

GENERAL NOTES FOR BRIDGE "A"

GENERAL NOTES FOR BRIDGE "B"

OKLAHOMA DEPARTMENT OF TRANSPORTATION					
FED. ROAD DIST. NO.	STATE	JOB PIECE NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
X	OKLA.	28872104			
DESCRIPTION					DATE
REVISIONS					

**FALSEWORK AND JACKING:**

The Contractor will be required to install falsework at locations specified in the plans to support the existing superstructure while the existing bearings are reset and the beams are repaired. Care shall be taken when the beams are jacked up so the bridge deck and diaphragms are not damaged.

The Contractor shall submit to the Bridge Engineer of the Oklahoma Department of Transportation a falsework and jacking plan. The plan shall include a layout of falsework and any required jacking, structural calculations for the design of the falsework, jacking scheme, jacking sequence and jack capacities. The falsework and jacking shall have the capacity to support the dead loads of the bridge and all traffic and other live loads carried by the bridge. The Contractor shall install the falsework in a manner so as not to damage the existing bridge or any new construction attached to the bridge. The submitted plan shall be signed and sealed by a Professional Engineer registered in the State of Oklahoma. The plan and structural calculations shall be prepared in accordance with the AASHTO Standard Specifications for Highway Bridges, latest edition and Section 502 of the Standard Specifications. Installation of the falsework and jacking shall not begin until the Contractor has received approval of the submitted plan from the Bridge Engineer.

All cost necessary to complete the work as specified or as shown in the plans including the cost of falsework, jacking, engineering services, materials, labor, equipment, and incidentals shall be included in the price bid per Lump Sum of "(PL) FALSEWORK JACKING".

**(PL) REPAIR BRIDGE ITEM (TYPE A):**

Item "(PL) REPAIR BRIDGE ITEM (TYPE A)" consists of trimming 1" from the end of the following steel beams, see Sheet No. 16 for details:

1. Beam Nos. 1 - 3, Pier No. 1 (Back & Forward Station)
2. Beam Nos. 7 - 11, Pier No. 1 (Back & Forward Station)

All costs of trimming the beam ends including material, labor, equipment and incidentals necessary to complete the work as specified shall be included in the price bid per Each of "(PL) REPAIR BRIDGE ITEM (TYPE A)".

**(PL) REPAIR BRIDGE ITEM (TYPE B):**

Item "(PL) REPAIR BRIDGE ITEM (TYPE B)" consists of clipping top and bottom flanges and web to provide 2" clearance (minimum) from Abutment Backwall on the following beams, see Sheet No. 16 for details:

1. Beam No. 4, Abutment No. 1

All costs of clipping the beam ends including material, labor, equipment and incidentals necessary to complete the work as specified shall be included in the price bid per Each of "(PL) REPAIR BRIDGE ITEM (TYPE B)".

**(PL) REPAIR BRIDGE ITEM (TYPE C):**

Item "(PL) REPAIR BRIDGE ITEM (TYPE C)" shall consist of resetting existing Expansion Bearings at the following locations, See Sheet No. 16 for details:

1. Beam Nos. 1 - 11, Pier No. 1 (Back & Forward Station)
2. Beam Nos. 1 - 11, Pier No. 3 (Back & Forward Station)

The number and location of bearings to be reset shall be determined by the Engineer. The bearings shall be reset such that the roller bearing stiffener is vertical. Care shall be taken when the beam is jacked up so the bridge deck and diaphragms are not damaged. All falsework shall be in accordance with Section 502 of the Standard Specifications.

All costs including falsework, jacking, engineering services, resetting, labor, equipment, and incidentals necessary to complete the work shown in the plans shall be included in the price bid per Each of "(PL) REPAIR BRIDGE ITEM (TYPE C)".

**(SP) CARBON FIBER-REINFORCED POLYMER:**

Payment for Carbon Fiber-Reinforced Polymer will be based on the surface area confined, as indicated on the plans. Additional Layers of Carbon Fiber-Reinforced Polymer as specified in the plans shall be considered subsidiary to this pay item.

All costs of Carbon Fiber-Reinforced Polymer including all three (3) layers of material, epoxy, Inorganic Zinc Primer, labor, equipment and any other incidentals necessary to complete the work shown in the plans shall be included in the price bid per Square Foot of "(SP) CARBON FIBER-REINFORCED POLYMER".

**DRAINS AT END OF BRIDGE:**

The Asphalt Widening for the bridge guardrailing shall be in accordance with Standards THRI-1-02, SKT-1-00, GHW1-1-00, and GHW2-1-00 except as shown on Sheet No. 26. All costs of Asphalt Widening shall be included in Roadway Pay Items.

There is 3.00 cubic yards of Class C Concrete required to construct the Slope Drains, Splash Basins and Concrete Curbs at the end of the Bridge. All costs of the Slope Drains, Splash Basins and Concrete Curbs including material, labor, equipment and incidentals necessary to complete the work as shown in the plans shall be included in the price bid per Cubic Yard of "CLASS C CONCRETE".

**FALSEWORK AND JACKING:**

For the design and construction of temporary falsework, comply with Section 502 of the 2009 Standard Specifications for Highway Construction and the requirements noted below. See Sheet No. 29 for Conceptual Temporary Falsework details. This falsework must be supported off the existing columns due to the presence of underground utilities adjacent to the piers.

The Contractor will be required to install falsework at locations specified in the plans to support the existing superstructure while the existing bearings are replaced and the beams are repaired. Care shall be taken when the beams are jacked up so the bridge deck and diaphragms are not damaged.

The Contractor shall submit to the Bridge Engineer of the Oklahoma Department of Transportation a falsework and jacking plan. The plan shall include a layout of falsework and any required jacking, structural calculations for the design of the falsework, jacking scheme, jacking sequence and jack capacities. The falsework and jacking shall have the capacity to support the dead loads of the bridge and all traffic and other live loads carried by the bridge. The Contractor shall install the falsework in a manner so as not to damage the existing bridge or any new construction attached to the bridge. The submitted plan shall be signed and sealed by a Professional Engineer registered in the State of Oklahoma. The plan and structural calculations shall be prepared in accordance with the AASHTO Standard Specifications for Highway Bridges, latest edition and Section 502 of the Standard Specifications. Installation of the falsework and jacking shall not begin until the Contractor has received approval of the submitted plan from the Bridge Engineer.

All cost necessary to complete the work as specified or as shown in the plans including the cost of falsework, jacking, engineering services, materials, labor, equipment, and incidentals shall be included in the price bid per Lump Sum of "(PL) FALSEWORK JACKING".

**(PL) REPAIR BRIDGE ITEM (TYPE A):**

Item "(PL) REPAIR BRIDGE ITEM (TYPE A)" consists of trimming 1" from the end of the following beams, see Sheet No. 37 for details:

1. Beam Nos. 1 - 4, Pier No. 1 (Back & Forward Station)
2. Beam Nos. 4 - 7, Pier No. 3 (Back & Forward Station)

All costs of trimming the beam ends including material, labor, equipment and incidentals necessary to complete the work as specified shall be included in the price bid per Each of "(PL) REPAIR BRIDGE ITEM (TYPE A)".

**ANCHORAGE INTO EXISTING CONCRETE:**

The Contractor shall have the option of the methods by which the new anchor bolts shown in the plans are to be anchored into the concrete of the existing bridge. Anchorage into the concrete of the existing bridge shall be accomplished by one of the following methods:

1. Self-Mixing Injection type anchorage systems such as "Hilti Fastening Systems", "Unitex Pro-Proxy 300 Fast" or an approved equal. Anchorages shall be installed in accordance with the Manufacturer's specifications for the system used.
2. Encapsulated non-expanding chemical type anchorage systems such as "Rawplug Company Chem-Stud", "Hilti Encapsulated" or an approved equal. Anchorages shall be installed in accordance with the manufacturer's specifications for the system used.

Drilling into the existing concrete to install the anchorage shall be accomplished without cutting existing concrete reinforcing steel bars. Prior to drilling, the Contractor shall locate and mark the existing concrete reinforcing steel bars with nondestructive tools, equipment and methods approved by the Engineer. If existing reinforcing steel bars are encountered during drilling, the drilling shall cease and the hole shall be grouted. The hole shall then be relocated to clear the existing reinforcing steel bars. Any adjustment in the locations of the new anchor bolts from the plan locations shown shall be the minimum amount necessary to avoid cutting the existing concrete reinforcing steel bars and shall be approved by the Engineer.

All cost to anchor the new anchor bolts into the existing bridge as specified or as shown in the plans including the cost of locating existing concrete reinforcing steel bars, drilling, repairing flawed drill holes, anchoring into the existing concrete, materials, labor, equipment and incidentals shall be included in other items of work.

**FIXED BEARING ASSEMBLIES:**

Provide and install Fixed Bearing Assemblies of the size, shape and location as specified or as shown on the As-Built plans & Sheet No. 37. It is the Contractor's responsibility to provide "like kind" Bearing Replacement Plans similar to what is shown in the As-Built Plans.

All cost of providing and installing the Fixed Bearing Assemblies as specified or as shown in the plans including the cost of fixed bearing assemblies, anchor bolts, nuts, washers, materials, labor, equipment and incidentals shall be included in the price bid per Each of "WEATHERING STEEL FIXED BEARING ASSEMBLY".

**EXPANSION BEARING ASSEMBLIES:**

Provide and install Expansion Roller Bearing Assemblies of the size, shape and location as specified or as shown in the As-Built plans & Sheet No. 37. It is the Contractor's responsibility to provide "like kind" Bearing Replacement Plans similar to what is shown in the As-Built Plans.

All cost of providing and installing the Expansion Roller Bearing Assemblies as specified or as shown in the plans including the cost of expansion bearing assemblies, anchor bolts, nuts, washers, materials, labor, equipment and incidentals shall be included in the price bid per Each of "WEATHERING STEEL EXPANSION BEARING ASSEMBLY".

I-44 WB & EB OVER S 38TH W AVE & TSU RR		TULSA COUNTY		DESIGN	JMO	9/15
BRIDGES "A" & "B"				DETAIL	SJL	9/15
SUMMARY OF PAY QUANTITIES AND NOTES (BRIDGE) (SHEET 3 OF 5)				CHECK	BRT	11/15
				<b>GARVER</b>		

STATE OF OKLAHOMA	DEPARTMENT OF TRANSPORTATION
JOB PIECE NO. 28872104	SHEET NO. 4