

09/20/09

See Sheet 1-A For Index of Sheets  
See Sheet 1-B For Conventional Symbols  
See Sheet 1-C For Survey Control Sheet

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

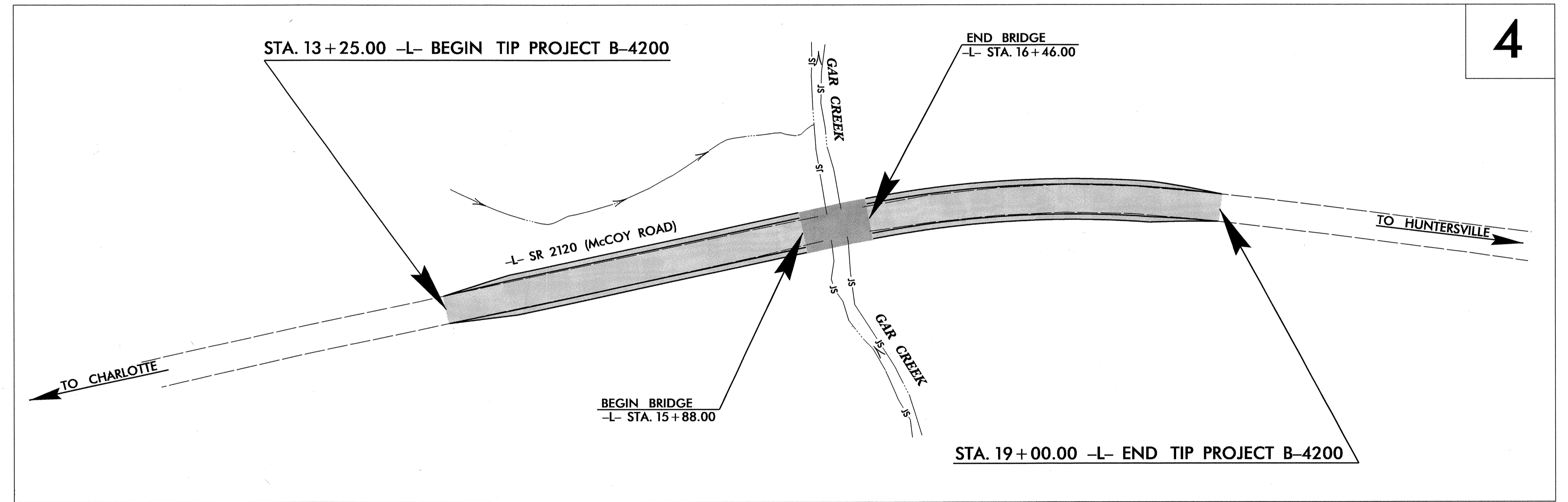
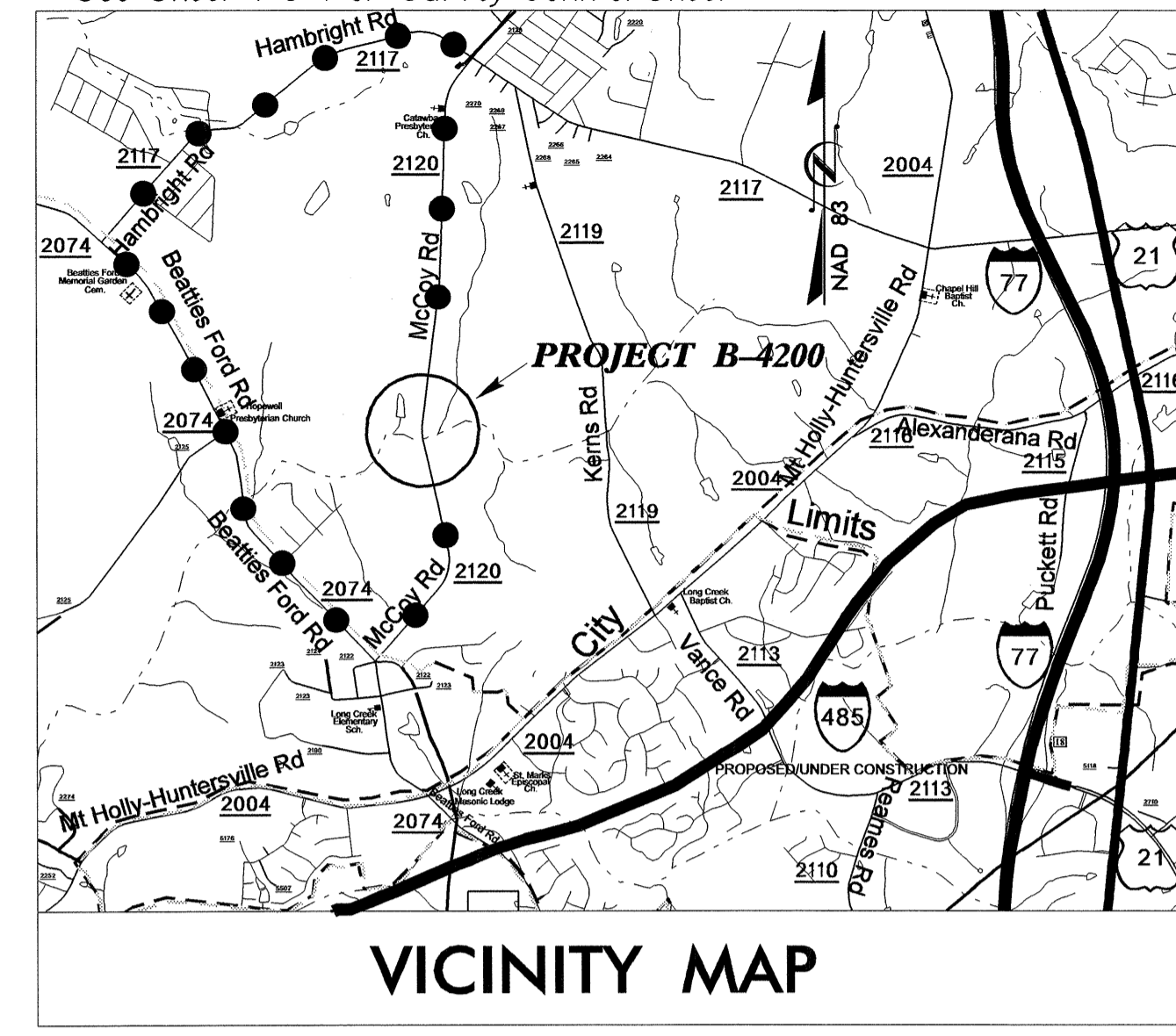
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4200	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
33547.1.1	BRSTP-2120(2)	PE	
33547.2.1	BRSTP-2120(2)	R/W & UTILITIES	
33547.3.1	BRSTP-2120(2)	CONST.	

**MECKLENBURG COUNTY**

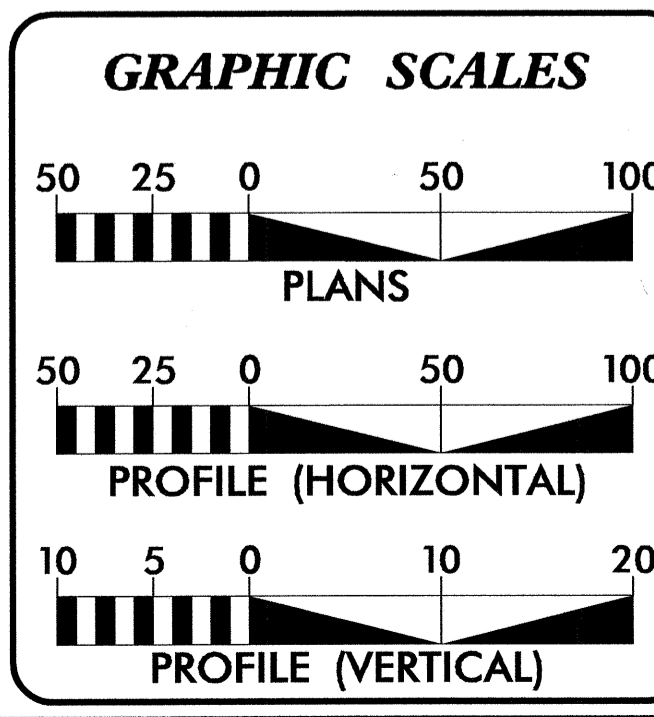
LOCATION: BRIDGE NO. 100 OVER GAR CREEK ON  
SR 2120 (McCOY ROAD)

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

TIP PROJECT: B-4200



CONTRACT: C202776



**DESIGN DATA**

ADT 2012 = 3605  
ADT 2035 = 8800  
DHV = 12 %  
D = 60 %  
T = 4 % \*  
V = 50 MPH  
\* TTST 1% DUAL 3%  
FUNC. CLASS. = RURAL  
MAJOR COLLECTOR  
"SUB-REGIONAL TIER"

**PROJECT LENGTH**

LENGTH ROADWAY TIP PROJECT B-4200 = 0.098 MILES  
LENGTH STRUCTURE TIP PROJECT B-4200 = 0.011 MILES  
TOTAL LENGTH OF TIP PROJECT B-4200 = 0.109 MILES

Prepared in the Office of:  
**DIVISION OF HIGHWAYS**  
1000 Birch Ridge Dr., Raleigh NC, 27610

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:  
FEBRUARY 8, 2011

LETTING DATE:  
APRIL 17, 2012

JAMES A. SPEER, PE  
PROJECT ENGINEER

DANIEL W. GARDNER, JR., PE  
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SEAL 9334  
HENRY WELLS, JR.  
P.E.

SIGNATURE: [Signature]

ROADWAY DESIGN ENGINEER

SEAL 33871  
DANIEL W. GARDNER, JR.  
P.E.

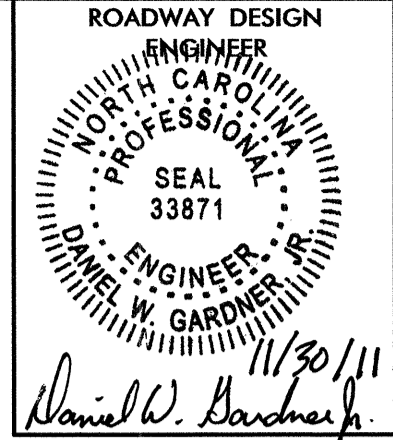
SIGNATURE: [Signature] 11/22/11

DIVISION OF HIGHWAYS  
STATE OF NORTH CAROLINA

STATE HIGHWAY DESIGN ENGINEER

P.E.

01-NOV-2011 10:01 R:\Roadway\Proj\B4200\_rdy-fsh.dgn \$\$\$USERNAME\$\$\$



SHEET NUMBER	SHEET
1	TITLE SHEET
1-A	INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARD DRAWINGS
1-B	CONVENTIONAL PLAN SHEET SYMBOLS
1-C	SURVEY CONTROL SHEET
2 THRU 2-A	PAVEMENT SCHEDULE, TYPICAL SECTIONS, AND WEDGING DETAIL
2-B	BRIDGE APPROACH FILL DETAIL
3	SUMMARY OF QUANTITIES
3-A	DRAINAGE SUMMARY, GUARDRAIL SUMMARY, EARTHWORK SUMMARY, SHOULDER BERM GUTTER SUMMARY, PAVEMENT REMOVAL SUMMARY, AND WOVEN WIRE FENCE SUMMARY
4	PLAN SHEET
5	PROFILE SHEET
TMP-1 THRU TMP-3	TRANSPORTATION MANAGEMENT PLANS
EC-1 THRU EC-5	EROSION CONTROL PLANS
UC-1 THRU UC-3	UTILITY CONSTRUCTION PLANS
UO-1 THRU UO-2	UTILITIES BY OTHERS
X-1	CROSS-SECTION SUMMARY
X-2 THRU X-8	CROSS-SECTIONS
S-1 THRU S-22	STRUCTURE PLANS

**GENERAL NOTES:**

2012 SPECIFICATIONS  
EFFECTIVE: 01-17-12  
REVISED: 08/31/11

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

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

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

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

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

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

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

**SUBSURFACE PLANS:**  
NO SUBSURFACE PLANS ARE AVAILABLE ON THIS PROJECT. THE CONTRACTOR SHOULD MAKE HIS OWN INVESTIGATION AS TO THE SUBSURFACE CONDITIONS.

**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  
WATER - CHARLOTTE MECKLENBURG UTILITIES  
ELECTRIC POWER - DUKE ENERGY  
ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS, EXCEPT AS SHOWN ON THE 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
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	
815.03	Pipe Underdrain and Blind Drain
840.00	Concrete Base Pad for Drainage Structures
840.18	Concrete Grated Drop Inlet Type 'B' - 12" thru 36" Pipe
840.24	Frames and Narrow Slot Sag Grates
840.25	Anchorage for Frames - Brick or Concrete
840.27	Brick Grated Drop Inlet Type 'B' - 12" thru 36" Pipe
840.29	Frames and Narrow Slot Flat Grates
840.35	Traffic Bearing Grated Drop Inlet - for Cast Iron Double Frame and Grates
840.45	Precast Drainage Structure
840.46	Traffic Bearing Precast Drainage Structure
840.66	Drainage Structure Steps
846.01	Concrete Curb, Gutter and Curb & Gutter
846.04	Drop Inlet Installation in Shoulder Berm Gutter
862.01	Guardrail Placement
862.02	Guardrail Installation
862.03	Structure Anchor Units
866.02	Woven Wire Fence - with Wood Post
876.02	Guide for Rip Rap at Pipe Outlets

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	○ EIP
Property Corner	----->
Property Monument	□ ECM
Parcel/Sequence Number	⑫
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	CSX TRANSPORTATION MILEPOST 35
Switch	SWITCH
RR Abandoned	-----
RR Dismantled	-----

## RIGHT OF WAY:

Baseline Control Point	◆
Existing Right of Way Marker	△
Existing Right of Way Line	-----
Proposed Right of Way Line	-----
Proposed Right of Way Line with Iron Pin and Cap Marker	○
Proposed Right of Way Line with Concrete or Granite 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	--- C ---
Proposed Slope Stakes Fill	--- F ---
Proposed Curb Ramp	○ CR
Existing Metal Guardrail	--- T ---
Proposed Guardrail	--- T ---
Existing Cable Guiderail	--- P ---
Proposed Cable Guiderail	--- P ---
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	⊕
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	-----

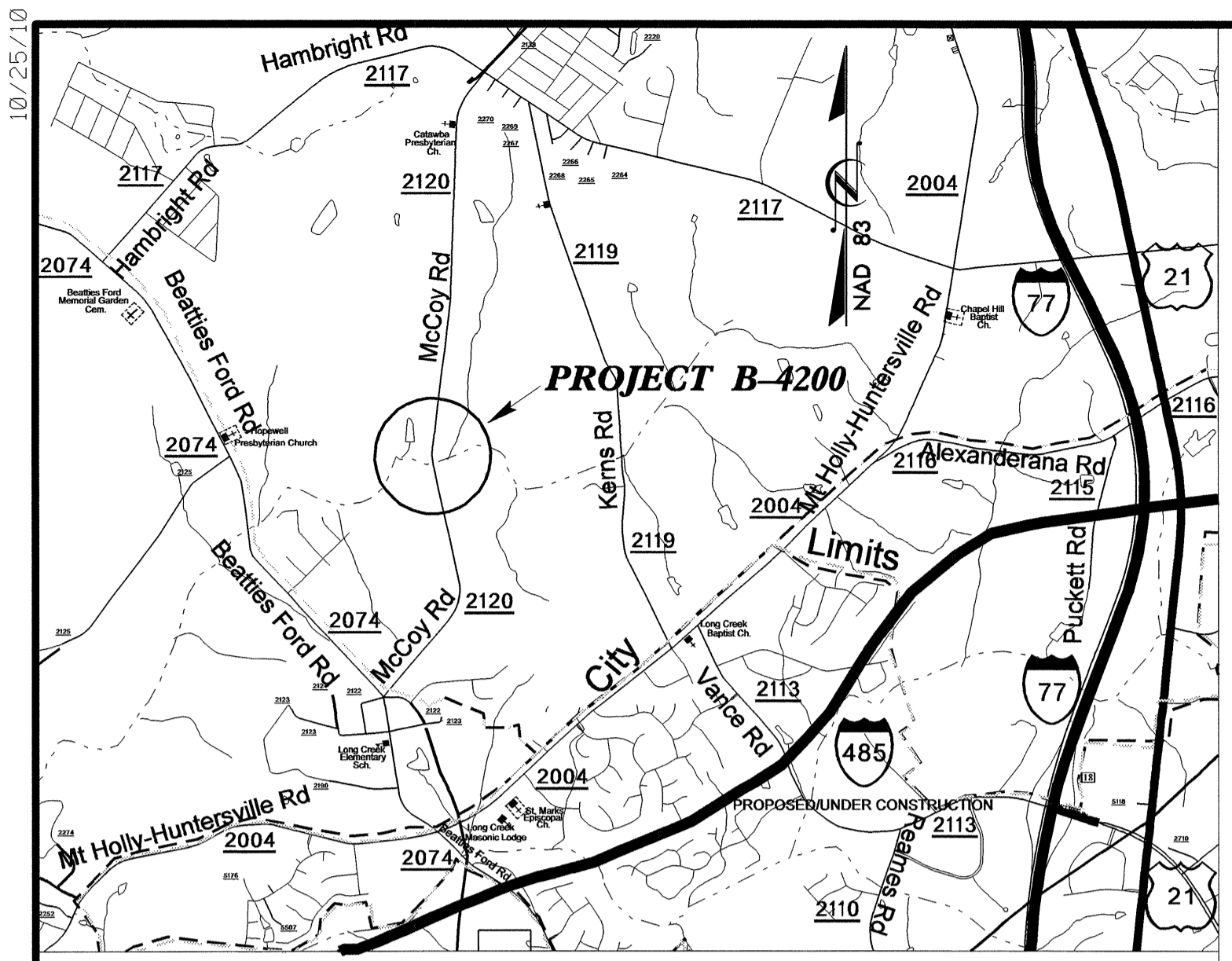
## SANITARY SEWER:

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	AATUR
End of Information	E.O.I.

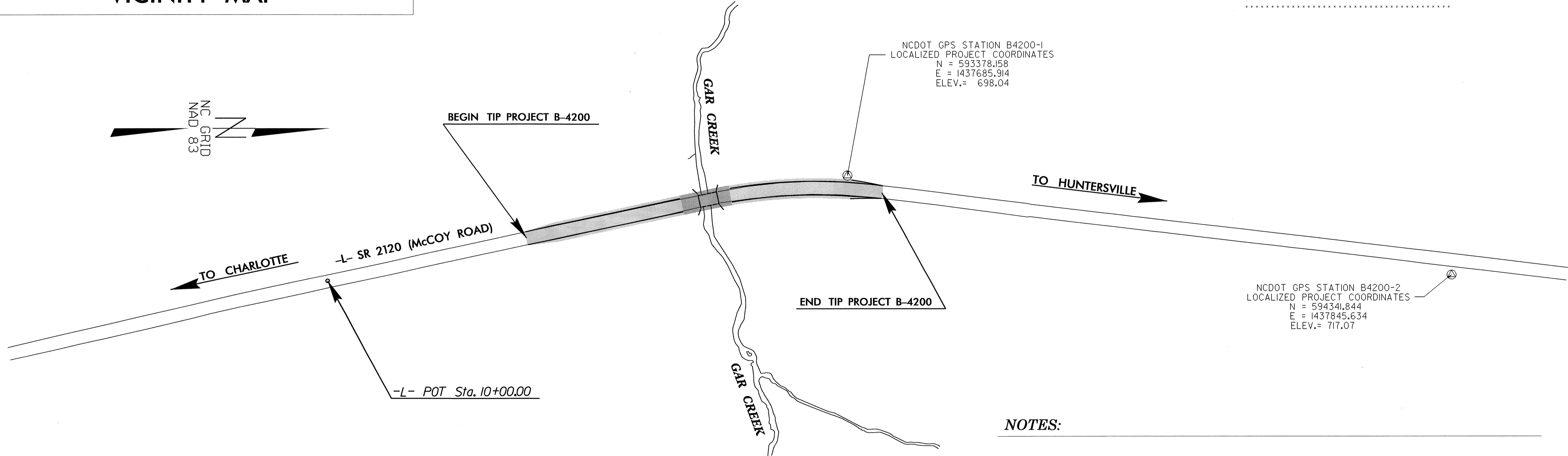
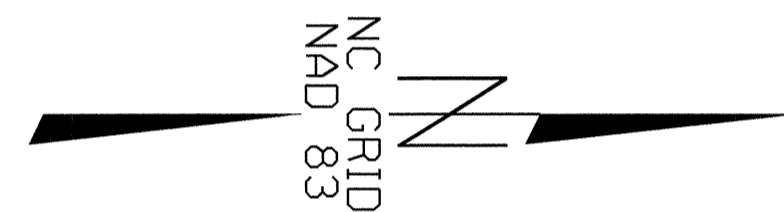
# SURVEY CONTROL SHEET



**VICINITY MAP**

BL	POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
4		BL-4	592359.7460	1437919.1520	706.51	OUTSIDE PROJECT LIMITS	
3		BL-3	593132.2460	1437716.2160	692.46	15+99.70	12.76 LT
1		B4200-1	593378.1580	1437685.9140	698.04	18+43.34	21.68 LT
2		B4200-2	594341.8440	1437845.6340	717.07	OUTSIDE PROJECT LIMITS	

.....  
 BM1 ELEVATION = 707.20  
 N 592398 E 1437865  
 L STATION 10+00  
 S 3° 21' 42.1" E DIST 151.65  
 RR SPIKE IN BASE OF 18 INCH PINE  
 .....  
 BM2 ELEVATION = 692.34  
 N 593144 E 1437742  
 L STATION 16+06 15 RIGHT  
 RR SPIKE IN TOP OF A PIER SUPPORT OF THE BRIDGE  
 .....  
 BM3 ELEVATION = 703.69  
 N 593591 E 1437702  
 L STATION 20+56 29 LEFT  
 RR SPIKE IN BASE OF FENCE POST  
 .....



NCDOT GPS STATION B4200-1  
 LOCALIZED PROJECT COORDINATES  
 N = 593378.158  
 E = 1437685.914  
 ELEV. = 698.04

NCDOT GPS STATION B4200-2  
 LOCALIZED PROJECT COORDINATES  
 N = 594341.844  
 E = 1437845.634  
 ELEV. = 717.07

**DATUM DESCRIPTION**

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B4200-1"

WITH NAD 83 STATE PLANE GRID COORDINATES OF  
 NORTHING: 593378.158(ft) EASTING: 1437685.914(ft)  
 THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.9998460

THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B4200-1" TO -L- STATION 10+00.00 IS  
 S 11°35'39.8" E 846.492

ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES  
 VERTICAL DATUM USED IS NAVD 88

*Design Alignment*

	L	NORTH	EAST
POT	10+00.00	592548.9385	1437856.0436
PC	16+20.98	593155.7561	1437724.1674
PT	18+87.67	593420.9121	1437711.6114
POT	24+65.00	593994.1359	1437780.3588

**NOTES:**

- THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:  
[HTTP://WWW.NCDOT.ORG/DOH/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT/](http://www.ncdot.org/DOH/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT/)  
 THE FILES TO BE FOUND ARE AS FOLLOWS:  
 B4200\_LS\_CONTROL\_081008.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 NGS ONLINE POSITIONING SERVICE (OPUS)

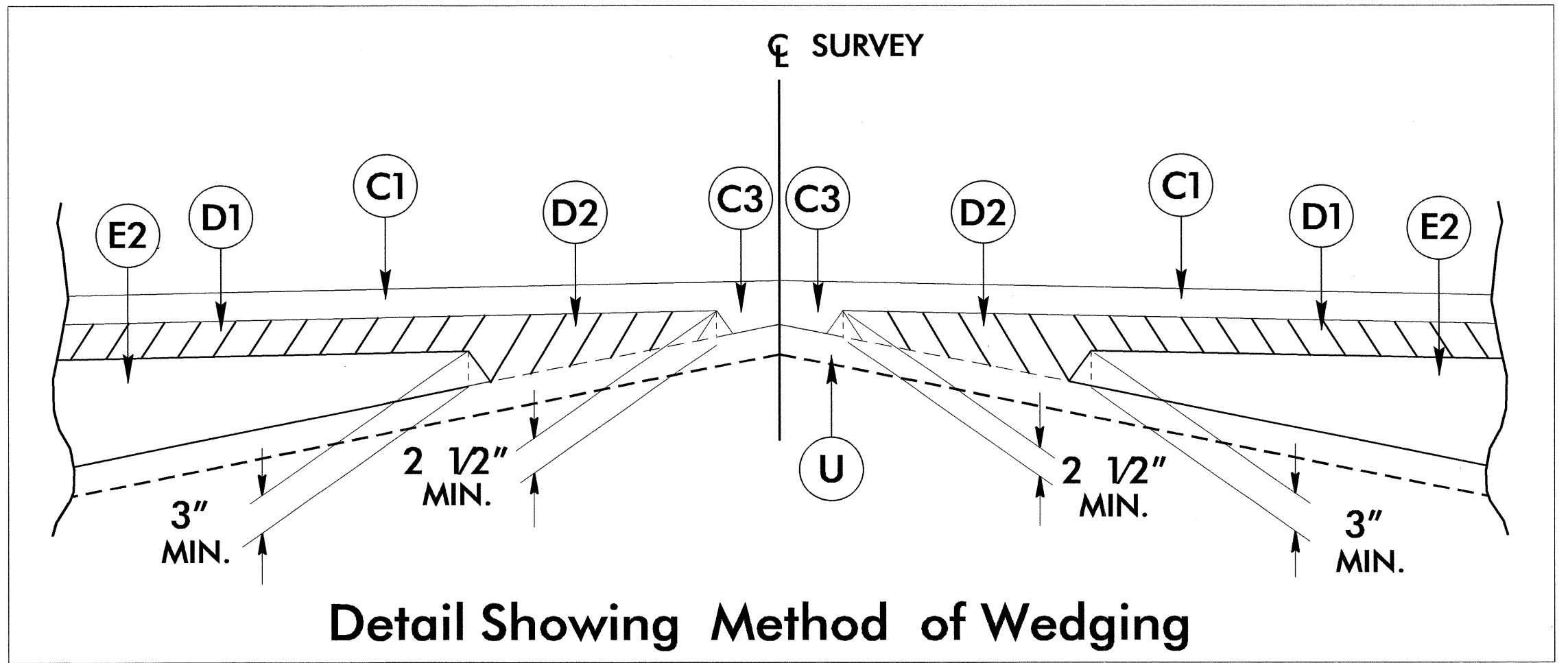
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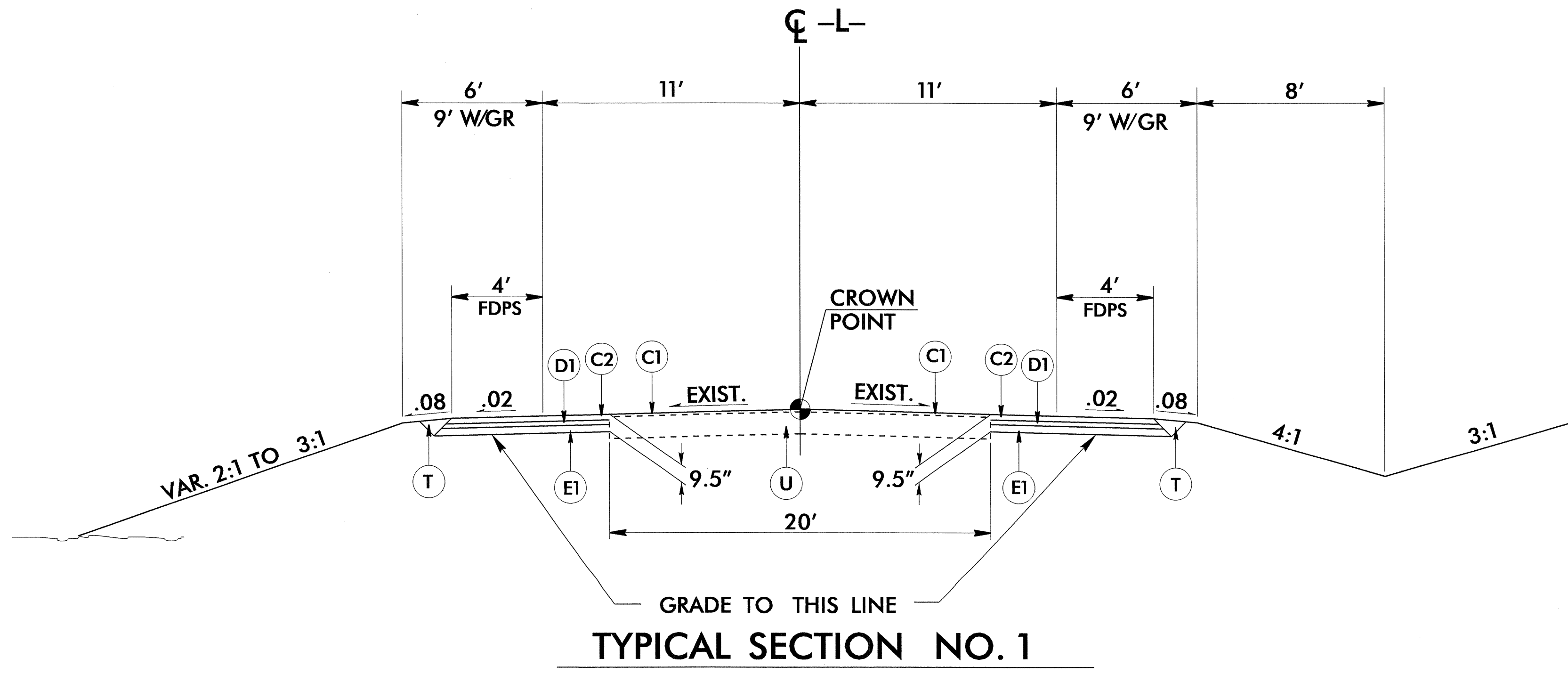
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PROJECT REFERENCE NO. B-4200	SHEET NO. 2
ROADWAY DESIGN ENGINEER DANIEL W. GARDNER SEAL 33871	PAVEMENT DESIGN ENGINEER CLARK S. MORRISON SEAL 22896

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 1/2" 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.
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V	MILLING EXISTING ASPHALT PAVEMENT, 0" TO 1 1/2" DEPTH
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL)



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



NOTE: TRANSITION FROM EXISTING TO TYPICAL SECTION NO. 1  
-L- STA 13+25.00 TO STA 13+75.00

USE TYPICAL SECTION NO. 1 AS FOLLOWS

- L- STA 13+75.00 TO STA 14+75.00
- L- STA 17+25.00 TO STA 18+50.00

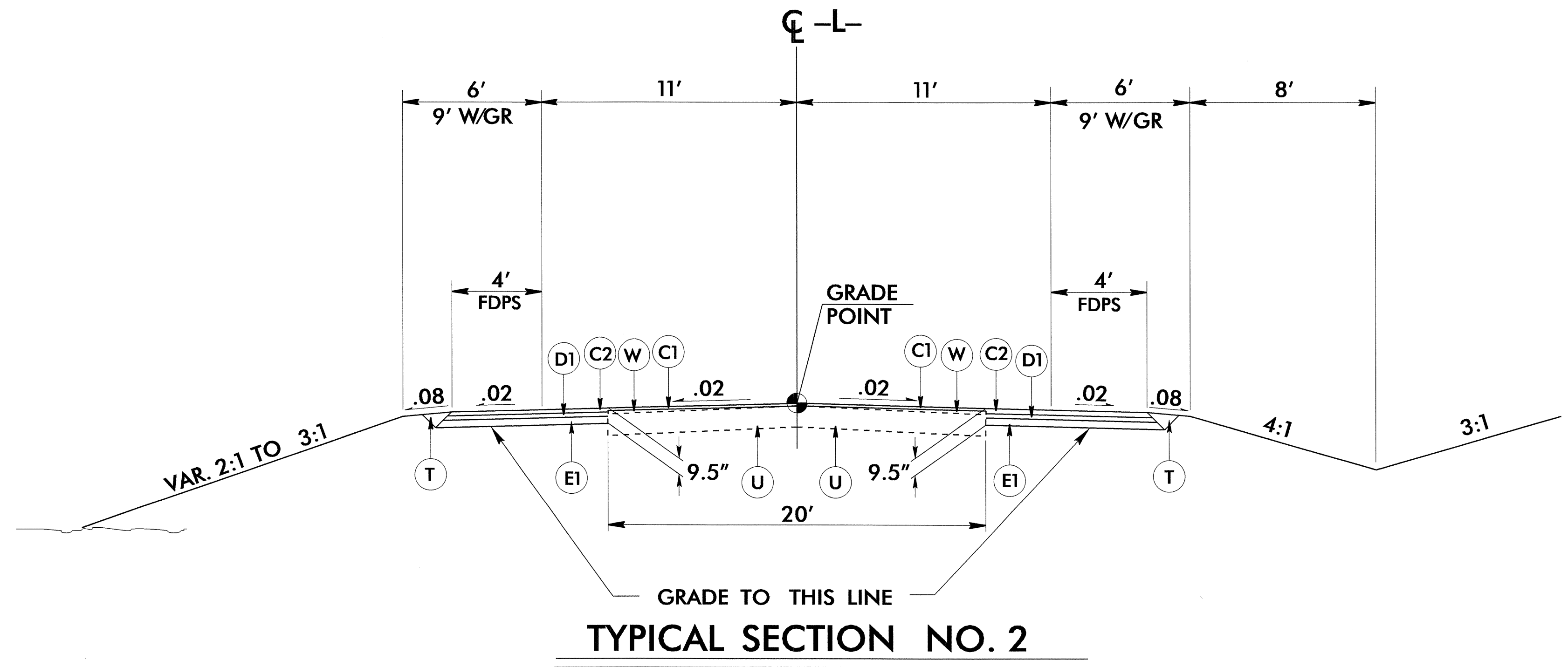
NOTE: TRANSITION FROM TYPICAL SECTION NO. 1 TO EXISTING  
-L- STA 18+50.00 TO STA. 19+00.00

NOTE: MILL PAVEMENT TIE-INS AT -L- STA. 13+25.00 TO STA. 14+00.00  
AND -L- STA. 18+25.00 TO STA. 19+00.00

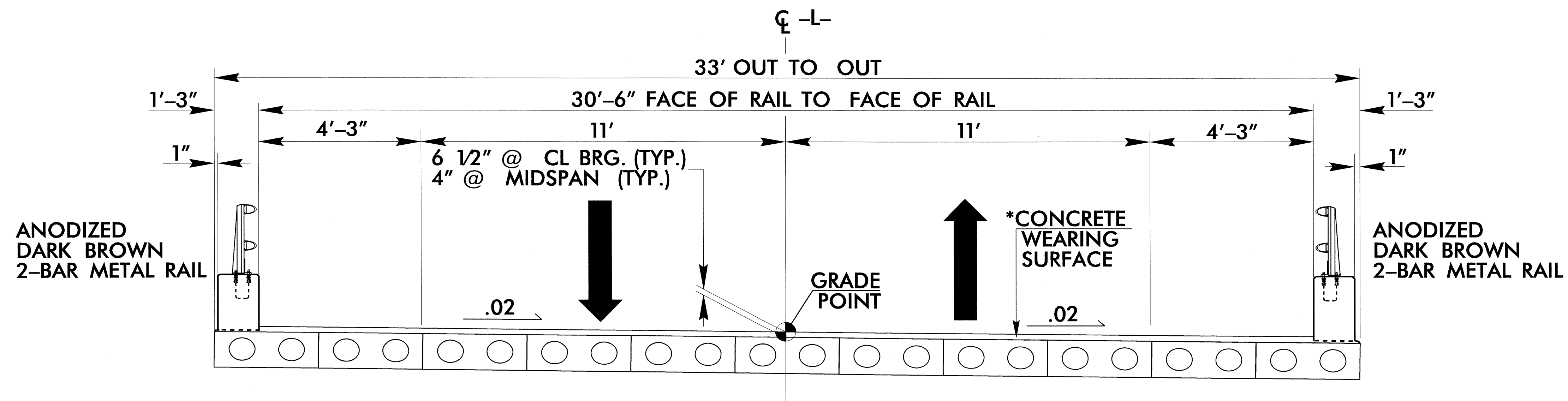
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6/2/09

PROJECT REFERENCE NO. B-4200	SHEET NO. 2-A
ROADWAY DESIGN ENGINEER DANIEL W. GARDNER SEAL 33871 11/22/11	PAVEMENT DESIGN ENGINEER CLAYTON S. MORRISON SEAL 22898 11/21/11
<b>PAVEMENT SCHEDULE</b>	
C1	1½" S9.5B
C2	3" S9.5B
C3	VAR. DEPTH S9.5B
D1	2½" I19.0B
D2	VAR. DEPTH I19.0B
E1	4" B25.0B
E2	VAR. DEPTH B25.0B
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V	MILLING, 0" TO 1½" DEPTH
W	WEDGING



**USE TYPICAL SECTION NO. 2 AS FOLLOWS**  
 -L- STA 14+75.00 TO STA 15+88.00 (BEGIN BRIDGE)  
 -L- STA. 16+46.00 (END BRIDGE) TO STA. 17+25.00

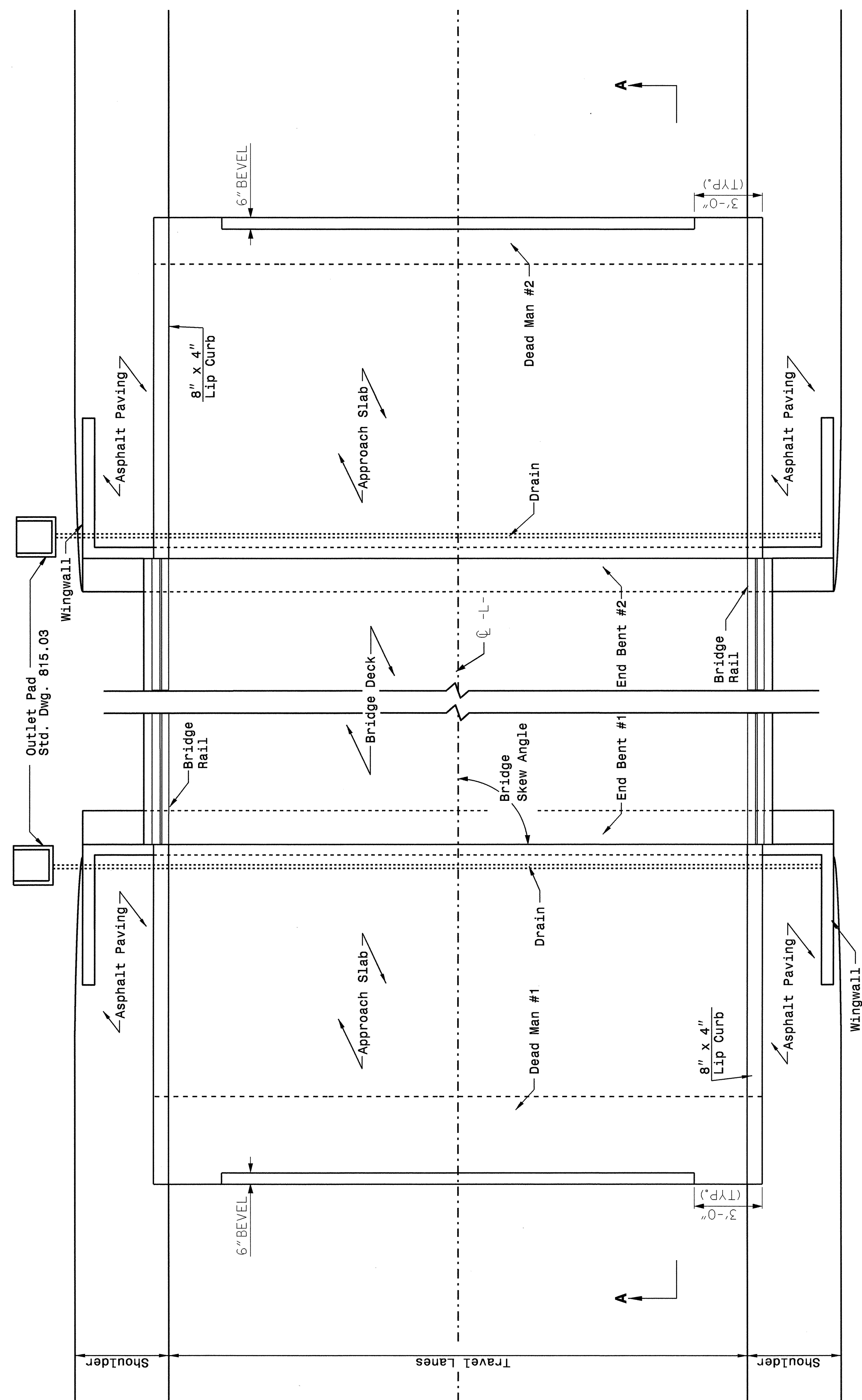


**\*STRUCTURE PAY ITEM**  
 SR 2120 (McCOY ROAD) IS DESIGNATED A BICYCLE ROUTE.

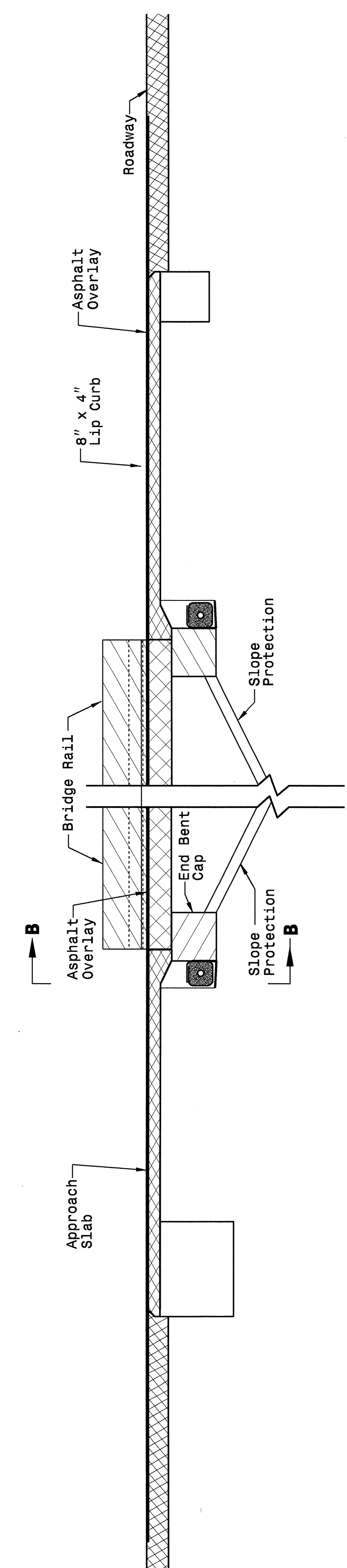
**USE TYPICAL SECTION NO. 3 AS FOLLOWS**  
 -L- STA. 15+88.00 (BEGIN BRIDGE) TO STA. 16+46.00 (END BRIDGE)

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 33871

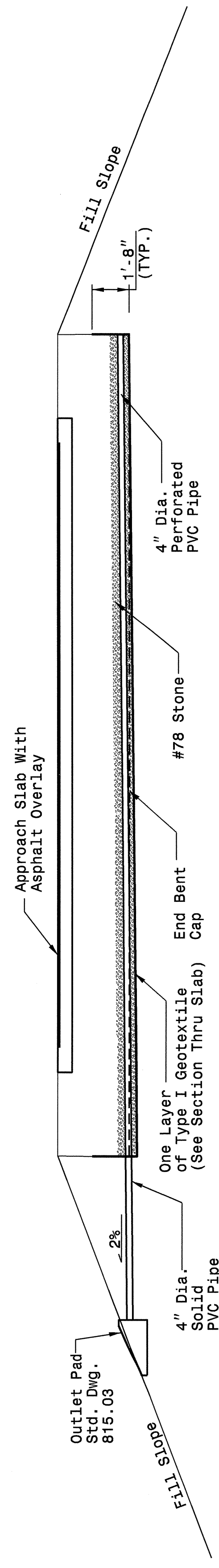
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 \$\$\$USERNAME\$\$\$



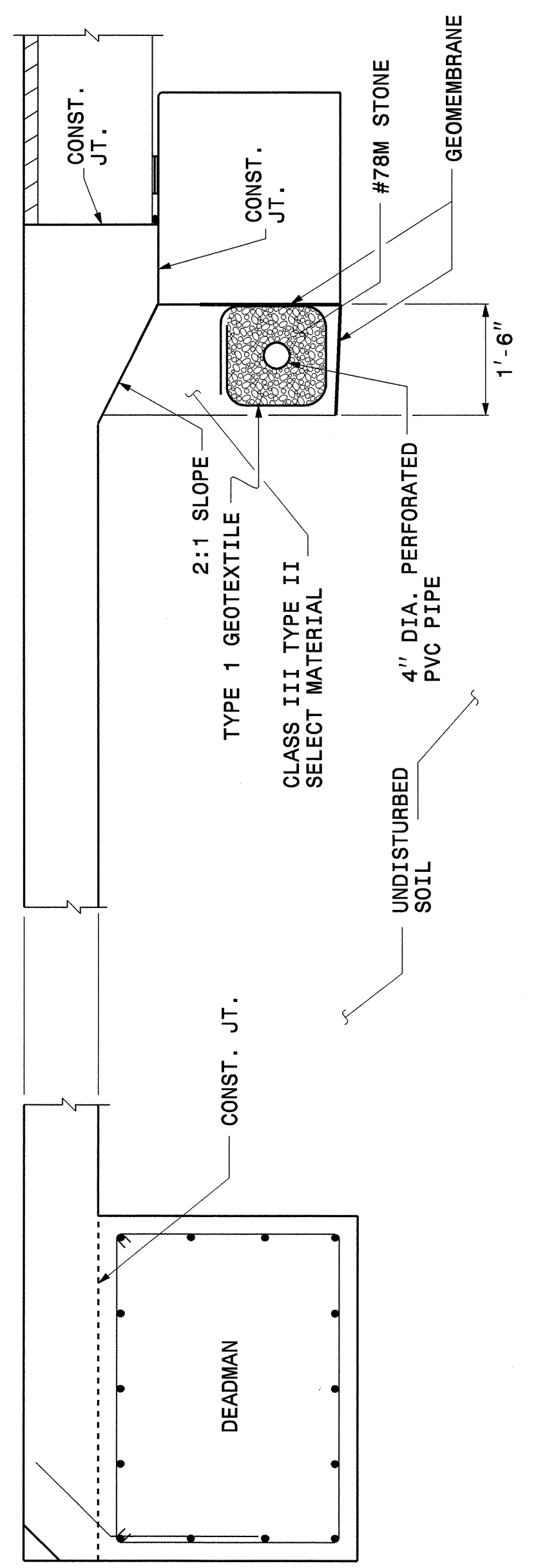
**PLAN VIEW  
APPROACH SLAB**



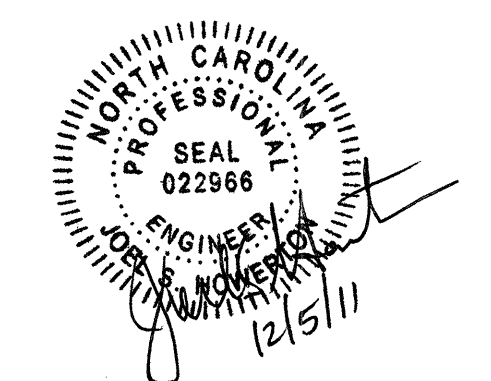
**SECTION A-A**



**SECTION B-B**



**SECTION THRU SLAB**



<b>CONTRACT STANDARDS AND DEVELOPMENT UNIT</b>	
Office 919-707-6950 FAX 919-250-4119	
<b>BRIDGE APPROACH FILLS</b>	
ORIGINAL BY: K. A. Kempf	DATE: 2-12-10
MODIFIED BY:	DATE:
CHECKED BY: <i>[Signature]</i>	DATE: 11/30/11
FILE SPEC.: 06-305 to special details\4221\bridge approach fills sub req 11er.dgn	

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS  
ROADWAY SUMMARY OF QUANTITIES FOR CONTRACT - C202776

ItemNumber	Sec #	Quantity	Unit	Description
0000100000-N	800	Lump Sum		MOBILIZATION
0000400000-N	801	Lump Sum		CONSTRUCTION SURVEYING
0030000000-N	SP	Lump Sum		BRIDGE APPROACH FILL - SUB REGIONAL TIER, STATION ***** (16+17.00 -L-)
0043000000-N	226	Lump Sum		GRADING
0050000000-E	226	1	ACR	SUPPLEMENTARY CLEARING & GRUB-BING
0057000000-E	226	500	CY	UNDERCUT EXCAVATION
0134000000-E	240	223	CY	DRAINAGE DITCH EXCAVATION
0195000000-E	265	2,500	CY	SELECT GRANULAR MATERIAL
0196000000-E	270	2,600	SY	GEOTEXTILE FOR SOIL STABILIZATION
0318000000-E	300	18	TON	FOUNDATION CONDITIONING MATERIAL, MINOR STRUCTURES
0320000000-E	300	82	SY	FOUNDATION CONDITIONING GEOTEXTILE
0582000000-E	310	64	LF	15" CS PIPE CULVERTS, 0.064" THICK
0636000000-E	310	2	EA	*** CS PIPE ELBOWS, ***** THICK (15", 0.064")
1099500000-E	505	175	CY	SHALLOW UNDERCUT
1099700000-E	505	350	TON	CLASS IV SUBGRADE STABILIZATION
1220000000-E	545	100	TON	INCIDENTAL STONE BASE
1308000000-E	607	340	SY	MILLING ASPHALT PAVEMENT, **** TO ***** (0" to 1-1/2")
1330000000-E	607	270	SY	INCIDENTAL MILLING
1489000000-E	610	150	TON	ASPHALT CONC BASE COURSE, TYPE B25.0B
1498000000-E	610	100	TON	ASPHALT CONC INTERMEDIATE COURSE, TYPE H19.0B
1519000000-E	610	220	TON	ASPHALT CONC SURFACE COURSE, TYPE S9.5B
1575000000-E	620	25	TON	ASPHALT BINDER FOR PLANT MIX

SUMMARY OF QUANTITIES - B-4200

ItemNumber	Sec #	Quantity	Unit	Description
1693000000-E	654	50	TON	ASPHALT PLANT MIX, PAVEMENT REPAIR
2022000000-E	815	56	CY	SUBDRAIN EXCAVATION
2033000000-E	815	42	CY	SUBDRAIN FINE AGGREGATE
2044000000-E	815	250	LF	6" PERFORATED SUBDRAIN PIPE
2070000000-N	815	1	EA	SUBDRAIN PIPE OUTLET
2077000000-E	815	6	LF	6" OUTLET PIPE
2286000000-N	840	2	EA	MASONRY DRAINAGE STRUCTURES
2366000000-N	840	1	EA	FRAME WITH TWO GRATES, STD 840.24
2367000000-N	840	1	EA	FRAME WITH TWO GRATES, STD 840.29
2556000000-E	846	10	LF	SHOULDER BERM GUTTER
3420000000-E	SP	75	LF	GENERIC GUARDRAIL ITEM PAINTED GALVANIZED STEEL BEAM GUARDRAIL
3435000000-N	SP	5	EA	GENERIC GUARDRAIL ITEM PAINTED GALVANIZED ADDITIONAL GUARDRAIL POSTS
3435000000-N	SP	4	EA	GENERIC GUARDRAIL ITEM PAINTED GALVANIZED ANCHOR UNITS, TYPE 350
3435000000-N	SP	4	EA	GENERIC GUARDRAIL ITEM PAINTED GALVANIZED ANCHOR UNITS, TYPE III
3503000000-E	866	1,200	LF	WOVEN WIRE FENCE, 47" FABRIC
3509000000-E	866	60	EA	4" TIMBER FENCE POSTS, 7'-6" LONG
3515000000-E	866	60	EA	5" TIMBER FENCE POSTS, 8'-0" LONG
3557000000-E	866	500	LF	ADDITIONAL BARBED WIRE
3575000000-E	SP	1,150	LF	GENERIC FENCING ITEM REMOVE & RESET ELECTRIC FENCE
3578000000-N	SP	5	EA	GENERIC FENCING ITEM REMOVE & RESET METAL GATES
3649000000-E	876	10	TON	RIP RAP, CLASS B
3656000000-E	876	486	SY	GEOTEXTILE FOR DRAINAGE
4400000000-E	1110	366	SF	WORK ZONE SIGNS (STATIONARY)

ItemNumber	Sec #	Quantity	Unit	Description
4410000000-E	1110	104	SF	WORK ZONE SIGNS (BARRICADE MOUNTED)
4445000000-E	1145	80	LF	BARRICADES (TYPE III)
5326600000-E	1510	155	LF	16" WATER LINE
5810000000-E	1530	155	LF	ABANDON 16" UTILITY PIPE
6000000000-E	1605	1,200	LF	TEMPORARY SILT FENCE
6006000000-E	1610	225	TON	STONE FOR EROSION CONTROL, CLASS A
6009000000-E	1610	60	TON	STONE FOR EROSION CONTROL, CLASS B
6012000000-E	1610	100	TON	SEDIMENT CONTROL STONE
6015000000-E	1615	1.5	ACR	TEMPORARY MULCHING
6018000000-E	1620	100	LB	SEED FOR TEMPORARY SEEDING
6021000000-E	1620	1.25	TON	FERTILIZER FOR TEMPORARY SEEDING
6024000000-E	1622	200	LF	TEMPORARY SLOPE DRAINS
6029000000-E	SP	100	LF	SAFETY FENCE
6030000000-E	1630	130	CY	SILT EXCAVATION
6036000000-E	1631	3,700	SY	MATTING FOR EROSION CONTROL
6037000000-E	SP	10	SY	COIR FIBER MAT
6042000000-E	1632	435	LF	1/4" HARDWARE CLOTH
6071030000-E	1640	100	LF	COIR FIBER BAFFLE
6071050000-E	SP	1	EA	*** SKIMMER (1-1/2")
6084000000-E	1660	3	ACR	SEEDING & MULCHING
6087000000-E	1660	3	ACR	MOWING
6090000000-E	1661	50	LB	SEED FOR REPAIR SEEDING
6093000000-E	1661	0.25	TON	FERTILIZER FOR REPAIR SEEDING
6096000000-E	1662	50	LB	SEED FOR SUPPLEMENTAL SEEDING
6108000000-E	1665	1	TON	FERTILIZER TOPDRESSING
6114500000-N	1667	10	MHR	SPECIALIZED HAND MOWING
6117000000-N	SP	18	EA	RESPONSE FOR EROSION CONTROL

ItemNumber	Sec #	Quantity	Unit	Description
7279000000-E	1715	42	LF	TRACER WIRE
7301000000-E	1715	40	LF	DIRECTIONAL DRILL (***** (2, 2"))



12/06/07

COMPUTED BY: AEV DATE: 12/20/09  
CHECKED BY: DWG DATE: 10/17/11

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO. B-4200  
SHEET NO. 3-A

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

SUB-REGIONAL  
LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48" & UNDER)

Main table listing pipe details including Station, Location, Structure No., Top/Invert Elevations, Slope, Pipe Type (Drainage, C.S., R.C. Class III/IV), Endwalls, Quantities, Frame/Grates, and Remarks.

"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

GUARDRAIL SUMMARY

Table summarizing guardrail requirements, including Survey Line, Station, Length, Warrant Point, Flare Length, W, Painted Dark Brown Guardrail Anchors, Impact Attenuator, and Remarks.

SUMMARY OF EARTHWORK  
IN CUBIC YARDS

Table summarizing earthwork quantities: Station, Station, Unclassified Excavation, Embankment, Borrow, Waste, and various contingencies.

SHOULDER BERM GUTTER SUMMARY

Table summarizing shoulder berm gutter details: Survey Line, Station, Station, Location, Linear Feet, and Total.

SUMMARY OF REMOVAL  
EXISTING ASPHALT PAVEMENT

Table summarizing removal of existing asphalt pavement: Survey Line, Station, Station, Location, Yards, and Total.

WOVEN WIRE FENCE SUMMARY

Table summarizing woven wire fence details: Survey Line, Station, Station, LT/RT, Fabric LF, 4" Posts, 5" Posts, and Remarks.

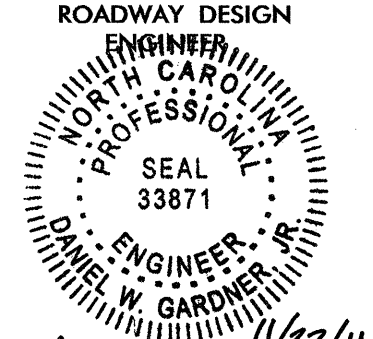
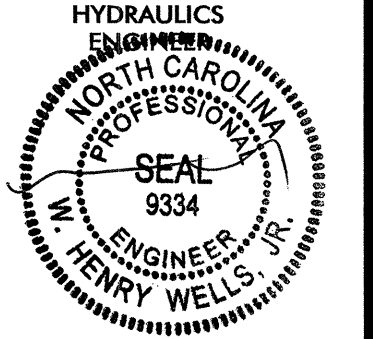

Earthwork quantities are calculated by the Roadway Design Unit. These earthwork quantities are based in part on subsurface data provided by the Geotechnical Engineering Unit.

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

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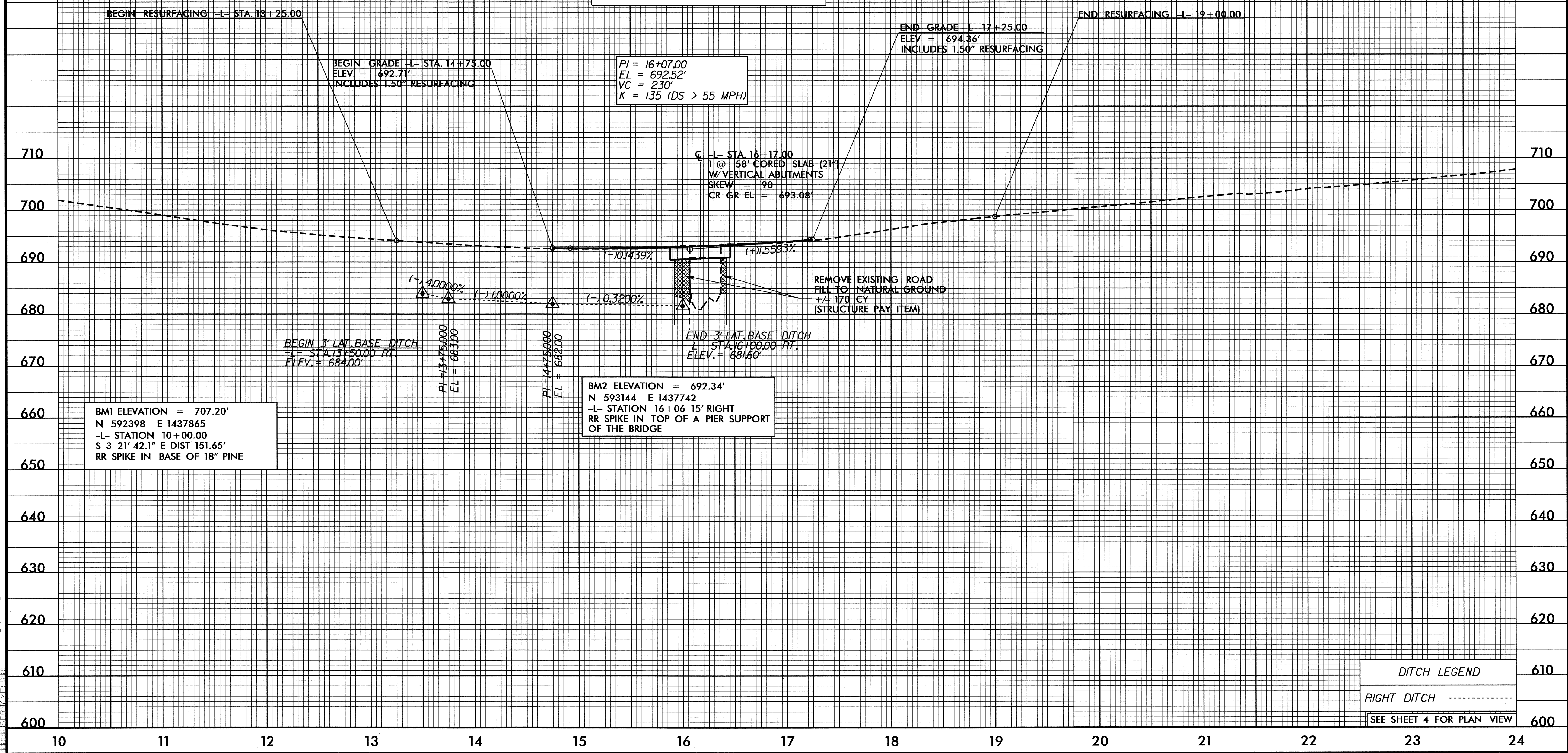
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PROJECT REFERENCE NO. B-4200	SHEET NO. 5
ROADWAY DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 33871 DANIEL W. GARDNER	HYDRAULICS ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 9334 W. HEVRY WELLS
 	
11/22/11 	

**BRIDGE HYDRAULIC DATA**

DESIGN DISCHARGE	= 2342	CFS
DESIGN FREQUENCY	= 25	YRS
DESIGN HW ELEVATION	= 690.5	FT
BASE DISCHARGE	= 3062	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 692.1	FT
OVERTOPPING DISCHARGE	= 4176	CFS
OVERTOPPING FREQUENCY	= 500	YRS
OVERTOPPING ELEVATION	= 693.0	FT
	=	FT
DATE OF SURVEY	= 08/06/08	
W.S. ELEVATION AT DATE OF SURVEY	= 682.2	FT

BM3 ELEVATION = 703.69'  
 N 593591 E 1437702  
 -L- STATION 20+56 29' LEFT  
 RR SPIKE IN BASE OF FENCE POST



BM1 ELEVATION = 707.20'  
 N 592398 E 1437865  
 -L- STATION 10+00.00  
 S 3 21' 42.1" E DIST 151.65'  
 RR SPIKE IN BASE OF 18" PINE

BM2 ELEVATION = 692.34'  
 N 593144 E 1437742  
 -L- STATION 16+06 15' RIGHT  
 RR SPIKE IN TOP OF A PIER SUPPORT OF THE BRIDGE

DITCH LEGEND  
 RIGHT DITCH -----  
 SEE SHEET 4 FOR PLAN VIEW

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