

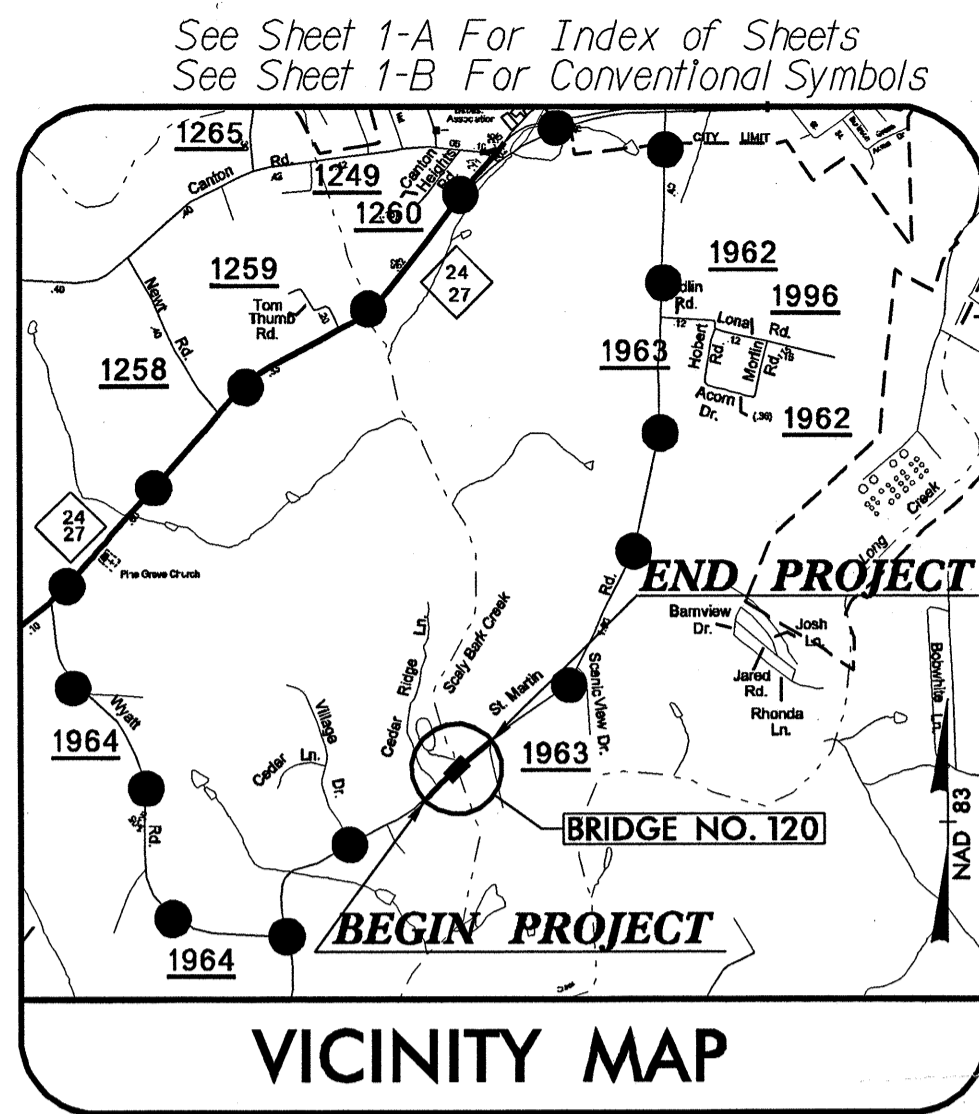
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4279	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
33619.1.1	BRZ-1963 (2)	PE	
33619.2.1	BRZ-1963 (2)	RW & UTIL.	
33619.3.1	BRZ-1963 (2)	CONST.	

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

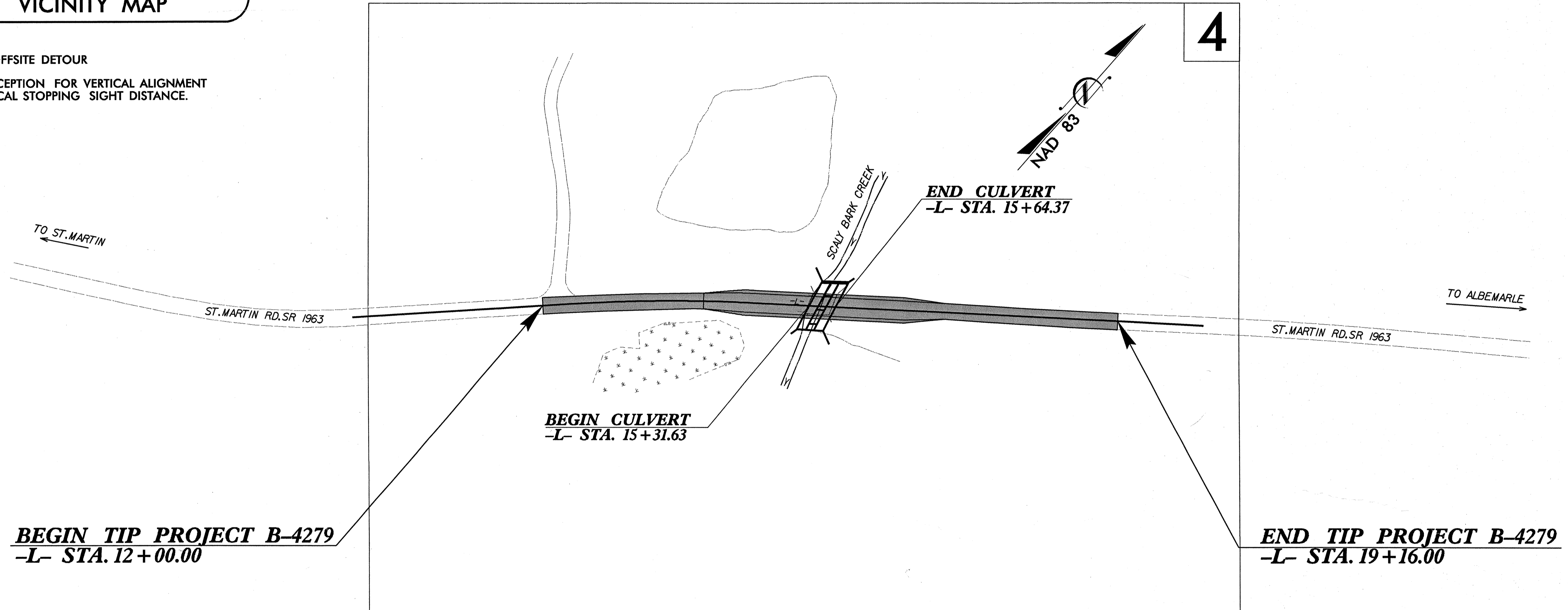
STANLY COUNTY

LOCATION: BRIDGE NO. 120 OVER SCALY BARK CREEK ON SR 1963 (ST. MARTIN RD.)

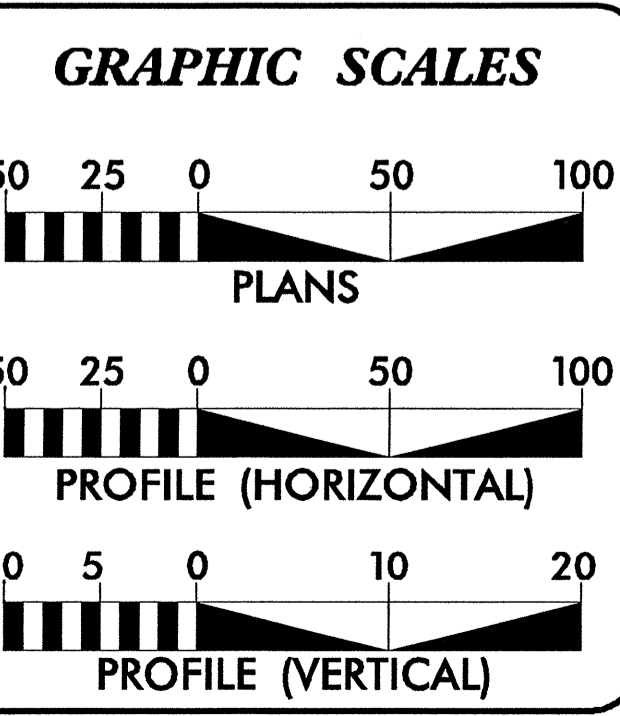
TYPE OF WORK: GRADING, DRAINAGE, PAVING AND CULVERT



●●● OFFSITE DETOUR
** DESIGN EXCEPTION FOR VERTICAL ALIGNMENT AND VERTICAL STOPPING SIGHT DISTANCE.



NCDOT CONTACT : CATHY HOUSER, P.E.
ROADWAY DESIGN-ENGINEERING COORDINATION



DESIGN DATA

ADT 2008 = 3,649
ADT 2028 = 5,649
DHV = 10 %
D = 60 %
T = 5 % *
**V = 60 MPH
* TTST 2% + DUALS 3%
FUNC. = RURAL MINOR
CLASS = COLLECTOR

PROJECT LENGTH

Length Roadway Tip Project B-4279 = 0.130 Miles
Length Structure Tip Project B-4279 = 0.006 Miles
Total Length Tip Project B-4279 = 0.136 Miles

Prepared In the Office of:
THE LPA GROUP
TRANSPORTATION CONSULTANTS
2006 STANDARD SPECIFICATIONS

THE LPA GROUP of North Carolina, p.a.
5000 Falls of Neuse Rd., Suite 304
Raleigh, North Carolina 27609

RIGHT OF WAY DATE:
OCT 19, 2007

LETTING DATE:
OCT 21, 2008

JEANNE K. RICHTER P.E.
PROJECT ENGINEER

JODY L. COLE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

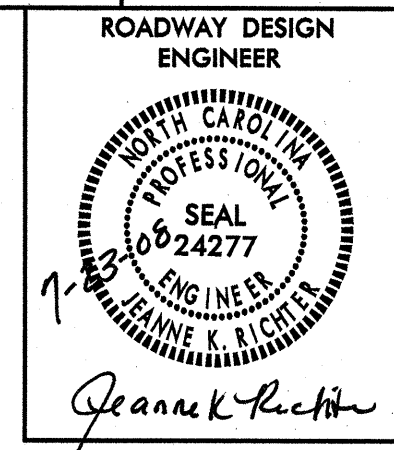
6/20/02
SIGNATURE: *Jeanne K. Richter* P.E.
ROADWAY DESIGN ENGINEER

6/17/02
SIGNATURE: *Jody L. Cole* P.E.

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

cat miller
STATE HIGHWAY DESIGN ENGINEER P.E.

CONTRACT: 201964
 TIP PROJECT: B-4279
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 icole AT LPA20025



SHEET NUMBER	INDEX OF SHEETS 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	PAVEMENT SCHEDULE, AND TYPICAL SECTIONS
2-A	ANCHORAGE FOR FRAME AND GRATE DETAIL
3	SUMMARY OF QUANTITIES
3A	EARTHWORK SUMMARY, AND ASPHALT PAVEMENT REMOVAL SUMMARY
3B	SUMMARY OF DRAINAGE QUANTITIES, AND SUMMARY OF GUARDRAIL
4	PLAN AND PROFILE SHEET
TCP-1 THRU TCP-4	TRAFFIC CONTROL PLANS
EC-1 THRU EC-6	EROSION CONTROL PLANS
UC-1 THRU UC-3	UTILITY CONSTRUCTION PLANS
UD-1 THRU UD-2	UTILITIES BY OTHERS PLANS
X-1A	CROSS SECTION SUMMARY SHEET
X-1 THRU X-5	CROSS-SECTIONS
C-1 THRU C-5	CULVERT PLANS

GENERAL NOTES:

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

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.

UTILITIES:

THE UTILITY OWNER ON THIS PROJECT IS THE TOWN OF OAKBORO

ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS, EXCEPT AS SHOWN ON THE PLANS.

RIGHT-OF-WAY MARKERS:

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

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'
DIVISION 5 - SUBGRADE, BASES AND SHOULDERS	
560.01	Method of Shoulder Construction - High Side of Super-elevated Curve - Method I
DIVISION 6 - ASPHALT BASES AND PAVEMENTS	
654.01	Pavement Repairs
DIVISION 8 - INCIDENTALS	
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
840.27	Brick Grated Drop Inlet Type 'B' - 12" thru 36" Pipe
840.45	Precast Drainage Structure
840.66	Drainage Structure Steps
862.01	Guardrail Placement
862.02	Guardrail Installation
876.01	Rip Rap in Channels
876.04	Drainage Ditches with Class 'B' Rip Rap

8/17/09

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3/15/06

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	-----
Proposed Wheel Chair Ramp Curb Cut	-----
Curb Cut for Future 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:

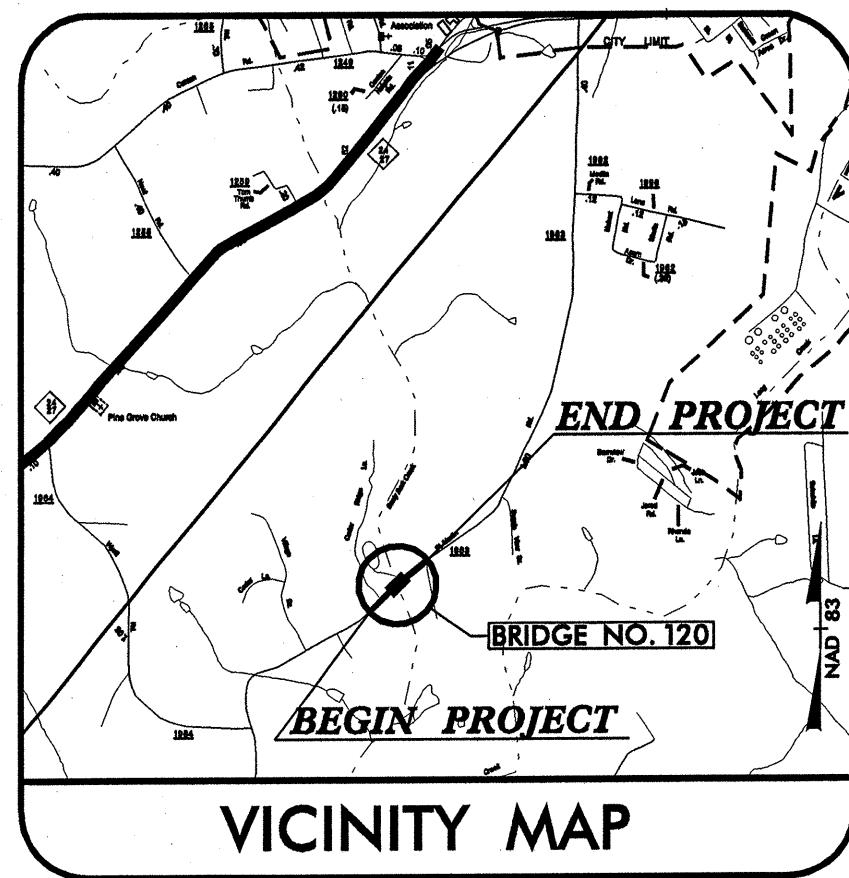
Utility Pole	⊙
Utility Pole with Base	⊙
Utility Located Object	⊙
Utility Traffic Signal Box	⊙
Utility Unknown U/G Line	-----
U/G Tank; Water, Gas, Oil	-----
A/G Tank; Water, Gas, Oil	-----
U/G Test Hole (S.U.E.*)	⊙
Abandoned According to Utility Records	AATUR
End of Information	E.O.I.

10/22/00

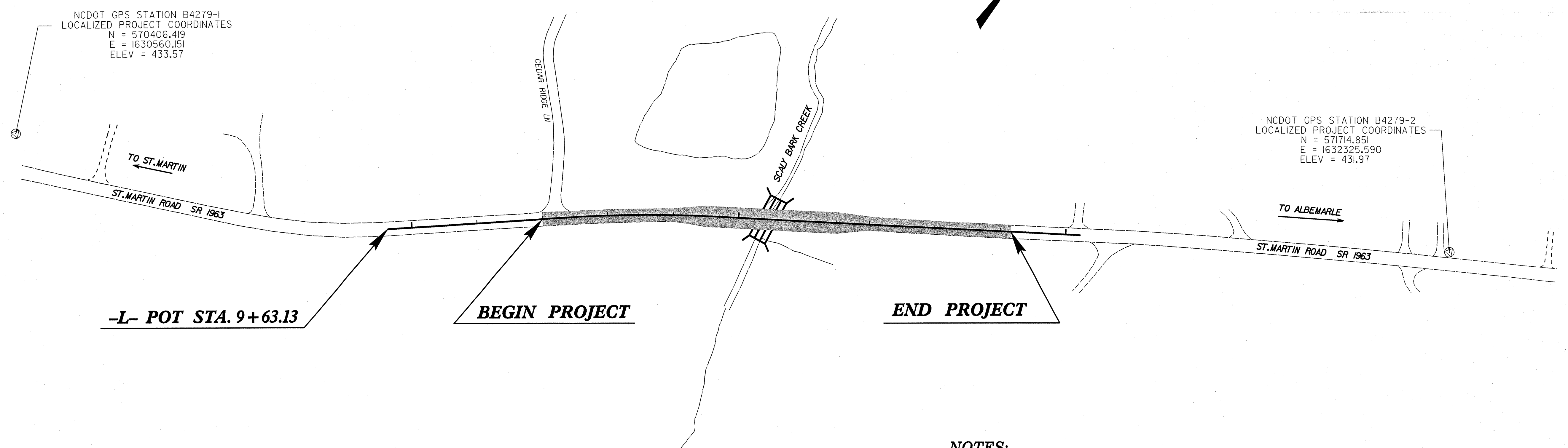
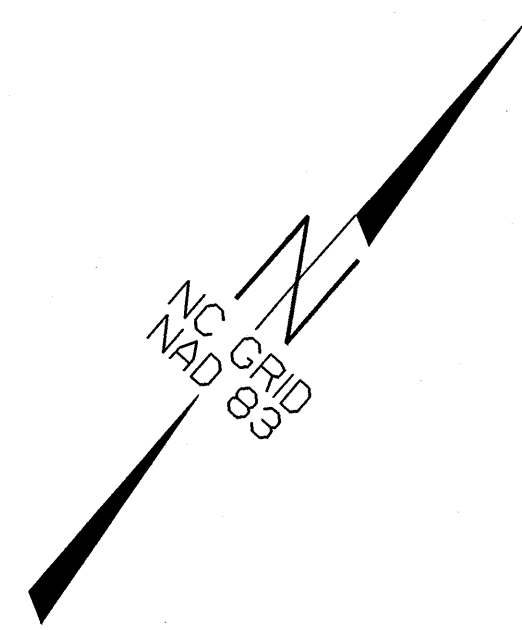
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SURVEY CONTROL SHEET B-4279

PROJECT REFERENCE NO.	SHEET NO.
B-4279	1 C
Location and Surveys	



DATUM DESCRIPTION
 THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B4279-1"
 WITH NAD 83 STATE PLANE GRID COORDINATES OF
 NORTHING: 570406.419 EASTING: 1630560.151 (ft)
 THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.9998573
 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B4279-1" TO -L- STATION 9+63.13 IS
 N63°19'41.4"E 587.148
 ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
 VERTICAL DATUM USED IS NAVD 88



BL POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
1	B4279-1	570406.4190	1630560.1510	433.57	OUTSIDE PROJECT LIMITS	
10	BL-10	570567.7710	1630924.0180	419.38	OUTSIDE PROJECT LIMITS	
11	BL-11	571074.8500	1631551.7470	395.48	15+82.78	16.82 RT
12	BL-12	571495.8500	1632089.0750	425.35	OUTSIDE PROJECT LIMITS	
2	B4279-2	571714.8510	1632325.5900	431.97	OUTSIDE PROJECT LIMITS	

T0 POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
13	T-13	571245.5270	1631477.1000	389.27	16+30.45	163.27 LT
E011	BL-11	571074.8500	1631551.7470	395.48	15+82.78	16.82 RT
14	T-14	570929.4090	1631571.5670	389.76	15+07.87	143.05 RT

.....
 BM1 ELEVATION = 431.54
 N 570384 E 1630575
 L STATION 8+33
 S 61° 19' 47.8" W DIST 1135.88
 RR SPIKE IN BASE OF POWER POLE

 BM2 ELEVATION = 408.32
 N 571220 E 1631643
 L STATION 5+90 142 LEFT
 RR SPIKE IN BASE OF POWER POLE

 BM3 ELEVATION = 433.40
 N 571640 E 1632291
 L STATION 5+00
 N 64° 06' 35.9" E DIST 904.31
 RR SPIKE IN BASE OF FENCE POST

NOTES:

1. 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:
B4279_LS_CONTROL_060712.TXT

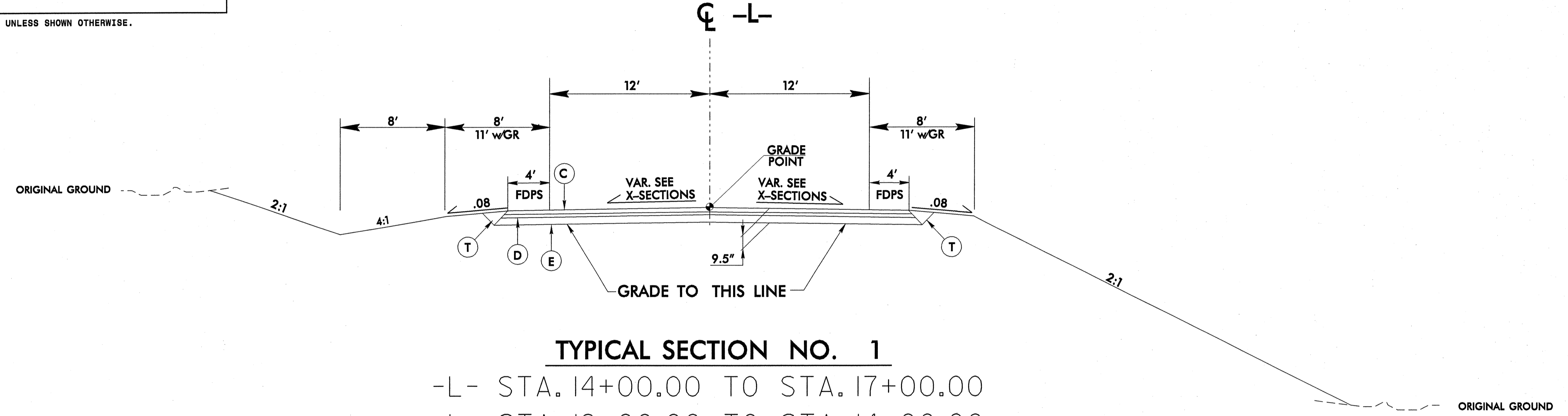
SITE CALIBRATION INFORMATION HAS NOT BEEN PROVIDED FOR THIS PROJECT. IF FURTHER INFORMATION IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

- Ⓢ 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

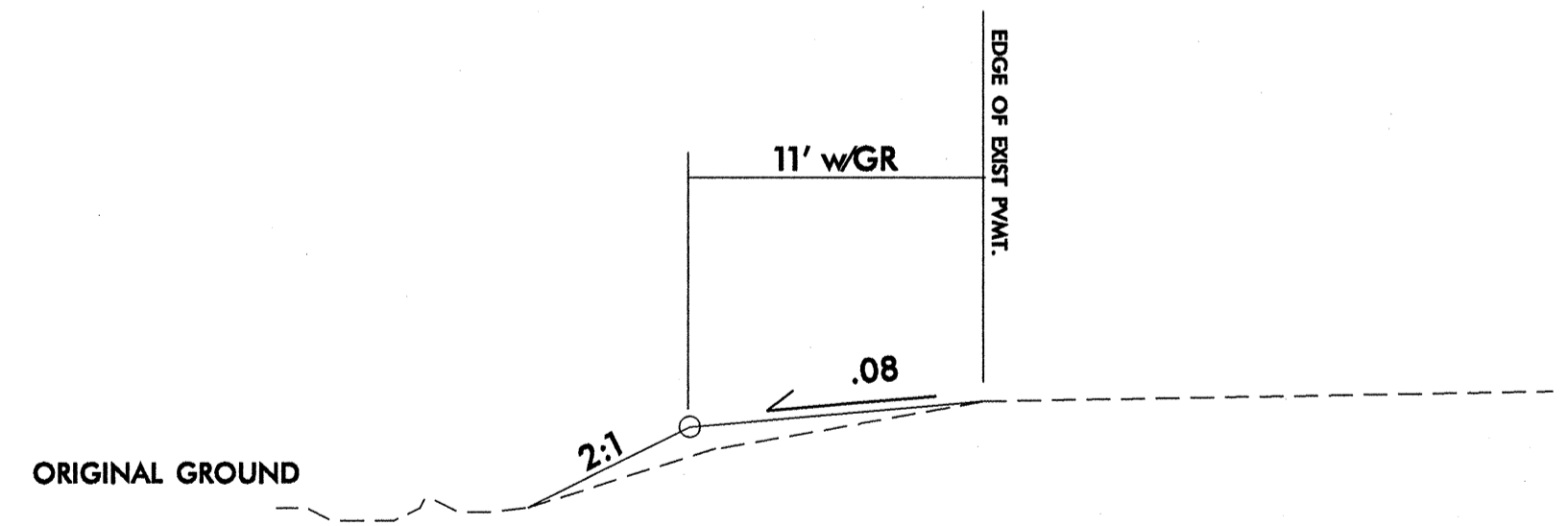
PAVEMENT SCHEDULE	
C	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C1	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
D	PROP. APPROX. 2½" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.
E	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.

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



TYPICAL SECTION NO. 1

- L- STA. 14+00.00 TO STA. 17+00.00
- ** -L- STA. 12+00.00 TO STA. 14+00.00
- ** -L- STA. 17+00.00 TO STA. 19+16.00
- ** NOTE: OVERLAY EXIST. PAVEMENT ONLY WITH (C)



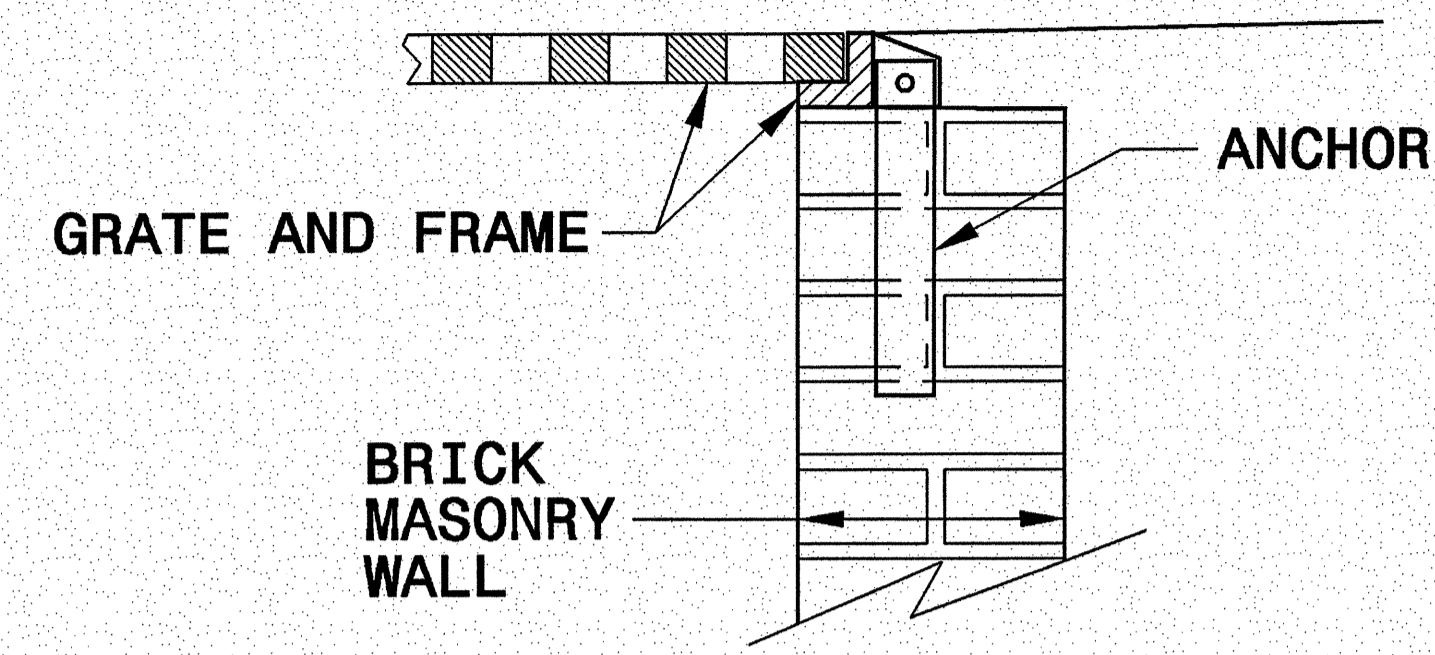
PARTIAL TYPICAL

- GRADE SHOULDER ONLY FOR GUARDRAIL PLACEMENT
- L- STA. 12+18.00 TO STA. 14+00.00 RT
- L- STA. 17+00.00 TO STA. 18+90.98 LT

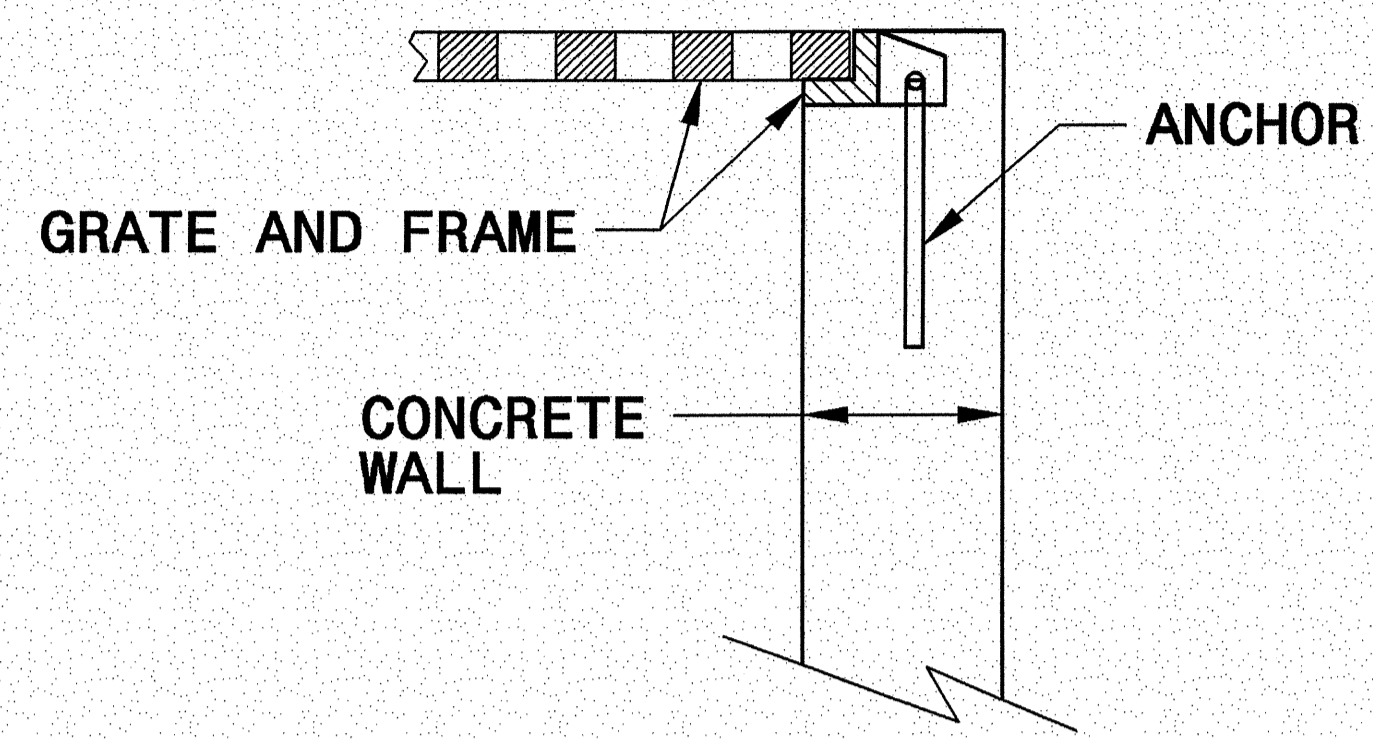
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

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

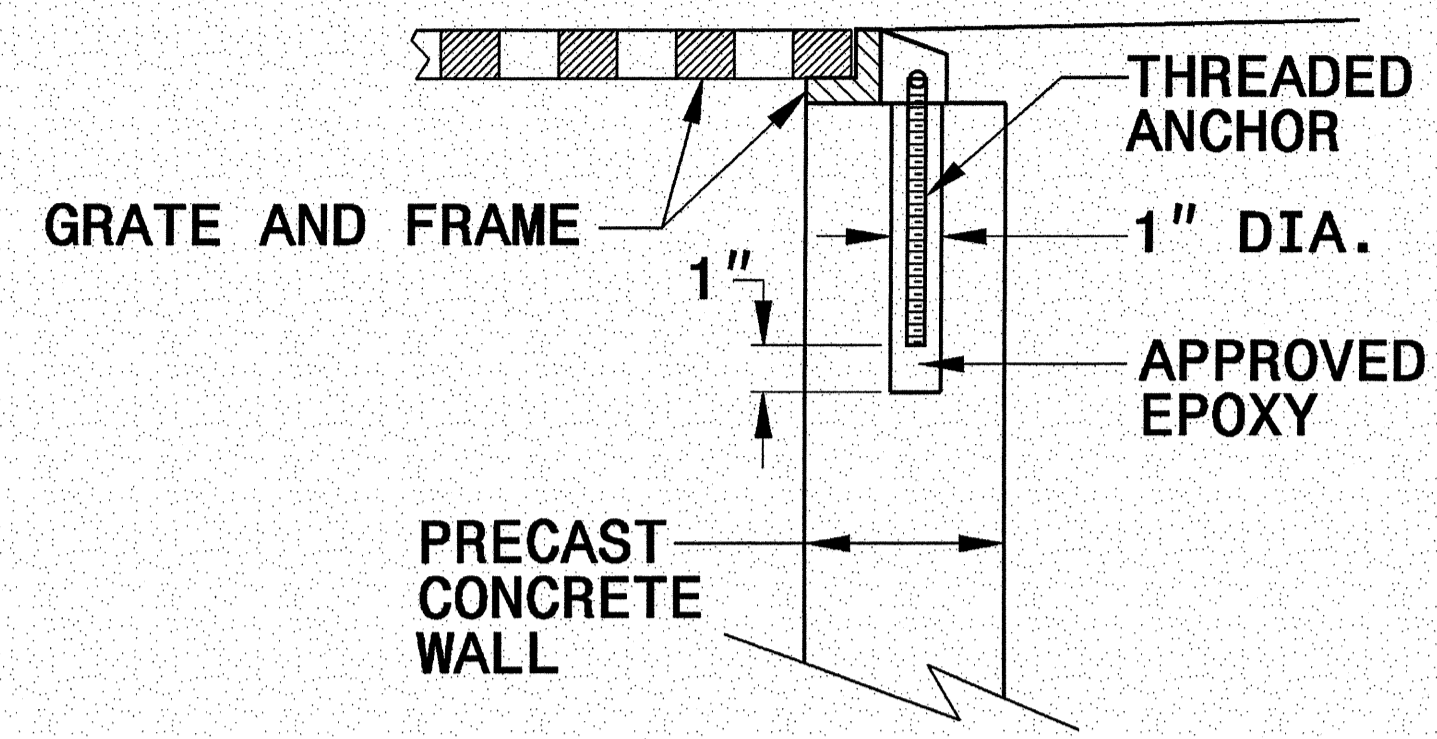
SHEET 1 OF 1
840D25



BRICK MASONRY CONSTRUCTION



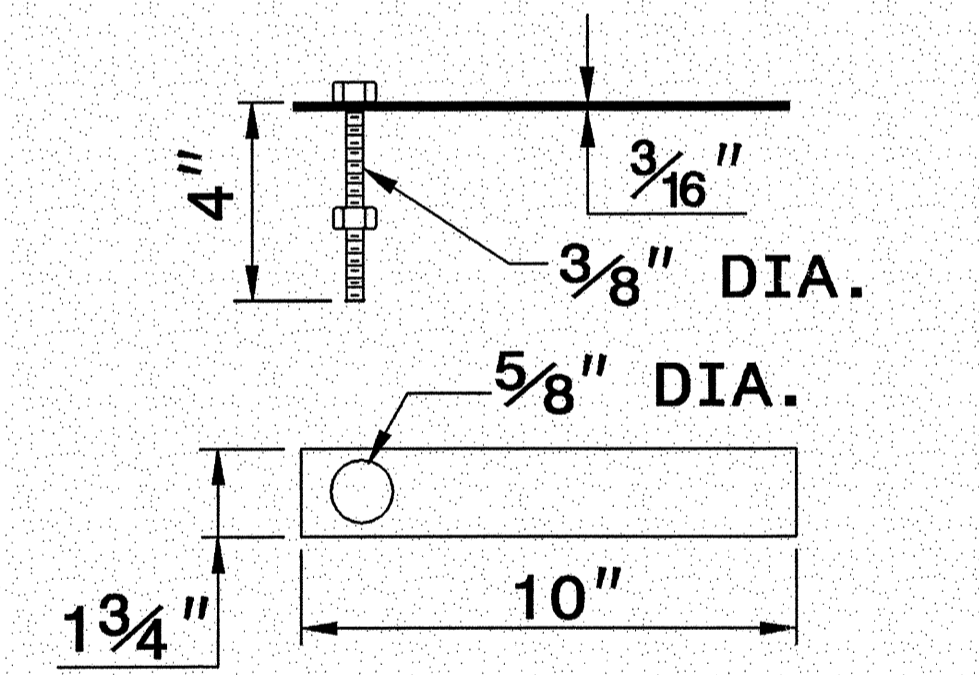
CONCRETE CONSTRUCTION



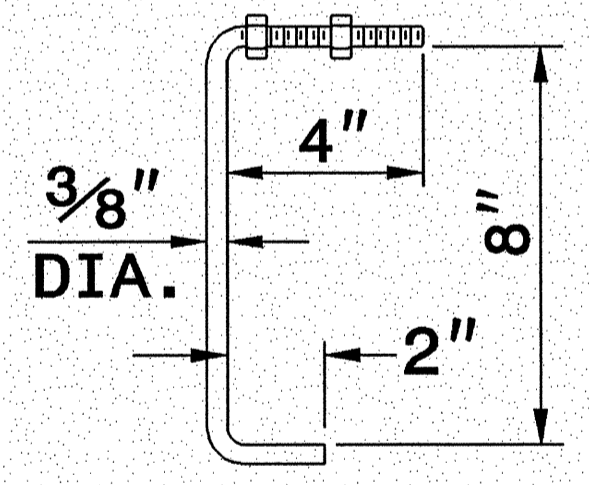
PRECAST CONCRETE CONSTRUCTION

DETAIL SHOWING ANCHORAGE OF FRAME FOR GRATED DROP INLET

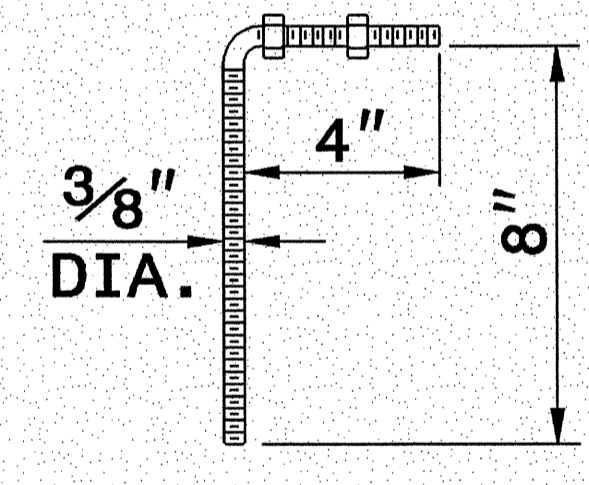
NOTE:
CONSTRUCT GRATED DROP INLET TO COINCIDE WITH NORMAL OR SUPERELEVATED SHOULDER OR PAVEMENT SLOPE.



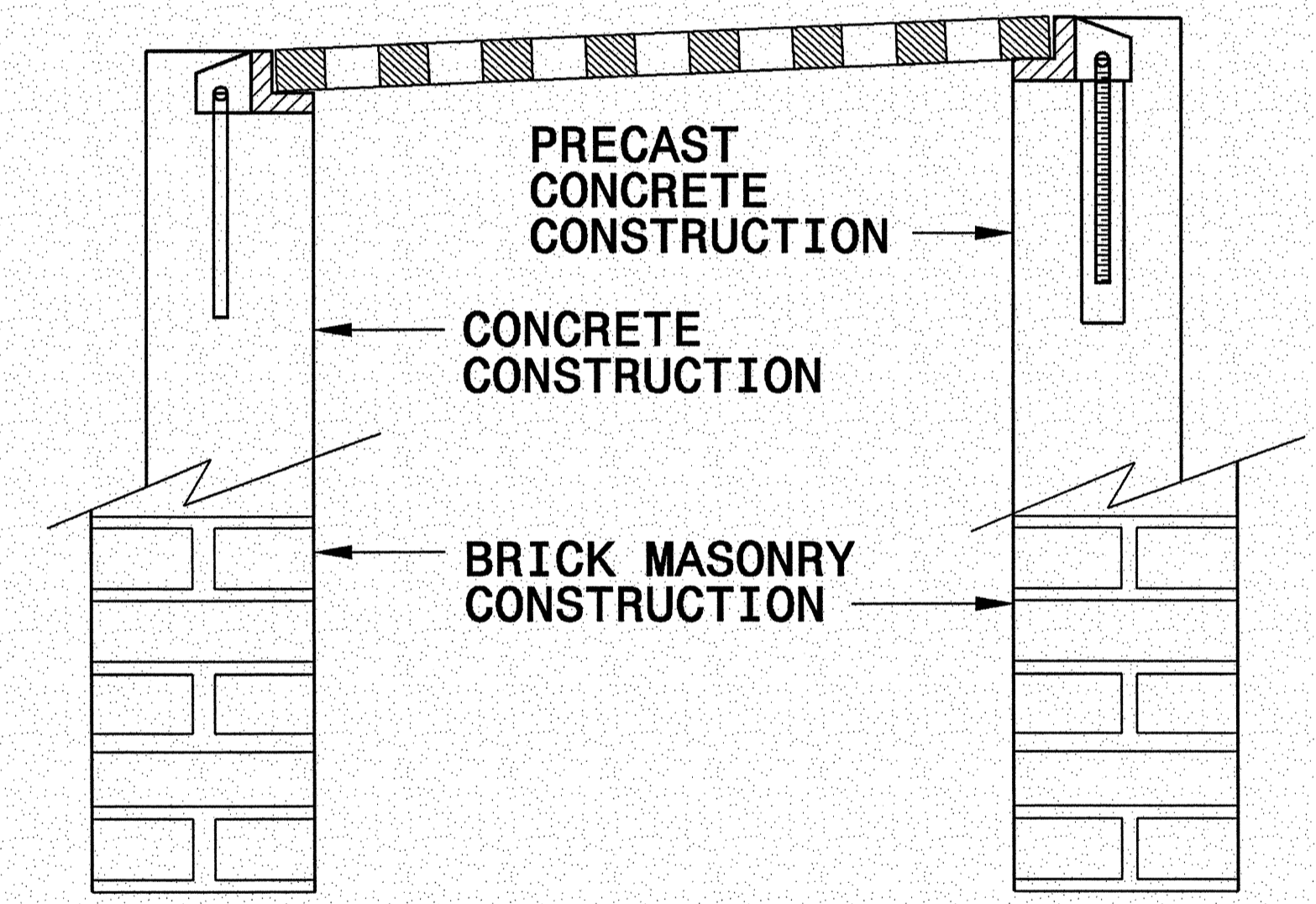
MASONRY ANCHOR
3/8" DIA. BOLT WITH PLATE



CONCRETE ANCHOR
3/8" DIA. BENT BAR



PRECAST CONCRETE ANCHOR
3/8" DIA. BENT BAR



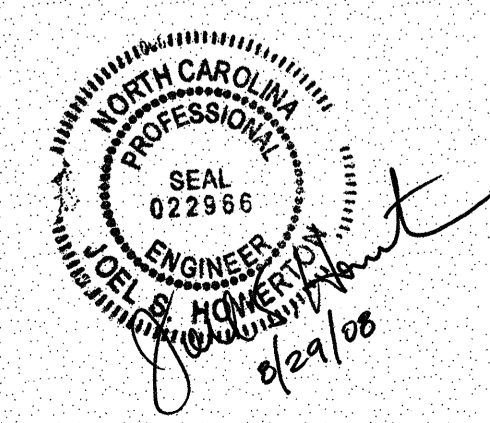
FRAME AND GRATE INSTALLATION FOR NORMAL CROWN AND SUPERELEVATED SECTIONS

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

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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.:

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
SUMMARY OF QUANTITIES

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
ROADWAY SUMMARY OF QUANTITIES FOR CONTRACT - C201964

ItemNumber	Sec #	Quantity	Unit	Description
0000100000-N	800	Lump Sum		MOBILIZATION
0043000000-N	226	Lump Sum		GRADING
0050000000-E	226	1	ACR	SUPPLEMENTARY CLEARING & GRUB-BING
0057000000-E	226	300	CY	UNDERCUT EXCAVATION
0080000000-E	SP	350	TON	CLASS IV SUBGRADE STABILIZA-TION
0134000000-E	240	280	CY	DRAINAGE DITCH EXCAVATION
0195000000-E	265	200	CY	SELECT GRANULAR MATERIAL
0196000000-E	270	200	SY	FABRIC FOR SOIL STABILIZATION
0318000000-E	300	10	TON	FOUNDATION CONDITIONING MATE-RIAL, MINOR STRS
0995000000-E	340	26	LF	PIPE REMOVAL
1220000000-E	545	50	TON	INCIDENTAL STONE BASE
1330000000-E	607	230	SY	INCIDENTAL MILLING
1489000000-E	610	240	TON	ASPHALT CONC BASE COURSE, TYPE B25.0B
1498000000-E	610	150	TON	ASPHALT CONC INTERMEDIATE COURSE, TYPE I19.0B
1519000000-E	610	250	TON	ASPHALT CONC SURFACE COURSE, TYPE S9.5B
1560000000-E	620	33	TON	ASPHALT BINDER FOR PLANT MIX, GRADE PG 64-22
1693000000-E	654	50	TON	ASPHALT PLANT MIX, PAVEMENT REPAIR
2286000000-N	840	1	EA	MASONRY DRAINAGE STRUCTURES
2366000000-N	840	1	EA	FRAME WITH TWO GRATES, STD 840.24
2845000000-N	858	1	EA	ADJUSTMENT OF METER BOXES OR VALVE BOXES
3030000000-E	862	675	LF	STEEL BM GUARDRAIL
3150000000-N	862	5	EA	ADDITIONAL GUARDRAIL POSTS
3270000000-N	SP	4	EA	GUARDRAIL ANCHOR UNITS, TYPE 350
3628000000-E	876	95	TON	RIP RAP, CLASS I
3649000000-E	876	135	TON	RIP RAP, CLASS B

ItemNumber	Sec #	Quantity	Unit	Description
3656000000-E	876	1,930	SY	FILTER FABRIC FOR DRAINAGE
4400000000-E	1110	347	SF	WORK ZONE SIGNS (STATIONARY)
4410000000-E	1110	107	SF	WORK ZONE SIGNS (BARRICADE MOUNTED)
4430000000-N	1130	14	EA	DRUMS
4435000000-N	1135	14	EA	CONES
4445000000-E	1145	136	LF	BARRICADES (TYPE III)
5326200000-E	1510	311	LF	12" WATER LINE
5558000000-E	1515	2	EA	12" VALVE
5648000000-N	1515	1	EA	RELOCATE WATER METER
5804000000-E	1530	245	LF	ABANDON 12" UTILITY PIPE
5871700000-E	1550	95	LF	TRENCHLESS INSTALLATION OF 12" IN SOIL
5871710000-E	1550	95	LF	TRENCHLESS INSTALLATION OF 12" NOT IN SOIL
6000000000-E	1605	1,755	LF	TEMPORARY SILT FENCE
6006000000-E	1610	225	TON	STONE FOR EROSION CONTROL, CLASS A
6009000000-E	1610	70	TON	STONE FOR EROSION CONTROL, CLASS B
6012000000-E	1610	20	TON	SEDIMENT CONTROL STONE
6015000000-E	1615	2	ACR	TEMPORARY MULCHING
6018000000-E	1620	100	LB	SEED FOR TEMPORARY SEEDING
6021000000-E	1620	1.25	TON	FERTILIZER FOR TEMPORARY SEED-ING
6029000000-E	SP	400	LF	SAFETY FENCE
6030000000-E	1630	490	CY	SILT EXCAVATION
6036000000-E	1631	6,390	SY	MATTING FOR EROSION CONTROL
6037000000-E	SP	25	SY	COIR FIBER MAT
6038000000-E	SP	75	SY	PERMANENT SOIL REINFORCEMENT MAT
6042000000-E	1632	20	LF	1/4" HARDWARE CLOTH
6069000000-E	1638	300	CY	STILLING BASINS

ItemNumber	Sec #	Quantity	Unit	Description
6071030000-E	SP	195	LF	COIR FIBER BAFFLES
6071050000-E	SP	4	EA	*** SKIMMER (1-1/2")
6084000000-E	1660	4.5	ACR	SEEDING & MULCHING
6087000000-E	1660	1	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
6111000000-E	SP	280	LF	IMPERVIOUS DIKE
6114000000-N	SP	5	HR	SPECIALIZED HAND MOWING
6117000000-N	SP	12	EA	RESPONSE FOR EROSION CONTROL

***** BEGIN SCHEDULE AA ***** (3 ALTERNATES)				
0372000000-E	310	52	LF	18" RC PIPE CULVERTS, CLASS III
*** OR ***				
0536000000-E	SP	52	LF	**** HDPE PIPE CULVERTS (18")
*** OR ***				
0540000000-E	SP	52	LF	**** ALUMINIZED CORRUGATED STEEL PIPE CULVERTS, **** THICK (18", 0.064")
***** END SCHEDULE AA *****				

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DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SUMMARY OF EARTHWORK

IN CUBIC YARDS

PAVEMENT REMOVAL SUMMARY

LOCATION	UNCLASSIFIED EXCAVATION	UNDERCUT	EMBT + %	BORROW	WASTE
-L- 12+18.00 TO -L- 15+31.63 (BEGIN CULVERT)	73		1,054	981	
-L- 15+31.63 TO -L- 15+64.37 (BEGIN CULVERT) (END CULVERT)	3		228	225	
-L- 15+64.37 TO -L- 18+90.98 (END CULVERT)	1,080		396		684
TOTALS	1,156		1,398	1,678	684
WASTE IN LIEU OF BORROW				-684	-684
LOSS DUE TO CLEARING AND GRUBBING	-50			50	
PROJECT TOTALS	1,106		1,678	572	
EST. 5% FOR REPLACING TOPSOIL ON ON BORROW PIT				29	
GRAND TOTALS	1,106			601	
SAY	1,150			650	

SURVEY LINE	STATION	STATION	LOCATION LT/RT/CL	YD'
-L-	14+00.00	15+31.00	CL	296.00
-L-	15+61.00	17+00.00	CL	319.89
TOTAL:				615.89
SAY:				620

EST. DDE = 280 C.Y.
 EST. SELECT GRANULAR MATERIAL = 200 C.Y.
 EST. UNDERCUT EXCAVATION = 300 C.Y.
 EST. CLASS IV SUBGRADE STABILIZATION = 350 TONS

NOTE: 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, Removal of Existing Pavement, and Clearing and Grubbing will be paid for at the contract lump sum price for "Grading."

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4/04/08

COMPUTED BY: FEA DATE: 2/8/2008
CHECKED BY: JLC DATE: 2/8/2008

PROJECT REFERENCE NO. B-4279 SHEET NO. 3-B

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

LIST OF PIPES, ENDWALLS, ETC.

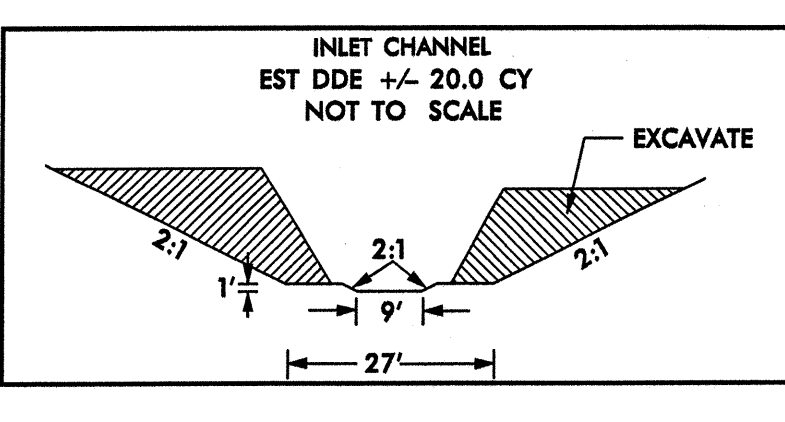
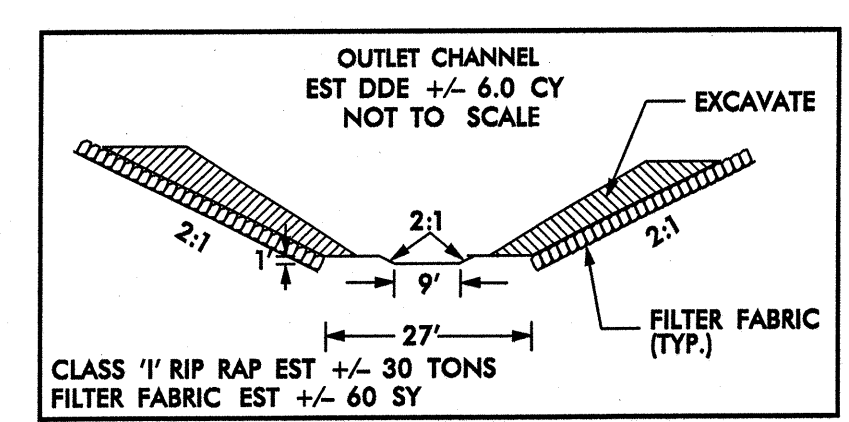
Main table with columns for Station, Location, Structure No., Top Elevation, Invert Elevation, Slope Critical, Pipe Types (Class III R.C. Pipe, Bituminous Coated C.S. Pipe Type B, Class III R.C. Pipe), Endwalls, Frame Grates, and Abbreviations.

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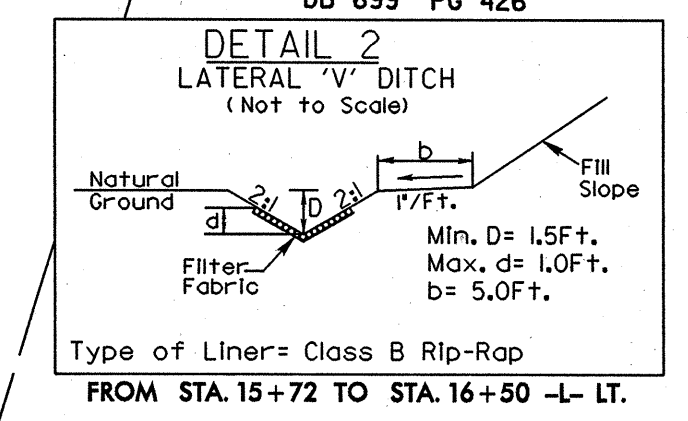
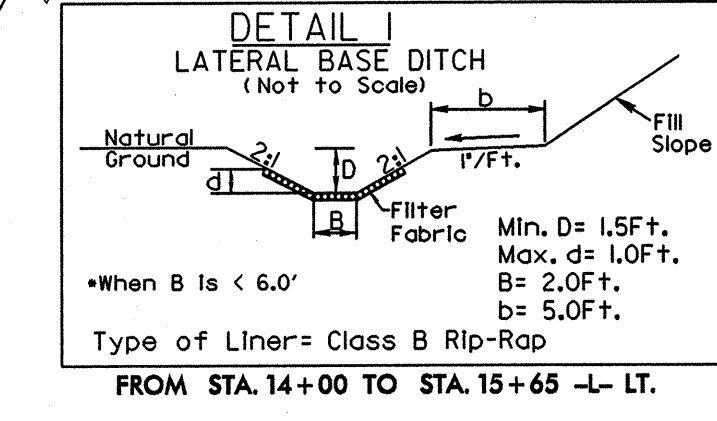
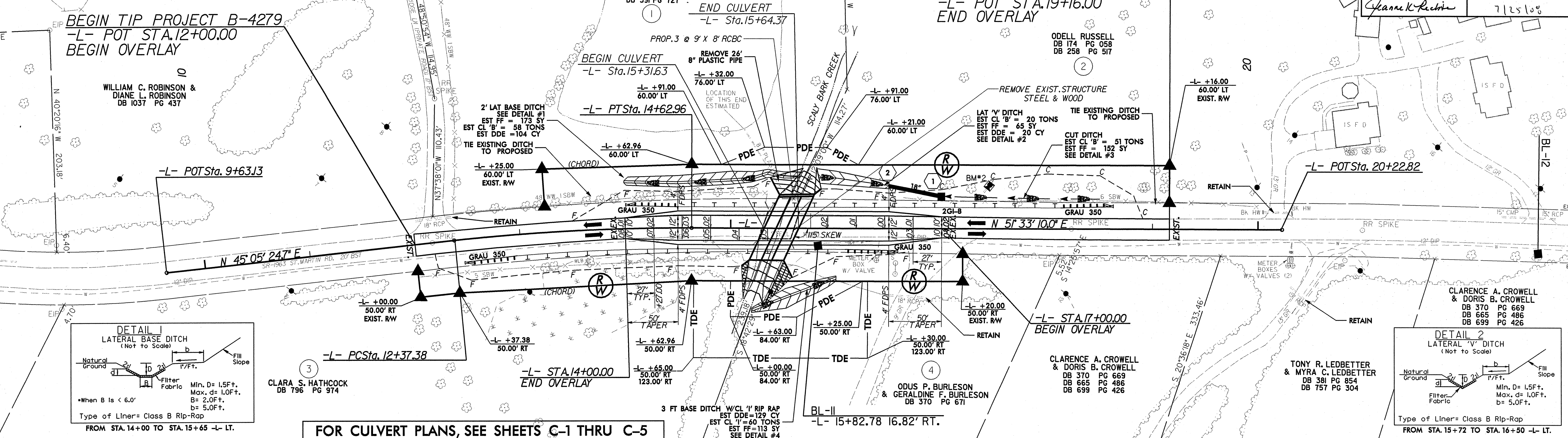
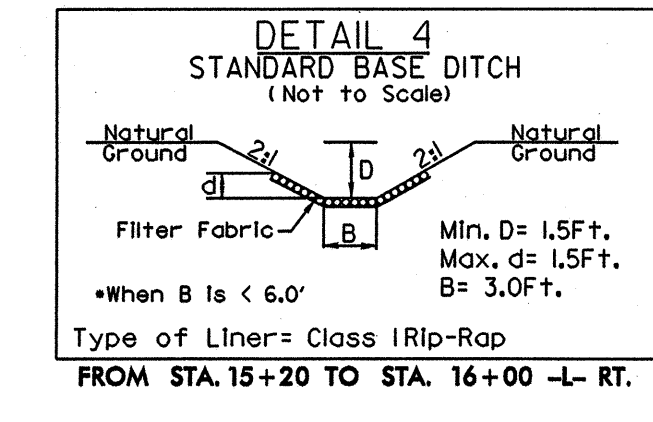
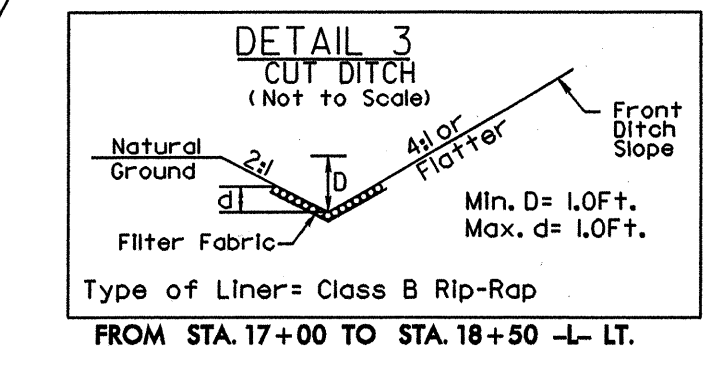
"N" = DISTANCE FROM EDGE OF LANE TO FACE OF GUARDRAIL.
TOTAL SHOULDER WIDTH = DISTANCE FROM EDGE OF TRAVEL LANE TO SHOULDER BREAK POINT.
FLARE LENGTH = DISTANCE FROM LAST SECTION OF PARALLEL GUARDRAIL TO END OF GUARDRAIL.
W = TOTAL WIDTH OF FLARE FROM BEGINNING OF TAPER TO END OF GUARDRAIL.
G = GATING IMPACT ATTENUATOR TYPE 350
NG = NON-GATING IMPACT ATTENUATOR TYPE 350

GUARDRAIL SUMMARY

Summary table with columns for Survey Line, Beg. Sta., End Sta., Location, Length (Straight, Shop Curved, Double Faced), Warrant Point (Approach End, Trailing End), Flare Length, W, Anchors, Impact Attenuator, and Remarks.



-L-
 PI Sta 13+50.29
 $\Delta = 6' 27'' 45.3'' (RT)$
 $D = 2' 51'' 53.2''$
 $L = 225.59'$
 $T = 112.91'$
 $R = 2,000.00'$
 $DS = 60 MPH$
 $e(max) = .04$

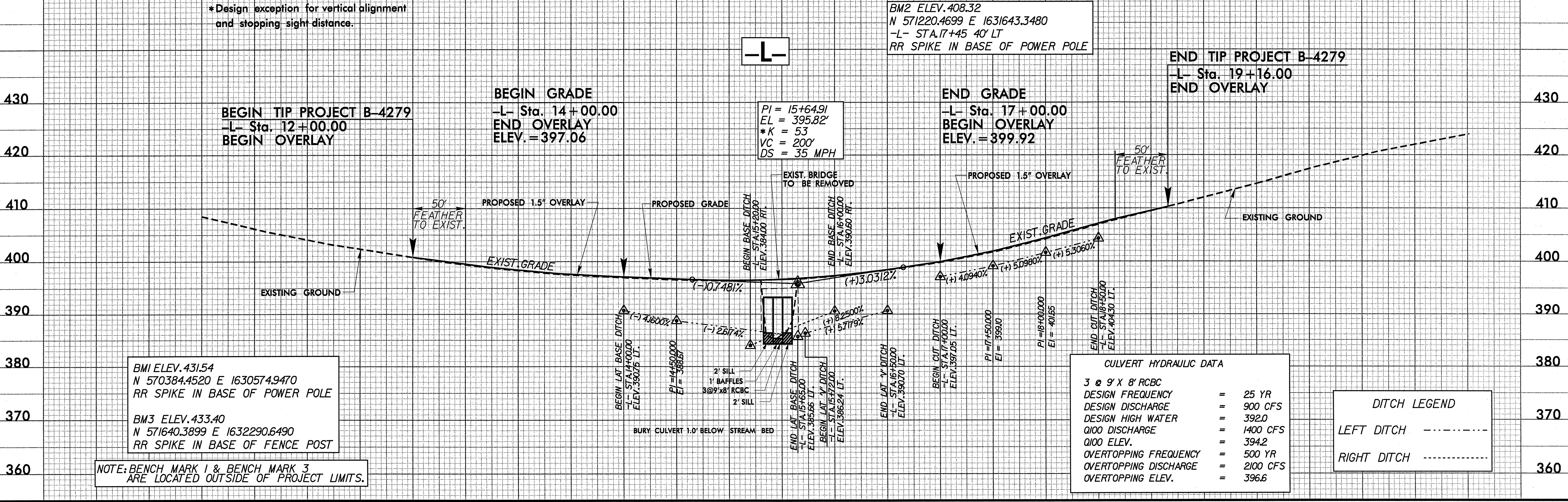


FOR CULVERT PLANS, SEE SHEETS C-1 THRU C-5

*Design exception for vertical alignment and stopping sight distance.

BM2 ELEV. 408.32
 N 571220.4699 E 1631643.3480
 -L- STA. 17+45 40' LT
 RR SPIKE IN BASE OF POWER POLE

END TIP PROJECT B-4279
 -L- Sta. 19+16.00
 END OVERLAY



BMI ELEV. 431.54
 N 570384.4520 E 1630574.9470
 RR SPIKE IN BASE OF POWER POLE
 BM3 ELEV. 433.40
 N 571640.3899 E 1632290.6490
 RR SPIKE IN BASE OF FENCE POST

NOTE: BENCH MARK 1 & BENCH MARK 3 ARE LOCATED OUTSIDE OF PROJECT LIMITS.

CULVERT HYDRAULIC DATA

DESIGN FREQUENCY	= 25 YR
DESIGN DISCHARGE	= 900 CFS
DESIGN HIGH WATER	= 392.0
Q100 DISCHARGE	= 1400 CFS
Q100 ELEV.	= 394.2
OVERTOPPING FREQUENCY	= 500 YR
OVERTOPPING DISCHARGE	= 2100 CFS
OVERTOPPING ELEV.	= 396.6

DITCH LEGEND

LEFT DITCH	-----
RIGHT DITCH

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