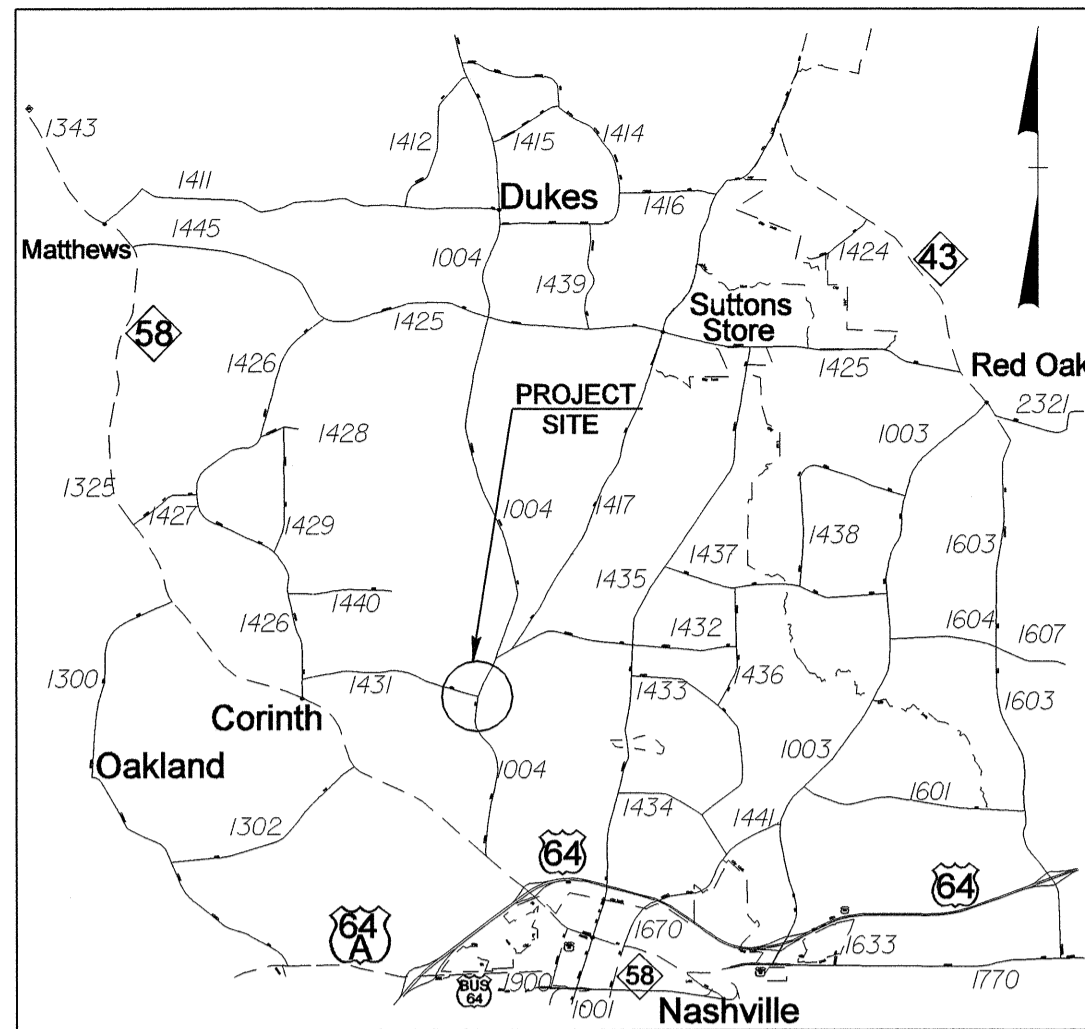


09/08/99

TIP PROJECT: B-3876

CONTRACT: C201491

See Sheet 1-A For Index of Sheets



VICINITY MAP

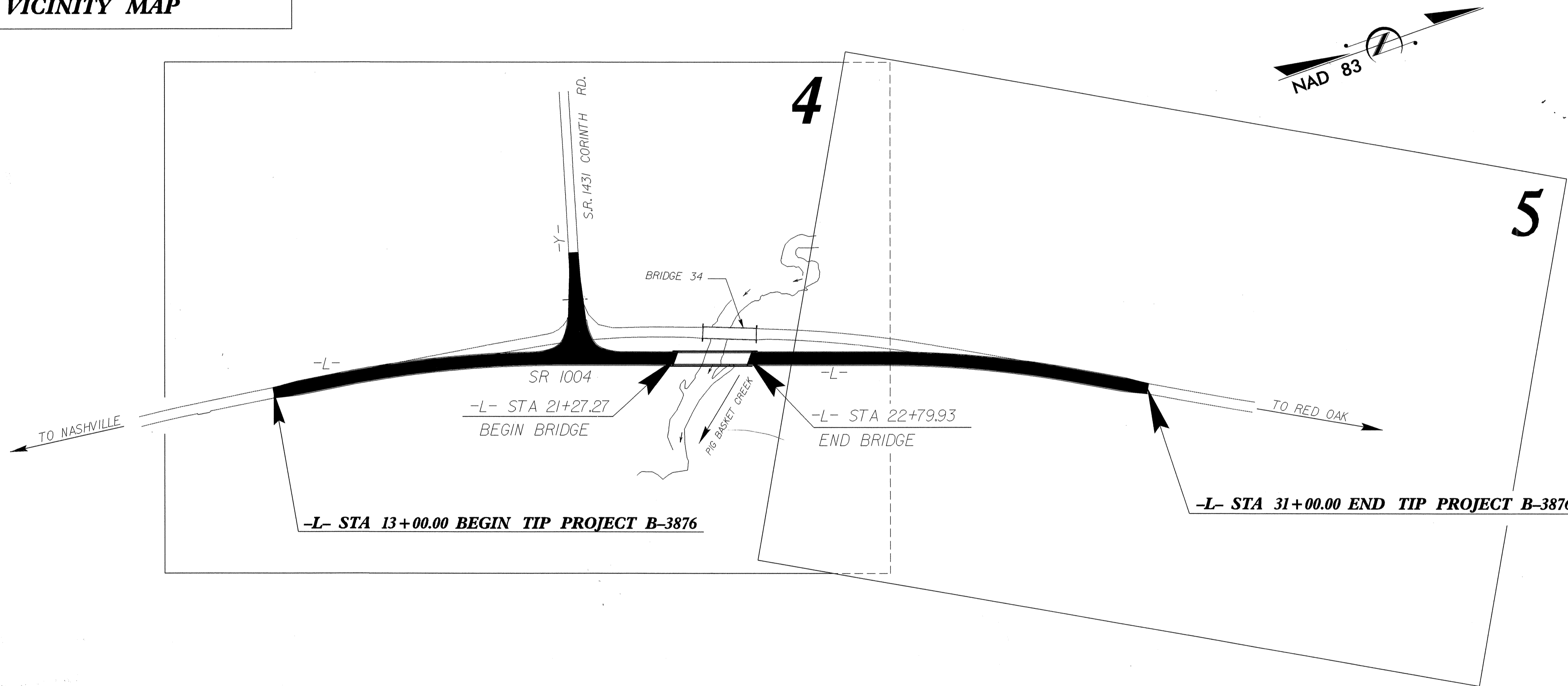
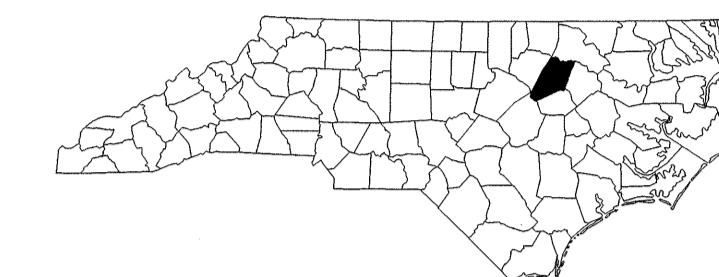
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

NASH COUNTY

LOCATION: BRIDGE 34 ON SR 1004 OVER PIG BASKET CREEK

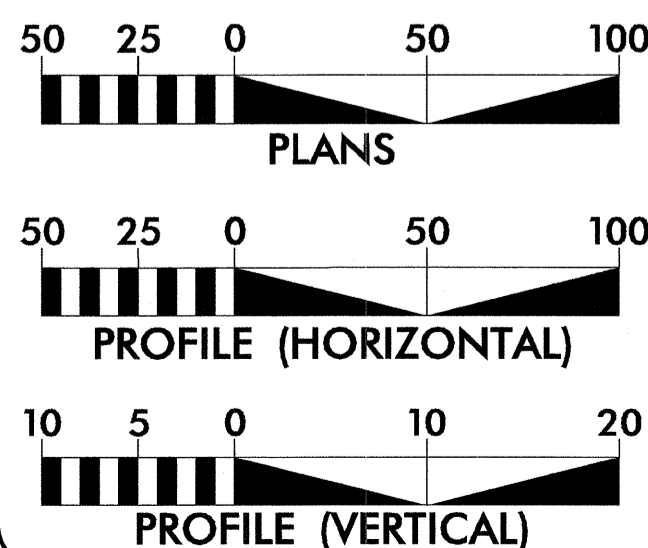
TYPE OF WORK: GRADING, DRAINAGE, PAVING AND STRUCTURE

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-3876	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
33320.1.1	BRZ-1004(9)	PE	
33320.2.2	BRZ-1004(19)	RW & UTL	
33320.3.1	BRZ-1004(20)	CONST.	



** DESIGN EXCEPTION FOR SAG VERTICAL CURVE REQUIRED

GRAPHIC SCALES



DESIGN DATA

ADT 2007 = 3,930
ADT 2025 = 6,300
DHV = 10 %
D = 60 %
T = 3 % *
V = 60 MPH
* TTST 1% DUAL 2%
FUNCTIONAL CLASSIFICATION
RURAL MINOR COLLECTOR

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-3876 = 0.312 MILES
LENGTH STRUCTURE TIP PROJECT B-3876 = 0.029 MILES
TOTAL LENGTH OF TIP PROJECT B-3876 = 0.341 MILES

Prepared in the Office of:

DIVISION OF HIGHWAYS

1000 Birch Ridge Dr., Raleigh NC, 27610

2006 STANDARD SPECIFICATIONS

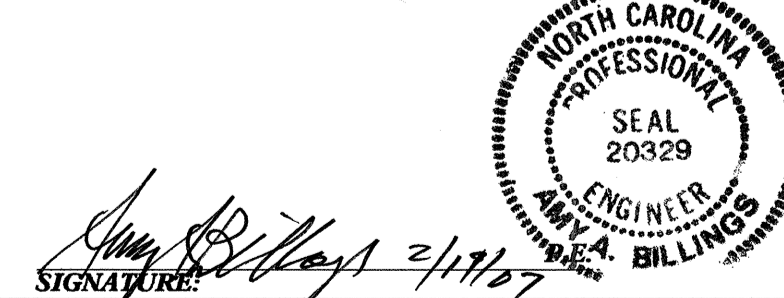
RIGHT OF WAY DATE:
MAY 9, 2005

LETTING DATE:
MAY 15, 2007

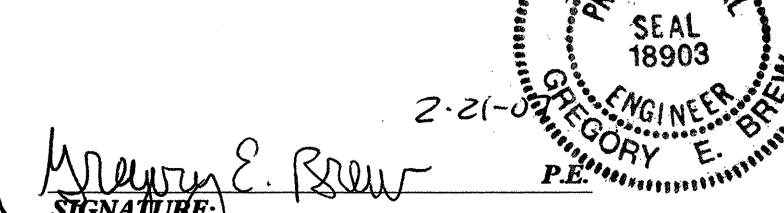
G. E. BREW, PE
PROJECT ENGINEER

I. T. YOUNIS
PROJECT DESIGN ENGINEER

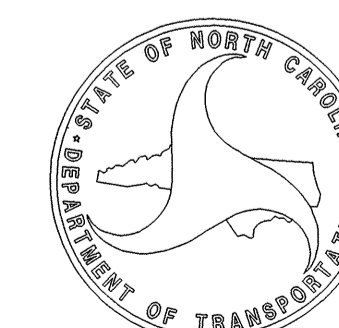
HYDRAULICS ENGINEER



ROADWAY DESIGN
ENGINEER



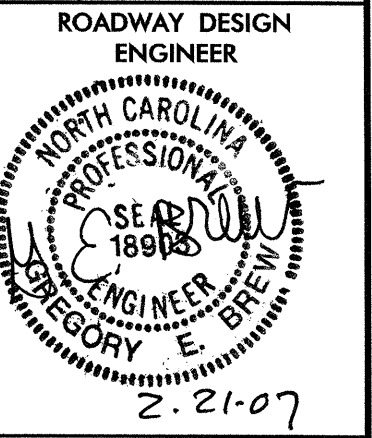
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA



STATE HIGHWAY DESIGN ENGINEER

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

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS



EFF. 07-18-06

SHEET NUMBER	SHEET	2006 ROADWAY STANDARD DRAWINGS
1	TITLE SHEET	The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch - N. C. Department of Transportation - Raleigh, N. C., Dated July 18, 2006 are applicable to this project and by reference hereby are considered a part of these plans:
1-A	INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARD DRAWINGS	STD. NO. TITLE
1-B	CONVENTIONAL SYMBOLS	200.03 Method of Clearing - Method III
1-C	SURVEY CONTROL SHEET	225.02 Guide for Grading Subgrade - Secondary and Local
2 THRU 2-A	PAVEMENT SCHEDULE, TYPICAL SECTIONS, AND WEDGING DETAILS	225.04 Method of Obtaining Superelevation - Two Lane Pavement
2-B	DETAIL OF ANCHORAGE FOR FRAMES-BRICK/ CONCRETE/PRECAST CONCRETE	300.01 Method of Pipe Installation - Method 'A'
3	SUMMARY OF QUANTITIES	310.10 Driveway Pipe Construction
3A	SUMMARY OF DRAINAGE QUANTITIES	422.10 Reinforced Bridge Approach Fills
3B	SUMMARY OF EARTHWORK QUANTITIES AND SUMMARY ASPHALT PAVEMENT REMOVAL	560.01 Method of Shoulder Construction - High Side of Superelevated Curve - Method I
3C	SUMMARY OF GUARDRAIL	654.01 Pavement Repairs
3D	PARCEL INDEX SHEET	806.01 Concrete Right-of-Way Marker
4 THRU 5	PLAN SHEET	806.02 Granite Right-of-Way Marker
6 THRU 7	PROFILE SHEET	838.27 Reinforced Concrete Endwall - for Single 60" Pipe 90 Skew
TCP-1 THRU TCP-8	TRAFFIC CONTROL PLANS	838.57 Reinforced Brick Endwall - for Single 60" Pipe 90 Skew
RF-1 THRU RF-2	REFORESTATION PLANS	840.29 Frames and Narrow Slot Flat Grates
EC-1 THRU EC-7	EROSION CONTROL PLANS	840.35 Traffic Bearing Grated Drop Inlet - for Cast Iron Double Frame and Grates
SIGN-1 THRU SIGN-3	SIGNING PLANS	840.66 Drainage Structure Steps
UD-1 THRU UD-3	UTILITIES PLANS	846.01 Concrete Curb, Gutter and Curb & Gutter
X-1A	CROSS-SECTIONS EARTHWORK SUMMARY	862.01 Guardrail Placement
X-1 THRU X-8	CROSS-SECTIONS	862.02 Guardrail Installation
S-1 THRU S-22	STRUCTURE PLANS	862.03 Structure Anchor Units
		876.04 Drainage Ditches with Class 'B' Rip Rap

GENERAL NOTES: 2006 SPECIFICATIONS
EFFECTIVE: 07-18-06
REVISED:

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.

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
A. PROGRESS ENERGY
B. EMBARO
C. TIME WARNER

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

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	□ EOM
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

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	○
Swamp Marsh	-----
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 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 Utility Easement	----- PUE

ROADS AND RELATED FEATURES:

Existing Edge of Pavement	-----
Existing Curb	-----
Proposed Slope Stakes Cut	----- C
Proposed Slope Stakes Fill	----- F
Proposed Wheel Chair Ramp	○ WCR
Proposed Wheel Chair Ramp Curb Cut	○ WCC
Curb Cut for Future Wheel Chair Ramp	○ CCFR
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	□ 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	-----

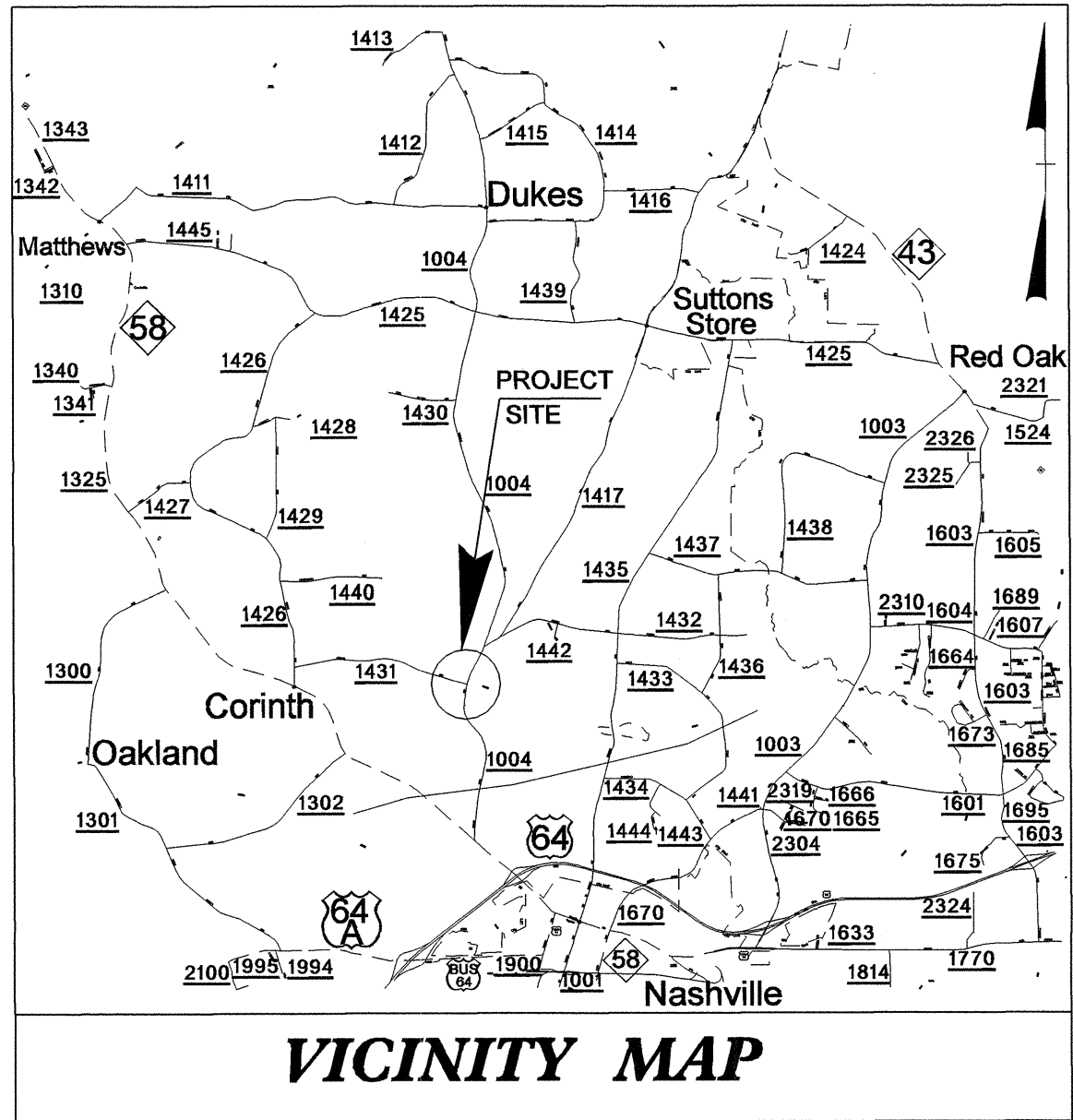
SANITARY SEWER:

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	□
A/G Tank; Water, Gas, Oil	□
U/G Test Hole (S.U.E.*)	○
Abandoned According to Utility Records	AATUR
End of Information	E.O.I.

SURVEY CONTROL SHEET B-3876



BENCHMARK DATA

 205 ELEVATION = 172.23
 N 821148 E 2300884
 L STATION 12+29 66 LEFT

 206 ELEVATION = 150.89
 N 822242 E 2301132
 L STATION 23+39 103 LEFT

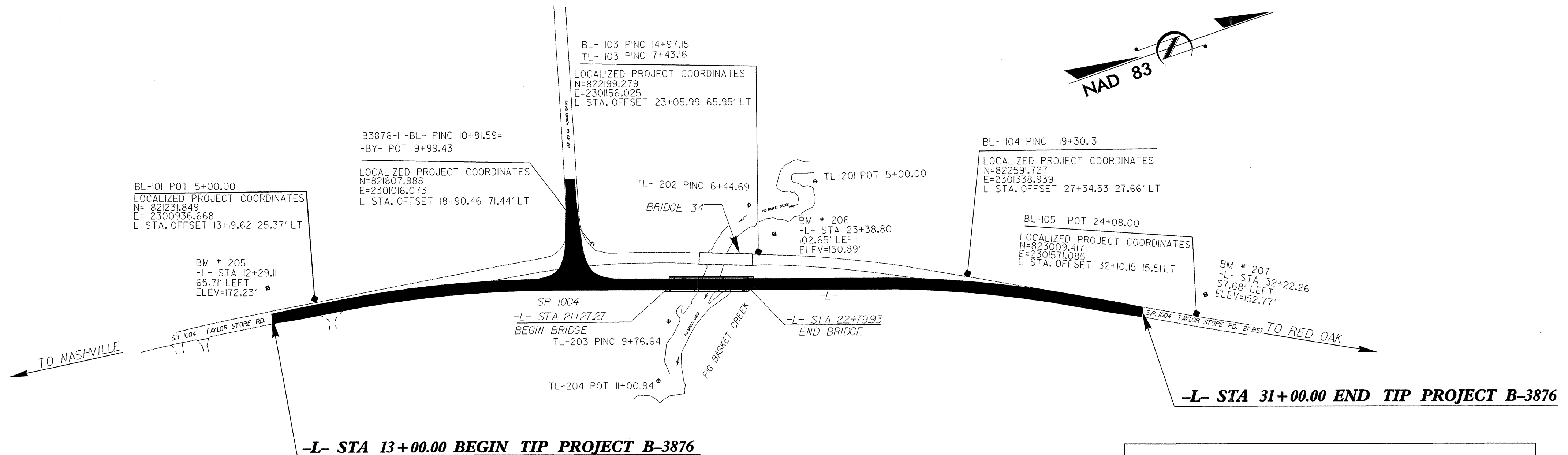
 207 ELEVATION = 152.76
 N 823040 E 2301540
 L STATION 32+22 58 LEFT

BL POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
101	BL-101	821231.8490	2300936.6680	161.60'	13+19.62	25.37 LT
1	GPS B3876-1	821807.9880	2301016.0730	155.61'	18+90.46	71.44 LT
103	BL-103	822199.2790	2301156.0250	157.11	23+05.99	65.95 LT
104	BL-104	822591.7270	2301338.9390	155.13'	27+34.53	27.66 LT
105	BL-105	823009.4170	2301571.0850	154.70'	32+10.15	15.51 LT

BY POINT	DESC.	NORTH	EAST	ELEVATION	Y STATION	OFFSET
198	BY-200	821963.1340	2300541.3470	166.70'	10+94.68	15.40' RT
1	GPS B3876-1	821807.9880	2301016.0730	155.61'	15+93.65	36.93' RT

TL POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
200	TL-201	822357.2840	2301057.8650	148.93'	24+23.62	210.05 LT
201	TL-202	822212.5910	2301058.4680	150.42'	22+86.95	162.55 LT
202	BL-103	822199.2790	2301156.0250	157.11'	23+05.99	65.95 LT
203	TL-203	821977.8980	2301230.2290	148.95'	21+20.64	76.04 RT
204	TL-204	821917.8150	2301339.0390	148.17'	20+99.09	198.45 RT

BY- 200 POT 5+00.00
 LOCALIZED PROJECT COORDINATES
 N=821963.134
 E=2300541.347
 Y STA. OFFSET 10+94.69 15.40' RT



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/
 FILE: B3876_LS_CONTROL_041201.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 UTILIZING GLOBAL POSITIONING SYSTEM.
- NETWORK ESTABLISHED FROM EXISTING HARN MONUMENTATION.

NOTE: DRAWING NOT TO SCALE

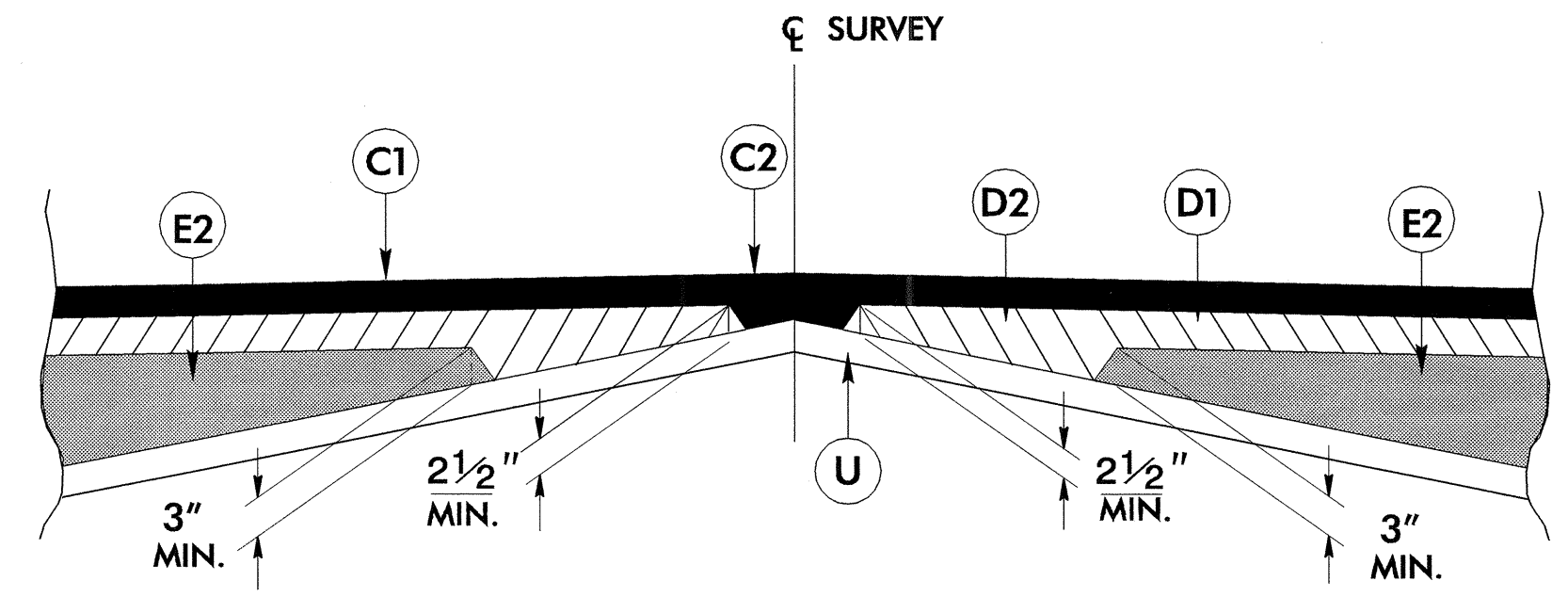
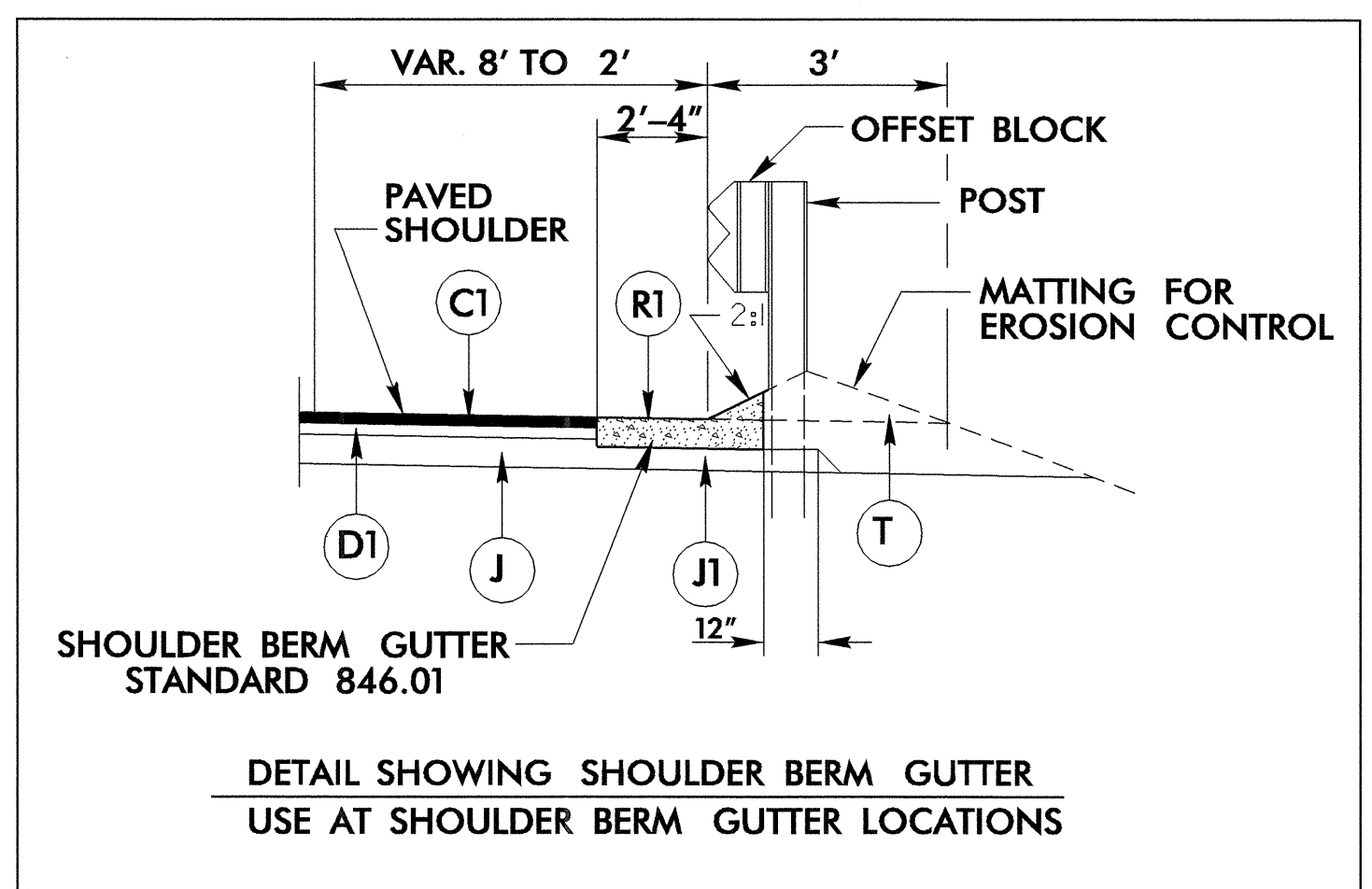
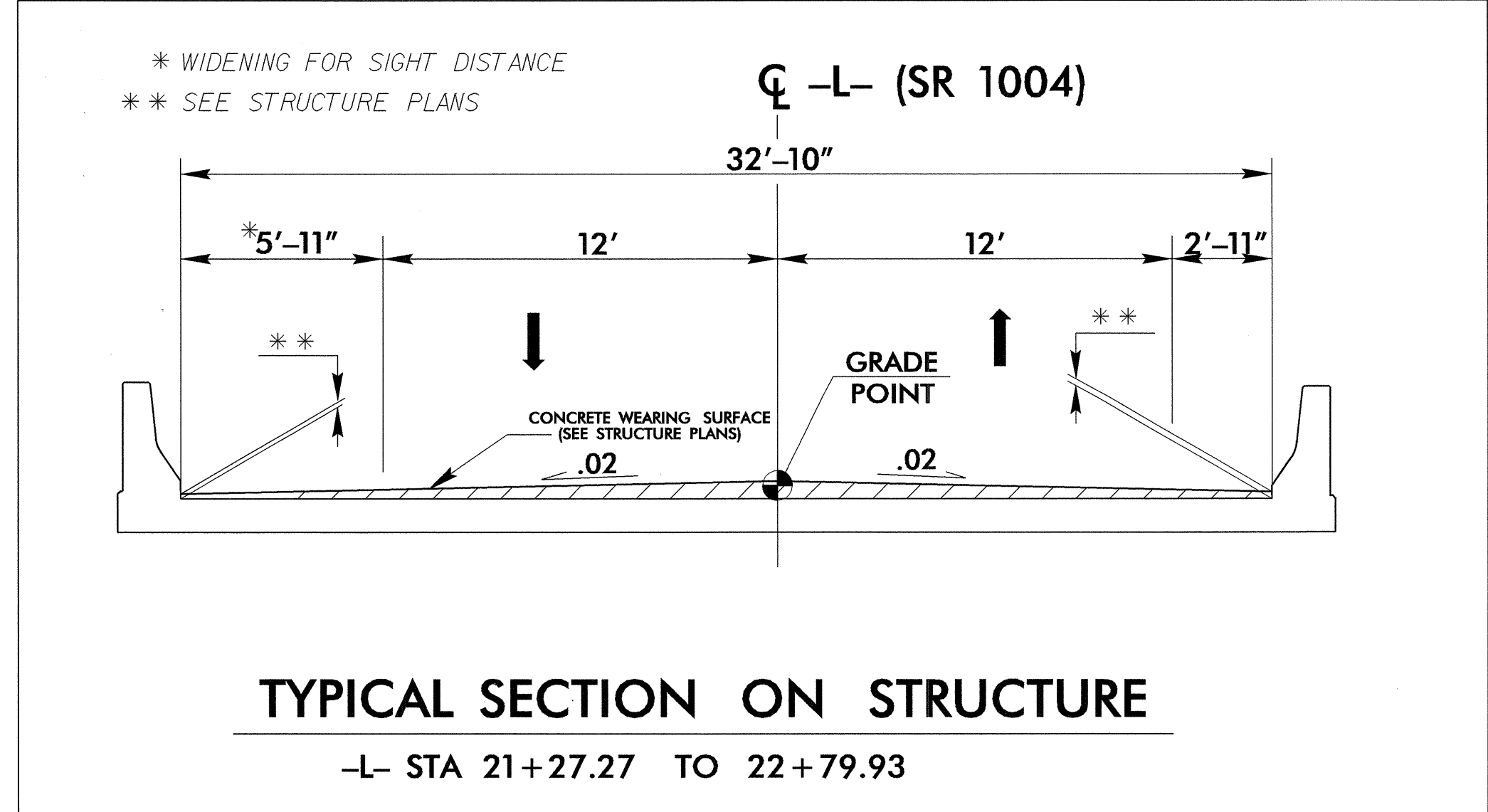
DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B3876-1" WITH NAD 1983/95 STATE PLANE GRID COORDINATES OF NORTHING: 821807.9889 (ft) EASTING: 2301016.0738 (ft) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.999892989 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B3876-1" TO L- STA 13+00 IS S 5° 26' 04.74" W 601.795' ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NAVD 88

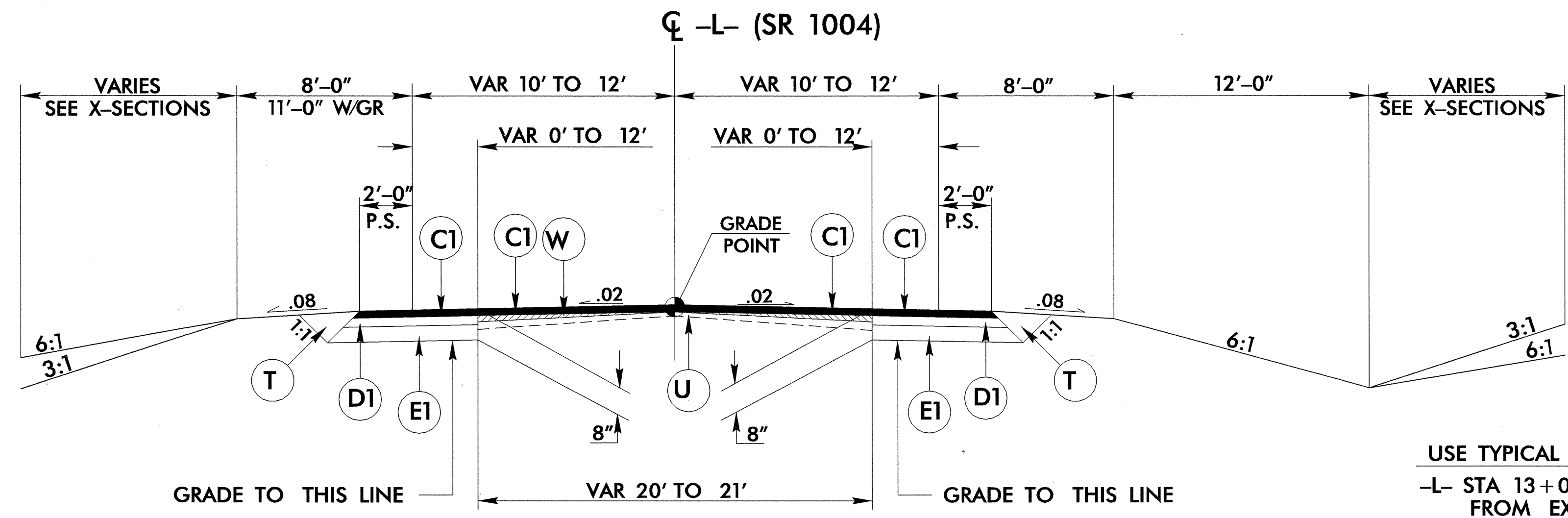
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 USER:RAMESS

FINAL 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. 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. 2½" 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 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. 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 5½" IN DEPTH.
J	PROP. 8" AGGREGATE BASE COURSE.
J1	PROP. VAR. DEPTH AGGREGATE BASE COURSE.
R1	SHOULDER BERM GUTTER.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	VARIABLE DEPTH ASPHALT PAVEMENT. (SEE WEDGING DETAIL)

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



USE WITH TYPICAL SECTIONS 1 & 3



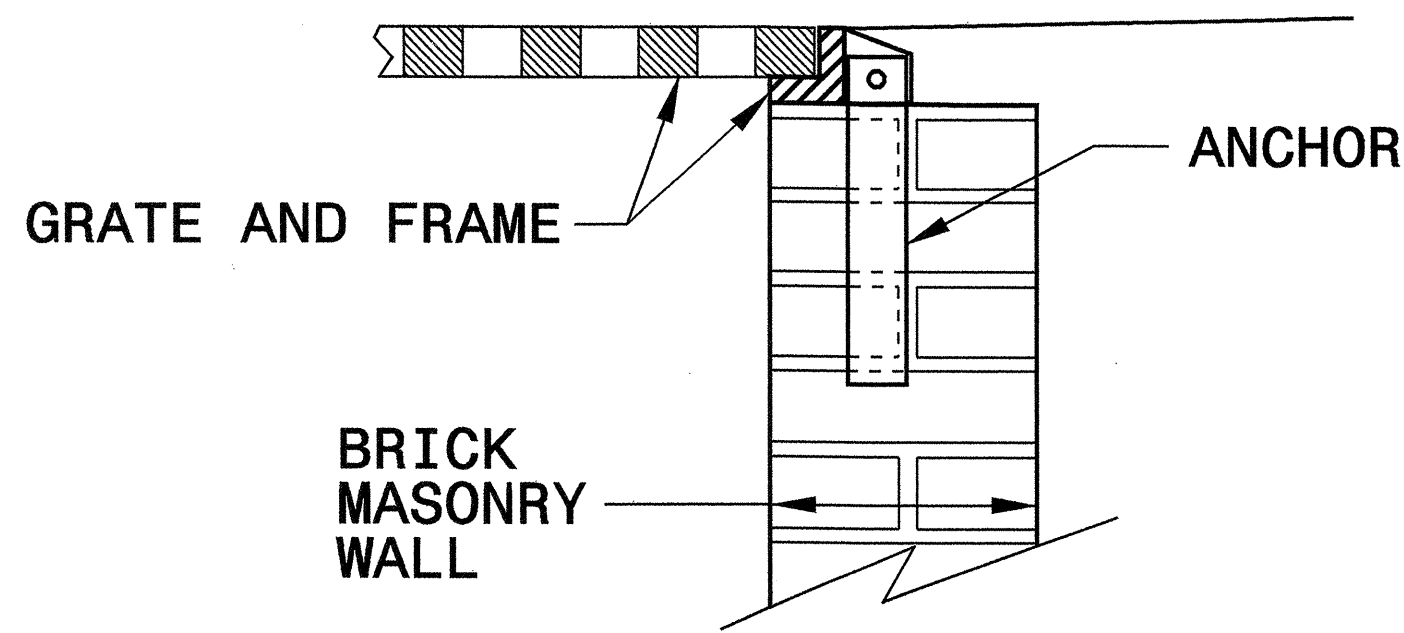
TYPICAL SECTION NO. 1

- USE TYPICAL SECTION NO. 1
- L- STA 13+00.00 TO 13+50.00 TRANSITION FROM EXISTING TO T.S. 1
 - L- STA 13+50.00 TO 17+50.00
 - L- STA 26+50.00 TO 30+50.00
 - L- STA 30+50.00 TO 31+00.00 TRANSITION FROM T.S. 1 TO EXISTING

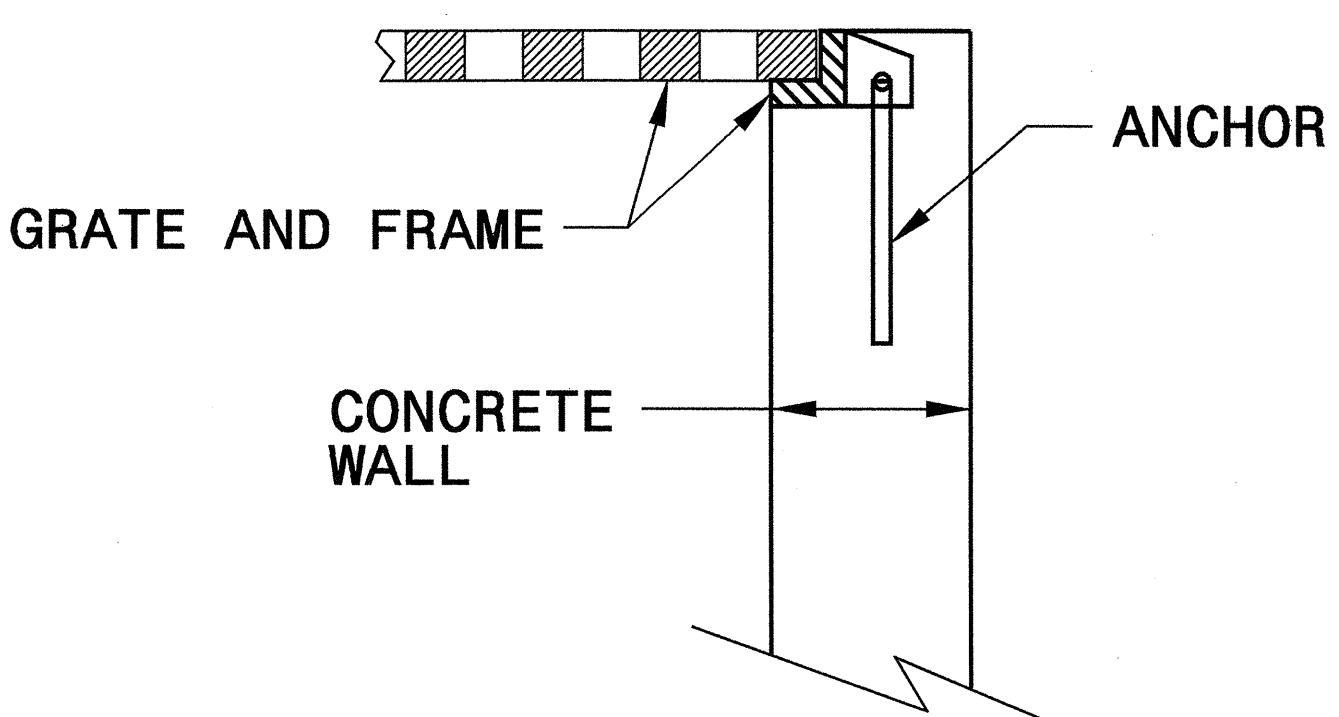
STATE OF
NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR
ANCHORAGE FOR FRAMES
BRICK/CONCRETE/PRECAST CONCRETE

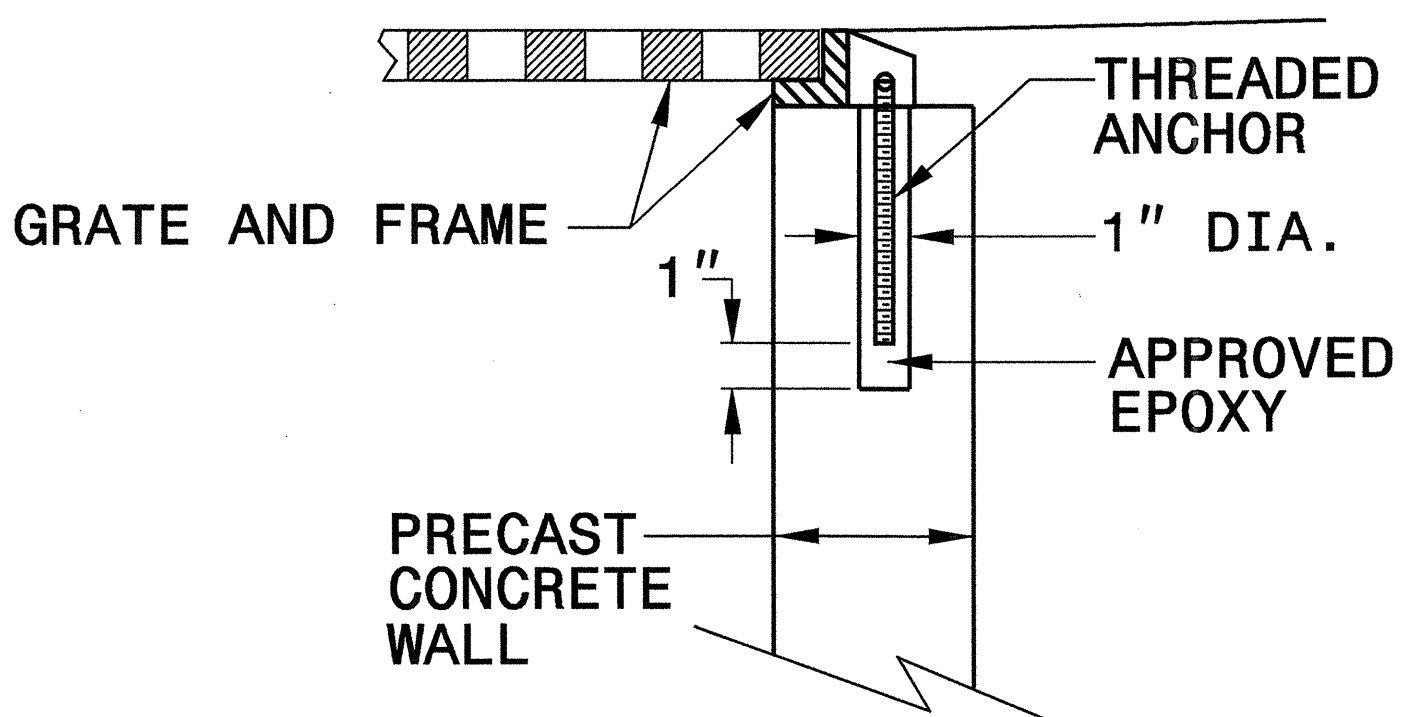
SHEET 1 OF 1
840D25



**BRICK MASONRY
CONSTRUCTION**



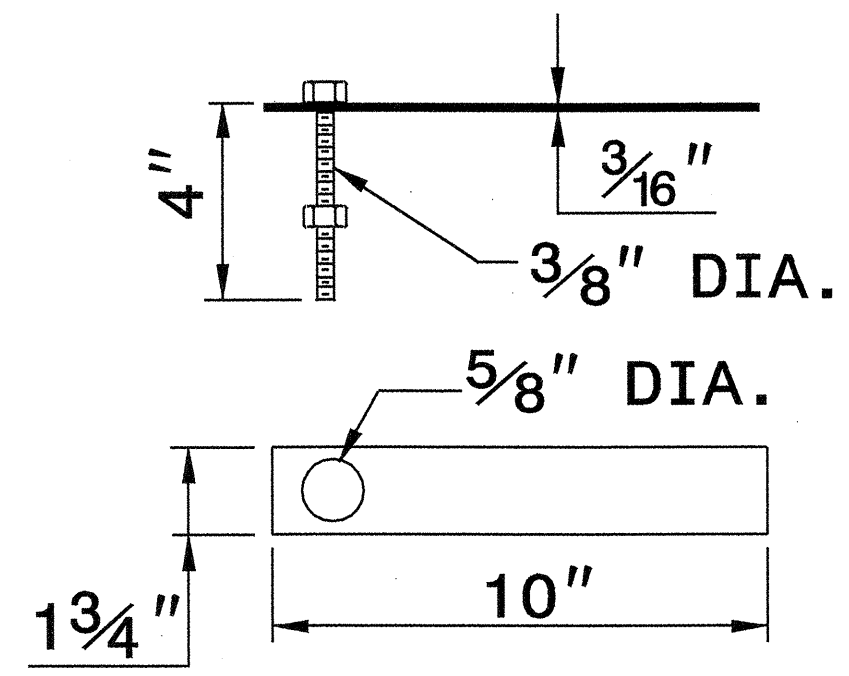
**CONCRETE
CONSTRUCTION**



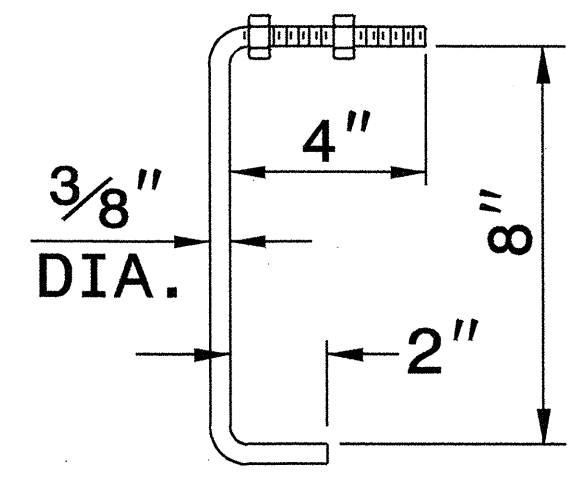
**PRECAST CONCRETE
CONSTRUCTION**

**DETAIL SHOWING ANCHORAGE OF
FRAME FOR GRATED DROP INLET**

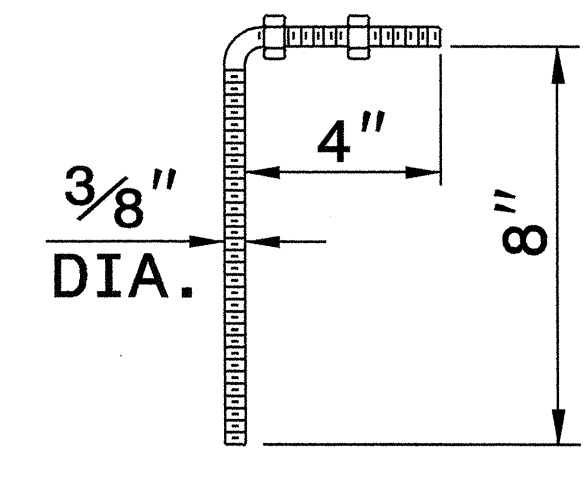
NOTE:
CONSTRUCT GRATED DROP INLET TO COINCIDE WITH NORMAL
OR SUPERELEVATED SHOULDER OR PAVEMENT SLOPE.



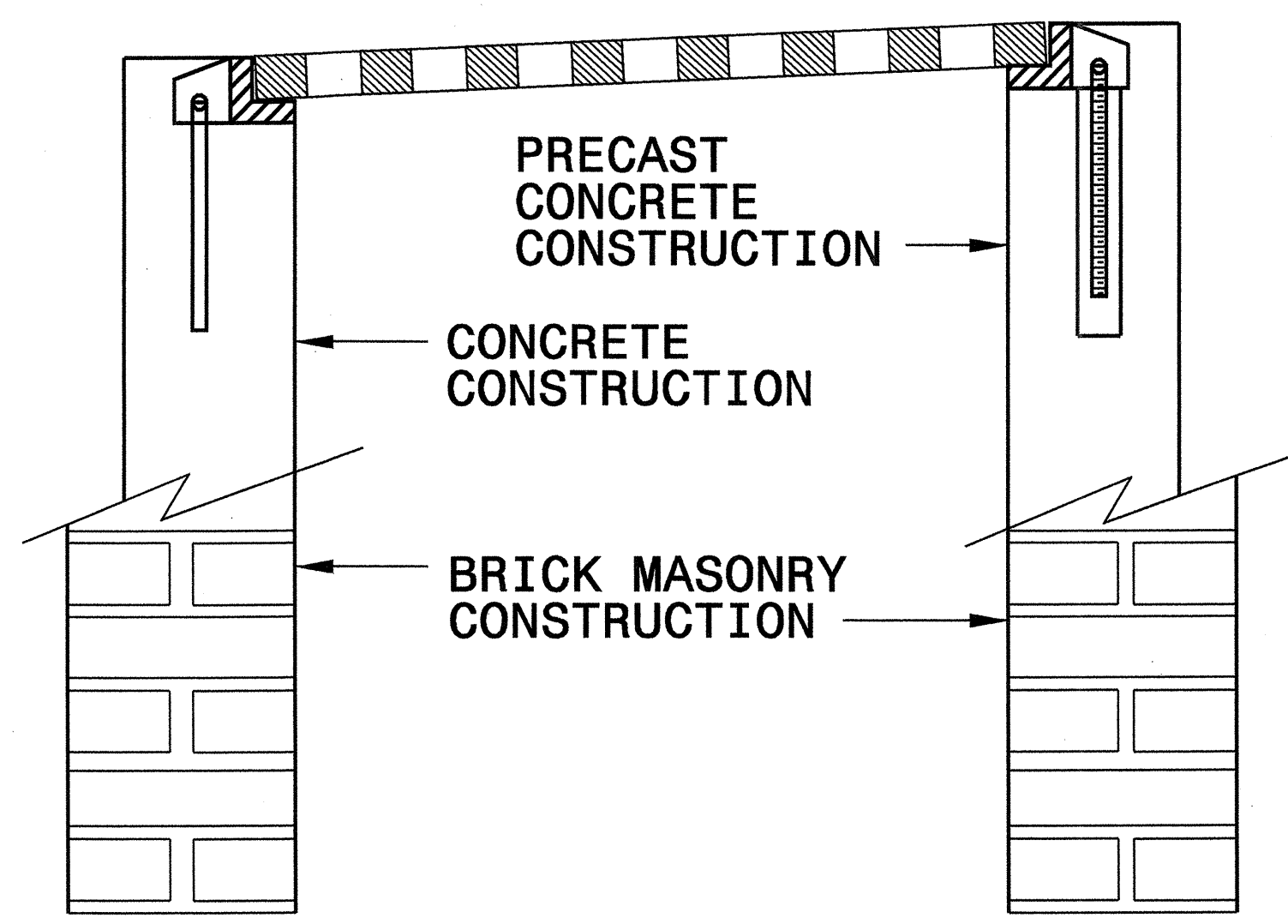
MASONRY ANCHOR
3/8" DIA. BOLT WITH PLATE



CONCRETE ANCHOR
3/8" DIA. BENT BAR



**PRECAST
CONCRETE ANCHOR**
3/8" DIA. BENT BAR



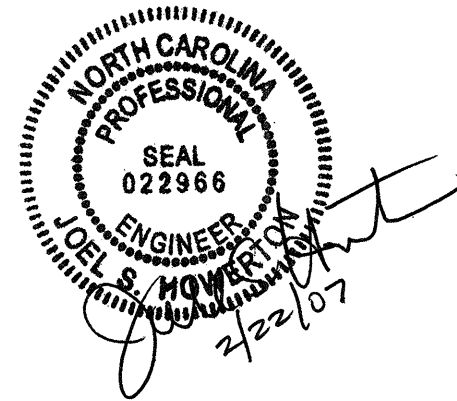
**FRAME AND GRATE INSTALLATION
FOR NORMAL CROWN AND
SUPERELEVATED SECTIONS**

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

ENGLISH DETAIL DRAWING FOR
ANCHORAGE FOR FRAMES
BRICK/CONCRETE/PRECAST CONCRETE

SHEET 1 OF 1
840D25

27-SEP-2006 09:01 C:\projects\Special Details\stds\06\stds to Special Details\stds\06\stds to Special Details\0840d25.dgn ericward AT 8/22/07



PROJECT SERVICES UNIT
STANDARDS AND SPECIAL DESIGN
Office 919-250-4128 FAX 919-250-4119

SEE PLATE FOR TITLE

ORIGINAL BY: 2006 STD 840.25 DATE: 07/18/06
MODIFIED BY: E.E. WARD DATE: 9/25/06
CHECKED BY: *[Signature]* DATE: 7/27/06
FILE SPEC.: *[Signature]*

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
ROADWAY SUMMARY OF QUANTITIES FOR CONTRACT - C201491

ItemNumber	Sec #	Quantity	Unit	Description
0000100000-N	800	Lump Sum		MOBILIZATION
0000400000-N	801	Lump Sum		CONSTRUCTION SURVEYING
0029000000-N	SP	Lump Sum		REINFORCED BRIDGE APPROACH FILL, STATION ***** (22+03.60)
0043000000-N	226	Lump Sum		GRADING
0050000000-E	226	1	ACR	SUPPLEMENTARY CLEARING & GRUB- BING
0057000000-E	226	350	CY	UNDERCUT EXCAVATION
0195000000-E	265	250	CY	SELECT GRANULAR MATERIAL
0196000000-E	270	250	SY	FABRIC FOR SOIL STABILIZATION
0318000000-E	300	23	TON	FOUNDATION CONDITIONING MATE- RIAL, MINOR STRS
0343000000-E	310	20	LF	15" SIDE DRAIN PIPE
0372000000-E	310	56	LF	18" RC PIPE CULVERTS, CLASS III
0414000000-E	310	80	LF	60" RC PIPE CULVERTS, CLASS III
0714000000-E	310	56	LF	18" BIT COAT CS PIPE CULVERTS, TYPE B 0.064" THICK
0807000000-E	310	4	EA	18" BIT COAT CS PIPE ELBOWS, T TYPE B 0.064" THICK
0995000000-E	340	71	LF	PIPE REMOVAL
1121000000-E	520	1,210	TON	AGGREGATE BASE COURSE
1220000000-E	545	100	TON	INCIDENTAL STONE BASE
1489000000-E	610	420	TON	ASPHALT CONC BASE COURSE, TYPE B25.0B
1498000000-E	610	785	TON	ASPHALT CONC INTERMEDIATE COURSE, TYPE 119.0B
1519000000-E	610	570	TON	ASPHALT CONC SURFACE COURSE, TYPE S9.5B
1560000000-E	620	90	TON	ASPHALT BINDER FOR PLANT MIX, GRADE PG 64-22
1693000000-E	654	16	TON	ASPHALT PLANT MIX, PAVEMENT REPAIR
2000000000-N	806	24	EA	RIGHT OF WAY MARKERS
2220000000-E	838	6	CY	REINFORCED ENDWALLS

ItemNumber	Sec #	Quantity	Unit	Description
2286000000-N	840	4	EA	MASONRY DRAINAGE STRUCTURES
2367000000-N	840	4	EA	FRAME WITH TWO GRATES, STD 840.29
2556000000-E	846	90	LF	SHOULDER BERM GUTTER
3030000000-E	862	575	LF	STEEL BM GUARDRAIL
3150000000-N	862	5	EA	ADDITIONAL GUARDRAIL POSTS
3270000000-N	SP	4	EA	GUARDRAIL ANCHOR UNITS, TYPE 350
3317000000-N	862	4	EA	GUARDRAIL ANCHOR UNITS, TYPE B-77
3649000000-E	876	3	TON	RIP RAP, CLASS B
3656000000-E	876	276	SY	FILTER FABRIC FOR DRAINAGE
3659000000-N	SP	2	EA	PREFORMED SCOUR HOLES WITH LEVEL SPREADER APRON
4025000000-E	901	32.25	SF	CONTRACTOR FURNISHED, TYPE *** SIGN (E)
4072000000-E	903	69	LF	SUPPORTS, 3-LB STEEL U-CHANNEL
4102000000-N	904	6	EA	SIGN ERECTION, TYPE E
4155000000-N	907	12	EA	DISPOSAL OF SIGN SYSTEM, U- CHANNEL
4400000000-E	1110	104	SF	WORK ZONE SIGNS (STATIONARY)
4405000000-E	1110	144	SF	WORK ZONE SIGNS (PORTABLE)
4410000000-E	1110	70	SF	WORK ZONE SIGNS (BARRICADE MOUNTED)
4430000000-N	1130	123	EA	DRUMS
4455000000-N	1150	60	MD	FLAGGER
4650000000-N	1251	114	EA	TEMPORARY RAISED PAVEMENT MARKERS
4685000000-E	1205	4,327	LF	THERMOPLASTIC PAVEMENT MARKING LINES (4", 90 MILS)
4686000000-E	1205	4,319	LF	THERMOPLASTIC PAVEMENT MARKING LINES (4", 120 MILS)
4710000000-E	1205	44	LF	THERMOPLASTIC PAVEMENT MARKING LINES (24", 120 MILS)
4810000000-E	1205	17,277	LF	PAINT PAVEMENT MARKING LINES (4")

ItemNumber	Sec #	Quantity	Unit	Description
4835000000-E	1205	88	LF	PAINT PAVEMENT MARKING LINES (24")
4900000000-N	1251	31	EA	PERMANENT RAISED PAVEMENT MARKERS
6000000000-E	1605	3,585	LF	TEMPORARY SILT FENCE
6006000000-E	1610	115	TON	STONE FOR EROSION CONTROL, CLASS A
6009000000-E	1610	455	TON	STONE FOR EROSION CONTROL, CLASS B
6012000000-E	1610	165	TON	SEDIMENT CONTROL STONE
6015000000-E	1615	3.5	ACR	TEMPORARY MULCHING
6018000000-E	1620	150	LB	SEED FOR TEMPORARY SEEDING
6021000000-E	1620	0.5	TON	FERTILIZER FOR TEMPORARY SEED- ING
6024000000-E	1622	170	LF	TEMPORARY SLOPE DRAINS
6027000000-N	1622	5	EA	INLET PROTECTION AT TEMPORARY SLOPE DRAINS
6029000000-E	SP	350	LF	SAFETY FENCE
6030000000-E	1630	1,575	CY	SILT EXCAVATION
6036000000-E	1631	670	SY	MATTING FOR EROSION CONTROL
6037000000-E	SP	80	SY	COIR FIBER MAT
6042000000-E	1632	80	LF	1/4" HARDWARE CLOTH
6048000000-E	SP	110	SY	FLOATING TURBIDITY CURTAIN
6071030000-E	SP	470	LF	COIR FIBER BAFFLES
6071050000-E	SP	3	EA	*** SKIMMER (2")
6084000000-E	1660	4.5	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	75	LB	SEED FOR SUPPLEMENTAL SEEDING
6108000000-E	1665	3.25	TON	FERTILIZER TOPDRESSING
6114000000-N	SP	2	HR	SPECIALIZED HAND MOWING
6117000000-N	SP	8	EA	RESPONSE FOR EROSION CONTROL
6123000000-E	1670	0.28	ACR	REFORESTATION
6129000000-E	1670	0.52	ACR	WETLAND REFORESTATION
6135000000-E	SP	0.52	ACR	GENERIC EROSION CONTROL ITEM DISKING
6135000000-E	SP	0.52	ACR	GENERIC EROSION CONTROL ITEM RIPPING
6141000000-E	SP	60	SY	GENERIC EROSION CONTROL ITEM LIVE STAKING

5/28/99

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COMPUTED BY: JBT DATE: 9/19/05
 CHECKED BY: KDA/Y DATE: 1/19/07

PROJECT NO.
B-3876

SHEET NO.
3-B

STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

SUMMARY OF EARTHWORK

IN CUBIC YARDS

Station	Station	Uncl. Excav.	Embank. +%	Borrow C.Y.	Waste C.Y.
SUMMARY No. 1					
-L-	13+00.00 TO 21+27.27	126	6,281	6,155	
-L-	22+79.93 TO 31+00.00	5	4,703	4,698	
SUMMARY No. 1 TOTAL		131	10,984	10,853	
SUMMARY No 2					
-L-	13+00.00 TO 21+84.31	3,624	386		3,238
-L-	22+94.18 TO 31+00.00	3,689	338		3,351
-Y-	14+50.00 TO 16+50.00	138	218	80	
SUMMARY No. 2 TOTAL		7,451	942	80	6,589
PROJECT SUBTOTALS:		7,582	11,926	10,933	6,589
EST. SHOULDER MATERIAL			663	663	
EST 5% TO REPL. TOPSOIL AT BORR PIT				580	
PROJECT TOTALS:		7,582	12,589	12,175	6,589
SAY:		7,600		12,200	6,589
ESTIMATED UNDERCUT = 350 C.Y.					

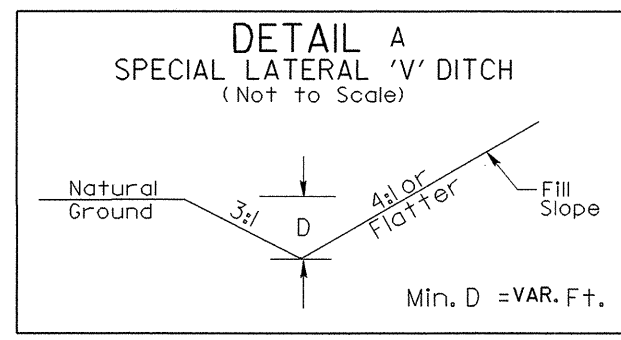
APPROXIMATE QUANTITIES ONLY. UNCLASSIFIED EXCAVATION, BORROW EXCAVATION, FINE GRADING, CLEARING AND GRUBBING AND REMOVAL OF EXISTING PAVEMENT WILL BE PAID FOR AT THE LUMP SUM PRICE FOR "GRADING"

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.

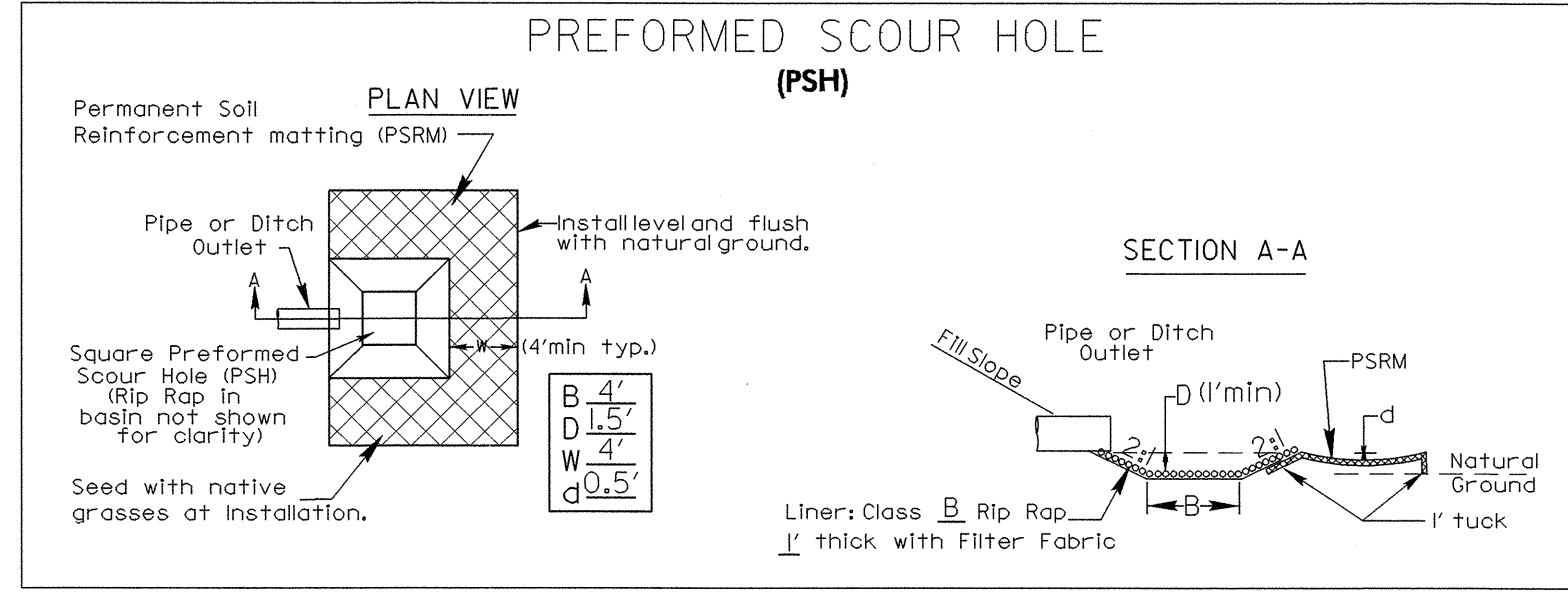
SUMMARY OF EXISTING ASPHALT PAVEMENT REMOVAL

LINE	Station to Station	LOC LT/RT/CL	AREA SQ. YDS.
-L-	15+00.00 TO 21+83.50	LEFT	1515.36
-L-	22+93.93 TO 28+88.00	LEFT	1,013.91
		TOTAL:	2,529.27
		SAY:	2,550

SEE SHEET 6 FOR -L- PROFILE	PROJECT REFERENCE NO. B-3876	SHEET NO. 4
SEE SHEET 7 FOR -Y- PROFILE	RW SHEET NO.	
SEE SHEET S-1 THRU S-22 FOR STRUCTURE PLANS	ROADWAY DESIGN ENGINEER GREGORY E. BILKING	HYDRAULICS NORTH CAROLINA PROFESSIONAL ENGINEER 3014 20329 A. BILLINGS

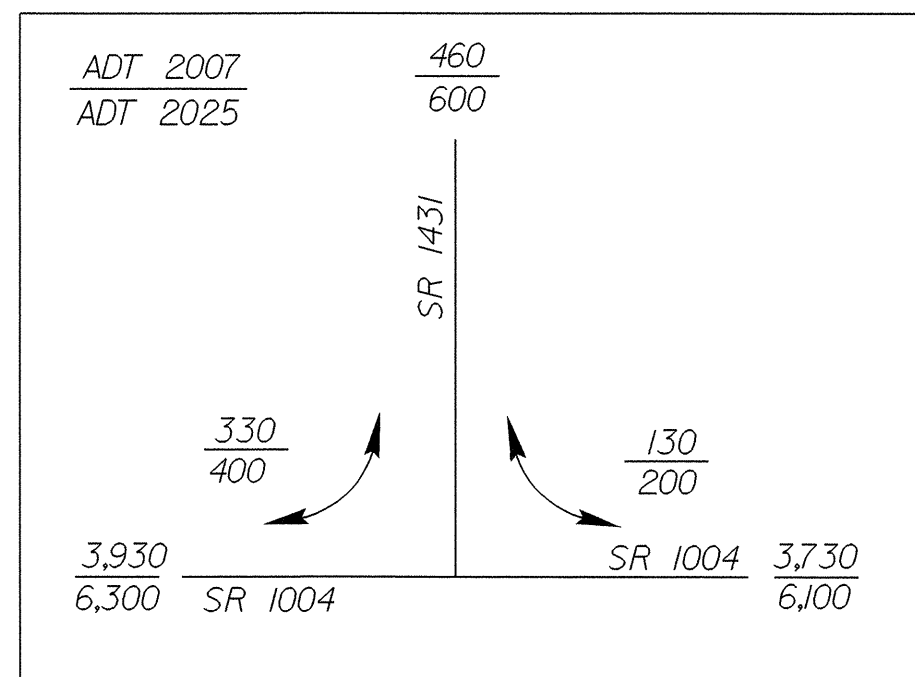
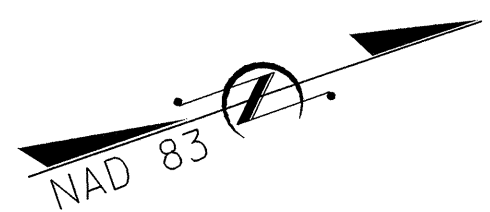


STA 14+00-L- TO STA 17+50-L- (RIGHT)



STA 20+71-L- (RIGHT)
STA 20+92-L- (LEFT)
STA 23+04-L- (LEFT)

BRIDGE REMOVAL
PAVEMENT REMOVAL



-L-
PI Sta 11+08.97
 $\Delta = 3' 17' 31.1''$ (RT)
 $D = 2' 08' 48.6''$
 $L = 153.34'$
 $T = 76.69'$
 $R = 2,668.83'$
 $e =$ EXISTING

BL-101 POT 5+00.00
-L- POT 13+19.62
(25.37' LT.)

NOTE: USE 50' O/S FOR 3-CENTERED CURVE (120'-40'-120')

GUY W. & BEVERLY VICK
D.B. 877 PG. 305
P.B. 9 PG. 57

B3876-1 -BL- PINC 10+81.59=
-BY- POT 9+99.43
-L- POC 18+90.46 (71.44' LT)

RICHARD L. & KATHERYN TYSON
NO DEED REFERENCE
P.B. 25 PG. 103

THREE MR LTD PARTNERSHIP, ETAL
D.B. 1834 PG. 825
P.B. 18 PG. 298

NOTE: REMOVE EXISTING 42" CMP AND REPLACE WITH A 60 INCH RCP. BURY THE 60 INCH RCP A FOOT.

THREE MR LTD PARTNERSHIP, ETAL
D.B. 1834 PG. 825
P.B. 18 PG. 298

BL-103 PINC 14+97.15
-L- POT 23+05.99 (65.95' LT.)

BM # 205
-L- STA 12+29.11
65.71' LEFT
ELEV=172.23'

ETHEL J. DANIELS
D.B. 1239 PG. 711
P.B. 16 PG. 503

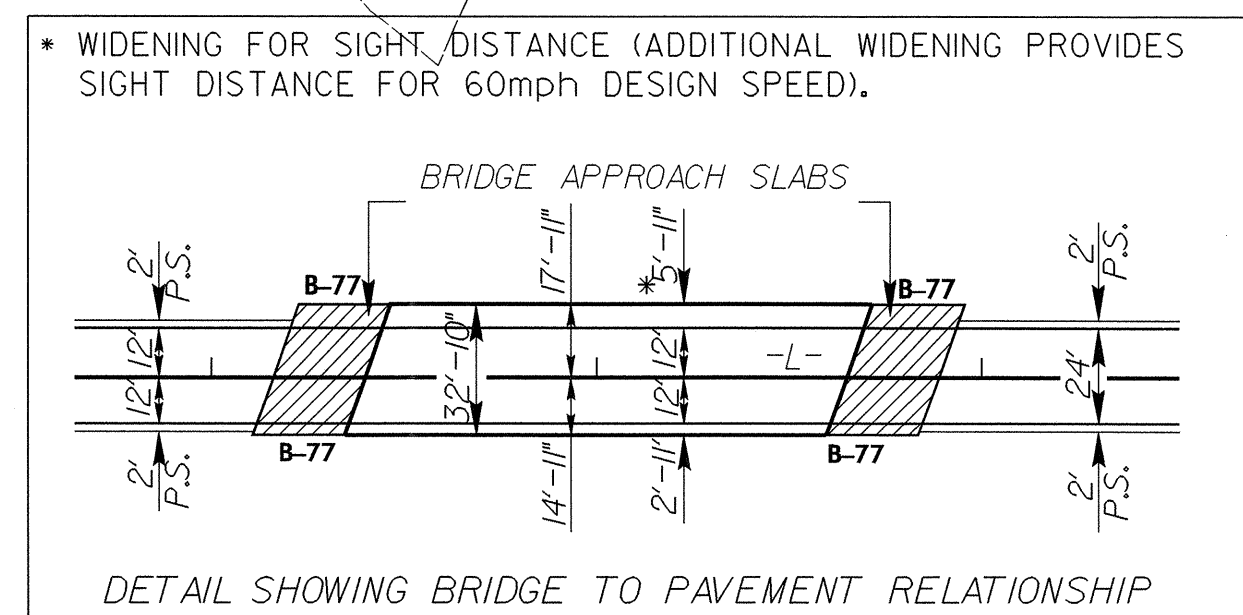
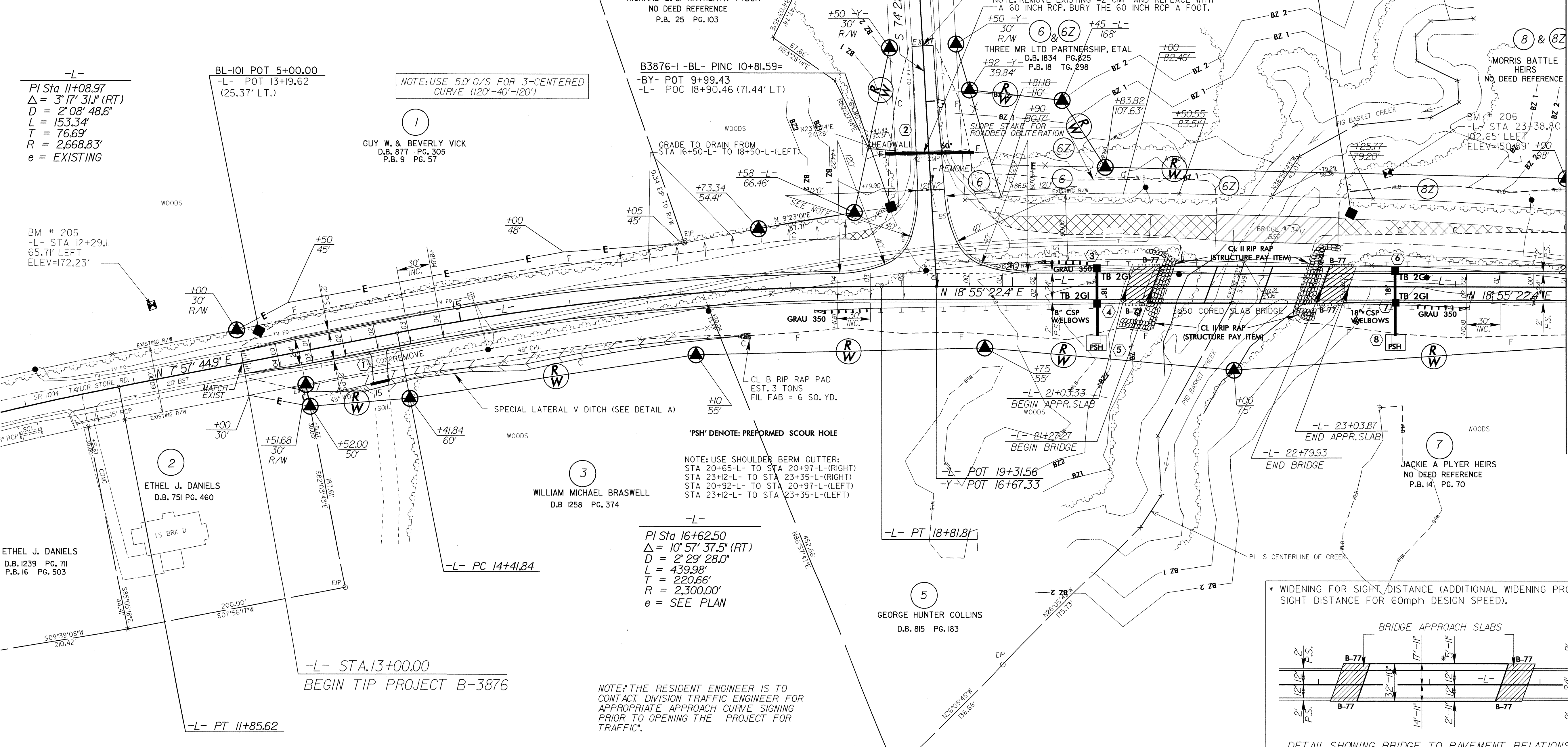
ETHEL J. DANIELS
D.B. 751 PG. 460

WILLIAM MICHAEL BRASWELL
D.B. 1258 PG. 374

-L-
PI Sta 16+62.50
 $\Delta = 10' 57' 37.5''$ (RT)
 $D = 2' 29' 28.0''$
 $L = 439.98'$
 $T = 220.66'$
 $R = 2,300.00'$
 $e =$ SEE PLAN

GEORGE HUNTER COLLINS
D.B. 815 PG. 183

JACKIE A PLYER HEIRS
NO DEED REFERENCE
P.B. 14 PG. 70



NOTE: THE RESIDENT ENGINEER IS TO CONTACT DIVISION TRAFFIC ENGINEER FOR APPROPRIATE APPROACH CURVE SIGNING PRIOR TO OPENING THE PROJECT FOR TRAFFIC.

MATCHLINE SEE SHEET 5 -L- STA. 25 +00.00

REVISIONS

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8/17/99

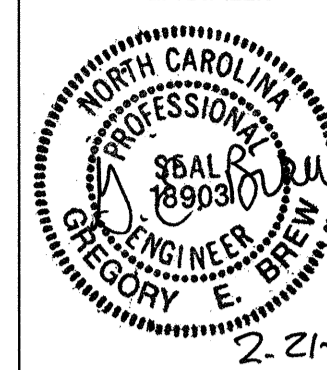
SEE SHEET 6 FOR -L- PROFILE

PROJECT REFERENCE NO. SHEET NO.

B-3876 5

R/W SHEET NO.

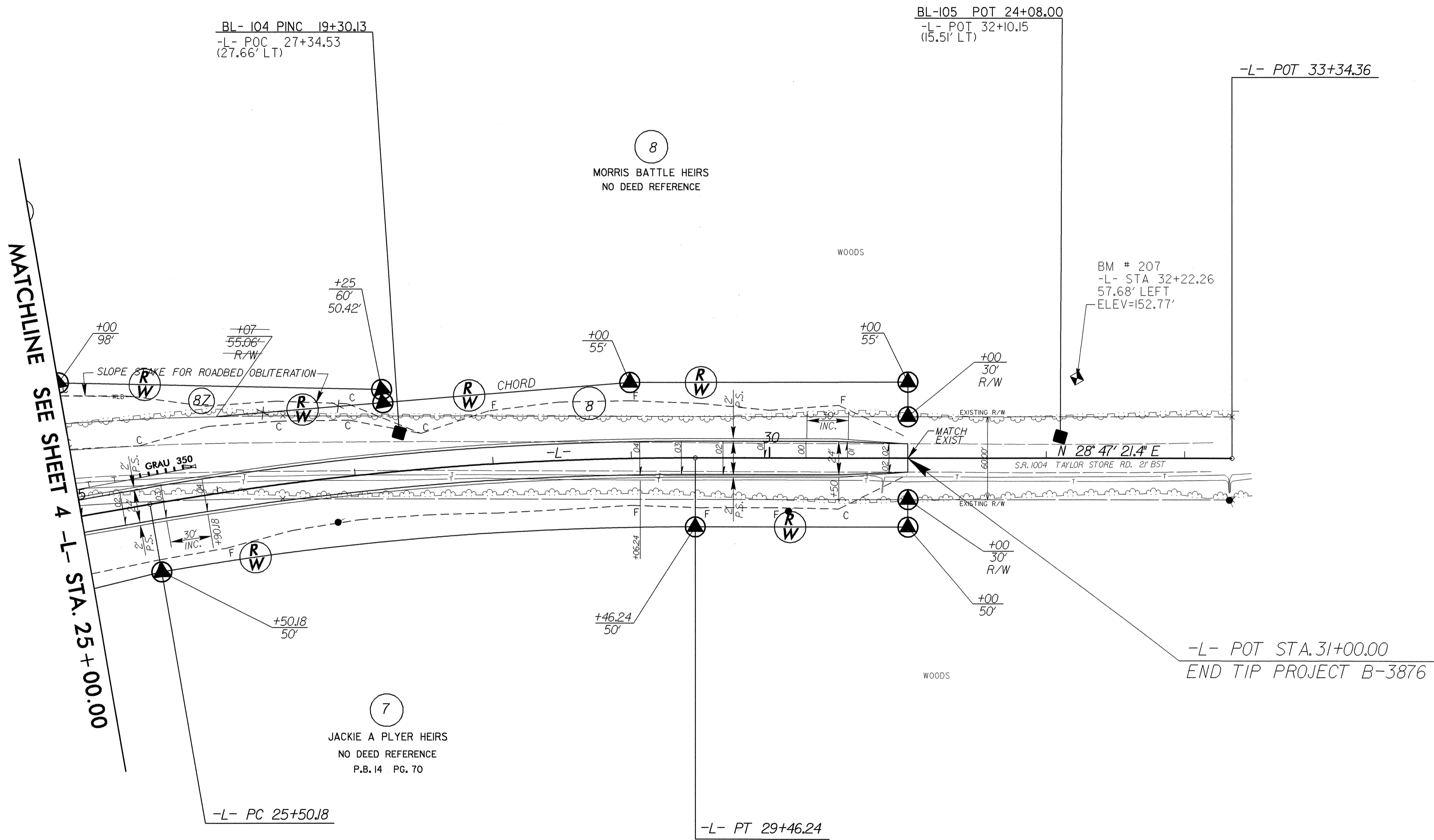
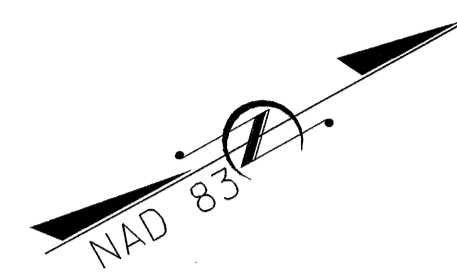
ROADWAY DESIGN ENGINEER



HYDRAULICS ENGINEER



REVISIONS



-L-
 PI Sta 27+48.70
 $\Delta = 9^\circ 51' 59.0''$ (RT)
 $D = 2^\circ 29' 28.0''$
 $L = 396.06'$
 $T = 198.52'$
 $R = 2,300.00'$
 $e = \text{SEE PLAN}$

NOTE: THE RESIDENT ENGINEER IS TO CONTACT DIVISION TRAFFIC ENGINEER FOR APPROPRIATE APPROACH CURVE SIGNING PRIOR TO OPENING THE PROJECT FOR TRAFFIC

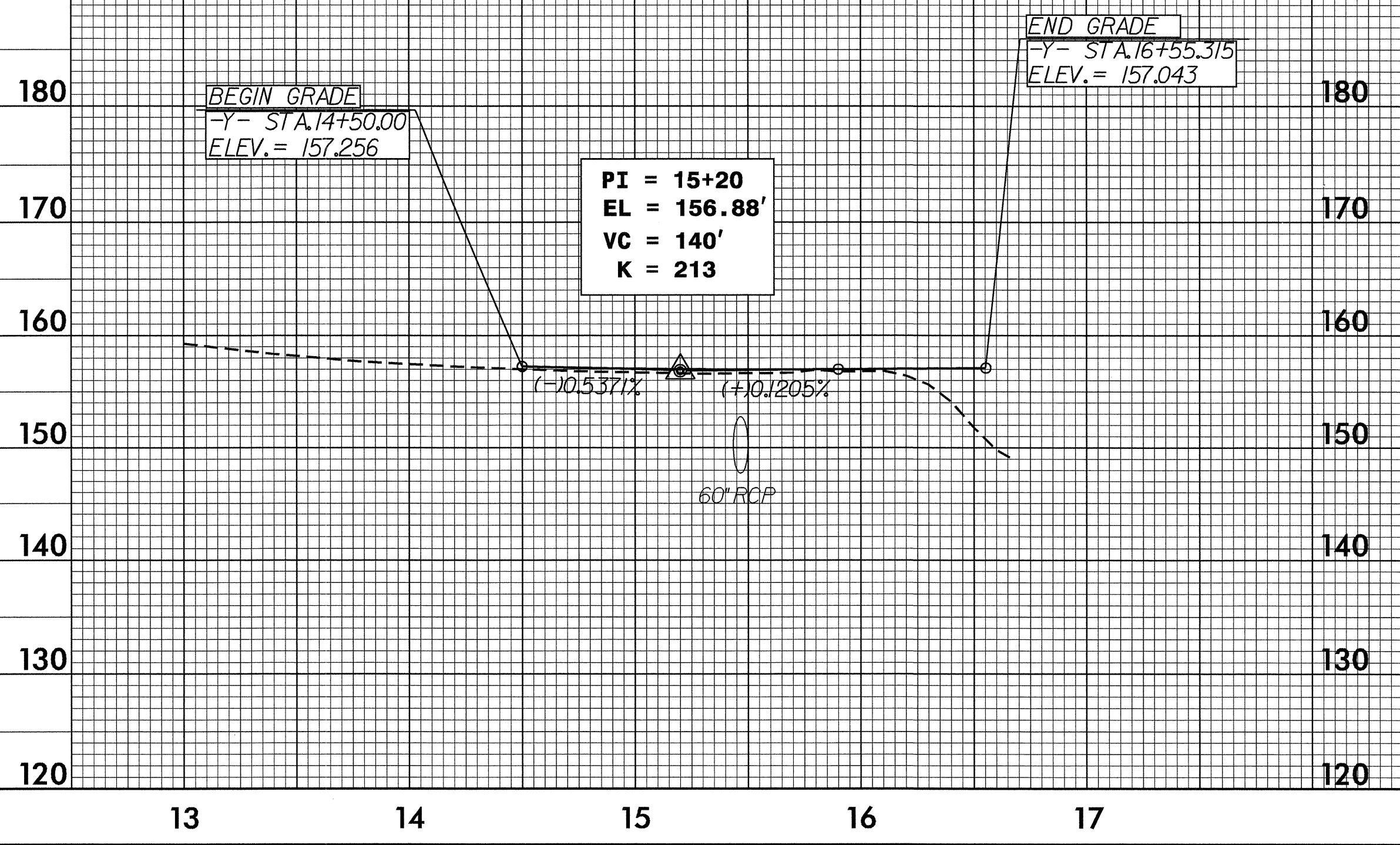
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 *****USERS*****

5/28/99

SEE SHEET 4 FOR PLAN OF LINE -Y-

BM * 206 ELEV 150.89'
-L- STA 23+38.80, 102.65' LEFT
RAILROAD SPIKE IN BASE OF
20' TWIN SWEET GUM TREE

-Y-



PIPE HYDRAULIC DATA
DRAINAGE STRUCTURE NO.9

DRAINAGE AREA	= 256.00 AC
DESIGN FREQUENCY	= 50 YRS
DESIGN DISCHARGE	= 120 CFS
DESIGN HW ELEVATION	= 153.15 FT
100 YEAR DISCHARGE	= 145.2 CFS
100 YEAR HW ELEVATION	= 154.46 FT
OVERTOPPING FREQUENCY	= 200 YRS
OVERTOPPING DISCHARGE	= 230 CFS
OVERTOPPING ELEVATION	= 157.87 FT

PROJECT REFERENCE NO. B-3876	SHEET NO. 7
ROADWAY DESIGN ENGINEER GREGORY E. BREW 2-21-07	HYDRAULICS ENGINEER MAY A. BILLINGS 2/19/07

21 JAN 2007 07:56 L:\3876_rdu.pfl.dgn