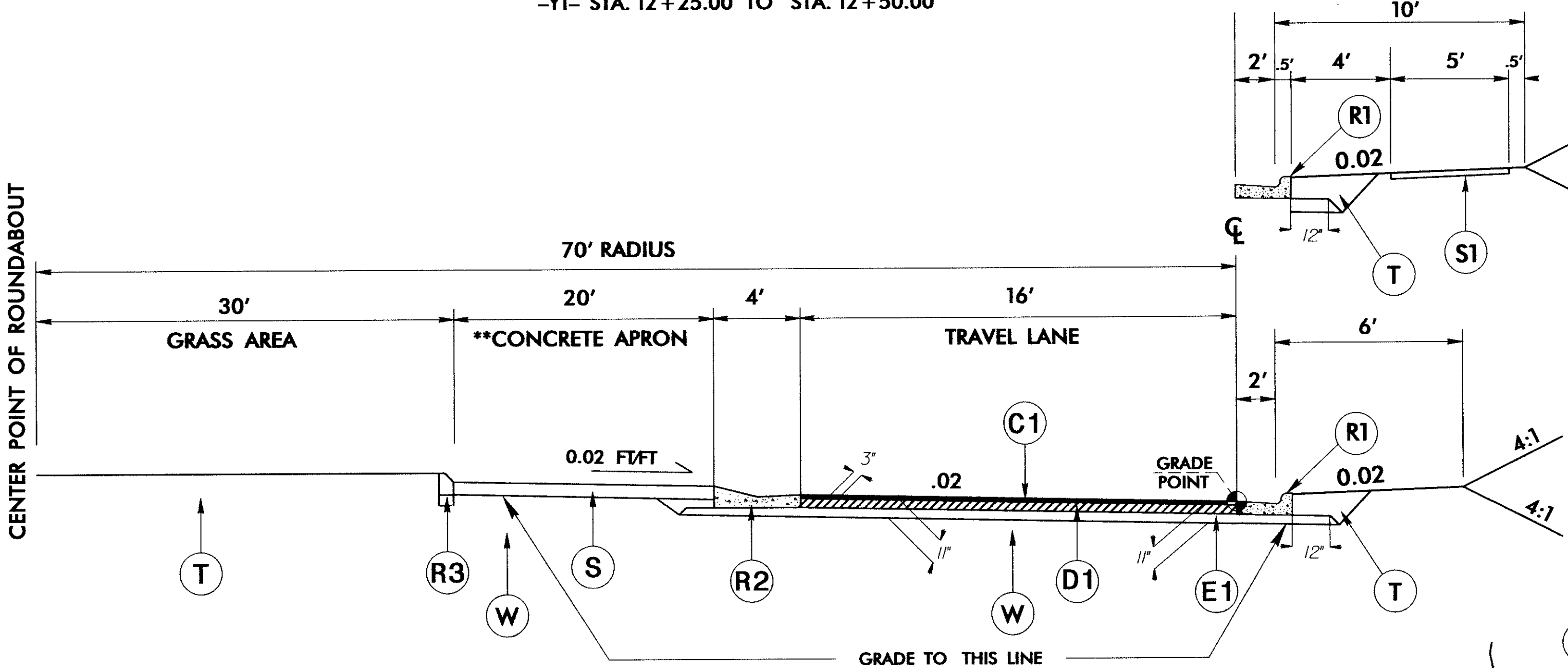
-Y- STA. 11+00.00 TO STA. 13+03.00
-Y1- STA. 11+52.00 TO STA. 12+25.00



TYPICAL SECTION NO. 2

-Y- STA. 13+03.00 TO STA. 14+55.00
-Y1- STA. 12+25.00 TO STA. 12+50.00

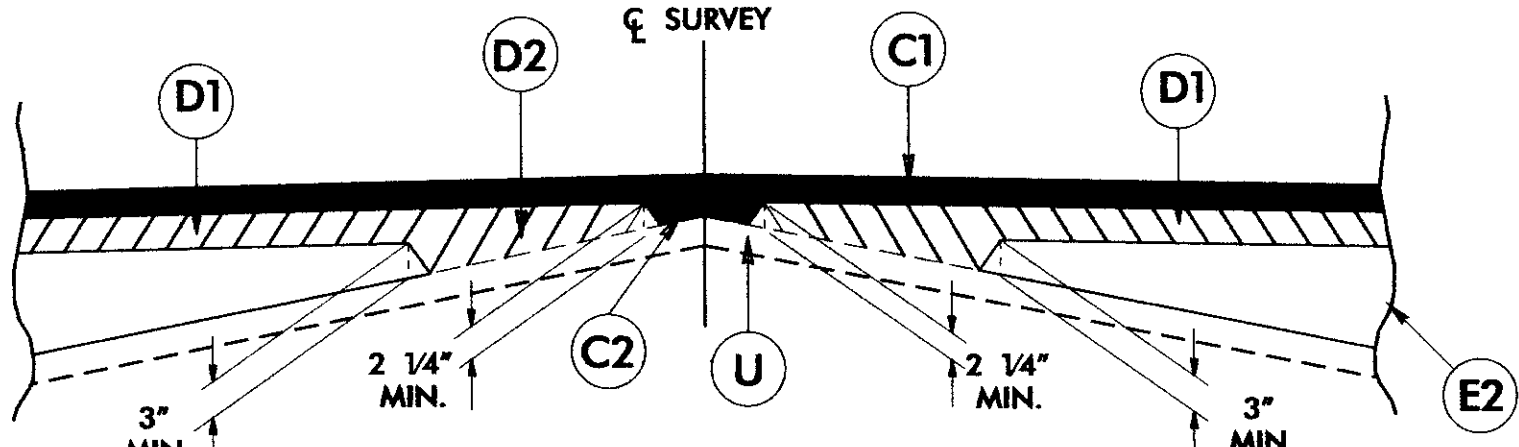
* SEE CROSS-SECTION -R- FOR LOCATION



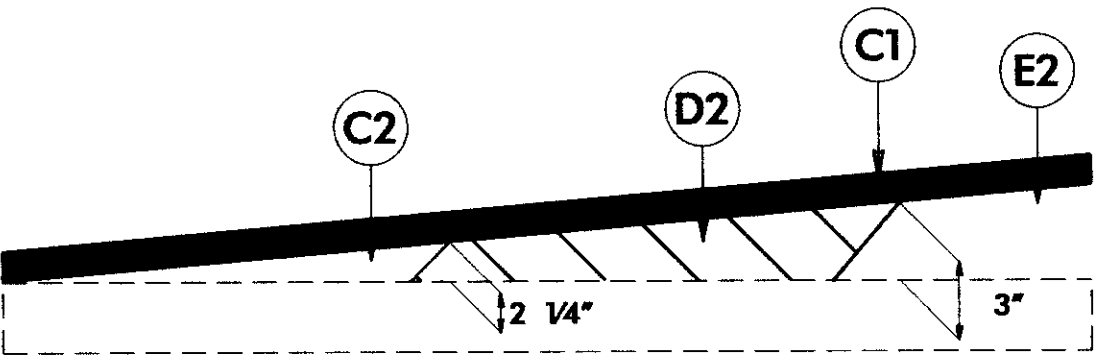
ROUNDBOUT TYPICAL SECTION NO. 3

-R- STA 10+00.00 TO STA 14+39.82

**7" JOINTED PLAIN CONCRETE REINFORCED WITH 4X4 W3.5 X W3.5 OR 6X6 W5 X W5 WIRE MESH. CONSTRUCT THE APRON IN TWO 10 FT. WIDTHS AND TIE TOGETHER THE ADJACENT SLABS. JOINT SPACING SHALL BE 10 FT., MEASURED ALONG THE LONGITUDINAL JOINTS BETWEEN SLAB.



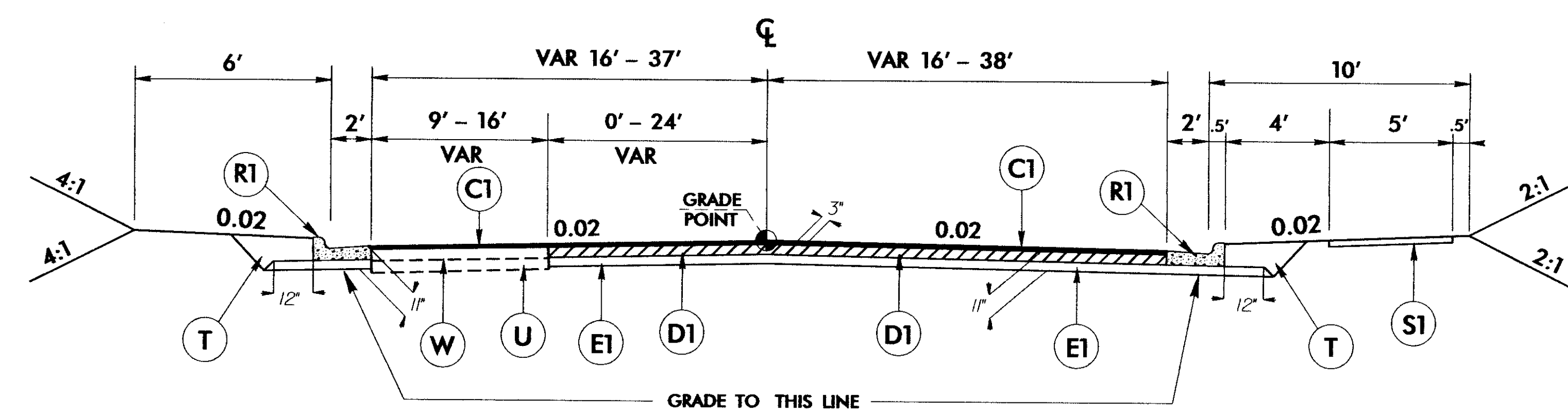
Detail Showing Method of Wedging



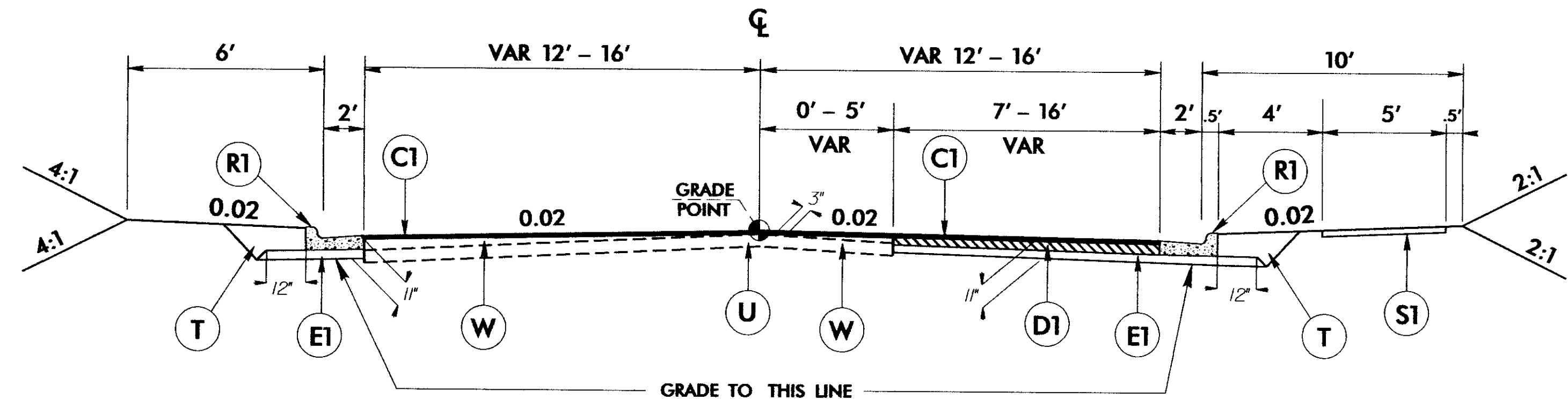
Wedging Detail For Resurfacing

PAVEMENT SCHEDULE	
C1	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.
C2	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 1 1/2" IN DEPTH.
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
D2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 2 1/4" IN DEPTH OR GREATER THAN 4" IN DEPTH.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5 1/2" IN DEPTH.
R1	2' - 6" CONCRETE CURB AND GUTTER
R2	4' EXPRESSWAY GUTTER
R3	9" X 12" CONCRETE CURB
S	7" CONCRETE APRON
S1	4" CONCRETE SIDEWALK
T	EARTH MATERIAL
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE WEDGING DETAIL)
U	EXISTING PAVEMENT

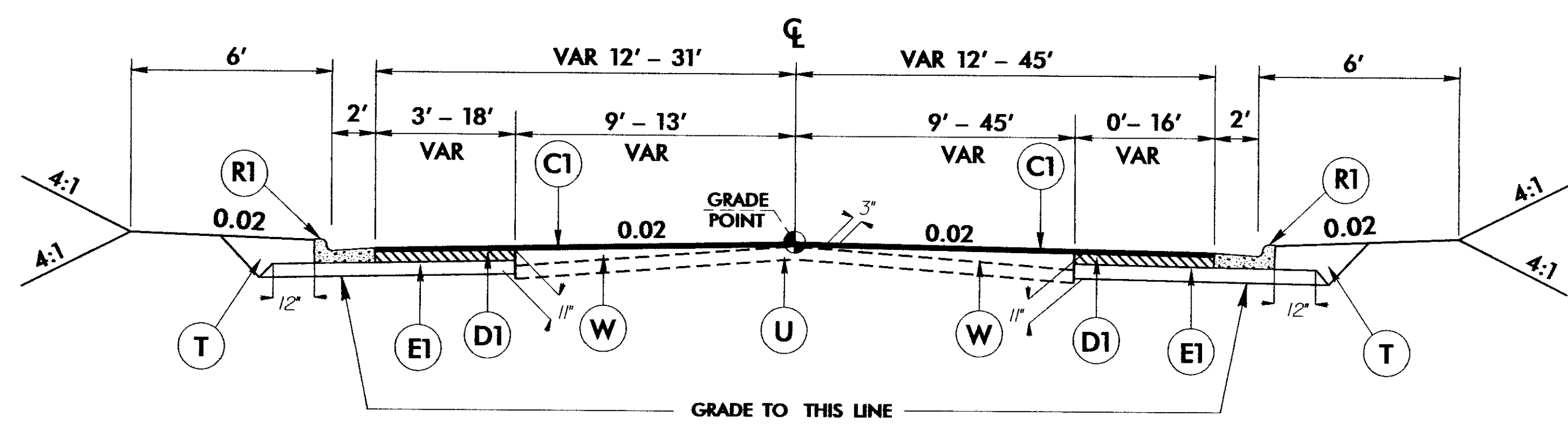
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.



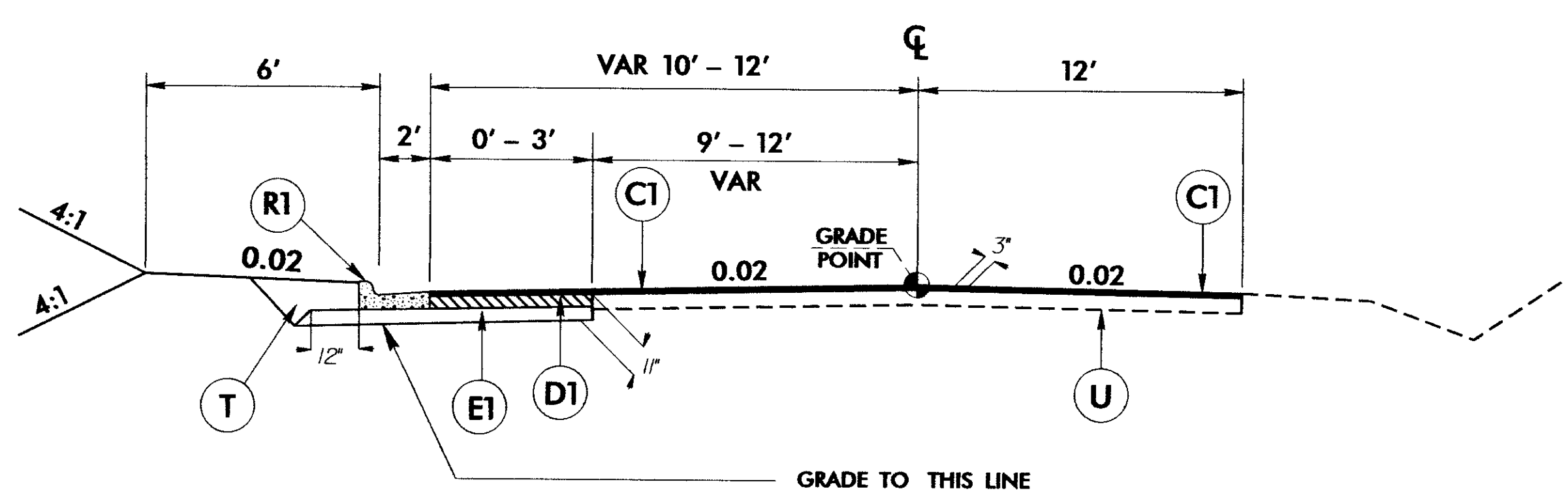
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-Y1- STA. 10+00.00 TO STA. 11+12.00



TYPICAL SECTION NO. 5
-Y1- STA. 11+12.00 TO STA. 11+52.00



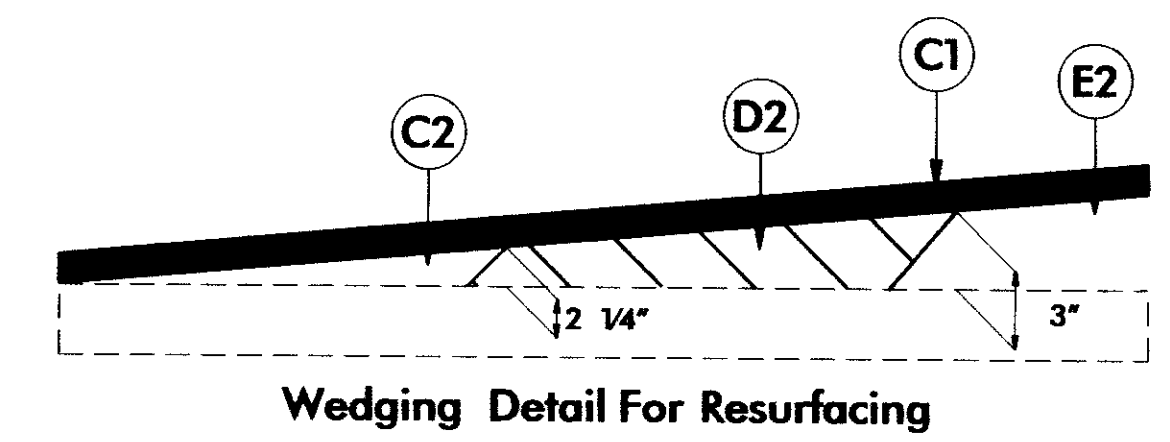
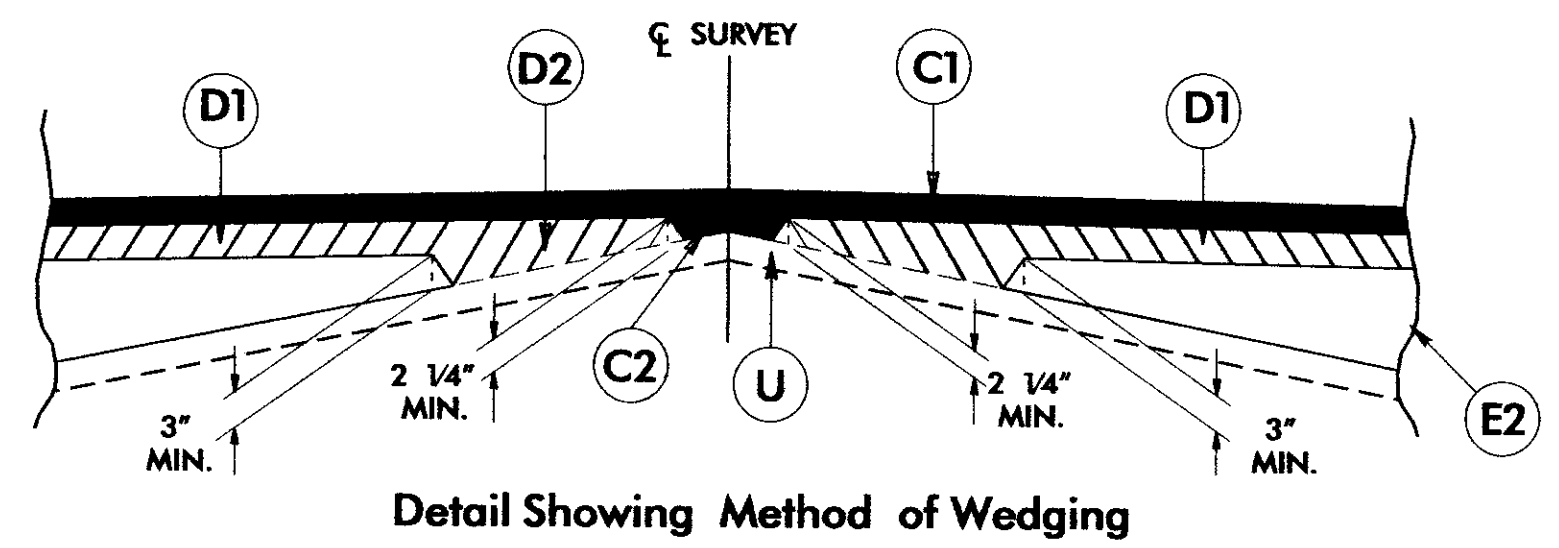
TYPICAL SECTION NO. 6
-Y2- STA. 10+00.00 TO STA. 11+52.00



TYPICAL SECTION NO. 7
-Y2- STA. 11+52.00 TO STA. 12+75.00

PAVEMENT SCHEDULE	
C1	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.
C2	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 1 1/2" IN DEPTH.
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
D2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 2 1/4" IN DEPTH OR GREATER THAN 4" IN DEPTH.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5 1/2" IN DEPTH.
R1	2' - 6" CONCRETE CURB AND GUTTER
R2	4' EXPRESSWAY GUTTER
R3	9" X 12" CONCRETE CURB
R4	5" CONCRETE MONOLITHIC ISLAND
S	7" CONCRETE APRON
S1	4" CONCRETE SIDEWALK
T	EARTH MATERIAL
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE WEDGING DETAIL)
U	EXISTING PAVEMENT

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



6/2/09
03-OCT-2012 08:23
R:\03437\2012\4472\4472.dwg - typ SHEET2A.dgn
\$\$\$\$\$USERNAME\$\$\$\$\$

COMPUTED BY: DLH DATE: 8-6-12
CHECKED BY: _____ DATE: _____

**STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS**

SUMMARY OF EARTHWORK

[illegible]

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

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

SUMMARY OF EXISTING ASPHALT PAVEMENT REMOVAL

LINE	Station	Station	LOC	YD ²
-Y2-	10+24	-R- 12+84 RT	RT	60.88
-Y1-	11+90	-R- 12+67 RT	LT	233.81
			TOTAL:	294.68
			SAY:	300

SUMMARY OF SIDEWALK

LINE	Station	Station	LOC	YD ²
-Y-	10+92.99	14+55.00	RT	206.88
-R-	11+29.16	11+72.54	RT	24.84
-Y1-	10+00.00	12+50.00	RT	138.89
			TOTAL:	370.61
			SAY:	380

**STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS**

PARCEL INDEX SHEET

PROJ. REFERENCE NO.	SHEET NO.
U-3437	3-D

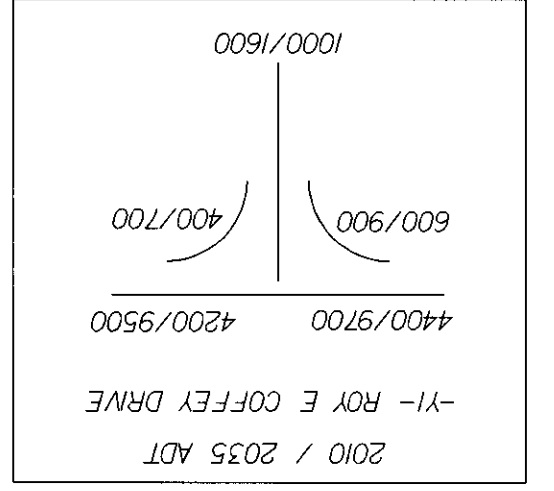
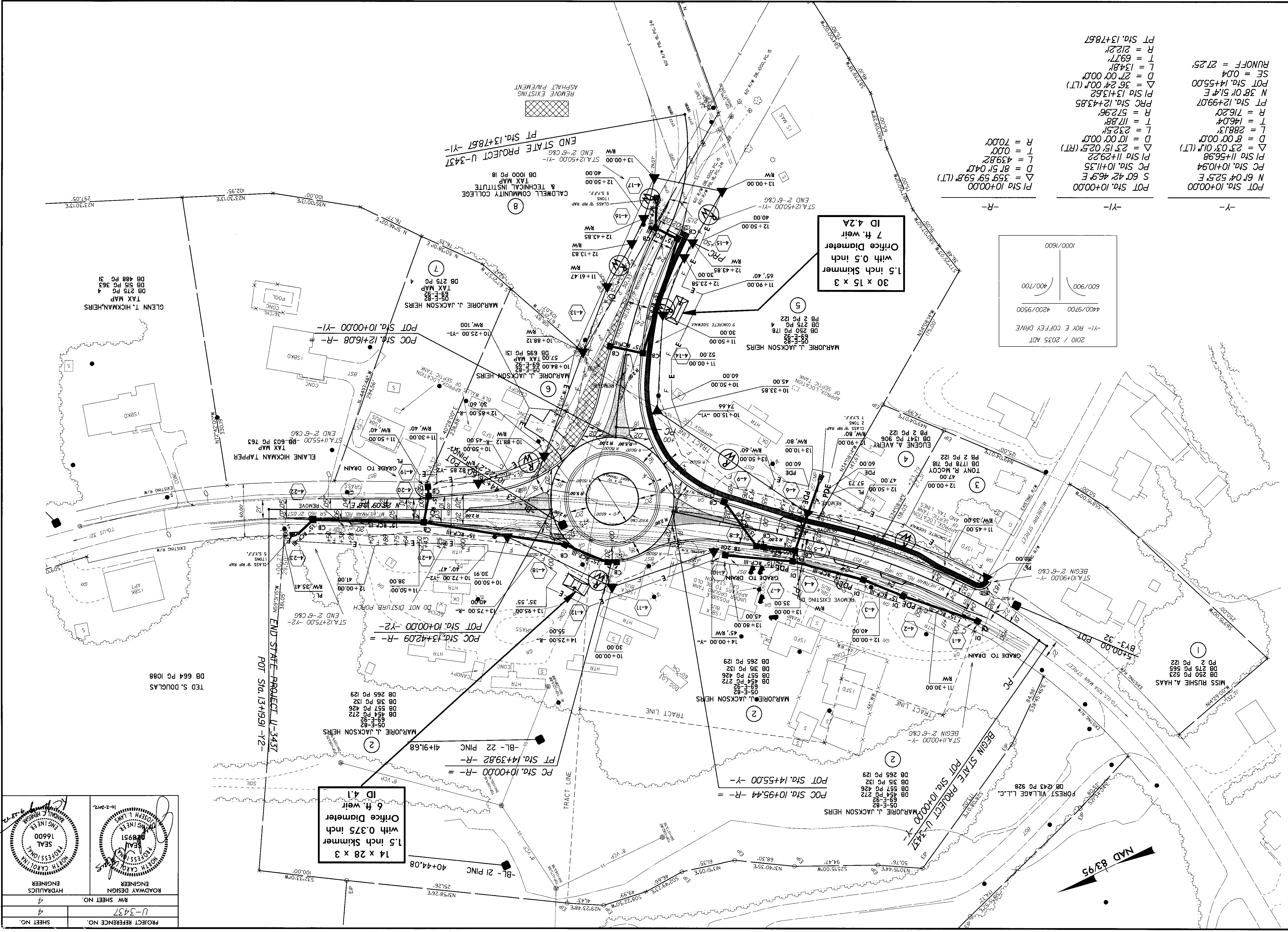
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PROJECT REFERENCE NO.
U-3437

SHEET NO.
4

ROADWAY DESIGN
ENGINEER
JOSEPH L. LAMB
10-2-2017

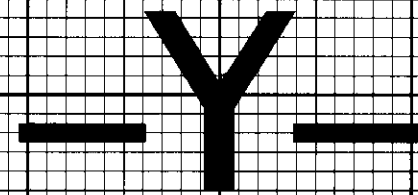
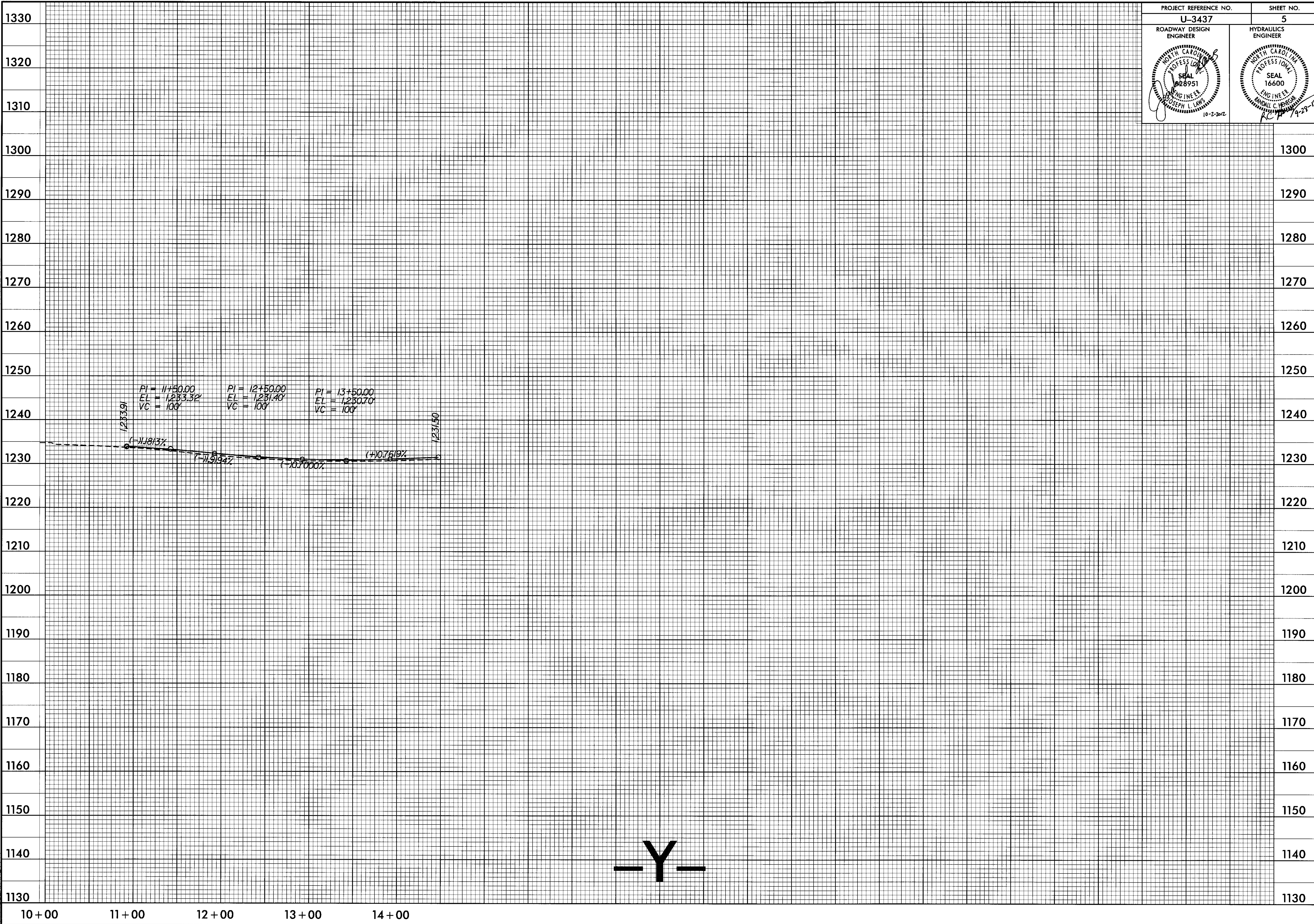
HYDRAULICS
ENGINEER
NORTH CAROLINA
PROFESSIONAL
SEAL
16600
10-2-2017



POT Sta. 10+00.00	N 67.04' 52.5' E	PC Sta. 10+10.94	P1 Sta. 11+56.98	P1 Sta. 11+29.22	Δ = 439.82	L = 0.00	T = 0.00	R = 70.00
POT Sta. 10+00.00	S 60.42' 46.9' E	S PC Sta. 10+11.35	P1 Sta. 11+56.98	Δ = 359.59' 59.8' (LT)	D = 87.51' 0.40	L = 0.00	T = 0.00	R = 70.00
POT Sta. 10+00.00	N 38.01' 51.4' E	PT Sta. 12+99.07	R = 716.20	T = 117.88	L = 232.51	D = 10.00' 00.0'	Δ = 2.315' 02.5' (RT)	P1 Sta. 11+29.22
POT Sta. 14+55.00	Δ = 36.24' 00.1' (LT)	P1 Sta. 13+13.62	PC Sta. 12+43.85	R = 572.96	T = 117.88	L = 232.51	D = 10.00' 00.0'	Δ = 2.315' 02.5' (RT)
SE = 0.04	PT Sta. 13+78.67	R = 212.21	T = 69.77	L = 134.81	D = 27.00' 00.0'	Δ = 36.24' 00.1' (LT)	P1 Sta. 13+13.62	PC Sta. 12+43.85
RUNOFF = 27.25								

5/14/99

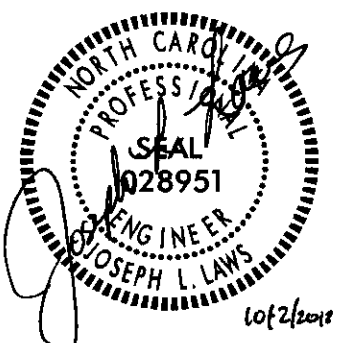
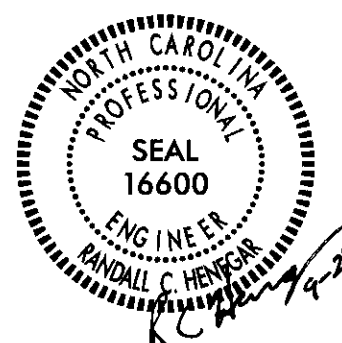
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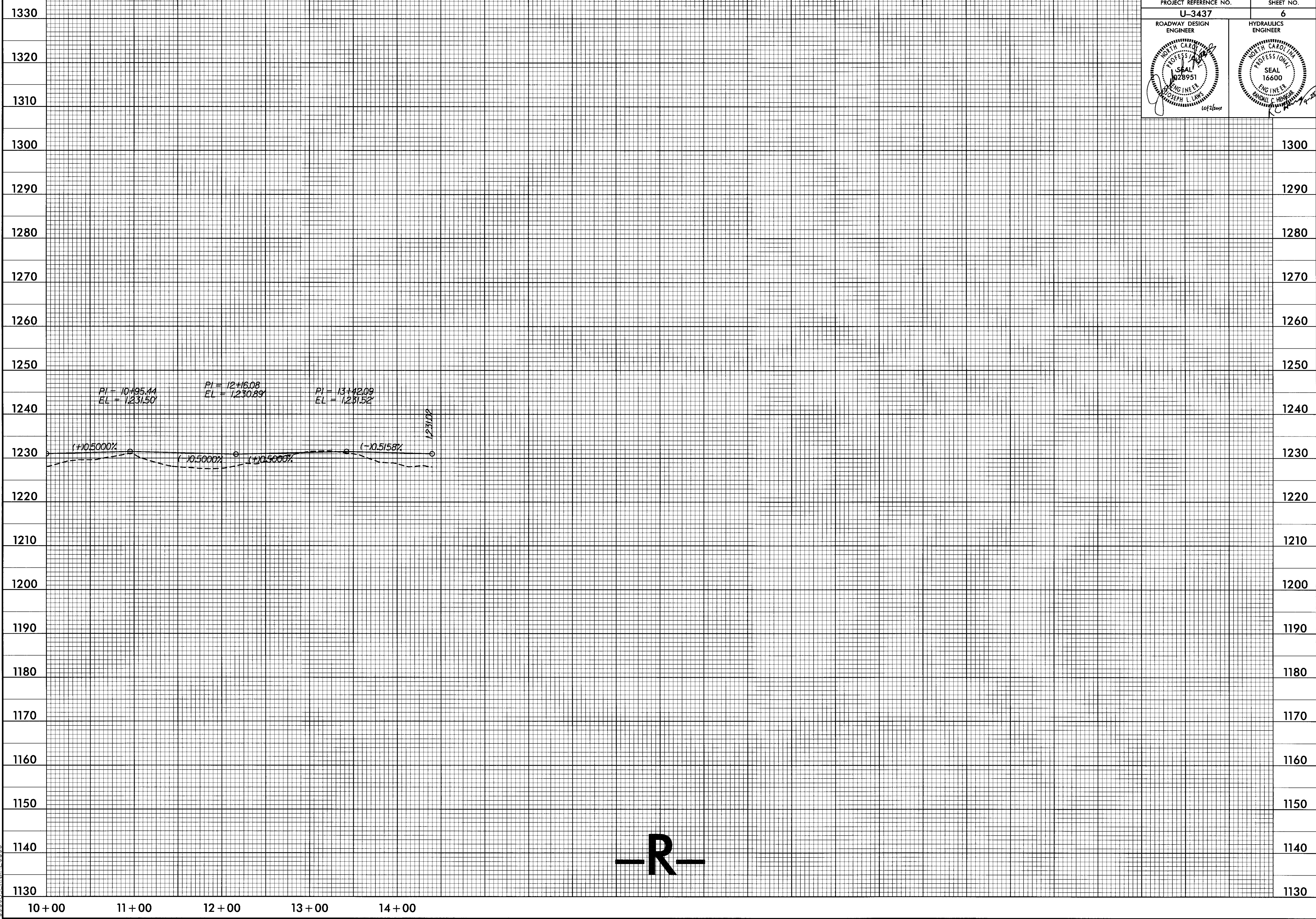


PROJECT REFERENCE NO.		SHEET NO.
U-3437		5
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	

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5/14/99

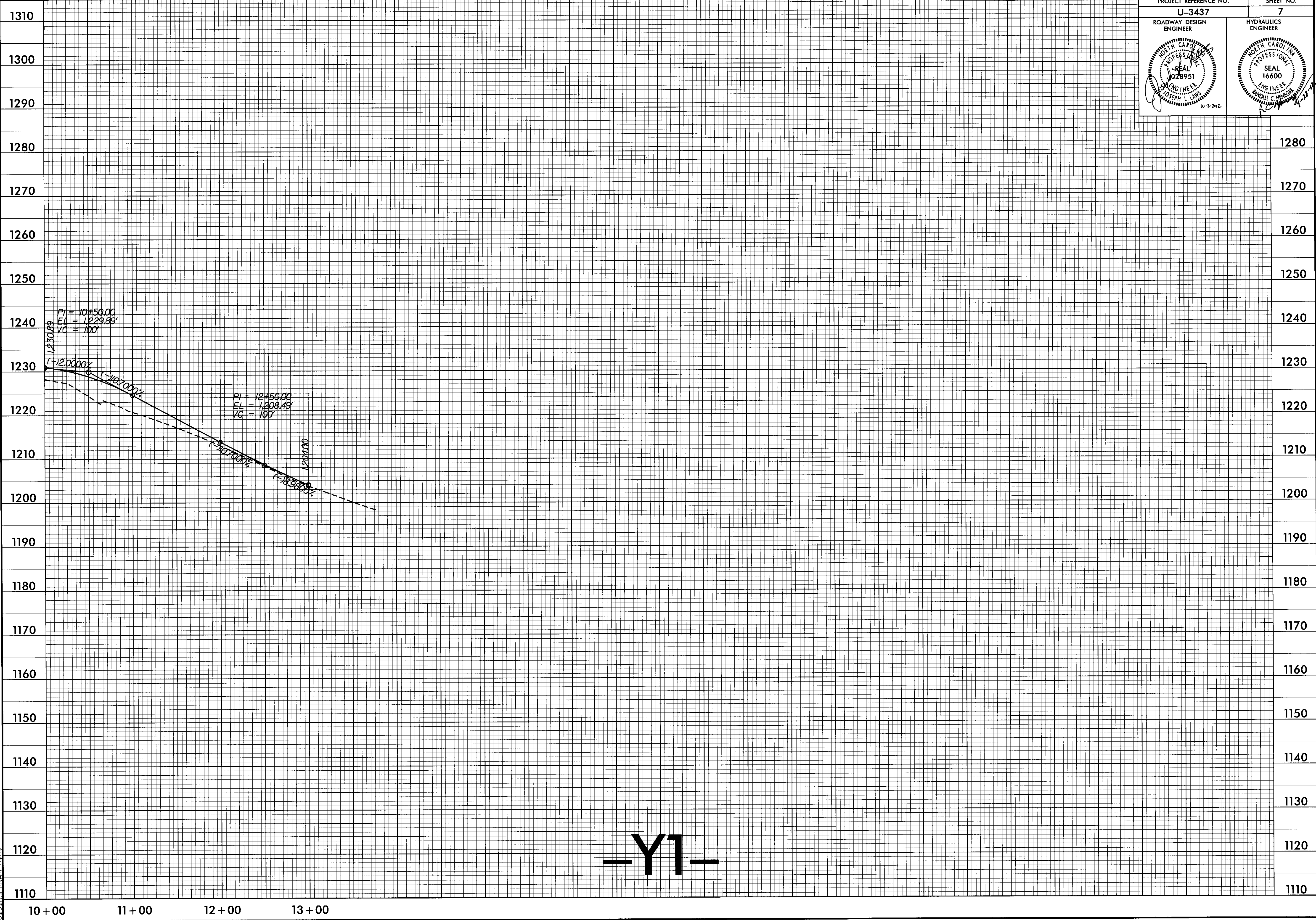
PROJECT REFERENCE NO.		SHEET NO.
U-3437		6
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	
		



-R-

5/14/99

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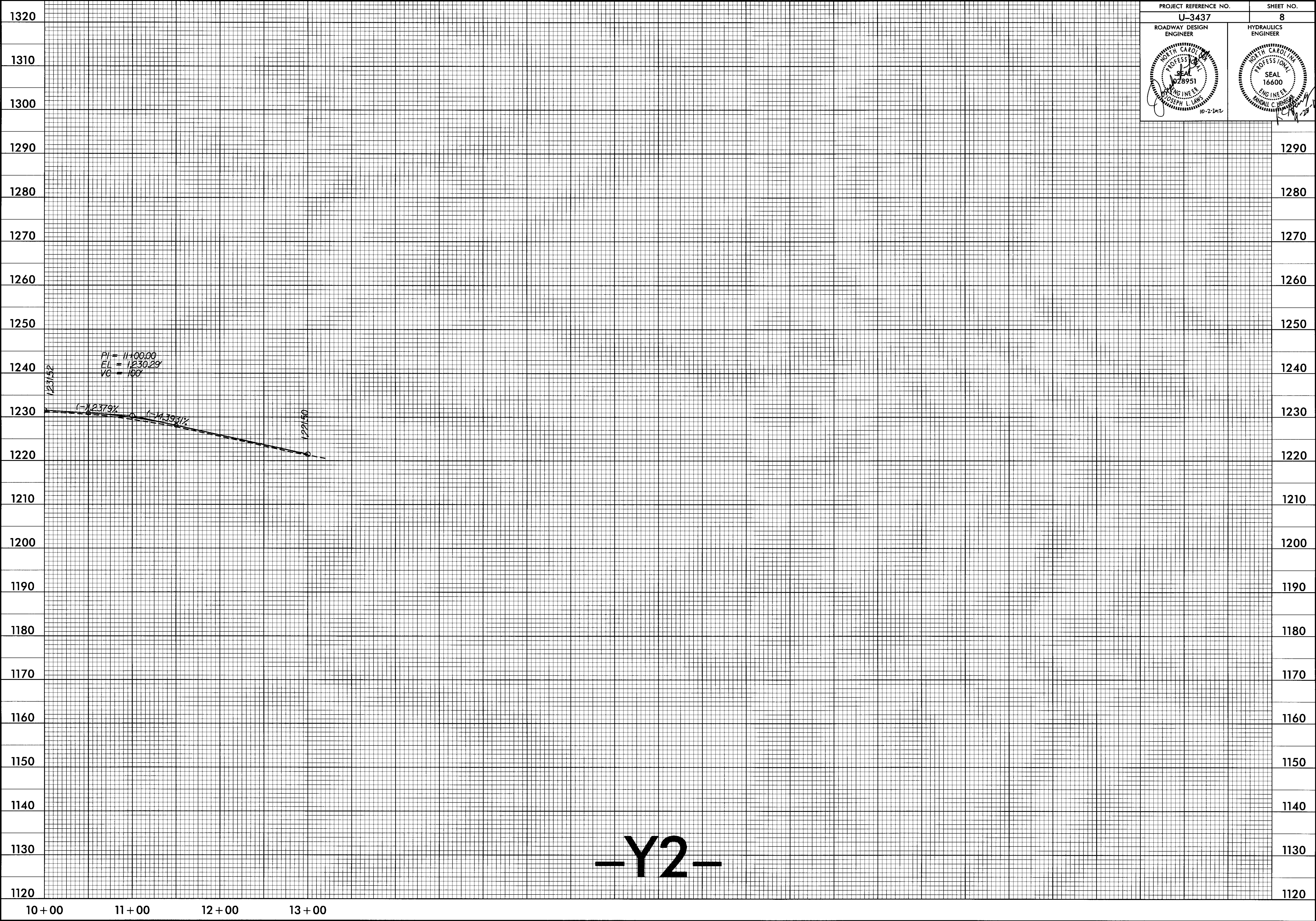


-Y1-

PROJECT REFERENCE NO. U-3437		SHEET NO. 7
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	

5/14/99

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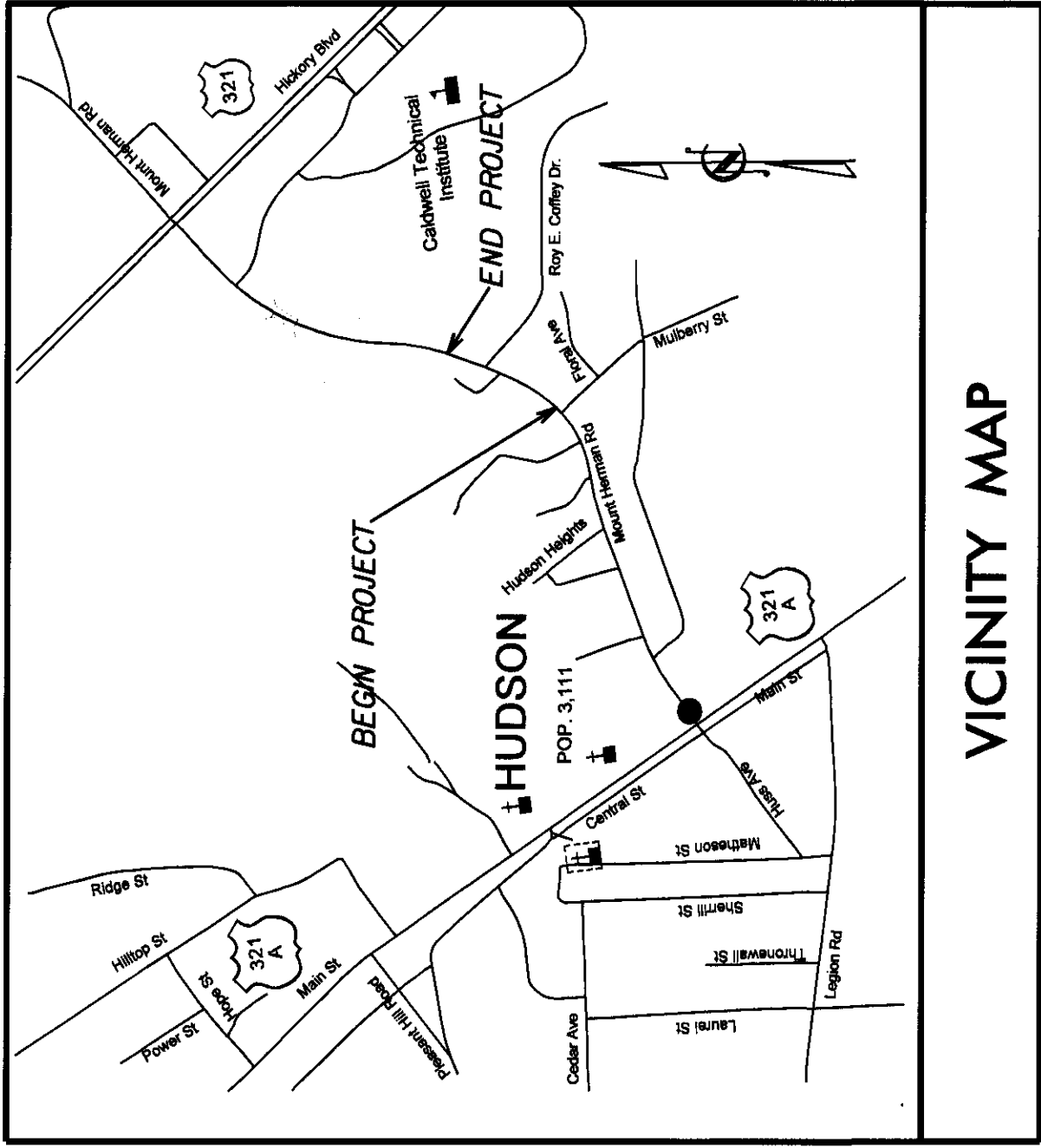
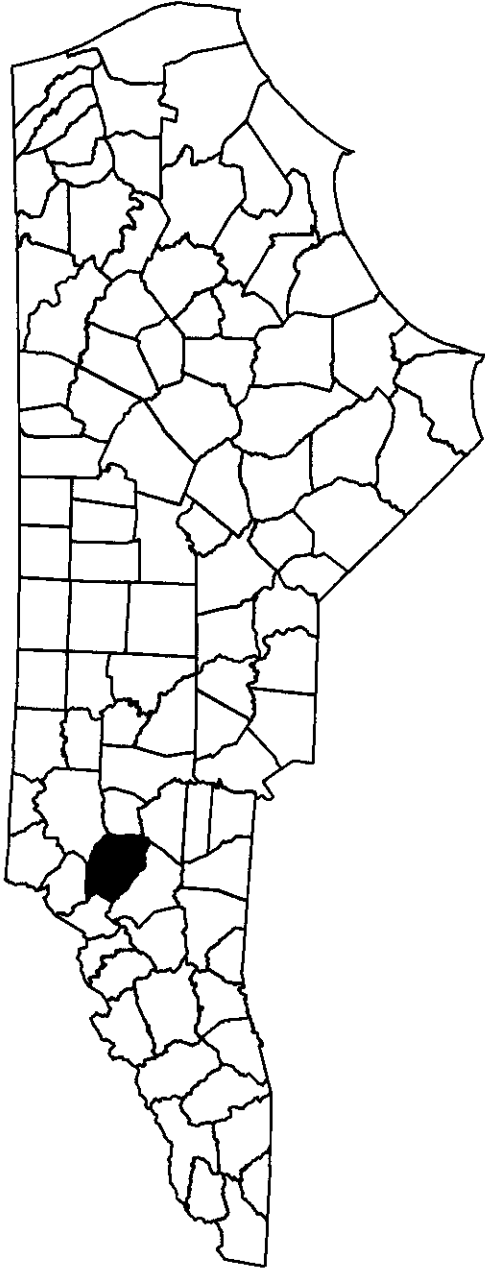


PROJECT REFERENCE NO. U-3437		SHEET NO. 8
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

CALDWELL COUNTY



LOCATION: SR 1160 (MT. HERMAN ROAD).



WORK ZONE SAFETY & MOBILITY
"from the MOUNTAINS to the COAST"

N.C.D.O.T. WORK ZONE TRAFFIC CONTROL
1561 MAIL SERVICE CENTER (MSG) RALEIGH, NC 27609-1561
750 N. GREENFIELD PARKWAY, GARNER, NC 27529 (DELIVERY)
PHONE: (919) 773-2800 FAX: (919) 771-2745

J. S. BOURNE, P.E. STATE TRAFFIC MANAGEMENT ENGINEER
G. L. GETTIER, P.E. TRAFFIC CONTROL PROJECT ENGINEER
J. W. GILSTRAP TRAFFIC CONTROL PROJECT DESIGN ENGINEER
S. N. GREEN TRAFFIC CONTROL DESIGN ENGINEER



INDEX OF SHEETS

SHEET NO.	TITLE
TMP-1	TITLE SHEET, AND INDEX OF SHEETS
TMP-1A	LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, LEGEND, AND TEMPORARY PAVEMENT MARKING
TMP-1B	TRANSPORTATION OPERATIONS AND PROJECT NOTES: GENERAL NOTES AND LOCAL NOTES
TMP-2	SPECIAL SIGN DESIGN
TMP-3	TEMPORARY TRAFFIC CONTROL PHASING
TMP-4	TEMPORARY TRAFFIC CONTROL DETAIL
TMP-5	TEMPORARY TRAFFIC CONTROL DETOUR

TIP PROJECT:

APPROVED: _____
DATE: _____

SEAL

ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS SHOWN IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - 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
1101.01	WORK ZONE WARNING SIGNS
1101.02	TEMPORARY LANE CLOSURES
1101.03	TEMPORARY ROAD CLOSURES
1101.04	TEMPORARY SHOULDER CLOSURES
1101.05	WORK ZONE VEHICLE ACCESSES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1110.02	PORTABLE WORK ZONE SIGNS
1115.01	FLASHING ARROW BOARDS
1130.01	DRUMS
1135.01	CONES
1145.01	BARRICADES
1150.01	FLAGGING DEVICES
1180.01	SKINNY - DRUM
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO LANE AND MULTILANE ROADWAYS
1205.07	PAVEMENT MARKINGS - PEDESTRIAN CROSSWALKS
1205.08	PAVEMENT MARKINGS - SYMBOLS AND WORD MESSAGES
1250.01	RAISED PAVEMENT MARKERS - INSTALLATION SPACING
1251.01	RAISED PAVEMENT MARKERS - (PERMANENT AND TEMPORARY)

LEGEND

GENERAL

 DIRECTION OF TRAFFIC FLOW

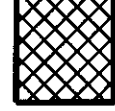
 DIRECTION OF PEDESTRIAN TRAFFIC FLOW

 EXIST. PVMT.

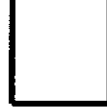
 NORTH ARROW

 PROPOSED PVMT.

 WORK AREA

 REMOVAL

 USER DEFINED (IF NEEDED)

 USER DEFINED (IF NEEDED)

TRAFFIC CONTROL DEVICES

 BARRICADE (TYPE III)

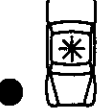
 CONE

 DRUM ◎ SKINNY DRUM ⊙ TUBULAR MARKER

 TEMPORARY CRASH CUSHION

 FLASHING ARROW PANEL (TYPE C)

 FLAGGER

 LAW ENFORCEMENT

 TRUCK MOUNTED IMPACT ATTENUATOR (TMIA)

 CHANGEABLE MESSAGE SIGN

TEMPORARY SIGNING

 PORTABLE SIGN

 STATIONARY SIGN

 STATIONARY OR PORTABLE SIGN

SIGNALS

 EXISTING

 PROPOSED

 TEMPORARY

PAVEMENT MARKINGS

 EXISTING LINES

 TEMPORARY LINES

PAVEMENT MARKERS

 CRYSTAL /CRYSTAL

 CRYSTAL /RED

 YELLOW/YELLOW

PAVEMENT MARKING SYMBOLS

 PAVEMENT MARKING SYMBOLS

TEMPORARY PAVEMENT MARKING

 4" PAINT

 PA WHITE EDGELINE

 PC WHITE SKIP

 PD WHITE MINI SKIP

 P1 YELLOW DOUBLE CENTER

 PH YELLOW SINGLE CENTER

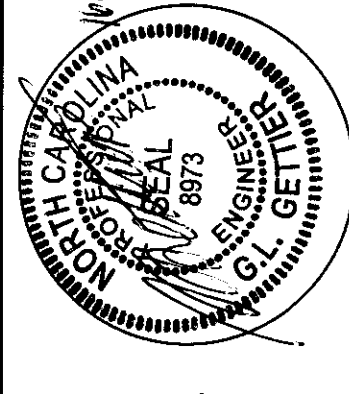
 SYMBOLS

 QB RIGHT ARROW

 TEMPORARY MARKERS

 MH YELLOW & YELLOW

APPROVED: _____ DATE: _____





ROADWAY STANDARD DRAWINGS & LEGEND

TRANSPORTATION OPERATIONS

CONSTRUCTION

REPLACE EXISTING "T" INTERSECTION WITH ROUND-ABOUT AS SHOWN IN THE CONSTRUCTION PLANS.

TMP DESIGN PARAMETERS

TRAFFIC SHALL BE MAINTAINED IN EXISTING PATTERN WHILE CONSTRUCTION IS DONE AWAY FROM TRAFFIC.

A ROAD CLOSURE SHALL BE UTILIZED FOR MOUNT HERMAN RD. AND ROY E. COFFEY DR. DURING SUMMER VACATION TO CONSTRUCT PROPOSED ROUND-ABOUT.

DRIVEWAY ON ROY E. COFFEY DR., JUST OFF OF THE PROJECT LIMITS SHALL BE DETOURED THROUGH ELEMENTARY SCHOOL/HIGH SCHOOL PARKING LOTS WHILE MOUNT HERMAN RD. AND ROY E COFFEY DR. ARE CLOSED.

THE OFF-SITE DETOUR SHALL INCLUDE HICKORY BLVD., PINE MOUNTAIN RD/CEDAR VALLEY RD. AND MAIN ST. (SEE SHEET TMP-5).

TRAFFIC SHALL BE MAINTAINED TO ALL EXISTING DRIVEWAYS LOCATED WITHIN THE PROJECT LIMITS.

TRAFFIC SHALL BE PLACED IN PROPOSED PATTERN WHILE REMAINING CONSTRUCTION IS COMPLETED.

CHANGES MAY BE REQUIRED WHEN PHYSICAL DIMENSIONS IN THE DETAIL DRAWINGS, STANDARD DETAILS, AND ROADWAY DETAILS ARE NOT ATTAINABLE TO MEET FIELD CONDITIONS OR RESULT IN DUPLICATE OR UNDESIRED OVERLAPPING OF DEVICES. MODIFICATION MAY INCLUDE: MOVING, SUPPLEMENTING, COVERING, OR REMOVAL OF DEVICES AS DIRECTED BY THE ENGINEER.

THE FOLLOWING GENERAL NOTES APPLY AT ALL TIMES FOR THE DURATION OF THE CONSTRUCTION PROJECT EXCEPT WHEN OTHERWISE NOTED IN THE PLAN OR DIRECTED BY THE ENGINEER.

TIME RESTRICTIONS

A) DO NOT CLOSE OR NARROW TRAVEL LANES AS FOLLOWS:

ROAD NAME	DAY AND TIME RESTRICTIONS
1. MT. HERMAN RD.	MONDAY-FRIDAY 7:30AM-8:30AM 2:30PM-3:30PM
2. ROY E. COFFEY DR.	MONDAY-FRIDAY 7:30AM-8:30AM 2:30PM-3:30PM

B) DO NOT STOP TRAFFIC AS FOLLOWS:

ROAD NAME	DAY AND TIME RESTRICTIONS	DURATION AND OPERATION
1. MT. HERMAN RD.	MONDAY-FRIDAY 7:30AM-8:30AM 2:30PM-3:30PM	15 MINS. / TRAFFIC OPERATIONS
2. ROY E. COFFEY DR.	MONDAY-FRIDAY 7:30AM-8:30AM 2:30PM-3:30PM	15 MINS. / TRAFFIC OPERATIONS

C) DO NOT CONDUCT ANY HAULING OPERATIONS AGAINST THE FLOW OF TRAFFIC OF AN OPEN TRAVELWAY UNLESS THE HAULING OPERATION IS PROTECTED BY BARRIER OR GUARDRAIL OR AS DIRECTED BY THE ENGINEER.

LANE AND SHOULDER CLOSURE REQUIREMENTS

D) REMOVE LANE CLOSURE DEVICES FROM THE LANE WHEN WORK IS NOT BEING PERFORMED BEHIND THE LANE CLOSURE OR WHEN A LANE CLOSURE IS NO LONGER NEEDED OR AS DIRECTED BY THE ENGINEER.

E) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN 15 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN SHOULDER USING ROADWAY STANDARD DRAWING NO. 1101.04 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL OR A LANE CLOSURE IS INSTALLED.

F) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO AN UNDIVIDED FACILITY AND WITHIN 5 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.

WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO A DIVIDED FACILITY AND WITHIN 10 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.

GENERAL NOTES

G) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN A LANE OF TRAVEL OF AN UNDIVIDED OR DIVIDED FACILITY, CLOSE THE LANE ACCORDING TO THE TRAFFIC CONTROL PLANS,ROADWAY STANDARD DRAWINGS, OR AS DIRECTED BY THE ENGINEER. CONDUCT THE WORK SO THAT ALL PERSONNEL AND/OR EQUIPMENT REMAIN WITHIN THE CLOSED TRAVEL LANE.

H) DO NOT WORK SIMULTANEOUSLY WITHIN 15 FT ON BOTH SIDES OF AN OPEN TRAVELWAY, RAMP, OR LOOP WITHIN THE SAME LOCATION UNLESS PROTECTED WITH GUARDRAIL OR BARRIER.

I) PROVIDE TRAFFIC CONTROL FOR APPROPRIATE LANE CLOSURES FOR SURVEYING DONE BY THE DEPARTMENT.

PAVEMENT EDGE DROP OFF REQUIREMENTS

J) BACKFILL AT A 6:1 SLOPE UP TO THE EDGE AND ELEVATION OF EXISTING PAVEMENT IN AREAS ADJACENT TO AN OPENED TRAVEL LANE THAT HAS AN EDGE OF PAVEMENT DROP-OFF AS FOLLOWS:

BACKFILL DROP-OFFS THAT EXCEED 2 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS OF 45 MPH OR GREATER.

BACKFILL DROP-OFFS THAT EXCEED 3 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS LESS THAN 45 MPH.

BACKFILL WITH SUITABLE COMPACTED MATERIAL, AS APPROVED BY THE ENGINEER, AT NO EXPENSE TO THE DEPARTMENT.

K) DO NOT EXCEED A DIFFERENCE OF 2 INCHES IN ELEVATION BETWEEN OPEN LANES OF TRAFFIC FOR NOMINAL LIFTS OF 1.5 INCHES. INSTALL ADVANCE WARNING "UNEVEN LANES" SIGNS (W8-11) 350 FT IN ADVANCE AND A MINIMUM OF EVERY HALF MILE THROUGHOUT THE UNEVEN AREA.

TRAFFIC PATTERN ALTERATIONS

L) NOTIFY THE ENGINEER TWENTY ONE (21) CALENDAR DAYS PRIOR TO ANY TRAFFIC PATTERN ALTERATION.

SIGNING

M) INSTALL ADVANCE WORK ZONE WARNING SIGNS WHEN WORK IS WITHIN 40 FT FROM THE EDGE OF TRAVEL LANE AND NO MORE THAN THREE (3) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.

N) PROVIDE SIGNING AND DEVICES REQUIRED TO CLOSE THE ROAD ACCORDING TO THE ROADWAY STANDARD DRAWINGS AND TRAFFIC CONTROL PLANS.

PROVIDE SIGNING REQUIRED FOR THE OFF-SITE DETOUR ROUTE AS SHOWN IN THE TRAFFIC CONTROL PLANS.

O) COVER OR REMOVE ALL SIGNS AND DEVICES REQUIRED TO CLOSE THE ROAD WHEN ROAD CLOSURE IS NOT IN OPERATION.

COVER OR REMOVE ALL SIGNS REQUIRED FOR THE OFF-SITE DETOUR WHEN THE DETOUR IS NOT IN OPERATION.

P) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.

TRAFFIC CONTROL DEVICES

Q) WHEN LANE CLOSURES ARE NOT IN EFFECT SPACE CHANNELIZING DEVICES IN WORK AREAS NO GREATER IN FEET THAN TWICE THE POSTED SPEED LIMIT (MPH) EXCEPT, 10 FT ON-CENTER IN RADII, AND 3 FT OFF THE EDGE OF AN OPEN TRAVELWAY. REFER TO STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES SECTIONS 1130 (DRUMS), 1135 (CONES) AND 1180 (SKINNY DRUMS) FOR ADDITIONAL REQUIREMENTS.

R) PLACE TYPE III BARRICADES, WITH "ROAD CLOSED" SIGN R11-2 ATTACHED, OF SUFFICIENT LENGTH TO CLOSE ENTIRE ROADWAY.

PAVEMENT MARKINGS AND MARKERS

S) INSTALL TEMPORARY PAVEMENT MARKINGS AND TEMPORARY PAVEMENT MARKERS ON INTERIM LAYERS OF PAVEMENT AS FOLLOWS:

ROAD NAME	MARKING	MARKER
ALL ROADS	PAINT	TEMPORARY RAISED

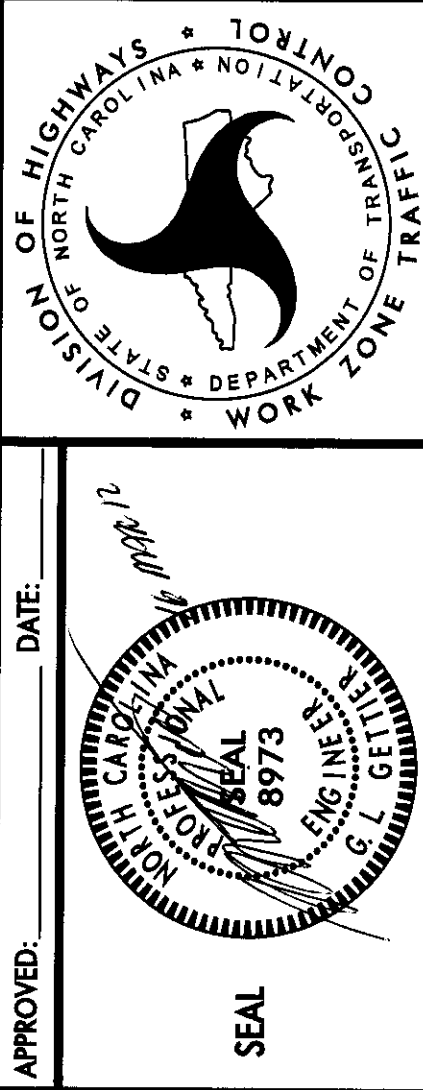
T) PLACE ONE APPLICATION OF PAINT FOR TEMPORARY TRAFFIC PATTERNS. PLACE A SECOND APPLICATION OF PAINT SIX (6) MONTHS AFTER THE INITIAL APPLICATION AND EVERY SIX MONTHS AS DIRECTED BY THE ENGINEER.

U) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.

V) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS BY THE END OF EACH DAY'S OPERATION.

PROJ. REFERENCE NO.	SHEET NO.
U-3437	TMP-1B

TRANSPORTATION OPERATIONS AND PROJECT NOTES



PHASE I

NOTE: RETURN TRAFFIC TO THE EXISTING PATTERN AT THE END OF EACH WORK PERIOD UNLESS OTHERWISE STATED IN THE PHASING OR DIRECTED BY THE ENGINEER.

COMPLETE ANY PROPOSED OR TEMPORARY WIDENING IN SUCH A MANNER THAT PONDING OF WATER WILL NOT OCCUR IN THE TRAVEL LANES.

STEP 1: - CONTRACTOR SHALL INSTALL ALL ADVANCE WORK ZONE WARNING SIGNS. (SEE ROADWAY STANDARD DRAWING NO. 1101.01, SHEET 3 OF 3).

STEP 2: - USING ROADWAY STANDARD DRAWING NO. 1101.02, SHEET 1 OF 15:

- CONSTRUCT, AS MUCH AS POSSIBLE, PROPOSED WIDENING (INCLUDING CURB & GUTTER, SIDEWALK AND DRAINAGE) UP TO THE EDGE AND ELEVATION OF EXISTING FROM STATION 10+00 +/- -Y- TO STATION 13+20 +/- -Y2- (INCLUDING ROUND-ABOUT) AND STATION 10+00 +/- -Y1- TO STATION 13+79 +/- -Y1-. (SEE CONSTRUCTION PLANS AND SHEET TMP-4).

CONTRACTOR SHALL WORK IN A CONTINUOUS MANNER TO COMPLETE THE FOLLOWING WORK IN PHASE I STEPS 3 THRU 5 (SEE INTERMEDIATE CONTRACT TIME AND SPECIAL PROVISIONS.)

STEP 3: - USING ROADWAY STANDARD DRAWING NO. 1101.03, SHEET 1 OF 9, CLOSE SR 1160 (MT. HERMAN RD., -Y-/-Y2-/-Y1-) AND ROY E. COFFEY DR. (-Y1-) FROM STATION 11+00 +/- -Y- TO STATION 11+50 +/- -Y2- (INCLUDING ROUND-ABOUT) AND STATION 10+00 +/- -Y1- TO STATION 13+79 +/- -Y1-. (SEE SHEET TMP-5).

NOTE: INSTALL ADDITIONAL TYPE III BARRICADES AT STATION 13+50 +/- -Y-. UTILIZE DRUMS TO MAINTAIN ACCESS TO DRIVEWAYS AND PARCEL NO.6 AS DIRECTED BY THE ENGINEER DURING CONSTRUCTION.

NOTE: COVER ALL ADVANCE WORK ZONE WARNING SIGNS BEFORE CLOSING SR 1160 (MT. HERMAN RD., -Y-/-Y2-) AND ROY E. COFFEY DR. (-Y1-) TO THRU TRAFFIC.

STEP 4: - CONSTRUCT THE PROPOSED ROUND-ABOUT AND ROADWAY UP TO, BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE. (SEE CONSTRUCTION PLANS).

- CONTRACTOR SHALL CONSTRUCT ALL OTHER PROPOSED WORK AS DIRECTED BY THE ENGINEER. (SEE CONSTRUCTION PLANS).

- PLACE TEMPORARY PAVEMENT MARKINGS (PAINT) AND TEMPORARY RAISED PAVEMENT MARKERS FOR THE FINAL TRAFFIC PATTERN. (SEE FINAL PAVEMENT MARKING PLANS).

STEP 5: - OPEN SR 1160 (MT. HERMAN RD., -Y-/-Y2-) AND ROY E. COFFEY DR. (-Y1-) TO THE FINAL TRAFFIC PATTERN, AS DIRECTED BY THE ENGINEER.

- CONTRACTOR SHALL UNCOVER ALL ADVANCE WORK ZONE WARNING SIGNS.

NOTE: IF PROPOSED SIDEWALKS ARE CONSTRUCTED, INSTALL TYPE III BARRICADES AND "SIDEWALK CLOSED" SIGNS (R9-9) TO KEEP THEM CLOSED.

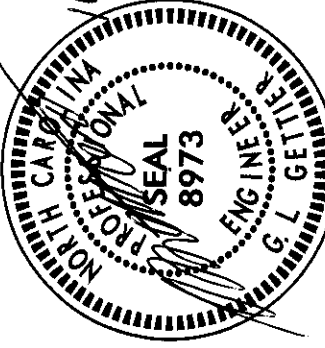
STEP 6: - USING ROADWAY STATDARD DRAWING NO. 1101.02, SHEET 1 OF 15:

- CONSTRUCT THE REMAINDER OF THE PROJECT INCLUDING THE FINAL LAYER OF SURFACE COURSE AND FINAL PAVEMENT MARKINGS AND MARKERS ON SR 1160 (MT. HERMAN RD., -Y-/-Y2-) AND ROY E. COFFEY DR. (-Y1-) FROM STATION 10+00 +/- -Y- TO STATION 13+20 +/- -Y2- AND FROM STATION 10+00 +/- -Y1- TO STATION 13+79 +/- -Y1 AND SIDEWALKS. (SEE CONSTRUCTION PLANS AND FINAL PAVEMENT MARKING PLANS).

STEP 7: - REMOVE ALL TRAFFIC CONTROL DEVICES.

- OPEN TO FINAL TRAFFIC PATTERN.

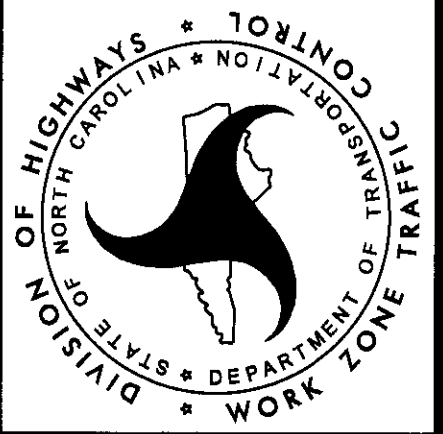
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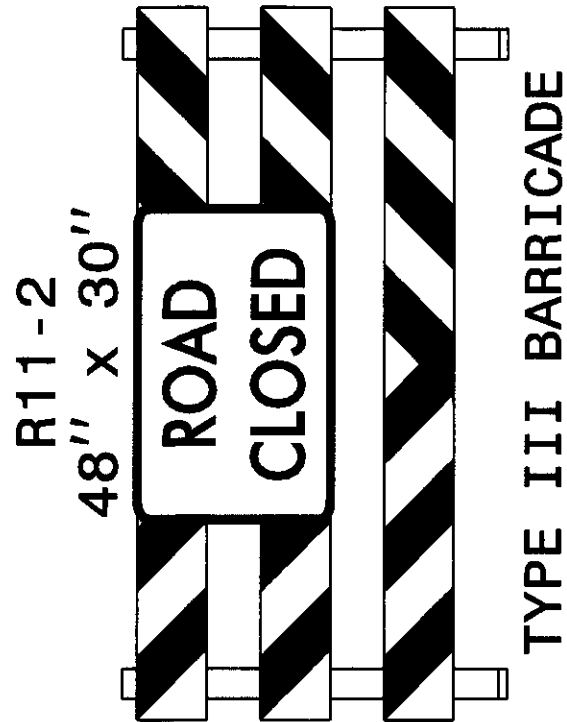
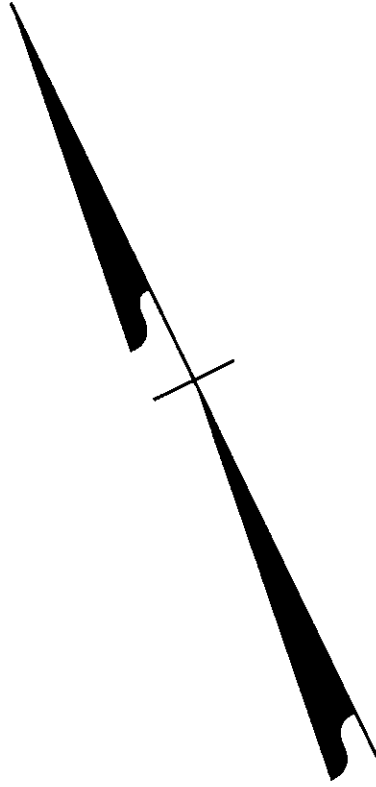
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DATE:

3/14/2012



TEMPORARY TRAFFIC CONTROL PHASING



TYPE III BARRICADE

STA. 10+00 +/- -Y-

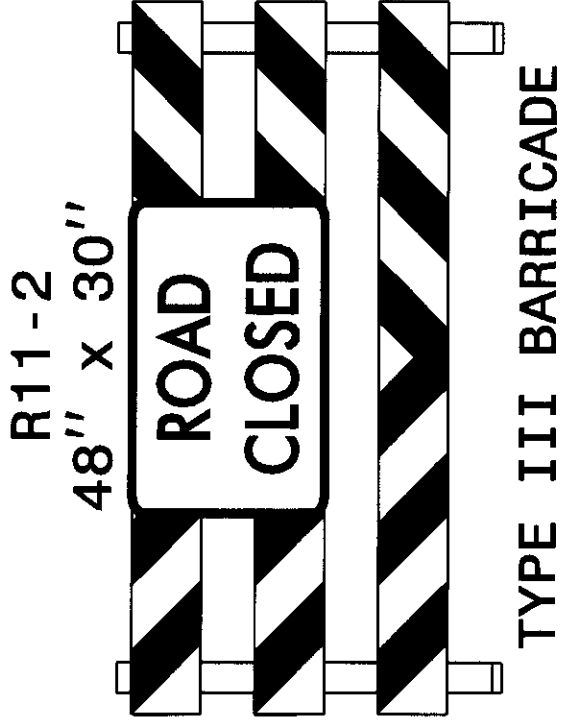
MOUNT HERMAN RD (SR 1160)

STA. 13+50 +/- -Y2-

PARCEL 6

ROY E. COFFEY DR

STA. 10+00 +/- -Y1-



TYPE III BARRICADE

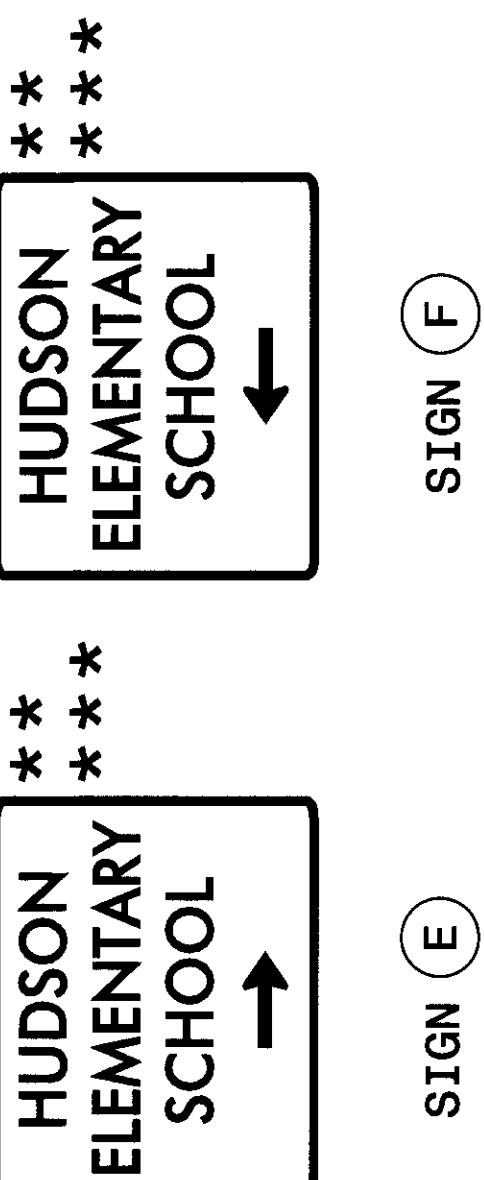
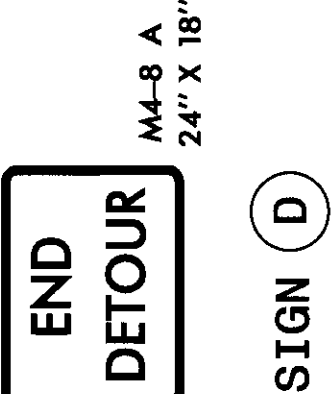
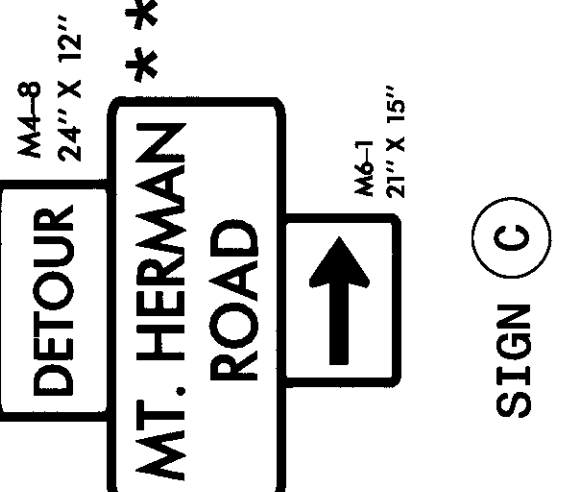
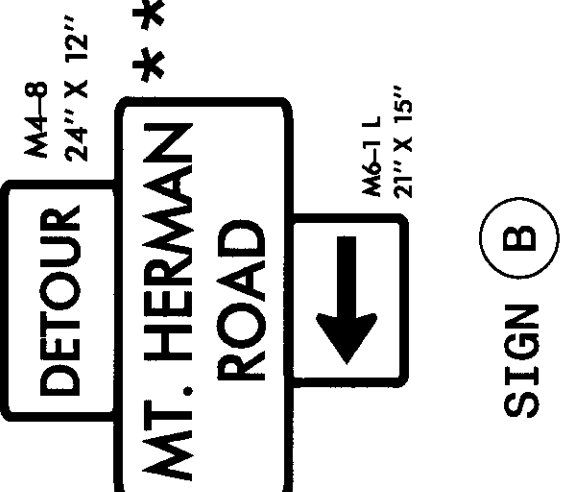
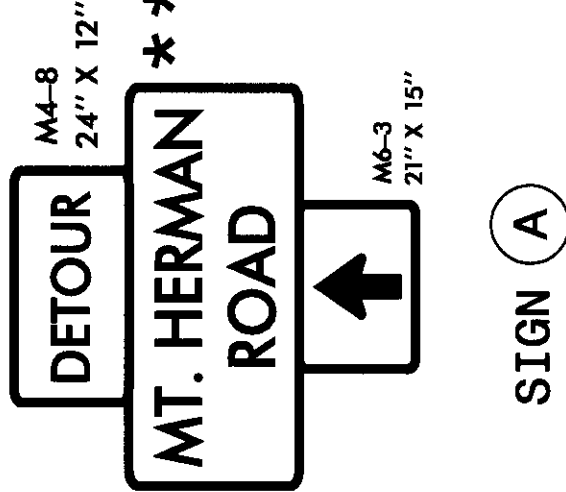
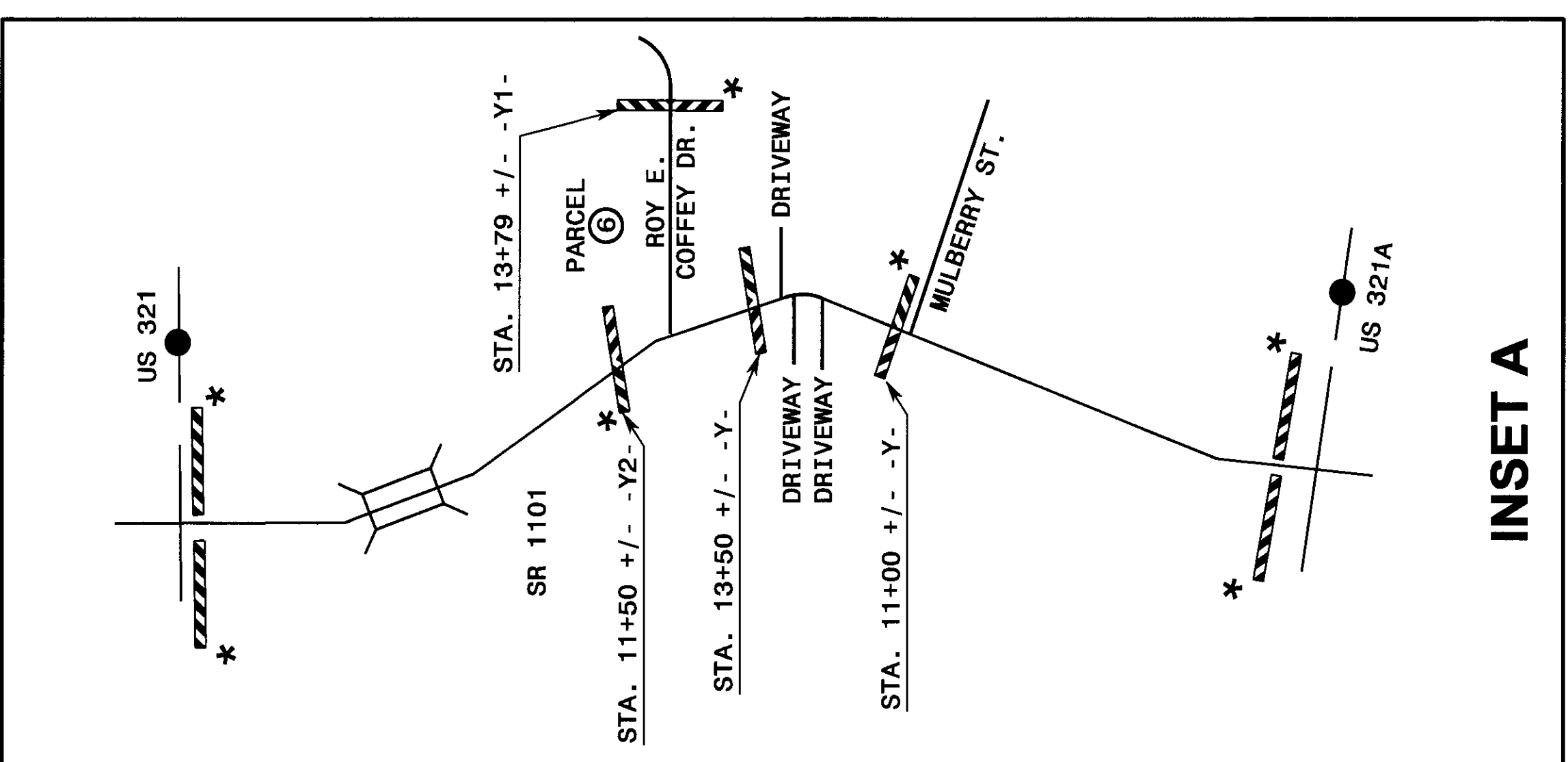
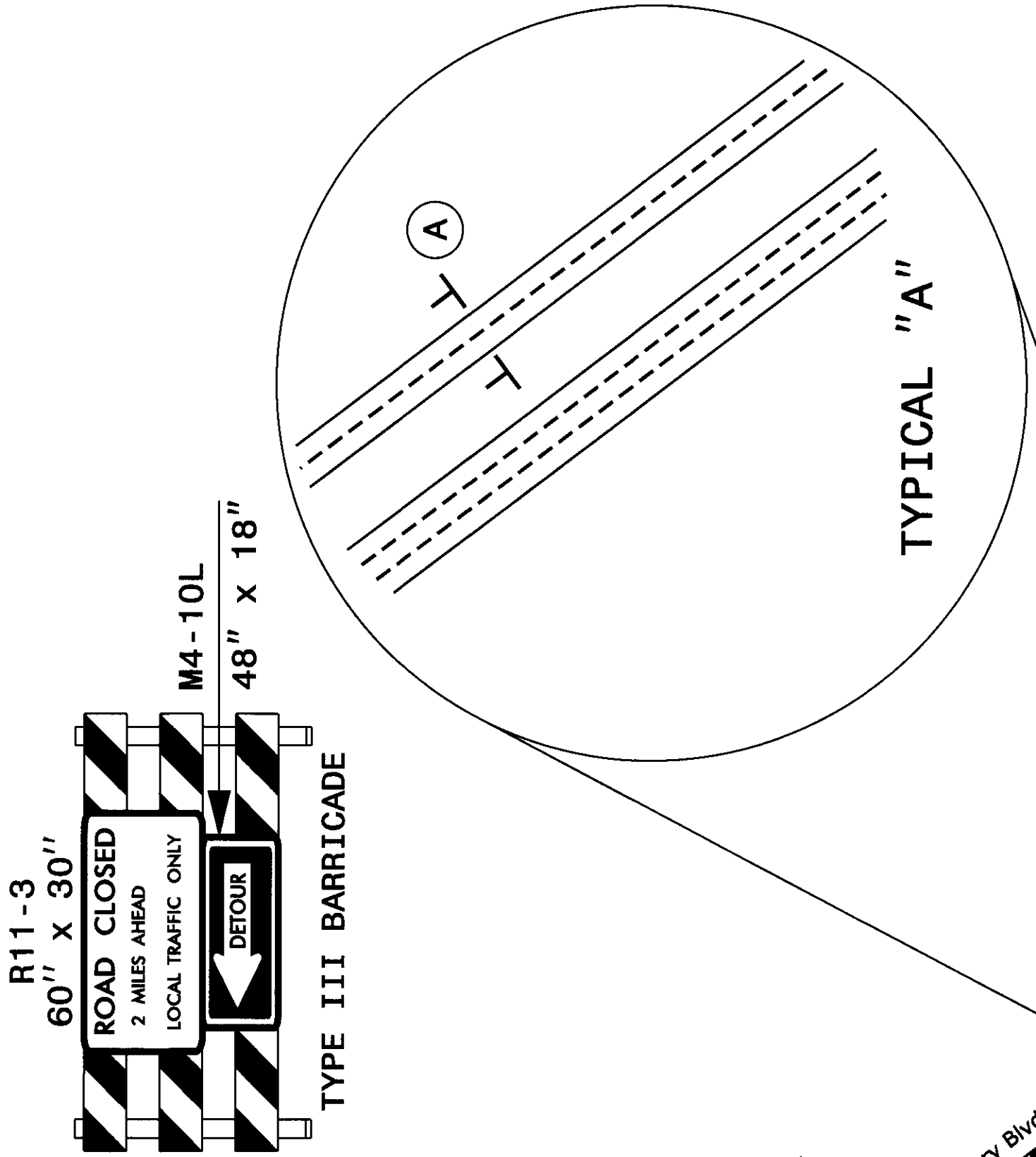
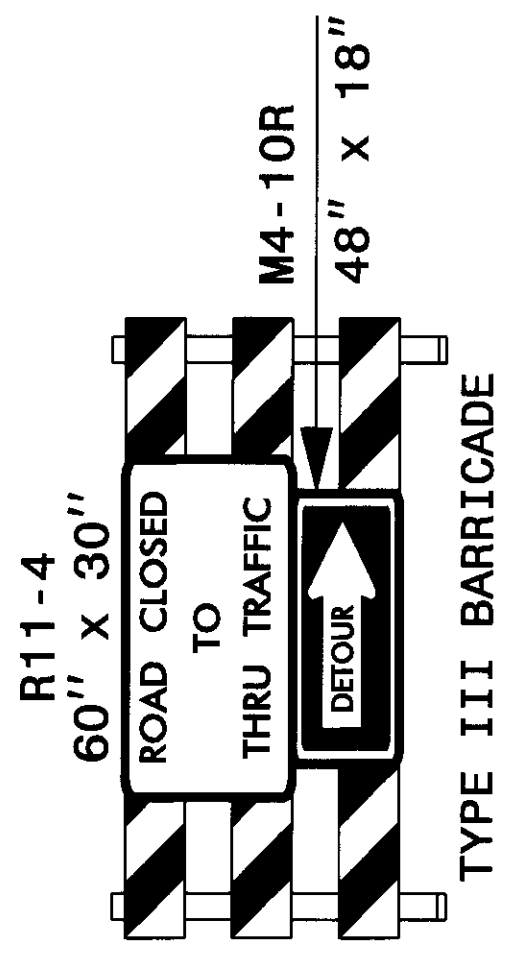
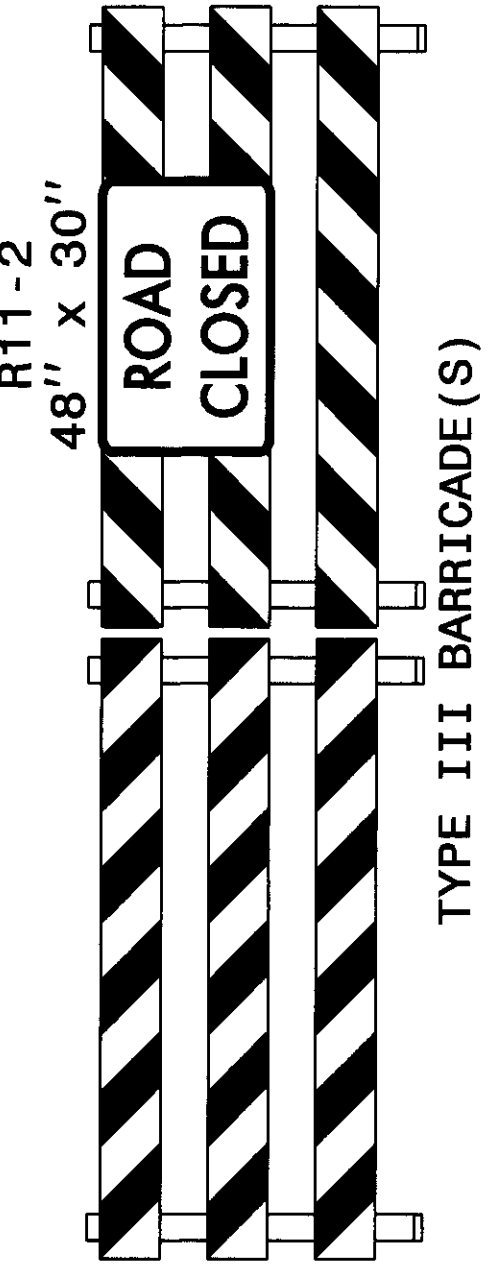
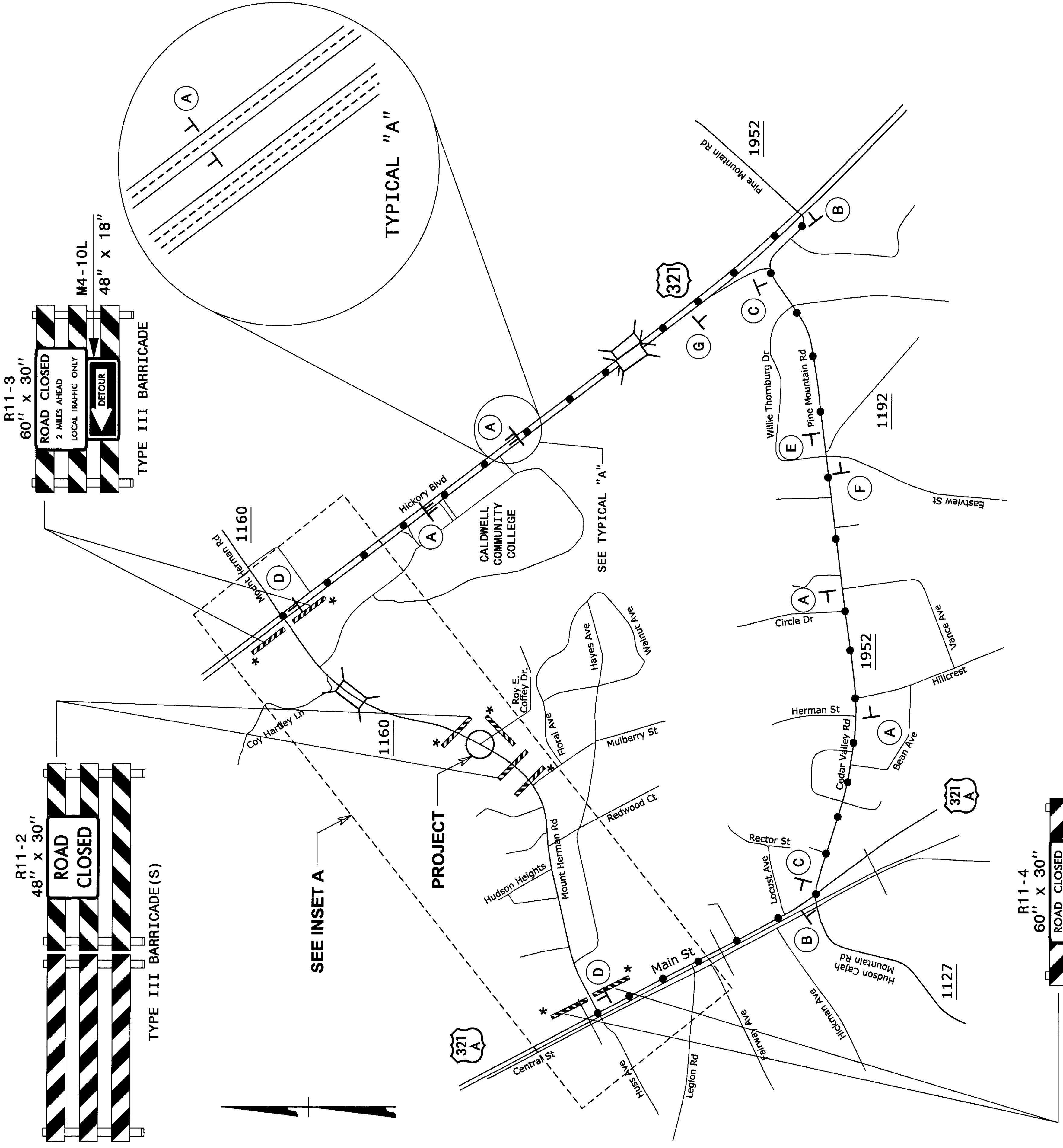
STA. 13+79 +/- -Y1-

APPROVED: _____ DATE: _____

SEAL

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WORK ZONE TRAFFIC CONTROL

TEMPORARY TRAFFIC CONTROL
CONTROL
DETAIL



- NOTES:
- * SEE ROADWAY STANDARD DRAWING NO. 1101.03, SHEET 1 OF 9, FOR ADDITIONAL WORK ZONE SIGNS AND LOCATIONS.
 - ** SEE TMP-2 FOR SIGN DESIGN.
 - *** HUDSON ELEMENTARY SCHOOL SIGN LOCATIONS ARE TO BE DETERMINED BY THE ENGINEER.

APPROVED: _____

DATE: _____

TEMPORARY TRAFFIC CONTROL DETOUR

T.I.P.: U-3437

CONTRACT:

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKING PLAN
CALDWELL COUNTY

LOCATION: S.R. 1160 (MT. HERMAN RD.)

TIP NO.	SHEET NO.
U-3437	PMP-1
APPROVED: <i>[Signature]</i>	
DATE: 6/28/12	
SEAL	

ROADWAY STANDARD DRAWING

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - 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
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO-LANE AND MULTILANE ROADWAYS
1250.01	RAISED PAVEMENT MARKERS - INSTALLATION SPACING
1253.01	RAISED PAVEMENT MARKERS - SNOWPLOWABLE

PAVEMENT MARKING SCHEDULE

SYMBOL	DESCRIPTION	FINAL PAVEMENT MARKINGS
TA	WHITE EDGELINE	THERMOPLASTIC (4", 90 MIL)
TB	YELLOW EDGELINE	
TN	WHITE GORELINE	THERMOPLASTIC (8", 90 MIL)
TI	YELLOW DOUBLE CENTER	THERMOPLASTIC (4", 120 MIL)
T10	3 FT.-3 FT./SP WHITE MINISKIP	THERMOPLASTIC (12", 120 MIL)
UM	12" YIELD LINE TRIANGLE	THERMOPLASTIC PAVEMENT MARKING SYMBOLS (90 MIL)
ME	YELLOW & YELLOW	MARKERS SNOWPLOWABLE RAISED PAVEMENT MARKERS

PLAN PREPARED BY: N.C.D.O.T. SIGNING AND DELINEATION UNIT	
K. JORDAN	SIGNING & DELINEATION REGIONAL ENGINEER
M. TRACEY	SIGNING & DELINEATION PROJECT DESIGN ENGINEER/TECHNICIAN

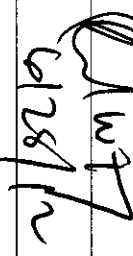
GENERAL NOTES

THE FOLLOWING GENERAL NOTES APPLY AT ALL TIMES FOR THE DURATION OF THE CONSTRUCTION PROJECT, EXCEPT WHEN OTHERWISE NOTED IN THE PLAN, OR DIRECTED BY THE ENGINEER.

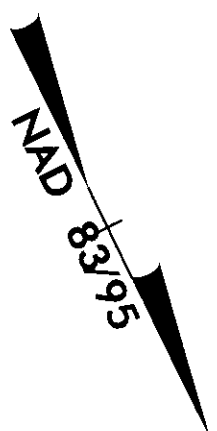
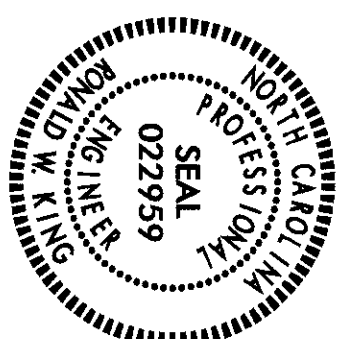
- A) INSTALL PAVEMENT MARKINGS AND PAVEMENT MARKERS ON THE FINAL SURFACE AS FOLLOWS:
- | ROAD NAME | MARKING | MARKER |
|-------------------|---------------|--------------|
| SR 1160 | THERMOPLASTIC | SNOWPLOWABLE |
| ROY E. COFFEY DR. | THERMOPLASTIC | SNOWPLOWABLE |
- B) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.
- C) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS.
- D) PASSING ZONES WILL BE DETERMINED IN THE FIELD AND MUST BE APPROVED BY THE ENGINEER.
- E) UNLESS OTHERWISE SPECIFIED, HEATED-IN-PLACE THERMOPLASTIC MAY BE USED IN LIEU OF EXTRUDED THERMOPLASTIC FOR STOP BARS, SYMBOLS, CHARACTERS AND DIAGONALS. IF HEATED-IN-PLACE IS USED, IT SHALL BE PAID FOR USING THE EXTRUDED THERMOPLASTIC PAY ITEM.

INDEX

SHEET NO.	DESCRIPTION
PMP-1	PAVEMENT MARKING PLAN TITLE AND SCHEDULE SHEET
PMP-2	PAVEMENT MARKING DETAIL

APPROVED: 
DATE: 6/28/12

SEAL



BEGIN STATE PROJECT U-3437

POT Sta. 10+00.00 -Y-

END STATE PROJECT U-3437

POT Sta. 13+19.91 -Y2-

TO: U.S. 321A MAIN STREET

-Y- STA. 11+00.000
THE PAVEMENT MARKINGS
WITH EXISTING

-Y1- STA. 13+00.000
THE PAVEMENT MARKINGS
WITH EXISTING

-Y1- STA. 13+00.000
THE PAVEMENT MARKINGS
WITH EXISTING

TO: U.S. 321

SYMBOL AND PAVEMENT MARKING LEGEND

THERMOPLASTIC:

UM 12" YIELD LINE TRIANGLE (90 MIL)

THERMOPLASTIC:

TA WHITE EDGELINE (4", 90 MIL)

TB YELLOW EDGELINE (4", 90 MIL)

TN WHITE GORELINE (8", 90 MIL)

TI YELLOW DOUBLE CENTER (4", 120 MIL)

T10 3 FT.-3 FT./SP WHITE MINISKIP (12", 120 MIL)

TO: HUDSON ELEMENTARY SCHOOL

END STATE PROJECT U-3437

PT Sta. 13+78.67 -Y1-

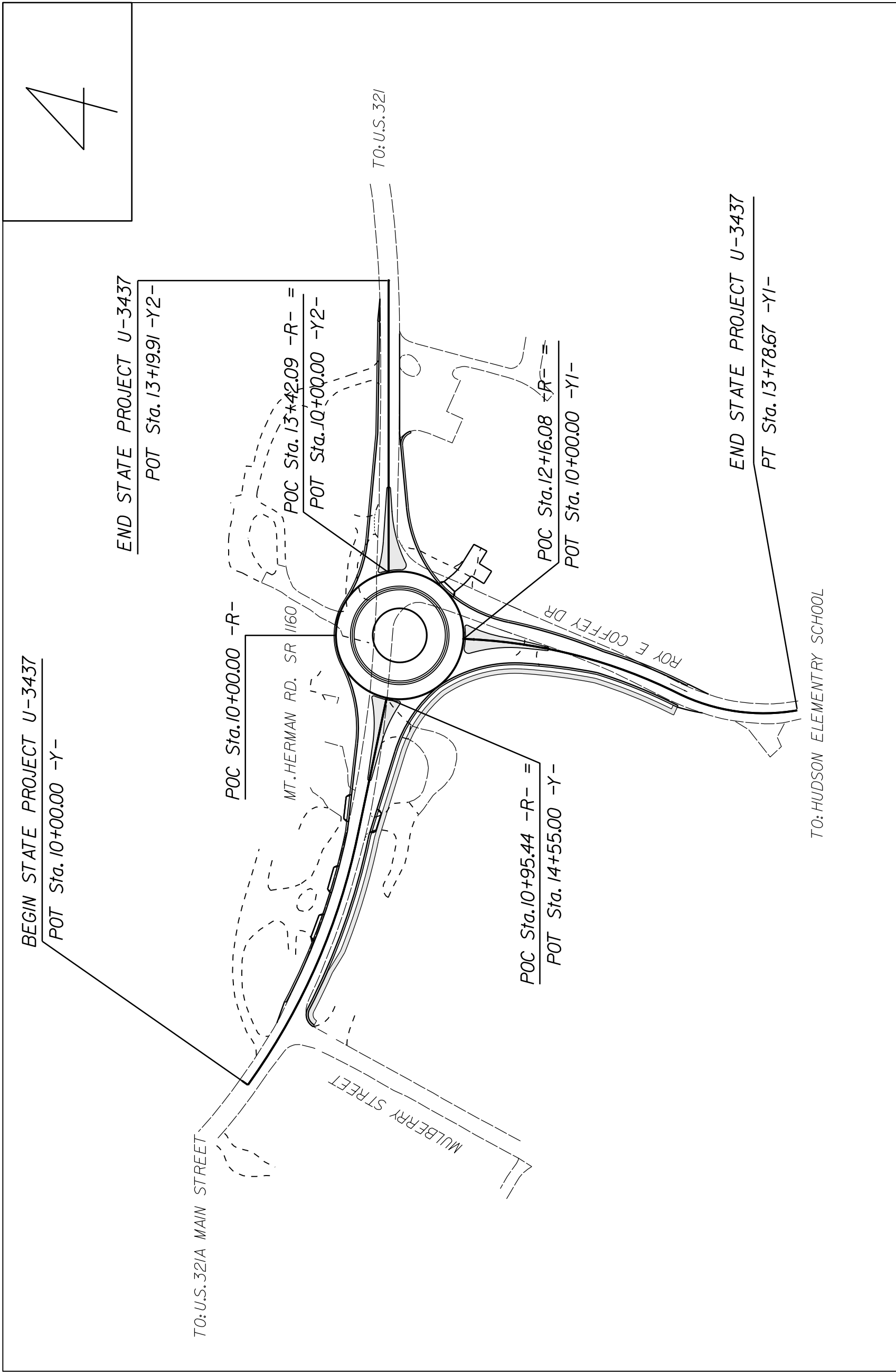
PAVEMENT MARKING DETAIL

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL

CALDWELL COUNTY

LOCATION: SR 1160 (MT. HERMAN RD.)
TYPE OF WORK: INTERSECTION IMPROVEMENTS AT SR 1160
(MT. HERMAN RD.) AND ROY E. COFFEY DRIVE



STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-3437	EC-1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	

Std. #	Description	Symbol
1630.03	Temporary Silt Ditch	TD
1630.05	Temporary Diversion	— HH — HH — HH —
1605.01	Temporary Silt Fence	— HH — HH — HH —
1606.01	Special Sediment Control Fence	— HH — HH — HH —
1622.01	Temporary Berms and Slope Drains	— T — T — T —
1630.02	Silt Basin Type B	— T — T — T —
1633.01	Temporary Rock Silt Check Type-A	— T — T — T —
	Temporary Rock Silt Check Type-A with Matting and Polyacrylamide (PAM)	— T — T — T —
1633.02	Temporary Rock Silt Check Type-B	— T — T — T —
	Wattle / Coir Fiber Wattle	— T — T — T —
	Wattle / Coir Fiber Wattle with Polyacrylamide (PAM)	— T — T — T —
1634.01	Temporary Rock Sediment Dam Type-A	— T — T — T —
1634.02	Temporary Rock Sediment Dam Type-B	— T — T — T —
1635.01	Rock Pipe Inlet Sediment Trap Type-A	— T — T — T —
1635.02	Rock Pipe Inlet Sediment Trap Type-B	— T — T — T —
1630.04	Stilling Basin	— T — T — T —
1630.06	Special Stilling Basin	— T — T — T —
	Rock Inlet Sediment Trap: Type A	— T — T — T —
1632.01	Type A	— T — T — T —
1632.02	Type B	— T — T — T —
1632.03	Type C	— T — T — T —
	Skimmer Basin	— T — T — T —
	Tiered Skimmer Basin	— T — T — T —
	Infiltration Basin	— T — T — T —

THIS PROJECT CONTAINS
EROSION CONTROL PLANS
FOR CLEARING AND
GRUBBING PHASE OF
CONSTRUCTION.

Roadway Standard Drawings

The following roadway english standards as appear in "Roadway Standard Drawings"- Roadway Design Unit - N. C. Department of Transportation - Raleigh, N. C., dated January 2012 and the latest revision thereto are applicable to this project and by reference hereby are considered a part of these plans.

1604.01	Railroad Erosion Control Detail	1632.01	Rock Inlet Sediment Trap Type A
1605.01	Temporary Silt Fence	1632.02	Rock Inlet Sediment Trap Type B
1606.01	Special Sediment Control Fence	1632.03	Rock Inlet Sediment Trap Type C
1607.01	Gravel Construction Entrance	1633.01	Temporary Rock Silt Check Type A
1622.01	Temporary Berms and Slope Drains	1633.02	Temporary Rock Silt Check Type B
1630.01	Riser Basin	1634.01	Temporary Rock Sediment Dam Type A
1630.02	Silt Basin Type B	1634.02	Temporary Rock Sediment Dam Type B
1630.03	Temporary Silt Ditch	1635.01	Rock Pipe Inlet Sediment Trap Type A
1630.04	Stilling Basin	1635.02	Rock Pipe Inlet Sediment Trap Type B
1630.05	Temporary Diversion	1640.01	Coir Fiber Baffle
1630.06	Special Stilling Basin	1645.01	Temporary Stream Crossing
1631.01	Matting Installation		

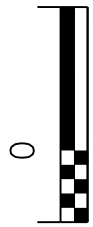
ROADSIDE ENVIRONMENTAL UNIT
1 South Wilmington St.
Raleigh, NC 27611

2012 STANDARD SPECIFICATIONS

THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY
WITH THE REGULATIONS SET FORTH BY THE
NCG-000000 GENERAL CONSTRUCTION PERMIT EFFECTIVE AUGUST 3, 2011
ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND
NATURAL RESOURCES DIVISION OF WATER QUALITY.

ROADSIDE ENVIRONMENTAL UNIT
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

GRAPHIC SCALE



PLANS

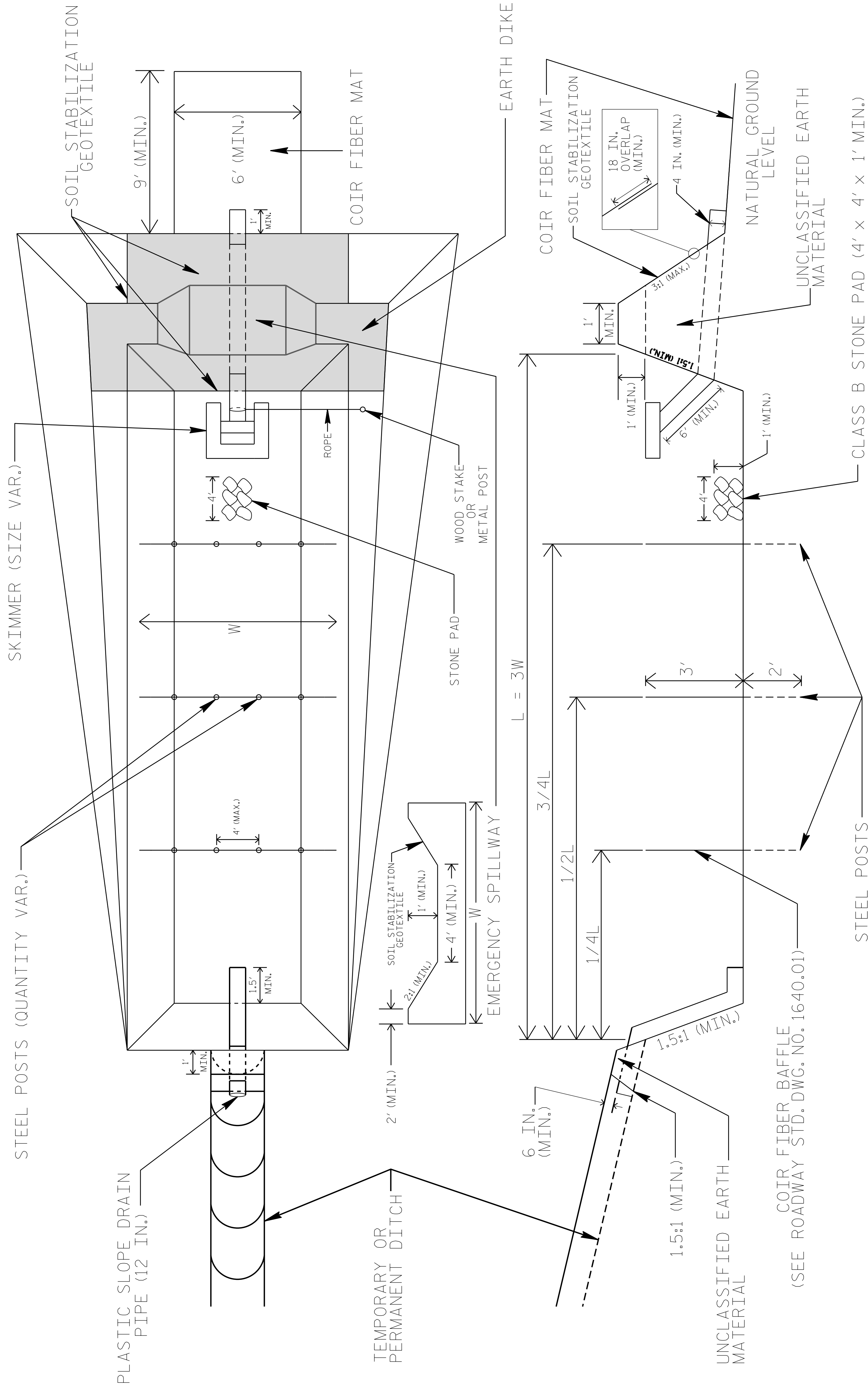


PROFILE (HORIZONTAL)



PROFILE (VERTICAL)

SKIMMER BASIN WITH BAFFLES DETAIL

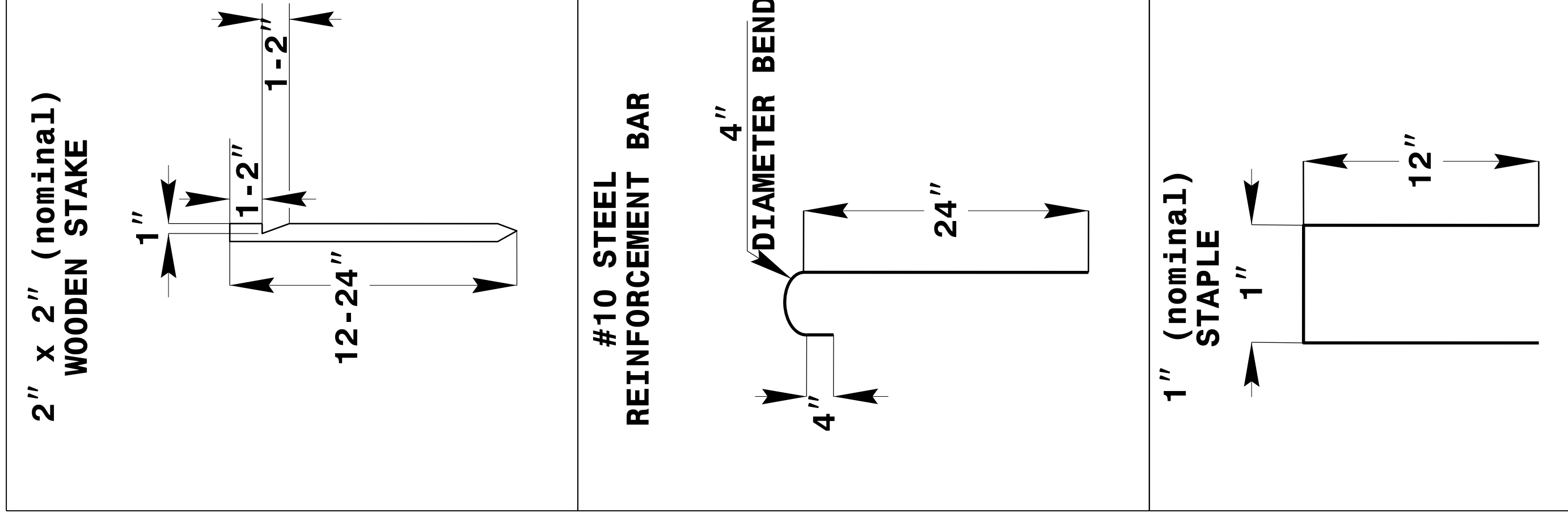


NOTES

1. SEED AND PLACE MATTING FOR EROSION CONTROL ON INTERIOR AND EXTERIOR SIDESLOPES.
2. LIMIT EARTH DIKE HEIGHT TO 5 FT.
3. FOR BASIN DEPTH OF 3 FT., THE MINIMUM BASIN WIDTH SHALL BE 9 FT.
4. DETERMINE EMERGENCY SPILLWAY LENGTH (FT.) USING $Q/0.8$, WHERE Q IS FLOW RATE (CFS) INTO BASIN.
5. PLASTIC SLOPE DRAIN PIPE AT INLET OF BASIN MAY BE REPLACED BY FILTRATION GEOTEXTILE AS DIRECTED.
6. SOIL STABILIZATION GEOTEXTILE FOR EMERGENCY SPILLWAY SHALL BE ONE CONTINUOUS PIECE OF MATERIAL 0

NOT TO SCALE

	PROJECT REFERENCE NO.	SHEET NO.
	U-3437	EC-2
	R/W SHEET NO.	
	ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



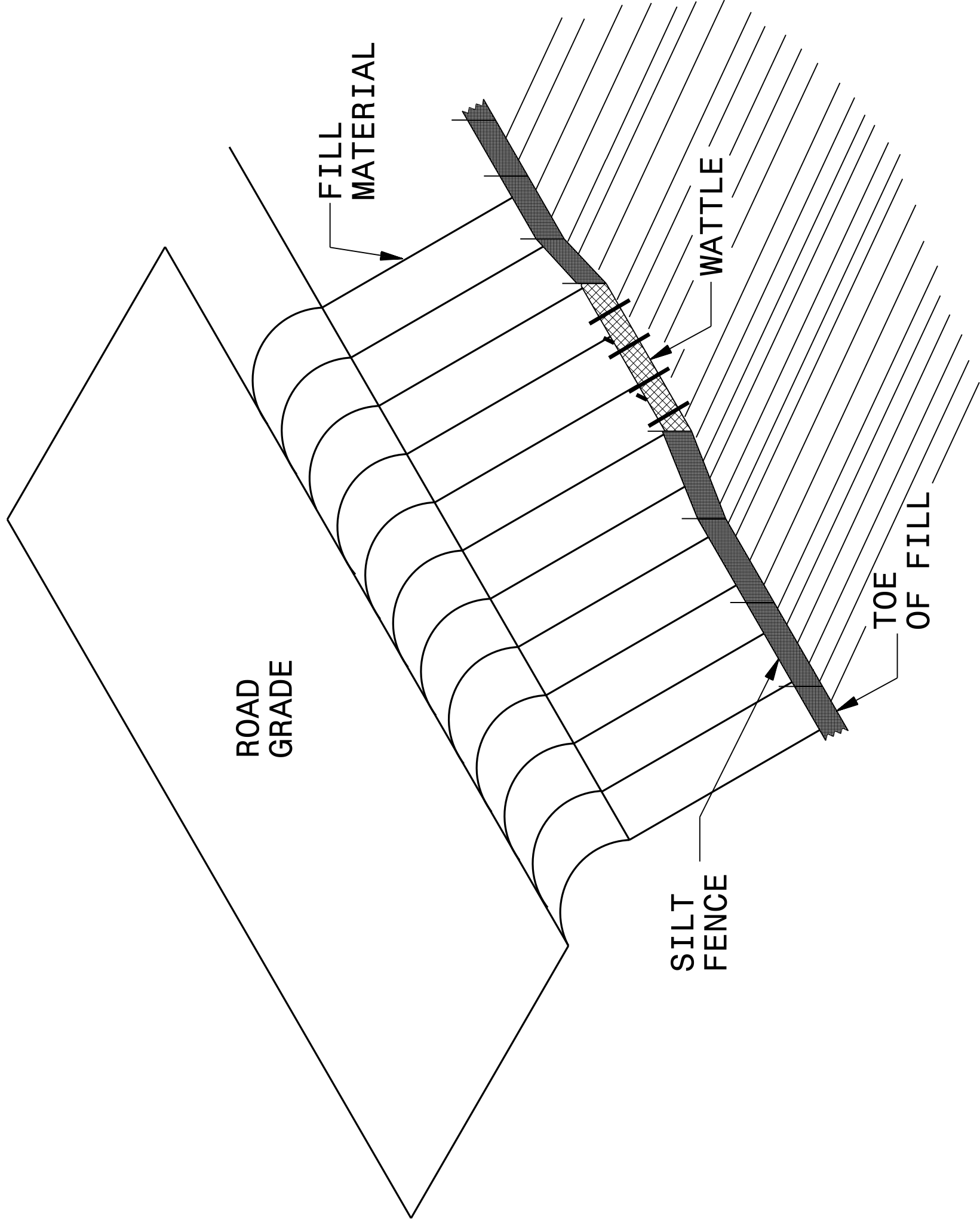
COIR FIBER MAT ANCHOR OPTIONS

SILT FENCE WATTLE BREAK DETAIL

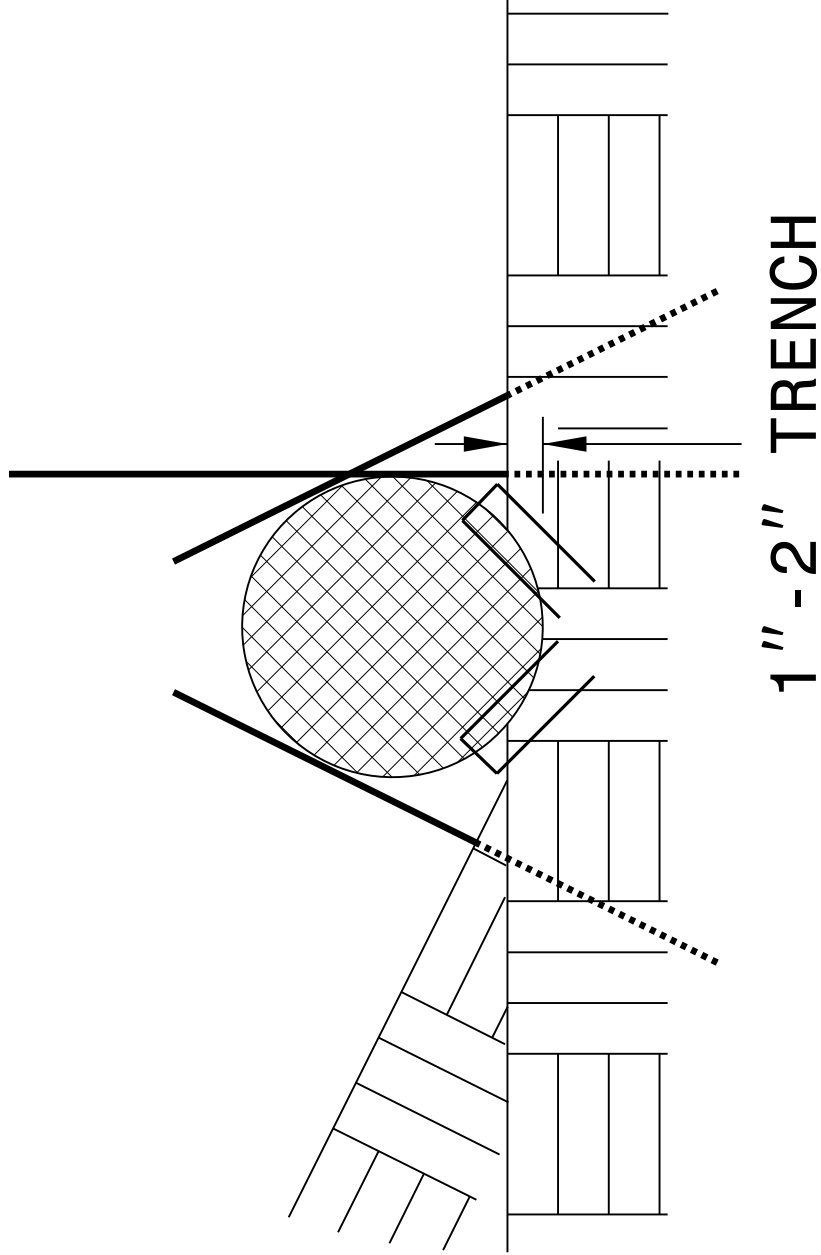
PROJECT REFERENCE NO.	SHEET NO.
U-3437	EC-2A
R/W	SHEET NO.
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NOTES:

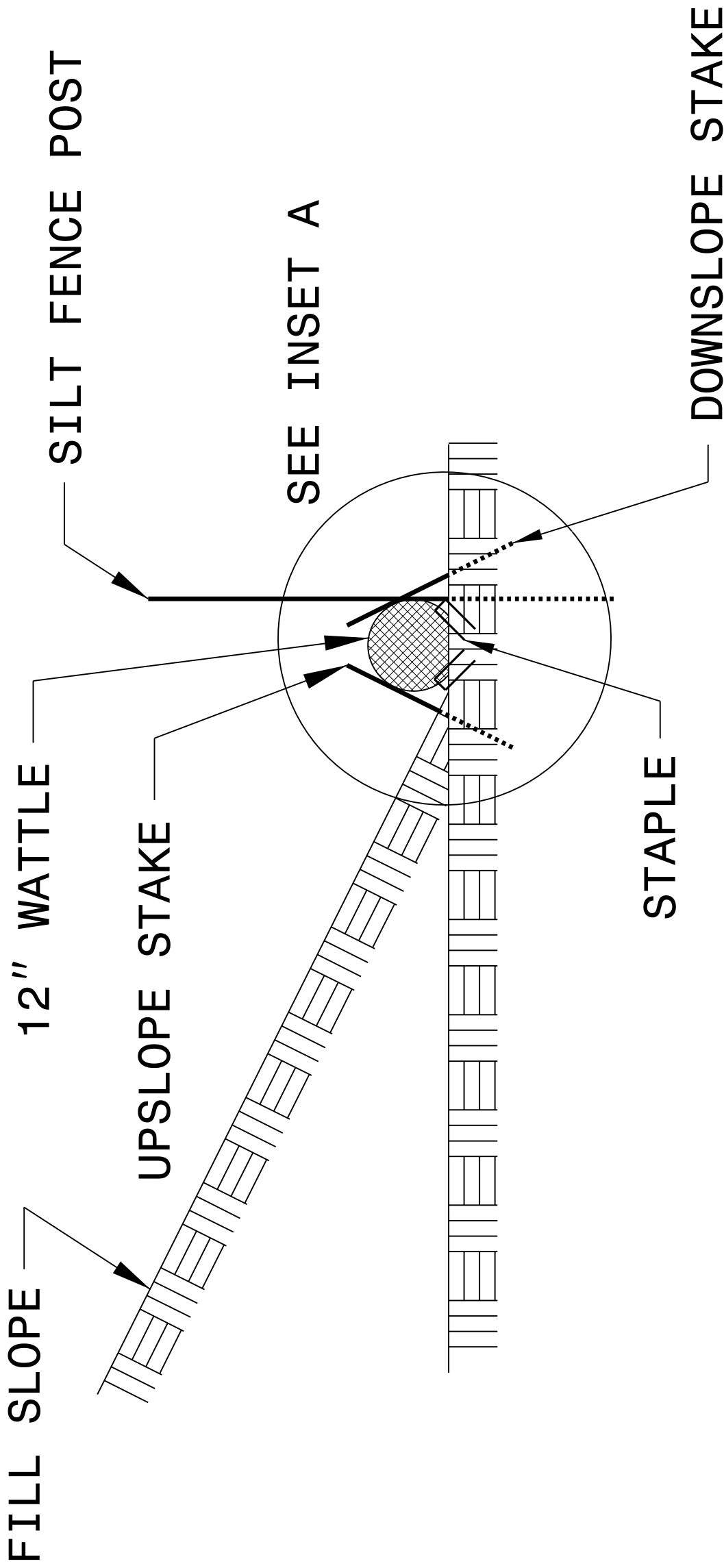
- USE MINIMUM 12 IN. DIAMETER EXCELSIOR WATTLE AND LENGTH OF 10 FT.
- EXCAVATE A 1 TO 2 INCH TRENCH FOR WATTLE TO BE PLACED.
- DO NOT PLACE WATTLE ON TOE OF SLOPE.
- USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.
- INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO GROUND.
- PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.
- INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.
- WATTLE INSTALLATION CAN BE ON OUTSIDE OF THE SILT FENCE AS DIRECTED.
- INSTALL TEMPORARY SILT FENCE IN ACCORDANCE WITH SECTION 1605 OF THE STANDARD SPECIFICATIONS.



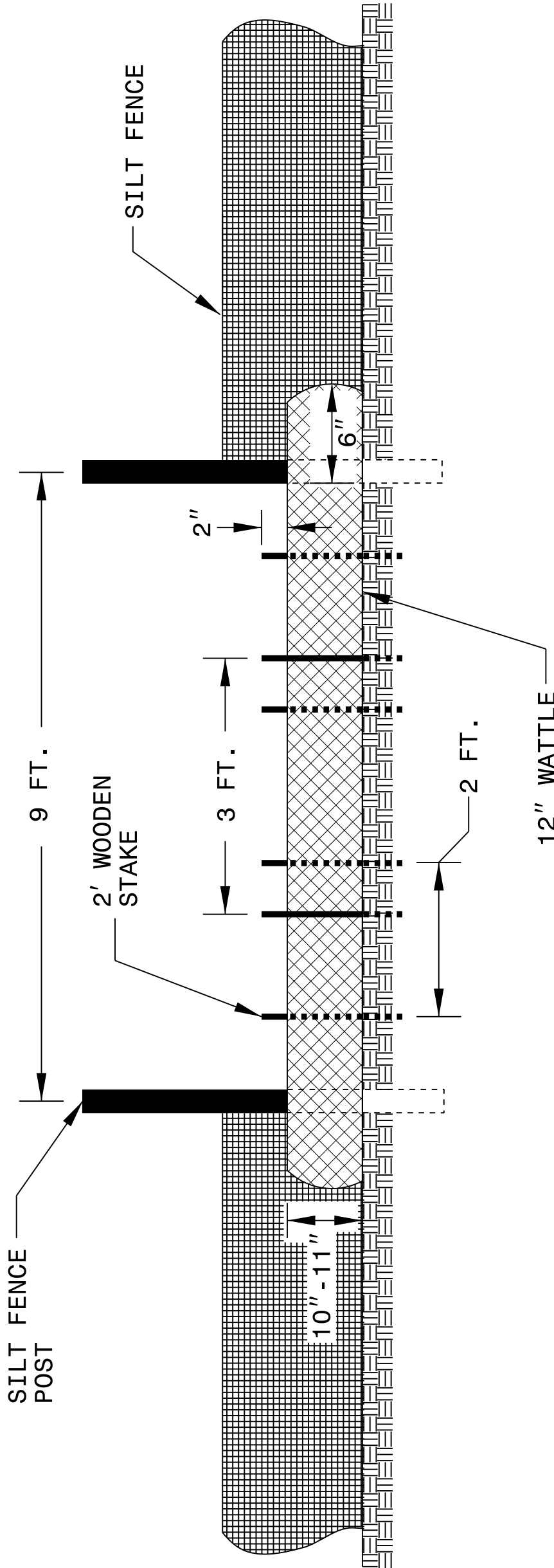
ISOMETRIC VIEW



INSET A



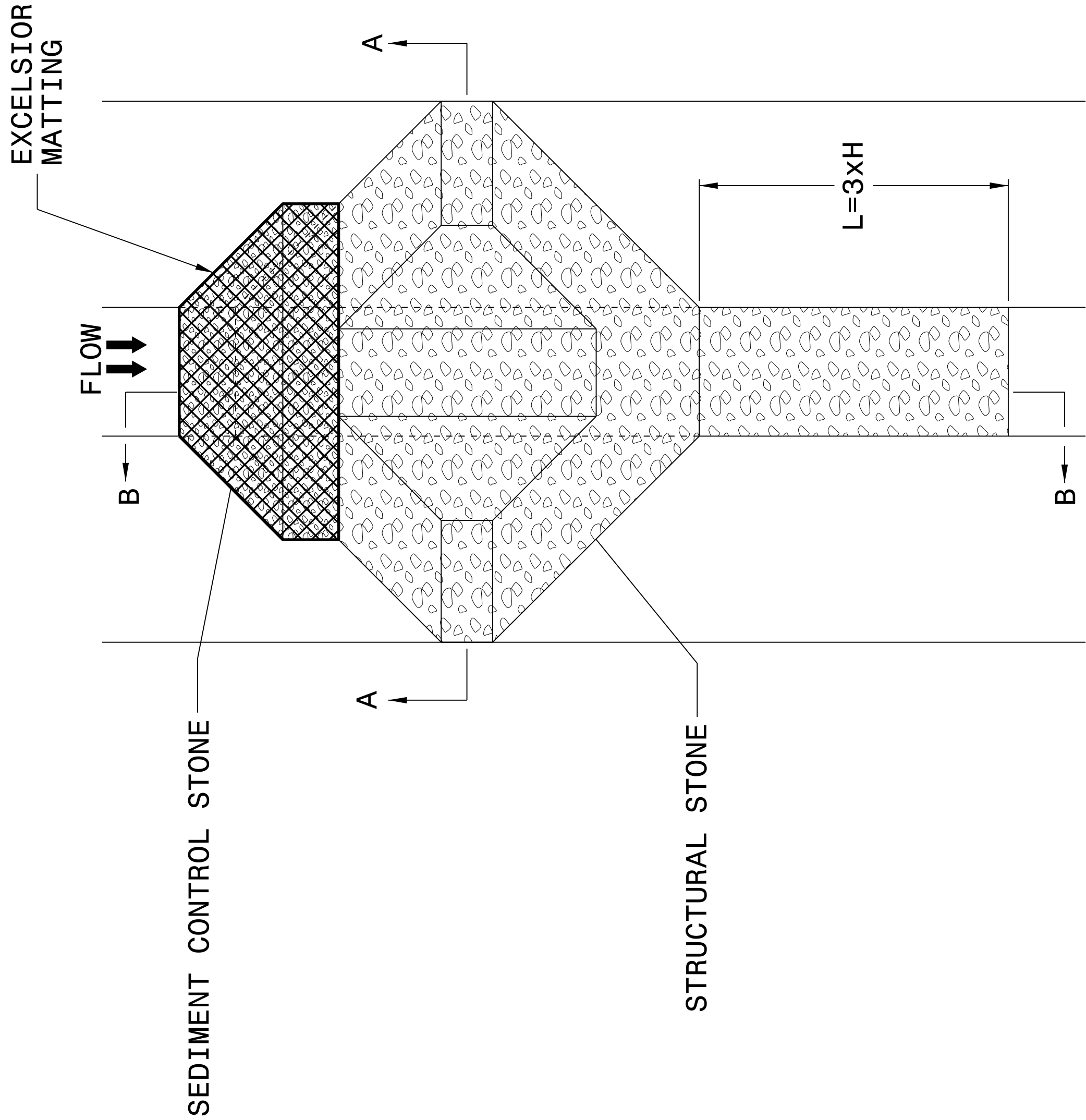
SIDE VIEW



VIEW FROM SLOPE

TEMPORARY ROCK SILT CHECK TYPE 'A' WITH EXCELSIOR MATTING AND POLYACRYLAMIDE (PAM)

PROJECT REFERENCE NO.	SHEET NO.
U-3437	EC-2B
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

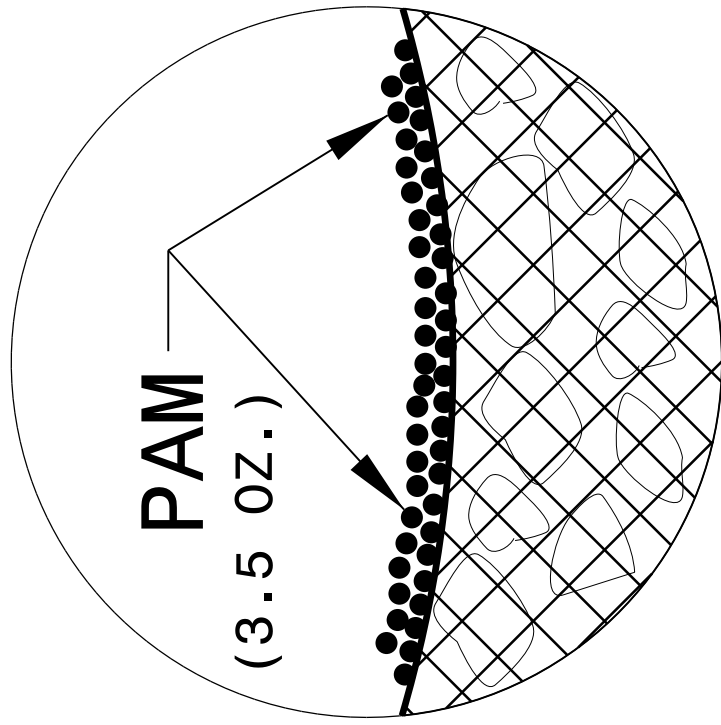


NOTES

USE EXCELSIOR FOR MATTING MATERIAL AND ANCHOR MATTING SECTION AT TOP AND BOTTOM WITH CLASS B STONE.

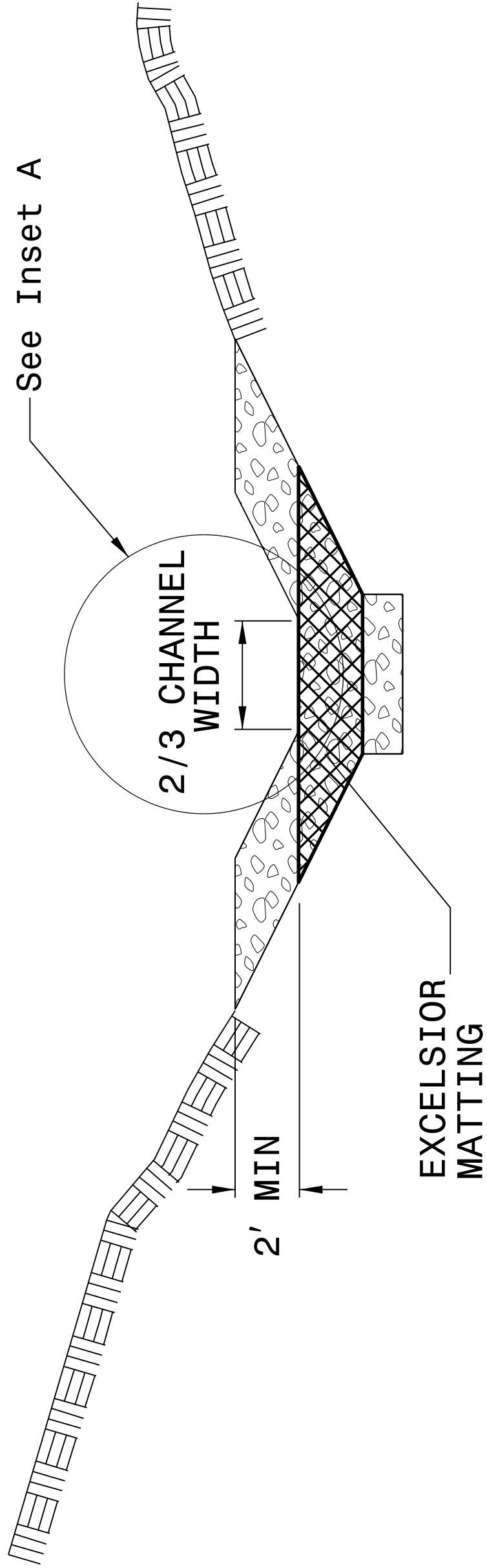
PRIOR TO POLYACRYLAMIDE (PAM) APPLICATION, OBTAIN A SOIL SAMPLE FROM PROJECT LOCATION, AND FROM OFFSITE MATERIAL, AND ANALYZE FOR APPROPRIATE PAM FLOCCULANT TO BE APPLIED TO EACH ROCK SILT CHECK.

INITIALLY APPLY 3.5 OUNCES OF POLYACRYLAMIDE (PAM) TO TOP OF MATTING SECTION AND AFTER EVERY RAINFALL EVENT THAT EQUALS OR EXCEEDS 0.50 INCHES.

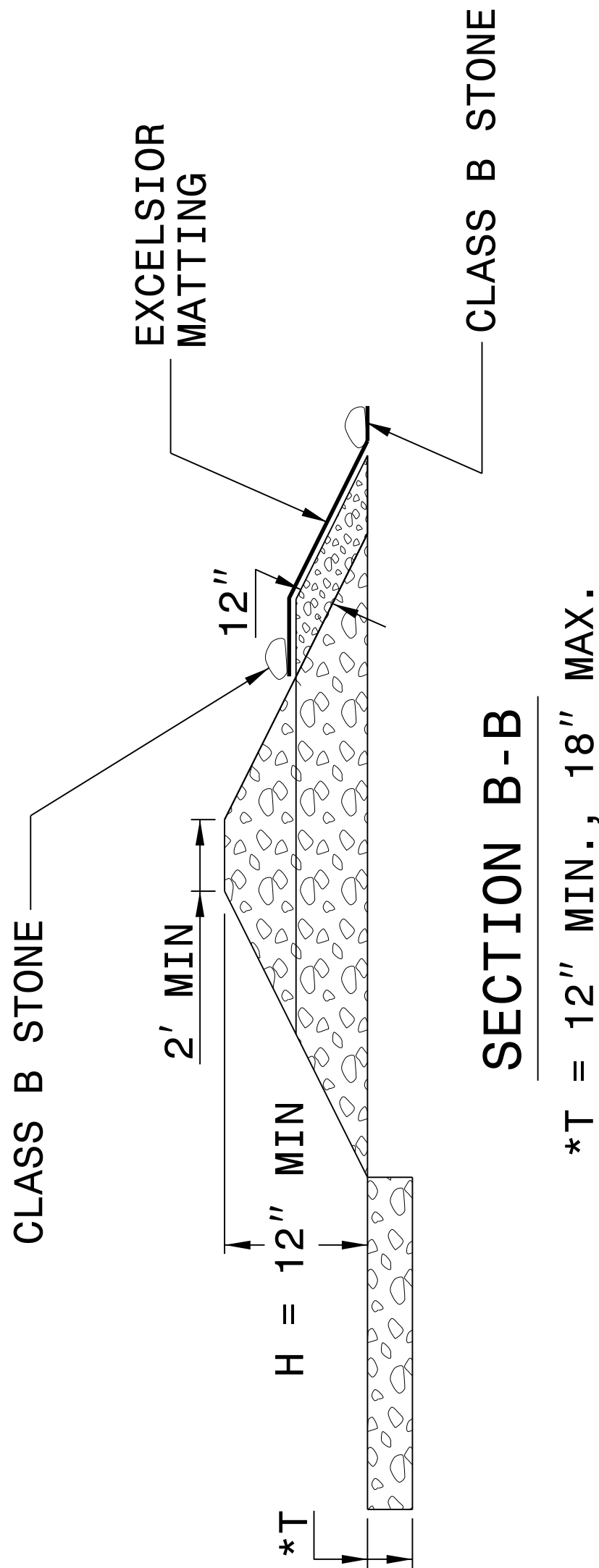


INSET A

PLAN



SECTION A-A



*T = 12" MIN., 18" MAX.

NOT TO SCALE

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION SUMMARY SHEET

PROJECT REFERENCE NO.	U-3437	HYDRAULICS ENGINEER
SHEET NO.	EC-3	

MATTING FOR EROSION CONTROL

[illegible]

MATTING FOR EROSION CONTROL

[illegible]

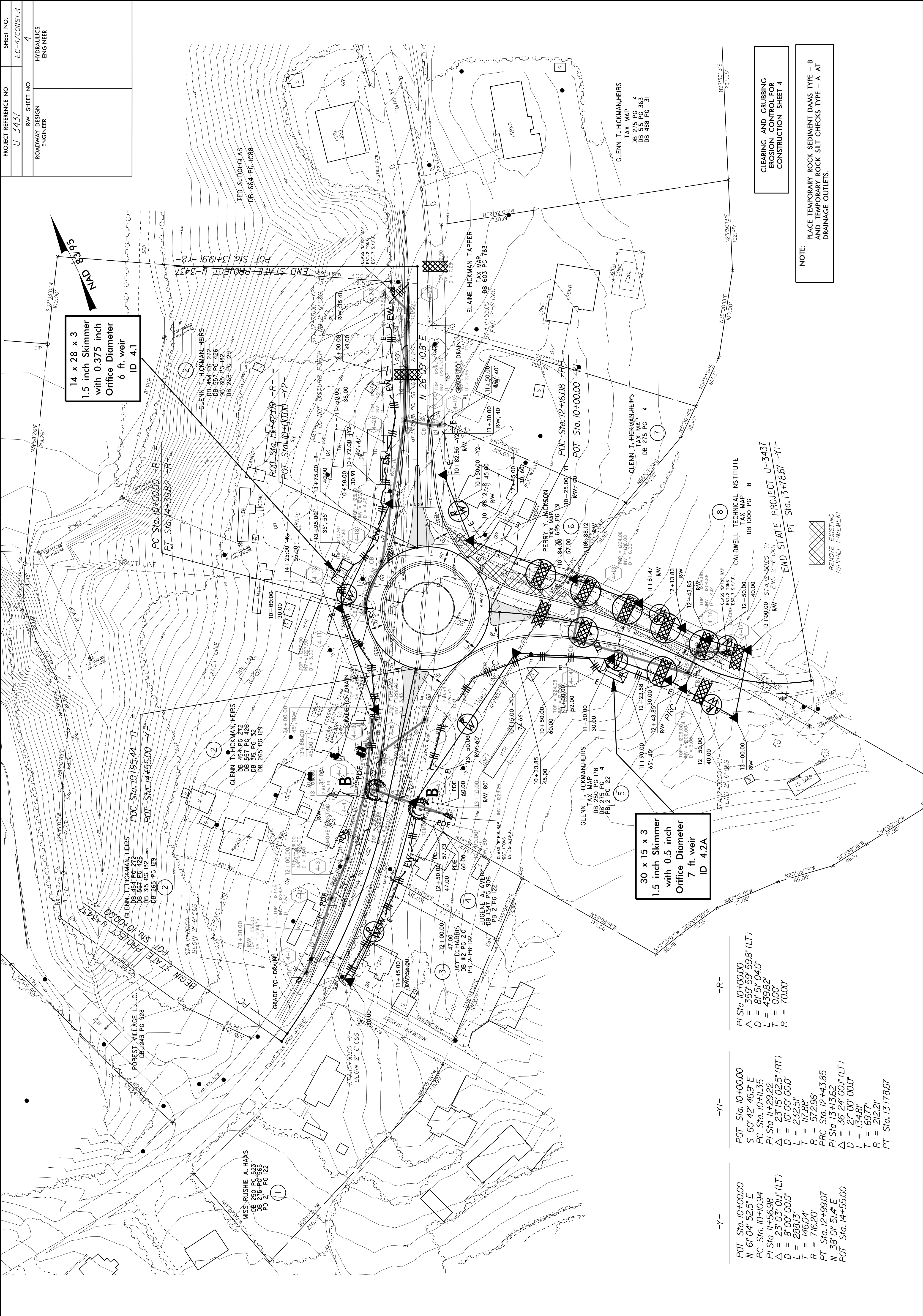
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION TIMEFRAMES

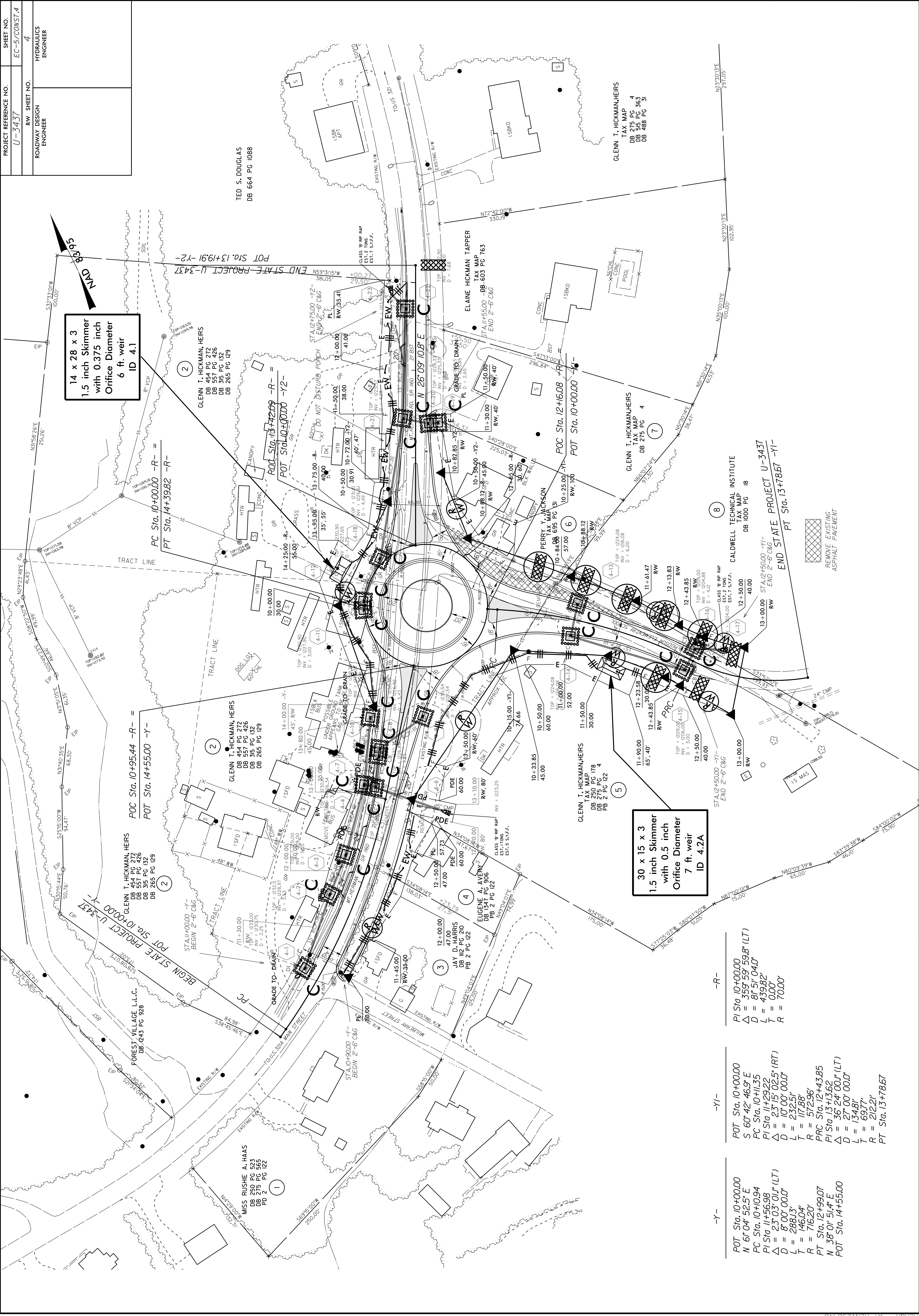
SITE DESCRIPTION	STABILIZATION TIME	TIMEFRAME EXCEPTIONS
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HQW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
SLOPES 3:1 OR FLATTER	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50' IN LENGTH.
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE, EXCEPT FOR PERIMETERS AND HQW ZONES.

PROJECT REFERENCE NO.	SHEET NO.
U-3437	EC-3A
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PROJECT REFERENCE NO.	SHEET NO.
U-3437	EC-4/CONST. 4
RW SHEET NO.	4
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



PROJECT REFERENCE NO.	SHEET NO.
U-3437	EC-5/CONST.4
RW SHEET NO.	4
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



14 x 28 x 3
1.5 inch Skimmer
with 0.375 inch
Orifice Diameter
6 ft. weir
ID 4.1

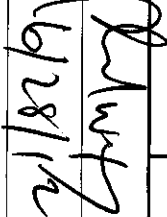
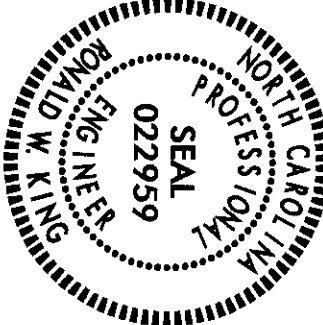
30 x 15 x 3
1.5 inch Skimmer
with 0.5 inch
Orifice Diameter
7 ft. weir
ID 4.2A

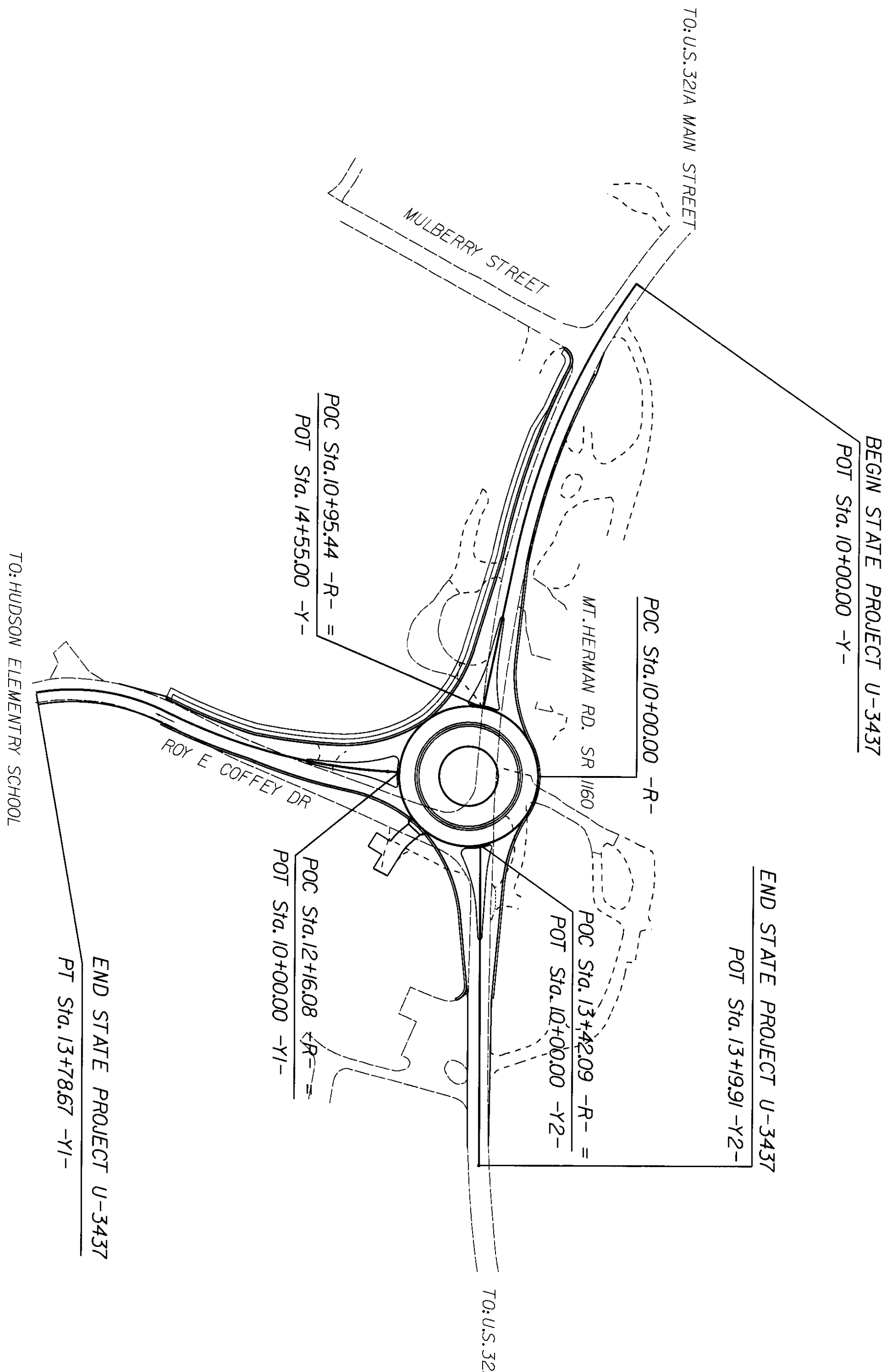
-Y-	-YI-	-R-
POT Sta. 10+00.00 N 61°04' 52.5" E PC Sta. 10+0.94 PI Sta. 11+56.98 Δ = 23°03' 01.1" (LT) D = 8'00' 00.0" L = 288.13' T = 146.04' R = 716.20' PT Sta. 12+99.07 N 38°01' 51.4" E POT Sta. 14+55.00	POT Sta. 10+00.00 S 60°42' 46.9" E PC Sta. 10+11.35 PI Sta. 11+29.22 Δ = 23°15' 02.5" (RT) D = 10'00' 00.0" L = 232.51' T = 117.88' R = 572.96' PT Sta. 13+36.2 Δ = 36°24' 00.1" (LT) D = 27'00' 00.0" L = 134.81' T = 69.71' R = 212.21' PT Sta. 13+78.67	PI Sta. 10+00.00 Δ = 359°59' 59.8" (LT) D = 81'51' 04.0" L = 439.82' T = 0.00' R = 70.00'

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

SIGNING PLAN
CALDWELL COUNTY

LOCATION: S.R. 1160 (MT. HERMAN RD)

TIP NO.	SHEET NO.
U - 3437	SIGN - 1
APPROVED: 	
DATE: 6/28/12	
SEAL	
	



CONTRACT:

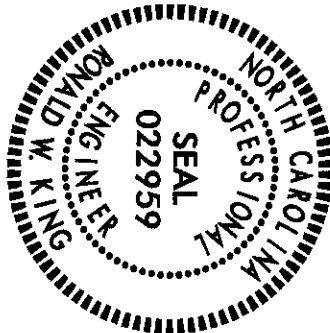
T.I.P.: U-3437

PLAN PREPARED BY: N.C.D.O.T. SIGNING AND DELINEATION UNIT	
K. JORDAN	SIGNING & DELINEATION REGIONAL ENGINEER
M. TRACEY	SIGNING & DELINEATION PROJECT DESIGN ENGINEER



SHEET NO.	DESCRIPTION
SIGN-1	TITLE SHEET
SIGN-2	INFORMATION SHEET
SIGN-3	E SHEET
SIGN-4-5	SIGN DESIGNS
SIGN-6	SIGN DETAIL SHEETS

INDEX



ROADWAY STANDARD DRAWING

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - 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
901.50	ARROWS AND SHIELDS
904.10	ORIENTATION OF GROUND MOUNTED SIGNS
904.50	MOUNTING OF TYPE 'D', 'E' AND 'F' SIGNS ON 'U' CHANNEL POSTS

PROJECT NOTES

- 1 DISPOSAL OF SIGN SYSTEM, U-CHANNEL

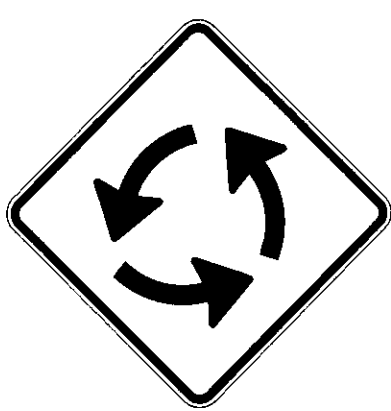
GENERAL NOTES

- . SIGNS FURNISHED BY STATE
- . ALL TYPE 'D' SIGNS SHALL BE MOUNTED ON TWO U-CHANNEL POSTS UNLESS OTHERWISE INDICATED ON THE PLANS.
- . WHEN NOT STATIONED OR DIMENSIONED ON PLANS, ALL 'E' AND 'F' SIGNS SHALL BE FIELD LOCATED BY THE ENGINEER
- . ALL EXISTING SIGNS ON "U" CHANNEL POST WITHIN THE PROJECT LIMITS SHALL BE REMOVED AND DISPOSED OF UNLESS OTHERWISE NOTED ON PLANS.
- . THE BACKGROUND FOR TYPE E & F SIGNS SHALL BE TYPE C REFLECTIVE SHEETING.

SUMMARY OF QUANTITIES

ITEM NO.		ITEM DESCRIPTION	QUANTITY	UNIT
DESC. NO.	SECT. NO.			
4072000000	903	SUPPORTS, 3 LB STEEL U-CHANNEL	306	L.F.
4096000000	904	SIGN ERECTION, TYPE D	4	EA.
4102000000	904	SIGN ERECTION, TYPE E	15	EA.
4155000000	907	DISPOSAL OF SIGN SYSTEM, U-CHANNEL	10	EA.

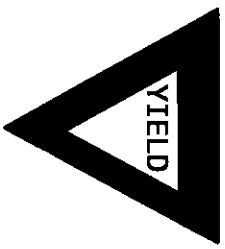
401 QUANTITY REQ'D 3



30 X 30
W2-6

ONE "U" POST PER SIGN

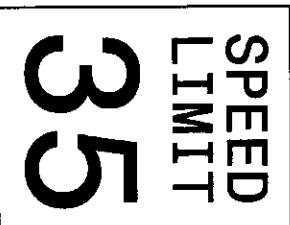
402 QUANTITY REQ'D 6



36 X 36 X 36
R1-2

ONE "U" POST PER SIGN

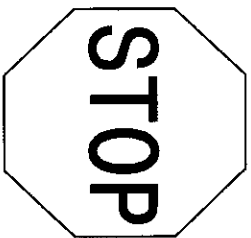
403 QUANTITY REQ'D 2



24 X 30
R2-1

ONE "U" POST PER SIGN

404 QUANTITY REQ'D 1



30 X 30
R1-1

ONE "U" POST PER SIGN

405 QUANTITY REQ'D 3



24 X 30
R6-4

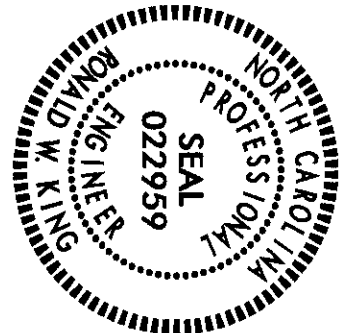
ONE "U" POST PER SIGN

TIP NO. SHEET NO.

U-3437 SIGN-3

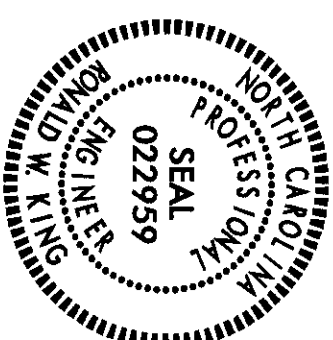
APPROVED: *[Signature]*

DATE: 6/28/12



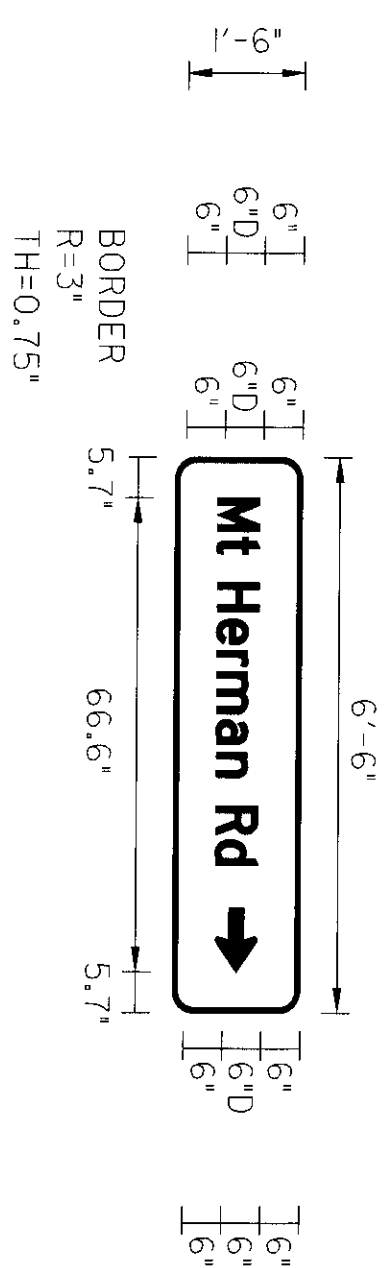
SEAL

TYPE "E" SIGNS

[illegible]

USE NOTES: 1, 2

1. Legend and border (except those that are colored black) shall be direct applied Grade C sheeting.
2. Background shall be Grade C reflective sheeting.



Spacing Factor is 1 unless specified otherwise

[illegible]

FILENAME: U-3437 Hudson Elementary School

NORTH CAROLINA D.O.T. SIGN DETAIL

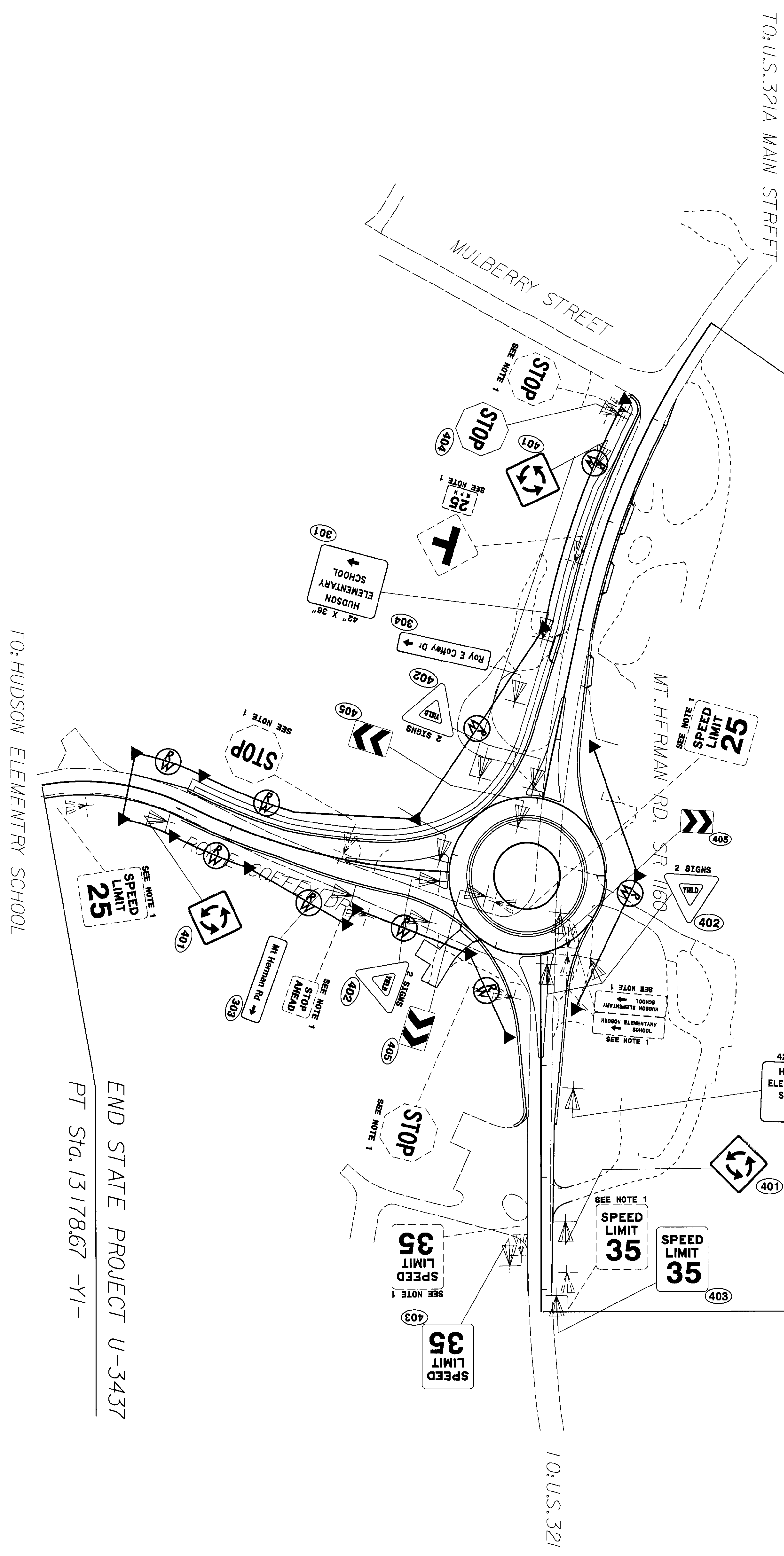
[illegible]

FILENAME: U-3437 Hudson Elementary School

NORTH CAROLINA D.O.T. SIGN DETAIL

BEGIN STATE PROJECT U-3437
POT Sta. 10+00.00 -Y-

END STATE PROJECT U-3437
POT Sta. 13+19.91 -Y2-



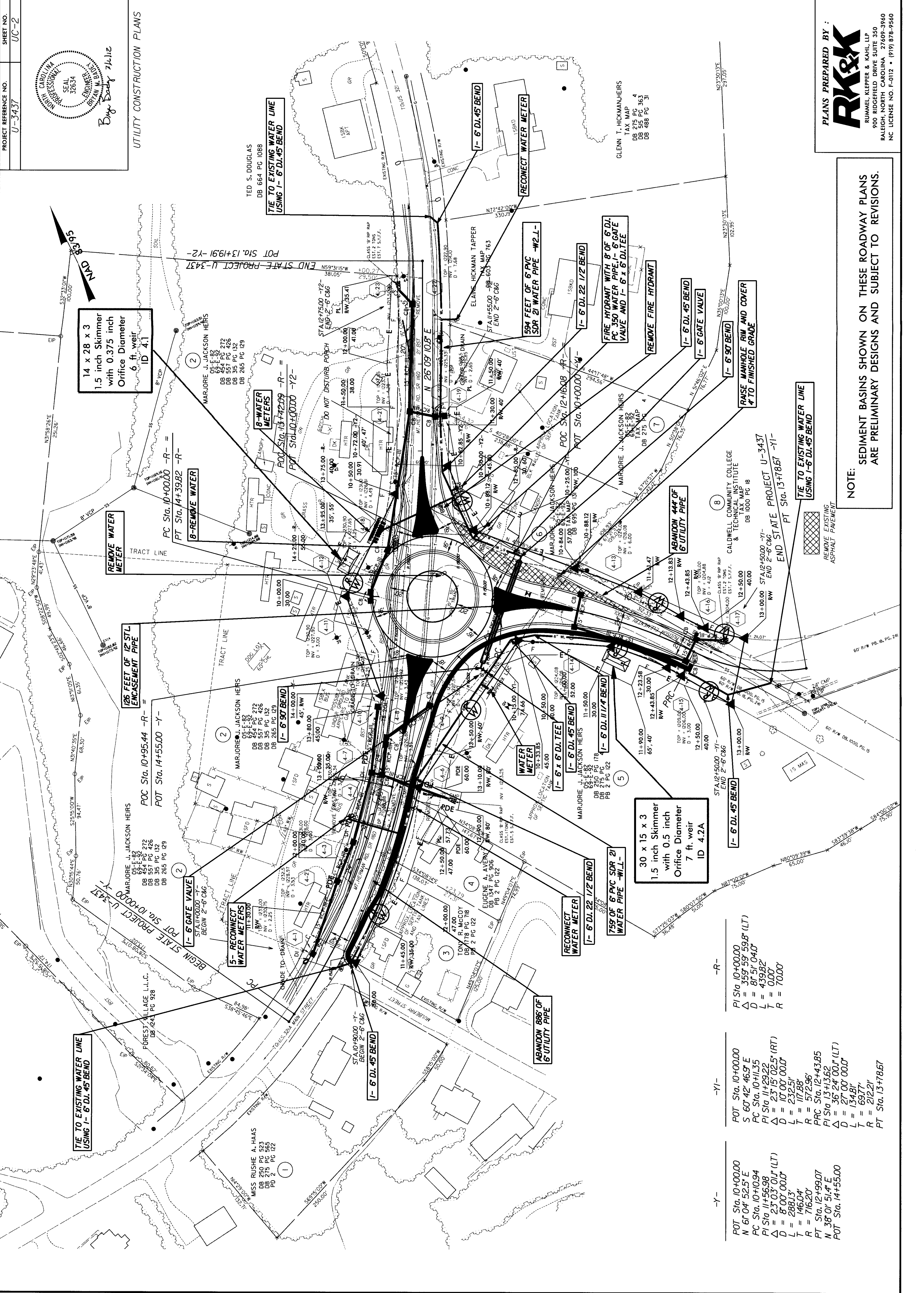
PROJECT REFERENCE NO.
U-3437

SHEET NO.
UC-2

CAROLINA
PROFESSIONAL
SEAL
32654

ENGINEER
BRYAN W. DUBOIS
Buy Back 7/1/12

UTILITY CONSTRUCTION PLANS



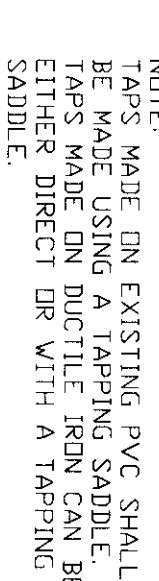
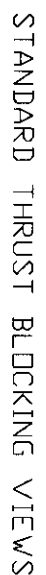
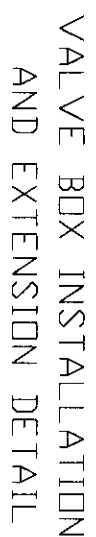
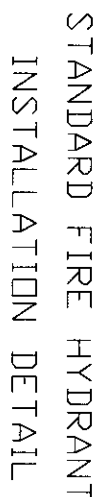
NOTE: SEDIMENT BASINS SHOWN ON THESE ROADWAY PLANS ARE PRELIMINARY DESIGNS AND SUBJECT TO REVISIONS.

PLANS PREPARED BY :

RK&K

RUMMEL, KLEPPER & KAHL, LLP
900 RIDGERIELD DRIVE SUITE 350
RALEIGH, NORTH CAROLINA 27609-3960
NC LICENSE NO. F-0112 • (919) 878-9560

-Y-	-YI-	-R-
POT Sta. 10+00.00 N 61°04' 52.5" E PC Sta. 10+10.94 PI Sta. 11+56.98 Δ = 23°03' 01.1" (LT) D = 8'00' 00.0" L = 288.13 T = 146.04 R = 716.20 PT Sta. 12+99.07 N 38°01' 51.4" E POT Sta. 14+55.00	POT Sta. 10+00.00 S 60°42' 46.9" E PC Sta. 10+11.35 PI Sta. 11+29.22 Δ = 23°15' 02.5" (RT) D = 10'00' 00.0" L = 232.51 T = 117.88 R = 572.96 PC Sta. 12+43.85 PI Sta. 13+13.62 Δ = 36°24' 00.1" (LT) D = 27'00' 00.0" L = 134.81 T = 69.77 R = 212.21 PT Sta. 13+78.67	PI Sta. 10+00.00 Δ = 359°59' 59.8" (LT) D = 87.51' 04.0" L = 439.82 T = 0.00 R = 70.00'



SIZE "P(1/D)	NUMBER OF METERED SERVICES ALLOWED
3/4" (FROM MAIN)	3/4" 1"
2"	9-16 5-8
1 1/2"	4 4-8
1"	4 2
3/4"	2 N/A

REACTION BEARING AREAS FOR HORIZONTAL WATER PIPE BENDS

BASED ON TEST PRESSURE OF 200 P.S.I.

ALL AREAS GIVEN IN SQUARE FEET

SIZE AND DEGREE OF BEND		STATIC THRUST IN POUNDS		MODERATELY DRY CLAY 4000 LBS./F.T.		SOFT CLAY 2000 LBS./F.T.		GRAVEL / COARSE SAND 1600 LBS./F.T.		DRY CLAY - ALWAYS DRY 800 LBS./F.T.		SAND - COMPACT FIRM 8000 LBS./F.T.		SAND - CLEAN DRY 4000 LBS./F.T.		QUICKSAND - VERY POOR SOIL 1000 LBS./F.T.		ROCK - POOR 10000 LBS./F.T.	
6"																			
11 1/4°	1,108	1	2	1	1	1	1	1	1	1	1	2	1						
22 1/2°	2,207	1	2	1	2	1	1	1	1	1	1	3	1						
45°	4,328	2	3	3	3	1	1	1	2	5	1								
90°	7,996	2	4	5	1	1	1	2	8	1									
Plug	5,655	2	3	4	1	1	1	2	6	1									
8°																			
11 1/4°	1,970	1	2	1	2	1	1	1	1	2	1								
22 1/2°	3,952	1	2	3	1	1	1	1	1	4	1								
45°	7,654	2	4	5	1	1	1	2	8	1									
90°	14,215	4	8	9	2	2	4	15	2										
Plug	10,053	3	5	6	2	2	3	10	1										
12°																			
11 1/4°	4,453	2	3	3	1	1	2	5	1										
22 1/2°	8,856	3	5	6	2	2	3	9	1										
45°	17,312	5	9	11	3	3	5	18	2										
90°	31,983	8	16	19	4	4	8	32	4										
Plug	22,619	6	12	14	3	3	6	23	3										
16°																			
11 1/4°	7,881	2	4	5	1	1	2	8	1										
22 1/2°	15,591	4	8	10	2	2	4	16	2										
45°	30,779	8	16	19	4	4	8	31	4										
90°	56,561	15	29	35	8	8	15	57	6										
Plug	40,213	10	21	25	5	5	10	41	5										

REACTION BEARING AREAS ARE IN SQUARE FEET
MEASURED IN A VERTICAL PLANE IN THE
VERTICAL SLOPE AT AN ANGLE UP 90° TO THE THRUST
VECTOR

USE 6" - 90° BEND VALUE FOR HYDRAULIC FILL
ADDITIONAL SAFETY FACTOR

THRUST BLOCKING DESIGN
QUANTITY TABLE

THRUST BLOCKING DESIGN
QUANTITY TABLE

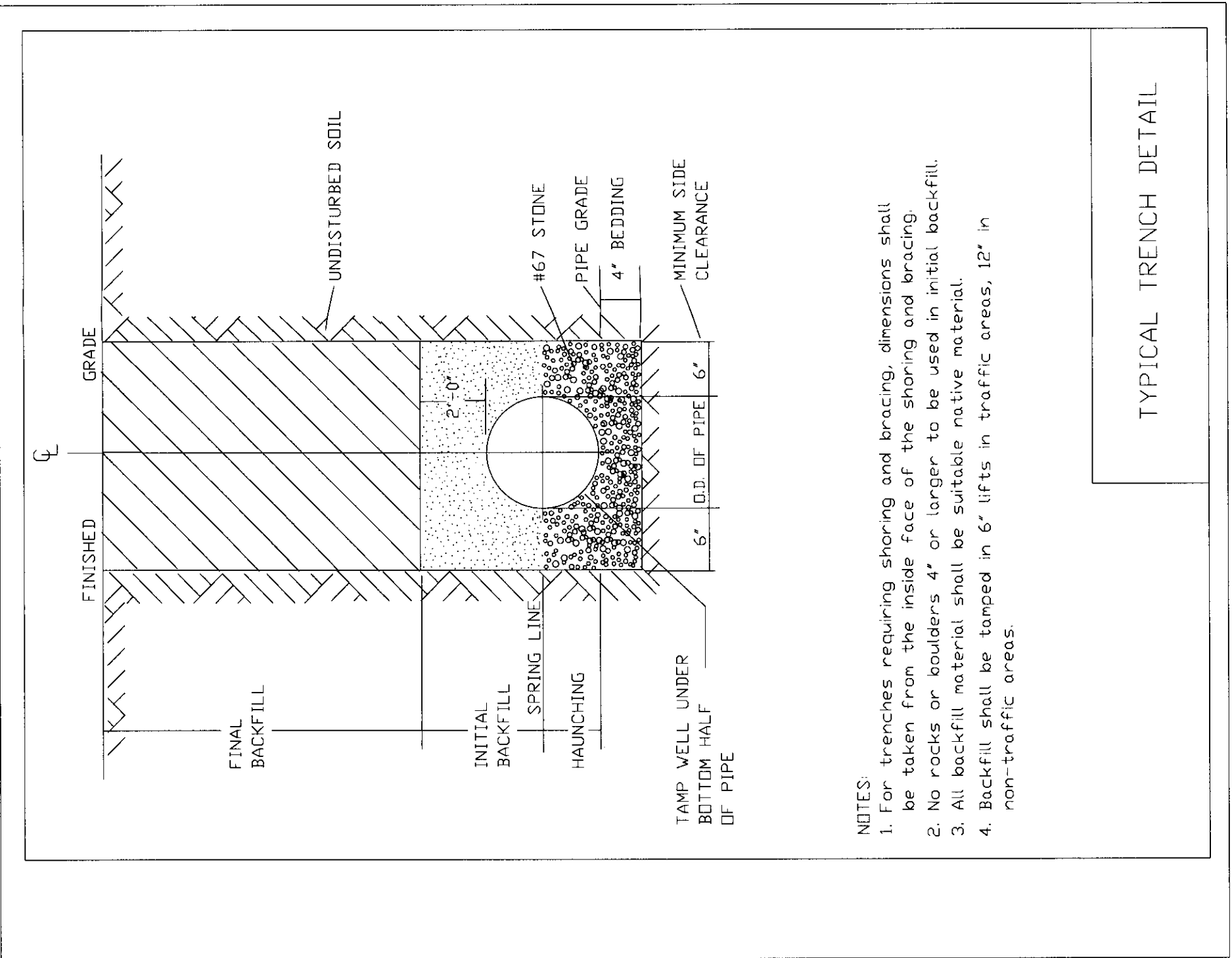
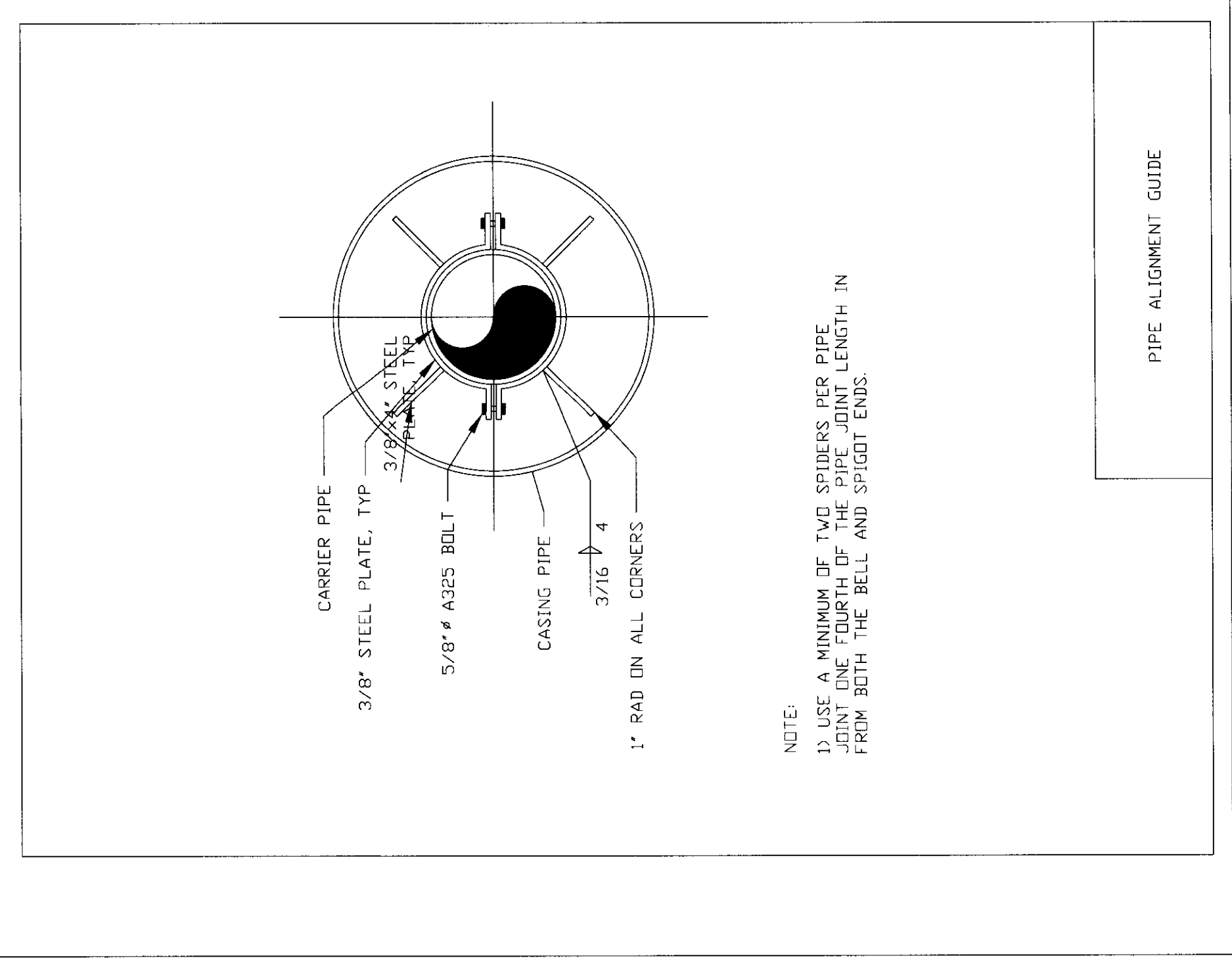
PROJECT REFERENCE NO.
U-3437

SHEET NO.
UC-5

PROFESSIONAL SEAL
32634
BRIAN M. DRISCOLL
ENGINEER
NORTH CAROLINA

By: *Boyd* 7/6/12

UTILITY CONSTRUCTION PLANS



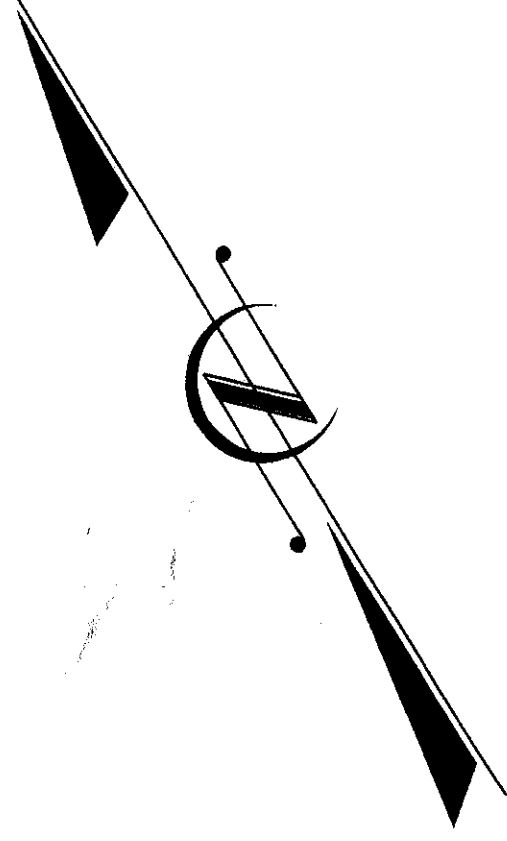
PLANS PREPARED BY :

R
K
&
K

RUMMEL, KLEPPER & KAHL, LLP
900 RIDGEFIELD DRIVE SUITE 350
RALEIGH, NORTH CAROLINA 27609-3960
NC LICENSE NO. F-0112 • (919) 878-9560

TIP PROJECT: U-3437

CONTRACT:



CALDWELL COUNTY

TYPE OF WORK: UTILITIES BY OTHERS

THE ENTIRE PROJECT IS WITHIN THE MUNICIPAL BOUNDRIES OF THE TOWN OF HUDSON

GRAPHIC SCALES

PLANS

0 25 50 100

PROFILE (HORIZONTAL)

0 25 50 100

PROFILE (VERTICAL)

0 5 10 20

<u>SHEET NO.</u>	<u>DESCRIPTION</u>
UO-1	TITLE SHEET
UO-2	UTILITIES BY OTHERS PLAN SHEETS

UTILITY OWNERS ON PROJECT

 **Duke Energy.**

(1) DUKE ENERGY – POWER

 **at&t**

(2) AT&T– TELEPHONE

 **Charter**

(3) CHARTER COMMUNICATIONS – CATV

 **Piedmont Natural Gas**

(4) PIEDMONT NATURAL GAS – GAS

PLANS PREPARED BY:

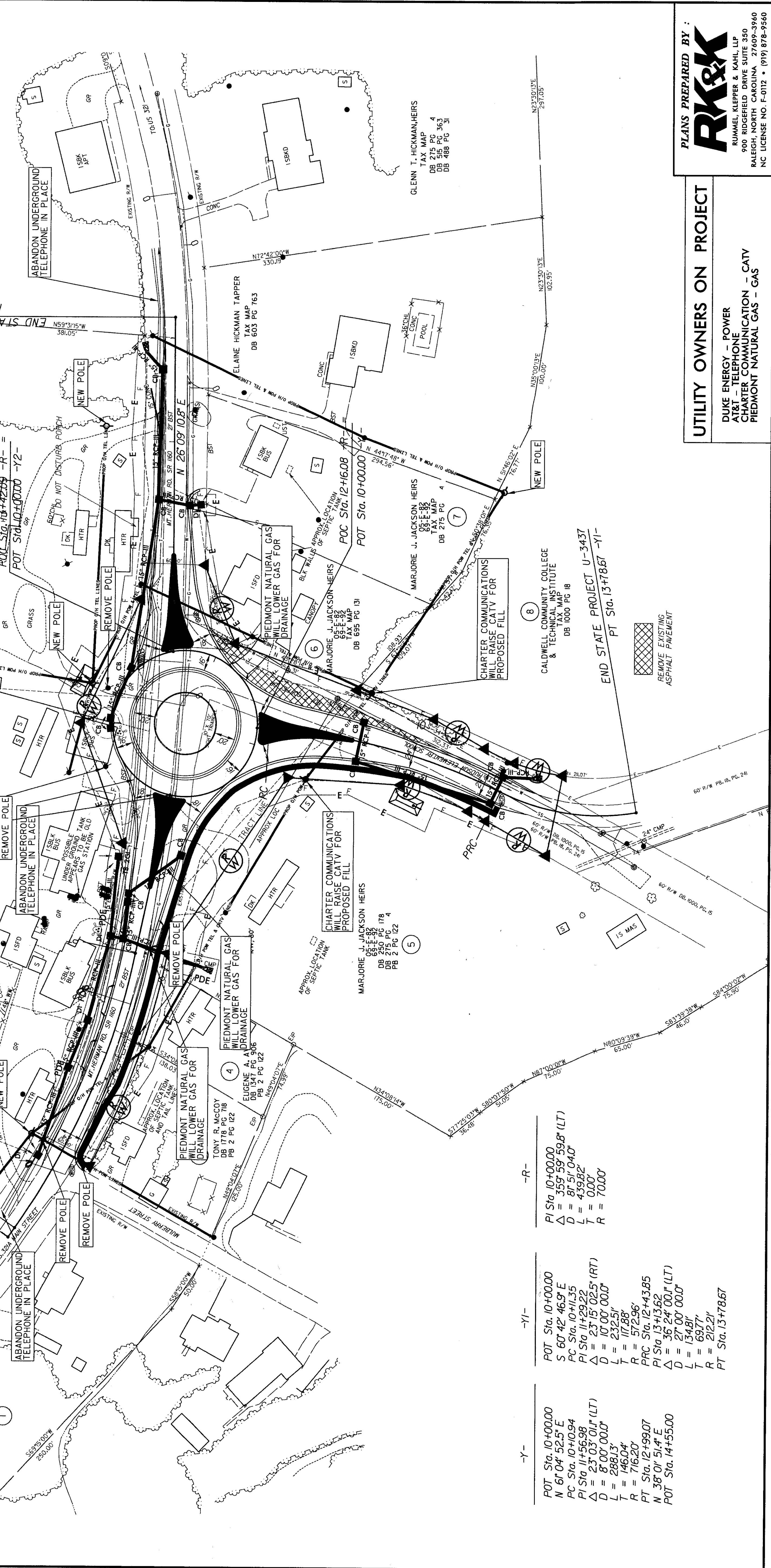


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NC LICENSE NO. F-0112
1-888-521-4455 OR 919-878-9560

UTILITIES BY OTHERS

NOTE:
ALL PROPOSED UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS.

POT Sta. 13+19
END STATE PROJECT U-3437
M=5113.65N
507.83



-Y-	-Y/-	-R-
POT Sta. 10+00.00 N 61°04' 52.5" E PC Sta. 10+00.94 PI Sta. 11+56.98 Δ = 23°03' 01.1" (LT) D = 8'00' 00.0" L = 288.13' T = 46.04' R = 716.20' PT Sta. 12+99.07 N 38°01' 51.4" E POT Sta. 14+55.00	POT Sta. 10+00.00 S 60°42' 46.9" E PC Sta. 10+11.35 PI Sta. 11+29.22 Δ = 23°15' 02.5" (RT) D = 10'00' 00.0" L = 232.51' T = 117.88' R = 572.96' PRC Sta. 12+43.85 PI Sta. 13+13.62 Δ = 36°24' 00.1" (LT) D = 27'00' 00.0" L = 134.81' T = 69.77' R = 212.21' PT Sta. 13+78.67	PI Sta. 10+00.00 Δ = 359°59' 59.8" (LT) D = 81°51' 04.0" L = 439.82' T = 0.00' R = 70.00'

PLANS PREPARED BY :

UTILITY OWNERS ON PROJECT

DUKE ENERGY - POWER
AT&T - TELEPHONE
CHARTER COMMUNICATION - CATV
PIEDMONT NATURAL GAS - GAS

RK&K

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U-3437

CROSS - SECTION INDEX

CROSS - SECTION SUMMARY SHEET X-
-Y- STA. 11+00.00 TO STA. 14+50.00 X-1 - X-3
-R- STA. 10+00.00 TO STA. 14+25.00 X-4 - X-9
-Y1- STA. 10+50.00 TO STA. 13+00.00 X-10 - X-11
-Y2- STA. 10+50.00 TO STA. 12+50.00 X-12 - X-13

