



2011

Pre-Design Scoping Study

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Floyd County KY 777 @ Garrett
Replace Bridge and Approaches Over Right
Fork of Beaver Creek
M.P. 0.186 to M.P. 0.205
Item Number 12-1085.00
Prepared by:
Kentucky Transportation Cabinet
Department of Highways District 12
Division of Planning
2/17/2011

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PRE-DESIGN SCOPING STUDY

Floyd County KY 777 at Garrett Replace Bridge & Approaches Over Right Fork Beaver Creek M.P. 0.186 to M.P. 0.205 Item No. 12-1085.00

I. INTRODUCTION

A. Study Purpose

The purpose of this Pre-Design Scoping Study is to provide support early in the Project Development phase in order to help keep the project on schedule while defining all concerns for the project. This report will provide this support by the following:

- (1) Better define the intent of the project before the design process actually begins.
- (2) Initiate many project requests for information needed to begin the actual design.
- (3) Develop preliminary environmental overview in order to begin the environmental process.
- (4) Document any early public and agency recommendations or commitments if they exist.
- (5) Discuss possible alternatives for the design of the project as suggested by District Project Team.

B. Location

Subject bridge replacement project over the Right Fork of Beaver Creek is located on KY 777 at Garrett, KY (See Exhibits 1 and 2) between M.P. 0.186 and M.P. 0.205. It (See Exhibits 3 - 4) is located in the Wayland 055 USGS Quadrant (See Exhibit 5) in mountainous terrain (See Exhibit 6).

II. PROJECT PURPOSE AND NEED

A. Problem Statement

1. Capacity

A special traffic count was performed on 2/22/2011 with the following result:

ADT = 595

2. System Linkage

State Route - 777

Functional Classification = Rural Local

Traffic Forecast = See Appendix 3

3. Transportation Demand

a. Current

The existing bridge serves as a connection between the town of Garrett and the Right Beaver Community Park, as well as West Garrett. Residents of West Garrett use the bridge as access to shopping and the post office located in Garrett. It also is the only access to KY 80 and KY 7 when the train has the crossings blocked. Emergency personnel have stated that the bridge is used to access the park when using the area as a helicopter landing zone during emergencies.

b. Long Range

A proposed ramp to improve access to KY 80, east-bound, and eliminate the necessity of crossing west-bound traffic is currently listed number seven (7) in the District 12 Priorities. With this project there could be an increase in ADT for the Garrett Bridge due to residents from West Garrett crossing the bridge to use the proposed ramp.

4. Social Demands (or Economic Development)

Residents of Garrett feel that the bridge is a historical landmark. They want to keep the bridge in some form, whether repairing it or turning it into a pedestrian bridge. No economic development is anticipated, although removing the bridge and not replacing it could have an adverse effect on existing businesses located in the town.

5. Safety

a. Crash Analysis

A Crash Analysis was performed and no recorded crashes have occurred at the project site. An additional analysis was performed on the intersections of KY 80/ KY 7, KY 80/KY 777, and KY 7/KY 777 near the project site. There were no accidents on KY 80 at either intersection, only 2 rear-ends at the intersection of KY 777 and KY 7. This was based on the past three years.

It is recommended that the bridge be replaced because of the impact that removal would have on the community. This would keep the extra traffic from having to cross the railroad tracks and having to be on KY 80 for such a short distance.

b. Bridge Appraisal

Sufficiency Rating = 3

Inspection Date = 09/14/2010 (Appendix 1)

Bridge Rail = Substandard

Approach Rail = Substandard
Approach Rail Ends = Substandard
Transition = Substandard
Deck Geometry = Intolerable - Replace
Scour Critical = Stable Above Footing

The underside of the deck has numerous transverse and longitudinal cracks with efflorescence and some rust staining. Both abutments have open vertical cracks. The top of abutment #1 is tilted toward the creek. The concrete counterfort at abutment #1 is cracked and no signs of reinforcement steel could be seen. The downstream exterior stringer above floor beams #2 and #3 has loss of section to web and need plating. The bottom flange and most of the web is rusted completely through in bearing area back to plated area. The curb is scaling and rotted with stirrups and rebar exposed throughout the length on both sides of the bridge. Curbs are almost completely deteriorated the full length of bridge.

6. Bridge Deficiencies

- a. Original Plans - N/A
- b. Bridge Characteristics (Pontis)

Existing Geometrics

Length Max Span	97.1 ft.
Structure Length	99.1 ft.
Curb Width w/ Sidewalk	4.6 ft.
Curb to Curb Width	11.2 ft.
Lanes	1
Skew	0 d
Approach Road Width	16.1 ft.

Posted Weight Limit – 10 Tons

B. Project Description

1. Project Status

- a. Available History

Subject project has been listed in previous Kentucky Highway Plans.

- b. Programming Schedule

Subject project is currently scheduled in Kentucky's 2010 – 2012 Biennial Highway Plan for Floyd County as Item No. 12-1085.00.

<u>Phase</u>	<u>Fiscal Year</u>	<u>Estimate</u>
Design	2011	\$175,000
ROW	2011	\$280,000
Utilities	2011	\$330,000
Construction	2011	<u>\$1,290,000</u>
		\$2,075,000

c. Public Involvement

As of the writing of this study, a discussion to allow input from the public was posted on the social network site Facebook. Comments from the public are being gathered by KYTC as they are posted on Facebook (Appendix 2). Thirty-one (31) comments have been posted concerning the bridge on Facebook. In addition to the Facebook discussion, District 12 has received calls from Hattie Owens (Floyd County Magistrate) and local business owners located in Garrett. The project team will decide if a public meeting is needed once the preliminary plans are developed for each alternative during Phase I Design.

d. Agency Coordination

The Floyd County Fiscal Court, Garrett Historical Society, Floyd County School Board, and various emergency services may be involved according to which alternative is chosen.

2. Purpose and Need

a. Executive Summary

The purpose of this project is to replace a bridge and its approaches on KY 777 over the Right Fork of Beaver Creek between MP 0.186 and MP 0.205. The project is necessary to replace one one-lane bridge which is dilapidated and structurally deficient. Due to a Sufficiency Rating of 3 for this bridge, improvements are to be made that will address the safety concerns associated with the project. KY 777 is Rural Local with a 2011 ADT of 595.

b. Background Information

The purpose of this project is to correct structural deficiencies of the Garrett Bridge. The structure services multiple residents and commuters. The structure had been the primary access to the communities of West Garrett and Rock Fork and the Garrett High and Elementary Schools from its construction in 1944 until the construction of KY 80 in 1982. The bridge was closed to school bus traffic upon the completion of KY 80. It is still the only access to KY 80 and KY 7 for the residents of Garrett when the train has the crossings blocked.

This project was established in the Kentucky 2010-2012 Biennial Highway Plan. The project will utilize Federal BRX funds. Some important issues that must be addressed are: potential floodplain issues along the Right Fork of Beaver Creek; historical relevance;

addressing of access to residences; constructability and maintenance of traffic; and other right of way, utility relocation, and environmental impacts.

III. Preliminary Environmental Overview

A. Ecological Overview

The overview process consisted of a survey of the entire length of the project. Some file research was also conducted as part of the District's overview. The overview was done with the assumption of this being a bridge replacement project.

B. Socioeconomic / Environmental Justice

There should be no major socioeconomic concerns on this project. The entire community will benefit in the resulting safety improvements with the construction of the new bridge. Therefore, the construction of this project would not result in a disproportionate negative impact to low-income or minority populations of the area.

C. Cultural / Historic Resources

No Section 106 notifications have been generated from the District at this point. However, from the appearance of the bridge, it would probably be considered as historic. A cultural historic report would need to be completed to determine eligibility.

D. Potential UST/HazMat

At the time of this overview, no UST/HazMat issues were noted in the project area.

E. Air

Floyd County is in attainment for all transportation-related air pollutants. Therefore, the project is not expected to adversely affect the air quality of the region.

This project will generate minimal air quality impacts and has not been linked with any special MSAT concerns.

F. Noise

No traffic is expected to be added and capacity of the existing facility would only have minor changes. Therefore noise impacts are not anticipated.

G. Aquatic Ecosystems

A Nationwide Permit and Water Quality Certification will be required if the bridge is replaced. An excess material site will not be needed with this project.

H. Threatened and Endangered Species

The Indiana Bat (*Myotis Sodalis*) is the only species listed as threatened or endangered in the project area. Tree Cutting Restrictions can be implemented or the Indiana Bat Conservation Fund (IBCF) can be utilized to compensate for any potential habitat loss that may occur as a result of this project.

I. Section 4(F)

Impacts to the Right Beaver Community Park may result in a 4(F) impact, avoid if possible. Section 4(f) could apply to the existing bridge if the alternative chosen would result in the demolition of the structure. It could also apply if the historic quality for which the facility was determined to be eligible for the National Register (if the bridge is deemed eligible) is adversely affected by the proposed improvement of the existing bridge.

IV. Preliminary Project Information

A. Possible Alternatives

1. No Build

The No-Build Alternative is simply to leave the existing bridge as it is. No improvements would be constructed, no money would be spent, and safety concerns associated with the bridge would not be addressed.

2. Repair the Existing Bridge

This alternative would result in repairs being made to the existing bridge to address deficiencies stated in the bridge inspection reports.

The advantages for this alternative could include a faster schedule to address deficiencies in the bridge versus new bridge construction. The overall cost could be less than of a new bridge construction. Repairs could possibly be made without having a long term closure of the bridge to traffic. It is possible that no additional right-of-way would need to be acquired and utilities would not be affected. The public's concern of losing what is perceived as a landmark bridge could be avoided. This alternative could also be viable if the bridge is deemed historical. Section 4(f) does not apply when the historic bridge is left in its original

location if its historic value will be maintained, and the proximity impacts of the new bridge do not result in a substantial impairment of the historic bridge.

Disadvantages of this alternative are that the bridge may be beyond repair or that repairing the bridge may result in costs close to or equal to that of a new bridge. Repairing the bridge may only result in a temporary solution of addressing safety concerns and more repairs may be needed if the deficiencies reappear, thus resulting in additional costs or worst, injury or death if the structure fails. Also if the bridge must be closed during construction, accommodations must be made to allow access for residents of Garrett when the train has the crossings blocked.

3. Replace the Existing Bridge at Current Location

The Replace the Existing Bridge at Current Location Alternative would result in removing the existing bridge and replacing with a new bridge in the same location using the current road alignment.

Advantages of this alternative are that it could be possible no relocations would be needed and that little, if any additional right-of-way would need to be acquired. Also relocation of utilities could be lessened. The current highway alignment could be used and impacts related to the railroad crossing could be avoided. This location would allow for the size of span of the new bridge to be roughly the same as the existing bridge. The existing bridge could be relocated to the park entrance and the public's concern of losing what is perceived as a landmark bridge could be mitigated. This alternative could also be viable if the bridge is deemed historical. 23 U.S.C. 144(o) is a separate requirement related to historic bridges when demolition is proposed. 23 U.S.C. 144(o)(4) requires the State that proposes to demolish an historic bridge for a replacement project using Federal funds (i.e. Section 144 bridge funds) to first make the bridge available for donation to a State, locality or a responsible private entity. This process is commonly known as "marketing the historic bridge". The State, locality or responsible entity that accepts the donation must enter into an agreement to maintain the bridge and the features that give it its historic significance, and assume all future legal and financial responsibility for the bridge. Therefore, Section 4(f) will not apply to the bridges that are donated according to requirements of 23 U.S.C. 144(o) as the bridge is not used in the transportation project. The exception found in 23 C.F.R. 771.135(f) also applies, given the maintenance agreement that is required under 23 U.S.C. 144(o).

Disadvantages of this alternative are that accommodations must be made to allow access for residents of Garrett when the train has the crossings blocked and finding a viable detour may not be possible. If the bridge is deemed historical, then the costs associated with moving and finding a group to take ownership of the bridge may become problematic and Section 4(f) then becomes an issue. If the bridge is demolished, then public outcry could become an issue. One residence could be affected with this alternative.

4. Replace Bridge Downstream Adjacent to Existing Bridge

This alternative would allow for construction of a new bridge at a location downstream that is adjacent to the existing bridge. By changing the location of the bridge, the existing bridge could be closed to traffic and used as a pedestrian only bridge or removed altogether.

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. Also relocation of utilities could be lessened. The current highway alignment could be utilized with very minimal changes or a better alignment and approach could be constructed. Additional right-of-way needed would only require the acquisition of one (1) to two (2) residences. The public's concern of losing what is perceived as a landmark bridge could be avoided. This alternative would also be viable if the bridge is deemed historical. Section 4(f) does not apply to the replacement of an historic bridge on new location when the historic bridge is left in its original location, if its historic value will be maintained, and the proximity impacts of the new bridge do not result in a substantial impairment of the historic bridge.

Disadvantages of this alternative are that the costs of acquiring new right-of-way and the change in alignment may exceed the original estimate for the project. Although the acquisition of one (1) to two (2) residence is currently needed with this alternative, if the size of the current span increases, then three (3) to four (4) residences may be affected.

5. Replace the Existing Bridge at New Location Upstream

This alternative would allow for construction of a new bridge at a location upstream from the existing bridge. By changing the location of the bridge, the existing bridge could be closed to traffic and used as a pedestrian only bridge or removed altogether.

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. Also relocation of utilities could be lessened. The public's concern of losing what is perceived as a landmark bridge could be avoided. This alternative would also be viable if the bridge is deemed historical. Section 4(f) does not apply to the replacement of an historic bridge on new location when the historic bridge is left in its original location, if its historic value will be maintained, and the proximity impacts of the new bridge do not result in a substantial impairment of the historic bridge.

Disadvantages associated with this alternative include the substantial acquisition of right-of-way and alignment change costs. A large section of the county park would have to be acquired. All upstream locations would require a span roughly double the size of the current bridge due to the width of the creek.

6. Replace Bridge 175' +/- Downstream From Existing Bridge

This alternative would allow for construction of a new bridge at a location 175' +/- downstream from the existing bridge. By moving the location of the new bridge adjacent to the KY 80 bridge, existing right-of-way may be utilized. A new alignment will be constructed with two possible ways of bringing the new approach into existing roadways. Also by changing the location of the bridge, the existing bridge could be closed to traffic and used as a pedestrian only bridge or removed altogether.

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. Also relocation of utilities could be lessened. The public's concern of losing what is perceived as a landmark bridge could be avoided. This alternative would also be viable if the bridge is deemed historical. Section 4(f) does not apply to the replacement of an historic bridge on new location when the historic bridge is left in its original location, if its historic value will be maintained, and the proximity impacts of the new bridge do not result in a substantial impairment of the historic bridge.

Disadvantages of this alternative are that the costs of acquiring new right-of-way and the change in alignment may exceed the original estimate for the project. The acquisition of one (1) residence may be needed according to the new approach chosen. Due to the width of the creek at that location, the bridge may increase to two (2) spans increasing construction costs.

B. Right of Way Issues

Alternatives 4 and 6 would include acquisition of additional right-of-way and one (1) to three (3) residences would be affected. One (1) residence could be affected even if the current location is chosen for new bridge construction.

C. Utility Issues

The following utilities are present and will be in need of relocation for this project:

Water – relocation would consist of relocation 200 feet of 6 inch water main.

Cable – relocation would consist of relocation of two to three poles and cable.

Gas – relocation would consist of relocation of 200 feet of 4 inch gas main.

Water: **Francis Water Company**
 Tammy Francis or (ldl@mikrotec.com)
 Chris Francis
 P.O. Box 662
 Garrett, KY 41630
 (606) 874-1111 Office
 (606) 226-5685 Cell

Cable: **Inter-Mountain Cable**
Roy Harlow (rharlow@gearheart.com)
PO Box 159
Harold, KY 41635
(606) 479-6222 Office

Gas: **Frontier Gas Company**
Larry Rich (lrich@kyfrontiergas.com)
P.O. Box 408
Prestonsburg, KY 41553
(606) 886-2431 Office

Railroad: **CSX Transportation**
Matt Bay
Martin, Kentucky
(606) 285-3213 Office
(502) 297-2696 Cell

Karen Mohler (karen_mohler@csx.com)
Jacksonville, Florida
(904) 359-1650 Office

D. Floodplain Issues

All alternatives will impact the floodplain of Right Beaver Creek. A detailed study has been conducted for Right Beaver Creek at the location. No base flood elevation has been determined. The majority of the project area is shown as “Zone A13”.

E. Railroad

Discussions concerning the train blocking the crossings during construction of the bridge have occurred with Karen Mohler of CSX Jacksonville. She explained efforts to limit the time that the crossings were blocked could be made, but not blocking the crossings at all is unavoidable. A ground man could be in place during the blockings and could split the train in the event of an emergency.

The project is within 500’ of a railroad, so coordination with the rail company will be performed.

V. Estimate

Highway Plan Estimate

<u>Phase</u>	<u>Fiscal Year</u>	<u>Estimate</u>
Design	2011	\$175,000
ROW	2013	\$280,000
Utilities	2013	\$330,000
Construction	2014	<u>\$1,290,000</u>
		\$2,075,000

VI. Conclusion

A Project Team meeting was held to review this study.

- The team established that the project is needed. The No-Build Alternative (Alt.1) is not feasible due to the low Sufficiency Rating of the bridge.
- The team agreed that repairing the bridge would not be possible due to the low Sufficiency Rating of the bridge. The District Bridge Engineer stated that the structural deficiencies in the bridge were beyond repair and that any repairs would only be a temporary solution before more would need to be made.
- It was agreed that a one lane bridge would be constructed to match the existing roadway.
- The team decided that the Replace the Existing Bridge at a New Location Upstream (Alt. 5) is not possible due to all upstream locations acquiring extensive right-of-way from the county park and relocations of several residents.
- The team agreed that the Replace Bridge 175'+/- Downstream From Existing Bridge (Alt. 6) is not feasible due to the costs associated with obtaining new right-of-way and that that location would require a new approach that would raise the grade of the roadway possibly creating a "dam like effect" when the town of Garrett floods.
- The team determined that an on-site diversion would not be needed during construction due to the cost and short construction time (estimated 90 working days) of the project.
- The issue of the railroad blocking the crossings during construction was discussed and it was determined that coordination with the railroad, specifically the local Yardmaster for CSX, would need to occur during construction to allow access to and from the town of Garrett.
- A diagnostic review of the CSX rail crossing could be required for the project due to its proximity to the railroad.
- The team agreed that efforts would be made to preserve the existing bridge in some form including moving it to the entrance of the county park.
- The team agreed that the Replace Bridge Downstream Adjacent to Existing Bridge (Alt. 4) was not desirable since an on-site diversion would not be needed and the costs associated with obtaining additional right-of-way and the change in alignment was unnecessary.
- The team decided that the Replace the Existing Bridge at Current Location (Alt. 3) was the most viable option and further development of this alternative would begin.
- An argument was made against the existing bridge becoming a pedestrian-only bridge because of the structural deficiencies of the bridge, the impact the bridge may have on flooding if left in place, and the liability issues surrounding the existing bridge since it would no longer be inspected regularly.

VII. Exhibits and Appendix

Vicinity Map (Exhibit 1)
Location Map (Exhibit 2)
Aerial Map (Exhibits 3 – 4)
Topographical Map (Exhibit 5)
Three-dimensional Map (Exhibit 6)
Photographs of Project (Exhibits 7 – 16)
Floodplain Map (Exhibit 17)
Bridge Inspection Report (Appendix 1)
Facebook Comments (Appendix 2)

Vicinity Map

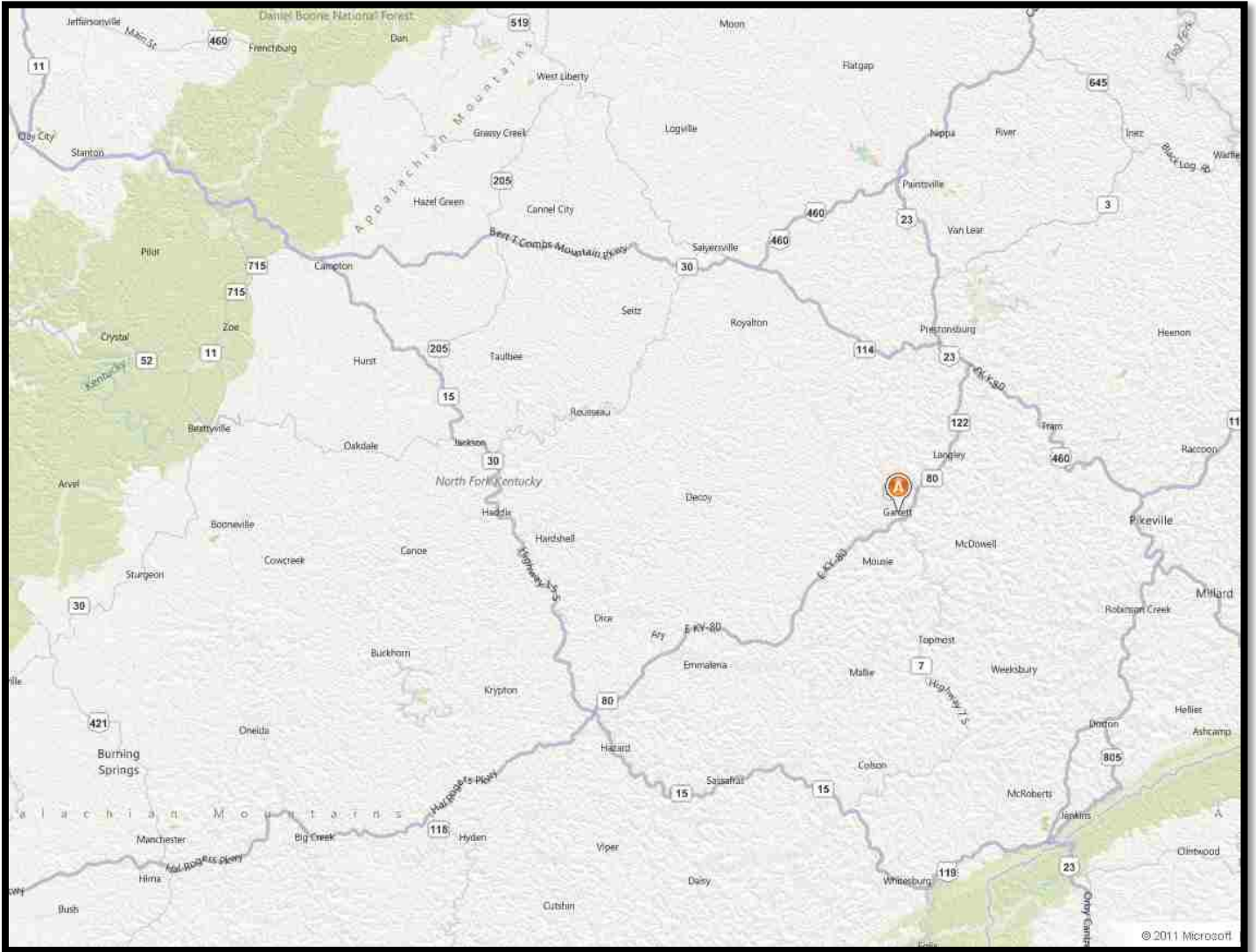


Exhibit 1

Location Map

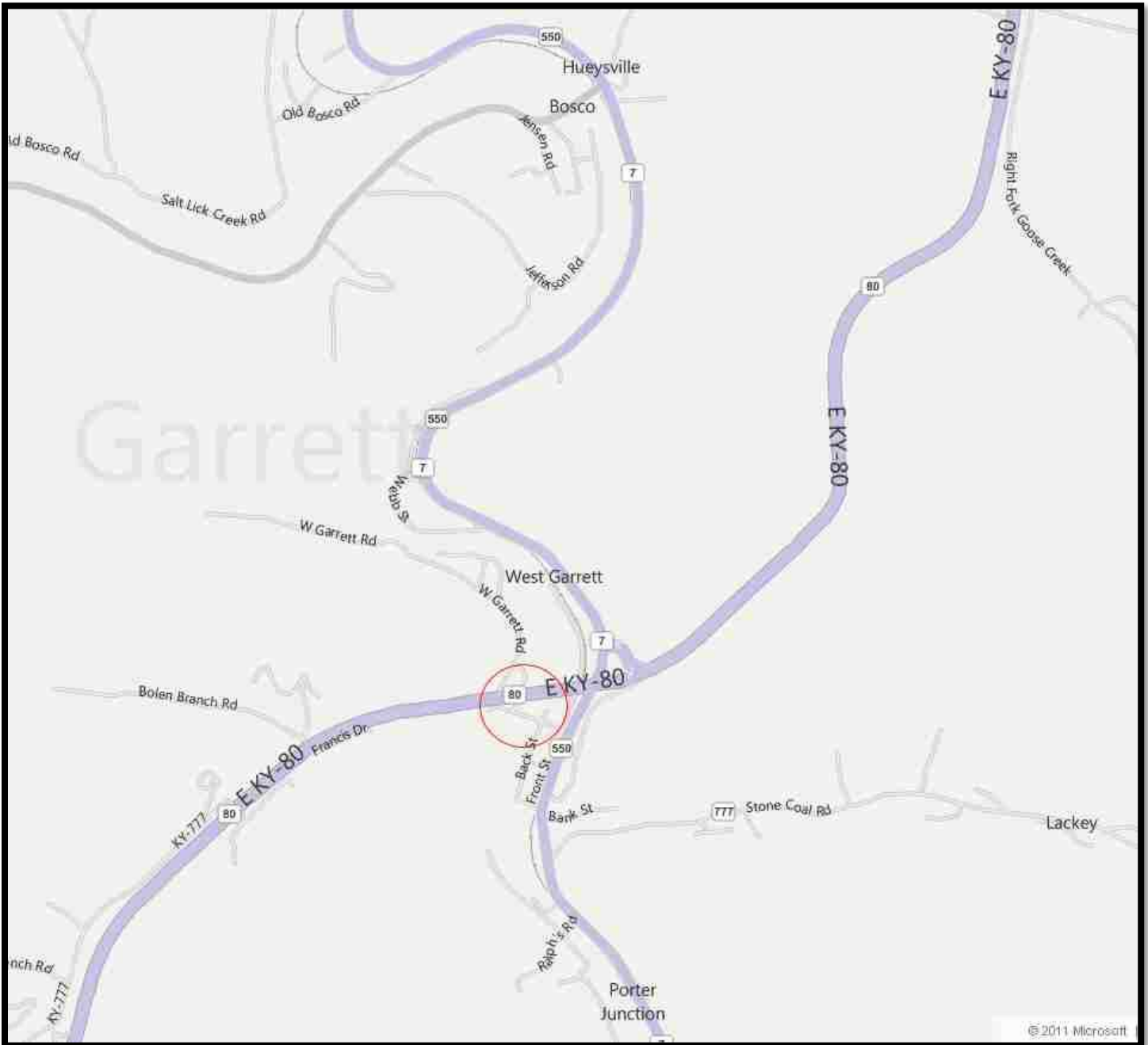
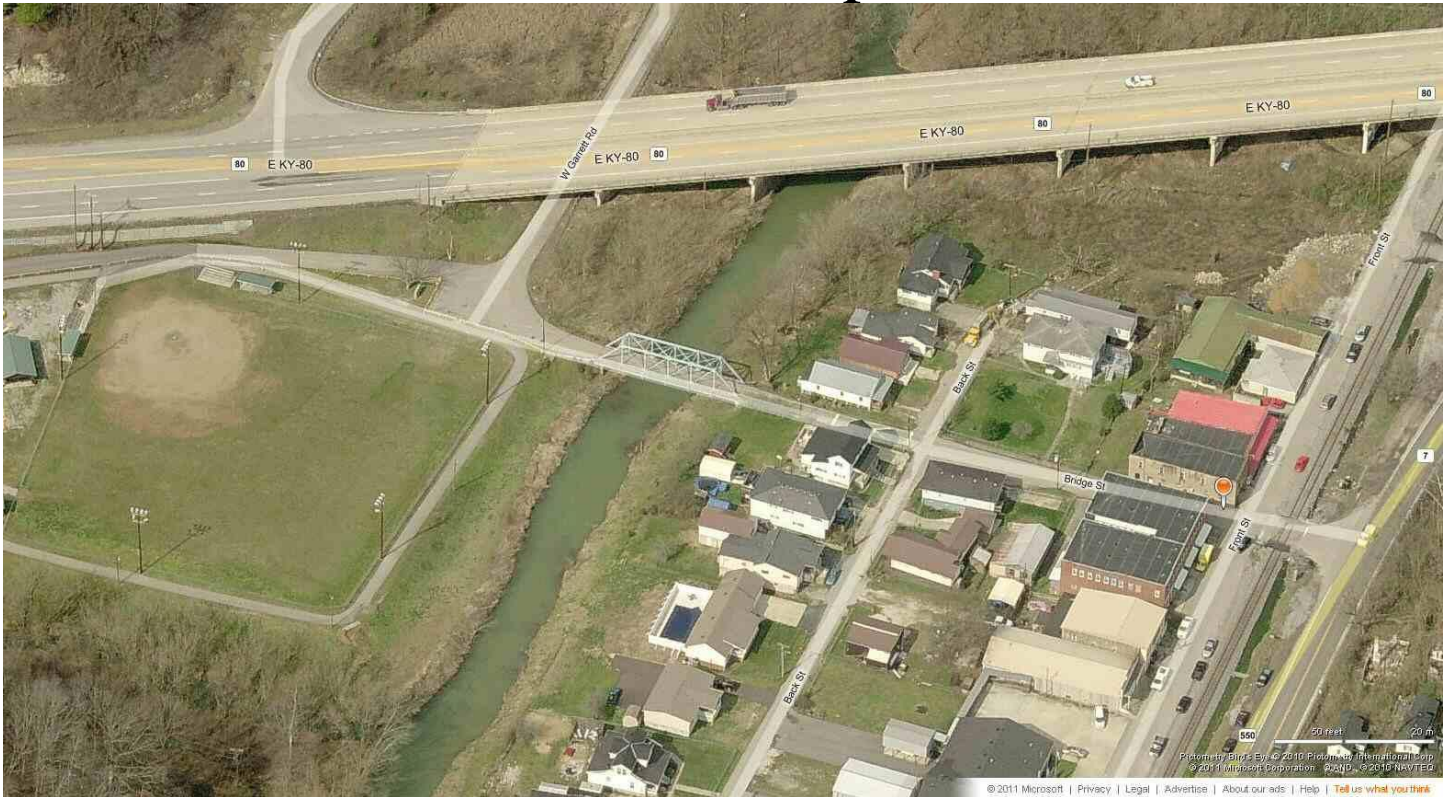
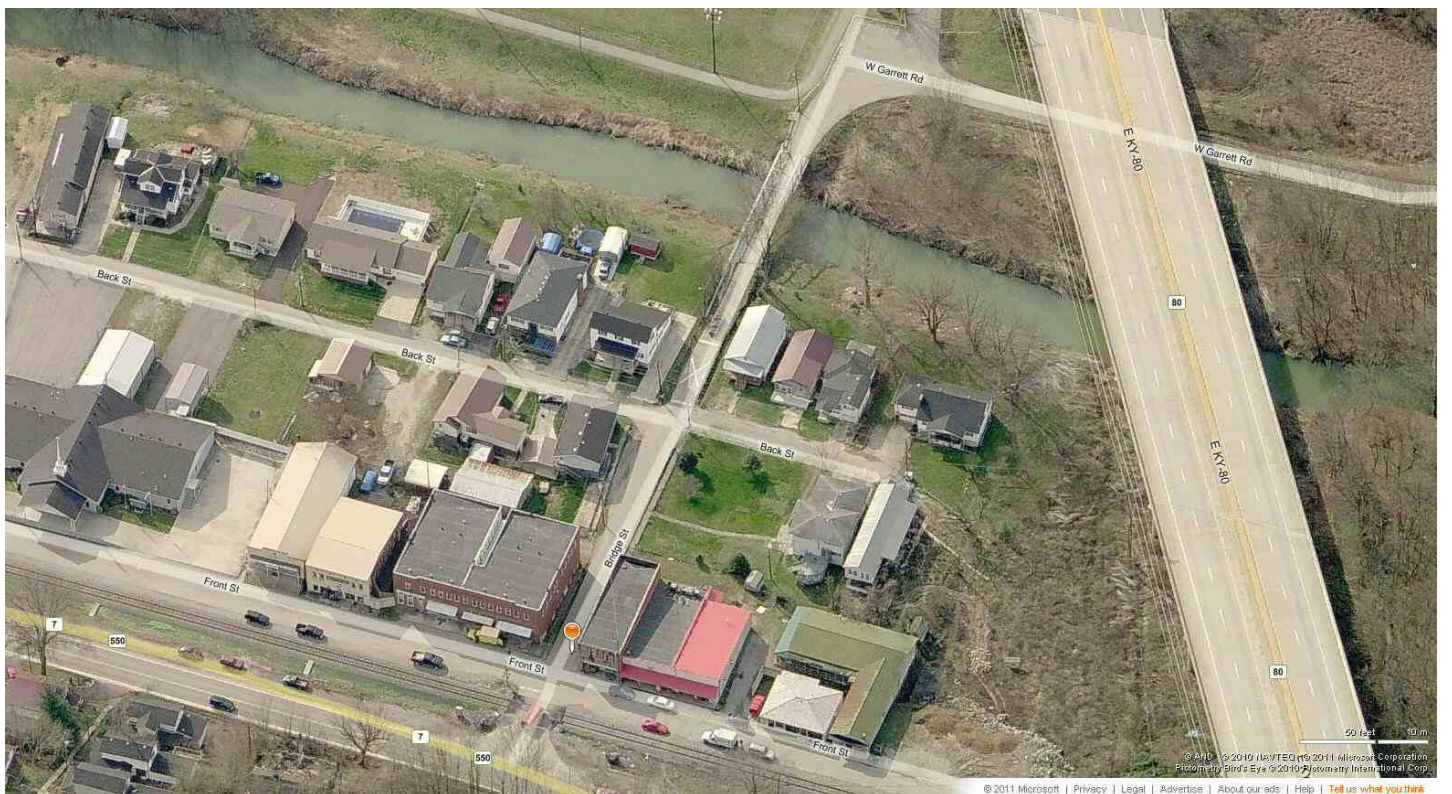


Exhibit 2

Aerial Map

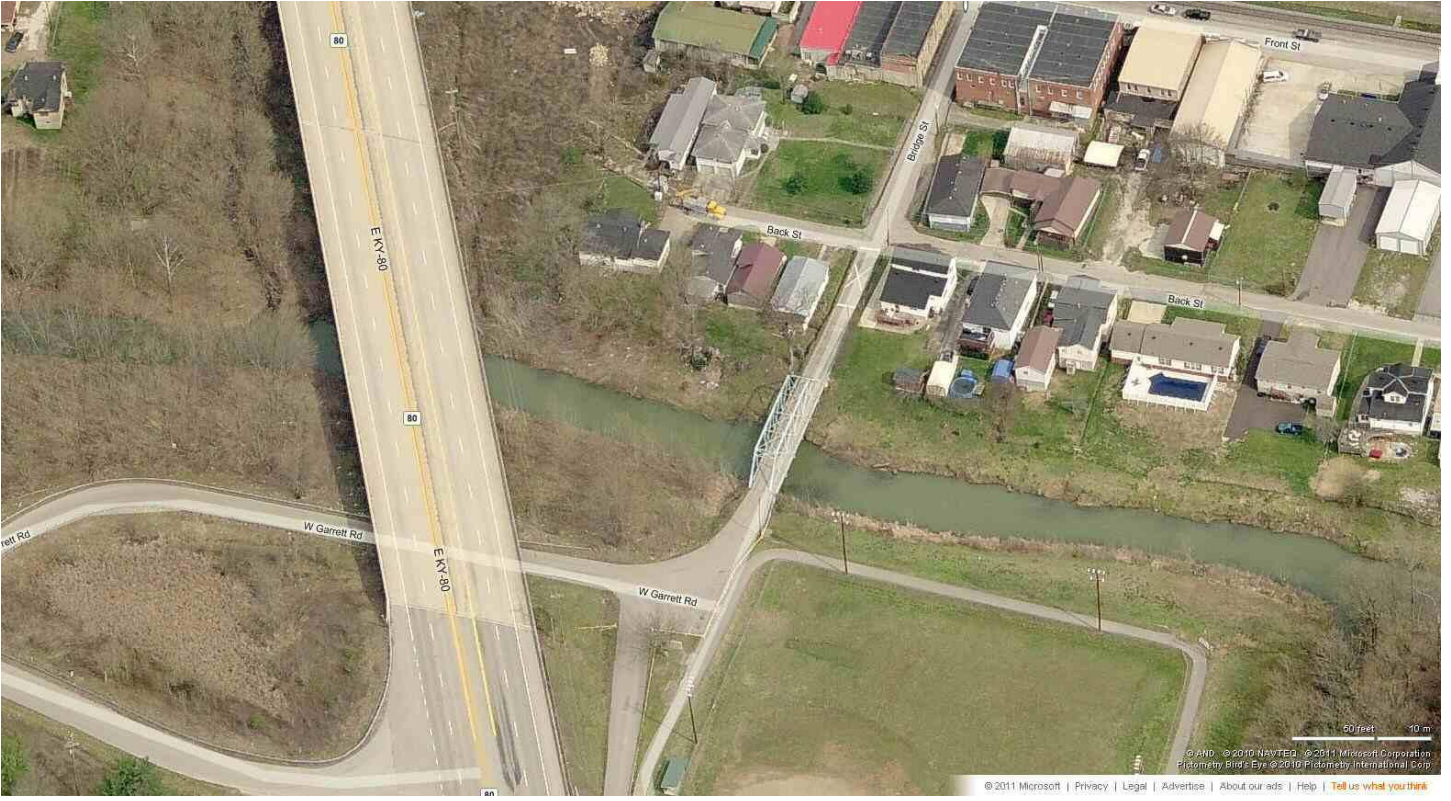


Exhibits 3 and 4





Exhibits 5 and 6



Topography Map

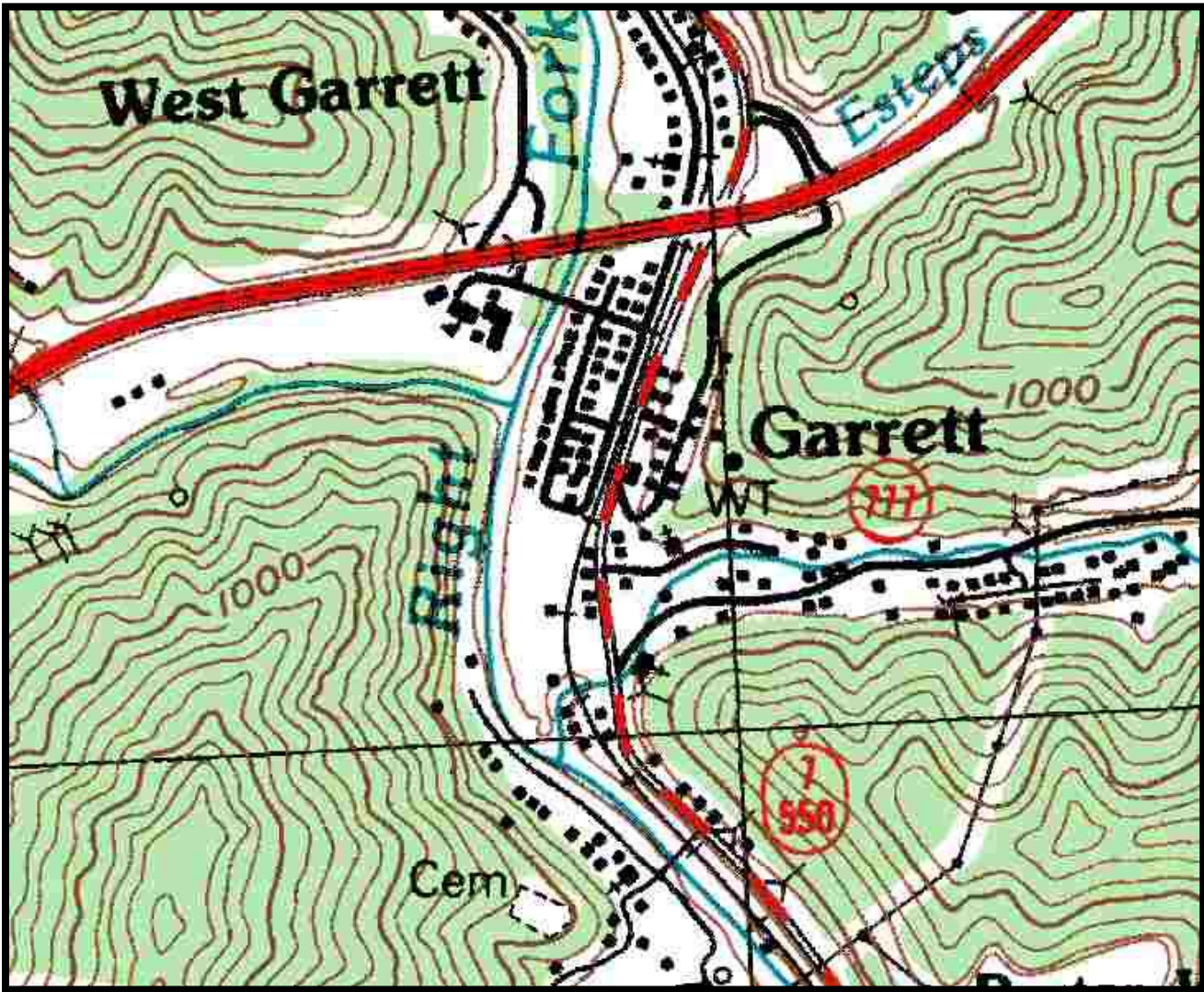


Exhibit 5

Three-dimensional Map



Exhibit 6

Photographs of Project Area



Exhibit 7



Exhibit 8



Exhibit 9



Exhibit 10



Exhibit 11



Exhibit 12



Exhibit 13



Exhibit 14



Exhibit 15



Exhibit 16

FIRM Map

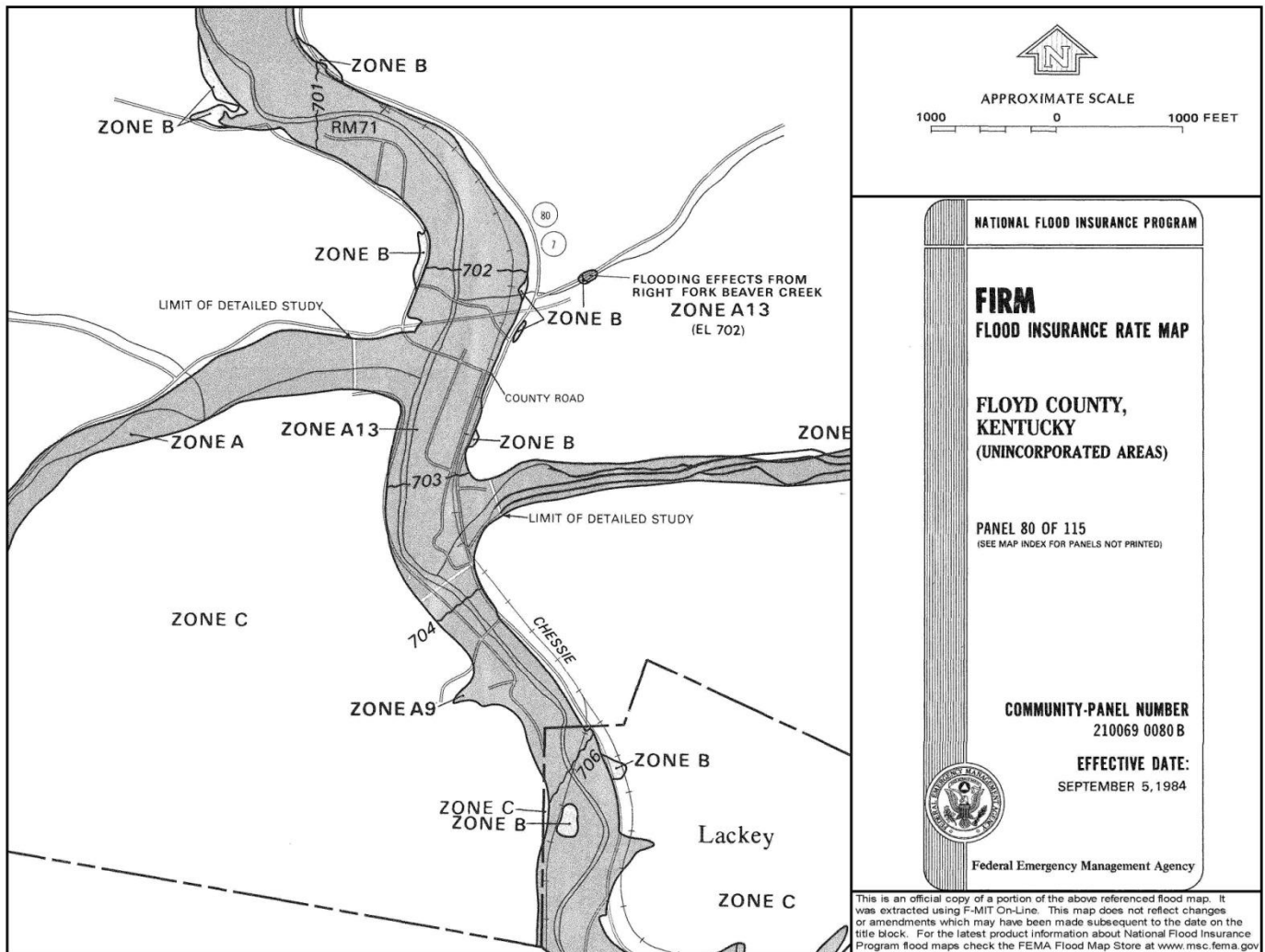


Exhibit 17

Inspection Report

Kentucky Transportation Cabinet

Department of Highways
Division of Maintenance

Structure Inventory and Appraisal Sheet (English Units)

Bridge Key: 4069 Agency ID: 036B00076N SR: 3 SD/FO: SD

IDENTIFICATION

State 1: 21 Kentucky Struc Num 8: 036B00076N
 Facility Carried 7: KY-777 Location 9: IN GARRETT

Rte.(On/Under)5A: Route On Structure Rte. Signing Prefix 5B: 3 State Hwy
 Level of Service 5C: 1 Mainline Rte. Number 5D: 00777
 Directional Suffix 5E: 0 N/A (NBI) % Responsibility: Unknown
 SHD District 2: District 12 County Code 3: Floyd (038)
 Place Code 4: FIPS 0000 Mile Post 11: 0.195 mi

Feature Intersected 6: RT FK BEAVER CREEK
 Latitude 16: 37d 28' 50" Longitude 17: 082d 50' 04"
 Border Bridge Code 98: Unknown (P)
 Border Bridge Number 99:

INSPECTION

Frequency 91: 12 months Inspection Date 90: 9/14/2010 Next Inspection: 09/14/2011
 FC Frequency 92A: 24 months FC Inspection Date 93A: 9/19/2008 Next FC Inspection: 9/19/2010
 UW Frequency 92B: NA UW Inspection Date 93B: NA Next UW Inspection: NA
 SI Frequency 92C: NA SI Date 93C: NA Next SI: NA
 Element Frequency: 12 months Element Inspection Date: 09/14/2010 Next Elem. Insp. Due: 09/14/2011

CLASSIFICATION

Defense Highway 100: 0 Not a STRAHNET hwy Parallel Structure 101: No || bridge exists
 Direction of Traffic 102: 3 1-lane Br for 2-way Temporary Structure 103: Not Applicable (P)
 Highway System 104: 0 Not on NHS NBIS Length 112: Long Enough
 Toll Facility 20: 3 On free road Functional Class 26: 09 Rural Local
 Defense Hwy 110: 0 Historical Significance 37: 5 Not eligible for NRHP
 Owner 22: 01 State Highway Agency
 Custodian 21: 01 State Highway Agency

STRUCTURE TYPE AND MATERIALS

Number of Approach Spans 48: 0 Number of Spans Main Unit 45: 1
 Main Span Material/Design 43A/B:
 3 Steel 10 Truss-Thru

Deck Type 107: 1 Concrete-Cast-in-Place
 Wearing Surface 108A: 0 None
 Membrane 108B: 0 None
 Deck Protection 108C: None

CONDITION

Deck 58: 4 Poor Super 59: 4 Poor Sub 60: 4 Poor
 Culvert 62: N N/A (NBI) Channel/Channel Protection 61: 7 Minor Damage

AGE AND SERVICE

Year Built 27: 1944 Year Reconstructed 106: 0
 Type of Service on 42A: 1 Highway
 Type of Service under 42B: 5 Waterway
 Lanes on 28A: 1 Lanes Under 28B: 0 Detour Length 19: 98.8 mi
 ADT 29: 1,160 Truck ADT 108: % Year of ADT 30: 2010

LOAD RATING AND POSTING

Inventory Rating Method 65: 1 LF Load Factor Operating Rating Method 63: 1 LF Load Factor
 Inventory Rating 66: HS5.6 Operating Rating 64: HS5.6
 Design Load 31: 2 M 13.5 (H 15) Posting 70: 0 >39.9% below
 Posting status 41: P Posted for load

GEOMETRIC DATA

Length Max Span 48: 97.1 ft Structure Length 49: 99.1 ft
 Curb/Sidewalk Width L 50A: 4.8 ft Curb/Sidewalk Width R 50B: 0.0 ft
 Width Curb to Curb 51: 11.2 ft Width Out to Out 52: 11.5 ft
 Approach Roadway Width 32: 16.1 ft Median 33: 0 No median (w/ shoulders)
 Deck Area: 1,137.7 sq. ft
 Skew 34: 0.00 ° Structure Flared 35: 0 No flare
 Vertical Clearance 10: 99.99 ft Horiz. Clearance 47: 10.83 ft
 Minimum Vertical Clearance Over Bridge 53: 329.1 ft
 Minimum Vertical Underclearance Reference 54A: N Feature not hwy or RR
 Minimum Vertical Underclearance 54B: 0.0 ft
 Minimum Lateral Underclearance Reference R 55A: N Feature not hwy or RR
 Minimum Lateral Underclearance R 55: 0.0 ft
 Minimum Lateral Underclearance L 56: 0.0 ft

APPRAISAL

Bridge Rail 36A: 0 Substandard Approach Rail 36C: 0 Substandard
 Transition 36B: 0 Substandard Approach Rail Ends 36D: 0 Substandard
 Str. Evaluation 67: 2 Deck Geometry 68: 2 Intolerable - Replace
 Underclearance, Vertical and Horizontal 69: N Not applicable (NBI)
 Waterway Adequacy 71: 5 Above Tolerable Approach Alignment 72: 6 Equal Min Criteria
 Scour Critical 113: 8 Stable Above Footing

PROPOSED IMPROVEMENTS

Bridge Cost 94: \$ 171,000 Type of Work 75: 31 Rep+Load Capacity
 Roadway Cost 95: \$ 0 Length of Improvement 76: 9.8 ft
 Total Cost 96: \$ 170,000 Future ADT 114: 1,415
 Year of Cost Estimate 97: 1994 Year of Future ADT 115: 2030

NAVIGATION DATA

Navigation Control 38: 0 0
 Vertical Clearance 39: 0.0 ft Horizontal Clearance 40: 0.0 ft
 Pier Protection 111: Not Applicable (P) L/R Bridge Vertical Clearance 116:

ELEMENT CONDITION STATE DATA

Str Unit	Elm/Env	Description	Units	Total Qty	% in 1	Qty. St. 1	% in 2	Qty. St. 2	% in 3	Qty. St. 3	% in 4	Qty. St. 4	% in 5	Qty. St. 5
1	13/3	Unp Conc Deck/AC Ovl	(SF)	1,139	0%	0	100%	1,139	0%	0	0%	0	0%	0
1	113/3	Paint Str Stringer	(LF)	792	0%	0	0%	0	0%	0	97%	772	3%	20
1	121/3	P/Sil Thru Truss/Bot	(LF)	198	0%	0	0%	0	90%	178	0%	0	10%	20
1	126/3	P/Sil Thru Truss/Top	(LF)	198	0%	0	100%	198	0%	0	0%	0	0%	0
1	215/3	R/Conc Abutment	(LF)	74	0%	0	0%	0	100%	74	0%	0	0%	0
1	334/3	Metal Rail Coated	(LF)	100	100%	100	0%	0	0%	0	0%	0	0%	0

Appendix 1

Structure Inventory and Appraisal Sheet (English Units)

Str Unit	Elm/Env	Description	Units	Total Qty	% in 1	Qty. St. 1	% in 2	Qty. St. 2	% in 3	Qty. St. 3	% in 4	Qty. St. 4	% in 5	Qty. St. 5
1	359/3	Soffit Smart Flag	(EA)	1	0%	0	0%	0	0%	0	100%	1	0%	0
1	503/3	RC Curb	(LF)	198	0%	0	0%	0	0%	0	100%	198	0%	0
1	505/3	RC Sidewalk	(LF)	100	0%	0	0%	0	0%	0	100%	100	0%	0
1	609/3	Debris on Superstruc	(EA)	0	0%	0	0%	0	0%	0	0%	0	0%	0

Str Unit	Elm/Env	Description	Element Notes
1	13/3	Concrete Deck - Unprotected w/ A	< none >
1	113/3	Painted Steel Stringer	DOWNSTREAM EXTERIOR STRINGER ABOVE FLOOR BEAMS #2 & #3 HAVE LOSS OF SECTION TO WEB AND NEED PLATING. all other previously noted deficiencies have been plated. STRINGERS NEAR ABUT #1 & #2 HAVE BEEN PLATED. The bottom flange and alot of the web is rusted completely through in bearing area back to plated area.
1	121/3	Painted Steel Bottom Chord Thru	NEAR CONNECTIONS @ ABUTMENTS HAVE SOME MODERATE TO SEVERE RUSTING WITH SECTION LOSS.
1	126/3	Painted Steel Thru Truss (excl. bot)	< none >
1	215/3	Reinforced Conc Abutment	BOTH ABUTMENTS HAVE OPEN VERTICAL CRACKS. TOP OF ABUT. #1 IS TILTED TOWARD STREAM. THE CONCRETE COUNTERFORT AT ABUTMENT ONE IS CRACKED AND NO SIGNS OF REINFORCEMENT STEEL COULD BE SEEN.
1	334/3	Metal Bridge Railing - Coated	< none >
1	359/3	Soffit of Concrete Deck or Slab	UNDERSIDE OF DECK HAS TRANSVERSE AND LONGITUDINAL CRACKS WITH EFFLORESCENCE AND SOME RUST STAINING.
1	503/3	Reinforced Concrete Curb	Curb is scaling and rotten with stirrups and rebar exposed throughout length on both sides of bridge. Curbs are almost completely gone the full length.
1	505/3	Reinforced Concrete Sidewalk	APPROACH SIDE WALK IS UNDERMINED AND SETTLING APPROX 6" TO 10" AND NEEDS TO BE REPAIRED.
1	609/3	Debris (On/Around Super)	< none >

BRIDGE NOTES

PAST INSPECTION

Inspection Date: 09/14/2010 Type: 3 Substandard (12 months)
 Inspector: JMCKENZIE Pontis User Key: JMCKENZIE - Jas
 Scope:
 NBI: Other: Element:
 Underwater: Fracture Critical:

INSPECTION NOTES

9/14/10 inspection team JC/JM

Structure Inventory and Appraisal Sheet (English Units)

PAST INSPECTION

Inspection Date: 09/29/2009 Type: 3 Substandard (12 months)
Inspector: JCOMPTON Pontis User Key: JCOMPTON - Joe

Scope:
NBI: Other: Element:
Underwater: Fracture Critical:

INSPECTION NOTES

PAST INSPECTION

Inspection Date: 09/10/2008 Type: 3 Substandard (12 months)
Inspector: TDYE Pontis User Key: TDYE - Tim Dye

Scope:
NBI: Other: Element:
Underwater: Fracture Critical:

INSPECTION NOTES

Structure Inventory and Appraisal Sheet (English Units)

PAST INSPECTION

Inspection Date: 01/07/2008 Type: 3 Substandard (12 months)
Inspector: JCOMPTON Pontis User Key: JCOMPTON - Joe

Scope:
NBI: Other: Element:
Underwater: Fracture Critical:

INSPECTION NOTES

PAST INSPECTION

Inspection Date: 10/01/2006 Type: 1 SIA (Initial Inventory)
Inspector: JCOMPTON Pontis User Key: JCOMPTON - Joe

Scope:
NBI: Other: Element:
Underwater: Fracture Critical:

INSPECTION NOTES

INSPECTOR WORK CANDIDATES

Work Candidate ID	Action	Object	Agency Status	Agency Priority	Assigned to a Project	Rec. Date
A-KYTC-12572921-00000015	Replace	Bridge	Approved	High	No	3/29/2009

Facebook Comments

Ronda Lawson-Gaines: I posted already but I will again and I think I can speak on behalf of my whole family Rondall and Jackie Lawson. Garrett bridge has not just been a part of my whole life but also so many lives before me and I hope many who come after. Garrett does not have a lot of anything that has been left or tried to Restore. First thing everyone wants to do is tear down. Each building we lose not only are we losing a piece of where we grew up, our only route to and from school, but the biggest thing we lose is a sense of self. Garrett bridge has always been a landmark, many generations have referred to it for directions. Used to be the red bridge then it's the blue. I sat many days in daddy's yard watching cars and people cross that bridge and even a few threaten to jump. I know many have moved on but we always come back home, and at this rate there isn't going to be anything left. As I stated before, no one tried to preserve any part of our school instead we get nice reprints. How come reps. for Garrett are so eager to tear down than restore? Wayland seems to have a diff mindset and want to preserve some of their historical sites. Perhaps Garrett should set up a historical society and decide what buildings are filled with too much history to just paint it pink or yellow or tear it down. If the town was a little more proud or realized what a great town with some preservation done they would have I think it might resolve some of the other issues that currently plague it. Nothing in life is cheap including history however a man can't put a price on his history and roots. At least I would think not. So the bridge stays along with the old Francis Hotel and the store fronts. What about a face lift with maybe some murals on the walls. Bring life back into Garrett so the residents begin to live again.

Pauline Branham: i think why dont you keep the old bridge, but widen and add a walk way and face lift at the same time, paint, replace worn parts accoring to today codes, and standards, saves money and fixing a problem at the same time saving money to use to fix other local projects.

CarlyandTracy Moore: I live in michigan now, and one of the very first things i do when i return home is drive across the garrett school bridge this is a historical landmark and should be registered as one. is that possible?

Yvonne Gullett: spend the money on the budget and leave history alone. Just make it safe.

Jeana Scott Howard: I grew up traveling this bridge to school, grandparents, & great-grandmothers house ... it is also the only way out of Garrett if the train is blocking the road ... I would hate to see this bridge gone ... it still looks strange that the Garrett School buildings & Gym gone ... Please save out bridge!!!!

Susan Francis: My family and I use this bridge often, I would really miss the convience of the bridge especially when the train has the crossings blocked ! I am sure this bridge has seen better days. I am concerned that it is unsafe,mainly because my granddaughters bus travels over it. It's a small bus so I don't know if it's over the weight limit.

Tracie Layne: This bridge in Garrett needs to be repaired. I dont live in Garrett but I no from experience in law enforcement that when a train goes though town the bridge the is the only way to get to the houses on that side of the tracks. In emergency situations such as heart attacks time is of the essence also if someone's house is being broken into or a domestic violence compliants lives could be lost. The bridge should be saved for emergencies and it is a landmark of Garrett. Saved the bridge.

Grady Allen: Sara, I think we need to save this bridge. Its the only one like it left in the county. Its a part of not only Garrett history but Floyd County History. Thats is my veiw as a local history buff. My view as a firefighter for Garrett F.D. is we need to keep it or replace it. I have seen the train block all roads into the town for over 15 mins at a time. That can mean life or death in a medical or fire emergency. Who cares what the cost to keep or replace this bridge is? Is it worth the loss of a life just because the train has the town blocked? I tell you one thing I don't want have to tell someone that we could have saved their family member or their house if only the bridge had been there!

Appendix 2

Becky Smith: The bridge in Garrett is important to people of Garrett, I remember walking across the bridge to get to the old Garrett Elem. school. It is as much a part of Garrett as the railroad tracks, which when blocked leaves the people on the other side of the tracks stranded without the bridge.

Dale McKinney: This bridge is a "landmark" to the town of Garrett. So many bridges in this area have been removed in the recent years that gave character to towns. When one of these is removed, a part of the town is lost forever. They can be remembered through photographs and stories passed down through generations, but to actually show someone living history is so much better. This bridge is more than just a bridge, it's a reference point. Anyone that travels through Garrett or across route 80 knows "the blue bridge". This bridge is not a dinosaur, it's a landmark to the town of Garrett that would be missed not only by the residents but by past generations and future generations.

Terry Triplett: I'm with the fire department in Garrett, we use the Garrett park as a Landing Zone for Medavac Helicopters. The Garrett Bridge is a important link to the park, with out it we would have to go around to the 4 lane to gain access to the park as would the ambulances that bring critial patients to the landing zone... every second counts in these types of emergencys. PLEASE don't take this vital link away!

CarlyandTracy Moore Carly: (Reply from email CarlyandTracy Moore sent) The bridge is considered historically valuable by the Transportation Cabinet. They would regard it as a structure to be treated with respect if they wanted to improve the crossing. If the decision were to replace it, the Cabinet would look for a suitable new location for the structure, such as the park nearby, and try to move it to that new location so that it could remain part of your cultural environment.

Marty Perry National Register Coordinator

Traffic Forecast

*Traffic Forecast Technical Report
Floyd County: KY 777 Bridge Replacement
Item No. 12-1085.00*

Traffic Forecast Executive Summary Floyd County: KY 777 Bridge Replacement Item No. 12-1085.00

PROJECT DESCRIPTION

The purpose of this report is to analyze traffic on KY 777 from MP 0.147 to MP 0.247 in Floyd County for a bridge replacement project. District Twelve Design requested traffic projections for the subject road. The project, which is currently in the design phase, calls for replacing the bridge on KY 777 that runs over the Right Fork of Beaver Creek.

TYPE OF FORECASTS

The following types of forecasts were developed:

- Build ADT and DHV projections for 2008 and 2028
- Build %T and 20-year ESAL forecasts

CURRENT YEAR VOLUMES

Current year traffic volumes on the project road are based on 48 hours of count data in March 2008. The traffic volume data for the count was collected at MP 0.2 on KY 777.

FUTURE YEAR VOLUMES / GROWTH RATES

The Kentucky State Data Center projects the population of Floyd County to decline between now and 2030. Build 2028 traffic volumes were developed using historical counts from multiple stations in Floyd County. Exponential growth analysis performed on counts from several stations along KY 777 revealed declining traffic volumes. While the population of Floyd County has been declining since 1980, traffic on the county's rural minor collectors has increased 0.76% annually during the last twenty-five years. Also, KY 777 functions as an access point to a neighborhood park. Therefore, an annual growth rate of 1.00% was applied to forecast 2028 traffic volumes.

DESIGN HOUR VOLUMES

DHVs were determined by analyzing the most recent 48 hours of KY 777 traffic data. The peak AM and PM volumes were derived from the counts. A functional class design hour factor based on the day and month of the count was applied to the peak volumes to estimate the 2008 K-factor. Finally, the calculated K-factor was used in combination with the ADT forecasts to produce annual DHVs for 2008 and 2028.

PERCENT TRUCKS

A 2008 vehicle classification count from KY 777 provided the %T for the project road segment. Future year truck forecasts were developed using a %T growth rate applied to the current year estimates. Statewide research indicates a 2.0% annual growth rate for %T when applied as a component of the overall traffic growth on rural minor collectors. Design hour truck percentages were also derived from the vehicle classification count.




Appendix 3

ESAL CALCULATIONS

Functional class averages from ATR data, traffic counts, and 2028 ADT projections were used to estimate 20-year ESALs on the project road. The 2006 functional class average growth rates, generated by the Kentucky Transportation Center in collaboration with the Transportation Cabinet, were used to grow the important ESAL calculation variables. For more information see the attached ESAL calculation sheets.

Summary Map



<p>LEGEND</p> <p> Bridge (B76) over Right Fork of Beaver Creek</p>	<p>Floyd County Replace Bridge and Approach on KY 777 Over Right Fork of Beaver Creek Item # 12-1085.00</p>	  <p>0 0.1 Miles</p>
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*Traffic Forecast Technical Report
 Floyd County: KY 777 Bridge Replacement
 Item No. 12-1085.00*

FORECAST OF EQUIVALENT SINGLE AXLE LOAD ACCUMULATIONS (20-year)

ROUTE ID:

County	Floyd
Road Name	KY 777
Functional Class	8 - Rural Minor Collector
Project Description	Replace bridge and approach on KY 777 over Beaver Creek
Scenario	Build
Segment Description	Replace bridge and approach on KY 777 over Beaver Creek

Date	05/06/08
Forecaster	Nathan Wilkinson
MARS No.	8128501 D
Item No.	12-1085.00
Route No.	KY 777
Beg. MP	0.147
End MP	0.247
T.F. No.	TF 07.068
No. of Lanes	2
	1 or 2 way

REFERENCES:

Previous Forecasts	NA
Traffic Volume	Station 036Z01
Milepoint	0.2
Truck Percent	2006 Aggregated ESALS
Milepoint	NA
ESAL Information	2006 Aggregated ESALS
Growth Rate	1.00%

K- Factor Value	12.8%
K-Factor Source	Station 036Z01
PHF	0.84

TRAFFIC PARAMETERS:

		Present	Growth	Construction	Median	Design
		Year	Rate	Year	Year	Year
		2008		2008	2018	2028
Volume	(AADT)	640	1.00%	640	710	800
Percent Trucks	(%T)	8.6%	2.0%	8.6%	11.0%	13.0%
Number of Trucks		60		60	80	100
Percent Trucks Hauling Coal	(%CT)	0%	0.0%	0%	0%	0%
<i>Non-Coal Trucks:</i>						
Axles/Truck	(A/T)	2.737	1.50%	2.737	3.176	3.686
ESALS/Axle	(ESAL/A)	0.254	2.00%	0.254	0.310	0.377
<i>Coal Trucks:</i>						
Axles/Truck	(A/CT)	0	0.00%	0.000	0.000	0.000
ESALS/Axle	(ESAL/CA)	0	0.00%	0.000	0.000	0.000

ESAL CALCULATIONS: SEE ATTACHED ESAL CALCULATION SHEET

Design ESALs in Critical Lane

General Comments:

Traffic Forecast Technical Report
 Floyd County: KY 777 Bridge Replacement
 Item No. 12-1085.00

Year	ADT	Car %	Truck %	Cars	Trucks	CT%	AXIT	ESAL/AX	AXICT	ESALUCA	LDF	ESALS
2008	640	91.4%	8.6%	585	55	0.00%	2.74	0.25	0	0	0.500	7,517
2009	646	91.2%	8.8%	590	57	0.00%	2.78	0.26	0	0	0.500	7,986
2010	653	91.1%	8.9%	594	58	0.00%	2.82	0.26	0	0	0.500	8,486
2011	659	90.9%	9.1%	599	60	0.00%	2.86	0.27	0	0	0.500	9,019
2012	666	90.7%	9.3%	604	62	0.00%	2.90	0.27	0	0	0.500	9,588
2013	673	90.5%	9.5%	609	64	0.00%	2.95	0.28	0	0	0.500	10,194
2014	679	90.3%	9.7%	614	66	0.00%	2.99	0.29	0	0	0.500	10,839
2015	686	90.1%	9.9%	618	68	0.00%	3.04	0.29	0	0	0.500	11,528
2016	693	89.9%	10.1%	623	70	0.00%	3.08	0.30	0	0	0.500	12,262
2017	700	89.7%	10.3%	628	72	0.00%	3.13	0.30	0	0	0.500	13,045
2018	707	89.5%	10.5%	633	74	0.00%	3.18	0.31	0	0	0.500	13,880
2019	714	89.3%	10.7%	638	76	0.00%	3.22	0.32	0	0	0.500	14,770
2020	721	89.1%	10.9%	643	79	0.00%	3.27	0.32	0	0	0.500	15,719
2021	728	88.9%	11.1%	647	81	0.00%	3.32	0.33	0	0	0.500	16,730
2022	736	88.7%	11.3%	652	83	0.00%	3.37	0.34	0	0	0.500	17,809
2023	743	88.4%	11.6%	657	86	0.00%	3.42	0.34	0	0	0.500	18,969
2024	750	88.2%	11.8%	662	89	0.00%	3.47	0.35	0	0	0.500	20,186
2025	758	88.0%	12.0%	667	91	0.00%	3.53	0.36	0	0	0.500	21,494
2026	766	87.7%	12.3%	672	94	0.00%	3.58	0.36	0	0	0.500	22,888
2027	773	87.5%	12.5%	676	97	0.00%	3.63	0.37	0	0	0.500	24,376
2028	781	87.2%	12.8%	681	100	0.00%	3.69	0.38	0	0	0.500	25,961

5-yr ESALS
 10-yr ESALS
 15-yr ESALS
 20-yr ESALS

KY 80 Roadway Plansheet

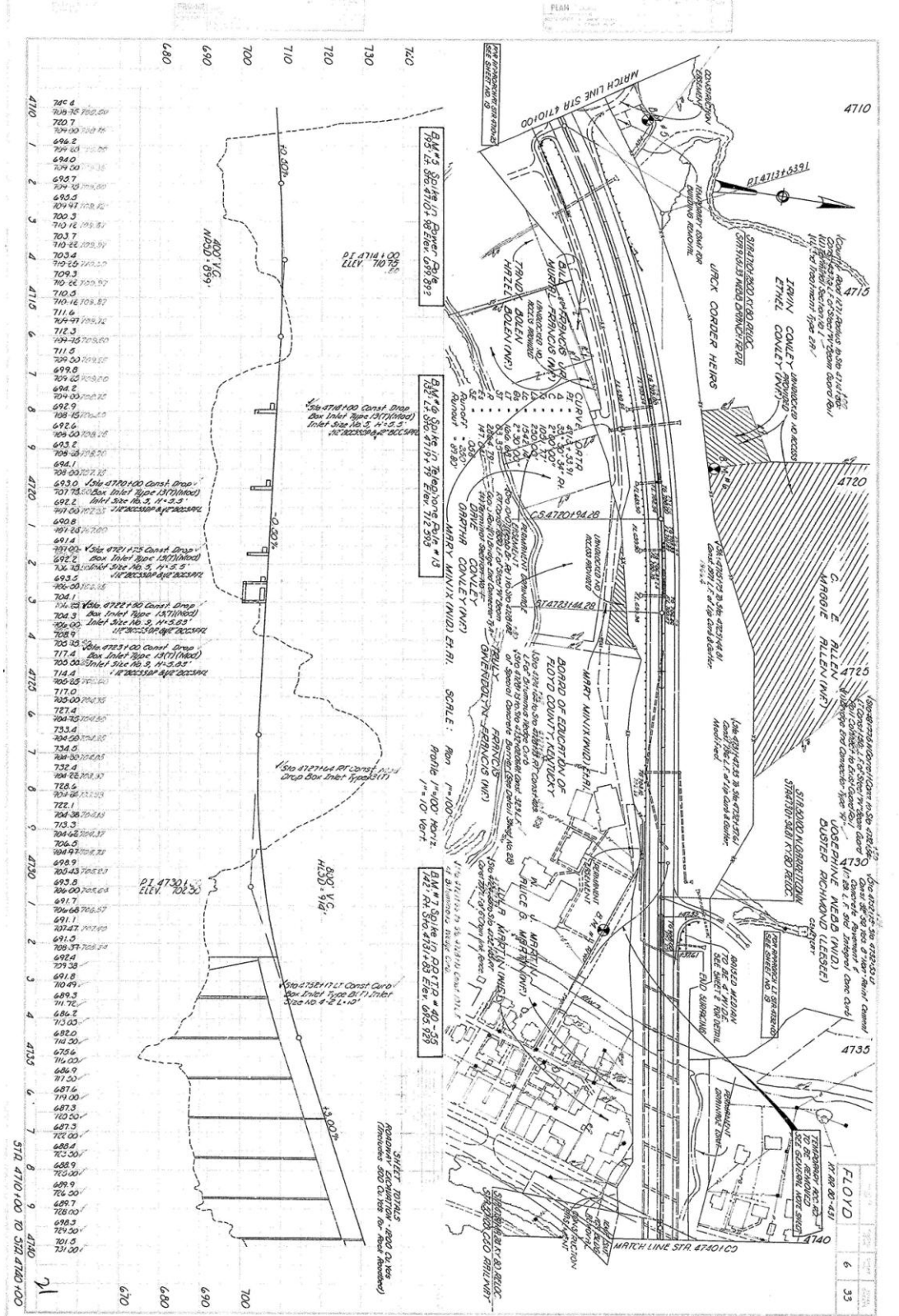


Exhibit 18