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TIP PROJECT: B-4929

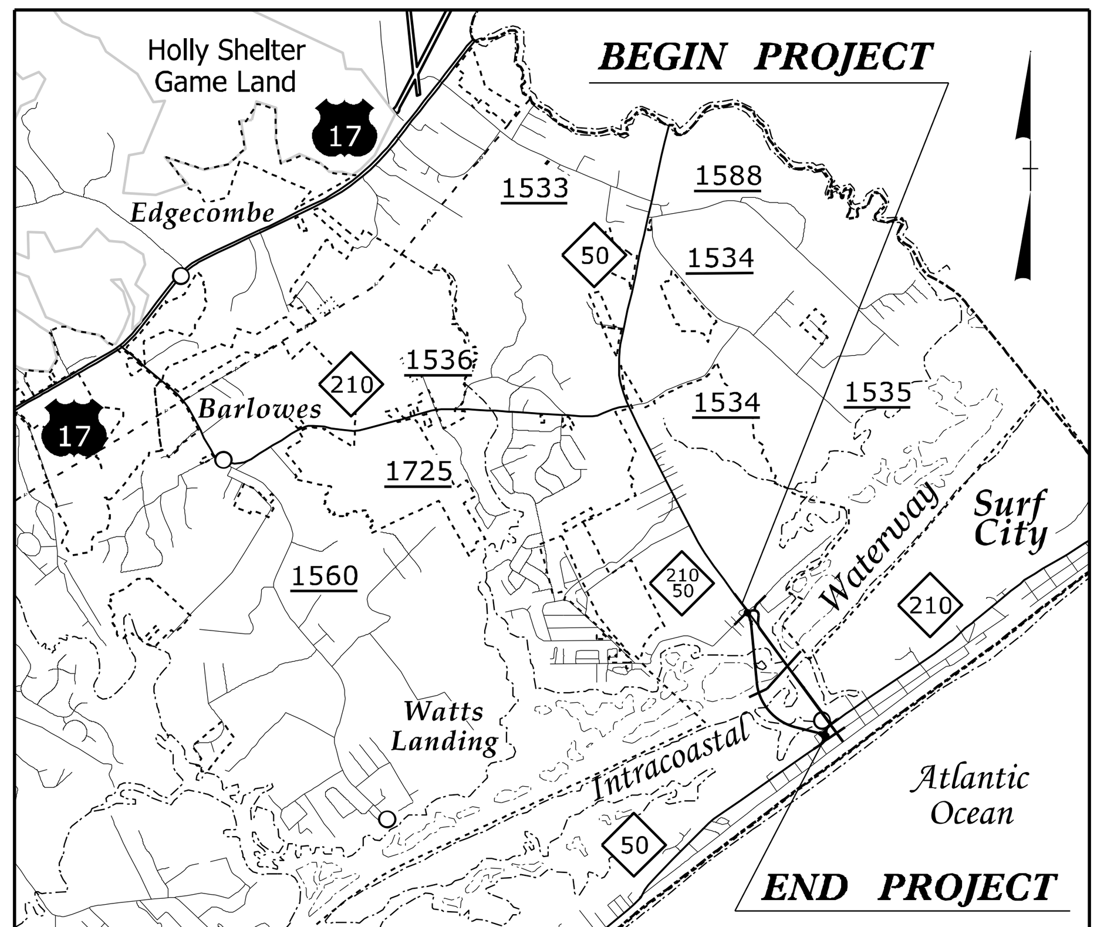
CONTRACT: C203789

See Sheet 1A For Index of Sheets
See Sheet 1B For Conventional Symbols

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4929	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
40233.1.1	BRSTP-0050(10)	PE
40233.2.1	N/A	R/W
40233.2.2	N/A	UTL
40233.3.1	N/A	CONST

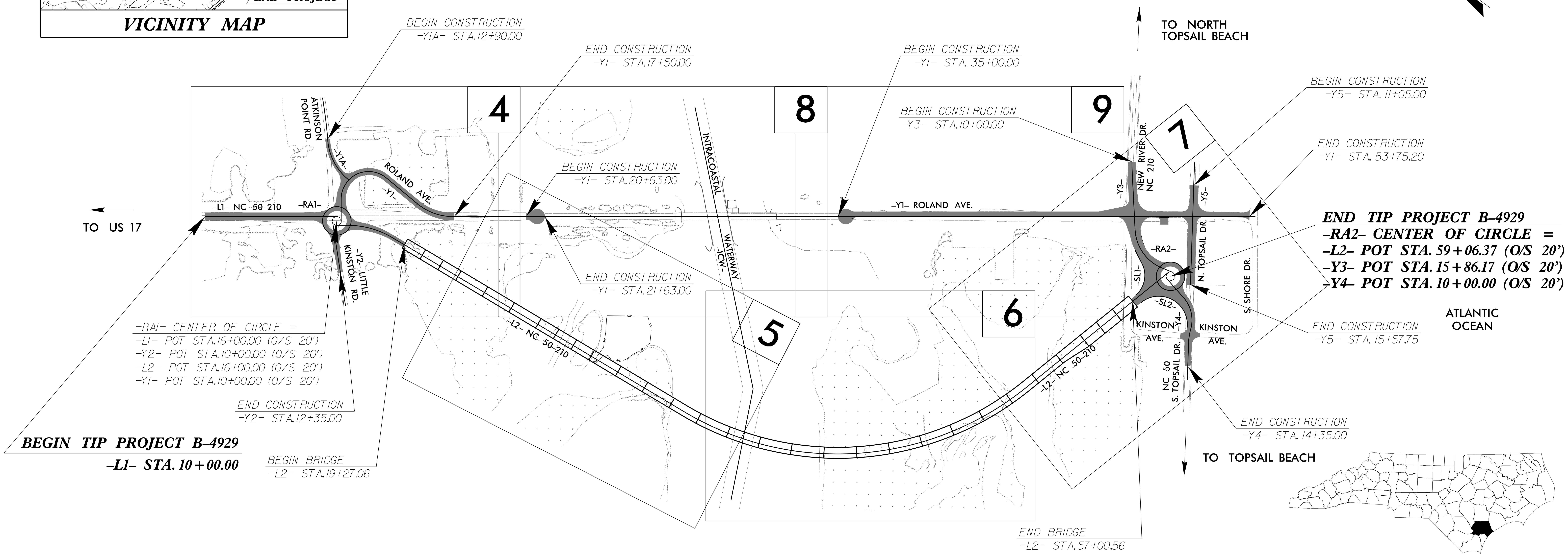


VICINITY MAP

PENDER COUNTY

LOCATION: BRIDGE NO. 16 OVER THE INTRACOASTAL WATERWAY ON NC 50-210

TYPE OF WORK: GRADING, DRAINAGE, PAVING, STRUCTURE, AND WALLS



DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES

PLANS: 50 25 0 50 100

PROFILE (HORIZONTAL): 50 25 0 50 100

PROFILE (VERTICAL): 10 5 0 10 20

DESIGN DATA

ADT 2016 = 17,200
ADT 2036 = 30,000
DHV = 9 %
D = 55 %
T = 3 % *
V = 40 MPH
* TTST = 1% DUAL = 2%
FUNC CLASS = MAJOR COLLECTOR REGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-4929	=	0.214 MILES
LENGTH STRUCTURE TIP PROJECT B-4929	=	0.715 MILES
TOTAL LENGTH TIP PROJECT B-4929	=	0.929 MILES

-L1- AND -L2- USED TO CALCULATE PROJECT LENGTH

PLANS PREPARED BY:

RS&H
8601 SIX FORKS ROAD, SUITE 260
RALEIGH, NC 27615
919-926-4100

FOR THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: AUGUST 31, 2015

LETTING DATE: AUGUST 16, 2016

JENNIFER FARINO, PE — PROJECT ENGINEER

SEAN KORTOVICH, EI — PROJECT DESIGNER

TONY HOUSER, PE — NCDOT CONTACT

HYDRAULICS ENGINEER

DocuSigned by: Will Weatherslee
DC2FFE7F825A480...
SIGNATURE: P.E. 4/27/2016

NORTH CAROLINA PROFESSIONAL SEAL 036188 ENGINEER WILL J. WEATHERSBEE

ROADWAY DESIGN ENGINEER

DocuSigned by:
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SIGNATURE: P.E. 4/26/2016

NORTH CAROLINA PROFESSIONAL SEAL 030952 ENGINEER JENNIFER D. FARINO

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

09/08/99

4/25/2016
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8/17/99

PROJECT REFERENCE NO.	SHEET NO.
B-4929	1A

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 030952 JENNIFER D. FARINO
DocuSigned by: 679D1E857D98415...
6/13/2016

INDEX OF SHEETS

SHEET NUMBER	SHEET
1	TITLE SHEET
1A	INDEX OF SHEETS
1B	CONVENTIONAL SYMBOLS
1C-1 THRU 1C-2	SURVEY CONTROL SHEETS
2A-1 THRU 2A-8	PAVEMENT SCHEDULE, TYPICAL SECTIONS, AND WEDGING DETAILS
2B-1 THRU 2B-2	ROUNDABOUT DETAIL SHEETS
2B-3 THRU 2B-4	BRIDGE SKETCH DETAIL SHEETS
2B-5 THRU 2B-6	SHEAR POINT DIAGRAMS
2B-7	-L1- / -Y2- DETOURS
2B-8	MOMENT SLAB DETAIL
2C-1 THRU 2C-4	SPECIAL DETAILS (NOTE: 2C-2 NOT USED)
2D-1 THRU 2D-3	INFILTRATION BASIN DETAILS
3B-1	SUMMARY OF GUARDRAIL, CONCRETE CURB RAMPS SUMMARY, CHAIN LINK FENCE SUMMARY, AND ASPHALT PAVEMENT REMOVAL SUMMARY
3B-2	SUMMARY OF EARTHWORK
3D-1 THRU 3D-3	SUMMARY OF DRAINAGE QUANTITIES
3G-1	GEOTECHNICAL SUMMARIES
3P-1	PARCEL INDEX SHEET
4 THRU 9	PLAN SHEETS
10 THRU 15	PROFILE SHEETS
TMP-1 THRU TMP-14	TRANSPORTATION MANAGEMENT PLANS
PMP-1 THRU PMP-8	PAVEMENT MARKING PLANS
EC-1 THRU EC-15	EROSION CONTROL PLANS
SIGN-1 THRU SIGN-7	SIGNING PLANS
UC-1 THRU UC-26	UTILITY CONSTRUCTION PLANS
UO-1 THRU UO-4	UTILITY BY OTHERS PLANS
X-1A	CROSS SECTION INDEX SHEET
X-1B THRU X-1C	CROSS SECTION SUMMARY SHEETS
X-1 THRU X-58	CROSS SECTIONS
S-1 THRU S-278	STRUCTURES PLANS
W-1 THRU W-4	RETAINING WALL SHEETS

GENERAL NOTES

GENERAL NOTES:

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

GRADING AND SURFACING OR RESURFACING AND WIDENING:

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

CLEARING:

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

SUBSURFACE DRAINS:

SUBSURFACE DRAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 815.02 AT LOCATIONS DIRECTED BY THE ENGINEER.

DRIVEWAYS:

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

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

STREET TURNOUT:

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

GUARDRAIL:

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

TEMPORARY SHORING:

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

END BENTS:

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

UTILITIES:

UTILITY OWNERS ON THIS PROJECT ARE

Town of Surf City (Water and Sewer)

Jones-Onslow EMC (Electric)

Charter Communications (Cable) Century Line (Telephone)

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

RIGHT-OF-WAY MARKERS:

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

CURB RAMPS

CURB RAMPS ARE SHOWN ON THE PLANS AT APPROXIMATE LOCATIONS.
CONSTRUCT ALL CURB RAMPS ACCORDANCE WITH STD 848.05 and/or 848.06.

STANDARD DRAWINGS

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

2012 ROADWAY ENGLISH STANDARD DRAWINGS

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

STD.NO.	TITLE
DIVISION 2 - EARTHWORK	
200.03	Method of Clearing - Method III
225.02	Guide for Grading Subgrade - Secondary and Local
225.04	Method of Obtaining Superelevation - Two Lane Pavement
DIVISION 3 - PIPE CULVERTS	
300.01	Method of Pipe Installation
DIVISION 5 - SUBGRADE, BASES AND SHOULDERS	
560.01	Method of Shoulder Construction - High Side of Superelevated Curve - Method I
DIVISION 6 - ASPHALT BASES AND PAVEMENTS	
654.01	Pavement Repairs
DIVISION 8 - INCIDENTALS	
815.02	Subsurface Drain
840.00	Concrete Base Pad for Drainage Structures
840.01	Brick Catch Basin - 12" thru 54" Pipe
840.02	Concrete Catch Basin - 12" thru 54" Pipe
840.03	Frame, Grates and Hood - for Use on Standard Catch Basin
840.04	Concrete Open Throat Catch Basin - 12" thru 48" Pipe
840.05	Brick Open Throat Catch Basin - 12" thru 48" Pipe
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
840.24	Frames and Narrow Slot Sag Grates
840.27	Brick Grated Drop Inlet Type 'B' - 12" thru 36" Pipe
840.28	Brick Grated Drop Inlet Type 'D' - 12" thru 36" Pipe
840.29	Frames and Narrow Slot Flat Grates
840.31	Concrete Junction Box - 12" thru 66" Pipe
840.32	Brick Junction Box - 12" thru 66" Pipe
840.34	Traffic Bearing Junction Box - for Use with Pipes 42" and Under
840.36	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
840.54	Manhole Frame and Cover
840.66	Drainage Structure Steps
840.71	Concrete and Brick Pipe Plug
846.01	Concrete Curb, Gutter and Curb & Gutter
848.01	Concrete Sidewalk
848.02	Driveway Turnout - Radius Type
848.03	Driveway Turnout - Drop Curb Type
848.04	Street Turnout
848.05	Curb Ramp - Proposed Curb & Gutter
852.01	Concrete Islands
852.06	Method for Placement of Drop Inlets in Concrete Islands
862.01	Guardrail Placement
862.02	Guardrail Installation
866.01	Chain Link Fence - 4', 5' and 6' High Fence
876.02	Guide for Rip Rap at Pipe Outlets

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PROJECT REFERENCE NO.	SHEET NO.
B-4929	1B

Note: Not to Scale

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

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

- State Line
- County Line
- Township Line
- City Line
- Reservation Line
- Property Line
- Existing Iron Pin — EIP
- Property Corner
- Property Monument — ECM
- Parcel/Sequence Number — 123
- Existing Fence Line
- Proposed Woven Wire Fence
- Proposed Chain Link Fence
- Proposed Barbed Wire Fence
- Existing Wetland Boundary — WLB
- Proposed Wetland Boundary — WLB
- Existing Endangered Animal Boundary — EAB
- Existing Endangered Plant Boundary — EPB
- Known Soil Contamination: Area or Site
- Potential Soil Contamination: Area or Site
- Subaquatic Vegetation Habitat Boundary — SAV

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 — FLOW
- False Sump

RAILROADS:

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

RIGHT OF WAY:

- Baseline Control Point
- Existing Right of Way Marker
- Existing Right of Way Line
- Proposed Right of Way Line — 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 C/A 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 — P
- Power Line Tower
- Power Transformer
- U/G Power Cable Hand Hole
- H–Frame Pole
- Recorded U/G Power Line — P
- Designated U/G Power Line (S.U.E.*) — P

TELEPHONE:

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

WATER:

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

TV:

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

GAS:

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

SANITARY SEWER:

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

MISCELLANEOUS:

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

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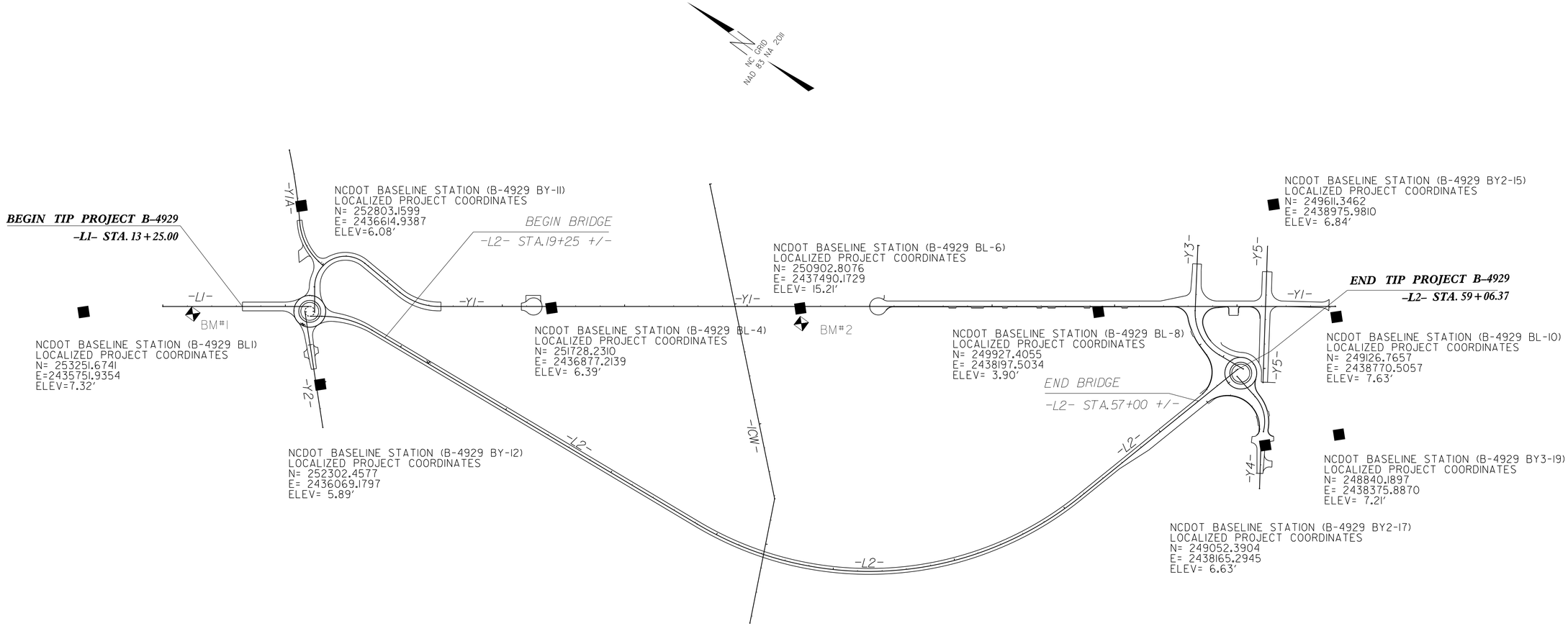
PROJECT REFERENCE NO.	SHEET NO.
B-4929	1C-1
Location and Surveys	

SURVEY CONTROL SHEET B-4929



DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "BRYSON"
WITH NAD 83/NA 2011 STATE PLANE GRID COORDINATES OF
NORTHING: 252155.543(ft) EASTING: 2436621.213(ft)
ELEVATION: 3.89(ft)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99997439
THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "BRYSON" TO -L1- STATION 10+00 IS
N37°50'00.61"W 1090.40'
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88

NOTE: DRAWING NOT TO SCALE

NOTES:

1. *THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:*
   HTTPS://CONNECT.NCDOT.GOV/RESOURCES/LOCATION/

   THE FILES TO BE FOUND ARE AS FOLLOWS:
   B-4929_LS_CONTROL.TXT

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

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

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PROJECT REFERENCE NO.	SHEET NO.
B-4929	1C-2
Location and Surveys	

SURVEY CONTROL SHEET B-4929

BL

POINT	DESC.	NORTH	EAST	ELEVATION	Y1 STATION	OFFSET
1	B-4929 BL-1	253251.6741	2435751.9354	7.32	OUTSIDE PROJECT LIMITS	
2	B-4929 BL-2	252488.9793	2436310.1499	6.64	OUTSIDE PROJECT LIMITS	
3	B-4929 BL-3	252155.5430	2436621.2130	3.89	17+00.04	24.88 LT
4	B-4929 BL-4	251728.2310	2436877.2139	6.39	22+00.28	19.14 RT
5	B-4929 BL-5	251329.8022	2437213.0530	17.55	27+20.25	15.10 LT
6	B-4929 BL-6	250902.8076	2437490.1729	15.21	32+28.40	14.88 RT
7	B-4929 BL-7	250446.3323	2437816.1529	4.17	37+89.26	22.99 RT
8	B-4929 BL-8	249927.4055	2438197.5034	3.90	44+33.25	23.54 RT
9	B-4929 BL-9	249621.4106	2438424.3829	3.89	48+14.17	22.24 RT
16	B-4929 BY2-16	249434.7130	2438629.1854	6.87	50+85.94	32.00 LT
10	B-4929 BL-10	249126.7657	2438770.5057	7.63	13+82.82	3984.32 LT

BY

POINT	DESC.	NORTH	EAST	ELEVATION	Y1A STATION	OFFSET
11	B-4929 BY-11	252803.1599	2436614.9387	6.08	12+35.87	11.39 LT
22		252488.9793	2436310.1499	6.64	OUTSIDE PROJECT LIMITS	
12	B-4929 BY-12	252302.4577	2436069.1797	5.89	OUTSIDE PROJECT LIMITS	

BY1

POINT	DESC.	NORTH	EAST	ELEVATION	Y3 STATION	OFFSET
13	B-4929 BY1-13	249995.4725	2439049.7391	3.34	OUTSIDE PROJECT LIMITS	
99		249621.4106	2438424.3829	3.89	12+69.44	37.36 RT
14	B-4929 BY1-14	249373.6523	2438190.0317	3.83	15+08.15	155.84 RT

BY2

POINT	DESC.	NORTH	EAST	ELEVATION	Y5 STATION	OFFSET
15	B-4929 BY2-15	249611.3462	2438975.9810	6.84	OUTSIDE PROJECT LIMITS	
116		249434.7130	2438629.1854	6.87	12+15.65	31.62 RT
17	B-4929 BY2-17	249052.3904	2438165.2945	6.63	OUTSIDE PROJECT LIMITS	
18	B-4929 BY2-18	248627.1121	2437545.5515	5.40	OUTSIDE PROJECT LIMITS	

BY3

POINT	DESC.	NORTH	EAST	ELEVATION	Y5 STATION	OFFSET
110		249126.7657	2438770.5057	7.63	12+73.35	302.25 LT
19	B-4929 BY3-19	248840.1897	2438375.8870	7.21	OUTSIDE PROJECT LIMITS	

BM1 ELEVATION = 8.45
N 252900 E 2436000
L1 STATION 11+23.00 31 RIGHT
X ON BOLT ON TOP OF FIRE HYDRANT

BM2 ELEVATION = 8.89
N 250884 E 2437469
Y1 STATION 32+31.00 43 RIGHT
X ON BOLT ON BASE OF POWER POLE

FINAL ROW MARKER IRON PIN AND CAP-E

ALIGN	STATION	OFFSET	NORTH	EAST
L2	34+10.33	54.50	250727.6184	2436475.8338
L2	50+79.63	54.50	249486.8762	2437533.4118
L2	57+19.64	-65.50	249441.1067	2438182.9674
L2	50+79.63	-65.50	249602.9749	2437563.7614
L2	34+10.33	-65.50	250739.1968	2436595.2739
L2	18+82.86	-65.50	252259.5380	2436447.8931
L2	57+00.65	54.50	249329.8098	2438134.2492
L2	56+20.36	54.50	249350.1166	2438056.5680
L2	19+78.14	54.50	252153.1198	2436337.6467
L2	17+42.89	89.29	252354.2054	2436268.9851
L2	17+95.49	179.26	252291.8005	2436195.6130

FINAL ROW MARKER IRON PIN AND CAP-E

ALIGN	STATION	OFFSET	NORTH	EAST
L1	14+85.00	49.62	252596.7451	2436199.9788
L1	15+02.00	-50.66	252642.5039	2436290.8098

FINAL ROW MARKER IRON PIN AND CAP-E

ALIGN	STATION	OFFSET	NORTH	EAST
Y1	16+70.00	-41.25	252185.9375	2436625.9134
Y1	15+69.05	-40.00	252268.8552	2436612.5940
Y1	13+82.82	-40.00	252454.7831	2436623.2327
Y1	12+40.00	-40.00	252610.1499	2436535.4844
Y1	47+34.70	-44.00	249724.6857	2438430.6074
Y1	46+64.68	-38.93	249778.0641	2438385.0095
Y1	46+64.68	-44.00	249781.0726	2438389.0960
Y1	11+14.28	-33.48	252601.7160	2436379.7030
Y1	11+49.80	-32.05	252616.9002	2436421.7491
Y1	11+63.53	-35.40	252623.3344	2436438.2865
Y1	47+92.40	-55.92	249685.2782	2438474.4181

FINAL ROW MARKER IRON PIN AND CAP-E

ALIGN	STATION	OFFSET	NORTH	EAST
Y1A	14+40.00	-40.00	252641.0758	2436523.7773
Y1A	13+05.73	-24.08	252747.5776	2436571.4376
Y1A	13+67.78	40.00	252739.4356	2436481.6831

FINAL ROW MARKER IRON PIN AND CAP-E

ALIGN	STATION	OFFSET	NORTH	EAST
Y2	11+44.08	26.25	252452.0769	2436157.6468
Y2	12+31.72	-33.68	252347.6718	2436138.3909
Y2	11+34.62	-34.14	252416.2252	2436207.1575

FINAL ROW MARKER IRON PIN AND CAP-E

ALIGN	STATION	OFFSET	NORTH	EAST
Y3	14+35.49	-49.62	249450.2854	2438398.1790
Y3	13+21.97	50.81	249596.1482	2438372.8932
Y3	13+41.67	54.96	249581.2012	2438352.5587
Y3	13+65.92	51.03	249554.6079	2438336.7894
Y3	14+27.67	-51.07	249455.5230	2438401.1500
Y3	11+96.93	-40.07	249607.1194	2438529.5038
Y3	15+55.99	-60.55	249358.1408	2438413.4337
Y3	12+75.81	87.40	249656.2060	2438387.8653
Y3	12+92.41	-83.66	249513.0410	2438482.9527
Y3	12+91.61	70.45	249633.0809	2438386.3017
Y3	12+14.95	-61.53	249579.1019	2438529.0646

FINAL ROW MARKER IRON PIN AND CAP-E

ALIGN	STATION	OFFSET	NORTH	EAST
Y4	12+12.47	36.74	249149.3042	2438224.3287
Y4	11+69.11	42.94	249177.3616	2438241.1068

FINAL ROW MARKER IRON PIN AND CAP-E

ALIGN	STATION	OFFSET	NORTH	EAST
Y5	14+66.50	27.50	249289.3819	2438424.6768

FINAL ROW MARKER PERMANENT EASEMENT-E

ALIGN	STATION	OFFSET	NORTH	EAST
L1	14+85.01	68.30	252585.6597	2436184.9379
L1	15+11.04	-55.67	252638.1920	2436300.2072
L1	12+08.02	-55.37	252882.0404	2436120.3143
L1	12+08.02	-50.37	252879.0765	2436116.2918

FINAL ROW MARKER PERMANENT EASEMENT-E

ALIGN	STATION	OFFSET	NORTH	EAST
Y1	43+70.65	-185.00	250101.4483	2438328.3273
Y1	43+85.66	-185.00	250089.3614	2438337.2252
Y1	43+66.00	-49.74	250025.0000	2438216.6433
Y1	43+81.01	-49.73	250012.9082	2438225.5340

FINAL ROW MARKER PERMANENT EASEMENT-E

ALIGN	STATION	OFFSET	NORTH	EAST
Y1A	12+81.00	-44.21	252748.2583	2436602.7159

FINAL ROW MARKER PERMANENT EASEMENT-E

ALIGN	STATION	OFFSET	NORTH	EAST
Y2	12+25.00	-33.73	252352.4058	2436143.1600
Y2	12+25.00	-73.71	252324.2227	2436171.5255
Y2	12+34.37	-73.67	252317.6066	2436164.8888
Y2	12+34.72	-33.67	252345.5536	2436136.2661
Y2	11+56.71	31.31	252446.6865	2436145.1576
Y2	11+56.71	26.31	252443.1624	2436148.7045
Y2	11+36.52	31.21	252460.9423	2436159.4577

FINAL ROW MARKER PERMANENT EASEMENT-E

ALIGN	STATION	OFFSET	NORTH	EAST
Y4	11+65.01	50.01	249183.6122	2438236.7306
Y4	12+47.88	54.82	249150.4123	2438193.6443
Y4	12+70.38	42.95	249132.2679	2438181.5335

FINAL ROW MARKER PERMANENT EASEMENT-E

ALIGN	STATION	OFFSET	NORTH	EAST
Y5	13+84.96	28.22	249336.1109	2438491.5006
Y5	14+38.90	27.74	249305.2006	2438447.2980
Y5	13+97.36	80.00	249371.7903	2438451.9781
Y5	13+87.36	80.00	249377.4482	2438460.2236

FINAL ROW MARKER PERMANENT EASEMENT-E

ALIGN	STATION	OFFSET	NORTH	EAST
RA2	11+41.51	82.19	249172.9220	2438392.5610
RA2	11+43.94	107.40	249151.5749	2438407.2163
RA2	11+40.02	109.99	249145.4807	2438398.3118
RA2	11+37.00	85.21	249166.8490	2438383.6874

NOTE: DRAWING NOT TO SCALE

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PROJECT REFERENCE NO.	SHEET NO.
B-4929	1C-2
Location and Surveys	

SURVEY CONTROL SHEET B-4929

BL

POINT	DESC.	NORTH	EAST	ELEVATION	Y1 STATION	OFFSET
1	B-4929 BL-1	253251.6741	2435751.9354	7.32	OUTSIDE PROJECT LIMITS	
2	B-4929 BL-2	252488.9793	2436310.1499	6.64	OUTSIDE PROJECT LIMITS	
3	B-4929 BL-3	252155.5430	2436621.2130	3.89	17+00.04	24.88 LT
4	B-4929 BL-4	251728.2310	2436877.2139	6.39	22+00.28	19.14 RT
5	B-4929 BL-5	251329.8022	2437213.0530	17.55	27+20.25	15.10 LT
6	B-4929 BL-6	250902.8076	2437490.1729	15.21	32+28.40	14.88 RT
7	B-4929 BL-7	250446.3323	2437816.1529	4.17	37+89.26	22.99 RT
8	B-4929 BL-8	249927.4055	2438197.5034	3.90	44+33.25	23.54 RT
9	B-4929 BL-9	249621.4106	2438424.3829	3.89	48+14.17	22.24 RT
16	B-4929 BY2-16	249434.7130	2438629.1854	6.87	50+85.94	32.00 LT
10	B-4929 BL-10	249126.7657	2438770.5057	7.63	13+82.82	3984.32 LT

BY

POINT	DESC.	NORTH	EAST	ELEVATION	Y1A STATION	OFFSET
11	B-4929 BY-11	252803.1599	2436614.9387	6.08	12+35.87	11.39 LT
22		252488.9793	2436310.1499	6.64	OUTSIDE PROJECT LIMITS	
12	B-4929 BY-12	252302.4577	2436069.1797	5.89	OUTSIDE PROJECT LIMITS	

BY1

POINT	DESC.	NORTH	EAST	ELEVATION	Y3 STATION	OFFSET
13	B-4929 BY1-13	249995.4725	2439049.7391	3.34	OUTSIDE PROJECT LIMITS	
99		249621.4106	2438424.3829	3.89	12+69.44	37.36 RT
14	B-4929 BY1-14	249373.6523	2438190.0317	3.83	15+08.15	155.84 RT

BY2

POINT	DESC.	NORTH	EAST	ELEVATION	Y5 STATION	OFFSET
15	B-4929 BY2-15	249611.3462	2438975.9810	6.84	OUTSIDE PROJECT LIMITS	
116		249434.7130	2438629.1854	6.87	12+15.65	31.62 RT
17	B-4929 BY2-17	249052.3904	2438165.2945	6.63	OUTSIDE PROJECT LIMITS	
18	B-4929 BY2-18	248627.1121	2437545.5515	5.40	OUTSIDE PROJECT LIMITS	

BY3

POINT	DESC.	NORTH	EAST	ELEVATION	Y5 STATION	OFFSET
110		249126.7657	2438770.5057	7.63	12+73.35	302.25 LT
19	B-4929 BY3-19	248840.1897	2438375.8870	7.21	OUTSIDE PROJECT LIMITS	

BM1 ELEVATION = 8.45
N 252900 E 2436000
L1 STATION 11+23.00 31 RIGHT
X ON BOLT ON TOP OF FIRE HYDRANT

BM2 ELEVATION = 8.89
N 250884 E 2437469
Y1 STATION 32+31.00 43 RIGHT
X ON BOLT ON BASE OF POWER POLE

FINAL ROW MARKER IRON PIN AND CAP-E

ALIGN	STATION	OFFSET	NORTH	EAST
L2	34+10.33	54.50	250727.6184	2436475.8338
L2	50+79.63	54.50	249486.8762	2437533.4118
L2	57+19.64	-65.50	249441.1067	2438182.9674
L2	50+79.63	-65.50	249602.9749	2437563.7614
L2	34+10.33	-65.50	250739.1968	2436595.2739
L2	18+82.86	-65.50	252259.5380	2436447.8931
L2	57+00.65	54.50	249329.8098	2438134.2492
L2	56+20.36	54.50	249350.1166	2438056.5680
L2	19+78.14	54.50	252153.1198	2436337.6467
L2	17+42.89	89.29	252354.2054	2436268.9851
L2	17+95.49	179.26	252291.8005	2436195.6130

FINAL ROW MARKER IRON PIN AND CAP-E

ALIGN	STATION	OFFSET	NORTH	EAST
L1	14+85.00	49.62	252596.7451	2436199.9788
L1	15+02.00	-50.66	252642.5039	2436290.8098

FINAL ROW MARKER IRON PIN AND CAP-E

ALIGN	STATION	OFFSET	NORTH	EAST
Y1	16+70.00	-41.25	252185.9375	2436625.9134
Y1	15+69.05	-40.00	252268.8552	2436612.5940
Y1	13+82.82	-40.00	252454.7831	2436623.2327
Y1	12+40.00	-40.00	252610.1499	2436535.4844
Y1	47+34.70	-44.00	249724.6857	2438430.6074
Y1	46+64.68	-38.93	249778.0641	2438385.0095
Y1	46+64.68	-44.00	249781.0726	2438389.0960
Y1	11+14.28	-33.48	252601.7160	2436379.7030
Y1	11+49.80	-32.05	252616.9002	2436421.7491
Y1	11+63.53	-35.40	252623.3344	2436438.2865
Y1	47+92.40	-55.92	249685.2782	2438474.4181

FINAL ROW MARKER IRON PIN AND CAP-E

ALIGN	STATION	OFFSET	NORTH	EAST
Y1A	14+40.00	-40.00	252641.0758	2436523.7773
Y1A	13+05.73	-24.08	252747.5776	2436571.4376
Y1A	13+67.78	40.00	252739.4356	2436481.6831

FINAL ROW MARKER IRON PIN AND CAP-E

ALIGN	STATION	OFFSET	NORTH	EAST
Y2	11+44.08	26.25	252452.0769	2436157.6468
Y2	12+31.72	-33.68	252347.6718	2436138.3909
Y2	11+34.62	-34.14	252416.2252	2436207.1575

FINAL ROW MARKER IRON PIN AND CAP-E

ALIGN	STATION	OFFSET	NORTH	EAST
Y3	14+35.49	-49.62	249450.2854	2438398.1790
Y3	13+21.97	50.81	249596.1482	2438372.8932
Y3	13+41.67	54.96	249581.2012	2438352.5587
Y3	13+65.92	51.03	249554.6079	2438336.7894
Y3	14+27.67	-51.07	249455.5230	2438401.1500
Y3	11+96.93	-40.07	249607.1194	2438529.5038
Y3	15+55.99	-60.55	249358.1408	2438413.4337
Y3	12+75.81	87.40	249656.2060	2438387.8653
Y3	12+92.41	-83.66	249513.0410	2438482.9527
Y3	12+91.61	70.45	249633.0809	2438386.3017
Y3	12+14.95	-61.53	249579.1019	2438529.0646

FINAL ROW MARKER IRON PIN AND CAP-E

ALIGN	STATION	OFFSET	NORTH	EAST
Y4	12+12.47	36.74	249149.3042	2438224.3287
Y4	11+69.11	42.94	249177.3616	2438241.1068

FINAL ROW MARKER IRON PIN AND CAP-E

ALIGN	STATION	OFFSET	NORTH	EAST
Y5	14+66.50	27.50	249289.3819	2438424.6768

FINAL ROW MARKER PERMANENT EASEMENT-E

ALIGN	STATION	OFFSET	NORTH	EAST
L1	14+85.01	68.30	252585.6597	2436184.9379
L1	15+11.04	-55.67	252638.1920	2436300.2072
L1	12+08.02	-55.37	252882.0404	2436120.3143
L1	12+08.02	-50.37	252879.0765	2436116.2918

FINAL ROW MARKER PERMANENT EASEMENT-E

ALIGN	STATION	OFFSET	NORTH	EAST
Y1	43+70.65	-185.00	250101.4483	2438328.3273
Y1	43+85.66	-185.00	250089.3614	2438337.2252
Y1	43+66.00	-49.74	250025.0000	2438216.6433
Y1	43+81.01	-49.73	250012.9082	2438225.5340

FINAL ROW MARKER PERMANENT EASEMENT-E

ALIGN	STATION	OFFSET	NORTH	EAST
Y1A	12+81.00	-44.21	252748.2583	2436602.7159

FINAL ROW MARKER PERMANENT EASEMENT-E

ALIGN	STATION	OFFSET	NORTH	EAST
Y2	12+25.00	-33.73	252352.4058	2436143.1600
Y2	12+25.00	-73.71	252324.2227	2436171.5255
Y2	12+34.37	-73.67	252317.6066	2436164.8888
Y2	12+34.72	-33.67	252345.5536	2436136.2661
Y2	11+56.71	31.31	252446.6865	2436145.1576
Y2	11+56.71	26.31	252443.1624	2436148.7045
Y2	11+36.52	31.21	252460.9423	2436159.4577

FINAL ROW MARKER PERMANENT EASEMENT-E

ALIGN	STATION	OFFSET	NORTH	EAST
Y4	11+65.01	50.01	249183.6122	2438236.7306
Y4	12+47.88	54.82	249150.4123	2438193.6443
Y4	12+70.38	42.95	249132.2679	2438181.5335

FINAL ROW MARKER PERMANENT EASEMENT-E

ALIGN	STATION	OFFSET	NORTH	EAST
Y5	13+84.96	28.22	249336.1109	2438491.5006
Y5	14+38.90	27.74	249305.2006	2438447.2980
Y5	13+97.36	80.00	249371.7903	2438451.9781
Y5	13+87.36	80.00	249377.4482	2438460.2236

FINAL ROW MARKER PERMANENT EASEMENT-E

ALIGN	STATION	OFFSET	NORTH	EAST
RA2	11+41.51	82.19	249172.9220	2438392.5610
RA2	11+43.94	107.40	249151.5749	2438407.2163
RA2	11+40.02	109.99	249145.4807	2438398.3118
RA2	11+37.00	85.21	249166.8490	2438383.6874

NOTE: DRAWING NOT TO SCALE

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PROJECT REFERENCE NO.	SHEET NO.
B-4929	2A-1

ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 030952 ENGINEER JENNIFER D. FARINO	NORTH CAROLINA PROFESSIONAL SEAL 022896 ENGINEER CHARLES S. MORRISON
4/26/2016	4/26/2016

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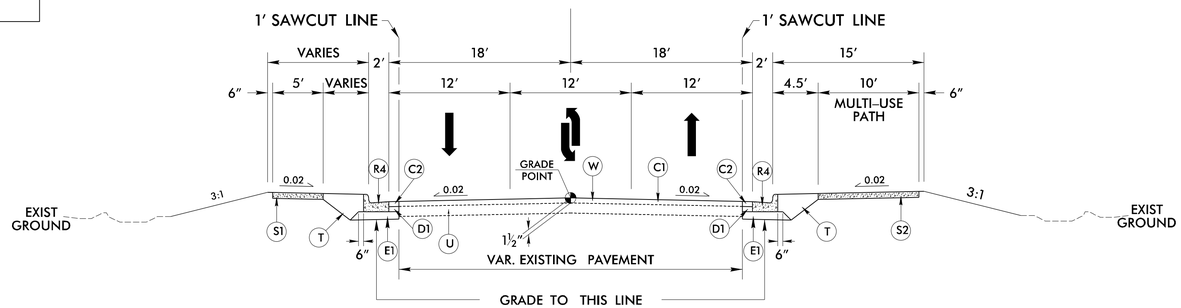
RS&H

PAVEMENT SCHEDULE

C1	PROP. APPROX.1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C2	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C3	PROP. VAR. ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 1½" IN DEPTH OR GREATER THAN 2" IN DEPTH.
C4	PROP. APPROX.1½" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
C5	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C6	PROP. VAR. ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 1" IN DEPTH OR GREATER THAN 1½" IN DEPTH.
C7	PROP. APPROX.1¼" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD.
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
D2	PROP. VAR. ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 2½" IN DEPTH OR GREATER THAN 4" IN DEPTH.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E2	PROP. VAR. ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 4" IN DEPTH OR GREATER THAN 5½" IN DEPTH.
J1	6" ABC
R1	5" MONOLITHIC CONCRETE ISLAND (KEYED IN)
R2	9" X 18" CONCRETE CURB
R3	1'-6" CONCRETE CURB AND GUTTER
R4	2'-6" CONCRETE CURB AND GUTTER
R5	32" VERTICAL CONCRETE BARRIER
R6	7" JOINTED CONCRETE (WITHOUT DOWELS) REINFORCED WITH A w3.5 x w3.5 OR w5 x w5 WIRE MESH
S1	4" CONCRETE SIDEWALK
S2	4" CONCRETE MULTI-USE PATH
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V	MILLING BITUMINOUS PAVEMENT 1.5" DEPTH
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL SHEET No. 2A-8)

℄ –L1– (NC 50 /210)

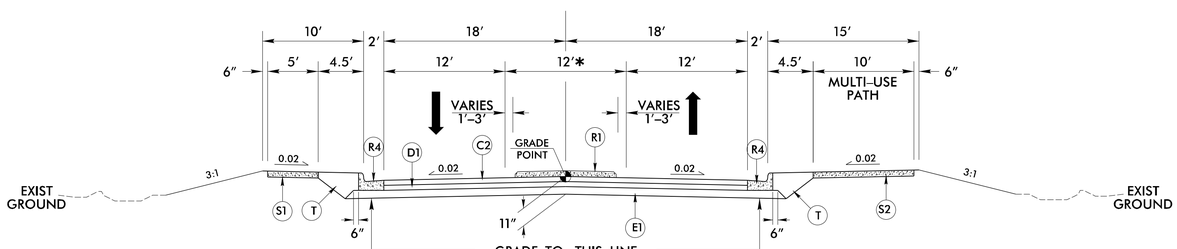
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.



TYPICAL SECTION NO. 1

USE TYPICAL SECTION NO. 1
–L1– STA. 13+25.00 TO –L1– STA. 14+00.00
SEE DETAIL ON SHEET 2A-8 FOR LIMITS OF INCIDENTAL MILLING & RESURFACING

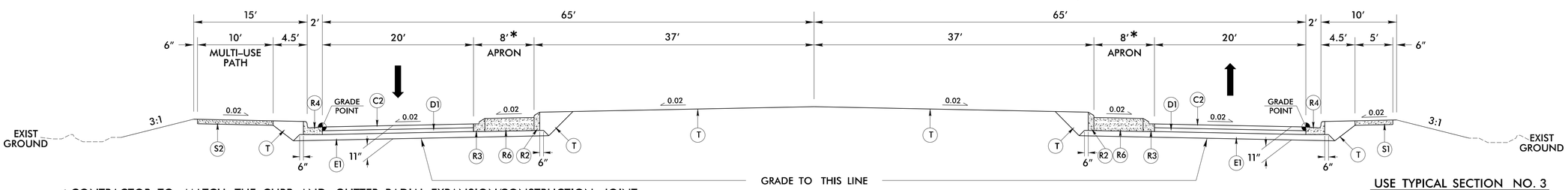
℄ –L1– (NC 50 /210)



TYPICAL SECTION NO. 2

USE TYPICAL SECTION NO. 2
–L1– STA. 14+00.00 TO –L1– STA. 15+38.15
*SEE PLANS FOR VARIABLE WIDTH PAVEMENT NEAR –RA1–

℄ –RA1– (MAINLAND ROUNDABOUT)



*CONTRACTOR TO MATCH THE CURB AND GUTTER RADIAL EXPANSION/CONSTRUCTION JOINT TO THE CONCRETE APRON RADIAL EXPANSION CONSTRUCTION JOINT

ROUNDABOUT TYPICAL SECTION NO. 3

USE TYPICAL SECTION NO. 3
–RA1– STA. 10+00.00 TO –RA1– STA. 14+08.41

4/26/2016
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PROJECT REFERENCE NO.	SHEET NO.
B-4929	2A-1

ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 030952 ENGINEER JENNIFER D. FARINO	NORTH CAROLINA PROFESSIONAL SEAL 022896 ENGINEER CHARLES S. MORRISON
4/26/2016	4/26/2016

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

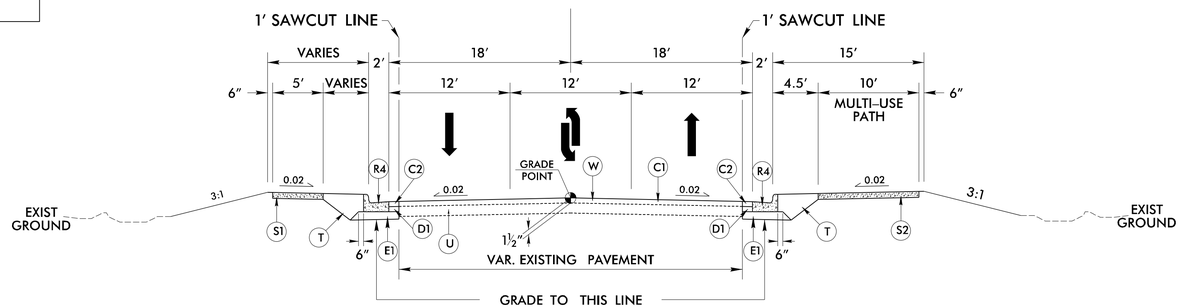
RS&H

PAVEMENT SCHEDULE

C1	PROP. APPROX.1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C2	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C3	PROP. VAR. ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 1½" IN DEPTH OR GREATER THAN 2" IN DEPTH.
C4	PROP. APPROX.1½" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
C5	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C6	PROP. VAR. ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 1" IN DEPTH OR GREATER THAN 1½" IN DEPTH.
C7	PROP. APPROX.1¼" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD.
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
D2	PROP. VAR. ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 2½" IN DEPTH OR GREATER THAN 4" IN DEPTH.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E2	PROP. VAR. ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 4" IN DEPTH OR GREATER THAN 5½" IN DEPTH.
J1	6" ABC
R1	5" MONOLITHIC CONCRETE ISLAND (KEYED IN)
R2	9" X 18" CONCRETE CURB
R3	1'-6" CONCRETE CURB AND GUTTER
R4	2'-6" CONCRETE CURB AND GUTTER
R5	32" VERTICAL CONCRETE BARRIER
R6	7" JOINTED CONCRETE (WITHOUT DOWELS) REINFORCED WITH A w3.5 x w3.5 OR w5 x w5 WIRE MESH
S1	4" CONCRETE SIDEWALK
S2	4" CONCRETE MULTI-USE PATH
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V	MILLING BITUMINOUS PAVEMENT 1.5" DEPTH
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL SHEET No. 2A-8)

℄ –L1– (NC 50 /210)

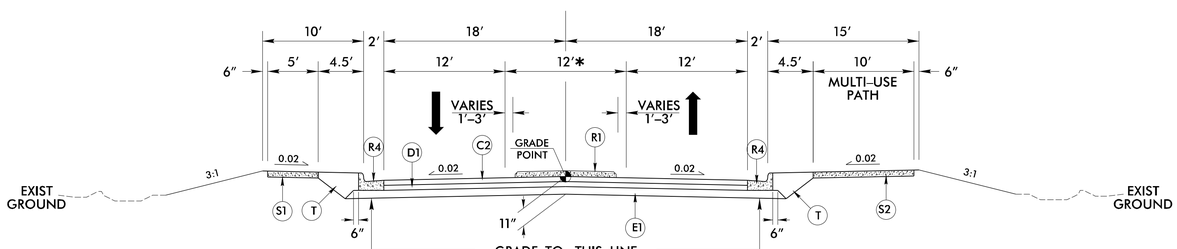
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.



TYPICAL SECTION NO. 1

USE TYPICAL SECTION NO. 1
–L1– STA. 13+25.00 TO –L1– STA. 14+00.00
SEE DETAIL ON SHEET 2A-8 FOR LIMITS OF INCIDENTAL MILLING & RESURFACING

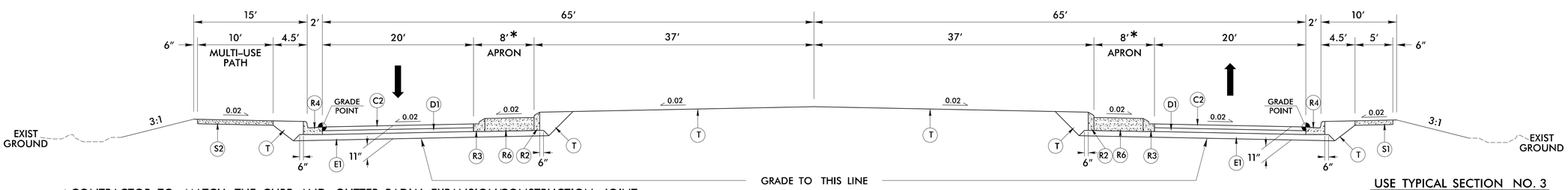
℄ –L1– (NC 50 /210)



TYPICAL SECTION NO. 2

USE TYPICAL SECTION NO. 2
–L1– STA. 14+00.00 TO –L1– STA. 15+38.15
*SEE PLANS FOR VARIABLE WIDTH PAVEMENT NEAR –RA1–

℄ –RA1– (MAINLAND ROUNDABOUT)



*CONTRACTOR TO MATCH THE CURB AND GUTTER RADIAL EXPANSION/CONSTRUCTION JOINT TO THE CONCRETE APRON RADIAL EXPANSION CONSTRUCTION JOINT

ROUNDABOUT TYPICAL SECTION NO. 3

USE TYPICAL SECTION NO. 3
–RA1– STA. 10+00.00 TO –RA1– STA. 14+08.41

4/26/2016
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PROJECT REFERENCE NO.	SHEET NO.
B-4929	2A-2

ROADWAY DESIGN ENGINEER — SEAL 030952 — JENNIFER D. FARINO — 4/26/2016

PAVEMENT DESIGN ENGINEER — SEAL 022870 — CLARK S. MORRISON — 4/26/2016

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

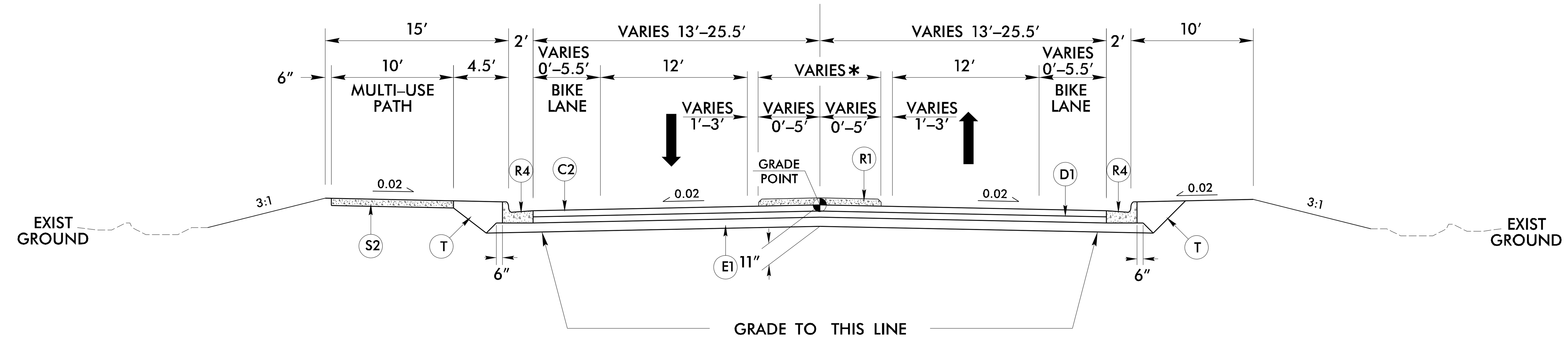
RS&H

PAVEMENT SCHEDULE

C1	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.	D2	PROP. VAR. ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 2½" IN DEPTH OR GREATER THAN 4" IN DEPTH.	R5	32" VERTICAL CONCRETE BARRIER
C2	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.	E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	R6	7" JOINTED CONCRETE (WITHOUT DOWELS) REINFORCED WITH A w3.5 x w3.5 OR w5 x w5 WIRE MESH
C3	PROP. VAR. ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 1½" IN DEPTH OR GREATER THAN 2" IN DEPTH.	E2	PROP. VAR. ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 4" IN DEPTH OR GREATER THAN 5½" IN DEPTH.	S1	4" CONCRETE SIDEWALK
C4	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.	J1	6" ABC	S2	4" CONCRETE MULTI-USE PATH
C5	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.	R1	5" MONOLITHIC CONCRETE ISLAND (KEYED IN)	T	EARTH MATERIAL
C6	PROP. VAR. ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 1" IN DEPTH OR GREATER THAN 1½" IN DEPTH.	R2	9" X 18" CONCRETE CURB	U	EXISTING PAVEMENT
C7	PROP. APPROX. 1¼" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD.	R3	1'-6" CONCRETE CURB AND GUTTER	V	MILLING BITUMINOUS PAVEMENT 1.5" DEPTH
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	R4	2'-6" CONCRETE CURB AND GUTTER	W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL SHEET No. 2A-8)

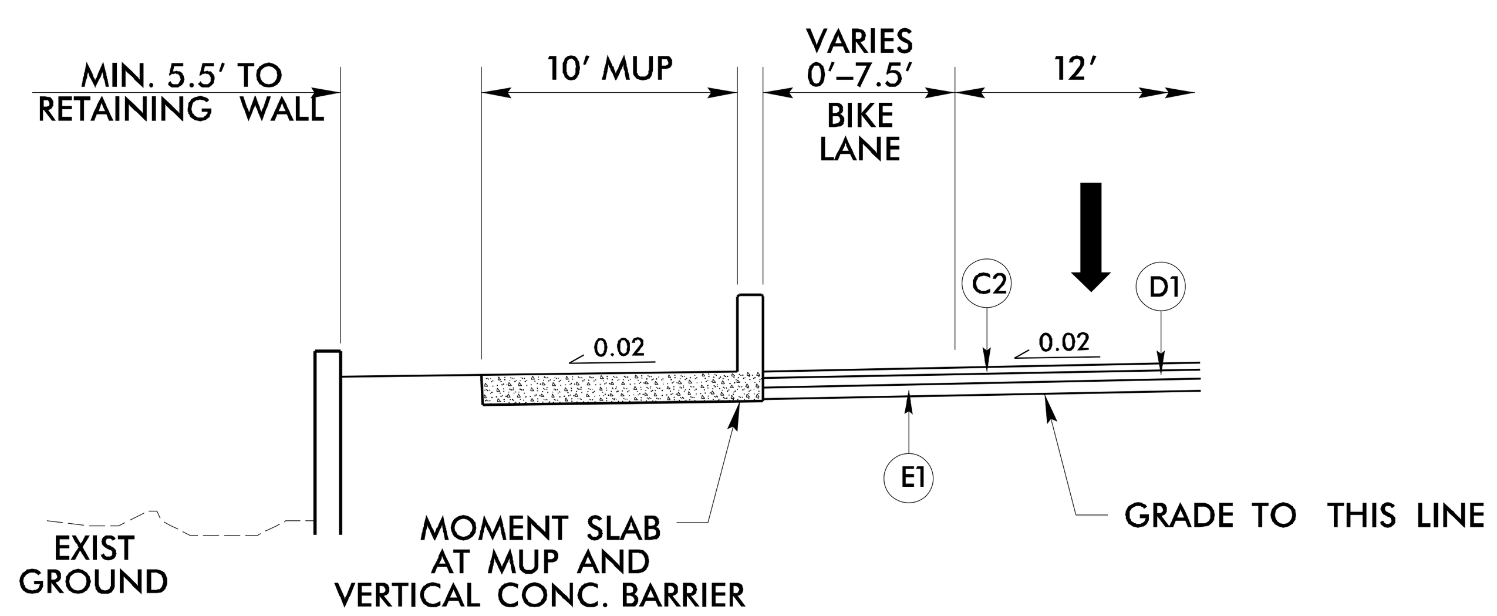
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.

℄ -L2- (NC 50 /210)



TYPICAL SECTION NO. 4

USE TYPICAL SECTION NO. 4
-L2- STA. 16+61.78 TO -L2- STA. 19+27.06 (BEGIN BRIDGE)
* SEE PLANS FOR VARIABLE WIDTH PAVEMENT NEAR -RA1-

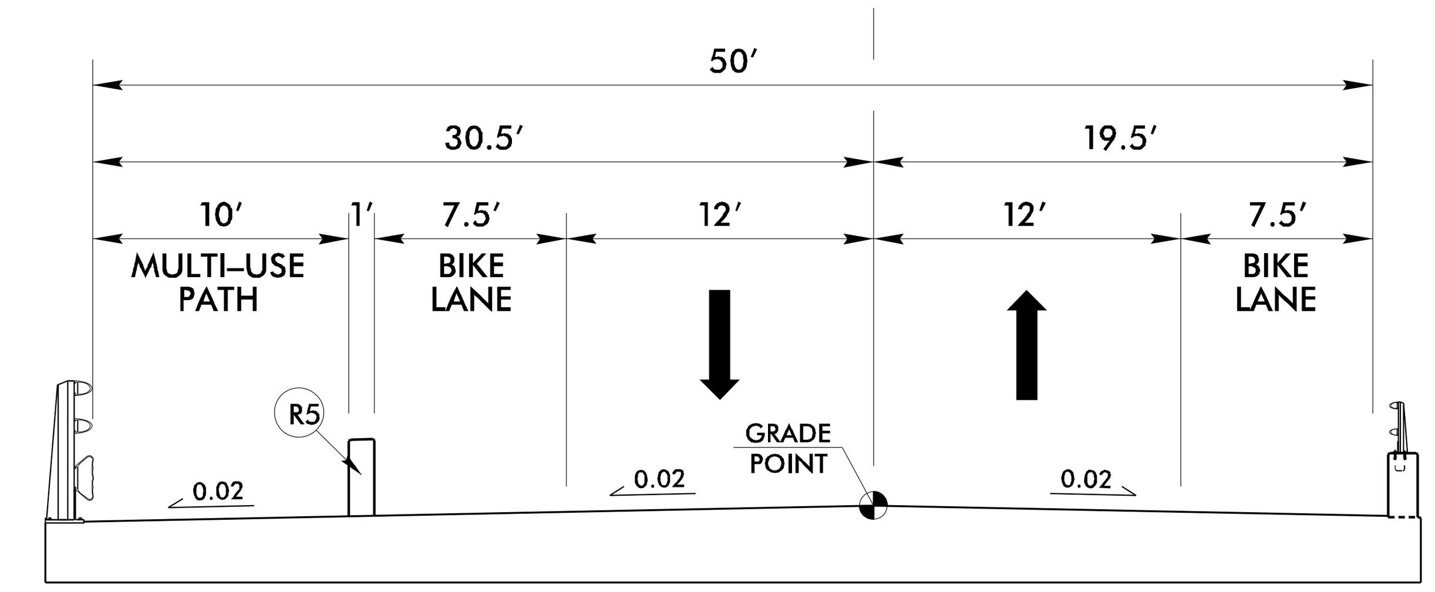


DETAIL 4A

USE DETAIL NO. 4A WITH TYPICAL SECTION NO. 4
AND TYPICAL SECTION NO. 7 AT THE FOLLOWING STATIONS
-L2- STA. 18+04.64 LT. TO -L2- STA. 19+03.06 LT.
-L2- STA. 57+24.50 LT. TO -L2- STA. 58+05.89 LT.

SEE SHEET 2B-8 FOR ADDITIONAL INFORMATION AND DETAIL

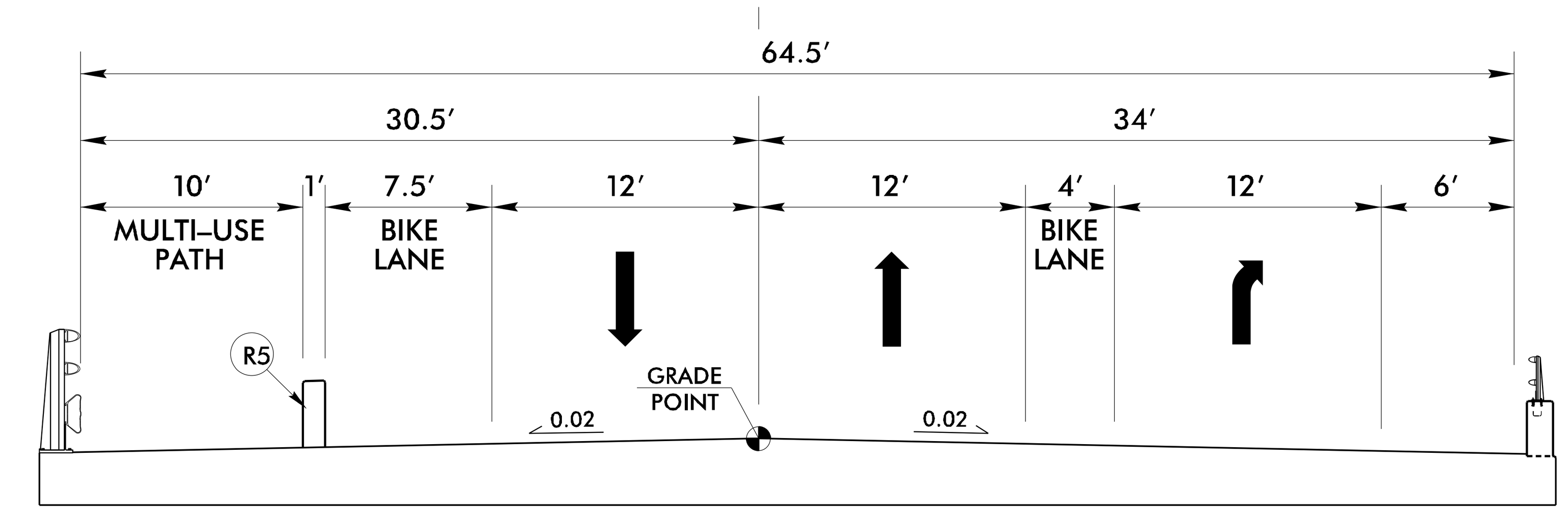
℄ -L2- (NC 50 /210)



TYPICAL SECTION NO. 5 ON STRUCTURE

USE TYPICAL SECTION NO. 5 ON STRUCTURE
-L2- STA. 19+27.06 TO -L2- STA. 52+75.56

℄ -L2- (NC 50 /210)



TYPICAL SECTION NO. 6 ON STRUCTURE

USE TYPICAL SECTION NO. 6 ON STRUCTURE
-L2- STA. 52+75.56 TO -L2- STA. 57+00.56

6/2/99

4/25/2016
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ROADWAY DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 030952 JENNIFER D. FARINO 4/26/2016

PAVEMENT DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 022070 CLARK S. MORRISON 4/26/2016

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

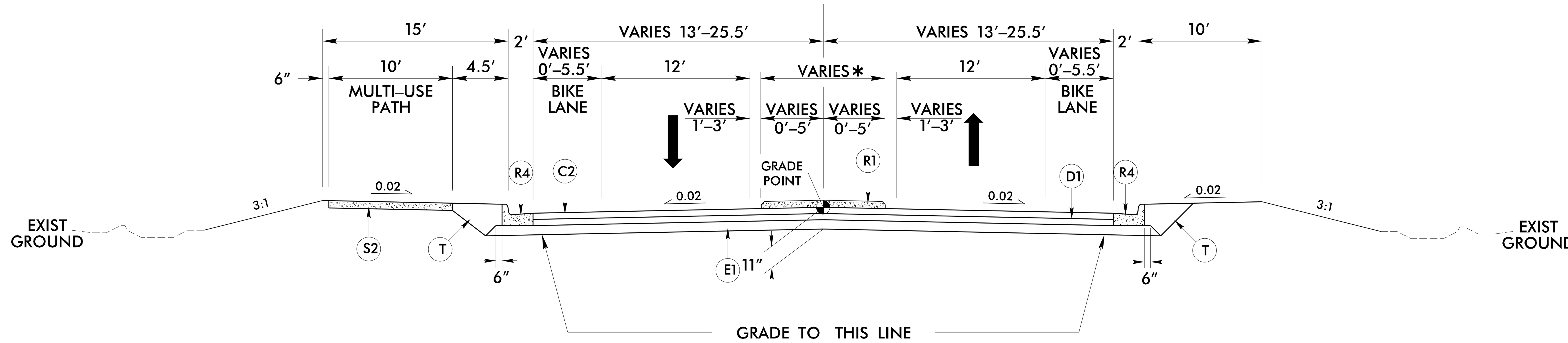
RS&H

PAVEMENT SCHEDULE

C1	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.	D2	PROP. VAR. ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 2½" IN DEPTH OR GREATER THAN 4" IN DEPTH.	R5	32" VERTICAL CONCRETE BARRIER
C2	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.	E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	R6	7" JOINTED CONCRETE (WITHOUT DOWELS) REINFORCED WITH A w3.5 x w3.5 OR w5 x w5 WIRE MESH
C3	PROP. VAR. ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 1½" IN DEPTH OR GREATER THAN 2" IN DEPTH.	E2	PROP. VAR. ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 4" IN DEPTH OR GREATER THAN 5½" IN DEPTH.	S1	4" CONCRETE SIDEWALK
C4	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.	J1	6" ABC	S2	4" CONCRETE MULTI-USE PATH
C5	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.	R1	5" MONOLITHIC CONCRETE ISLAND (KEYED IN)	T	EARTH MATERIAL
C6	PROP. VAR. ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 1" IN DEPTH OR GREATER THAN 1½" IN DEPTH.	R2	9" X 18" CONCRETE CURB	U	EXISTING PAVEMENT
C7	PROP. APPROX. 1¼" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD.	R3	1'-6" CONCRETE CURB AND GUTTER	V	MILLING BITUMINOUS PAVEMENT 1.5" DEPTH
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	R4	2'-6" CONCRETE CURB AND GUTTER	W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL SHEET No. 2A-8)

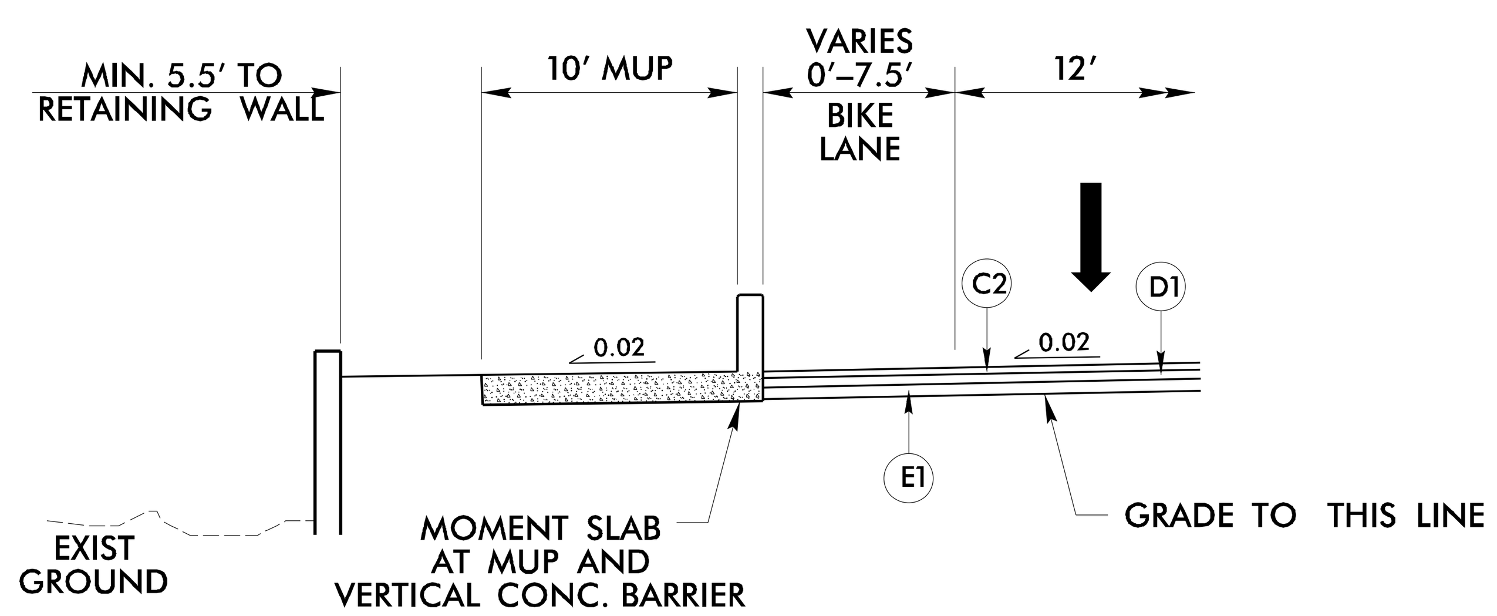
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.

℄ -L2- (NC 50 /210)



TYPICAL SECTION NO. 4

USE TYPICAL SECTION NO. 4
-L2- STA. 16+61.78 TO -L2- STA. 19+27.06 (BEGIN BRIDGE)
✱ SEE PLANS FOR VARIABLE WIDTH PAVEMENT NEAR -RA1-



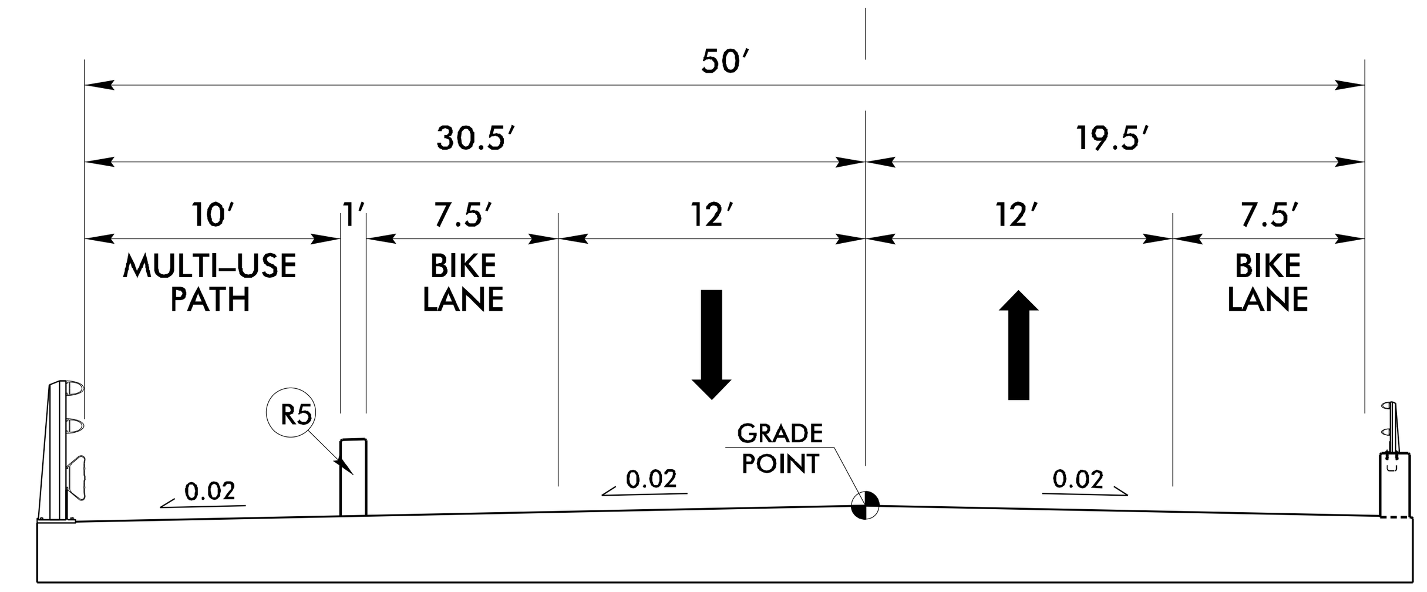
DETAIL 4A

USE DETAIL NO. 4A WITH TYPICAL SECTION NO. 4 AND TYPICAL SECTION NO. 7 AT THE FOLLOWING STATIONS

-L2- STA. 18+04.64 LT. TO -L2- STA. 19+03.06 LT.
-L2- STA. 57+24.50 LT. TO -L2- STA. 58+05.89 LT.

SEE SHEET 2B-8 FOR ADDITIONAL INFORMATION AND DETAIL

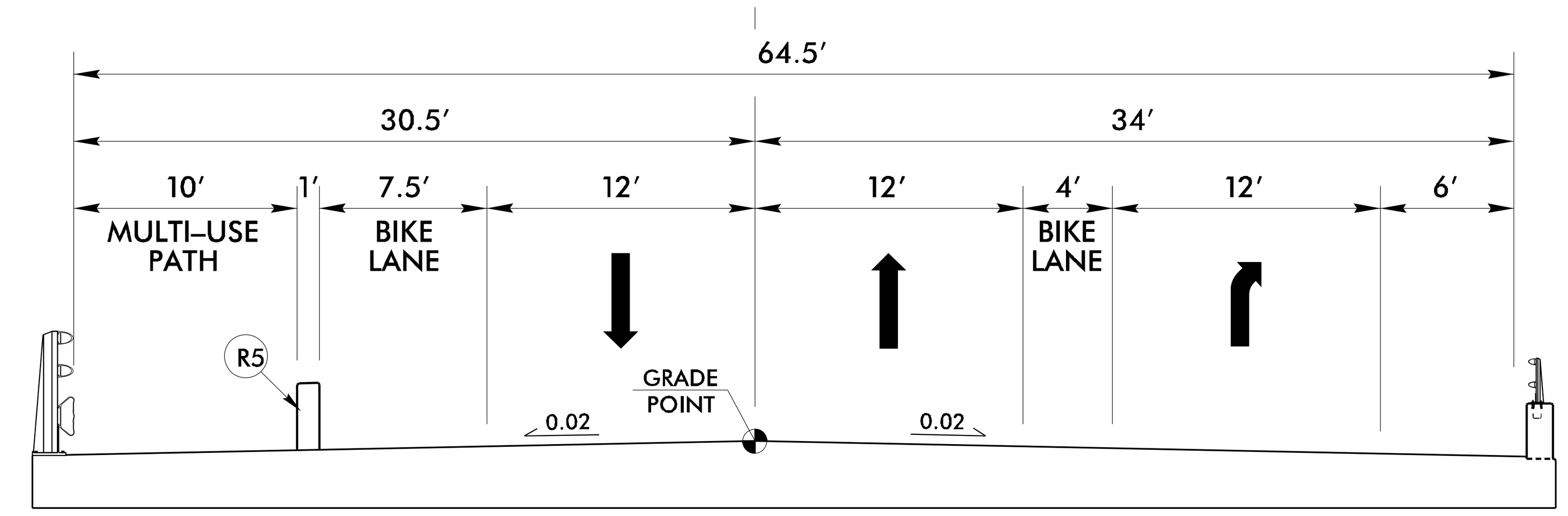
℄ -L2- (NC 50 /210)



TYPICAL SECTION NO. 5 ON STRUCTURE

USE TYPICAL SECTION NO. 5 ON STRUCTURE
-L2- STA. 19+27.06 TO -L2- STA. 52+75.56

℄ -L2- (NC 50 /210)



TYPICAL SECTION NO. 6 ON STRUCTURE

USE TYPICAL SECTION NO. 6 ON STRUCTURE
-L2- STA. 52+75.56 TO -L2- STA. 57+00.56

6/2/99

4/25/2016
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PROJECT REFERENCE NO.	SHEET NO.
B-4929	2A-3
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 030952 JENNIFER D. FARINO 4/28/2016

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 022896 CLARK S. MORRISON 4/28/2016

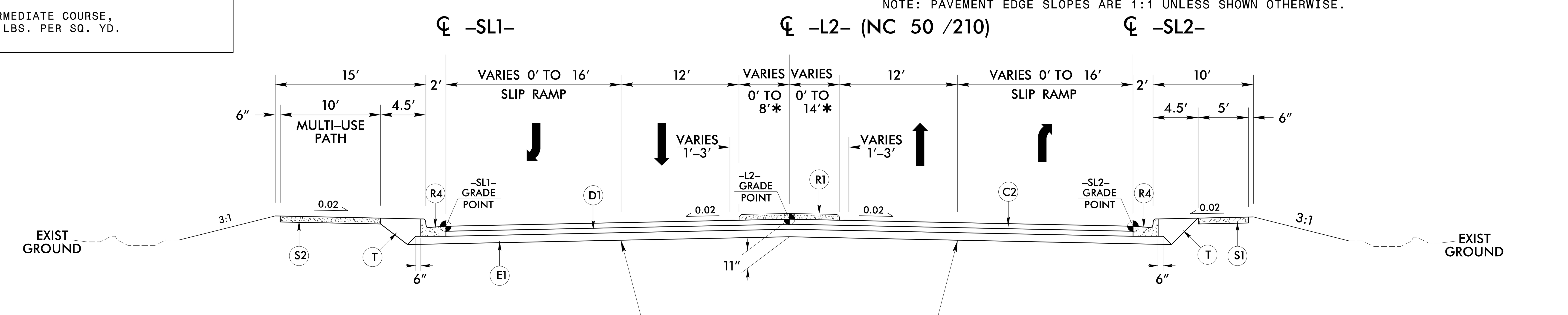
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

RS&H

PAVEMENT SCHEDULE

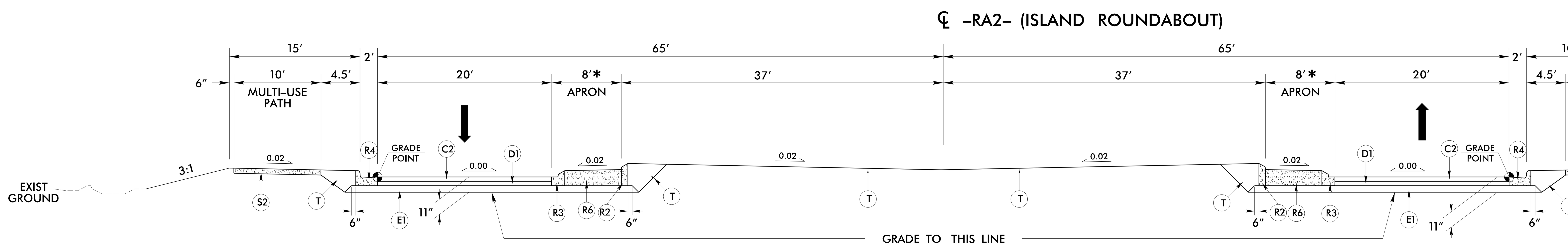
C1	PROP. APPROX.1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.	D2	PROP. VAR. ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 2½" IN DEPTH OR GREATER THAN 4" IN DEPTH.	R5	32" VERTICAL CONCRETE BARRIER
C2	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.	E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	R6	7" JOINTED CONCRETE (WITHOUT DOWELS) REINFORCED WITH A w3.5 x w3.5 OR w5 x w5 WIRE MESH
C3	PROP. VAR. ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 1½" IN DEPTH OR GREATER THAN 2" IN DEPTH.	E2	PROP. VAR. ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 4" IN DEPTH OR GREATER THAN 5½" IN DEPTH.	S1	4" CONCRETE SIDEWALK
C4	PROP. APPROX.1½" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.	J1	6" ABC	S2	4" CONCRETE MULTI-USE PATH
C5	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.	R1	5" MONOLITHIC CONCRETE ISLAND (KEYED IN)	T	EARTH MATERIAL
C6	PROP. VAR. ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 1" IN DEPTH OR GREATER THAN 1½" IN DEPTH.	R2	9" X 18" CONCRETE CURB	U	EXISTING PAVEMENT
C7	PROP. APPROX.1¼" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD.	R3	1'-6" CONCRETE CURB AND GUTTER	V	MILLING BITUMINOUS PAVEMENT 1.5" DEPTH
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	R4	2'-6" CONCRETE CURB AND GUTTER	W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL SHEET No. 2A-8)

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



TYPICAL SECTION NO. 7

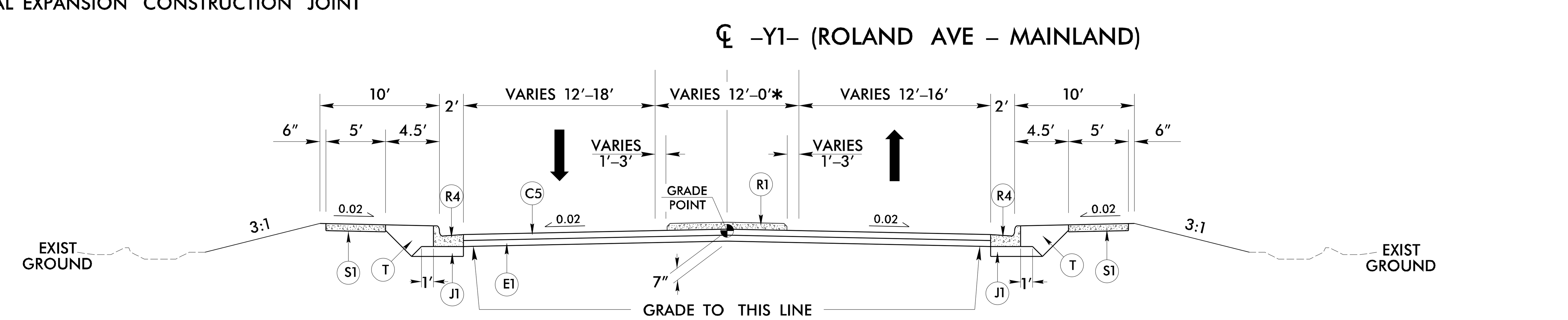
USE TYPICAL SECTION NO. 7
-L2- STA. 57+00.56 (END BRIDGE) TO -L2- STA. 58+44.52
*SEE PLANS FOR VARIABLE WIDTH PAVEMENT NEAR -RA2-



ROUNDABOUT TYPICAL SECTION NO. 8

*CONTRACTOR TO MATCH THE CURB AND GUTTER RADIAL EXPANSION/CONSTRUCTION JOINT TO THE CONCRETE APRON RADIAL EXPANSION CONSTRUCTION JOINT

USE TYPICAL SECTION NO. 8
-RA2- STA. 10+00.00 TO -RA2- STA. 14+08.41



TYPICAL SECTION NO. 9

USE TYPICAL SECTION NO. 9
-Y1- STA. 10+61.85 TO -Y1- STA. 12+38.00
*SEE PLANS FOR VARIABLE WIDTH PAVEMENT NEAR -RA1-

PROJECT REFERENCE NO.	SHEET NO.
B-4929	2A-3

ROADWAY DESIGN ENGINEER — SEAL 030952, JENNIFER D. FARINO, 4/26/2016

PAVEMENT DESIGN ENGINEER — SEAL 022896, CLARK S. MORRISON, 4/26/2016

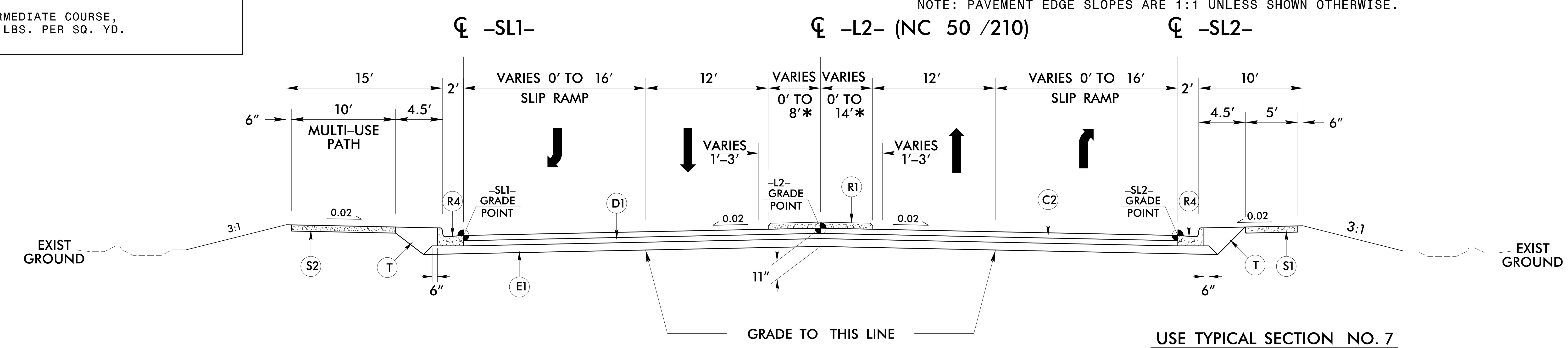
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

RS&H

PAVEMENT SCHEDULE

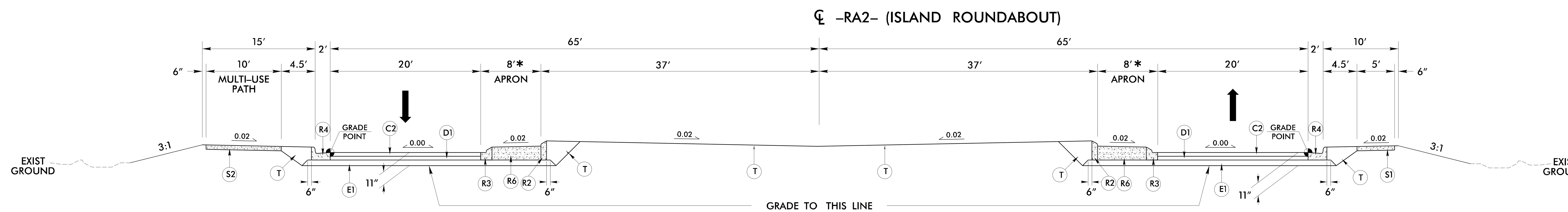
C1	PROP. APPROX.1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.	D2	PROP. VAR. ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 2½" IN DEPTH OR GREATER THAN 4" IN DEPTH.	R5	32" VERTICAL CONCRETE BARRIER
C2	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.	E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	R6	7" JOINTED CONCRETE (WITHOUT DOWELS) REINFORCED WITH A w3.5 x w3.5 OR w5 x w5 WIRE MESH
C3	PROP. VAR. ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 1½" IN DEPTH OR GREATER THAN 2" IN DEPTH.	E2	PROP. VAR. ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 4" IN DEPTH OR GREATER THAN 5½" IN DEPTH.	S1	4" CONCRETE SIDEWALK
C4	PROP. APPROX.1½" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.	J1	6" ABC	S2	4" CONCRETE MULTI-USE PATH
C5	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.	R1	5" MONOLITHIC CONCRETE ISLAND (KEYED IN)	T	EARTH MATERIAL
C6	PROP. VAR. ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 1" IN DEPTH OR GREATER THAN 1½" IN DEPTH.	R2	9" X 18" CONCRETE CURB	U	EXISTING PAVEMENT
C7	PROP. APPROX.1¼" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD.	R3	1'-6" CONCRETE CURB AND GUTTER	V	MILLING BITUMINOUS PAVEMENT 1.5" DEPTH
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	R4	2'-6" CONCRETE CURB AND GUTTER	W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL SHEET No. 2A-8)

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



TYPICAL SECTION NO. 7

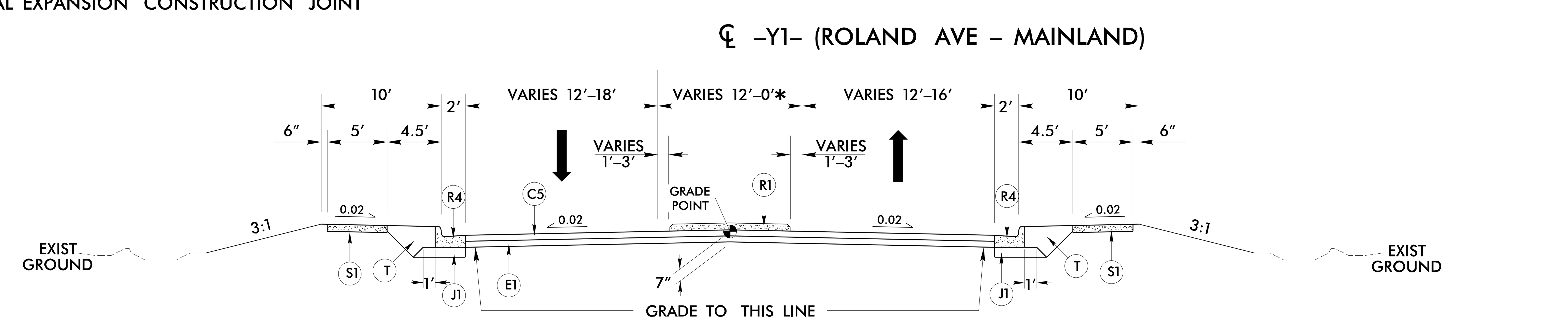
USE TYPICAL SECTION NO. 7
-L2- STA. 57+00.56 (END BRIDGE) TO -L2- STA. 58+44.52
*SEE PLANS FOR VARIABLE WIDTH PAVEMENT NEAR -RA2-



*CONTRACTOR TO MATCH THE CURB AND GUTTER RADIAL EXPANSION/CONSTRUCTION JOINT TO THE CONCRETE APRON RADIAL EXPANSION CONSTRUCTION JOINT

ROUNDABOUT TYPICAL SECTION NO. 8

USE TYPICAL SECTION NO. 8
-RA2- STA. 10+00.00 TO -RA2- STA. 14+08.41



TYPICAL SECTION NO. 9

USE TYPICAL SECTION NO. 9
-Y1- STA. 10+61.85 TO -Y1- STA. 12+38.00
*SEE PLANS FOR VARIABLE WIDTH PAVEMENT NEAR -RA1-

4/25/2016
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6/2/99

PAVEMENT SCHEDULE

C1	PROP. APPROX.1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C2	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C3	PROP. VAR. ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 1½" IN DEPTH OR GREATER THAN 2" IN DEPTH.
C4	PROP. APPROX.1½" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
C5	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C6	PROP. VAR. ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 1" IN DEPTH OR GREATER THAN 1½" IN DEPTH.
C7	PROP. APPROX.1¼" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD.
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
D2	PROP. VAR. ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 2½" IN DEPTH OR GREATER THAN 4" IN DEPTH.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E2	PROP. VAR. ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 4" IN DEPTH OR GREATER THAN 5½" IN DEPTH.
J1	6" ABC
R1	5" MONOLITHIC CONCRETE ISLAND (KEYED IN)
R2	9" X 18" CONCRETE CURB
R3	1'-6" CONCRETE CURB AND GUTTER
R4	2'-6" CONCRETE CURB AND GUTTER
R5	32" VERTICAL CONCRETE BARRIER
R6	7" JOINTED CONCRETE (WITHOUT DOWELS) REINFORCED WITH A w3.5 x w3.5 OR w5 x w5 WIRE MESH
S1	4" CONCRETE SIDEWALK
S2	4" CONCRETE MULTI-USE PATH
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V	MILLING BITUMINOUS PAVEMENT 1.5" DEPTH
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL SHEET No. 2A-8)

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

PROJECT REFERENCE NO.	SHEET NO.
B-4929	2A-4

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 030952 JENNIFER D. FARINO

7/26/2016

PAVEMENT DESIGN ENGINEER

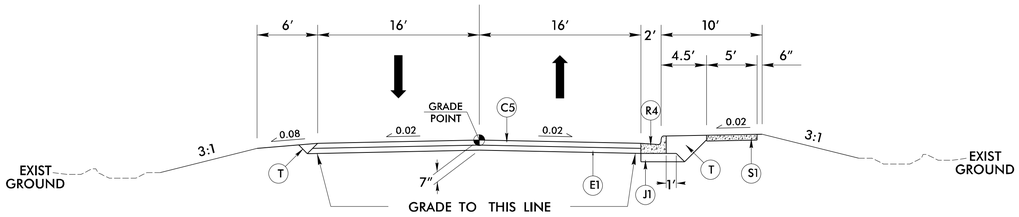
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 027896 CLARK S. MORRISON

7/26/2016

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

RS&H

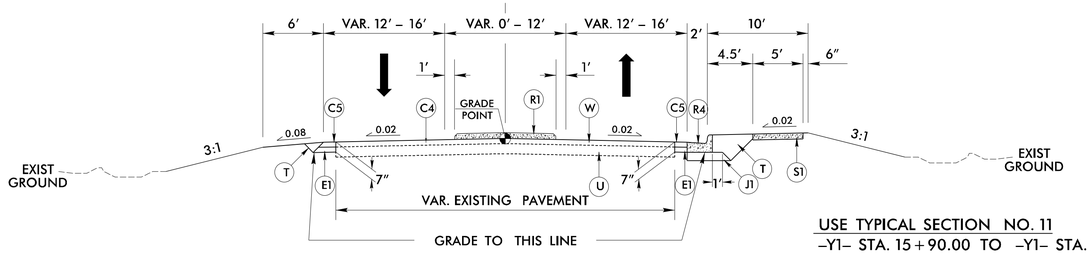
℄ –Y1– (ROLAND AVE – MAINLAND)



TYPICAL SECTION NO. 10

USE TYPICAL SECTION NO. 10
–Y1– STA. 12+38.00 TO –Y1– STA. 15+90.00

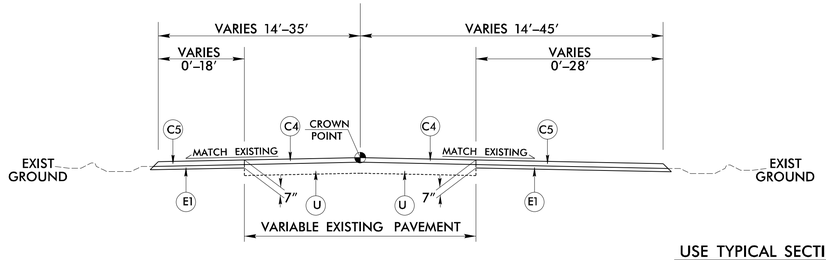
℄ –Y1– (ROLAND AVE – MAINLAND)



TYPICAL SECTION NO. 11

USE TYPICAL SECTION NO. 11
–Y1– STA. 15+90.00 TO –Y1– STA. 17+50.00
SEE DETAIL ON SHEET 2A–8 FOR
LIMITS OF INCIDENTAL MILLING & RESURFACING

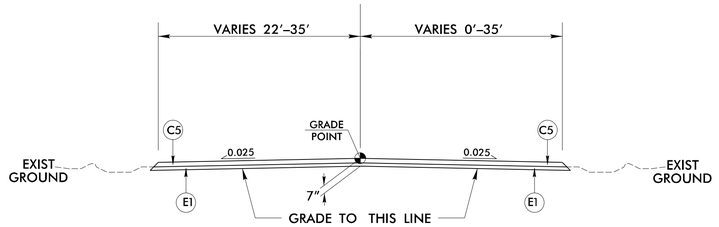
℄ –Y1– (ROLAND AVE – MAINLAND CUL–DE–SAC)



TYPICAL SECTION NO. 12

USE TYPICAL SECTION NO. 12
–Y1– STA. 20+63.00 TO STA. 21+63.00

℄ –Y1– (ROLAND AVE – ISLAND CUL–DE–SAC)



TYPICAL SECTION NO. 13

USE TYPICAL SECTION NO. 13
–Y1– STA. 35+00.00 TO STA. 35+95.62

NOTE: GRADE DRIVEWAY ON LT. TO MAINTAIN ACCESS DURING CONSTRUCTION

4/26/2016
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6/2/99

PAVEMENT SCHEDULE

C1	PROP. APPROX.1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C2	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C3	PROP. VAR. ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 1½" IN DEPTH OR GREATER THAN 2" IN DEPTH.
C4	PROP. APPROX.1½" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
C5	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C6	PROP. VAR. ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 1" IN DEPTH OR GREATER THAN 1½" IN DEPTH.
C7	PROP. APPROX.1¼" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD.
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
D2	PROP. VAR. ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 2½" IN DEPTH OR GREATER THAN 4" IN DEPTH.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E2	PROP. VAR. ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 4" IN DEPTH OR GREATER THAN 5½" IN DEPTH.
J1	6" ABC
R1	5" MONOLITHIC CONCRETE ISLAND (KEYED IN)
R2	9" X 18" CONCRETE CURB
R3	1'-6" CONCRETE CURB AND GUTTER
R4	2'-6" CONCRETE CURB AND GUTTER
R5	32" VERTICAL CONCRETE BARRIER
R6	7" JOINTED CONCRETE (WITHOUT DOWELS) REINFORCED WITH A w3.5 x w3.5 OR w5 x w5 WIRE MESH
S1	4" CONCRETE SIDEWALK
S2	4" CONCRETE MULTI-USE PATH
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V	MILLING BITUMINOUS PAVEMENT 1.5" DEPTH
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL SHEET No. 2A-8)

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

PROJECT REFERENCE NO.	SHEET NO.
B-4929	2A-4

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 030952 JENNIFER D. FARINO

7/26/2016

PAVEMENT DESIGN ENGINEER

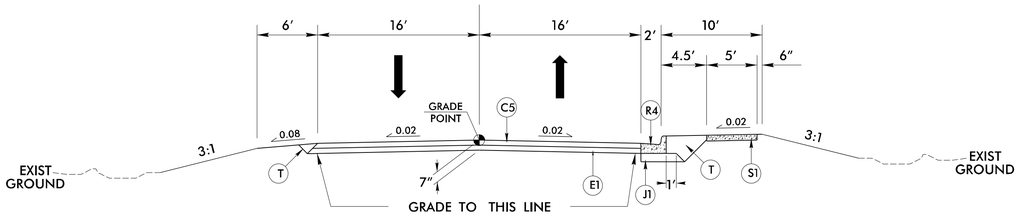
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 027896 CLARK S. MORRISON

7/26/2016

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

RS&H

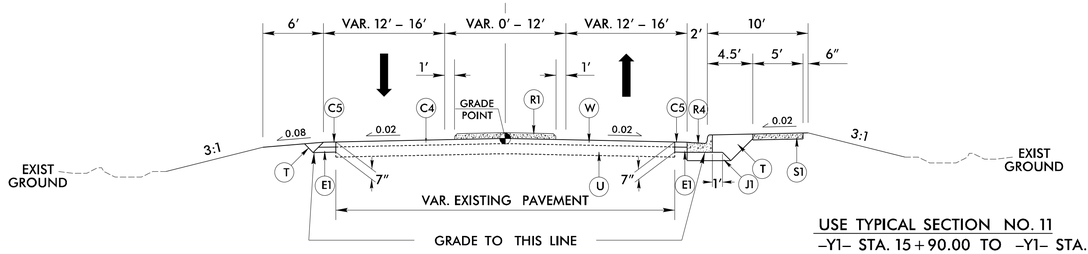
℄ –Y1– (ROLAND AVE – MAINLAND)



TYPICAL SECTION NO. 10

USE TYPICAL SECTION NO. 10
–Y1– STA. 12+38.00 TO –Y1– STA. 15+90.00

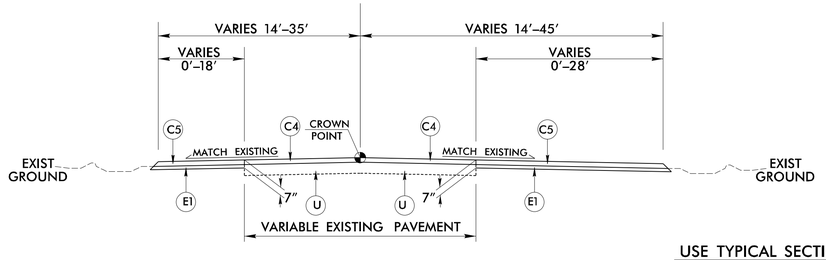
℄ –Y1– (ROLAND AVE – MAINLAND)



TYPICAL SECTION NO. 11

USE TYPICAL SECTION NO. 11
–Y1– STA. 15+90.00 TO –Y1– STA. 17+50.00
SEE DETAIL ON SHEET 2A–8 FOR
LIMITS OF INCIDENTAL MILLING & RESURFACING

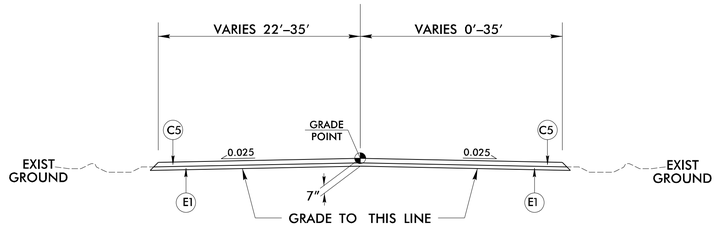
℄ –Y1– (ROLAND AVE – MAINLAND CUL–DE–SAC)



TYPICAL SECTION NO. 12

USE TYPICAL SECTION NO. 12
–Y1– STA. 20+63.00 TO STA. 21+63.00

℄ –Y1– (ROLAND AVE – ISLAND CUL–DE–SAC)



TYPICAL SECTION NO. 13

USE TYPICAL SECTION NO. 13
–Y1– STA. 35+00.00 TO STA. 35+95.62

NOTE: GRADE DRIVEWAY ON LT. TO MAINTAIN ACCESS DURING CONSTRUCTION

4/26/2016
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PAVEMENT SCHEDULE

C1	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C2	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C3	PROP. VAR. ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 1½" IN DEPTH OR GREATER THAN 2" IN DEPTH.
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C5	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C6	PROP. VAR. ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 1" IN DEPTH OR GREATER THAN 1½" IN DEPTH.
C7	PROP. APPROX. 1¼" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD.
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
D2	PROP. VAR. ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 2½" IN DEPTH OR GREATER THAN 4" IN DEPTH.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E2	PROP. VAR. ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 4" IN DEPTH OR GREATER THAN 5½" IN DEPTH.
J1	6" ABC
R1	5" MONOLITHIC CONCRETE ISLAND (KEYED IN)
R2	9" X 18" CONCRETE CURB
R3	1'-6" CONCRETE CURB AND GUTTER
R4	2'-6" CONCRETE CURB AND GUTTER
R5	32" VERTICAL CONCRETE BARRIER
R6	7" JOINTED CONCRETE (WITHOUT DOWELS) REINFORCED WITH A w3.5 x w3.5 OR w5 x w5 WIRE MESH
S1	4" CONCRETE SIDEWALK
S2	4" CONCRETE MULTI-USE PATH
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V	MILLING BITUMINOUS PAVEMENT 1.5" DEPTH
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL SHEET No. 2A-8)

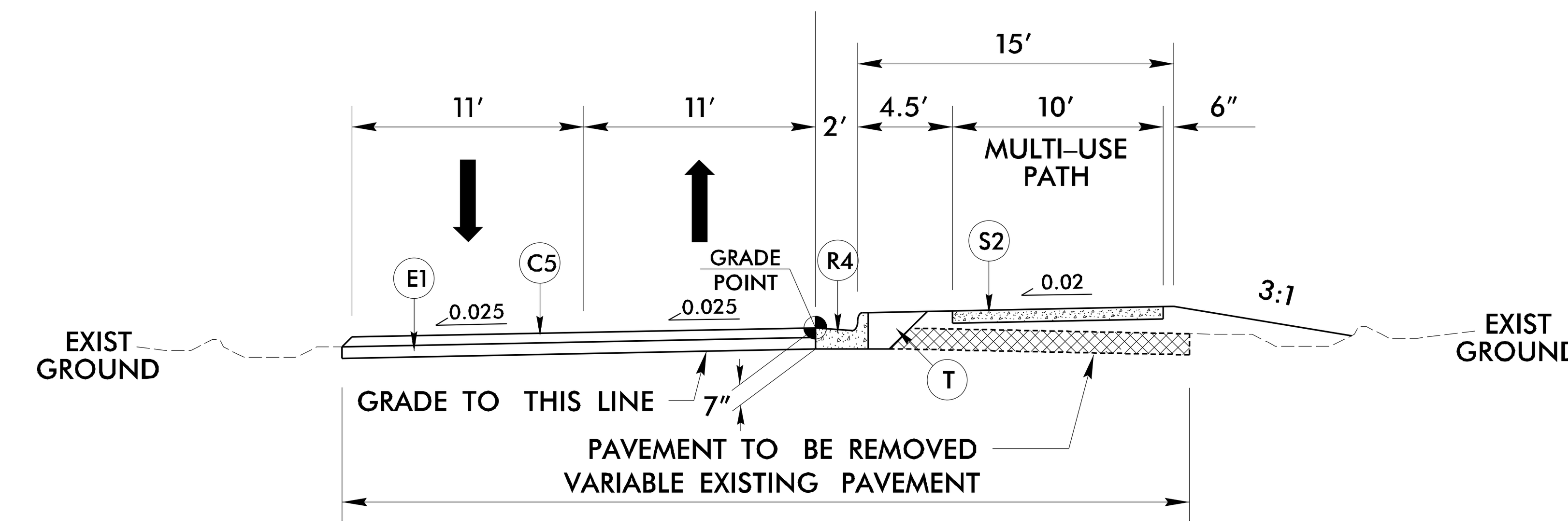
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.

PROJECT REFERENCE NO.	SHEET NO.
B-4929	2A-5
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

RS&H

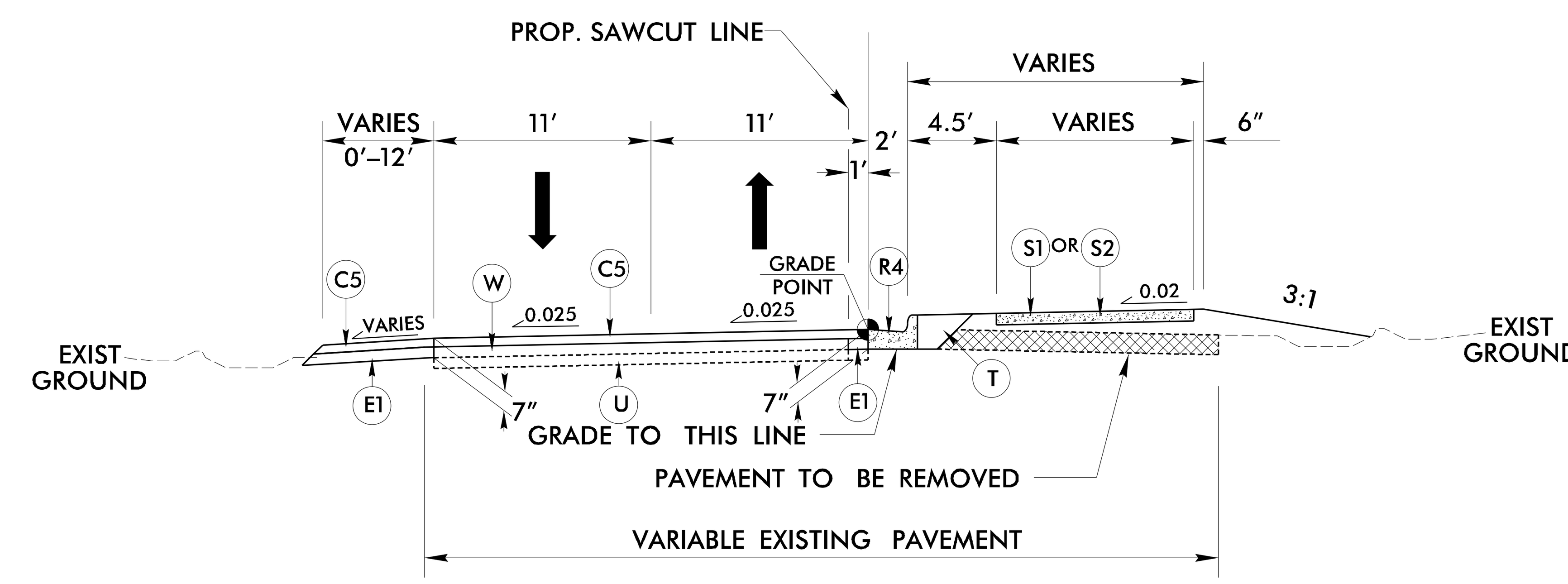
℄ -Y1- (ROLAND AVE - ISLAND)



TYPICAL SECTION NO. 14

USE TYPICAL SECTION NO. 14
-Y1- STA. 35+95.62 TO STA. 36+75.00

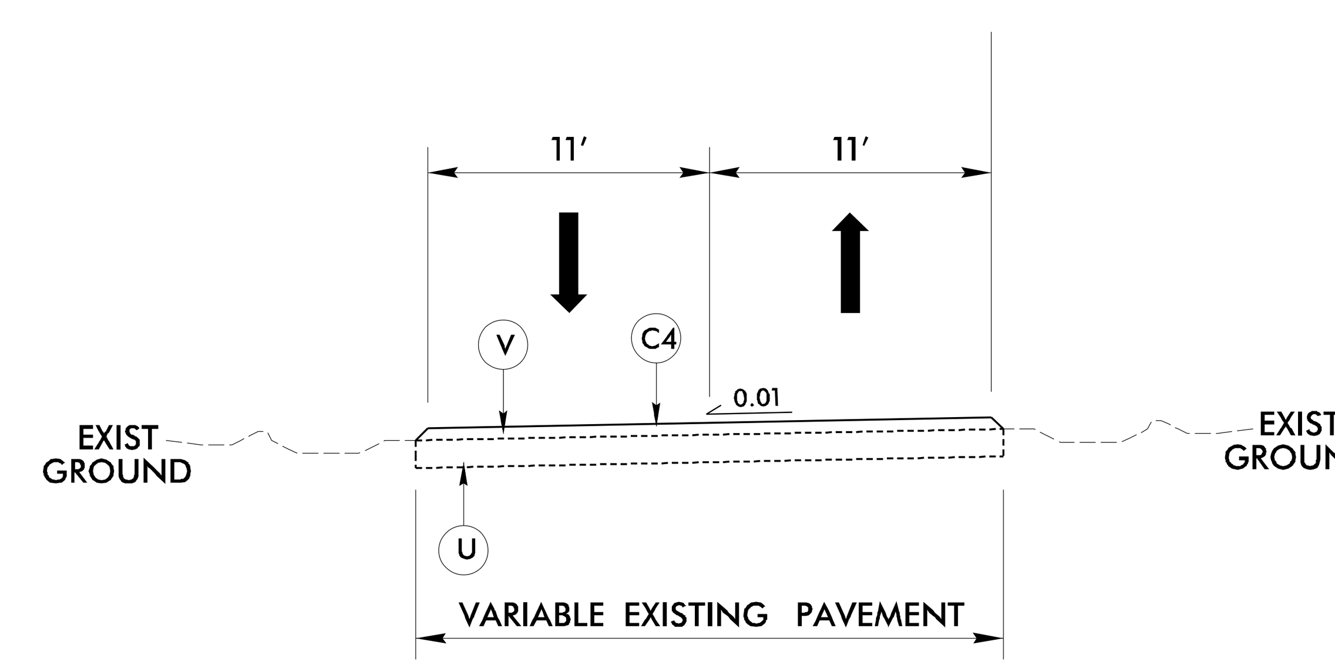
℄ -Y1- (ROLAND AVE - ISLAND)



TYPICAL SECTION NO. 15

USE TYPICAL SECTION NO. 15
-Y1- STA. 36+75.00 TO STA. 48+06.53

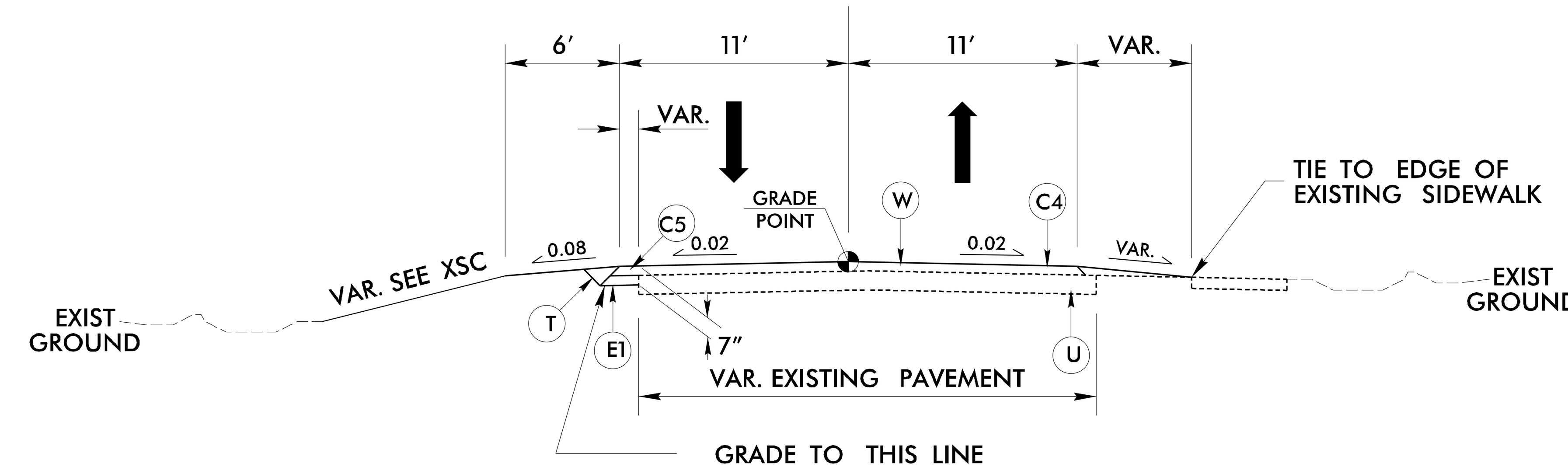
℄ -Y1- (ROLAND AVE - ISLAND)



TYPICAL SECTION NO. 16

USE TYPICAL SECTION NO. 16
-Y1- STA. 48+72.07 TO STA. 53+75.20
MILL AND OVERLAY ONLY

℄ -Y1A- (ATKINSON POINT RD)



TYPICAL SECTION NO. 17

USE TYPICAL SECTION NO. 17
-Y1A- STA. 12+90.00 TO -Y1A- STA. 13+84.00
SEE DETAIL ON SHEET 2A-8 FOR
LIMITS OF INCIDENTAL MILLING & RESURFACING

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4/26/2016
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PROJECT REFERENCE NO.	SHEET NO.
B-4929	2A-5
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

RS&H

PAVEMENT SCHEDULE

C1	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C2	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
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D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
D2	PROP. VAR. ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 2½" IN DEPTH OR GREATER THAN 4" IN DEPTH.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
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J1	6" ABC
R1	5" MONOLITHIC CONCRETE ISLAND (KEYED IN)
R2	9" X 18" CONCRETE CURB
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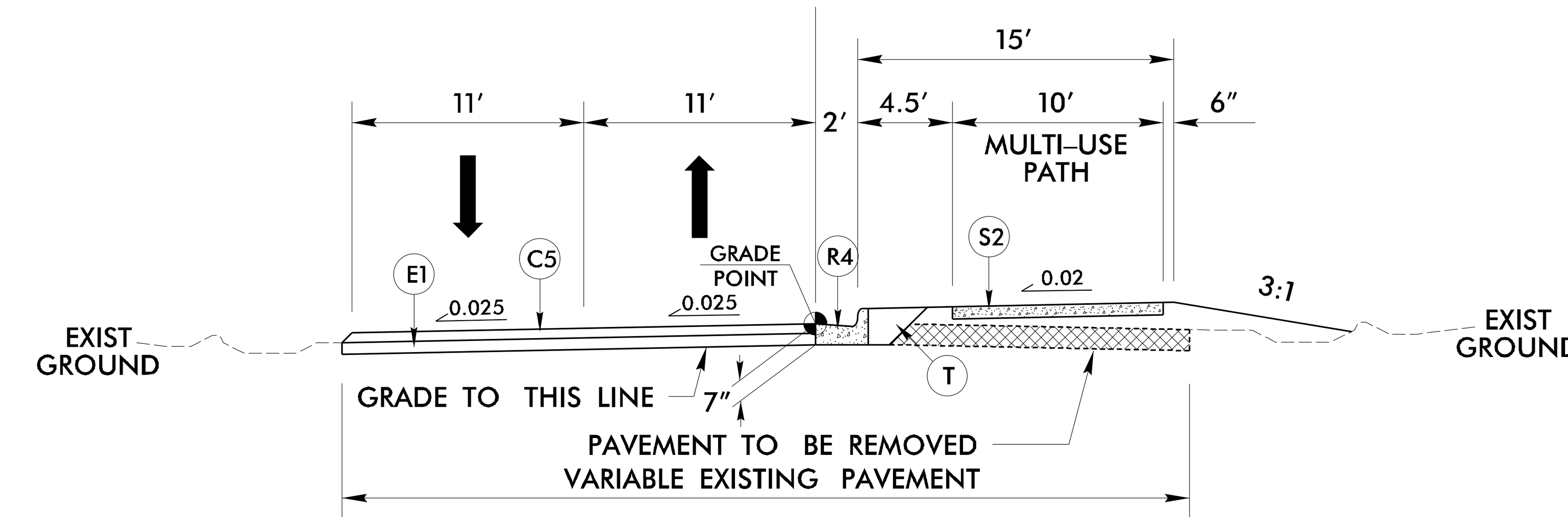
S1	4" CONCRETE SIDEWALK
S2	4" CONCRETE MULTI-USE PATH
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V	MILLING BITUMINOUS PAVEMENT 1.5" DEPTH
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL SHEET No. 2A-8)

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

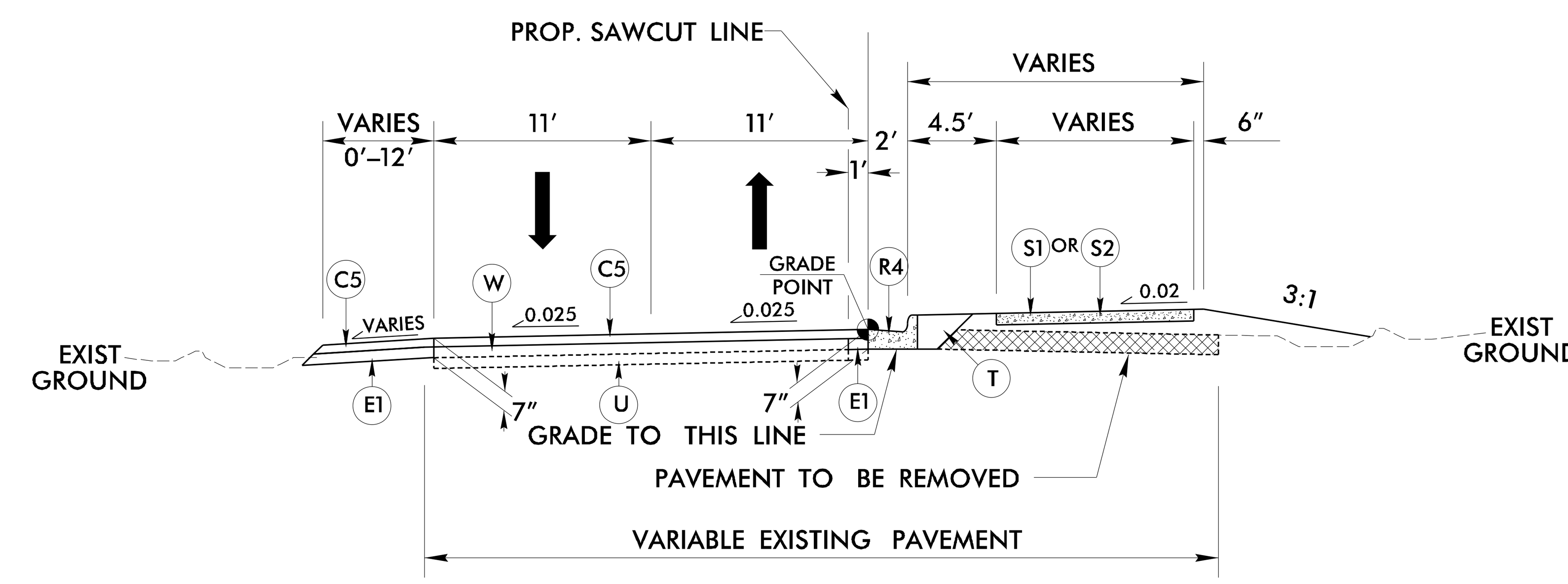
℄ -Y1- (ROLAND AVE - ISLAND)



TYPICAL SECTION NO. 14

USE TYPICAL SECTION NO. 14
-Y1- STA. 35+95.62 TO STA. 36+75.00

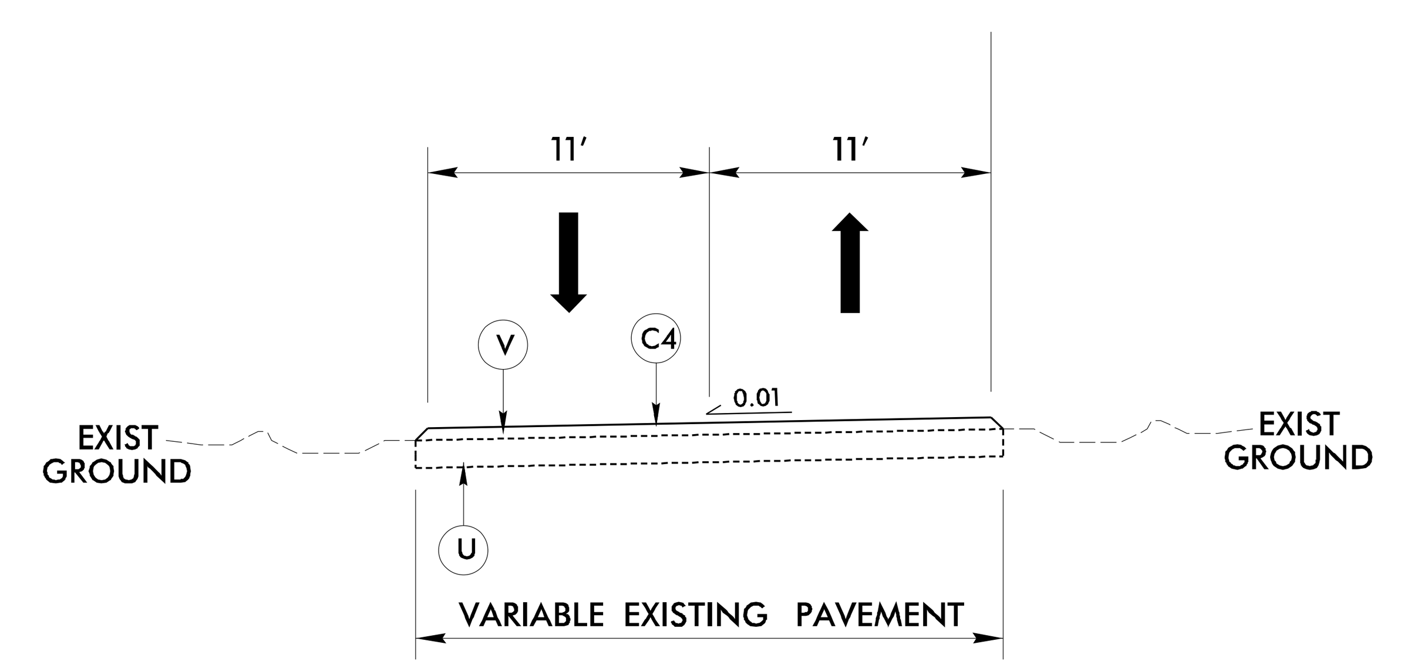
℄ -Y1- (ROLAND AVE - ISLAND)



TYPICAL SECTION NO. 15

USE TYPICAL SECTION NO. 15
-Y1- STA. 36+75.00 TO STA. 48+06.53

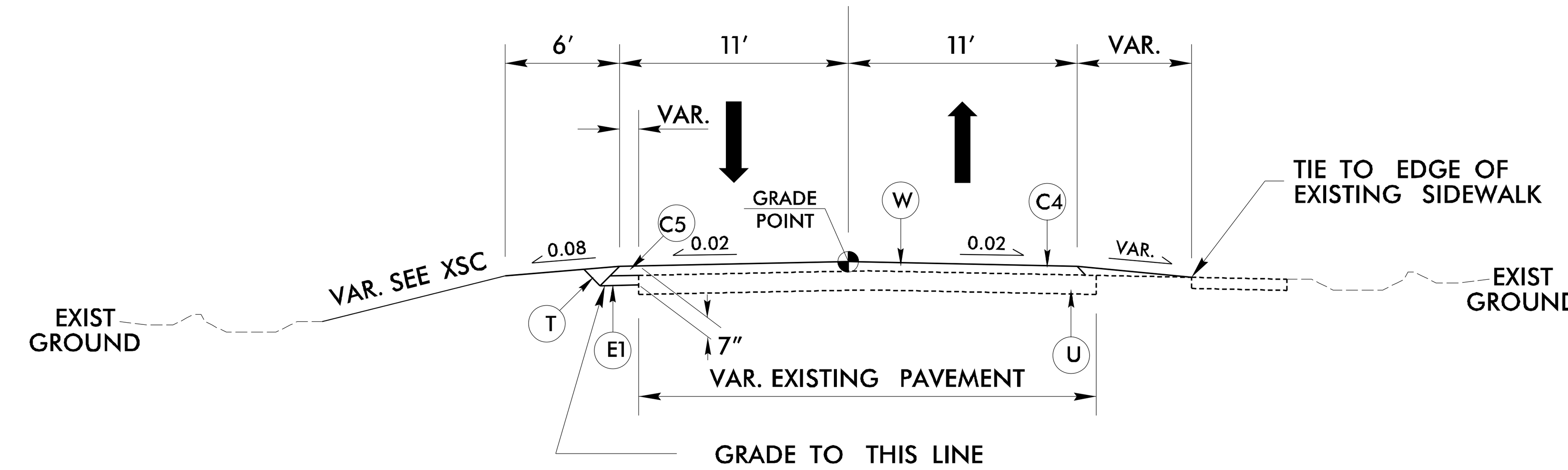
℄ -Y1- (ROLAND AVE - ISLAND)



TYPICAL SECTION NO. 16

USE TYPICAL SECTION NO. 16
-Y1- STA. 48+72.07 TO STA. 53+75.20
MILL AND OVERLAY ONLY

℄ -Y1A- (ATKINSON POINT RD)



TYPICAL SECTION NO. 17

USE TYPICAL SECTION NO. 17
-Y1A- STA. 12+90.00 TO -Y1A- STA. 13+84.00
SEE DETAIL ON SHEET 2A-8 FOR
LIMITS OF INCIDENTAL MILLING & RESURFACING

PROJECT REFERENCE NO.	SHEET NO.
B-4929	2A-6
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

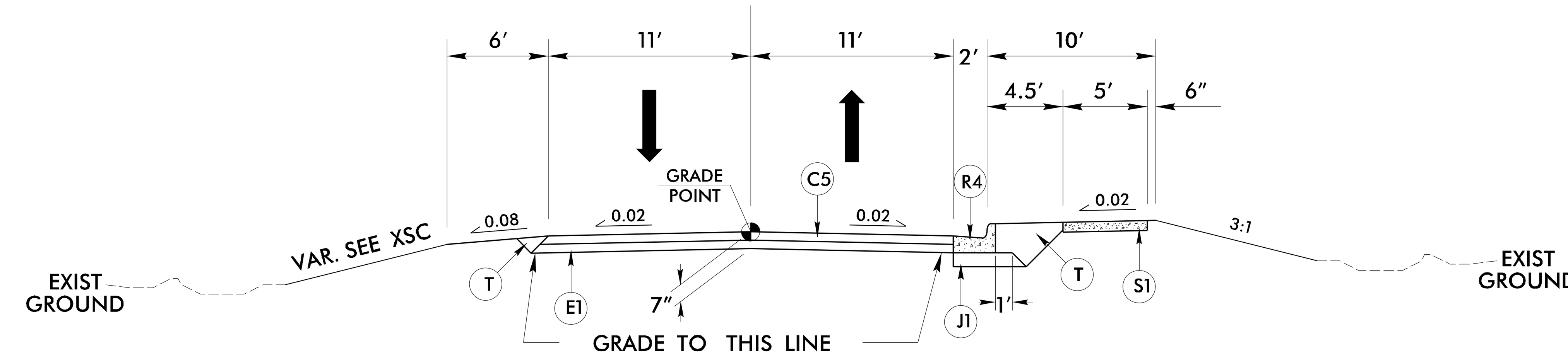
RS&H

PAVEMENT SCHEDULE

C1	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C2	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C3	PROP. VAR. ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 1½" IN DEPTH OR GREATER THAN 2" IN DEPTH.
C4	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
C5	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C6	PROP. VAR. ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 1" IN DEPTH OR GREATER THAN 1½" IN DEPTH.
C7	PROP. APPROX. 1¼" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD.
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
D2	PROP. VAR. ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 2½" IN DEPTH OR GREATER THAN 4" IN DEPTH.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E2	PROP. VAR. ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 4" IN DEPTH OR GREATER THAN 5½" IN DEPTH.
J1	6" ABC
R1	5" MONOLITHIC CONCRETE ISLAND (KEYED IN)
R2	9" X 18" CONCRETE CURB
R3	1'-6" CONCRETE CURB AND GUTTER
R4	2'-6" CONCRETE CURB AND GUTTER
R5	32" VERTICAL CONCRETE BARRIER
R6	7" JOINTED CONCRETE (WITHOUT DOWELS) REINFORCED WITH A w3.5 x w3.5 OR w5 x w5 WIRE MESH
S1	4" CONCRETE SIDEWALK
S2	4" CONCRETE MULTI-USE PATH
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V	MILLING BITUMINOUS PAVEMENT 1.5" DEPTH
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL SHEET No. 2A-8)

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

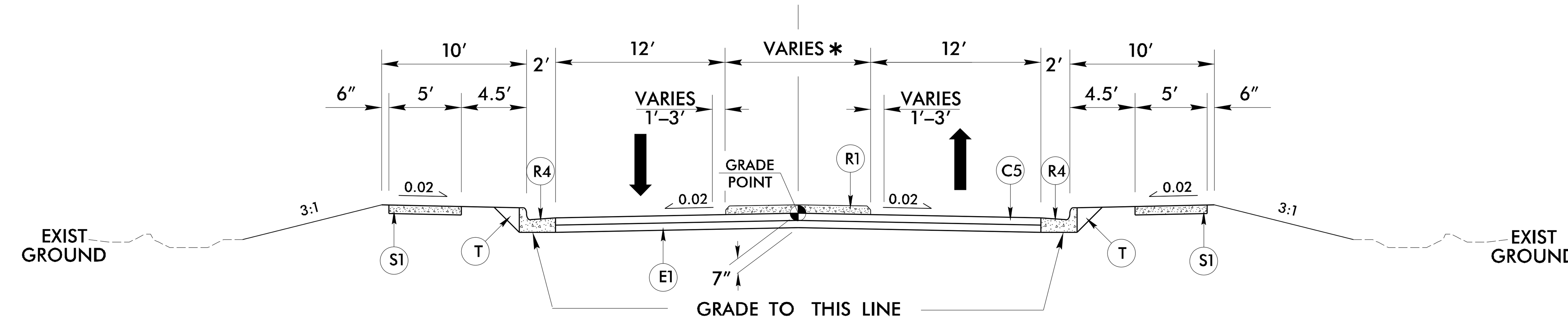
℄ -Y1A- (ATKINSON POINT RD)



TYPICAL SECTION NO. 18

USE TYPICAL SECTION NO. 18
-Y1A- STA. 13+84.00 TO -Y1A- STA. 14+87.00

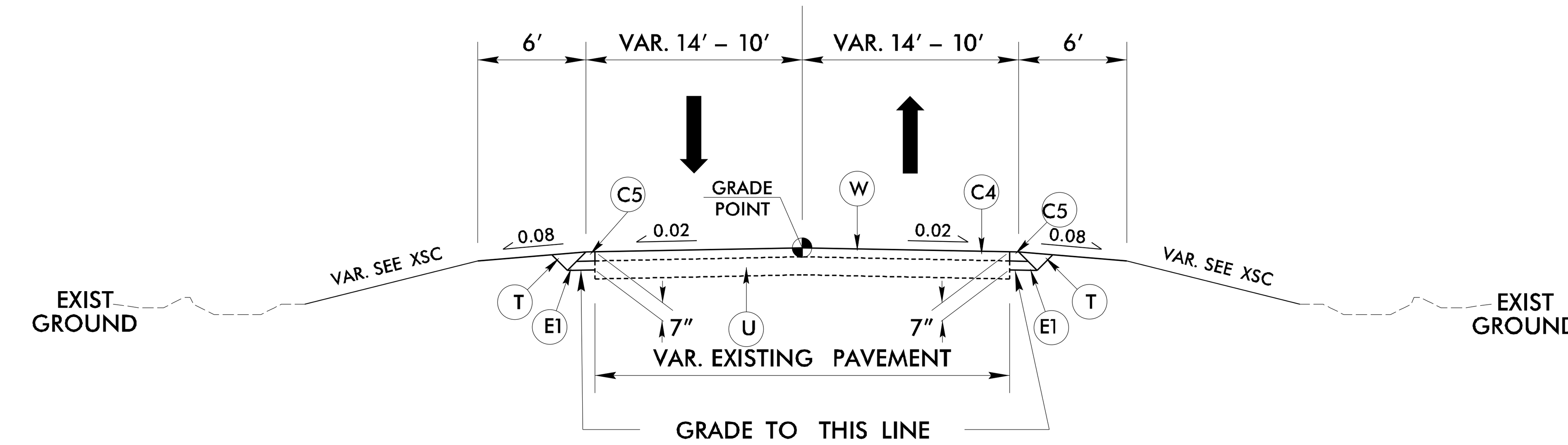
℄ -Y2- (LITTLE KINSTON RD)



TYPICAL SECTION NO. 19

USE TYPICAL SECTION NO. 19
-Y2- STA. 10+61.85 TO -Y2- STA. 11+50.00
*SEE PLANS FOR VARIABLE WIDTH PAVEMENT NEAR -RA1-

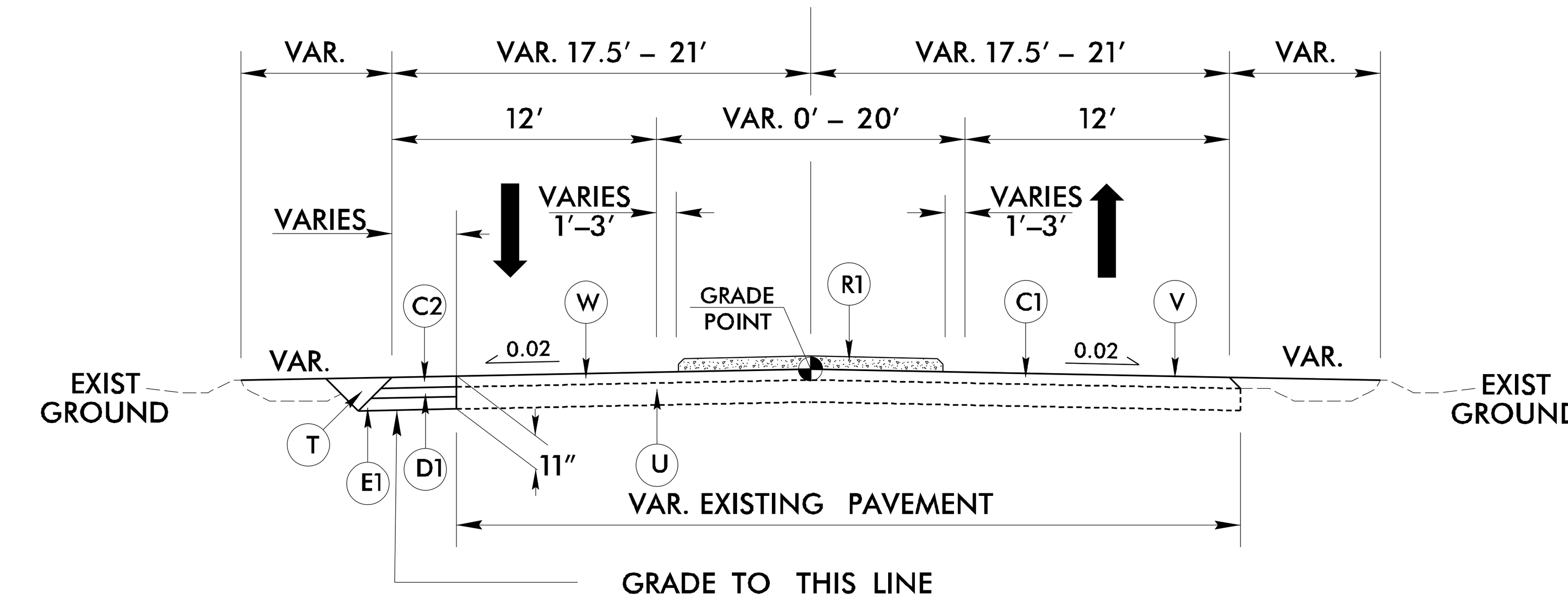
℄ -Y2- (LITTLE KINSTON RD)



TYPICAL SECTION NO. 20

USE TYPICAL SECTION NO. 20
-Y2- STA. 11+50.00 TO -Y2- STA. 12+35.00
SEE DETAIL ON SHEET 2A-8 FOR
LIMITS OF INCIDENTAL MILLING & OVERLAY

℄ -Y3- (N. NEW RIVER DR /NC 210)



TYPICAL SECTION NO. 21

USE TYPICAL SECTION NO. 21
-Y3- STA. 10+00.00 TO -Y3- STA. 12+50.00
SEE DETAIL ON SHEET 2A-8 FOR
LIMITS OF INCIDENTAL MILLING & RESURFACING

4/26/2016
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PROJECT REFERENCE NO.	SHEET NO.
B-4929	2A-6
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 030952 JENNIFER D. FARINO 4/26/2016

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 022896 CLARK S. MORRISON 4/26/2016

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

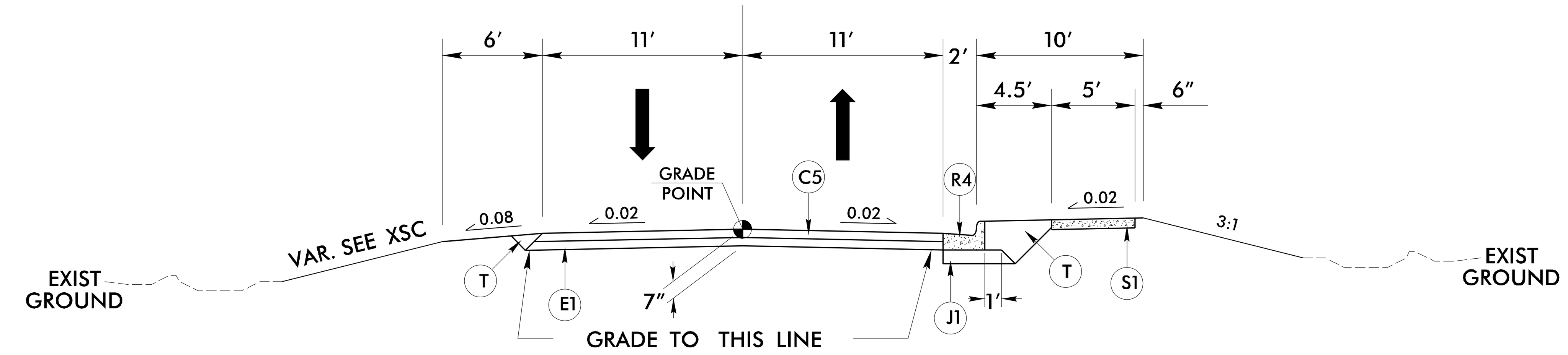
RS&H

PAVEMENT SCHEDULE

C1	PROP. APPROX.1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C2	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C3	PROP. VAR. ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 1½" IN DEPTH OR GREATER THAN 2" IN DEPTH.
C4	PROP. APPROX.1½" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
C5	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C6	PROP. VAR. ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 1" IN DEPTH OR GREATER THAN 1½" IN DEPTH.
C7	PROP. APPROX.1¼" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD.
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
D2	PROP. VAR. ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 2½" IN DEPTH OR GREATER THAN 4" IN DEPTH.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E2	PROP. VAR. ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 4" IN DEPTH OR GREATER THAN 5½" IN DEPTH.
J1	6" ABC
R1	5" MONOLITHIC CONCRETE ISLAND (KEYED IN)
R2	9" X 18" CONCRETE CURB
R3	1'-6" CONCRETE CURB AND GUTTER
R4	2'-6" CONCRETE CURB AND GUTTER
R5	32" VERTICAL CONCRETE BARRIER
R6	7" JOINTED CONCRETE (WITHOUT DOWELS) REINFORCED WITH A w3.5 x w3.5 OR w5 x w5 WIRE MESH
S1	4" CONCRETE SIDEWALK
S2	4" CONCRETE MULTI-USE PATH
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V	MILLING BITUMINOUS PAVEMENT 1.5" DEPTH
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL SHEET No. 2A-8)

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

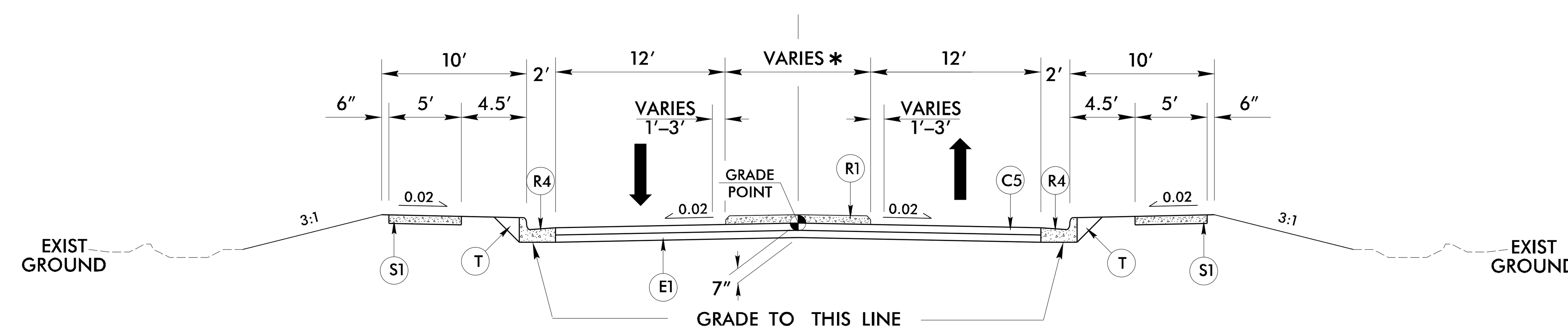
℄ -Y1A- (ATKINSON POINT RD)



TYPICAL SECTION NO. 18

USE TYPICAL SECTION NO. 18
-Y1A- STA. 13+84.00 TO -Y1A- STA. 14+87.00

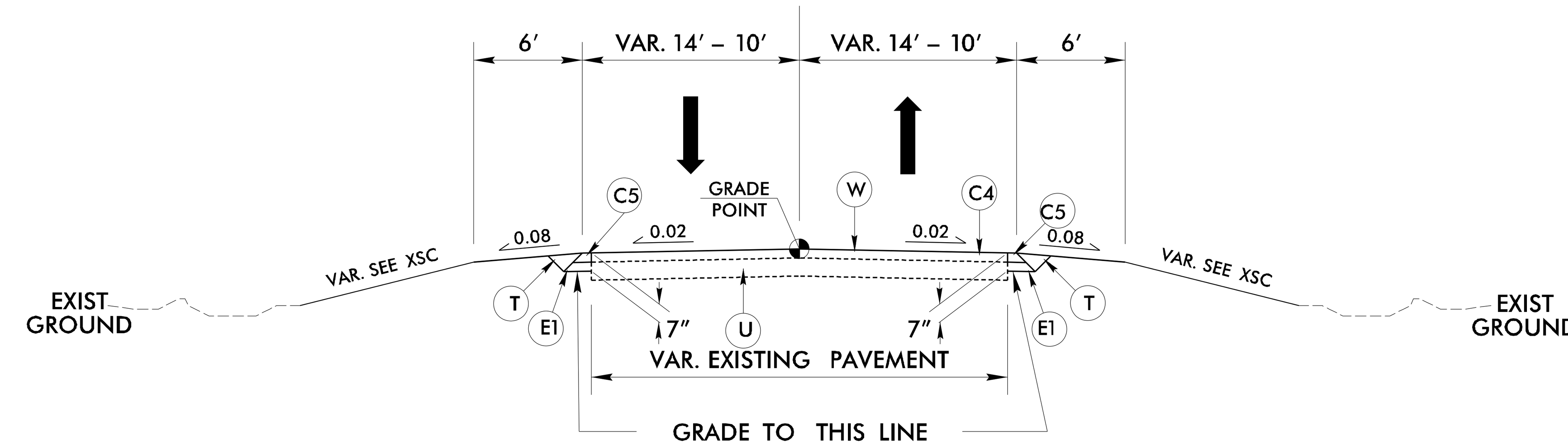
℄ -Y2- (LITTLE KINSTON RD)



TYPICAL SECTION NO. 19

USE TYPICAL SECTION NO. 19
-Y2- STA. 10+61.85 TO -Y2- STA. 11+50.00
*SEE PLANS FOR VARIABLE WIDTH PAVEMENT NEAR -RA1-

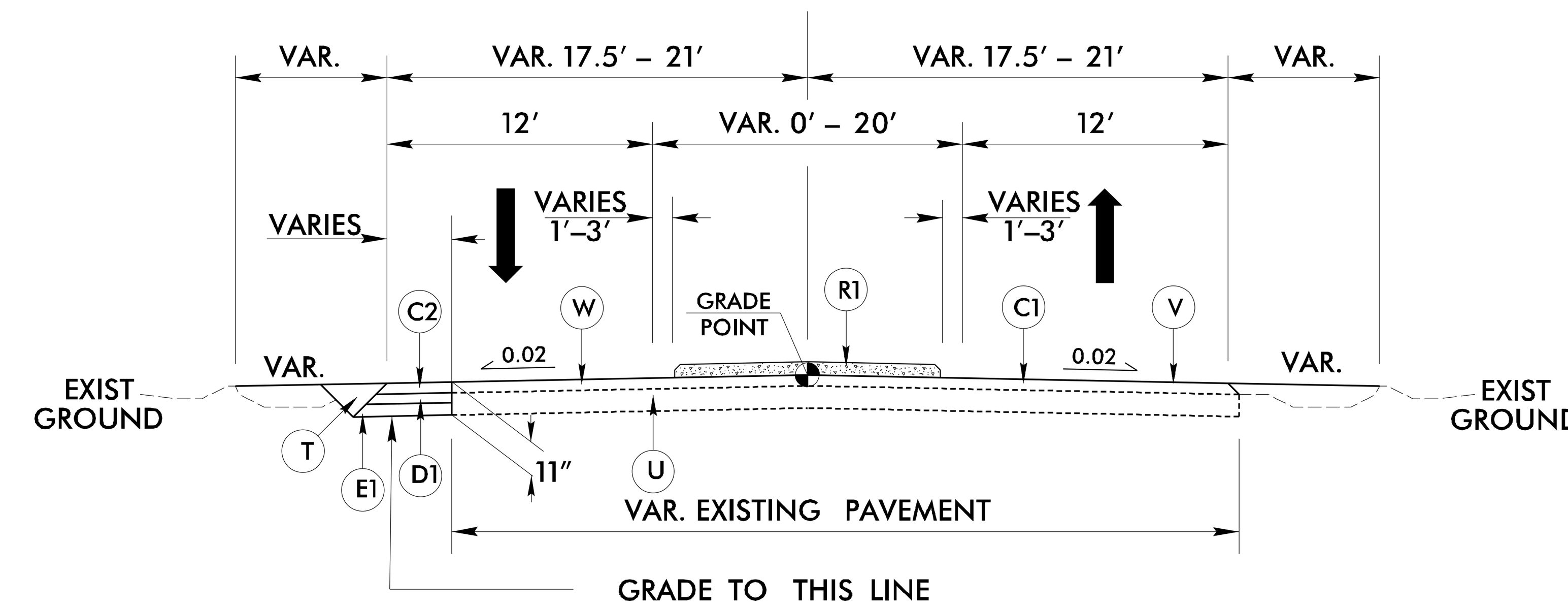
℄ -Y2- (LITTLE KINSTON RD)



TYPICAL SECTION NO. 20

USE TYPICAL SECTION NO. 20
-Y2- STA. 11+50.00 TO -Y2- STA. 12+35.00
SEE DETAIL ON SHEET 2A-8 FOR
LIMITS OF INCIDENTAL MILLING & OVERLAY

℄ -Y3- (N. NEW RIVER DR /NC 210)

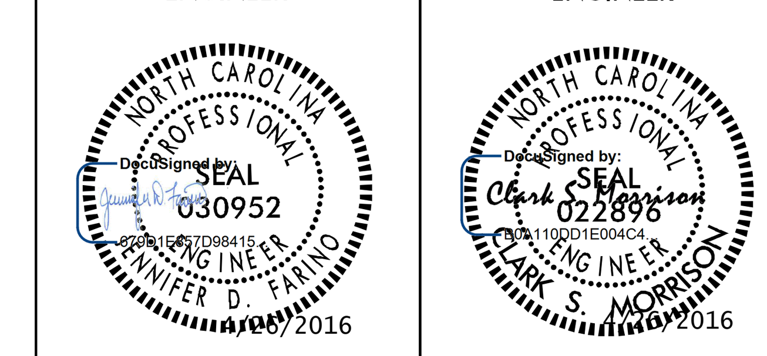


TYPICAL SECTION NO. 21

USE TYPICAL SECTION NO. 21
-Y3- STA. 10+00.00 TO -Y3- STA. 12+50.00
SEE DETAIL ON SHEET 2A-8 FOR
LIMITS OF INCIDENTAL MILLING & RESURFACING

6/2/99

PROJECT REFERENCE NO.	SHEET NO.
B-4929	2A-7
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER



DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

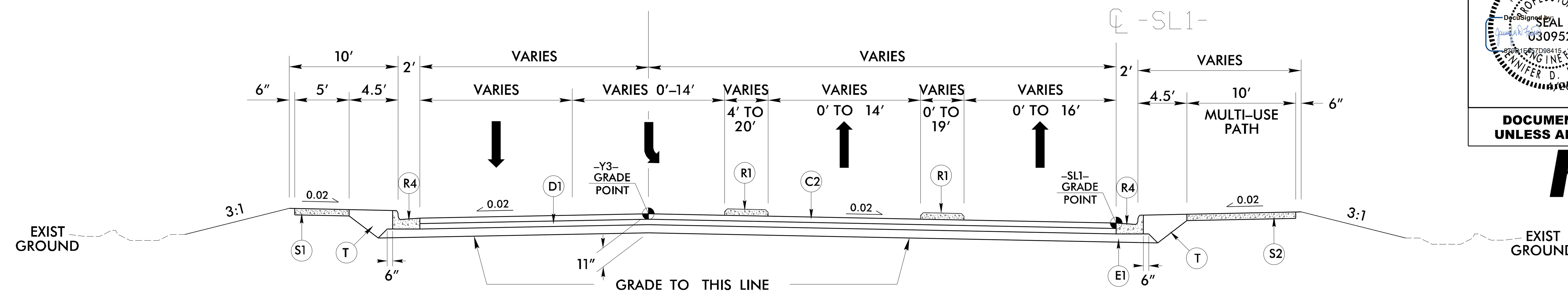
RS&H

PAVEMENT SCHEDULE

C1	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C2	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C3	PROP. VAR. ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 1½" IN DEPTH OR GREATER THAN 2" IN DEPTH.
C4	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
C5	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C6	PROP. VAR. ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 1" IN DEPTH OR GREATER THAN 1½" IN DEPTH.
C7	PROP. APPROX. 1¼" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD.
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
D2	PROP. VAR. ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 2½" IN DEPTH OR GREATER THAN 4" IN DEPTH.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E2	PROP. VAR. ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 4" IN DEPTH OR GREATER THAN 5½" IN DEPTH.
J1	6" ABC
R1	5" MONOLITHIC CONCRETE ISLAND (KEYED IN)
R2	9" X 18" CONCRETE CURB
R3	1'-6" CONCRETE CURB AND GUTTER
R4	2'-6" CONCRETE CURB AND GUTTER
R5	32" VERTICAL CONCRETE BARRIER
R6	7" JOINTED CONCRETE (WITHOUT DOWELS) REINFORCED WITH A w3.5 x w3.5 OR w5 x w5 WIRE MESH
S1	4" CONCRETE SIDEWALK
S2	4" CONCRETE MULTI-USE PATH
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V	MILLING BITUMINOUS PAVEMENT 1.5" DEPTH
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL SHEET No. 2A-8)

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

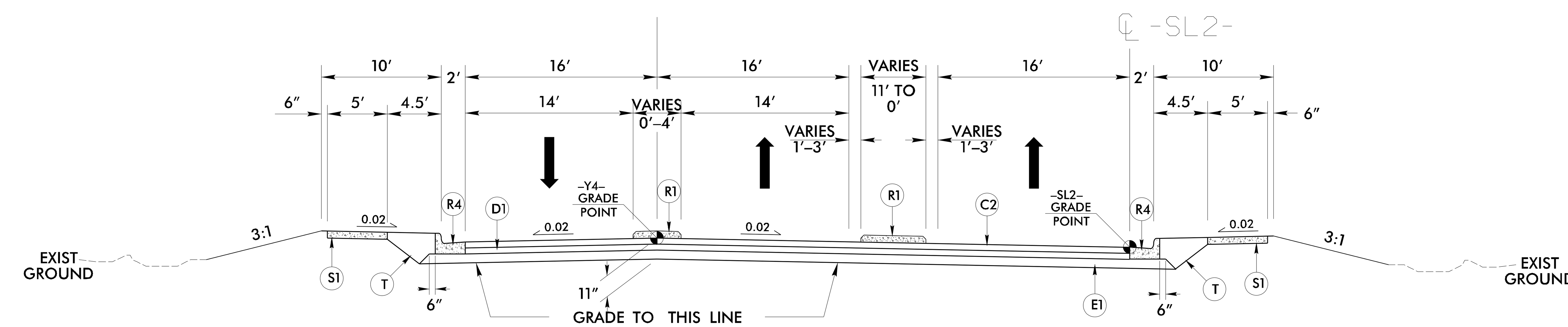
℄ -Y3- (N. NEW RIVER DR /NC 210)



TYPICAL SECTION NO. 22

USE TYPICAL SECTION NO. 22
-Y3- STA. 12+50.00 TO -Y3- STA. 15+23.02

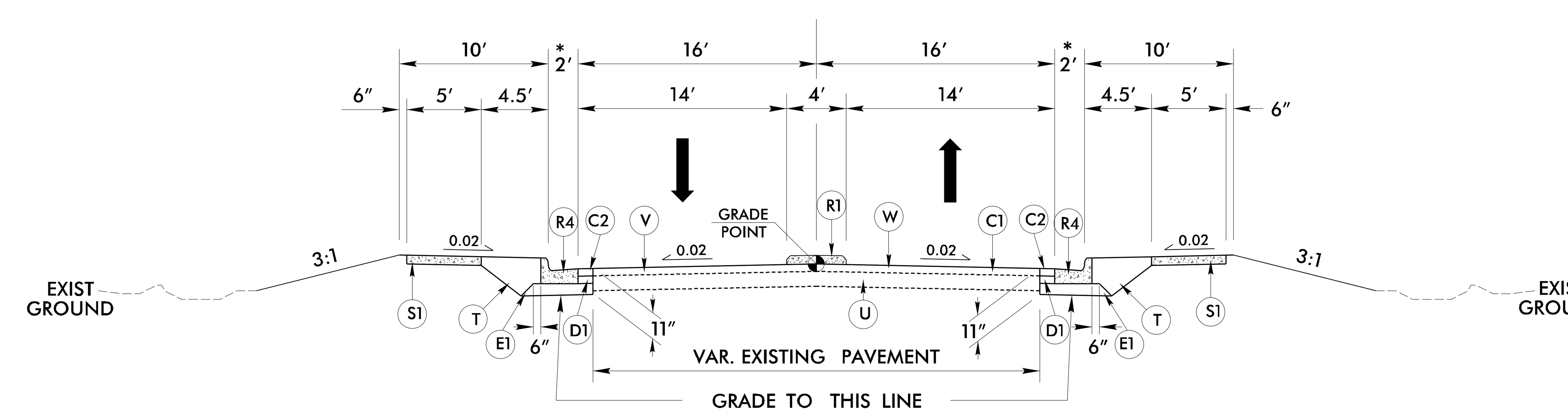
℄ -Y4- (S. TOPSAIL DR./NC 50)



TYPICAL SECTION NO. 23

USE TYPICAL SECTION NO. 23
-Y4- STA. 10+61.85 TO -Y4- STA. 12+75.00

℄ -Y4- (S. TOPSAIL DR./NC 50)



TYPICAL SECTION NO. 24

USE TYPICAL SECTION NO. 24
-Y4- STA. 12+75.00 TO -Y4- STA. 14+35.00

SEE DETAIL ON SHEET 2A-8 FOR LIMITS OF INCIDENTAL MILLING & RESURFACING

*SHOULDER SECTION FROM
-Y4- STA. 13+22 LT. & RT. TO STA. 14+35 LT. & RT.

4/26/2016
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PROJECT REFERENCE NO.	SHEET NO.
B-4929	2A-7
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 030952 JENNIFER D. FARINO 2016

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 022896 CLARK S. MORRISON 2016

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

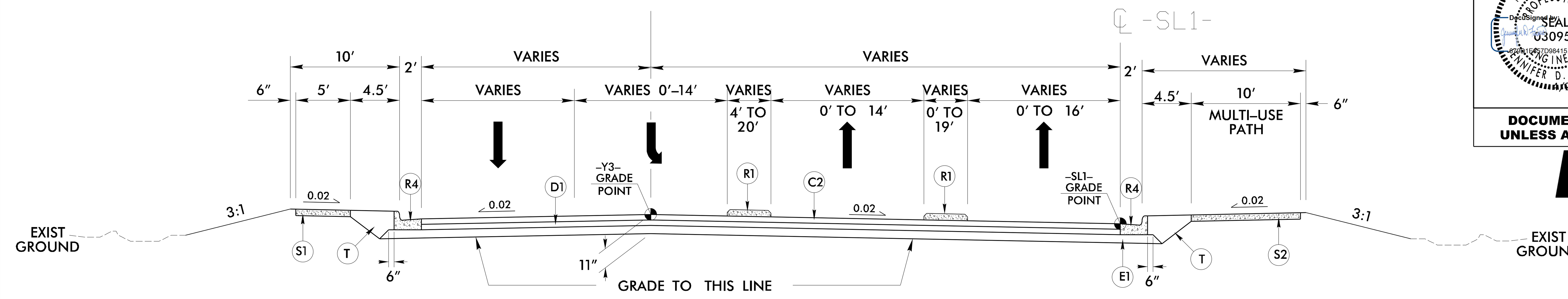
RS&H

PAVEMENT SCHEDULE

C1	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C2	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C3	PROP. VAR. ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 1½" IN DEPTH OR GREATER THAN 2" IN DEPTH.
C4	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
C5	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C6	PROP. VAR. ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 1" IN DEPTH OR GREATER THAN 1½" IN DEPTH.
C7	PROP. APPROX. 1¼" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD.
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
D2	PROP. VAR. ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 2½" IN DEPTH OR GREATER THAN 4" IN DEPTH.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E2	PROP. VAR. ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 4" IN DEPTH OR GREATER THAN 5½" IN DEPTH.
J1	6" ABC
R1	5" MONOLITHIC CONCRETE ISLAND (KEYED IN)
R2	9" X 18" CONCRETE CURB
R3	1'-6" CONCRETE CURB AND GUTTER
R4	2'-6" CONCRETE CURB AND GUTTER
R5	32" VERTICAL CONCRETE BARRIER
R6	7" JOINTED CONCRETE (WITHOUT DOWELS) REINFORCED WITH A w3.5 x w3.5 OR w5 x w5 WIRE MESH
S1	4" CONCRETE SIDEWALK
S2	4" CONCRETE MULTI-USE PATH
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V	MILLING BITUMINOUS PAVEMENT 1.5" DEPTH
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL SHEET No. 2A-8)

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

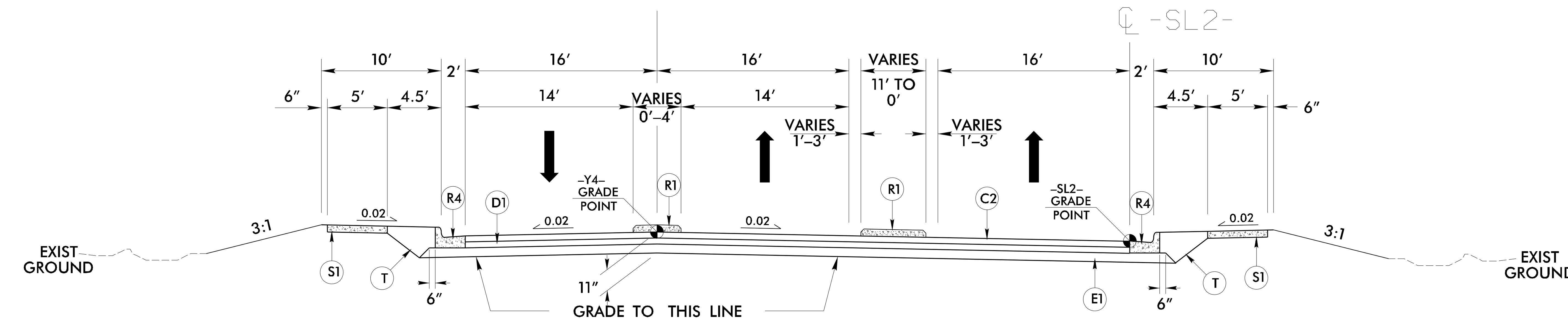
℄ -Y3- (N. NEW RIVER DR /NC 210)



TYPICAL SECTION NO. 22

USE TYPICAL SECTION NO. 22
-Y3- STA. 12+50.00 TO -Y3- STA. 15+23.02

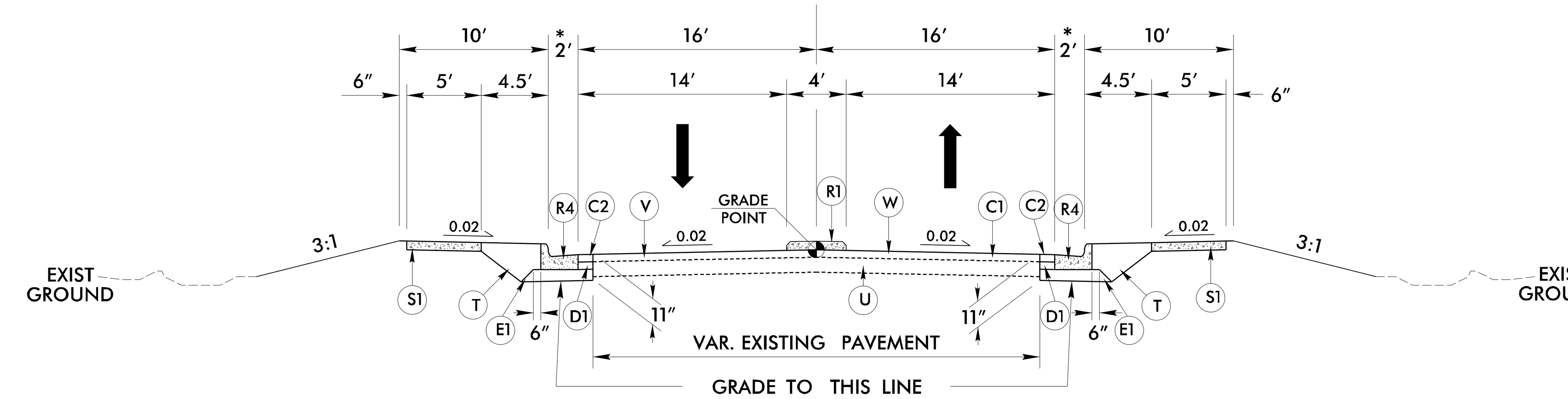
℄ -Y4- (S. TOPSAIL DR./NC 50)



TYPICAL SECTION NO. 23

USE TYPICAL SECTION NO. 23
-Y4- STA. 10+61.85 TO -Y4- STA. 12+75.00

℄ -Y4- (S. TOPSAIL DR./NC 50)



TYPICAL SECTION NO. 24

USE TYPICAL SECTION NO. 24
-Y4- STA. 12+75.00 TO -Y4- STA. 14+35.00

SEE DETAIL ON SHEET 2A-8 FOR LIMITS OF INCIDENTAL MILLING & RESURFACING

*SHOULDER SECTION FROM
-Y4- STA. 13+22 LT. & RT. TO STA. 14+35 LT. & RT.

6/2/99

4/26/2016
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6/2/99

PAVEMENT SCHEDULE

C1	PROP. APPROX.1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C2	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C3	PROP. VAR. ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 1½" IN DEPTH OR GREATER THAN 2" IN DEPTH.
C4	PROP. APPROX.1½" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
C5	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C6	PROP. VAR. ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 1" IN DEPTH OR GREATER THAN 1½" IN DEPTH.
C7	PROP. APPROX.1¼" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD.
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
D2	PROP. VAR. ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 2½" IN DEPTH OR GREATER THAN 4" IN DEPTH.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E2	PROP. VAR. ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 4" IN DEPTH OR GREATER THAN 5½" IN DEPTH.
J1	6" ABC
R1	5" MONOLITHIC CONCRETE ISLAND (KEYED IN)
R2	9" X 18" CONCRETE CURB
R3	1'-6" CONCRETE CURB AND GUTTER
R4	2'-6" CONCRETE CURB AND GUTTER
R5	32" VERTICAL CONCRETE BARRIER
R6	7" JOINTED CONCRETE (WITHOUT DOWELS) REINFORCED WITH A w3.5 x w3.5 OR w5 x w5 WIRE MESH
S1	4" CONCRETE SIDEWALK
S2	4" CONCRETE MULTI-USE PATH
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V	MILLING BITUMINOUS PAVEMENT 1.5" DEPTH
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL SHEET No. 2A-8)

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

PROJECT REFERENCE NO.	SHEET NO.
B-4929	2A-8

ROADWAY DESIGN ENGINEER

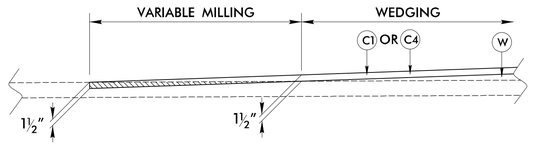
NORTH CAROLINA PROFESSIONAL SEAL 030952 ENGINEER JENNIFER D. FAKINE

PAVEMENT DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 022896 ENGINEER CLARK S. MORRISON

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

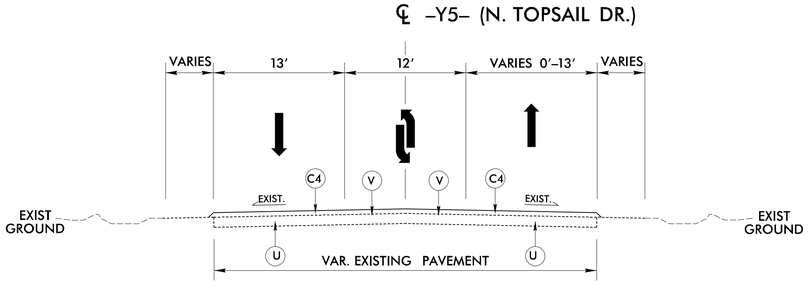
RS&H



DETAIL OF INCIDENTAL MILLING AT PAVEMENT TIE-INS

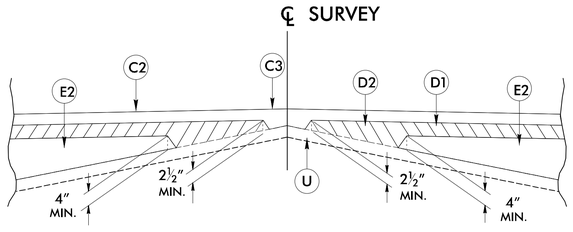
USE DETAIL

–L1– STA. 13+25.00 TO STA. 14+00.00
–Y1A– STA. 12+90.00 TO STA. 13+84.00
–Y1– STA. 16+50.00 TO STA. 17+50.00
–Y2– STA. 11+50.00 TO STA. 12+35.00
–Y3– STA. 10+00.00 TO STA. 11+00.00
–Y4– STA. 13+35.00 TO STA. 14+35.00

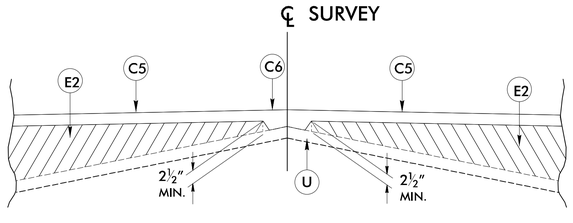


TYPICAL SECTION NO. 25
MILL & OVERLAY ONLY WITH SF9.5A

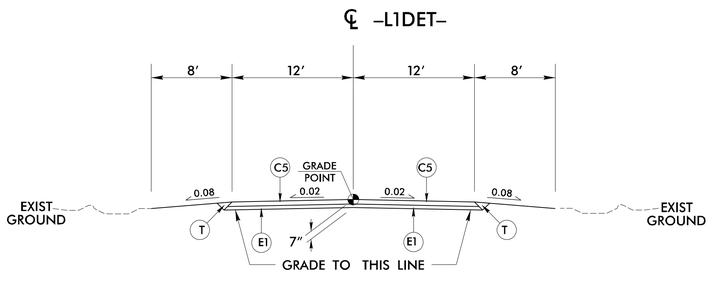
USE TYPICAL SECTION NO. 25
–Y5– STA. 11+05 TO –Y5– STA. 15+57.75



Detail Showing Method of Wedging
FOR ALIGNMENTS WITH S9.5B SURFACE LAYER

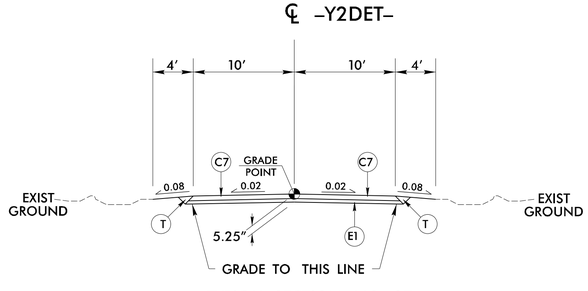


Detail Showing Method of Wedging
FOR ALIGNMENTS WITH SF9.5A SURFACE LAYER



TYPICAL SECTION NO. 26

USE TYPICAL SECTION NO. 26
–L1DET– STA. 10+00.00 TO STA. 13+61.48



TYPICAL SECTION NO. 27

USE TYPICAL SECTION NO. 27
–Y2DET– STA. 10+00.00 TO STA. 12+81.63

5/10/2016
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6/2/99

PAVEMENT SCHEDULE

C1	PROP. APPROX.1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C2	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C3	PROP. VAR. ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 1½" IN DEPTH OR GREATER THAN 2" IN DEPTH.
C4	PROP. APPROX.1½" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
C5	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C6	PROP. VAR. ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 1" IN DEPTH OR GREATER THAN 1½" IN DEPTH.
C7	PROP. APPROX.1¼" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD.
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
D2	PROP. VAR. ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 2½" IN DEPTH OR GREATER THAN 4" IN DEPTH.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E2	PROP. VAR. ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 4" IN DEPTH OR GREATER THAN 5½" IN DEPTH.
J1	6" ABC
R1	5" MONOLITHIC CONCRETE ISLAND (KEYED IN)
R2	9" X 18" CONCRETE CURB
R3	1'-6" CONCRETE CURB AND GUTTER
R4	2'-6" CONCRETE CURB AND GUTTER
R5	32" VERTICAL CONCRETE BARRIER
R6	7" JOINTED CONCRETE (WITHOUT DOWELS) REINFORCED WITH A w3.5 x w3.5 OR w5 x w5 WIRE MESH
S1	4" CONCRETE SIDEWALK
S2	4" CONCRETE MULTI-USE PATH
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V	MILLING BITUMINOUS PAVEMENT 1.5" DEPTH
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL SHEET No. 2A-8)

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

PROJECT REFERENCE NO.	SHEET NO.
B-4929	2A-8

ROADWAY DESIGN ENGINEER

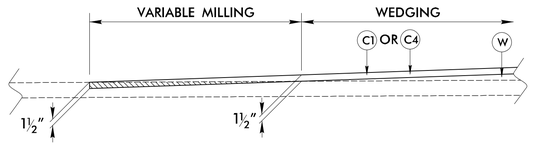
NORTH CAROLINA PROFESSIONAL SEAL 030952 ENGINEER JENNIFER D. FAKINE

PAVEMENT DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 022896 ENGINEER CLARK S. MORRISON

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

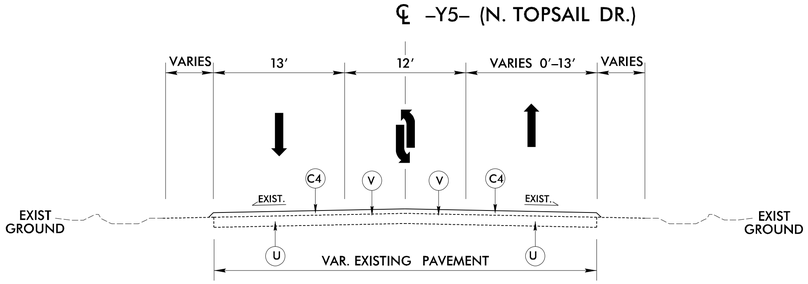
RS&H



DETAIL OF INCIDENTAL MILLING AT PAVEMENT TIE-INS

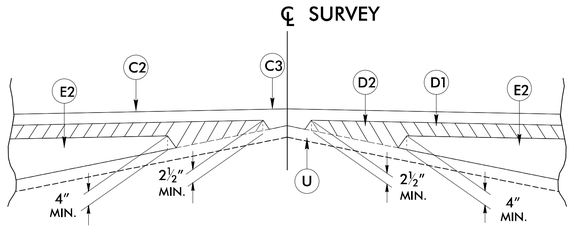
USE DETAIL

–L1– STA. 13+25.00 TO STA. 14+00.00
–Y1A– STA. 12+90.00 TO STA. 13+84.00
–Y1– STA. 16+50.00 TO STA. 17+50.00
–Y2– STA. 11+50.00 TO STA. 12+35.00
–Y3– STA. 10+00.00 TO STA. 11+00.00
–Y4– STA. 13+35.00 TO STA. 14+35.00

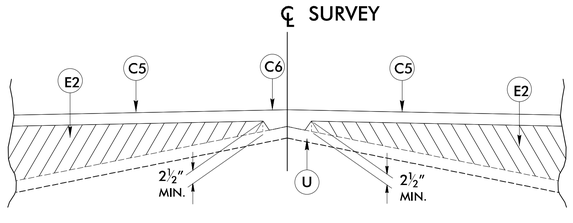


TYPICAL SECTION NO. 25
MILL & OVERLAY ONLY WITH SF9.5A

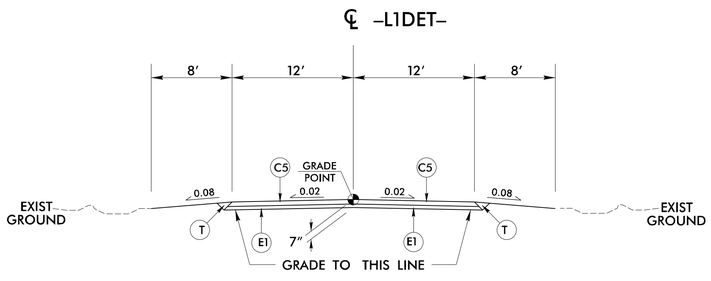
USE TYPICAL SECTION NO. 25
–Y5– STA. 11+05 TO –Y5– STA. 15+57.75



Detail Showing Method of Wedging
FOR ALIGNMENTS WITH S9.5B SURFACE LAYER

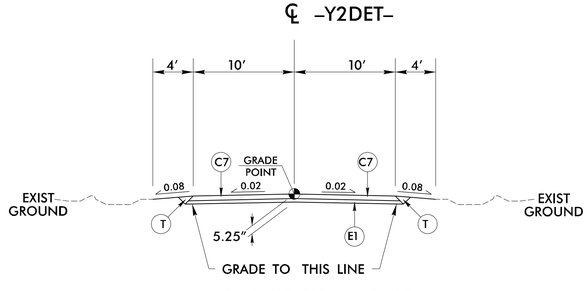


Detail Showing Method of Wedging
FOR ALIGNMENTS WITH SF9.5A SURFACE LAYER



TYPICAL SECTION NO. 26

USE TYPICAL SECTION NO. 26
–L1DET– STA. 10+00.00 TO STA. 13+61.48



TYPICAL SECTION NO. 27

USE TYPICAL SECTION NO. 27
–Y2DET– STA. 10+00.00 TO STA. 12+81.63

5/10/2016
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PROJECT REFERENCE NO.	SHEET NO.
B-4929	2B-1

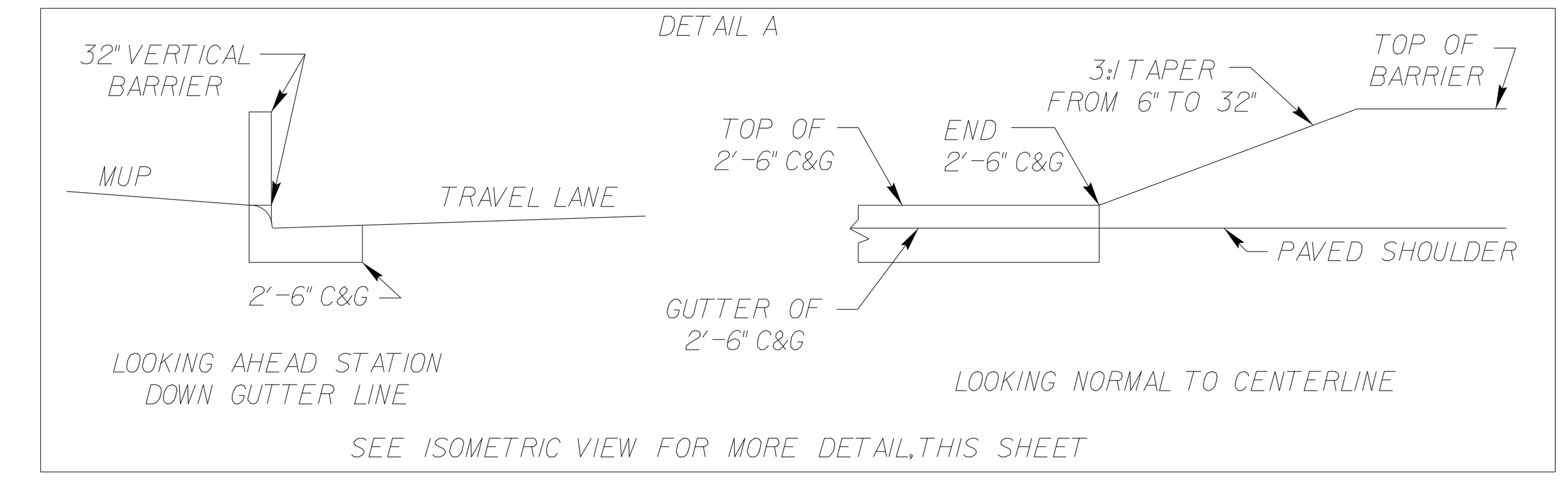
ROADWAY DESIGN ENGINEER

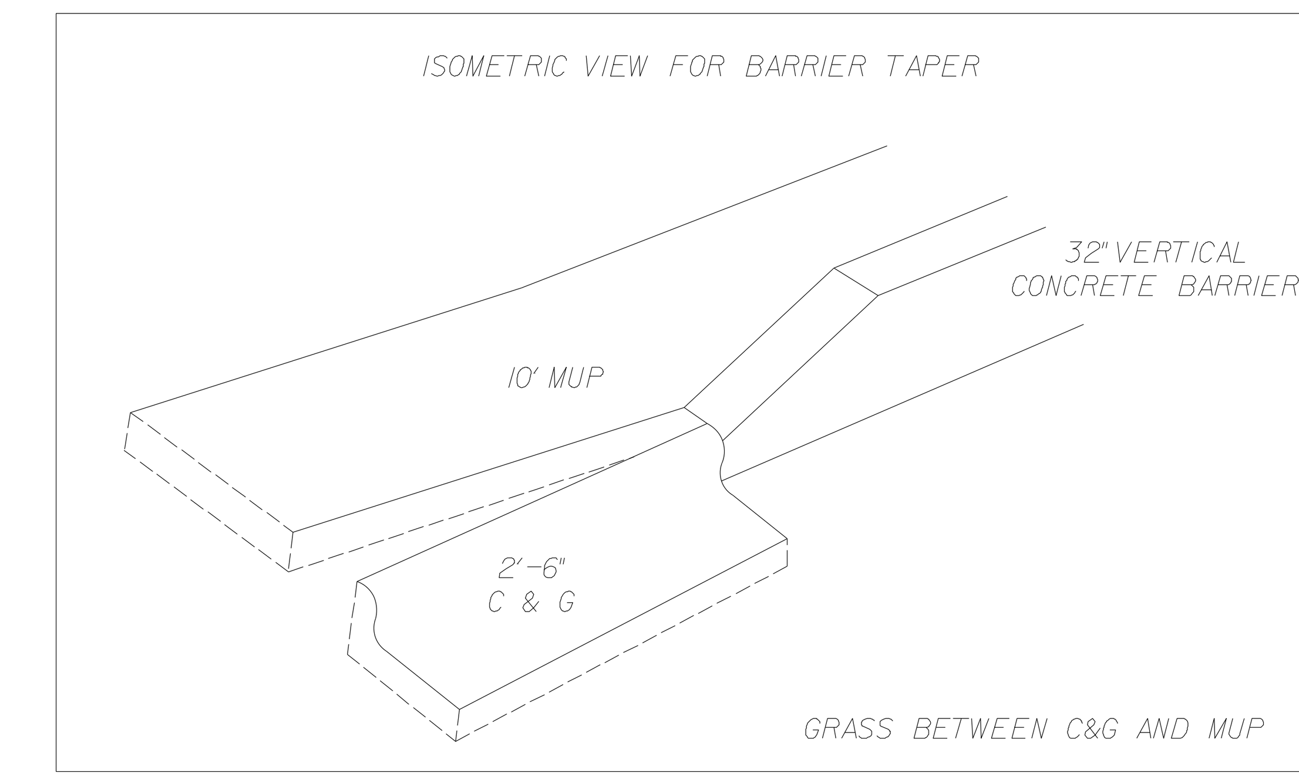
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 030952 JENNIFER D. FARINO 4/6/2016

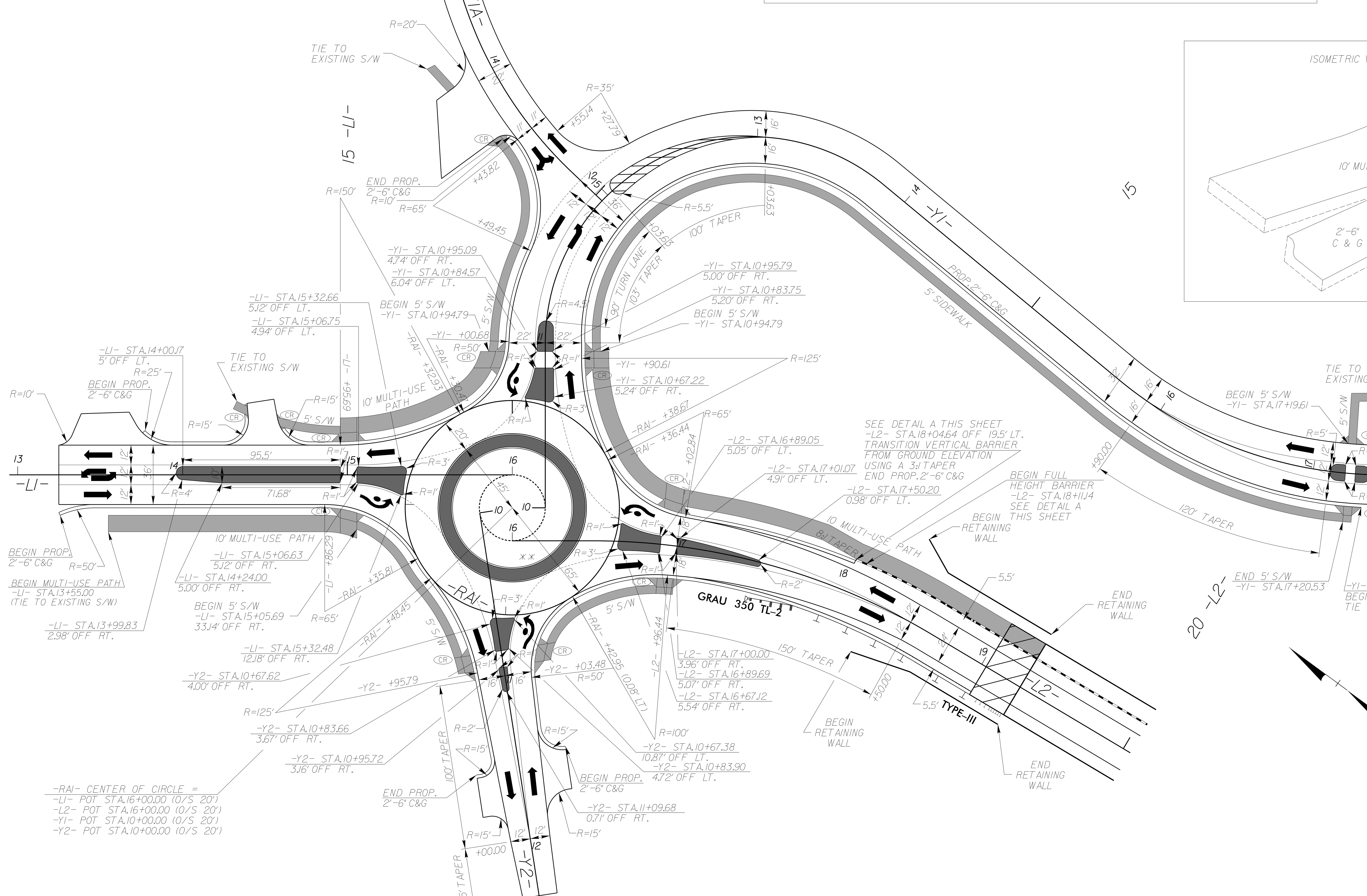
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

RS&H

MAINLAND ROUNDABOUT DETAIL







NOTE: USE PEDESTRIAN HANDRAIL ALONG ENTIRE LENGTH OF -RW1- AND 48" CHAIN LINK FENCE ALONG ENTIRE LENGTH OF -RW2-.

×× CONTRACTOR TO MATCH THE CURB AND GUTTER RADIAL EXPANSION/CONSTRUCTION JOINT TO THE CONCRETE APRON RADIAL EXPANSION CONSTRUCTION JOINT.

FOR BRIDGE SKETCH DETAIL,SEE SHEET 2B-3
FOR RETAINING WALL ENVELOPES,SEE SHEETS W-1 THRU W-4

GRAPHIC SCALE
40 20 0 40 80
PLANS

LOCATION: MAINLAND ROUNDABOUT DETAIL
TIP NO.: B-4929
COUNTY: PENDER
DESIGNED BY: S. KORTOVICH, EI
CHECKED BY: J. FARINO, PE
DATE: 4-17-15

6/2/99
4/22/2016 R:\Roadway\Proj\B4929_Rdy_dtl_roundabouts.dgn

PROJECT REFERENCE NO.	SHEET NO.
B-4929	2B-1

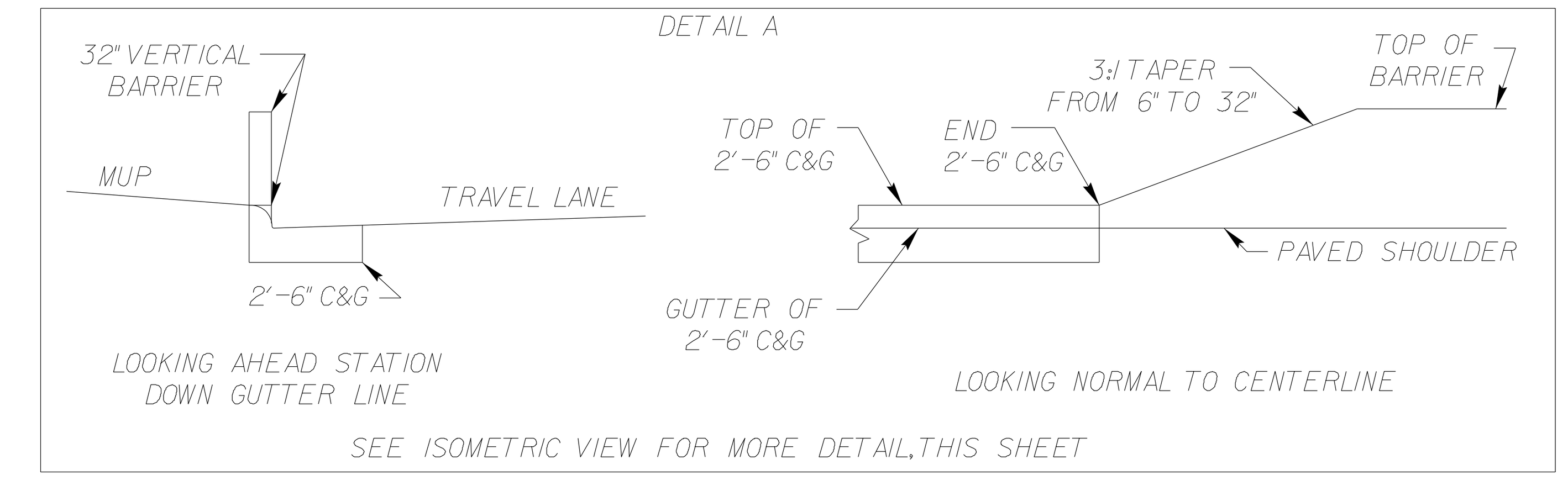
ROADWAY DESIGN ENGINEER

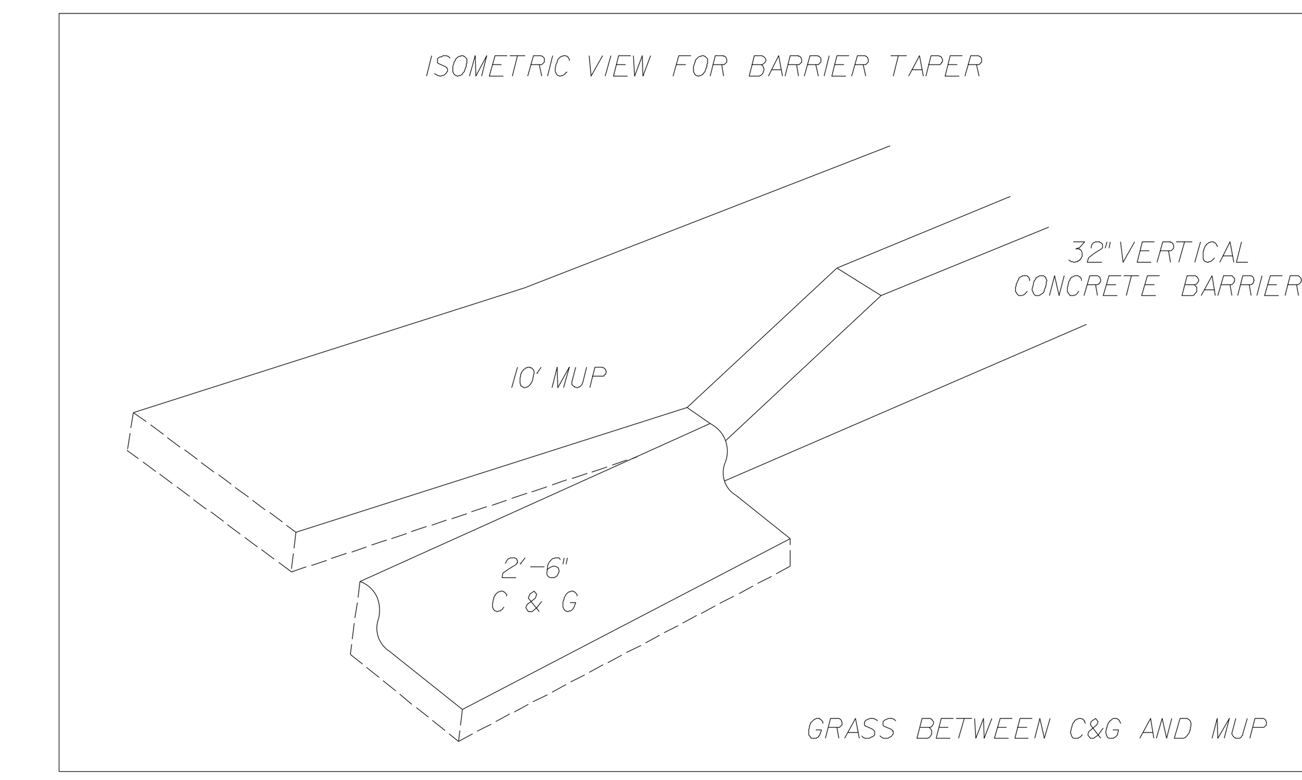
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 030952 JENNIFER D. FARINO 4/06/2016

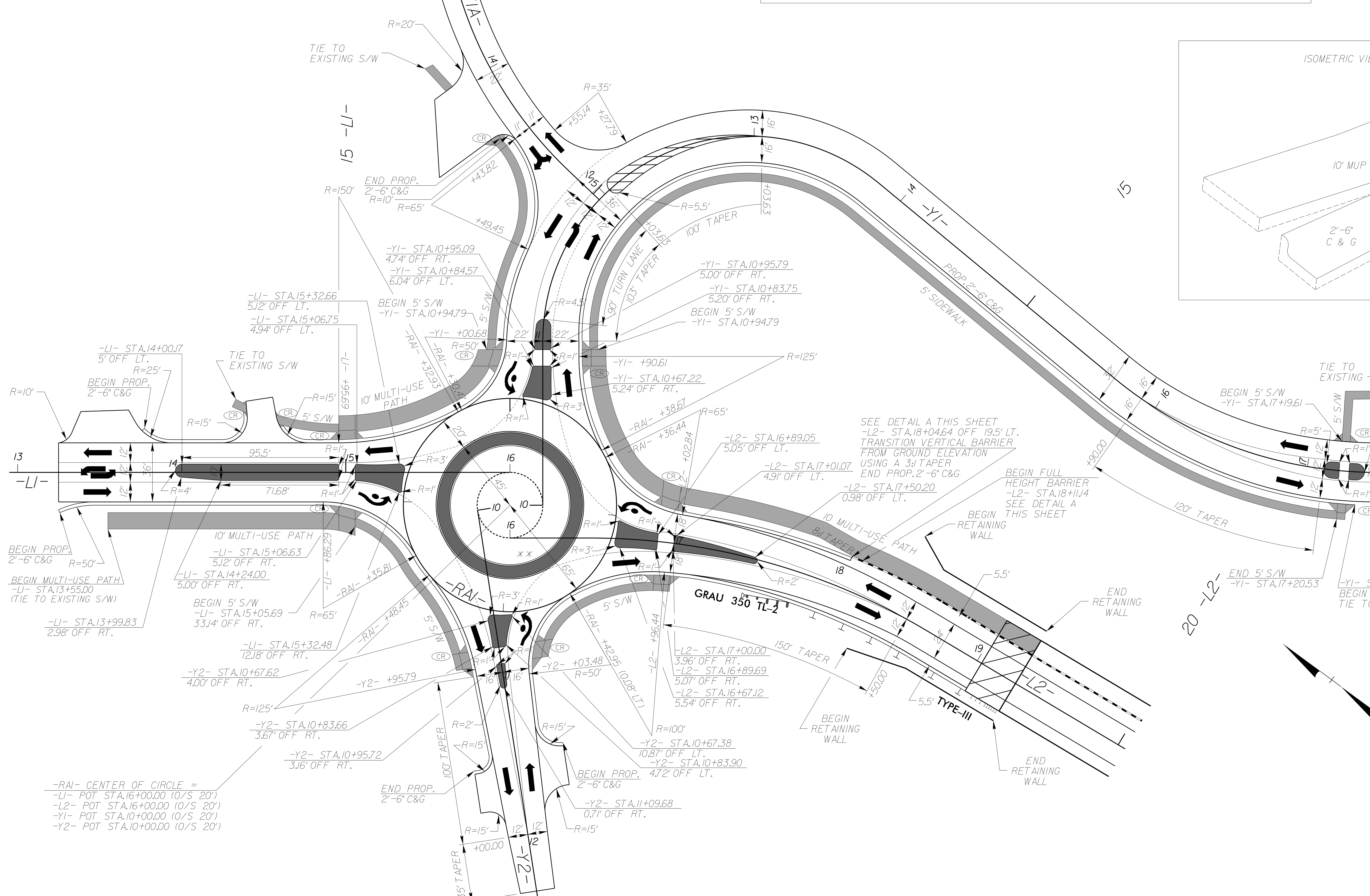
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

RS&H

MAINLAND ROUNDABOUT DETAIL







NOTE: USE PEDESTRIAN HANDRAIL ALONG ENTIRE LENGTH OF -RW1- AND 48" CHAIN LINK FENCE ALONG ENTIRE LENGTH OF -RW2-.

** CONTRACTOR TO MATCH THE CURB AND GUTTER RADIAL EXPANSION/CONSTRUCTION JOINT TO THE CONCRETE APRON RADIAL EXPANSION CONSTRUCTION JOINT.

FOR BRIDGE SKETCH DETAIL,SEE SHEET 2B-3

FOR RETAINING WALL ENVELOPES,SEE SHEETS W-1 THRU W-4

GRAPHIC SCALE 40 20 0 40 80 PLANS

LOCATION: MAINLAND ROUNDABOUT DETAIL	
TIP NO.: B-4929	COUNTY: PENDER
DESIGNED BY: S. KORTOVICH, EI	
CHECKED BY: J. FARINO, PE	DATE: 4-17-15

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6/2/99

ISLAND ROUNDABOUT DETAIL

PROJECT REFERENCE NO.	SHEET NO.
B-4929	2B-2

ROADWAY DESIGN ENGINEER

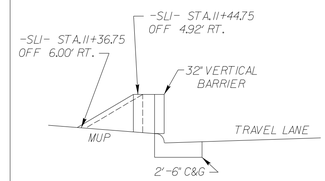
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 030952 JENNIFER D. FARINO

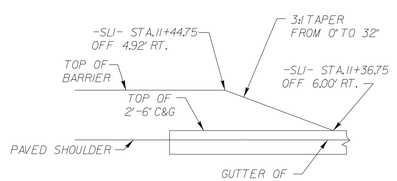
DocuSigned by: [signature] 4/26/2016

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

RS&H

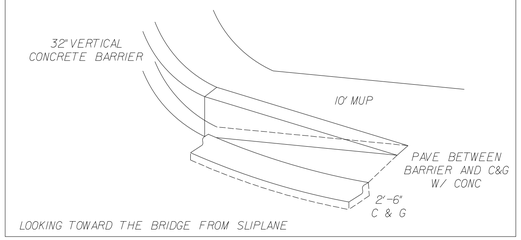
DETAIL B





SEE ISOMETRIC VIEW FOR MORE DETAIL, THIS SHEET

ISOMETRIC VIEW FOR BARRIER TAPER



LOOKING TOWARD THE BRIDGE FROM SLIPLANE

NOTE: USE PEDESTRIAN HANDRAIL ALONG ENTIRE LENGTH OF -RW3- AND 48" CHAIN LINK FENCE ALONG ENTIRE LENGTH OF -RW4-.

** CONTRACTOR TO MATCH THE CURB AND GUTTER RADIAL EXPANSION/CONSTRUCTION JOINT TO THE CONCRETE APRON RADIAL EXPANSION CONSTRUCTION JOINT.

FOR BRIDGE SKETCH DETAIL, SEE SHEET 2B-3

FOR RETAINING WALL ENVELOPES, SEE SHEETS W-1 THRU W-4

LOCATION:	ISLAND ROUNDABOUT DETAIL
TIP NO.:	B-4929
COUNTY:	PENDER
DESIGNED BY:	S. KORTOVICH, EI
CHECKED BY:	J. FARINO, PE
DATE:	4-17-15

GRAPHIC SCALE
40 20 0 40 80
PLANS

6/2/99

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PROJECT REFERENCE NO.	SHEET NO.
B-4929	2B-3

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 030952 ENGINEER JENNIFER D FARINO

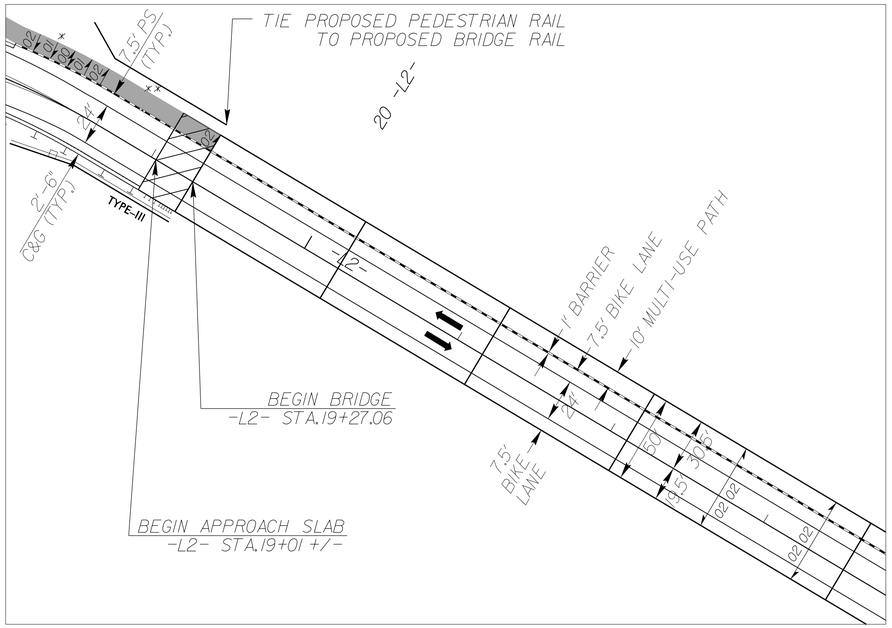
4/26/2016

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

RS&H

BRIDGE SKETCH DETAIL SHEET

MAINLAND BRIDGE/PAVEMENT SKETCH

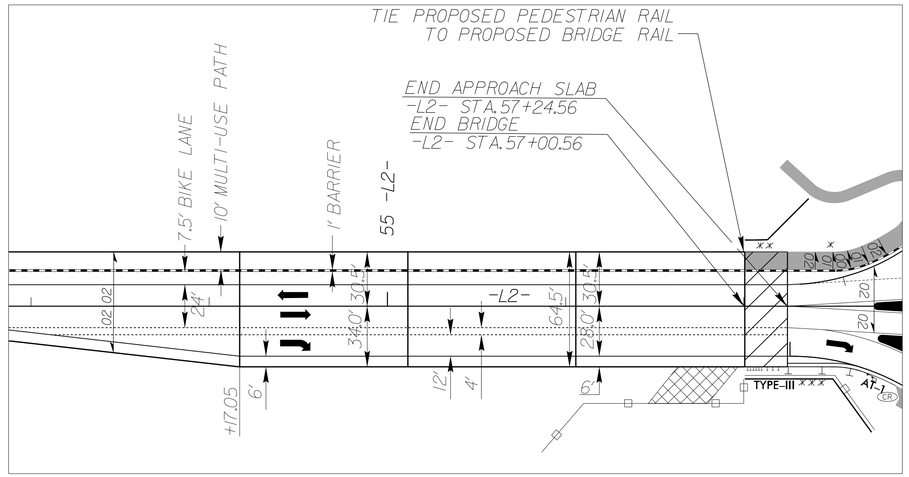


* MULTI-USE PATH WILL TRANSITION IN 10' INCREMENTS AT END BRIDGE IN ORDER TO ACHIEVE DESIRED CROSS SLOPE PER ROADWAY TYPICALS

** PAVE AREA BETWEEN MULTI-USE PATH AND RETAINING WALL FOR DRAINAGE.

STRUCTURE AT –L2– OVER INTRACOASTAL WATERWAY FOR PLAN VIEW, SEE SHEET 4

ISLAND BRIDGE/PAVEMENT SKETCH



* MULTI-USE PATH WILL TRANSITION IN 10' INCREMENTS AT END BRIDGE IN ORDER TO ACHIEVE DESIRED CROSS SLOPE PER ROADWAY TYPICALS

** PAVE AREA BETWEEN MULTI-USE PATH AND RETAINING WALL FOR DRAINAGE.

STRUCTURE AT –L2– OVER INTRACOASTAL WATERWAY FOR PLAN VIEW, SEE SHEET 7

4/26/2016
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BRIDGE SKETCH DETAIL SHEET

PROJECT REFERENCE NO.	SHEET NO.
B-4929	2B-4

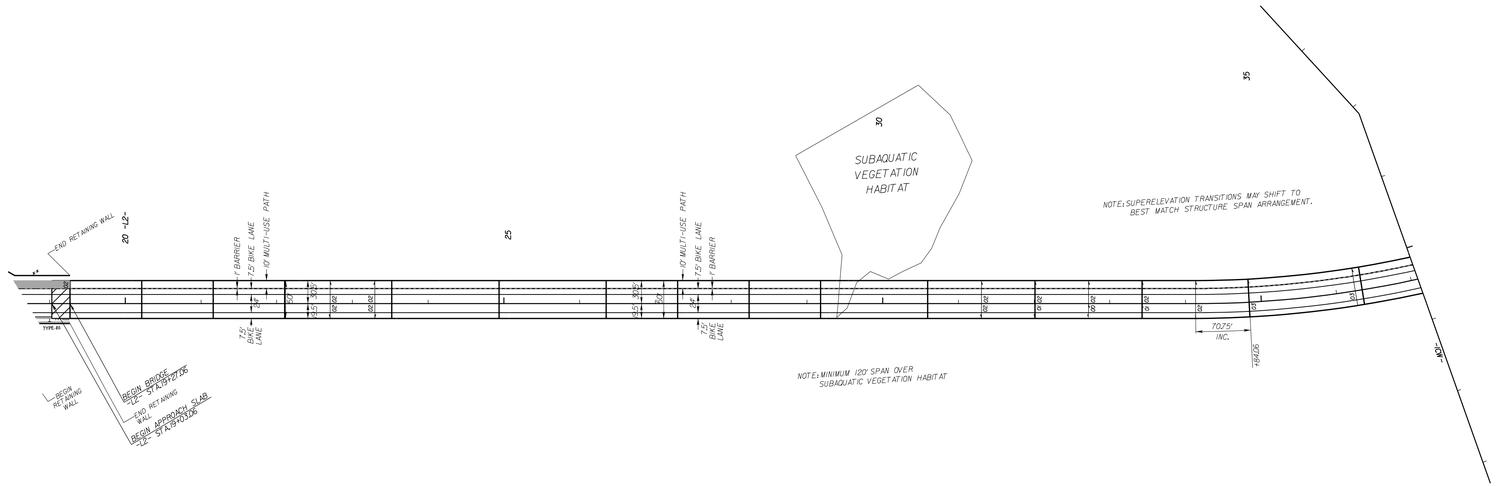
ROADWAY DESIGN ENGINEER

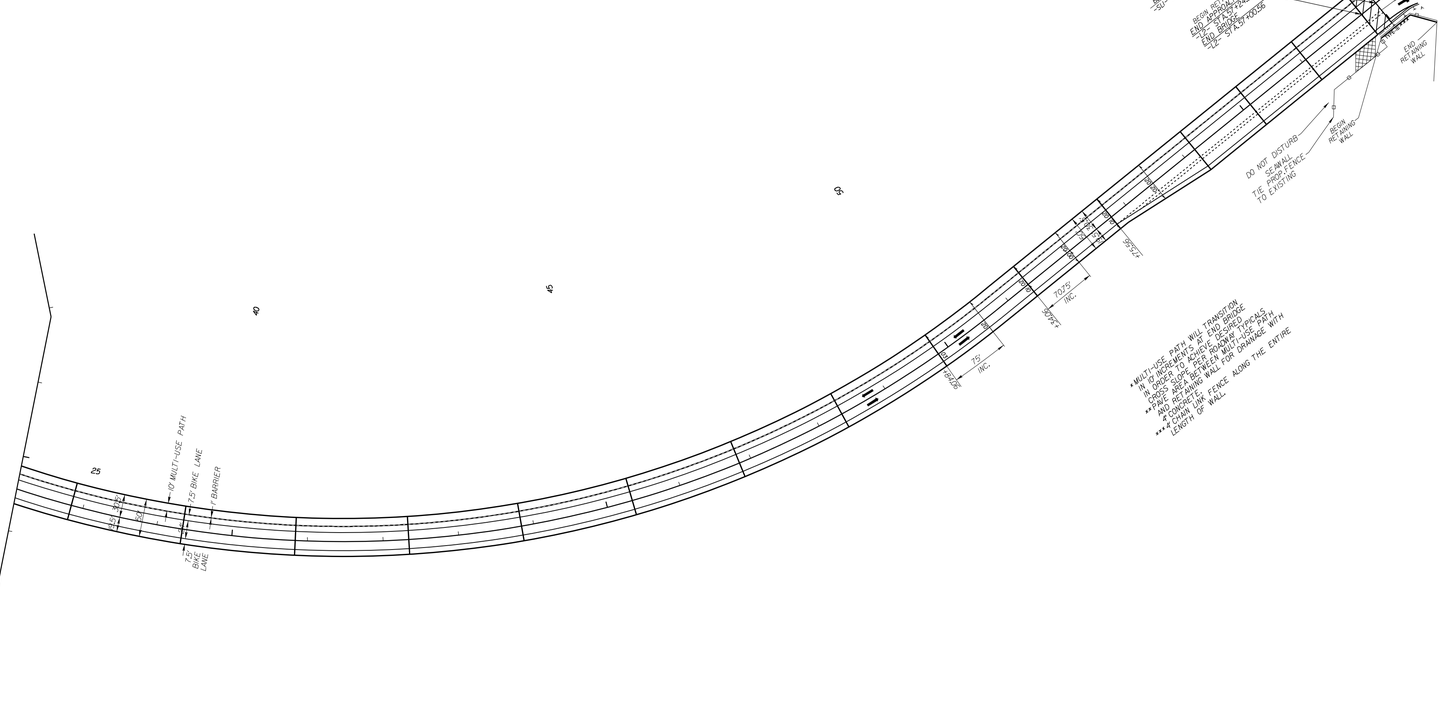
NORTH CAROLINA PROFESSIONAL SEAL 030952 ENGINEER DARIO

4/26/2016

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

RS&H





GRAPHIC SCALE

100 50 0 100 200

PLANS

4/26/2016
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SHEAR POINT DIAGRAM –RA1–

PROJECT REFERENCE NO.	SHEET NO.
B-4929	2B-5

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 030952 ENGINEER DAVID TARDIO

4/26/2016

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

RS&H

NAD 83/NA 2011

REVISIONS

8/17/99

-L1-

-Y1-

-RA1-

-L2-

-Y2-

GRAU 350 TL-2

TYPE-III

GRAPHIC SCALE

30 15 0 30 60

PLANS

4/22/2016
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SHEAR POINT DIAGRAM –RA2–

PROJECT REFERENCE NO.	SHEET NO.
B-4929	2B-6

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 030952 ENGINEER JENNIFER D. FARLEY

4/26/2016

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

RS&H

NAD 83/NA 2011

GRAPHIC SCALE
30 15 0 30 60
PLANS

REVISIONS

8/17/99

4/22/2016
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21:10:02 PM

PROJECT REFERENCE NO.	SHEET NO.
B-4929	2B-7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

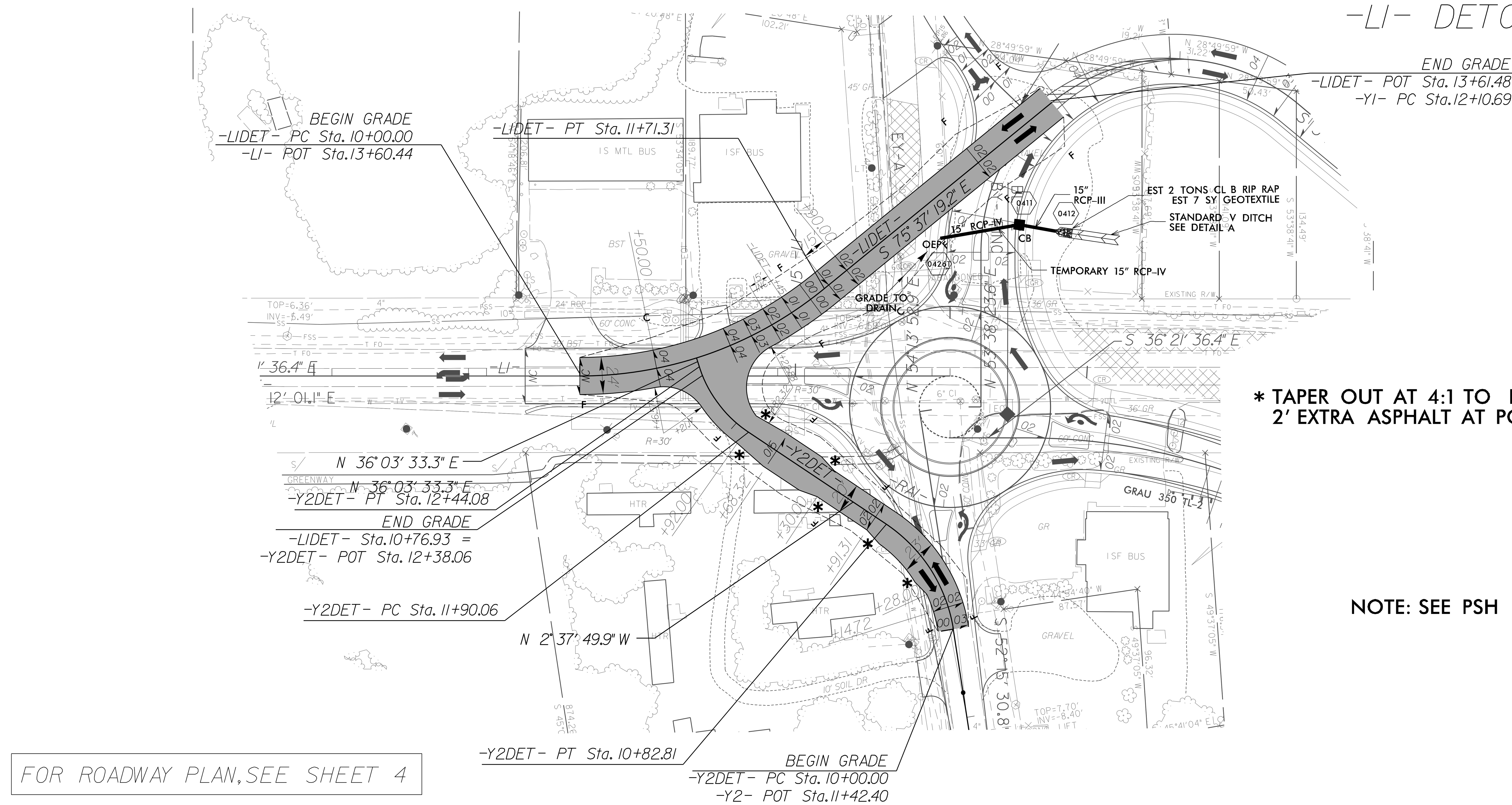
SEAL 030952 — JENNIFER D. FARINO — 9/27/2016

SEAL 36188 — WILL WEATHERBEE — 9/27/2016

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

RS&H

-L1- DETOUR AND -Y2- DETOUR



* TAPER OUT AT 4:1 TO PROVIDE 11' LANES AND 2' EXTRA ASPHALT AT POLE LOCATIONS.

NOTE: SEE PSH 4 FOR RIGHT OF WAY INFORMATION

-LIDET- CURVE DATA

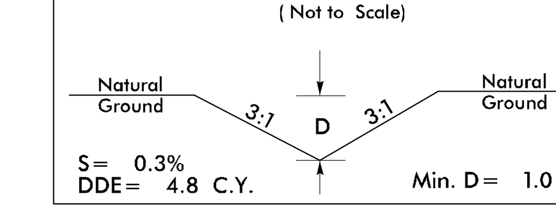
PI Sta 10+89.17
Δ = 39°15' 42.7" (LT)
D = 22°55' 05.9"
L = 171.31'
T = 89.17'
R = 250.00'

-Y2DET- CURVE DATA

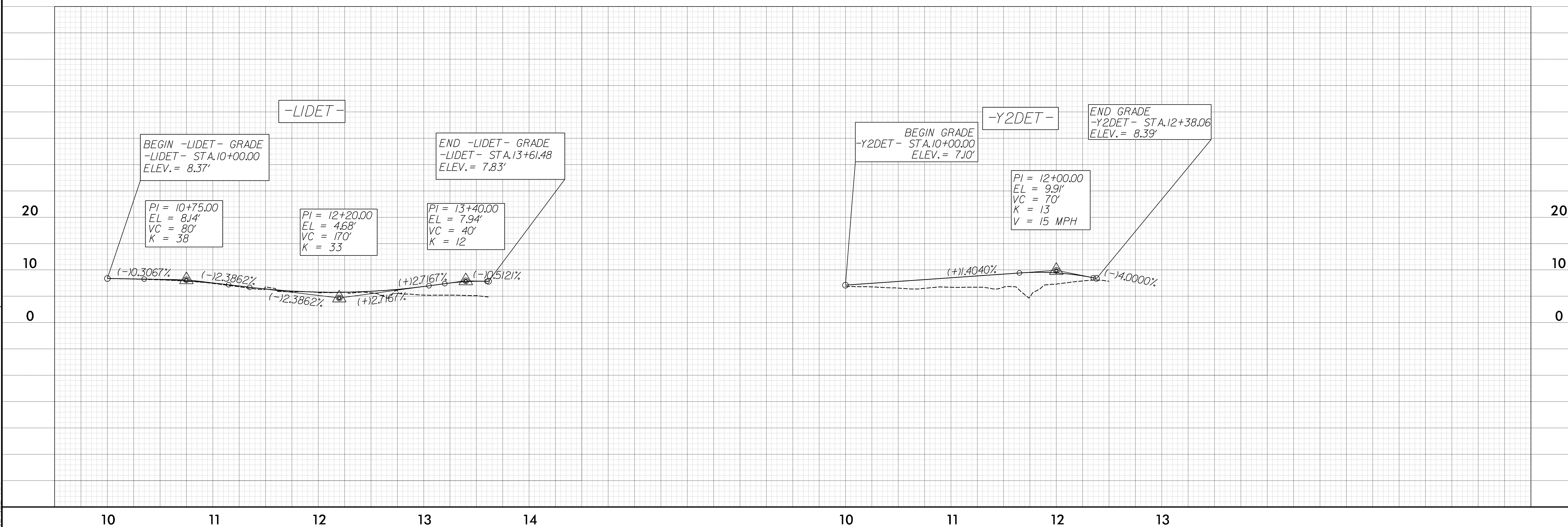
PI Sta 10+43.95	PI Sta 12+18.14
Δ = 47°26' 54.82" (LT)	Δ = 38°41' 23.25" (LT)
D = 57°17' 44.81"	D = 71°37' 11.01"
L = 82.81'	L = 54.02'
T = 43.95'	T = 28.09'
R = 100.00'	R = 80.00'

SEE SHEET 10 FOR -L1- PROFILE
SEE SHEET 12 FOR -Y1- PROFILE
SEE SHEET 14 FOR -Y2- PROFILE

DETAIL A
STANDARD 'V' DITCH
(Not to Scale)



FROM -Y1- STA. 11+22 TO 11+26 (RT)



REVISIONS

8/17/99

5/27/2016
R:\Roadway\Proj\B4929_Rdy_dtl_detour.dgn

PROJECT REFERENCE NO.	SHEET NO.
B-4929	2B-8

ROADWAY DESIGN ENGINEER — SEAL 030952, 4/26/2016

STRUCTURE DESIGN ENGINEER — SEAL, 4/26/2016

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

RS&H

NOTES:

THE BARRIER RAIL IN A CONTINUOUS UNIT SHALL NOT BE CAST UNTIL ALL MULTIUSE PATH CONCRETE IN THAT UNIT HAS BEEN CAST AND HAS REACHED A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI.

MULTIUSE PATH AND BARRIER SHALL BE CLASS AA CONCRETE.

ALL REINFORCING STEEL IN BARRIER SHALL BE EPOXY COATED. REINFORCING STEEL IN MULTIUSE PATH CAN BE UNCOATED.

GROOVED CONTRACTION JOINTS, ½" IN DEPTH, SHALL BE TOOLED IN ALL EXPOSED FACES OF THE BARRIER AND MULTIUSE PATH IN ACCORDANCE WITH ARTICLE 825-10(B) OF THE STANDARD SPECIFICATIONS. THE CONTRACTION JOINT SHALL BE LOCATED AT EACH QUARTER POINT BETWEEN RAIL EXPANSION JOINTS.

FIELD BEND BARS AS NECESSARY.

TOP OF MULTIUSE PATH SHALL RECEIVE A RAKED FINISH IN ACCORDANCE WITH THE SECTION 1078-15 OF THE STANDARD SPECIFICATIONS.

BROOM THE CONCRETE SURFACE OF THE MULTIUSE PATH IN A TRANSVERSE DIRECTION TO TRAFFIC.

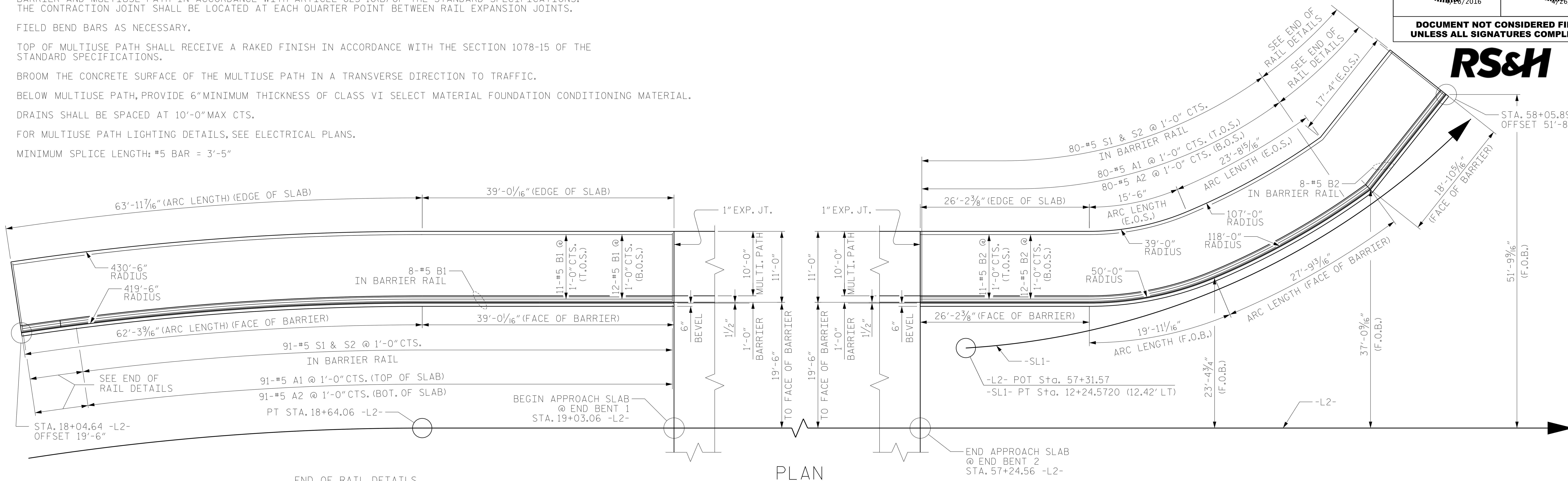
BELOW MULTIUSE PATH, PROVIDE 6" MINIMUM THICKNESS OF CLASS VI SELECT MATERIAL FOUNDATION CONDITIONING MATERIAL.

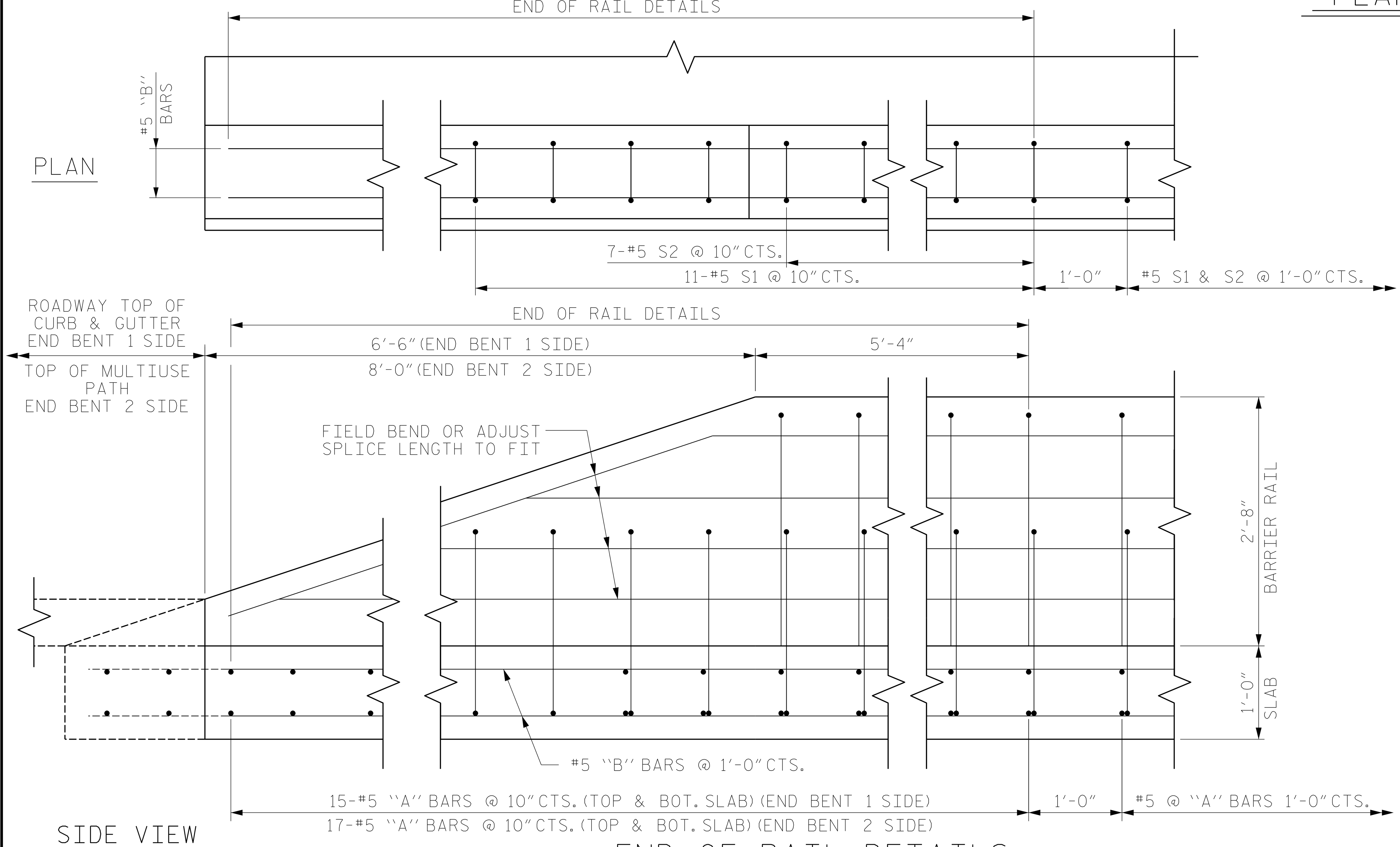
DRAINS SHALL BE SPACED AT 10'-0" MAX CTS.

FOR MULTIUSE PATH LIGHTING DETAILS, SEE ELECTRICAL PLANS.

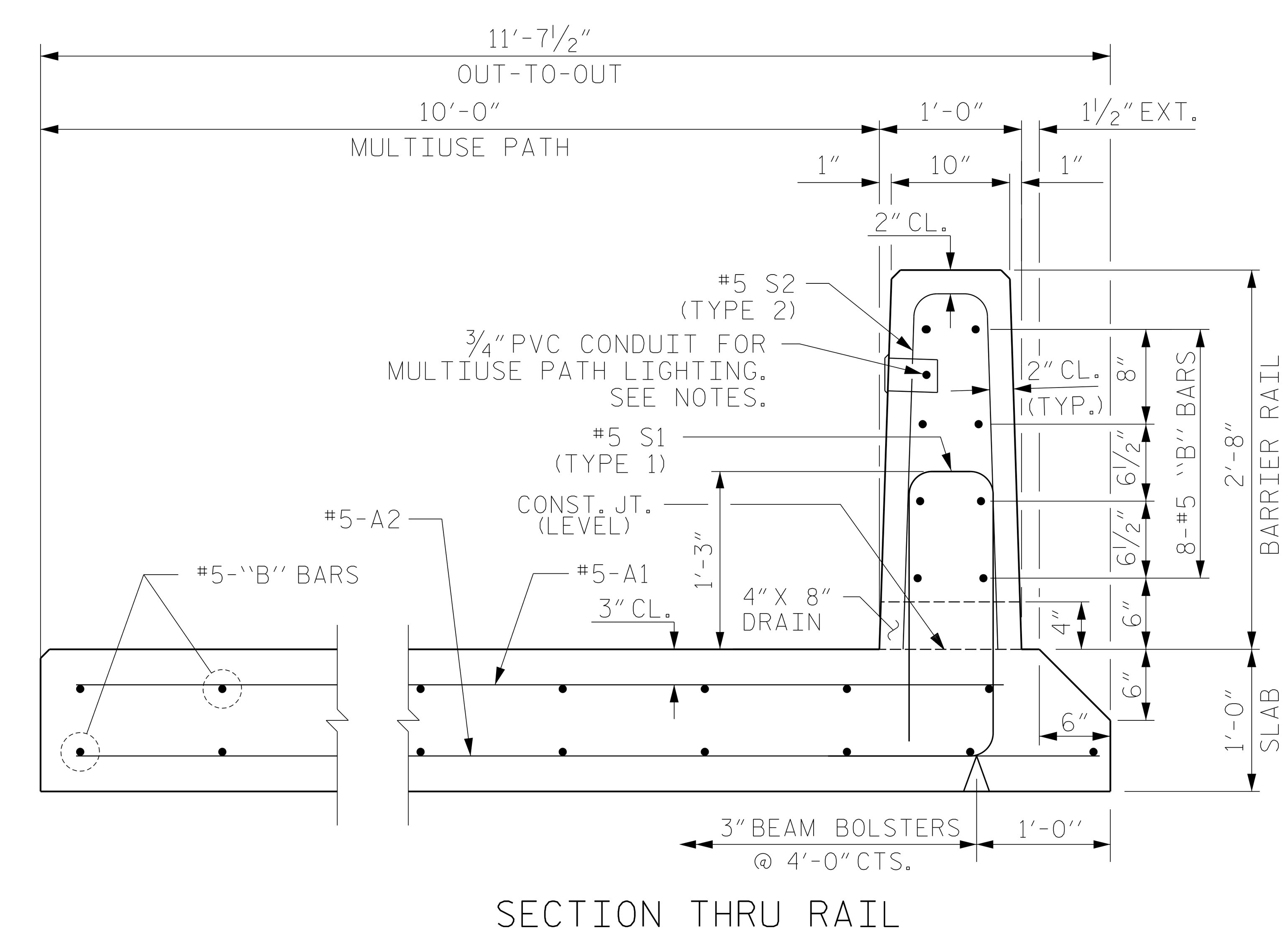
MINIMUM SPLICE LENGTH: #5 BAR = 3'-5"

F.O.B. = FACE OF BARRIER
E.O.S. = EDGE OF SLAB
T.O.S. = TOP OF SLAB
B.O.S. = BOTTOM OF SLAB



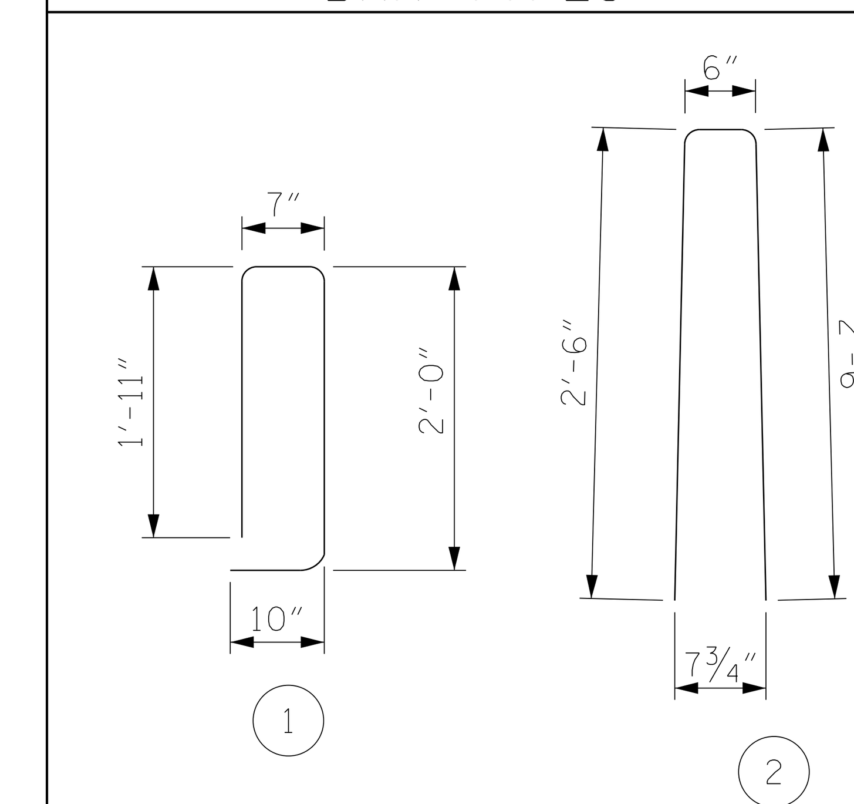


END OF RAIL DETAILS



BARRIER RAIL DETAILS

BAR TYPES



ALL BAR DIMENSIONS ARE OUT TO OUT

BILL OF MATERIAL

* EPOXY COATED REINFORCING STEEL	11,000 LBS.
CLASS AA CONCRETE	100.0 CU. YDS.

NOTE: REINFORCEMENT AND CONCRETE QUANTITIES ARE FOR BIDDING PURPOSES ONLY.

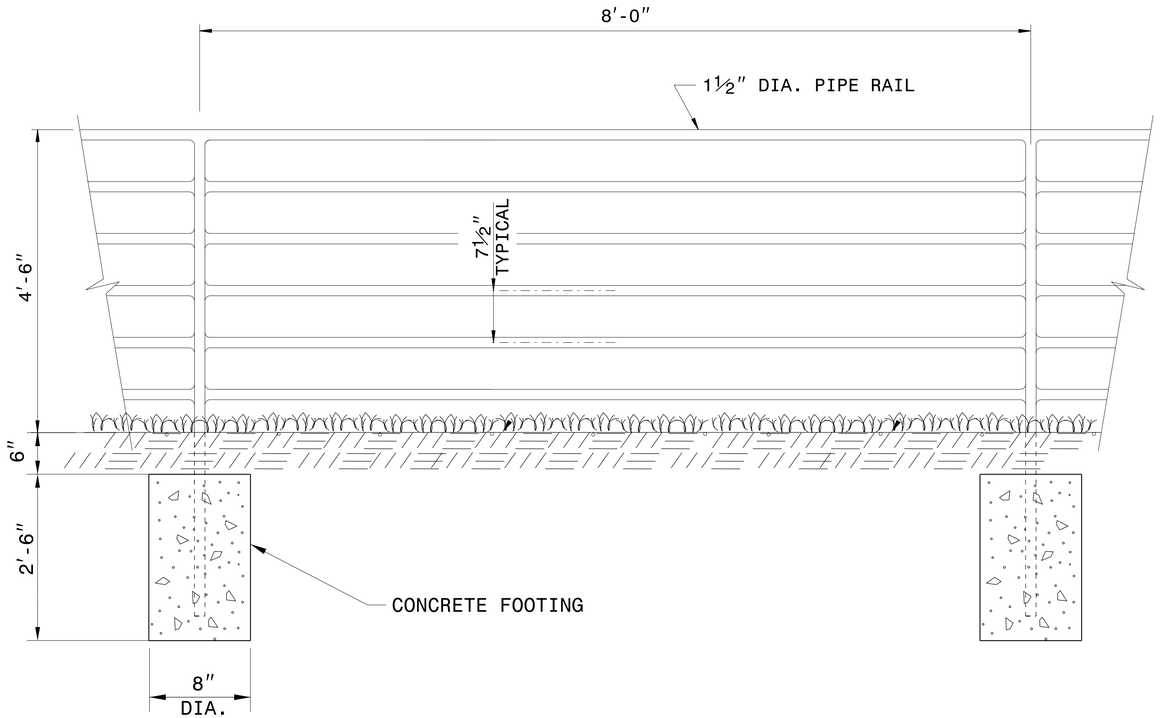
LOCATION: MOMENT SLAB DETAIL

TIP NO.: B-4929 COUNTY: PENDER

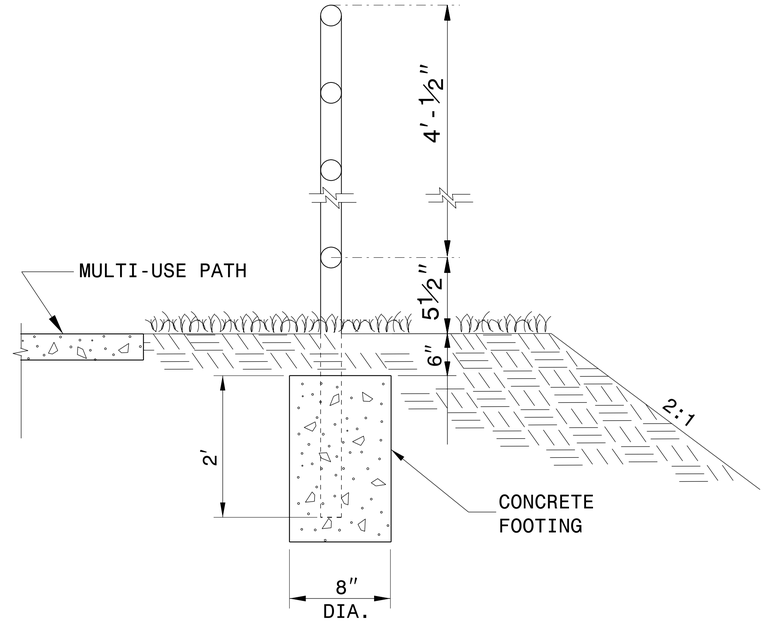
DESIGNED BY: M. LEBLANC, EI

CHECKED BY: J. ROBINSON, PE DATE: 3-15-16

PROJECT REFERENCE NO.	SHEET NO.
B-4929	2C-1



ELEVATION OF HANDRAIL



INSET 'A'

NOTES:

CONSTRUCT PROPOSED STEEL PIPE RAIL OF 1½" DIAMETER SCHEDULE 40 PLAIN END GALVANIZED STEEL PIPE MEETING THE REQUIREMENTS OF ASTM A53.

REPAIR GALVANIZING IN ACCORDANCE WITH SECTION 1076 OF THE NCDOT STANDARD SPECIFICATIONS.

PAINT, IF REQUIRED BY THE ENGINEER, IN ACCORDANCE WITH SECTION 1080 OF THE STANDARD SPECIFICATIONS.

WELD IN ACCORDANCE WITH ARTICLE 1072-18 OF THE STANDARD SPECIFICATIONS.

USE CLASS 'B' CONCRETE FOR HANDRAIL FOOTINGS.

PLACEMENT OF HANDRAIL IN RELATION TO SHOULDER BREAK POINT AND PATH MAY BE MODIFIED AS DIRECTED BY THE ENGINEER.

NORTH CAROLINA PROFESSIONAL SEAL 022765 ENGINEER Joel S. Howerton
4/26/2016

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

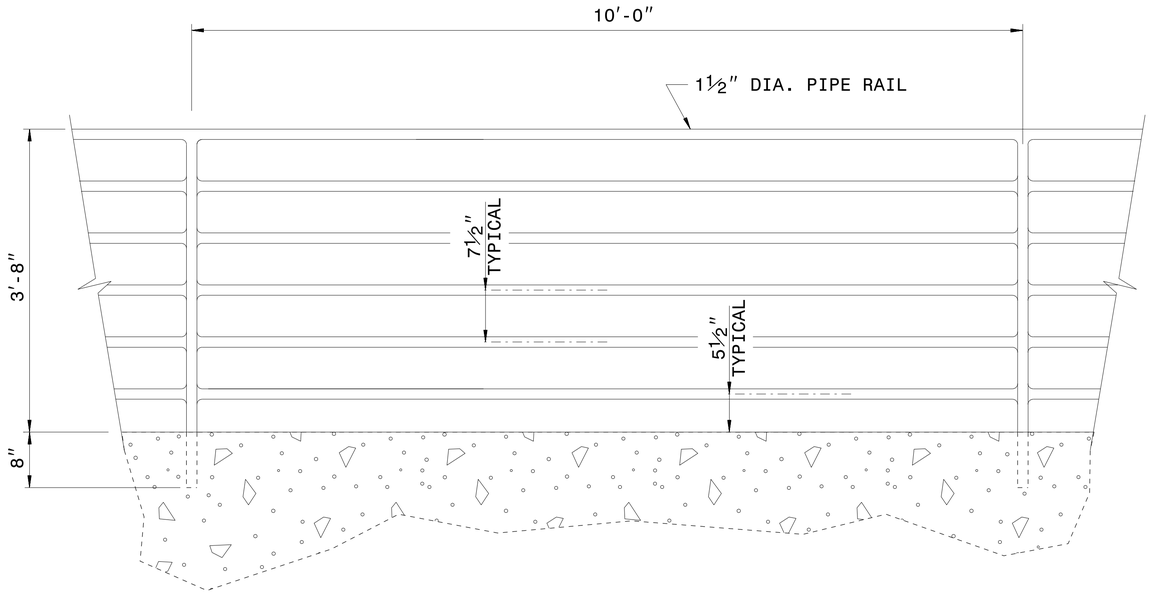
CONTRACT STANDARDS AND DEVELOPMENT UNIT
Office 919-707-6950 FAX 919-250-4119

PROPOSED BIKE/PED SAFETY RAIL

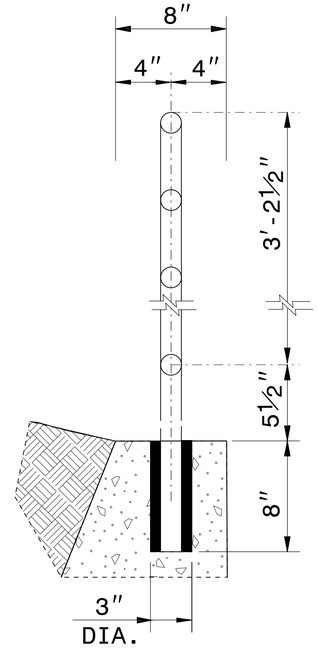
ORIGINAL BY: E.E. WARD DATE: 12-99
MODIFIED BY: _____ DATE: _____
CHECKED BY: _____ DATE: _____
FILE SPEC.: jhowerton/handrail on retaining wall.dgn

$$$$SYSTIME$$$$
$$$$SYSTIME$$$$
$$$$USERNAME$$$$

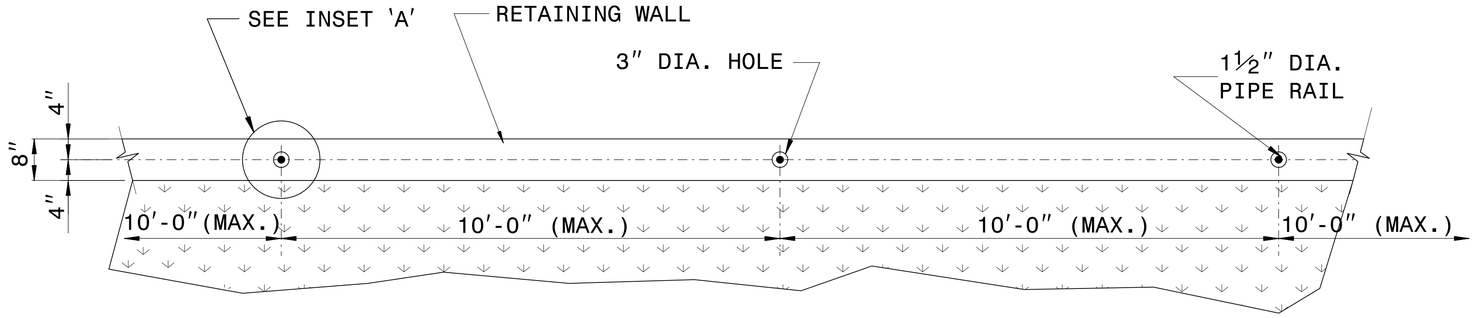
PROJECT REFERENCE NO.	SHEET NO.
B–4929	2C–2



ELEVATION OF HANDRAIL



INSET 'A'



PLAN VIEW

NOTES:

CONSTRUCT PROPOSED STEEL PIPE RAIL 1½″ DIAMETER SCHEDULE 40 PLAIN END GALVANIZED STEEL PIPE MEETING THE REQUIREMENTS OF ASTM A53.

EMBED PIPE RAIL 8″ INTO PROPOSED WALL WITH CHEMICAL OR CONCRETE GROUT ANCHORING SYSTEM AS DIRECTED BY THE ENGINEER.

REPAIR GALVANIZING IN ACCORDANCE WITH SECTION 1076 OF THE NCDOT STANDARD SPECIFICATIONS.

PAINT, IF REQUIRED BY THE ENGINEER, IN ACCORDANCE WITH SECTION 1080 OF THE STANDARD SPECIFICATIONS.

CENTER THE PROPOSED RAILING ON TOP OF THE WALL WITH POST SPACING SYMMETRICAL ABOUT THE CENTER-LINE OF THE WALL.

USE A ROTARY DRILL IF NEEDED FOR EMBEDMENT HOLES OF RAIL IN WALL. ROTARY DRILL ONLY (NO ROTARY-IMPACT DRILLS).

WELD IN ACCORDANCE WITH ARTICLE 1072-18 OF THE STANDARD SPECIFICATIONS.

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NORTH CAROLINA PROFESSIONAL SEAL 022966 ENGINEER Joel S Howerton
Digitally signed by Joel S Howerton
4/26/2016

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

DETAIL OF PIPE HANDRAIL MOUNTED ON RETAINING WALL OR BOX CULVERT

ORIGINAL BY: E.E. WARD DATE: 12-99
MODIFIED BY: DATE:
CHECKED BY: DATE:
FILE SPEC.: jhowerton/handrail on retaining wall.dgn

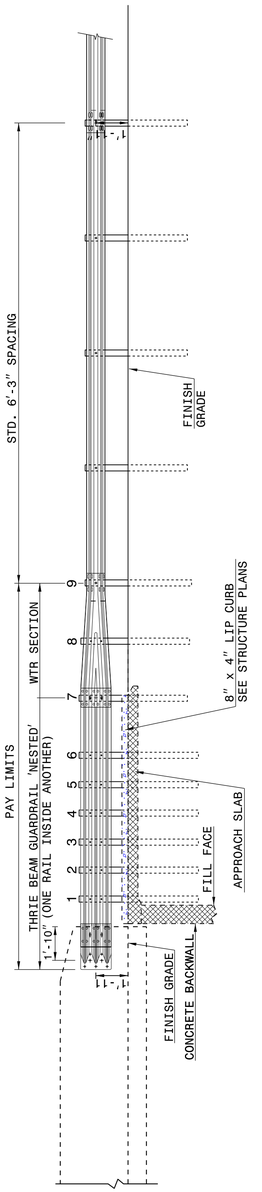
$$$$SYSTIME$$$$
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
B–4929	2C–3

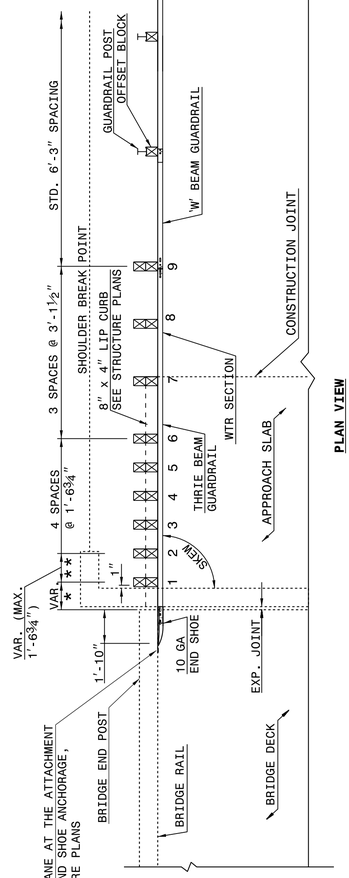
STATE OF
NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR
STRUCTURE ANCHOR UNITS
GUARDRAIL ANCHOR UNIT, TYPE III FOR ATTACHMENT TO RAIL ON BRIDGE - SUB REGIONAL TIER

SHEET 2 OF 7
862d03



ELEVATION



PLAN VIEW

NOTE:
- **POST NOT REQUIRED FOR SKEW ANGLES GREATER THAN 150° OR LESS THAN 30° UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
- *THE DISTANCE FROM END OF BRIDGE RAIL TO CENTER LINE OF THE FIRST POST SHOULD BE 1½" IF CONCRETE BACKWALL IS NOT PRESENT.
- SHOULDER BERM GUTTER MUST BE INSTALLED TO THE LIMITS 8" x 4" LIP CURB IS SHOWN IF ANCHOR UNIT IS NOT ADJACENT TO AN APPROACH SLAB.
- MEASURE GUARDRAIL HEIGHT FROM THE TOP OF ADJACENT SURFACE (SHOULDER, BERM, OR GUTTER).
- LAP JOINTS IN THE DIRECTION OF TRAFFIC FLOW.
- SEE SHEET 3 FOR POST SECTIONS 1 THRU 9.

GUARDRAIL ANCHOR UNIT, TYPE III FOR ATTACHMENT TO RAIL ON BRIDGE - SUB REGIONAL TIER

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

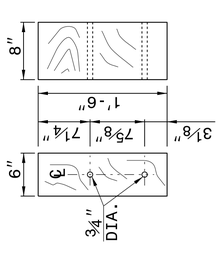
ENGLISH DETAIL DRAWING FOR
STRUCTURE ANCHOR UNITS
GUARDRAIL ANCHOR UNIT, TYPE III FOR ATTACHMENT TO RAIL ON BRIDGE - SUB REGIONAL TIER

SHEET 2 OF 7
862d03

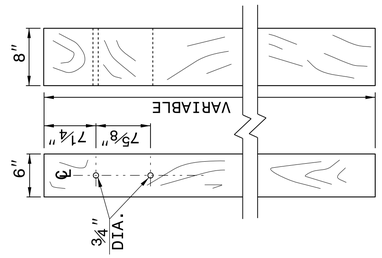
STATE OF
NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR
STRUCTURE ANCHOR UNITS
GUARDRAIL ANCHOR UNIT, TYPE III

SHEET 3 OF 7
862d03

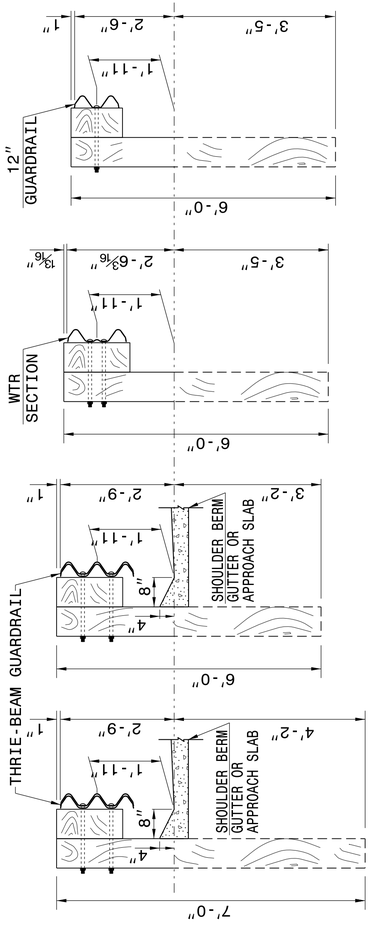


THRIE BEAM OFFSET BLOCK



THRIE BEAM LINE POST

NOTE: THE MID POST AND OFFSET BLOCK OF THE WTR SECTION WILL REQUIRE SPECIAL BOLT HOLE DRILLING IN THE THRIE BEAM OFFSET BLOCK AND LINE POST.

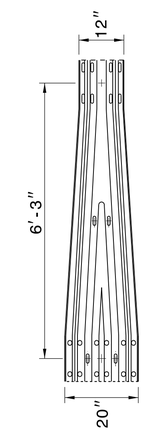


SECTION OF 'W' BEAM POST 9

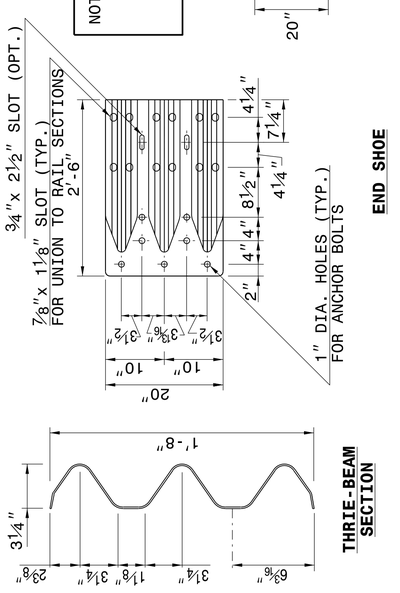
SECTION OF WTR BEAM POST 8

SECTION OF THRIE BEAM POST 7

SECTION OF THRIE BEAM POSTS 1 THRU 6



WTR SECTION
ELEVATION VIEW



END SHOE

THRIE-BEAM SECTION

4/26/2016

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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

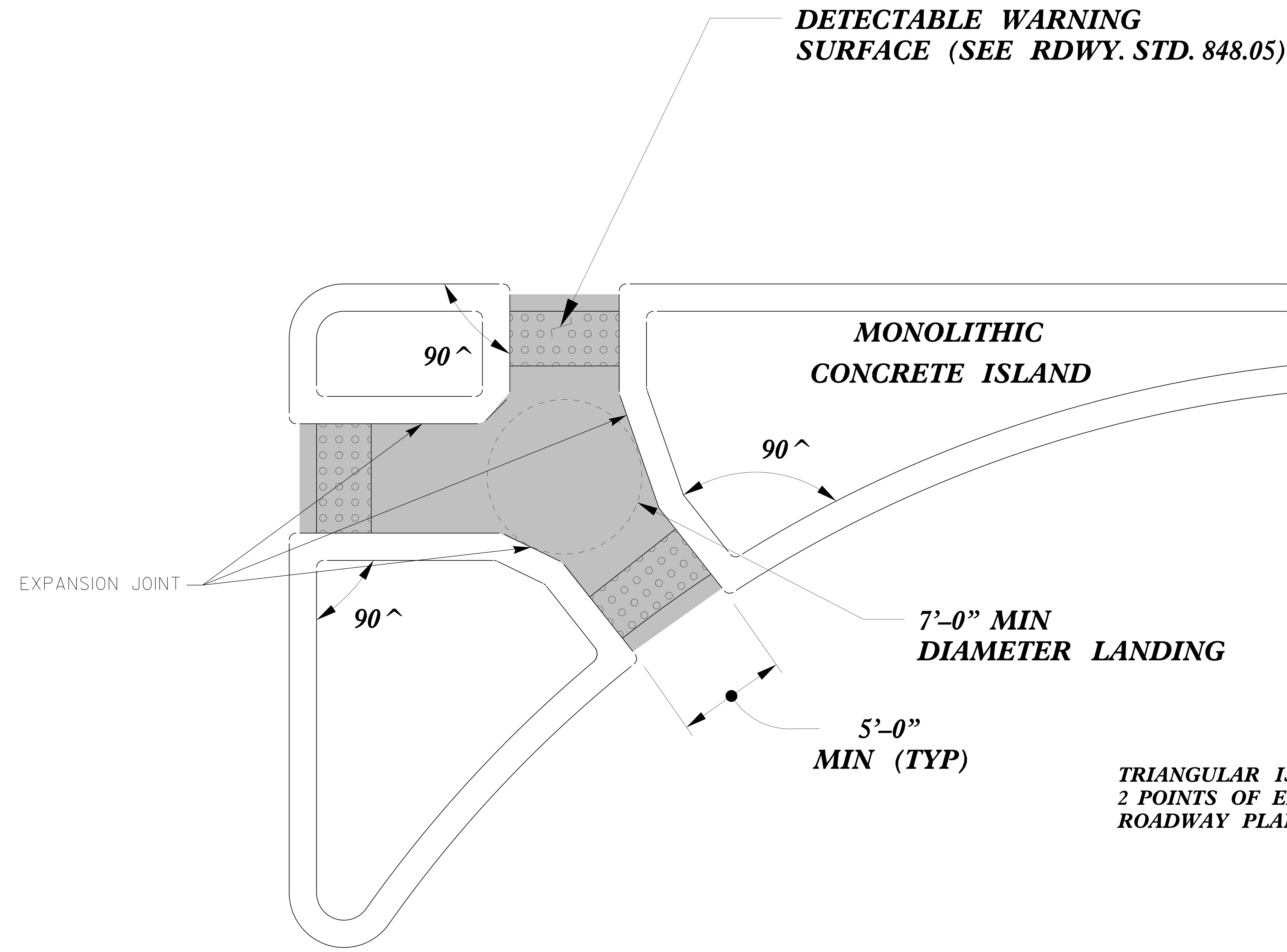
SEE TITLE BLOCK

ORIGINAL BY: J HOWERTON DATE: 06-22-12
MODIFIED BY: _____ DATE: _____
CHECKED BY: _____ DATE: _____
FILE SPEC.: _____

$$$$USERNAME$$$$
$$$$SYSTIME$$$$
$$$$DGN$$$$

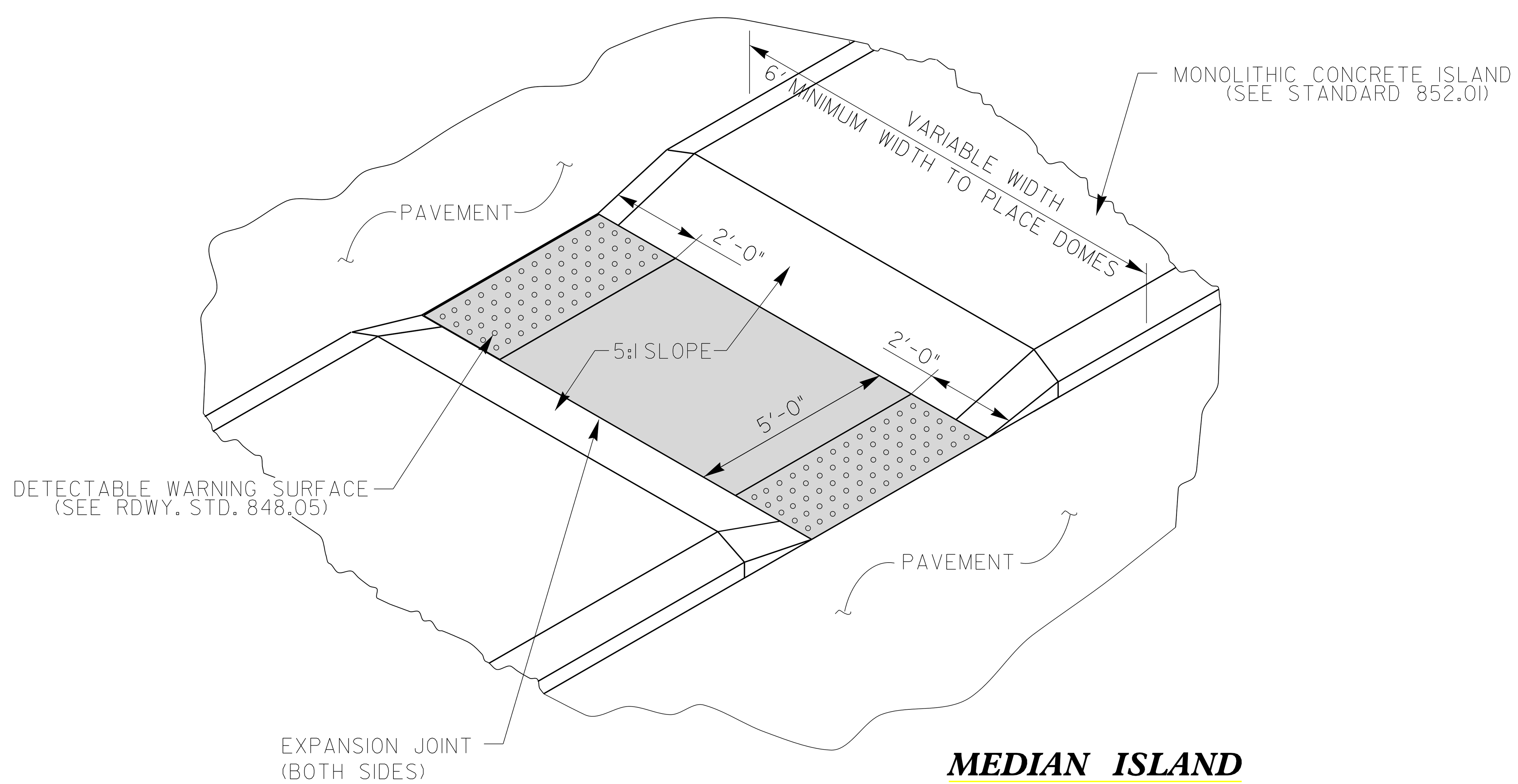
PROJECT REFERENCE NO.	SHEET NO.
B-4929	2C-4

PAY LIMITS FOR 2 OR 3 CURB RAMPS (CALCULATE BASED ON NUMBER OF SETS OF TRUNCATED DOMES)

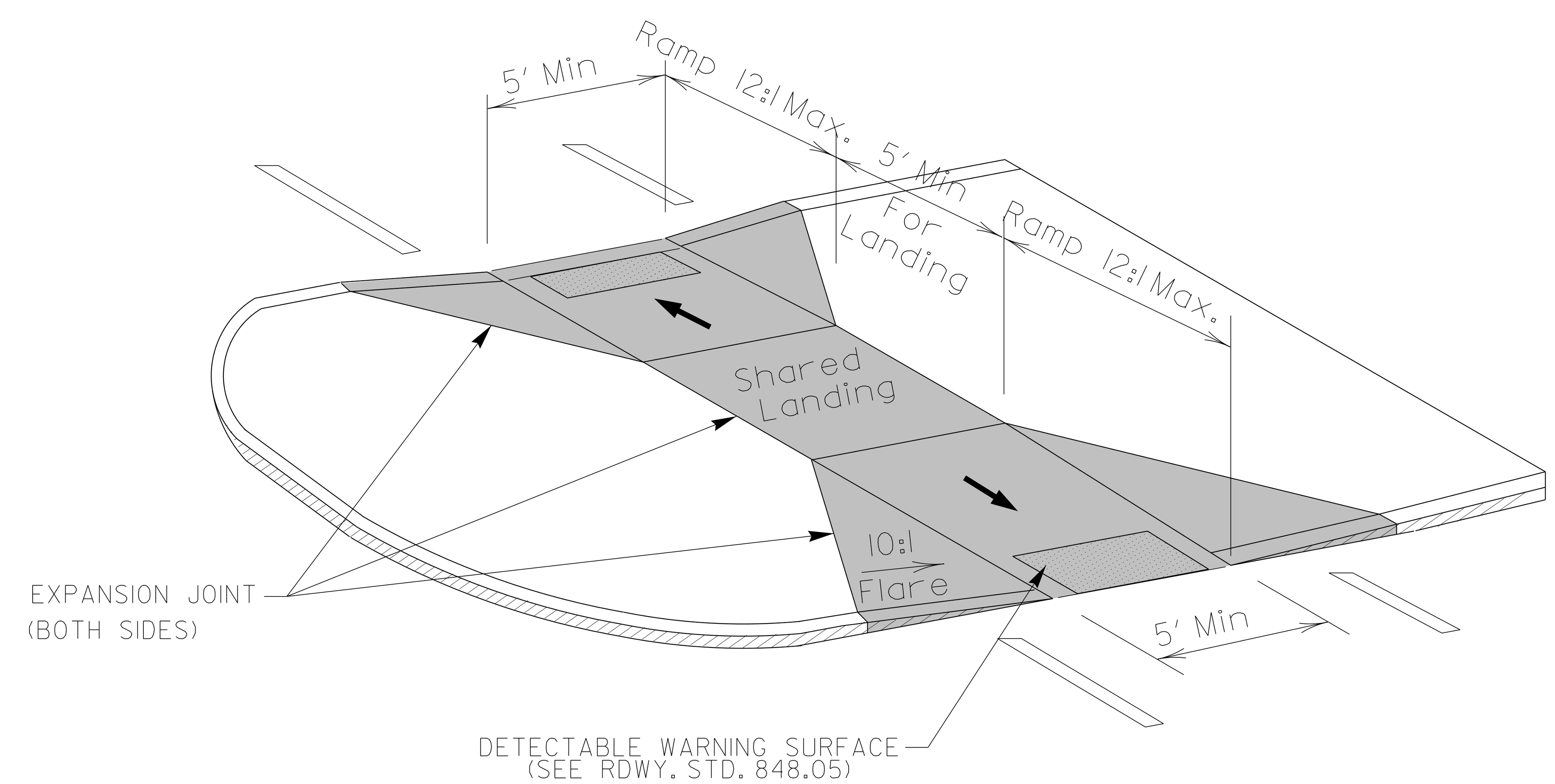


TRIANGULAR ISLANDS MAY BE CONSTRUCTED WITH ONLY 2 POINTS OF ENTRY AND EXIT AS SHOWN IN THE ROADWAY PLANS OR AS DIRECTED BY THE ENGINEER.

TRIANGULAR ISLAND WITH CUT THROUGH



MEDIAN ISLAND WITH CUT THROUGH



MEDIAN ISLAND CURB RAMPS

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

4/26/2016

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

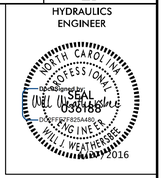
CURB RAMPS

Median or Turn Lane Islands

ORIGINAL BY: J.S. HOWERTON DATE: 7/7/11
MODIFIED BY: DATE:
CHECKED BY: DATE:
FILE SPEC.: stds/2012CurbRamp/CurbRampDetails.dgn

PROJECT REFERENCE NO.	SHEET NO.
B-4929	2D-1

HYDRAULICS ENGINEER

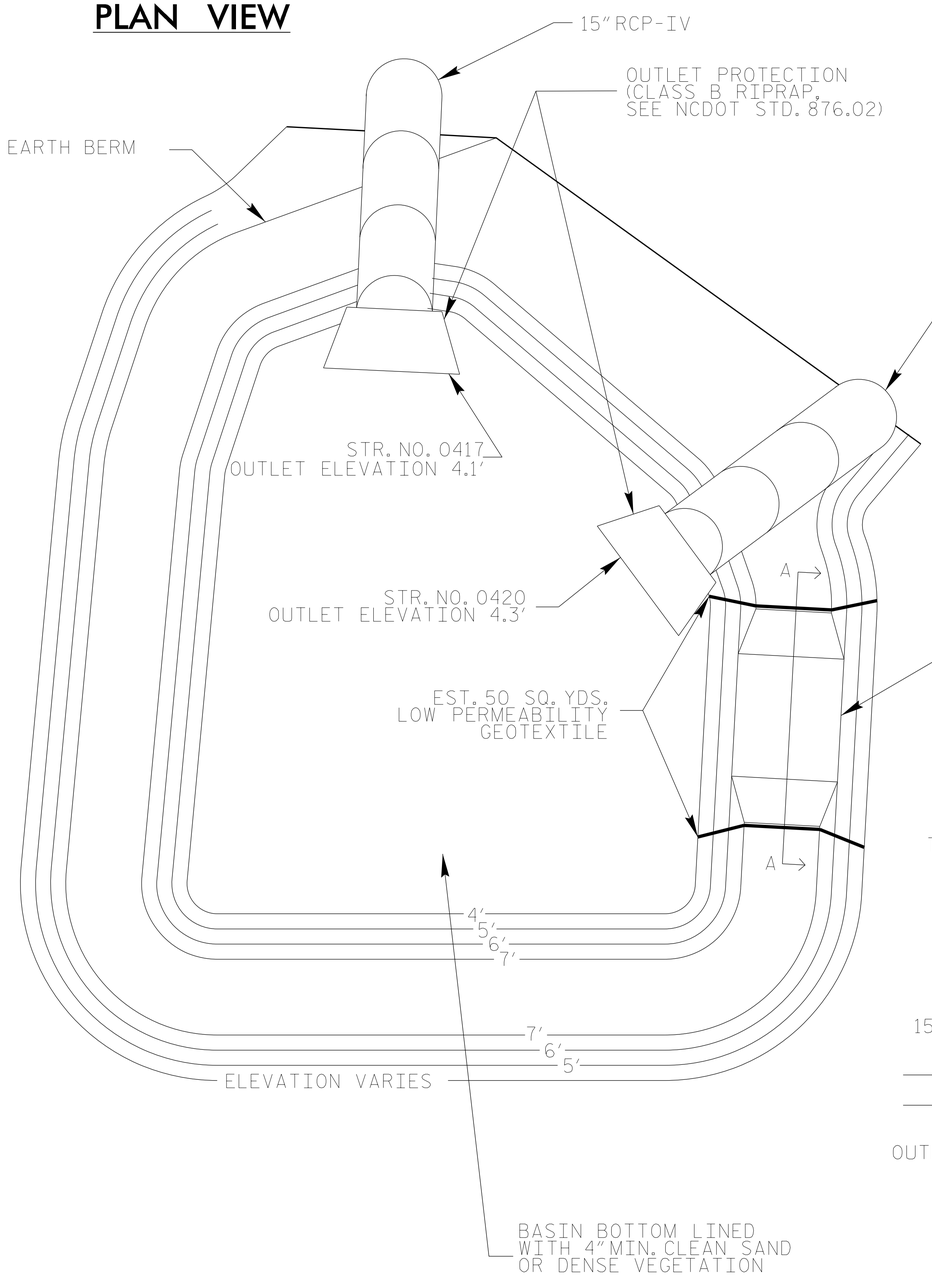


RS&H

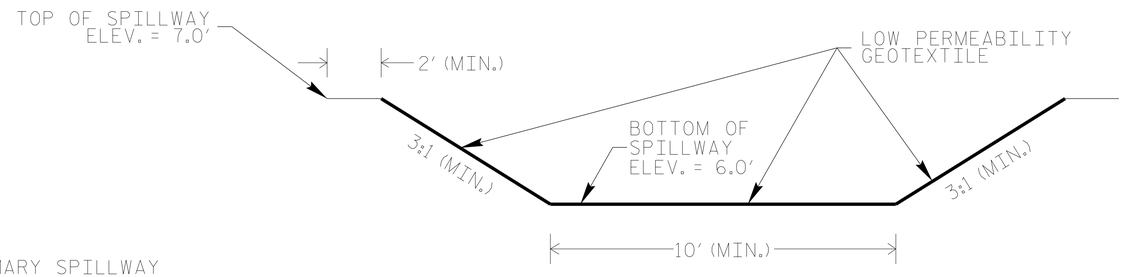
INFILTRATION BASIN NO. 1 DETAIL

EXCAVATION (CY)	300
EARTH BERM (CY)	265
SAND (CY)	50
GEOTEXTILE (SY)	50

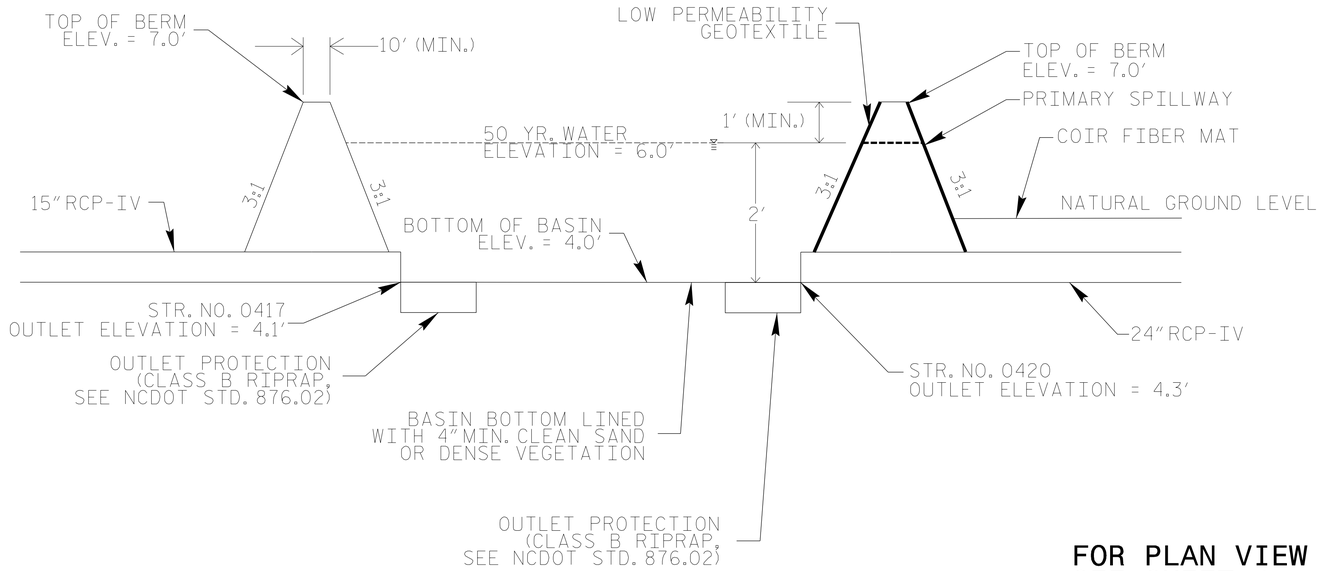
PLAN VIEW



PRIMARY SPILLWAY SECT A–A



PROFILE VIEW (TYPICAL SECTION)



NOTES

1. DO NOT EXCAVATE BELOW SEASONAL HIGH WATER TABLE.
2. LIMIT EARTH BERM HEIGHT TO 3 FT.
3. AVOID COMPACTING BOTTOM OF BASIN.

FOR PLAN VIEW SEE SHEET 4

NOT TO SCALE

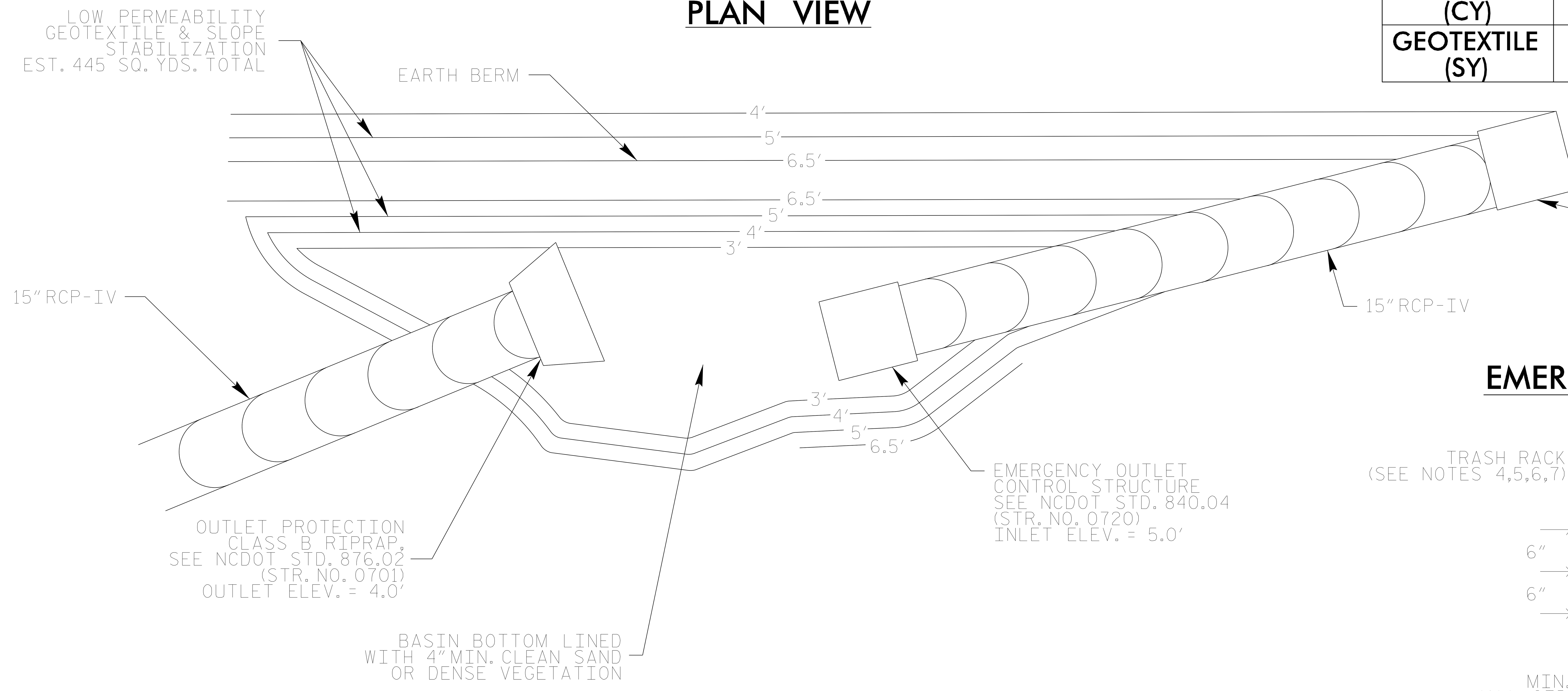
HYDRAULICS ENGINEER

RS&H

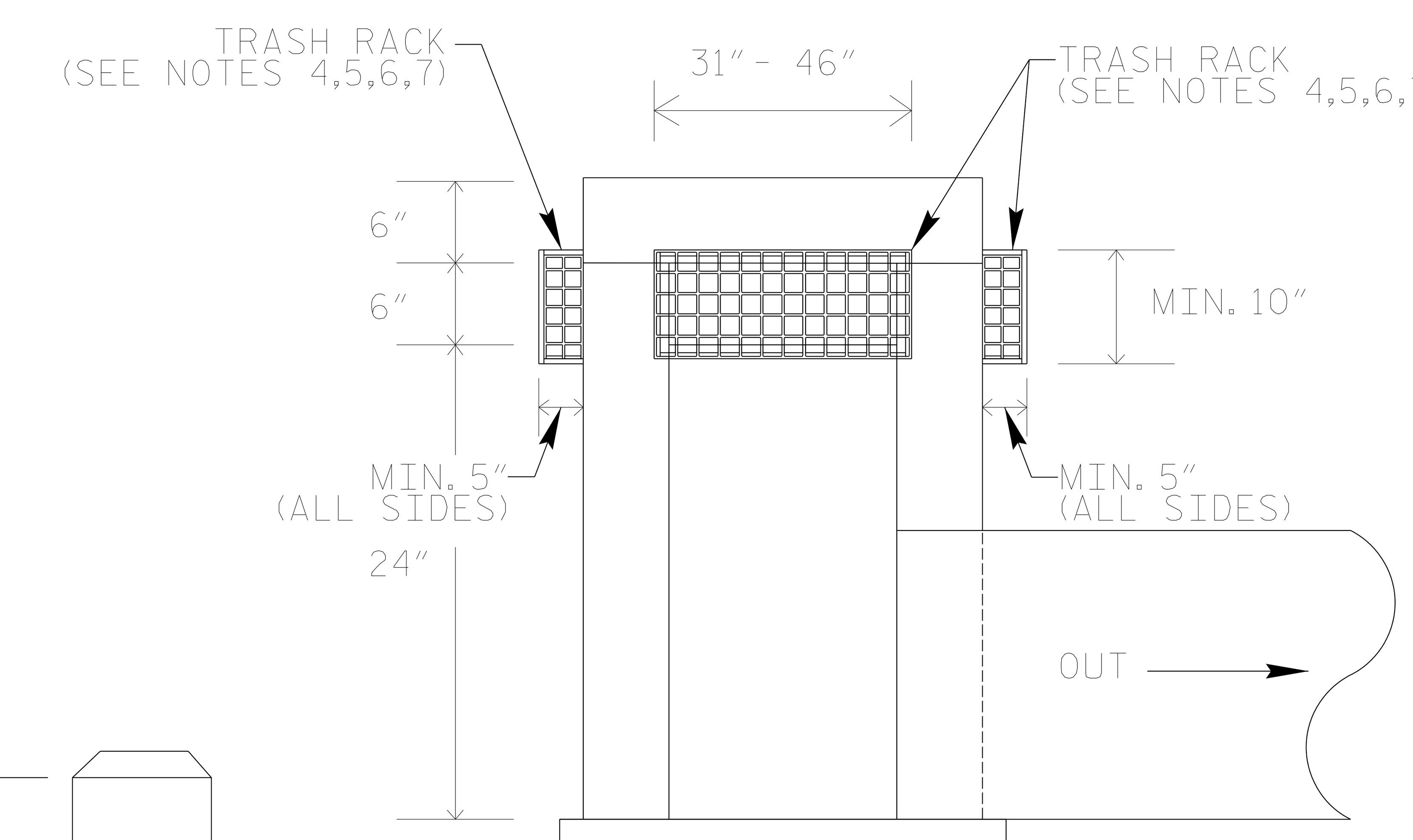
INFILTRATION BASIN NO. 2 DETAIL

EXCAVATION (CY)	215
EARTH BERM (CY)	130
SAND (CY)	20
GEOTEXTILE (SY)	445

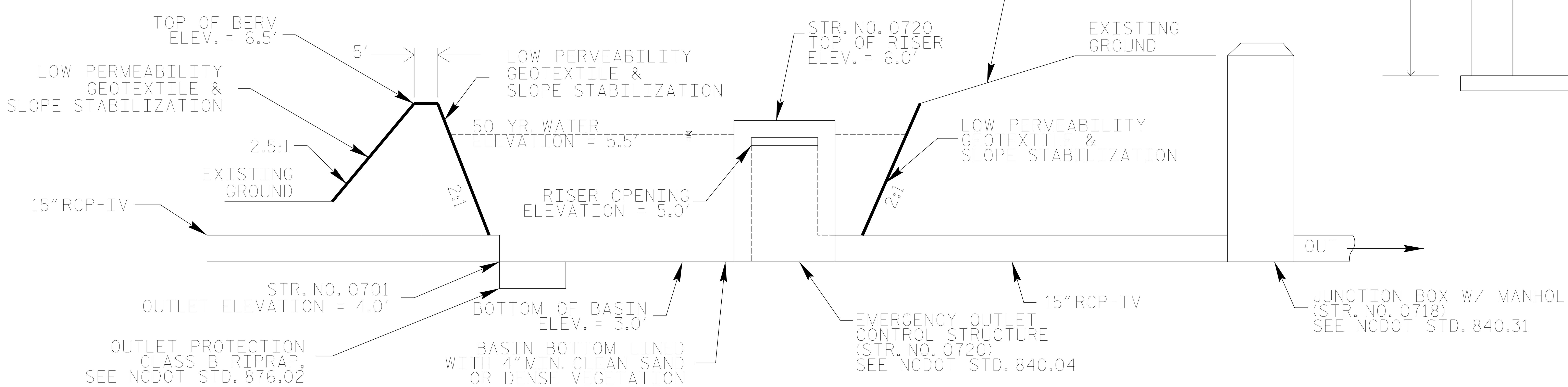
PLAN VIEW



EMERGENCY OUTLET STRUCTURE



PROFILE VIEW (TYPICAL SECTION)



NOTES

1. DO NOT EXCAVATE WITHIN ONE FOOT OF SEASONAL HIGH WATER TABLE.
2. LIMIT EARTH BERM HEIGHT TO 3.5 FT.
3. AVOID COMPACTING BOTTOM OF BASIN.
4. FABRICATE TRASH RACKS WITH #4 REBAR OR INSTALL SUITABLE PREFABRICATED UV-STABILIZED REINFORCED HDPE FLAT RACK GRATES.
5. REBAR SHALL BE HOT-DIPPED GALVANIZED STEEL CONFORMING TO ASTM A767 OR EPOXY-COATED STEEL CONFORMING TO ASTM A775, A934.
6. REBAR SPACING SHALL BE NO LESS THAN 2″ AND NO MORE THAN 5.5″ WHILE MAINTAINING A SQUARE OPENING BETWEEN BARS.
7. PAYMENT OF TRASH RACKS IS INCIDENTAL TO STR. 0720.

FOR PLAN VIEW, SEE SHEET 7.

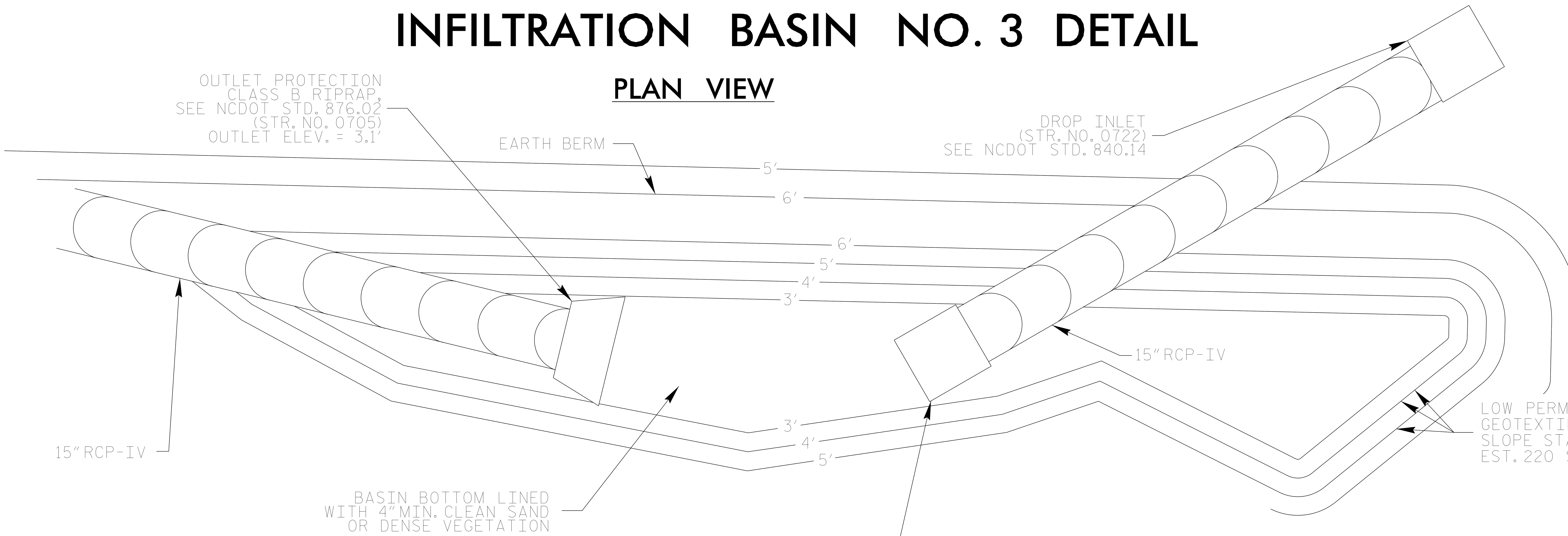
NOT TO SCALE

HYDRAULICS ENGINEER

RS&H

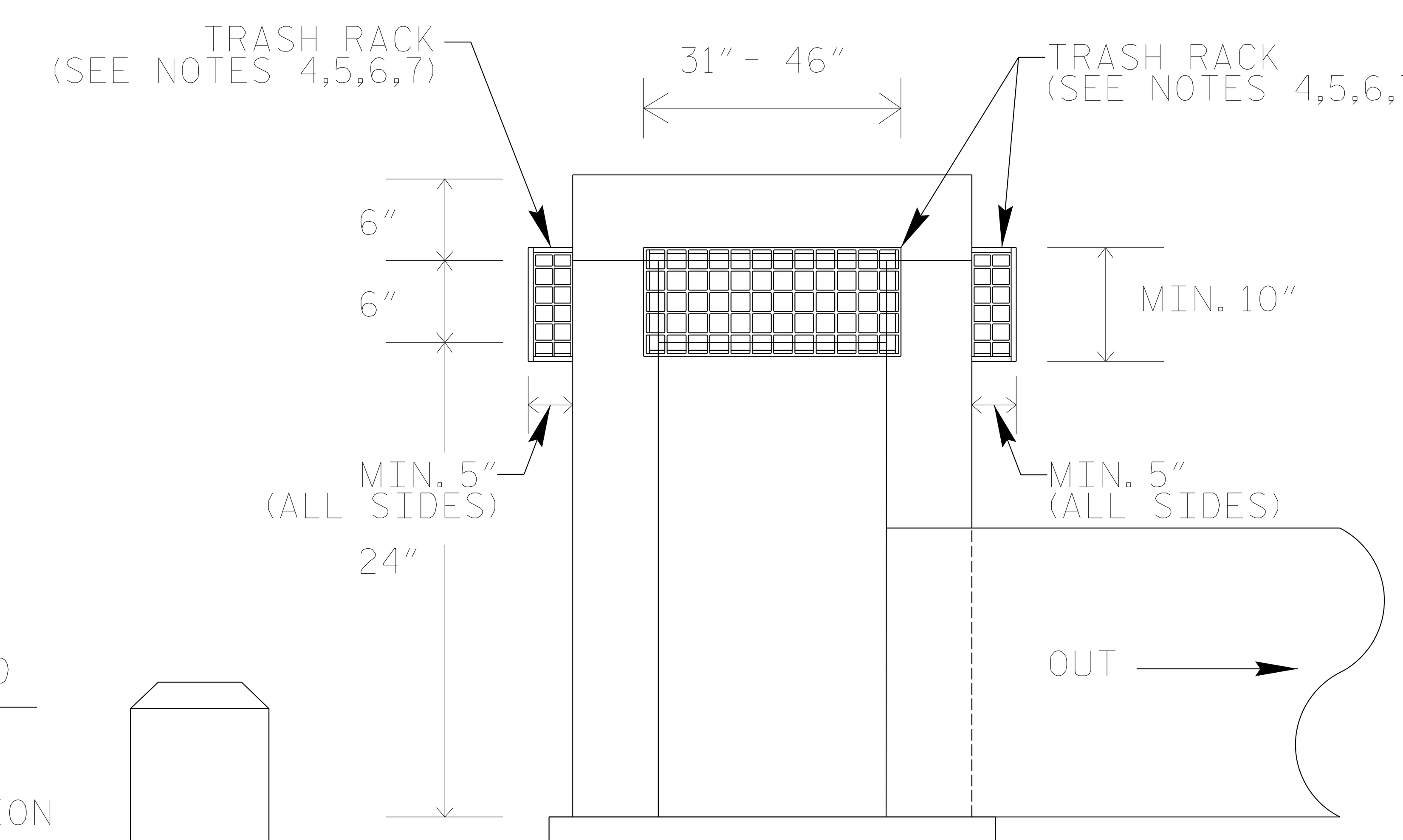
INFILTRATION BASIN NO. 3 DETAIL

PLAN VIEW

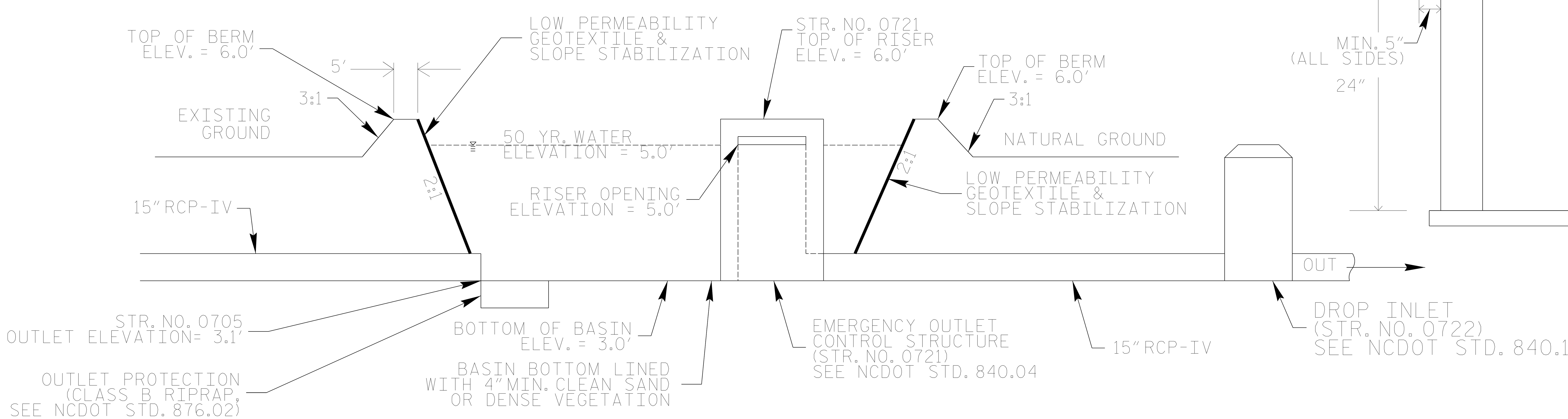


EXCAVATION (CY)	190
EARTH BERM (CY)	55
SAND (CY)	17
GEOTEXTILE (SY)	220

EMERGENCY OUTLET STRUCTURE



PROFILE VIEW (TYPICAL SECTION)



NOTES

1. DO NOT EXCAVATE WITHIN ONE FOOT OF SEASONAL HIGH WATER TABLE.
2. LIMIT EARTH BERM HEIGHT TO 3.0 FT.
3. AVOID COMPACTING BOTTOM OF BASIN.
4. FABRICATE TRASH RACKS WITH #4 REBAR OR INSTALL SUITABLE PREFABRICATED UV-STABILIZED REINFORCED HDPE FLAT RACK GRATES.
5. REBAR SHALL BE HOT-DIPPED GALVANIZED STEEL CONFORMING TO ASTM A767 OR EPOXY-COATED STEEL CONFORMING TO ASTM A775, A934.
6. REBAR SPACING SHALL BE NO LESS THAN 2″ AND NO MORE THAN 5.5″ WHILE MAINTAINING A SQUARE OPENING BETWEEN BARS.
7. PAYMENT OF TRASH RACKS IS INCIDENTAL TO STR. 0721.

FOR PLAN VIEW, SEE SHEET 7.

NOT TO SCALE

6/16/99

COMPUTED BY: SMK DATE: 4-17-15
CHECKED BY: JDF DATE: 4-17-15

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO.	SHEET NO.
B-4929	3B-1

CONCRETE CURB RAMPS

SURVEY LINE	STATION	LOCATION LT/RT/CL	NO. OF RAMPS
-L1-	14+40	LT.	1
-L1-	14+58	LT.	1
-L1-	15+00	RT.	1
-L1-	15+00	LT.	1
-L1-	15+00	CL.	2
-Y2-	10+90	RT.	1
-Y2-	10+90	LT.	1
-Y2-	10+90	CL.	2
-L2-	16+95	RT.	1
-L2-	16+95	LT.	1
-L2-	16+95	CL.	2
-L2-	58+11	RT.	1
-L2-	58+22	CL.	2
-L2-	58+28	LT.	1
-SL1-	11+23	RT.	1
-SL1-	11+23	LT.	1
-SL2-	10+73	RT.	1
-SL2-	10+73	LT.	1
-Y1-	10+90	RT.	1
-Y1-	10+90	LT.	1
-Y1-	10+90	CL.	2
-Y1-	17+22	RT.	1
-Y1-	17+22	LT.	1
-Y1-	17+22	CL.	2
-Y1-	35+73	RT.	1
-Y1-	47+75	LT.	1
-Y1-	47+75	RT.	1
-Y1-	49+12	LT.	1
-Y1-	49+12	RT.	1
-Y1-	50+72	RT.	1
-Y1A-	14+41	RT.	1
-Y3-	11+70	LT.	1
-Y3-	11+70	RT.	1
-Y3-	11+70	CL.	2
-Y3-	15+02	LT.	1
-Y3-	15+02	CL.	2
-Y3-	15+02	RT.	1
-Y4-	12+84	RT.	1
-Y4-	12+56	LT.	1
		TOTAL:	47
		SAY:	47

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

SUMMARY OF 48" FABRIC CHAIN LINK FENCE

SURVEY LINE	STATION	STATION	LOCATION LT/RT/CL	FABRIC L.F.	END BRACE	CORNER BRACE	LINE POSTS	TERMINAL POSTS
-L2-	55+86.52	57+00.00	RT.	141.10	2	2	12	4
	RETAINING WALLS							
-RW2- ON -L2-	18+27.04	19+27.06	RT.	100.02	2	1	8	3
-RW4- ON -L2-	57+00.56	57+50.00	RT.	86.34	2	1	7	3
SEE WALL PLANS FOR RETAINING WALL DETAILS								
			TOTAL:	327.46			27	10
			SAY:	328.00			27	10

PAVEMENT REMOVAL SUMMARY

SURVEY LINE	STATION	STATION	LOCATION LT/RT/CL	YD²
-L2-	16+74	19+76	LT	1,377.06
-L2-	56+46	56+97	RT	76.31
-Y1-	10+93	11+61	LT	198.11
-Y1-	21+58	27+56	CL	1890.06
-Y1-	26+89	27+17	LT	58.52
-Y1-	31+96	35+03	CL	930.93
-Y1A-	13+40	13+99	RT	37.34
-Y3-	10+00	10+71	RT	31.34
-Y4-	10+86	11+44	LT	130.36
-L1DET-	11+27	12+38	CL	220.71
-Y2DET-	10+70	11+74	CL	121.67
			TOTAL:	5072.41
			SAY:	5080

APPROXIMATE QUANTITIES ONLY. UNCLASSIFIED EXCAVATION, FINE GRADING, CLEARING AND GRUBBING AND REMOVALOF EXISTING PAVEMENT WILL BE PAID FOR AT THE LUMP SUM PRICE FOR "GRADING".

GUARDRAIL SUMMARY

SURVEY LINE	BEG. STA.	END STA.	LOCATION	LENGTH			WARRANT POINT		"N" DIST. FROM E.O.L.	TOTAL SHOULDER WIDTH	FLARE LENGTH		W		ANCHORS								IMPACT ATTENUATOR TYPE 350			TES		GUARDRAIL REMOVAL	REMARKS
				STRAIGHT	SHOP CURVED	DOUBLE FACED	APPROACH END	TRAILING END			APPROACH END	TRAILING END	APPROACH END	TRAILING END	CAT-1	AT-1	TYPE-III	GRAU-350 TL-2					NO.	PERMITTED G	PERMITTED NG				
-L2-	17+58.31	19+27.06 (BRIDGE)	RT	168.75			18+65.00		7.5	10.5	25		0.5				1	1											
-L2-	57+00.06 (BRIDGE)	57+75.00	RT	50.0	31.25			57+00.00	6.0	9.0						1	1											
-Y1-	21+63.00			50.0			DEAD END																			2		GUARDRAIL @ DEAD END OF -Y1- STA. 21+63.00
-Y1-	35+00.00			50.0			DEAD END																			2		GUARDRAIL @ DEAD END OF -Y1- STA. 35+00.00
-Y5-	15+57.75			25			DEAD END																			2		GUARDRAIL @ DEAD END OF -Y5- STA. 15+57.75
																											40'	REMOVE EXISTING GUARDRAIL -Y1- 26+90.79 TO 27+08.56
			SUBTOTAL	343.75	31.25											1	2	1								6	40'	
			ANCHOR DEDUCTION	62.5	6.25																							
			TOTAL	281.25	25.0																							
			SAY	287.5	25.0																							

ANCHOR DEDUCTION
TYPE AT-1: 1 @ 6.25' = 6.25'
TYPE TYPE-III: 2 @ 18.75' = 37.5'
TYPE GRAU-350 TL-2: 1 @ 25.0' = 25.0'
GRAND TOTAL = 68.75'
ADDITIONAL GUARDRAIL POSTS = 5

5/10/2016
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COMPUTED BY: SMK
CHECKED BY: JDF
DATE: 4-15-15
DATE: 4-17-15

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SUMMARY OF EARTHWORK

IN CUBIC YARDS

EST. SHALLOW UNDERCUT = 1,000 CY
TOTAL SHALLOW UNDERCUT = 1,000 CY
CLASS IV SUBGRADE STABILIZATION = 1,900 TONS

APPROXIMATE QUANTITIES ONLY. UNCLASSIFIED EXCAVATION, FINE GRADING, CLEARING AND GRUBBING AND REMOVALOF EXISTING PAVEMENT WILL BE PAID FOR AT THE LUMP SUM PRICE FOR "GRADING".

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

LOCATION	STATION	STATION	UNCLASSIFIED EXCAVATION	UNDERCUT	EMBT +%	BORROW	WASTE
SUMMARY 1: MAINLAND EARTHWORK							
PHASE I, STEP 2							
–L2–	16+61.78	19+27.06 (BR)	4	0	2,498	2,494	0
PHASE II, STEP 2							
–L1DET–	10+00.00	13+61.47	101	0	300	199	0
–Y2DET–	10+00.00	12+31.18	0	0	456	456	0
–Y1–	10+61.85	17+50.00	15	1,592	7,094	7,079	1,592
–Y1A–	12+90.00	14+87.00	8	0	546	538	0
PHASE III, STEPS 2, 3 & 5							
–L1DET– REMOVAL	11+00.00	13+00.00	16	0	0	0	16
–Y2DET– REMOVAL	10+50.00	12+00.00	156	0	0	0	156
–L1–	13+25.00	15+38.15	152	0	466	314	0
–RA1–	10+00.00	14+08.41	0	0	4,238	4,238	0
–Y2–	10+61.85	12+35.00	9	0	299	290	0
PHASE IV, STEP 1							
–Y1–	20+63.00	21+63.00	29	0	45	16	0
		SUBTOTAL	490	1,592	15,941	15,623	1,764
WASTE IN LIEU OF BORROW						–172	–172
ADDITIONAL UNDERCUT				500	625	625	500
SELECT MATERIAL USED TO BACKFILL UNDERCUT					–2,313	–2,313	
MAINLAND TOTAL			490	2,092	14,254	13,764	2,092
EST. 5% TO REPL. TOP SOIL ON BORROW PIT						688	
	MAINLAND GRAND TOTAL		490	2,092		14,452	2,092
SUMMARY 2: ISLAND EARTHWORK							
PHASE I, STEP 2							
–L2–	57+00.56 (BR)	58+44.52	0	0	1,054	1,054	0
PHASE II, STEP 3							
–RA2–	10+00.00	14+08.41	0	0	4,331	4,331	0
–SL1–	10+05.97	12+06.25	0	0	1,860	1,860	0
–SL2–	10+21.56	12+94.59	3	0	1,743	1,740	0
–Y3–	10+00.00	15+23.02	156	0	698	542	0
PHASE III, STEPS 4, 5 & 6							
–Y1–	31+95.70	48+26.04	4,390	0	2,316	0	2,074
–Y1–	48+72.07	53+75.20	76	0	88	12	0
–Y4–	10+61.85	14+35.00	21	0	508	487	0
		SUBTOTAL	4,646	0	12,596	10,024	2,074
WASTE IN LIEU OF BORROW						–2,074	–2,074
ADDITIONAL UNDERCUT				1,000	1,250	1,250	1,000
SELECT MATERIAL USED TO BACKFILL UNDERCUT					–1,250	–1,250	
ISLAND TOTAL			4,646	1,000	12,596	7,950	1,000
EST. 5% TO REPL. TOP SOIL ON BORROW PIT						398	
	ISLAND GRAND TOTAL		4,646	1,000		8,348	1,000
PROJECT TOTAL			5,136	3,092		22,800	3,092
SAY			5,200	3,100		23,000	

DDE = 12 CY

* INFILTRATION BASIN EARTHWORK SEPARATED INTO INDIVIDUAL LUMP SUM GRADING PAY ITEM.

PROJECT REFERENCE NO. B-4929

SHEET NO. 3B-2

RD248621

COMPUTED BY: NM DATE: 3/24/2016

CHECKED BY: WJW DATE: 3/24/2016

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROJECT NO.	SHEET NO.
B-4929	3D-1

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

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

LINE & STATION / SIZE / THICKNESS OR GAUGE	OFFSET	STRUCTURE NUMBER FROM	STRUCTURE NUMBER TO	TOP ELEVATION FT.	INVERT ELEVATION FT.	INVERT ELEVATION FT.	MINIMUM REQUIRED SLOPE %
		402	401		3.25	3.15	
L1 13+50	20 RT	402		8.00			
		403	402		3.45	3.25	
L1 14+24	20 RT	403		7.80			
		404	403		4.80	3.45	
L1 14+24	20 LT	404		7.80			
		405	403		3.80	3.45	
L1 15+15	27 RT	405		8.35			
		406	405		3.95	3.80	
RA1 11+42	2 RT	406		9.30			
Y2 10+76	21 RT	407		8.60			
		407	406		4.20	3.95	
		408	407		4.45	4.20	
Y2 11+33	17 RT	408		7.60			
		409	408		4.60	4.45	
Y2 11+33	17 LT	409		7.60			
Y1 11+22	23 LT	410		8.10			
		410	411		4.90	4.70	
		411	412		4.70	4.50	
Y1 11+22	23 RT	411		7.90			
Y1 13+86		413	OUT				
Y1 14+00	18 RT	414		6.50			
		414	415		3.30	2.90	
		415	416		2.90	2.80	
Y1 14+83	18 RT	415		6.30			
		418	417		4.30	4.10	
L2 17+76	20 RT	418		7.70			
L2 17+76	20 LT	419		7.70			
		419	418		4.50	4.30	
		421	420		4.30	4.10	
L2 18+60	20 RT	421		8.40			
L2 18+60	32 LT	422		7.80			
		422	421		4.55	4.30	
		423	422		5.00	4.80	
L2 18+72	32 LT	423		8.00			
		424	423		5.30	5.00	
L2 18+85	32 LT	424		8.30			
		425	424		5.60	5.30	
L2 18+98	32 LT	425		8.60			
L1 14+78	20 LT	427		8.10			
		427	404		5.10	4.80	
		702	701		4.40	4.00	
L2 57+35	34 LT	702		11.50			
		703	702		7.90	7.60	
L2 57+28	34 LT	703		11.60			
		704	702		8.00	7.60	
L2 57+35	32 RT	704		11.50			
		706	705		3.40	3.10	
Y4 11+63	33 RT	706		7.30			
Y4 11+65	18 LT	707		7.60			

STRUCTURE NUMBER FROM	TO	DRAINAGE PIPE (RCP, CSP, CAAP, HDPE, or PVC) 12	15	18	24	30	36	42	48	DO NOT USE RCP	DO NOT USE CSP	DO NOT USE CAAP	DO NOT USE HDPE	C.S. PIPE 12 (0.064)	15 (0.064)	18 (0.064)	24 (0.064)	30 (0.079)	36 (0.079)	42 (0.109)	48 (0.109)	R.C. PIPE CLASS III 12	15	18	24	30	36	42	48	R.C. PIPE CLASS IV 12	15	18	24	30	36	42	48
402	401																														36						
403	402																														76						
404	403																														40						
405	403																														92						
406	405																														44						
407	406																														52						
408	407																														56						
409	408																														32						
410	411																														48						
411	412																														24						
413	OUT																																		76		
414	415																														84						
415	416																														24						
418	417																														36						
419	418																														40						
421	420																																40				
422	421																																52				
423	422																															12					
424	423																															12					
425	424																															12					
427	404																														56						
702	701																														60						
703	702																														8						
704	702																														68						
706	705																														64						
SHEET TOTAL																															940	36	92		76		

STRUCTURE NUMBER FROM	TO	ENDWALLS STD. 838.01 OR STD.838.11 (UNLESS OTHERWISE NOTED) CY	REINFORCED ENDWALLS CY	MASONRY DRAINAGE STRUCTURE CY	15" SIDE DRAIN PIPE	18" SIDE DRAIN PIPE	ENDWALLS STD. 838.01 838.11 OR STD. 838.80 (UNLESS NOTED OTHERWISE) CU. YARDS R.C.P.	C.S.P.	QUANTITIES FOR DRAINAGE STRUCTURES (*TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL.'B')) PER EACH (0' THRU 5.0')	LIN.FT. A 5.0' THRU 10.0'	LIN.FT. B 10.0' AND ABOVE	C.B. STD. 840.01 OR STD. 840.02	FRAME, GRATES, AND HOOD STANDARD 840.03 TYPE OF GRATE E	F	G	CONCRETE TRANSITIONAL SECTION D.I. STD. 852.04 OR STD. 852.06	C.B. STD. 852.05	D.I. STD. 840.14 OR STD. 840.15	D.I. FRAME W/ TWO GRATES STD. 840.16	G.D.I. TYPE "A" STD. 840.17 OR 840.26	G.D.I. TYPE "B" STD. 840.18 OR 840.27	G.D.I. TYPE "D" STD. 840.19 OR 840.28	G.D.I. (N.S. SAG) FRAME W/ 2 GRATES STD. 840.24	G.D.I. (N.S. FLAT) FRAME W/ 2 GRATES STD. 840.29	G.D.I. (W.S. SAG) FRAME W/ 2 GRATES STD. 840.22	G.D.I. (W.S. SAG) FRAME W/ 3 GRATES STD. 840.22	J.B. STD. 840.31 OR 840.32	T.B.J.B. STD. 840.34	T.B.G.D.I. STD. 840.36	STEEL FRAME AND TWO GRATES STD. 840.37	STEEL FRAME AND GRATE STD. 840.37	M.H. STD. 840.51, STD. 840.52, OR STD.53	M.H. FRAME AND COVER STD. 840.54	CONVERT EXISTING D.I. TO C.B.	CONVERT EXISTING C.B. TO J.B.	CONVERT EXISTING D.I. TO T.B.J.B.	CONVERT EXISTING J.B. TO 2 G.I.	ADJUST EXISTING MANHOLE	ADJUST D.I.	REBUILD D.I.	15" C.S. ELBOW	18" C.S. ELBOW	24"C.S. ELBOW	SPECIAL CONCRETE MEDIAN 2GI	BERM DITCH OUTLET STD. 850.10 (PER EACH)	PREFORMED SCOUR HOLE (PER EACH)	FLOWABLE FILL, C.Y.	CONC. COLLARS CL. "B" C.Y. STD. 840.72	CONC. & BRICK PLUG, C.Y. STD. 840.71	PIPE REMOVAL LIN. FT.	OPEN THROAT C.B. STD. 840.04 OR STD. 840.05	PIPE CLEANOUT	REMARKS
402									1			1		1																																							
403									1			1	1																																								
404									1			1	1																																								
405									1			1			1																																						
406									1	0.35		1	1																																								
407									1			1		1																																							
408									1			1		1																																							
409									1			1			1																																						
410									1			1			1																																						
411									1			1		1																																							
413	OUT																																																				36" RCP-IV EQUALIZER
414									1			1		1																																							
415									1			1		1																																							
418									1			1	1																																								
419									1			1	1																																								
421									1			1			1																																						
422									1												1			1																													
423									1												1			1																													
424									1												1			1																													
425									1												1			1																													
427									1			1		1																																							
702									1	2.10											1			1																													
703									1												1			1																													
704									1			1		1																																							
706									1			1		1																																							
707									1			1			1																																						
SHEET TOTAL									25	2.45		19	5	9	5						6			6																													

ABBREVIATIONS

C.A.A	CORRUGATED ALUMINUM INLET
C.B.	CATCH BASIN
C.S.	CORRUGATED STEEL
D.I.	DROP INLET
G.D.I.	GRATED DROP INLET
P.D.P.E.	HIGH DENSITY POLYETHYLENE
J.B.	JUNCTION BOX
M.H.	MANHOLE
N.S.	NARROW SLOT
P.V.C.	POLYVINYL CHLORIDE
R.C.	REINFORCED CONCRETE
T.B.D.I.	TRAFFIC BEARING DROP INLET
T.B.J.B.	TRAFFIC BEARING JUNCTION BOX
W.S.	WIDE SLOT

COMPUTED BY: NM DATE: 3/24/2016

CHECKED BY: WJW DATE: 3/24/2016

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROJECT NO.	SHEET NO.
B-4929	3D-2

R0248621

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

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

LINE & STATION	OFFSET	STRUCTURE NUMBER FROM	STRUCTURE NUMBER TO	TOP ELEVATION FT.	INVERT ELEVATION FT.	INVERT ELEVATION FT.	MINIMUM REQUIRED SLOPE %	DRAINAGE PIPE (RCP, CSP, CAAP, HDPE, or PVC) SIZE 12	15	18	24	30	36	42	48	DO NOT USE RCP	DO NOT USE CSP	DO NOT USE CAAP	DO NOT USE HDPE

RD248621

COMPUTED BY:	NM	DATE:	3/24/2016
CHECKED BY:	WJW	DATE:	3/24/2016

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROJECT NO.	SHEET NO.
B-4929	3D-3

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

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

LINE & STATION / SIZE / THICKNESS OR GAUGE	OFFSET	STRUCTURE NUMBER FROM	STRUCTURE NUMBER TO	TOP ELEVATION FT.	INVERT ELEVATION FT.	INVERT ELEVATION FT.	MINIMUM REQUIRED SLOPE %
Y1 40+50	25 RT						
Y1 42+35	28 LT						
Y1 43+40	25 LT						
Y1 43+73	26 LT						
Y1 47+05	25 LT						
Y1 48+28	28 RT						
Y3 12+78	13 RT						
Y4 12+79	37 RT						
Y5 15+34	21 LT						
Y5 15+34	20 RT						
Y5 15+34	20 LT						

LINE & STATION / OFFSET	DRAINAGE PIPE (RCP, CSP, CAAP, HDPE, or PVC) 12	15	18	24	30	36	42	48	DO NOT USE RCP	DO NOT USE CSP	DO NOT USE CAAP	DO NOT USE HDPE
Y1 40+50 25 RT												
Y1 42+35 28 LT												
Y1 43+40 25 LT												
Y1 43+73 26 LT												
Y1 47+05 25 LT												
Y1 48+28 28 RT												
Y3 12+78 13 RT												
Y4 12+79 37 RT												
Y5 15+34 21 LT												
Y5 15+34 20 RT												
Y5 15+34 20 LT												
SHEET 1 TOTAL												
SHEET 2 TOTAL												
SHEET 3 TOTAL												
PROJECT TOTAL												
SAY TOTAL												

LINE & STATION / OFFSET	C.S. PIPE 12 (0.064)	15 (0.064)	18 (0.064)	24 (0.064)	30 (0.079)	36 (0.079)	42 (0.109)	48 (0.109)	R.C. PIPE CLASS III 12	15	18	24	30	36	42	48
Y1 40+50 25 RT																
Y1 42+35 28 LT																
Y1 43+40 25 LT																
Y1 43+73 26 LT																
Y1 47+05 25 LT																
Y1 48+28 28 RT																
Y3 12+78 13 RT																
Y4 12+79 37 RT																
Y5 15+34 21 LT																
Y5 15+34 20 RT																
Y5 15+34 20 LT																
SHEET 1 TOTAL																
SHEET 2 TOTAL																
SHEET 3 TOTAL																
PROJECT TOTAL																
SAY TOTAL																

LINE & STATION / OFFSET	R.C. PIPE CLASS IV 12	15	18	24	30	36	42	48
Y1 40+50 25 RT								
Y1 42+35 28 LT								
Y1 43+40 25 LT								
Y1 43+73 26 LT								
Y1 47+05 25 LT								
Y1 48+28 28 RT								
Y3 12+78 13 RT								
Y4 12+79 37 RT								
Y5 15+34 21 LT								
Y5 15+34 20 RT								
Y5 15+34 20 LT								
SHEET 1 TOTAL		940	36	92		76		
SHEET 2 TOTAL		1376	652					
SHEET 3 TOTAL								
PROJECT TOTAL		2316	688	92		76		
SAY TOTAL		2316	688	92		76		

LINE & STATION / OFFSET	ENDWALLS STD. 838.01 OR STD.838.11 (UNLESS OTHERWISE NOTED) CY	REINFORCED ENDWALLS CY	MASONRY DRAINAGE STRUCTURE CY	15" SIDE DRAIN PIPE	18" SIDE DRAIN PIPE	ENDWALLS STD. 838.01 838.11 OR STD. 838.80 (UNLESS NOTED OTHERWISE) CU. YARDS R.C.P.	C.S.P.	QUANTITIES FOR DRAINAGE STRUCTURES *TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL.'B') PER EACH (0' THRU 5.0')	LIN.FT. A 5.0' THRU 10.0'	LIN.FT. B 10.0' AND ABOVE	C.B. STD. 840.01 OR STD. 840.02	FRAME, GRATES, AND HOOD STANDARD 840.03 TYPE OF GRATE E	F	G
Y1 40+50 25 RT														
Y1 42+35 28 LT														
Y1 43+40 25 LT														
Y1 43+73 26 LT														
Y1 47+05 25 LT														
Y1 48+28 28 RT														
Y3 12+78 13 RT														
Y4 12+79 37 RT														
Y5 15+34 21 LT														
Y5 15+34 20 RT														
Y5 15+34 20 LT														
SHEET 1 TOTAL								25	2.45		19	5	9	5
SHEET 2 TOTAL								26	1.40		11	2	4	5
SHEET 3 TOTAL														
PROJECT TOTAL								51	3.85		30	7	13	10
SAY TOTAL								51	3.85		30	7	13	10

LINE & STATION / OFFSET	CONCRETE TRANSITIONAL SECTION D.I. STD. 852.04 OR STD. 852.06	CONCRETE TRANSITIONAL SECTION C.B. STD. 852.05	D.I. STD. 840.14 OR STD. 840.15	D.I. FRAME W/ TWO GRATES STD. 840.16	G.D.I. TYPE "A" STD. 840.17 OR 840.26	G.D.I. TYPE "B" STD. 840.18 OR 840.27	G.D.I. TYPE "D" STD. 840.19 OR 840.28	G.D.I. (N.S. SAG) FRAME W/ 2 GRATES STD. 840.24	G.D.I. (N.S. FLAT) FRAME W/ 2 GRATES STD. 840.29	G.D.I. (W.S. SAG) FRAME W/ 2 GRATES STD. 840.22	G.D.I. (W.S. SAG) FRAME W/ 3 GRATES STD. 840.22	J.B. STD. 840.31 OR 840.32	T.B.J.B. STD. 840.34	T.B.G.D.I. STD. 840.36	STEEL FRAME AND TWO GRATES STD. 840.37	STEEL FRAME AND GRATE STD. 840.37	M.H. STD. 840.51, STD. 840.52, OR STD.53	M.H. FRAME AND COVER STD. 840.54
Y1 40+50 25 RT																		
Y1 42+35 28 LT																		
Y1 43+40 25 LT																		
Y1 43+73 26 LT																		
Y1 47+05 25 LT																		
Y1 48+28 28 RT																		
Y3 12+78 13 RT																		
Y4 12+79 37 RT																		
Y5 15+34 21 LT																		
Y5 15+34 20 RT																		
Y5 15+34 20 LT																		
SHEET 1 TOTAL						6			6									
SHEET 2 TOTAL	1		3	3			4	4				2	1	3	3			3
SHEET 3 TOTAL																		
PROJECT TOTAL	1		3	3		6	4	4	6			2	1	3	3			3
SAY TOTAL	1		3	3		6	4	4	6			2	1	3	3			3

LINE & STATION / OFFSET	CONVERT EXISTING D.I. TO C.B.	CONVERT EXISTING C.B. TO J.B.	CONVERT EXISTING D.I. TO T.B.J.B.	CONVERT EXISTING J.B. TO 2 G.I.	ADJUST EXISTING MANHOLE	ADJUST D.I.	REBUILD D.I.	15" C.S. ELBOW	18" C.S. ELBOW	24"C.S. ELBOW	SPECIAL CONCRETE MEDIAN 2GI	BERM DITCH OUTLET STD. 850.10 (PER EACH)	PREFORMED SCOUR HOLE (PER EACH)	FLOWABLE FILL, C.Y.	CONC. COLLARS CL. "B" C.Y. STD. 840.72	CONC. & BRICK PLUG, C.Y. STD. 840.71	PIPE REMOVAL LIN. FT.	OPEN THROAT C.B. STD. 840.04 OR STD. 840.05	PIPE CLEANOUT	REMARKS
Y1 40+50 25 RT																			1	
Y1 42+35 28 LT														3						
Y1 43+40 25 LT																	36			
Y1 43+73 26 LT																	190			
Y1 47+05 25 LT																	142			
Y1 48+28 28 RT																	10			
Y3 12+78 13 RT																	112			
Y4 12+79 37 RT																			1	
Y5 15+34 21 LT																			1	
Y5 15+34 20 RT																	97			
Y5 15+34 20 LT																	40			
SHEET 1 TOTAL																				
SHEET 2 TOTAL																	52	2		
SHEET 3 TOTAL														3			627		3	
PROJECT TOTAL														3			679	2	3	
SAY TOTAL														3			679	2	3	

ABBREVIATIONS

C.A.A	CORRUGATED ALUMINUM INLET
C.B.	CATCH BASIN
C.S.	CORRUGATED STEEL
D.I.	DROP INLET
G.D.I.	GRATED DROP INLET
P.D.P.E.	HIGH DENSITY POLYETHYLENE
J.B.	JUNCTION BOX
M.H.	MANHOLE
N.S.	NARROW SLOT
P.V.C.	POLYVINYL CHLORIDE
R.C.	REINFORCED CONCRETE
T.B.D.I.	TRAFFIC BEARING DROP INLET
T.B.J.B.	TRAFFIC BEARING JUNCTION BOX
W.S.	WIDE SLOT

COMPUTED BY:	Jacob C. Wessell, PE	DATE:	8/28/2015
CHECKED BY:	Steven V. Hudson, LG	DATE:	8/28/2015

PROJECT NO.	SHEET NO.
40233.1.1 (B-4929)	3G-1

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

SUMMARY OF SUBSURFACE DRAINAGE

LINE	Station	Station	Location LT/RT/CL	Drain Type* UD/BD/SD	LF
CONTINGENCY				SD	1000
				TOTAL LF:	1000

*UD = Underdrain
*BD = Blind Drain
*SD = Subsurface Drain

SUMMARY OF BRIDGE WAITING PERIODS

Bridge Description	End Bent/ Bent No.	MONTHS
Bridge 16	1	1
Bridge 16	2	1

SUMMARY OF AGGREGATE SUBGRADE/STABILIZATION

LINE	Station	Station	Aggregate Type ASU/AST	Aggregate Thickness INCHES	Shallow Undercut CY	Class IV Subgrade Stabilization TONS	Geotextile for Soil Stabilization SY	Stabilizer Aggregate TONS	Class IV Aggregate Stabilization TONS
CONTINGENCY			ASU		1000	1900	3000		
			TOTAL CY/TONS/SY:		1000	1900	3000*	0	0

ASU = Aggregate Subgrade, AST = Aggregate Stabilization

*Total square yards of Geotextile for Soil Stabilization is only the estimated quantity for ASU/AST and may only represent a portion of the geotextile quantity shown in the Item Sheets of the Proposal.

PROJ. REFERENCE NO.	SHEET NO.
B-4929	3P-1

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PARCEL INDEX SHEET

PARCEL No.	SHEET No.	PROPERTY OWNER NAME
1	4	LINDA BULLARD
2	4	LARRY BATSON
3	4	KENNETH BATTS
4	N/A	OMITTED
5	4	RICHARD SULLIVAN
6	4	ALDRICH BATTS
7	4	BATTS PROPERTIES INC
8	4	HOWARD BATTS
9	4	DEBORAH BATTS, RANDY BATTS AND SHERRI DURYEA
10	4	BATTS PROPERTIES INC
11	N/A	OMITTED
12	4	HOWARD BATTS
13	4	OPTION II MOBILE HOME VILLAGE LLC
14	4	BATTS PROPERTIES INC
15	4	KENNETH BATTS
16	4	JAMES HOWARD BATTS
17	4	BATTS PROPERTIES INC
18	4	D C LANIER
19	4	LANIER FAMILY LTD PTNRP
20	N/A	OMITTED
21	4	BATTS PROPERTIES INC
22	N/A	OMITTED
23	4	HOWARD BATTS
24	N/A	OMITTED
25	4	HIRAM WILLIAMS
26	4	SHERRI DURYEA
27	4,5,6,8	PARKS UNLIMITED LLC
28	6, 9	TOWN OF SURF CITY
29	6	BATTS PROPERTIES INC
30	6,7	ARLENE YOW
31	7	TOWN OF SURF CITY
32	N/A	OMITTED
33	N/A	OMITTED
34	7, 9	ACM INC.
35	7	KENNETH BATTS
36	7,9	M9VEST, LLC
37	7	HENRY SMOOT
38	7	MICHAEL HENDY ET AL
39	7	T&C REAL ESTATE HOLDINGS LLC
40	7	ALMEDA LIMITED PARTNERSHIP
41	7	NORWOOD BOYD TISDALE TESTAMENTARY TRUSTEE
42	7	PHILLIPS LAND HOLDINGS LLC
43	N/A	OMITTED
44	7	ALMEDA LIMITED PARTNERSHIP
45	N/A	OMITTED
46	9	G. TYSON HOPKINS ASSOCIATES, LLC
47	9	JOHN BATAL
48	N/A	OMITTED
49	9	GEARY C. BYRON
50	N/A	OMITTED
51	N/A	OMITTED
52	N/A	OMITTED

PARCEL No.	SHEET No.	PROPERTY OWNER NAME

8/17/99

REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
B-4929	4
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 030952 ENGINEER JENNIFER D. FARLEY
4/20/2016

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 030188 ENGINEER WILL WEATHERSBEE
4/20/2016

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

RS&H

TRAFFIC VOLUME DATA

ROLAND AVE

900 / 1,200

17,200 / 30,000 — 400 / 600 — 200 / 300 — 16,800 / 29,100

NC 50 / 210 — NC 50 / 210

500 / 1,000 — 300 / 400

2017 AADT 1,100
2035 AADT 1,700

LITTLE KINSTON RD

-Y1- CURVE DATA

PI Sta 13+65.85
△ = 129° 38' 06.0" (RT)
D = 45° 50' 11.8"
L = 282.82'
T = 265.85'
R = 125.00'
V = 20 MPH
SE = 04
RO = SEE PLANS

PI Sta 16+59.14
△ = 39° 38' 06.0" (LT)
D = 22° 55' 05.9"
L = 172.94'
T = 90.09'
R = 250.00'
V = 30 MPH
SE = 04
RO = SEE PLANS

-YIA- CURVE DATA

PI Sta 11+48.40
△ = 7° 24' 35.1" (RT)
D = 2° 30' 00.0"
L = 296.39'
T = 148.40'
R = 2,291.83'

PI Sta 13+92.38
△ = 42° 00' 41.4" (LT)
D = 22° 55' 05.9"
L = 183.31'
T = 95.99'
R = 250.00'
V = 30 MPH
SE = 04
RO = SEE PLANS

18	D C LANIER DB 2823 PG 193 PB 9 PG 53
19	LANIER FAMILY LTD PTNRP DB 1543 PG 78 PB 9 PG 53
21	BATTS PROPERTIES INC DB 477 PG 167 PB 9 PG 53
23	HOWARD BATTS DB 1PG 139 PB 9 PG 53

NAD 83/NA 2011

BEGIN TIP PROJECT B-4929

-L1- POT STA. 10+00.00

BEGIN CONSTRUCTION -YIA- STA.12+90.00

-YIA- PRC Sta. 12+96.39

-YIA- PT Sta. 14+79.70

-Y1- POC Sta. 11+95.00 =
-YIA- POT Sta. 15+05.13

-Y1- PT Sta. 13+82.82

-Y1- PC Sta. 11+00.00

-RAI- POC Sta. 13+88.08 =
-Y1- POT Sta. 10+61.85

-RAI- POC Sta.10+00.00 =
-RAI- POC Sta.14+08.41

-L1- STA. 13+25.00
BEGIN GRADE

-RAI- POC Sta. 10+81.77 =
-L1- POT Sta. 15+38.15

-RAI- CENTER OF CIRCLE =
-L1- POT Sta.16+00.00 (O/S 20' RT.)
-Y2- POT Sta.10+00.00 (O/S 20' LT.)
-L2- POT Sta. 16+00.00 (O/S 20' LT.)
-Y1- POT Sta.10+00.00 (O/S 20' LT.)

-RAI- POC Sta. 11+93.88 =
-Y2- POT Sta.10+61.85

END CONSTRUCTION -Y2- STA.12+35.00

BEGIN CONSTRUCTION -Y1- STA.17+50.00

END CONSTRUCTION -Y1- STA.17+50.00

BEGIN BRIDGE -L2- STA.19+27.06

BEGIN APPROACH SLAB -L2- STA.19+03.06

-L2- PT Sta. 18+64.06

-L2- PC Sta. 16+48.87

-L2- PC Sta. 16+61.78

-RAI- POC Sta. 12+85.76 =

MATCH TO SHEET 5 -L2- STA. 23+00

MATCH TO SHEET 8 -Y1- STA. 20+00

	PAVEMENT REMOVAL
	BRIDGE APPROACH SLAB
FOR -LIDET-, SEE SHEET 2B-10	
FOR -L1- PROFILE, SEE SHEET 10	
FOR -L2- PROFILE, SEE SHEET 10	
FOR -Y1- PROFILE, SEE SHEET 12	
FOR -YIA- PROFILE, SEE SHEET 13	
FOR -Y2- PROFILE, SEE SHEET 14	
FOR -RAI- PROFILE, SEE SHEET 15	
FOR BRIDGE SKETCH, SEE SHEET 2B-3	
FOR ROUNDABOUT DETAIL, SEE SHEET 2B-1	
FOR INFILTRATION BASIN DETAILS, SEE SHEET 2D-1	

-RAI- CURVE DATA

PI Sta 10+00.00
△ = 360° 00' 00.0" (LT)
D = 88° 08' 50.5"
L = 408.41'
T = 0.00'
R = 65.00'

-L2- CURVE DATA

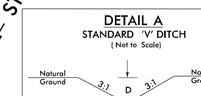
PI Sta 17+59.14
△ = 30° 49' 23.5" (RT)
D = 14° 19' 26.2"
L = 215.19'
T = 110.27'
R = 400.00'
V = 35 MPH

* MULTI-USE PATH WILL TRANSITION IN 10' INCREMENTS AT -L2- 18+15.00 IN ORDER TO ACHIEVE DESIRED CROSS SLOPE PER ROADWAY TYPICALS

** PAVE AREA BETWEEN MULTI-USE PATH AND RETAINING WALL FOR DRAINAGE WITH 4" CONCRETE.

*** 4' CHAIN LINK FENCE ALONG THE ENTIRE LENGTH OF WALL.

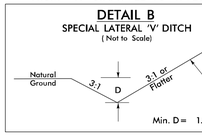
DETAIL A
STANDARD 'V' DITCH
(Not to Scale)



S= 0.3%
DDE= 4.8 C.Y.
Min. D= 1.0 Ft.

FROM -Y1- STA. 11+22 TO 11+26 (RT)

DETAIL B
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



Min. D= 1.0 Ft.

FROM -L1- STA. 13+00 RT TO STA. 13+75 RT

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PROJECT REFERENCE NO.	SHEET NO.
B-4929	5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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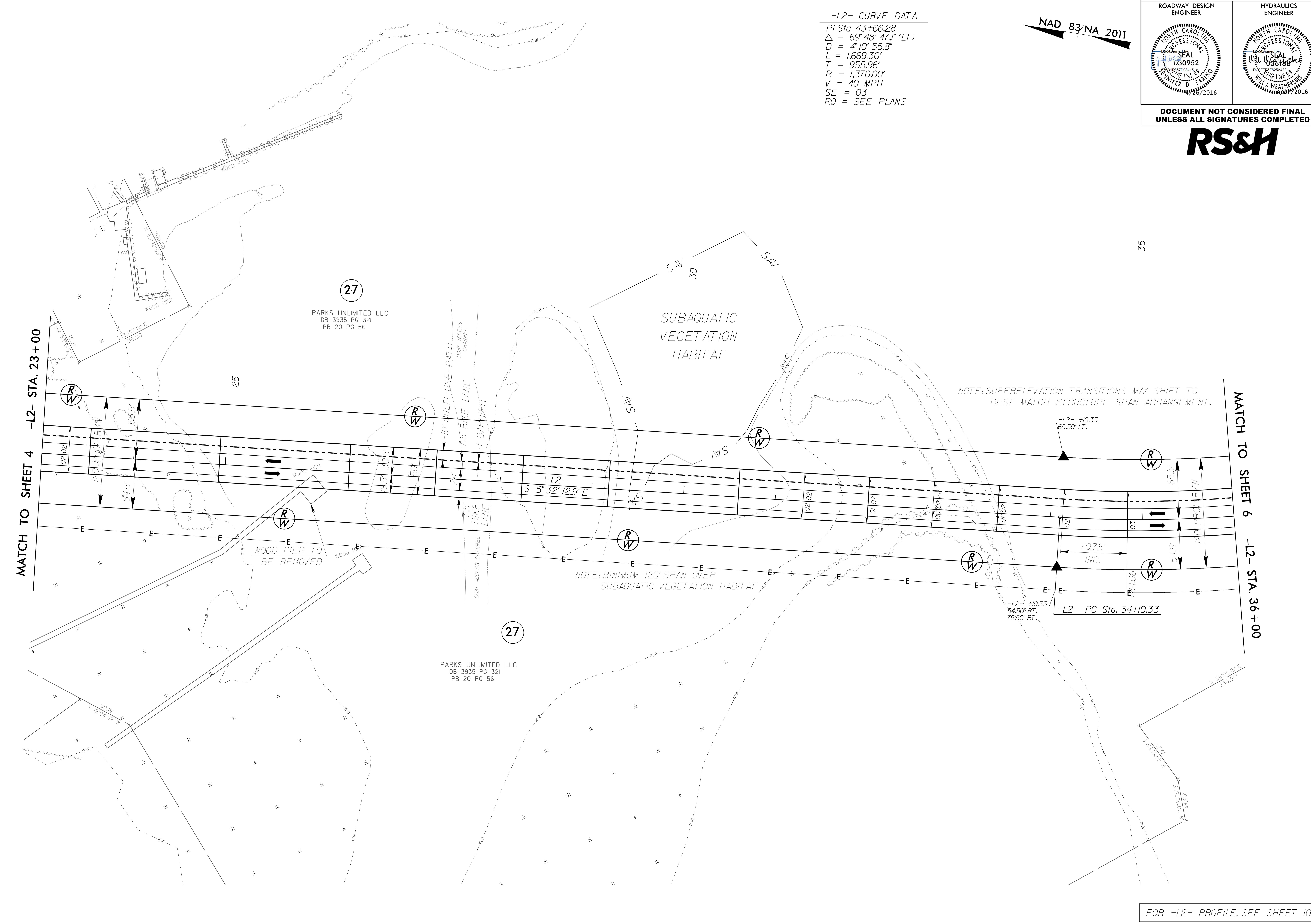
RS&H



FOR -L2- PROFILE, SEE SHEET 10

REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
B-4929	6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
SEAL 030952 JENNIFER D. FARINO 4/26/2016	SEAL 036188 WILL J. WEATHERSBEE 4/27/2016

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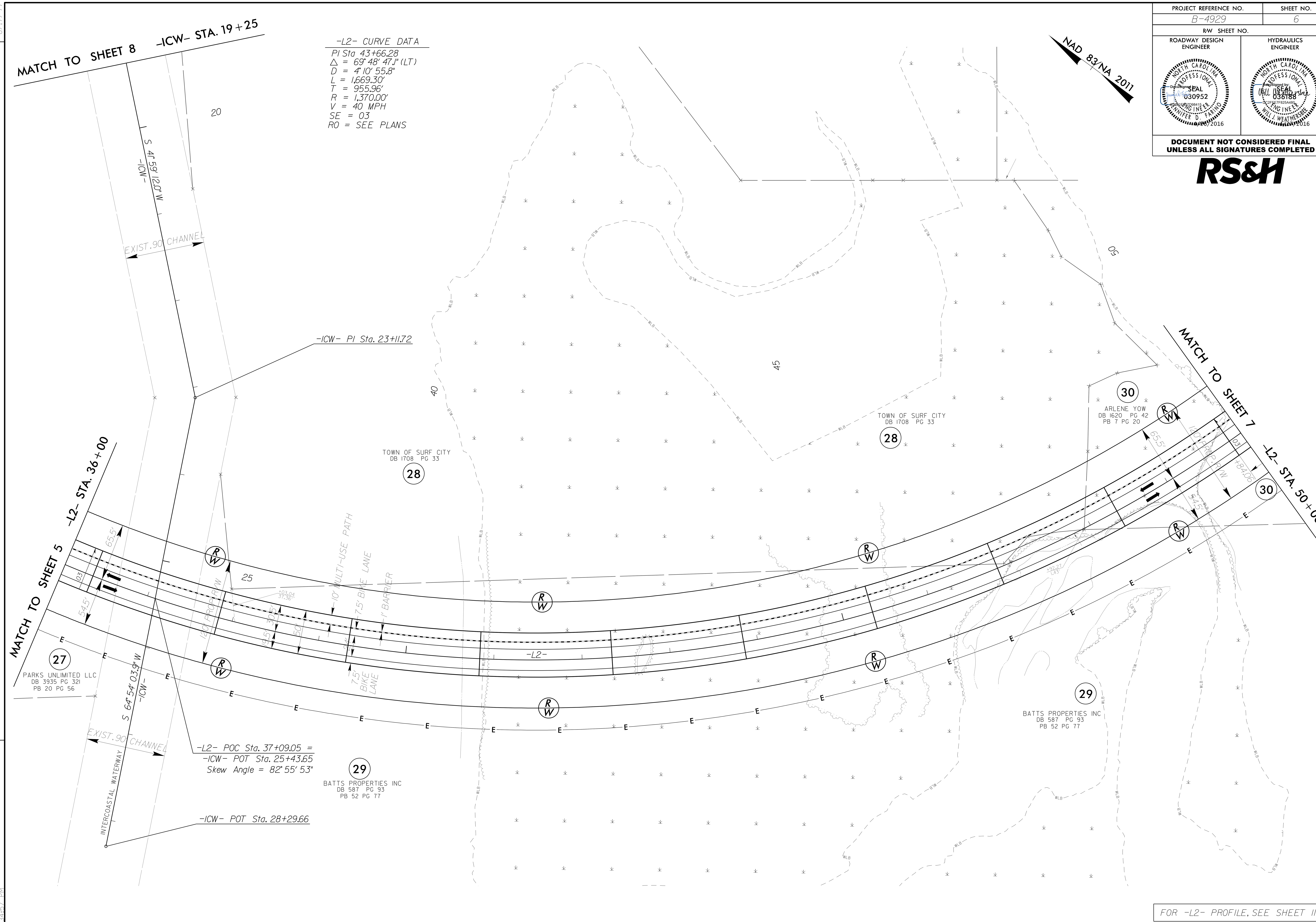
RS&H



PROJECT REFERENCE NO.	SHEET NO.
B-4929	7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
SEAL 030952 — NORTH CAROLINA PROFESSIONAL ENGINEER — JENNIFER D. FARINO — 4/26/2016	SEAL 034188 — NORTH CAROLINA PROFESSIONAL ENGINEER — WILL J. WEATHERSBEE — 4/27/2016

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RS&H

NAD 83/NA 2011

8/17/99

REVISIONS

TRAFFIC VOLUME DATA

NC 210 (NEW RIVER DR): 11,900 / 19,400

9,700 / 16,100

7,100 / 13,000

NC 50 / 210: 16,800 / 29,100

NC 50 (TOPSAIL DR): 9,300 / 16,300

2017 AADT / 2035 AADT

-L2- CURVE DATA

PI Sta 43+66.28
△ = 69° 48′ 47.1″ (LT)
D = 4° 10′ 55.8″
L = 1,669.30′
T = 955.96′
R = 1,370.00′
V = 40 MPH
SE = 03
RO = SEE PLANS

-Y3- CURVE DATA

PI Sta 10+15.20	PI Sta 14+34.91
△ = 5° 08′ 12.84″ (LT)	△ = 64° 30′ 12.46″ (LT)
D = 28° 38′ 52.4″	D = 28° 38′ 52.4″
L = 17.93′	L = 225.16′
T = 8.97′	T = 126.20′
R = 200.00′	R = 200.00′

-Y4- CURVE DATA

PI Sta 11+93.88	PI Sta 12+98.97
△ = 56° 35′ 15.0″ (RT)	△ = 13° 02′ 40.4″ (LT)
D = 36° 57′ 54.1″	D = 18° 28′ 57.0″
L = 153.08′	L = 70.58′
T = 83.44′	T = 35.44′
R = 155.00′	R = 310.00′

-RA2- CURVE DATA

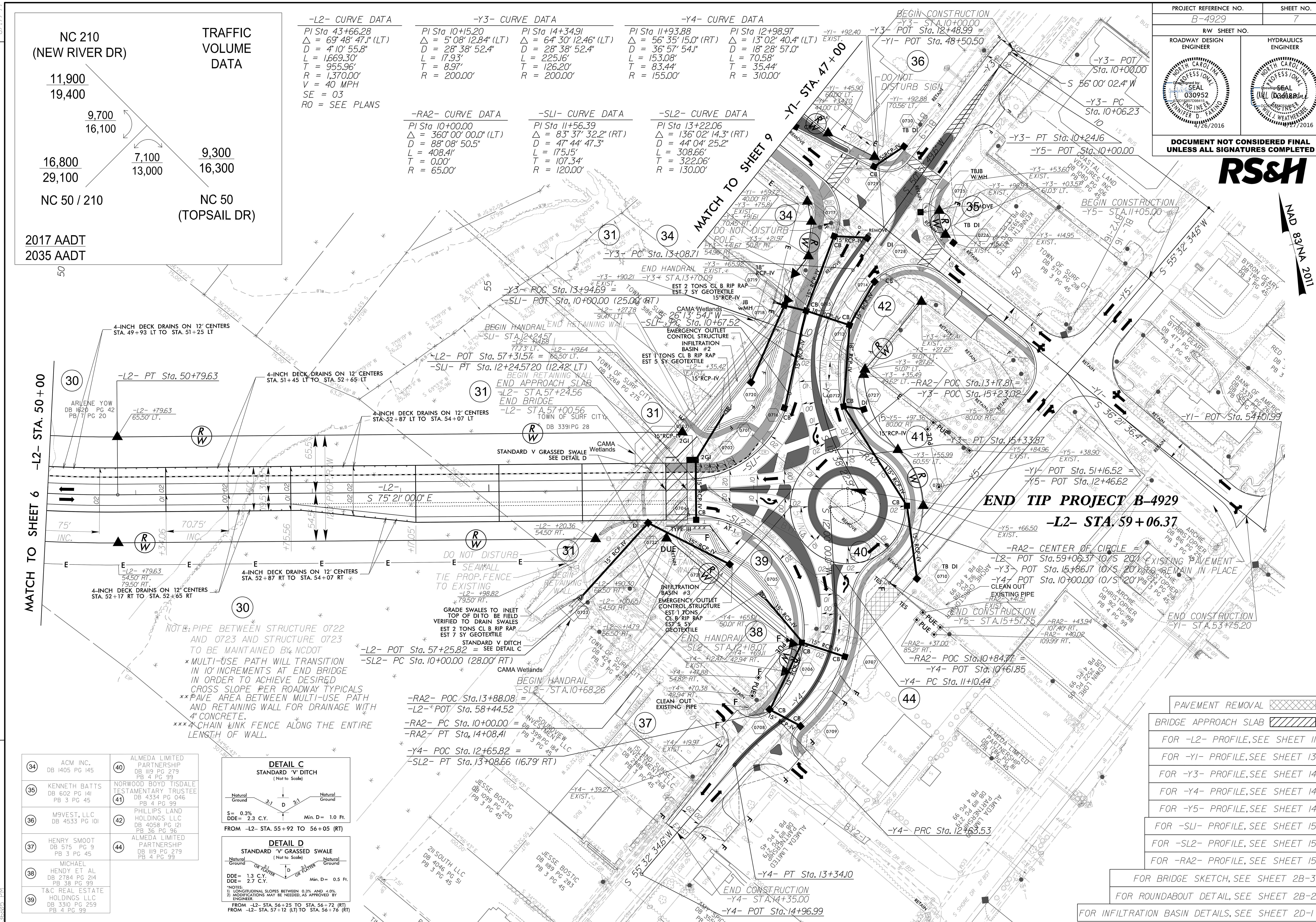
PI Sta 10+00.00
△ = 360° 00′ 00.0″ (LT)
D = 88° 08′ 50.5″
L = 408.41′
T = 0.00′
R = 65.00′

-SL1- CURVE DATA

PI Sta 11+56.39
△ = 83° 37′ 32.2″ (RT)
D = 47° 44′ 47.3″
L = 175.15′
T = 107.34′
R = 120.00′

-SL2- CURVE DATA

PI Sta 13+22.06
△ = 136° 02′ 14.3″ (RT)
D = 44° 04′ 25.2″
L = 308.66′
T = 322.06′
R = 130.00′



NOTE: PIPE BETWEEN STRUCTURE 0722 AND 0723 AND STRUCTURE 0723 TO BE MAINTAINED BY NCDOT

* MULTI-USE PATH WILL TRANSITION IN 10′ INCREMENTS AT END BRIDGE IN ORDER TO ACHIEVE DESIRED CROSS SLOPE PER ROADWAY TYPICALS

** PAVE AREA BETWEEN MULTI-USE PATH AND RETAINING WALL FOR DRAINAGE WITH 4″ CONCRETE.

*** 4′ CHAIN LINK FENCE ALONG THE ENTIRE LENGTH OF WALL.

34	ACM INC. DB 1405 PG 145	40	ALMEDA LIMITED PARTNERSHIP DB 1119 PG 279 PB 4 PG 99
35	KENNETH BATTS DB 602 PG 141 PB 3 PG 45	41	NORWOOD BOYD TISDALE TESTAMENTARY TRUSTEE DB 4334 PG 046 PB 4 PG 99
36	M9VEST, LLC DB 4533 PG 101	42	PHILLIPS LAND HOLDINGS LLC DB 4058 PG 121 PB 36 PG 96
37	HENRY SMOOT DB 575 PG 9 PB 3 PG 45	44	ALMEDA LIMITED PARTNERSHIP DB 1119 PG 279 PB 4 PG 99
38	MICHAEL HENDY ET AL DB 2784 PG 214 PB 38 PG 99		
39	T&C REAL ESTATE HOLDINGS LLC DB 3310 PG 259 PB 4 PG 99		

DETAIL C
STANDARD 'V' DITCH
(Not to Scale)
Natural Ground — 3:1 — D — 3:1 — Natural Ground
S = 0.3%
DDE = 2.3 C.Y.
Min. D = 1.0 Ft.

FROM -L2- STA. 55+92 TO 56+05 (RT)

DETAIL D
STANDARD 'V' GRASSED SWALE
(Not to Scale)
Natural Ground — 3:1 OR FLATTER — D — 3:1 OR FLATTER — Natural Ground
DDE = 1.3 C.Y.
DDE = 2.7 C.Y.
Min. D = 0.5 Ft.
*NOTES:
1) LONGITUDINAL SLOPES BETWEEN 0.3% AND 4.0%.
2) MODIFICATIONS MAY BE NEEDED, AS APPROVED BY ENGINEER.

FROM -L2- STA. 56+25 TO STA. 56+72 (RT)
FROM -L2- STA. 57+12 (LT) TO STA. 56+76 (RT)

PAVEMENT REMOVAL	(crosshatch)
BRIDGE APPROACH SLAB	(hatch)
FOR -L2- PROFILE, SEE SHEET 11	
FOR -Y1- PROFILE, SEE SHEET 13	
FOR -Y3- PROFILE, SEE SHEET 14	
FOR -Y4- PROFILE, SEE SHEET 14	
FOR -Y5- PROFILE, SEE SHEET 14	
FOR -SL1- PROFILE, SEE SHEET 15	
FOR -SL2- PROFILE, SEE SHEET 15	
FOR -RA2- PROFILE, SEE SHEET 15	
FOR BRIDGE SKETCH, SEE SHEET 2B-3	
FOR ROUNDABOUT DETAIL, SEE SHEET 2B-2	
FOR INFILTRATION BASIN DETAILS, SEE SHEET 2D-1	

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PROJECT REFERENCE NO.	SHEET NO.
B-4929	8
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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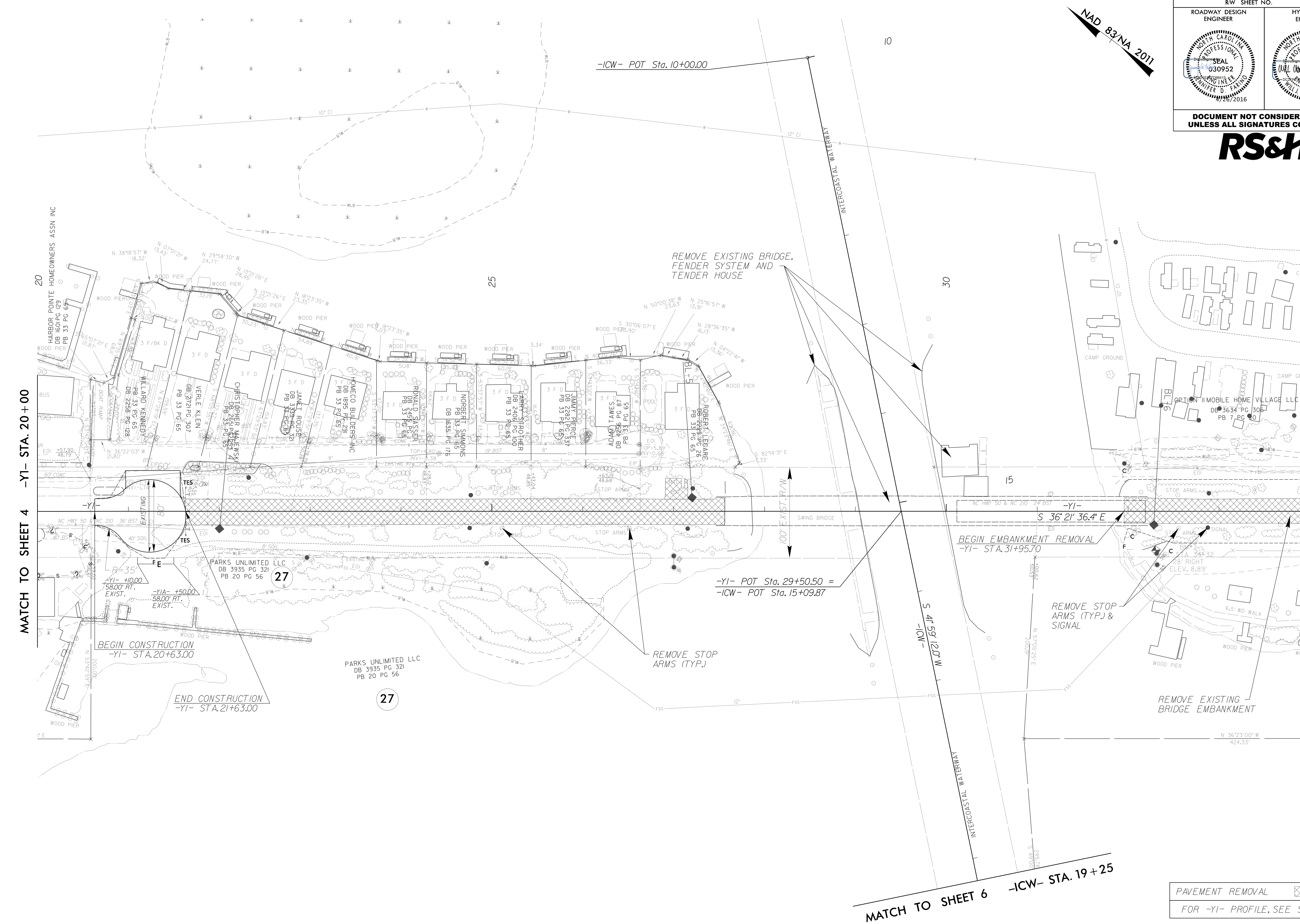
REVISIONS



PAVEMENT REMOVAL	
FOR -YI- PROFILE, SEE SHEET 12	

8/17/99

REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
B-4929	9
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
SEAL 030952, JENNIFER D. FARINO, 5/27/2016	SEAL 036088, WILL J. WEATHERBEE, 5/27/2016

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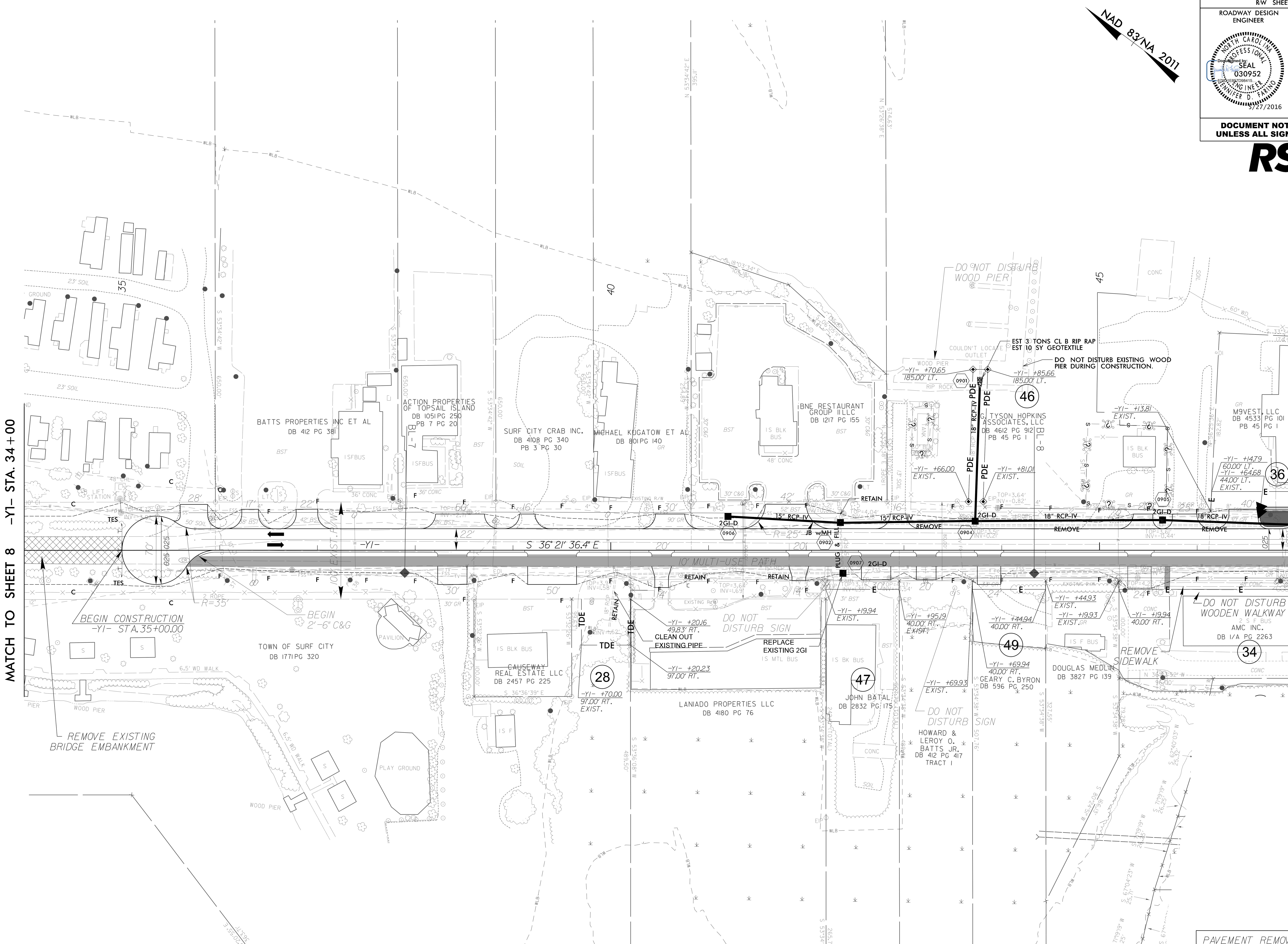

PAVEMENT REMOVAL	(hatched)
FOR ROW PLANS, SEE SHEET 2B-9	
FOR -Y1- PROFILE, SEE SHEET 13	

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PROJECT REFERENCE NO.	SHEET NO.
B-4929	10
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 030952 JENNIFER D. FARINO 4/26/2016	NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 030188 WILL J. WEATHERBEE 4/27/2016

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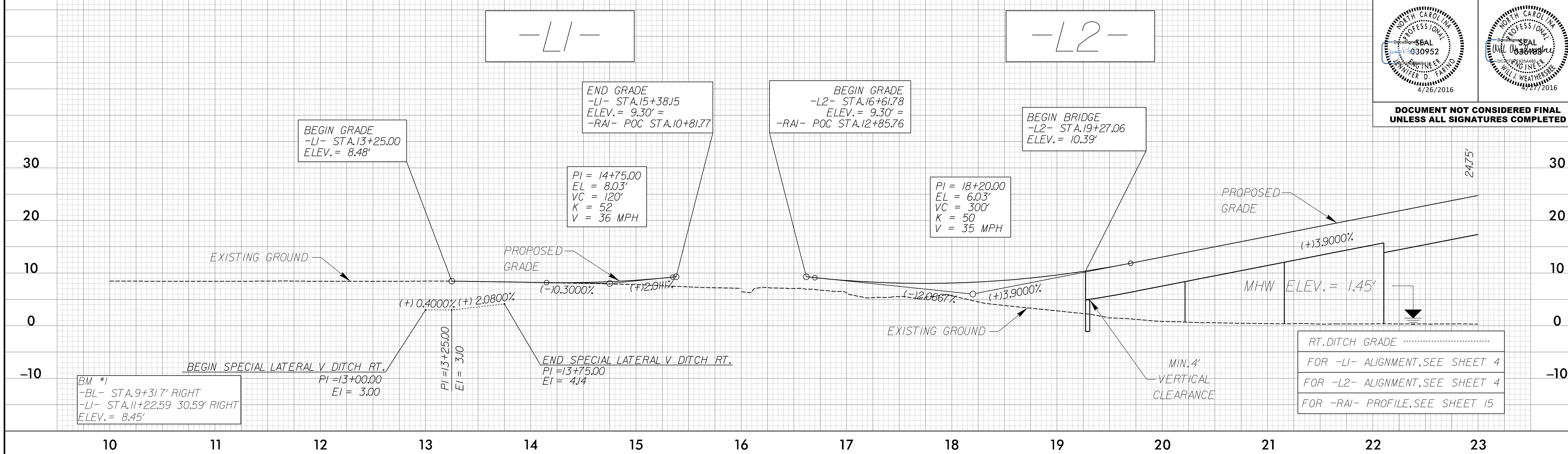

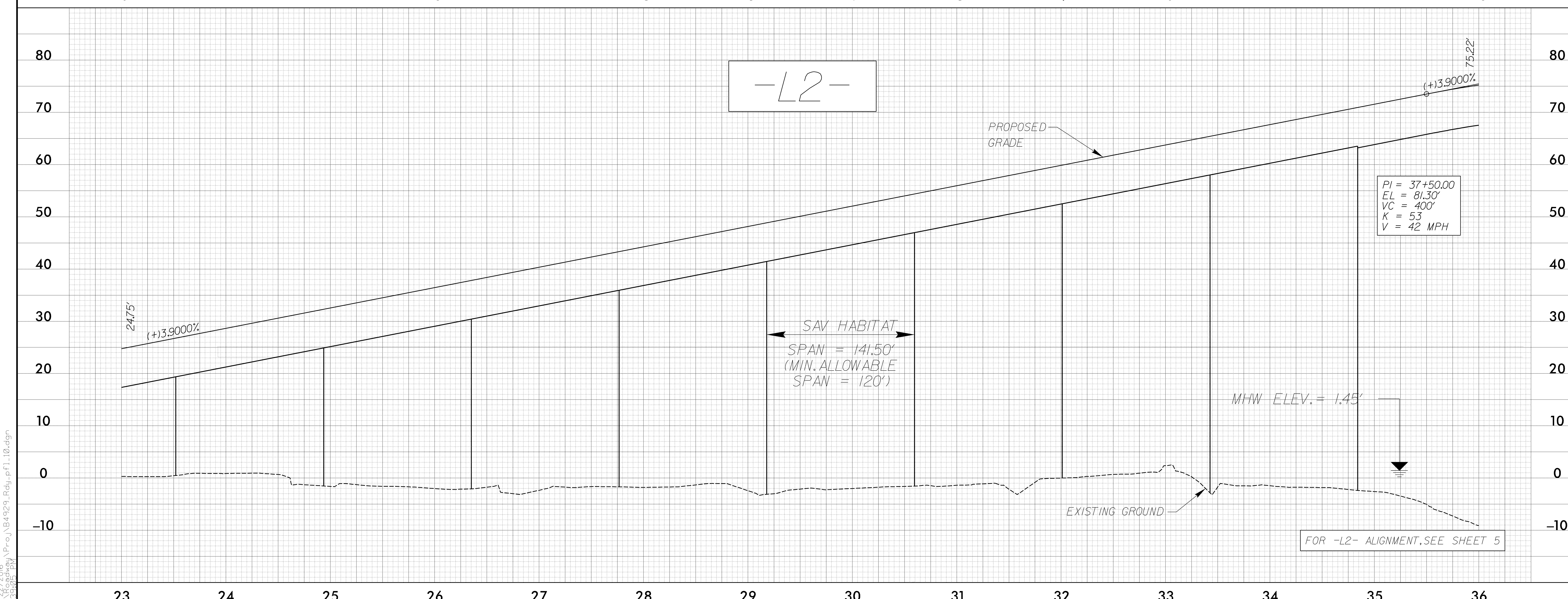

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4/22/2016
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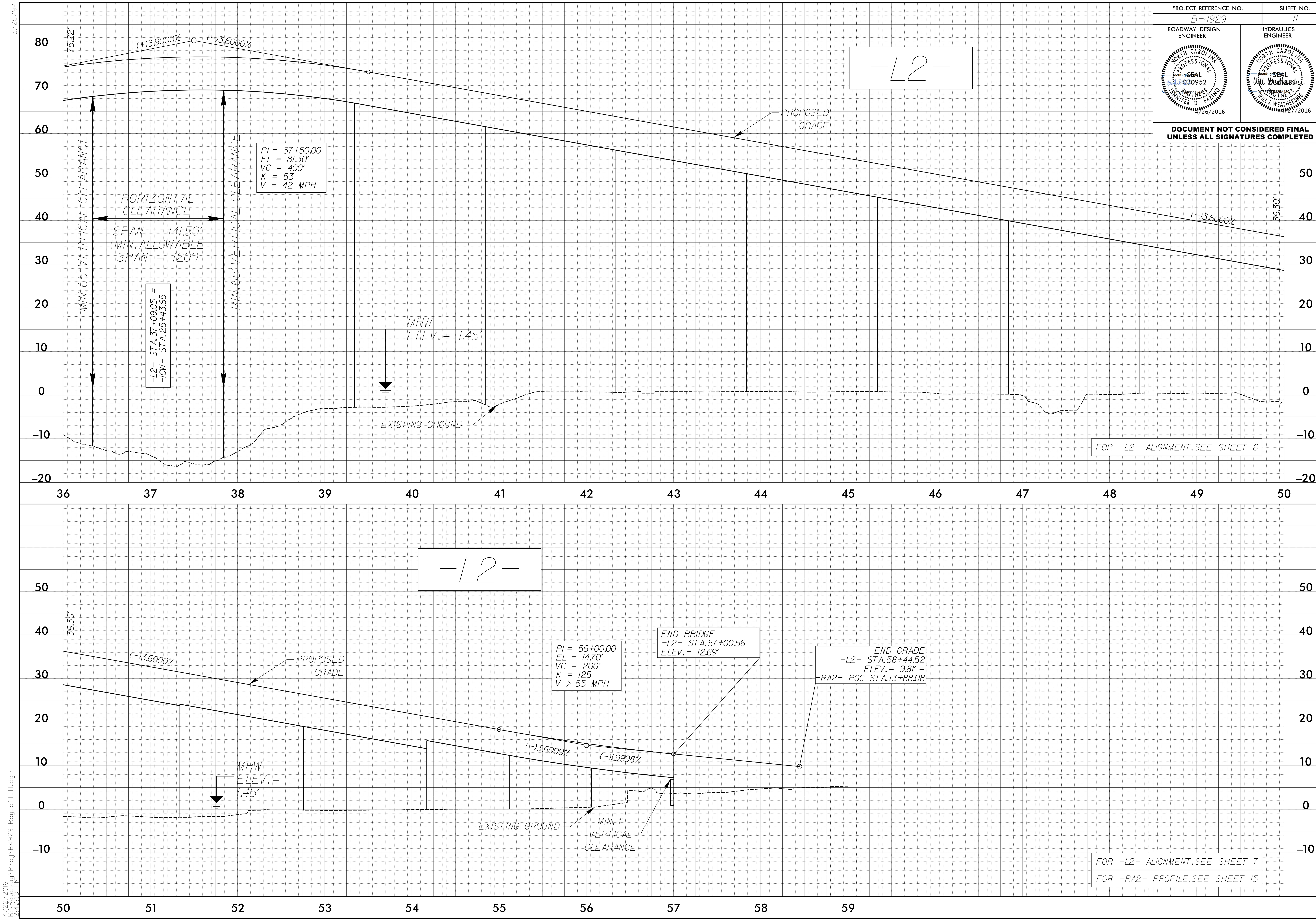

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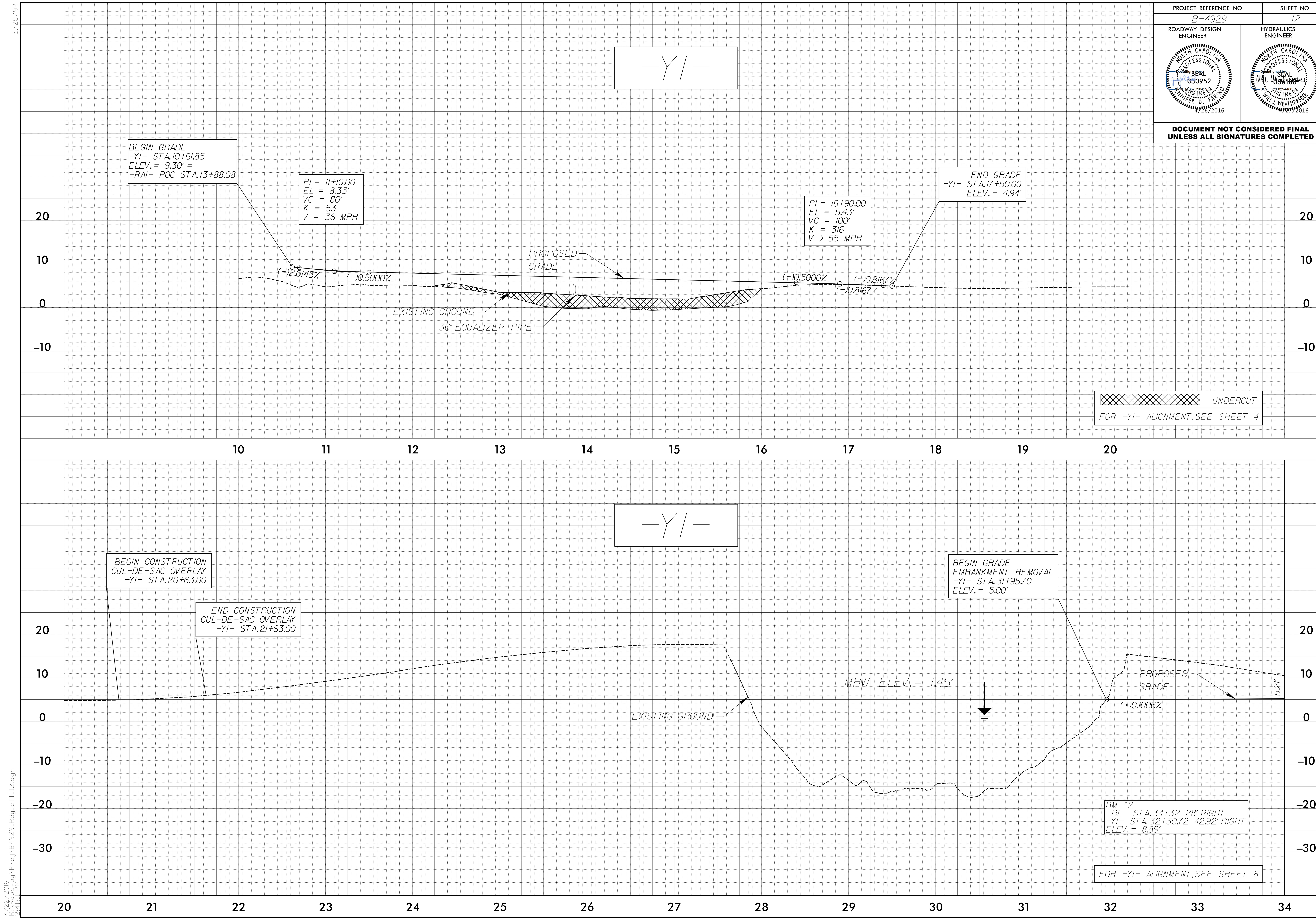

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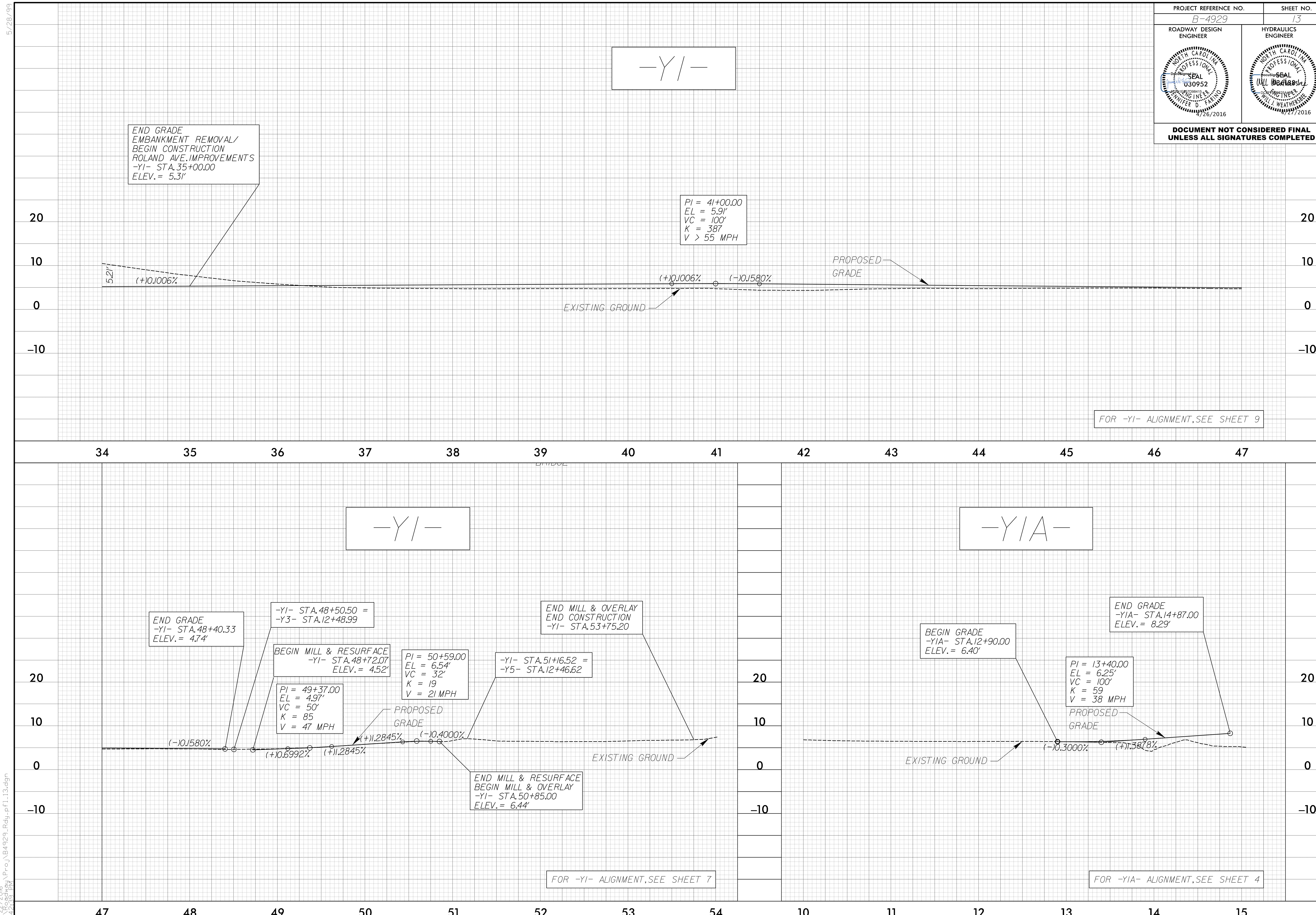
PROJECT REFERENCE NO.	SHEET NO.
B-4929	13

ROADWAY DESIGN ENGINEER — SEAL 030952 — 4/26/2016

HYDRAULICS ENGINEER — SEAL — 4/27/2016

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



5/28/99

4/22/2016
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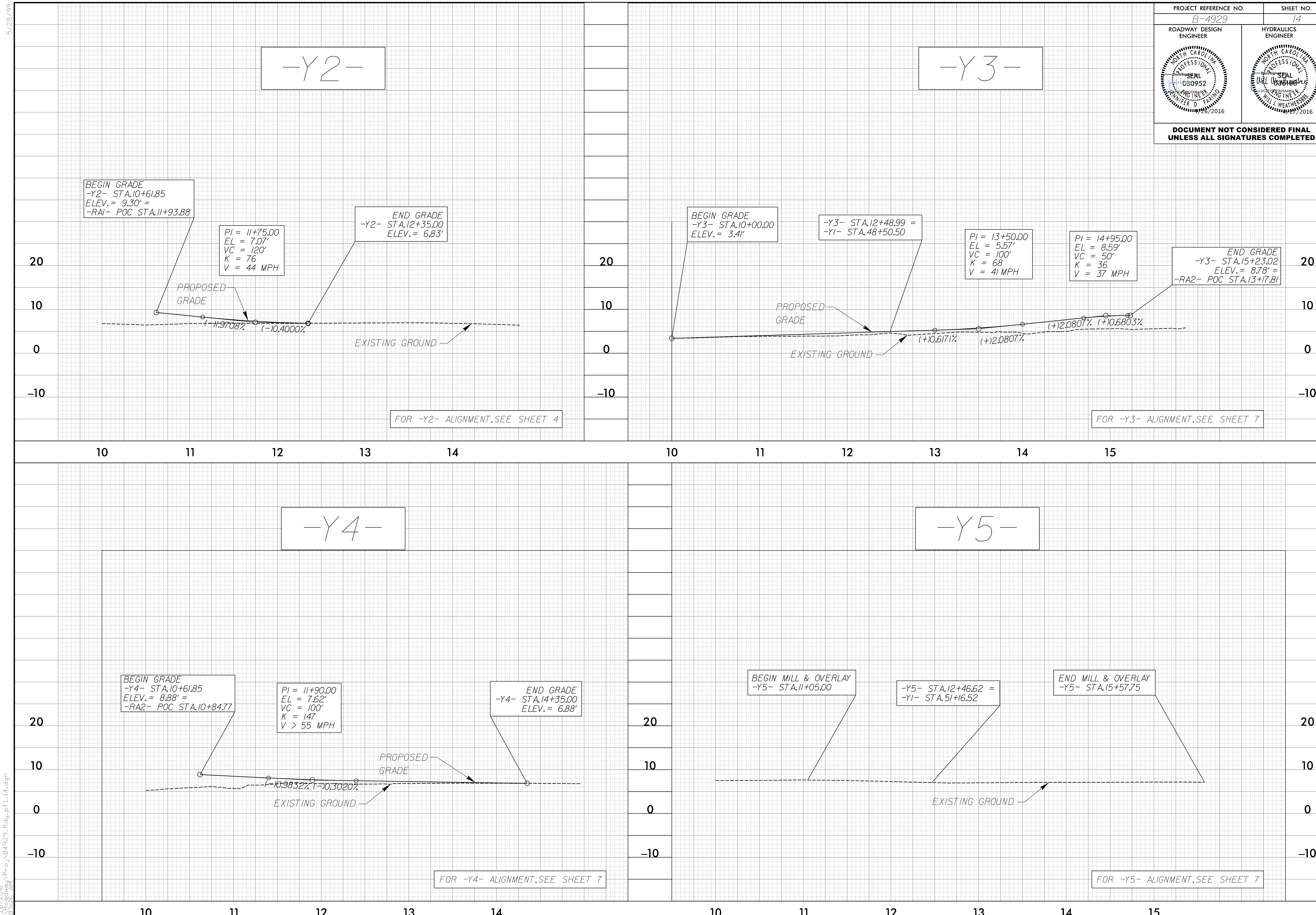
PROJECT REFERENCE NO.	SHEET NO.
B-4929	14

ROADWAY DESIGN ENGINEER — SEAL 030952, JENNIFER D. FARINO, 4/26/2016

HYDRAULICS ENGINEER — SEAL, WILL WEATHERSBEE, 4/27/2016

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



4/26/2016
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PROJECT REFERENCE NO.	SHEET NO.
B-4929	15
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 030952 JENNIFER D. FARINO 4/28/2016	NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 036148 WILL J WEATHERSBEE 4/27/2016

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