

DNA STUDY

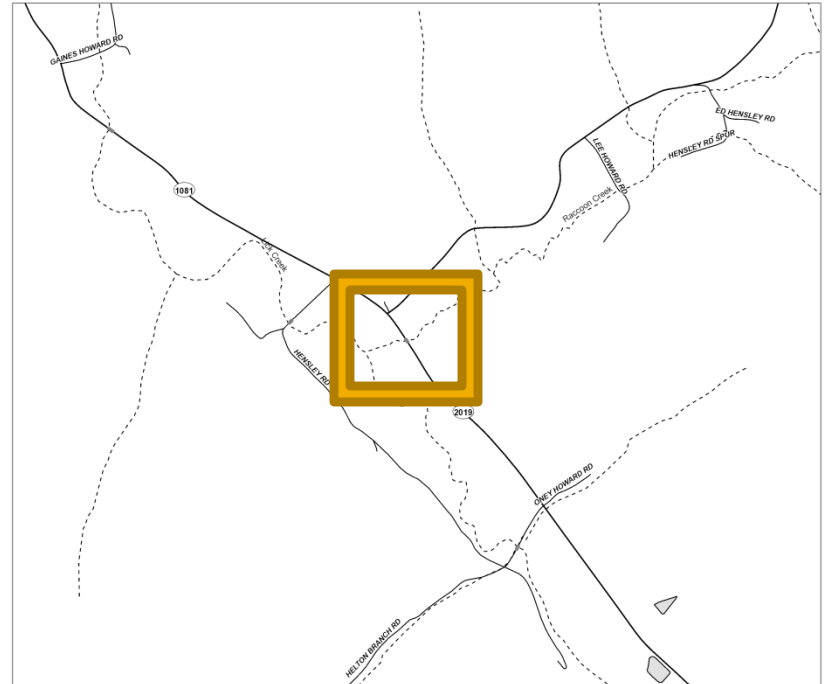
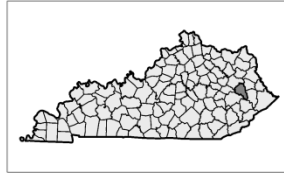


KY 2019
Magoffin County

2012 Highway Plan
Item No. 10-1099.00

Prepared by:
KYTC District 10

June 2012



I. PRELIMINARY PROJECT INFORMATION

County: Magoffin Item No.: 10-1099.00
Route Number(s): KY 2019 Road Name: Elk Creek Road
Program No.: UPN: (Function) 77 2019 005-006
Federal Project No.: Type of Work: Bridge Replacement

2012 Highway Plan Project Description:

Replace Bridge on KY 2019 Over Raccoon Creek 0.039 Miles S of KY 1081 (SR 33.2) 077B000063N

Beginning MP: 5.25 Ending MP: 5.75 Project Length: 0.5

Functional Class.: ☐ Urban ☒ Rural
Collector
State Class.: ☐ Primary ☒ Secondary
Route is on: ☐ NHS ☐ Nat'l Truck Network

MPO Area: Not Applicable

In TIP: ☐ Yes ☐ No

ADT (current): 1256

Access Control: ☐ Fully Controlled ☒ Permit

Median Type: ☒ Undivided ☐ Divided (Type):

Existing Bike Accommodations: Shared Lane

Ped: ☐ Sidewalk

Posted Speed: ☐ 35 mph ☐ 45 mph ☒ 55 mph ☐ Other (Specify):

KYTC Guidelines Preliminarily Based on : 55 MPH Proposed Design Speed

COMMON GEOMETRIC

Roadway Data:

	EXISTING	COMMON GEOMETRIC
No. of Lanes	<u>2</u>	<u>2</u>
Travelled Way Width	<u>20</u>	<u>24</u>
Shoulder Width	<u>1</u>	<u>6</u>
Max. Superelevation**		<u>6%</u>
Minimum Radius**		<u>1065</u>
Maximum Grade		<u>4%</u>
Minimum Sight Dist.		<u>495</u>
Sidewalk Width(urban)	<u>NA</u>	<u>NA</u>
Clear-zone***		<u>22</u>

[Existing Rdwy. Plans available?](#)

☐ Yes ☒ No

Year of Plans:

☒ [Traffic Forecast Requested](#)

Date Requested: 5/10/2012

☐ Mapping Requested

Date Requested:

Type:

Project Notes/Design Exceptions?: Possible Design Exceptions for Lane and Shoulder Width

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

Bridge No.*: 077B000063N (Bridge #2)

Sufficiency Rating 33.2

Total Length 23

Width, curb to curb 19.7

Span Lengths 23

Max. Span Length 23

Year Built 1976

Posted Weight Limit NA

Structurally Deficient? Yes

Functionally Obsolete? Yes

[Existing Geotech data available?](#)

☐ Yes ☒ No

* If more than 2 bridges are present on project, see attached sheets.

II. PROJECT PURPOSE AND NEED

A. Legislation

This project was approved in the 2012 Biennial Highway Plan with the funding listed to the right.	<i>Funding</i>	<i>Phase</i>	<i>Year</i>	<i>Amount</i>
	BRO	DN	2013	\$200,000
	BRO	RW	2014	\$100,000
	BRO	UT	2014	\$100,000
	BRO	CN	2015	\$500,000

B. Project Status

No funds have been authorized on this project at this time. There are no planned improvements (other than bridge replacements) along this corridor.

C. System Linkage

KY 2019 could serve as another route between West Liberty and Salyersville in place of a large section of US 460.

D. Modal Interrelationships

NA

E. Social Demands & Economic Development

This route serves as a residential collector for a large section of Magoffin County. There is no known plans for any type of Development along this route.

F. Transportation Demand

Transportation Demand for this route is expected to stay the same as existing for the foreseeable future.

II. PROJECT PURPOSE AND NEED (cont.)

G. Capacity

There are no known issues at this time and none are expected in the future.

H. Safety

A search of Crash Data for the last five years shows that there have been no collisions at this location.

I. Roadway Deficiencies

KY 2019 has narrow lanes and virtually no shoulders. It also has numerous substandard horizontal curves. The bridge is considered both Structurally Deficient and Functionally Obsolete.

Purpose and Need Statement:

Need: To replace an existing substandard structure.

Purpose: To ensure continued usage of the existing route by replacing a Structurally Deficient and Functionally Obsolete Bridge.

III. PRELIMINARY ENVIRONMENTAL OVERVIEW

A. Air Quality

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

STIP Pg. #:

TIP Pg. #:

NA

B. Archeology/Historic Resources

☐ Known Archeological or Historic Resources are present

None Known.

C. Threatened and Endangered Species

Indiana Bat

D. Hazardous Materials

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

Existing structure will be removed.

G. 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

H. Noise

Are noise sensitive receivers adjacent to the proposed project? ☐ Yes ☒ No

I. Socioeconomic

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

J. Section 4(f) or 6(f) Resources

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

Anticipated Environmental Document:

CE Level 1



IV. POSSIBLE ALTERNATIVES

A. Alternative 1: No Build

This alternate does not address the Purpose or Need.

B. Alternative 2

This alternative proposes to reconstruct a new bridge in the existing location using a temporary diversion to the West as traffic control. It is the most expensive of the alternates and is estimated to be slightly over budget.



Planning Level Cost Estimate:

<u>Phase</u>	<u>Estimate</u>
Design	\$250,000
R/W	\$100,000
Utilities	\$100,000
Const	\$450,000
Total	\$900,000

IV. POSSIBLE ALTERNATIVES (cont.)

B. Alternative #3

This alternate proposes to utilize part width construction in order to replace the existing bridge in the same location. It would take a little more time for construction but is the least expensive of the alternates.



Planning Level Cost Estimate:	<u>Phase</u>	<u>Estimate</u>
	Design	\$250,000
	R/W	\$50,000
	Utilities	\$100,000
	Const	\$415,000
	Total	\$815,000

V. Summary

This is a DNA Study of Item # 10-1099.00 as authorized in the 2012 Biennial Highway Plan. The following are the results and recommendations by the Project team:

1. The Purpose of this project is - To ensure continued usage of the existing route by replacing a Structurally Deficient and Functionally Obsolete Bridge.
2. The Project Team recommends to carry Alternate 3 forward into the Design Phase.

Alt #	Description	D (\$)(2013)	R (\$)(2014)	U (\$)(2014)	C (\$)(2015)	Total (\$mil)
1		-	-	-	-	-
2		\$ 250,000.00	\$ 100,000.00	\$ 100,000.00	\$ 450,000.00	\$ 900,000.00
3	Part Width	\$ 250,000.00	\$ 50,000.00	\$ 100,000.00	\$ 415,000.00	\$ 815,000.00
-	Current Hwy Plan Estimated Cost	\$ 200,000.00	\$ 100,000.00	\$ 100,000.00	\$ 500,000.00	\$ 850,000.00
-	Current Pre-Con Estimated Cost	\$ 200,000.00	\$ 100,000.00	\$ 100,000.00	\$ 500,000.00	\$ 850,000.00

VI. Tables and Exhibits

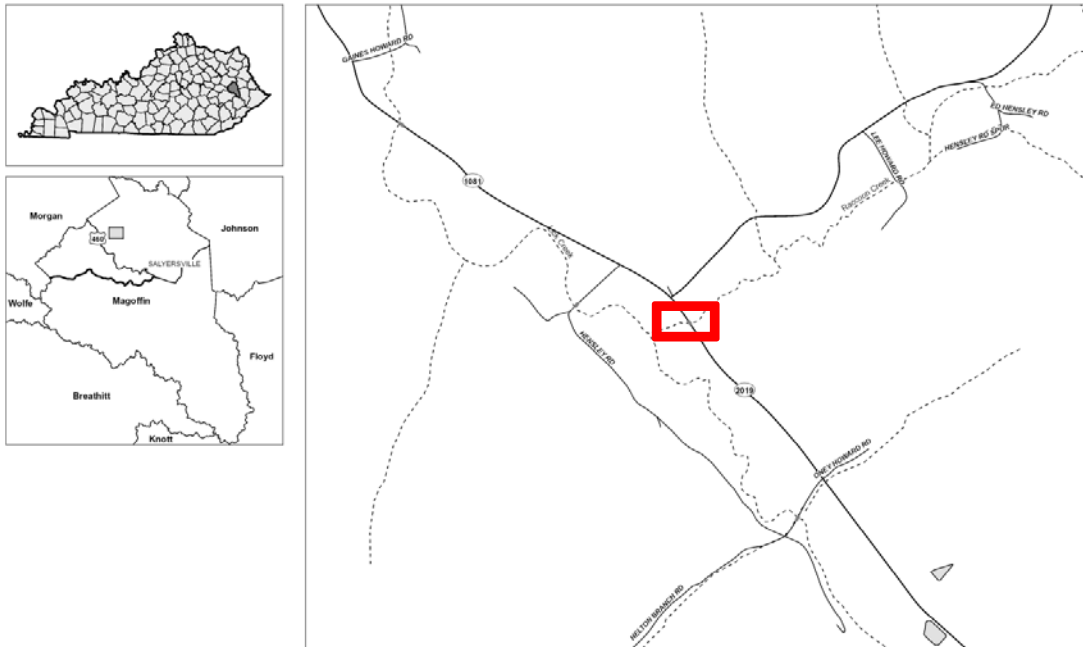


Exhibit 1: Project Location Map



Exhibit 2:

VI. Tables and Exhibits (cont.)



Exhibit 3



Exhibit 4