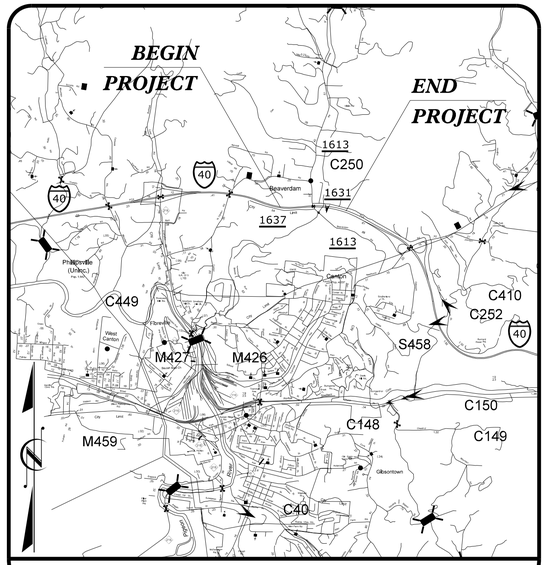
TIP PROJECT: HB–0002

CONTRACT: C204796



VICINITY MAP

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

HAYWOOD COUNTY

NAD 83/NA 2011

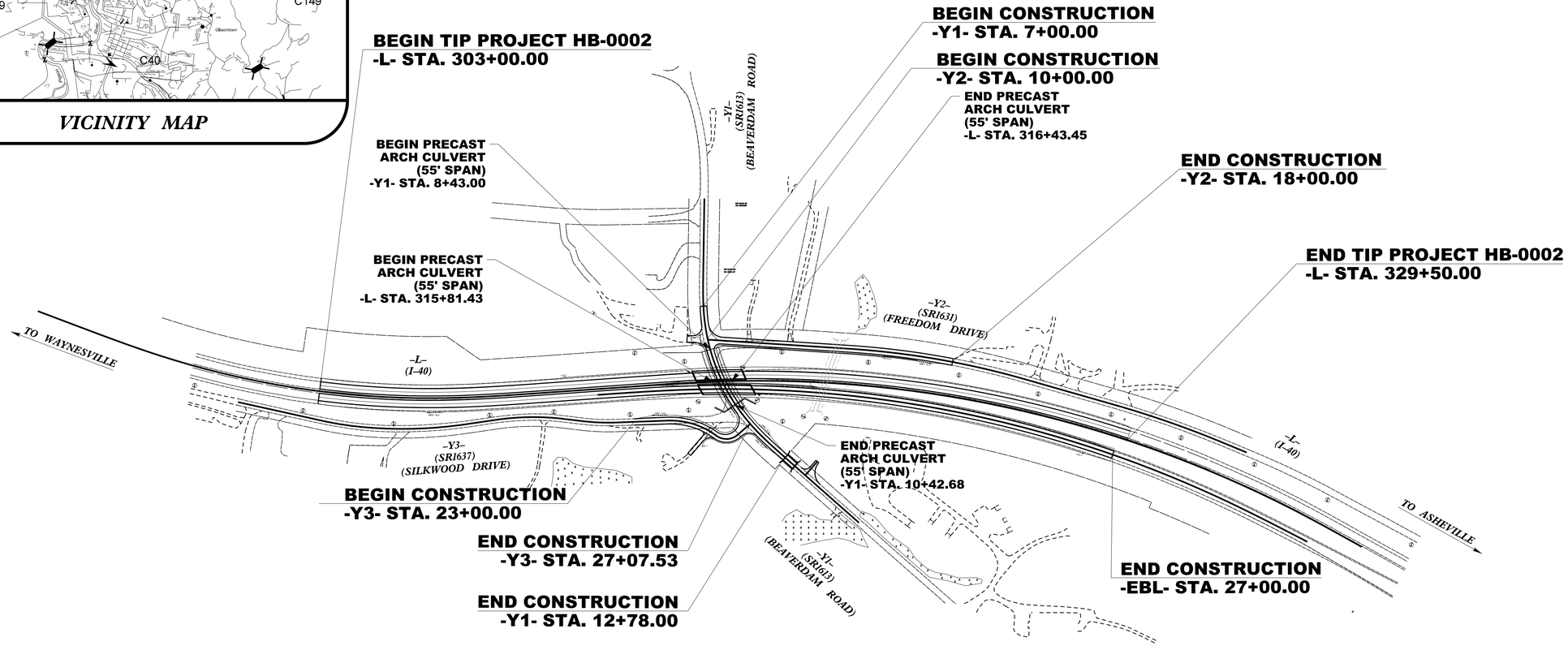
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	HB–0002		

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
49622.1.1		PE
49622.2.1		R/W & UTIL.
49622.3.1	0040119	CONST.

LOCATION: BRIDGES 248 & 249 ON I–40 OVER SR 1613 (BEAVERDAM ROAD)

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

STRUCTURE PLANS



DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

DESIGN DATA

ADT 2024 = 61,000
ADT 2044 = 87,400
K = 7 %
D = 55 %
T = 20 % *
V = 70 MPH
* TTST = 4% DUAL = 16%

FUNC. CLASS = INTERSTATE

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT HB–0002 = 0.49 MILES
LENGTH STRUCTURE TIP PROJECT HB–0002 = 0.01 MILES

TOTAL LENGTH TIP PROJECT HB–0002 = 0.50 MILES

Prepared in the Office of:
WETHERILL ENGINEERING
1223 Jones Franklin Rd. Raleigh, N.C. 27606
License No. F-0377
Bus: 919.851.8077 Fax: 919.851.8107

2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: AUG 2023

LETTING DATE: MAY 28 2024

Prepared for:
DIVISION OF HIGHWAYS
DIVISION 14
253 Webster Road
Sylva NC, 28779

GREG PURVIS, PE
PROJECT ENGINEER

TOM K. KOCH, PE
PROJECT DESIGN ENGINEER

NCDOT CONTACT: ZACH SHULER
BRIDGE PROGRAM MANAGER

STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION ·

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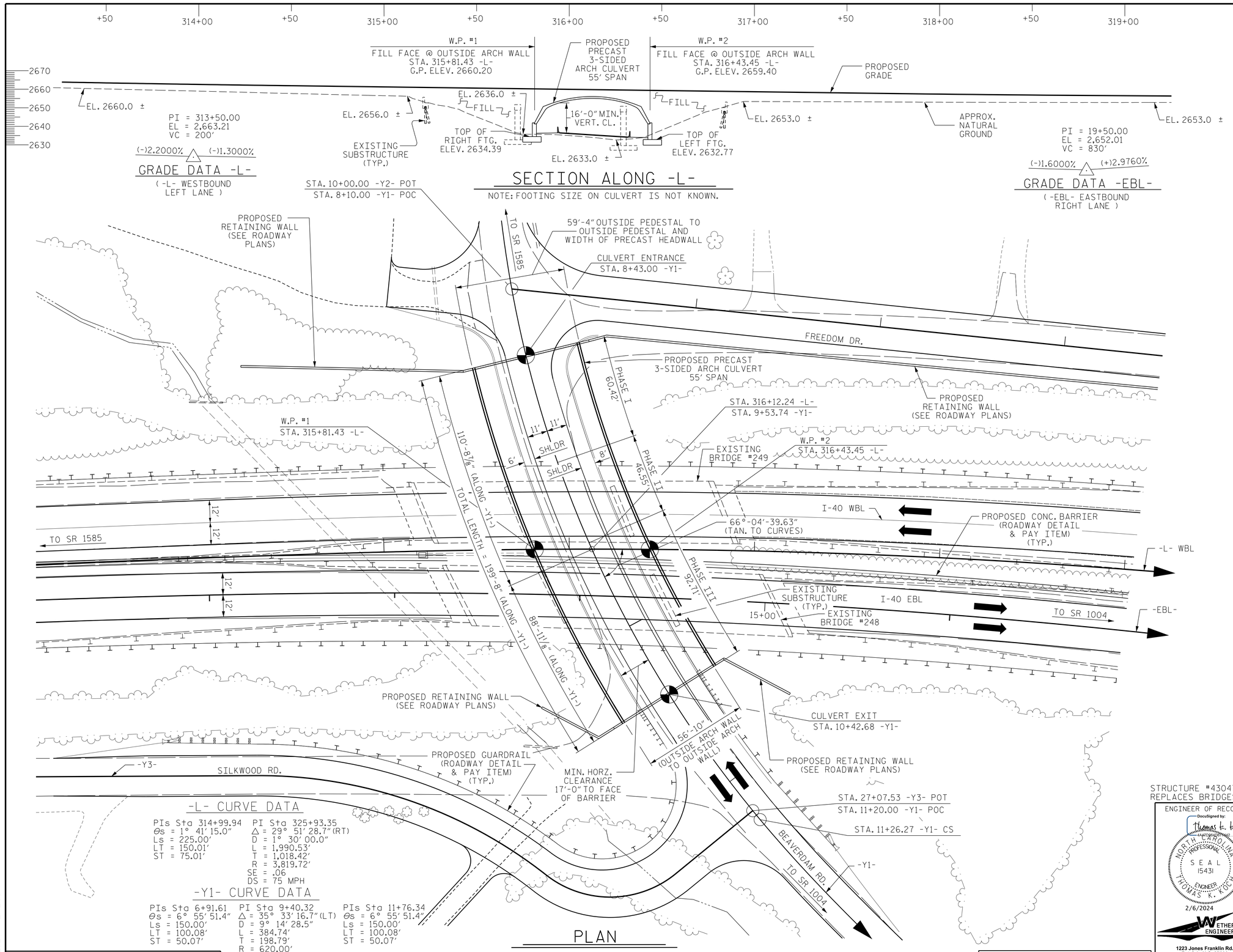
F.A. PROJECT No. 0040119



PLAN

-L- CURVE DATA

PIs Sta 314+99.94
Θs = 1° 41' 15.0"
Ls = 225.00'
LT = 150.01'
ST = 75.01'

PI Sta 325+93.35
Δ = 29° 51' 28.7"(RT)
D = 1° 30' 00.0"
L = 1,990.53'
T = 1,018.42'
R = 3,819.72'
SE = .06
DS = 75 MPH

-Y1- CURVE DATA

PIs Sta 6+91.61
Θs = 6° 55' 51.4"
Ls = 150.00'
LT = 100.08'
ST = 50.07'

PI Sta 9+40.32
Δ = 35° 33' 16.7"(LT)
D = 9° 14' 28.5"
L = 384.74'
T = 198.79'
R = 620.00'
SE = .06
DS = 40 MPH

PIs Sta 11+76.34
Θs = 6° 55' 51.4"
Ls = 150.00'
LT = 100.08'
ST = 50.07'

DRAWN BY : J. PENDERGRAFT/DAH DATE : 7-22
CHECKED BY : T. KOCH DATE : 8-22

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PROJECT NO. HB-0002
HAYWOOD COUNTY
STATION: 316+12.24 -L-
9+53.74 -Y1-
STRUCTURE #430473 SHEET 1 OF 5
REPLACES BRIDGES #430248 & #430249

ENGINEER OF RECORD
DocuSigned by: Thomas K. Koch
NORTH CAROLINA PROFESSIONAL SEAL 15431 ENGINEER THOMAS K. KOCH
2/6/2024

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STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING

CULVERT UNDER I-40 (WBL AND EBL) ON SR 1613 (BEAVERDAM RD.) BETWEEN SR 1585 AND SR 1004

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-1
1			3			TOTAL SHEETS
2			4			5

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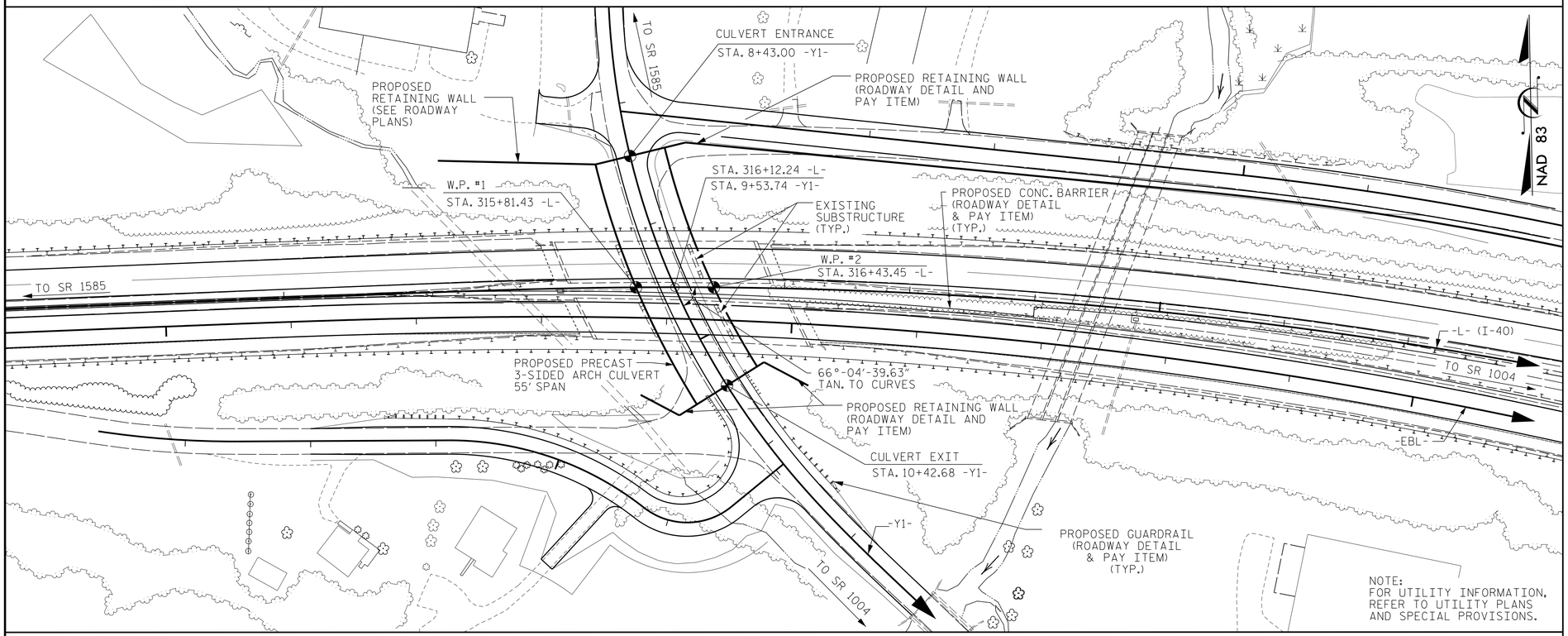
BM: RAIL ROAD SPIKE IN 18" OAK TREE, STA. 11+72 -L- 38' LT.; N149766, E2130326: EL. 33.26



LOCATION SKETCH

TOTAL STRUCTURE QUANTITIES

REMOVAL OF EXISTING STRUCTURES @ STA. 316+12.24 -L-	LUMP SUM
PRECAST REINFORCED CONCRETE THREE-SIDED CULVERT @ STA. 316+12.24 -L-	LUMP SUM
CAST-IN-PLACE REINFORCED CONCRETE FOOTING FOR PRECAST CULVERT	LUMP SUM
UNCLASSIFIED STRUCTURE EXCAVATION @ STA. 316+12.24 -L-	LUMP SUM
ASBESTOS ASSESSMENT	LUMP SUM

FOUNDATION NOTES:

FOR CULVERT EXCAVATION, SEE SECTION 414 OF THE STANDARD SPECIFICATIONS.

CULVERT WILL BE CONSTRUCTED IN 3 PHASES. EACH PHASE WILL HAVE SURCHARGE PLACEMENT AND REMOVAL AND SETTLEMENT MONITORING PRIOR TO CULVERT CONSTRUCTION. SEE SURCHARGE DRAWINGS FOR MORE INFORMATION.

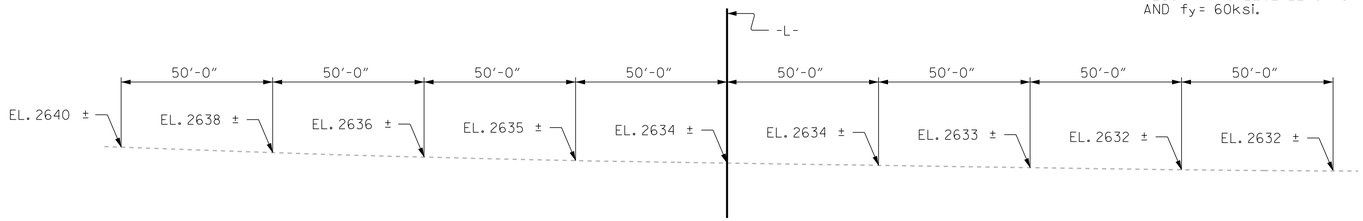
PRIOR TO CULVERT CONSTRUCTION VERIFY THE ESTIMATED BEARING RESISTANCE OF 9.0 KSF. IF LOWER BEARING CONDITIONS ARE ENCOUNTERED, CONTACT WRO OPERATION ENGINEER.

THE FACTORED BEARING RESISTANCE FOR THE CULVERT FOOTING DESIGN IS 2 TSF.

SAMPLE BAR REPLACEMENT

SIZE	LENGTH
#3	6'-2"
#4	7'-4"
#5	8'-6"
#6	9'-8"
#7	10'-10"
#8	12'-0"
#9	13'-2"
#10	14'-6"
#11	15'-10"

NOTE:
SAMPLE BAR REPLACEMENT LENGTHS BASED ON 30" (SAMPLE LENGTH) PLUS TWO SPLICE LENGTHS AND fy = 60ksi.



PROFILE ALONG -Y1-

(EXISTING GRADE SHOWN)

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 SAMPLE BARS SHOULD COME FROM STEEL ACTUALLY USED IN THE PROJECT AND THE SAMPLE BARS SHOULD BE REPLACED BY SPLICED BARS AS SPECIFIED IN THE SAMPLE BAR REPLACEMENT CHART. PAYMENT FOR THE SAMPLE BARS AND REPLACEMENT REINFORCING STEEL SHALL BE CONSIDERED INCIDENTAL TO VARIOUS PAY ITEMS.

THE LOCATION 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 DIFFERENCES BETWEEN THE EXISTING BRIDGE SUBSTRUCTURE SHOWN ON THE PLANS AND THE ACTUAL CONDITIONS AT THE PROJECT SITE.

CARE SHALL BE TAKEN DURING BACKFILL AND COMPACTION OPERATION TO MAINTAIN ALIGNMENT AND PREVENT DAMAGE TO THE JOINTS. UNITS WHICH BECOME MISALIGNED, SHOW EXCESSIVE SETTLEMENT, OR HAVE OTHERWISE BEEN DAMAGED BY THE CONTRACTOR'S OPERATION SHALL AT THE DISCRETION OF THE ENGINEER BE REMOVED AND REPLACED BY THE CONTRACTOR AT NO COST TO THE DEPARTMENT OF TRANSPORTATION.

NOTES:

ASSUMED LIVE LOAD = HL-93 OR ALTERNATE LOADING.

THIS CULVERT HAS BEEN DESIGNED IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.

THIS CULVERT IS LOCATED IN SEISMIC ZONE 1.

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

NO CAST-IN-PLACE BARREL OPTION WILL BE ALLOWED.

MIN. FILL = 2.6' ✳

MAX. FILL = 6.4' ✳

✳ = MEASURED TO TOP OF TOP SLAB @ ℄ Y1

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

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

AFTER SERVING AS TEMPORARY STRUCTURES THE 2 EXISTING STRUCTURES CONSISTING OF 3 SPANS EACH AT 52', 61', 61' AND 51', 57', 56' WITH A CONCRETE DECK ON STEEL I-BEAM SUPERSTRUCTURE AND A CLEAR ROADWAY WIDTH OF 28' ON A SUBSTRUCTURE CONSISTING OF A CONCRETE CAP ON CONCRETE POST AND BEAM BENTS WITH SPREAD FOOTINGS AND LOCATED AT THE SITE OF THE PROPOSED CULVERT SHALL BE REMOVED. THE EXISTING BRIDGES ARE PRESENTLY NOT POSTED FOR LOAD LIMIT. SHOULD THE STRUCTURAL INTEGRITY OF THE BRIDGES DETERIORATE DURING CONSTRUCTION OF THE PROPOSED CULVERT, A LOAD LIMIT MAY BE POSTED AND MAY BE REDUCED AS FOUND NECESSARY DURING THE LIFE OF THE PROJECT.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR EROSION CONTROL MEASURES, SEE EROSION CONTROL PLANS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

A CAST-IN-PLACE REINFORCED CONCRETE FOOTING IS REQUIRED FOR THE PRECAST REINFORCED CONCRETE THREE-SIDED CULVERT FOUNDATION. THE CONTRACTOR SHALL PROVIDE THE FOOTING DESIGN TO THE ENGINEER FOR REVIEW AND APPROVAL.

THE BOTTOM OF FOOTING ELEVATIONS MAY BE LOWERED IF NECESSARY TO ACHIEVE REQUIRED BEARING CAPACITY.

INASMUCH AS THE PAINT SYSTEM ON THE EXISTING STRUCTURAL 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 STRUCTURES".

THE PRECAST CULVERT SECTIONS SHALL BE DESIGNED TO HANDLE FULL DEPTH HYDROSTATIC PRESSURE IF WEEP HOLES ARE NOT UTILIZED. IF PROVIDED, WEEP HOLES SHALL BE LOCATED A MINIMUM HEIGHT OF 6 INCHES ABOVE THE 4" CIP CONCRETE AND HAVE A MAXIMUM SPACING OF 10 FEET.

FOR ASBESTOS ASSESSMENT, SEE SPECIAL PROVISIONS.

FOR LIMITS OF TEMPORARY SHORING FOR MAINTENANCE OF TRAFFIC, SEE TRAFFIC CONTROL PLANS. FOR PAY ITEM FOR TEMPORARY SHORING FOR MAINTENANCE OF TRAFFIC, SEE ROADWAY PLANS.

PROJECT NO. HB-0002

HAYWOOD COUNTY

STATION: 316+12.24 -L-

DRAWN BY : D. HODGE DATE : 9/22

CHECKED BY : T. KOCH DATE : 10/22

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ENGINEER OF RECORD

DocuSigned by: Thomas K. Koch

NORTH CAROLINA PROFESSIONAL SEAL 15431 ENGINEER THOMAS K. KOCH

2/6/2024

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STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

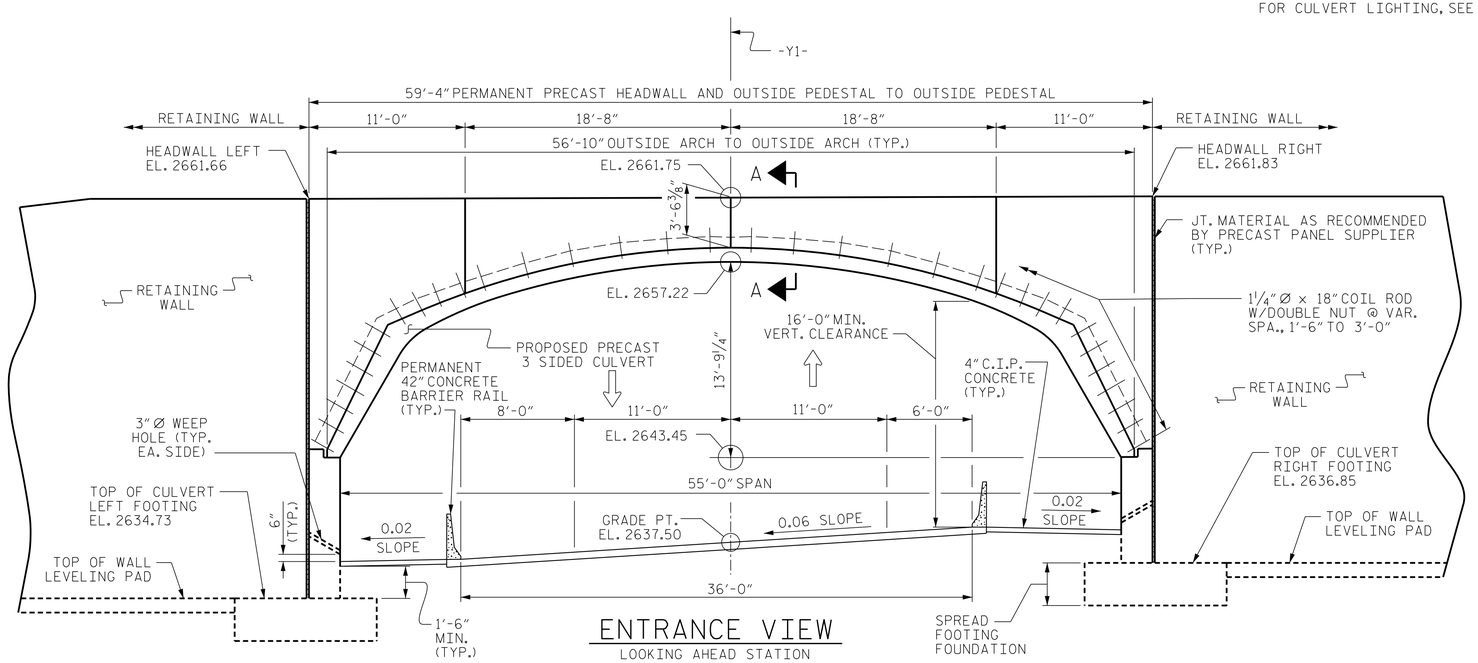
PRECAST 3-SIDED ARCH CULVERT 55'-0" SPAN

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-2
1			3			TOTAL SHEETS
2			4			5

NOTES:

FOR WALL ENVELOPES, SEE ROADWAY PLANS.

FOR CULVERT LIGHTING, SEE LIGHTING PLANS.

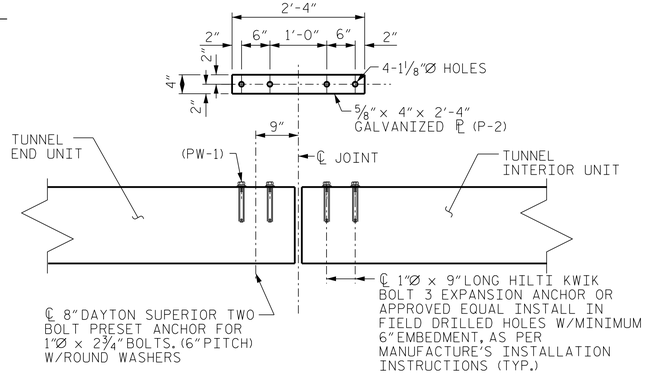


ENTRANCE VIEW

LOOKING AHEAD STATION
STA. 8+43.00 -Y1-

NOTE: FOR CULVERT LIGHTING ATTACHMENTS, INSERTS AND LAYOUT, SEE SEPARATE PLANS.

NOTE: CIP PEDESTAL, FOOTING AND REINFORCING STEEL WILL BE PAID FOR AS CAST-IN-PLACE REINFORCED CONCRETE FOOTING FOR PRECAST CULVERT.

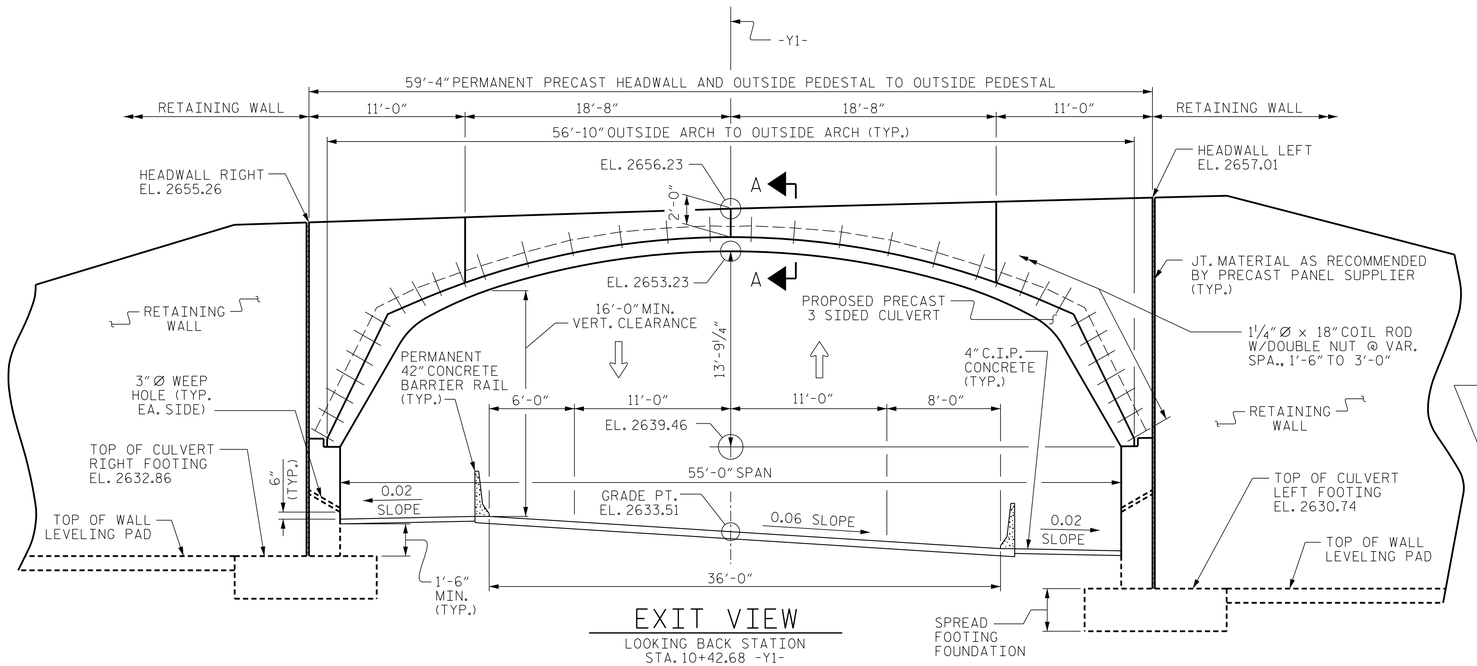


CONNECTOR DETAIL

SHOWING CONNECTION BETWEEN EXTERIOR UNIT AND INTERIOR UNIT

CLASS A CONCRETE (LEFT SIDE)	366.4 CU. YDS.
CLASS A CONCRETE (RIGHT SIDE)	333.1 CU. YDS.
CLASS A CONCRETE TOTAL	699.5 CU. YDS.

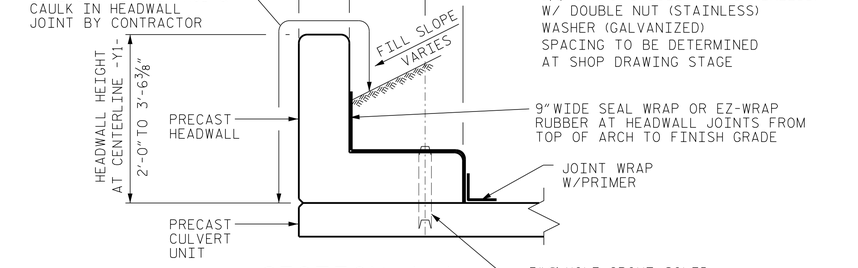
NOTE: NO SEPARATE PAYMENT WILL BE MADE FOR CLASS A CONCRETE. THE COST OF PROVIDING AND INSTALLING CLASS A CONCRETE IS INCLUDED IN THE LUMP SUM PRICE FOR CAST-IN-PLACE REINFORCED CONCRETE FOOTING FOR PRECAST CULVERT.



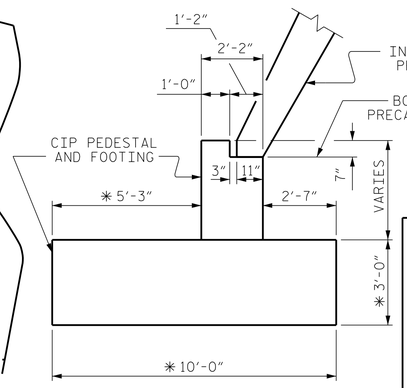
EXIT VIEW

LOOKING BACK STATION
STA. 10+42.68 -Y1-

NOTE: FOR CULVERT LIGHTING ATTACHMENTS, INSERTS AND LAYOUT, SEE SEPARATE PLANS.



SECTION A-A



CULVERT FOOTING

(TYP. EA. SIDE)

* THESE DIMENSIONS ARE ESTIMATES FOR BIDDING PURPOSES.

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PROJECT NO. HB-0002

HAYWOOD COUNTY

STATION: 316+12.24 -L-

SHEET 3 OF 5

ENGINEER OF RECORD
DocuSigned by: Thomas K. Koch
NORTH CAROLINA PROFESSIONAL SEAL 15431 ENGINEER THOMAS K. KOCH
2/6/2024

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STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

PRECAST 3-SIDED ARCH CULVERT 55'-0" SPAN

CULVERT END VIEWS

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-3
1			3			TOTAL SHEETS
2			4			5

DRAWN BY : D. HODGE DATE : 8/22
CHECKED BY : T. KOCH DATE : 8/22

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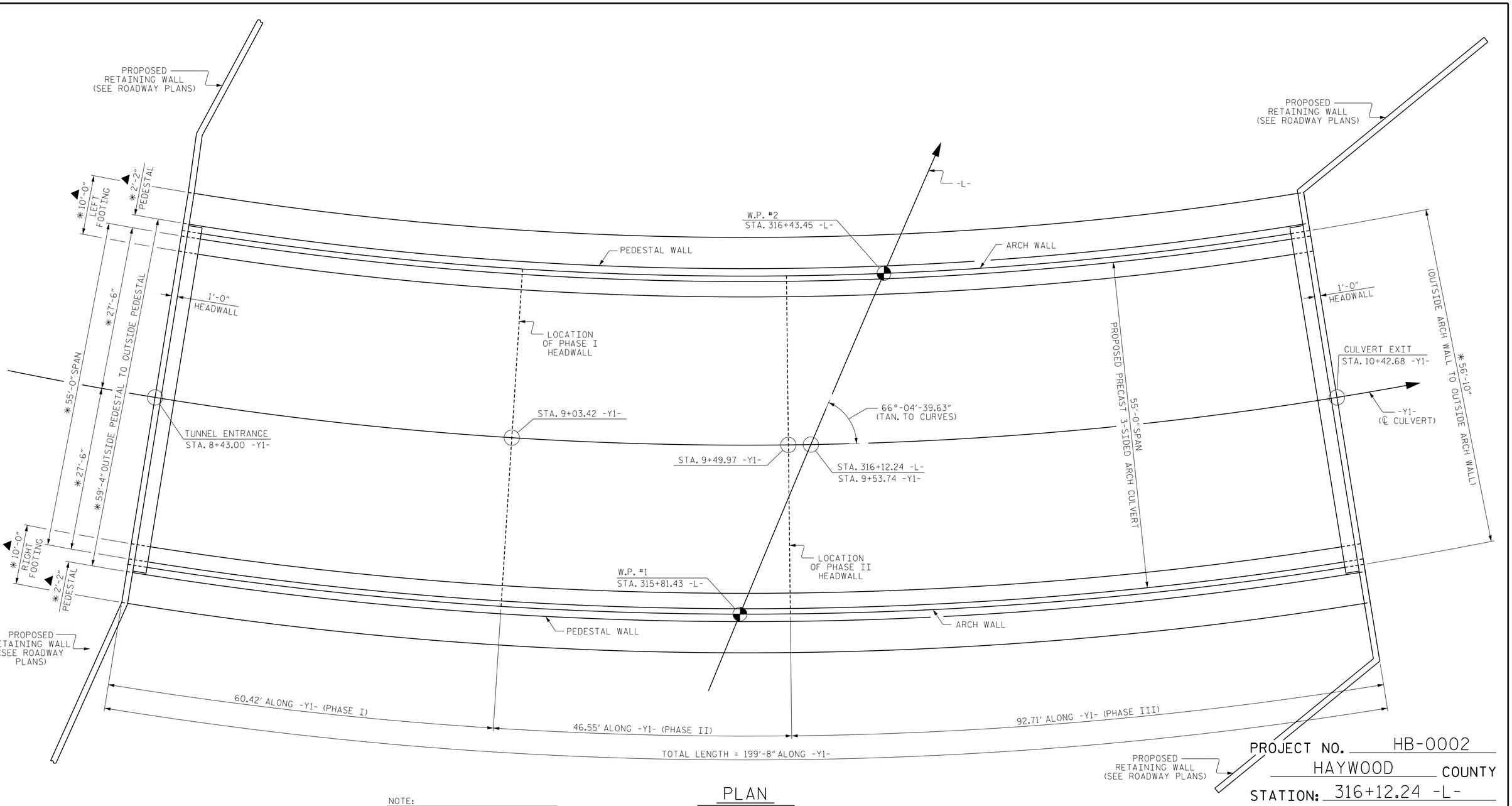

PLAN

NOTE:

▲ ACTUAL FOOTING AND PEDESTAL DIMENSIONS TO BE DESIGNED BY THE CONTRACTOR. ESTIMATED SIZES SHOWN ARE FOR BIDDING PURPOSES ONLY.

WORK ON THE FOOTINGS SHALL NOT BEGIN UNTIL SURCHARGE IS PLACED AND SETTLEMENT IS MONITORED. FOR SURCHARGE PLANS AND STAGING, SEE SEPARATE PLANS.

*RADIAL DIMENSION

THE CONTRACTOR'S ATTENTION IS CALLED TO THE FACT THAT WORK POINT 1 AND 2 ARE LOCATED ON THE OUTSIDE ARCH WALL AND NOT THE OUTSIDE PEDESTAL WALL.

DRAWN BY : D. HODGE DATE : 9/22
CHECKED BY : T. KOCH DATE : 10/22

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ENGINEER OF RECORD
DocuSigned by: Thomas K. Koch
NORTH CAROLINA PROFESSIONAL SEAL 15431 ENGINEER THOMAS K. KOCH
2/6/2024

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LICENSE NO. F-0377

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

PLAN OF PRECAST 3-SIDED ARCH CULVERT 55'-0" SPAN

PROJECT NO. HB-0002
HAYWOOD COUNTY
STATION: 316+12.24 -L-

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-4
1			3			TOTAL SHEETS
2			4			5

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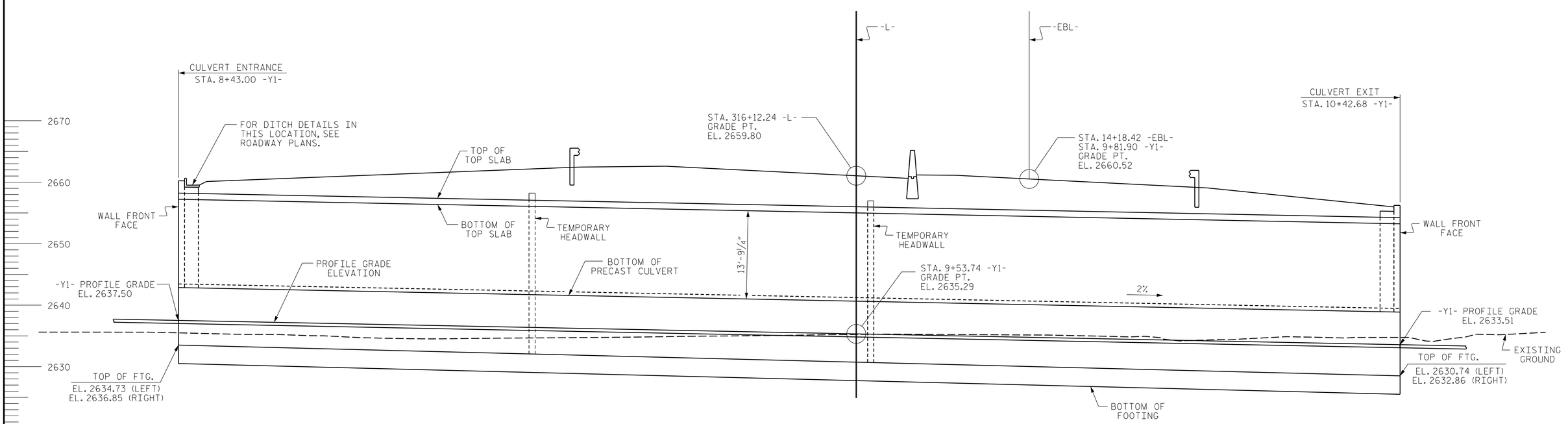

SECTION ALONG -Y1- (℄ CULVERT)

(RETAINING WALLS 1 THRU 4 NOT SHOWN FOR CLARITY)

NOTE: ROADWAY SECTION SHOWN IS APPROXIMATE. SEE ROADWAY PLANS FOR ACTUAL SECTION AT THIS LOCATION.

NOTE:
IN ADDITION TO THE PERMANENT HEADWALLS, TRAFFIC STAGING WILL REQUIRE THE INSTALLATION OF TWO TEMPORARY HEADWALLS. THE COST OF THE TEMPORARY HEADWALLS SHALL BE INCLUDED IN THE PRICE BID FOR PRECAST REINFORCED CONCRETE THREE-SIDED CULVERT.

PROJECT NO. HB-0002

HAYWOOD COUNTY

STATION: 316+12.24 -L-

SHEET 5 OF 5

ENGINEER OF RECORD
DocuSigned by: Thomas K. Koch
NORTH CAROLINA PROFESSIONAL SEAL 15431 ENGINEER THOMAS K. KOCH
2/6/2024

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STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SECTION OF PRECAST 3-SIDED ARCH CULVERT 55'-0" SPAN

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-5
1			3			TOTAL SHEETS
2			4			5

DRAWN BY : D. HODGE DATE : 9/22
CHECKED BY : T. KOCH DATE : 10/22

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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 2024 "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 ¾" WITH THE FOLLOWING EXCEPTIONS: TOP CORNERS OF CURBS MAY BE ROUNDED TO 1½" RADIUS WHICH IS BUILT INTO CURB FORMS; CORNERS OF TRANSVERSE FLOOR EXPANSION JOINTS SHALL BE ROUNDED WITH A ¼" 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 ¼" 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 ⅞" Ø SHEAR STUDS FOR THE ¾" Ø STUDS SPECIFIED ON THE PLANS. THIS SUBSTITUTION SHALL BE MADE AT THE RATE OF 3 - ⅞" Ø STUDS FOR 4 - ¾" Ø STUDS, AND STUD SPACING CHANGES SHALL BE MADE AS NECESSARY TO PROVIDE THE SAME EQUIVALENT NUMBER OF ⅞" Ø STUDS ALONG THE BEAM AS SHOWN FOR ¾" Ø STUDS BASED ON THE RATIO OF 3 - ⅞" Ø STUDS FOR 4 - ¾" 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.

ENGLISH

JANUARY, 1990

STD. NO. SN

REV. 6-16-95	EEM	(/) RGW	REV. 5-7-03	RWW	(/) JTE	REV. 10-1-11	MAA	(/) GM	
REV. 8-16-99	RWW	(/) LES	REV. 5-1-06	TLA	(/) GM	REV. 12-17	MAA	(/) THC	

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