



Consulting Party Meeting

SH-66 NB over Bird Creek
Rogers County, Oklahoma
JP 20899(09)

September 20, 2021

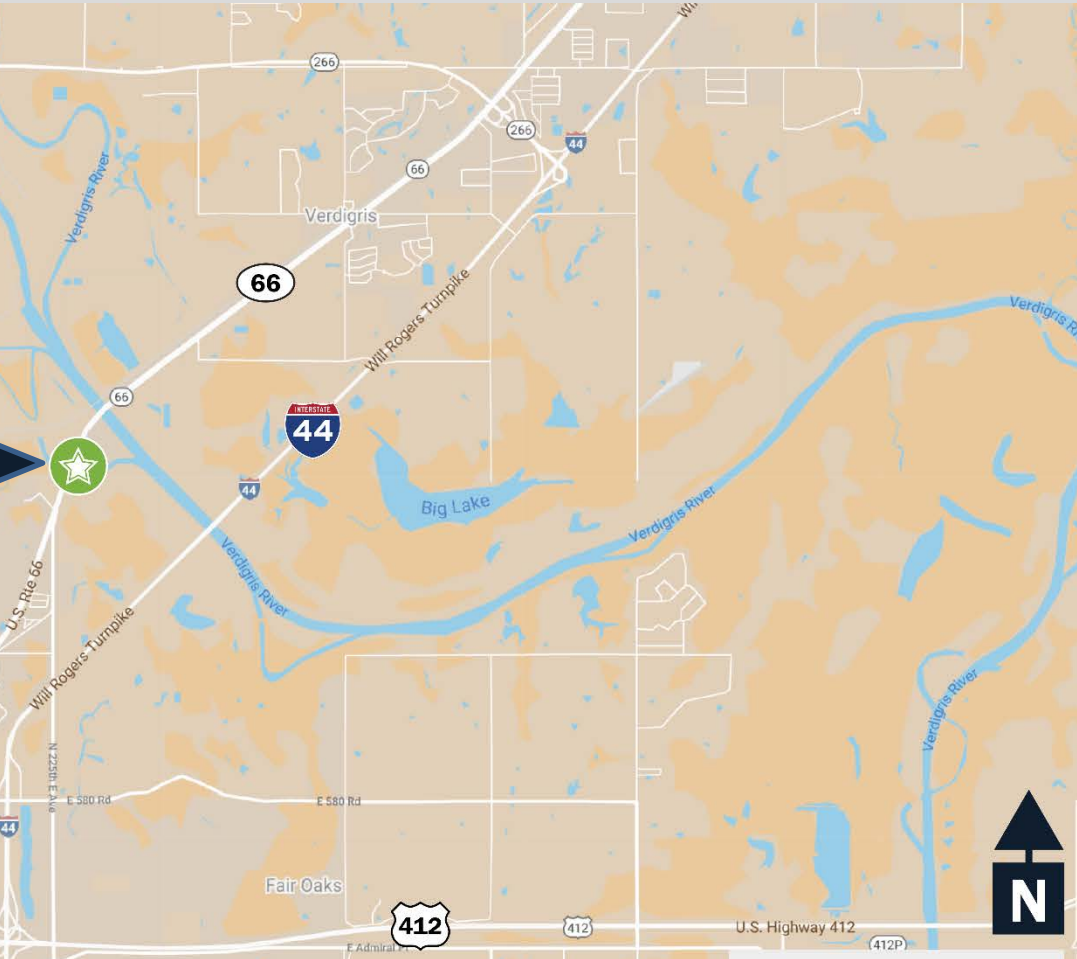
Section 106 Consultation History

- **November 11, 2019 - Initiated Consultation with SHPO and Consulting Parties**
- **May 1 and May 12, 2020 – Provided cultural resources report of investigations to SHPO, State Archaeologist, and Consulting Parties**
 - **No other historic properties identified**
 - **Concurrence from SHPO that roadbed is not eligible for listing on the NRHP**
 - **Request to describe previous work conducted on the bridge**
 - **Provided list of alternatives being considered**

SH-66 over Bird Creek: Bridge Details

- **Six-span mixed truss bridge:**
 - *Three Camelback Trusses, Three K-Trusses*
- **Eligible for listing on the National Register of Historic Places (NRHP), under criterion C**
- **Constructed in 1956**
- **Classified as structurally deficient (poor condition)**
- **Trusses and floorbeams are classified as fracture critical**

SH-66 over Bird Creek



 Project Location

Purpose and Need of the Project:

Purpose:

- The project purpose defines the problem (need) to be solved.
 - Provide a bridge crossing that is structurally and functionally sufficient for the intended use of the structure.

Need:

- The project need describes the transportation deficiency. It is the foundation of the entire decision-making process. The need provides information to support the purpose
 - The existing bridge is in poor condition and is fracture critical

Bridge Condition

- Bridge Inspection Reports

- Routine and Fracture Critical
- Other Special

- Condition Ratings (December 2020)

- Deck = 5 (Fair)
- Superstructure = 4 (Poor)
- Substructure = 6 (Satisfactory)
- Sufficiency Rating= 49.4

- Other concerns

- Existing 30 ft. Roadway (AASHTO Standard: 36 ft. Minimum Roadway)
- Non-standard clearance of 15'-6" (AASHTO Standard: 16')
- Not currently load-posted, but should be posted for 32 tons
- Daily Traffic 7900



Maintenance and other repairs

- 20926(04) – Bridge Paint project – consulted Spring 2013
- 20926(05) – Bridge Joint/Seal Repair – consulted February 2015
- Repair Bridge Deck – April 2019
- Clean/Rehabilitate/Replace Bridge Joints - September 2019
- Repair Bridge Deck – January 2020
- Rehabilitate Floor System – March 2020
- Repair Bridge Deck – June 2020
- Repair Bridge Deck - November 2020
- Continuous maintenance (deck washing)



Alternatives Considered - Section 4(f)

- Alternatives that do not ‘use’ bridge (result in no adverse effect)
 - Do Nothing
 - Build on New Location
 - Retain existing bridge as non-functional “monument”
 - Retain existing bridge as non-motorized pedestrian or bicycle facility
 - Rehabilitation without Affecting Historic Integrity of Bridge
- Additional Alternatives reviewed in Design Analysis
 - Rehabilitate existing bridge; widen to provide 38-foot roadway width
 - Replacement of Bridge on Existing Alignment

Design Analysis Report Summary

Alternative 1 – Do Nothing

- Minor maintenance only; no major rehabilitation
 - Periodic closures likely
 - Regular maintenance
 - Costly inspections



Design Analysis Report Summary

Alternative 2: Rehabilitation Without Affecting Historic Integrity of the Bridge

- Alternative 2(a): Rehabilitation existing bridge; widen to provide 38-ft roadway
 - Replacement of deck, approach slabs, stringers, floor beams, and lateral bracing
 - Strengthening of various truss members
 - Remove and reset trusses and bearings
 - New bridge rails
 - Painting of all structural steel
 - Augmentation of both abutments and all five piers
 - Minor substructure repairs

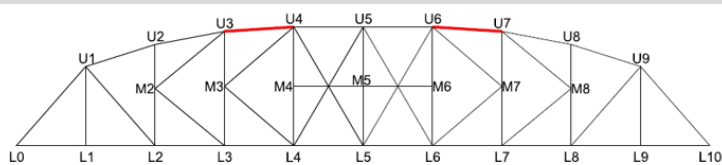


Figure 35: Overstressed Truss Members (Span 3) – Rehabilitation with Widening

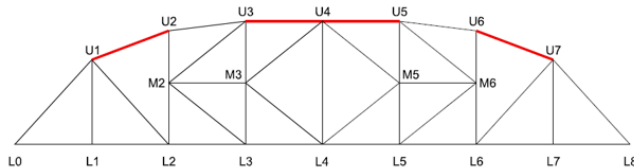


Figure 36: Overstressed Truss Members (Span 4) – Rehabilitation with Widening

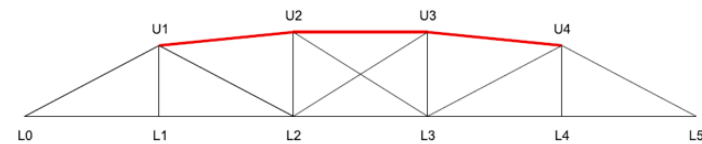


Figure 33: Overstressed Truss Members (Spans 1, 5, and 6) – Rehabilitation with Widening

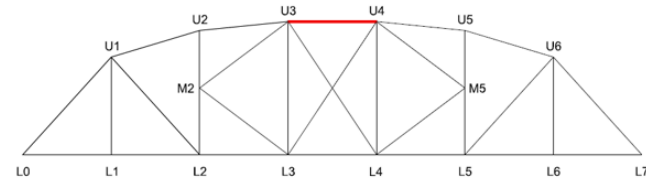


Figure 34: Overstressed Truss Members (Span 2) – Rehabilitation with Widening

Design Analysis Report Summary

Alternative 2: Rehabilitation Without Affecting Historic Integrity of the Bridge

- Alternative 2(b): Rehabilitation of existing bridge; maintain current 30-ft roadway width
 - Replacement of deck, approach slabs, stringers, and floor beams
 - Remove and reset trusses and bearings
 - New bridge rails
 - Painting of all structural steel
 - Minor substructure repairs



Design Analysis Report Summary

Alternative 3 - Build on New Location

- Existing bridge remains in place as:
 - Non-functional monument
 - Non-vehicular pedestrian and/or bicycle facility
- Six offset alignments were evaluated in March 2011.



Design Analysis Report Summary

Alternative 4: Replacement of Bridge on Existing Alignment

- Existing bridge removed
- Result in adverse effect and would require mitigation



Design Analysis Report Summary

Summary of Findings

Category	Avoidance Alternatives				#4: New Bridge on Existing Location
	#1: Do Nothing	#2: Rehabilitation		#3: Build on New Location, Leave in Place as Monument	
		#2(a): Widen	#2(b): No Widening		
Maintenance and Inspection	<ul style="list-style-type: none"> Increased inspection frequency Increased frequency of repairs to address section loss in steel, particularly stringers and floorbeams Increased frequency of maintenance required, including spot painting 	<ul style="list-style-type: none"> Minimal maintenance required for first 20-25 years, after which spot painting will be required Structural repairs should not be required if regular program of cleaning the trusses and spot painting areas of corrosion is initiated 	<ul style="list-style-type: none"> Minimal maintenance required for first 20-25 years, after which spot painting will be required Structural repairs should not be required if regular program of cleaning the trusses and spot painting areas of corrosion is initiated 	<ul style="list-style-type: none"> Minimal maintenance required for first 20-25 years, after which spot painting will be required Significantly reduced inspection effort 	<ul style="list-style-type: none"> Minimal maintenance required for first 20-30 years Inspection effort significantly reduced because new bridge will no longer be fracture critical
Geometric Adequacy	<ul style="list-style-type: none"> Bridge remains Functionally Obsolete 	<ul style="list-style-type: none"> Bridge no longer Functionally Obsolete Provides 38 feet clear roadway width 	<ul style="list-style-type: none"> Bridge remains Functionally Obsolete 	<ul style="list-style-type: none"> Bridge no longer Functionally Obsolete, as it is no longer open to vehicular traffic 	<ul style="list-style-type: none"> Bridge meets current AASHTO and ODOT geometric standards Functionally Obsolete bridge removed from service
Structural Adequacy	<ul style="list-style-type: none"> Requires load posting Remains Structurally Deficient Remains Fracture Critical 	<ul style="list-style-type: none"> No load posting required No longer Structurally Deficient Remains Fracture Critical 	<ul style="list-style-type: none"> No load posting required No longer Structurally Deficient Remains Fracture Critical 	<ul style="list-style-type: none"> Monument use requires fencing or other means to keep public off bridge, while allowing access for maintenance vehicles No longer considered Structurally Deficient as it is no longer carrying vehicles 	<ul style="list-style-type: none"> Load posted, Structurally Deficient, and Fracture Critical bridge removed from service

Design Analysis Report Summary

Category	Avoidance Alternatives				#4: New Bridge on Existing Location
	#1: Do Nothing	#2: Rehabilitation		#3: Build on New Location	
		#2(a): Widen	#2(b): No Widening		
Environmental	<ul style="list-style-type: none"> Marginal habitat for Northern Long-eared Bat, Least Tern, Piping Plover, Red Knot, Whooping Crane, American Burying Beetle, Neosho Mucket, and Rabbitsfoot Mussel 	<ul style="list-style-type: none"> Marginal habitat for Northern Long-eared Bat, Least Tern, Piping Plover, Red Knot, Whooping Crane, American Burying Beetle, Neosho Mucket, and Rabbitsfoot Mussel Jurisdictional Waters and Wetlands 	<ul style="list-style-type: none"> Marginal habitat for Northern Long-eared Bat, Least Tern, Piping Plover, Red Knot, Whooping Crane, American Burying Beetle, Neosho Mucket, and Rabbitsfoot Mussel Jurisdictional Waters and Wetlands 	<ul style="list-style-type: none"> Marginal habitat for Northern Long-eared Bat, Least Tern, Piping Plover, Red Knot, Whooping Crane, American Burying Beetle, Neosho Mucket, and Rabbitsfoot Mussel Jurisdictional Waters and Wetlands 	<ul style="list-style-type: none"> Marginal habitat for Northern Long-eared Bat, Least Tern, Piping Plover, Red Knot, Whooping Crane, American Burying Beetle, Neosho Mucket, and Rabbitsfoot Mussel Jurisdictional Waters and Wetlands
Permits	<ul style="list-style-type: none"> None Anticipated 	<ul style="list-style-type: none"> US Army Corps of Engineers – Nationwide 14 Flood Plain Permit (County) DEQ OK R10 (Construction Stormwater Permit) 	<ul style="list-style-type: none"> US Army Corps of Engineers – Nationwide 14 Flood Plain Permit (County) DEQ OK R10 (Construction Stormwater Permit) 	<ul style="list-style-type: none"> US Army Corps of Engineers – Nationwide 14 Flood Plain Permit (County) DEQ OK R10 (Construction Stormwater Permit) 	<ul style="list-style-type: none"> US Army Corps of Engineers – Nationwide 14 Flood Plain Permit (County) DEQ OK R10 (Construction Stormwater Permit)
Adverse Effects on Historic Bridge	<ul style="list-style-type: none"> None Anticipated 	<ul style="list-style-type: none"> Rebuilt bracing system Potentially adverse effect due to substructure modification Modifications to floor system and truss members not anticipated to have adverse effect 	<ul style="list-style-type: none"> Modifications to floor system and truss members not anticipated to have adverse effect Bridge retains appearance and function 	<ul style="list-style-type: none"> Effect determination will require consultation with SHPO – expected that work will not cause an adverse effect to the character defining features of the bridge, but change of use will likely be an adverse effect due to bridge being on historic route 	<ul style="list-style-type: none"> Truss spans could be placed on display near the surrounding area similar to the previous westbound bridge
Construction Cost (Bridge Only)	\$ 616 thousand	\$ 9.1 million	\$ 7.1 million	\$ 10 thousand for existing bridge; \$6.9 million for new bridge	\$ 7.3 million
20-Year Maintenance & Inspection Cost (2020 Dollars)	\$ 540 thousand	\$ 240 thousand	\$ 215 thousand	\$ 34 thousand	\$ 30 thousand

Next Steps

- **Submit Design Analysis document to consulting parties (Summer 2021)**
- **Receive comment (Fall 2021)**
- **Additional Public Involvement**
 - **Public Meeting - Open House Format (Winter 2021)**
- **Selection of Preferred Alternative (Spring 2022)**

Project Website

- Check website for access to project information and reports as they are available
- Provide comments via website
- <http://www.odotculturalresources.info/bird-creek-bridge.html>

We value your input!