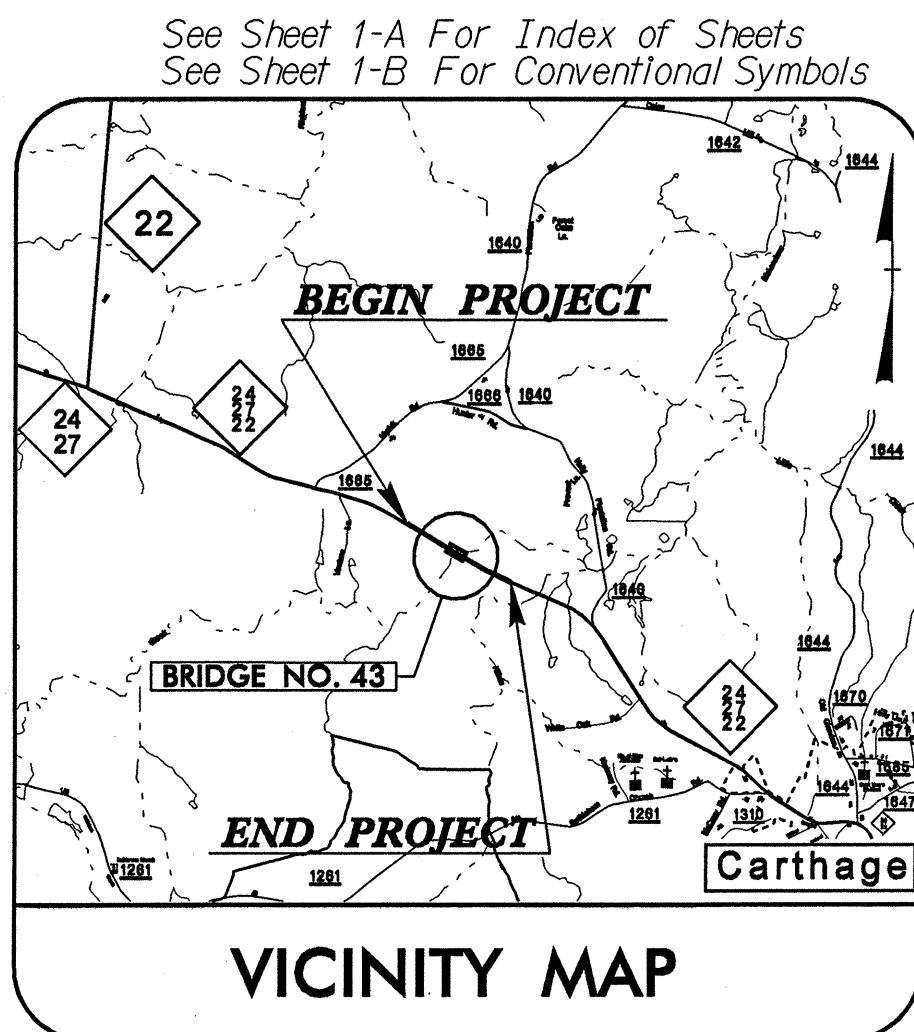


09/08/09

TIP PROJECT: B-4207

CONTRACT: C202112

13-FEB-2009 11:09
Y:\Projects\NCDOT\Bridg Group 46 FinalDesign\B4207\Roadway\Proj\B4207_rdy_tsh.dgn
PEAUCID: AT LPA30660



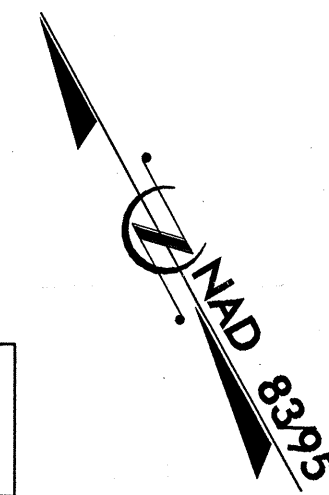
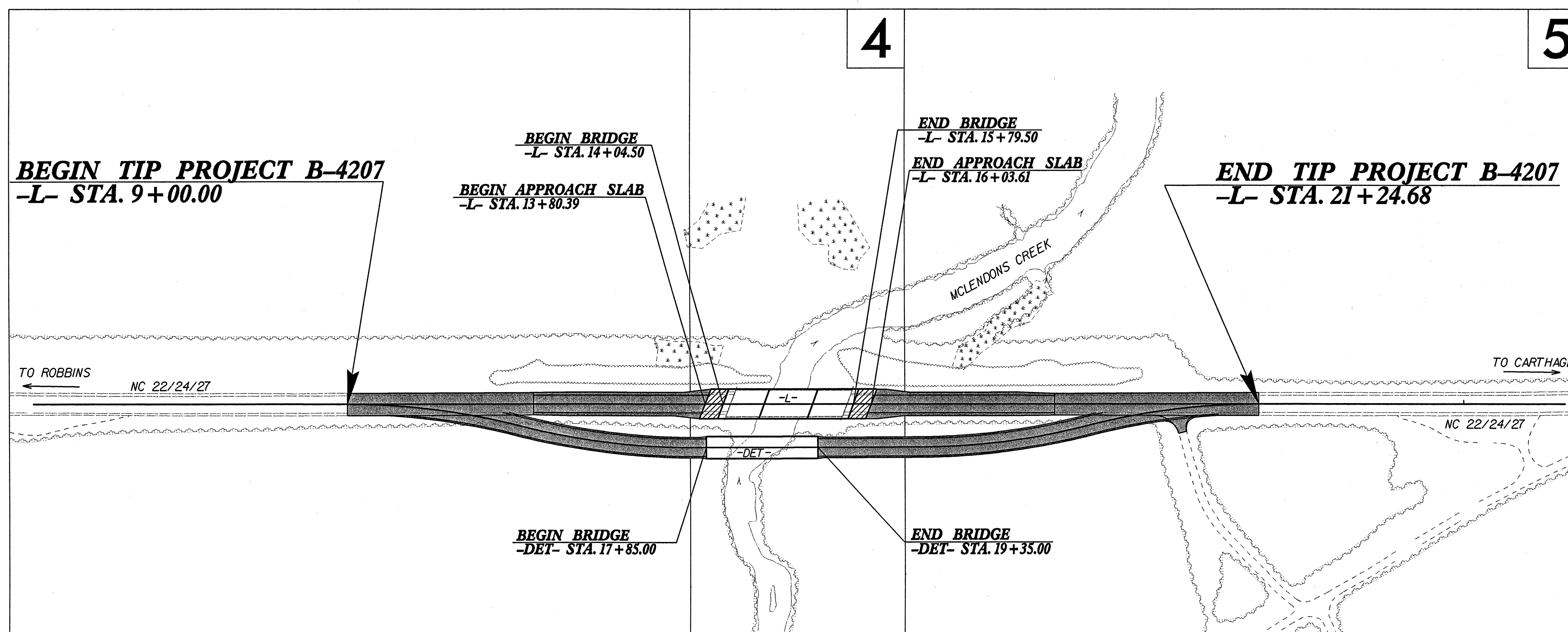
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

MOORE COUNTY

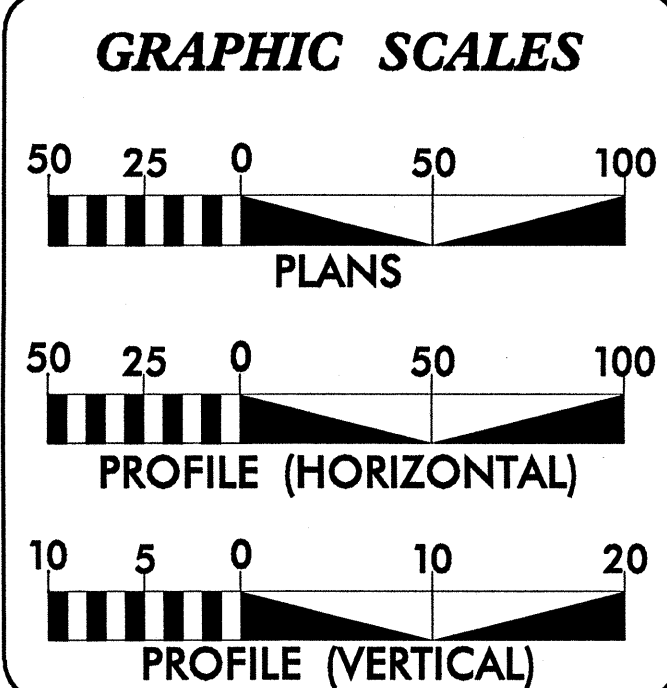
LOCATION: BRIDGE NO. 43 OVER MCLENDONS CREEK ON NC 22/24/27

TYPE OF WORK: GRADING, DRAINAGE, PAVING AND STRUCTURE

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4207	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
33554.1.1	BRSTP-22 (1)	PE	
33554.2.1	BRSTP-22 (1)	RW & UTIL.	
33554.3.1	BRSTP-22 (1)	CONST.	



NCDOT CONTACT : DOUG TAYLOR, P.E.
ROADWAY DESIGN-ENGINEERING COORDINATION



DESIGN DATA

ADT 2009 =	9,330
ADT 2029 =	15,417
DHV =	13 %
D =	60 %
T =	17 % *
V =	60 MPH
* TTST 11% +	DUAL 6%
FUNC. CLASS =	RURAL MINOR ARTERIAL

PROJECT LENGTH

Length Structure TIP Project B-4207 =	0.033 Miles
Length Roadway TIP Project B-4207 =	0.199 Miles
Total Length TIP Project B-4207 =	0.232 Miles

Prepared in the Office of:

THE LPA GROUP
TRANSPORTATION CONSULTANTS

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: MAY 16, 2008

LETTING DATE: MAY 19, 2009

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

Jeanne K. Richter P.E.
PROJECT ENGINEER

Jody L. Cole
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

2-11-09

Jeanne K. Richter P.E.

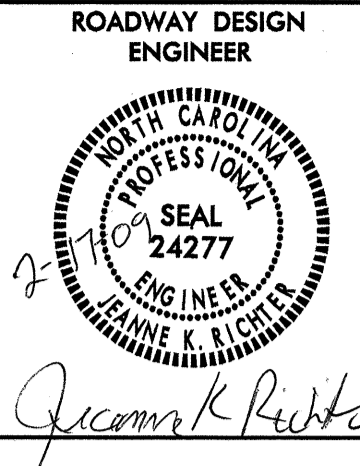
ROADWAY DESIGN ENGINEER

2-16-09

Jody L. Cole P.E.

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

cut millan P.E.
STATE HIGHWAY DESIGN ENGINEER



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

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 THRU 2A	PAVEMENT SCHEDULE, AND TYPICAL SECTIONS
2B THRU 2C	DETOUR PLAN AND PROFILE SHEETS
2D	ANCHORAGE FOR FRAMES (DETAIL)
3	SUMMARY OF QUANTITIES
3A	EARTHWORK SUMMARY, PAVEMENT REMOVAL SUMMARY AND PARCEL INDEX
3B	SUMMARY OF DRAINAGE QUANTITIES, TEMPORARY GUARDRAIL SUMMARY, AND GUARDRAIL SUMMARY
4 THRU 5	PLAN AND PROFILE SHEETS
TCP-1 THRU TCP-5	TRAFFIC CONTROL PLANS
EC-1 THRU EC-9	EROSION CONTROL PLANS
RF-1	REFORESTATION PLAN
SIGN-1 THRU SIGN-3	SIGNING PLANS
UD-1 THRU UD-3	UTILITIES BY OTHERS PLANS
X-1A	CROSS-SECTION SUMMARY SHEET
X-1 THRU X-9	CROSS-SECTIONS
S-1 THRU S-30	STRUCTURE PLANS

GENERAL NOTES: 2006 SPECIFICATIONS
EFFECTIVE: 07-18-06
REVISED: 09-12-08

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.

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.

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 : EMBARGO, AND RANDOLPH EMC
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.

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 Superelevation - Two Lane Pavement
DIVISION 3 - PIPE CULVERTS	
300.01	Method of Pipe Installation - Method 'A'
DIVISION 4 - MAJOR STRUCTURES	
422.10	Reinforced Bridge Approach Fills
DIVISION 5 - SUBGRADE, BASES AND SHOULDERS	
560.01	Method of Shoulder Construction - High Side of Superelevated Curve - Method I
DIVISION 8 - INCIDENTALS	
806.01	Concrete Right-of-Way Marker
806.02	Granite Right-of-Way Marker
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
840.27	Brick Grated Drop Inlet Type 'B' - 12" thru 36" Pipe
840.29	Frames and Narrow Slot Flat Grates
840.45	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
862.04	Anchoring End of Guardrail - B-77 and B-83 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

8/17/99

V:\FEB-2009\1425\PROJECTS\AT\PA30630\46 Final Design\B4207\Roadway\Proj\B4207_rdu.pst\1a.dgn

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	123
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 UG 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	-----
Proposed Permanent Easement with Iron Pin and Cap Marker	-----

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	□
UG 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	○
UG 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	○
UG 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	○
UG Sanitary Sewer Line	-----
Above Ground Sanitary Sewer	-----
Recorded SS Forced Main Line	-----
Designated SS Forced Main Line (S.U.E.*)	-----

MISCELLANEOUS:

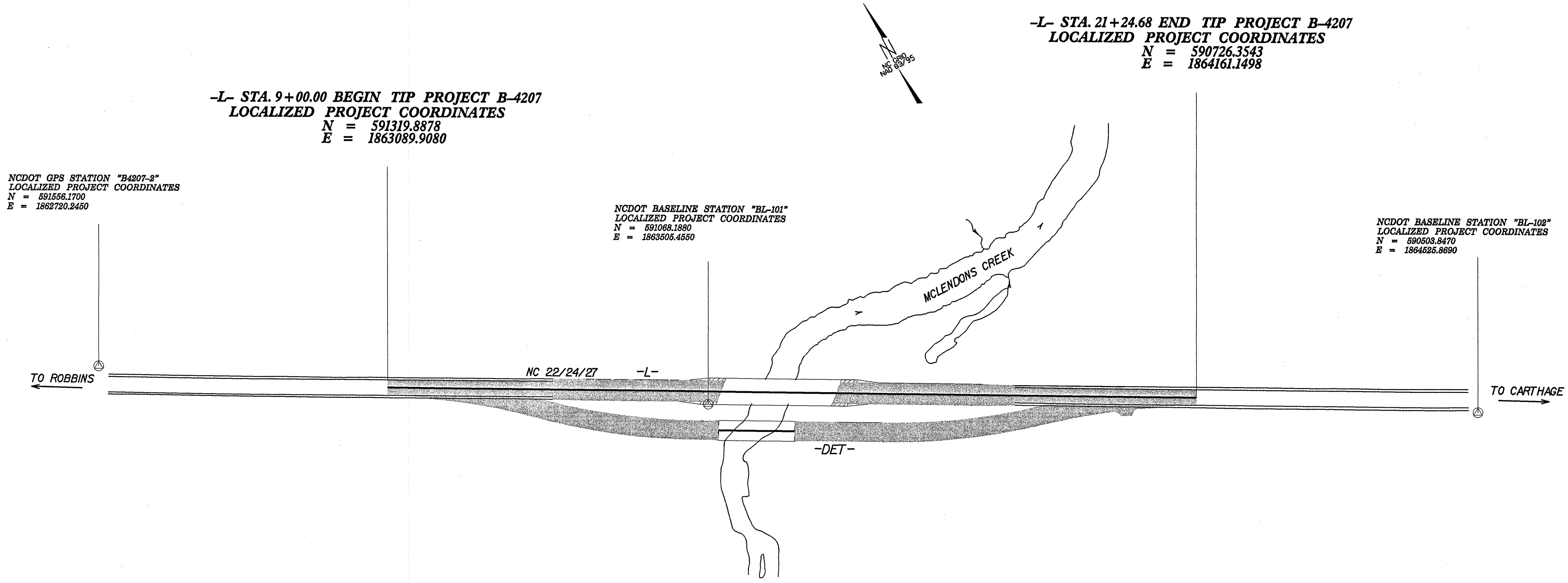
Utility Pole	●
Utility Pole with Base	□
Utility Located Object	○
Utility Traffic Signal Box	□
Utility Unknown U/G Line	-----
UG Tank; Water, Gas, Oil	□
A/G Tank; Water, Gas, Oil	□
UG Test Hole (S.U.E.*)	○
Abandoned According to Utility Records	AATUR
End of Information	E.O.I.

SURVEY CONTROL SHEET B4207

BL	POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
2	B4207-2		591556.1700	1862720.2450	310.63		OUTSIDE PROJECT LIMITS
101	BL-101		591065.1590	1863505.4450	299.21	13+85.47	18.77 RT
102	BL-102		590503.5470	1864525.8890	294.76		OUTSIDE PROJECT LIMITS

.....
 BM 1 ELEVATION = 285.28
 N 590978 E 1863499
 L STATION 13+88 120 RIGHT
 RR SPIKE IN BASE OF 10" IRONWOOD TREE

 BM 2 ELEVATION = 295.93
 N 590542 E 1864555
 L STATION 24+10 93 RIGHT
 RR SPIKE IN BASE OF POWER POLE W/LIGHT



NCDOT GPS STATION "B4207-2"
 LOCALIZED PROJECT COORDINATES
 N = 591556.1700
 E = 1862720.2450

-L- STA. 9+00.00 BEGIN TIP PROJECT B-4207
LOCALIZED PROJECT COORDINATES
 N = 591319.8878
 E = 1863089.9080

NCDOT BASELINE STATION "BL-101"
 LOCALIZED PROJECT COORDINATES
 N = 591065.1590
 E = 1863505.4450

-L- STA. 21+24.68 END TIP PROJECT B-4207
LOCALIZED PROJECT COORDINATES
 N = 590726.3543
 E = 1864161.1498

NCDOT BASELINE STATION "BL-102"
 LOCALIZED PROJECT COORDINATES
 N = 590503.5470
 E = 1864525.8890

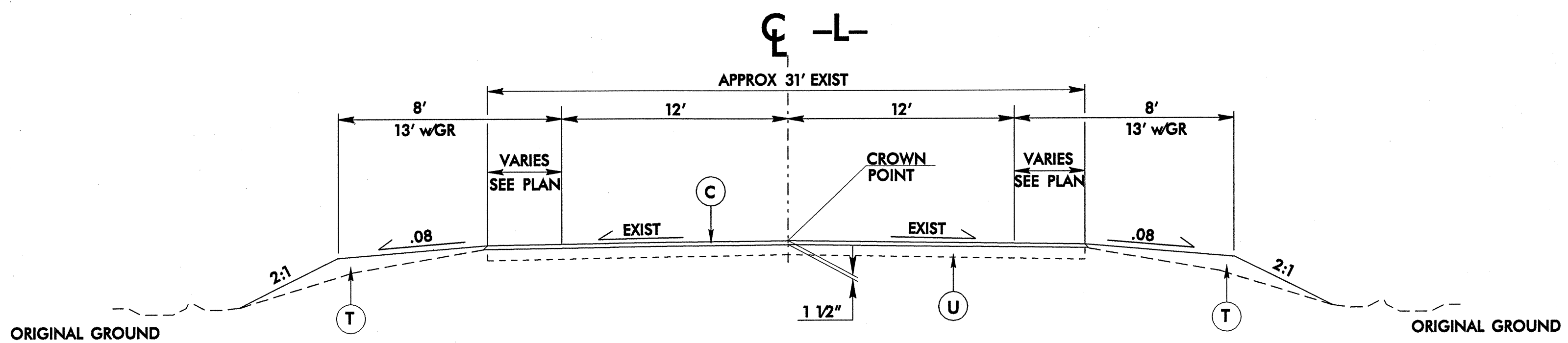
DATUM DESCRIPTION
 THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B4207-2" WITH NAD 1983/95 STATE PLANE GRID COORDINATES OF NORTHING: 591556.1700(ft) EASTING: 1862720.2450(ft) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.999864280 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B4207-2" TO -L- STATION 9+00.00 IS S 57 24 50.4 E 438.725'
 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.NCDOT.ORG/DOH/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT/B4207_LS_CONTROL_070814.HTML](http://www.ncdot.org/DOH/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT/B4207_LS_CONTROL_070814.HTML)
 THE FILES TO BE FOUND ARE AS FOLLOWS:
 B4207_LS_CONTROL_070814.HTML
 SITE CALIBRATION INFORMATION HAS NOT BEEN PROVIDED FOR THIS PROJECT. IF FURTHER INFORMATION IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.
 - INDICATES GEODETIC CONTROL MONUMENTS USED OR SET FOR HORIZONTAL PROJECT CONTROL BY THE NCDOT LOCATION AND SURVEYS UNIT.
 PROJECT CONTROL ESTABLISHED USING GLOBAL POSITIONING SYSTEM.
 NETWORK ESTABLISHED FROM EXISTING HARN MONUMENTATION

NOTE: DRAWING NOT TO SCALE

PAVEMENT SCHEDULE					
C	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN ONE LAYER.	D1	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, 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.	P	PRIME COAT AT THE RATE OF .35 GAL. PER SQ. YD.
C1	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.	E	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	T	EARTH MATERIAL
C2	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 2" IN DEPTH.	E1	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, 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 6½" IN DEPTH.	U	EXISTING PAVEMENT
D	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	J	PROP. 10" AGGREGATE BASE COURSE.	W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL SHEET 2A)

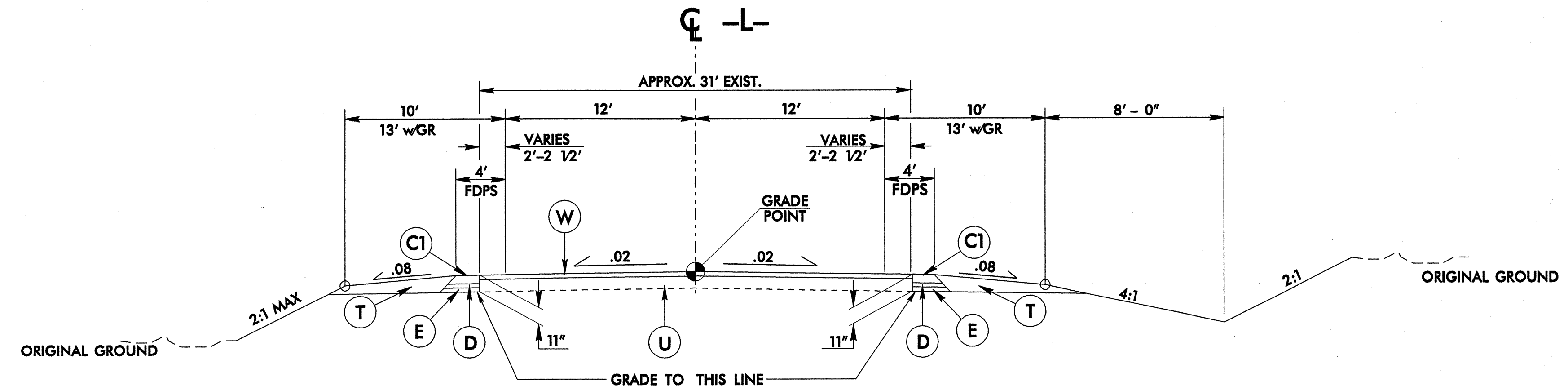
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.



TYPICAL SECTION NO. 1

-L- STA. 9+00.00 TO STA. 11+50.00
 -L- STA. 18+50.00 TO STA. 21+24.68

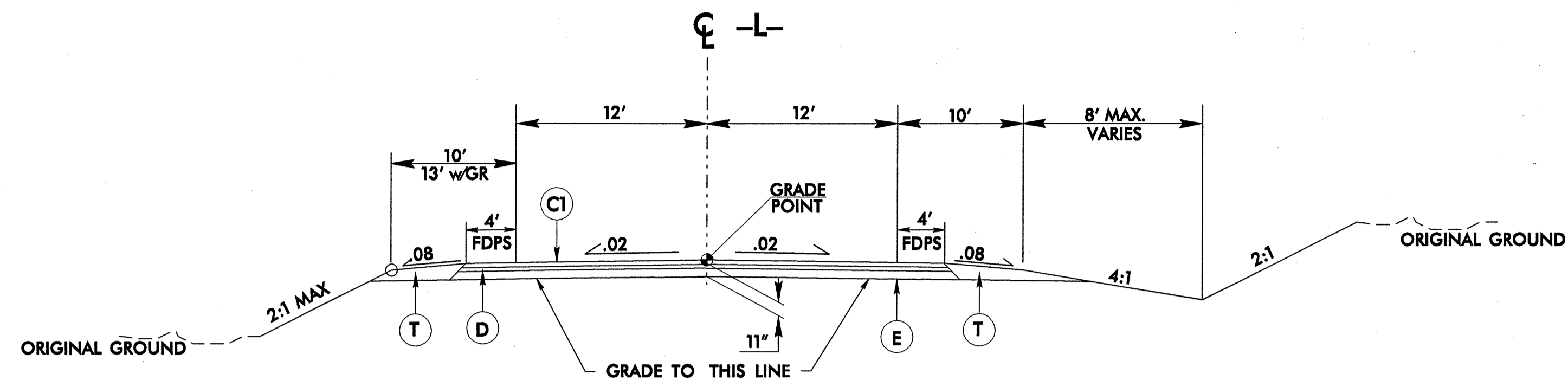
NOTE: OVERLAY EXISTING PAVEMENT AND GRADE SHOULDERS FOR GUARDRAIL PLACEMENT. SEE PLAN FOR LOCATIONS.



TYPICAL SECTION NO. 2

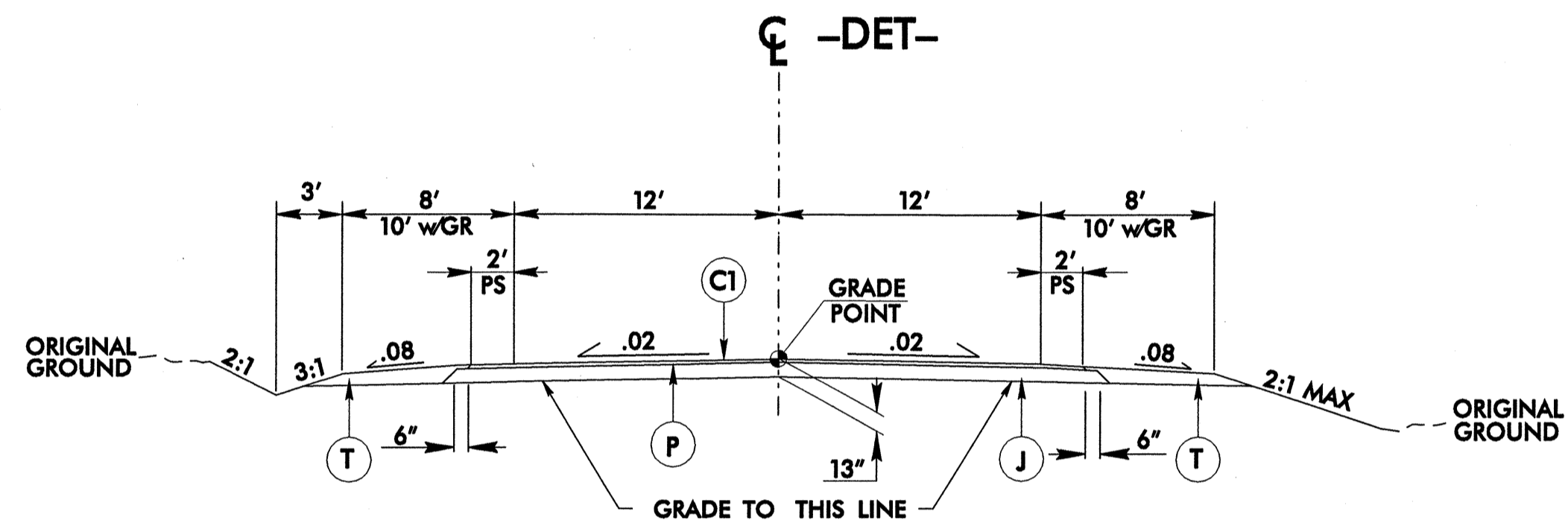
-L- STA. 11+50.00 TO STA. 12+58.00
 -L- STA. 17+69.00 TO STA. 18+50.00

PAVEMENT SCHEDULE	
C	1 1/2" S9.5C
C1	3" S9.5C
C2	VAR. S9.5C
D	4" I19.0C
D1	VAR. I19.0C
E	4" B25.0C
E1	VAR. B25.0C
J	10" ABC
P	.35 PRIME COAT
T	EARTH MATERIAL
U	EXIST. PAVEMENT
W	WEDGING



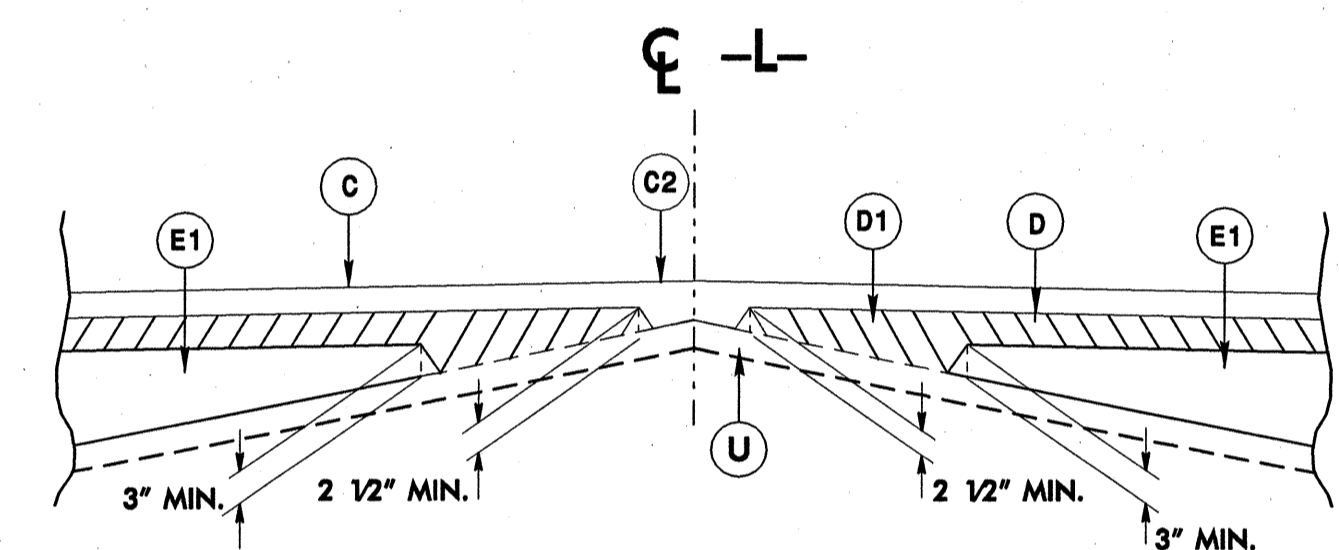
TYPICAL SECTION NO. 3

-L- STA. 12+58.00 TO STA. 13+80.39 (BEGIN APPROACH SLAB)
 -L- STA. 16+03.61 (END APPROACH SLAB) TO STA. 17+69.00

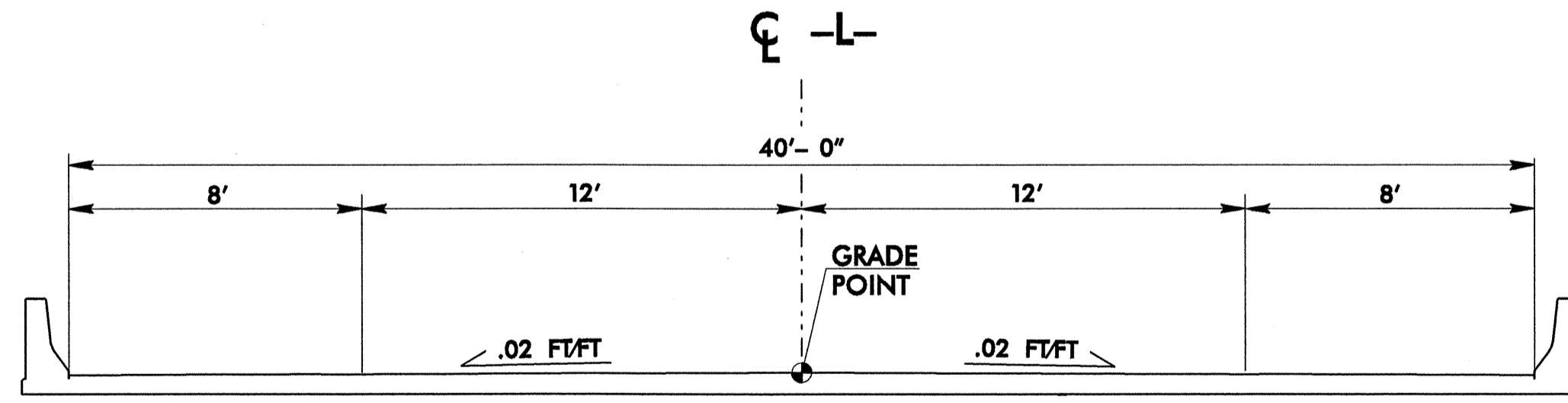


TYPICAL SECTION NO. 4

-DET- STA. 14+45.45 TO STA. 17+85.00 (BEGIN BRIDGE)
 -DET- STA. 19+35.00 (END BRIDGE) TO STA. 23+83.08

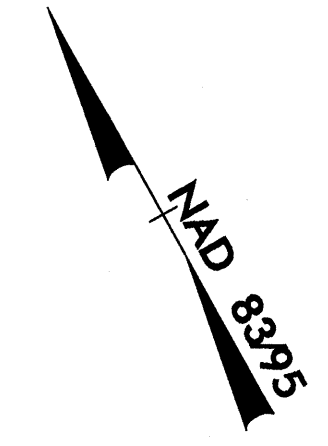
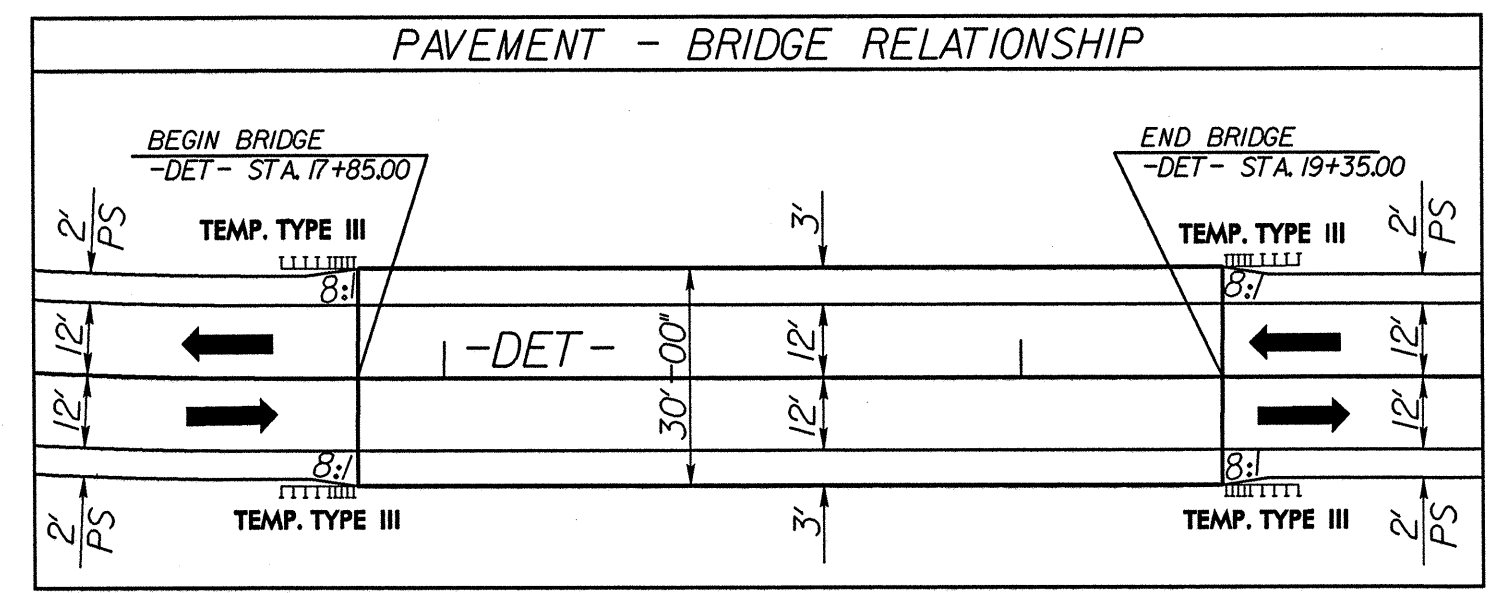


Detail Showing Method of Wedging



TYPICAL BRIDGE SECTION NO. 5

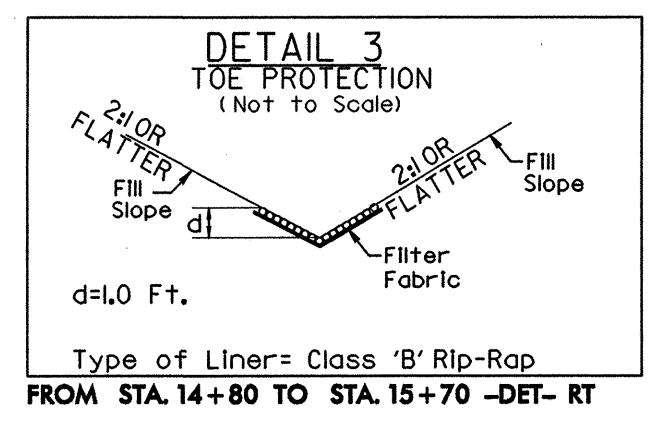
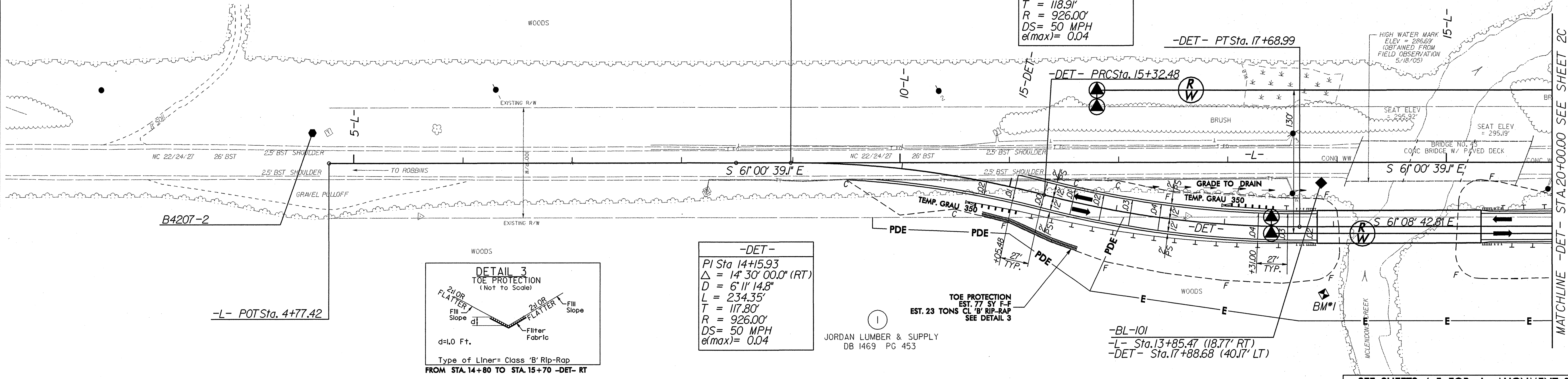
-L- STA. 14+04.50 (BEGIN BRIDGE) TO STA. 15+79.50 (END BRIDGE)



BEGIN CONSTRUCTION
-DET- PCSta. 12+98.13 =
-L- POTSta. 9+00.00

JORDAN LUMBER & SUPPLY
DB 1469 PG 453

-DET-
PI Sta 16+51.38
 $\Delta = 14' 38'' 03.6'' (LT)$
D = 6' 11' 14.8"
L = 236.52'
T = 118.91'
R = 926.00'
DS = 50 MPH
e(max) = 0.04



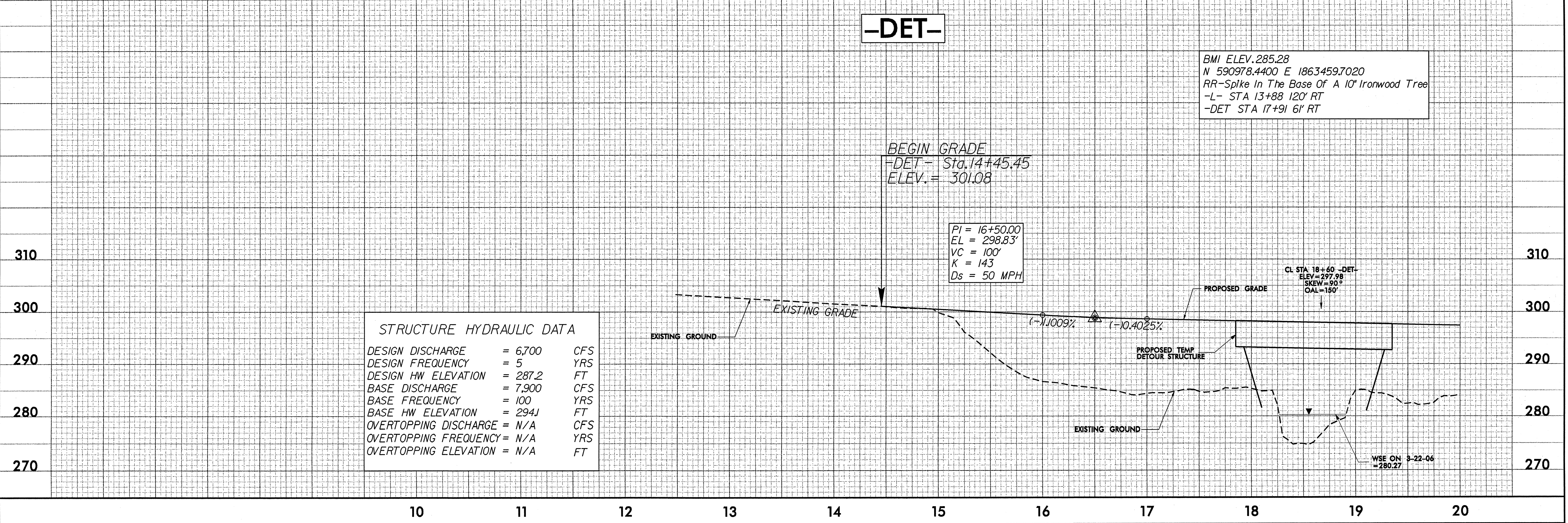
-DET-
PI Sta 14+15.93
 $\Delta = 14' 30'' 00.0'' (RT)$
D = 6' 11' 14.8"
L = 234.35'
T = 117.80'
R = 926.00'
DS = 50 MPH
e(max) = 0.04

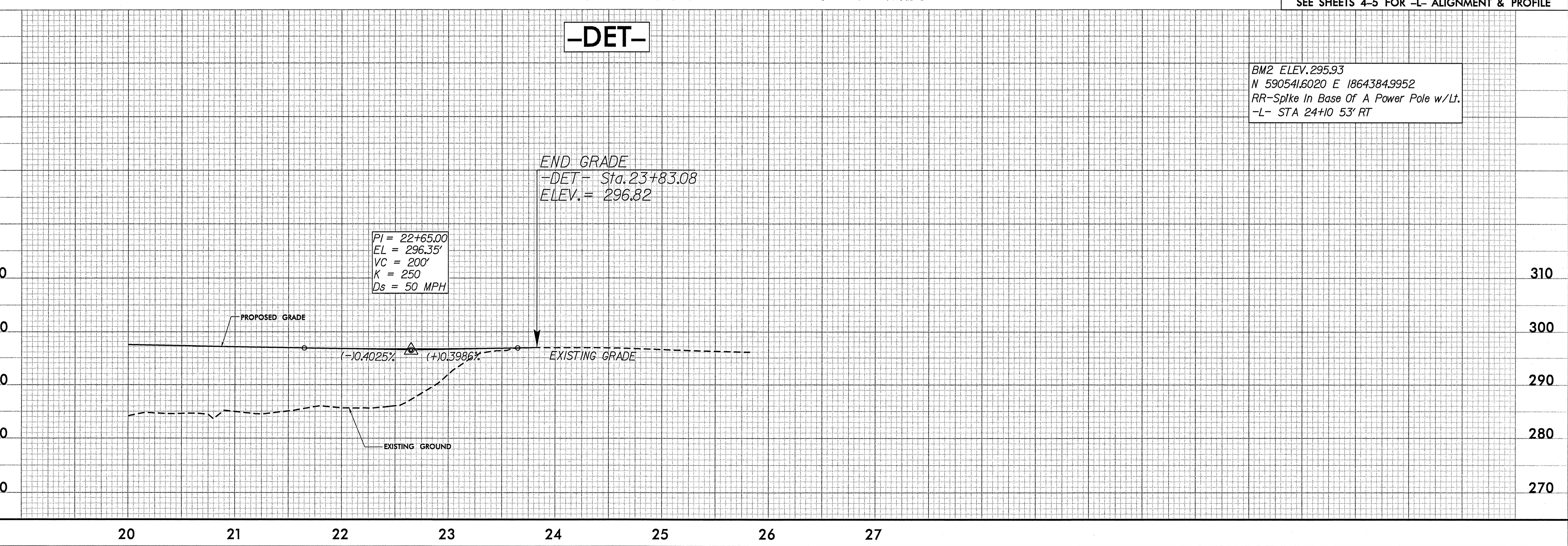
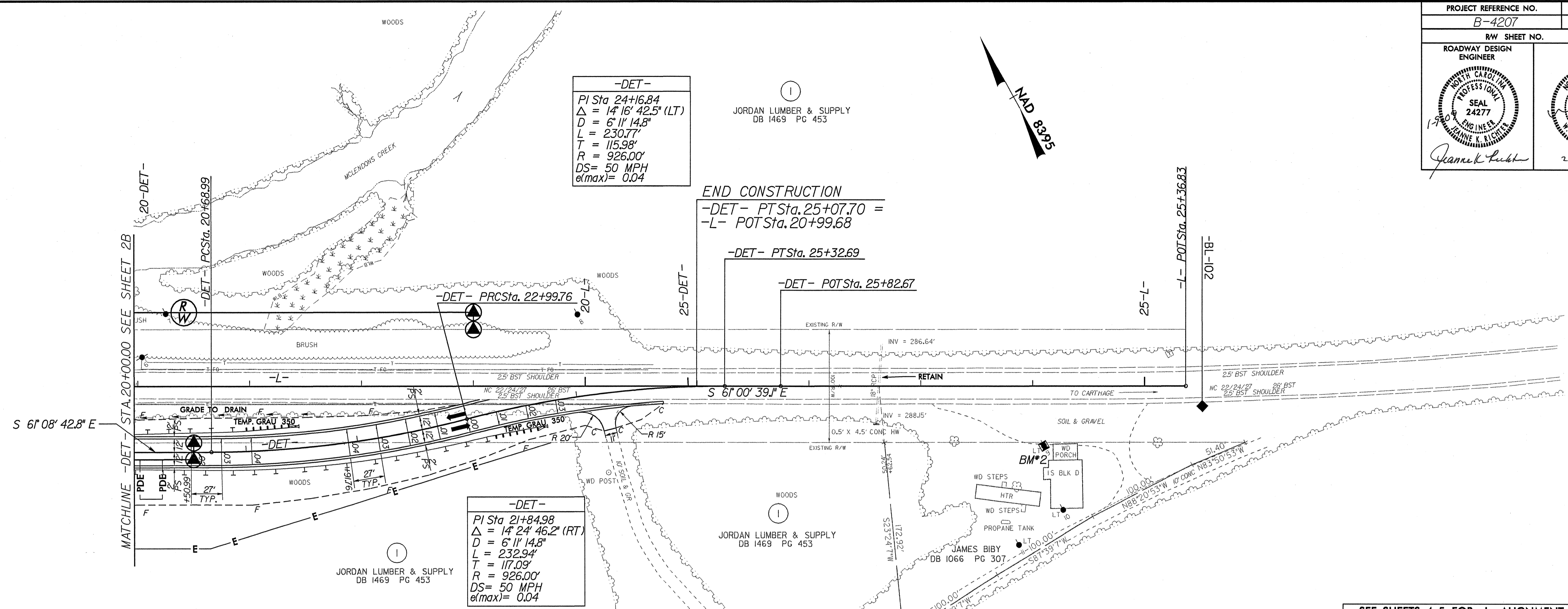
JORDAN LUMBER & SUPPLY
DB 1469 PG 453

SEE SHEETS 4-5 FOR -L- ALIGNMENT & PROFILE

REVISIONS

13-FEB-2009 11:03 AM
C:\Users\jrd\Documents\Projects\B4207\B4207\Roadway\Proj\B4207_r.dwg_psh_02B.dgn





SEE SHEETS 4-5 FOR -L- ALIGNMENT & PROFILE

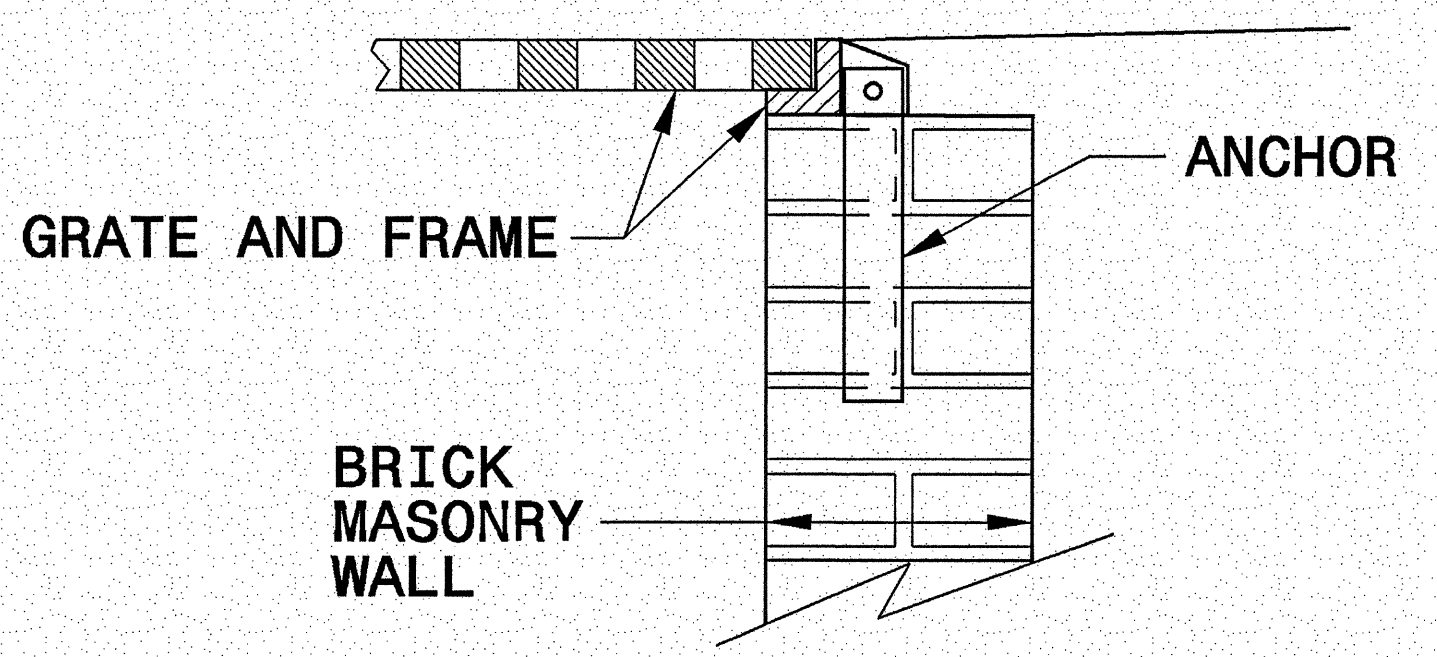
REVISIONS

08-JAN-2009 10:08
 Y:\Projects\NC001\Bridges Group 46 Final Design\B4207\Roadway\Proj\B4207_rdy_psh_02C.dgn
 8/17/99

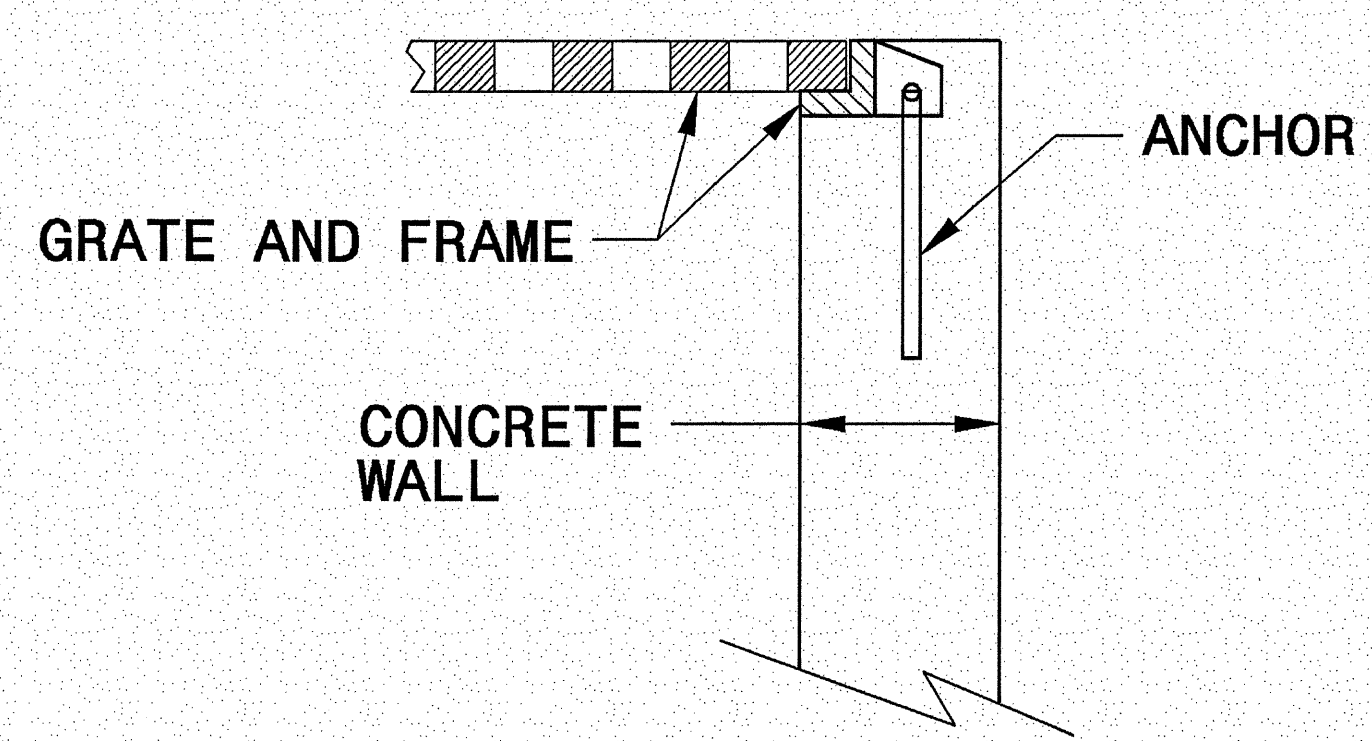
STATE OF
NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

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

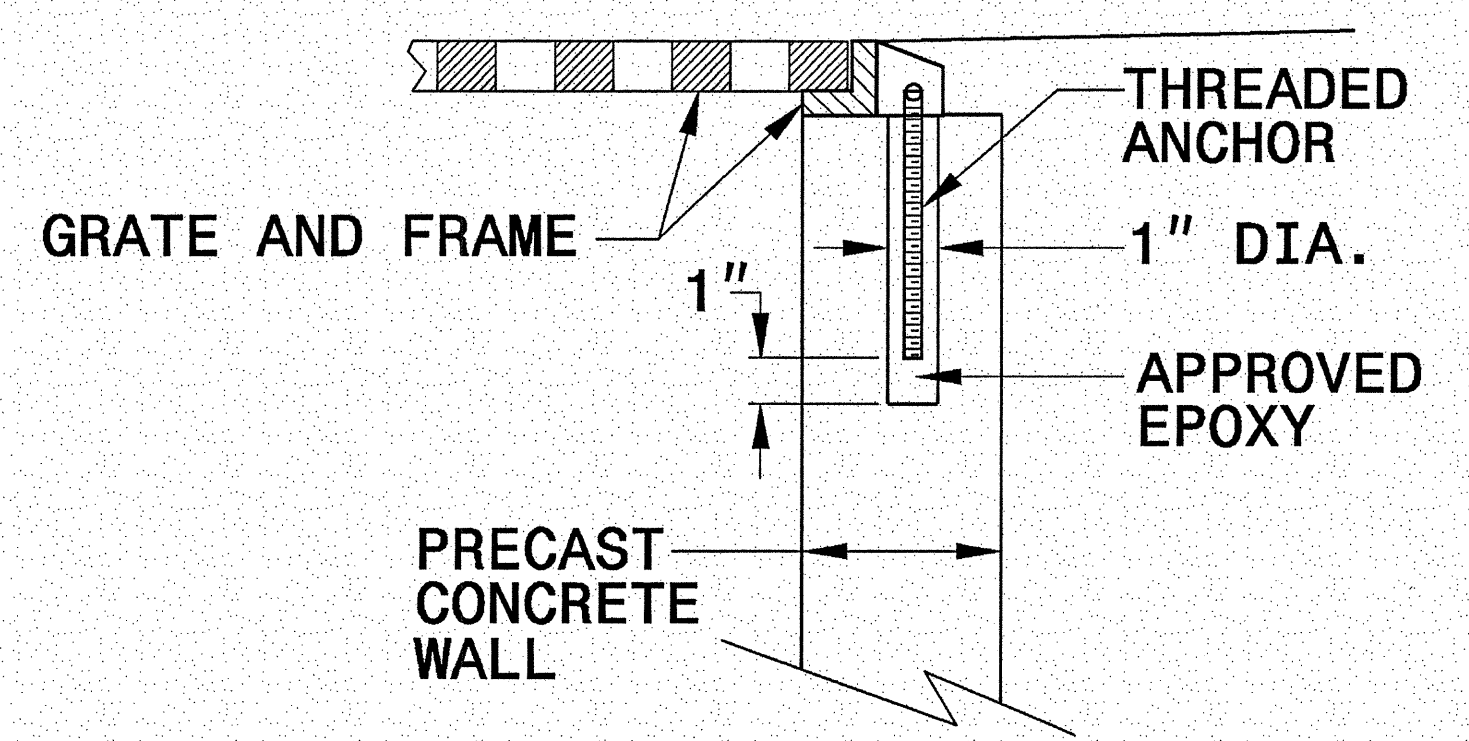
SHEET 1 OF 1
840D25



**BRICK MASONRY
CONSTRUCTION**



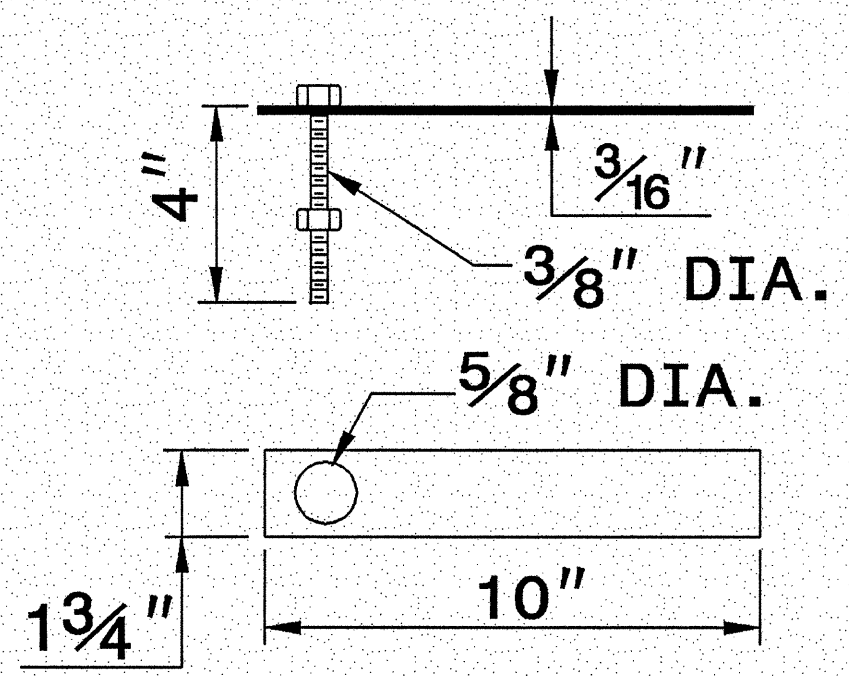
**CONCRETE
CONSTRUCTION**



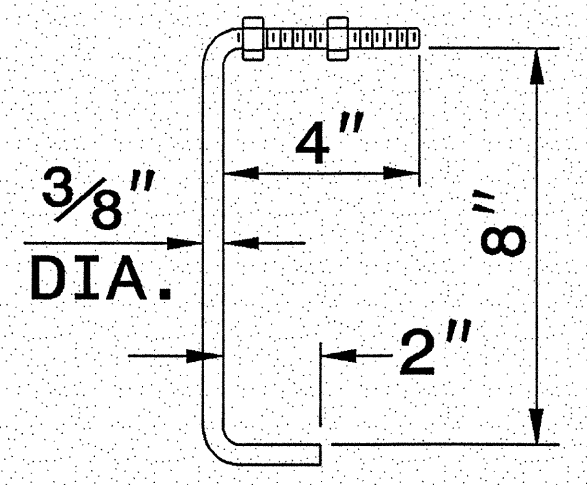
**PRECAST CONCRETE
CONSTRUCTION**

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

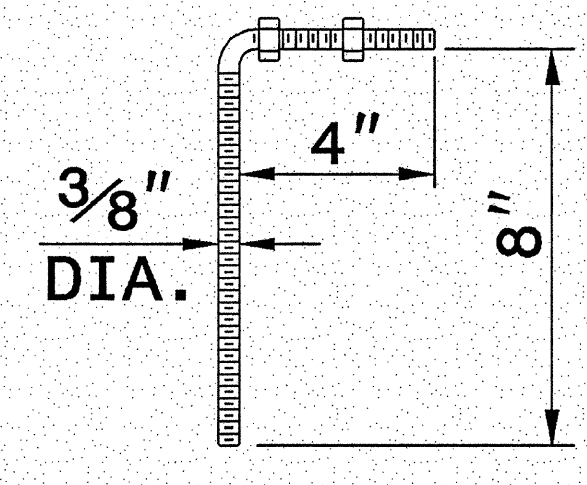
NOTE:
CONSTRUCT GRATED DROP INLET TO COINCIDE WITH NORMAL
OR SUPERELEVATED SHOULDER OR PAVEMENT SLOPE.



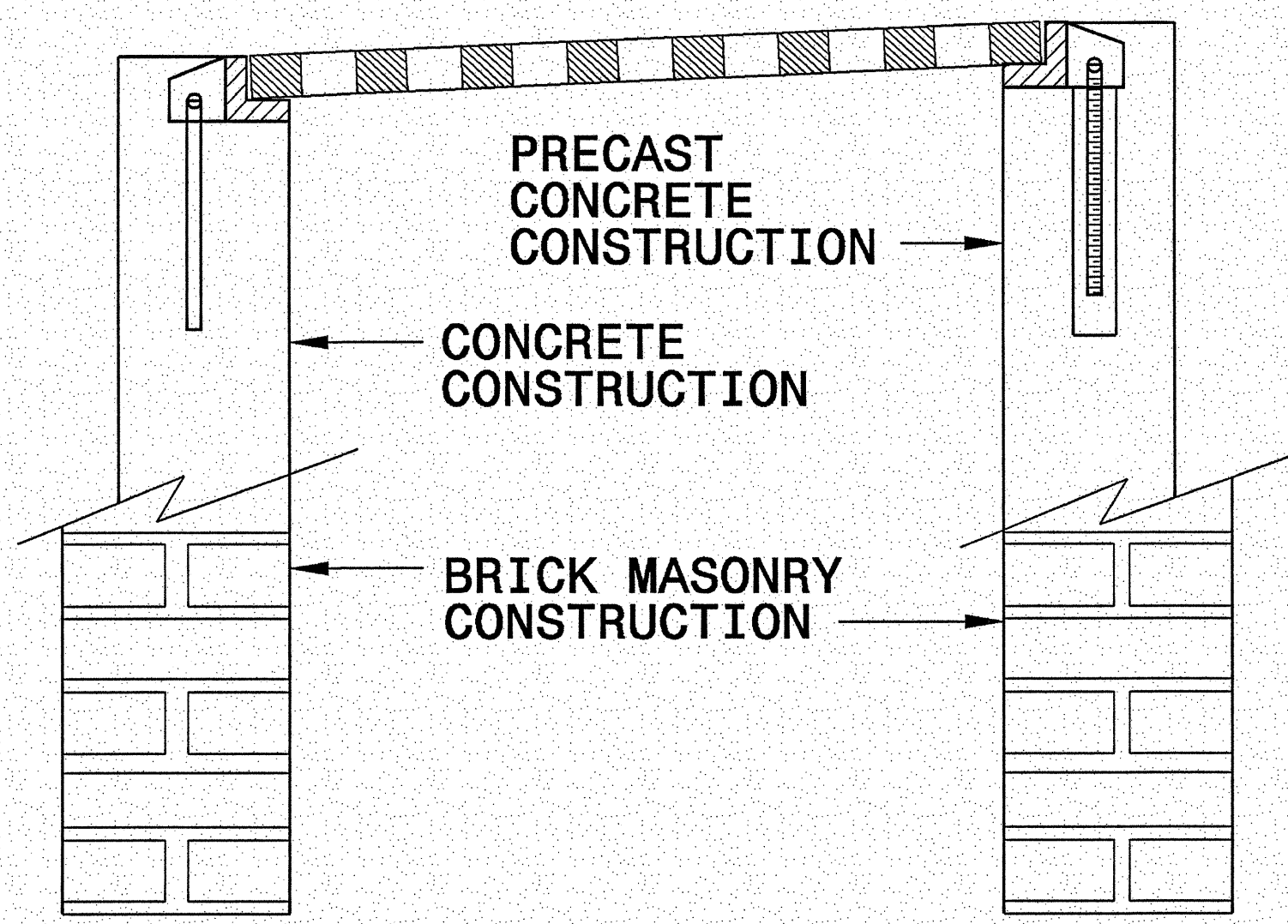
MASONRY ANCHOR
3/8" DIA. BOLT WITH PLATE



CONCRETE ANCHOR
3/8" DIA. BENT BAR



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



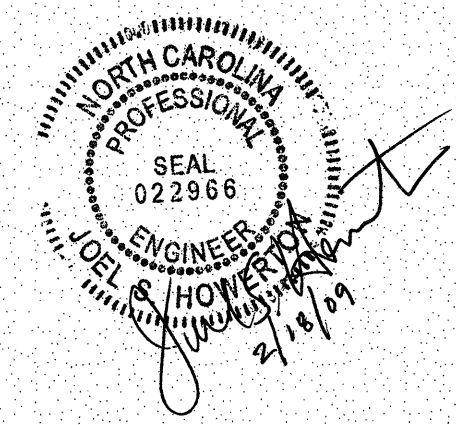
**FRAME AND GRATE INSTALLATION
FOR NORMAL CROWN AND
SUPERELEVATED SECTIONS**

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 09:59 S:\Contracts\Special Details\erward\stds\06: Stds to Special Details\84025 Anchorage for Frames\0840d25.dgn erward AT P5222293



**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 - C202112

ItemNumber	Sec #	Quantity	Unit	Description
000100000-N	800	Lump Sum		MOBILIZATION
002900000-N	SP	Lump Sum		REINFORCED BRIDGE APPROACH FILL, STATION ***** (14+92.00)
004300000-N	226	Lump Sum		GRADING
005000000-E	226	1	ACR	SUPPLEMENTARY CLEARING & GRUB-BING
013400000-E	240	147	CY	DRAINAGE DITCH EXCAVATION
031800000-E	300	15	TON	FOUNDATION CONDITIONING MATERIAL, MINOR STRS
036600000-E	310	40	LF	15" RC PIPE CULVERTS, CLASS III
070800000-E	310	68	LF	15" BIT COAT CS PIPE CULVERTS, TYPE B 0.064" THICK
080600000-E	310	2	EA	15" BIT COAT CS PIPE ELBOWS, TYPE B 0.064" THICK
112100000-E	520	1,593	TON	AGGREGATE BASE COURSE
122000000-E	545	30	TON	INCIDENTAL STONE BASE
127500000-E	600	930	GAL	PRIME COAT
149100000-E	610	270	TON	ASPHALT CONC BASE COURSE, TYPE B25.0C
150300000-E	610	260	TON	ASPHALT CONC INTERMEDIATE COURSE, TYPE I19.0C
152300000-E	610	830	TON	ASPHALT CONC SURFACE COURSE, TYPE S9.5C
156000000-E	620	25	TON	ASPHALT BINDER FOR PLANT MIX, GRADE PG 64-22
156500000-E	620	50	TON	ASPHALT BINDER FOR PLANT MIX, GRADE PG 70-22
200000000-N	806	8	EA	RIGHT OF WAY MARKERS
202200000-E	815	112	CY	SUBDRAIN EXCAVATION
203300000-E	815	84	CY	SUBDRAIN FINE AGGREGATE
204400000-E	815	500	LF	6" PERFORATED SUBDRAIN PIPE
205500000-E	815	15	EA	6" SUBDRAIN PIPE WYES, TEES, & ELBOWS
206600000-N	815	1	EA	CONCRETE PAD FOR SUBDRAIN PIPE OUTLET
207700000-E	815	6	LF	6" OUTLET PIPE (SUBDRAINS)
228600000-N	840	2	EA	MASONRY DRAINAGE STRUCTURES
236700000-N	840	2	EA	FRAME WITH TWO GRATES, STD 840.29
255600000-E	846	30	LF	SHOULDER BERM GUTTER
303000000-E	862	1,350	LF	STEEL BM GUARDRAIL
315000000-N	862	5	EA	ADDITIONAL GUARDRAIL POSTS
327000000-N	SP	4	EA	GUARDRAIL ANCHOR UNITS, TYPE 350
331700000-N	862	4	EA	GUARDRAIL ANCHOR UNITS, TYPE B-77
338000000-E	862	787.5	LF	TEMPORARY STEEL BM GUARDRAIL
338700000-N	862	4	EA	GUARDRAIL ANCHOR UNITS, TYPE ***** TEMPORARY (III)
338910000-N	SP	6	EA	GUARDRAIL ANCHOR UNITS, TYPE 350 TEMPORARY
364900000-E	876	55	TON	RIP RAP, CLASS B
365600000-E	876	1,015	SY	FILTER FABRIC FOR DRAINAGE
365900000-N	SP	1	EA	PREFORMED SCOUR HOLES WITH LEVEL SPREADER APRON
407200000-E	903	79	LF	SUPPORTS, 3-LB STEEL U-CHANNEL
409600000-N	904	2	EA	SIGN ERECTION, TYPE D
415500000-N	907	6	EA	DISPOSAL OF SIGN SYSTEM, U-CHANNEL
440000000-E	1110	90	SF	WORK ZONE SIGNS (STATIONARY)
440500000-E	1110	100	SF	WORK ZONE SIGNS (PORTABLE)
441000000-E	1110	56	SF	WORK ZONE SIGNS (BARRICADE MOUNTED)
443000000-N	1130	50	EA	DRUMS
443500000-N	1135	25	EA	CONES
444500000-E	1145	32	LF	BARRICADES (TYPE III)
445500000-N	1150	80	MD	FLAGGER
465000000-N	1251	70	EA	TEMPORARY RAISED PAVEMENT MARKERS

ItemNumber	Sec #	Quantity	Unit	Description
468500000-E	1205	4,470	LF	THERMOPLASTIC PAVEMENT MARKING LINES (4", 90 MILS)
468600000-E	1205	4,470	LF	THERMOPLASTIC PAVEMENT MARKING LINES (4", 120 MILS)
477000000-E	1205	900	LF	COLD APPLIED PLASTIC PAVEMENT MARKING LINES, TYPE ** (4") (II)
481000000-E	1205	4,900	LF	PAINT PAVEMENT MARKING LINES (4")
490000000-N	1251	3	EA	PERMANENT RAISED PAVEMENT MARKERS
490500000-N	1253	13	EA	SNOWBLOWABLE PAVEMENT MARKERS
600000000-E	1605	3,820	LF	TEMPORARY SILT FENCE
600600000-E	1610	120	TON	STONE FOR EROSION CONTROL, CLASS A
600900000-E	1610	320	TON	STONE FOR EROSION CONTROL, CLASS B
601200000-E	1610	300	TON	SEDIMENT CONTROL STONE
601500000-E	1615	6.5	ACR	TEMPORARY MULCHING
601800000-E	1620	200	LB	SEED FOR TEMPORARY SEEDING
602100000-E	1620	1.75	TON	FERTILIZER FOR TEMPORARY SEEDING
602400000-E	1622	430	LF	TEMPORARY SLOPE DRAINS
602700000-N	1622	6	EA	INLET PROTECTION AT TEMPORARY SLOPE DRAINS
602900000-E	SP	500	LF	SAFETY FENCE
603000000-E	1630	1,100	CY	SILT EXCAVATION
603600000-E	1631	2,650	SY	MATTING FOR EROSION CONTROL
603700000-E	SP	50	SY	COIR FIBER MAT
603800000-E	SP	160	SY	PERMANENT SOIL REINFORCEMENT MAT
604200000-E	1632	70	LF	1/4" HARDWARE CLOTH
607000000-N	SP	8	EA	SPECIAL STILLING BASINS
6071010000-E	SP	50	LF	WATTLE
6071020000-E	SP	20	LB	POLYACRYLAMIDE (PAM)
6071030000-E	SP	310	LF	COIR FIBER BAFFLES
6071050000-E	SP	7	EA	*** SKIMMER (1-1/2")
608400000-E	1660	15	ACR	SEEDING & MULCHING
608700000-E	1660	5.5	ACR	MOWING
609000000-E	1661	50	LB	SEED FOR REPAIR SEEDING
609300000-E	1661	0.25	TON	FERTILIZER FOR REPAIR SEEDING
609600000-E	1662	150	LB	SEED FOR SUPPLEMENTAL SEEDING
610800000-E	1665	4.5	TON	FERTILIZER TOPDRESSING
611400000-N	SP	10	HR	SPECIALIZED HAND MOWING
611700000-N	SP	27	EA	RESPONSE FOR EROSION CONTROL
612300000-E	1670	0.25	ACR	REFORESTATION

***** BEGIN SCHEDULE AA *****				
***** (2 ALTERNATES) *****				
003600000-E	225	600	CY	UNDERCUT EXCAVATION
AA1				
008000000-E	SP	650	TON	CLASS IV SUBGRADE STABILIZATION
AA1				
019600000-E	270	1,000	SY	FABRIC FOR SOIL STABILIZATION
AA1				
*** OR ***				
003600000-E	225	1,250	CY	UNDERCUT EXCAVATION
AA2				
019500000-E	265	1,250	CY	SELECT GRANULAR MATERIAL
AA2				
***** END SCHEDULE AA *****				

07-JAN-2009 15:27
 V:\Projects\B4207\Roadway\Proj\B4207_rdy_psh_03.dgn
 5/28/99
 11:25 AM

DIVISION OF HIGHWAYS
 STATE OF NORTH CAROLINA

SUMMARY OF EARTHWORK
 IN CUBIC YARDS

LOCATION	UNCLASSIFIED EXCAVATION	UNDERCUT	EMBT + %	BORROW	WASTE
PHASE I					
-DET- 14+00.00 TO 17+85.00 (BEGIN BRIDGE)	195		7,541	7,346	
-DET- 19+35.00 (END BRIDGE) TO 24+50.00	76		10,273	10,197	
SUBTOTAL	271		17,814	17,543	
PHASE II					
-L- 9+50.00 TO 14+04.66 (BEGIN BRIDGE)	533		3,256	2,723	
-L- 15+79.66 (END BRIDGE) TO 20+50.00	388		4,861	4,473	
SUBTOTAL	921		8,117	7,196	
PHASE III (-L- /W-DET- REMOVAL)					
-L- 10+00.00 TO 13+81.88 (BEGIN BRIDGE)	4,394				4,394
-L- 15+31.88 (END BRIDGE) TO 20+50.00	5,661				5,661
SUBTOTAL	10,055				10,055
SHOULDER MATERIAL			756	756	
LOSS DUE TO CLEARING AND GRUBBING	-25			25	
PROJECT TOTALS	11,222		26,687	25,520	10,055
EST. 5% FOR REPLACING TOPSOIL ON ON BORROW PIT				1,276	
GRAND TOTALS	11,222		26,687	26,796	10,055
SAY	11,300			26,850	

ALTERNATE NO. 1:
 EST. DDE =147 C.Y.
 EST. FILTER FABRIC FOR SOIL STABILIZATION =1000 S.Y.
 EST. UNDERCUT EXCAVATION =600 C.Y.
 EST. CLASS IV SUBGRADE STABILIZATION =650 TONS

ALTERNATE NO. 2:
 EST. DDE =147 C.Y.
 EST. SELECT GRANULAR MATERIAL =1250 C.Y.
 EST. UNDERCUT EXCAVATION =1250 C.Y.

**PAVEMENT
 REMOVAL SUMMARY**

SURVEY LINE	STATION	STATION	LOCATION LT/RT/CL	YD'
-L-	12+58.00	14+19.00	LT/RT	530.41
-L-	15+67.00	17+69.00	LT/RT	658.74
-DET-	13+49.92	15+14.03	LT/RT	238.65
-DET-	15+14.03	17+77.00	LT/RT	818.13
-DET-	17+77.00	17+85.00	LT/RT	25.78
-DET-	19+35.00	19+43.00	LT/RT	25.78
-DET-	19+43.00	23+14.89	LT/RT	1156.99
-DET-	23+14.89	24+77.04	LT/RT	233.40
TOTAL:				3,687.88
SAY:				3,690

PARCEL INDEX

PARCEL NO.	PROPERTY OWNER	SHEET NO.
1	JORDAN LUMBER & SUPPLY	4+5

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

5/9/06 18\FEB-2009_0816_b4207_r.dwg:peh03a.dgn

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

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

Table with columns for Station, Location, Structure No., Top Elevation, Invert Elevation, Slope, Pipe Size (12"-48"), Material (Class III R.C. Pipe, Bituminous Coated C.S. Pipe, Class III R.C. Pipe), Endwalls (R.C.P., C.S.P.), Frame/Grates, and Remarks. Includes a summary row at the bottom.

"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

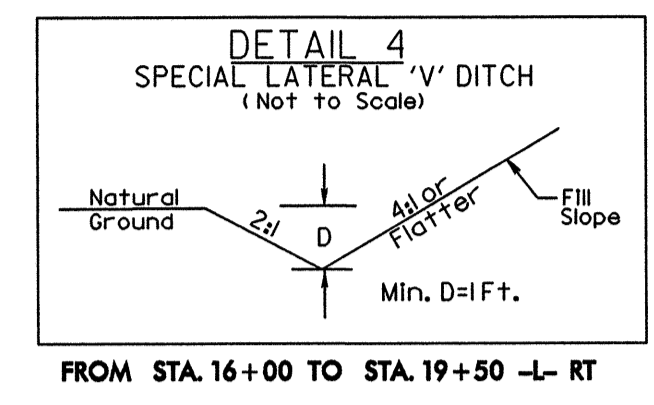
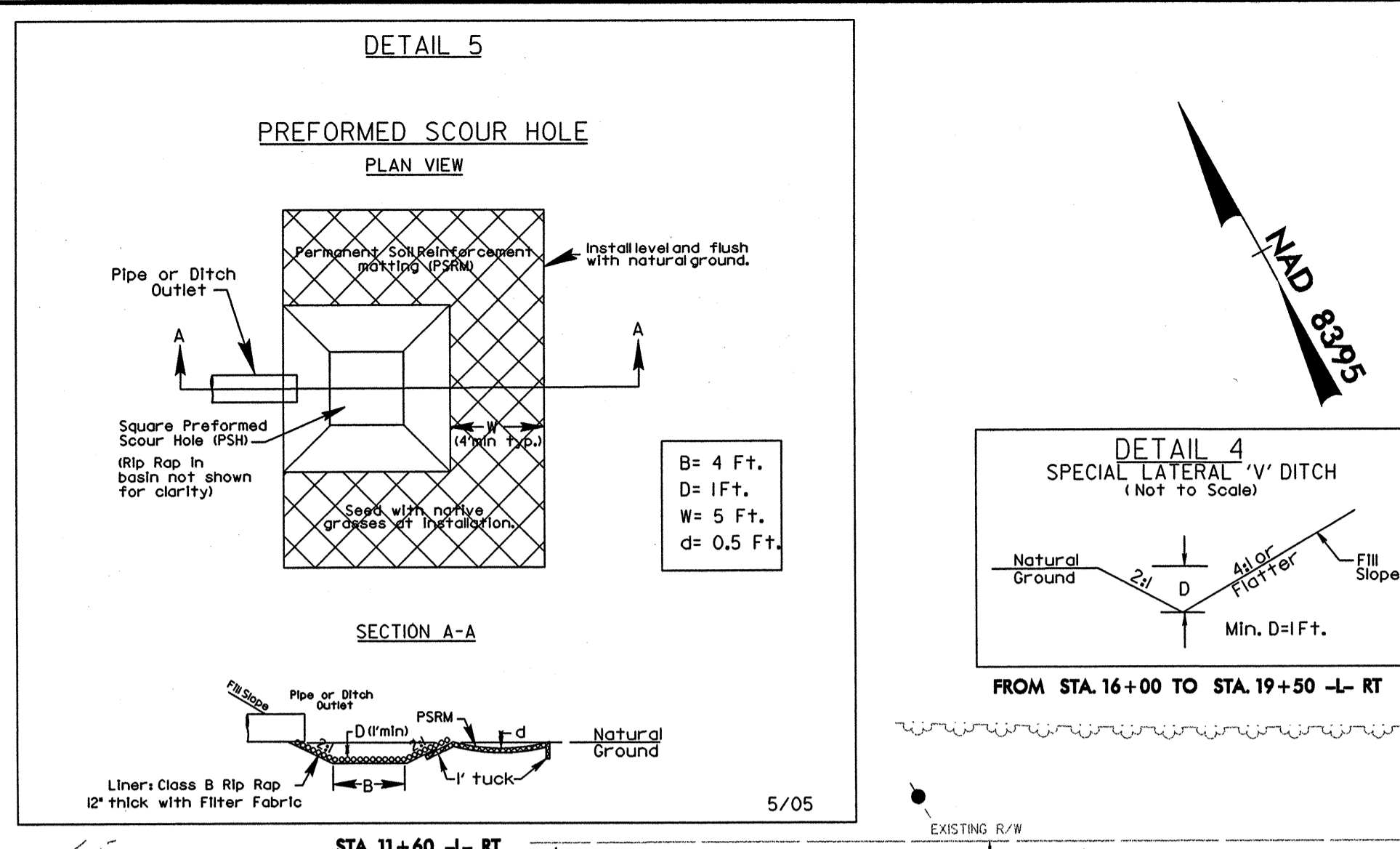
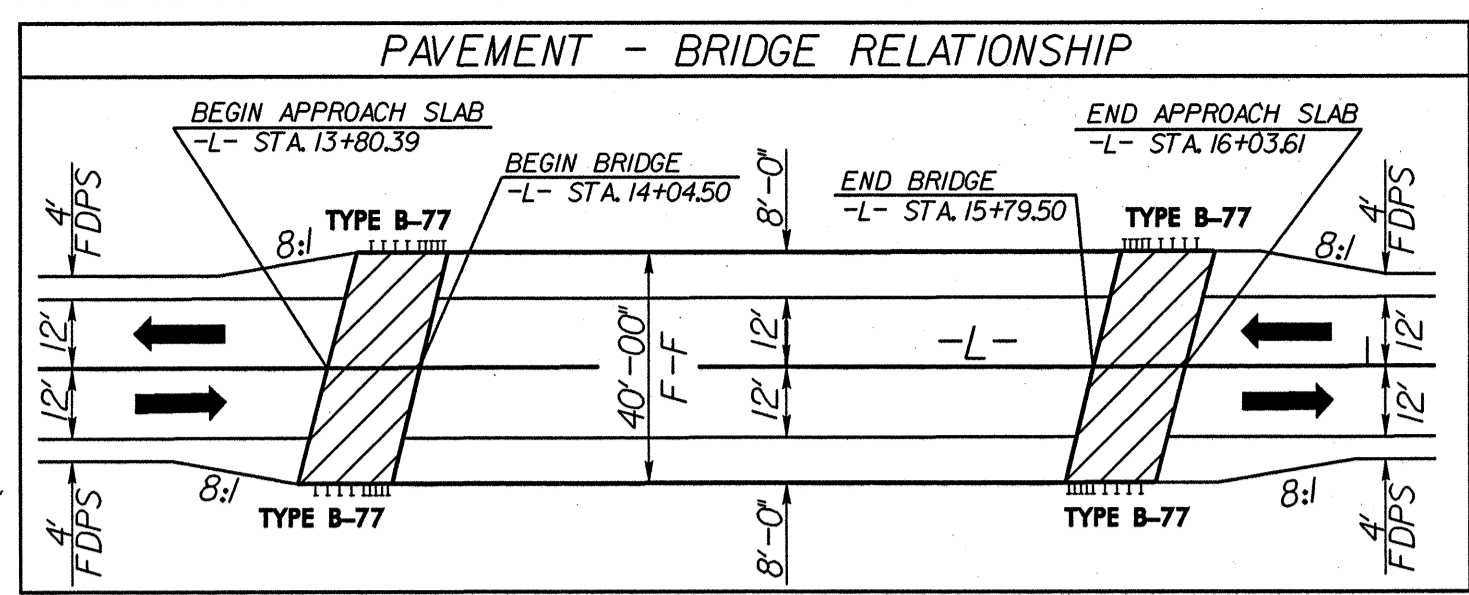
Table with columns for Survey Line, Beg. Sta., End Sta., Location, Length (Straight, Shop Curved, Double Faced), Warrant Point (Approach End, Trailing End), N" Dist. from E.O.L., Total Shoulder Width, Flare Length (Approach End, Trailing End), W (Approach End, Trailing End), Anchors (GRAU 350, Type B-77), Impact Attenuator Type 350 (Permitted No., G, NG), 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

TEMPORARY GUARDRAIL SUMMARY

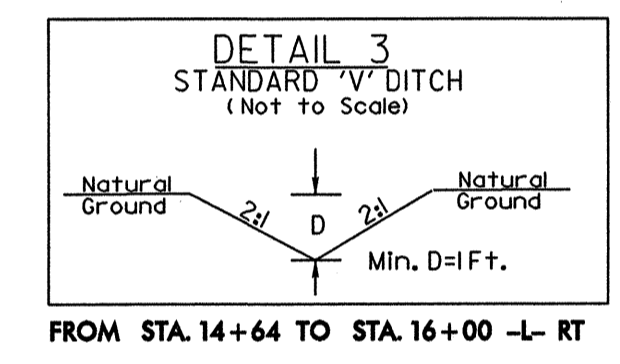
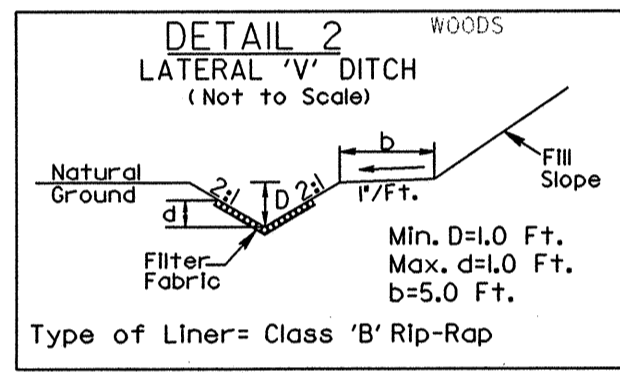
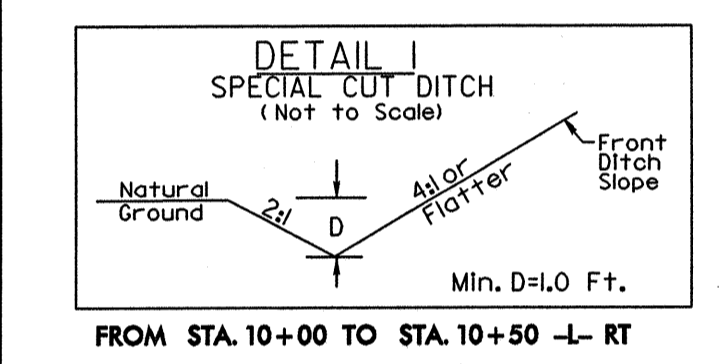
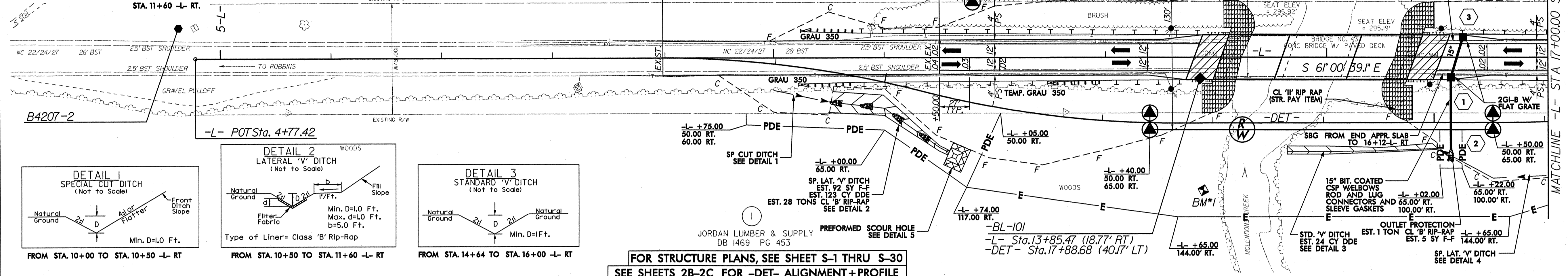
Table with columns for Survey Line, Beg. Sta., End Sta., Location, Length (Straight, Shop Curved, Double Faced), Warrant Point (Approach End, Trailing End), N" Dist. from E.O.L., Total Shoulder Width, Flare Length (Approach End, Trailing End), W (Approach End, Trailing End), Anchors (GRAU 350, Type III), Impact Attenuator Type 350 (Permitted No., G, NG), and Remarks.

4/10/06
7-FEB-2009 10:55
V:\Projects\12007\Bridges\Group 46 Final Design\B4207\Roadway\Proj\B4207_rdy_psh3B.dgn

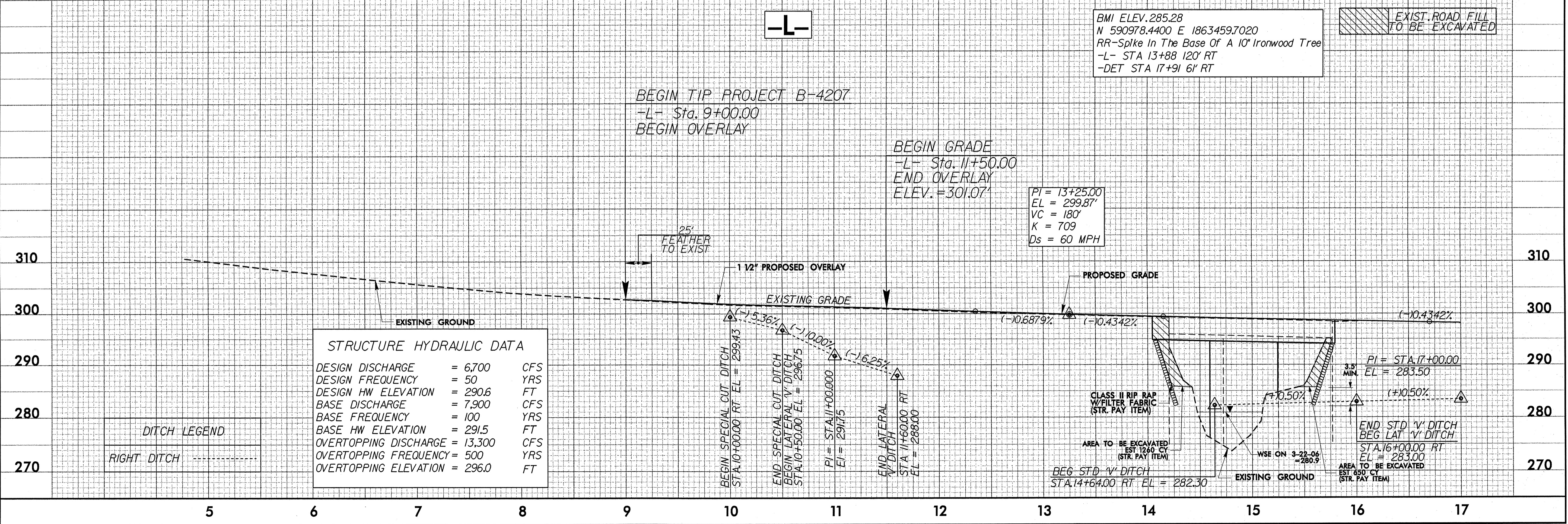


BEGIN TIP PROJECT B-4207
 -L- POT Sta. 9+00.00 =
 -DET- PC Sta. 12+98.13
 JORDAN LUMBER & SUPPLY
 DB 1469 PG 453

END OVERLAY
 BEGIN RESURFACING & WIDENING
 -L- Sta. 11+50.00



FOR STRUCTURE PLANS, SEE SHEET S-1 THRU S-30
 SEE SHEETS 2B-2C FOR -DET- ALIGNMENT + PROFILE



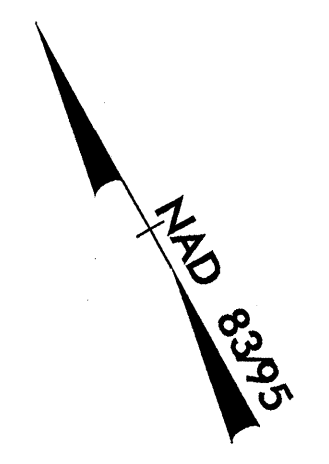
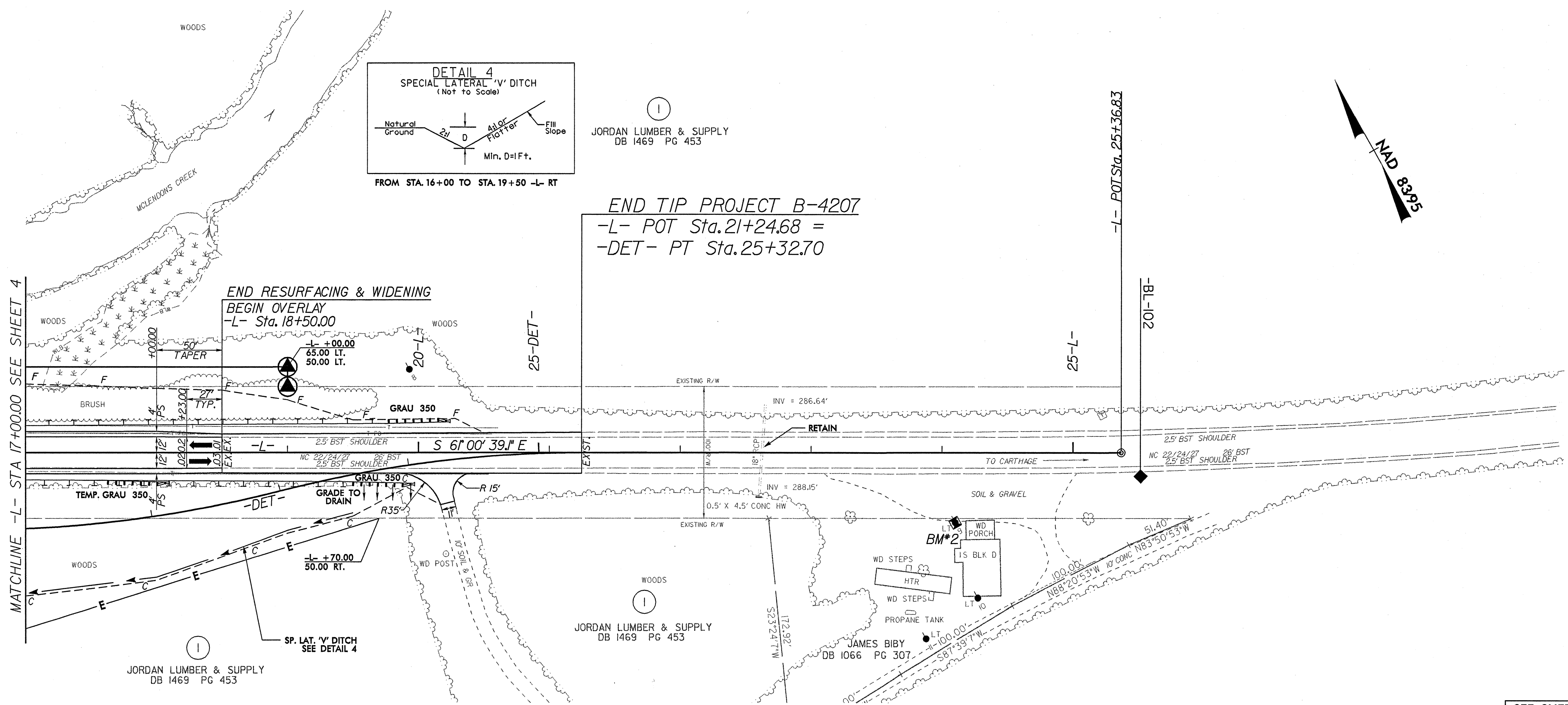
REVISIONS

8/17/99

13-FEB-2009 10:09 AM
 D:\Projects\B4207\Roadway\Proj\B4207_rdy_psh_04.dgn
 13-FEB-2009 10:09 AM
 D:\Projects\B4207\Roadway\Proj\B4207_rdy_psh_04.dgn

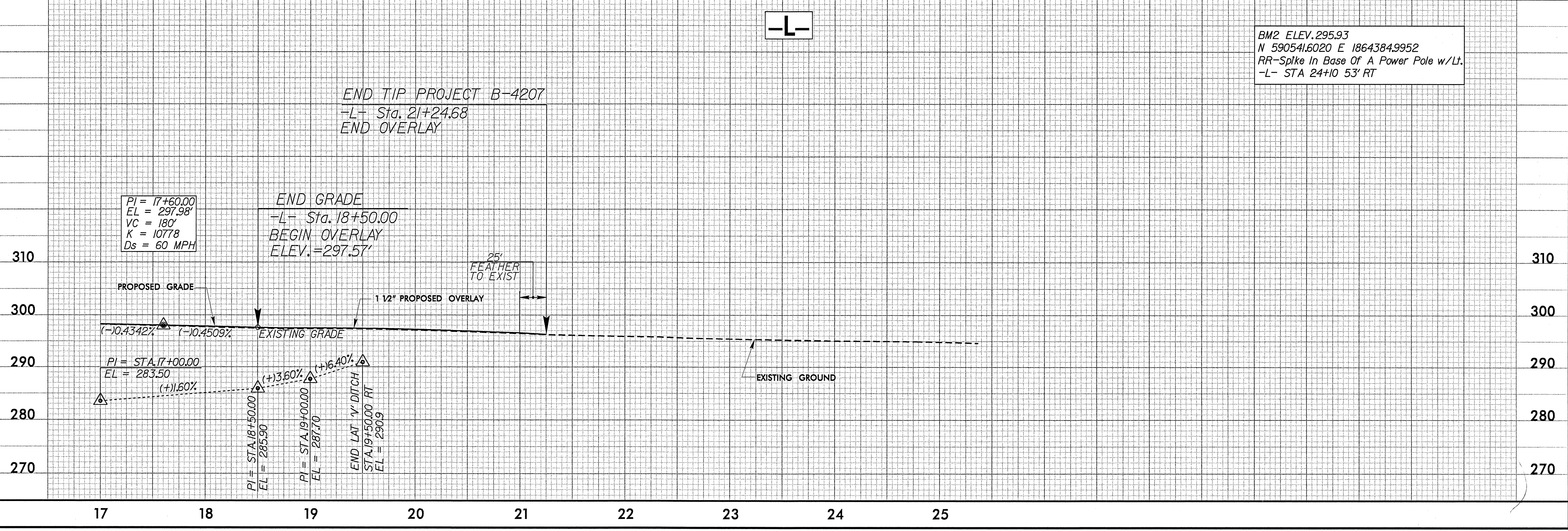
PROJECT REFERENCE NO. B-4207	SHEET NO. 5
ROADWAY DESIGN ENGINEER JANNE K. LICHTER	HYDRAULICS ENGINEER HENRY WELLS

8/17/99



REVISIONS

SEE SHEETS 2B-2C FOR -DET- ALIGNMENT + PROFILE



08-JAN-2009 10:34
Y:\Projects\NC01\Bridges\Group 46 Final Design\B4207\Roadway\Proj\B4207_rdy_psh_05.dgn