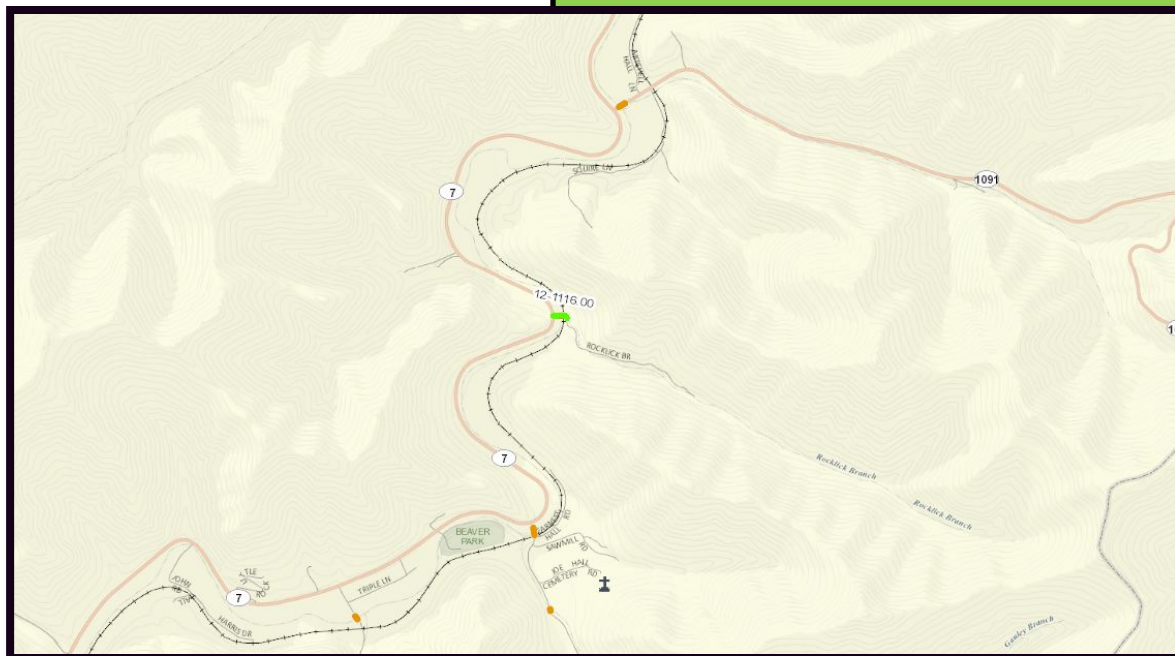


# Data Needs Analysis



## Scoping Study



Bridge Replacement  
Knott County  
Replace Bridge on Rocklick  
Branch (CR 1008) Over Right  
Fork of Beaver Creek at JCT  
with South Highway 7 (KY  
7)(SR 43.9) o6oCoooo6N  
Item Number 12-1116.00

Prepared by KYTC  
Division of Planning  
District 12

June 2013



## I. PRELIMINARY PROJECT INFORMATION

<b>County:</b>	Knott	<b>Item No.:</b>	12-1116.00
<b>Route Number(s):</b>	CR 1008	<b>Road Name:</b>	Rocklick Branch
<b>Program No.:</b>	8750801D	<b>UPN:</b>	FD52 060 1008 000-001
<b>Federal Project No.:</b>	BRZ 1208 (354)	<b>Type of Work:</b>	Bridge Replacement

### 2012 Highway Plan Project Description:

Replace bridge on Rocklick Branch (CR 1008) Over Right Fork of Beaver Creek at JCT with South Highway 7 (KY 7)(SR 43.9) 060C00006N

**Beginning MP:** 0.000 **Ending MP:** 0.040 **Project Length:** 0.04 Miles

**Functional Class.:** ☐ Urban ☒ Rural **State Class.:** ☐ Primary ☐ Secondary

**Route is on:** ☐ NHS ☐ NN ☐ Ext Wt

**MPO Area:** Not Applicable

**Truck Class.:**

In TIP: ☐ Yes ☐ No

**% Trucks:** N/A

**ADT (current):** 50 (2012)

**Terrain:**

**Access Control:** ☒ None ☐ Permit ☐ Fully Controlled ☐ Partial

**Spacing:**

**Median Type:** ☒ Undivided ☐ Divided (Type):

**Existing Bike Accommodations:**

**Ped:** ☐ Sidewalk

**Posted Speed:** ☐ 35 mph ☐ 45 mph ☐ 55 mph ☒ Other (Specify): None

**KYTC Guidelines Preliminarily Based on :** 35 MPH Proposed Design Speed

### COMMON GEOMETRIC

**Roadway Data:**

**EXISTING**

**PRACTICES\***

No. of Lanes	1	1
Lane Width	11.5	12'
Shoulder Width	2'	2'
Max. Superelevation**	N/A	4%
Minimum Radius**	N/A	420'
Maximum Grade	N/A	10%
Minimum Sight Dist.	N/A	250'
Sidewalk Width(urban)	N/A	N/A
Clear-zone***	N/A	N/A

[Existing Rdwy. Plans available?](#)

☐ Yes ☒ No

Year of Plans:

☐ [Traffic Forecast Requested](#)

Date Requested:

☐ Mapping/Survey Requested

Date Requested:

Type:

**Project Notes/Design Exceptions?:** Bridge Adjacent to Railroad Crossing

\*Based on proposed Design Speed, \*\*AASHTO's A Policy on Geometric Design of Highways and Streets, \*\*\*AASHTO's Roadside Design Guide

**Bridge No.\*:** 060C00006N (Bridge #2)

**Sufficiency Rating** 26.7

[Existing Geotech data available?](#)

**Total Length** 73.2

☐ Yes ☒ No

**Width, curb to curb** 11.5

**Span Lengths** 39

**Detour Length(s):** N/A

**Year Built** 1940

**Posted Weight Limit** No Restriction

**Structurally Deficient?** Yes

**Functionally Obsolete?** Yes

**Existing Bridge Type** Concrete on steel gurtter

\*If more than two bridges are located on the project, include additions sheets.

## II. PROJECT PURPOSE AND NEED

### A. Legislation

This following funding was listed in the 2012 General Assembly's Enacted Highway Plan

<i><b>Funding</b></i>	<i><b>Phase</b></i>	<i><b>Year</b></i>	<i><b>Amount</b></i>
BRZ	D	2014	\$300,000
BRZ	R	2015	\$75,000
BRZ	U	2015	\$325,000
BRZ	C	2017	\$600,000

### B. Project Status

Design funds for this project have been authorized.

### C. System Linkage

CR 1008 is a local road located in the northern part of Knott County that connects Rocklick Branch to KY 7. It serves as the only connection for residences and crosses the Right Fork of Beaver Creek.

### D. Modal Interrelationships

There are presently no bike or pedestrian facilities along this section of highway.

### E. Social Demands & Economic Development

There is no economic development anticipated in this area.

### F. Transportation Demand

The bridge located on CR 1008 is the only connection for the residences located across the Right Fork of Beaver Creek to access other parts of the county. No other projects are scheduled for this area. Access to the residences must remain open and a bridge repair or replacement must be completed.

## II. PROJECT PURPOSE AND NEED (cont.)

### G. Capacity

The route is one lane. There are no congestion issues that would contribute to the need of this project.

### H. Safety

A three year review of collisions was conducted of the project area finding (0) zero total collisions.

### I. Structure Deficiencies

The exterior beams have moderate spalling and the delams have rusty rebar exposed. There are some open cracks and stairstep cracking along the grout joints of the wet stone masonry pier. The wet stone masonry abutments and wingwalls have stairstep cracking with mortar exposed under the cap. The pier cap has 4' section of loss to the cap that is exposed to weather on the upstream side. The cap has deteriorated back to exterior beam and needs to be repaired.

### Draft Purpose and Need Statement:

Need: Replace one-lane bridge that has a Sufficiency Rating of 26.7 which is structurally deficient and make improvements to approaches if needed.

Purpose: Improvements through replacement that will address the safety concerns associated with the project.

### III. PRELIMINARY ENVIRONMENTAL OVERVIEW

#### A. Air Quality

Project is in: ☒ Attainment area ☐ Nonattainment or Maintenance Area ☐ PM 2.5 County

STIP Pg. #: 81 of 127

TIP Pg. #:

FY 2013-2016

#### B. Archeology/Historic Resources

☐ Known Archeological or Historic Resources are present

No Section 106 notifications have been generated from the District at this point. If the historical survey indicates that there may be an impact to historical sites, then the 106 process will be started.

#### C. Threatened and Endangered Species

The Indiana Bat (*Myotis Sodalis*) is listed as threatened or endangered species in the project area. A BA may be required to satisfy Section 7 requirements or an IBCMOA or tree-cutting restrictions may be utilized to compensate for any potential habitat loss for the Indiana Bat.

#### D. Hazardous Materials

☐ Potentially Contaminated Sites are present ☒ Potential Bridge or Structure Demolition

With the bridge being demolished, an inspection of the bridge for asbestos containing materials will be required.

#### E. Permitting

Check all that may apply: ☒ Waters of the US ☐ MS4 area ☒ Floodplain Impacts ☐ Navigable Waters of the US Impacts  
Are 401/404 Permits likely to be required? ☒ Yes ☐ No Impacts to: ☐ Wetlands ☒ Stream/Lake/Pond  
☒ ACE LON ☐ ACE NW ☐ ACE IP ☐ DOW IWQC ☐ Special Use Waters

ACE LON will be required from impacts associated with bridge replacement

#### F. Noise

Are existing or planned noise sensitive receptors adjacent to the proposed project? ☐ Yes ☒ No  
Is this considered a "Type I Project" according to the [KYTC Noise Analysis and Abatement Policy?](#) ☐ Yes ☒ No

#### G. Socioeconomic

Check all that may apply: ☒ Low Income/Minority Populations affected ☒ Relocations ☐ Local Land Use Plan available

As of now, no relocations associated with project. If this changes, a relocation survey to determine if any low income/minority populations are affected will be required.

#### H. Section 4(f) or 6(f) Resources

The following are present on the project: ☐ Section 4(f) Resources ☐ Section 6(f) Resources

No anticipated 4(f) or 6(f) impacts associated with project.

Anticipated Environmental Document:

CE Level 1





#### IV. PROJECT SCOPING

One alignment has been considered for this project.	Alternate 1 Estimate	
	Phase	Estimate
	Planning	
	Design	\$300,000
	R/W	\$75,000
	Utilities	\$325,000
	Const	\$600,000
	<b>Total</b>	<b>\$1,300,000</b>

The alternative would allow for construction of a new one-lane structure at a location that is adjacent to the existing bridge either on the upstream or downstream side. By changing the location of the bridge, the existing bridge would be used as access for residents and removed upon completion of the new structure. Advantages of this alternative are that the existing bridge would stay open to traffic and the costs associated with creating a detour could be avoided. There is also potential for improving the sight distance of the entrance to the bridge. It should be noted that a railroad is located within 8 feet of the bridge and coordination with the railroad during construction will be needed.



Exhibit 1

## V. Summary

This study is a Data Needs Analysis (DNA) of a reconstruction project to address structure and functional deficiencies of the bridge at Rocklick Branch in Knott County, Item Number 12-1116.00. Through analysis of the existing roadway geometrics, crash data, site visits, and discussion with the Project Team, several needs were identified within the project limits. The following were identified as project needs:

- The No Build Alternative is not feasible due to the poor Sufficiency Rating of the bridge.
- The proposed design shall be a one (1) lane bridge.
- The Project Team prefers an upstream location for the new bridge if viable.



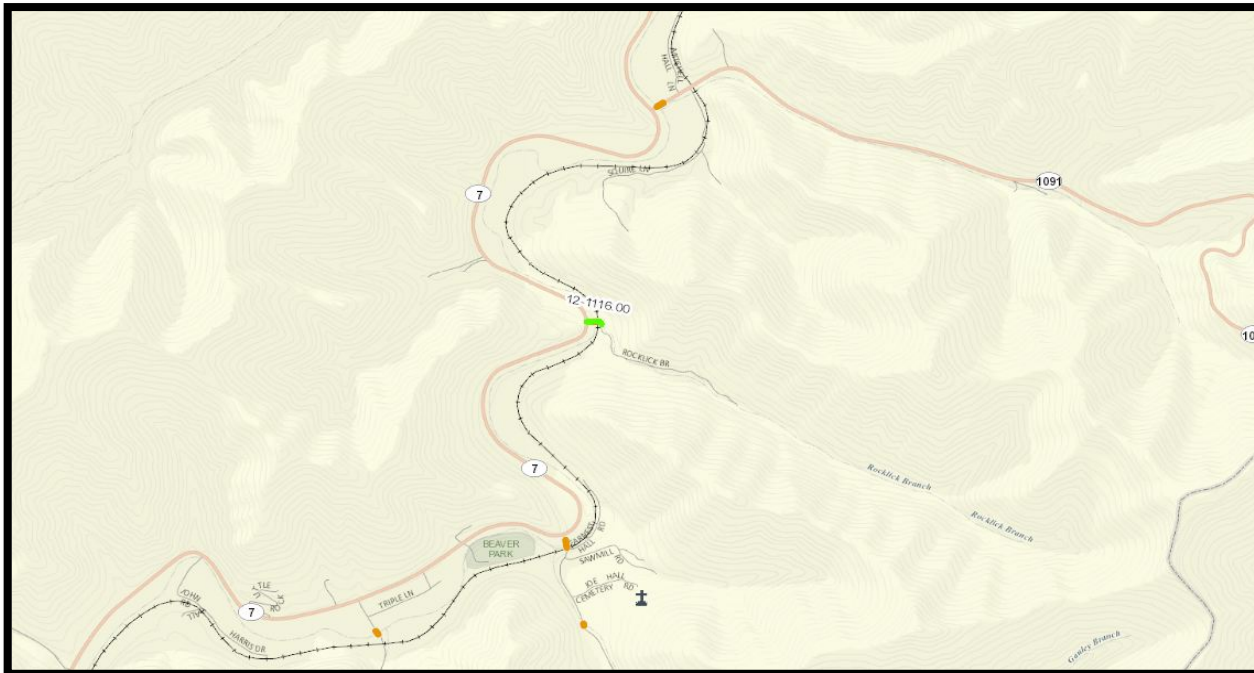
## VI. Tables and Exhibits



Exhibits 2 & 3



## VI. Tables and Exhibits



Location Map

## VI. Tables and Exhibits

