TIP PROJECT: B-5155

CONTRACT: C203356

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-5155		

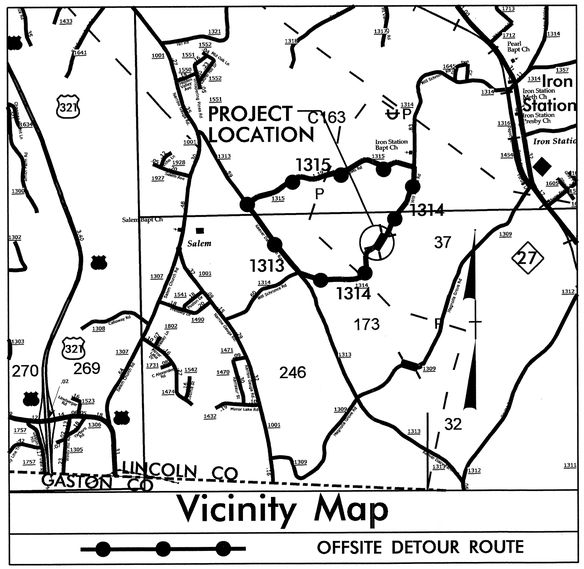
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
42323.1.1	BRZ-1314(5)	PE
42323.2.1	BRZ-1314(5)	RW,UTIL
42323.3.FD1	BRZ-1314(5)	CONST.

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

LINCOLN COUNTY

LOCATION: BRIDGE NO. 37 ON SR 1314 OVER HOYLE CREEK

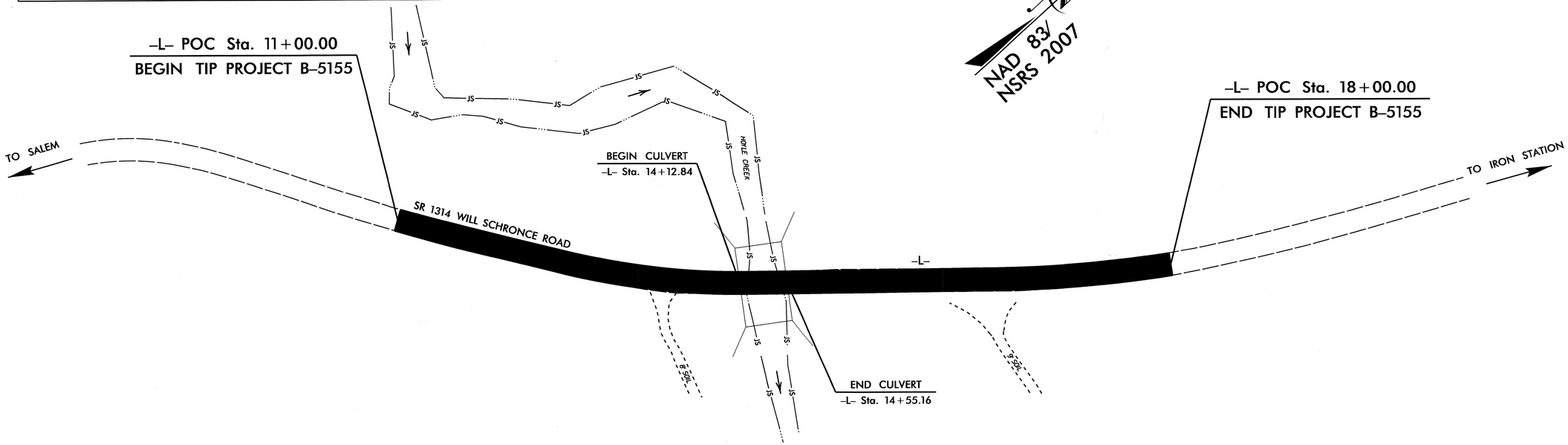
TYPE OF WORK: GRADING, DRAINAGE, PAVING, CULVERT



Vicinity Map

OFFSITE DETOUR ROUTE

NAD 83/
NSRS 2007



CULVERT

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

DESIGN DATA

ADT 2012 = 223
ADT 2035 = 400
DHV = 12 %
D = 55 %
T = 8 % *
V = 45 MPH
* TTST =1% DUAL 7%
FUNC CLASS =
RURAL LOCAL
SUBREGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY F.A. PROJECT BRZ-1314(5) = 0.125
LENGTH STRUCTURE F.A. PROJECT BRZ-1314(5) = 0.008
TOTAL LENGTH STATE PROJECT 42323.1.1 = 0.133

Prepared In the Office of:
DIVISION OF HIGHWAYS

2012 STANDARD SPECIFICATIONS

LETTING DATE:
FEBRUARY 18, 2014

PROJECT ENGINEER

L. E. SUTTON, PE
PROJECT DESIGN ENGINEER

STRUCTURE DESIGN UNIT
1000 BIRCH RIDGE DR.
RALEIGH, N.C. 27610

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

P.E.
STATE DESIGN ENGINEER

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED
DIVISION ADMINISTRATOR *DATE*

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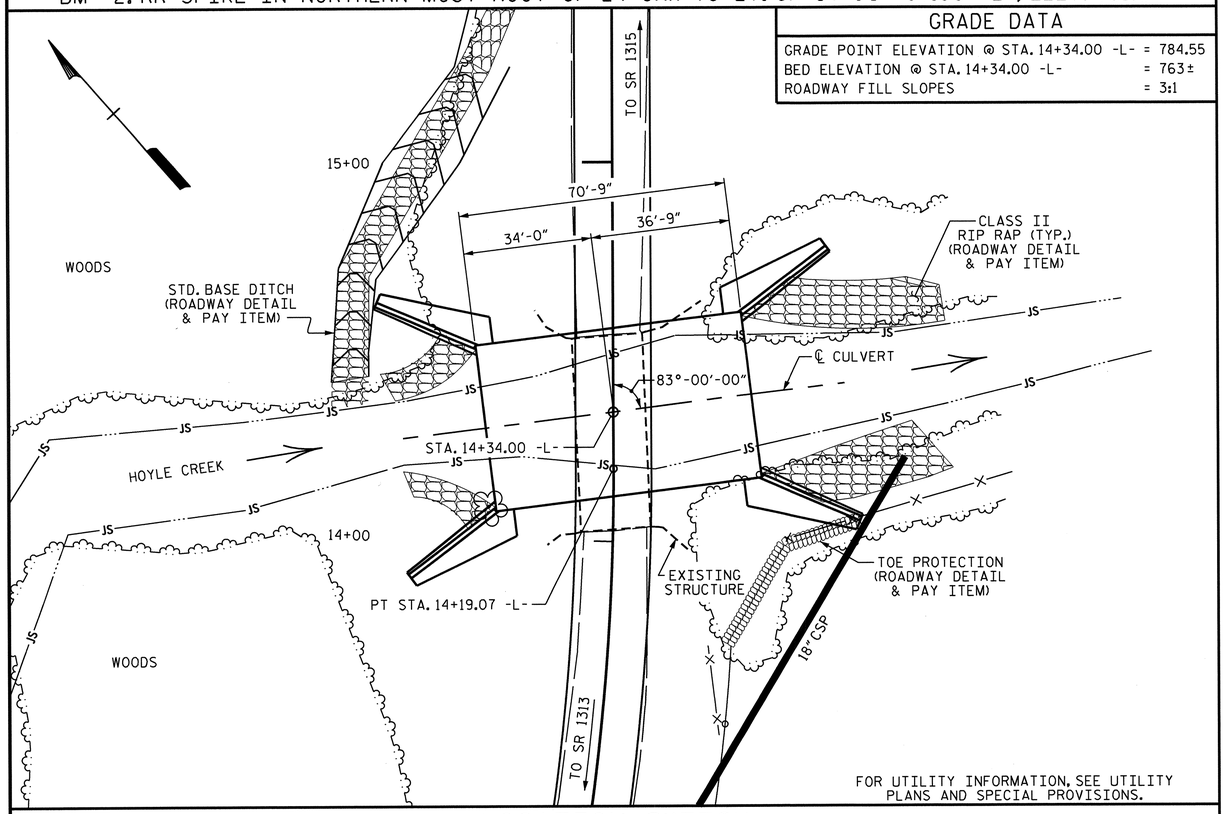
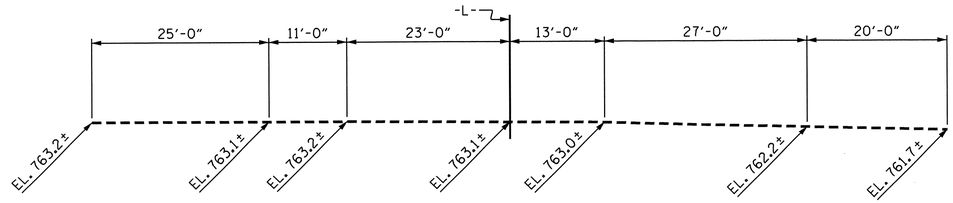
BM# 2: RR SPIKE IN NORTHERN MOST ROOT OF 24" OAK 70' LT. OF STA. 14+97.00 -L-, ELEV. 781.07

GRADE DATA	
GRADE POINT ELEVATION @ STA. 14+34.00 -L-	= 784.55
BED ELEVATION @ STA. 14+34.00 -L-	= 763±
ROADWAY FILL SLOPES	= 3:1



FOR UTILITY INFORMATION, SEE UTILITY PLANS AND SPECIAL PROVISIONS.

LOCATION SKETCH



PROFILE ALONG ℄ CULVERT

F.A. PROJECT No.: BRZ-1314(5)

NOTES

ASSUMED LIVE LOAD = HL-93 OR ALTERNATE LOADING.

MAXIMUM EARTH COVER = 8.3 FT.

THE RESIDENT ENGINEER SHALL CHECK THE LENGTH OF CULVERT BEFORE STAKING IT OUT TO MAKE CERTAIN THAT IT WILL PROPERLY TAKE CARE OF THE FILL.

FOR OTHER DESIGN DATA AND GENERAL NOTES, SEE SHEET SN.

FOR PRECAST REINFORCED CONCRETE THREE-SIDED CULVERT, SEE SPECIAL PROVISIONS.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

THE CONTRACTOR SHALL PROVIDE INDEPENDENT ASSURANCE SAMPLES OF REINFORCING STEEL AS FOLLOWS: FOR PROJECTS REQUIRING UP TO 400 TONS OF REINFORCING STEEL, ONE 30 INCH SAMPLE OF EACH SIZE BAR USED, AND FOR PROJECTS REQUIRING OVER 400 TONS OF REINFORCING STEEL, TWO 30 INCH SAMPLES OF EACH SIZE BAR USED. THE BARS FORM WHICH THE SAMPLES ARE TAKEN MUST THEN BE SPLICED WITH REPLACEMENT BARS OF THE SIZE AND LENGTH OF THE SAMPLE, PLUS A MINIMUM LAP SPLICE OF THIRTY BAR DIAMETERS. PAYMENT FOR THE SAMPLES OF REINFORCING STEEL SHALL BE CONSIDERED INCIDENTAL TO VARIOUS PAY ITEMS.

INASMUCH AS THE PAINT SYSTEM ON THE EXISTING STRUCUTRAL STEEL CONTAINS LEAD, THE CONTRACTOR'S ATTENTION IS DIRECTED TO ARTICLE 107-1 OF THE STANDARD SPECIFICATIONS. ANY COSTS RESULTING FROM COMPLIANCE WITH APPLICABLE STATE OR FEDERAL REGULATIONS PERTAINING TO HANDLING OF MATERIALS CONTAINING LEAD BASED PAINT SHALL BE INCLUDED IN THE BID PRICE FOR "REMOVAL OF EXISTING STRUCTURE AT STATION 14+34.00 -L-".

THE EXISTING STRUCTURE CONSISTING OF 2-SPANS (1 @ 30'-0" AND 1 @ 21'-0") WITH AN ASPHALT WEARING SURFACE ON A DOUBLE TIMBER DECK ON I-BEAMS WITH A 19.2' CLEAR ROADWAY WIDTH AND SUPPORTED ON A SUBSTRUCTURE OF MASONARY ABUTMENTS, TIMBER CAPS, POSTS, SILLS, AND CONCRETE FOOTINGS SHALL BE REMOVED. THE EXISTING BRIDGE IS PRESENTLY POSTED BELOW THE LEGAL LOAD LIMIT. SHOULD THE STRUCTURAL INTEGRITY OF THE BRIDGE FURTHER DETERIORATE, THIS LOAD LIMITATION MAY BE REDUCED AS FOUND NECESSARY DURING THE LIFE OF THE PROJECT.

THE SUBSTRUCTURE OF THE EXISTING BRIDGE INDICATED ON THE PLANS IS FROM THE BEST INFORMATION AVAILABLE. SINCE THIS INFORMATION IS SHOWN FOR THE CONVENIENCE OF THE CONTRACTOR, THE CONTRACTOR SHALL HAVE NO CLAIM WHATSOEVER AGAINST THE DEPARTMENT OF TRANSPORTATION FOR ANY DELAYS OR ADDITIONAL COST INCURRED BASED ON THE DIFFERENCES BETWEEN THE EXISTING BRIDGE SUBSTRUCTURE SHOWN ON THE PLANS AND THE ACTUAL CONDITIONS AT THE PROJECT SITE.

REMOVAL OF THE EXISTING STRUCTURE SHALL BE PERFORMED SO AS NOT TO ALLOW DEBRIS TO FALL INTO THE WATER. THE CONTRACTOR SHALL REMOVE THE STRUCTURE AND SUBMIT PLANS FOR DEMOLITION IN ACCORDANCE WITH ARTICLE 402-2 OF THE STANDARD SPECIFICATIONS.

THIS STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH "HEC 18 - EVALUATING SCOUR AT BRIDGES", MAY 2001.

FOR CULVERT DIVERSION DETAILS AND PAY ITEM, SEE EROSION CONTROL PLANS.

A 3 FOOT STRIP OF FILTER FABRIC SHALL BE ATTACHED TO THE FILL FACE OF THE WING COVERING THE ENTIRE LENGTH OF THE EXPANSION JOINT.

THE REQUIRED BEARING CAPACITY OF THE STRIP FOOTINGS IS 4 TSF. THE REQUIRED BEARING CAPACITY SHALL BE VERIFIED.

FOOTINGS SHALL BE KEYED A MINIMUM OF 6" INTO ROCK WITH A MINIMUM THICKNESS AS SHOWN ON THE PLANS.

TO PROVIDE PROTECTION FROM POSSIBLE SCOUR, THE FOOTINGS SHALL NOT BE CONSTRUCTED AT AN ELEVATION HIGHER THAN SHOWN ON THE PLANS.

THE SCOUR CRITICAL ELEVATION IS THE AS BUILT BOTTOM OF FOOTING ELEVATION. THE SCOUR CRITICAL ELEVATIONS ARE FOR USE BY MAINTENANCE FORCES TO MONITOR POSSIBLE SCOUR PROBLEMS DURING THE LIFE OF THE STRUCTURE.

FOR BLASTING ADJACENT TO HIGHWAY STRUCTURES, SEE STANDARD SPECIFICATIONS ARTICLE 410-12.

THE BOTTOM OF FOOTING ELEVATION MAY BE LOWERED IN ORDER TO SATISFY BEARING CAPACITY AND MINIMUM ROCK EMBEDMENT REQUIREMENTS.

HYDRAULIC DATA	
DESIGN DISCHARGE	= 1600 C.F.S.
FREQUENCY OF DESIGN FLOOD	= 25 YRS.
DESIGN HIGH WATER ELEVATION	= 768.8
DRAINAGE AREA	= 5.75 SQ. MI.
BASE DISCHARGE (Q100)	= 2559 C.F.S.
BASE HIGH WATER ELEVATION	= 770.39
OVERTOPPING FLOOD DATA	
OVERTOPPING DISCHARGE	= 3000+ C.F.S.
FREQUENCY OF OVERTOPPING FLOOD	= 500+
OVERTOPPING FLOOD ELEVATION	= 784.5

TOTAL STRUCTURE QUANTITES	
REMOVAL OF EXISTING STRUCTURE	LUMP SUM
UNCLASSIFED STRUCTURE EXCAVATION	LUMP SUM
CLASS A CONCRETE	131.4 CU.YDS.
PRECAST REINFORCED CONCRETE THREE-SIDED CULVERT	LUMP SUM

I HEREBY CERTIFY THESE PLANS ARE THE AS-BUILT PLANS

PROJECT NO. B-5155

LINCOLN COUNTY

STATION: 14+34.00 -L-

SHEET 1 OF 4 REPLACES BRIDGE NO. 37

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

PRECAST REINFORCED CONCRETE THREE-SIDED CULVERT

83° SKEW

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	C-1
1			3			TOTAL SHEETS
2			4			4

STD. NO. PTSC1

NORTH CAROLINA PROFESSIONAL SEAL 21838 ENGINEER LAURA E. SUTTON 11/6/13

ASSEMBLED BY : H.T. DIEU DATE : 7/17/12	SPECIAL	
CHECKED BY : J.D. HAWK DATE : 7/31/12		
DRAWN BY : K.H. COMPTON DATE : JULY, 2011	STANDARD	DESIGN ENGINEER OF RECORD: G.W. DICKEY DATE : 11-6-13
CHECKED BY : R.W. WRIGHT DATE : JULY, 2011		

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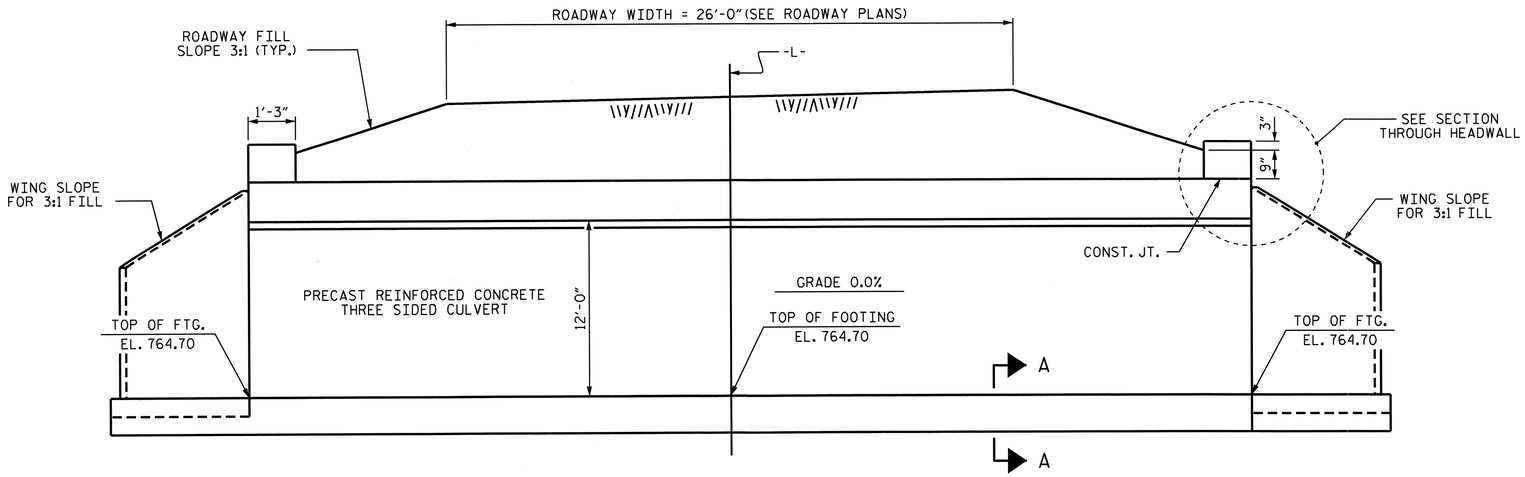
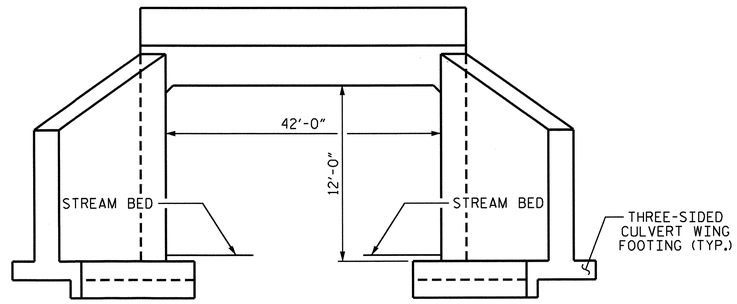


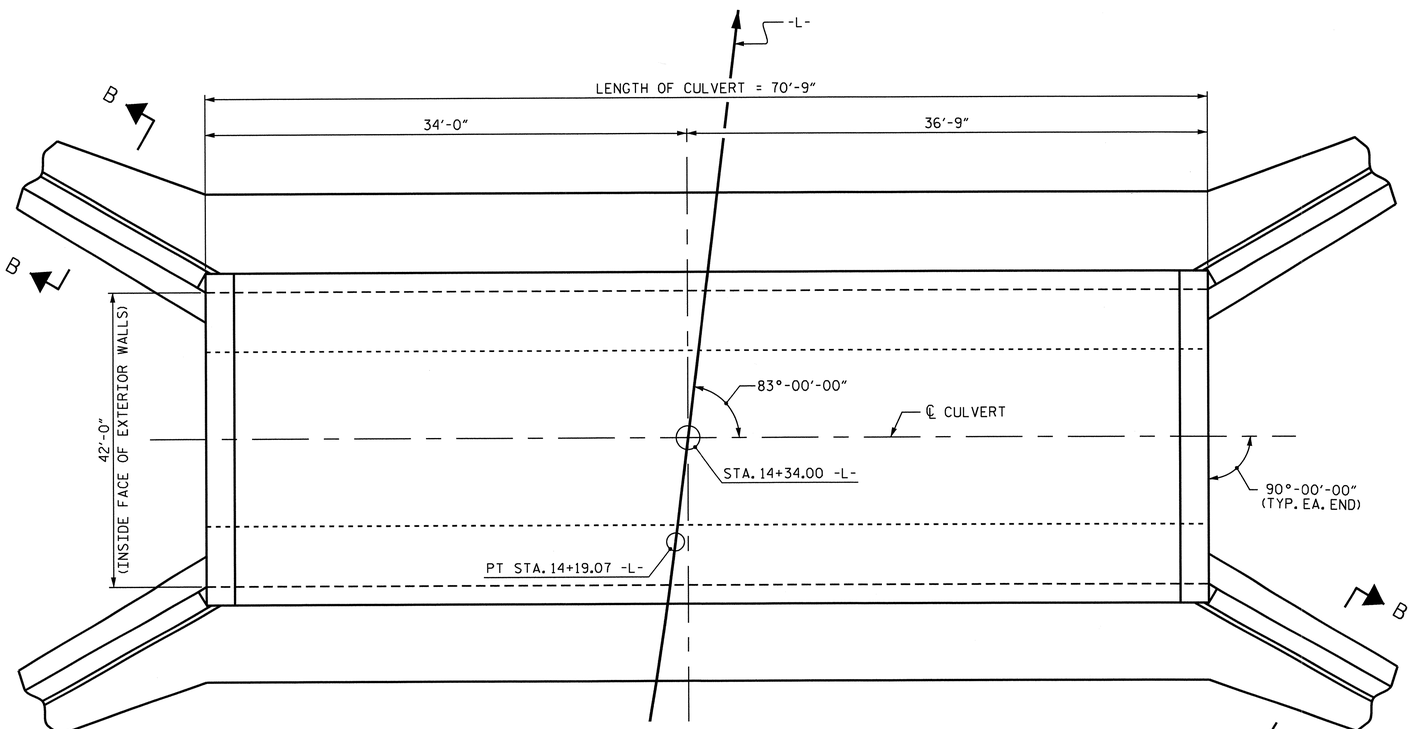
CULVERT SECTION NORMAL TO ROADWAY

NOTE : SEE SHEET 3 OF 4 FOR SECTION A-A



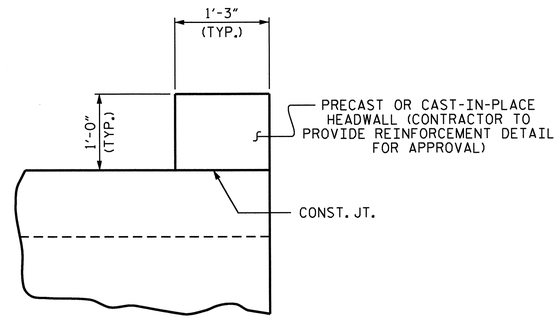
END ELEVATION

CURTAIN WALL NOT REQUIRED WHEN FOOTINGS ARE KEYED INTO ROCK



LENGTH FOR PRECAST THREE-SIDED CULVERT

NOTE : SEE SHEET 3 OF 4 FOR SECTION B-B



SECTION THROUGH HEADWALL

ASSEMBLED BY : H.T. DIEU	DATE : 7/17/12	SPECIAL
CHECKED BY : J.D. HAWK	DATE : 7/31/12	
DRAWN BY : K.H. COMPTON	DATE : JULY, 2011	STANDARD
CHECKED BY : R.W. WRIGHT	DATE : JULY, 2011	

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PROJECT NO. B-5155

LINCOLN COUNTY

STATION: 14+34.00 -L-

SHEET 2 OF 4

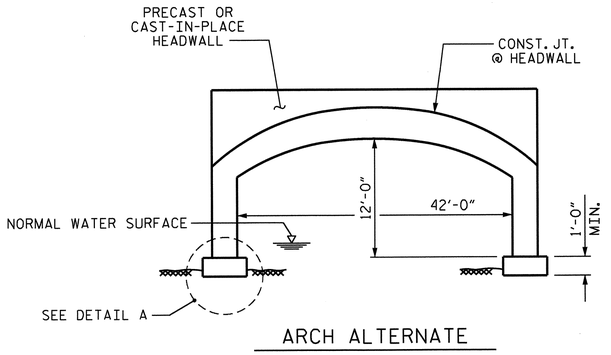
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

PRECAST REINFORCED CONCRETE THREE-SIDED CULVERT

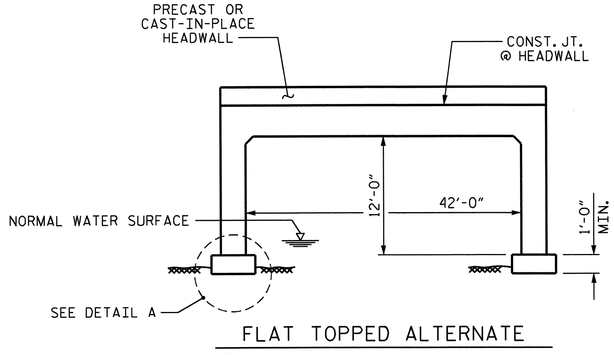
83° SKEW

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	C-2
1			3			TOTAL SHEETS
2			4			4

STD. NO. PTSC2

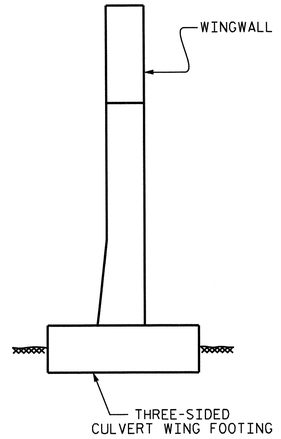


ARCH ALTERNATE



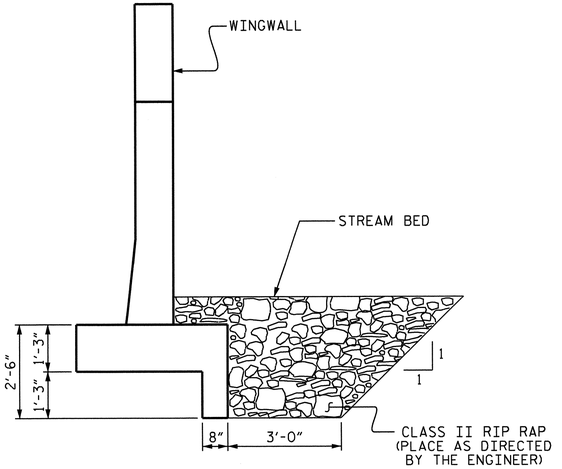
FLAT TOPPED ALTERNATE

RIGHT ANGLE SECTION OF PRECAST CONCRETE THREE-SIDED CULVERT



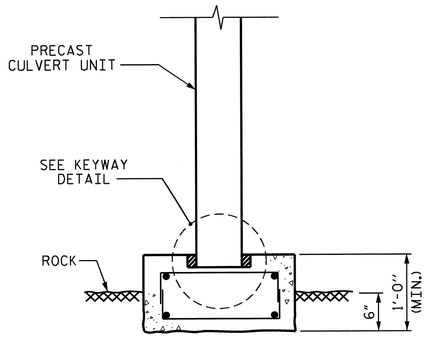
SECTION B-B

CURTAIN WALL NOT REQUIRED WHEN FOOTINGS ARE KEYED INTO ROCK



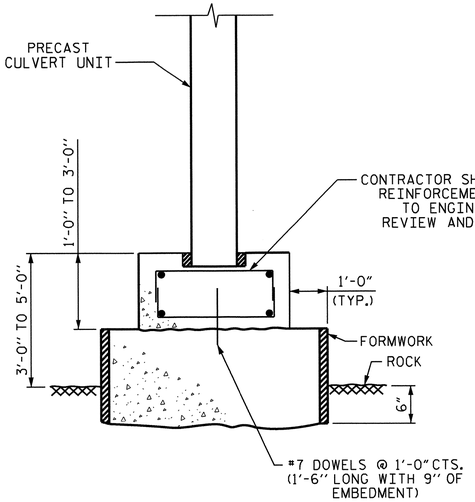
SECTION B-B

WHEN FOOTINGS CANNOT BE KEYED INTO ROCK



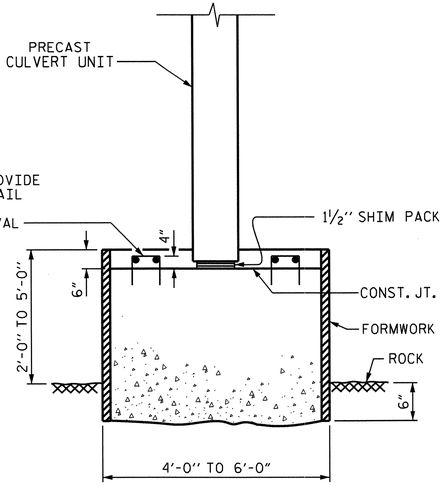
DETAIL A

FOOTING KEYED 6" INTO ROCK



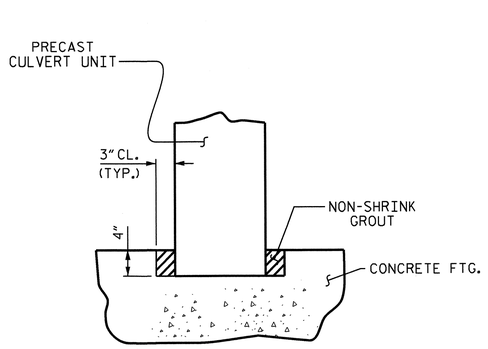
DETAIL A

OPTION #1 - SUB-FOOTING KEYED 6" INTO ROCK



DETAIL A

OPTION #2 - MONOLITHIC SUB-FOOTING KEYED 6" INTO ROCK



KEYWAY DETAIL

NOTE:
OPTIONS #1 AND #2 REPRESENT THE FOUNDATION ALTERNATIVES WHEN THE ROCKLINE IS BELOW THE FOOTING.

ASSEMBLED BY : H.T. DIEU	DATE : 7/17/12	SPECIAL
CHECKED BY : J.D. HAWK	DATE : 7/31/12	
DRAWN BY : K.H. COMPTON	DATE : JULY, 2011	STANDARD
CHECKED BY : R.W. WRIGHT	DATE : JULY, 2011	

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NORTH CAROLINA PROFESSIONAL SEAL 21838 ENGINEER LAURA E. SUTTON 12/16/13

PROJECT NO. B-5155

LINCOLN COUNTY

STATION: 14+34.00 -L-

SHEET 3 OF 4

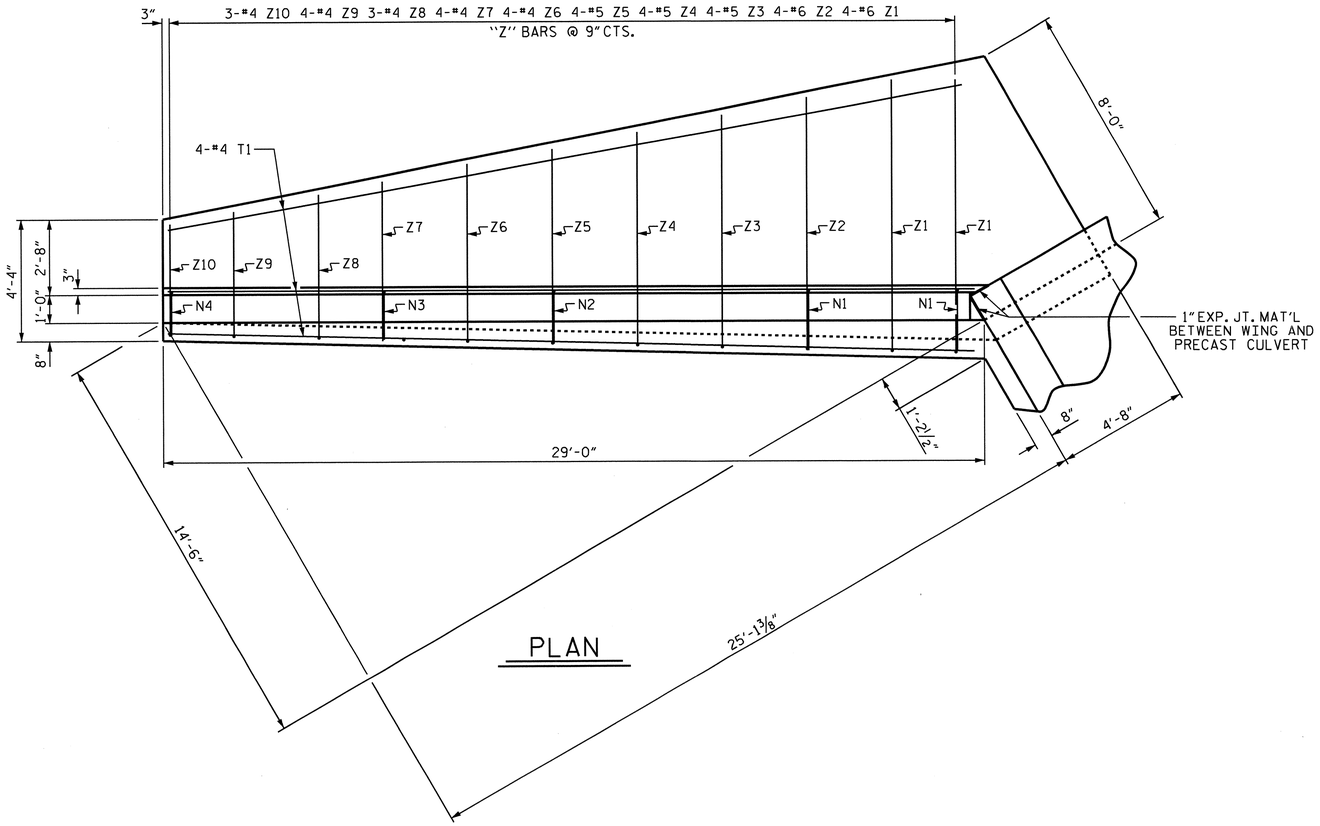
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

PRECAST REINFORCED CONCRETE THREE-SIDED CULVERT

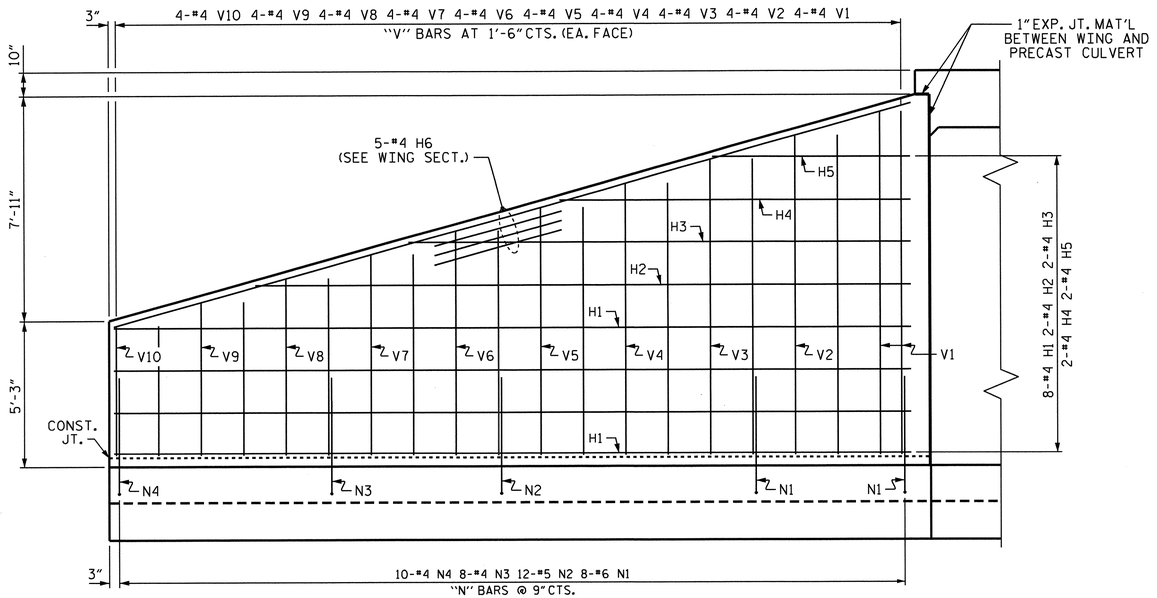
83° SKEW

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	C-3
1			3			TOTAL SHEETS
2			4			4

STD. NO. PTSC3

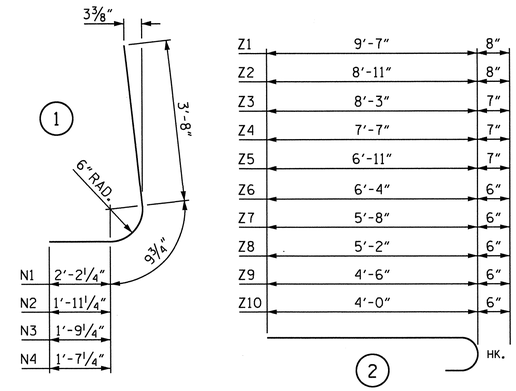


PLAN



ELEVATION

BAR TYPES

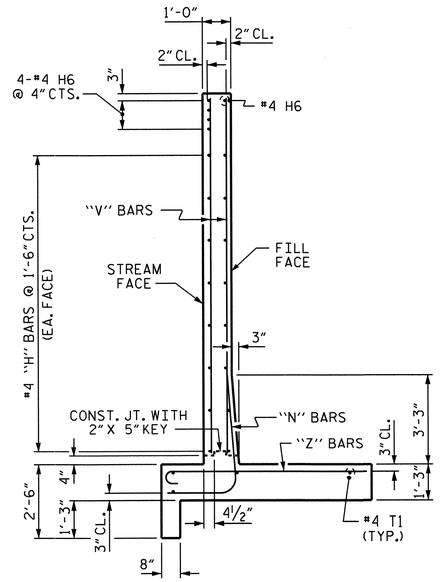


ALL BAR DIMENSIONS ARE OUT TO OUT.

BILL OF MATERIAL

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
H1	32	#4	STR	28'-2"	602
H2	8	#4	STR	23'-2"	124
H3	8	#4	STR	17'-9"	95
H4	8	#4	STR	12'-5"	66
H5	8	#4	STR	7'-0"	37
H6	20	#4	STR	29'-3"	391
N1	32	#6	1	6'-8"	320
N2	48	#5	1	6'-5"	321
N3	32	#4	1	6'-3"	134
N4	40	#4	1	6'-1"	163
T1	16	#4	STR	28'-6"	305
V1	16	#4	STR	12'-2"	130
V2	16	#4	STR	11'-4"	121
V3	16	#4	STR	10'-6"	112
V4	16	#4	STR	9'-8"	103
V5	16	#4	STR	8'-10"	94
V6	16	#4	STR	8'-0"	86
V7	16	#4	STR	7'-2"	77
V8	16	#4	STR	6'-4"	68
V9	16	#4	STR	5'-6"	59
V10	16	#4	STR	4'-8"	50
Z1	16	#6	2	10'-3"	246
Z2	16	#6	2	9'-7"	230
Z3	16	#5	2	8'-10"	147
Z4	16	#5	2	8'-2"	136
Z5	16	#5	2	7'-6"	125
Z6	16	#4	2	6'-10"	73
Z7	16	#4	2	6'-2"	66
Z8	12	#4	2	5'-8"	45
Z9	16	#4	2	5'-0"	53
Z10	12	#4	2	4'-6"	36

REINFORCING STEEL FOR 4 WINGS	LBS.	4,615
CLASS A CONCRETE		
4 WINGS	C.Y.	41.6
2 HEADWALLS	C.Y.	7.1
2 CURTAIN WALLS	C.Y.	3.6
4 WING FOOTINGS	C.Y.	44.5
TOTAL	C.Y.	96.8



TYPICAL WING SECTION

CURTAIN WALL NOT REQUIRED WHEN FOOTINGS ARE KEYED INTO ROCK

PROJECT NO. B-5155

LINCOLN COUNTY

STATION: 14+34.00 -L-

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

CAST-IN-PLACE WINGS FOR PRECAST CONCRETE BOX CULVERT

H = 12'-0" SLOPE = 3:1

90° SKEW

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	C-4
1			3			TOTAL SHEETS
2			4			4

NORTH CAROLINA PROFESSIONAL SEAL 21838 ENGINEER LAURA E. SUTTON 12/16/13

DRAWN BY :	L.E. SUTTON	DATE :	5/17/13
CHECKED BY :	J.D. HAWK	DATE :	6/17/13
DESIGN ENGINEER OF RECORD:	L.E. SUTTON	DATE :	11/06/13

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STANDARD NOTES

DESIGN DATA:

SPECIFICATIONS	A.A.S.H.T.O. (CURRENT)
LIVE LOAD	SEE PLANS
IMPACT ALLOWANCE	SEE A.A.S.H.T.O.
STRESS IN EXTREME FIBER OF	
STRUCTURAL STEEL - AASHTO M270 GRADE 36	20,000 LBS. PER SQ. IN.
- AASHTO M270 GRADE 50W	27,000 LBS. PER SQ. IN.
- AASHTO M270 GRADE 50	27,000 LBS. PER SQ. IN.
REINFORCING STEEL IN TENSION	
GRADE 60	24,000 LBS. PER SQ. IN.
CONCRETE IN COMPRESSION	1,200 LBS. PER SQ. IN.
CONCRETE IN SHEAR	SEE A.A.S.H.T.O.
STRUCTURAL TIMBER - TREATED OR	
UNTREATED - EXTREME FIBER STRESS	1,800 LBS. PER SQ. IN.
COMPRESSION PERPENDICULAR TO GRAIN OF TIMBER	375 LBS. PER SQ. IN.
EQUIVALENT FLUID PRESSURE OF EARTH	30 LBS. PER CU. FT. (MINIMUM)

MATERIAL AND WORKMANSHIP:

EXCEPT AS MAY OTHERWISE BE SPECIFIED ON PLANS OR IN THE SPECIAL PROVISIONS, ALL MATERIAL AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE 2012 "STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES" OF THE N. C. DEPARTMENT OF TRANSPORTATION.

STEEL SHEET PILING FOR PERMANENT OR TEMPORARY APPLICATIONS SHALL BE HOT ROLLED.

CONCRETE:

UNLESS OTHERWISE REQUIRED ON PLANS, CLASS A CONCRETE SHALL BE USED FOR ALL PORTIONS OF ALL STRUCTURES WITH THE EXCEPTION THAT: CLASS AA CONCRETE SHALL BE USED IN BRIDGE SUPERSTRUCTURES, ABUTMENT BACKWALLS, AND APPROACH SLABS; AND CLASS B CONCRETE SHALL BE USED FOR SLOPE PROTECTION AND RIP RAP.

CONCRETE CHAMFERS:

UNLESS OTHERWISE NOTED ON THE PLANS, ALL EXPOSED CORNERS ON STRUCTURES SHALL BE CHAMFERED 3/4" WITH THE FOLLOWING EXCEPTIONS: TOP CORNERS OF CURBS MAY BE ROUNDED TO 1-1/2" RADIUS WHICH IS BUILT INTO CURB FORMS; CORNERS OF TRANSVERSE FLOOR EXPANSION JOINTS SHALL BE ROUNDED WITH A 1/4" FINISHING TOOL UNLESS OTHERWISE REQUIRED ON PLANS; AND CORNERS OF EXPANSION JOINTS IN THE ROADWAY FACES AND TOPS OF CURBS AND SIDEWALKS SHALL BE ROUNDED TO A 1/4" RADIUS WITH A FINISHING STONE OR TOOL UNLESS OTHERWISE REQUIRED ON PLANS.

DOWELS:

DOWELS WHEN INDICATED ON PLANS AS FOR CULVERT EXTENSIONS, SHALL BE EMBEDDED AT LEAST 12" INTO THE OLD CONCRETE AND GROUTED INTO PLACE WITH 1:2 CEMENT MORTAR.

ALLOWANCE FOR DEAD LOAD DEFLECTION, SETTLEMENT, ETC. IN CASTING SUPERSTRUCTURES:

BRIDGES SHALL BE BUILT ON THE GRADE OR VERTICAL CURVE SHOWN ON PLANS. SLABS, CURBS AND PARAPETS SHALL CONFORM TO THE GRADE OR CURVE.

ALL DIMENSIONS WHICH ARE GIVEN IN SECTION AND ARE AFFECTED BY DEAD LOAD DEFLECTIONS ARE DIMENSIONS AT CENTER LINE OF BEARING UNLESS OTHERWISE NOTED ON PLANS. IN SETTING FORMS FOR STEEL BEAM BRIDGES AND PRESTRESSED CONCRETE GIRDER BRIDGES, ADJUSTMENTS SHALL BE MADE DUE TO THE DEAD LOAD DEFLECTIONS FOR THE ELEVATIONS SHOWN. WHERE BLOCKS ARE SHOWN OVER BEAMS FOR BUILDING UP TO THE SLAB, THE VERTICAL DIMENSIONS OF THE BLOCKS SHALL BE ADJUSTED BETWEEN BEARINGS TO COMPENSATE FOR DEAD LOAD DEFLECTIONS, VERTICAL CURVE ORDINATE, AND ACTUAL BEAM CAMBER. WHERE BOTTOM OF SLAB IS IN LINE WITH BOTTOM OF TOP FLANGES, DEPTH OF SLAB BETWEEN BEARINGS SHALL BE ADJUSTED TO COMPENSATE FOR DEAD LOAD DEFLECTION, VERTICAL CURVE ORDINATE, AND ACTUAL BEAM CAMBER.

IN SETTING FALSEWORK AND FORMS FOR REINFORCED CONCRETE SPANS, AN ALLOWANCE SHALL BE MADE FOR DEAD LOAD DEFLECTIONS, SETTLEMENT OF FALSEWORK, AND PERMANENT CAMBER WHICH SHALL BE PROVIDED FOR IN ADDITION TO THE ELEVATIONS SHOWN. AFTER REMOVAL OF THE FALSEWORK, THE FINISHED STRUCTURES SHALL CONFORM TO THE PROFILE AND ELEVATIONS SHOWN ON THE PLANS AND CONSTRUCTION ELEVATIONS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR FALSEWORK OR FORMS FOR BRIDGE SUPERSTRUCTURE AND ANY STRUCTURE OR PARTS OF A STRUCTURE AS NOTED ON THE PLANS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL BEFORE CONSTRUCTION OF THE FALSEWORK OR FORMS IS STARTED.

REINFORCING STEEL:

ALL REINFORCING STEEL SHALL BE DEFORMED. DIMENSIONS RELATIVE TO PLACEMENT OF REINFORCING ARE TO CENTERS OF BARS UNLESS OTHERWISE INDICATED IN THE PLANS. DIMENSIONS ON BAR DETAILS ARE TO CENTERS OF BARS OR ARE OUT TO OUT AS INDICATED ON PLANS.

WIRE BAR SUPPORTS SHALL BE PROVIDED FOR REINFORCING STEEL WHERE INDICATED ON THE PLANS. WHEN BAR SUPPORT PIECES ARE PLACED IN CONTINUOUS LINES, THEY SHALL BE SO PLACED THAT THE ENDS OF THE SUPPORTING WIRES SHALL BE LAPPED TO LOCK LEGS ON ADJOINING PIECES.

STRUCTURAL STEEL:

AT THE CONTRACTOR'S OPTION, HE MAY SUBSTITUTE 7/8" Ø SHEAR STUDS FOR THE 3/4" Ø STUDS SPECIFIED ON THE PLANS. THIS SUBSTITUTION SHALL BE MADE AT THE RATE OF 3 - 7/8" Ø STUDS FOR 4 - 3/4" Ø STUDS, AND STUD SPACING CHANGES SHALL BE MADE AS NECESSARY TO PROVIDE THE SAME EQUIVALENT NUMBER OF 7/8" Ø STUDS ALONG THE BEAM AS SHOWN FOR 3/4" Ø STUDS BASED ON THE RATIO OF 3 - 7/8" Ø STUDS FOR 4 - 3/4" Ø STUDS. STUDS OF THE LENGTH SPECIFIED ON THE PLANS MUST BE PROVIDED. THE MAXIMUM SPACING SHALL BE 2'-0".

EXCEPT AT THE INTERIOR SUPPORTS OF CONTINUOUS BEAMS WHERE THE COVER PLATE IS IN CONTACT WITH BEARING PLATE, THE CONTRACTOR MAY, AT HIS OPTION, SUBSTITUTE FOR THE COVER PLATES DESIGNATED ON THE PLANS COVER PLATES OF THE EQUIVALENT AREA PROVIDED THESE PLATES ARE AT LEAST 5/16" IN THICKNESS AND DO NOT EXCEED A WIDTH EQUAL TO THE FLANGE WIDTH LESS 2" OR A THICKNESS EQUAL TO 2 TIMES THE FLANGE THICKNESS. THE SIZE OF FILLET WELDS SHALL CONFORM TO THE REQUIREMENTS OF THE CURRENT ANSI/AASHTO/AWS "BRIDGE WELDING CODE". ELECTROSLAG WELDING WILL NOT BE PERMITTED.

WITH THE SOLE EXCEPTION OF EDGES AT SURFACES WHICH BEAR ON OTHER SURFACES, ALL SHARP EDGES AND ENDS OF SHAPES AND PLATES SHALL BE SLIGHTLY ROUNDED BY SUITABLE MEANS TO A RADIUS OF APPROXIMATELY 1/16 INCH OR EQUIVALENT FLAT SURFACE AT A SUITABLE ANGLE PRIOR TO PAINTING, GALVANIZING, OR METALLIZING.

HANDRAILS AND POSTS:

METAL STANDARDS AND FACES OF THE CONCRETE END POSTS FOR THE METAL RAIL SHALL BE SET NORMAL TO THE GRADE OF THE CURB, UNLESS OTHERWISE SHOWN ON PLANS. THE METAL RAIL AND TOPS OF CONCRETE POSTS USED WITH THE ALUMINUM RAIL SHALL BE BUILT PARALLEL TO THE GRADE OF THE CURB.

METAL HANDRAILS SHALL BE IN ACCORDANCE WITH THE PLANS. RAILS SHALL BE AS MANUFACTURED FOR BRIDGE RAILING. CASTINGS SHALL BE OF A UNIFORM APPEARANCE. FINS AND OTHER DEFORMATIONS RESULTING FROM CASTING OR OTHERWISE SHALL BE REMOVED IN A MANNER SO THAT A UNIFORM COLORING OF THE COMPLETED CASTING SHALL BE OBTAINED. CASTINGS WITH DISCOLORATIONS OR OF NON-UNIFORM COLORING WILL NOT BE ACCEPTED. CERTIFIED MILL REPORTS ARE REQUIRED FOR METAL RAILS AND POSTS.

SPECIAL NOTES:

GENERALLY, IN CASE OF DISCREPANCY, THIS STANDARD SHEET OF NOTES SHALL GOVERN OVER THE SPECIFICATIONS, BUT THE REMAINDER OF THE PLANS SHALL GOVERN OVER NOTES HEREON, AND SPECIAL PROVISIONS SHALL GOVERN OVER ALL. SEE SPECIFICATIONS ARTICLE 105-4.

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