

09/08/09

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

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

GUILFORD COUNTY

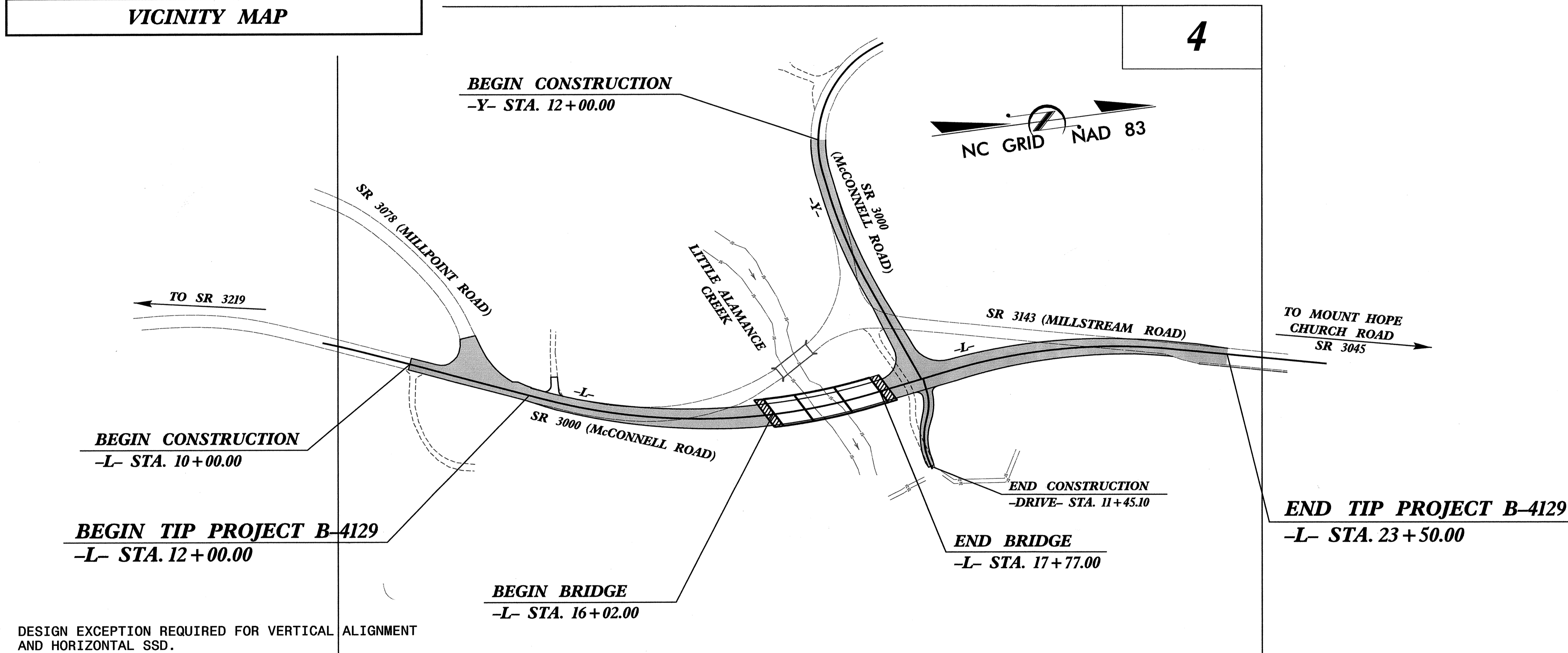
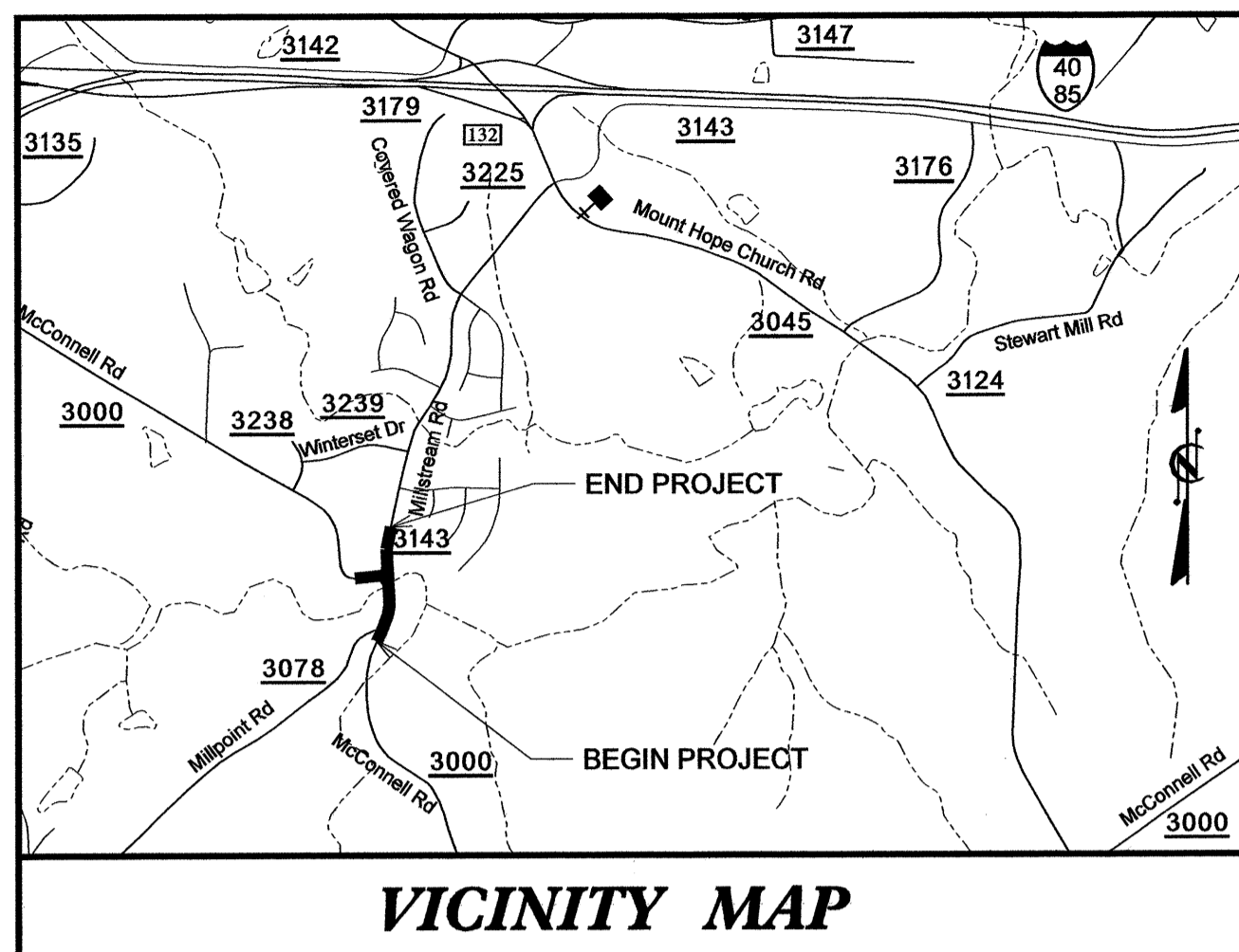
**LOCATION: BRIDGE NO. 226 OVER LITTLE ALAMANCE
CREEK ON SR 3000**

**TYPE OF WORK: GRADING, DRAINAGE, PAVING &
STRUCTURE**

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4129	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
33482.1.1	BRZ-3000(3)	P.E.	
33482.2.1	BRZ-3000(3)	RW & UTL.	
33482.3.1	BRZ-3000(3)	CONST.	

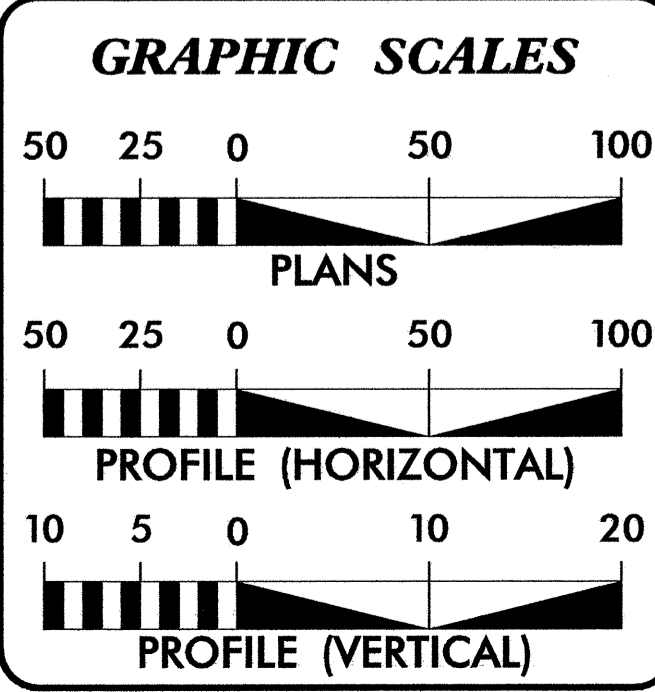
TIP PROJECT: B-4129

CONTRACT: C201768



** DESIGN EXCEPTION REQUIRED FOR VERTICAL ALIGNMENT AND HORIZONTAL SSD.

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



DESIGN DATA

ADT 2008	=	3750
ADT 2028	=	6200
DHV	=	10 %
D	=	65 %
T	=	4 % *
** V	=	50 MPH
* TTST 1%	DUAL 3%	(RURAL MINOR COLLECTOR)

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-4129	=	0.185 MI.
LENGTH STRUCTURE TIP PROJECT B-4129	=	0.033 MI.
TOTAL LENGTH OF TIP PROJECT B-4129	=	0.218 MI.

Prepared in the Office of:
KO & ASSOCIATES, P.C.
Consulting Engineers
5121 Kingdom Way, Suite 100, Raleigh NC 27607
(919) 851-6866

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
FEBRUARY 16, 2007

LETTING DATE:
September 16, 2008

BRIAN A. WILES, P.E.
PROJECT ENGINEER

DAVID C. WALLER, P.E.
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SEAL 021162

ROADWAY DESIGN ENGINEER

SEAL 16689

11-8-07

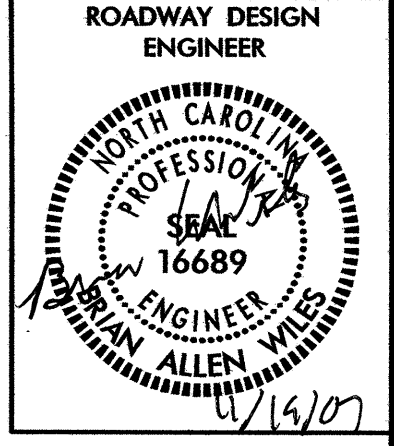
11/9/2007

**DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA**

STATE HIGHWAY DESIGN ENGINEER

1/7/2007
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Ko & Associates, P.C.

8/17/99



INDEX OF SHEETS

SHEET NUMBER	DESCRIPTION
1	Title Sheet
1-A	Index of Sheets, General Notes and List of Standards
1-B	Conventional Symbols
1-C	Survey Control Sheet
1-D	Centerline Coordinate List
2 thru 2-B	Typical Sections, Wedging Detail and Pavement Schedule
2-C	Ditch Details, Temporary Pavement Detail and Grading Detail (Channel Excavation)
2-D	Temporary Shoring Details
2-E	Anchorage for Frames Detail
3	Summary of Quantities
3-A	List of Pipes, Endwalls, Etc. (for Pipes 48" and Under) and Guardrail Summary
3-B	Summary of Earthwork
3-C	Summary of Pavement Removal
4	Plan Sheet
5	Profile Sheet
TCP-1 thru TCP-16	Traffic Control Plans
PM-1	Pavement Marking Plan
EC-1 thru EC-5	Erosion Control Plans
RF-1	Reforestation Plans
U0-1 thru U0-2	Utility by Others
XSUM-1	Cross Section Summary Sheet
X-1 thru X-12	Cross Sections
S-1 thru S- 38 38	Structure Plans

GENERAL NOTES:

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 NOT SHOWN ON THE PLANS WILL BE PAID FOR AT THE CONTRACT PRICE FOR "TEMPORARY SHORING" OR "TEMPORARY SHORING-BARRIER SUPPORTED" DEPENDING UPON THE LOCATION OF THE SHORING.

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 Duke Energy, AT&T and Time Warner.
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 STANDARD DRAWINGS

2006 ROADWAY STANDARD DRAWINGS

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

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 4 - MAJOR STRUCTURES	
422.10	Reinforced Bridge Approach Fills
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
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
840.29	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
876.01	Rip Rap in Channels
876.02	Guide for Rip Rap at Pipe Outlets
876.04	Drainage Ditches with Class 'B' Rip Rap

11/19/2007
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C:\Users\Allen.Wiles\Documents\Projects\B4129_Rdy-tsh.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	○ EP
Property Corner	→
Property Monument	□ ECM
Parcel/Sequence Number	①23
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	○ S
Well	○ W
Small Mine	✕
Foundation	□
Area Outline	□
Cemetery	□ †
Building	□
School	□
Church	□
Dam	□

HYDROLOGY:

Stream or Body of Water	_____
Hydro, Pool or Reservoir	□
Jurisdictional Stream	-JS-
Buffer Zone 1	-BZ 1-
Buffer Zone 2	-BZ 2-
Flow Arrow	←
Disappearing Stream	→
Spring	○
Wetland	*
Proposed Lateral, Tail, Head Ditch	_____
False Sump	◇

RAILROADS:

Standard Gauge	_____
RR Signal Milepost	○
Switch	□ SWITCH
RR Abandoned	_____
RR Dismantled	_____

RIGHT OF WAY:

Baseline Control Point	◆
Existing Right of Way Marker	△
Existing Right of Way Line	_____
Proposed Right of Way Line	_____
Proposed Right of Way Line with Iron Pin and Cap Marker	_____
Proposed Right of Way Line with Concrete or Granite Marker	_____
Existing Control of Access	○
Proposed Control of Access	○
Existing Easement Line	-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	□ 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	_____ A/G Water

TV:

TV Satellite Dish	⊗
TV Pedestal	⊕
TV Tower	⊗
U/G TV Cable Hand Hole	□
Recorded U/G TV Cable	_____ TV
Designated U/G TV Cable (S.U.E.*)	_____ TV
Recorded U/G Fiber Optic Cable	_____ TV FO
Designated U/G Fiber Optic Cable (S.U.E.*)	_____ TV FO

GAS:

Gas Valve	◇
Gas Meter	⊕
Recorded U/G Gas Line	_____ G
Designated U/G Gas Line (S.U.E.*)	_____ G
Above Ground Gas Line	_____ A/G Gas

SANITARY SEWER:

Sanitary Sewer Manhole	⊕
Sanitary Sewer Cleanout	⊕
U/G Sanitary Sewer Line	_____ SS
Above Ground Sanitary Sewer	_____ A/G Sanitary Sewer
Recorded SS Forced Main Line	_____ FSS
Designated SS Forced Main Line (S.U.E.*)	_____ FSS

MISCELLANEOUS:

Utility Pole	●
Utility Pole with Base	□
Utility Located Object	○
Utility Traffic Signal Box	⊕
Utility Unknown U/G Line	_____ ZUL
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.

B-4129 SURVEY CONTROL SHEET

END STATE PROJECT B-4129
-L- STA. 23+50.00

BEGIN CONSTRUCTION
-Y- STA. 12+00.00

END CONSTRUCTION
-DRIVE- STA. 11+45.10

BEGIN STATE PROJECT B-4129
-L- STA. 12+00.00

NC GRID NAD 83

BASELINE DATA

BASELINE POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
15	BL-15	834709.0560	1803150.0240	622.76	12+34.27	13.73 LT
16	BL-16	835077.7130	1803327.4830	616.40	13+13.11	16.15 RT
17	BL-17	835495.6320	1803254.6010	611.91	17+43.44	93.01 LT
18	BL-18	835510.5510	1802820.4450	637.33	18+26.24	519.98 LT
BY1						
POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
21	BY1-21	834660.3214	1802883.9637	650.89	11+14.68	250.43 LT
22	BL-16	835077.7130	1803327.4830	616.40	13+13.11	16.15 RT
BY2						
POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
23	BL-17	835495.6320	1803254.6010	611.91	17+43.44	93.01 LT
1	B3649-1	836228.9670	1803370.3300	662.88	24+71.03	13.41 LT

BENCHMARK DATA

 BM1 ELEVATION = 623.90
 N 835581 E 1803118
 L STATION 11+09
 N 22° 35' 54.7" W DIST 545.14
 RR SPIKE IN BASE OF 21" BEECH TREE

DATUM DESCRIPTION

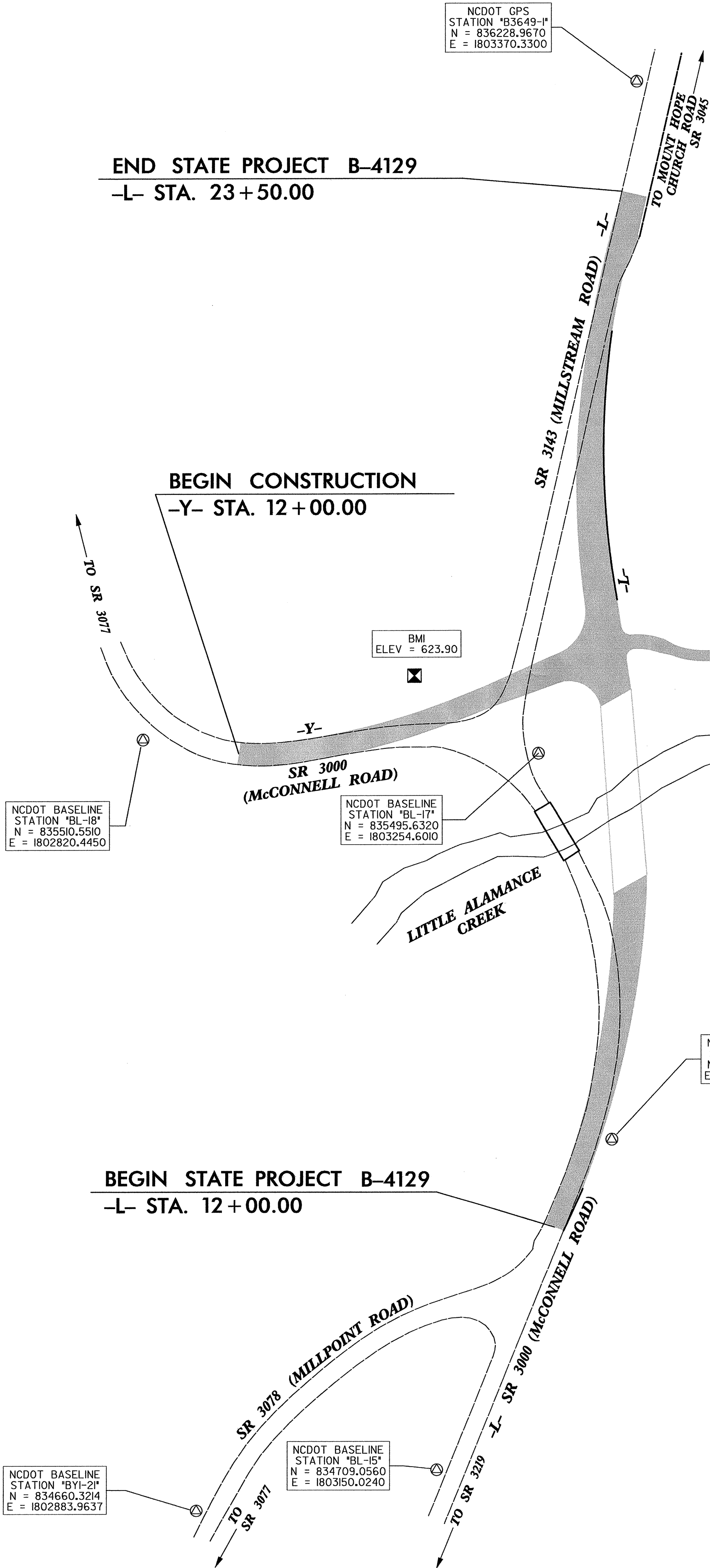
THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B3649-1" WITH NAD 1983 STATE PLANE GRID COORDINATES OF NORTHING: 836228.9673(±) EASTING: 1803370.3303(±) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.999941580 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B3649-1" TO -L- STATION 12+00.00 IS S 4°26'01.5" W 1256.48 ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NAVD 88

NOTES

1. THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:
[HTTP://WWW.NCDOT.ORG/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT/](http://www.ncdot.org/preconstruct/highway/location/project/)
 THE FILES TO BE FOUND ARE AS FOLLOWS:
b4129_ls_control_051220.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

12/01/2005
 12/01/2007
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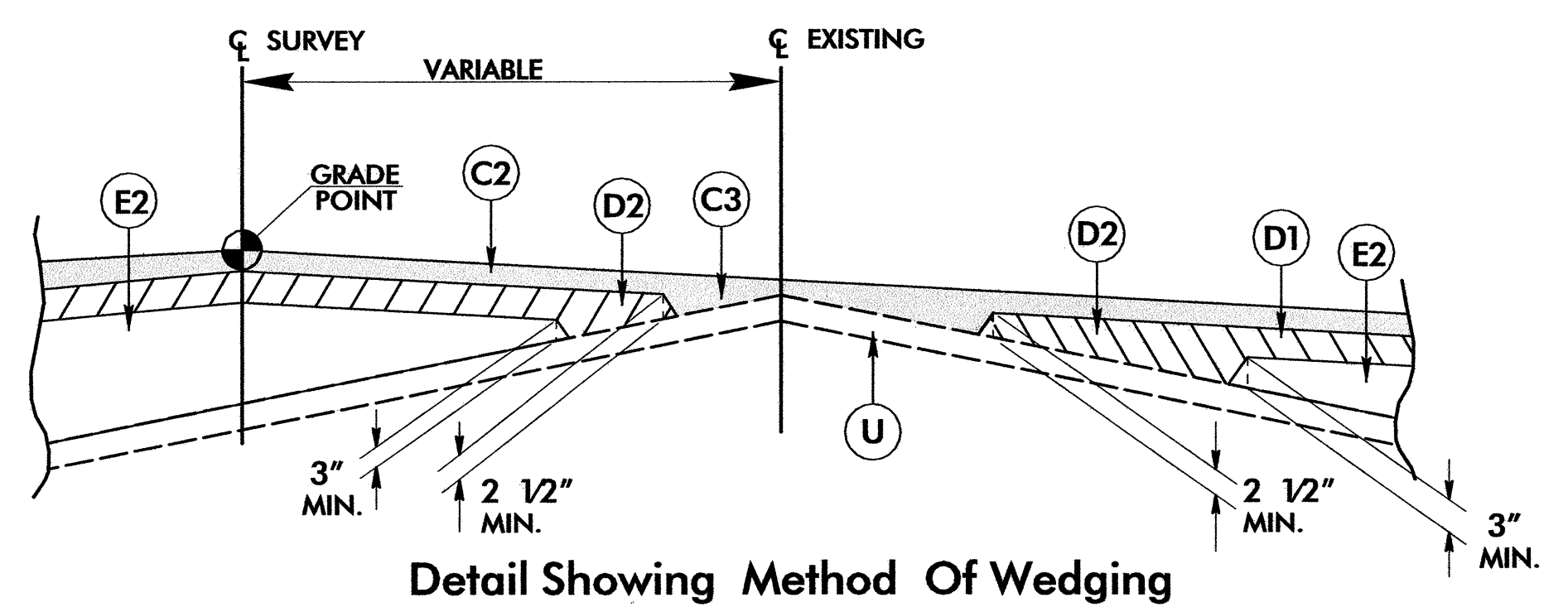
PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C2	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C3	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 2" IN DEPTH.
C4	PROP. APPROX. 2½" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 138 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
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.
P	PRIME COAT AT THE RATE OF .35 GAL. PER SQ. YD.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING SHEET NO. 2)

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

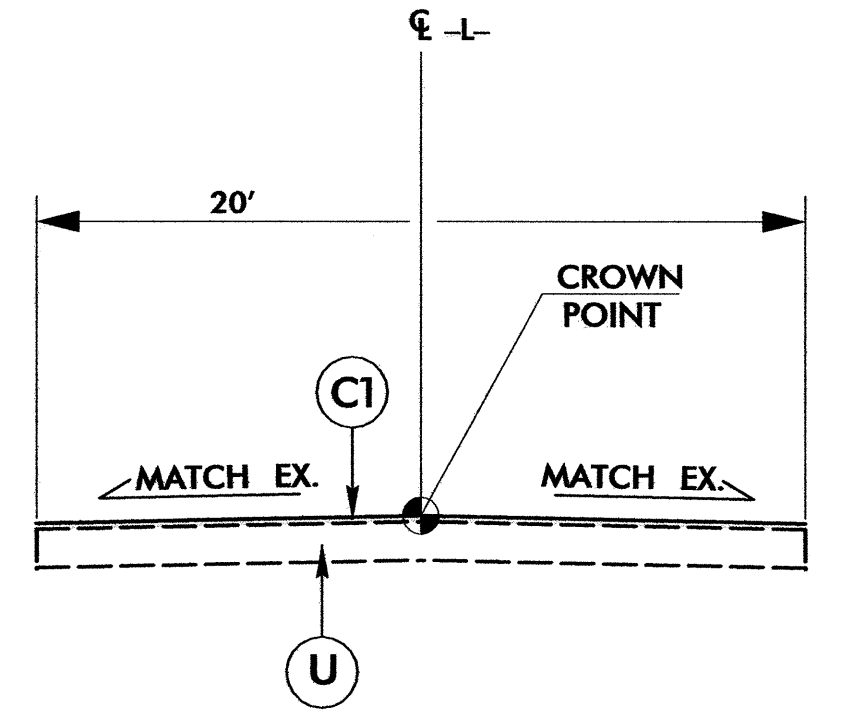
TRANSITION FROM T.S. NO. 1 TO T.S. NO. 2
-L- STA. 12+00.00 TO 12+50.00

USE TYPICAL SECTION NO. 2
-L- STA. 12+50.00 TO 14+50.00
-L- STA. 21+00.00 TO 23+00.00

TRANSITION FROM T.S. NO. 2 TO EXISTING
-L- STA. 23+00.00 TO 23+50.00

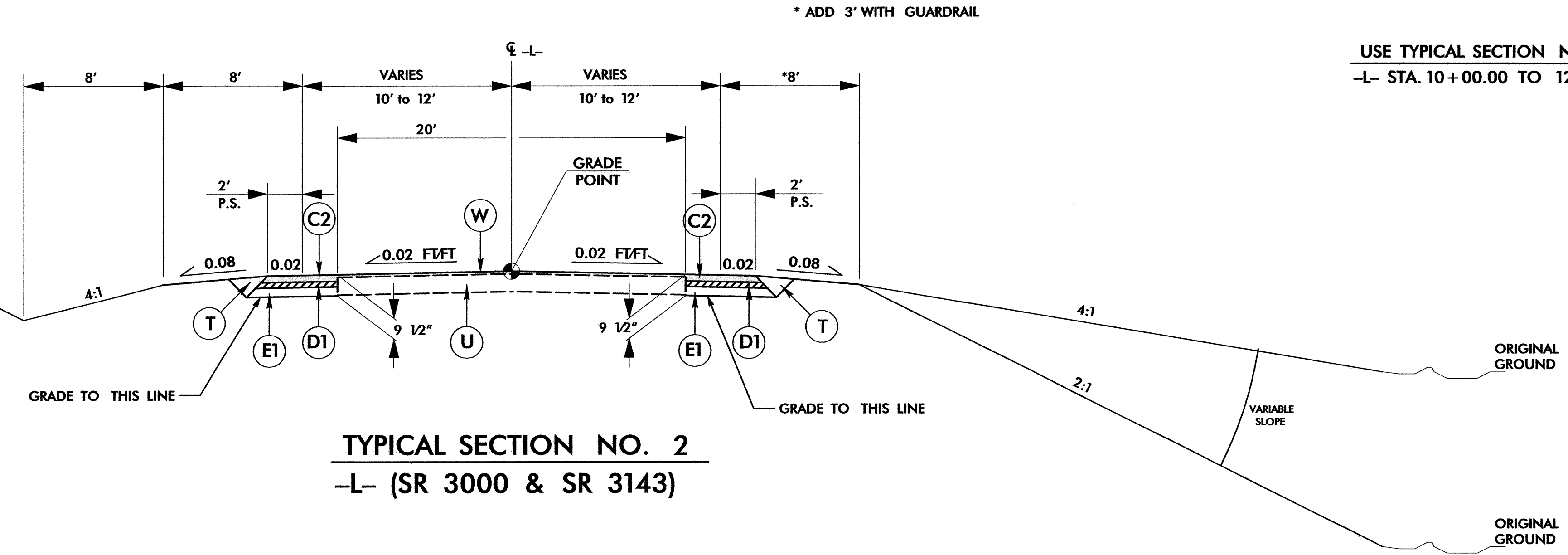


Detail Showing Method Of Wedging

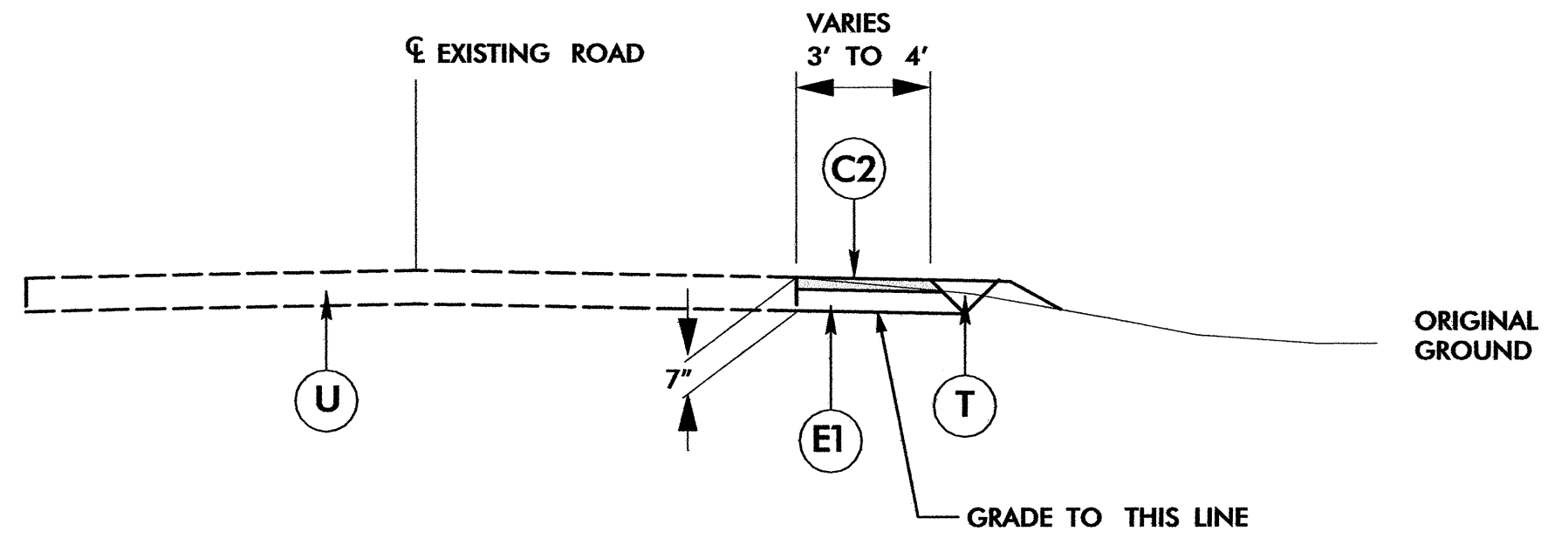


TYPICAL SECTION NO. 1
-L- (SR 3000 & SR 3143)

USE TYPICAL SECTION NO. 1
-L- STA. 10+00.00 TO 12+00.00



TYPICAL SECTION NO. 2
-L- (SR 3000 & SR 3143)



TYPICAL SECTION NO. 2A
-L- (SR 3000)

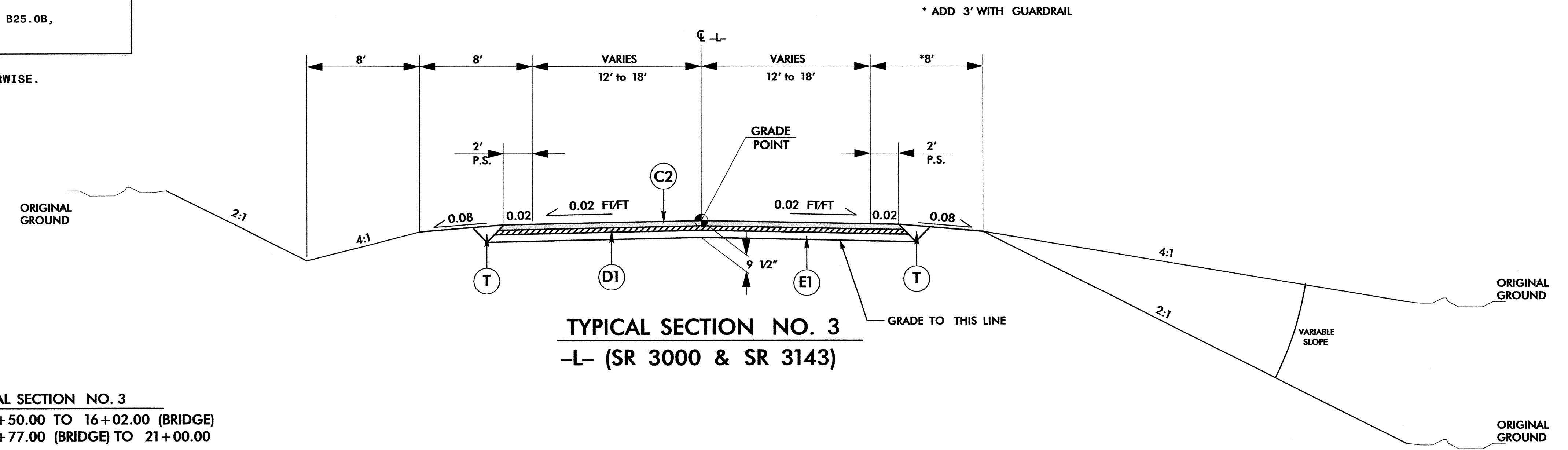
USE TYPICAL SECTION NO. 2A
-L- STA. 15+00 TO 16+22

6/2/99

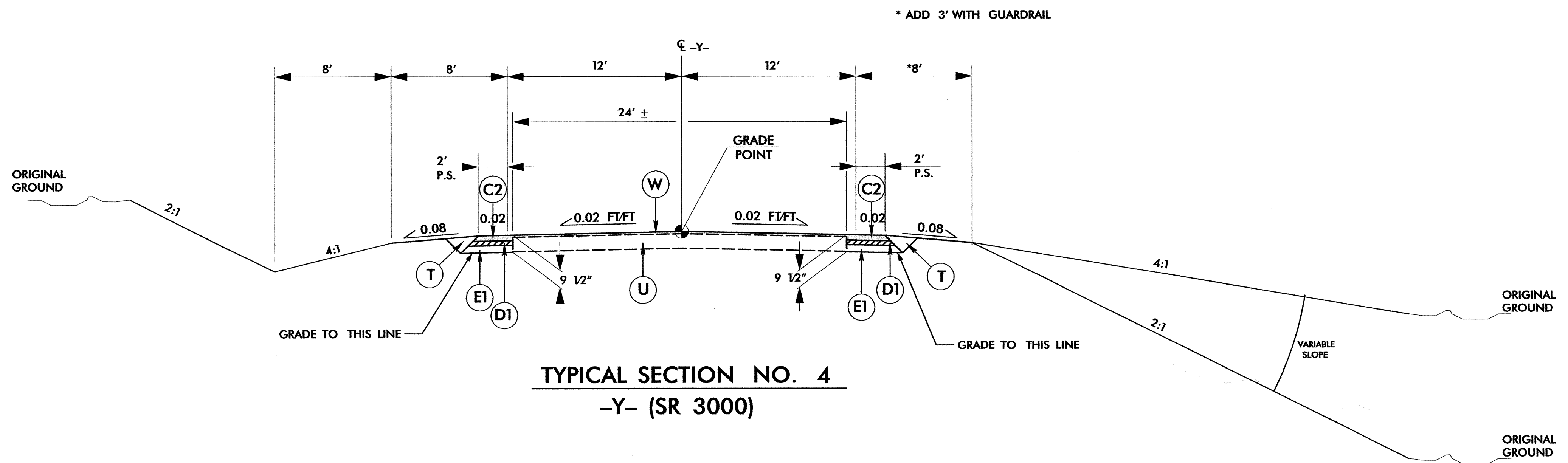
PAVEMENT SCHEDULE

C1	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 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.
C2	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.	J	PROP. 8" AGGREGATE BASE COURSE.
C3	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 2" IN DEPTH.	P	PRIME COAT AT THE RATE OF .35 GAL. PER SQ. YD.
C4	PROP. APPROX. 2½" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 138 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.	T	EARTH MATERIAL.
D1	PROP. APPROX. 2½" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.	U	EXISTING PAVEMENT.
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.	W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL SHEET No. 2)
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.		

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

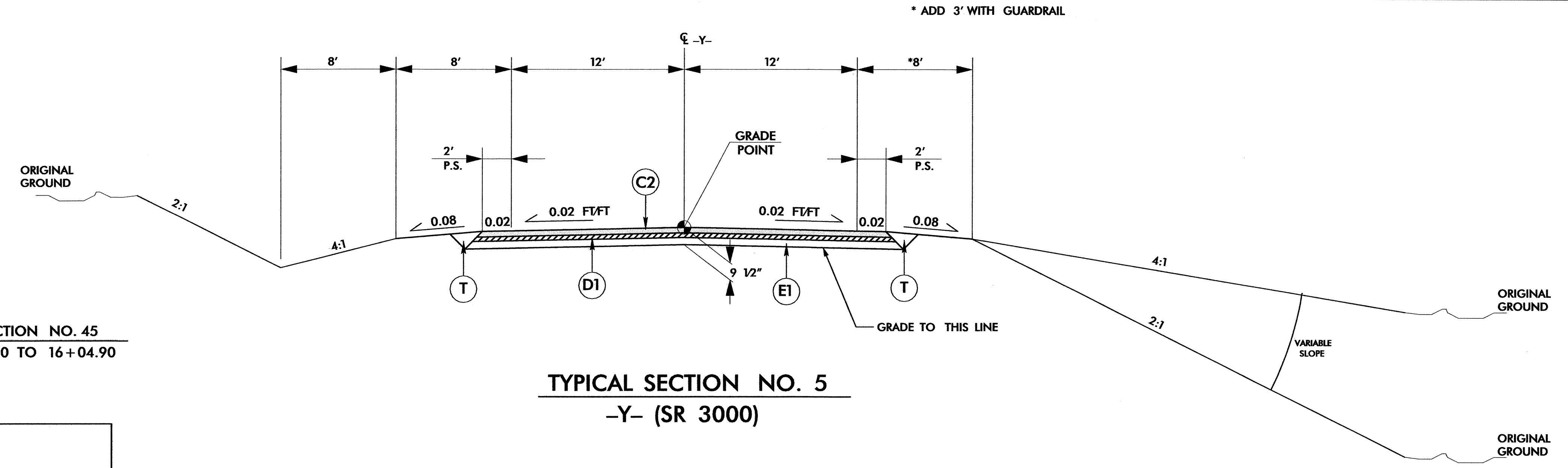


TRANSITION FROM EXISTING TO T.S. NO. 4
 -Y- STA. 12+00.00 TO 12+50.00



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6/2/09

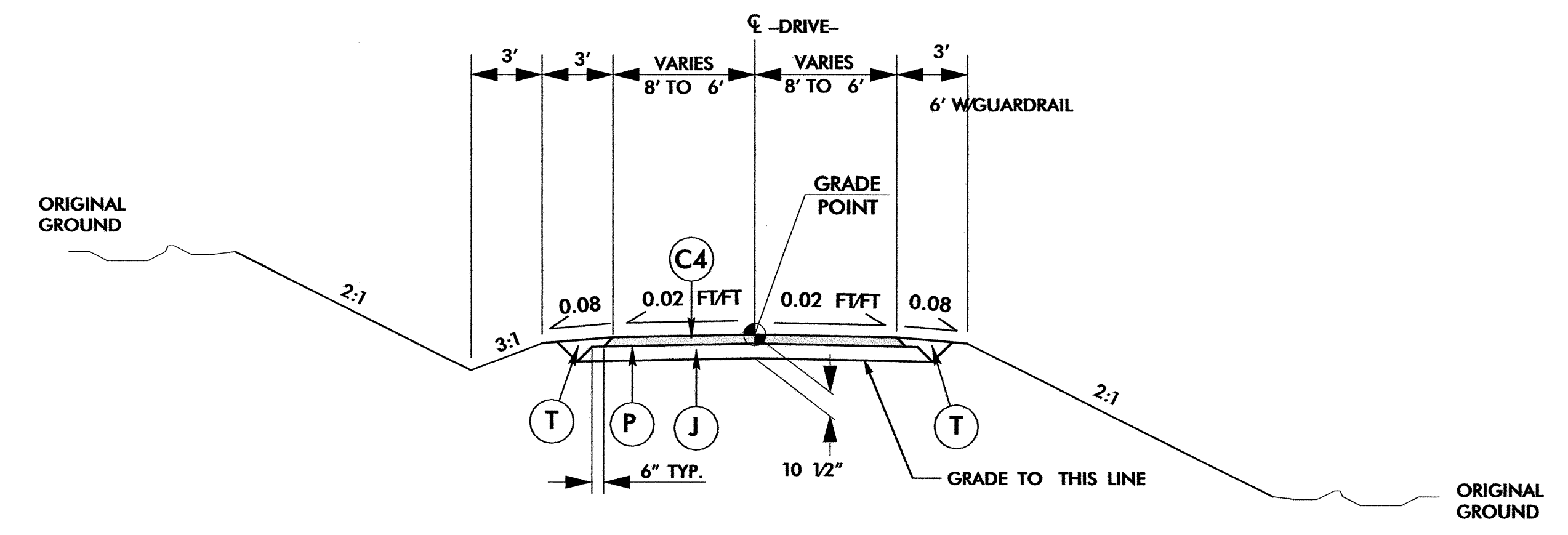


USE TYPICAL SECTION NO. 45
 -Y- STA. 13+50.00 TO 16+04.90

TYPICAL SECTION NO. 5
 -Y- (SR 3000)

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C2	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C3	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 2" IN DEPTH.
C4	PROP. APPROX. 2 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 138 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
D1	PROP. APPROX. 2 1/2" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.
D2	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 2 1/4" IN DEPTH OR GREATER THAN 4" IN DEPTH.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5 1/2" IN DEPTH.
J	PROP. 8" AGGREGATE BASE COURSE.
P	PRIME COAT AT THE RATE OF .35 GAL. PER SQ. YD.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL SHEET No. 2)

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

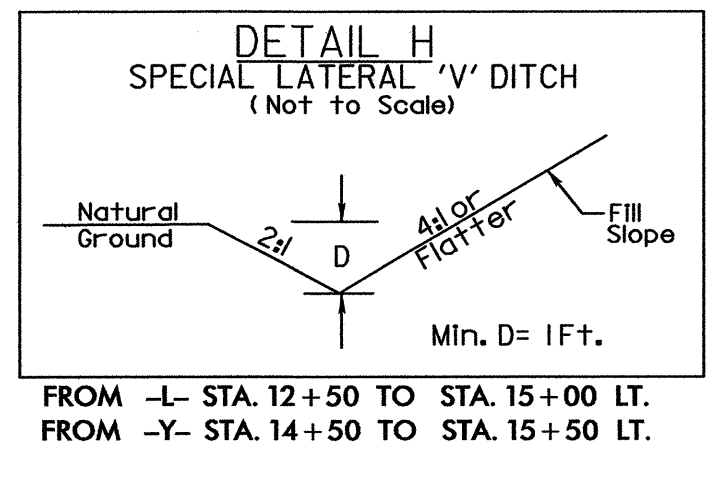
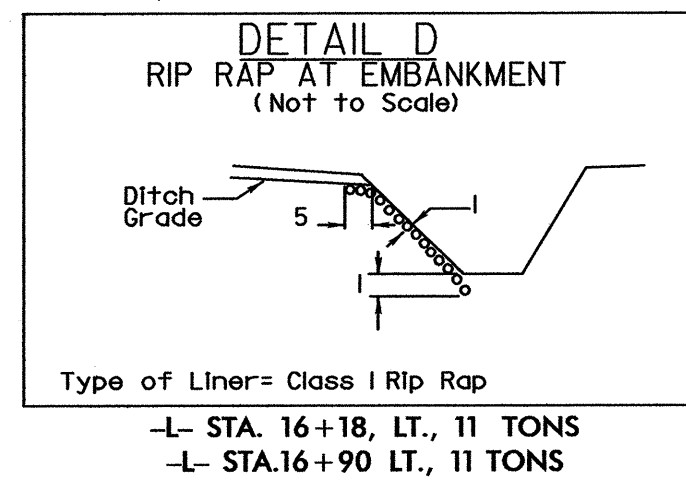
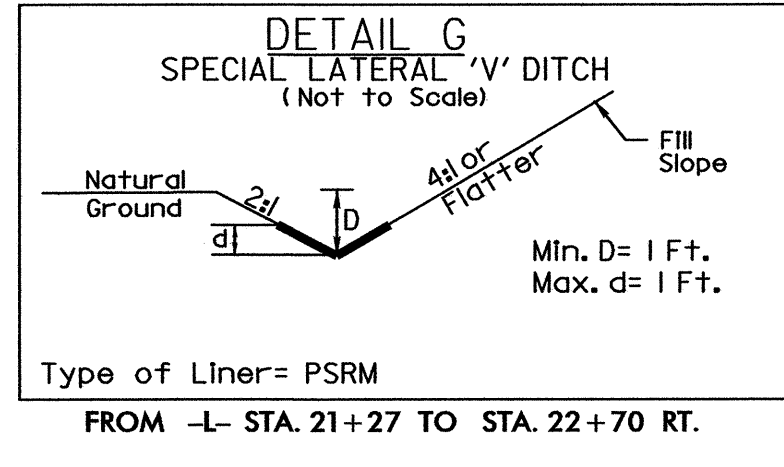
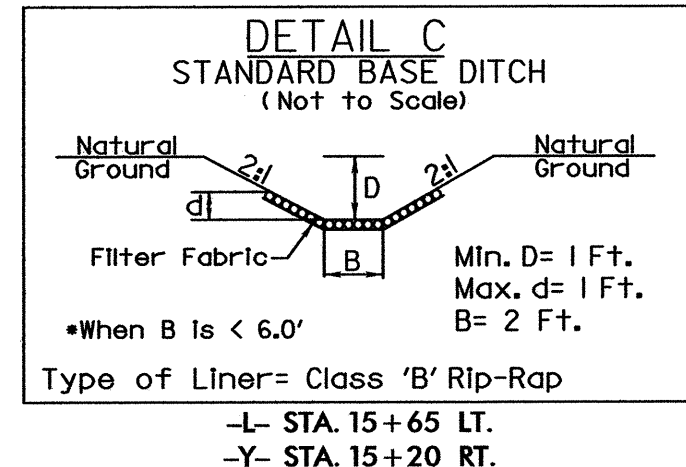
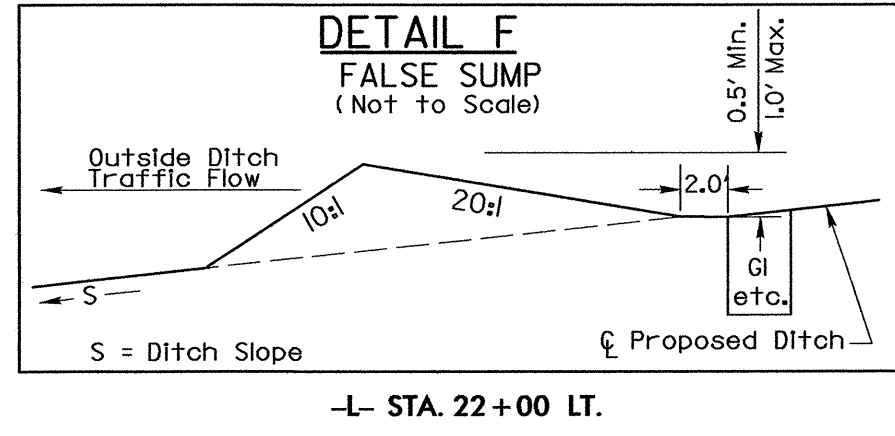
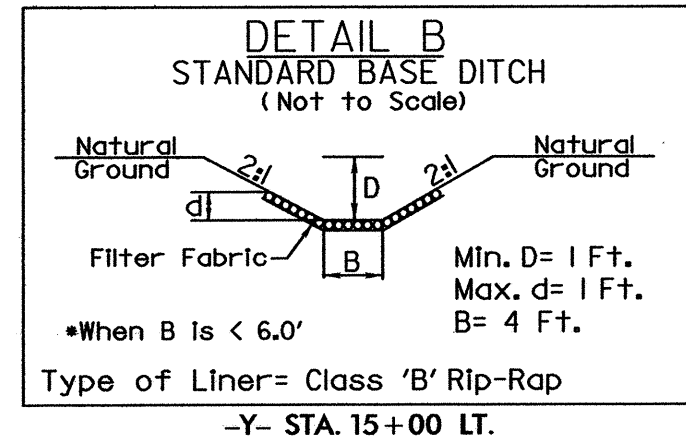
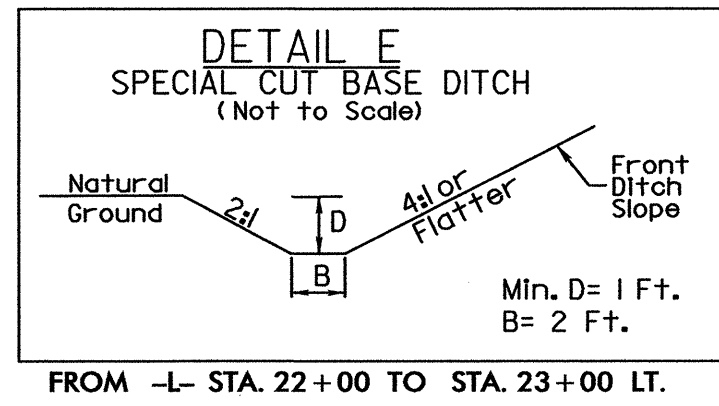
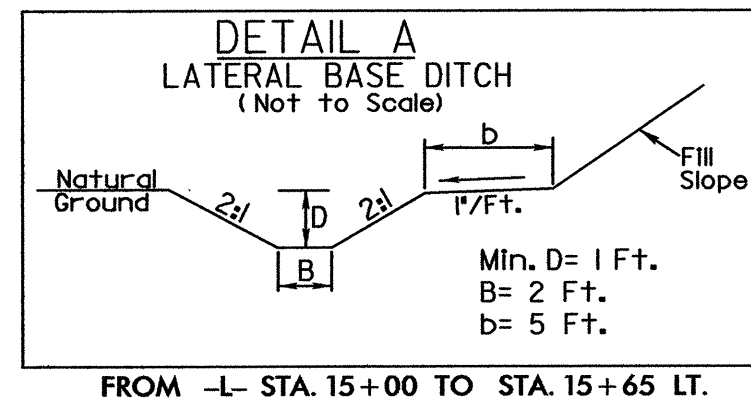
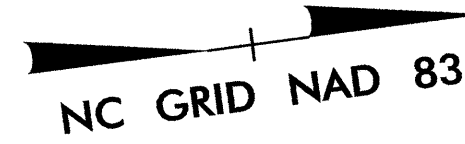


USE TYPICAL SECTION NO. 6
 -DRIVE- STA. 10+20.00 TO 11+45.10

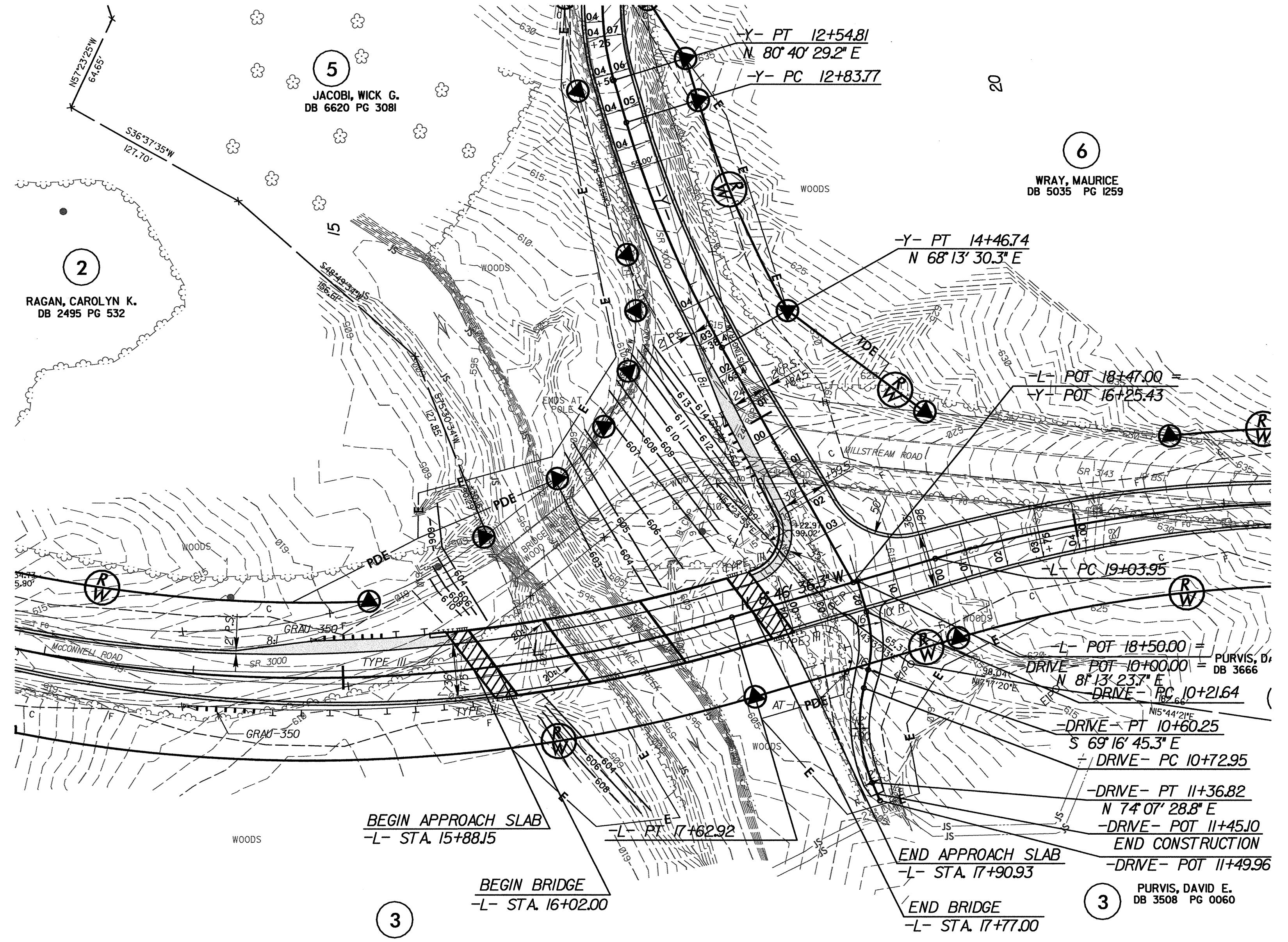
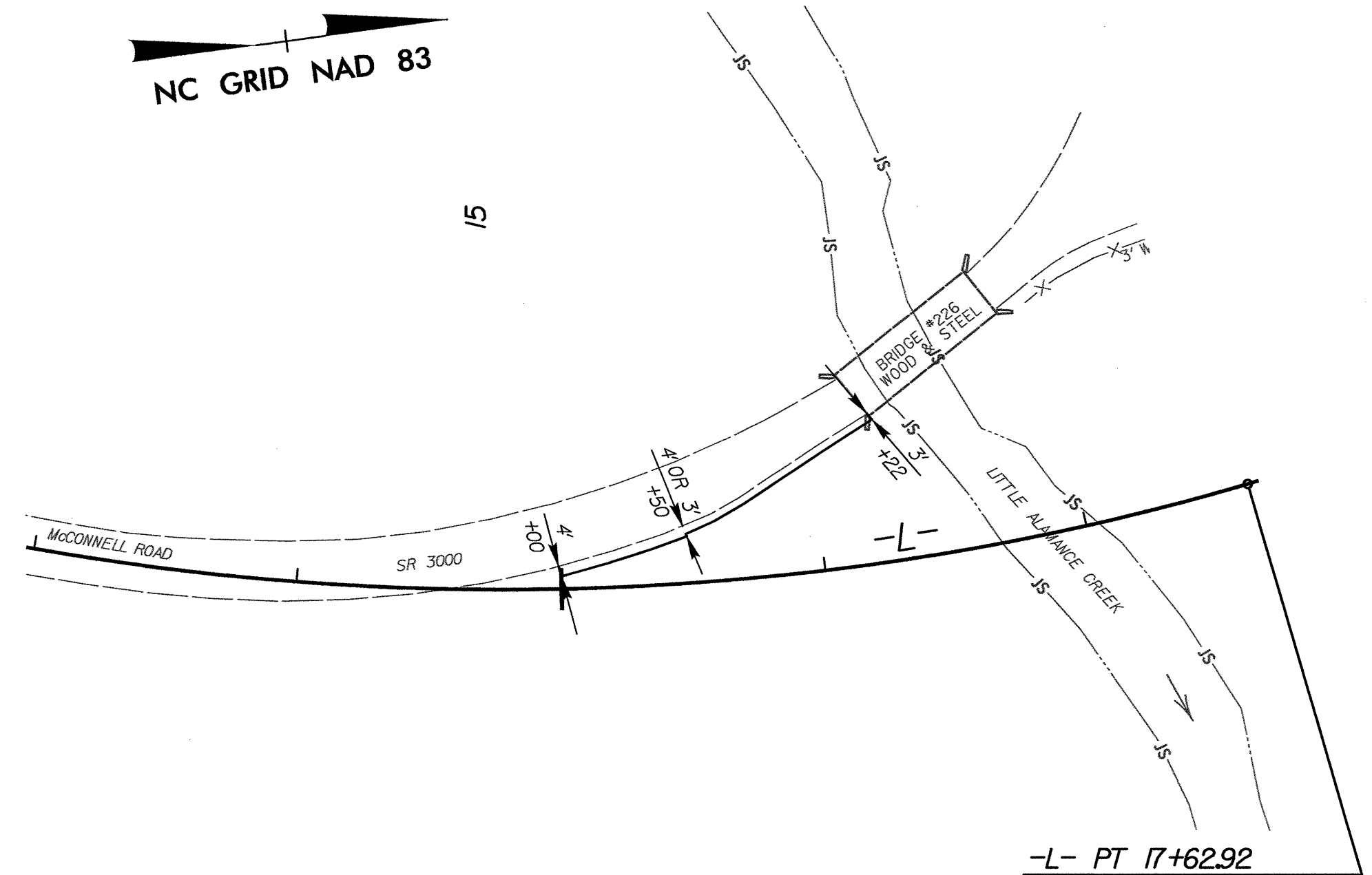
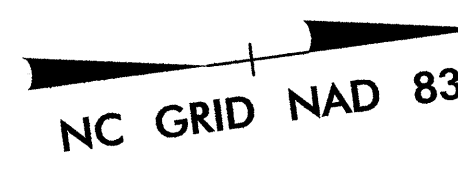
TYPICAL SECTION NO. 6
 -DRIVE-

11/18/2007
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 KO & ASSOCIATES, P.C.

GRADING DETAIL (CHANNEL EXCAVATION)



TEMPORARY PAVEMENT DETAIL

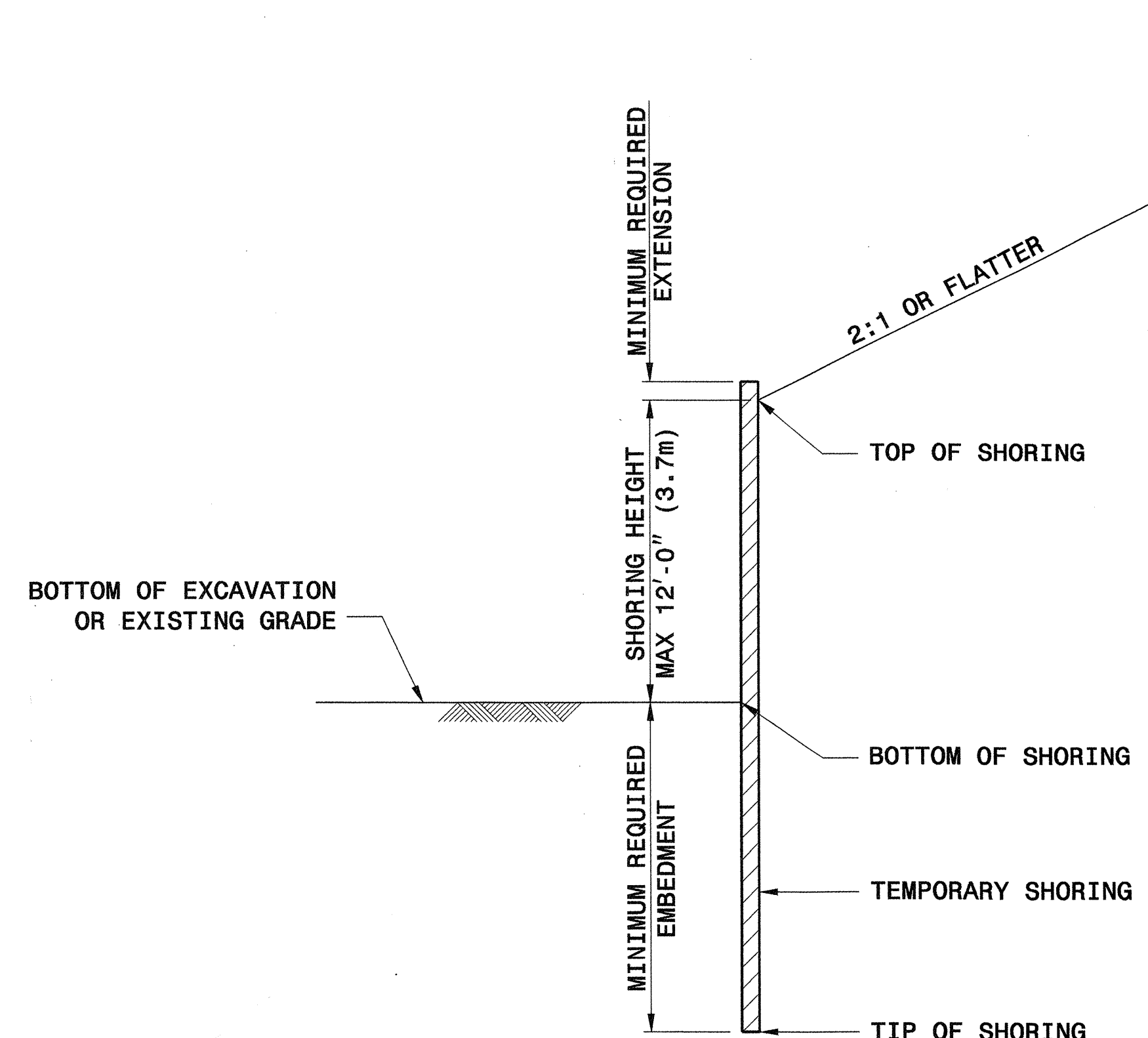


REVISIONS

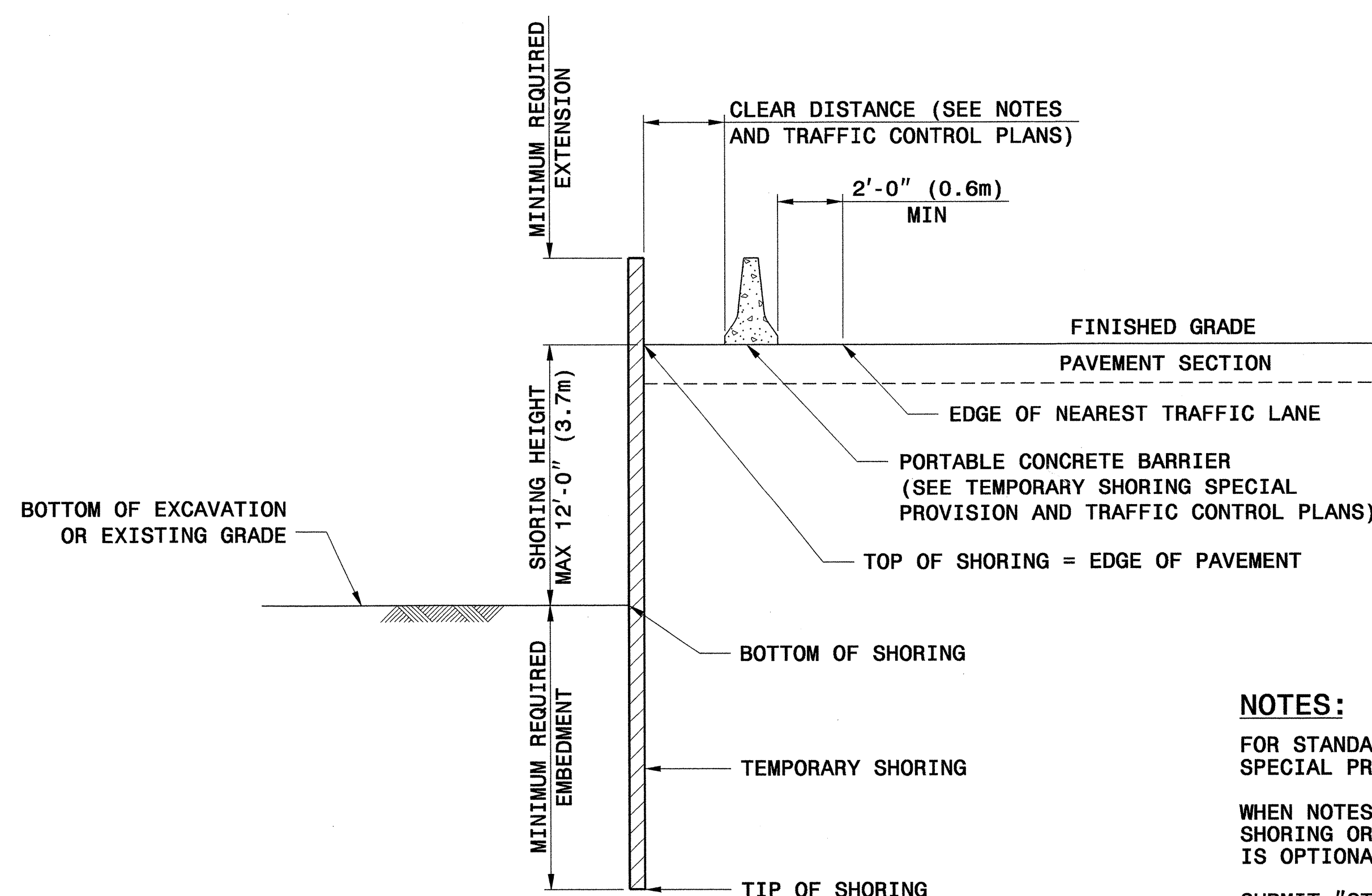
11/8/2007
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Scott A. Nadel 3/29/07
SIGNATURE DATE



SLOPE CASE



SURCHARGE CASE

NOTES:

FOR STANDARD TEMPORARY SHORING, SEE TEMPORARY SHORING SPECIAL PROVISION.

WHEN NOTES ON PLANS DO NOT PROHIBIT STANDARD TEMPORARY SHORING OR STANDARD SHORING, STANDARD TEMPORARY SHORING IS OPTIONAL.

SUBMIT "STANDARD TEMPORARY SHORING SELECTION FORM" AT LEAST 14 DAYS BEFORE BEGINNING SHORING CONSTRUCTION. UP TO THREE LOCATIONS MAY BE INCLUDED ON EACH SELECTION FORM.

STANDARD TEMPORARY SHORING IS BASED ON THE FOLLOWING CONDITIONS:

- 1) MAXIMUM SHORING HEIGHT IS 12'-0" (3.7m).
- 2) TRAFFIC SURCHARGE IS 240 PSF (11.5 KPA) MAXIMUM OR BACKSLOPE IS 2:1 (H:V) OR FLATTER.
- 3) BOTTOM OF EXCAVATION OR EXISTING GRADE IN FRONT OF SHORING IS 6:1 (H:V) SLOPE OR FLATTER.
- 4) H PILE SPACING IS 6'-0" (1.8m).
- 5) H PILE EMBEDMENT DEPTHS ARE FOR DRIVEN PILES.
- 6) TIMBER LAGGING IS A MINIMUM OF 3" (75mm) THICK.

STANDARD TEMPORARY SHORING IS BASED ON THE FOLLOWING IN-SITU ASSUMED SOIL PARAMETERS:
 TOTAL UNIT WEIGHT = 120 PCF (18.8 KN/M³)
 FRICTION ANGLE = 30 DEGREES
 COHESION = 0 PSF (0 KPA)
 GROUNDWATER IS ASSUMED TO BE BELOW BOTTOM OF SHORING.

DO NOT USE STANDARD TEMPORARY SHORING WHEN THE ASSUMED SOIL PARAMETERS ARE NOT APPLICABLE OR GROUNDWATER IS ABOVE THE BOTTOM OF SHORING.

DO NOT USE STANDARD TEMPORARY SHORING WHEN VERY LOOSE OR SOFT SOIL OR MUCK IS PRESENT WITHIN THE EMBEDMENT DEPTH.

VERIFY GROUNDWATER ELEVATION BEFORE BEGINNING SHORING CONSTRUCTION.

IF THE CLEAR DISTANCE AVAILABLE IS LESS THAN THE MINIMUM REQUIRED IN ACCORDANCE WITH THE TRAFFIC CONTROL PLANS, SET THE BARRIER AGAINST THE TRAFFIC SIDE OF THE SHORING AND USE THE "SURCHARGE CASE WITH TRAFFIC IMPACT".

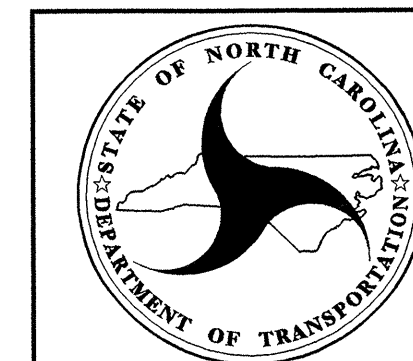
AT THE CONTRACTOR'S OPTION, H PILE EMBEDMENT DEPTHS FOR PILES SET IN DRILLED HOLES MAY BE REDUCED BY 25%. FOR PILE EXCAVATION, SEE TEMPORARY SHORING SPECIAL PROVISION.

CONTROL DRAINAGE DURING CONSTRUCTION IN THE VICINITY OF THE SHORING. COLLECT AND DIRECT RUNOFF AWAY FROM SHORING.

CONTACT THE ENGINEER IF MINIMUM REQUIRED EMBEDMENT IS NOT ACHIEVED.

GROUNDWATER CONDITION	SHORING HEIGHT FT (m)	SLOPE OR SURCHARGE CASE WITH NO TRAFFIC IMPACT						SURCHARGE CASE WITH TRAFFIC IMPACT															
		SHEET PILES		H PILES WITH TIMBER LAGGING				SHEET PILES		H PILES WITH TIMBER LAGGING													
		MINIMUM REQUIRED EMBEDMENT FT (m)	MINIMUM REQUIRED SECTION MODULUS IN ³ /FT (cm ³ /m)	MINIMUM REQUIRED EMBEDMENT FT (m)				MINIMUM REQUIRED EMBEDMENT FT (m)	MINIMUM REQUIRED SECTION MODULUS IN ³ /FT (cm ³ /m)	MINIMUM REQUIRED EMBEDMENT FT (m)													
				HP 10x42 (HP 250x62)	HP 12x53 (HP 310x79)	HP 14x73 (HP 360x108)			HP 10x42 (HP 250x62)	HP 12x53 (HP 310x79)	HP 14x73 (HP 360x108)												
GROUNDWATER ELEVATION BELOW TIP OF SHORING	< 6 (1.8)	7.5 (2.3)	3.0 (161)	8.0 (2.4)	8.0 (2.4)	8.0 (2.4)	11.0 (3.4)	10.0 (538)	9.5 (2.9)	9.5 (2.9)	9.5 (2.9)	11.0 (3.4)	10.0 (538)	9.5 (2.9)	9.5 (2.9)	9.5 (2.9)	11.0 (3.4)	10.0 (538)	9.5 (2.9)	9.5 (2.9)	9.5 (2.9)		
	7 (2.1)	8.5 (2.6)	4.5 (242)	9.5 (2.9)	9.5 (2.9)	9.5 (2.9)	12.0 (3.7)	12.0 (645)	10.5 (3.2)	10.5 (3.2)	10.5 (3.2)	12.0 (3.7)	12.0 (645)	10.5 (3.2)	10.5 (3.2)	10.5 (3.2)	12.0 (3.7)	12.0 (645)	10.5 (3.2)	10.5 (3.2)	10.5 (3.2)		
	8 (2.4)	10.0 (3.0)	6.5 (349)	10.5 (3.2)	10.5 (3.2)	10.5 (3.2)	12.5 (3.8)	14.0 (753)	11.5 (3.5)	11.5 (3.5)	11.5 (3.5)	12.5 (3.8)	14.0 (753)	11.5 (3.5)	11.5 (3.5)	11.5 (3.5)	12.5 (3.8)	14.0 (753)	11.5 (3.5)	11.5 (3.5)	11.5 (3.5)		
	9 (2.7)	11.0 (3.4)	9.5 (511)	--	12.0 (3.7)	12.0 (3.7)	13.5 (4.1)	16.5 (887)	--	12.5 (3.8)	12.5 (3.8)	13.5 (4.1)	16.5 (887)	--	12.5 (3.8)	12.5 (3.8)	13.5 (4.1)	16.5 (887)	--	12.5 (3.8)	12.5 (3.8)	12.5 (3.8)	
	10 (3.0)	12.5 (3.8)	13.0 (699)	--	--	13.5 (4.1)	14.0 (4.3)	19.5 (1048)	--	13.5 (4.1)	13.5 (4.1)	13.5 (4.1)	14.0 (4.3)	19.5 (1048)	--	13.5 (4.1)	13.5 (4.1)	14.0 (4.3)	19.5 (1048)	--	13.5 (4.1)	13.5 (4.1)	13.5 (4.1)
	11 (3.4)	13.5 (4.1)	17.0 (914)	--	--	14.5 (4.4)	15.0 (4.6)	22.5 (1210)	--	--	--	14.5 (4.4)	15.0 (4.6)	22.5 (1210)	--	--	--	15.0 (4.6)	22.5 (1210)	--	--	--	14.5 (4.4)
12 (3.7)	15.0 (4.6)	21.5 (1156)	--	--	16.0 (4.9)	16.0 (4.9)	25.5 (1371)	--	--	--	16.0 (4.9)	16.0 (4.9)	25.5 (1371)	--	--	--	16.0 (4.9)	25.5 (1371)	--	--	--	16.0 (4.9)	16.0 (4.9)
GROUNDWATER ELEVATION BETWEEN BOTTOM OF SHORING AND TIP OF SHORING	< 6 (1.8)	11.5 (3.5)	4.5 (242)	11.5 (3.5)	11.5 (3.5)	11.5 (3.5)	16.0 (4.9)	12.0 (645)	13.0 (4.0)	13.0 (4.0)	13.0 (4.0)	16.0 (4.9)	12.0 (645)	13.0 (4.0)	13.0 (4.0)	13.0 (4.0)	16.0 (4.9)	12.0 (645)	13.0 (4.0)	13.0 (4.0)	13.0 (4.0)		
	7 (2.1)	13.0 (4.0)	7.0 (376)	13.0 (4.0)	13.0 (4.0)	13.0 (4.0)	17.0 (5.2)	14.5 (780)	14.5 (4.4)	14.5 (4.4)	14.5 (4.4)	17.0 (5.2)	14.5 (780)	14.5 (4.4)	14.5 (4.4)	14.5 (4.4)	17.0 (5.2)	14.5 (780)	14.5 (4.4)	14.5 (4.4)	14.5 (4.4)		
	8 (2.4)	15.0 (4.6)	10.0 (538)	--	15.0 (4.6)	15.0 (4.6)	18.0 (5.5)	17.0 (914)	--	15.5 (4.7)	15.5 (4.7)	18.0 (5.5)	17.0 (914)	--	15.5 (4.7)	15.5 (4.7)	18.0 (5.5)	17.0 (914)	--	15.5 (4.7)	15.5 (4.7)	15.5 (4.7)	
	9 (2.7)	17.0 (5.2)	14.0 (753)	--	17.0 (5.2)	17.0 (5.2)	19.0 (5.8)	20.0 (1075)	--	17.0 (5.2)	17.0 (5.2)	19.0 (5.8)	20.0 (1075)	--	17.0 (5.2)	17.0 (5.2)	19.0 (5.8)	20.0 (1075)	--	17.0 (5.2)	17.0 (5.2)	17.0 (5.2)	
	10 (3.0)	18.5 (5.6)	19.5 (1048)	--	--	18.5 (5.6)	20.0 (6.1)	23.5 (1263)	--	--	--	20.0 (6.1)	23.5 (1263)	--	--	--	20.0 (6.1)	23.5 (1263)	--	--	--	20.0 (6.1)	20.0 (6.1)
	11 (3.4)	20.5 (6.3)	26.0 (1398)	--	--	--	21.0 (6.4)	28.0 (1505)	--	--	--	21.0 (6.4)	28.0 (1505)	--	--	--	21.0 (6.4)	28.0 (1505)	--	--	--	21.0 (6.4)	21.0 (6.4)
12 (3.7)	22.5 (6.9)	33.0 (1774)	--	--	--	22.0 (6.7)	33.0 (1774)	--	--	--	22.0 (6.7)	33.0 (1774)	--	--	--	22.0 (6.7)	33.0 (1774)	--	--	--	22.0 (6.7)	21.5 (6.6)	

NOTE: MINIMUM REQUIRED EXTENSION IS 6" (150mm) FOR "SLOPE OR SURCHARGE CASE WITH NO TRAFFIC IMPACT" AND 32" (800 mm) FOR "SURCHARGE CASE WITH TRAFFIC IMPACT".



GEOTECHNICAL ENGINEERING UNIT
 STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

STANDARD DRAWING NO. 1801.01

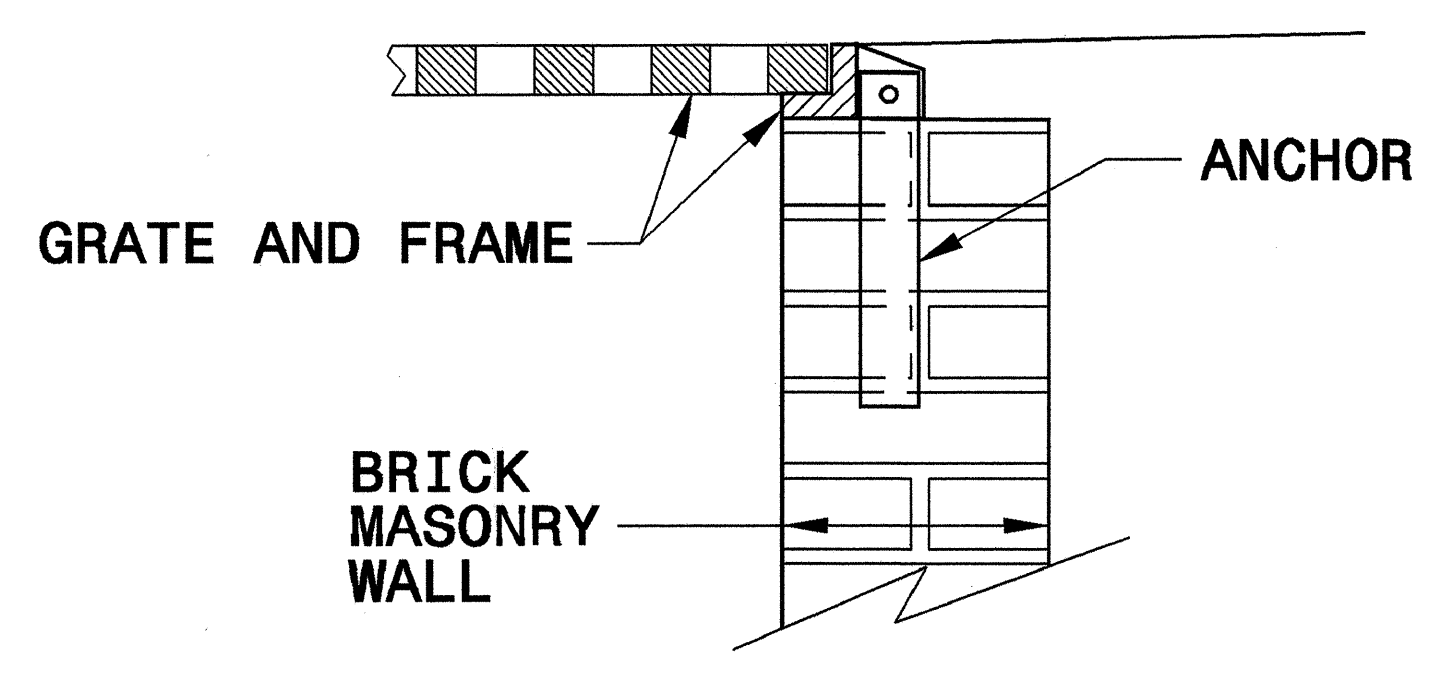
STANDARD TEMPORARY SHORING

DATE: 2-20-07

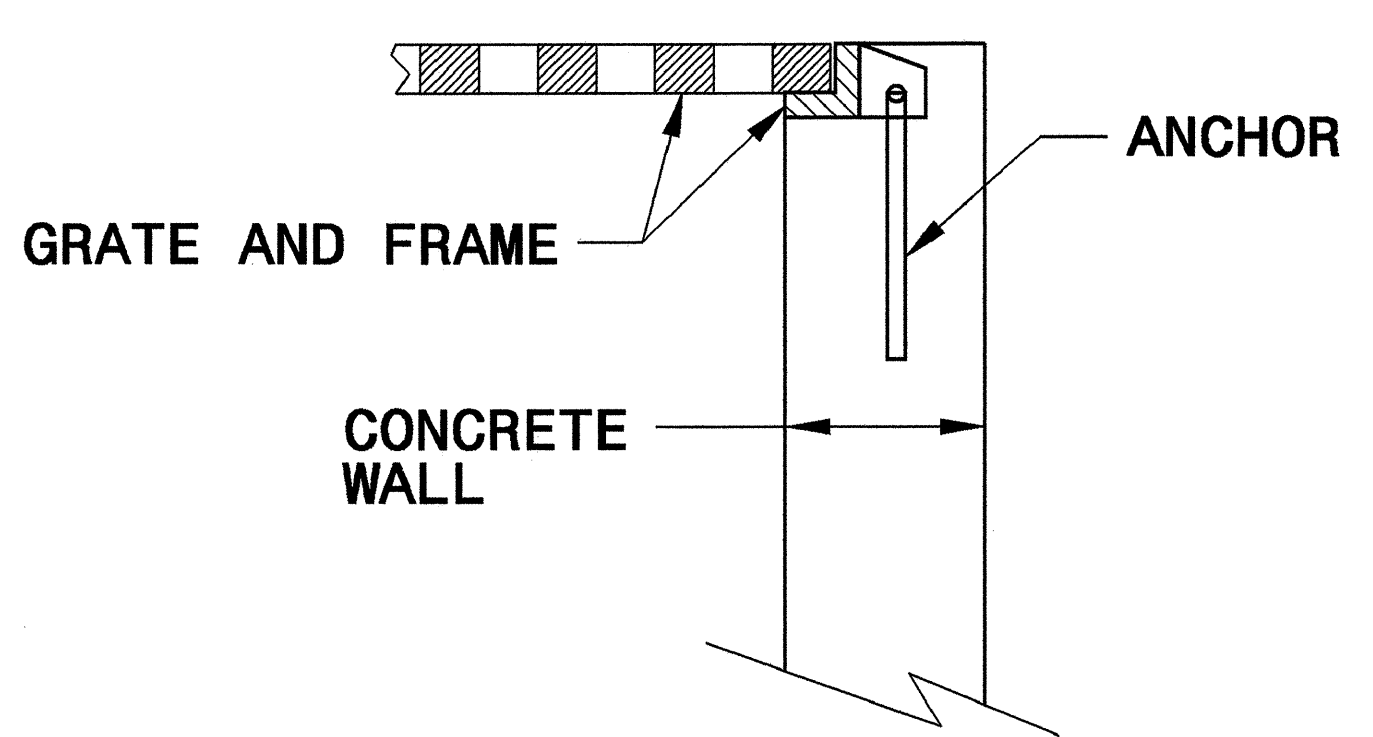
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

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

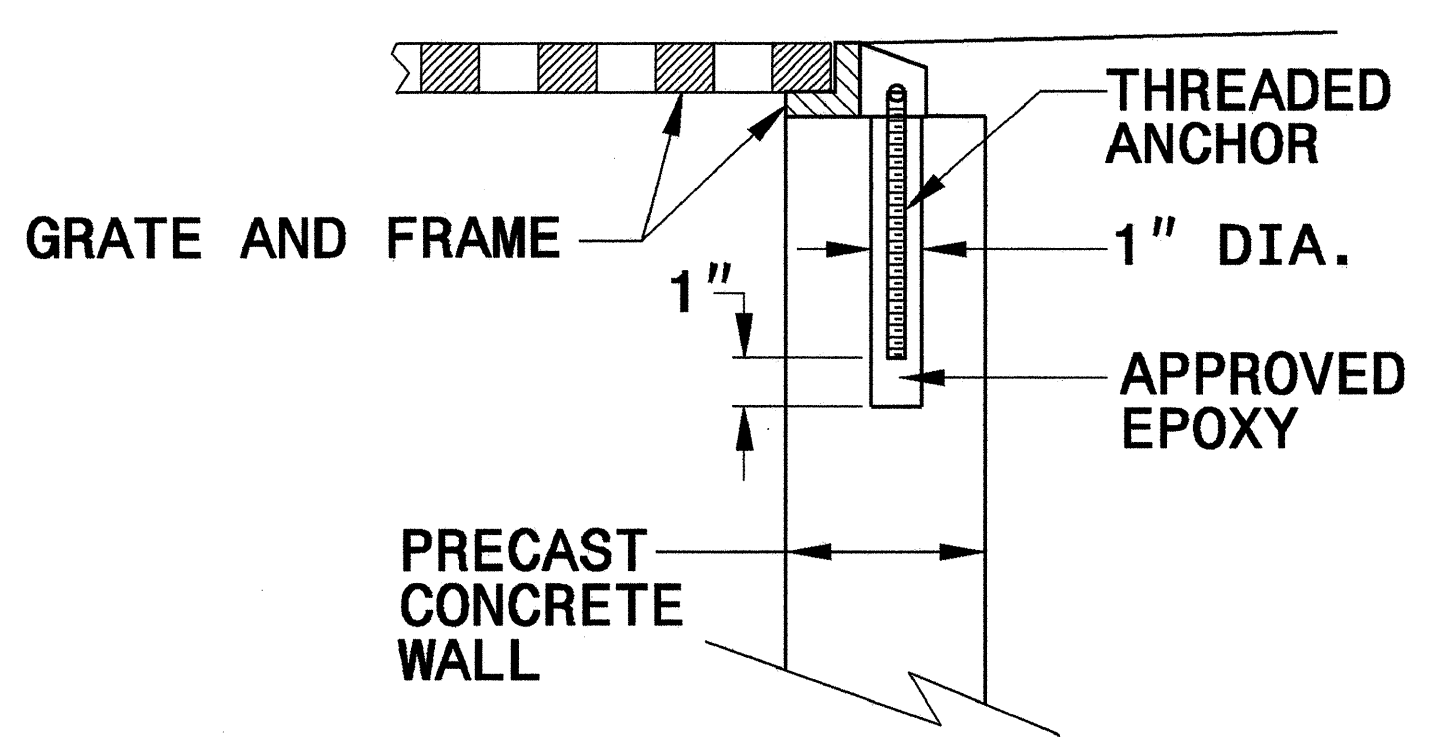
SHEET 1 OF 1
840D25



BRICK MASONRY CONSTRUCTION



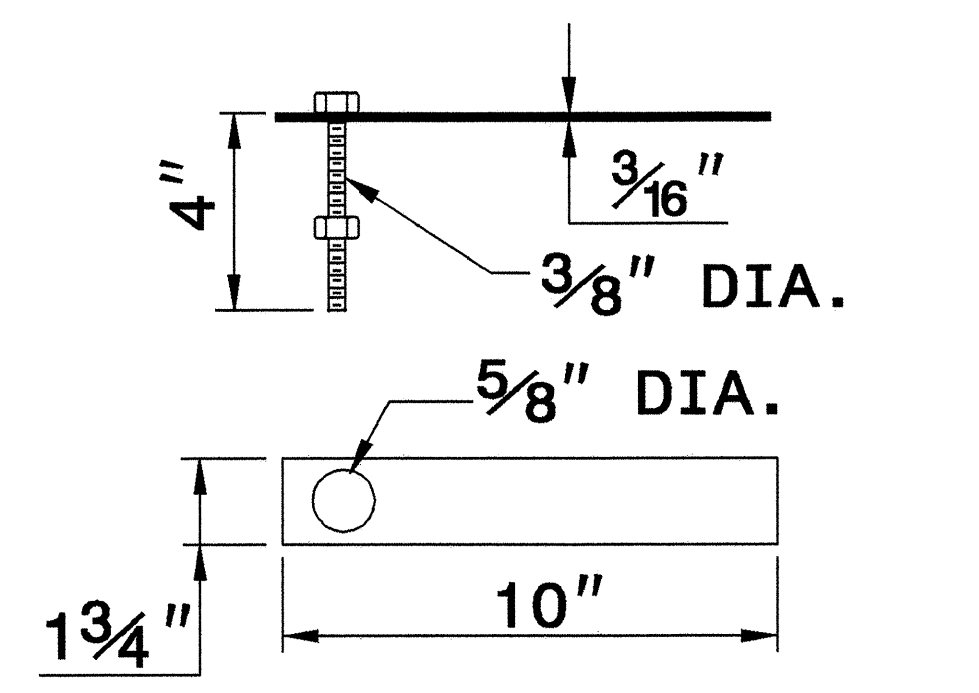
CONCRETE CONSTRUCTION



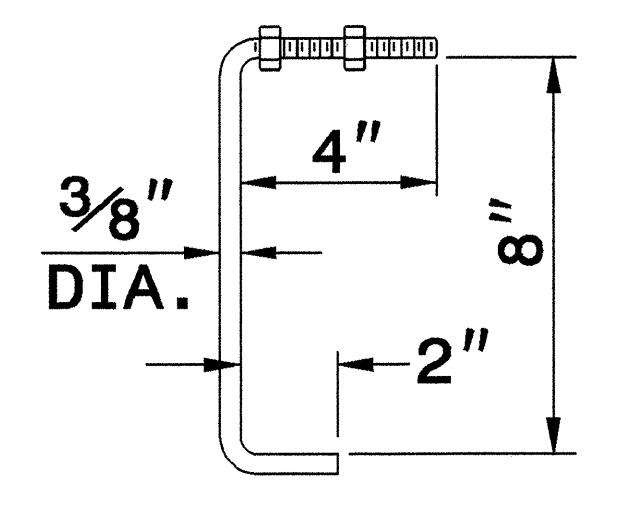
PRECAST CONCRETE CONSTRUCTION

DETAIL SHOWING ANCHORAGE OF FRAME FOR GRATED DROP INLET

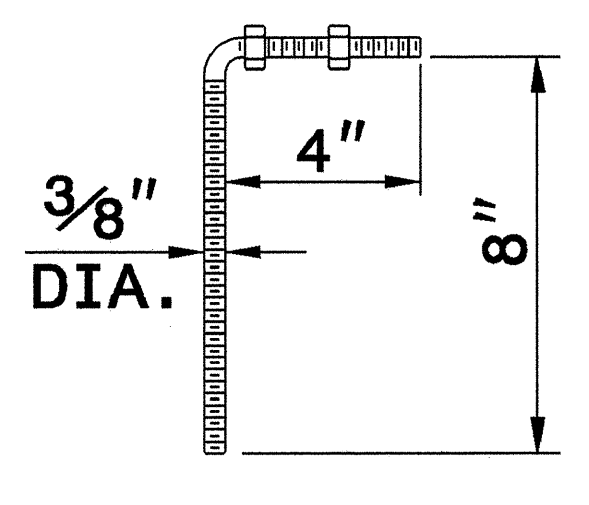
NOTE:
CONSTRUCT GRATED DROP INLET TO COINCIDE WITH NORMAL OR SUPERELEVATED SHOULDER OR PAVEMENT SLOPE.



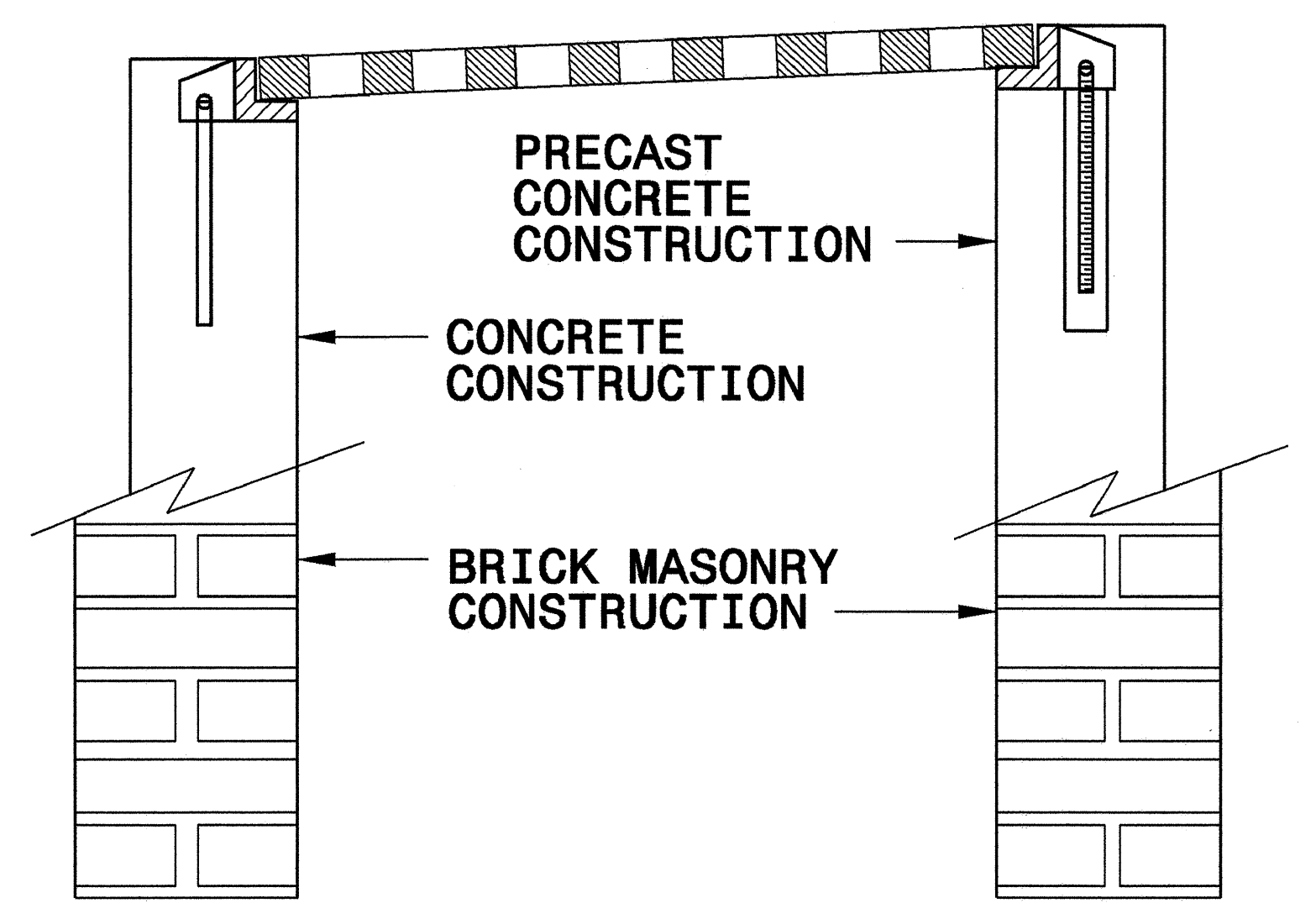
MASONRY ANCHOR
3/8" DIA. BOLT WITH PLATE



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 08:59 S:\Contracts\Contract\Standards\Special Details\ereward\stds\06\stds to Special Details\840D25 Anchorage for Frames\0840d25.dgn ereward A1 PS22293



**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 - C201768

Table with 15 columns: ItemNumber, Sec #, Quantity, Unit, Description, ItemNumber, Sec #, Quantity, Unit, Description, ItemNumber, Sec #, Quantity, Unit, Description. It lists various construction materials and services such as mobilization, bridge approaches, grading, culverts, guardrails, and seeding.

DIVISION OF HIGHWAYS
 STATE OF NORTH CAROLINA

SUMMARY OF EARTHWORK
 IN CUBIC YARDS

LOCATION	UNCLASSIFIED EXCAVATION	UNDERCUT	EMBT + %	BORROW	WASTE
SUMMARY NO. 1					
-L- 12+50 TO 16+02.00	262		1260	998	
TOTAL SUMMARY NO. 1	262		1260	998	
SUMMARY NO. 2					
-L- 17+77.00 TO 23+50	374		3700	3326	
-Y- 12+00 TO 16+04.90	709		905	196	
-DRIVE- 10+20 TO 11+45.10	0		701	701	
TOTAL SUMMARY NO. 2	1083		5306	4223	
SUB-TOTAL SUMMARY NOS. 1 & 2	1345		6566	5221	
EXTRA GRADING (CHANNEL EXC. SEE SHEET 2-C)	2245				2245
EST. 5% REPLACE TOPSOIL ON BORROW PITS				261	
GRAND TOTALS	3590		6566	5482	2245
SAY	3600			5500	

ESTIMATE DRAINAGE DITCH EXCAVATION = 60 CY
 ESTIMATE UNDERCUT EXCAVATION = 500 CY
 SELECT GRANULAR MATERIAL = 500 CY

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."

6/4/99

11/8/2007
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 C:\Associates\p

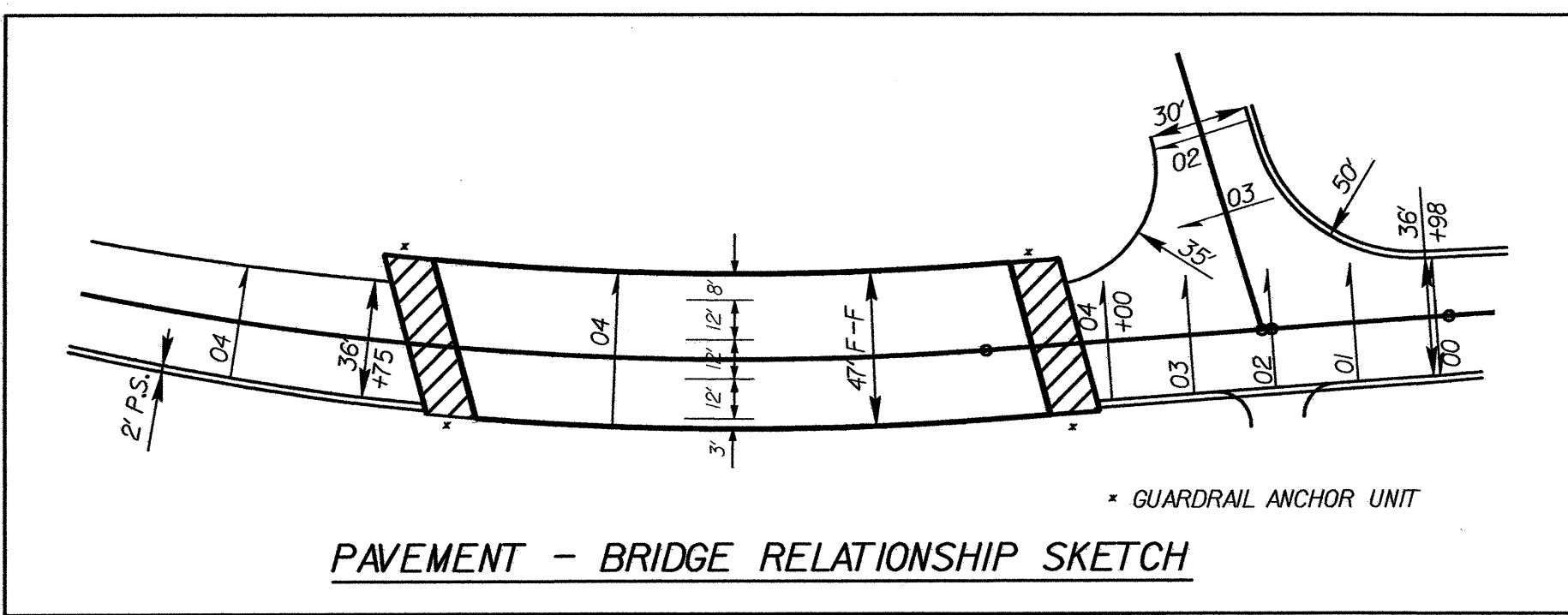
SUMMARY OF PAVEMENT REMOVAL

IN SQUARE YARDS

LOCATION	ASPHALT REMOVAL	ASPHALT BREAK-UP	CONCRETE REMOVAL	CONCRETE BREAK-UP
-L- 14+50 TO -L- 16+20	433			
-L- 17+00 TO -L- 21+00 and -Y- 13+75	1589			
TOTAL	2022			
SAY	2030			

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."

6/4/09
 11/7/2007
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 K& Associates, P.C.



OAKES, MARSHALL
 DB 3519 PG 0734
 PB 78 PG 53

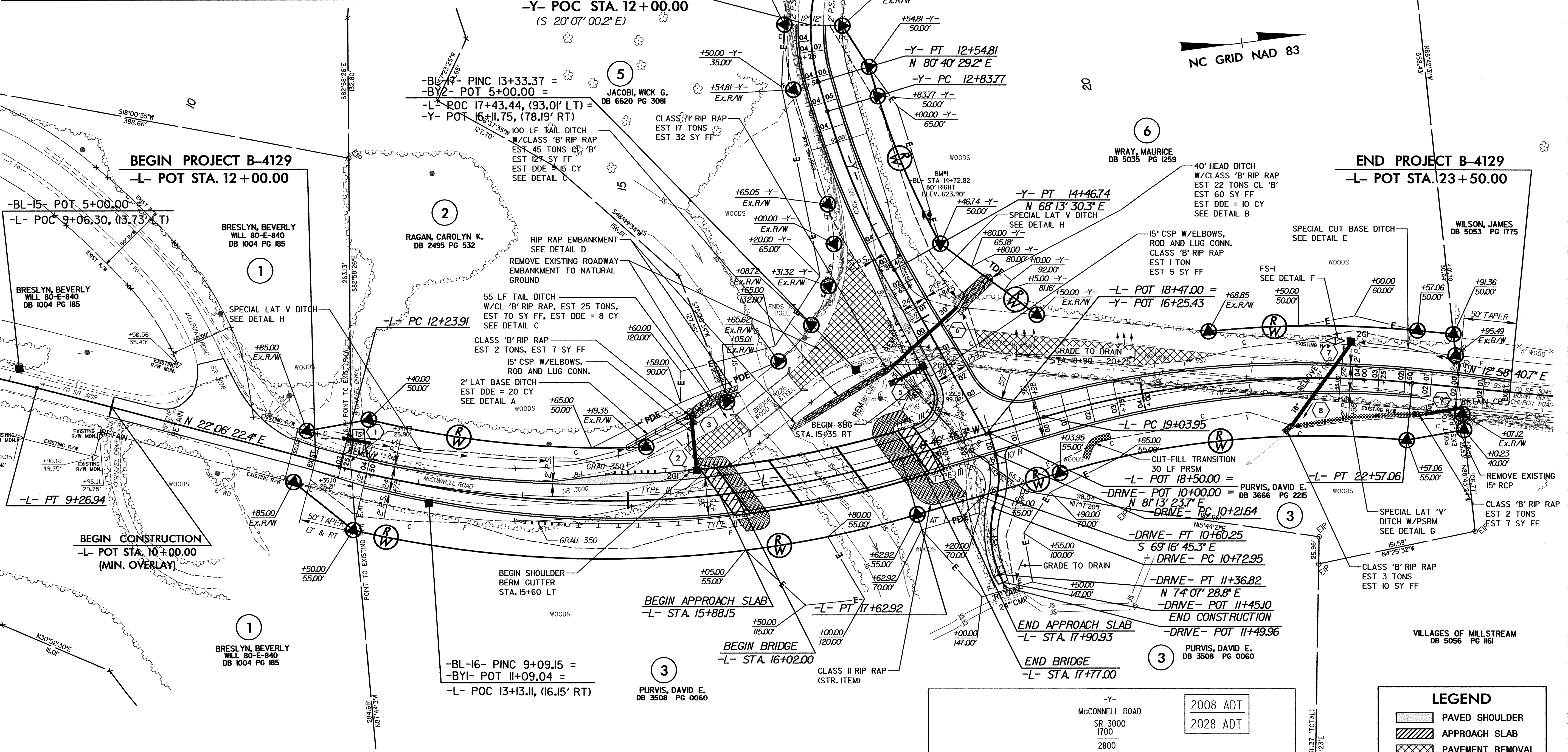
-BL-18- POT 17+67.78 =
 -Y- POC 11+05.06, (30.31' RT)

-Y-
 PI Sta 11+57.67
 $\Delta = 79^\circ 12' 30.6''$ (LT)
 $D = 32' 44' 25.6''$
 $L = 241.93'$
 $T = 144.79'$
 $R = 175.00'$

-Y-
 PI Sta 13+65.58
 $\Delta = 12^\circ 26' 58.8''$ (LT)
 $D = 7' 38' 22.0''$
 $L = 162.97'$
 $T = 81.81'$
 $R = 750.00'$
 $SE = 0.040$
 $DS = 45$ MPH

BEGIN CONSTRUCTION
 -Y- POC STA. 12+00.00
 (S 20' 07' 00.2" E)

NC GRID NAD 83



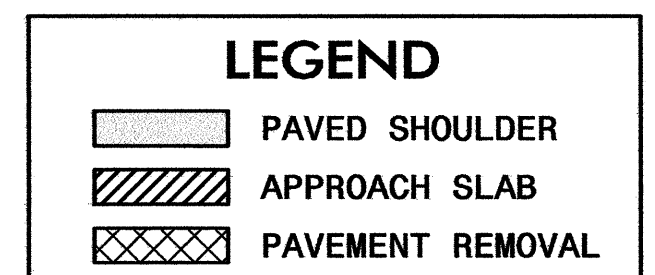
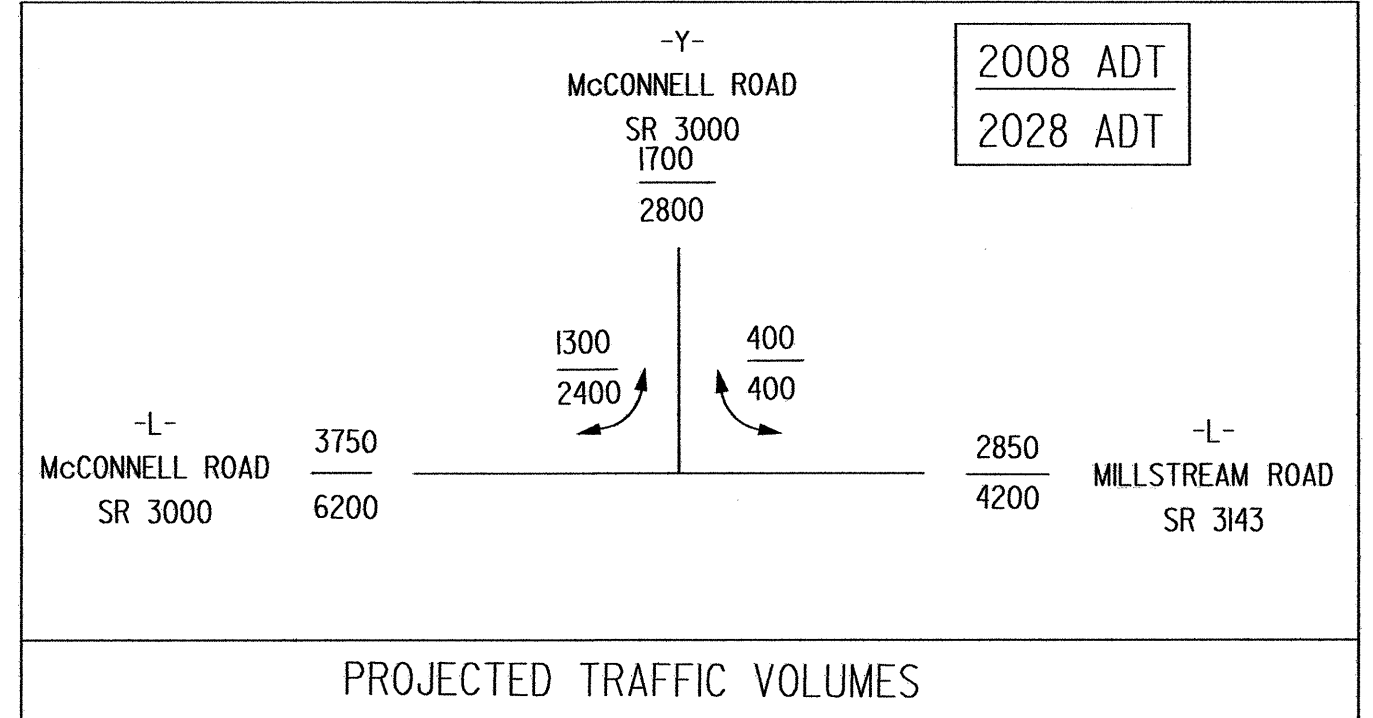
-L-
 PI Sta 15+00.13
 $\Delta = 30^\circ 52' 58.6''$ (LT)
 $D = 5' 43' 46.5''$
 $L = 539.01'$
 $T = 276.22'$
 $R = 1,000.00'$
 $SE = 0.040$
 $DS = 50$ MPH

-L-
 PI Sta 20+82.66
 $\Delta = 2^\circ 45' 17.0''$ (RT)
 $D = 6' 09' 39.0''$
 $L = 353.11'$
 $T = 178.71'$
 $R = 930.00'$
 $SE = 0.040$
 $DS = 50$ MPH

-DRIVE-
 PI Sta 10+41.38
 $\Delta = 29^\circ 29' 50.9''$ (RT)
 $D = 76' 23' 39.7''$
 $L = 38.61'$
 $T = 19.74'$
 $R = 75.00'$

-DRIVE-
 PI Sta 11+60.02
 $\Delta = 36^\circ 35' 45.9''$ (LT)
 $D = 57' 17' 44.8''$
 $L = 63.87'$
 $T = 33.07'$
 $R = 100.00'$

* DESIGN EXCEPTION REQUIRED FOR HORIZONTAL STOPPING SIGHT DISTANCE



FOR STRUCTURE PLANS, SEE SHEET NO. S-1 THRU S-35
 FOR GRADING DETAIL, SEE SHEET NO. 2-C
 FOR DITCH DETAILS, SEE SHEET NO. 2-C
 FOR -L-, -Y- & DRIVE PROFILES, SEE SHEET NO. 5

REVISIONS

1/9/2007
 C:\Users\pca\Documents\Projects\B4129_Prd\psh_04.dgn

5/28/99

B.M. *1 EL = 623.90'
RR SPIKE IN BASE OF 2' BIRCH TREE
80' LT OF -BL- STA 14+72.82
511' LT OF -Y- STA 14+14.35

PIPE HYDRAULIC DATA
-Y- STA 15+13

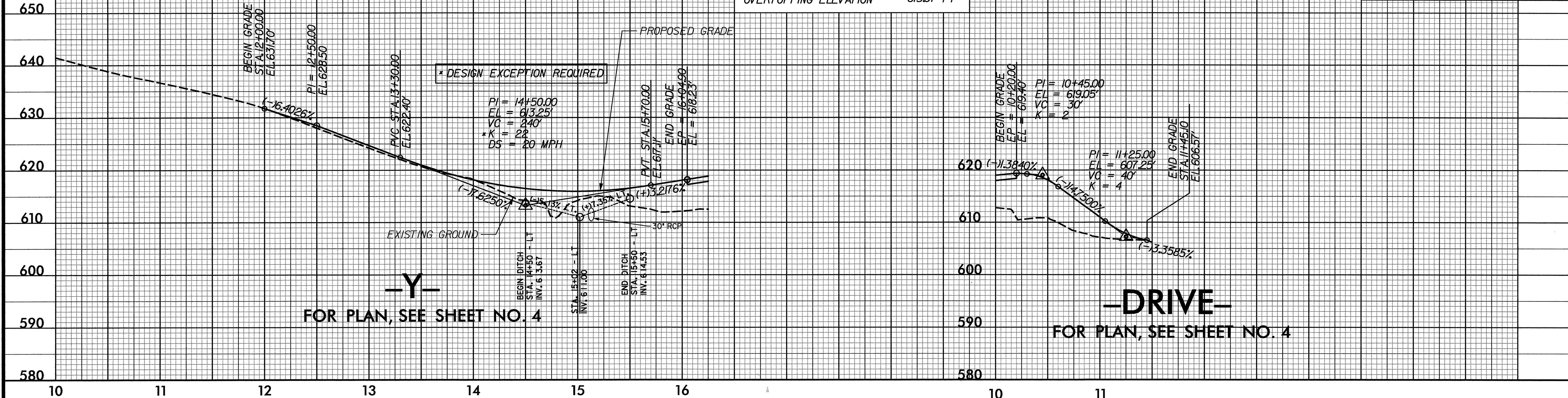
DRAINAGE AREA = 5.99 AC
DESIGN FREQUENCY = 25 YRS
DESIGN DISCHARGE = 19 CFS
DESIGN HW ELEVATION = 613.23 FT
100 YEAR DISCHARGE = 24 CFS
100 YEAR HW ELEVATION = 613.46 FT
OVERTOPPING FREQUENCY = 500+ YRS
OVERTOPPING DISCHARGE = 50 CFS
OVERTOPPING ELEVATION = 615.97 FT

KO & ASSOCIATES, P.C.
Consulting Engineers
521 KINGDOM WAY, SUITE 100, RALEIGH, N.C. 27607
(919) 851-6666

PROJECT REFERENCE NO. B-4129 SHEET NO. 5

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL ENGINEER
SEAN WILSON
16689

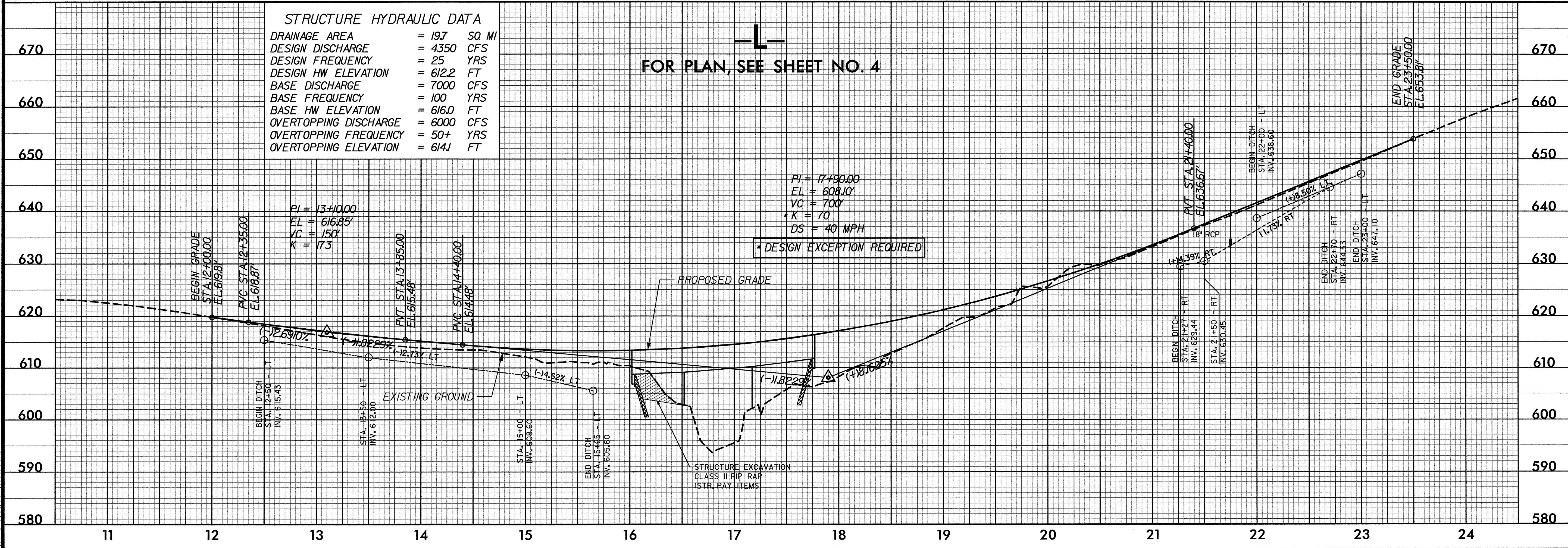
HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL ENGINEER
SEAL 021162
W. HERBERT TURNER JR.
11-8-07



STRUCTURE HYDRAULIC DATA

DRAINAGE AREA = 19.7 SQ MI
DESIGN DISCHARGE = 4350 CFS
DESIGN FREQUENCY = 25 YRS
DESIGN HW ELEVATION = 612.2 FT
BASE DISCHARGE = 7000 CFS
BASE FREQUENCY = 100 YRS
BASE HW ELEVATION = 616.0 FT
OVERTOPPING DISCHARGE = 6000 CFS
OVERTOPPING FREQUENCY = 50+ YRS
OVERTOPPING ELEVATION = 614J FT

-L-
FOR PLAN, SEE SHEET NO. 4



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