

See Sheet 1-A For Index of Sheets

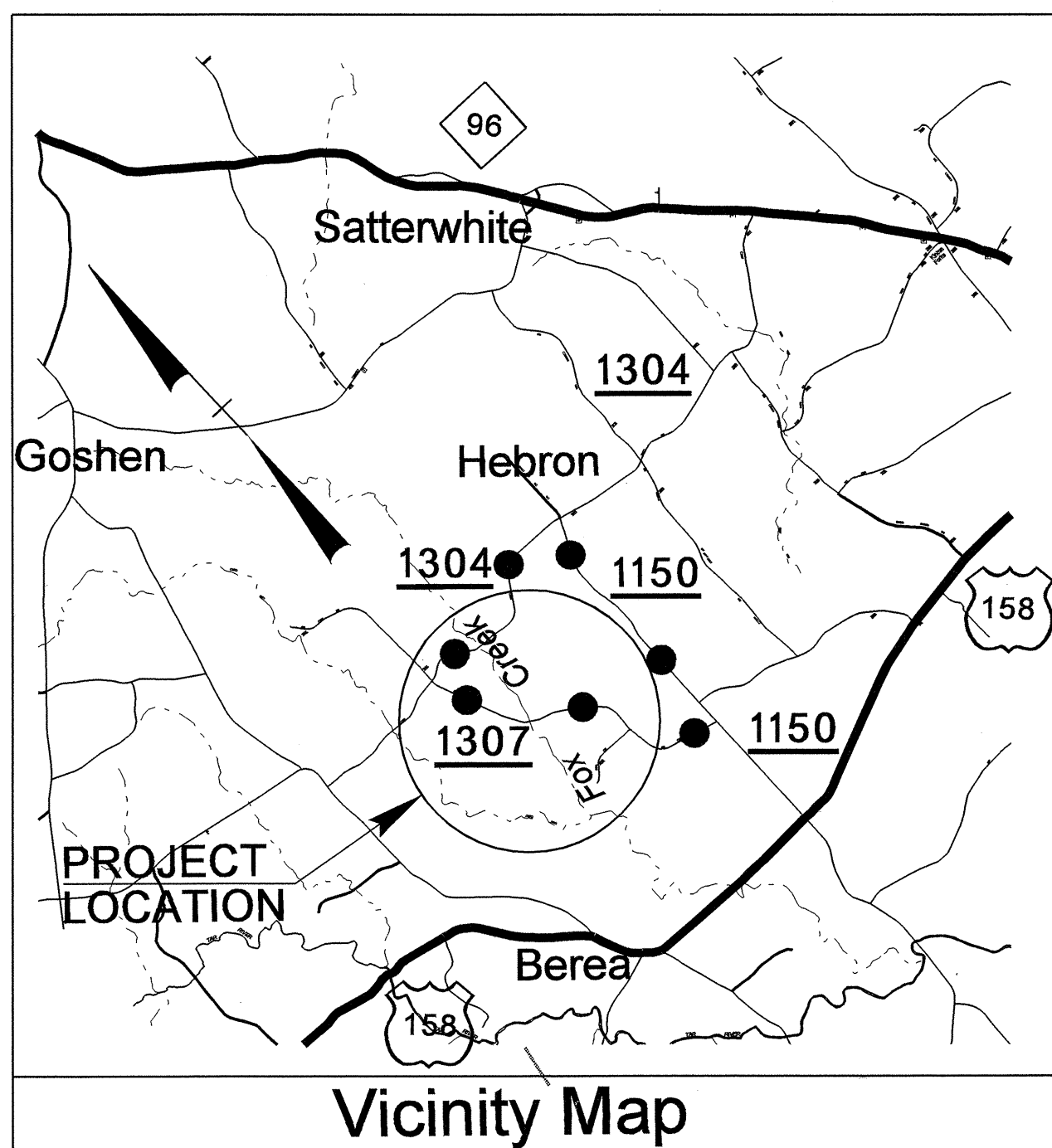
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

GRANVILLE COUNTY

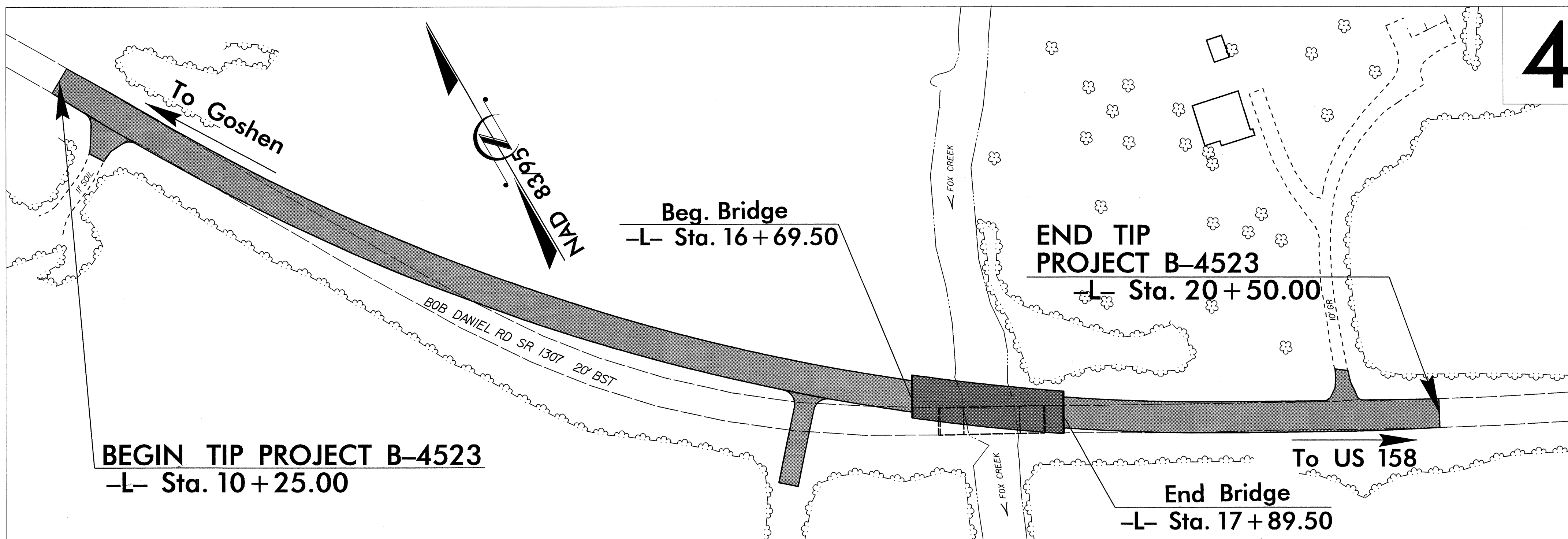
LOCATION: BRIDGE No. 164 on SR 1307 OVER FOX CREEK

TYPE OF WORK: GRADING, PAVING, DRAINAGE AND STRUCTURE

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4523	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
33747.1.1	BRZ-1307(3)	PE	
33747.2.1	BRZ-1307(3)	RW & UTILITIES	
33747.3.1	BRZ-1307(3)	CONSTRUCTION	

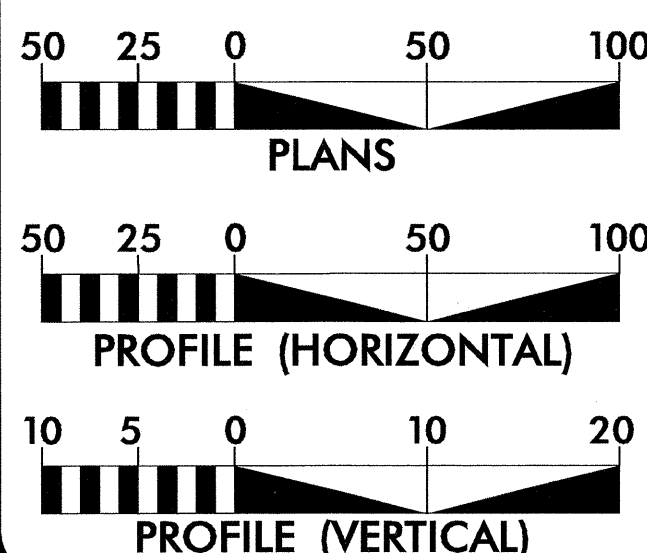


Offsite Detour Route



Design Exception Required for Vertical Curve K Factors, Vertical Stopping Sight Distances & Maximum Grade

GRAPHIC SCALES



DESIGN DATA

ADT 2008 = 450 vpd
ADT 2030 = 900 vpd
DHV = 13 %
D = 60 %
T = 3 % *
V = 55 MPH
* TTST 1% * DUAL 2%

PROJECT LENGTH

Length Roadway TIP Project B-4523 = 0.171 Miles
Length Structure TIP Project B-4523 = 0.023 Miles
Total Length TIP Project B-4523 = 0.194 Miles

Prepared in the Office of:
DIVISION OF HIGHWAYS

1000 Birch Ridge Dr., Raleigh NC, 27610

2006 STANDARD SPECIFICATIONS

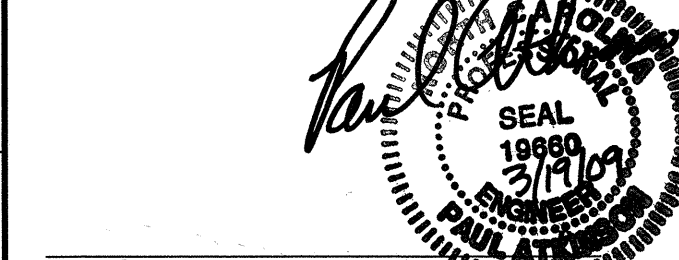
RIGHT OF WAY DATE:
June 20, 2008

LETTING DATE:
June 16, 2009

JAMES A. SPEER, PE
PROJECT ENGINEER

JOHN C. LANSFORD, PE
PROJECT DESIGN ENGINEER

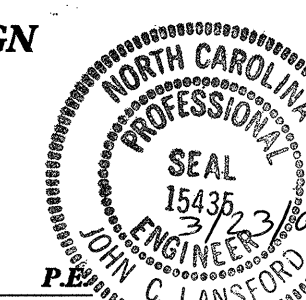
HYDRAULICS ENGINEER



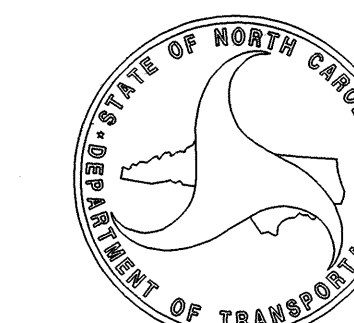
SIGNATURE:

ROADWAY DESIGN ENGINEER

J.C. Lansford
SIGNATURE:



DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

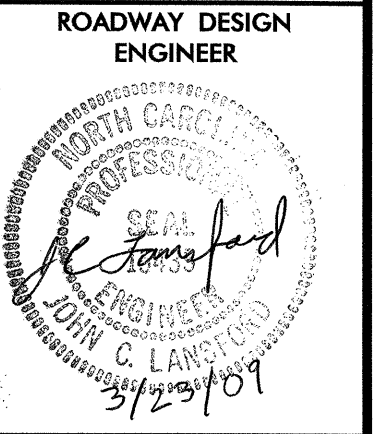


STATE HIGHWAY DESIGN ENGINEER

TIP PROJECT: B-4523

CONTRACT: C202126

19-MAR-2009 09:59
R:\roadway\proj\B4523_rdy_tsh.dgn
\$\$\$\$\$USERNAME\$\$\$\$\$



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
2-A	PAVEMENT SCHEDULE, TYPICAL SECTIONS, AND WEDGING DETAIL
2-B	DETAIL OF ANCHORAGE FOR FRAMES
2-C	DETAIL OF BRIDGE APPROACH FILL, SUB REGIONAL TIER
3	SUMMARY OF QUANTITIES
3-A	SUMMARY OF EARTHWORK, SUMMARY OF PAVEMENT REMOVAL
3-B	GUARDRAIL SUMMARY, LIST OF PIPES, ENDWALLS, ETC. FOR PIPES 48" AND UNDER
4	PLAN SHEET
5	PROFILE SHEET
TCP-1 THRU TCP-3	TRAFFIC CONTROL PLANS
SD-1	SPECIAL SIGN DESIGN SHEET
EC-1 THRU EC-5	EROSION CONTROL PLANS
RF-1	REFORESTATION PLANS
SIGN-1 THRU SIGN-3	SIGNING PLANS
UO-1 THRU UO-2	UTILITIES BY OTHERS PLANS
X-1	CROSS-SECTION INDEX
X-2 THRU X-12	CROSS-SECTIONS
S-1 THRU S-23	STRUCTURE PLANS

2006 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 July 18, 2006 are applicable to this project and by reference hereby are considered a part of these plans:

STD. NO.	TITLE
DIVISION 2 - EARTHWORK	
200.03	Method of Clearing - Method III
225.02	Guide for Grading Subgrade - Secondary and Local
225.04	Method of Obtaining Super-elevation - Two Lane Pavement
DIVISION 3 - PIPE CULVERTS	
300.01	Method of Pipe Installation - Method 'A'
310.10	Driveway Pipe Construction
DIVISION 5 - SUBGRADE, BASES AND SHOULDERS	
560.01	Method of Shoulder Construction - High Side of Super-elevated Curve - Method I
DIVISION 8 - INCIDENTALS	
806.01	Concrete Right-of-Way Marker
806.02	Granite Right-of-Way Marker
816.04	Markers for Drainage Structure and Concrete Pad
840.00	Concrete Base Pad for Drainage Structures
840.13	Concrete Bridge Approach Drop Inlet - 12" thru 24" Pipe
840.29	Frames and Narrow Slot Flat Grates
840.35	Traffic Bearing Grated Drop Inlet - for Cast Iron Double Frame and Grates
840.46	Traffic Bearing Precast Drainage Structure
840.66	Drainage Structure Steps
846.01	Concrete Curb, Gutter and Curb and Gutter
848.04	Street Turnout
862.01	Guardrail Placement
862.02	Guardrail Installation
862.03	Structure Anchor Units
876.01	Rip Rap in Channels
876.02	Guide for Rip Rap at Pipe Outlets
876.04	Drainage Ditches with Class 'B' Rip Rap

EFF. 07-18-06
REV. 01-02-07

GENERAL NOTES: 2006 SPECIFICATIONS
EFFECTIVE: 07-18-06
REVISED: 07-30-08

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 CP&L, CT&T, Embarq
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 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	○
Property Corner	⊕
Property Monument	⊕
Parcel/Sequence Number	(23)
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	-----

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 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 Utility Easement	-----

ROADS AND RELATED FEATURES:

Existing Edge of Pavement	-----
Existing Curb	-----
Proposed Slope Stakes Cut	-----
Proposed Slope Stakes Fill	-----
Proposed Wheel Chair 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:

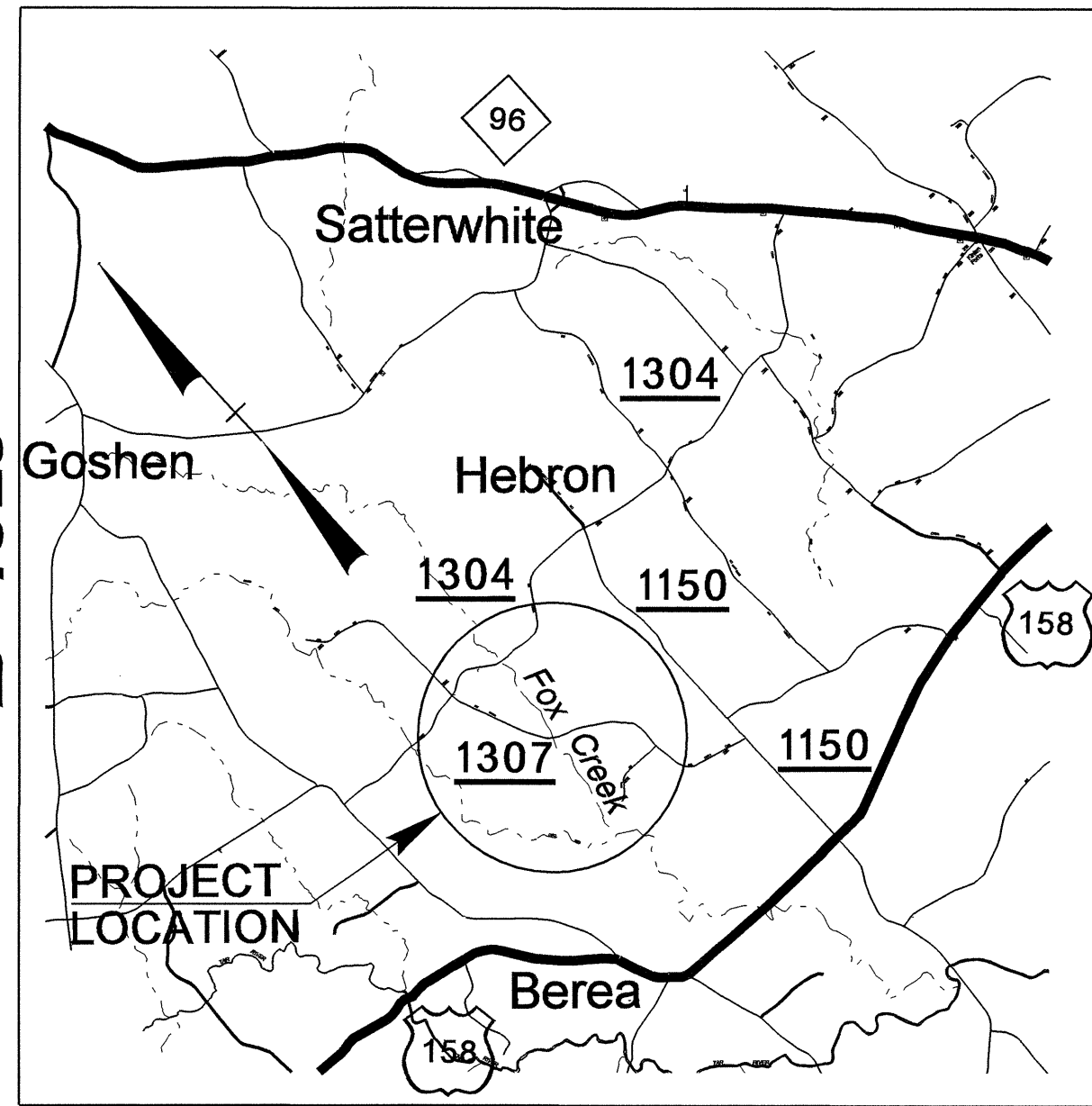
Utility Pole	●
Utility Pole with Base	□
Utility Located Object	○
Utility Traffic Signal Box	⊕
Utility Unknown U/G Line	-----
U/G Tank; Water, Gas, Oil	▭
A/G Tank; Water, Gas, Oil	▭
U/G Test Hole (S.U.E.*)	⊕
Abandoned According to Utility Records	AATUR
End of Information	E.O.I.

SURVEY CONTROL SHEET B-4523

GRANVILLE COUNTY

LOCATION: BRIDGE NO. 164 OVER FOX CREEK AND APPROACHES ON SR 1307 (BOB DANIEL ROAD)

B-4523



VICINITY MAP

NCDOT GPS STATION B4523-2
LOCALIZED PROJECT COORDINATES

N=947382.7550
E=2079111.3050

To Goshen

NCDOT GPS STATION B4523-1
LOCALIZED PROJECT COORDINATES

N=946053.6919
E=2079658.2587

BEGIN TIP PROJECT B-4523
-L- Sta. 10+25.00

END TIP PROJECT B-4523
-L- Sta. 20+50.00

CONTROL DATA

BASELINE POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
10	BL-10	945114.7930	2080087.1660	482.37	10+10.44	17.02 RT
11	BL-11	944773.6380	2080285.6580	466.09	13+98.34	44.22 RT
12	BL-12	944514.8310	2080619.1010	445.47	18+12.17	20.80 RT
13	BL-13	944362.8690	2080891.3340	477.62	21+21.89	19.51 RT

BENCHMARK DATA

.....
 BM 20 ELEVATION = 441.71
 N 944397 E 2080541
 L STATION 18+11 162 RIGHT
 R/R SPIKE IN 15' POPLAR

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B4523-1" WITH NAD 1983/95 STATE PLANE GRID COORDINATES OF NORTHING: 946053.6919(ft) EASTING: 2079658.2587(ft) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 1.00003609 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B4523-1" TO -L- STATION 10+25.00 IS S 25°33'08.0" E 1045.36' ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NAVD 88

NOTES:

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/B4523_ls_control_060609.txt](http://www.doh.dot.state.nc.us/preconstruct/highway/location/project/B4523_ls_control_060609.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)

NOTE: DRAWING NOT TO SCALE

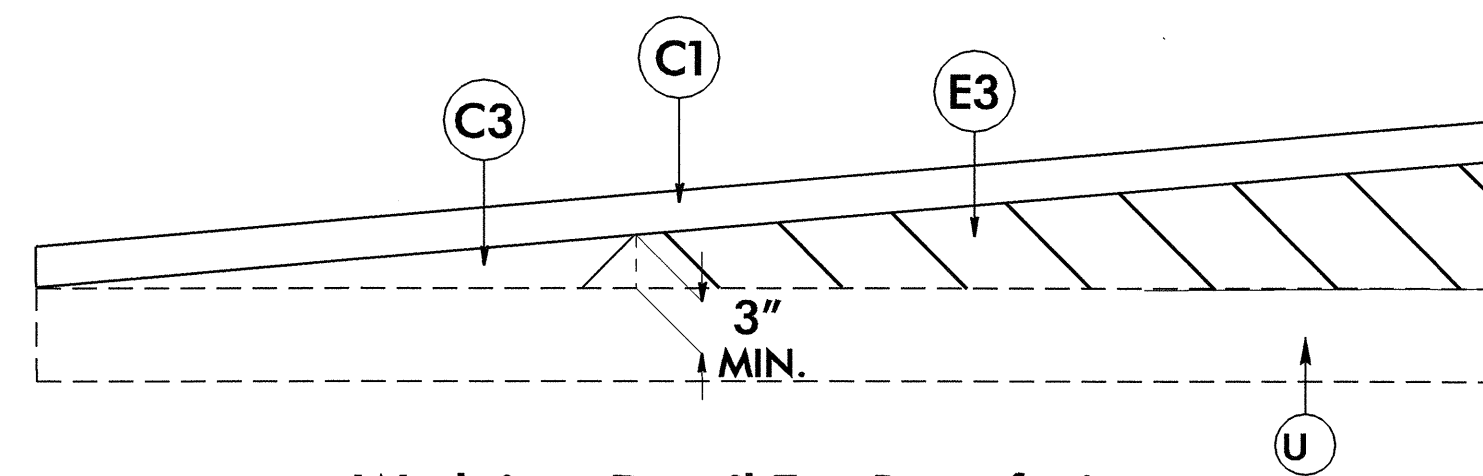
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8/17/09

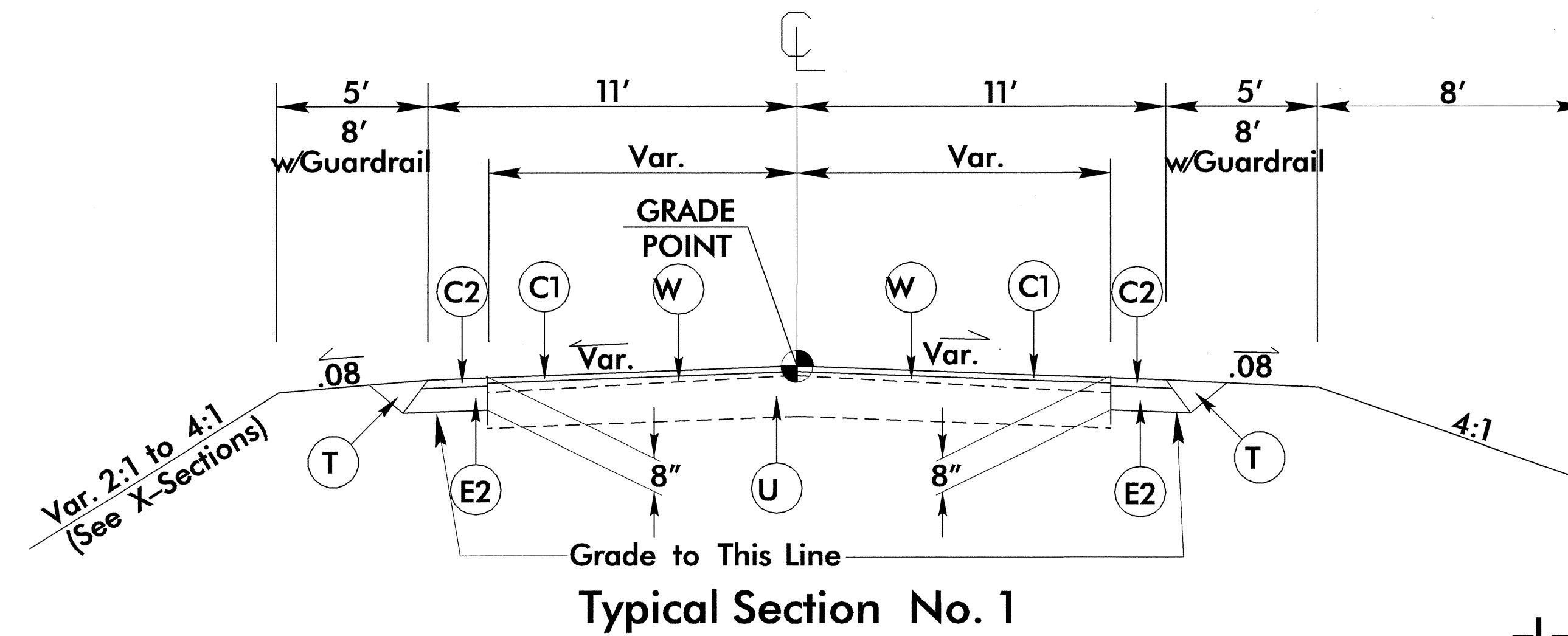
PAVEMENT SCHEDULE

C1	PROP. APPROX. 1 1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD.
C2	PROP. APPROX. 2 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD. IN EACH OF TWO LAYERS
C3	PROP. VAR. DEPTH ASPHALT CONC. SURFACE COURSE, TYPE SF9.5A, AT AN AVG. RATE OF 110 LBS PER SQ YD PER 1" DEPTH TO BE PLACED IN LAYERS NOT TO EXCEED 3" IN DEPTH
E1	PROP. APPROX. 4 1/2" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 513 LBS. PER SQ. YD.
E2	PROP. APPROX. 5 1/2" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 627 LBS. PER SQ. YD.
E3	PROP. VAR. DEPTH ASPHALT CONC. BASE COURSE, TYPE B25.0B, AT AN AVG. 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
W	ASPHALT WEDGING (SEE DETAIL)

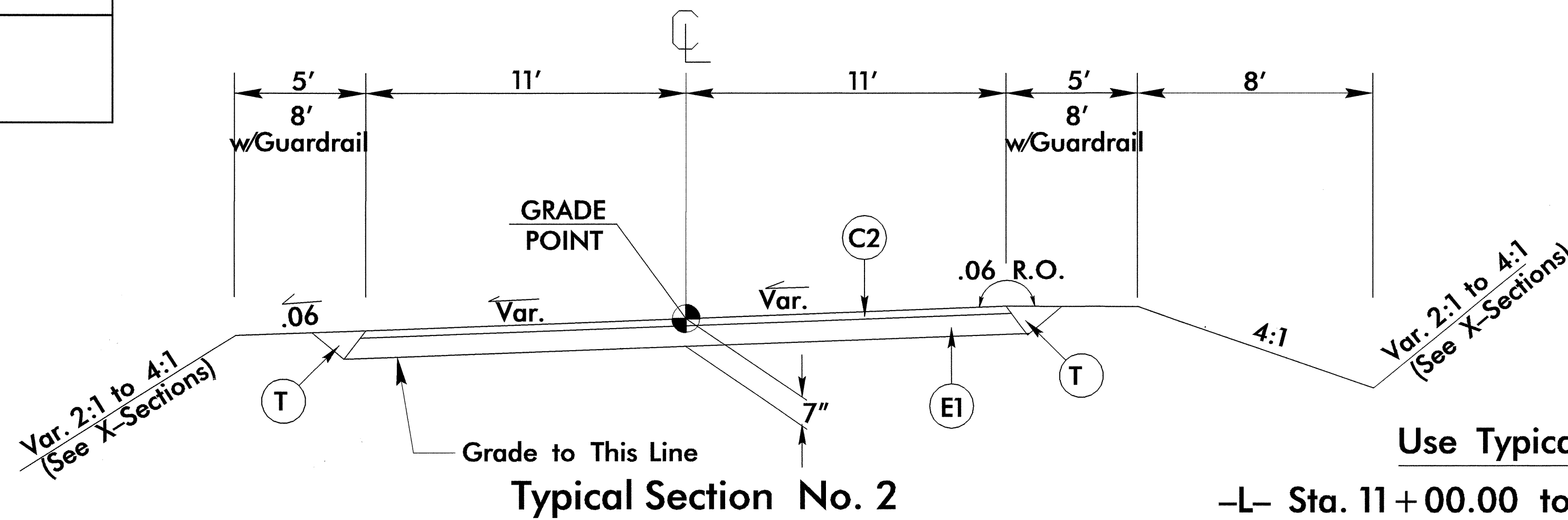
NOTE: ALL SLOPES ARE 1:1 UNLESS OTHERWISE NOTED



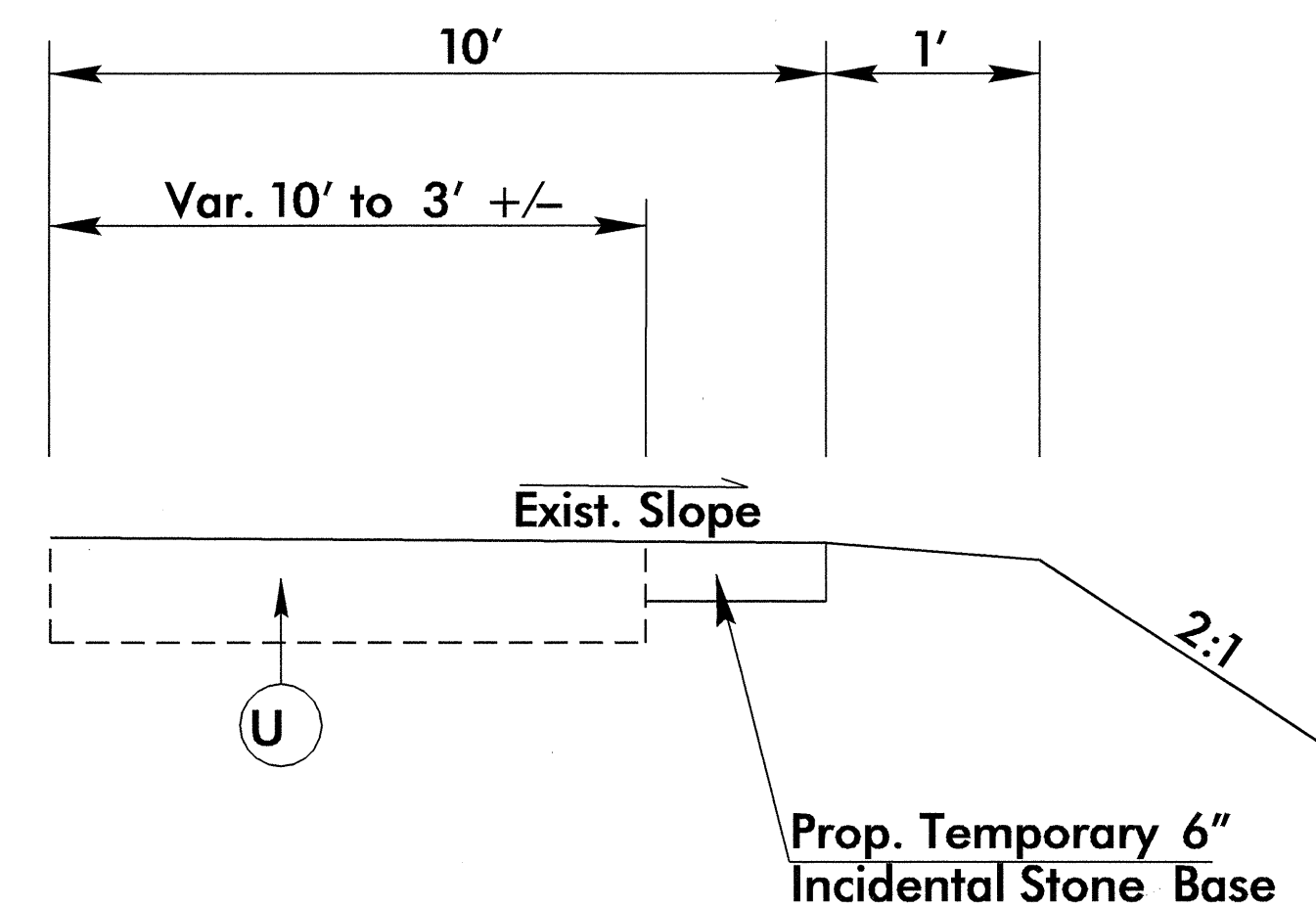
Wedging Detail For Resurfacing



Use Typical Section No. 1:
-L- Sta. 10+25.00 to 11+00.00



Use Typical Section No. 2:
-L- Sta. 11+00.00 to 16+69.50 (Begin Bridge)
-L- Sta. 17+89.50 (End Bridge) to 20+50.00



Right of -L- Sta. 13+50 to 16+00

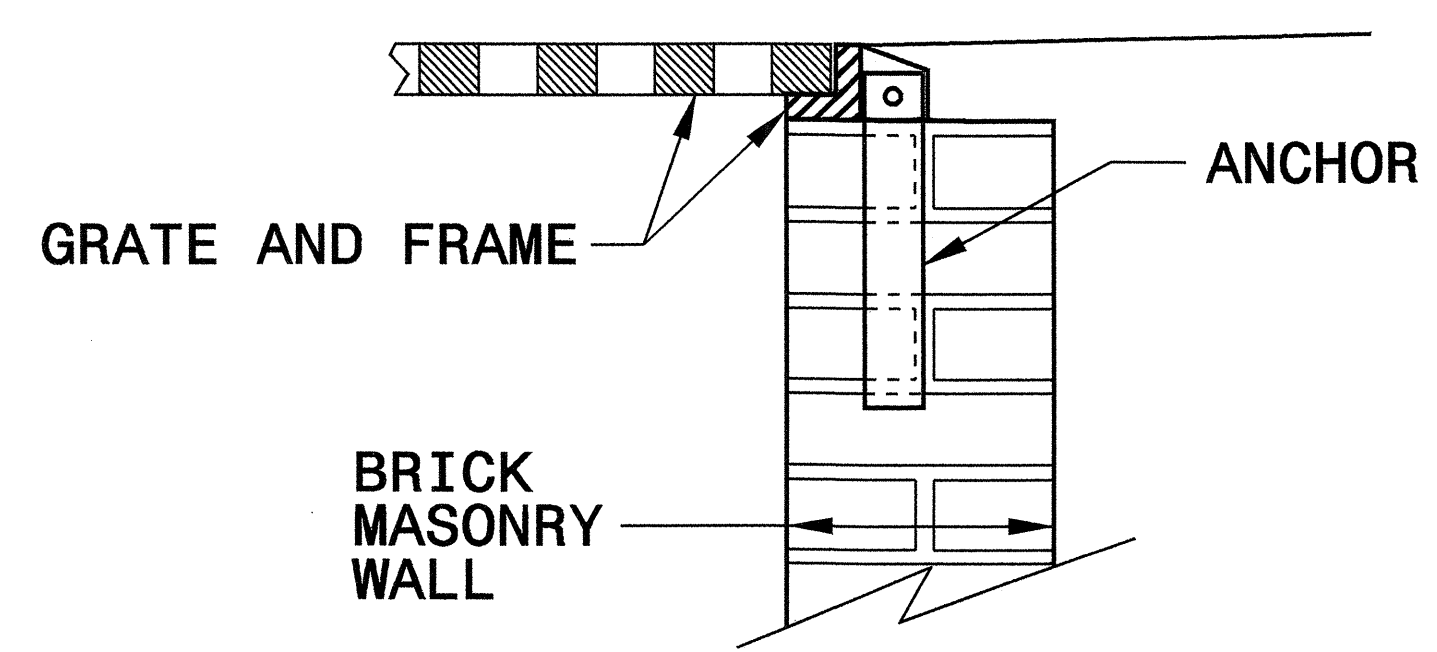
PROJECT REFERENCE NO. B-4523	SHEET NO. 2-A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER JOHN C. LANSFORD 3/23/09	PAVEMENT DESIGN ENGINEER CLARK S. MORRISON 3/23/09

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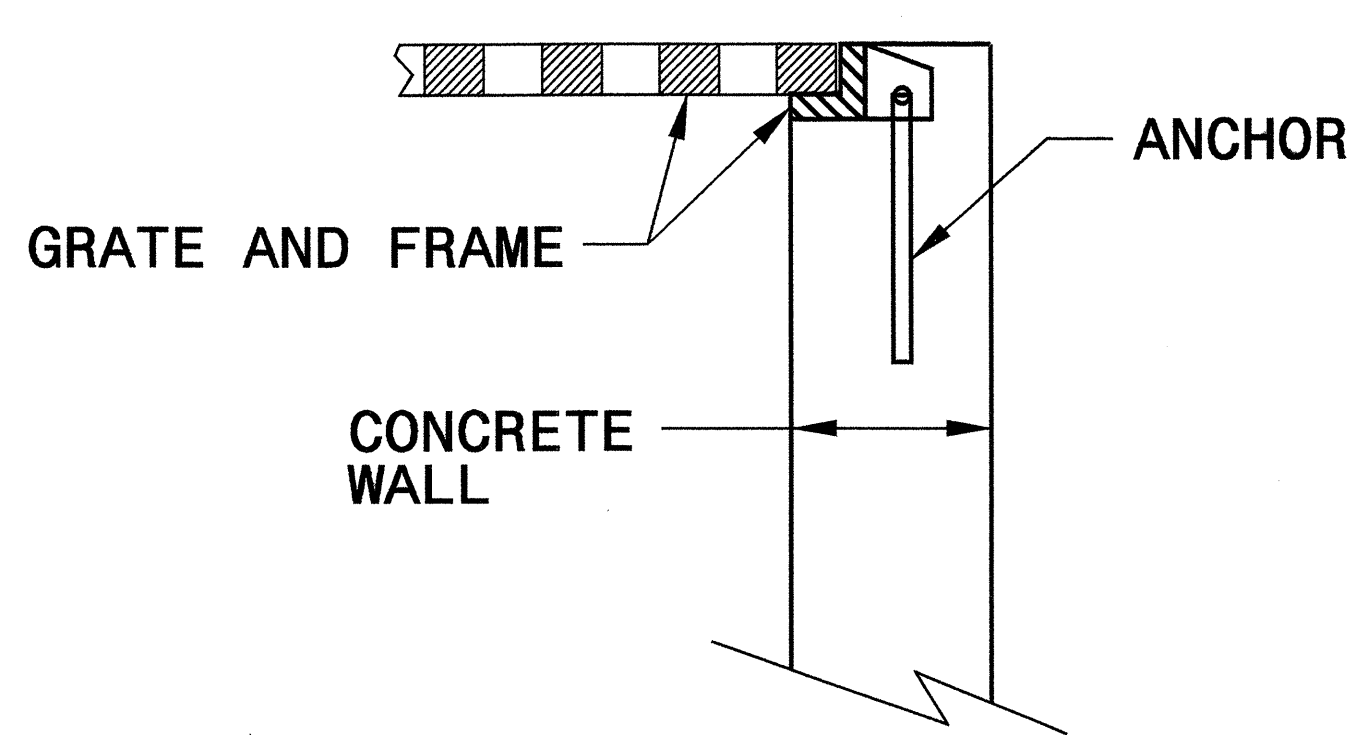
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

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

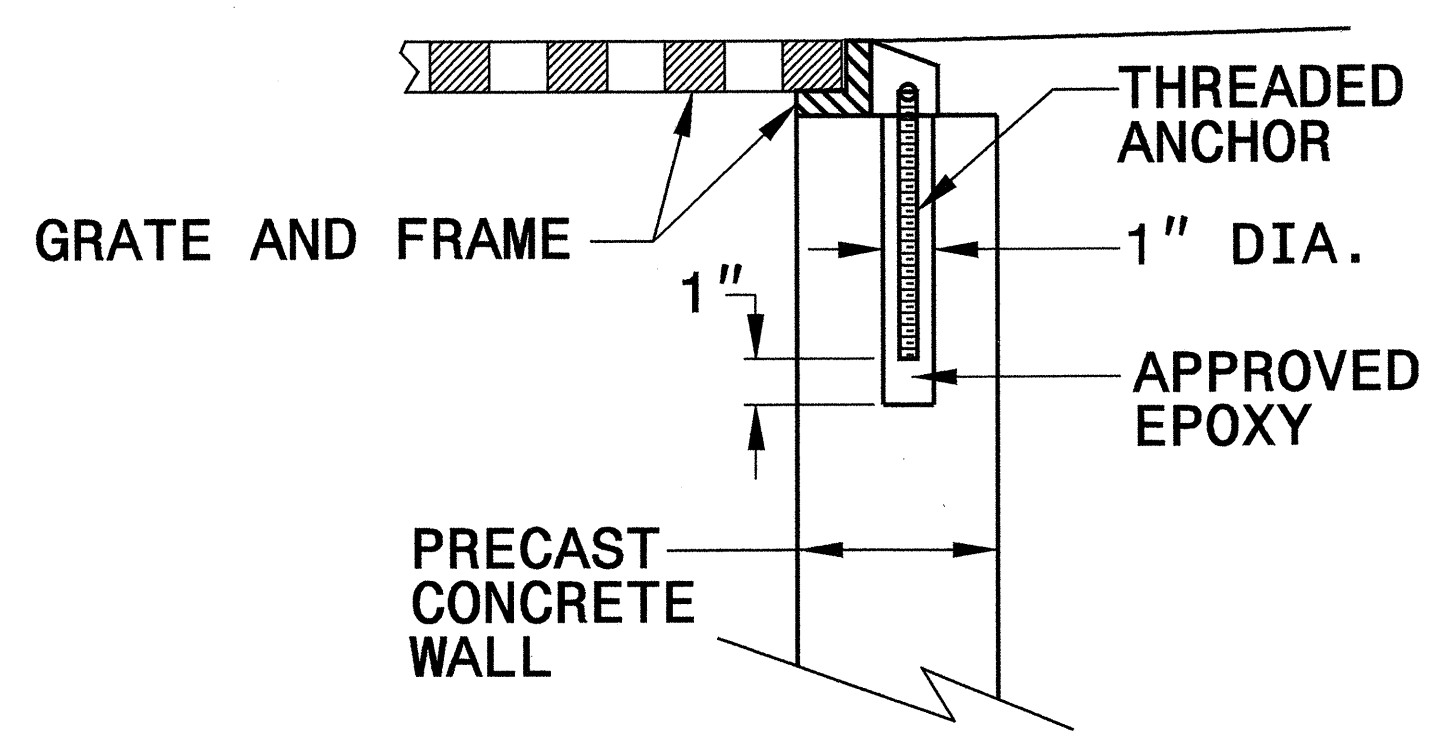
SHEET 1 OF 1
840D25



BRICK MASONRY CONSTRUCTION



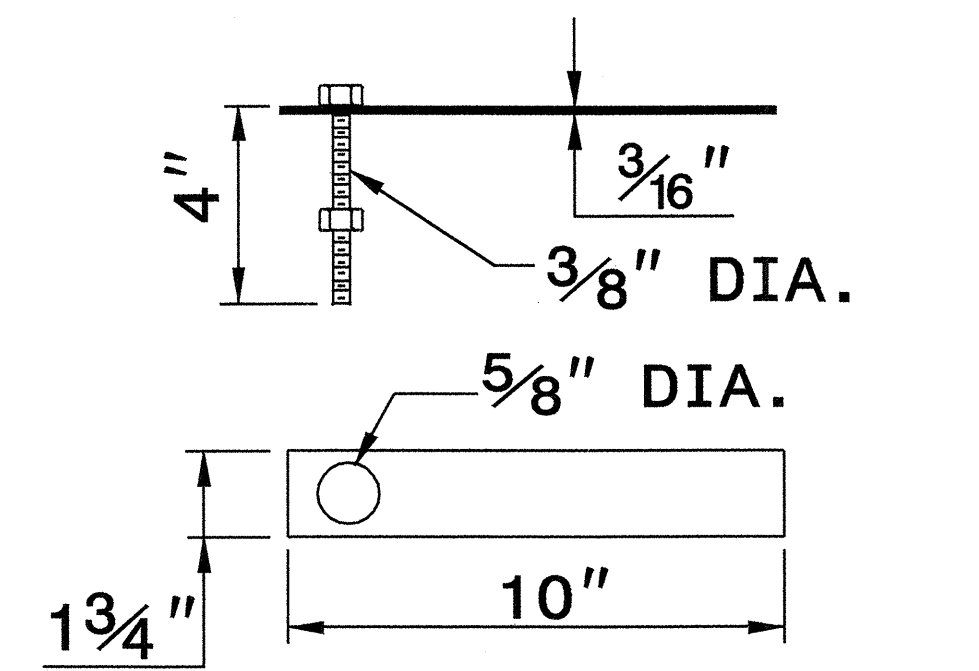
CONCRETE CONSTRUCTION



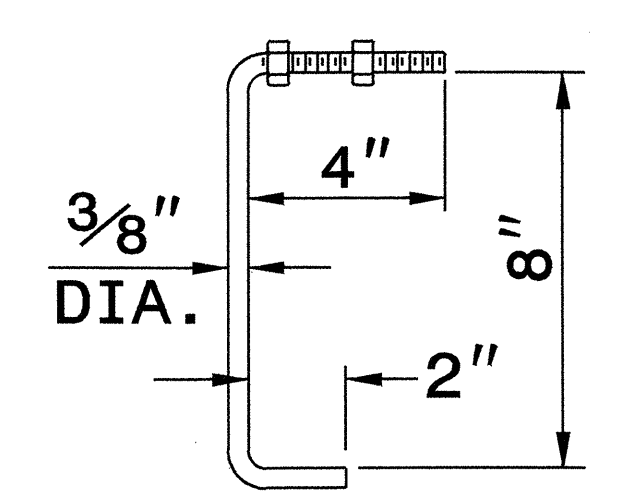
PRECAST CONCRETE CONSTRUCTION

DETAIL SHOWING ANCHORAGE OF FRAME FOR GRATED DROP INLET

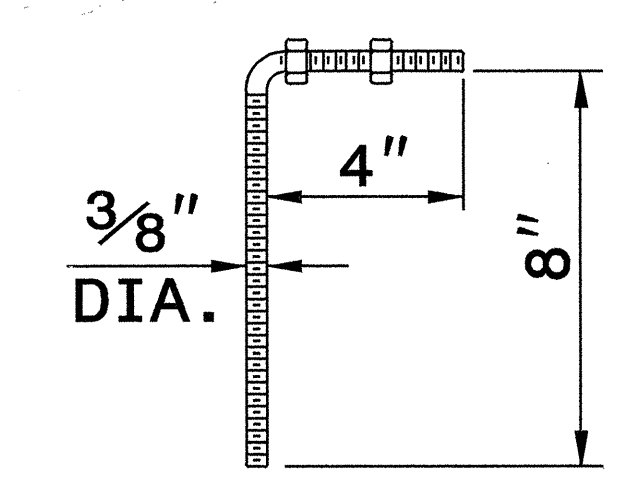
NOTE:
CONSTRUCT GRATED DROP INLET TO COINCIDE WITH NORMAL OR SUPERELEVATED SHOULDER OR PAVEMENT SLOPE.



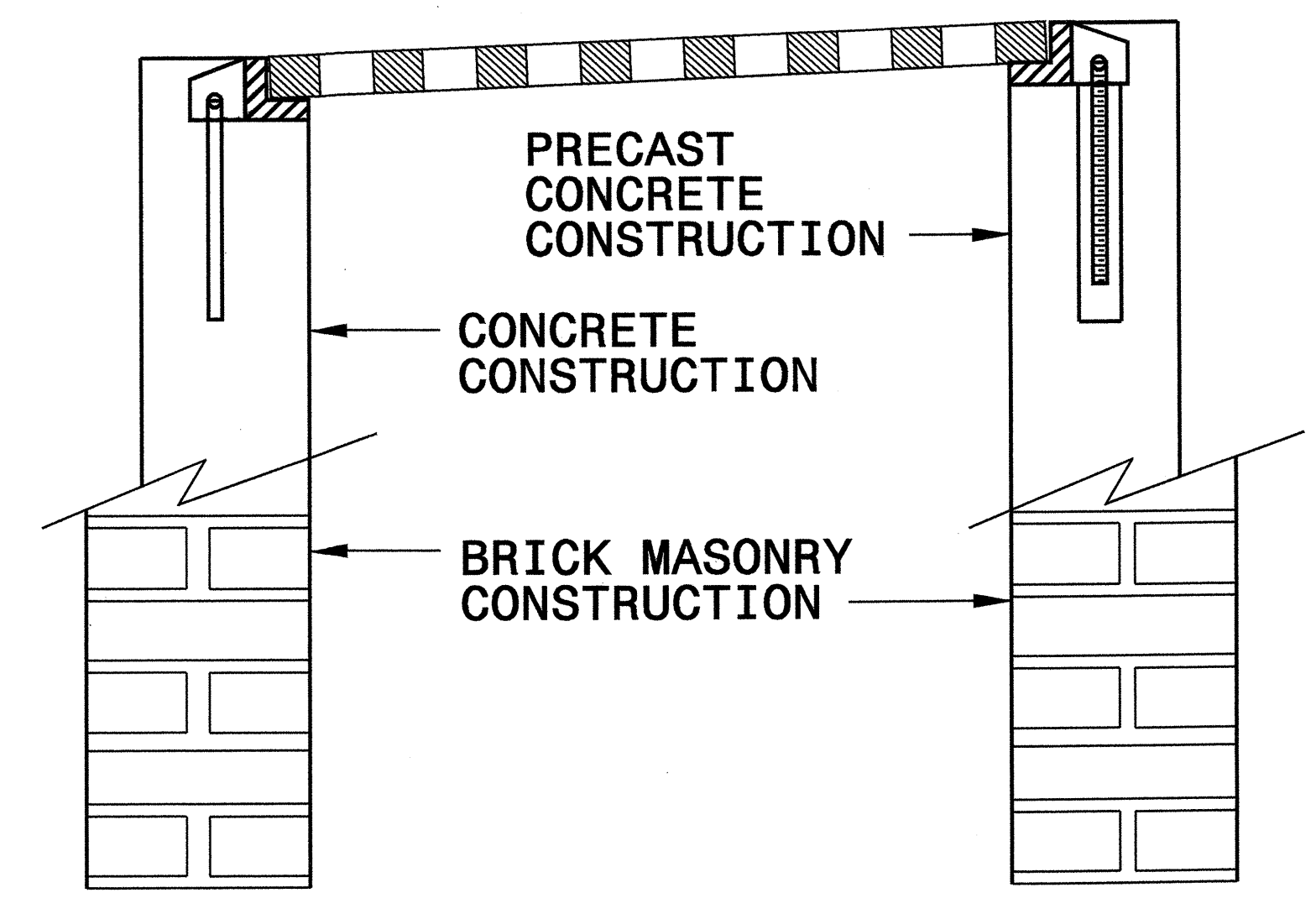
MASONRY ANCHOR
3/8" DIA. BOLT WITH PLATE



CONCRETE ANCHOR
3/8" DIA. BENT BAR



PRECAST CONCRETE ANCHOR
3/8" DIA. BENT BAR

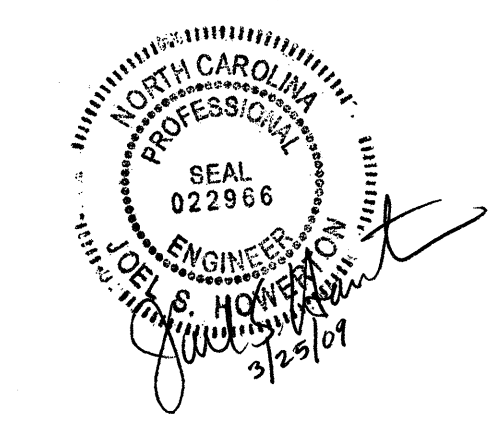


FRAME AND GRATE INSTALLATION FOR NORMAL CROWN AND SUPERELEVATED SECTIONS

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



**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: DATE:
FILE SPEC.:

01-WAR-2007 09:04 s:\contracts\contract_details\erward\stds\06\stds to special_details\840D25 anchorage for frames\0840d25.dgn J:\power-ten AT P5212260

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
ROADWAY SUMMARY OF QUANTITIES FOR CONTRACT - C202126

ItemNumber	Sec #	Quantity	Unit	Description	ItemNumber	Sec #	Quantity	Unit	Description	ItemNumber	Sec #	Quantity	Unit	Description
000010000-N	800	Lump Sum		MOBILIZATION	319500000-N	862	1	EA	GUARDRAIL ANCHOR UNITS, TYPE AT-1	603000000-E	1630	400	CY	SILT EXCAVATION
000040000-N	801	Lump Sum		CONSTRUCTION SURVEYING	327000000-N	SP	3	EA	GUARDRAIL ANCHOR UNITS, TYPE 350	603600000-E	1631	1,600	SY	MATTING FOR EROSION CONTROL
003000000-N	SP	Lump Sum		BRIDGE APPROACH FILL - SUB REGIONAL TIER, STATION ***** (17+29.50)	331700000-N	862	4	EA	GUARDRAIL ANCHOR UNITS, TYPE B-77	603700000-E	SP	30	SY	COIR FIBER MAT
004300000-N	226	Lump Sum		GRADING	362800000-E	876	5	TON	RIP RAP, CLASS I	603800000-E	SP	760	SY	PERMANENT SOIL REINFORCEMENT MAT
005000000-E	226	1	ACR	SUPPLEMENTARY CLEARING & GRUB-BING	364900000-E	876	195	TON	RIP RAP, CLASS B	604200000-E	1632	460	LF	1/4" HARDWARE CLOTH
005700000-E	226	200	CY	UNDERCUT EXCAVATION	365600000-E	876	750	SY	FILTER FABRIC FOR DRAINAGE	607103000-E	SP	200	LF	COIR FIBER BAFFLES
019500000-E	265	200	CY	SELECT GRANULAR MATERIAL	407200000-E	903	28	LF	SUPPORTS, 3-LB STEEL U-CHANNEL	607105000-E	SP	4	EA	*** SKIMMER (1-1/2")
019600000-E	270	200	SY	FABRIC FOR SOIL STABILIZATION	410200000-N	904	2	EA	SIGN ERECTION, TYPE E	608400000-E	1660	10	ACR	SEEDING & MULCHING
031800000-E	300	23	TON	FOUNDATION CONDITIONING MATERIAL, MINOR STRS	415500000-N	907	10	EA	DISPOSAL OF SIGN SYSTEM, U-CHANNEL	608700000-E	1660	2.5	ACR	MOWING
034200000-E	310	156	LF	*** SIDE DRAIN PIPE (15")	440000000-E	1110	341	SF	WORK ZONE SIGNS (STATIONARY)	609000000-E	1661	50	LB	SEED FOR REPAIR SEEDING
036600000-E	310	24	LF	15" RC PIPE CULVERTS, CLASS III	441000000-E	1110	94	SF	WORK ZONE SIGNS (BARRICADE MOUNTED)	609300000-E	1661	0.25	TON	FERTILIZER FOR REPAIR SEEDING
070800000-E	310	36	LF	15" BIT COAT CS PIPE CULVERTS, TYPE B 0.064" THICK	443000000-N	1130	10	EA	DRUMS	609600000-E	1662	100	LB	SEED FOR SUPPLEMENTAL SEEDING
080600000-E	310	4	EA	15" BIT COAT CS PIPE ELBOWS, TYPE B 0.064" THICK	444500000-E	1145	96	LF	BARRICADES (TYPE III)	610800000-E	1665	2.75	TON	FERTILIZER TOPDRESSING
122000000-E	545	300	TON	INCIDENTAL STONE BASE	481000000-E	1205	8,800	LF	PAINT PAVEMENT MARKING LINES (4")	611400000-N	SP	5	HR	SPECIALIZED HAND MOWING
148900000-E	610	600	TON	ASPHALT CONC BASE COURSE, TYPE B25.0B	490000000-N	1251	30	EA	PERMANENT RAISED PAVEMENT MARKERS	611700000-N	SP	12	EA	RESPONSE FOR EROSION CONTROL
152500000-E	610	330	TON	ASPHALT CONC SURFACE COURSE, TYPE SF9.5A	600000000-E	1605	880	LF	TEMPORARY SILT FENCE	612300000-E	1670	0.25	ACR	REFORESTATION
156000000-E	620	48	TON	ASPHALT BINDER FOR PLANT MIX, GRADE PG 64-22	600600000-E	1610	75	TON	STONE FOR EROSION CONTROL, CLASS A					
200000000-N	806	11	EA	RIGHT OF WAY MARKERS	600900000-E	1610	190	TON	STONE FOR EROSION CONTROL, CLASS B					
228600000-N	840	3	EA	MASONRY DRAINAGE STRUCTURES	601200000-E	1610	140	TON	SEDIMENT CONTROL STONE					
236700000-N	840	3	EA	FRAME WITH TWO GRATES, STD 840.29	601500000-E	1615	5	ACR	TEMPORARY MULCHING					
255600000-E	846	180	LF	SHOULDER BERM GUTTER	601800000-E	1620	150	LB	SEED FOR TEMPORARY SEEDING					
303000000-E	862	275	LF	STEEL BM GUARDRAIL	602100000-E	1620	1.5	TON	FERTILIZER FOR TEMPORARY SEEDING					
304500000-E	862	25	LF	STEEL BM GUARDRAIL, SHOP CURVED	602400000-E	1622	50	LF	TEMPORARY SLOPE DRAINS					
315000000-N	862	5	EA	ADDITIONAL GUARDRAIL POSTS	602700000-N	1622	1	EA	INLET PROTECTION AT TEMPORARY SLOPE DRAINS					
					602900000-E	SP	550	LF	SAFETY FENCE					

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SUMMARY OF EARTHWORK IN CUBIC YARDS

STATION	STATION	UNCLASS. EXCAV.	UNDERCUT	EMBNK + %	BORROW	WASTE
10 + 25.00 -L-	16 + 69.50 -L-	1,018		1,894	876	
	Subtotal	1,018		1,894	876	
17 + 89.50 -L-	20 + 50.00 -L-	131		1,873	1,742	
	Subtotal	131		1,873	1,742	
	Project Total	1,149		3,767	2,618	
	5% for Borrow Pit				131	
	Grand Total	1,149		3,767	2,749	
	SAY	1,160			2,800	
	Contingency Undercut		200			

Note: Earthwork Quantities are calculated by the Roadway Design Unit. These 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, Breaking of Existing Pavement, and Removal of Existing Pavement will be paid for at the contract lump sum price for "Grading."

Summary of Pavement Removal In Square Yards

Station	Station	Asphalt Breakup	Asphalt Removal	Concrete Breakup	Concrete Removal
11 + 00.00 -L-	12 + 25.00 -L-		278		
12 + 25.00 -L-	13 + 50.00 -L-	278			
13 + 50.00 -L-	16 + 95.00 -L-		767		
18 + 00.47 -L-	19 + 25.00 -L-	277			
19 + 25.00 -L-	20 + 50.00 -L-		278		
	GRAND TOTAL	555	1,323		
	SAY	575	1,330		

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