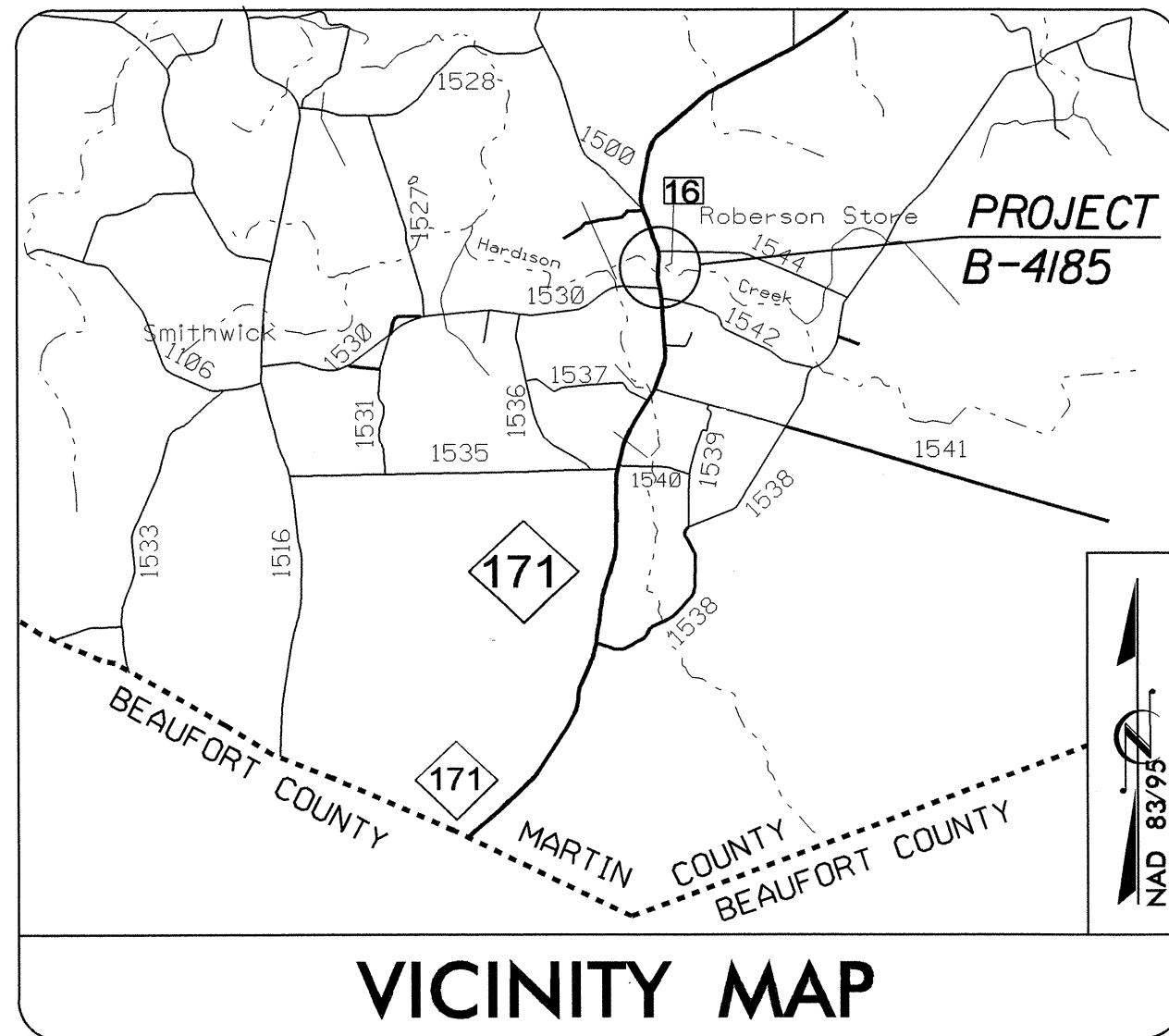


09/08/99

See Sheet 1-A For Index of Sheets



VICINITY MAP

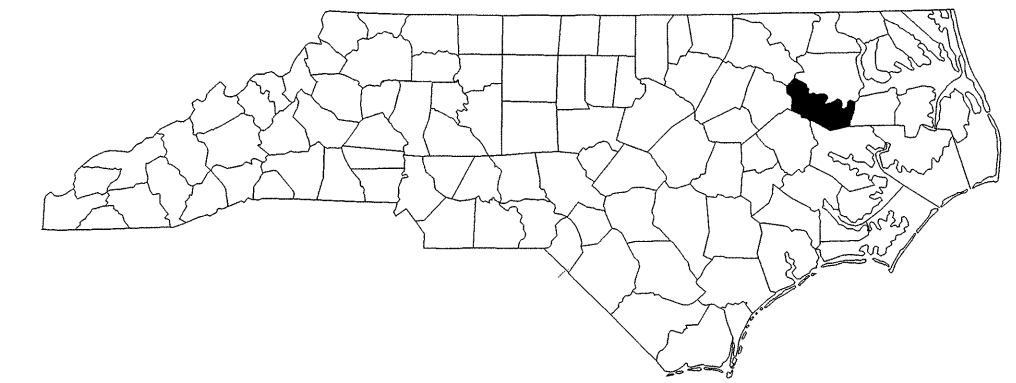
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

MARTIN COUNTY

LOCATION: BRIDGE NO. 16 OVER HARDISON MILL CREEK ON NC 171

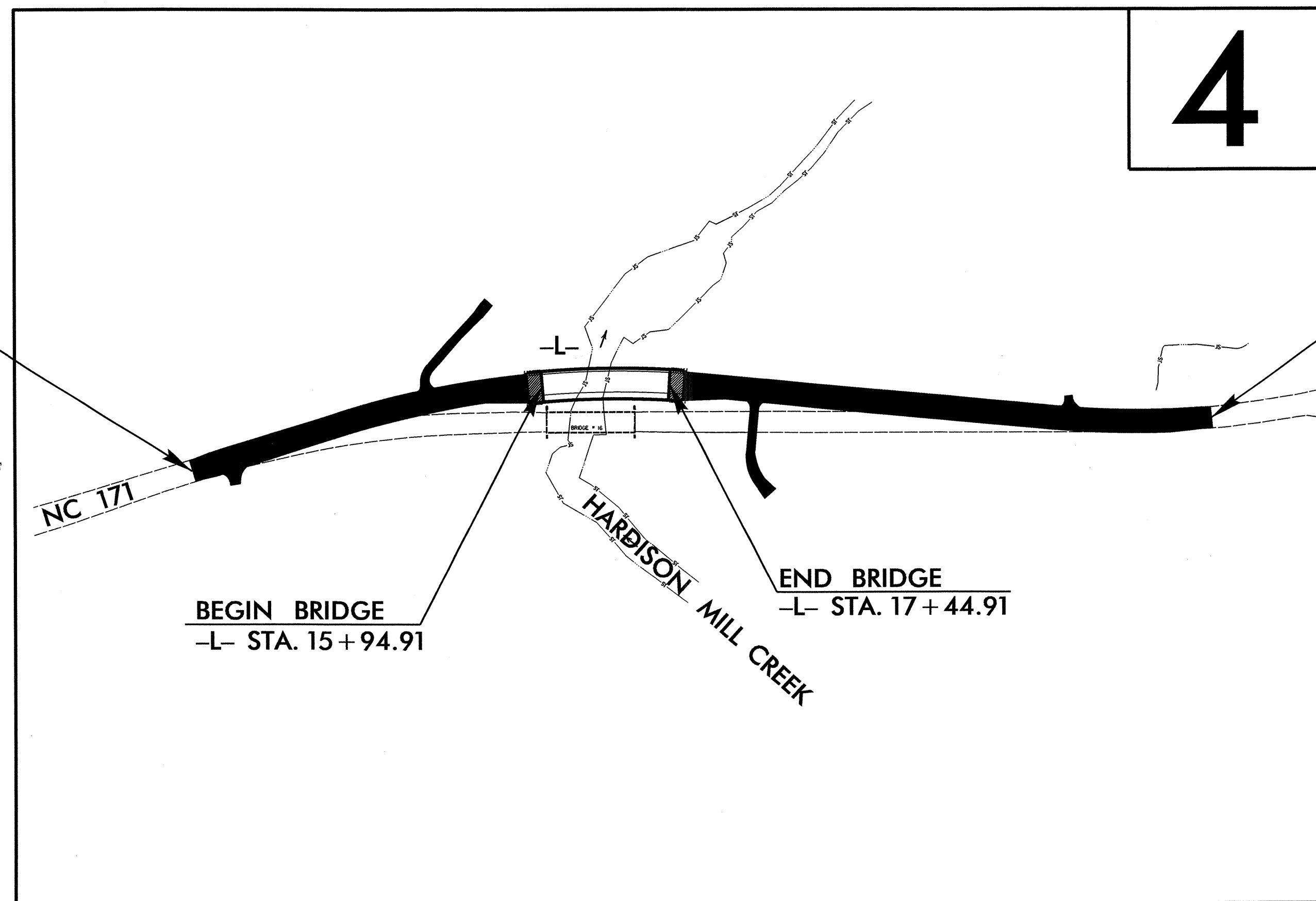
TYPE OF WORK: GRADING, DRAINAGE, PAVING AND STRUCTURE

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4185	1	
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION	
33532.1.1	BRSTP-171(14)	PE	
33532.2.1	BRSTP-171(14)	R/W & UTIL	
33532.3.1	BRSTP-171(14)	CONST.	



TIP PROJECT: B-4185

CONTRACT: C203081



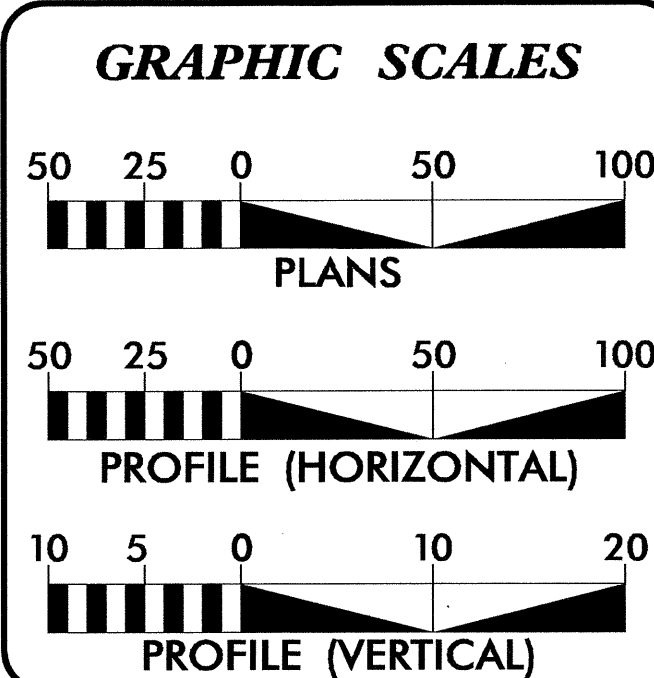
BEGIN TIP PROJECT B-4185
-L- STA. 12+00.00

END TIP PROJECT B-4185
-L- STA. 23+75.00

BEGIN BRIDGE
-L- STA. 15+94.91

END BRIDGE
-L- STA. 17+44.91

THERE IS NO CONTROL OF ACCESS ON THIS PROJECT



DESIGN DATA

ADT 2013 =	2692
ADT 2035 =	3700
DHV =	12 %
D =	55 %
T =	14 % *
V =	50 MPH
FUNC =	COLLECTOR
* TTST 9	DUAL 5

STATEWIDE TIER DESIGN GUIDELINES WERE USED ON THIS PROJECT.

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-4185 =	0.195 mi.
LENGTH STRUCTURE TIP PROJECT B-4185 =	0.028 mi.
TOTAL LENGTH TIP PROJECT B-4185 =	0.223 mi.

Prepared In the Office of:

DIVISION OF HIGHWAYS
1000 Birch Ridge Dr., Raleigh NC, 27610

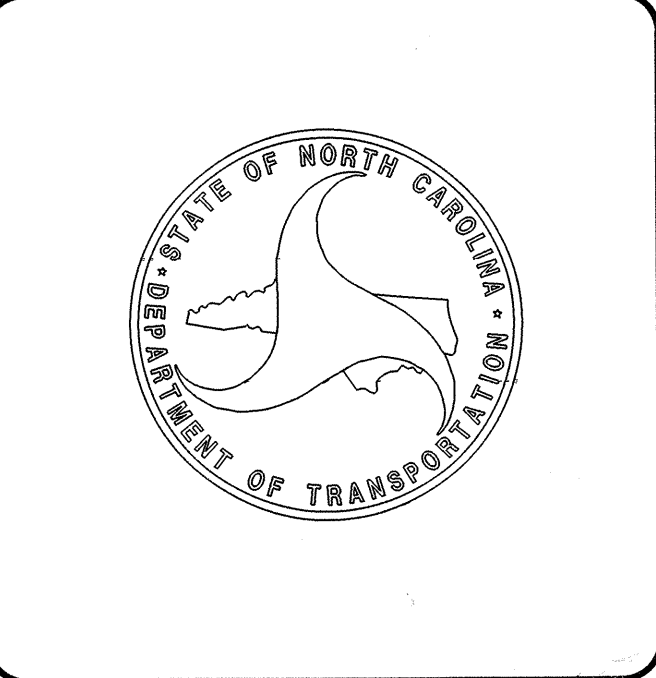
2012 STANDARD SPECIFICATIONS	
RIGHT OF WAY DATE: JUNE 27, 2012	JIMMY GOODNIGHT, P.E. PROJECT ENGINEER
LETTING DATE: JUNE 18, 2013	MARK HUSSEY PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

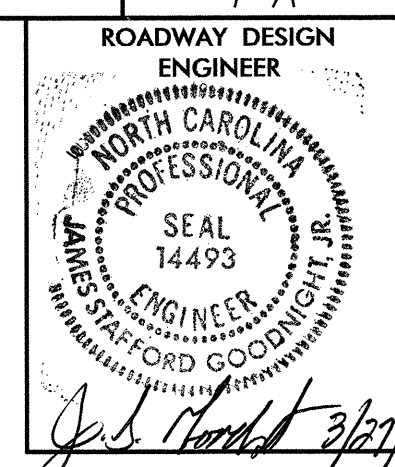
Signature: *[Signature]* 3-22-13

ROADWAY DESIGN ENGINEER

Signature: *[Signature]* 3/27/13



21-MAR-2013 11:28 R:\Roadway\Projects\B4185_rdy_tsh.dgn \$\$\$USERNAME\$\$\$



8/17/99

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

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 II MODIFIED HAND CLEARING 3 FEET FROM TOE OF SLOPE

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 STD. NO. 560.01

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

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 NOT SHOWN ON THE PLANS WILL BE PAID FOR AT THE CONTRACT PRICE FOR "TEMPORARY SHORING".

UTILITIES:
UTILITY OWNERS ON THIS PROJECT ARE
Martin County Water and Century Link

ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS.

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

INDEX OF SHEETS	
SHEET NUMBER	SHEET
1	TITLE SHEET
1-A	INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARD DRAWINGS CONVENTIONAL SYMBOLS
1-B	
1-C	SURVEY CONTROL SHEET
2	PAVEMENT SCHEDULE, TYPICAL SECTIONS, AND WEDGING DETAILS
2-A	STANDARD TEMPORARY SHORING DETAIL
3	SUMMARY OF QUANTITIES
3-A	SUMMARY OF DRAINAGE QUANTITIES AND
3-B	SUMMARY OF EARTHWORK, SHOULDER BERM GUTTER SUMMARY OF GUARDRAIL AND PAVEMENT REMOVAL SUMMARY.
4	PLAN SHEET
5	PROFILE SHEET
TMP-1 THRU TMP-5	TRAFFIC MANAGEMENT PLANS
PMP-1 THRU PMP-2	PAVEMENT MARKING PLANS
EC-1 THRU EC-5	EROSION CONTROL PLANS
RF-1	REFORESTATION PLAN
SIGN-1 THRU SIGN-3	SIGNING PLANS
UC-1 THRU UC-7	UTILITIES CONSTRUCTION PLANS
UO-1 THRU UO-2	UTILITIES BY OTHERS
X-1	EARTHWORK VOLUMES SUMMARY
X-2 THRU X-14	CROSS-SECTIONS
S-1 THRU S-32	STRUCTURE PLANS

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

STD.NO.	TITLE
DIVISION 2 - EARTHWORK	
200.02	Method of Clearing - Method II Clearing Modified with Hand Clearing 3' beyond toe of slope.
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
310.10	Driveway Pipe Construction
DIVISION 4 - MAJOR STRUCTURES	
422.10	Reinforced Bridge Approach Fills
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
840.18	Concrete Grated Drop Inlet Type 'B' - 12" thru 36" Pipe
840.25	Anchorage for Frames - Brick or Concrete or Precast
840.27	Brick Grated Drop Inlet Type 'B' - 12" thru 36" Pipe
840.45	Precast Drainage Structure
846.04	Drop Inlet Installation in Shoulder Berm Gutter
862.01	Guardrail Placement
862.02	Guardrail Installation
862.03	Structure Anchor Units (Details in Lieu of Standard Drawing as March 2013 Letting)
876.01	Rip Rap in Channels
876.04	Drainage Ditches with Class 'B' Rip Rap

21-MAR-2013 11:26
P:\Roadwork\1301\B4185_rdy-tsh.dgn
\$\$\$\$\$BUSIFRAME\$\$\$\$\$

10

Note: Not to Scale

*S.U.E. = Subsurface Utility Engineering

CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

State Line	-----
County Line	-----
Township Line	-----
City Line	-----
Reservation Line	-----
Property Line	-----
Existing Iron Pin	○ EP
Property Corner	-----
Property Monument	□ ECM
Parcel/Sequence Number	②③
Existing Fence Line	-x-x-x-
Proposed Woven Wire Fence	○
Proposed Chain Link Fence	□
Proposed Barbed Wire Fence	◇
Existing Wetland Boundary	----- WLB
Proposed Wetland Boundary	----- WLB
Existing Endangered Animal Boundary	----- EAB
Existing Endangered Plant Boundary	----- EPB
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	○ W
Small Mine	✕
Foundation	□
Area Outline	□
Cemetery	□
Building	□
School	□
Church	□
Dam	□

HYDROLOGY:

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

RAILROADS:

Standard Gauge	-----
RR Signal Milepost	○ 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	-----
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 C/A Marker	△
Existing Control of Access	△
Proposed Control of Access	△
Existing Easement Line	----- E
Proposed Temporary Construction Easement	----- E
Proposed Temporary Drainage Easement	----- TDE
Proposed Permanent Drainage Easement	----- PDE
Proposed Permanent Drainage / Utility Easement	----- DUE
Proposed Permanent Utility Easement	----- PUE
Proposed Temporary Utility Easement	----- TUE
Proposed Aerial Utility Easement	----- AUE
Proposed Permanent Easement with Iron Pin and Cap Marker	◆

ROADS AND RELATED FEATURES:

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

VEGETATION:

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

EXISTING STRUCTURES:

MAJOR: Bridge, Tunnel or Box Culvert	----- 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	○
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	----- P
Designated U/G Power Line (S.U.E.*)	----- P

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	----- 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	⊕
Water Meter	○
Water Valve	⊗
Water Hydrant	⊕
Recorded U/G Water Line	-----
Designated U/G Water Line (S.U.E.*)	-----
Above Ground Water Line	----- A/G Water

TV:

TV Satellite Dish	⊕
TV Pedestal	□
TV Tower	⊗
U/G TV Cable Hand Hole	○
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	-----
Designated U/G Gas Line (S.U.E.*)	-----
Above Ground Gas Line	----- A/G Gas

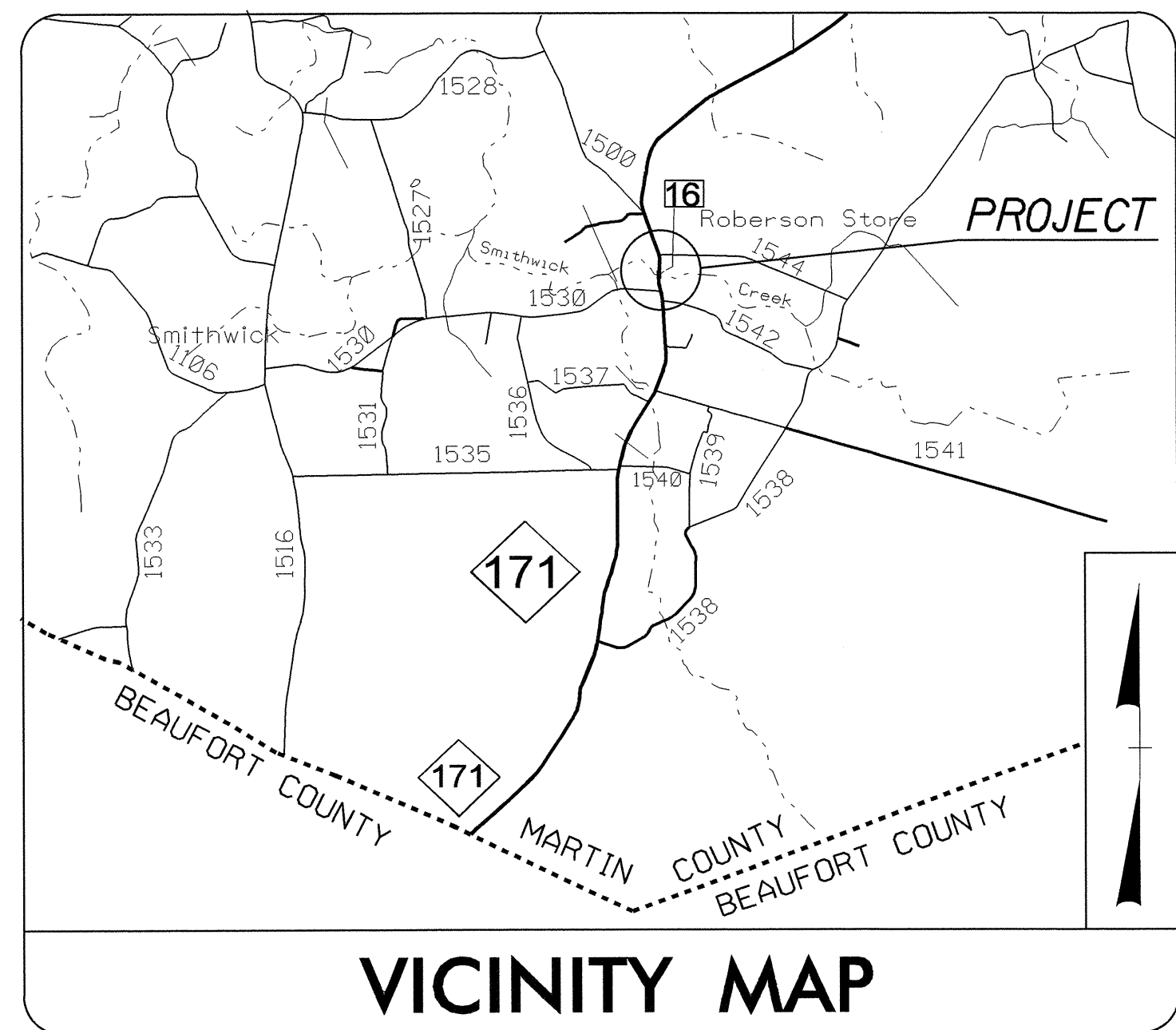
SANITARY SEWER:

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	□
Utility Unknown U/G Line	----- ?UTL
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	AATUR
End of Information	E.O.I.

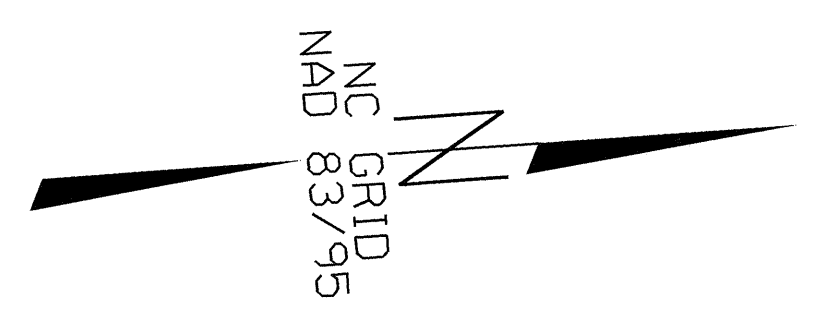
SURVEY CONTROL SHEET B-4185



BL POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
BL1	(GPS 1-17)	727963.5340	2599606.7760	35.42	OUTSIDE PROJECT LIMITS	
BL2	BL -2	728873.2300	2599478.9900	33.73	12+63.97	18.10 LT
BL3	BL -3	729326.4770	2599508.4840	29.05	17+24.70	63.21 RT
BL4	GPS B4185-1	730295.0020	2599507.2320	23.26	OUTSIDE PROJECT LIMITS	

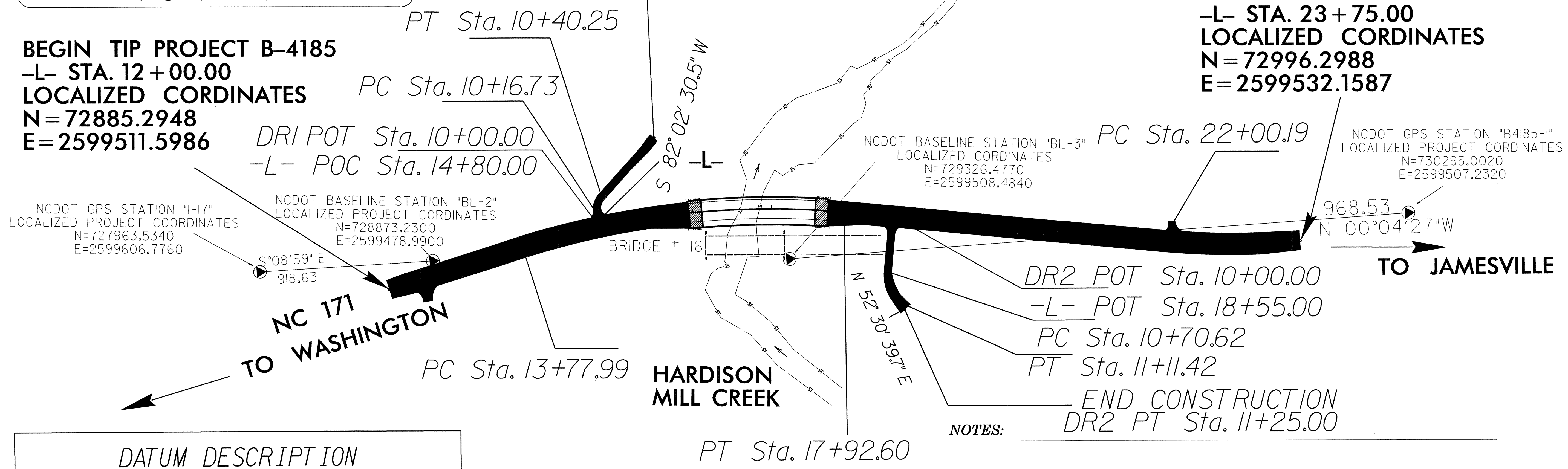
 BM10 27.44'
 N 729231 E 2599330
 BL STATION 17+66 172 LEFT
 NCGS "J221"

 BM11 23.22'
 N 729806 E 2599602
 BL STATION 23+52 94 RIGHT
 RR SPIKE IN BASE OF 12" PINE



BEGIN TIP PROJECT B-4185
-L- STA. 12 + 00.00
LOCALIZED CORDINATES
N = 72885.2948
E = 2599511.5986

END TIP PROJECT B-4185
-L- STA. 23 + 75.00
LOCALIZED CORDINATES
N = 72996.2988
E = 2599532.1587



DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "GPS 1-17"
 WITH NAD 1983/95 STATE PLANE GRID COORDINATES OF
 NORTHING: 727963.534(ft) EASTING: 2599606.776(ft)
 THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99991233
 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "GPS 1-17" TO -L- STATION 12+00 IS
 N 06°22'33" W 857.0612
 ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
 VERTICAL DATUM USED IS NAVD 88

NOTES:

1. THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:
[HTTP://WWW.DOH.DOT.STATE.NC.US/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT/](http://www.doh.dot.state.nc.us/preconstruct/highway/location/project/)
 THE FILES TO BE FOUND ARE AS FOLLOWS:
 B4185_LS_CONTROL_060214.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.

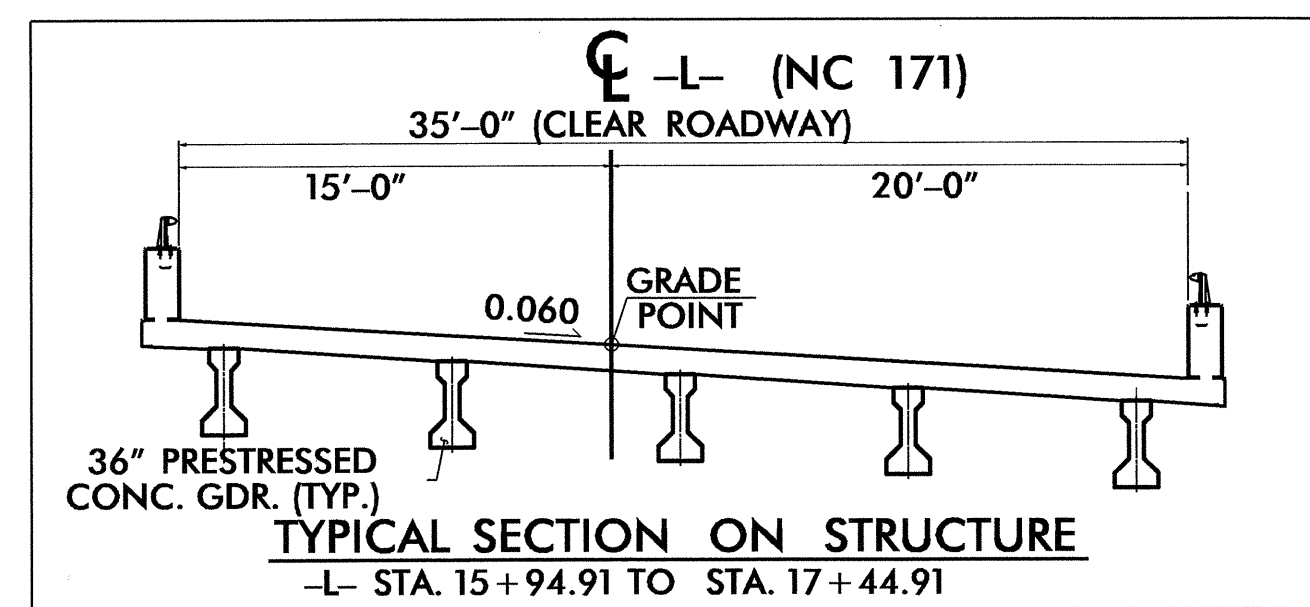
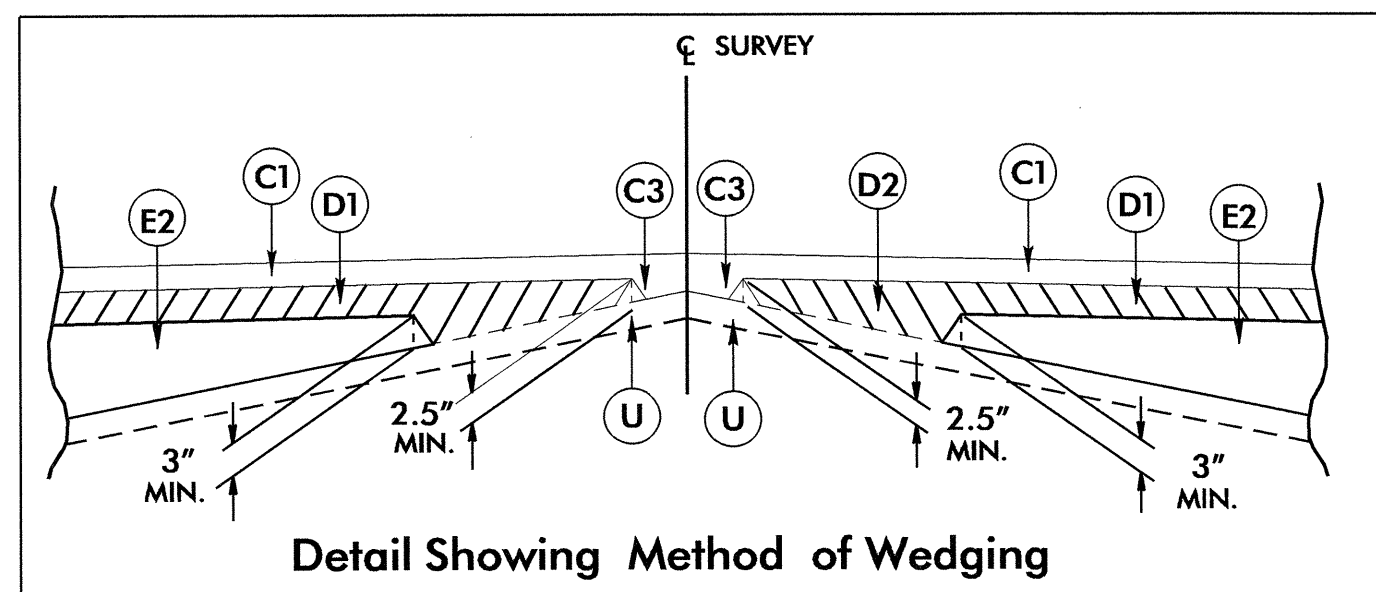
NOTE: DRAWING NOT TO SCALE

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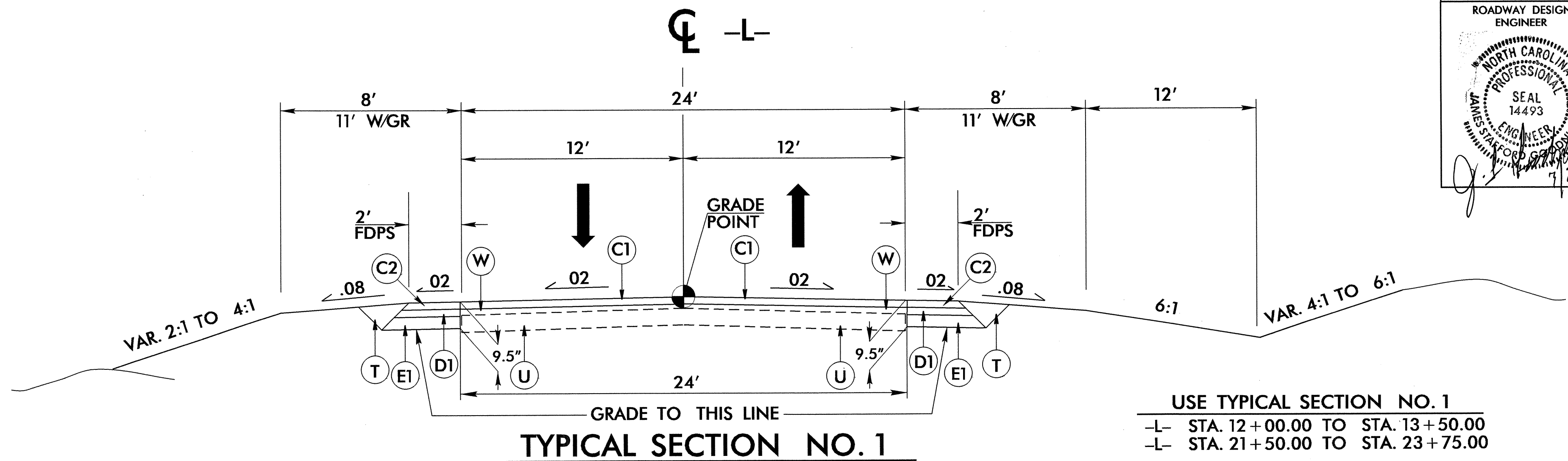
8/17/99

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1 1/2" 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. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT TO EXCEED 2" IN DEPTH.
D1	PROP. APPROX. 2-1/2" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.
D2	PROP. VAR. DEPTH 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 2 1/4" IN DEPTH OR GREATER THAN 4" IN DEPTH.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, 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 1/2" IN DEPTH.
J	PROP. 6" AGGREGATE BASE COURSE.
R	SHOULDER BERM GUTTER
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL)

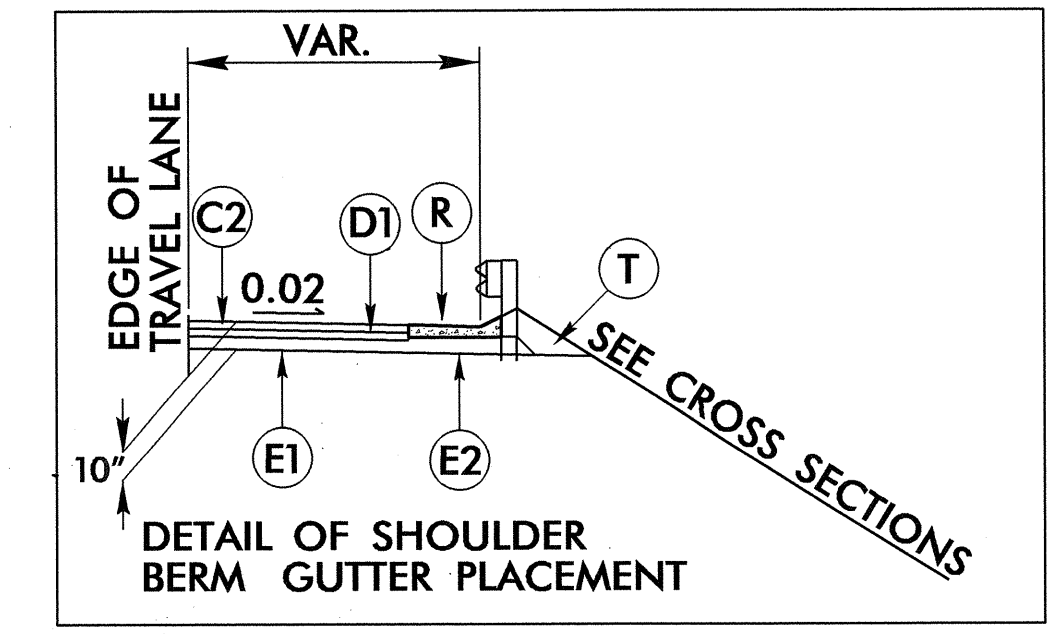
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE



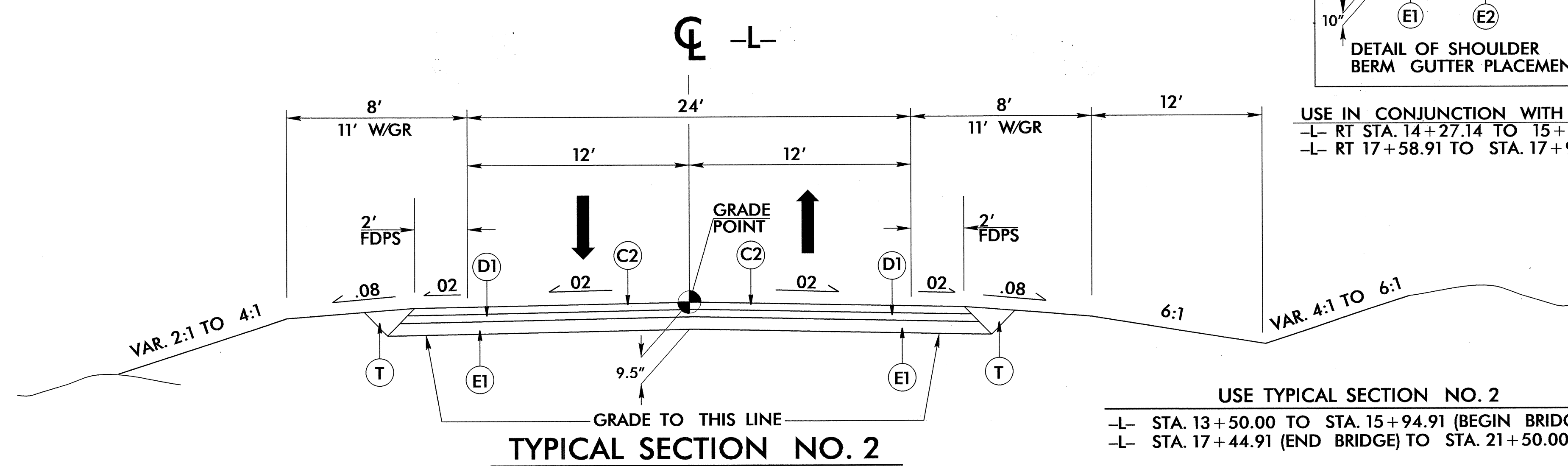
PROJECT REFERENCE NO. B-4185	SHEET NO. 2
RW SHEET NO.	
ROADWAY DESIGN ENGINEER [Stamp: NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 14493]	PAVEMENT DESIGN ENGINEER [Stamp: NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 22886]



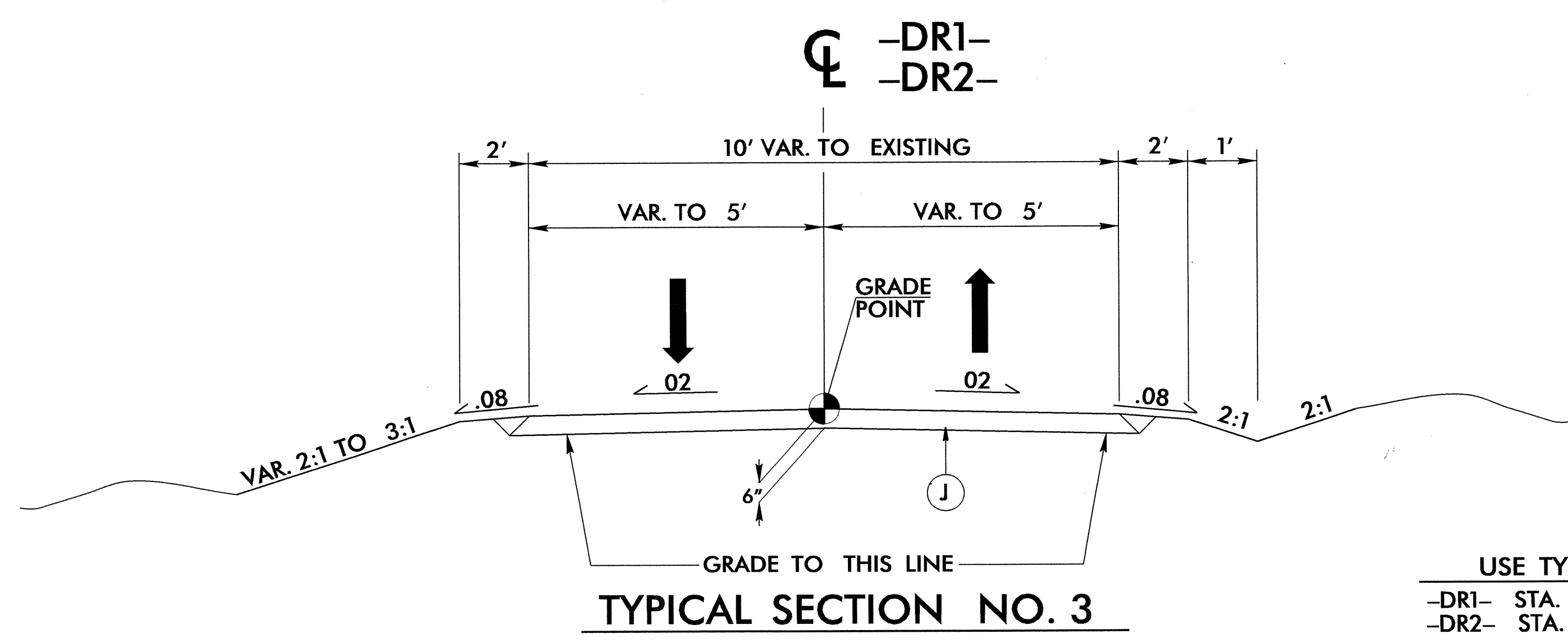
USE TYPICAL SECTION NO. 1
-L- STA. 12+00.00 TO STA. 13+50.00
-L- STA. 21+50.00 TO STA. 23+75.00



USE IN CONJUNCTION WITH TYPICAL SECTION 2
-L- RT STA. 14+27.14 TO 15+80.91
-L- RT 17+58.91 TO STA. 17+90.00



USE TYPICAL SECTION NO. 2
-L- STA. 13+50.00 TO STA. 15+94.91 (BEGIN BRIDGE)
-L- STA. 17+44.91 (END BRIDGE) TO STA. 21+50.00



USE TYPICAL SECTION NO. 3
-DR1- STA. 10+12.00 TO STA. 11+40.00
-DR2- STA. 10+12.00 TO STA. 11+25.00

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GEOTECHNICAL ENGINEER

ENGINEER

Scott A. Shidden 8/10/12

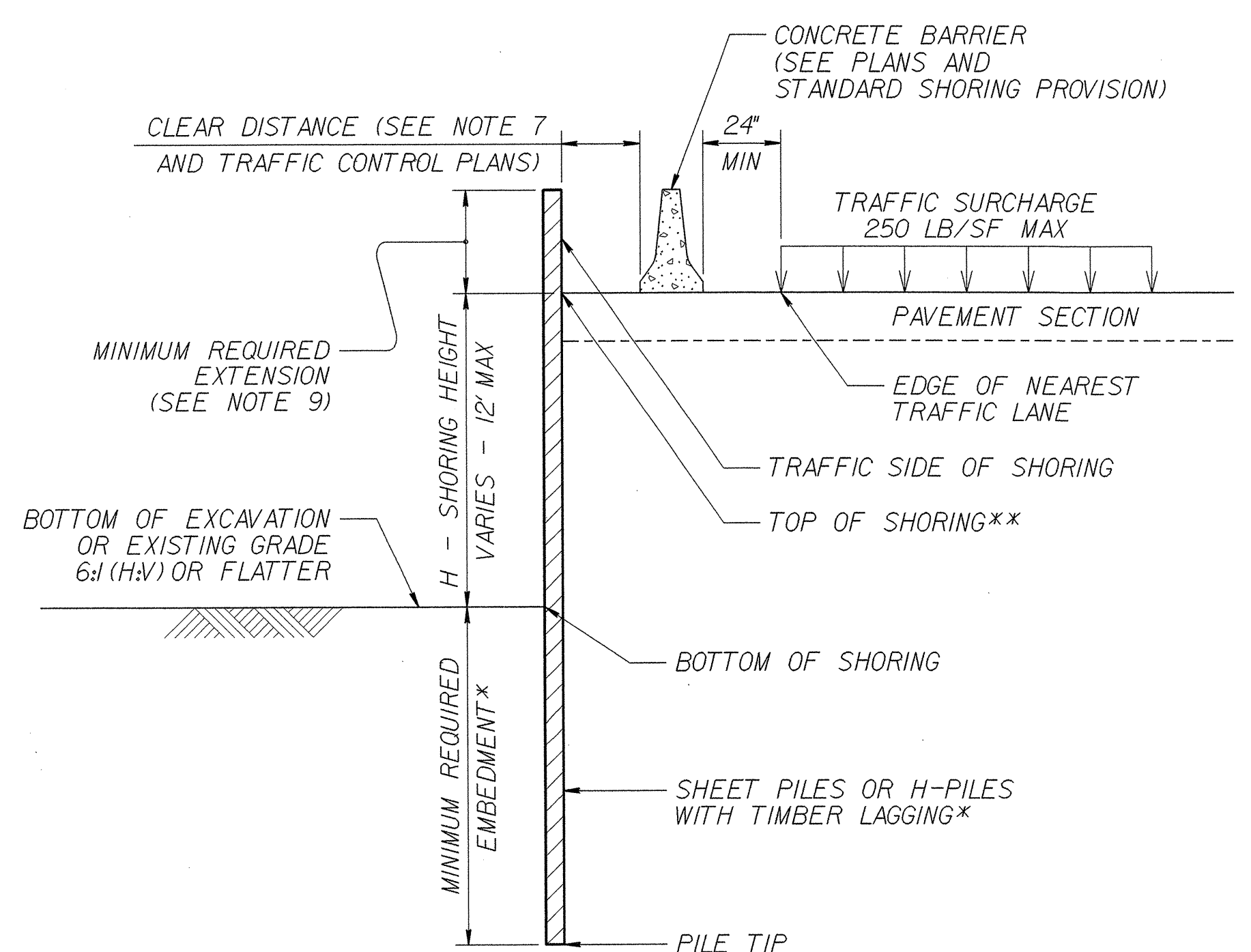
SIGNATURE DATE

GROUNDWATER CONDITION (SEE NOTE 6)	H SHORING HEIGHT (FT)	SLOPE OR SURCHARGE CASE WITH NO TRAFFIC IMPACT						SURCHARGE CASE WITH TRAFFIC IMPACT					
		SHEET PILES		H-PILES WITH TIMBER LAGGING				SHEET PILES		H-PILES WITH TIMBER LAGGING			
		MINIMUM REQUIRED EMBEDMENT (FT)	MINIMUM REQUIRED SECTION MODULUS (IN ³ /FT)	MINIMUM REQUIRED EMBEDMENT* (FT) (SEE NOTE 10)			MINIMUM REQUIRED EMBEDMENT (FT)	MINIMUM REQUIRED SECTION MODULUS (IN ³ /FT)	MINIMUM REQUIRED EMBEDMENT* (FT) (SEE NOTE 10)				
				HP 10x42	HP 12x53	HP 14x73			HP 10x42	HP 12x53	HP 14x73		
GROUNDWATER ELEVATION BETWEEN BOTTOM OF SHORING AND PILE TIP	< 6	11.5	4.5	11.5	11.5	11.5	16.0	12.0	13.0	13.0	13.0		
	7	13.0	7.0	13.0	13.0	13.0	17.0	14.5	14.5	14.5	14.5		
	8	15.0	10.0	--	15.0	15.0	18.0	17.0	--	15.5	15.5		
	9	17.0	14.0	--	17.0	17.0	19.0	20.0	--	17.0	17.0		
	10	18.5	19.5	--	--	18.5	20.0	23.5	--	--	18.5		
	12	22.5	33.0	--	--	--	22.0	33.0	--	--	21.5		
GROUNDWATER ELEVATION BELOW PILE TIP	< 6	7.5	3.0	8.0	8.0	8.0	11.0	10.0	9.5	9.5	9.5		
	7	8.5	4.5	9.5	9.5	9.5	12.0	12.0	10.5	10.5	10.5		
	8	10.0	6.5	10.5	10.5	10.5	12.5	14.0	11.5	11.5	11.5		
	9	11.0	9.5	--	12.0	12.0	13.5	16.5	--	12.5	12.5		
	10	12.5	13.0	--	--	13.5	14.0	19.5	--	13.5	13.5		
	12	15.0	21.5	--	--	16.0	16.0	25.5	--	--	15.5		

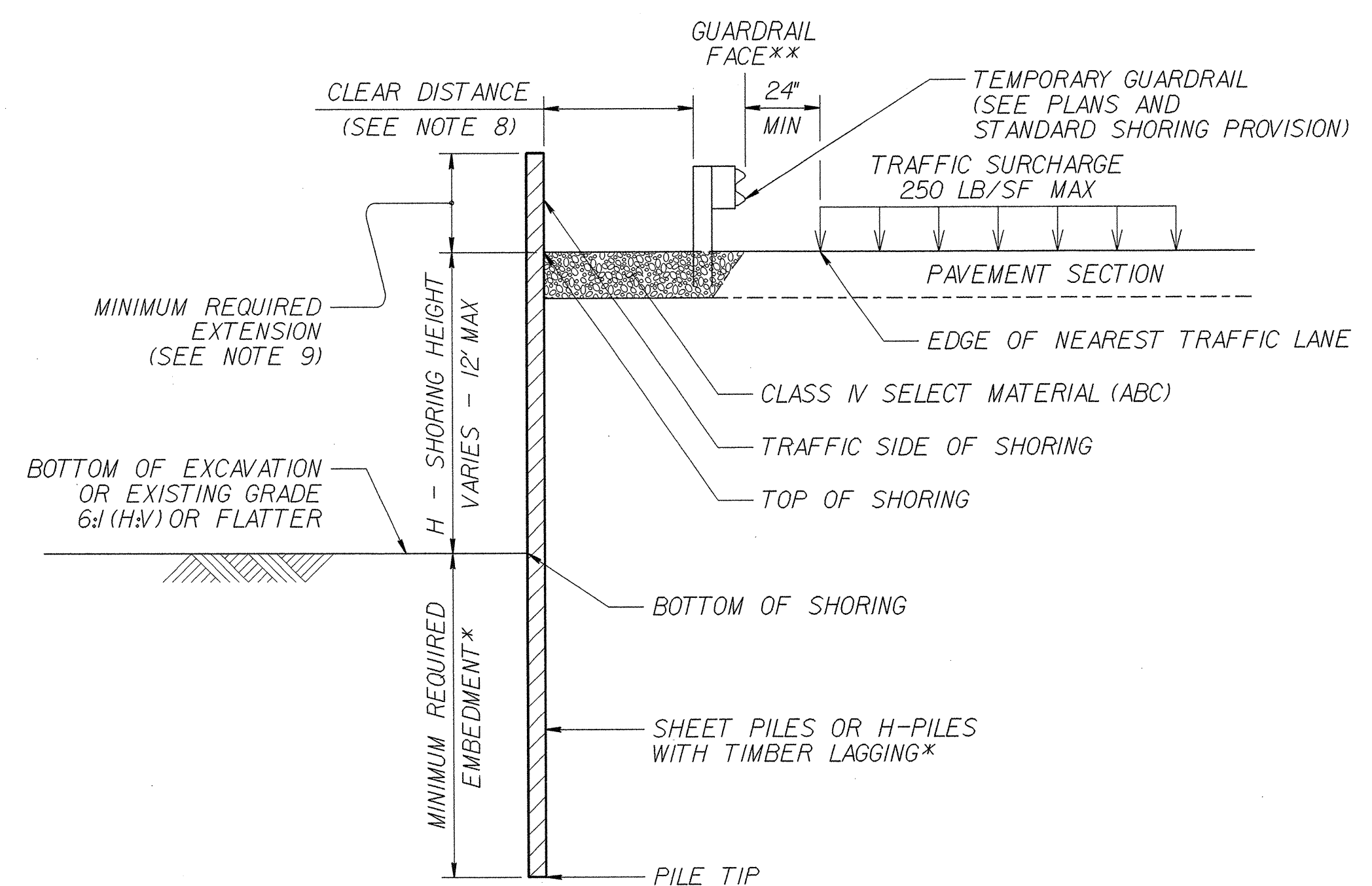
- NOTES:**
- AT THE CONTRACTOR'S OPTION, USE STANDARD TEMPORARY SHORING AS NOTED IN THE PLANS.
 - FOR STANDARD TEMPORARY SHORING, SEE STANDARD SHORING PROVISION.
 - STANDARD TEMPORARY SHORING IS BASED ON THE FOLLOWING IN-SITU ASSUMED SOIL PARAMETERS:
UNIT WEIGHT, $\gamma = 120$ LB/CF
FRICTION ANGLE, $\phi = 30$ DEGREES
COHESION, $c = 0$ LB/SF
 - DO NOT USE STANDARD TEMPORARY SHORING IF ASSUMED SOIL PARAMETERS ARE NOT APPLICABLE.
 - DO NOT USE STANDARD TEMPORARY SHORING WHEN VERY LOOSE OR SOFT SOIL OR MUCK IS WITHIN THE EMBEDMENT DEPTH.
 - USE GROUNDWATER ELEVATION NOTED IN THE PLANS. IF NO GROUNDWATER ELEVATION IS SHOWN IN THE PLANS, USE "GROUNDWATER ELEVATION BETWEEN BOTTOM OF SHORING AND PILE TIP" FOR GROUNDWATER CONDITION. DO NOT USE STANDARD TEMPORARY SHORING IF GROUNDWATER IS ABOVE BOTTOM OF SHORING.
 - AT THE CONTRACTOR'S OPTION OR IF AVAILABLE CLEAR DISTANCE IS LESS THAN THE MINIMUM REQUIRED FOR CONCRETE BARRIER, SET BARRIER NEXT TO AND UP AGAINST TRAFFIC SIDE OF PILES AND USE "SURCHARGE CASE WITH TRAFFIC IMPACT".
 - AT THE CONTRACTOR'S OPTION OR IF AVAILABLE CLEAR DISTANCE IS LESS THAN 4' FOR TEMPORARY GUARDRAIL, ATTACH GUARDRAIL TO TRAFFIC SIDE OF PILES AS SHOWN IN THE PLANS AND USE "SURCHARGE CASE WITH TRAFFIC IMPACT".
 - MINIMUM REQUIRED EXTENSION IS 6' FOR "SLOPE OR SURCHARGE CASE WITH NO TRAFFIC IMPACT" AND 32" FOR "SURCHARGE CASE WITH TRAFFIC IMPACT".
 - MINIMUM REQUIRED EMBEDMENT FOR H-PILES WITH TIMBER LAGGING IS BASED ON DRIVEN H-PILES AT MAXIMUM 6' SPACING. AT THE CONTRACTOR'S OPTION, EMBEDMENT DEPTHS MAY BE REDUCED BY 25% FOR DRILLED-IN H-PILES.
 - SUBMIT A "STANDARD TEMPORARY SHORING SELECTION FORM" AT LEAST 7 DAYS BEFORE STARTING TEMPORARY SHORING CONSTRUCTION. UP TO 3 SHORING LOCATIONS MAY BE INCLUDED ON EACH FORM.
 - CONTACT THE ENGINEER IF PILES DO NOT ATTAIN THE MINIMUM REQUIRED EMBEDMENT.

MINIMUM REQUIRED EMBEDMENT AND SECTION MODULUS

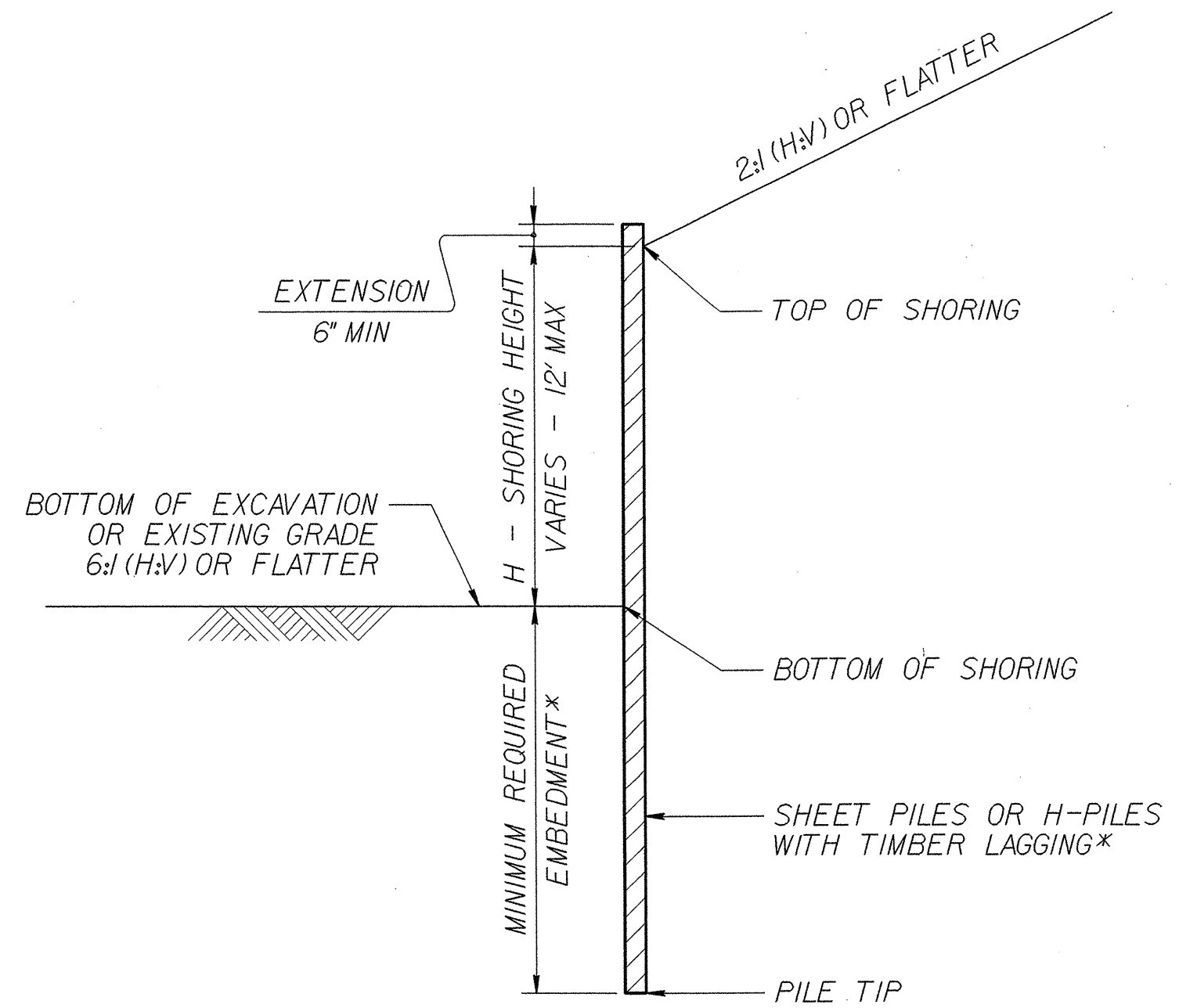
***DO NOT USE H-PILES WITH TIMBER LAGGING FOR GROUNDWATER CONDITION, SHORING HEIGHT AND H-PILE SIZE SHOWN IF MINIMUM REQUIRED EMBEDMENT IS "--".**



CONCRETE BARRIER
**TOP OF SHORING = EDGE OF PAVEMENT



TEMPORARY GUARDRAIL
**GUARDRAIL FACE = EDGE OF PAVEMENT



STANDARD TEMPORARY SHORING (SLOPE CASE)
*SEE TABLE ABOVE.

STANDARD TEMPORARY SHORING (SURCHARGE CASE)
*SEE TABLE ABOVE.

GEOTECHNICAL ENGINEERING UNIT

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

STANDARD DRAWING NO. 1801.01

STANDARD TEMPORARY SHORING

DATE: 11-20-12

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
ROADWAY SUMMARY OF QUANTITIES FOR CONTRACT - C203081

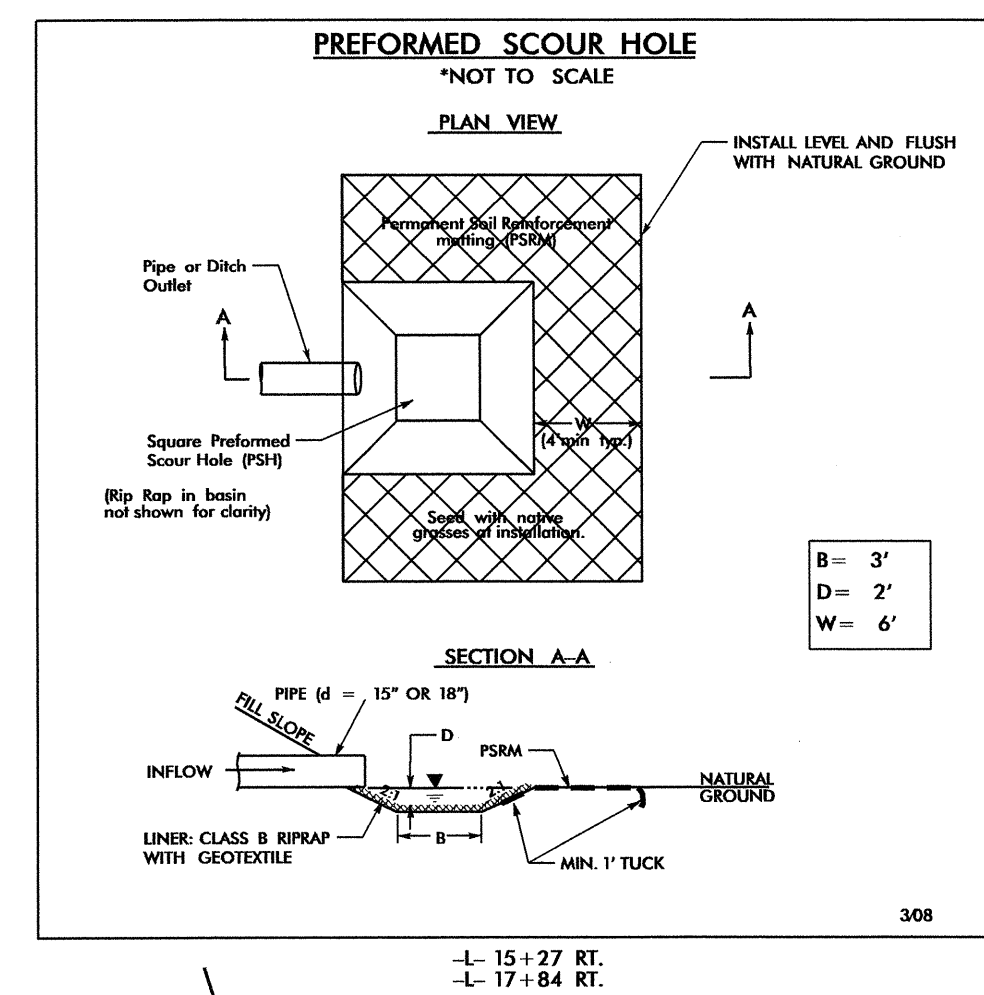
ItemNumber	Sec #	Quantity	Unit	Description
0000100000-N	800	Lump Sum		MOBILIZATION
0004000000-N	801	Lump Sum		CONSTRUCTION SURVEYING
0029000000-N	SP	Lump Sum		REINFORCED BRIDGE APPROACH FILL, STATION ***** (16+69.91)
0043000000-N	226	Lump Sum		GRADING
0057000000-E	226	2,700	CY	UNDERCUT EXCAVATION
0134000000-E	240	50	CY	DRAINAGE DITCH EXCAVATION
0195000000-E	265	2,700	CY	SELECT GRANULAR MATERIAL
0196000000-E	270	2,800	SY	GEOTEXTILE FOR SOIL STABILIZATION
0199000000-E	SP	719	SF	TEMPORARY SHORING
0318000000-E	300	50	TON	FOUNDATION CONDITIONING MATERIAL, MINOR STRUCTURES
0320000000-E	300	540	SY	FOUNDATION CONDITIONING GEOTEXTILE
0335200000-E	305	56	LF	15" DRAINAGE PIPE
0343000000-E	310	92	LF	15" SIDE DRAIN PIPE
0582000000-E	310	80	LF	15" CS PIPE CULVERTS, 0.064" THICK
0636000000-E	310	2	EA	*** CS PIPE ELBOWS, ***** THICK (15", 0.064")
0995000000-E	340	55	LF	PIPE REMOVAL
1121000000-E	520	140	TON	AGGREGATE BASE COURSE
1220000000-E	545	15	TON	INCIDENTAL STONE BASE
1330000000-E	607	140	SY	INCIDENTAL MILLING
1489000000-E	610	620	TON	ASPHALT CONC BASE COURSE, TYPE B25.0B
1498000000-E	610	390	TON	ASPHALT CONC INTERMEDIATE COURSE, TYPE II9.0B
1519000000-E	610	590	TON	ASPHALT CONC SURFACE COURSE, TYPE S9.5B
1575000000-E	620	81	TON	ASPHALT BINDER FOR PLANT MIX
1693000000-E	654	10	TON	ASPHALT PLANT MIX, PAVEMENT REPAIR

SUMMARY OF QUANTITIES - B-4185

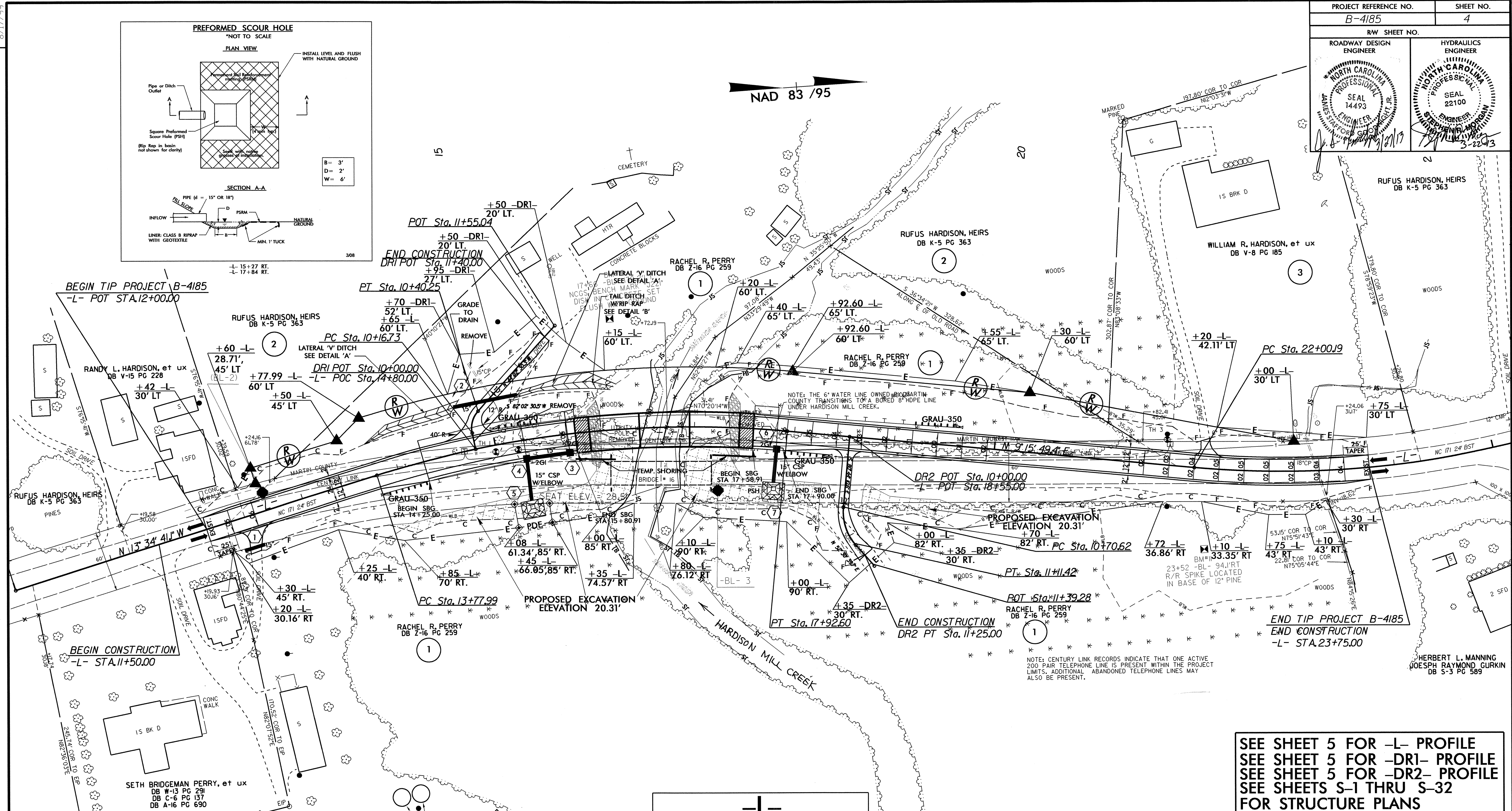
ItemNumber	Sec #	Quantity	Unit	Description
2022000000-E	815	224	CY	SUBDRAIN EXCAVATION
2026000000-E	815	1,000	SY	GEOTEXTILE FOR SUBSURFACE DRAINS
2036000000-E	815	168	CY	SUBDRAIN COARSE AGGREGATE
2044000000-E	815	1,000	LF	6" PERFORATED SUBDRAIN PIPE
2070000000-N	815	2	EA	SUBDRAIN PIPE OUTLET
2077000000-E	815	12	LF	6" OUTLET PIPE
2286000000-N	840	3	EA	MASONRY DRAINAGE STRUCTURES
2367000000-N	840	3	EA	FRAME WITH TWO GRATES, STD 840 29
2556000000-E	846	187	LF	SHOULDER BERM GUTTER
3030000000-E	862	350	LF	STEEL BM GUARDRAIL
3150000000-N	862	5	EA	ADDITIONAL GUARDRAIL POSTS
3215000000-N	862	4	EA	GUARDRAIL ANCHOR UNITS, TYPE III
3270000000-N	SP	4	EA	GUARDRAIL ANCHOR UNITS, TYPE 350
3360000000-E	863	1,287	LF	REMOVE EXISTING GUARDRAIL
3389100000-N	SP	2	EA	TEMPORARY GUARDRAIL ANCHOR UNITS, TYPE 350
3649000000-E	876	10	TON	RIP RAP, CLASS B
3656000000-E	876	462	SY	GEOTEXTILE FOR DRAINAGE
3659000000-N	SP	2	EA	PREFORMED SCOUR HOLES WITH LEVEL SPREADER APRON
4072000000-E	903	66	LF	SUPPORTS, 3-LB STEEL U-CHANNEL
4102000000-N	904	5	EA	SIGN ERECTION, TYPE E
4158000000-N	907	7	EA	DISPOSAL OF SIGN SYSTEM, WOOD
4400000000-E	1110	48	SF	WORK ZONE SIGNS (STATIONARY)
4405000000-E	1110	160	SF	WORK ZONE SIGNS (PORTABLE)
4410000000-E	1110	36	SF	WORK ZONE SIGNS (BARRICADE MOUNTED)
4430000000-N	1130	45	EA	DRUMS
4445000000-E	1145	48	LF	BARRICADES (TYPE III)

ItemNumber	Sec #	Quantity	Unit	Description
4450000000-N	1150	1,920	HR	FLAGGER
4650000000-N	1251	60	EA	TEMPORARY RAISED PAVEMENT MARKERS
4685000000-E	1205	2,050	LF	THERMOPLASTIC PAVEMENT MARKING LINES (4", 90 MILS)
4686000000-E	1205	2,050	LF	THERMOPLASTIC PAVEMENT MARKING LINES (4", 120 MILS)
4770000000-E	1205	600	LF	COLD APPLIED PLASTIC PAVEMENT MARKING LINES, TYPE ** (4") (II)
4810000000-E	1205	9,400	LF	PAINT PAVEMENT MARKING LINES (4")
4900000000-N	1251	29	EA	PERMANENT RAISED PAVEMENT MARKERS
5325600000-E	1510	834	LF	6" WATER LINE
5540000000-E	1515	2	EA	6" VALVE
5800000000-E	1530	760	LF	ABANDON 6" UTILITY PIPE
5871400000-E	1550	540	LF	TRENCHLESS INSTALLATION OF 6" IN SOIL
5871410000-E	1550	60	LF	TRENCHLESS INSTALLATION OF 6" NOT IN SOIL
6000000000-E	1605	3,500	LF	TEMPORARY SILT FENCE
6006000000-E	1610	295	TON	STONE FOR EROSION CONTROL, CLASS A
6009000000-E	1610	150	TON	STONE FOR EROSION CONTROL, CLASS B
6012000000-E	1610	235	TON	SEDIMENT CONTROL STONE
6015000000-E	1615	4	ACR	TEMPORARY MULCHING
6018000000-E	1620	150	LB	SEED FOR TEMPORARY SEEDING
6021000000-E	1620	1.5	TON	FERTILIZER FOR TEMPORARY SEEDING
6024000000-E	1622	450	LF	TEMPORARY SLOPE DRAINS
6029000000-E	SP	1,300	LF	SAFETY FENCE
6030000000-E	1630	310	CY	SILT EXCAVATION
6036000000-E	1631	5,000	SY	MATTING FOR EROSION CONTROL
6037000000-E	SP	545	SY	COIR FIBER MAT

ItemNumber	Sec #	Quantity	Unit	Description
6042000000-E	1632	765	LF	1/4" HARDWARE CLOTH
6071010000-E	SP	100	LF	WATTLE
6071020000-E	SP	35	LB	POLYACRYLAMIDE (PAM)
6071030000-E	1640	125	LF	COIR FIBER BAFFLE
6071050000-E	SP	1	EA	*** SKIMMER (1-1/2")
6084000000-E	1660	4	ACR	SEEDING & MULCHING
6087000000-E	1660	2	ACR	MOWING
6090000000-E	1661	50	LB	SEED FOR REPAIR SEEDING
6093000000-E	1661	0.25	TON	FERTILIZER FOR REPAIR SEEDING
6096000000-E	1662	100	LB	SEED FOR SUPPLEMENTAL SEEDING
6108000000-E	1665	3	TON	FERTILIZER TOPDRESSING
6114500000-N	1667	10	MHR	SPECIALIZED HAND MOWING
6117000000-N	SP	18	EA	RESPONSE FOR EROSION CONTROL
6129000000-E	1670	0.27	ACR	WETLAND REFORESTATION
6135000000-E	SP	0.27	ACR	GENERIC EROSION CONTROL ITEM DISKING
6135000000-E	SP	0.27	ACR	GENERIC EROSION CONTROL ITEM RIPPING

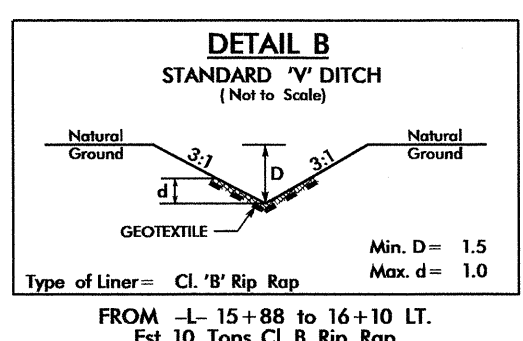
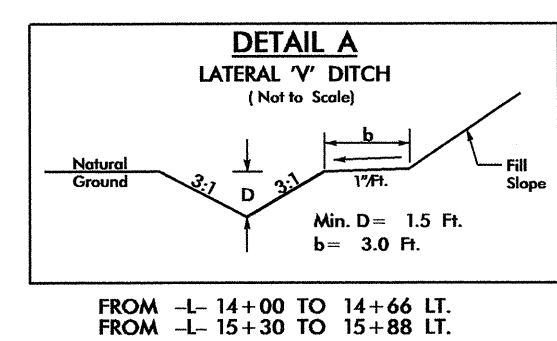


NAD 83 / 95



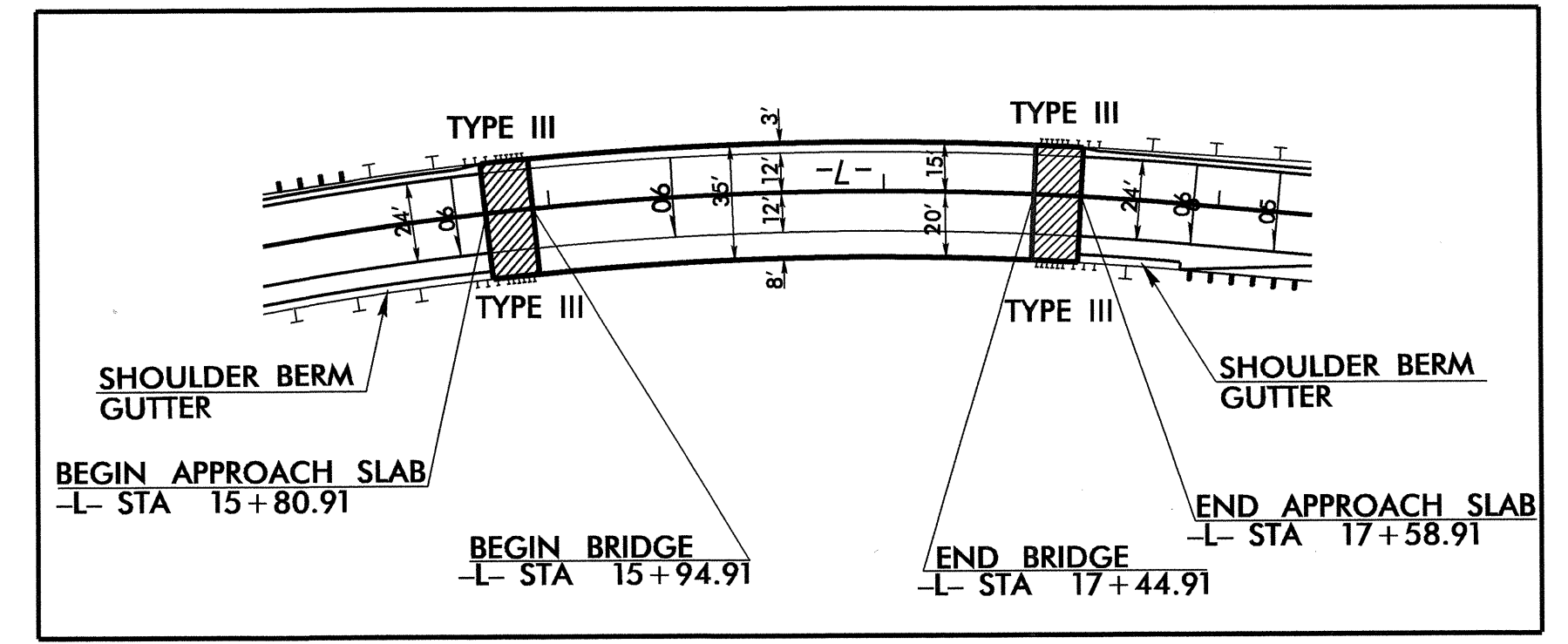
REVISIONS

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R:\WORKSPACE\B-4185-rdw-psh-r.dwg
R:\WORKSPACE\B-4185-rdw-psh-r.dwg



-L-	
PI Sta 15+88.09	PI Sta 24+41.25
$\Delta = 22^\circ 50' 30.5''$ (RT)	$\Delta = 28^\circ 20' 00.0''$ (LT)
D = 5' 30' 33.2"	D = 5' 59' 58.4"
L = 414.61'	L = 472.26'
T = 210.10'	T = 241.06'
R = 1,040.00'	R = 955.00'
SE = 06	
RO = 150'	

-DR1-	-DR2-
PI Sta 10+29.44	PI Sta 10+92.24
$\Delta = 53^\circ 54' 59.2''$ (RT)	$\Delta = 46^\circ 45' 09.7''$ (LT)
D = 229' 10' 59.2"	D = 114' 35' 29.6"
L = 235.3'	L = 40.80'
T = 127.2'	T = 21.61'
R = 25.00'	R = 50.00'
SE = NC	SE = NC



SEE SHEET 5 FOR -L- PROFILE
SEE SHEET 5 FOR -DR1- PROFILE
SEE SHEET 5 FOR -DR2- PROFILE
SEE SHEETS S-1 THRU S-32
FOR STRUCTURE PLANS

NOTE: CENTURY LINK RECORDS INDICATE THAT ONE ACTIVE 200 PAIR TELEPHONE LINE IS PRESENT WITHIN THE PROJECT LIMITS. ADDITIONAL ABANDONED TELEPHONE LINES MAY ALSO BE PRESENT.

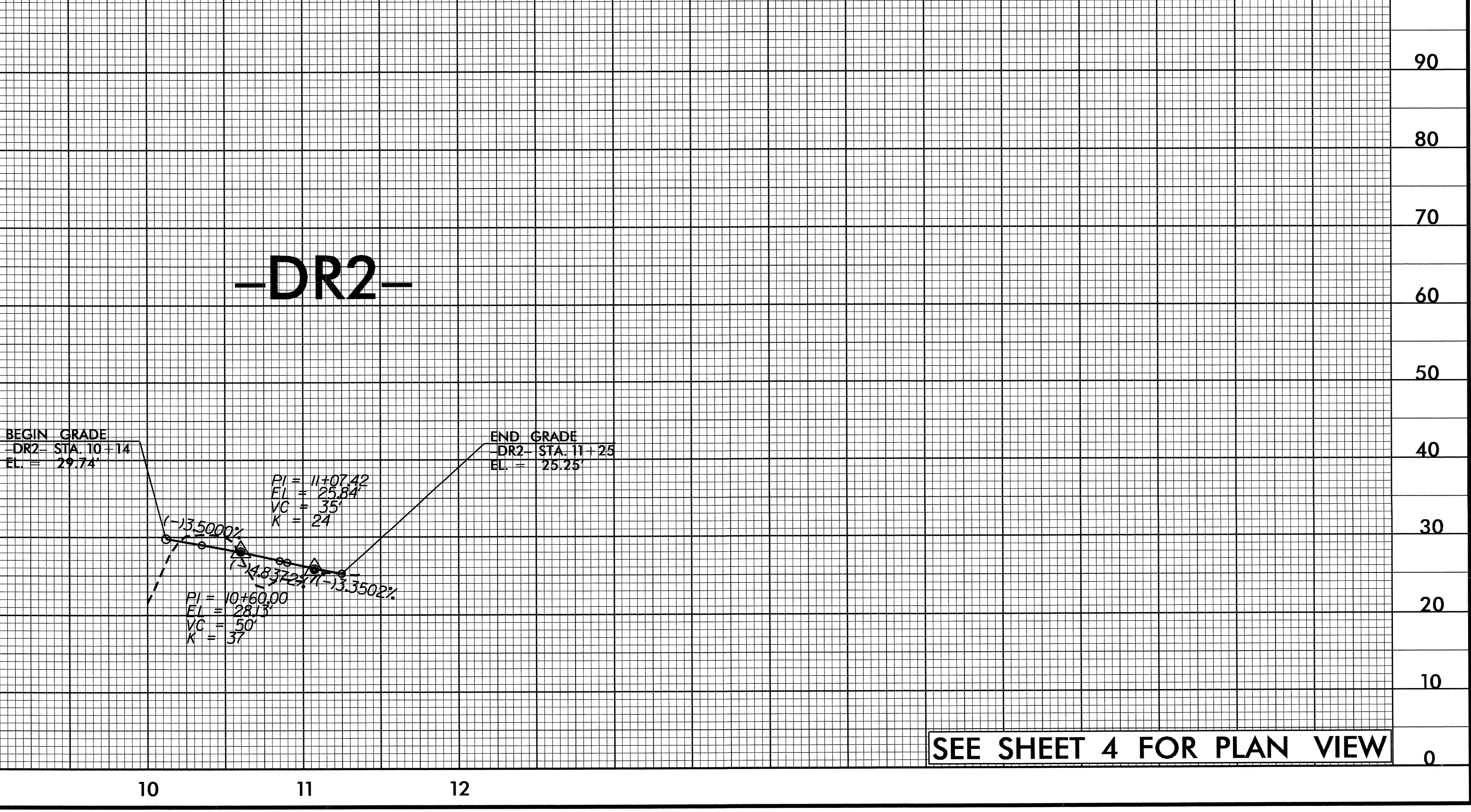
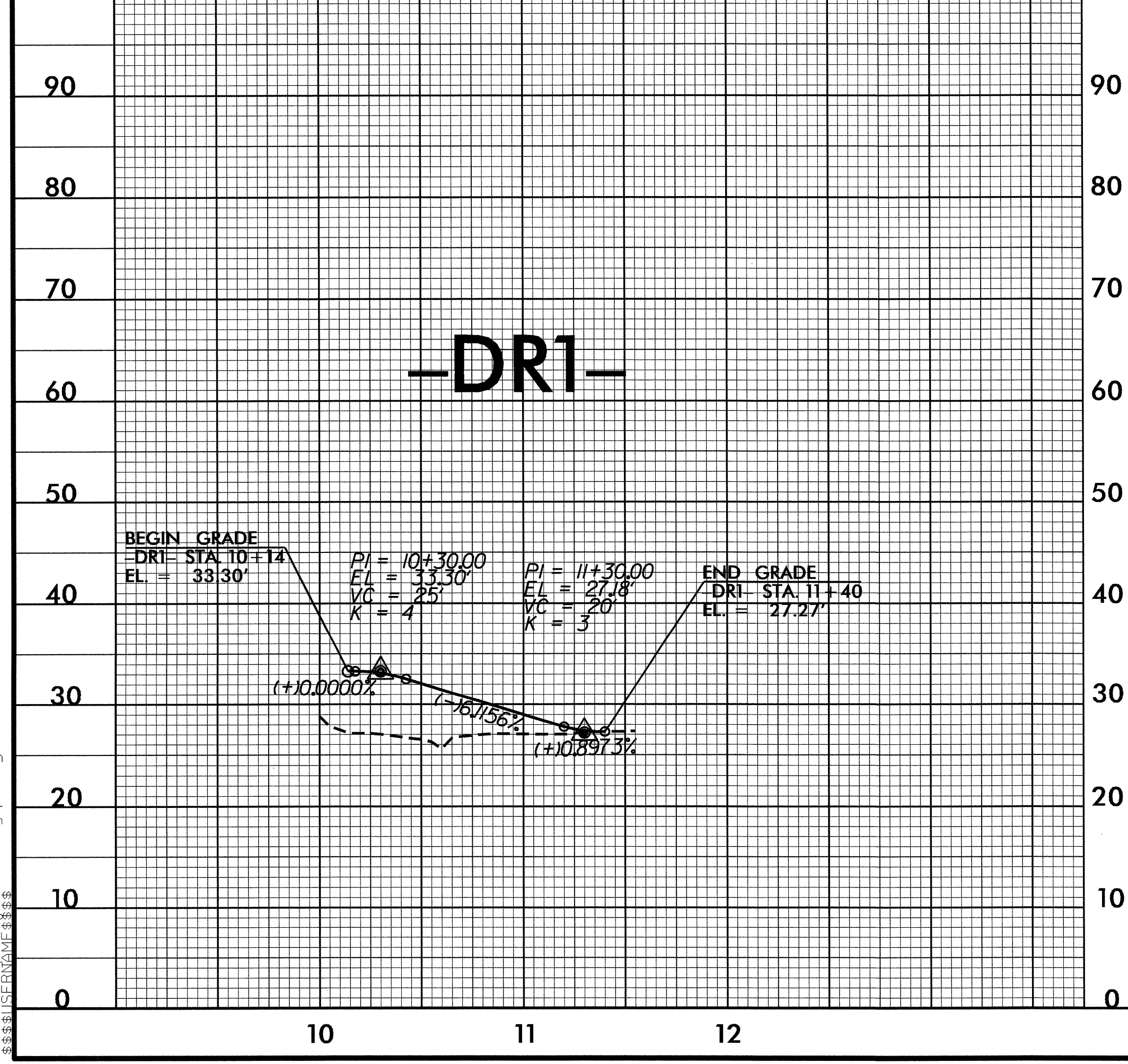
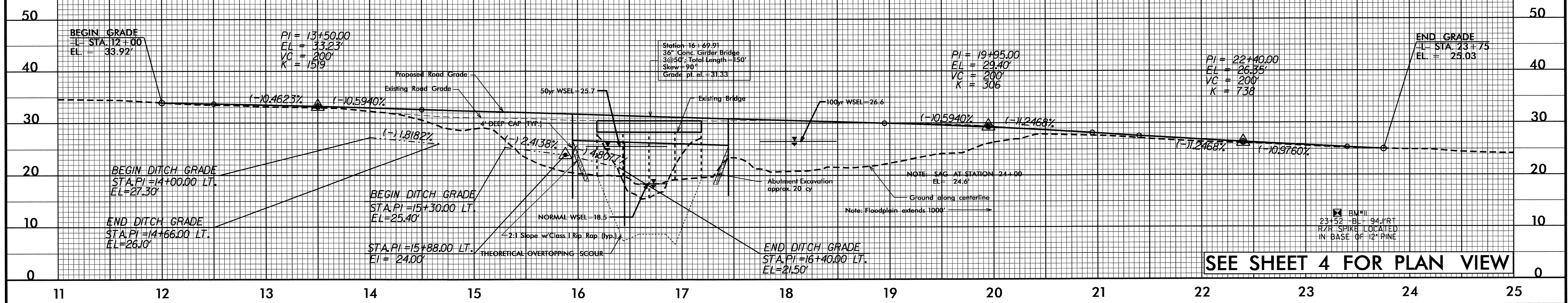
HERBERT L. MANNING
JOSEPH RAYMOND GURKIN
DB S-3 PG 589

5/28/09

BRIDGE HYDRAULIC DATA		
90	DESIGN DISCHARGE = 2690	CFS
	DESIGN FREQUENCY = 50	YRS
	DESIGN HW ELEVATION = 25.6	FT
80	BASE DISCHARGE = 3280	CFS
	BASE FREQUENCY = 100	YRS
	BASE HW ELEVATION = 26.5	FT
	OVERTOPPING DISCHARGE = 1600	CFS
	OVERTOPPING FREQUENCY = 25	YRS
70	OVERTOPPING ELEVATION = 24.6	FT
DATE OF SURVEY 3-15-2012		
60	W.S. ELEVATION AT DATE OF SURVEY = 18.4	FT

PROJECT REFERENCE NO. B-4185	SHEET NO. 5
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DITCH LEGEND	
LEFT DITCH	-----



07-MAR-2013 09:50 b-4185_rdy-pl.dgn