GENERAL NOTES

SPECIFICATIONS:
Design Specifications - AASHTO Standard Specifications for Highway Bridges, 17th Edition 2002. (Load Factor Design).
Construction Specifications - Kansas Department of Transportation, Standard Specifications for State Road and Bridge Construction, 1990 and Special Provisions.
All material and fabrication procedures shall be Shop Certified to comply with applicable specifications referenced in the Plans and Specifications.

DESIGN LOADING:
Live Load Roadway - HS20-44
Other Loads - As specified by AASHTO (Pedestrian Load 85 lbs./ft.^{2})
Dead Load - Includes an allowance of 15 lbs. per sq. ft. for future wearing surface.

UNIT STRESSES (NEW MATERIAL):
Class AAA Concrete (AE) f'c = 4,000 psi, fc = 1,600 psi
Prestressed Beam Concrete AAA (AE) (PB) f'c = 6,000 psi, fci = 5,000 psi
Reinforcing Steel (Grade 60) fy = 60,000 psi, fs = 24,000 psi
Prestressed Strands 1/2" Ø Grade 270 uncoated 7-wire stress- relieved, low-relaxation strand

UNIT STRESSES (EXISTING MATERIAL):
Concrete (Estimated) f'c = 2500 psi
fc = 1200 psi
Reinforcing Steel (Prior to 1954) Fs = 18,000 psi

EXISTING DIMENSION VERIFICATION: Dimensions of the existing structure are based on field surveys and not original 1925 plans. The Contractor shall verify, by field measurement, the as-built dimensions of the existing structure that will be incorporated into the new construction and submit such verification in writing to the Engineer. Verification may include sketches, drawings, photographs and descriptions as needed to clearly define the as-built dimensions.

CONCRETE: All cast-in-place concrete shall be Class AAA(AE).
Bevel all exposed edges of all concrete with a 3/4" triangular molding otherwise specified. Use double 3/4" bevels at certain construction joints as noted on the plans. Construction joints are optional with the Contractor, but if used, shall be made only at locations shown, or at locations approved by the Engineer.
Old concrete surfaces upon which new concrete is to be placed shall be free of all loose material and thoroughly brushed and washed with clean water (No Separate Payment).

REINFORCING STEEL: All dimensions relative to reinforcing steel placement are to the centerline of bars unless otherwise noted. Bar bending and dimensions shall be as shown and noted on the bending diagrams. The clear distance from face of concrete to near edge or end of reinforcing bar shall be 2" unless otherwise noted. All reinforcing steel shall conform to the requirements of ASTM A615, Grade 60.
Existing Reinforcing Steel damaged by the Contractor shall be repaired at the Contractor's expense by drilling and grouting a new bar into the existing concrete to a depth to be determined by the Engineer.

BACKFILL COMPACTION: Only flowable fill will be allowed as backfill at the abutments.

EPOXY GROUTING: This item shall consist of grouting reinforcing steel into the existing concrete, where required by the Engineer, with an epoxy grout. The Contractor shall locate each hole with the aid of a pachometer to miss the existing reinforcing steel. The holes shall be drilled to the specifications required by the grout manufacturer and in such a manner as not to damage adjacent concrete or bars. After the hole is drilled, all loose material shall be removed by using a wire brush to free the dust from the side of the hole and then vacuumed to remove material and dust. The hole will be filled 1/3 to 1/2 full of epoxy grout and the bar inserted. The hole shall then be filled to 1/4" from the top of the hole. The epoxy grout shall be mixed, applied and cured according to manufacturers recommendations. The tools, materials(exclusive of reinforcing), labor and incidentals necessary to complete the work shall be paid for per each as "Drill and Grout".

PRESTRESSED BEAM CONCRETE: Prestressed beam concrete shall be Class AAA (AE)(PB) concrete with release strength and 28 day strength requirements as noted on the plans.

REMOVAL OF EXISTING STRUCTURE: Removal of Existing Structure is included in the bid item "Removal of Existing Structure," Limp sum. All work shall be done in accordance with Section 206 of the Standard Specifications. All materials removed shall be taken from the site and disposed of by the Contractor at locations approved by the Engineer. Removal of Existing Structure shall include the removal from the site the areas depicted in plan sheet 9 plus the sidewalk expansion joints.

DIMENSIONS: All dimensions shown on the design plans are horizontal dimensions unless otherwise noted. The Contractor shall make necessary allowances for roadway grade and cross slope.

CONSTRUCTION JOINTS: Construction joints shall be made only at locations indicated or as approved by the Engineer.

CONSTRUCTION LOADS: Construction loads will be limited to loads and locations approved by the Engineer. Proposed equipment and methods used to construct the repairs shall be submitted to the Engineer for review. Information that defines the construction equipment axle weights and spacings shall be included in the submittal.

RIVER PROTECTION: The Contractor shall execute his work in such a manner and take such precautions as necessary to prohibit the falling of broken concrete and other debris into the Little Arkansas River. The methods of protection, such as catch platforms, proposed by the Contractor shall be approved by the Engineer. (No Separate Payment).

FALSEWORK PLANS: Falsework details shall be designed and bear the seal of a licensed Professional Engineer. Five sets of details in compliance with KDOT Specifications shall be submitted to the Engineer for review.

TEMPERATURE: The design temperature for all dimensions is 60°F.

QUANTITIES: Items not listed separately in the Summary of Quantities are subsidiary to other items in the proposal.

WATERLINE: The waterline is required to be depressurized prior to the jacking operation and the diaphragm replacement. At the Engineers discretion each time the waterlines are depressurized reclorination may be required. This chlorination operation will be considered subsidiary to the bid item "Class AAA Concrete(AE)". The two existing blowoff valve locations must be modified with Neenah R-1914-A or approved equal. This work shall be considered part of the "Waterline Replacement" bid item.

COMPACTION: The compaction requirement for the sidewalk construction will be 6" of (Type B)(MR-90). The compaction requirement for the approach slab will be 6" of (Type AA)(MR 3-3). All compaction and excavation, except Class III Excavation, shall be considered subsidiary.

JACKING OF EXISTING STRUCTURE: Jacking of Existing Structure shall be paid for at the contract lump sum price bid and shall be full compensation for temporary supporting/jacking of the superstructure during abutment rehabilitation. The method and amount of lifting will be considered falsework details.

EPOXY RESIN CRACK REPAIR: Epoxy Resin Crack Repair shall be paid for per linear foot of crack repaired. The cracks repaired shall be at the discretion of the Engineer. See plan sheet 30 for repair procedures.

SUBSTRUCTURE CONCRETE REPAIR TYPE I: Substructure Concrete Repair Type I shall be paid for per square foot with repair procedures as outlined on plan Sheet 30.

BRIDGE RAIL REPAIR: Bridge Rail Repair shall be paid for at the contract lump sum price bid and shall be full compensation for the work as outlined on plan sheet 31. All rails cracked are to be repaired under this bid item.

SIDEWALK REFINISHING: Sidewalk Refinishing shall be paid for per square yard price bid and shall be full compensation for the work outlined on the plans. This work consists of milling 1" depth of the sidewalk area and placing 1" concrete deck of Class AAA Concrete(AE). Integral concrete color to match the finished bridge rail surface. Fibermesh additive to be polypropylene fibers engineered and designed for secondary reinforcement of concrete slabs, complying with ASTM C1116, Type III, not less than 3/4inch long. Fibermesh to be added per manufacturer's recommended rate, but not less than 1.5 pounds per cubic yard.

RETAINING WALL: Retaining Wall shall be paid for per linear foot bid and shall be full compensation for the work outlined on the plans. This work includes concrete, reinforcing steel, excavation, providing of stone, placement of stone and incidentals necessary to complete the work.

LIGHTING: Lighting shall be paid for at the lump sum price bid and shall be full compensation for the work outlined on the plans and in accordance with all Sections of Project Special Provision - "Electrical".

SIDEWALK SLAB REPAIR (UNDERSIDE): Sidewalk Slab Repair(Underside) shall be paid for per square foot bid and shall be full compensation for the work outlined on the plans. This work shall include the area as depicted on plan Sheet 29 with repair methods as noted on plan Sheet 30.

SIDEWALK EXPANSION JOINT: Sidewalk Expansion Joint shall be paid for per linear foot and shall be full compensation for the work outlined on the plans. This work and material provided shall be in accordance with the Kansas Department of Transportation Standard Specifications for State Road and Bridge Construction, 1990 Edition, subsection 1504.

ELASTOMERIC BEARING DEVICE: Elastomeric Bearing Device shall be paid for per each price bid and shall be full compensation for the work outlined on the plans. See Project Special Provision 90P-50-R2 for additional information.

DIAPHRAGM REPAIR: Diaphragm Repair shall be paid for per each and shall be full compensation for the work outlined on the plans. This work shall include the removal and replacement of the diaphragm as noted on plan Sheets 29 and 30. This work will be accomplished when the water lines are depressurized.

PLANT MIX BITUMINOUS MIXTURE(COMMERCIAL GRADE): Plant Mix Bituminous Mixture (Commercial Grade) shall be paid for per ton and shall be full compensation for the work outlined on the plans. This work shall include the milling and the placement of 1.5" Asphalt to match the new 10" concrete approach slabs.

CONCRETE BEAM REPAIR: Concrete Beam Repair shall be paid for per linear foot price bid and shall be full compensation for the work as outlined in the plans. This work includes repair of sidewalk beams as delineated on plan Sheet 29.

TRAFFIC CONTROL: Traffic Control shall be paid for at the lump sum price bid and shall be full compensation for the work as outlined in the plans. This work involves road and sidewalk closure at the site plus a marked detour route.

SPECIAL CONCRETE FINISHES: Special Concrete Finishes shall be paid for at the lump sum price bid and shall be full compensation for the work as noted. This work shall include sandblasting all rail faces and exteriors of beams and substructure edge elements, above normal water level, that can be seen from the river bank areas. The sandblasting shall occur after all rails have been repaired. The sandblasting is to remove laitance and stain to a reasonable level prior to sealing with Hydrozo Seal 40 as manufactured by Degussa Building Systems (612-496-6000) or equivalent.

BOAT AREA CLOSURE: The boat storage room at Abutment No. 1 will be filled in place. This work will involve removing approximately 22 cubic yards of excavation, placing a closure wall as detailed on Sheet 16 and filling the room with approximately 44 cubic yards of flowable fill. This work will be subsidiary to the bid item "Removal of Existing Structure".

No.	Revisions	By	Date
1			

CITY OF WICHITA, KANSAS
JAMES L. ARMOUR, P.E.-ACTING CITY ENGINEER
MURDOCK BRIDGE
OVER LITTLE ARKANSAS RIVER
GENERAL NOTES
CITY OF WICHITA PROJECT NO. 472-83895

Professional Engineering Consultants, P.A.
303 S. TOPEKA • WICHITA, KANSAS 67202
316-262-2691 • FAX 316-262-3003

Designed by	R.A.S.	Checked by	R.A.S.
Drawn by	MAF	Date March 2004	Job No. 96940-2

I:/1966/96940/002/gennotes.dgn
drawn by: maf
plotted by: RAS 3-27-2004