

GENERAL NOTES

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

ASSUMED LIVE LOAD = HL-93 OR ALTERNATIVE LOADING.

THIS BRIDGE HAS BEEN DESIGNED FOR $V_{30} = 105$ MPH. V_{30} IS THE WIND VELOCITY AT 30 FT. ABOVE LOW GROUND OR ABOVE DESIGN WATER LEVEL IN ACCORDANCE WITH SECTION 3.8 OF THE 2014 AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS (7TH EDITION).

THIS BRIDGE IS LOCATED IN SEISMIC ZONE 1.

THIS BRIDGE HAS BEEN DESIGNED IN ACCORDANCE WITH "HEC 18 - EVALUATING SCOUR AT BRIDGES".

THIS BRIDGE HAS BEEN DESIGNED FOR VESSEL COLLISION (CV) IN ACCORDANCE WITH SECTION 3.14 OF THE 2014 AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS (7TH EDITION). THIS BRIDGE HAS AN OPERATIONAL CLASSIFICATION OF "CRITICAL". THE FOLLOWING CONTROLLING DESIGN CV LOADS WERE USED. CV LOADS LISTED ARE APPLIED PARALLEL TO CHANNEL CENTERLINE.

BENT NO.	CV LOAD (KIPS)
1 THROUGH 5, 19 THROUGH 28	70
6 THROUGH 11, 18	800
12, 13, 16, 17	1700
14, 15	2500

THE SUBSTRUCTURE UNITS SUPPORTING UNIT 1 (END BENT 1 AND BENT 1 THROUGH 3) AND UNIT 10 (BENT 26 THROUGH BENT 28 AND END BENT 2) HAVE BEEN DESIGNED FOR SUPERSTRUCTURE WAVE FORCES. THESE FORCES WERE ESTIMATED USING THE 2008 AASHTO GUIDE SPECIFICATIONS FOR BRIDGES VULNERABLE TO COASTAL STORMS AS A REFERENCE. THE FORCES USED FOR DESIGN ARE PRESENTED IN THE TABLE BELOW; FORCES FOR EACH CASE SHALL BE APPLIED CONCURRENTLY AT THE TRAILING BEAM EDGE. THIS BRIDGE IS DESIGNATED AS BEING "CRITICAL / ESSENTIAL" FOR PURPOSES OF DESIGNING FOR WAVE FORCES.

UNIT	CASE	VERTICAL	HORIZONTAL	MOMENT
		(KIPS/FT)	(KIPS/FT)	(KIP-FT/FT)
UNIT 1	CASE 1	7.5	0.2	240
	CASE 2	4.9	0.4	180
UNIT 10	CASE 1	8.1	0.2	330
	CASE 2	6.1	0.6	290

CASE 1 = MAXIMUM QUASI-STATIC VERTICAL FORCE AND ASSOCIATED FORCES AND MOMENT

CASE 2 = MAXIMUM HORIZONTAL WAVE FORCE AND ASSOCIATED FORCES AND MOMENT

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

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

FOR EROSION CONTROL MEASURES SEE EROSION CONTROL PLANS.

FOR BRIDGE DECK RIDEABILITY AND GROOVING, SEE SPECIAL PROVISIONS.

FOR MASS CONCRETE, SEE SPECIAL PROVISIONS.

THE CONTRACTOR WILL BE REQUIRED TO CONSTRUCT, MAINTAIN AND AFTERWARDS REMOVE A TEMPORARY ACCESS AT STATION 38+13.81 -L2- FOR USE DURING CONSTRUCTION OF THE PROPOSED STRUCTURE. FOR CONSTRUCTION, MAINTENANCE AND REMOVAL OF TEMPORARY ACCESS, SEE SPECIAL PROVISIONS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

FOR MAINTENANCE OF WATER TRAFFIC, SEE SPECIAL PROVISIONS.

FOR SECURING OF VESSELS, SEE SPECIAL PROVISIONS.

FOR WORK IN, OVER, OR ADJACENT TO NAVIGABLE WATERS, SEE SPECIAL PROVISIONS.

FOR VERTICAL CLEARANCE GAGES, SEE SPECIAL PROVISIONS.

NEEDLE BEAMS WILL NOT BE ALLOWED UNLESS OTHERWISE CALLED FOR ON THE PLANS OR APPROVED BY THE ENGINEER.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

FOR PLASTIC LUMBER FENDER BOARDS AT CHANNEL BENTS, SEE SPECIAL PROVISIONS.

FOR F.I.B 72" AND F.I.B. 78" PRESTRESSED CONCRETE GIRDERS, SEE SPECIAL PROVISIONS.

FOR UTILITY INFORMATION, SEE UTILITY PLANS AND SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

THE EXACT LOCATION, AND COMPLETE DESCRIPTION OF ALL INSERTS SHALL BE SHOWN ON WORKING DRAWINGS AND SUBMITTED TO THE DEPARTMENT FOR APPROVAL PRIOR TO THE CASTING OF THE CONCRETE MEMBER.

FOR PLACING LOAD ON STRUCTURE MEMBERS, SEE SPECIAL PROVISIONS.

FOR NAVIGATIONAL CLEARANCE VERIFICATION AND WATERWAY INSPECTION, SEE SPECIAL PROVISIONS.

AFTER SERVING AS A TEMPORARY STRUCTURE THE EXISTING STRUCTURE CONSISTING OF ONE 250-FT THROUGH TRUSS SWING SPAN WITH SIX 35-FT REINFORCED CONCRETE DECK GIRDER APPROACH SPANS; 24-FT CLEAR ROADWAY WIDTH, SUPPORTED ON A MASS CONCRETE PIVOT PIER AND PILE BENTS (APPROACH SPANS) SHALL BE REMOVED. THE EXISTING BRIDGE IS PRESENTLY POSTED FOR LOAD LIMIT. SHOULD THE STRUCTURAL INTEGRITY OF THE BRIDGE, DETERIORATE DURING CONSTRUCTION OF THE PROPOSED BRIDGE, A LOAD LIMIT MAY BE POSTED AND 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 ENGINEER OR THE DEPARTMENT OF TRANSPORTATION FOR ANY DELAYS OR ADDITIONAL COST INCURRED BASED ON THE DIFFERENCE BETWEEN THE EXISTING BRIDGE SUBSTRUCTURE SHOWN ON THE PLANS AND THE ACTUAL CONDITIONS AT THE PROJECT SITE.

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

CORROSION PROTECTION NOTES

FOR CORROSION PROTECTION OF BRIDGE, SEE SPECIAL PROVISIONS.

THIS STRUCTURE CONTAINS THE NECESSARY CORROSION PROTECTION REQUIRED FOR A CORROSIVE SITE.

PRESTRESSED CONCRETE GIRDERS ARE DESIGNED FOR 0 PSI TENSION IN THE PRECOMPRESSED TENSILE ZONE UNDER ALL LOADING CONDITIONS.

PRECAST PANELS SHALL BE DESIGNED FOR AN ALLOWABLE TENSILE STRESS OF 0 PSI IN THE PRECOMPRESSED TENSILE ZONE UNDER ALL LOADING CONDITIONS.

ALL BAR SUPPORTS USED IN THE PARAPET, VERTICAL FACED BARRIER RAIL, PEDESTRIAN RAILING CURBS AND CONCRETE POSTS, DECK, BENT CAPS, COLUMNS, PILE CAPS, FOOTINGS, STRUTS AND ALL INCIDENTAL REINFORCING STEEL SHALL BE EPOXY COATED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

ALL INSERTS AND MISCELLANEOUS REINFORCING STEEL EMBEDDED IN CAST-IN-PLACE CONCRETE SHALL BE CORROSION PROTECTED. INSERTS MAY BE HOT DIP GALVANIZED OR EPOXY COATED. REINFORCING STEEL SHALL BE EPOXY COATED. ELECTROPLATING WILL NOT BE ALLOWED.

PRESTRESSED CONCRETE GIRDERS, PRECAST DECK PANELS AND PILES SHALL CONTAIN CALCIUM NITRITE CORROSION INHIBITOR. FOR CALCIUM NITRITE CORROSION INHIBITOR, SEE STANDARD SPECIFICATIONS.

CLASS AA CONCRETE SHALL BE USED IN ALL CAST-IN-PLACE COLUMNS, BENT CAPS, PILE CAPS, STRUTS AND FOOTINGS, AND SHALL CONTAIN CALCIUM NITRITE CORROSION INHIBITOR. FOR CALCIUM NITRITE CORROSION INHIBITOR, SEE STANDARD SPECIFICATIONS.

THE CLASS AA CONCRETE IN THE BRIDGE DECK SHALL CONTAIN FLY ASH OR GROUND GRANULATED BLAST FURNANCE SLAG AT THE SUBSTITUTION RATE SPECIFIED IN ARTICLE 1024-1 AND IN ACCORDANCE WITH ARTICLES 1024-5 AND 1024-6 OF THE STANDARD SPECIFICATIONS. NO PAYMENT WILL BE MADE FOR THIS SUBSTITUTION AS IT IS CONSIDERED INCIDENTAL TO THE COST OF THE REINFORCED CONCRETE DECK SLAB.

THE CONCRETE IN THE COLUMNS, BENT CAPS, STRUTS, FOOTINGS AND PILES OF ALL BENTS SHALL CONTAIN SILICA FUME. SILICA FUME SHALL BE SUBSTITUTED FOR 5% OF THE PORTLAND CEMENT BY WEIGHT. IF THE OPTION OF ARTICLE 1024-1 OF THE STANDARD SPECIFICATIONS TO PARTIALLY SUBSTITUTE CLASS F FLY ASH FOR PORTLAND CEMENT IS EXERCISED, THEN THE RATE FOR FLY ASH SUBSTITUTION SHALL BE REDUCED TO 1.0 LB OF FLY ASH PER 1.0 LB OF CEMENT. NO PAYMENT WILL BE MADE FOR THIS SUBSTITUTION AS IT IS CONSIDERED INCIDENTAL TO THE VARIOUS PAY ITEMS.

ALL METALLIZED SURFACES SHALL RECEIVE A SEAL COATING AS SPECIFIED IN THE SPECIAL PROVISION FOR THERMAL SPRAYED COATINGS (METALIZATION).

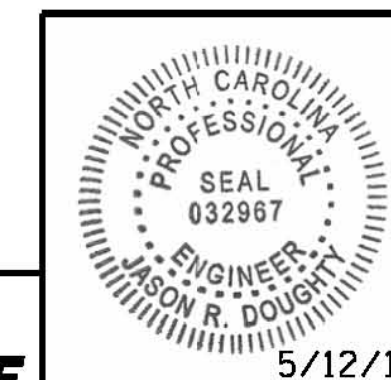
THE WATER/CEMENT RATIO FOR CONCRETE PILES SHALL NOT EXCEED 0.40.

FOR ASBESTOS ASSESSMENT AND BRIDGE RENOVATION ACTIVITIES, SEE SPECIAL PROVISIONS.

PROJECT NO. B-4929
PENDER COUNTY
 STATION: 38+13.81 -L2-

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

GENERAL DRAWING
 GENERAL NOTES



PARSONS BRINCKERHOFF
 434 FAYETTEVILLE STREET
 SUITE 1500
 RALEIGH, NC 27601
 LICENSE NO. F-0165

DocuSigned by:
 Jason R. Doughty
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5/12/16

REVISIONS

NO.	BY:	DATE:	NO.	BY:	DATE:	SHEET NO.
1			3			S-25
2			4			TOTAL SHEETS 278

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED