

A d d e n d u m

Iowa Department of Transportation
Office of Contracts

Date of Letting: June 18, 2013
Date of Addendum: June 7, 2013

B.O.	Proposal ID	Proposal Work Type	County	Project Number	Addendum
451	04-FE08-076	MISCELLANEOUS	APPANOOSE	RPD-FE08(76)--8B-04	18JUN451.A01

Notice: Only the bid proposal holders receive this addendum and responsibility for notifying any potential subcontractors or suppliers remains with the proposal holder.

Make the following change to Plan Sheet C.08:

Replace Plan Sheet C.08 with the attached Plan Sheet C.08.

ARTICLE 2 - APNC BRIDGE NO. 7 REHABILITATION WORK ITEMS

2.1 THROUGH 2.4 NOT USED

2.5 PRECAST CONCRETE (BID ITEM NO. 4, 5, & 7)

A. GENERAL

THE CONTRACTOR SHALL FURNISH AND PLACE PRECAST CONCRETE CAPS AND BEARING BLOCKS AS DETAILED IN THE PLANS. ALL LABOR, MATERIAL, AND EQUIPMENT TO UNLOAD, FORM, HAUL, AND PROPERLY PLACE PRECAST CONCRETE SHALL BE FURNISHED BY THE CONTRACTOR.

EXCEPT AS OTHERWISE SPECIFIED, THE CURRENT AMERICAN RAILWAY ENGINEERING AND MAINTENANCE OF WAY ASSOCIATION (AREMA) MANUAL FOR RAILWAY ENGINEERING, CHAPTER 8, CONCRETE STRUCTURES AND FOUNDATIONS, SHALL APPLY TO ALL WORK UNDER THIS SPECIFICATION.

B. CONCRETE

1. TYPE
 - a. STANDARD CONCRETE - USE PORTLAND CEMENT, TYPE I OR IA CONFORMING TO THE REQUIREMENTS OF ASTM C150.
 - b. LOW HEAT OF HYDRATION CONCRETE - USE PORTLAND CEMENT, TYPE II CONFORMING TO THE REQUIREMENTS OF ASTM C150.
 - c. HIGH EARLY STRENGTH CONCRETE - USE PORTLAND CEMENT, TYPE III OR IIIA CONFORMING TO THE REQUIREMENTS OF ASTM C150.
2. STRENGTH - MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS MUST BE 4,000 PSI, UNLESS INDICATED OTHERWISE ON THE PLANS.

COMPRESSION TESTS AND FIELD TESTS WILL BE REQUIRED AS SPECIFIED IN THE AREMA MANUAL, CHAPTER 8, PART 1, ARTICLE 11. THE CONTRACTOR SHALL FURNISH ALL TEST MATERIALS AND TEST CYLINDER MOLS, PERFORM ALL WORK TO MAKE AND CURE TEST CYLINDERS TO A IOWA DOT APPROVED TESTING LABORATORY, WHERE THEY SHALL BE TESTED AT THE CONTRACTOR'S EXPENSE. THE TEST RESULTS SHALL BE FURNISHED TO THE ENGINEER IN WRITING ON A STANDARD TESTING LABORATORY FORM. THE NUMBER AND AGES OF TEST CYLINDERS REQUIRED IS LISTED IN THE TESTING SPECIFICATION.

3. WATER/CEMENT RATIO - THE WATER TO CEMENT RATIO FOR THE MIX SHALL BE NO GREATER THAN 0.45.

4. MAXIMUM AGGREGATE SIZE - MAXIMUM SIZE OF COARSE AGGREGATE SHALL BE ¾".

5. SLUMP - CONSISTENCY RANGE IN SLUMP SHALL BE NO GREATER THAN 6 INCHES. AT LEAST ONE SLUMP TEST SHALL BE MADE FOR EACH TRUCK LOAD OF CONCRETE DELIVERED TO THE PROJECT FOR INCLUSION IN THE WORK. A RECORD OF THE AMOUNT OF SLUMP SHALL BE MADE AND FURNISHED TO THE ENGINEER. CONCRETE THAT DOES NOT MEET SLUMP REQUIREMENTS SHALL BE REJECTED.

6. TEMPERATURE - CONCRETE, WHEN DEPOSITED, SHALL HAVE A TEMPERATURE WITHIN THE LIMITS SHOWN IN THE FOLLOWING TABLE:

TEMPERATURE OF AIR	TEMPERATURE OF CONCRETE WHEN PLACED, DEGREES F
BELOW 30	70 MINIMUM 90 MAXIMUM
BETWEEN 30 AND 45	60 MINIMUM 90 MAXIMUM
ABOVE 45	50 MINIMUM 90 MAXIMUM

THE METHOD OF CONTROLLING THE TEMPERATURE OF THE CONCRETE SHALL BE APPROVED BY THE ENGINEER. WHEN THE ADDITION OF HEAT TO CONCRETE INGREDIENTS IS NECESSARY, HEAT SHALL BE APPLIED TO ALL INGREDIENTS IN A MANNER THAT ANY INGREDIENT WILL NOT BE HEATED ABOVE 125 DEGREES F.

C. CONSOLIDATION

ALL CONCRETE SHALL BE CONSOLIDATED DURING AND IMMEDIATELY AFTER DEPOSITING BY VIBRING. CONCRETE INTERNALLY BEYOND THE REACH OF MECHANICAL VIBRATING EQUIPMENT, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

A SUFFICIENT NUMBER OF VIBRATORS SHALL BE EMPLOYED, SO THAT, AT THE REQUIRED RATE OF PLACEMENT, THOROUGH CONSOLIDATION IS SECURED THROUGHOUT THE ENTIRE VOLUME OF EACH LAYER OF CONCRETE. EXTRA VIBRATORS SHALL BE ON SITE FOR EMERGENCY USE AND FOR USE WHEN OTHER VIBRATORS ARE BEING SERVICED.

INTERNAL MECHANICAL VIBRATORS SHALL BE OF A TYPE APPROVED BY THE ENGINEER. THEY SHALL BE OF STURDY CONSTRUCTION, ADEQUATELY POWERED, CAPABLE OF TRANSMITTING VIBRATION TO THE CONCRETE IN FREQUENCIES OF NOT LESS THAN 7,000 PER MINUTE. VIBRATORS SHALL BE USED TO VIBRATE THE CONCRETE TO THE POINT OF CONSOLIDATION OF THE CONCRETE INTO PLACE WITHOUT A SEPARATION OF THE INGREDIENTS. THE TYPE OF VIBRATOR AND EXTENT OF OPERATION SHALL MEET THE APPROVAL OF THE ENGINEER.

VIBRATE ONLY UNTIL THE CONCRETE HAS BECOME UNIFORMLY PLASTIC AND DO NOT CONTINUE ONCE POOLS OF GROUT ARE FORMED.

D. DEPOSITING

DEPOSITED CONCRETE CONTINUOUSLY AND AS RAPIDLY AS PRACTICABLE UNTIL THE UNIT OF OPERATION, APPROVED BY THE ENGINEER, IS COMPLETED.

E. FINISHING

RESTORE ALL UNFORMED SURFACES TO AN EVEN AND SMOOTH FINISH WITH A WOOD OR HARD RUBBER FLOAT. MAKE FORMED SURFACES WITH PLYWOOD FACED WOOD FORMS OR WITH STEEL FACED FORMS.

F. CURING

FORMWORK FOR CAST-IN-PLACE CONCRETE MUST REMAIN IN PLACE FOR NO LESS THAN THREE DAYS. PROTECT ALL UNFORMED SURFACES WITH WET BURLAP UNTIL THE FORMS ARE REMOVED. FORMWORK OR PRESSED CONCRETE MAY BE REMOVED ONCE THE MINIMUM STRENGTH FOR TRANSFER OF PRESTRESSING FORCE IS ACHIEVED.

G. DIMENSION TOLERANCES

1. OVERALL DIMENSIONS

BEARING SEAT ELEVATION ± ½ INCH
ALL OTHER DIMENSIONS ± ½ INCH

2. SQUARE ENDS (HORIZONTAL PLANE)

OUT OF SQUARE (PER END) ± ½ INCH

3. REINFORCING STEEL

a. VERTICAL BARS

LONGITUDINAL SPACING ± 1 INCH

b. STIRRUP BARS

LONGITUDINAL SPACING ± 1 INCH

c. LONGITUDINAL BARS:

SPACING ± 1 INCH

d. COVER ± ¾" / -¾"

H. PATCHING

AFTER THE REMOVAL OF THE FORM WORK ALL FORM ANCHORAGES SHALL BE PATCHED USING AN APPROVED MORTAR, MIXED AND INSTALLED IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS. PATCHING OR REPAIR OF SPALLED OR CHIPPED MEMBERS SHALL BE DONE USING AN APPROVED MORTAR, MIXED AND INSTALLED IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS. APPROVED MORTAR SHALL CLOSELY MATCH THE COLORATION OF THE BASE CONCRETE.

I. MEASUREMENT AND PAYMENT - SEE ARTICLE 2.21 FOR PRECAST CAP AND BEARING BLOCK MEASUREMENT AND PAYMENT.

2.6 REINFORCING STEEL (BID ITEM NO. 4, 5, & 7)

A. GENERAL

FABRICATION OF REINFORCING STEEL SHALL BE IN ACCORDANCE WITH CHAPTER 7 OF THE CRSI MANUAL OF STANDARD PRACTICE.

FOR SPLICING, THE BARS SHALL BE LAPPED A MINIMUM OF 30 DIAMETERS, AND SHALL BE

SECURELY WIRED AT ALL INTERSECTIONS, UNLESS OTHERWISE NOTED IN THE SPECIFICATIONS OR IN THE DRAWINGS.

REINFORCING BARS SHALL BE BENT COLD IN THE SHOP OR IN THE FIELD AROUND A PIN NOT LESS THAN SIX TIMES THE DIAMETER OF THE BAR.

REINFORCING PARTIALLY EMBEDDED IN CONCRETE OR IN MORTAR IN DOWEL HOLES SHALL NOT BE FIELD BENT, EXCEPT AS PERMITTED BY THE ENGINEER.

B. MATERIALS

DEFORMED REINFORCEMENT SHALL BE INTERMEDIATE GRADE, NEW BILLET STEEL, CONFORMING TO ASTM A615, GRADE 60.

PLAIN WIRE FOR SPIRAL REINFORCEMENT SHALL CONFORM TO ASTM A62

LOW-RELAXATION STRAND FOR PRESTRESSING STEEL SHALL CONFORM TO ASTM A416.

C. MEASUREMENT AND PAYMENT - SEE ARTICLE 2.21 FOR MEASUREMENT AND PAYMENT DIRECTIONS.

2.7 ANCHOR BOLTS

A. MATERIAL

1. ANCHOR BOLTS - ALL ANCHOR BOLTS SHALL BE CUT FROM GALVANIZED THREADED ROD CONFORMING TO ASTM F1554. ALL CUTS SHALL BE FINISHED WITH A COLD GALVANIZATION. ONE (1) GALVANIZED HEX HEAD MECHANICAL LOCK NUT AND ONE (1) GALVANIZED WASHER SHALL BE FURNISHED WITH EACH ANCHOR BOLT.

2. GROUT - GROUT USED TO FILL THE GROUT POCKETS OF THE ANCHOR BOLTS SHALL BE PORTLAND CEMENT CONCRETE, 3" MINIMUM THICK, SET 45, TRANSPO 1-17 POLYMER CONCRETE, OR DEGAUCEK POLYMER CONCRETE FILLER, OR APPROVED EQUAL, SHALL BE USED.

B. INSTALLATION

1. DRILLING - AVOID DRILLING INTO CONCRETE. THERE SHALL BE NO PERCUSSION DRILLING. THE CONCRETE MUST BE CURED INSTEAD. TAKE CARE TO AVOID STRANDS IN PRECAST CONCRETE. THRU BOLTS IN TIMBER SHALL BE INSTALLED IN 1/8" PINS OR LAG BOLTS. ANCHOR BOLTS SHALL BE INSTALLED IN 1/8" DIAMETER PINS OR LAG BOLTS. SHORT HOLES FOR WBS IN TIMBER SHALL BE 1/8" - 1/8" LESS THAN DIAMETER.

2. SETTING - PRIOR TO PLACING THE ANCHOR BOLTS THE ANCHOR HOLE MUST BE CLEAN AND SOUND. SURFACE SHALL BE FREE OF STANDING WATER, REMOVE DUST, GREASE, FOREIGN PARTICLES, AND DISINTEGRATED MATERIALS BY MECHANICAL MEANS. ANCHOR BOLTS SHALL BE PLACED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. MAKE CERTAIN THAT NO AIR VOIDS REMAIN IN THE ANCHOR HOLE. TAMP, ROD AND/OR VIBRATE TO MOVE GROUT. SUFFICIENT GROUT SHALL BE PREPARED TO COMPLETELY FILL THE CAVITY AFTER THE ANCHOR BOLT IS PLACED.

3. TIGHTENING - AFTER CURING, ALL ANCHORS FOR EXPANSION TYPE BEARINGS SHALL BE FULLY TIGHTENED (IF APPLICABLE).

C. MEASUREMENT AND PAYMENT - SEE STANDARD SPECIFICATIONS FOR STRUCTURAL STEEL BID ITEM.

2.8 NOT USED

2.9 BEARING PADS

A. DESCRIPTION
ANCHOR BOLTS SHALL BE FINISHED AND INSTALL BEARING PADS AS DETAILED IN THE PLANS. ALL LABOR, MATERIAL, AND EQUIPMENT TO PROPERLY INSTALL THE BEARING PADS SHALL BE FURNISHED BY THE CONTRACTOR.

B. MATERIALS

PERFORMED COTTON DUCK REINFORCED NEOPRENE PADS SHALL BE CONSTRUCTED OF SORBETEX BY VOSS ENGINEERING, INC. (800) 323-3935, OR SHALL CONFORM TO MIL-SPEC MIL-C-882 SPECIFICATIONS, OR APPROVED EQUAL.

C. CONSTRUCTION

BEARING PADS SHALL BE SET LEVEL IN EXACT POSITION AND SHALL HAVE FULL AND EVEN CONTACT WITH THE BRIDGE SECTIONS. BEARING PADS SHALL BE SET TO BEAR AT THE PROPER LOCATION AND BEARINGS SHALL BE SET TO BEAR AT THE PROPER LOCATION. THIS TEMPERATURE BEARINGS SHALL BE CENTERED UNDER THE STRUCTURE CENTER LINE OF BEARING.

APNC 2013 CAPITAL IMPROVEMENTS - PROJECT NUMBER: RPD-08(76) - 8B-04 WESTBROOK ASSOCIATED ENGINEERS INC.

APPANOOSE AND MONROE COUNTIES, IOWA

FILE NAME: G:\00-PROJECT FILES\2009\09177 APNC Bridge #7\2xxx APNC Track and Tie Work\01-CAD\C08-C09 article 2 (apnc bridge 7).dwg PLOT DATE: Jun 06, 2013 PLOT BY: Kerry

PROJECT PLAN SUPPLEMENTAL SPECIFICATIONS
ARTICLE 2 - APNC BRIDGE NO. 7 REHABILITATION WORK ITEMS

ROTATION:

C.08