

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

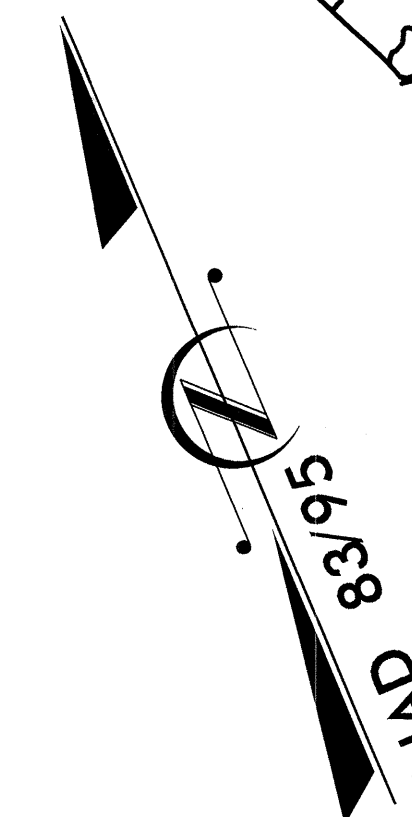
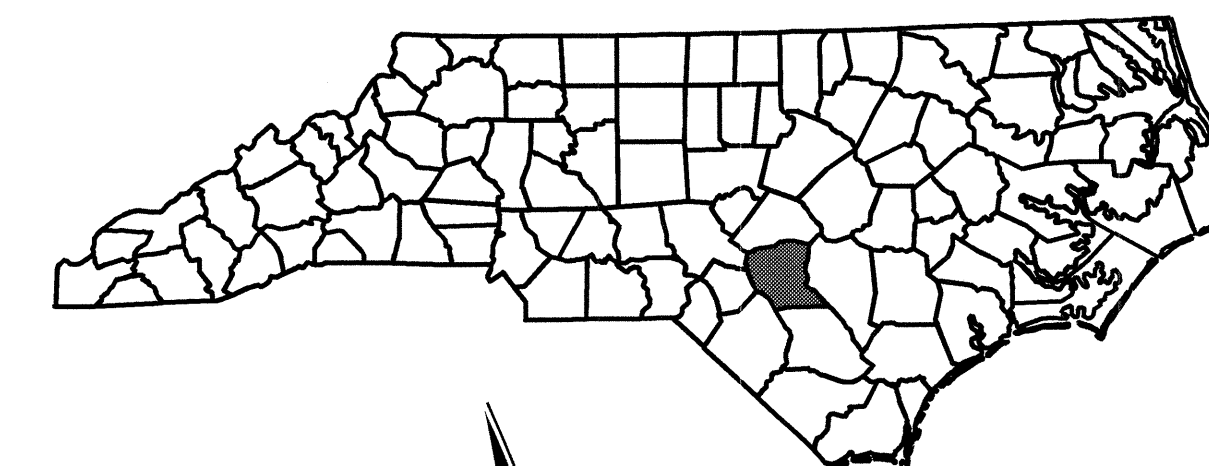
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4090	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
33448.1.1	BRSTP-0024(17)	P.E.	
33448.3.1	BRSTP-0024(17)	RAW, UTIL.	
33448.2.2	BRSTP-0024(50)	CONST.	

CUMBERLAND COUNTY

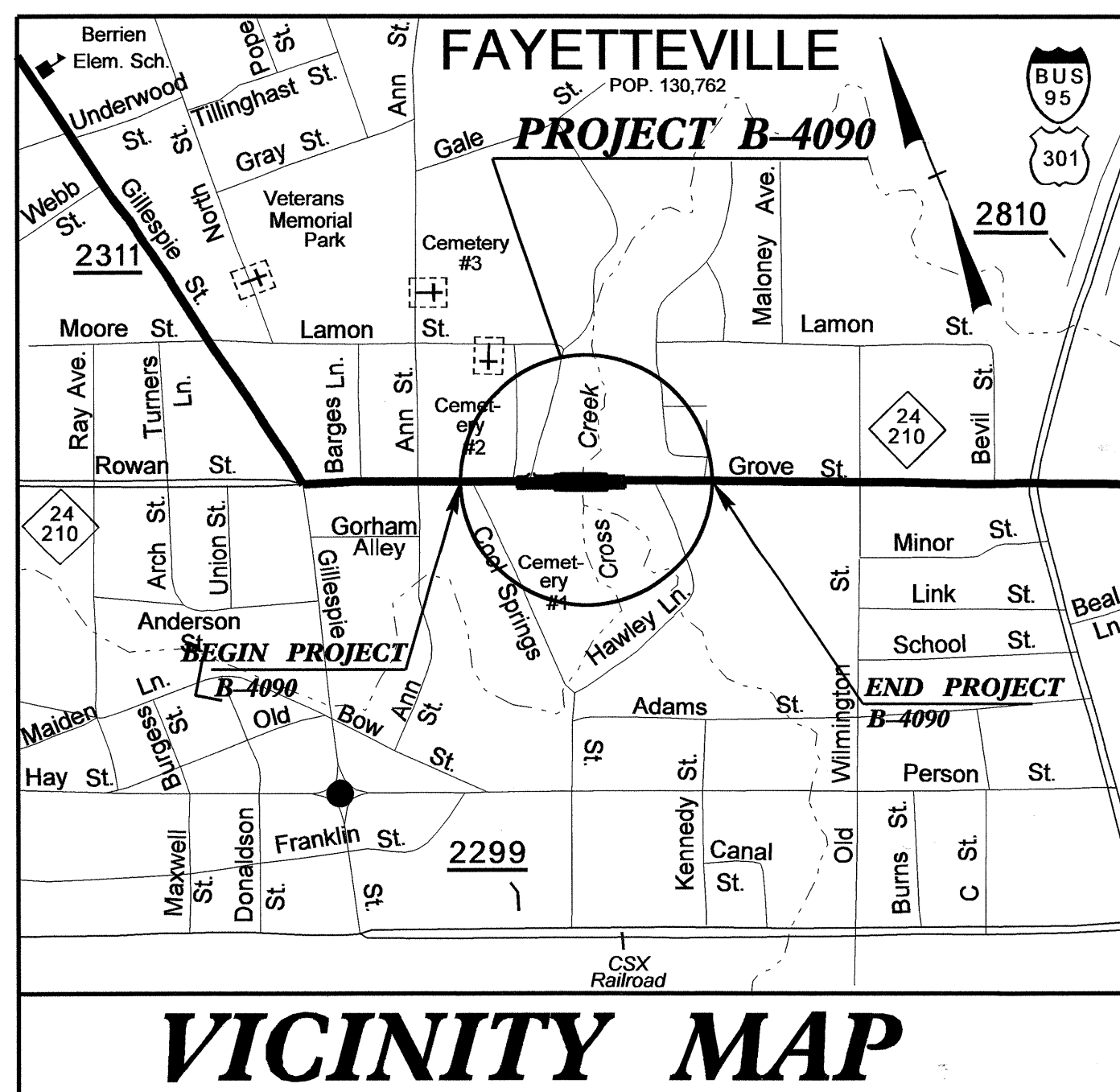
LOCATION: BRIDGE 125 OVER CROSS CREEK ON NC 24
IN FAYETTEVILLE

TYPE OF WORK: GRADING, DRAINAGE, STRUCTURE, PAVING
AND RETAINING WALLS

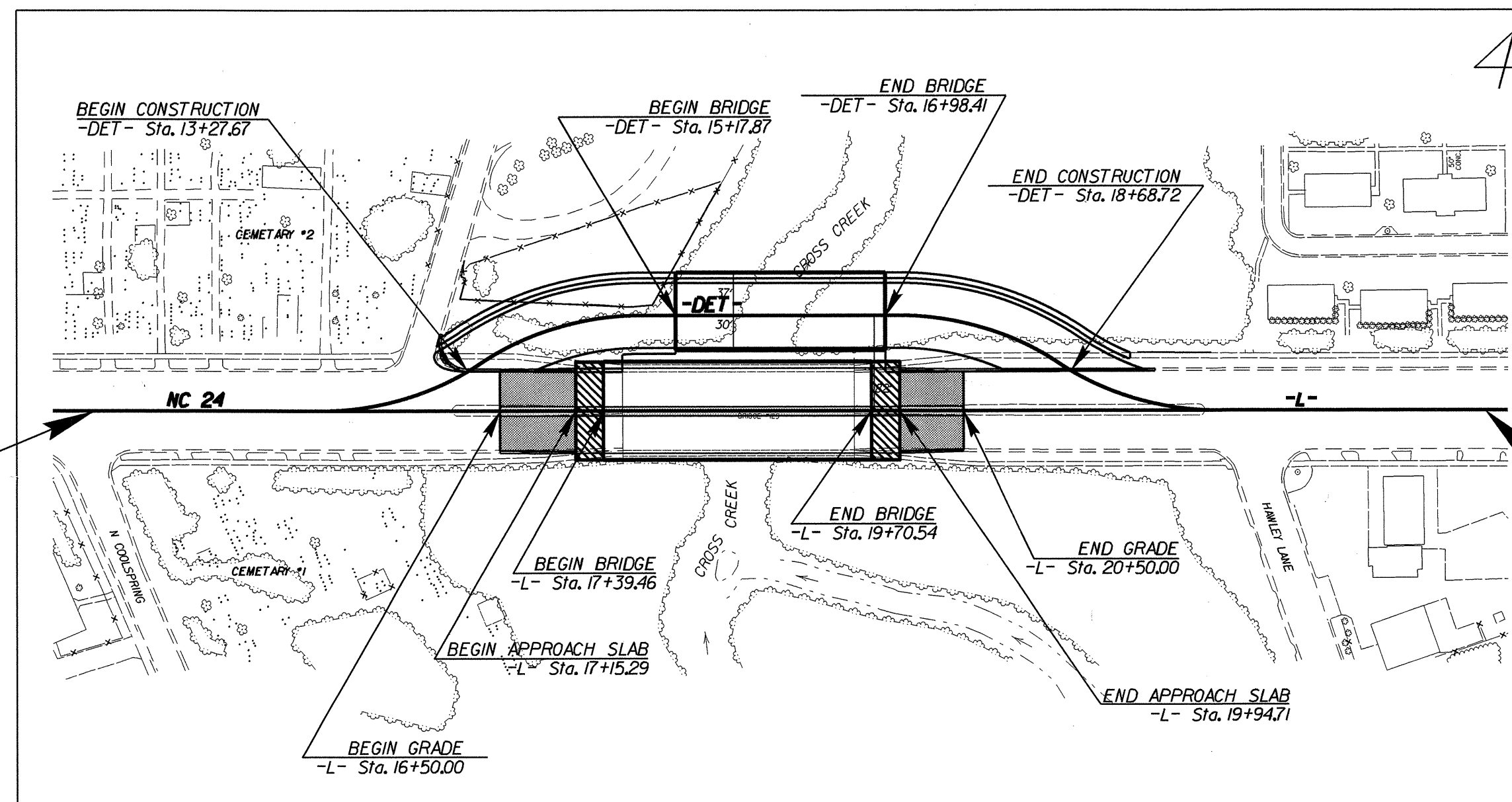


TIP PROJECT: B-4090

CONTRACT: C202724



VICINITY MAP

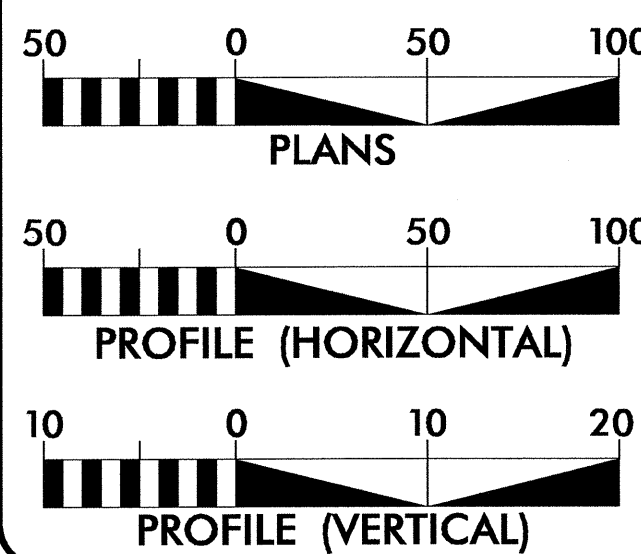


BEGIN TIP PROJECT B-4090
-L- STA. 13+00.00

END TIP PROJECT B-4090
-L- STA. 25+00.00

THERE IS NO CONTROL OF ACCESS ON THIS PROJECT.
A DESIGN EXCEPTION IS REQUIRED FOR THE PROPOSED LANE WIDTH.

GRAPHIC SCALES



DESIGN DATA

ADT 2011 = 41,315
ADT 2030 = 63,700
DHV = 10 %
D = 60 %
T = 5 % *
V = 40 MPH
* TTST 2 + DUAL 3
CLASS = PRINCIPAL ARTERIAL

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-4090 = 0.183 MILE
LENGTH STRUCTURE TIP PROJECT B-4090 = 0.044 MILE
TOTAL LENGTH TIP PROJECT B-4090 = 0.227 MILE

Prepared In the Office of:
DIVISION OF HIGHWAYS
1000 Birch Ridge Dr., Raleigh NC, 27610

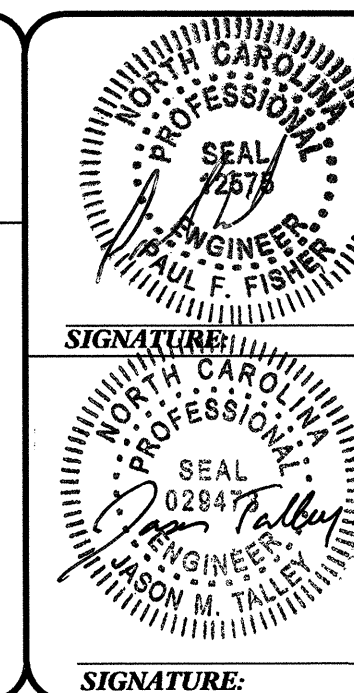
2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
OCTOBER 18, 2010

LETTING DATE:
NOVEMBER 15, 2011

TONY HOUSER, P.E.
PROJECT ENGINEER

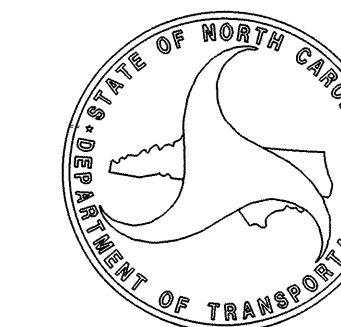
JASON TALLEY, P.E.
PROJECT DESIGN ENGINEER



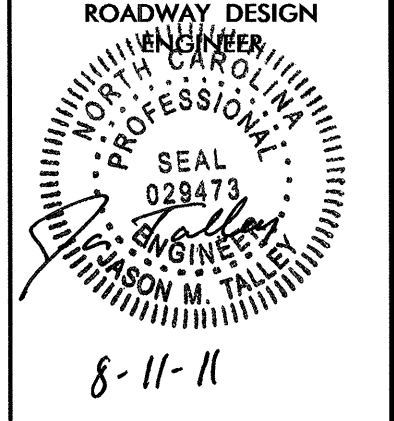
HYDRAULICS
ENGINEER

ROADWAY DESIGN
ENGINEER

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA



Ant McMillan
STATE HIGHWAY DESIGN ENGINEER



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	PAVEMENT SCHEDULE, TYPICAL SECTIONS, AND WEDGING DETAILS
2-A	TYPICAL SECTIONS
2-B	DETOUR PLAN SHEET
2-C	TEMPORARY SHORING DETAIL
2-D	ANCHORAGE FOR FRAMES DETAIL
2-E THRU 2-F	METHOD OF PIPE INSTALLATION
2-G THRU 2-H	CURB RAMP DETAIL
2-I	CHAIN LINK FENCE DETAIL
3	SUMMARY OF QUANTITIES
3A	SUMMARY OF DRAINAGE QUANTITIES SUMMARY OF GUARDRAIL, EARTHWORK SUMMARY, AND ASPHALT PAVEMENT REMOVAL SUMMARY
4	PLAN SHEET
5	PROFILE SHEET
TMP-1 THRU TMP-12	TRANSPORTATION MANAGEMENT PLAN
PM-1 THRU PM-2	PAVEMENT MARKING PLANS
EC-1 THRU EC-5	EROSION CONTROL PLANS
RF-1	REFORESTATION PLANS
SIGN-1 THRU SIGN-3	SIGNING PLANS
UD-1 THRU UD-2	UTILITIES BY OTHERS PLANS
X-0	CROSS-SECTION SUMMARY SHEET
X-1 THRU X-12	CROSS-SECTIONS
S-1 THRU S-41	STRUCTURE PLANS
W-1 THRU W-2	RETAINING WALL PLANS

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

GRADING AND SURFACING OR RESURFACING AND WIDENING:
THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. WHERE NO GRADE LINES ARE SHOWN, THE PROFILES SHOWN DENOTE THE TOP ELEVATION OF THE EXISTING PAVEMENT ALONG THE CENTER LINE OF SURVEY ON WHICH THE PROPOSED RESURFACING WILL BE PLACED. GRADE LINES MAY BE ADJUSTED BY THE ENGINEER IN ORDER TO SECURE A PROPER TIE-IN.

CLEARING:
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II.

SAFETY CLEARING:
THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE AREAS IN THE PLANS DESIGNATED SAFETY CLEARING. THE LIMITS ARE AS SHOWN AND THE CLEARING AND GRUBBING IS CONSIDERED A PART OF THE LUMP SUM ITEM FOR "CLEARING AND GRUBBING".

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.

DRIVEWAYS:
STREET RETURNS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 848.04 USING THE RADIUS NOTED ON PLANS.

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".

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 PWC (POWER) - ELECTRIC POWER
CENTURYLINK - TELEPHONE
TIME WARNER CABLE - CATV
PIEDMONT NATURAL GAS - GAS
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 OTHERS.

CURB RAMPS:
WHEELCHAIR RAMPS ARE SHOWN ON THE PLANS AT APPROXIMATE LOCATIONS. THE CONSTRUCTION OF ALL WHEELCHAIR RAMPS SHALL BE IN ACCORDANCE WITH DETAILS IN PLANS.

2006 ROADWAY ENGLISH STANDARD DRAWINGS

The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch - N. C. Department of Transportation - Raleigh, N. C., Dated July 16, 2006 are applicable to this project and by reference hereby are considered a part of these plans:

STD. NO.	TITLE
DIVISION 2 - EARTHWORK	
200.02	Method of Clearing - Method II
225.02	Guide for Grading Subgrade - Secondary and Local
225.04	Method of Obtaining Super-elevation - Two Lane Pavement
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	
840.25	Anchorages for Frames - Brick or Concrete (Req. January 2007 Let Use Detail in Lieu of Standard)
840.72	Pipe Collar
846.01	Concrete Curb, Gutter and Curb & Gutter
848.01	Concrete Sidewalk
848.04	Street Turnout
852.01	Concrete Islands
862.01	Guardrail Placement
862.02	Guardrail Installation
862.03	Structure Anchor Units
876.02	Guide for Rip Rap at Pipe Outlets

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

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

Note: Not to Scale

*S.U.E. = Subsurface Utility Engineering

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
Known Soil Contamination: Area or Site	☠ ☠
Potential Soil Contamination: Area or Site	☠ ?

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	CSX TRANSPORTATION ○ MILEPOST 35
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	○ CA
Proposed Control of Access	○ CA
Existing Easement Line	--- E
Proposed Temporary Construction Easement	--- E
Proposed Temporary Drainage Easement	--- TDE
Proposed Permanent Drainage Easement	--- PDE
Proposed Permanent Drainage / Utility Easement	--- DUE
Proposed Permanent Utility Easement	--- PUE
Proposed Temporary Utility Easement	--- TUE
Proposed Aerial Utility Easement	--- AUE
Proposed Permanent Easement with Iron Pin and Cap Marker	◆

ROADS AND RELATED FEATURES:

Existing Edge of Pavement	-----
Existing Curb	-----
Proposed Slope Stakes Cut	--- C
Proposed Slope Stakes Fill	--- F
Proposed Curb Ramp	○ CR
Curb Cut Future Ramp	○ CCFR
Existing Metal Guardrail	-----
Proposed Guardrail	-----
Existing Cable Guiderail	-----
Proposed Cable Guiderail	-----
Equality Symbol	⊕
Pavement Removal	▭

VEGETATION:

Single Tree	○
Single Shrub	○
Hedge	-----
Woods Line	-----

Orchard	-----
Vineyard	-----

EXISTING STRUCTURES:

MAJOR:	
Bridge, Tunnel or Box Culvert	CONC
Bridge Wing Wall, Head Wall and End Wall	CONC WW
MINOR:	
Head and End Wall	CONC HW
Pipe Culvert	-----
Footbridge	-----
Drainage Box: Catch Basin, DI or JB	□ CB
Paved Ditch Gutter	-----
Storm Sewer Manhole	○ S
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	PH
H-Frame Pole	●
Recorded U/G Power Line	--- P
Designated U/G Power Line (S.U.E.*)	--- P

TELEPHONE:

Existing Telephone Pole	●
Proposed Telephone Pole	○
Telephone Manhole	⊕
Telephone Booth	⊕
Telephone Pedestal	⊕
Telephone Cell Tower	⊕
U/G Telephone Cable Hand Hole	PH
Recorded U/G Telephone Cable	--- T
Designated U/G Telephone Cable (S.U.E.*)	--- T
Recorded U/G Telephone Conduit	--- TC
Designated U/G Telephone Conduit (S.U.E.*)	--- TC
Recorded U/G Fiber Optics Cable	--- T FO
Designated U/G Fiber Optics Cable (S.U.E.*)	--- T FO

WATER:

Water Manhole	⊕
Water Meter	○
Water Valve	⊗
Water Hydrant	⊕
Recorded U/G Water Line	--- W
Designated U/G Water Line (S.U.E.*)	--- W
Above Ground Water Line	--- A/G Water

TV:

TV Satellite Dish	⊕
TV Pedestal	⊕
TV Tower	⊕
U/G TV Cable Hand Hole	PH
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	--- ?UL
U/G Tank; Water, Gas, Oil	▭
Underground Storage Tank, Approx. Loc.	⊕
A/G Tank; Water, Gas, Oil	▭
Geoenvironmental Boring	⊕
U/G Test Hole (S.U.E.*)	⊕
Abandoned According to Utility Records	AATUR
End of Information	E.O.I.

6/2/99

SURVEY CONTROL SHEET B-4090



BL POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
1	B4090 -BL1-	475549.8000	2037539.7520	88.72	OUTSIDE PROJECT LIMITS	
2	B4090 -BL2-	475371.9719	2037948.8271	88.23	14+38.51	43.87 LT
3	B4090 -BL3-	475165.8770	2038431.5511	90.44	19+63.39	40.97 LT
4	B4090 -BL4-	474955.4110	2038959.2299	88.04	25+31.39	51.46 LT
5	B4090 -BL5-	474812.7591	2039292.9919	88.52	28+94.35	49.31 LT
6	B4090 -BL5-	474622.9321	2039731.4450	87.86	OUTSIDE PROJECT LIMITS	

BY POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
20	B4090 -BL2-	475371.9719	2037948.8271	88.23	14+38.51	43.87 LT
7	B4090 -BY-7-	475201.1661	2037797.8420	86.95	13+65.53	172.10 RT

BY1 POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
40	B4090 -BL4-	474955.4110	2038959.2299	88.04	25+31.39	51.46 LT
8	B4090 -BY1-8-	474860.7219	2038676.6479	87.03	23+07.59	145.34 RT

BY2 POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
9	B4090 -BY2-9-	475038.7129	2039032.3751	86.89	25+66.54	156.60 LT
140	B4090 -BL4-	474955.4110	2038959.2299	88.04	25+31.39	51.46 LT

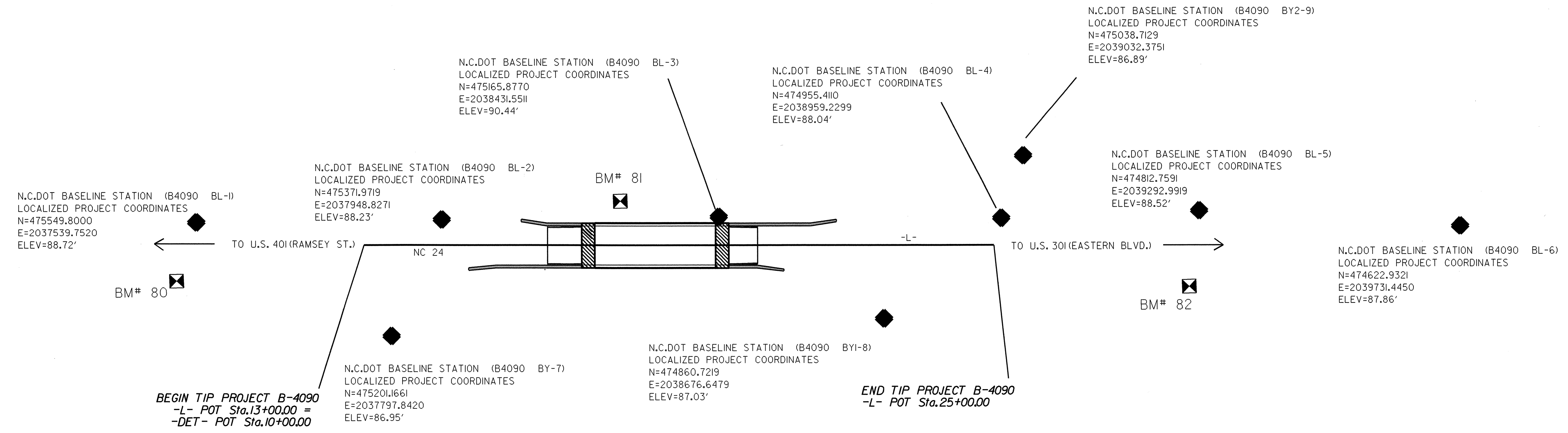
80 ELEVATION = 88.33
 N 475459 E 2037446
 L STATION 10+00
 S 62° 40' 57.1" W DIST 91.86
 ORANGE SPOT ON CONCRETE CORNER SIGNAL

81 ELEVATION = 90.62
 N 475268 E 2038301
 L STATION 18+03 85 LEFT
 RR SPIKE IN A 20 INCH HARDWOOD

82 ELEVATION = 90.68
 N 474730 E 2039257
 L STATION 28+94 41 RIGHT
 ORANGE NUT ON HIGHWAY

TYPE	STATION	NORTH	EAST
POT	10+00.00	475501.4763	2037527.5803
POT	33+63.82	474585.3532	2039706.6585

ALIGN	STATION	OFFSET	NORTH	EAST
L	21+75.00	-50.00	475092.1848	2038630.1252
L	21+75.00	-62.00	475103.2479	2038634.7763
L	16+00.00	-62.00	475326.0948	2038104.7157
L	16+00.00	-50.00	475315.8316	2038100.0646



DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "VANDER RM3"
 WITH NAD 1983/95 STATE PLANE GRID COORDINATES OF
 NORTHING: 464925.9500(ft) EASTING: 2069182.4200(ft)
 THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: .999879130
 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "VANDER RM3" TO -L- STA 13+00.00 IS
 N 71° 33' 55.19" W 33,075.56'
 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/DOHPRECONSTRUCT/HIGHWAYLOCATION/PROJECT/](http://www.ncdot.org/DOHPRECONSTRUCT/HIGHWAYLOCATION/PROJECT/)
 THE FILES TO BE FOUND ARE AS FOLLOWS:
 TIP###.LS_CONTROL_DATE.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
 SEE GPS CALIBRATION SHEET FOR HORIZONTAL AND VERTICAL COORDINATE VALUES.

NOTE: DRAWING NOT TO SCALE

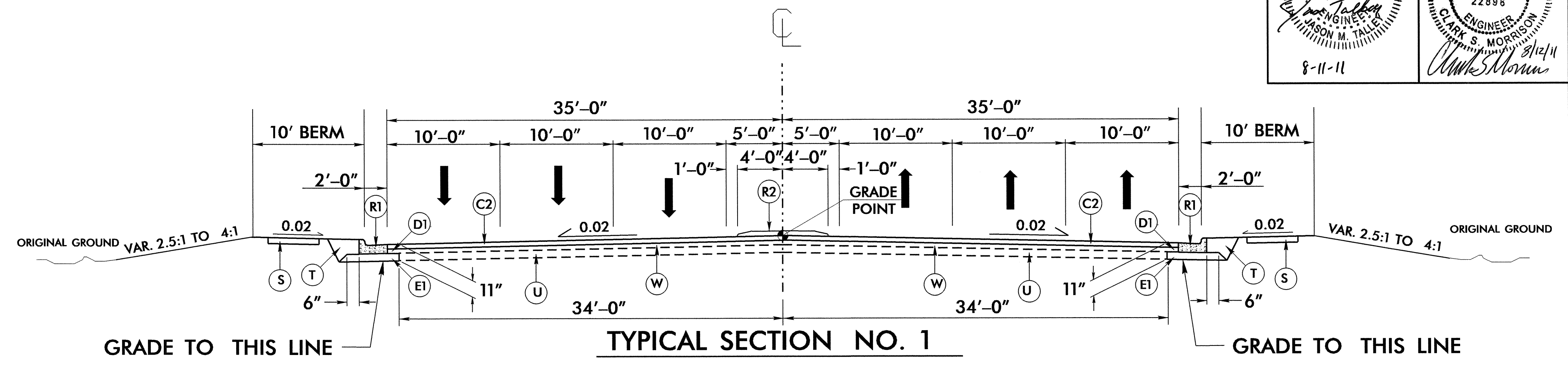
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6/2/99

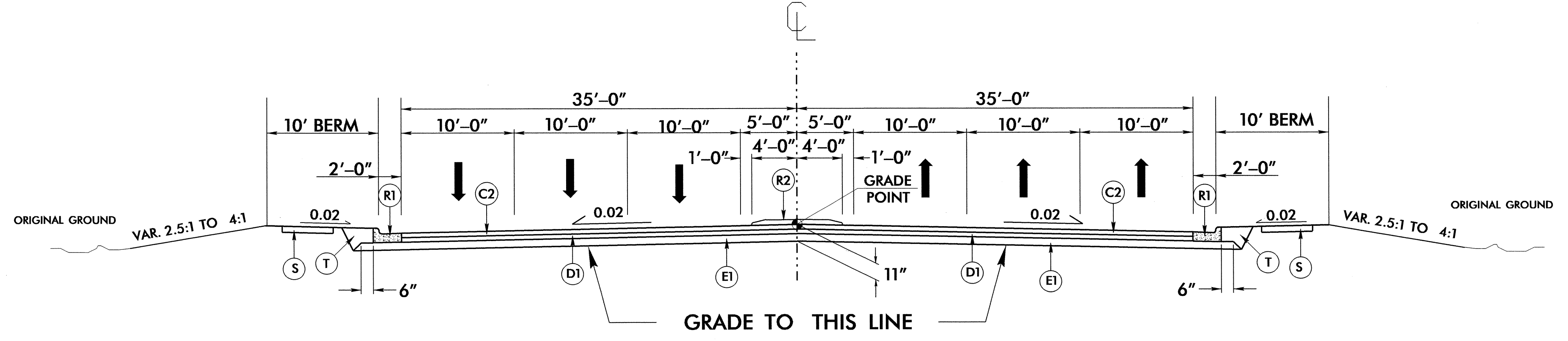
PROJECT REFERENCE NO. B-4090	SHEET NO. 2
ROADWAY DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 029473 JASON M. TALLEY 8-11-11	PAVEMENT DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 22898 CLARK S. MORRISON 3/12/11

PAVEMENT SCHEDULE	
FINAL PAVEMENT DESIGN	
C1	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.
C2	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.
C3	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.
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
D2	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 2 1/2" IN DEPTH OR GREATER THAN 4" IN DEPTH.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E2	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 5 1/2" IN DEPTH.
J1	PROP. 10" AGGREGATE BASE COURSE
R1	2'- 6" CONCRETE CURB AND GUTTER
R2	5" MONOLITHIC CONCRETE ISLAND (KEYED-IN)
S	4" CONCRETE SIDEWALK
T	EARTH MATERIAL
U	EXIST. PAVEMENT
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE WEDGING DETAIL)

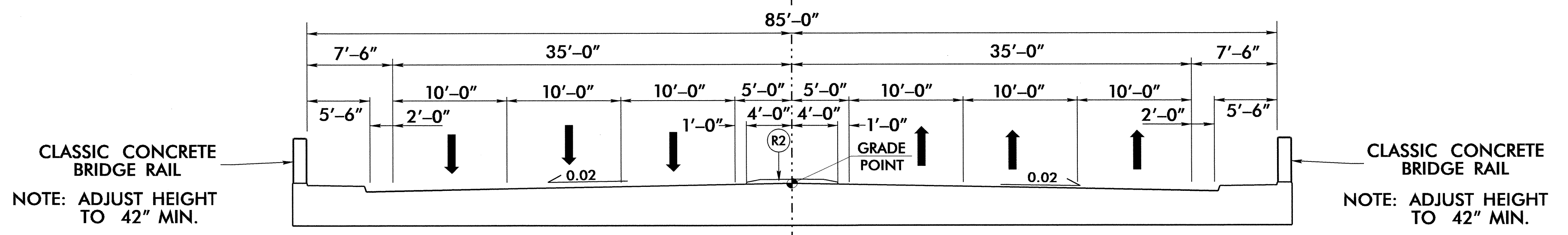
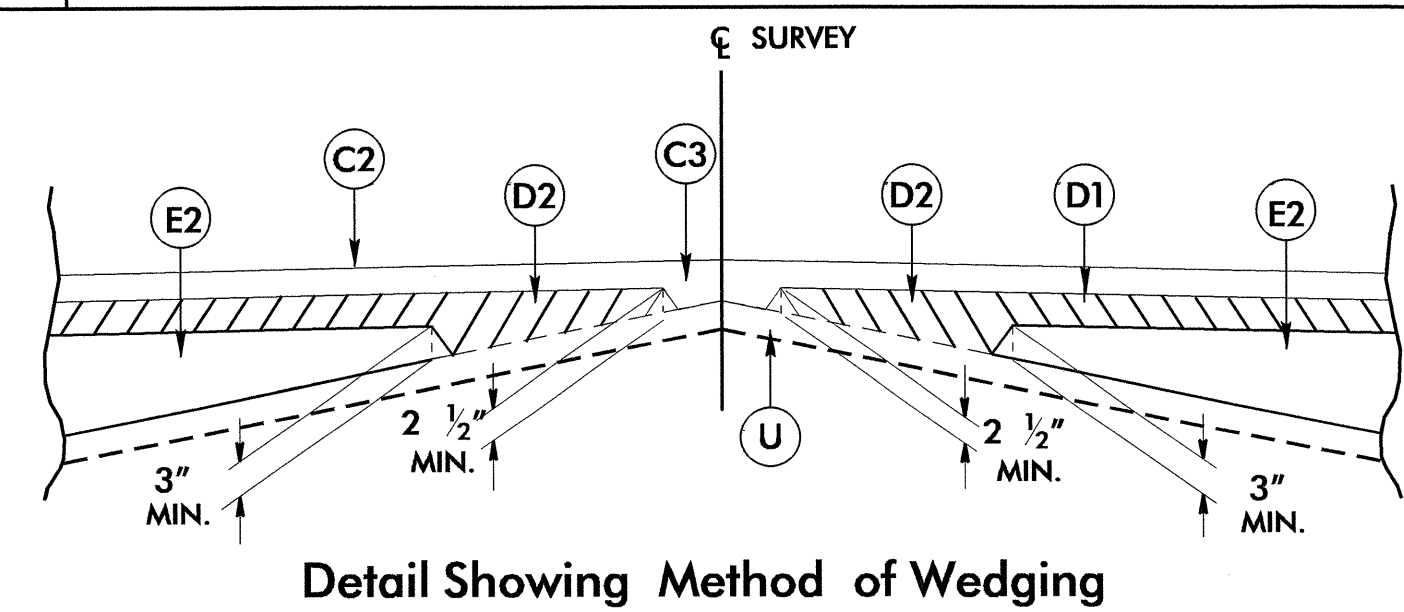
A DESIGN EXCEPTION IS REQUIRED FOR THE PROPOSED LANE WIDTH.



-L- STA. 16+50.00 to -L- STA. 16+75.00
-L- STA. 20+25.00 to -L- STA. 20+50.00

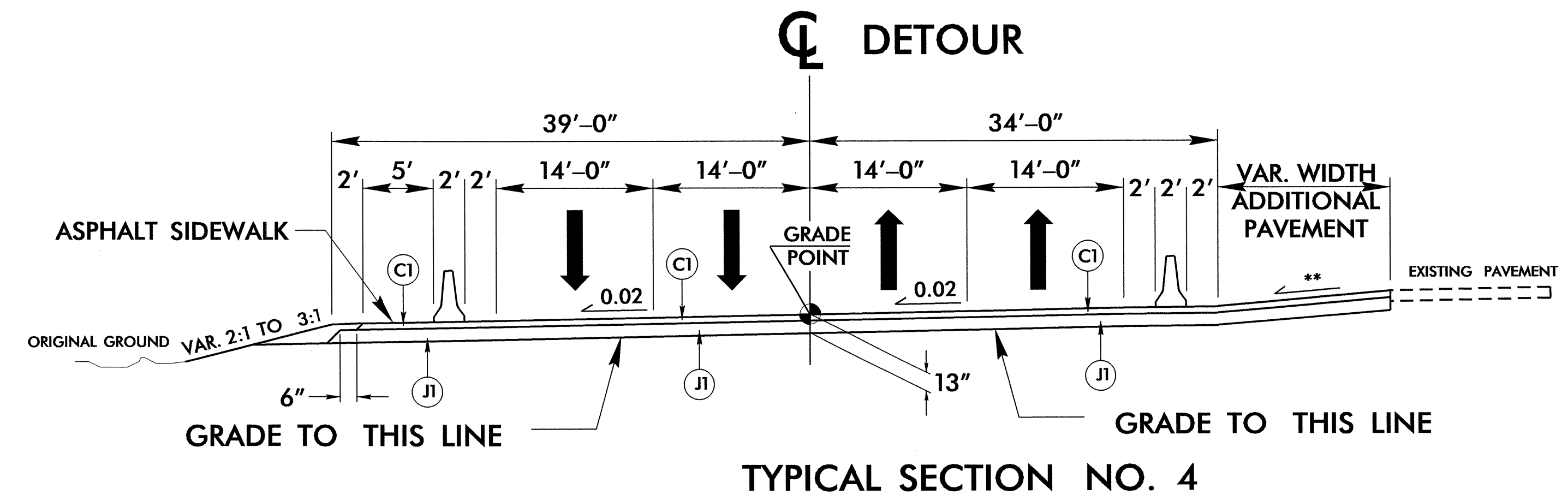


-L- STA. 16+75.00 to -L- STA. 17+39.46 (Begin Bridge)
-L- STA. 19+70.54 (End Bridge) to -L- STA. 20+25.00



-L- STA. 17+39.46 to -L- STA. 19+70.54

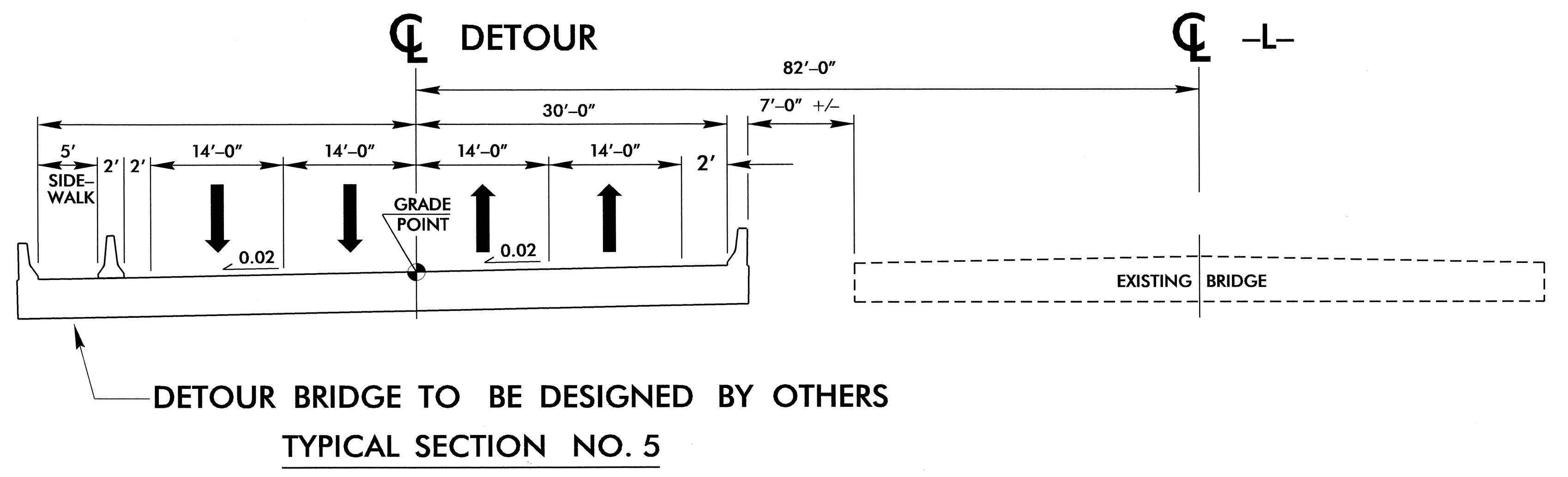
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TYPICAL SECTION NO. 4

-DET- STA. 13+27.67 to -DET- STA. 15+17.87 (Begin Bridge)
 -DET- STA. 16+98.41 (End Bridge) to -DET- STA. 18+68.72
 ** NOTE: GRADE TO DRAIN PAVED SHOULDER AS NEEDED

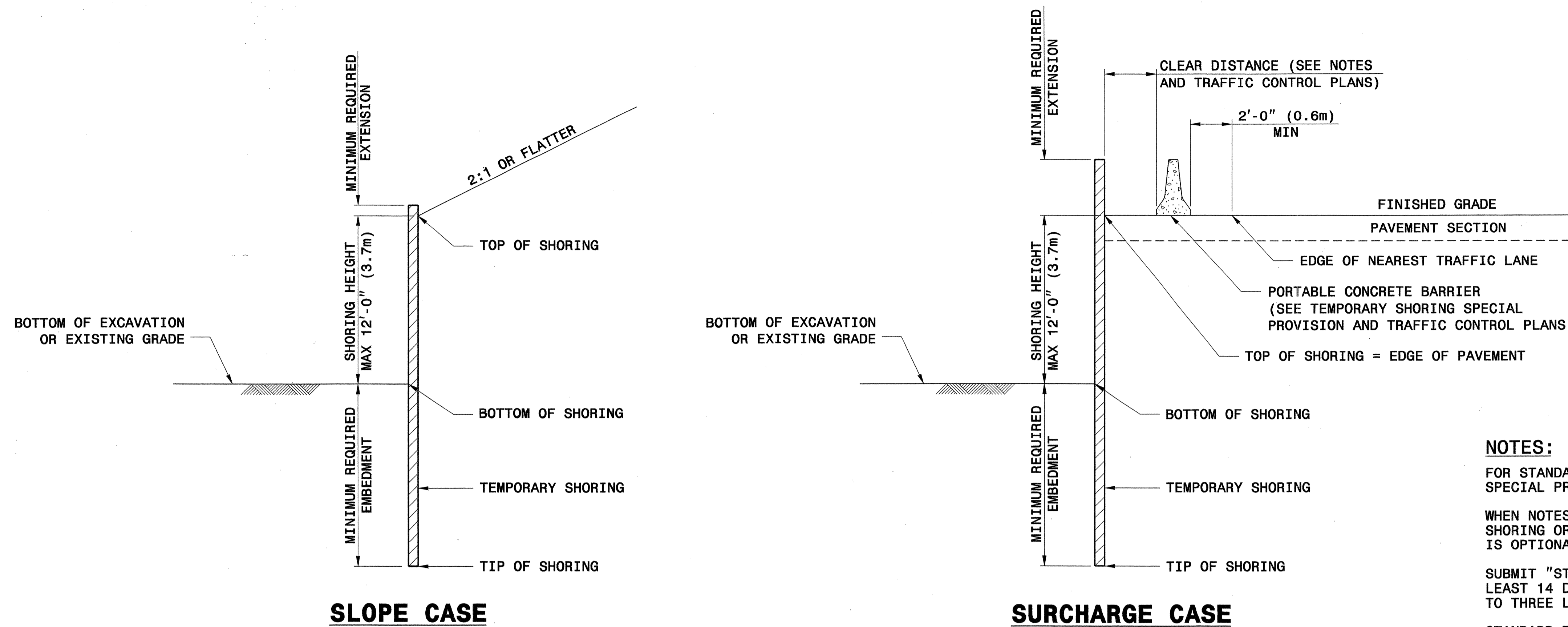
PAVEMENT SCHEDULE	
FINAL PAVEMENT DESIGN	
C1	3" S9.5B
J1	10" ABC
T	EARTH MATERIAL



TYPICAL SECTION NO. 5

-DET- STA. 15+17.87 to -DET- STA. 16+98.41

6/2/99
 08-AUG-2011 09:30 \\s4090-r.djv.tup.dgn
 13:38:11 11/11/11



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.

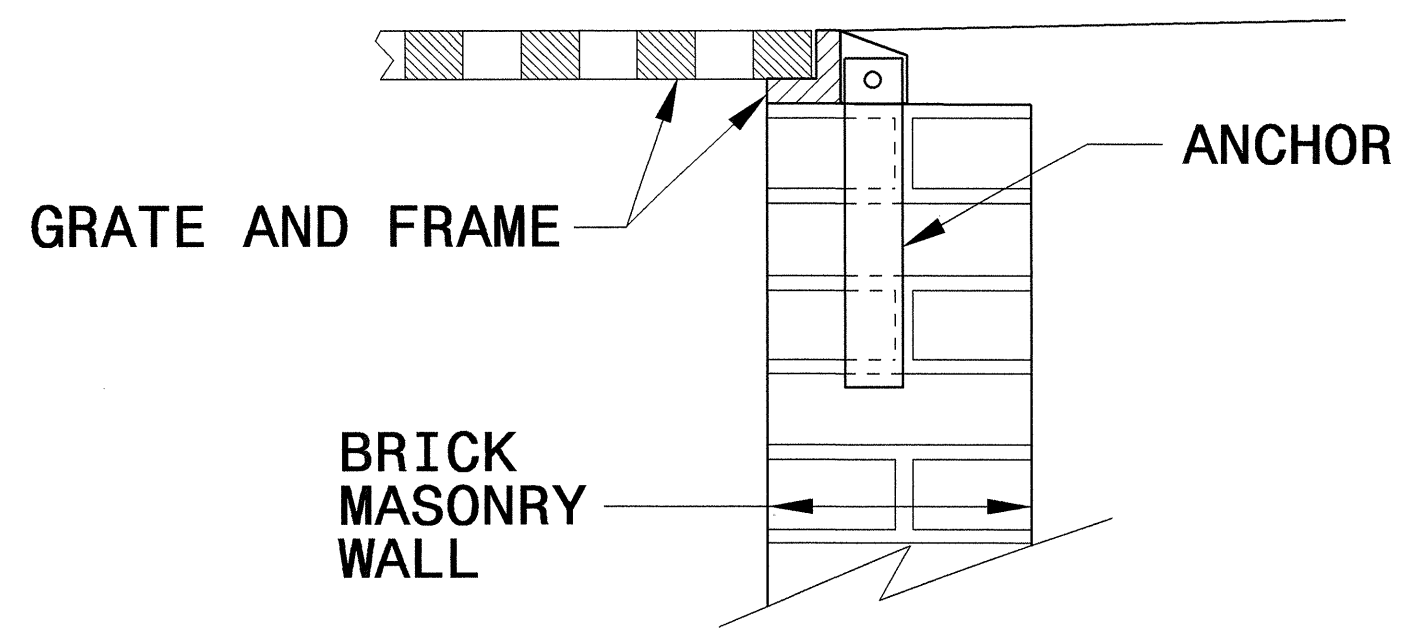
GROUNDWATER CONDITION	SHORING HEIGHT FT (m)	SLOPE OR SURCHARGE CASE WITH NO TRAFFIC IMPACT					SURCHARGE CASE WITH TRAFFIC IMPACT				
		SHEET PILES		H PILES WITH TIMBER LAGGING			SHEET PILES		H PILES WITH TIMBER LAGGING		
		MINIMUM REQUIRED EMBEDMENT FT (m)	MINIMUM REQUIRED SECTION MODULUS IN ³ /FT (cm 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 BETWEEN TIP OF SHORING AND 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)
	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)
	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)
	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)
	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)
	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)
GROUNDWATER ELEVATION ABOVE 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)
	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)
	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)
	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)
	10 (3.0)	18.5 (5.6)	19.5 (1048)	--	--	18.5 (5.6)	20.0 (6.1)	23.5 (1263)	--	--	18.5 (5.6)
	11 (3.4)	20.5 (6.3)	26.0 (1398)	--	--	--	21.0 (6.4)	28.0 (1505)	--	--	20.0 (6.1)
	12 (3.7)	22.5 (6.9)	33.0 (1774)	--	--	--	22.0 (6.7)	33.0 (1774)	--	--	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".

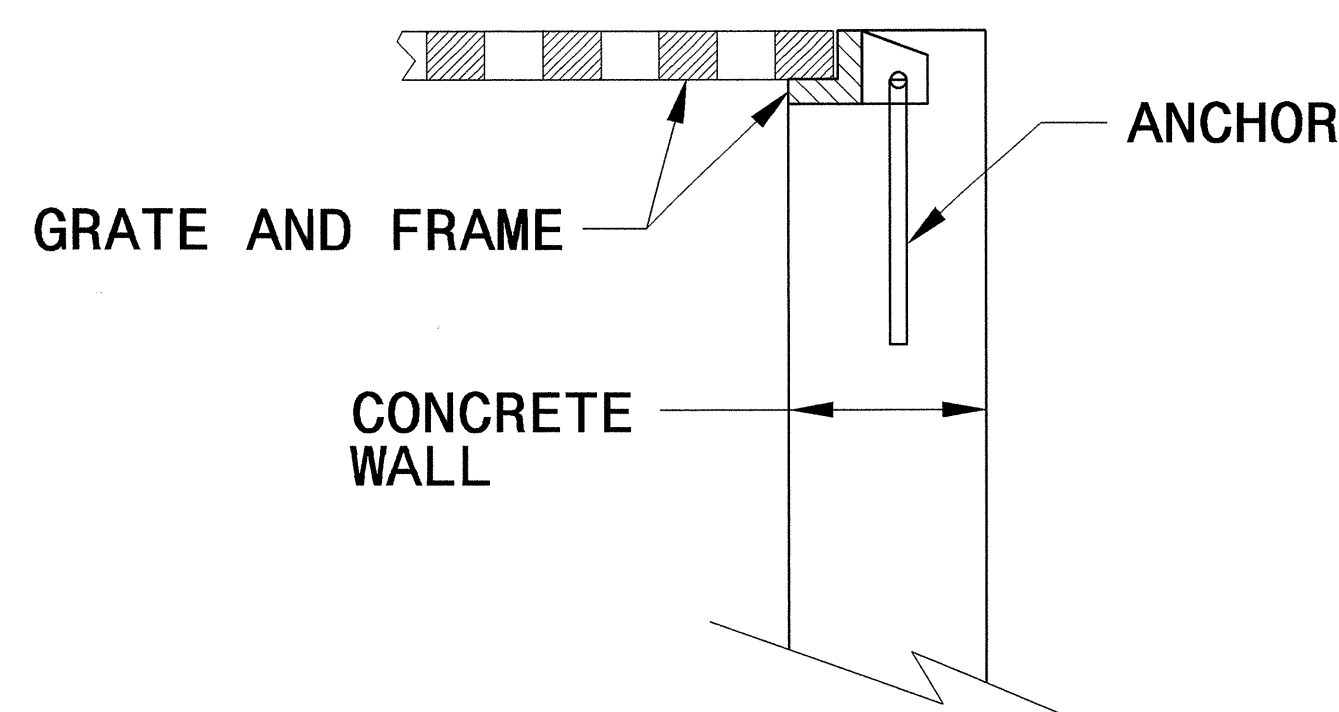
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

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

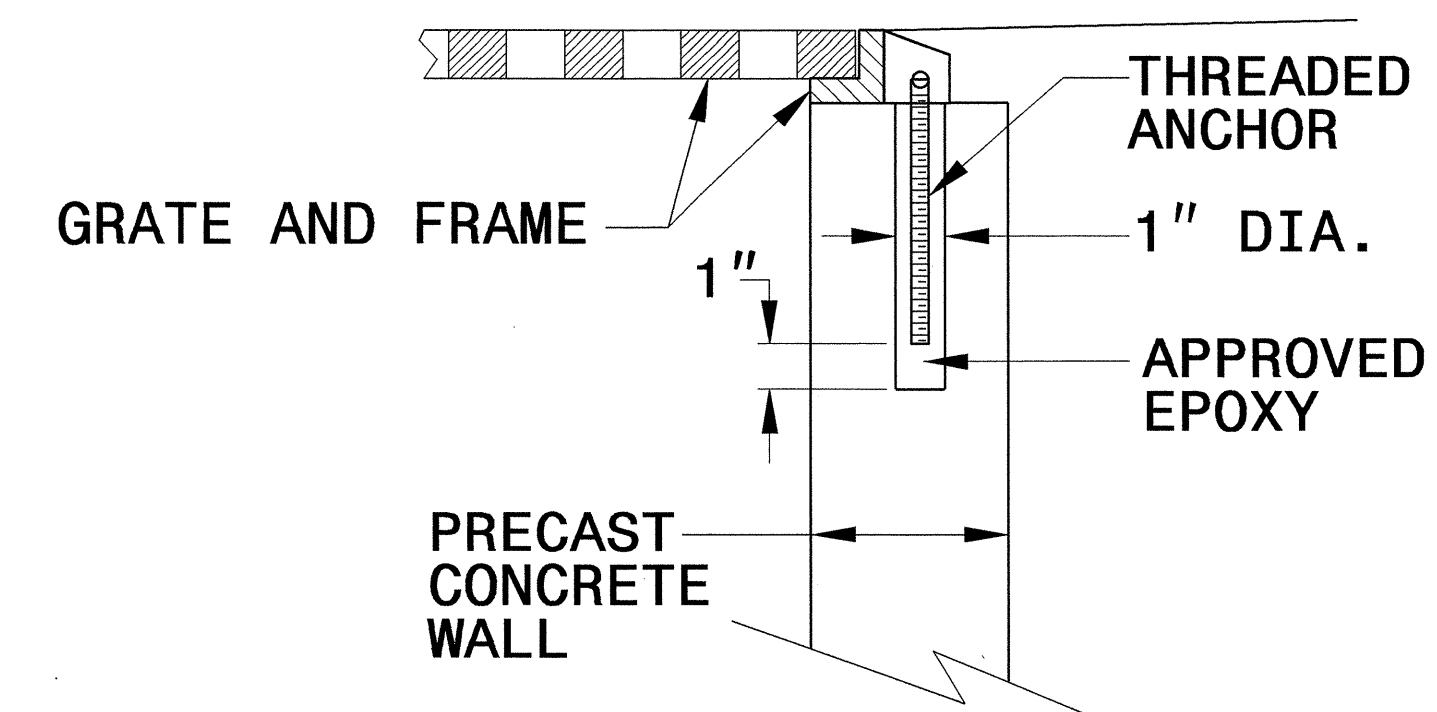
SHEET 1 OF 1
840D25



BRICK MASONRY CONSTRUCTION



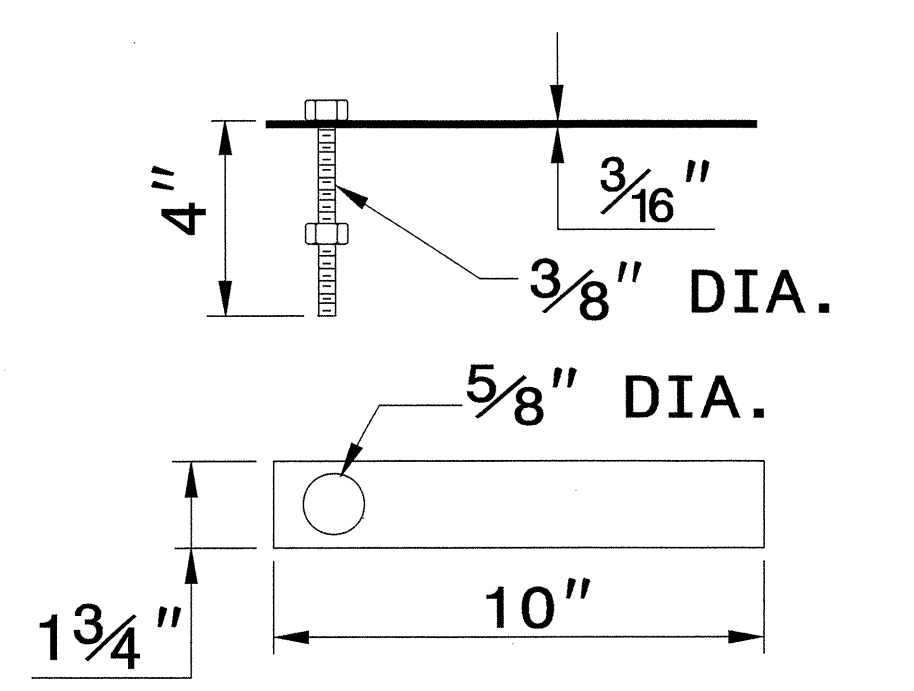
CONCRETE CONSTRUCTION



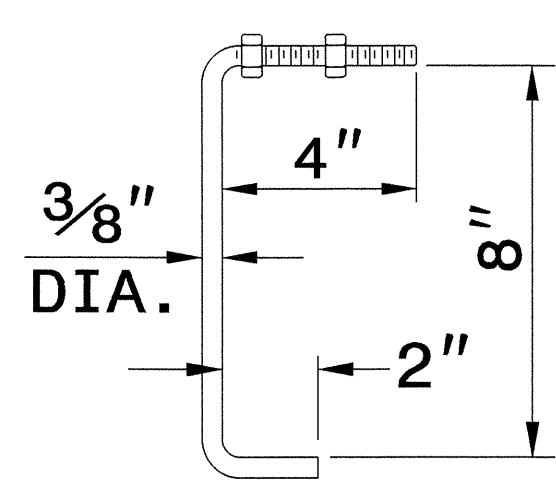
PRECAST CONCRETE CONSTRUCTION

DETAIL SHOWING ANCHORAGE OF FRAME FOR GRATED DROP INLET

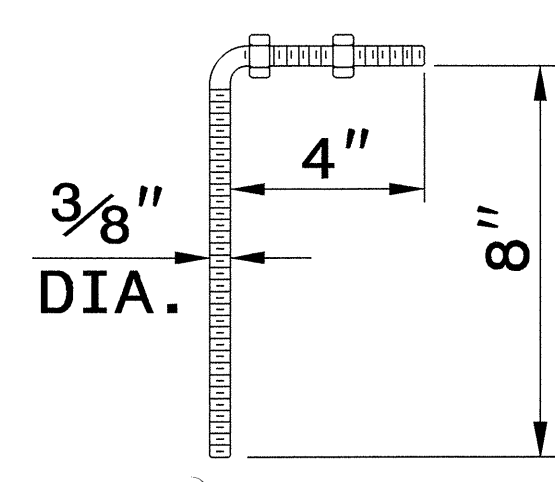
NOTE:
CONSTRUCT GRATED DROP INLET TO COINCIDE WITH NORMAL OR SUPERELEVATED SHOULDER OR PAVEMENT SLOPE.



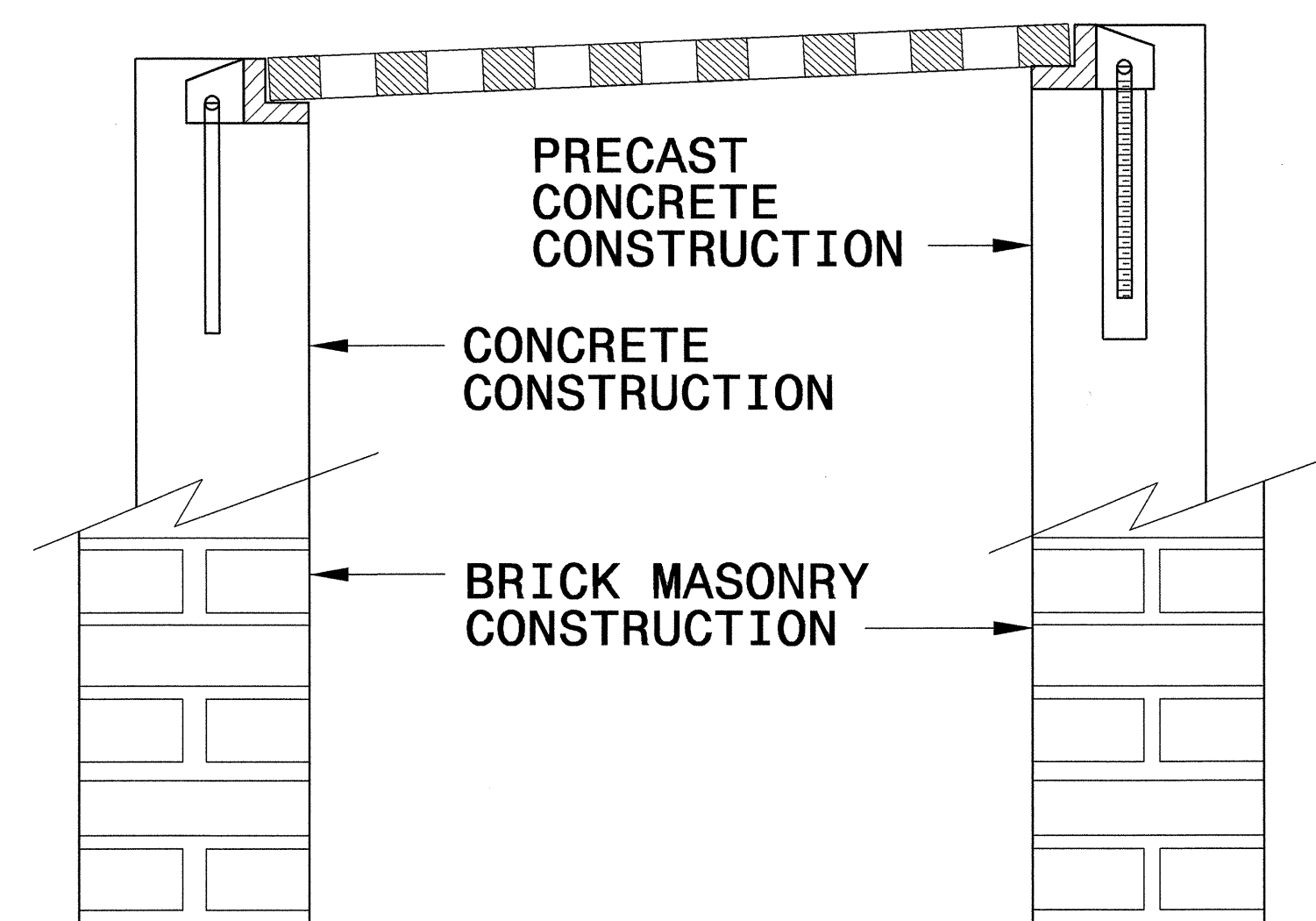
MASONRY ANCHOR
3/8" DIA. BOLT WITH PLATE



CONCRETE ANCHOR
3/8" DIA. BENT BAR



PRECAST CONCRETE ANCHOR
3/8" DIA. BENT BAR

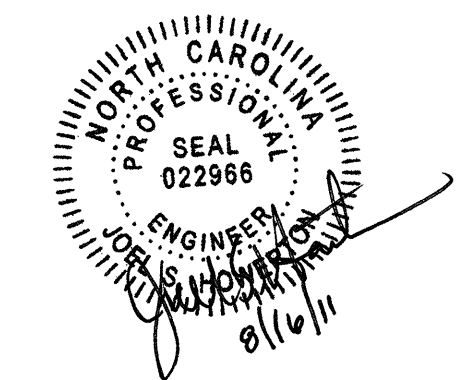


FRAME AND GRATE INSTALLATION FOR NORMAL CROWN AND SUPERELEVATED SECTIONS

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

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

SHEET 1 OF 1
840D25



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

SEE PLATE FOR TITLE

ORIGINAL BY: 2006 STD 840.25 DATE: 07/18/06
MODIFIED BY: E.E. WARD DATE: 9/25/06
CHECKED BY: DATE:
FILE SPEC.:

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

7-06

ENGLISH DETAIL DRAWING FOR METHOD OF PIPE INSTALLATION

FLEXIBLE PIPE

UNUSUABLE MATERIAL FOUNDATION

PIPE IN TRENCH

ROCK FOUNDATION

PIPE ABOVE GROUND

NORMAL EARTH FOUNDATION

UNUSUABLE MATERIAL FOUNDATION

PIPE ABOVE GROUND

NORMAL EARTH FOUNDATION

GENERAL NOTES:

I.D. = THE MAXIMUM HORIZONTAL INSIDE DIAMETER DIMENSION.
 O.D. = THE MAXIMUM HORIZONTAL OUTSIDE DIAMETER DIMENSION.
 H = THE FILL HEIGHT MEASURED VERTICALLY AT ANY POINT ALONG THE PIPE FROM THE TOP OF THE PIPE TO THE TOP OF THE EMBANKMENT AT THAT POINT.

DO NOT OPERATE HEAVY EQUIPMENT OVER ANY PIPE CULVERT UNTIL THE PIPE CULVERT HAS BEEN PROPERLY BACKFILLED AND COVERED WITH AT LEAST 3 FEET OF APPROVED MATERIAL.

--- SPRINGLINE OF PIPE
 SELECT BACKFILL MATERIAL CLASS III OR CLASS II, TYPE 1 ABOVE AND BELOW SPRINGLINE.
 APPROVED SUITABLE LOCAL MATERIAL.
 UNDISTURBED EARTH MATERIAL
 SELECT MATERIAL CLASS V OR VI FOR FOUNDATION CONDITIONING. ENCAPSULATE WITH ENGINEERING FABRIC AS DIRECTED BY THE ENGINEER.

TAKE CARE TO FULLY COMPACT HAUNCH ZONE OF PIPE BACKFILL.
 LOOSELY PLACED SELECT MATERIAL CLASS III OR CLASS II, TYPE 1 FOR PIPE BEDDING. LEAVE SECTION DIRECTLY BENEATH PIPE FOR COMPACTING. PIPE SEATING AND BACKFILL WILL ACCOMPLISH COMPACTION.

SHEET 1 OF 3
300D01

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

7-06

ENGLISH DETAIL DRAWING FOR METHOD OF PIPE INSTALLATION

RIGID PIPE

UNUSUABLE MATERIAL FOUNDATION

PIPE IN TRENCH

ROCK FOUNDATION

PIPE ABOVE GROUND

NORMAL EARTH FOUNDATION

UNUSUABLE MATERIAL FOUNDATION

PIPE ABOVE GROUND

NORMAL EARTH FOUNDATION

GENERAL NOTES:

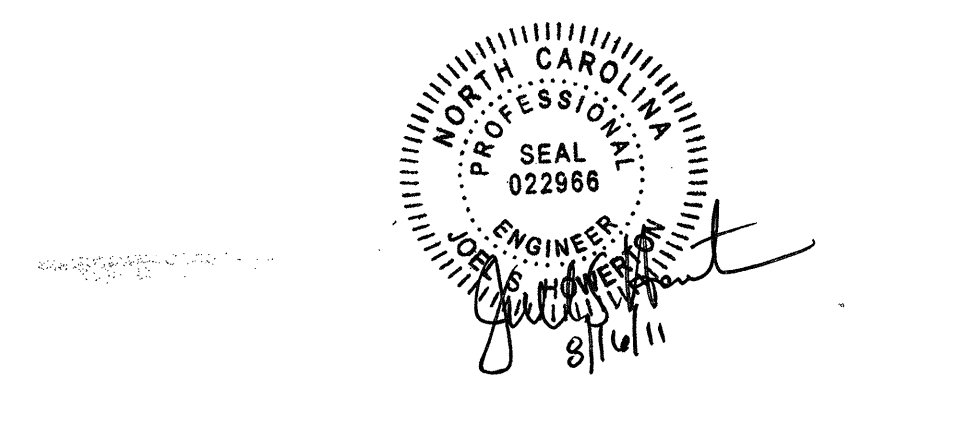
I.D. = THE MAXIMUM HORIZONTAL INSIDE DIAMETER DIMENSION.
 O.D. = THE MAXIMUM HORIZONTAL OUTSIDE DIAMETER DIMENSION.
 H = THE FILL HEIGHT MEASURED VERTICALLY AT ANY POINT ALONG THE PIPE FROM THE TOP OF THE PIPE TO THE TOP OF THE EMBANKMENT AT THAT POINT.

DO NOT OPERATE HEAVY EQUIPMENT OVER ANY PIPE CULVERT UNTIL THE PIPE CULVERT HAS BEEN PROPERLY BACKFILLED AND COVERED WITH AT LEAST 3 FEET OF APPROVED MATERIAL.

--- SPRINGLINE OF PIPE
 SELECT BACKFILL MATERIAL CLASS III OR CLASS II, TYPE 1, ABOVE SPRINGLINE.
 APPROVED SUITABLE LOCAL MATERIAL ABOVE SPRINGLINE.
 UNDISTURBED EARTH MATERIAL
 SELECT MATERIAL CLASS V OR VI FOR FOUNDATION CONDITIONING. ENCAPSULATE WITH ENGINEERING FABRIC AS DIRECTED BY THE ENGINEER.

TAKE CARE TO FULLY COMPACT HAUNCH ZONE OF PIPE BACKFILL.
 LOOSELY PLACED SELECT MATERIAL CLASS III OR CLASS II, TYPE 1 FOR PIPE BEDDING. LEAVE SECTION DIRECTLY BENEATH PIPE FOR COMPACTING. PIPE SEATING AND BACKFILL WILL ACCOMPLISH COMPACTION.

SHEET 2 OF 3
300D01



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

SEE PLATE FOR TITLE

ORIGINAL BY: K Kempf DATE: 5-15-09
 MODIFIED BY: DATE:
 CHECKED BY: DATE: 7/25/09
 FILE SPEC: \\ward\stds\stdstodetail\30001\0300d01.dgn

FLEXIBLE PIPE

Round Corrugated Steel Pipe 2 2/3 x 1/2 corrugation **			
Diameter (inches)	Minimum cover (inches)	(Ga) 16	Maximum Height of Cover (feet)
12	12	204	14
15	12	162	12
18	12	135	10
21	12	115	8
24	12	100	12
30	12	79	142
36	12	65	117
42	12	55	100
48	12	48	130
54	12	48	113
60	12	54	100
66	12	69	123
72	12		90
78	12		111
84	12		81
			100
			74
			81
			91
			81
			69

Round Corrugated Aluminum Pipe 2 2/3 x 1/2 corrugation **			
Diameter (inches)	Minimum cover (inches)	(Ga) 16	Maximum Height of Cover (feet)
12	12	123	14
15	12	98	12
18	12	81	10
21	12	69	8
24	12	60	12
27	12	67	142
30	12	60	117
36	12	50	100
42	12	50	130
48	12	52	113
54	12	48	100
60	12	46	90
66	12		111
72	12		81
			100
			74
			81
			91
			81
			69

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

METHOD OF PIPE INSTALLATION

FILL HEIGHT TABLES

ENGLISH DETAIL DRAWING FOR
 METHOD OF PIPE INSTALLATION
 FILL HEIGHT TABLES

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

7-06

7-06

SHEET 3 OF 3
300D01

SHEET 3 OF 3
300D01

- HDPE - * (Minimum fill) 2' for pipe diameters ≥ 12" and ≤ 60"
 * (Maximum fill) 20' for pipe diameters ≤ 24"
 17' for pipe diameters ≥ 30" and ≤ 60"
- PVC - * (Minimum fill) 2' for pipe diameters ≥ 12" and ≤ 36"
 * (Maximum fill) 30' for pipe diameters ≥ 12" and ≤ 36"

* FILL HEIGHT IS MEASURED FROM THE TOP OF THE PIPE TO THE BOTTOM OF THE PAVEMENT STRUCTURE

RIGID PIPE

- RCP - * (Minimum fill) 1' for Class IV & CLASS V
 2' for Class III & Class II
- * (Maximum fill) 10' - Class II pipe
 20' - Class III pipe
 30' - Class IV pipe
 40' - Class V pipe

(For fills > 40' & < 80' use LRF Direct Design Method)

* FILL HEIGHT IS MEASURED FROM THE TOP OF THE PIPE TO THE BOTTOM OF THE PAVEMENT STRUCTURE

REFER TO THE FOLLOWING FOR PIPE SPECIFICATIONS
 RCP - AASHTO M170

NOTES: FILL HEIGHTS SHOWN WERE CALCULATED USING
 AASHTO LRPD BRIDGE DESIGN SPECIFICATIONS

1' MINIMUM COVER FOR ALL SIDE DRAIN PIPE
 IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS

** FOR DIFFERENT CORRUGATIONS AND ARCH PIPES REFER TO
 ROADWAY DESIGN MANUAL OR MANUFACTURERS SPECIFICATION.

REFER TO THE FOLLOWING FOR PIPE SPECIFICATIONS

- CSP - AASHTO M36
- CAAP - AASHTO M196
- HDPE - AASHTO M294
- PVC - ASTM F949 or AASHTO M304

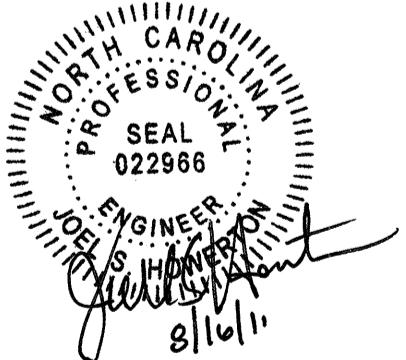
NOTES: FILL HEIGHTS SHOWN WERE CALCULATED USING
 AASHTO LRPD BRIDGE DESIGN SPECIFICATIONS

1' MINIMUM COVER FOR ALL SIDE DRAIN PIPE
 IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS

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

SEE PLATE FOR TITLE

ORIGINAL BY: KKempf DATE: 5-15-09
 MODIFIED BY: *[Signature]* DATE: *[Date]*
 CHECKED BY: *[Signature]* DATE: 7/30/09
 FILE SPEC: ericward/stds/stdstodetails/30001/0300d01.dgn



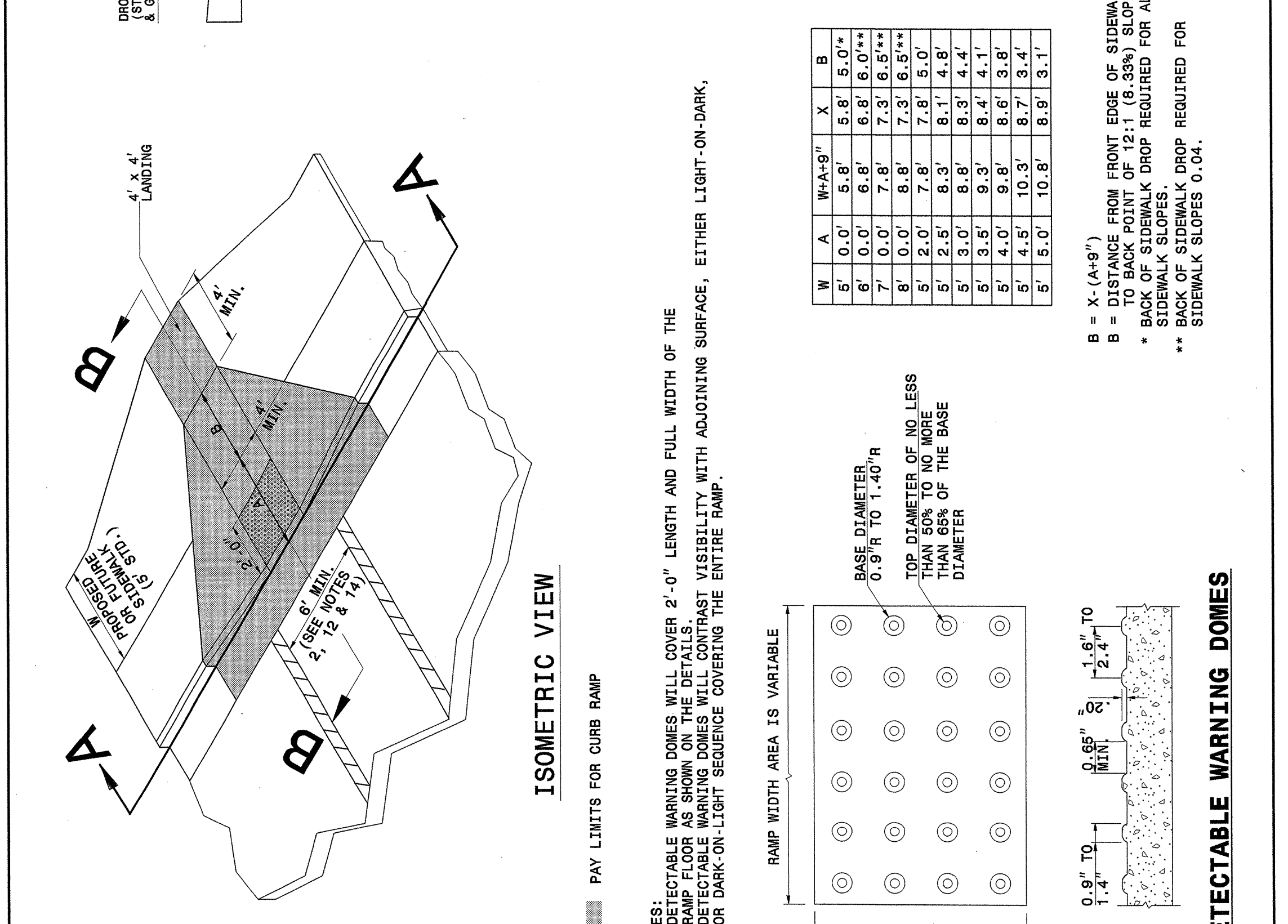
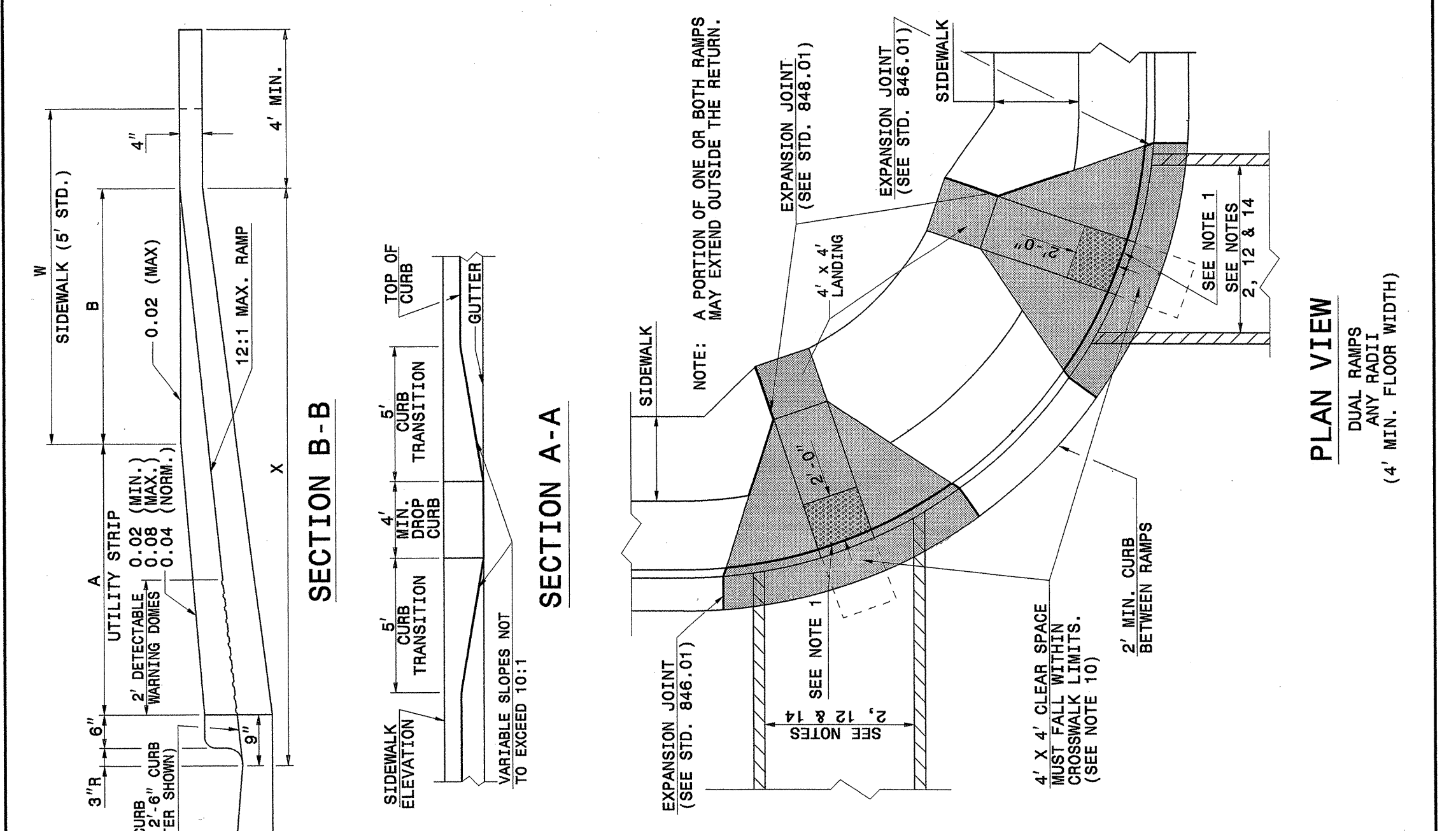
STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR

CURB RAMP

PROPOSED CURB AND GUTTER

SHEET 1 OF 3
848D05



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

ENGLISH DETAIL DRAWING FOR

CURB RAMP

PROPOSED CURB AND GUTTER

SHEET 1 OF 3
848D05

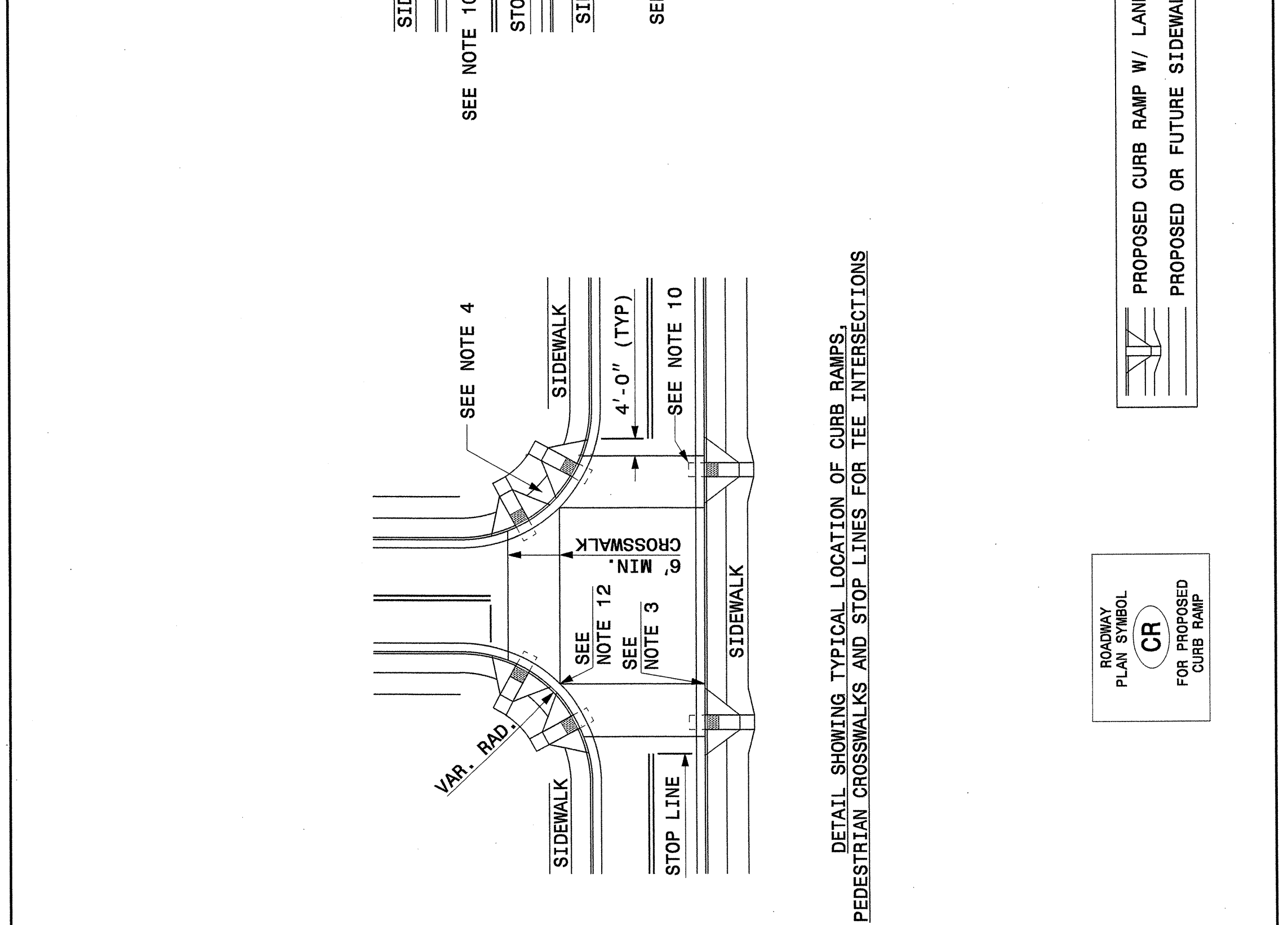
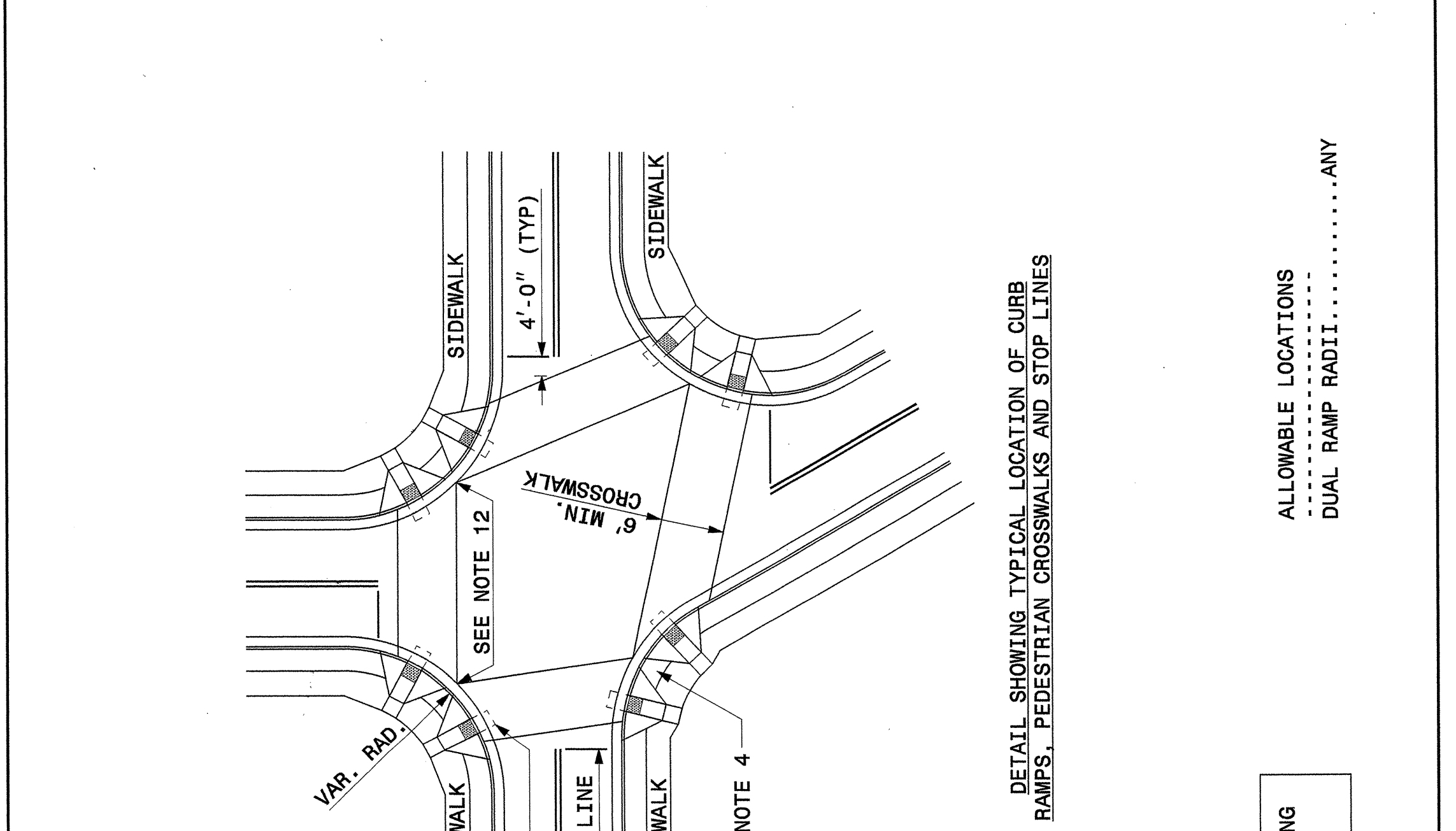
STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR

CURB RAMP

PROPOSED CURB AND GUTTER

SHEET 2 OF 3
848D05



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

ENGLISH DETAIL DRAWING FOR

CURB RAMP

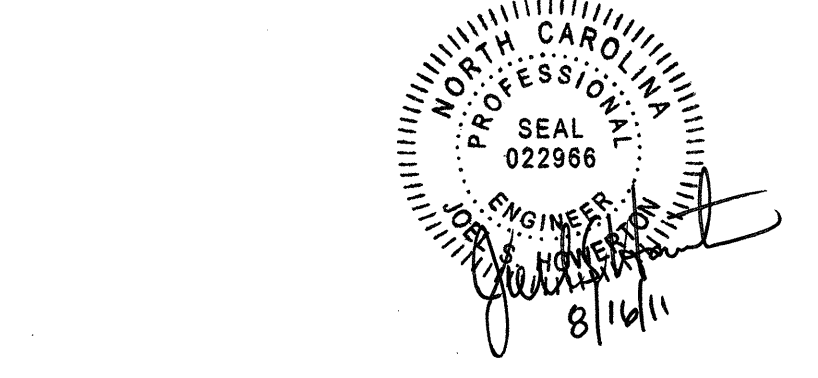
PROPOSED CURB AND GUTTER

SHEET 2 OF 3
848D05

ALLOWABLE LOCATIONS
.....ANY
DUAL RAMP RADII.....ANY

PROPOSED CURB RAMP W/ LANDING
.....ANY
PROPOSED OR FUTURE SIDEWALK

ROADWAY PLAN SYMBOL
CR
FOR PROPOSED CURB RAMP



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

SEE PLATE FOR TITLE

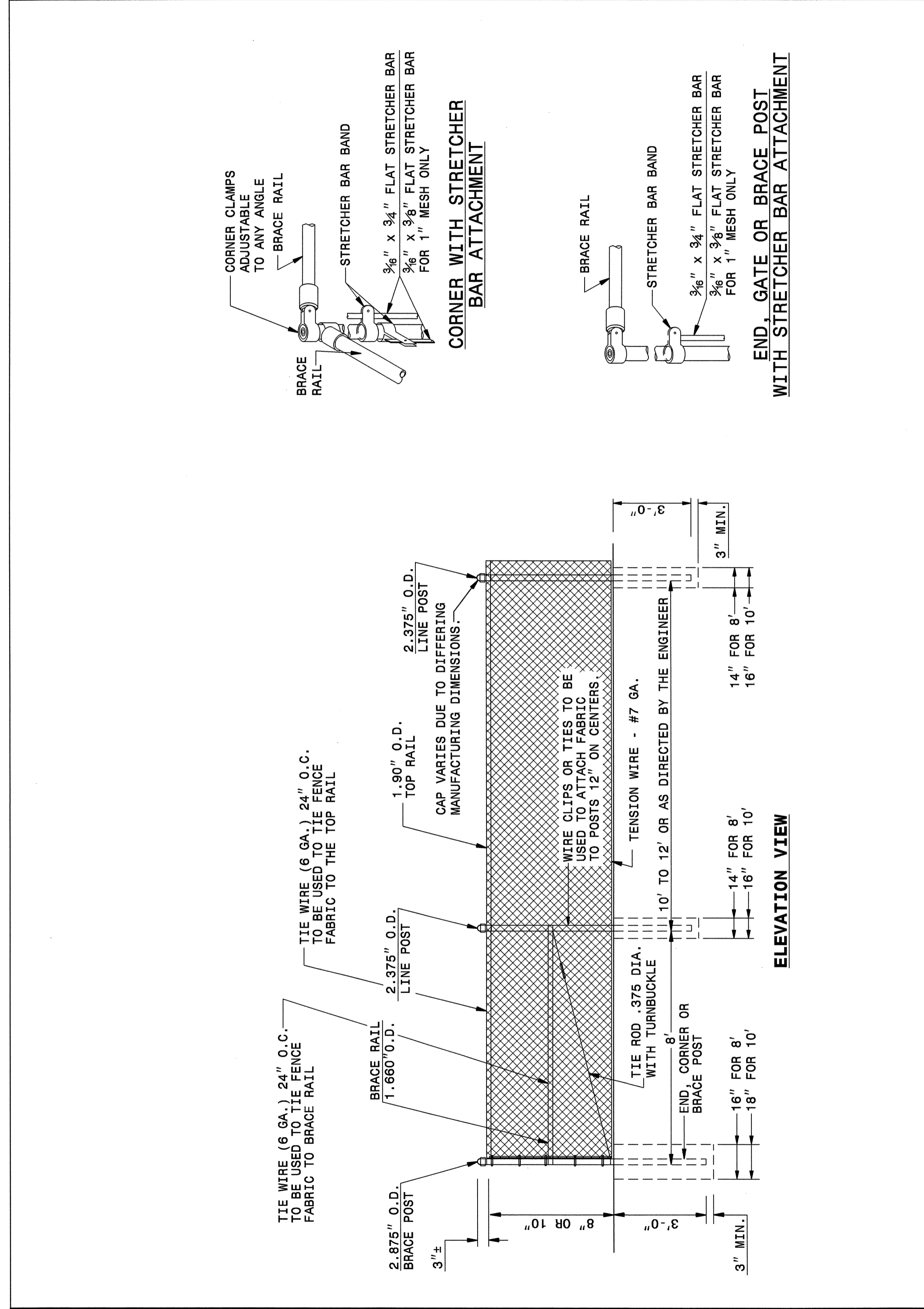
ORIGINAL BY: STD.NO.848.05 DATE: 4-22-10
 MODIFIED BY: DATE:
 CHECKED BY: DATE: 4/12/10
 FILE SPEC.: SpecialDetails/EricWard/STDs/848d05.dgn

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

ENGLISH DETAIL DRAWING FOR **CHAIN LINK FENCE** 8' AND 10' HEIGHT

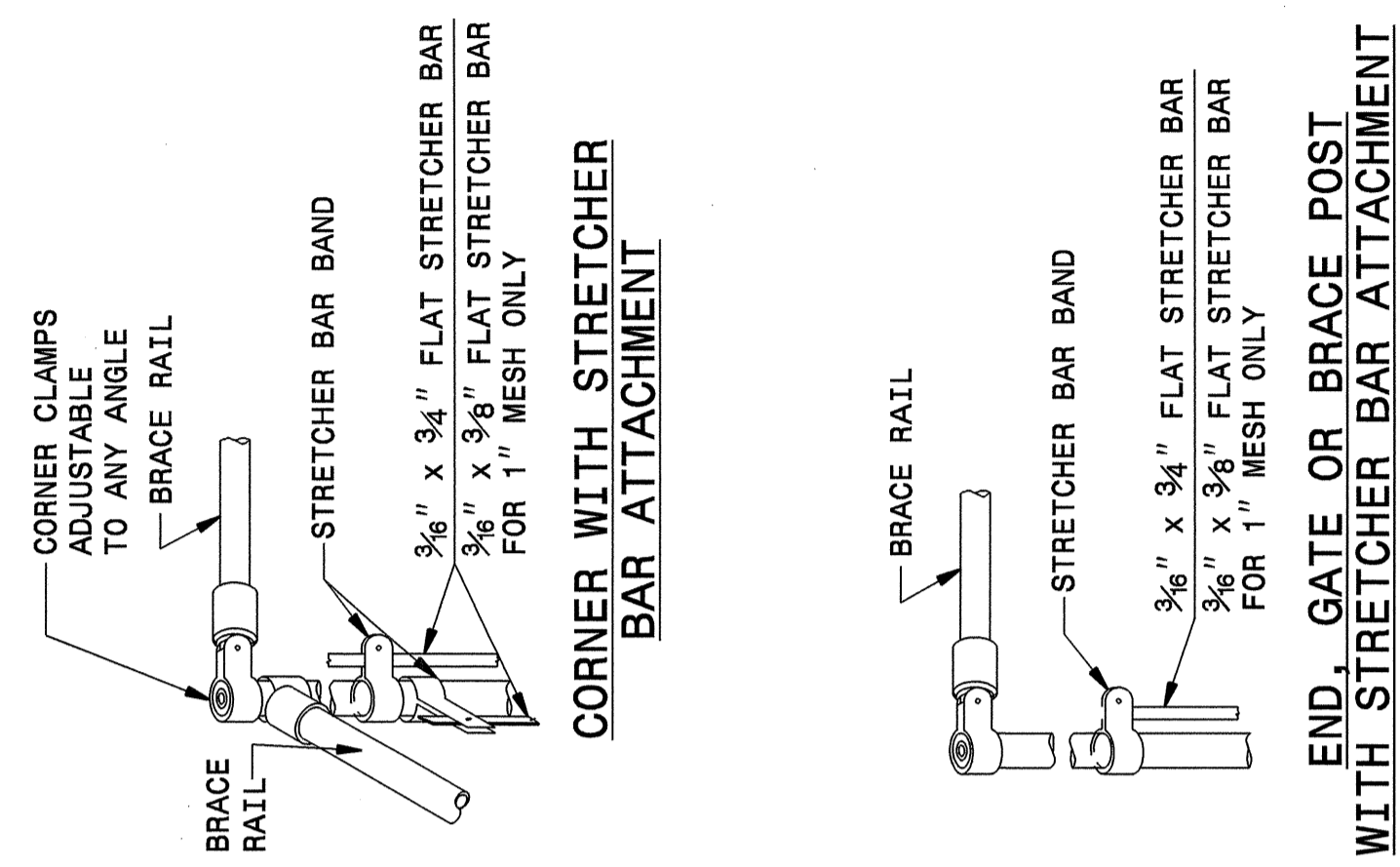
SHEET 1 OF 2 **fence2c1**



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

ENGLISH DETAIL DRAWING FOR **CHAIN LINK FENCE** 8' AND 10' HEIGHT

SHEET 1 OF 2 **fence2c1**



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

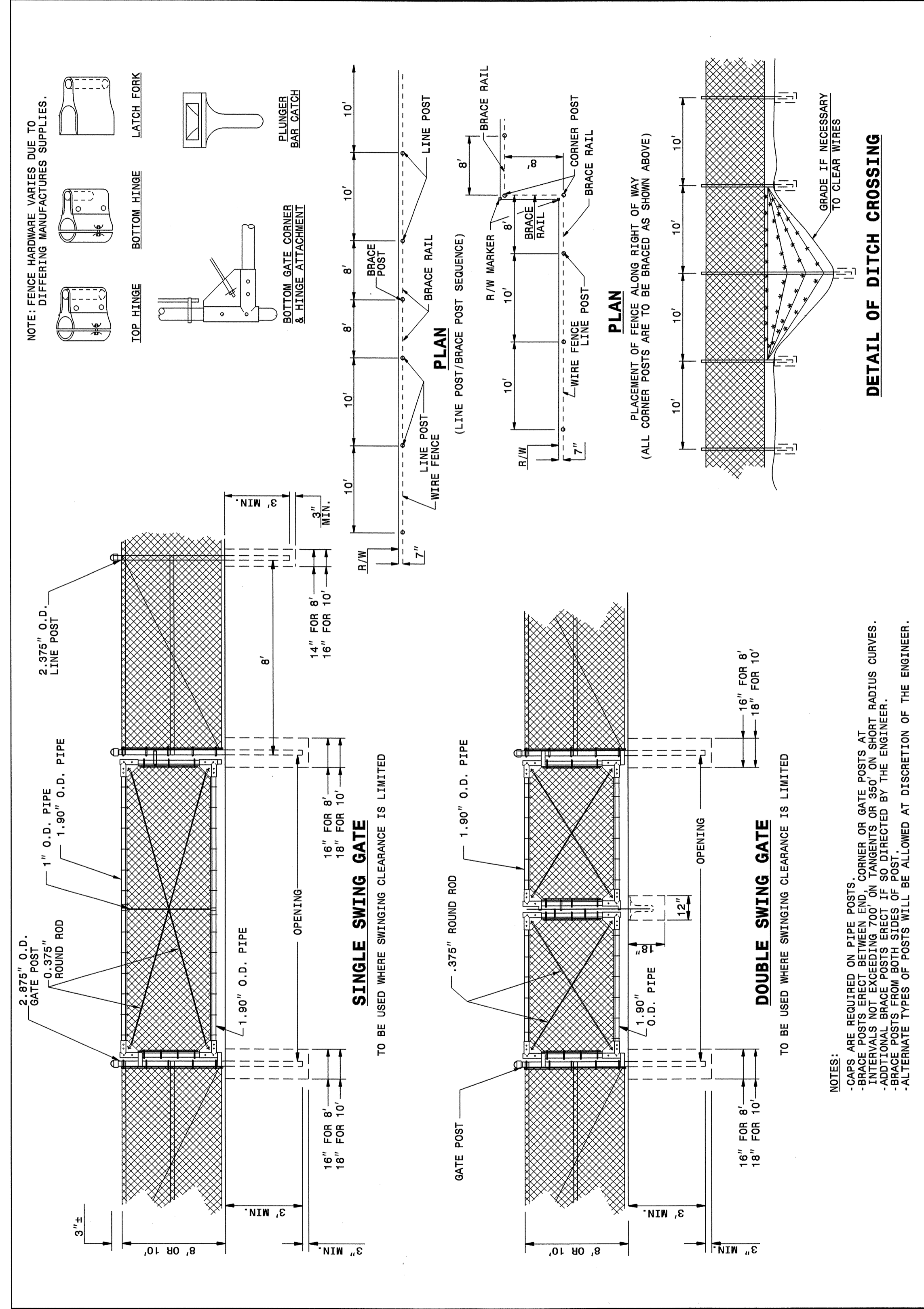
ENGLISH DETAIL DRAWING FOR **CHAIN LINK FENCE** 8' AND 10' HEIGHT

SHEET 2 OF 2 **fence2c1**

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

ENGLISH DETAIL DRAWING FOR **CHAIN LINK FENCE** 8' AND 10' HEIGHT

SHEET 2 OF 2 **fence2c1**



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

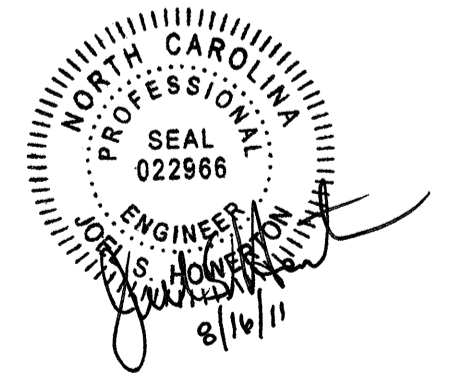
ENGLISH DETAIL DRAWING FOR **CHAIN LINK FENCE** 8' AND 10' HEIGHT

SHEET 2 OF 2 **fence2c1**

CONTRACT STANDARDS AND DEVELOPMENT UNIT
 Office 919-707-6950 FAX 919-250-4119

SEE PLATE FOR TITLE

ORIGINAL BY: **N.T. KEGLERS** DATE: **3-11-96**
 MODIFIED BY: **TSS** DATE: **1-31-11**
 CHECKED BY: *[Signature]* DATE: **8/1/11**
 FILE SPEC.: **d:\72\usr\details\metric\fence\fence2c1.dgn**



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STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

SUMMARY OF QUANTITIES

ItemNumber	Sec #	Quantity	Unit	Description	ItemNumber	Sec #	Quantity	Unit	Description
000100000-N	800	Lump Sum		MOBILIZATION	443500000-N	1135	64	EA	CONES
000400000-N	801	Lump Sum		CONSTRUCTION SURVEYING	444500000-E	1145	80	LF	BARRICADES (TYPE III)
000100000-E	200	Lump Sum		CLEARING & GRUBBING .. ACRE(S)	445000000-N	1150	56	HR	FLAGGER
000800000-E	200	1	ACR	SUPPLEMENTARY CLEARING & GRUBBING	446500000-N	1160	4	EA	TEMPORARY CRASH CUSHIONS
002200000-E	225	14,200	CY	UNCLASSIFIED EXCAVATION	447000000-N	1160	4	EA	RESET TEMPORARY CRASH CUSHIONS
002900000-N	SP	Lump Sum		REINFORCED BRIDGE APPROACH FILL, STATION ***** (18+55.00)	448000000-N	1165	4	EA	TMA
003600000-E	225	300	CY	UNDERCUT EXCAVATION	448500000-E	1170	940	LF	PORTABLE CONCRETE BARRIER
010600000-E	230	20,400	CY	BORROW EXCAVATION	449000000-E	1170	700	LF	PORTABLE CONCRETE BARRIER (ANCHORED)
013400000-E	240	15	CY	DRAINAGE DITCH EXCAVATION	449500000-E	1170	180	LF	PORTABLE CONCRETE BARRIER (DRAINAGE)
015600000-E	250	4,100	SY	REMOVAL OF EXISTING ASPHALT PAVEMENT	450000000-E	1170	760	LF	RESET PORTABLE CONCRETE BARRIER
019500000-E	SP	300	CY	SELECT GRANULAR MATERIAL	450600000-E	1170	180	LF	RESET PORTABLE CONCRETE BARRIER (DRAINAGE)
019600000-E	270	2,050	SY	FABRIC FOR SOIL STABILIZATION	451000000-N	SP	180	HR	LAW ENFORCEMENT
019900000-E	SP	730	SF	TEMPORARY SHORING	451600000-N	1180	64	EA	SKINNY DRUM
031800000-E	SP	20	TON	FOUNDATION CONDITIONING MATERIAL, MINOR STRS	468500000-E	1205	341	LF	THERMOPLASTIC PAVEMENT MARKING LINES (4", 90 MILS)
032000000-E	SP	40	SY	FOUNDATION CONDITIONING FABRIC	468600000-E	1205	3,152	LF	THERMOPLASTIC PAVEMENT MARKING LINES (4", 120 MILS)
059400000-E	SP	96	LF	24" CS PIPE CULVERTS, 0.064" THICK	469500000-E	1205	95	LF	THERMOPLASTIC PAVEMENT MARKING LINES (8", 90 MILS)
099500000-E	340	64	LF	PIPE REMOVAL	472500000-E	1205	8	EA	THERMOPLASTIC PAVEMENT MARKING SYMBOL (90 MILS)
101100000-N	500	Lump Sum		FINE GRADING	477000000-E	1205	690	LF	COLD APPLIED PLASTIC PAVEMENT MARKING LINES, TYPE ** (4") (III)
112100000-E	520	1,762	TON	AGGREGATE BASE COURSE	477000000-E	1205	1,323	LF	COLD APPLIED PLASTIC PAVEMENT MARKING LINES, TYPE ** (4") (IV)
133000000-E	607	380	SY	INCIDENTAL MILLING	481000000-E	1205	29,984	LF	PAINT PAVEMENT MARKING LINES (4")
149100000-E	610	260	TON	ASPHALT CONC BASE COURSE, TYPE B25.0C	482000000-E	1205	432	LF	PAINT PAVEMENT MARKING LINES (8")
150300000-E	610	250	TON	ASPHALT CONC INTERMEDIATE COURSE, TYPE 119.0C	483500000-E	1205	340	LF	PAINT PAVEMENT MARKING LINES (24")
151900000-E	610	500	TON	ASPHALT CONC SURFACE COURSE, TYPE S9.5B	484000000-N	1205	24	EA	PAINT PAVEMENT MARKING CHARACTER
152300000-E	610	245	TON	ASPHALT CONC SURFACE COURSE, TYPE S9.5C	484500000-N	1205	104	EA	PAINT PAVEMENT MARKING SYMBOL
157500000-E	SP	70	TON	ASPHALT BINDER FOR PLANT MIX	485000000-E	1205	11,762	LF	REMOVAL OF PAVEMENT MARKING LINES (4")
225300000-E	840	1	CY	PIPE COLLARS	486000000-E	1205	633	LF	REMOVAL OF PAVEMENT MARKING LINES (8")
254900000-E	846	600	LF	2'-6" CONCRETE CURB & GUTTER	487500000-N	1205	25	EA	REMOVAL OF PAVEMENT MARKING SYMBOLS & CHARACTERS
259100000-E	848	300	SY	4" CONCRETE SIDEWALK	490000000-N	1251	472	EA	PERMANENT RAISED PAVEMENT MARKERS
265500000-E	852	110	SY	5" MONOLITHIC CONCRETE ISLANDS (KEYED IN)	600000000-E	1605	3,370	LF	TEMPORARY SILT FENCE
275900000-N	SP	1	EA	GENERIC PAVING ITEM CONCRETE CURB RAMPS	600600000-E	1610	225	TON	STONE FOR EROSION CONTROL, CLASS A
280000000-N	858	1	EA	ADJUSTMENT OF CATCH BASINS	600900000-E	1610	380	TON	STONE FOR EROSION CONTROL, CLASS B
303000000-E	862	225	LF	STEEL BM GUARDRAIL	601200000-E	1610	465	TON	SEDIMENT CONTROL STONE
315000000-N	862	5	EA	ADDITIONAL GUARDRAIL POSTS	601500000-E	1615	5	ACR	TEMPORARY MULCHING
321500000-N	862	4	EA	GUARDRAIL ANCHOR UNITS, TYPE III	601800000-E	1620	200	LB	SEED FOR TEMPORARY SEEDING
327000000-N	SP	4	EA	GUARDRAIL ANCHOR UNITS, TYPE 350	602100000-E	1620	1.75	TON	FERTILIZER FOR TEMPORARY SEEDING
353300000-E	866	300	LF	CHAIN LINK FENCE, *** FABRIC (120")	602400000-E	1622	800	LF	TEMPORARY SLOPE DRAINS
353900000-E	866	25	EA	METAL LINE POSTS FOR *** CHAIN LINK FENCE (120")	602700000-N	1622	10	EA	INLET PROTECTION AT TEMPORARY SLOPE DRAINS
354500000-E	866	5	EA	METAL TERMINAL POSTS FOR *** CHAIN LINK FENCE (120")	602900000-E	SP	900	LF	SAFETY FENCE
362800000-E	876	43	TON	RIP RAP, CLASS I	603000000-E	1630	440	CY	SILT EXCAVATION
365600000-E	876	1,149	SY	FILTER FABRIC FOR DRAINAGE	603600000-E	1631	6,500	SY	MATTING FOR EROSION CONTROL
407200000-E	903	97	LF	SUPPORTS, 3-LB STEEL U-CHANNEL	603700000-E	SP	1,050	SY	COIR FIBER MAT
410200000-N	904	12	EA	SIGN ERECTION, TYPE E	603800000-E	SP	1,400	SY	PERMANENT SOIL REINFORCEMENT MAT
415500000-N	907	13	EA	DISPOSAL OF SIGN SYSTEM, U-CHANNEL	604200000-E	1632	300	LF	1/4" HARDWARE CLOTH
440000000-E	1110	853	SF	WORK ZONE SIGNS (STATIONARY)	607000000-N	SP	2	EA	SPECIAL STILLING BASINS
440500000-E	1110	514	SF	WORK ZONE SIGNS (PORTABLE)	607101000-E	SP	100	LF	WATTLE
441000000-E	1110	44	SF	WORK ZONE SIGNS (BARRICADE MOUNTED)	607102000-E	SP	25	LB	POLYACRYLAMIDE (PAM)
441500000-N	1115	4	EA	FLASHING ARROW PANELS, TYPE C	607103000-E	SP	240	LF	COIR FIBER BAFFLE
442000000-N	1120	4	EA	CHANGEABLE MESSAGE SIGN	607105000-E	SP	1	EA	*** SKIMMER (1-1/2")
443000000-N	1130	105	EA	DRUMS					

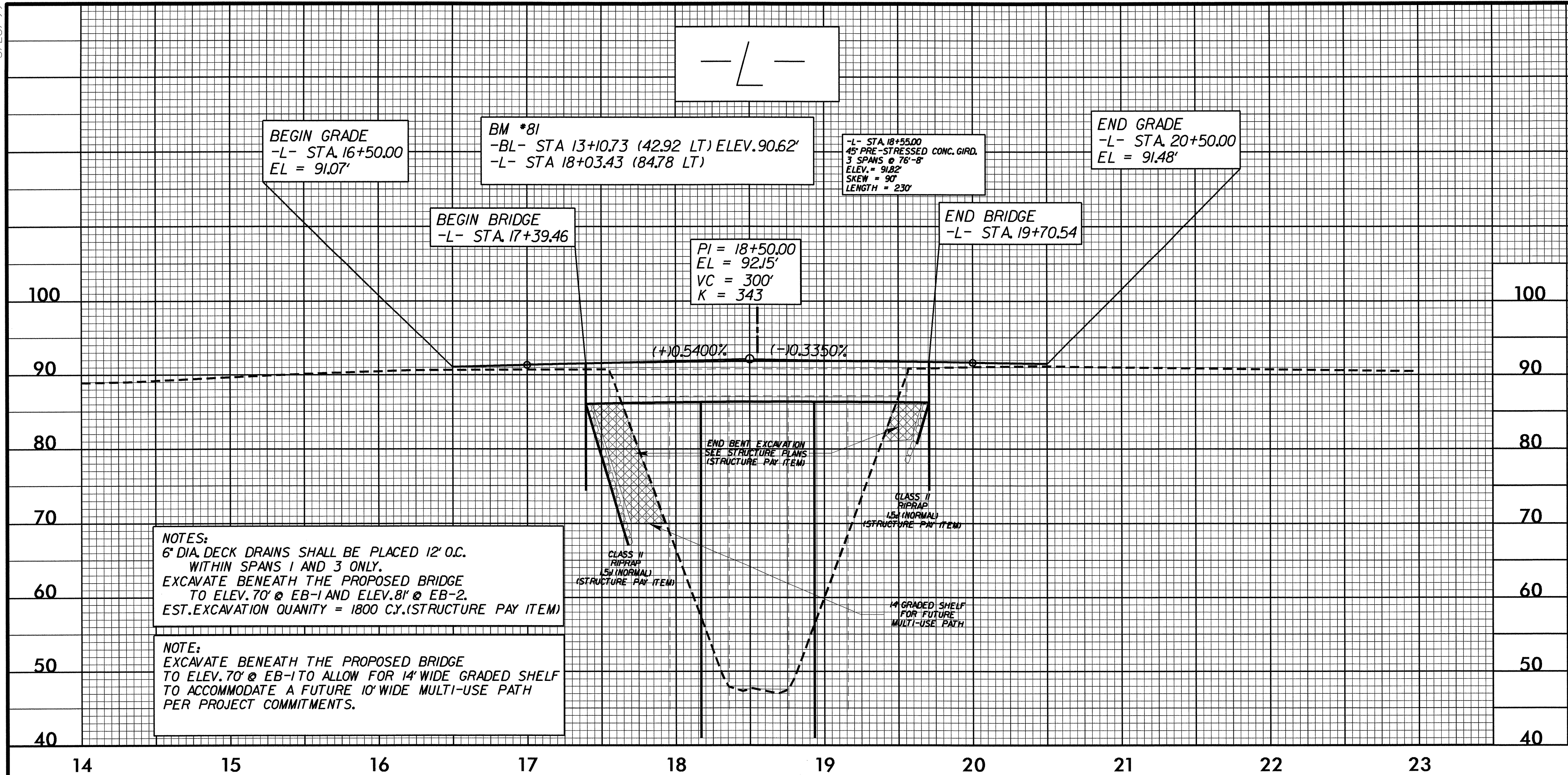
ItemNumber	Sec #	Quantity	Unit	Description
608400000-E	1660	6	ACR	SEEDING & MULCHING
608700000-E	1660	0.5	ACR	MOWING
609000000-E	1661	50	LB	SEED FOR REPAIR SEEDING
609300000-E	1661	0.25	TON	FERTILIZER FOR REPAIR SEEDING
609600000-E	1662	150	LB	SEED FOR SUPPLEMENTAL SEEDING
610800000-E	1665	4.5	TON	FERTILIZER TOPDRESSING
611450000-N	SP	100	MHR	SPECIALIZED HAND MOWING
611700000-N	SP	30	EA	RESPONSE FOR EROSION CONTROL
612300000-E	1670	0.4	ACR	REFORESTATION

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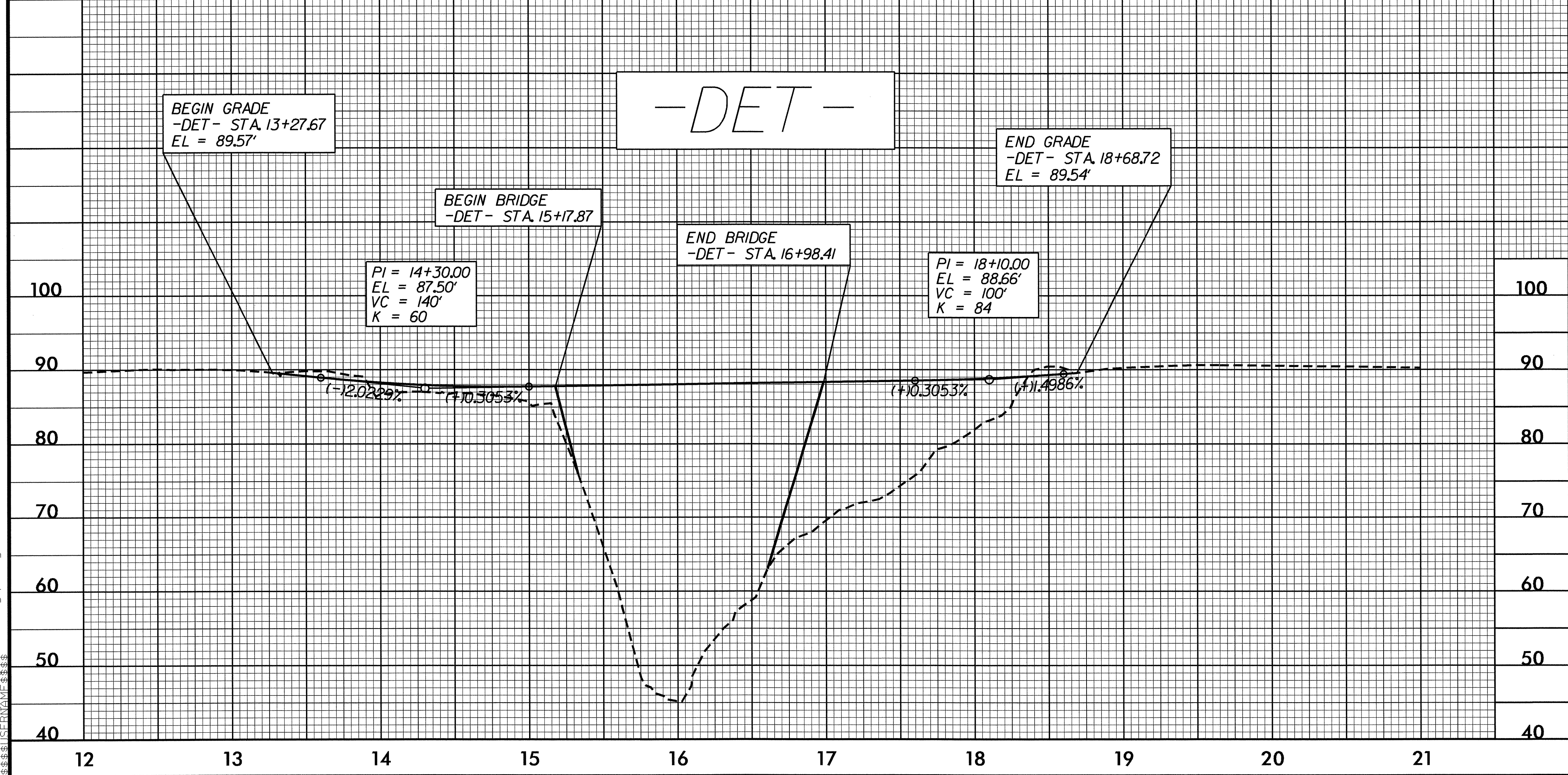
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PROJECT REFERENCE NO. B-4090	SHEET NO. 5
ROADWAY DESIGN ENGINEER MASON M. TALLEY SEAL 02477 ENGINEER 8-11-11	HYDRAULICS ENGINEER PAUL F. FISHER SEAL 12515 ENGINEER 8/11/2011



NOTES:
6" DIA. DECK DRAINS SHALL BE PLACED 12' O.C. WITHIN SPANS 1 AND 3 ONLY.
EXCAVATE BENEATH THE PROPOSED BRIDGE TO ELEV. 7.0' @ EB-1 AND ELEV. 8.1' @ EB-2. EST. EXCAVATION QUANTITY = 1800 CY. (STRUCTURE PAY ITEM)

NOTE:
EXCAVATE BENEATH THE PROPOSED BRIDGE TO ELEV. 7.0' @ EB-1 TO ALLOW FOR 14' WIDE GRADED SHELFF TO ACCOMMODATE A FUTURE 10' WIDE MULTI-USE PATH PER PROJECT COMMITMENTS.



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