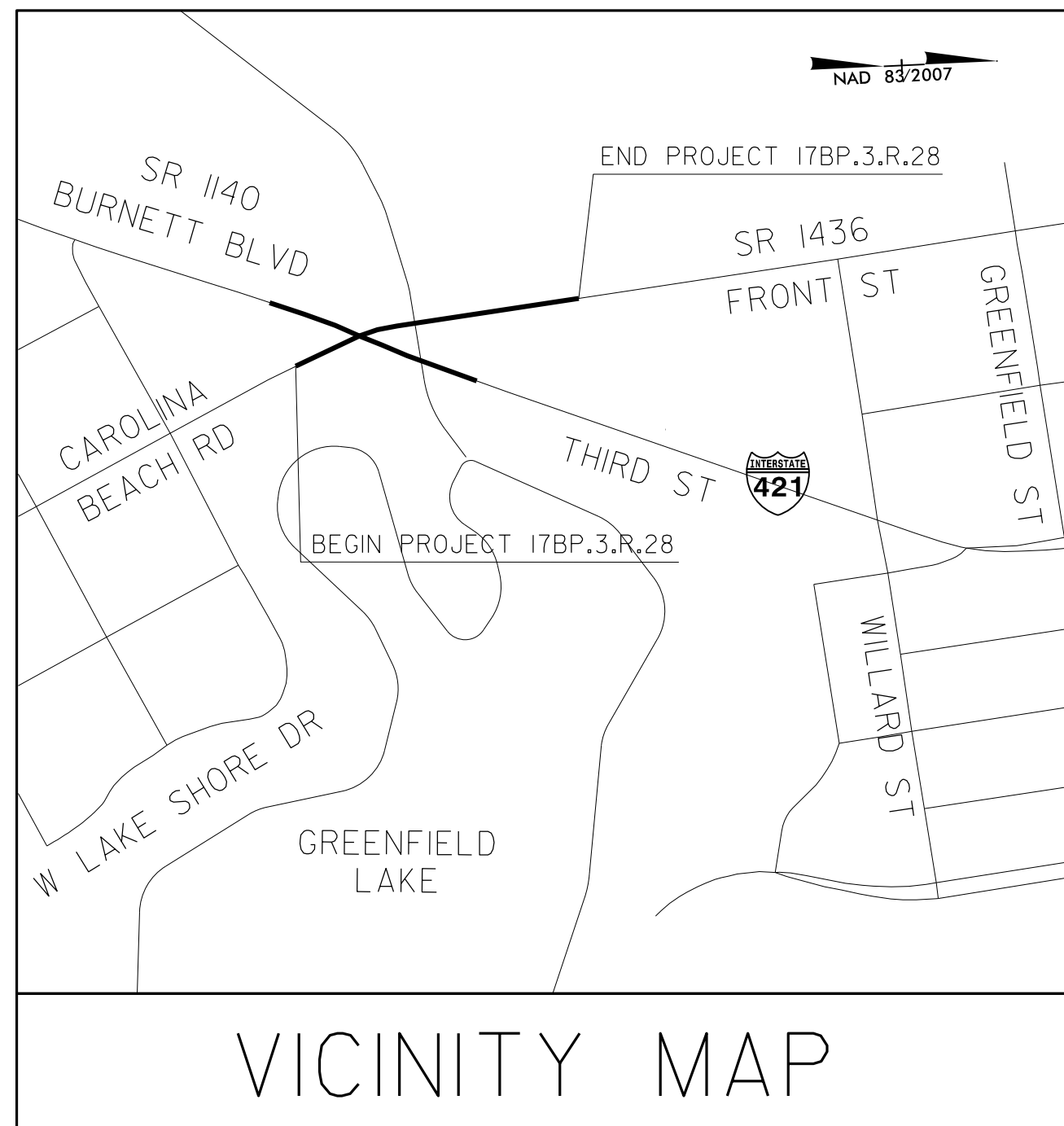


PROJECT: 17BP.3.R.28

CONTRACT: DC00078

See Sheet 1-A For Index of Sheets



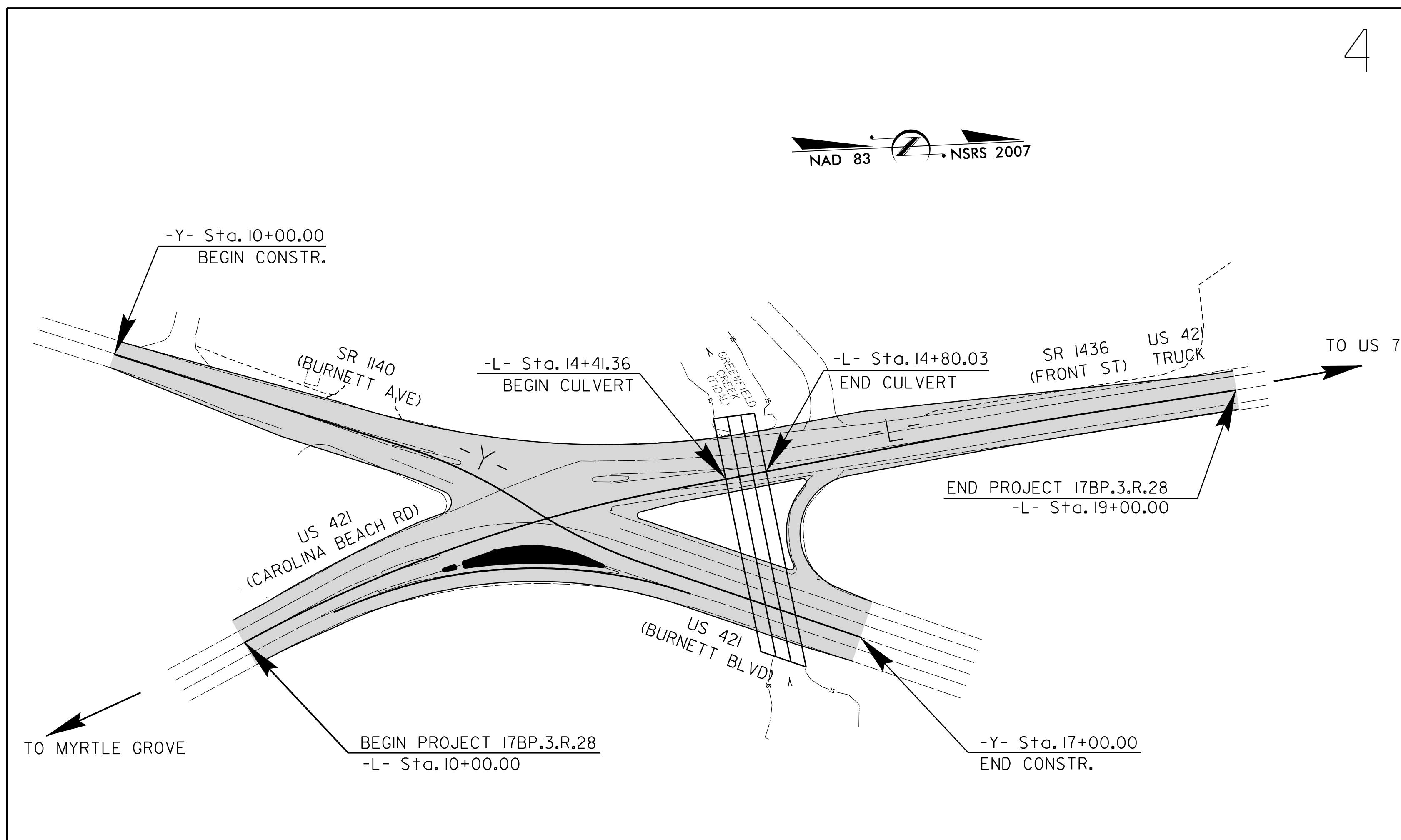
SEE SHEET 6 FOR ONSITE DETOURS
SEE TMP-8 FOR OFFSITE DETOURS

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

NEW HANOVER COUNTY

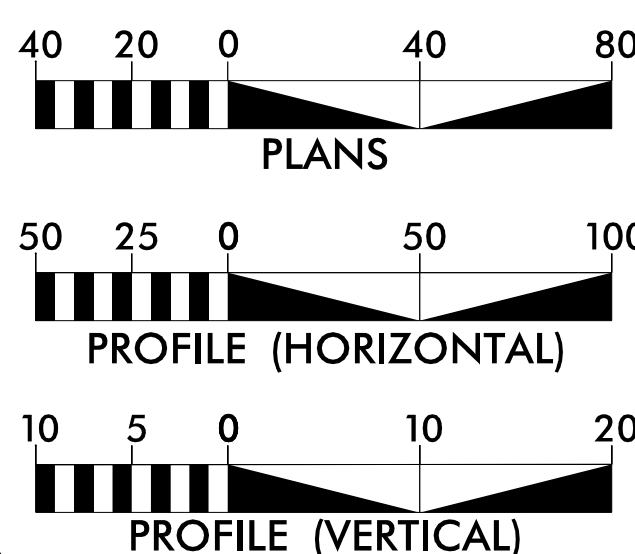
**LOCATION: INTERSECTION OF SR 1436 /US 421 TRUCK
(FRONT STREET) AND SR 1140 (BURNETT BOULEVARD)
SOUTH OF WILLARD STREET**
**TYPE OF WORK: GRADING, DRAINAGE, PAVING, RESURFACING,
STRUCTURES, SIGNING, AND SIGNALS**

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	17BP.3.R.28	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	



4

GRAPHIC SCALES



DESIGN DATA

ADT 2012 = 20,000

PROJECT LENGTH

LENGTH ROADWAY PROJECT 17BP.3.R.28 = 0.152 MILES
LENGTH STRUCTURE PROJECT 17BP.3.R.28 = 0.007 MILES
TOTAL LENGTH PROJECT 17BP.3.R.28 = 0.159 MILES

NCDOT CONTACT:
AMANDA GLYNN, PE
DIVISION BRIDGE PROGRAM MANAGER
5501 BARBADOS BLVD
CASTLE HAYNE, NC 28429
(910)341-2000

PREPARED IN THE OFFICE OF:

ATKINS

1616 EAST MILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBES #F-0326

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
DECEMBER, 2013

LETTING DATE:
FEBRUARY 5, 2014

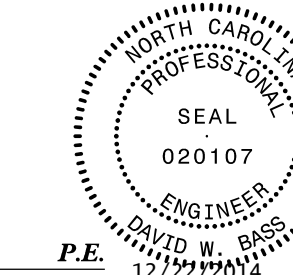
DAVID BASS, PE
PROJECT ENGINEER

NATHAN CHAPMAN, EI
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

DocuSigned by:
David Bass
708CCD4B9704421

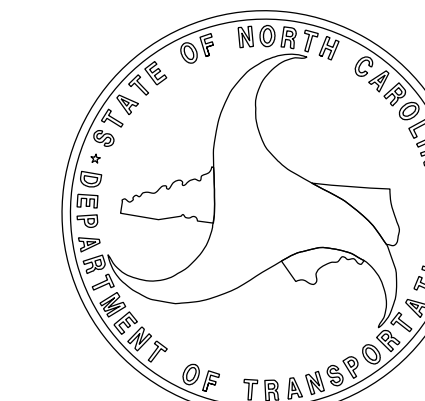
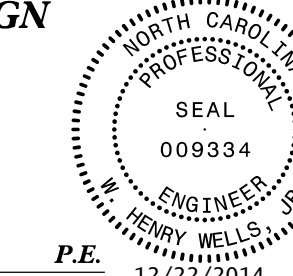
SIGNATURE:



ROADWAY DESIGN ENGINEER

DocuSigned by:
Henry Wells
8F66A8B3D06493

SIGNATURE:



DATUM DESCRIPTION

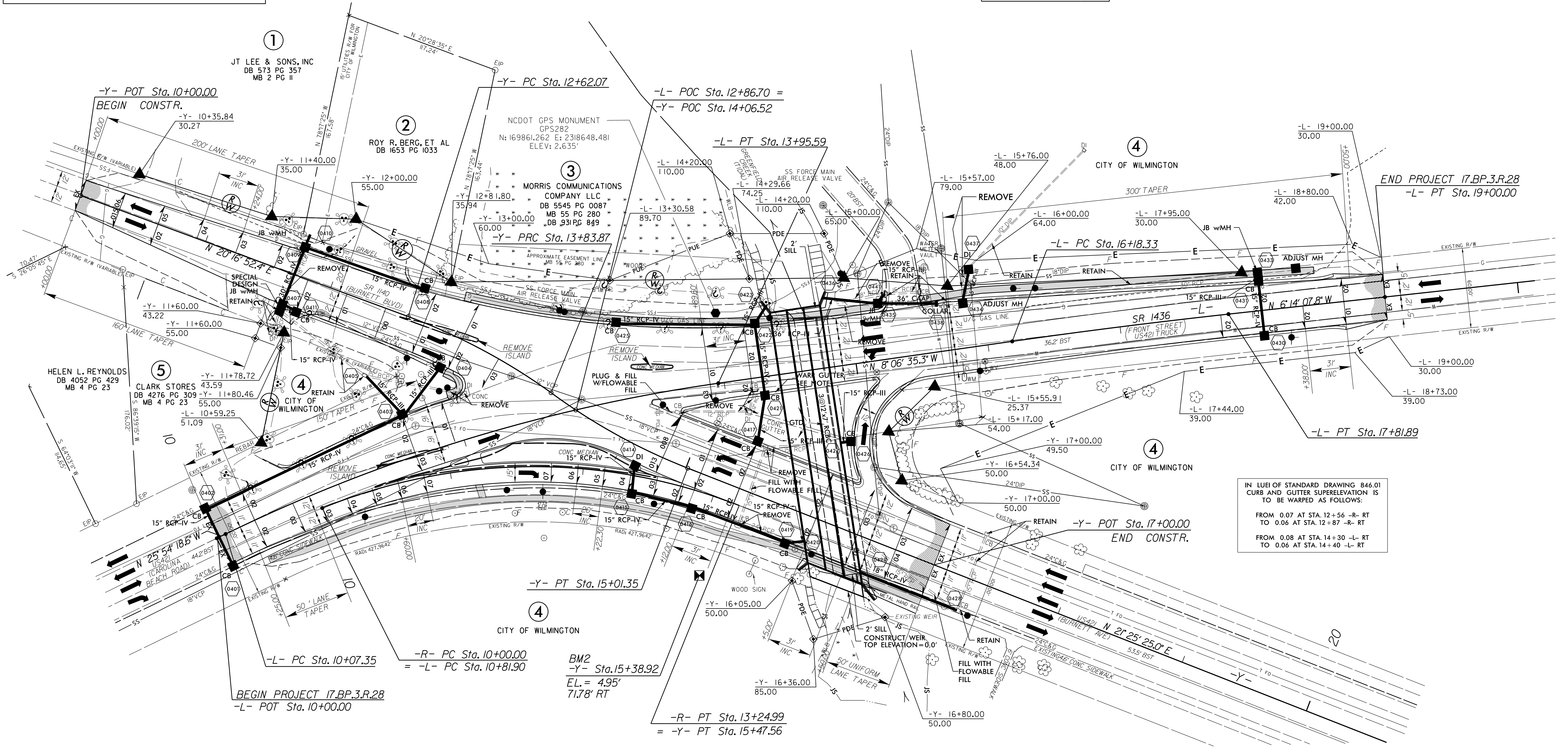
THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "GPS282"
 WITH NAD 83/NSRS 2007 STATE PLANE GRID COORDINATES OF NORTHING: 169861.262(ft) EASTING: 2318648.481(ft) ELEVATION: 2.635(ft)
 THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 1.000041167
 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "GPS282" TO -L- STATION 10+00.00 IS N 24°17'33" W, 410.666'
 ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NAVD 88

NAD 83/NSRS 2007

PROJECT REFERENCE NO. 17BP.3.R.28	SHEET NO. 4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
12/1/2014	12/1/2014

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
 RALEIGH, NORTH CAROLINA 27609
 (919) 876-6888 NCEES #F-0326

-Y-		-L-		-R-	
PI Sta 13+23.34	PI Sta 14+42.94	PI Sta 12+03.05	PI Sta 17+00.12	PI Sta 11+68.42	
$\Delta = 15^{\circ} 30' 26.4" (RT)$	$\Delta = 14^{\circ} 57' 31.1" (LT)$	$\Delta = 17^{\circ} 47' 43.3" (RT)$	$\Delta = 1^{\circ} 52' 27.5" (RT)$	$\Delta = 43^{\circ} 32' 42.0" (RT)$	
D = 12' 43' 56.6"	D = 12' 43' 56.6"	D = 4' 35' 01.2"	D = 1' 08' 45.3"	D = 13' 35' 16.0"	
L = 121.79'	L = 117.48'	L = 388.23'	L = 163.57'	L = 320.47'	
T = 61.27'	T = 59.08'	T = 195.69'	T = 81.79'	T = 168.42'	
R = 450.00'	R = 450.00'	R = 1,250.00'	R = 5,000.00'	R = 421.67'	
DS = 40MPH	DS = 40MPH	DS = 40MPH	DS = 40MPH	DS = 40MPH	
SE = NA	SE = NA	SE = 3%	SE = NC	SE = 7%	



IN LIEU OF STANDARD DRAWING 846.01 CURB AND GUTTER SUPERELEVATION IS TO BE WARPED AS FOLLOWS:
 FROM 0.07 AT STA. 12+56 -R- RT TO 0.06 AT STA. 12+87 -R- RT
 FROM 0.08 AT STA. 14+30 -L- RT TO 0.06 AT STA. 14+40 -L- RT

NOTE: SEE SHEET 5 FOR CURB AND GUTTER, ISLAND, AND SIDEWALK DETAILS
 SEE SHEET 7 FOR -L- AND -Y- PROFILES
 SEE SHEET 8 FOR -R- PROFILES

5/14/14/99

DETOUR OF FRONT STREET TO CAROLINA BEACH ROAD

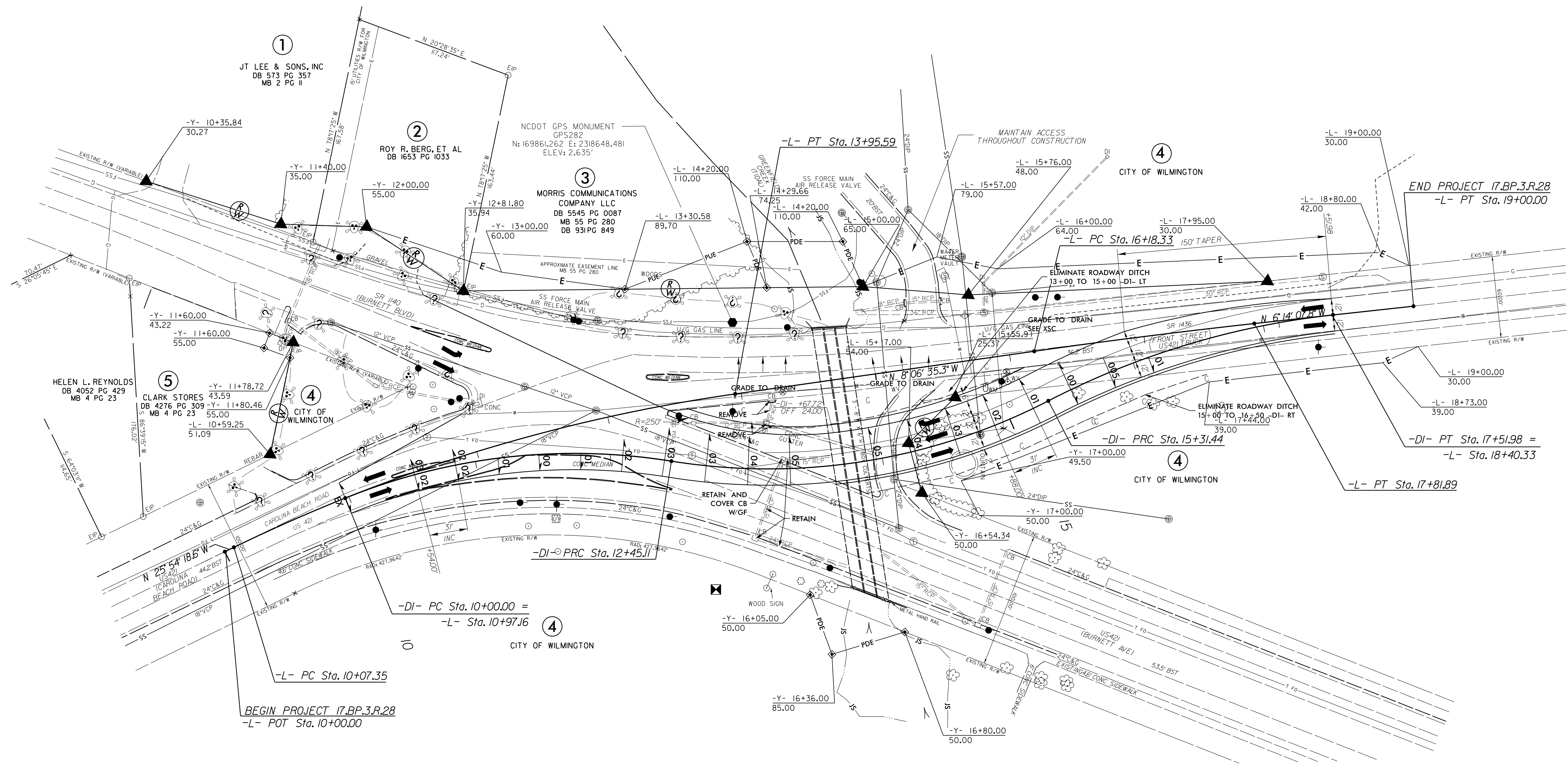
NAD 83/NSRS 2007

PROJECT REFERENCE NO. 17BP.3.R.28	SHEET NO. 6
RW SHEET NO.	
ROADWAY DESIGN ENGINEER DAVID W. BASS	HYDRAULICS ENGINEER HENRY WELLS
12/1/2014	12/1/2014

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

-DI-		
PI Sta 11+25.68 Δ = 31° 12' 29.4" (RT) D = 12° 43' 56.6" L = 245.11' T = 125.68' R = 450.00' DS = 40 MPH SE = N/A	PI Sta 13+93.31 Δ = 36° 27' 25.6" (LT) D = 12° 43' 56.6" L = 286.33' T = 148.20' R = 450.00' DS = 40 MPH SE = 5%	PI Sta 16+42.97 Δ = 21° 03' 36.9" (RT) D = 9° 32' 57.5" L = 220.54' T = 111.53' R = 600.00' DS = 40 MPH SE = N/A

-L-	
PI Sta 12+03.05 Δ = 17° 47' 43.3" (RT) D = 4° 35' 01.2" L = 388.23' T = 195.69' R = 1,250.00' DS = 40MPH SE = 3%	PI Sta 17+00.12 Δ = 1° 52' 27.5" (RT) D = 1° 08' 45.3" L = 163.57' T = 81.79' R = 5,000.00' DS = 40MPH SE = NC



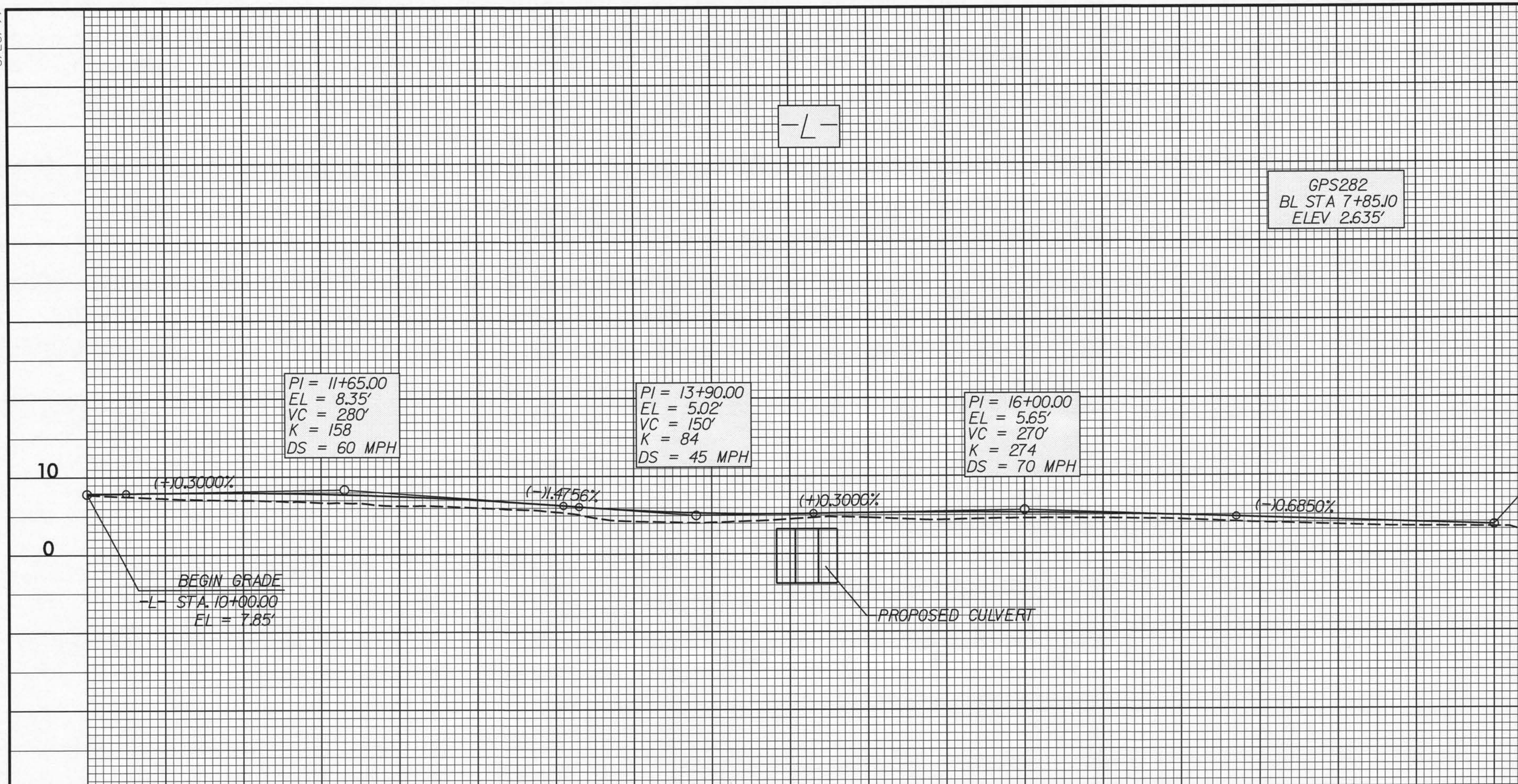
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NOTE: SEE SHEET 8 FOR -DI- PROFILE

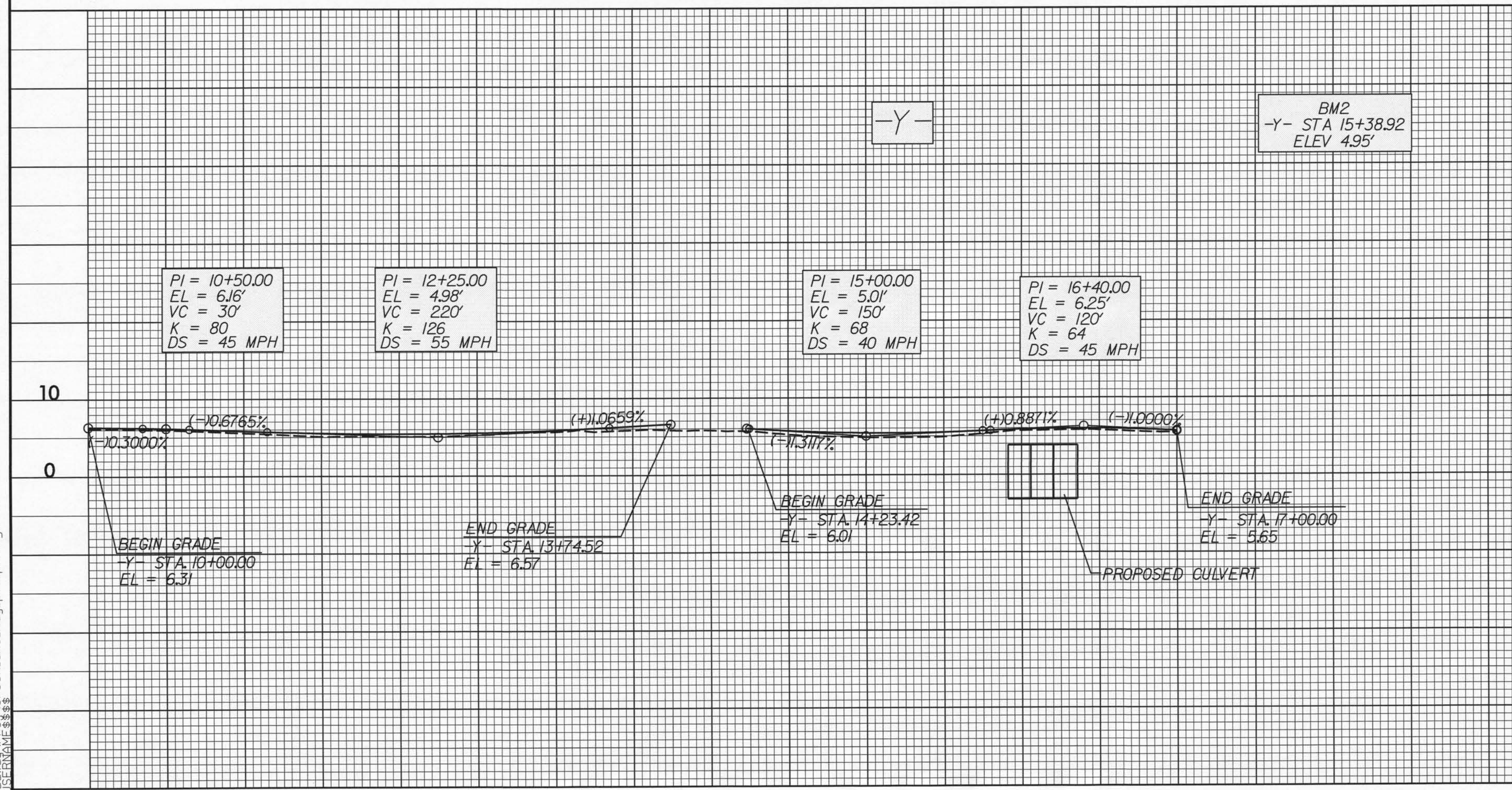
5/28/99

PROJECT REFERENCE NO. 17BP.3.R.28	SHEET NO. 7
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DRAINAGE AREA	= 2,560	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 3,000	CFS
DESIGN HW ELEVATION	= 6.8	FT
100 YEAR DISCHARGE	= 3,300	CFS
100 YEAR HW ELEVATION	= 6.89	FT
OVERTOPPING FREQUENCY	= <5	YRS
OVERTOPPING DISCHARGE	= <1700	CFS
OVERTOPPING ELEVATION	= 5.4	FT



10 11 12 13 14 15 16 17 18

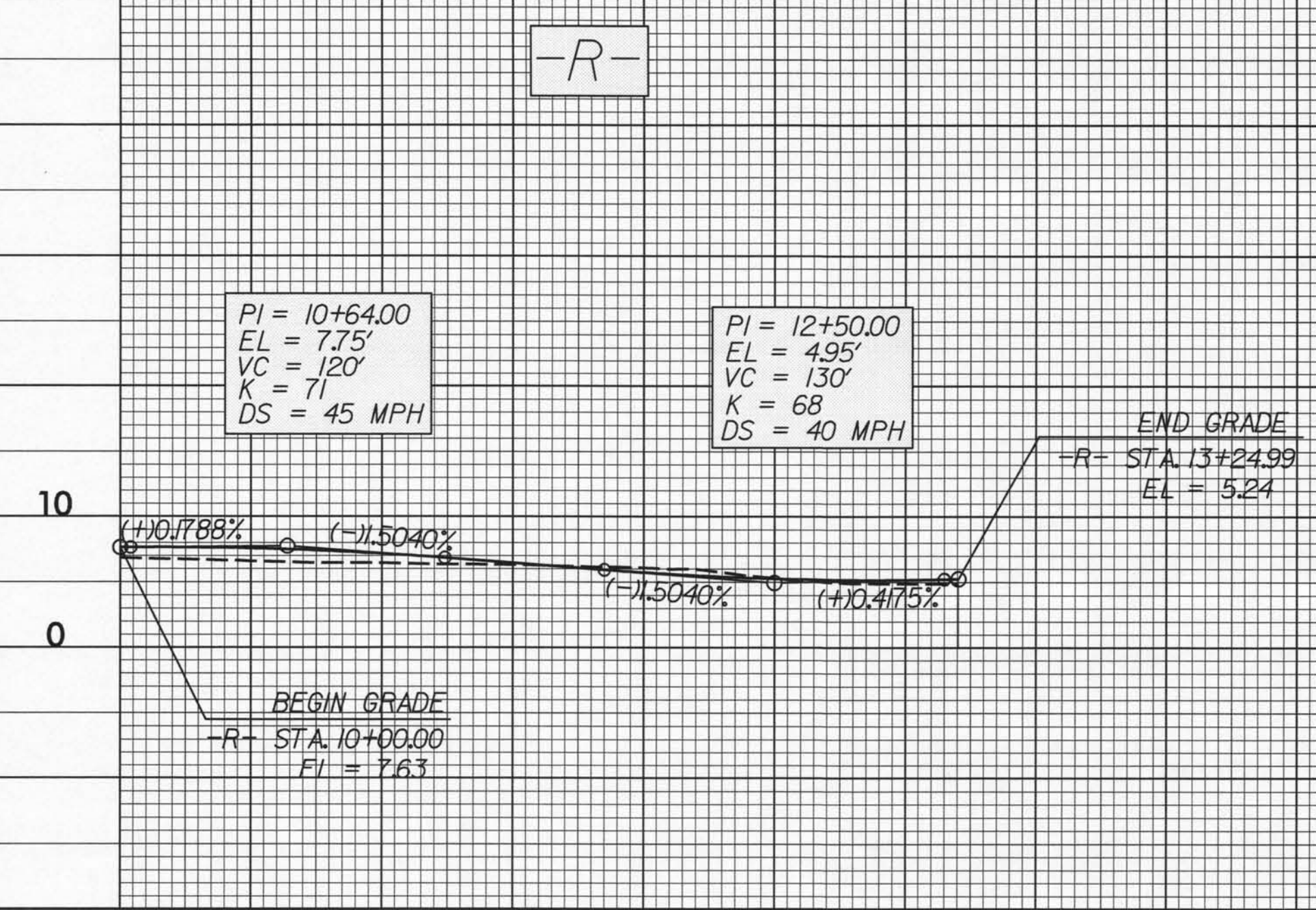


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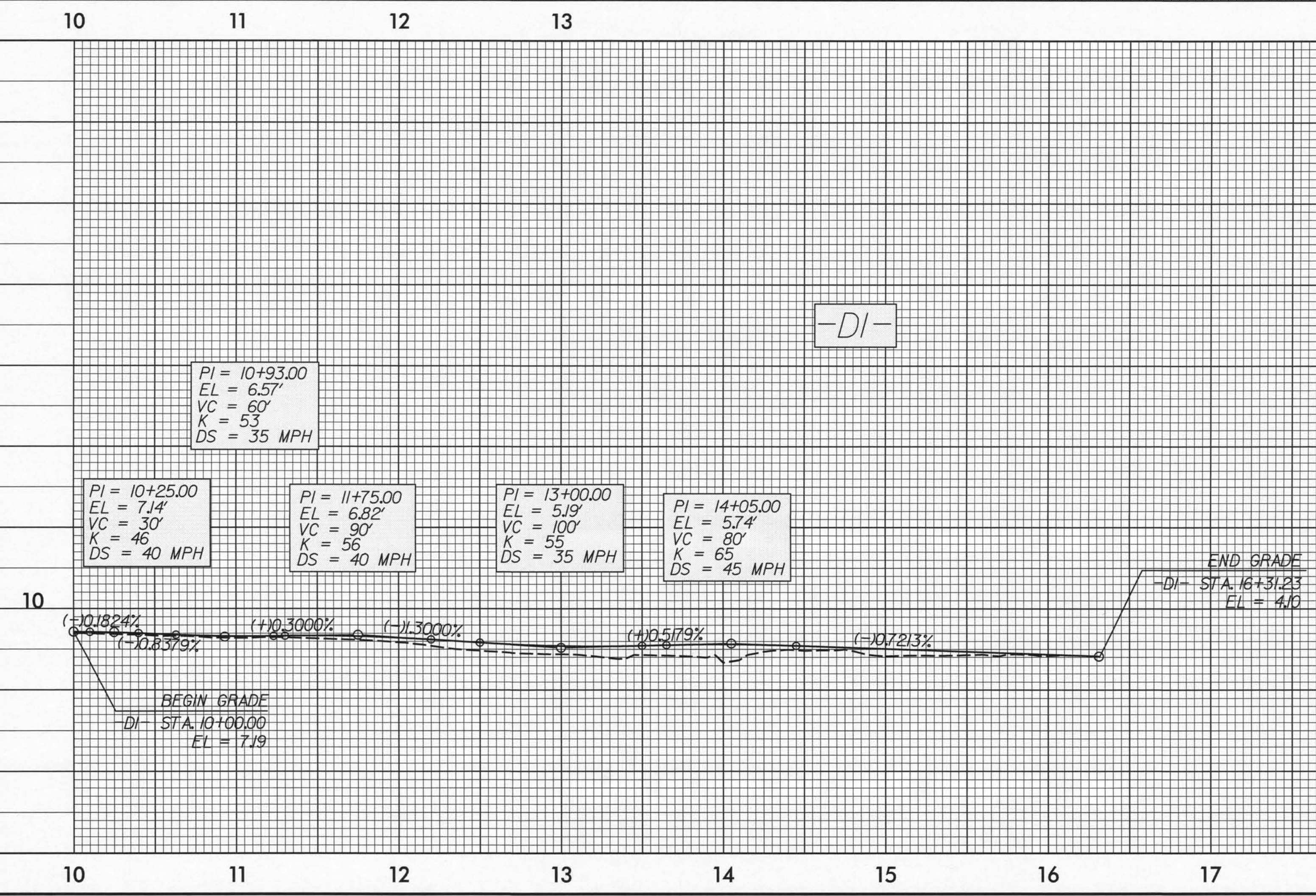
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5/28/99

PROJECT REFERENCE NO. 17BP.3.R.28	SHEET NO. 8
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

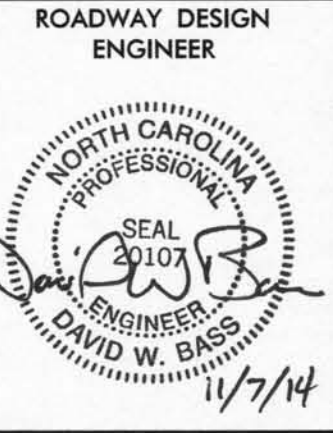


NOTE: SEE SHEET 4 FOR -R- PLAN VIEW



NOTE: SEE SHEET 6 FOR -DI- PLAN VIEW

06-NOV-2014 08:58
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\$\$\$\$\$USERNAMF\$\$\$\$\$



SHEET NUMBER	SHEET
1	TITLE SHEET
1-A	INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARD DRAWINGS
1-B	CONVENTIONAL SYMBOLS
1-C	SURVEY CONTROL SHEET
1-D	CENTERLINE COORDINATE LIST
2 THRU 2B	PAVEMENT SCHEDULE, TYPICAL SECTIONS, AND WEDGING DETAILS
2C	DETAIL FOR TEMPORARY CONTAINMENT OF CONTAMINATED SOIL
3	SUMMARY OF EARTHWORK AND PAVEMENT REMOVAL SUMMARY
3A	SUMMARY OF DRAINAGE QUANTITIES
4	PLAN SHEET
5	DETAIL SHEET
6	DETOUR SHEET
7 THRU 8	PROFILE SHEETS
TMP-01 THRU TMP-12	TRAFFIC CONTROL PLANS
PMP-01A THRU PMP-01	PAVEMENT MARKING PLANS
EC-01 THRU EC-05	EROSION CONTROL PLANS
RF-01	REFORESTATION PLANS
SIGN-01 THRU SIGN-03	SIGNING PLANS
SIG-01 THRU SIG-13	SIGNAL PLANS
UD-1 THRU UD-2	UTILITIES BY OTHERS PLANS
UC-1 THRU UC-5	UTILITY CONSTRUCTION PLANS
X-0 THRU X-0A	CROSS-SECTION INDEX AND SUMMARY SHEETS
X-1 THRU X-13	CROSS-SECTIONS
C-1 THRU C-11	STRUCTURE PLANS

2012 ROADWAY ENGLISH STANDARD DRAWINGS

EFF. 11-25-2013
REV.

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

STD. NO.	TITLE
DIVISION 2 - EARTHWORK	
200.02	Method of Clearing - Method II
225.02	Guide for Grading Subgrade - Secondary and Local
225.04	Method of Obtaining Superelevation - Two Lane Pavement
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 8 - INCIDENTALS	
840.29	Frames and Narrow Slot Flat Grates
840.35	Traffic Bearing Grated Drop Inlet - for Cast Iron Double Frame and Grates
840.36	Traffic Bearing Grated Drop Inlet - for Steel (840.37) Double Frame and Grates
840.37	Steel Grate and Frame
848.02	Driveway Turnout - Radius Type
876.02	Guide for Rip Rap at Pipe Outlets

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

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 11.

SUPERELEVATION:
ALL CURVES ON THIS PROJECT SHALL BE SUPERELEVATED IN ACCORDANCE WITH STD. NO. 225.04
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

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

UTILITIES:
UTILITY OWNERS ON THIS PROJECT ARE DUKE ENERGY PROGRESS, AT&T, TIME WARNER CABLE, PIEDMONT NATURAL GAS, AND THE CAPE FEAR PUBLIC UTILITY AUTHORITY

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

04/16/11





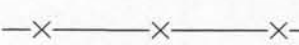







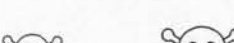

Note: Not to Scale

*S.U.E. = Subsurface Utility Engineering






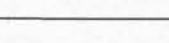
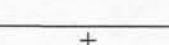



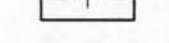
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS



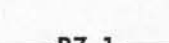



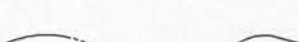


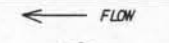
BOUNDARIES AND PROPERTY:

State Line	_____
County Line	_____
Township Line	_____
City Line	_____
Reservation Line	_____
Property Line	_____
Existing Iron Pin	_____ 
Property Corner	_____ 
Property Monument	_____ 
Parcel/Sequence Number	_____ 
Existing Fence Line	_____ 
Proposed Woven Wire Fence	_____ 
Proposed Chain Link Fence	_____ 
Proposed Barbed Wire Fence	_____ 
Existing Wetland Boundary	_____ 
Proposed Wetland Boundary	_____ 
Existing Endangered Animal Boundary	_____ 
Existing Endangered Plant Boundary	_____ 
Known Soil Contamination: Area or Site	_____ 
Potential Soil Contamination: Area or Site	_____ 

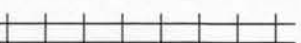

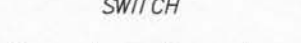

BUILDINGS AND OTHER CULTURE:

Gas Pump Vent or U/G Tank Cap	_____ 
Sign	_____ 
Well	_____ 
Small Mine	_____ 
Foundation	_____ 
Area Outline	_____ 
Cemetery	_____ 
Building	_____ 
School	_____ 
Church	_____ 
Dam	_____ 





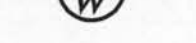

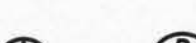











HYDROLOGY:

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





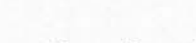
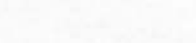






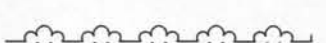
RAILROADS:


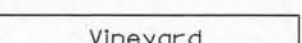
Standard Gauge	_____ 
RR Signal Milepost	_____ 
Switch	_____ 
RR Abandoned	_____ 
RR Dismantled	_____ 

RIGHT OF WAY:



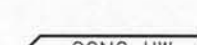






Baseline Control Point	_____ 
Existing Right of Way Marker	_____ 
Existing Right of Way Line	_____ 
Proposed Right of Way Line	_____ 
Proposed Right of Way Line with Iron Pin and Cap Marker	_____ 
Proposed Right of Way Line with Concrete or Granite R/W Marker	_____ 
Proposed Control of Access Line with Concrete CA Marker	_____ 
Existing Control of Access	_____ 
Proposed Control of Access	_____ 
Existing Easement Line	_____ 
Proposed Temporary Construction Easement	_____ 
Proposed Temporary Drainage Easement	_____ 
Proposed Permanent Drainage Easement	_____ 
Proposed Permanent Drainage / Utility Easement	_____ 
Proposed Permanent Utility Easement	_____ 
Proposed Temporary Utility Easement	_____ 
Proposed Aerial Utility Easement	_____ 
Proposed Permanent Easement with Iron Pin and Cap Marker	_____ 

ROADS AND RELATED FEATURES:












Existing Edge of Pavement	_____
Existing Curb	_____
Proposed Slope Stakes Cut	_____ 
Proposed Slope Stakes Fill	_____ 
Proposed Curb Ramp	_____ 
Existing Metal Guardrail	_____ 
Proposed Guardrail	_____ 
Existing Cable Guiderail	_____ 
Proposed Cable Guiderail	_____ 
Equality Symbol	_____ 
Pavement Removal	_____ 
VEGETATION:	
Single Tree	_____ 
Single Shrub	_____ 
Hedge	_____ 
Woods Line	_____ 

Orchard	_____ 
Vineyard	_____ 














EXISTING STRUCTURES:

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








UTILITIES:

POWER:	
Existing Power Pole	_____ 
Proposed Power Pole	_____ 
Existing Joint Use Pole	_____ 
Proposed Joint Use Pole	_____ 
Power Manhole	_____ 
Power Line Tower	_____ 
Power Transformer	_____ 
U/G Power Cable Hand Hole	_____ 
H-Frame Pole	_____ 
Recorded U/G Power Line	_____ 
Designated U/G Power Line (S.U.E.*)	_____ 








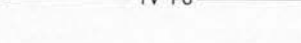
TELEPHONE:

Existing Telephone Pole	_____ 
Proposed Telephone Pole	_____ 
Telephone Manhole	_____ 
Telephone Booth	_____ 
Telephone Pedestal	_____ 
Telephone Cell Tower	_____ 
U/G Telephone Cable Hand Hole	_____ 
Recorded U/G Telephone Cable	_____ 
Designated U/G Telephone Cable (S.U.E.*)	_____ 
Recorded U/G Telephone Conduit	_____ 
Designated U/G Telephone Conduit (S.U.E.*)	_____ 
Recorded U/G Fiber Optics Cable	_____ 
Designated U/G Fiber Optics Cable (S.U.E.*)	_____ 





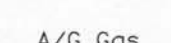
WATER:

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





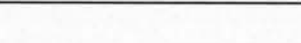
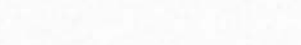
TV:

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








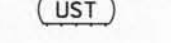




GAS:

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

SANITARY SEWER:

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

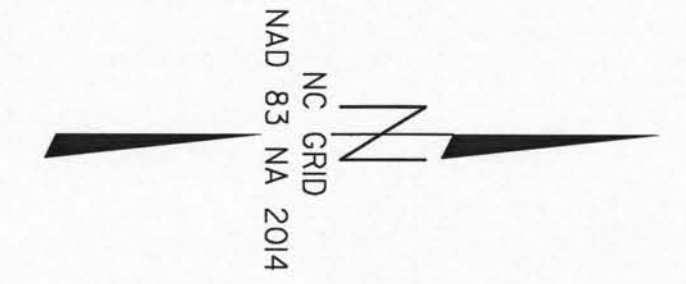
MISCELLANEOUS:

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

6/2/99

SURVEY CONTROL SHEET 64-0028

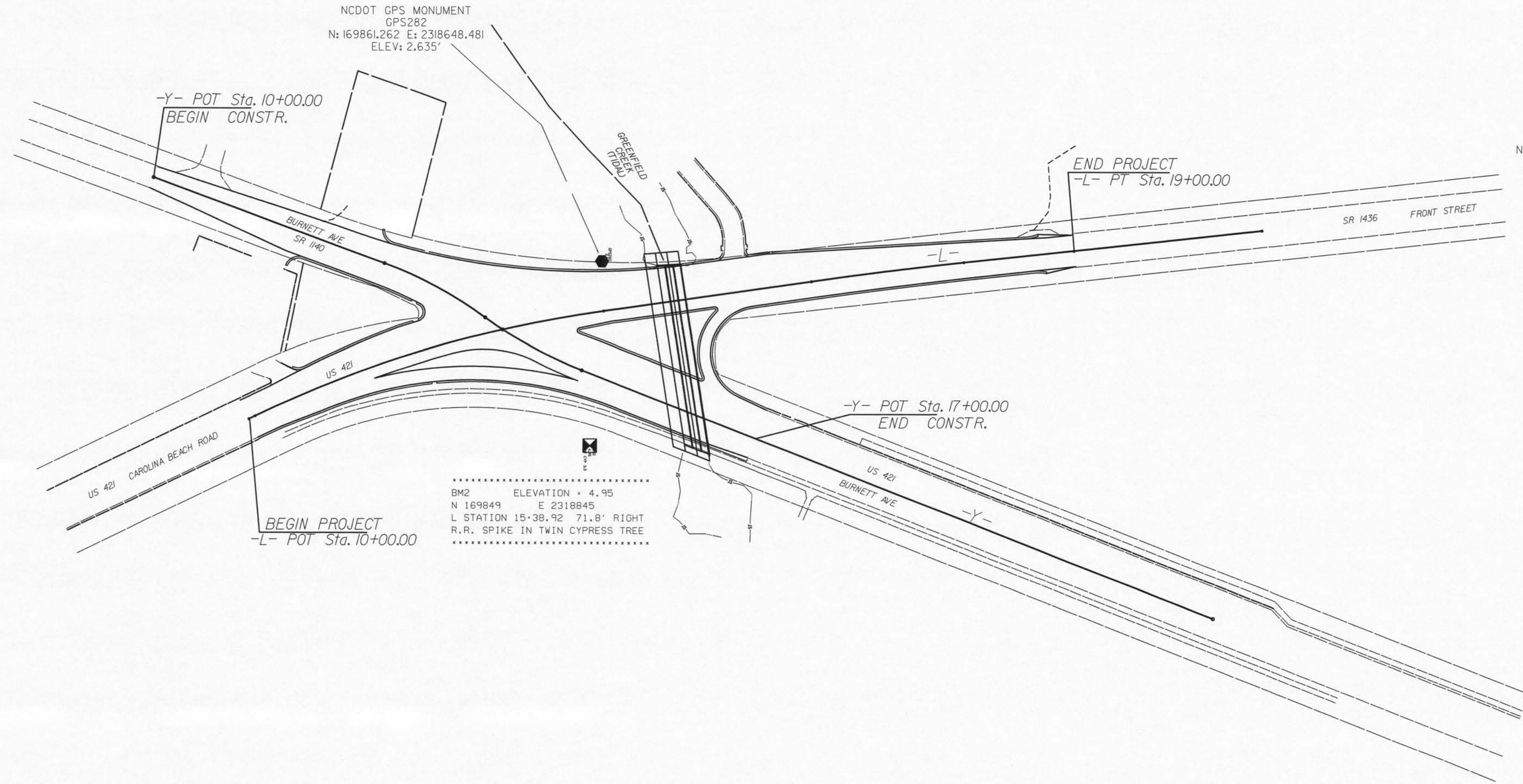
PROJECT REFERENCE NO.	SHEET NO.
WBS# 17.BP.3.R.28	1C
Location and Surveys	



NCDOT GPS MONUMENT
GPS283
N: 168990.169 E: 231910.416
ELEV: 15.971'

NCDOT GPS MONUMENT
GPS282
N: 169861.262 E: 2318648.481
ELEV: 2.635'

NCDOT GPS MONUMENT
GPS281
N: 170863.605 E: 2318553.453
ELEV: 3.640'



..... ELEVATION = 4.95
BM2 N 169849 E 2318845
L STATION 15+38.92 71.8' RIGHT
R.R. SPIKE IN TWIN CYPRESS TREE

DATUM DESCRIPTION
 THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "GPS282"
 WITH NAD 83/NSRS 2007 STATE PLANE GRID COORDINATES OF
 NORTHING: 169861.262(FT) EASTING: 2318648.481(FT)
 ELEVATION: 2.635(FT)
 THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 1.000041167
 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "GPS282" TO -L- STATION 10+00.00 IS
 S 24°17'33" E 410.67'
 ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
 VERTICAL DATUM USED IS NAVD 88

NOTE: DRAWING NOT TO SCALE

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CH645535 AT-101529137

6/2/99

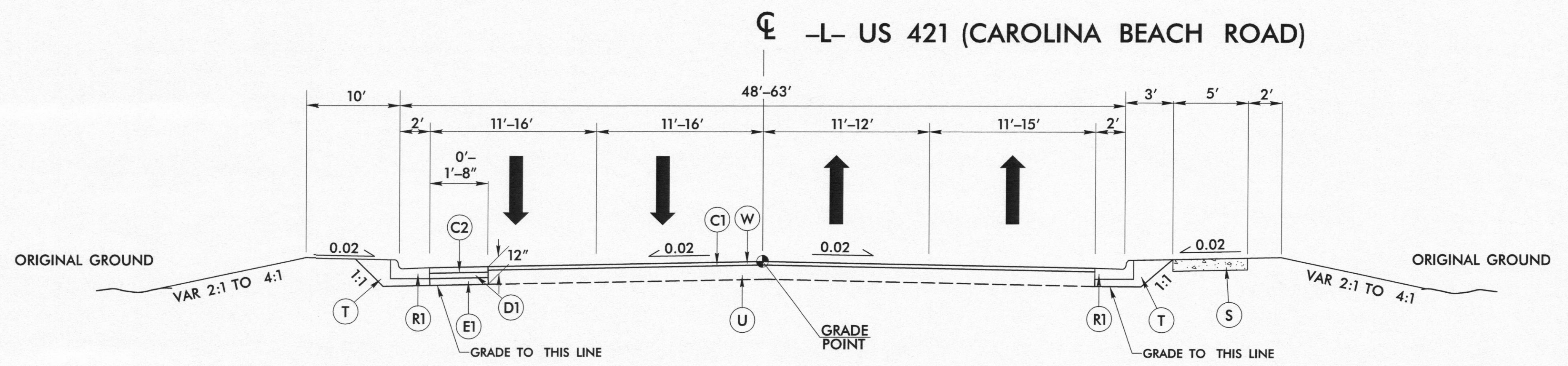
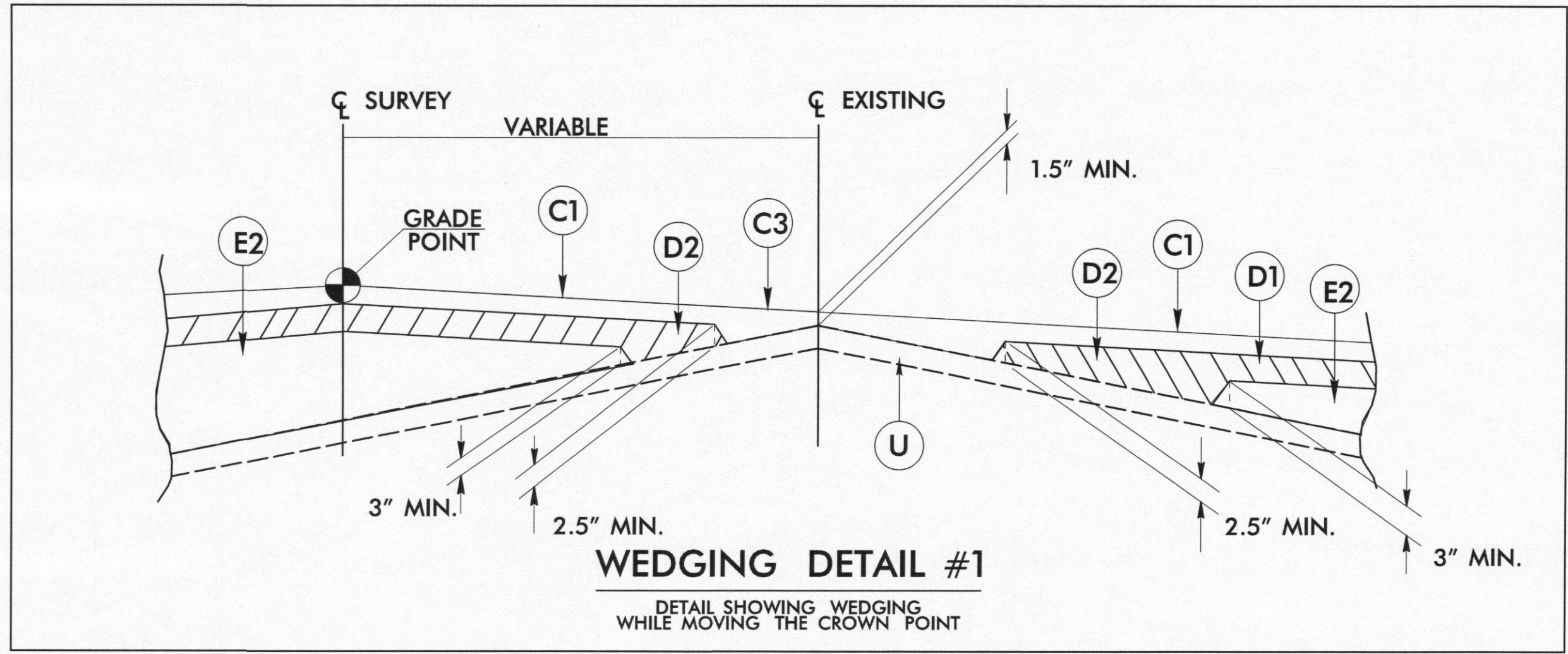
PAVEMENT SCHEDULE

C1	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
C2	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C3	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 1½" IN DEPTH.
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
D2	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, 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. 5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD.
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5.5" IN DEPTH.
R1	2'-6" CONCRETE CURB AND GUTTER.
S	4" CONCRETE SIDEWALK.
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE WEDGING DETAIL)

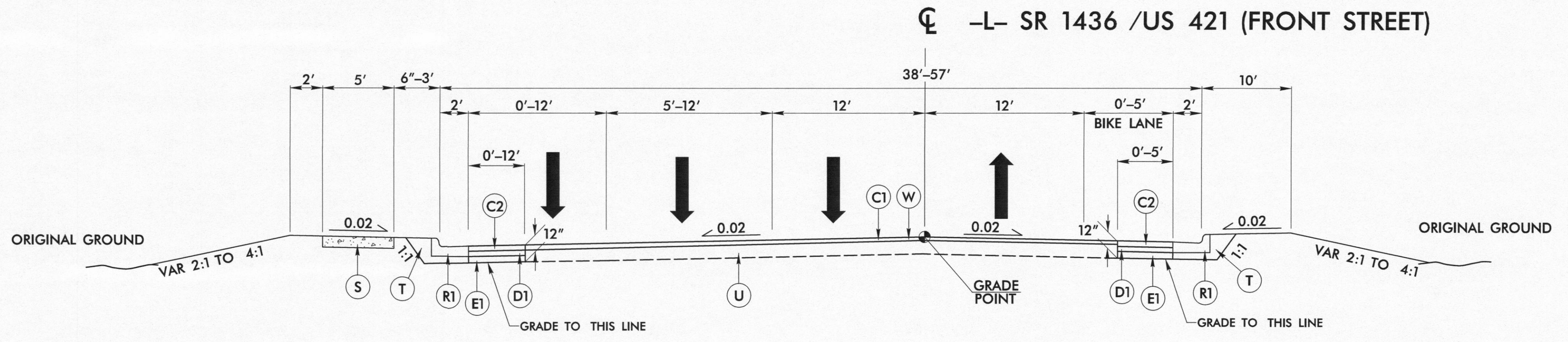
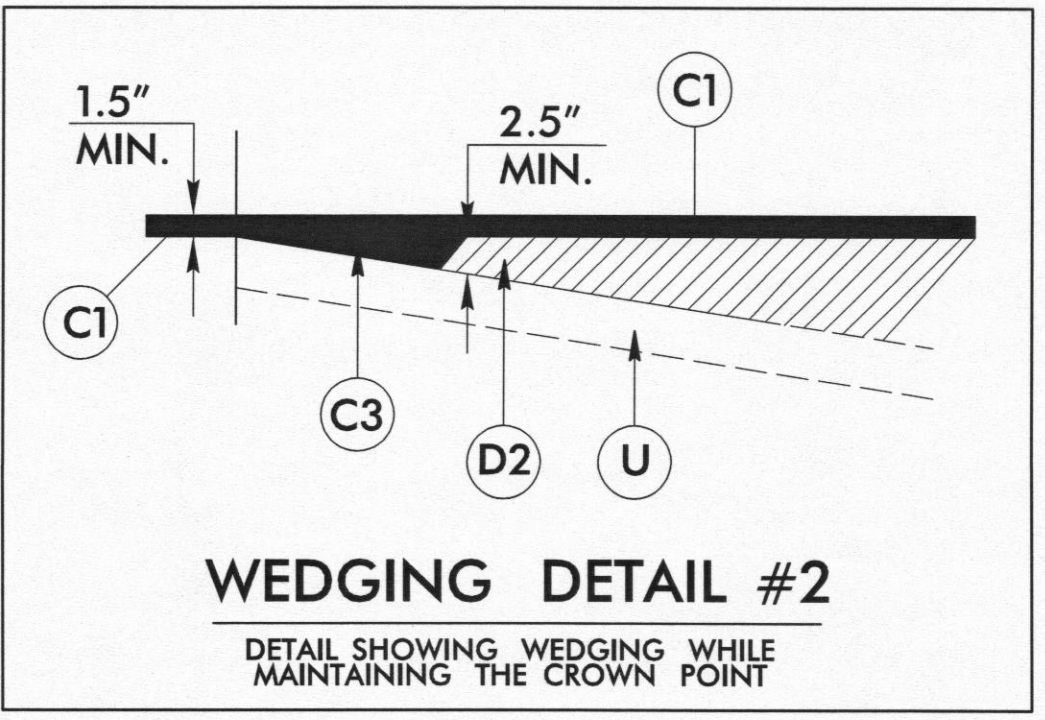
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.

PROJECT REFERENCE NO. 17BP.3.R.28	SHEET NO. 2
ROADWAY DESIGN ENGINEER DAVID W. BASS	PAVEMENT DESIGN ENGINEER CLARK S. MORRISON
SEAL 22898	SEAL 22898
4/19/14	6/20/14

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326



TYPICAL SECTION NO. 1
USE TYPICAL SECTION NO. 1 AS FOLLOWS:
-L- STA. 10+00.00 TO STA. 12+86.70



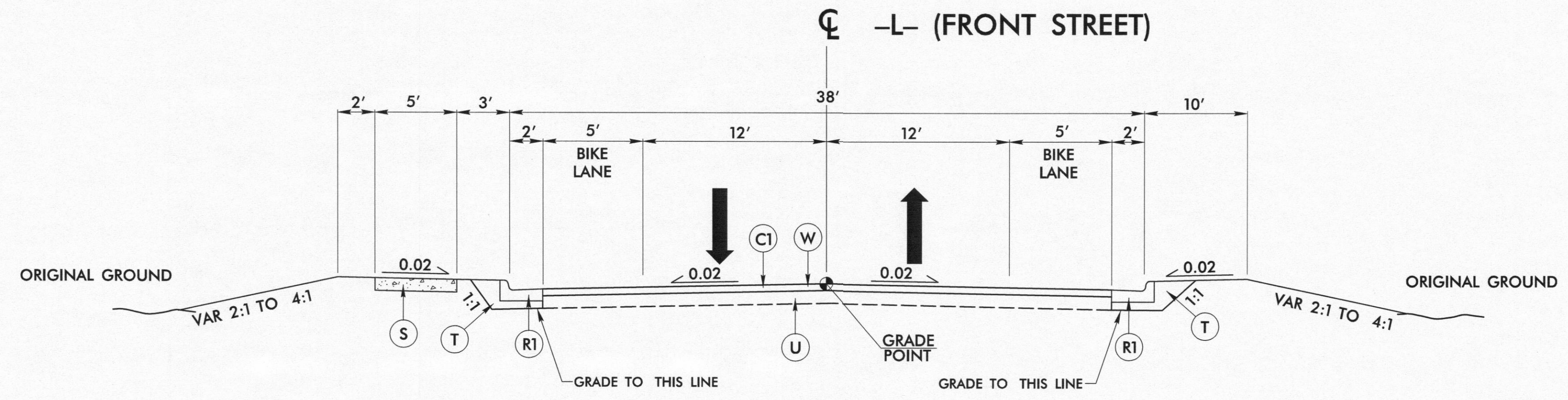
TYPICAL SECTION NO. 2
USE TYPICAL SECTION NO. 2 AS FOLLOWS:
-L- STA. 12+86.70 TO STA. 18+50.00

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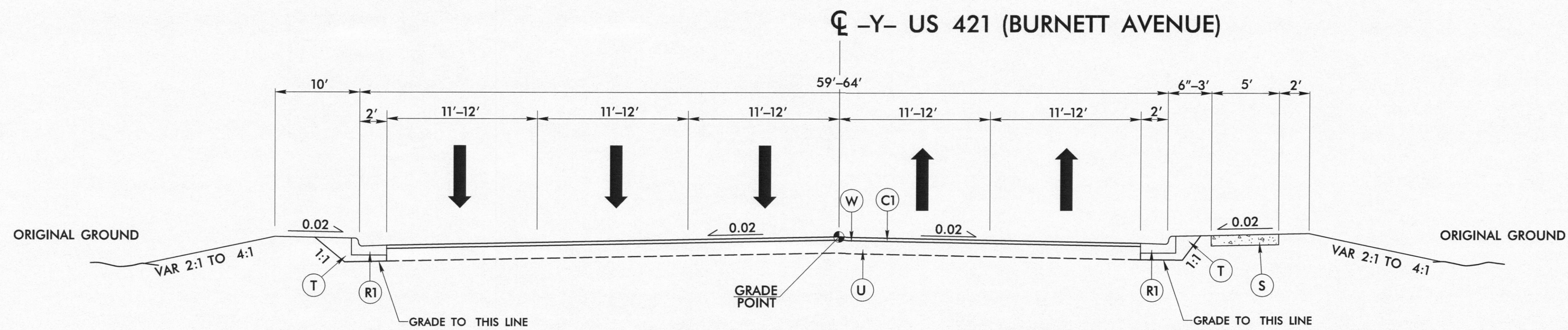
6/2/99

PROJECT REFERENCE NO. 17BP.3.R.28	SHEET NO. 2A
ROADWAY DESIGN ENGINEER DAVID W. SAISS 6/19/14	PAVEMENT DESIGN ENGINEER CLARK S. MORRISON 6/24/14

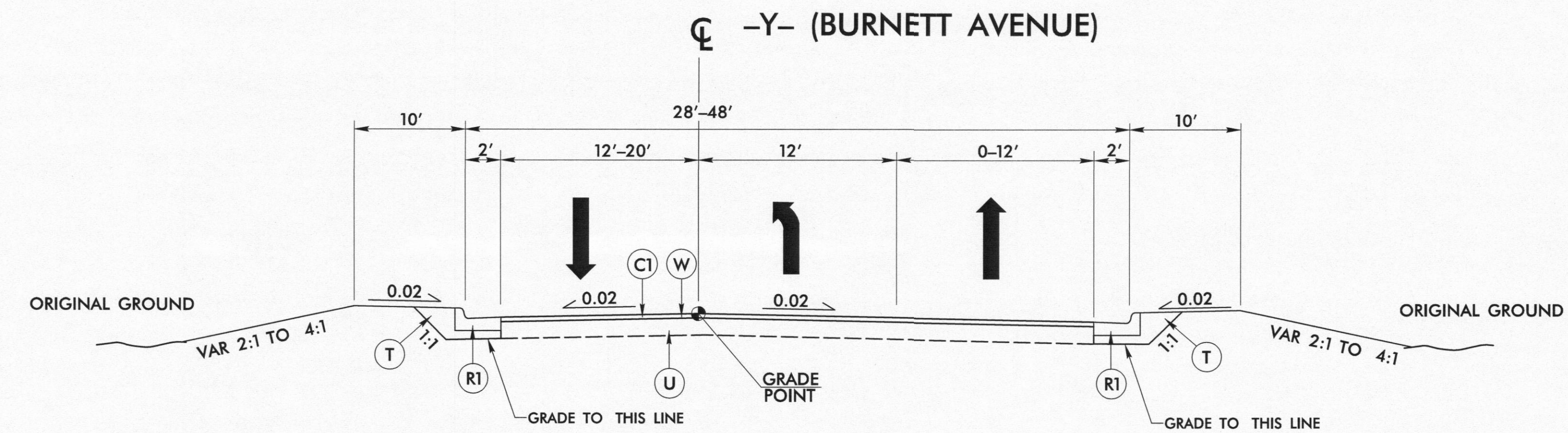
ATKINS 1616 EAST WILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
(919) 876-6886 NCEES #F-0326



TYPICAL SECTION NO. 3
USE TYPICAL SECTION NO. 3 AS FOLLOWS:
-L- STA. 18+50.00 TO STA. 19+00.00



TYPICAL SECTION NO. 4
USE TYPICAL SECTION NO. 4 AS FOLLOWS:
-Y- STA. 14+83.78 TO STA. 17+00.00



TYPICAL SECTION NO. 5
USE TYPICAL SECTION NO. 5 AS FOLLOWS:
-Y- STA. 10+00.00 TO STA. 13+17.16

C1	1 1/2" S9.5C
R1	2'-6" C & G
S	4" SIDEWALK
T	EARTH MAT.
U	EXIST PAVE.
W	WEDGING

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88355128

SUMMARY OF EARTHWORK

STATION	STATION	UNCL. EXCAV.	EMBANK. +30%	BORROW	WASTE
-L- 10+00 LT	-L- 12+12.25 LT	8	106	98	0
-Y- 10+00 RT	-Y- 13+24.85 RT	156	32	0	124
SUBTOTALS:		164	138	98	124
-Y- 10+00 LT	-Y- 13+24.85 LT	10	222	212	0
-L- 12+80.54 LT	-L- 19+00 LT	20	955	935	0
SUBTOTALS:		30	1177	1147	0
-L- 13+64.60 RT	-L- 19+00 RT	50	279	229	0
-Y- 14+79.26 LT	-Y- 17+00 LT	20	116	96	0
SUBTOTALS:		70	395	325	0
-L- 10+00 RT	-L- 10+89.90 RT	12	31	19	0
-Y- 14+79.26 RT	-Y- 17+00 RT	33	45	12	0
-R- 10+00	-R- 13+24.99	65	26	0	39
SUBTOTALS:		110	102	31	39
-D1- 13+59.80	-D1- 16+87.72	103	345	242	0
SUBTOTALS:		103	345	242	0
TOTALS:		477	2157	1843	163
LOSS DUE TO C&G (5%):		-24			-24
USE SUIT. WASTE TO REPLACE BORROW:				-139	-139
UNSUITABLE MATERIAL:		140		140	140
SHOULDER MATERIAL:			611	611	
PROJECT TOTALS:		453	2768	2455	140
REPLACE TOPSOIL ON BORROW PIT (5%):				123	
GRAND TOTALS:		453	2768	2578	140
SAY:		500		3000	140

PAVEMENT REMOVAL SUMMARY

SURVEY LINE	STATION	STATION	LOCATION LT/RT/CL	YD ²
-L-	14+93	15+50	CL	168.89
-Y-	12+58	13+25	CL	17.11
-D1-	13+70	15+17	CL	1294.44
TOTAL:				1480.44
SAY:				1500

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

12/06/07

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