

BUNCOMBE COUNTY

BRIDGE #100242 ON NC 191 (BREVARD RD.) OVER INTERSTATE 240 /26





VICINITY MAP – BUNCOMBE CO.

PROJECT LENGTH BUNCOMBE COUNTY	Prepared in t DIVISION OF STRUCTURES MAL 1000 BIRCH RALEIGH,	The Office of: F HIGHWAYS NAGEMENT UNIT RIDGE DR. N.C. 27610
- #242 = 0.028 MILE	2018 STANDARD SPECIFICATIONS	
	LETTING DATE : DECEMBER 2, 2020	<u>A. KEITH PASCHAL, P.E.</u> PROJECT ENGINEER
		AMBER M. LEE, P.E. PROJECT DESIGN ENGINEER

STATE	STATI	SHEET NO.	TOTAL SHEETS		
N.C.	4	1			
STATI	8 PROJ. NO.	PROJ. NO. F. A. PROJ. NO.			
416	65.13B	_	– P.E.		
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NOTES

PROFILE INFORMATION IS TAKEN FROM THE ORIGINAL PLANS AND THE ROUTINE INSPECTION REPORT DATED 2/08/2020. BRIDGE ORIENTATION CONFORMS TO EXISTING BRIDGE PLANS.

SCOPE OF WORK

- BEAM 5 IN SPAN B REPLACEMENT.
- BEARING REPLACEMENT FOR BEAM 5 IN SPAN B. BENT DIAPHRAGM AND INTERMEDIATE DIAPHRAGM FOR BEAM 5
- REPLACEMENT.
- CLEANING AND PAINTING OF NEW STEEL AND DAMAGED PAINT AREAS.

CONSTRUCTION SEQUENCE

1.) FIELD SURVEY AND MEASURE EXISTING BEARING HEIGHTS AND VERIFY PROPOSED BEAM CUT OUT DIMENSIONS FOR PREPARATION OF SHOP PLANS.

2.) PERFORM BEAM OR SPAN JACKING AS REQUIRED. PERFORM NECESSARY CONCRETE REPAIRS TO DELAMINATED OR OTHERWISE DETERIORATED AREAS OF CAP UNDER OR ADJACENT TO BEARINGS.

3.) REMOVE EXISTING NON-COMPOSITE W33X130 BEAM 5 AND REPLACE WITH W30X132 BEAM WITH STUB COLUMN BEARINGS. (REQUIRES ROAD CLOSURE-SEE TRANSPORTATION MANAGEMENT PLANS)

4.) REMOVE EXISTING C15×33.9 DIAPHRAGMS AND REPLACE WITH CHANNEL C15X33.9 FOR BENTS AND INTERMEDIATE DIAPHRAGMS.

5.) CLEAN TOPS OF BENT 1 & 2 CAPS AT REPLACEMENT OF BEAM 5. PERFORM SURFACE PREPARATION, AND APPLY EPOXY CAP COATING AROUND BEAM 5 REPLACEMENT AREA.

PROJECT NO. 41665.13B

BUNCOMBE _ COUNTY

BRIDGE NO. 100242

SHEET 1 OF 2

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STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH

GENERAL DRAWING FOR BRIDGE ON NC 191 (BREVARD ROAD) OVER INTERSTATE 240

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LOCATION SKETCH

INFORMATION INDICATED ON THE LOCATION SKETCH SHALL BE CONSIDERED GENERAL INFORMATION, ONLY. THE CONTRACTOR SHALL CONFIRM, THROUGH OTHER SOURCES, SPECIFIC INFORMATION REGARDING BRIDGES, ROADWAYS, UTILITIES, THE SURROUNDING AREA, AND ANY OTHER ASPECTS THAT MAY BE NECESSARY TO PERFORM AND COMPLETE THE PROJECT.

BRIDGE COORDINATES

LATITUDE: 35.56390278 LONGITUDE: 82.59388333

TOTAL BILL OF MATERIAL								
BRIDGE No.	APPROX. 7,058 LBS STRUCTURAL STEEL	PARTIAL REMOVAL OF EXISTING STRUCTURE NO	UNDER STRUCTURE PLATFORM	TYPE I BRIDGE JACKING NO	ELASTOMERIC BEARING, MODIFIED TYPE I-B			
	LUMP SUM	LUMP SUM	LUMP SUM	EA.	EA.			
242	LUMP SUM	LUMP SUM	LUMP SUM	2	2			

NOTE
AT THE TIME OF PREPA AND SHOTCRETE REPAIR CONCRETE REPAIRS AND THE INTENDED BRIDGE WORK IN A TIMELY MAN WORK AND SHALL BE AD SPECIAL PROVISIONS T HAVE BEEN PROVIDED I ITEMS, QUANTITIES, AND

UNANTICIPATED ITEMS: ITEM NO.

RAWN BY :	H.A. LOCKLEAR	DATE : <u>05/2020</u>
HECKED BY	: A.M. LEE	DATE : <u>08/2020</u>

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ARATION OF THESE PLANS, IT WAS NOT ANTICIPATED THAT CONCRETE REPAIRS RS WOULD BE REQUIRED. HOWEVER, IT MAY BE DETERMINED IN THE FIELD THAT D SHOTCRETE REAIRS, OR OTHER WORK WILL BE NECESSARY TO PROPERLY COMPLETE REHABILITATION WORK. THE CONTRACTOR SHALL BE PREPARED TO PERFORM SUCH NNER, AS DETERMINED IN THE FIELD. SUCH WORK SHALL BE CONSIDERED EXTRA DDRESSES AS PER ARTICLE 104-7 OF THE STANDARD SPECIFICATIONS. PROJECT THAT OUTLINE REQUIREMENTS FOR THESE POTENTIAL ADDITIONAL WORK ITEMS IN PROJECT DOCUMENTS, BUT NO QUANTITIES HAVE BEEN LISTED. ACTUAL PAY D COSTS WILL BE ESTABLISHED, AS REQUIRED, IF EXTRA WORK IS ENCOUNTERED.

DESCRIPTION UNIT CONCRETE REPAIR CU.FT. SHOTCRETE REPAIR CU.FT. DIFFER.

SAFETY REQUIREMENTS. PROVISIONS. FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS. FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS. FOR BRIDGE JACKING, SEE SPECIAL PROVISIONS. FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

NOTES

- EXISTING DIMENSIONS AND BRIDGE CONDITION ARE FROM THE BEST INFORMATION AVAILABLE. THE CONTRACTOR SHALL FIELD VERIFY THE INFORMATION SHOWN ON THE PLANS AND NOTIFY THE ENGINEER IF ACTUAL DIMENSIONS AND CONDITIONS
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO FOLLOW ALL STATE AND FEDERAL
- FOR CONTROL OF TRAFFIC AND LIMITS ON PHASING OF CONSTRUCTION, SEE TRANSPORTATION MANAGEMENT PLANS.
- FOR MAINTENANCE AND PROTECTION OF TRAFFIC BENEATH BRIDGE, SEE SPECIAL
- FOR PARTIAL REMOVAL OF EXISTING STRUCTURE NO. 242, SEE SPECIAL PROVISIONS.
- FOR MODIFIED ELASTOMERIC BEARINGS, SEE SPECIAL PROVISIONS.
- FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.
- FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.
- FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.
- FOR UNDER STRUCTURE PLATFORM, SEE SPECIAL PROVISIONS.

	PROJECT NO. <u>41665.13B</u> <u>BUNCOMBE</u> COUNTY BRIDGE NO. <u>100242</u> SHEET 2 OF 2							
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CHECKED BY :	A.M. LEE	DATE :	08/2020

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R SHALL SUBMIT JACKING PLANS AND CALCULATIONS SEALED BY A NAL ENGINEER REGISTERED IN THE STATE OF NORTH CAROLINA FOR D APPROVAL.
ACTOR SHALL PROVIDE BLOCKING FOR ALL JACKS AS NECESSARY.A PLAN SHALL BE INCLUDED AS PART OF THE JACKING PLANS.
BRIDGE JACKING, THE CONTRACTOR SHALL ENSURE THERE ARE NO OBSTACLES G THE SPAN FROM BEING LIFTED. THIS MAY INCLUDE BUT NOT LIMITED TO LINGS AND UTILITIES.
ACTOR MAY NEED TO REINFORCE EXISTING BRIDGE MEMBERS OR ADD O WITHSTAND THE JACKING FORCES.
S SHALL BE MADE TO ACCOUNT FOR THERMAL MOVEMENTS OR LATERAL CH AS WIND LOADS DURING THE PERIOD THAT THE STRUCTURE IS RESTING MPORARY SUPPORTS.
AND JACKING SUPPORTS SHALL BE PLUMB.
AULIC JACK SHALL HAVE A RATED CAPACITY CLEARLY SHOWN, WITH MINIMUM ACITY OF 1.3 TIMES THE CALCULATED LOAD REACTION ADJACENT TO THE JACKING.
HOUT A MECHANICAL LOAD HOLDER (LOCK-OFF) SHALL BE SECURED BY IF THE JACKING OPERATION IN ANY ONE LOCATION LASTS LONGER THAN 30
SYSTEM SHALL BE CONNECTED SUCH THAT ALL JACKS LIFT DUSLY.
RAME SHALL EXTEND BEYOND THE LENGTH OF THE LIFTED SPAN AND EARINGS AT THE SAME LOCATION AS THE ADJACENT GIRDER BEARINGS.
R SHALL SHIM BRIDGE SPAN DURING JACKING SUCH THAT THE MAXIMUM LIFT IS 1".
R SHALL PROVIDE SPAN LIFT POINTS AS CLOSE AS POSSIBLE TO THE FACE
THE JACKING PROCESS OR WHILE THE SPAN IS BEING SUPPORTED, THE FT FROM THEIR ORIGINAL POSITION, ALL WORK SHALL CEASE AND THE SHALL BE NOTIFIED IMMEDIATELY.
INT BEARINGS OF BEAMS NOT BEING JACKED MAY BE LOOSENED TO THE RESISTANCE OF THE DECK SLAB DURING JACKING.ALL BEARING SHALL BE TIGHTENED BACK AFTER THE BEAMS ARE REPAIRED AND THE JACKS ING HAVE BEEN REMOVED.
INSTALLING BEARING PEDESTALS AND NEW BEARINGS,CONTRACTOR SHALL REPAIRS TO BENTS AS REQUIRED IN THE CONTRACT DOCUMENTS.
HALL NOT BE ALLOWED ON THE STRUCTURE UNTIL THE WORK REQUIRED BY ACT DOCUMENTS IS COMPLETE.
IONAL INFORMATION ON ``BRIDGE JACKING', SEE SPECIAL PROVISIONS.
IONAL NOTES, SEE ``REPLACEMENT BEAM AND DIAPHRAGMS' SHEET.
PROJECT NO. 41665.13B

BUNCOMBE _ COUNTY 100242 BRIDGE NO._ SHEET 1 OF 4 STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH a CARC FESSION ² SEAL 031021 UNDERSIDE REPAIR SPAN B DECK ACINEER Amher Male B04B5A4F2FAD484.. 10/19/2020 SHEET NO. REVISIONS

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NOTES:

ALL MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE NCDOT STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES.

ALL NEW STEEL ASSOCIATED WITH REPLACEMENT OF THE BEAM SHALL BE PREPARED AND SHOP PRIMED WITH ORGANIC ZINC RICH PRIMER ACCORDING TO PAINT SYSTEM #6 OF THE NCDOT STRUCTURAL STEEL COATING PROGRAM.

UNLESS NOTED OTHERWISE, ALL STEEL ON THIS DRAWING SHALL MEET THE REQUIREMENTS OF AASHTO M270 (GRADE 50) AND ITS SUPPLEMENTARY LONGITUDINAL CHARPY V-NOTCH TEST REQUIREMENTS (FOR AASHTO M270 ZONE 1). ASTM A-572 (GR 50) OR A-588 (GR 50) STEEL MAY BE SUBSTITUTED AS LONG AS THE SUPPLEMENTARY REQUIREMENTS TO THE ABOVE AASHTO SPECS ARE MET.

WEB STIFFENERS AND CONNECTOR PLATES AS NECESSARY TO MATCH EXISTING.

USING HAND OR POWER TOOL CLEANING, REMOVE PAINT OR ANY OTHER COATING AT THE LOCATION OF FIELD WELDS PRIOR TO WELDING. PROVIDE CONTAINMENT, POLLUTION CONTROL, AND DISPOSAL OF PAINT AND DEBRIS IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS WHEN REMOVING PAINT OR PRIMER AND WHEN PREPARING SURFACES AND APPLYING PAINT.

AFTER COMPLETION OF FIELD WELDING, THE WELDS AND AREAS WHERE PAINT HAS BEEN REMOVED OR DAMAGED SHALL BE REPAIRED AS PER ARTICLE 442-12 OF THE STANDARD SPECIFICATION. NEW STEEL SHALL RECIEVE A TOP COAT OF HIGH BUILD ACRYLIC IN ACCORANDE WITH PAINT SYSTEM #6. TOPCOAT SHALL BE APPLIED IN FIELD WITH BRUSHES OR ROLLERS. APPROPRIATELY CLEAN AND PREPARE SURFACES. PRIOR TO PLACEMENT OF TOP COAT, IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS. WHERE PAINT WILL BE APPLIED OVER EXISTING PAINT SYSTEM, THE NEW PAINT SHALL OVERLAP THE EXISTING BY A MINIMUM OF 6". ALL PAINT OPERATIONS, INCLUDING, BUT NOT LIMITED TO CONTAINMENT, POLLUTION CONTROL, CLEANING, PREPARATION, REPAIR AND APPLICATION, SHALL BE CONSIDERED INCIDENTAL TO THE OTHER PROJECT PAY ITEMS.

SPECIFICATION.

VERIFY DIMENSIONS.



BEARING STIFFENER



THE CONTRACTOR SHALL VERIFY THE BOLT SPACING PRIOR TO FABRICATION. FASTENERS SHALL BE $\frac{3}{4}$ "HIGH STRENGTH IN ACCORDANCE WITH STANDARD

EXISTING PLANS BEARING TO BEARING DISTANCE IS 44'-6"CONTRACTOR TO FIELD

FOR PARTIAL REMOVAL OF EXISTING STRUCTURE 242, SEE SPECIAL PROVISIONS.



INTERMEDIATE CONNECTOR P ONLY ONE SIDE SHOWN FOR CLARITY

PROJECT NO. 41665.13B BUNCOMBE COUNTY

BRIDGE NO.: 100242

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH

REPLACEMENT BEAM AND DIAPHRAGMS

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NOTES CUT EXISTING ANCHOR BOLTS FLUSH WITH THE TOP OF THE CONCRETE CAP. CUT ENDS SHALL BE COATED WITH AN APPROVED EPOXY PAINT. THE CONTRACTOR SHALL CORE INTO THE EXISTING BENT CAP TO INSTAL THE PROPOSED ANCHOR BOLTS. ANCHOR BOLTS SHALL BE INSTALLED USING AN ADHESIVE ANCHORING SYSTEM. THE YIELD LOAD FOR ANCHOR BOLTS IS AS FOLLOWS: 1"DIAMETER - 14 KIPS 1 1/4"DIAMETER - 16 KIPS 1 3/4"DIAMETER - 18 KIPS

THE ANCHOR BOLT EMBEDMENT DEPTH SHALL BE 9"OR THE DEPTH RECOMMENDED BY THE ADHESIVE MANUFACTURER FOR THE GIVEN YIELD LOAD, WHICHEVER DEPTH IS GREATER.

FIELD TESTING FOR THE ADHESIVE BONDING SYSTEM IS NOT REQUIRED.

PROJECT NO. 41665.13B

BUNCOMBE _ COUNTY 100242

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STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH

BEARING LAYOUT DETAILS

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SOLE PLATE & FILLER PLATE DETAILS (``P'')

ANTICIPATED BEARING REPLACEMENT LOCATIONS							
SPAN	BEAM	LOCATION					
В	5	BENT 1					
В	5 BENT 2						

NOTES

THE EXISTING BEARINGS DETERMINED FOR REPLACEMENT SHALL BE REMOVED AND REPLACED WITH BEARINGS AS SHOWN. AT ALL POINTS OF SUPPORT, NUTS FOR ANCHOR BOLTS ARE TO BE TIGHTENED FINGER TIGHT AND THEN BACKED OFF 1 TURN. THE THREAD OF THE NUT AND BOLT SHALL THEN BE BURRED WITH A SHARP POINTED TOOL. SOLE PLATES, ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH THE STANDARD SPECIFICA-TIONS. ANCHOR BOLTS SHALL MEET THE REQUIREMENTS OF ASTM A449. NUTS SHALL MEET THE REQUIREMENTS OF AASHTO M291-DH OR AASHTO M292-2H. WASHERS SHALL MEET THE REQUIREMENTS OF AASHTO M293. SHOP DRAWINGS ARE NOT REQUIRED FOR ANCHOR BOLTS, NUTS AND WASHERS. SHOP INSPECTION IS REQUIRED. ALL WELDING SHALL BE IN ACCORDANCE WITH CURRENT APPLICABLE AWS AND NCDOT STANDARD SPECIFICATIONS. ALL WELDS WILL BE INSPECTED AND TESTED BY THE NCDOT MATERIALS AND TEST UNIT IN ACCORDANCE WITH THE CURRENT AWS BRIDGE WELDING CODE AND STANDARD SPECIFICATIONS. ALL SURFACES OF BEARING PLATES SHALL BE SMOOTH AND STRAIGHT. THE CONTRACTOR SHALL CORE INTO EXISTING BENT CAP TO INSTALL 13/4" Ø ANCHOR BOLTS. BOLTS SHALL BE ADHESIVELY ANCHORED; SEE STANDARD SPECIFICATIONS. ADHESIVE FOR NEW ANCHOR BOLTS SHALL BE AN NCDOT-APPROVED PRODUCT. EMBEDMENT DEPTH OF ANCHOR BOLT SHALL BE 9" OR THE DEPTH RECOMMENDED BY THE ADHESIVE MANUFACTURER TO ATTAIN PULL-OUT STRENGTH FOR THE GIVEN YIELD, WHICHEVER DEPTH IS GREATER. FIELD TESTING IS NOT REQUIRED. THE ELASTOMER IN THE STEEL REINFORCED BEARINGS SHALL HAVE A SHEAR MODULUS OF 0.160 KSI, IN ACCORDANCE WITH AASHTO M251. FOR MODIFIED ELASTOMERIC BEARINGS, SEE SPECIAL PROVISIONS.

MAXIMUM ALLOWABLE SERVICE LOADS

D.L.+L.L.(NO IMPACT) TYPE I-B | 140 k

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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 SO.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 2018 "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 11/2" 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.

AT THE CONTRACTOR'S OPTION, HE MAY SUBSTITUTE $\frac{7}{8}$ " Ø SHEAR STUDS FOR THE $\frac{3}{4}$ " 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 $\frac{7}{8}$ " Ø STUDS ALONG THE BEAM, AS SHOWN FOR $\frac{3}{4}$ " Ø STUDS BASED ON THE RATIO OF 3 - $\frac{7}{8}$ " Ø STUDS FOR 4 - 🔏 Ø STUDS. STUDS OF THE LENGTH SPECIFIED ON THE PLANS MUST BE PROVIDED. THE MAXIMUM SPACING SHALL BE 2'-O".

STANDARD NOTES

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:

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 $\frac{5}{16}$ " 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