

## Preliminary Bridge Construction Cost Estimate

### Rehabilitation of Bridge with New Deck and Steel Beams

#### Option 1 - Rehabilitation of Existing Piers

	<u>Per Span</u>	<u>Total</u>	<u>% Total</u>
<b>Superstructure Rehabilitation - Truss Spans (38 Spans)</b>			
Structural Steel	\$234,000.00	\$8,892,000.00	41.0%
Precast Deck Panels	\$46,000.00	\$1,748,000.00	8.1%
Ultra High Performance Concrete	\$22,000.00	\$836,000.00	3.9%
Sealed Expansion Joint	\$3,000.00	\$114,000.00	0.5%
Sealer Crack Preparation and Resin	\$1,000.00	\$38,000.00	0.2%
Ornamental Railing	\$31,000.00	\$1,178,000.00	5.4%
15% Contingency	\$51,000.00	\$1,938,000.00	8.9%
	<b>\$388,000.00</b>	<b>\$14,744,000.00</b>	<b>67.9%</b>
<b>Superstructure Rehabilitation - Approach Spans (2 Spans)</b>			
Structural Steel	\$32,000.00	\$64,000.00	0.3%
Class AA Concrete	\$16,000.00	\$32,000.00	0.1%
Epoxy Coated Reinforcing Steel	\$4,000.00	\$8,000.00	0.0%
Sealed Expansion Joint	\$7,000.00	\$14,000.00	0.1%
Approach Slab	\$16,000.00	\$32,000.00	0.1%
Ornamental Railing	\$21,000.00	\$42,000.00	0.2%
15% Contingency	\$15,000.00	\$30,000.00	0.1%
	<b>\$111,000.00</b>	<b>\$222,000.00</b>	<b>1.0%</b>
<b>Truss Painting (38 Spans)</b>			
Painting Existing Structures	\$20,000.00	\$760,000.00	3.5%
Collection and Handling of Waste	\$5,000.00	\$190,000.00	0.9%
15% Contingency	\$4,000.00	\$152,000.00	0.7%
	<b>\$29,000.00</b>	<b>\$1,102,000.00</b>	<b>5.1%</b>
<b>Substructure Rehabilitation (2 Abutments, 39 Piers)</b>			
Class A Concrete		\$771,000.00	3.6%
Epoxy Coated Reinforcing Steel		\$166,000.00	0.8%
Steel Piles		\$51,000.00	0.2%
Bearing Assemblies		\$360,000.00	1.7%
Removal of Substructure		\$440,000.00	2.0%
15% Contingency		\$269,000.00	1.2%
		<b>\$2,057,000.00</b>	<b>9.5%</b>
		<u>Total</u>	<u>% Total</u>
Removal of Existing Superstructure / Resetting Truss (~ \$25/sf)		\$2,570,000.00	11.8%
Roadway (asphalt taper to match existing grade)		\$250,000.00	1.2%
Traffic Control (road closure and detour)		\$500,000.00	2.3%
Utility Relocation (fiber optic lines on bridge)		\$200,000.00	0.9%
		<b>\$21,645,000.00</b>	

Utility costs are pre-construction

**TOTAL = \$21,445,000.00**

\$211 per sq ft  
 26' x 3,950' = 102,700.00 sq ft



## US-281 over the South Canadian River

## Option 2 - Remove and Replace Existing Piers

	<u>Per Span</u>	<u>Total</u>	<u>% Total</u>
<b>Superstructure Rehabilitation - Truss Spans (38 Spans)</b>			
Structural Steel	\$234,000.00	\$8,892,000.00	29.3%
Precast Deck Panels	\$46,000.00	\$1,748,000.00	5.8%
Ultra High Performance Concrete	\$22,000.00	\$836,000.00	2.8%
Sealed Expansion Joint	\$3,000.00	\$114,000.00	0.4%
Sealer Crack Preparation and Resin	\$1,000.00	\$38,000.00	0.1%
Ornamental Railing	\$31,000.00	\$1,178,000.00	3.9%
15% Contingency	\$51,000.00	\$1,938,000.00	6.4%
	<b>\$388,000.00</b>	<b>\$14,744,000.00</b>	<b>48.5%</b>
<b>Superstructure Rehabilitation - Approach Spans (2 Spans)</b>			
Structural Steel	\$32,000.00	\$64,000.00	0.2%
Class AA Concrete	\$16,000.00	\$32,000.00	0.1%
Epoxy Coated Reinforcing Steel	\$4,000.00	\$8,000.00	0.0%
Sealed Expansion Joint	\$7,000.00	\$14,000.00	0.0%
Approach Slab	\$16,000.00	\$32,000.00	0.1%
Ornamental Railing	\$21,000.00	\$42,000.00	0.1%
15% Contingency	\$15,000.00	\$30,000.00	0.1%
	<b>\$111,000.00</b>	<b>\$222,000.00</b>	<b>0.7%</b>
<b>Truss Painting (38 Spans)</b>			
Painting Existing Structures	\$20,000.00	\$760,000.00	2.5%
Collection and Handling of Waste	\$5,000.00	\$190,000.00	0.6%
15% Contingency	\$4,000.00	\$152,000.00	0.5%
	<b>\$29,000.00</b>	<b>\$1,102,000.00</b>	<b>3.6%</b>
<b>Substructure Replacement (2 Abutments, 39 Piers)</b>			
Class A Concrete		\$1,811,000.00	6.0%
Epoxy Coated Reinforcing Steel		\$453,000.00	1.5%
Steel Piles		\$51,000.00	0.2%
Drilled Shafts		\$6,240,000.00	20.5%
Bearing Assemblies		\$360,000.00	1.2%
Removal of Substructure		\$440,000.00	1.4%
15% Contingency		\$1,404,000.00	4.6%
		<b>\$10,759,000.00</b>	<b>35.4%</b>
<b>Removal of Existing Superstructure / Resetting Truss (~ \$25/sf)</b>			
Roadway (asphalt taper to match existing grade)		\$250,000.00	0.8%
Traffic Control (road closure and detour)		\$500,000.00	1.6%
Utility Relocation (fiber optic lines on bridge)		\$200,000.00	0.7%
		<b>\$30,347,000.00</b>	

**TOTAL = \$30,400,000.00**

\$296 per sq ft  
26' x 3,950' = 102,700.00 sq ft