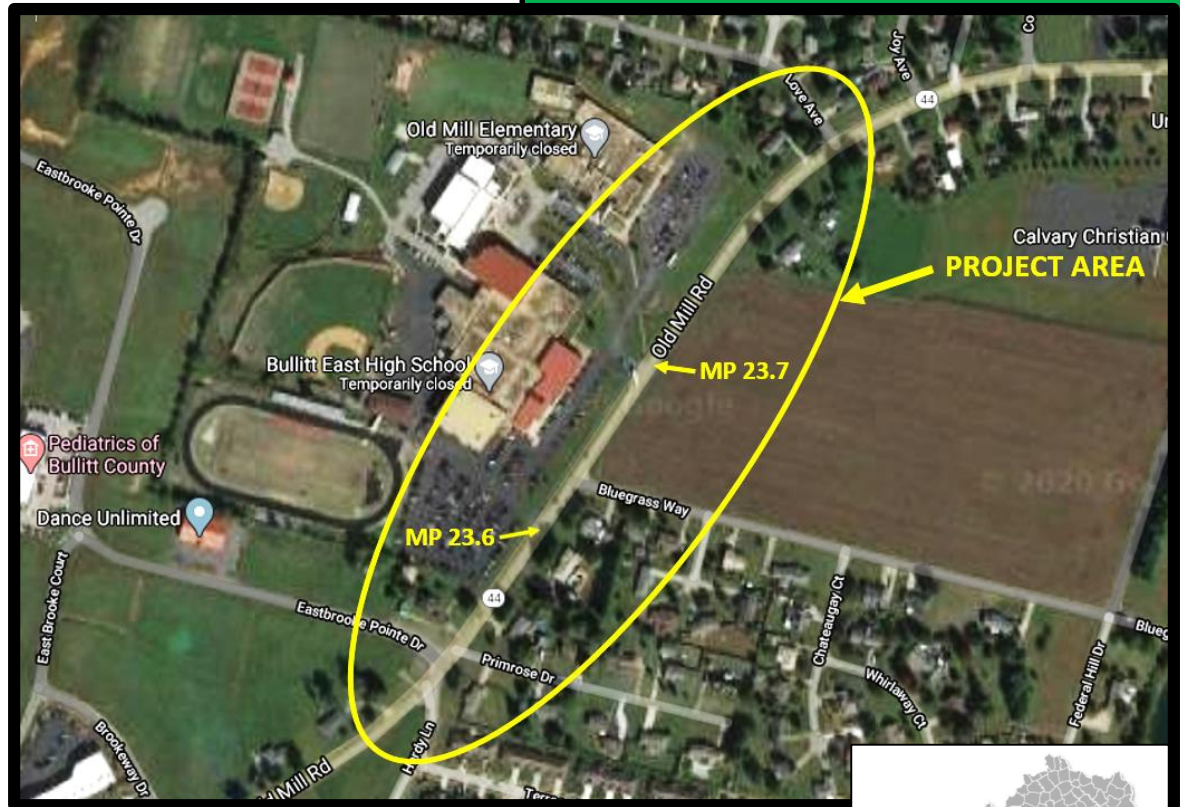


Data Needs Analysis



Scoping Study



KY 44, Bullitt County
NEW TURN LANES IN
FRONT OF BULLITT EAST
HIGH SCHOOL
Item No. 5-347.51

Prepared by the KYTC
Division of Planning and
KYTC District 5

August 2020



5-347.51
Bullitt

Data Needs Analysis
Modernize Roadway -Urban

KY 44
Reconstruction

I. PRELIMINARY PROJECT INFORMATION

County:	Bullitt	Item No.:	5-347.51
Route Number(s):*	KY 44	Road Name:	Old Mill Road
Program No.:	80656	UPN:	FD52 015 D0044 23.6-23.7
Federal Project No.:	5118045	Type of Work:	Reconstruction
2020 Highway Plan Project Description:	CHAF ID - IP20150154		

NEW TURN LANES IN FRONT OF BULLITT EAST HIGH SCHOOL. (BREAKOUT FROM 347.50) (18CCN)

Beginning MP:	23.6	Ending MP:	23.7	Project Length:	0.1
In TIP:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Reconcile Project Information in Clearview				
State Class.:	<input type="checkbox"/> Primary <input checked="" type="checkbox"/> Secondary		Route is on:	<input type="checkbox"/> NHS <input type="checkbox"/> NN <input type="checkbox"/> Ext Wt	
Functional Class.:	<input checked="" type="checkbox"/> Urban <input type="checkbox"/> Rural Arterial		Truck Class.:	AAA	% Trucks: 9.4
MPO Area:	Louisville/Southern Indiana (KIPDA)		Terrain:	Level	
ADT (current):	13532	2019			
Access Control:	<input type="checkbox"/> None <input checked="" type="checkbox"/> Permit <input type="checkbox"/> Fully Controlled <input type="checkbox"/> Partial Spacing:				
Median Type:	<input checked="" type="checkbox"/> Undivided <input type="checkbox"/> Divided (Type):				
Existing Bike Accommodations:	Shared Lane		Ped:	<input checked="" type="checkbox"/> Sidewalk	
Posted Speed:	<input type="checkbox"/> 35 mph <input checked="" type="checkbox"/> 45 mph <input type="checkbox"/> 55 mph <input type="checkbox"/> Other (Specify):				
KYTC Guidelines Preliminarily Based on :	45 MPH Proposed Design Speed				

COMMON GEOMETRIC

Roadway Data:	EXISTING	PRACTICES**	
No. of Lanes	2	3	Existing Rdwy. Plans available?
Lane Width	10	11	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Shoulder Width	4	8	Year of Plans: 1930
Max. Superelevation***		6%	<input type="checkbox"/> Traffic Forecast Requested
Minimum Radius***		643	Date Requested: No
Maximum Grade		6%	<input type="checkbox"/> Mapping/Survey Requested
Minimum Sight Dist.		360	Date Requested: No
Sidewalk Width(urban)	3' on N side only	5	Type:
Clear-zone [†]			
Project Notes/Design Exceptions?			

Bridge No.: [‡]	(Bridge #1)	(Bridge #2)	
Sufficiency Rating			Existing Geotech Data Available?
Total Length			<input type="checkbox"/> Yes <input type="checkbox"/> No
Width, curb to curb			
Span Lengths			
Year Built			
Posted Weight Limit			Detour Length(s):
Structurally Deficient?			
Functionally Obsolete?			
Existing Bridge Type			

*If more than one road is included in the project, include additional sheets.

**Based on proposed Design Speed

***AASHTO's A Policy on Geometric Design of Highways and Streets

+AASHTO's Roadside Design Guide

‡If more than two bridges are located on the project, include additional sheets.

II. PROJECT PURPOSE AND NEED

A. Legislation

Estimates were prepared for State Representative James Tipton for consideration in the 2018 State Highway Plan and were updated for inclusion in the Recommended 2020 Plan. Phases and costs shown currently appear in that document and are programmed in the MTP and TIP for the Louisville/Jefferson County KY-IN Metropolitan Area.	Funding	Phase	Year	Amount
	STBG- State	D	2020	\$400,000
	STBG- State	R	2021	\$80,000
	STBG- State	U	2021	\$436,000
	STBG- State	C	2022	\$544,000
	State	match	2020-22	\$365,000
Total				\$1,825,000

B. Project Status

This project is anticipated to begin design by early FFY 2021. Previous studies and projects involving this segment of roadway include:

5-0396.00 KY 44 Corridor Study from US 31-E to KY 1633 <https://transportation.ky.gov/Planning/Pages/Project-Details.aspx?Project=KY%2044%20Corridor%20Study%20-%20Bullitt%20and%20Spencer%20Counties>

5-0347.50 Reconstruct KY 44 from US 31-E East 2.0 miles (see attachments for more information)

NOTE: This project is not part of the previously developed 5-347.50 major widening project designed circa 2010, even though the 2020 Highway Plan identifies it as a breakout. This project designated as 5-347.51 is a legislatively-added spot-improvement project within that corridor. When the spot improvement was included in the enacted Highway Plan, Item number 5-347.51 was assigned to it. However, 5-347.51 had been previously assigned to a child project of 5-347.50.

The two children of 5-347.50 are:

5-347.51 KY44 – US31E to Winning Colors Drive

5-347.56 KY44 – Winning Colors Drive to KY1319

No part of the parent project has advanced beyond the original 2010 design work.

C. System Linkage

The section of KY 44 under study is an urban minor arterial (not on the National Highway System) in Bullitt County, and is designated as a State Secondary roadway in the State Primary Road System. KY 44 begins in Jefferson County at US 31-W near the Bullitt County Line and continues east for almost 70 miles to the City of Lawrenceburg in Anderson County. The route also goes through the City of Shepherdsville and the City of Mount Washington. A variety of development types ranging from agricultural to commercial and industrial, as well as a fair amount of undeveloped property, exist within the corridor.

KY 44 is one of the major routes chosen for study in the KYTC Statewide Corridor Plan currently underway. The Bullitt County portion of the route is advancing to the Tier II analysis phase in that study.

D. Modal Interrelationships

Being the only east/west route that traverses the entire county, KY 44 serves many purposes. Providing connection to three US routes and to an interstate, the route is serving local and regional traffic as well as supporting retail, food service, warehousing, agriculture and manufacturing transport.

A rail line (CSX) intersects the roadway in the City of Shepherdsville, but no railyards or spurs exist in the City itself. Spurs and sidings, however, do exist approximately 2 miles both north and south of the City.

A sidewalk currently exists along the north side of KY 44 in the project area. That sidewalk is continuous from Fisher Lane on the west side of the City of Mount Washington through town to Joy Lane (just east of Bullitt East High School), and it varies in width and condition. There are no special accommodations for bicycles and no dedicated facilities in the project area. Within a mile of the project area, a section of multi-use path is under design along Old Bardstown Road. It is envisioned that this path will eventually connect to the Parklands of Floyds Fork/Louisville Loop on the north side of the City.

No transit service currently exists in the City of Mount Washington.

E. Social Demands & Economic Development

As with any community, the public schools are a center of activity. In this case, the high school and elementary school are located on a joint campus that includes a variety of sports facilities that are also utilized by the neighborhood. Access to a shopping area behind the schools is also adjacent to the school property.

F. Transportation Demand

There are currently no turn lanes into the school property or adjoining streets. Without a turn lane there is significant congestion at the school entrances both at the start of the school day and at dismissal. This is particularly problematic during the a.m. peak. A 2019 traffic count by the KYTC identified an ADT of 13,532 vehicles per day on this portion of KY 44.

G. Capacity

Relief from congestion and delays, especially during the a.m. peak hours when a considerable amount of traffic is destined for Bullitt East High School and Old Mill Elementary School, is particularly important for the safe and efficient operation of this critical route.

5-396.00 contained the following traffic projection for this segment, based on 12,000 vpd:

2009 ADT - 12,000

2009 LOS - D

2035 ADT - 29,400

2035 LOS - F

H. Safety

On the portion of KY 44 between Eastbrooke Pointe Drive and Love Avenue from 6/1/2017 to 5/31/2020, there were 26 reported vehicular crashes. Five of them resulted in seven injuries. Nine were rear-end crashes, 11 were angle crashes, two were side-swipes and one was a head-on collision. There were also three single-vehicle crashes.* The significant number of crashes and the crash types are representative of the combination of heavily-used entrances and local street access (both in the curves and across from the schools).

* Collision data obtained through KyOPS, maintained by the Kentucky State Police

I. Roadway Deficiencies

The section of roadway in the project area is generally level, with acceptable horizontal curvature at either end of the section. The lane width is 10', with 11' being desirable. The 4' (2' paved in most areas) shoulder is below requirements as well.

III. PRELIMINARY ENVIRONMENTAL OVERVIEW	
A. Air Quality Project is in: <input type="checkbox"/> Attainment area <input checked="" type="checkbox"/> Nonattainment or Maintenance Area <input type="checkbox"/> PM 2.5 County STIP Pg. #: TIP Pg. #: 	
Nonattainment area for 8-hour ozone. See Section VII for more information.	
B. Archeology/Historic Resources <input checked="" type="checkbox"/> Known Archeological or Historic Resources are present	
KY 44 was surveyed for archaeological sites in 2010 by CDM Smith, and no sites were found in this area. There is a historic site recorded just south of the high school's parking lot, of undetermined NRHP status.	
C. Threatened and Endangered Species USFW lists seven threatened and endangered species. Three are clams, and since a waterway is not affected there is "No Effect" on clams. Three bats (gray, Indiana, and northern long-eared) are listed, and this area is potential summer habitat. If trees need to be removed, there will be an effect on them. The other T&E species is Kentucky glade cress, and a survey should be performed in the spring. See Section VII for more information.	
D. Hazardous Materials <input type="checkbox"/> Potentially Contaminated Sites are present <input type="checkbox"/> Potential Bridge or Structure Demolition	
No UST / Hazmat impacts expected.	
E. Permitting Check all that may apply: <input type="checkbox"/> Waters of the US <input type="checkbox"/> MS4 area <input type="checkbox"/> Floodplain Impacts <input type="checkbox"/> Navigable Waters of the US Impacts Are 401/404 Permits likely to be required? <input type="checkbox"/> Yes <input type="checkbox"/> No Impacts to: <input type="checkbox"/> Wetlands <input type="checkbox"/> Stream/Lake/Pond <input type="checkbox"/> ACE LON <input type="checkbox"/> ACE NW <input type="checkbox"/> ACE IP <input type="checkbox"/> DOW IWQC <input type="checkbox"/> Special Use Waters	
If more than one acre is disturbed, an eMOI is required. No other permits appear to be needed.	
F. Noise Are existing or planned noise sensitive receptors adjacent to the proposed project? <input type="checkbox"/> Yes <input type="checkbox"/> No Is this considered a "Type I Project" according to KYTC Noise Analysis and Abatement Policy? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Not a Type I project.	
G. Socioeconomic Check all that may apply: <input type="checkbox"/> Low Income/Minority Populations <input type="checkbox"/> Relocations <input type="checkbox"/> Local Land Use Plan available	
Non-EJ area.	
H. Section 4(f) or 6(f) Resources The following are present on the project: <input type="checkbox"/> Section 4(f) Resources <input type="checkbox"/> Section 6(f) Resources	
None found.	
Anticipated Environmental Document: ▼	

IV. PROJECT NEED, PURPOSE & SCOPE			
A. Need:			
The number of turning movements and crashes on this section, the 10' lane widths and narrow shoulders, and the presence of large vehicles such as school buses all contribute to the diminished safety and capacity of the roadway.			
B. Purpose:			
The purpose of this project is to improve capacity, relieve congestion, and improve safety along KY 44 from Eastbrooke Pointe Drive to Joy Avenue. Project design will consider the addition of turning lanes and wider through-lanes.			
C. Scope:			
The project area will extend from a point on KY44 southwest of the KY44/Eastbrooke Pointe Drive intersection and will extend northwest approximately 2000 feet to a point past the KY 44/Joy Avenue intersection. The project will consider the development of a left-turn lane on KY 44 at the entrance to Bullitt East High School. Impacts of that turn lane in regard to taper lengths and proximity to other intersections in the project area should also be evaluated.			
V. PROJECT ESTIMATE & METHODOLOGY			
Estimate Methodology:		Current Estimate	
Estimate was originally prepared by District 5 Project Development staff in 2018. Costs have been adjusted for time.		<u>Phase</u>	<u>Estimate</u>
Standard KYTC Design Criteria were used.		Planning	
Cost estimate was determined using typical design layout, the Estimator program, and an estimate of quantities using recent unit bid prices.		Design	\$500,000
		R/W	\$100,000
		Utilities	\$545,000
		Const	\$680,000
		Total	\$1,825,000
VI. UTILITIES POTENTIALLY AFFECTED - CONTACT INFORMATION			
Company Name -		AT&T KY	
Contact -		Scott Roche	
Address -		1340 E. John Rowan Blvd. Bardstown, KY 40004	
Phone No. -		Office (502) 348-4528 Cell (502) 827-4703	
Company Name -		AT&T Legacy	
Contact -		Mike Diederich	
Address -		7555 E. Pleasant Valley Rd. Independence, OH	
Phone No. -		Office (216) 750-0135 Cell (216) 212-8556	
Company Name -		Bullitt County Sanitation District	
Contact -		Jerry Kennedy	
Address -		P.O. Box 818 Hillview, KY 40129	
Phone No. -		Office (502) 957-6140 Cell (502) 643-3165	

VI. UTILITIES POTENTIALLY AFFECTED (cont.)

Company Name -	Mt. Washington Sewer & Water Commission
Contact -	Elizabeth Hall, City Administrator
Address -	311 Snapp St. Mt. Washington, KY 40047
Phone No. -	Office (502) 538-4216 Cell (502) 955-6784
Company Name -	Charter Communications
Contact -	Nathan Howerton
Address -	10168 Linn Station Road Louisville, KY 40223
Phone No. -	Office (502) 357-4318 Cell (502) 639-6838
Company Name -	Century Link
Contact -	Jim Trapnell
Address -	260 Winn Avenue Winchester, KY 40391
Phone No. -	Cell (859) 806-5833
Company Name -	East Kentucky Power Coop
Contact -	Garry Harvey
Address -	P.O. Box 707 Winchester, KY 40391
Phone No. -	(859) 745-9601
Company Name -	Kentucky Wired, KCNA
Contact -	Mike Hayden
Address -	500 Mero Street Frankfort, KY 40601
Phone No. -	Office (502) 782-2535
Company Name -	Crown Castle Network Operations
Contact -	Edna Roy
Address -	10300 Ormsby Place Louisville, KY 40223
Phone No. -	Office (704) 405-6561 Cell (540) 222-1533
Company Name -	LG&E KU (electric)
Contact -	Caroline Justice
Address -	820 West Broadway Louisville, KY 40202
Phone No. -	Office (502) 627-3708
Company Name -	LG&E (gas)
Contact -	Caroline Justice
Address -	820 West Broadway Louisville, KY 40202
Phone No. -	Office (502) 357-4318 Cell (502) 639-6838
Company Name -	Louisville Water Company
Contact -	Daniel Tegene
Address -	550 South Third Street Louisville, KY 40202
Phone No. -	Cell (859) 806-5833
Company Name -	Salt River Rural Electric Cooperative Corp.
Contact -	Daniel Carrico
Address -	111 W. Brashear Ave. Bardstown, KY 40004
Phone No. -	(502) 350-1606
Company Name -	Mid-Valley Pipeline Company

VI. UTILITIES POTENTIALLY AFFECTED (cont.)

Contact - Richard Calfee
Address - 4910 Limaburg Road Burlington, KY 41005
Phone No. - Office (859) 371-4469 x148 Cell (859) 630-8271

Company Name - Marathon Pipeline LLC
Contact - Dennis Durnal
Address - 539 S. Main Street Findlay, OH 45840
Phone No. - Office (502) 448-8311 Cell (419) 581-0038

Company Name - Bullitt County Public Schools
Contact - Kevin Fugate (Larry Gregory- LG Fiber)
Address - 1040 Highway 44 East Shepherdsville, KY 40165
Phone No. - Office: (502) 869-8040 Cell: (502) 639-3458

Company Name - Verizon
Contact - Dean Boyers
Address - 730 West Henry St. Indianapolis, IN 46225
Phone No. - Office: (502) 869-8040 Cell: (502) 639-3458

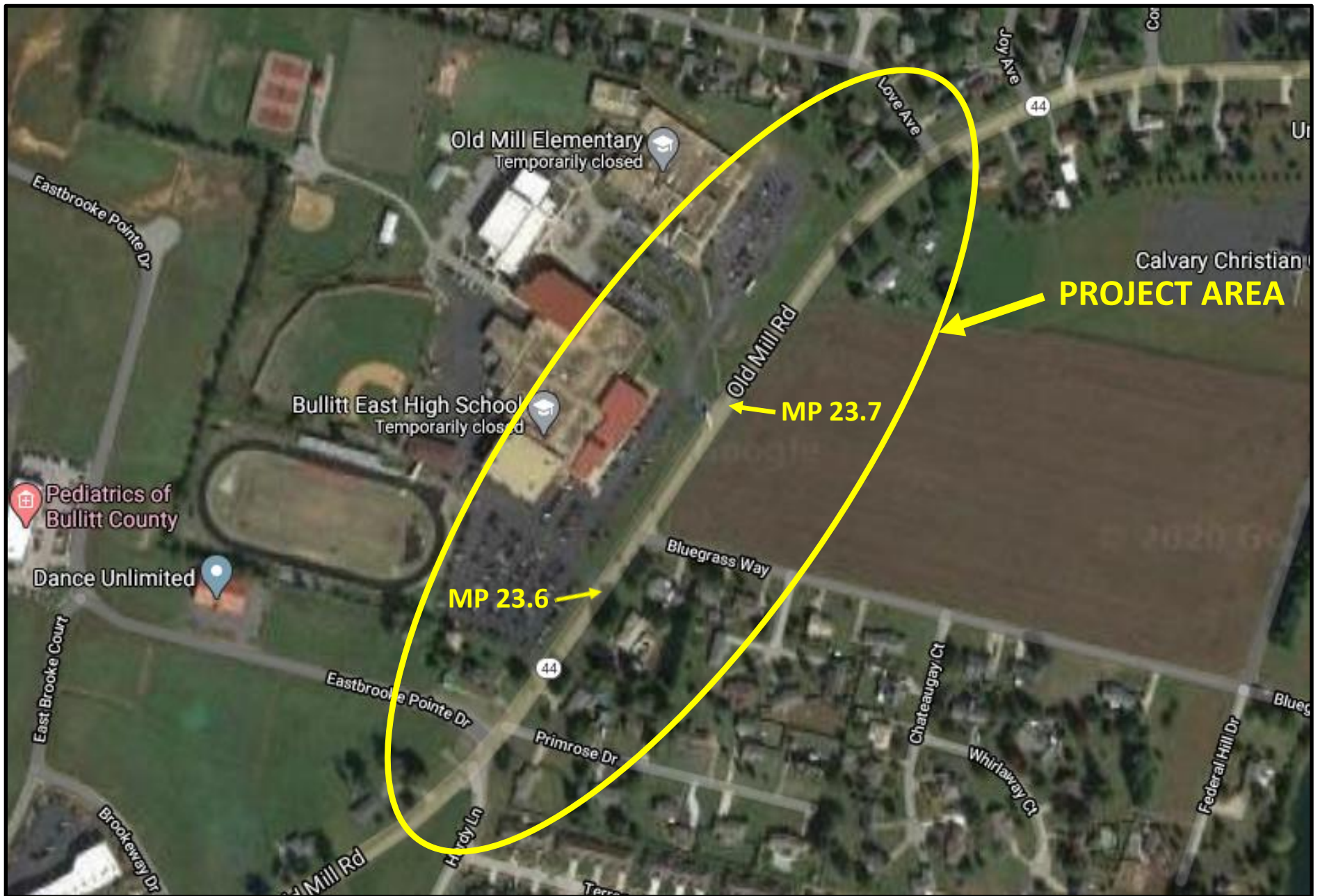
Company Name - White Cloud Communications
Contact - T.J. Scott
Address - 4890 Knob Creek Road Brooks, KY 40109
Phone No. - Office (855) 552-2253 Cell (502) 215-4111

Company Name - Windstream
Contact - James Galvin
Address - 111 S. Main St. Elizabethtown, KY 42701
Phone No. - Office (270) 765-1818 Cell (270) 748-9249

VII. TABLES AND EXHIBITS**Index to Additional Material:**

1. Project Area Map
2. Crash Location Map
3. Project estimate (2018)
4. Potential Threatened and Endangered Species
5. Air Quality Conformity Status
6. 5-347.50 - Design Executive Summary (DES)
7. 5-347.50 - Public Meeting presentation
8. 5-396.00 (Planning Study) - Appendix A (partial)
9. 5-396.00 - Environmental Overview
10. Bullitt East H.S. site plan

1. Project Area Map



Bullitt County

5-347.51

CHAF ID IP20150154

KY 44 at Bullitt East High School

2. Crash Location Map

BULLITT COUNTY
5-0347.51
CRASH LOCATION MAP



LEGEND

- Rear-end collision
- Angle collision
- Head-on collision
- Side-swipe
- Single vehicle crash
- ✱ Injury crash

3. Project Estimate (2018)

KENTUCKY TRANSPORTATION CABINET
Six-Year Highway Plan FY 2016 - FY 2022
Kentucky Legislators' Official Request for Project Cost Estimate and Consideration
LEGISLATIVE REQUEST

Submitting Legislator	James Tipton	Request Date	
Phone Number	502-639-7079	ID Number	

I. Location

County	Bullitt County	Highway Number	KY 44
Highway Name	Old Mill Road	Termini (Milepoints)	23.45 - 23.85

II. Purpose (Describe the purpose of the project, i.e., safety improvements, congestion relief, promotion of economic growth, bridge replacement, etc.)

Relieve congestion and improve safety on KY44 in front of Bullitt East High School & Old Mill Elementary School in Mt. Washington.

III. Scope (Describe the type of proposed improvements, i.e., new construction, improve existing alignments, addition of lanes, rehabilitation, bridge replacement, etc.)

The project widens KY44 in front of the High School and Elementary School to include a center left turn lane and right turn lanes into both school entrances. This widening is to occur on both sides of KY44 and includes replacing an existing RCBC under KY44 near the Elementary School. Rebuild sidewalks in areas where impacted by road widening.

IV. Additional Comments

Includes a 30% construction contingency. Lane dimensions and tapers based off of a 45mph design speed.

V.

CABINET RESPONSE

(This section is for the Cabinet's response only.)

This section to be completed by the Kentucky Transportation Cabinet and returned to the submitting legislator no later than January 15, 2016.

Cost Estimate

Design	\$500,000.00
Right of Way	\$100,000.00
Utilities	\$545,000.00
Construction	\$575,000.00
Other	
TOTAL:	\$1,720,000.00

Estimated time (# of years)
required for each phase

Design	2.00
Right of Way	1.00
Utilities	1.00
Construction	1.00
Other	

Considering the above, it would take approximately 4.00 year(s) for this project to be ready for construction letting.

State Highway Engineer

Date



Design Funds Documentation Summary													
		County:	Bullitt	District:	5		eMars Number:	not assigned					
		Item Number:	N/A					UPN:	not assigned				
		Route:	KY 44					Federal Number:	not assigned				
		Description:	Construct right and left turn lanes at Bullitt East High and Old Mill Elementary School										
		Project Length:	0.38					Type of Project:	Turn Lane Construction				
		Prepared By:	Adam Ulrich			Date:	January 18, 2018		Geotech:	<input type="radio"/> In-House / Consultant	<input checked="" type="radio"/> In-House	Consultant	
Line	Unit	Cost Centers				Item	Charge Centers		Man-Hours		Project Cost		
1	PM	Survey				N	District	\$12,000	0		\$0		
2		Design by district				N	District	\$40,000	0		\$0		
3		Public Involvement				Y	District	\$2,000	40		\$2,000		
4		Design by consultant				Y	Consultant	\$350,000			\$350,000		
5		Consultant supervision by project manager (15%)					Consultant/ HDO	\$52,500	1,050		\$52,500		
6	DEA	Environmental activities in design				Y	District/CO	\$5,000	200		\$5,000		
7		Environmental CEMP (CE for minor projects)				N	District/CO	\$5,000	0		\$0		
8		Environmental CE Levels 1 & 2				Y	District/CO	\$15,000	600		\$15,000		
9		CE Project Field studies for one study				N	District/CO	\$13,500	0		\$0		
10		Programmatic 4(f) issues				N	District/CO	\$10,000	0		\$0		
11		EA/FONSI for projects 0-1 mile in length or CE 3				N	Consultant	\$250,000			\$0		
12		EA/FONSI for projects 1-5 miles in length				N	Consultant	\$500,000			\$0		
13		EA/FONSI for projects over 5 miles in length				N	Consultant	\$850,000			\$0		
14		Environmental EIS				N	Consultant	\$1,500,000			\$0		
15		Phase II Archeology				N	Consultant	\$60,000			\$0		
16		Phase III Archeology				N	Consultant	\$300,000			\$0		
17		Environmental permits per nation wide NW permit				N	District/CO	\$3,000	0		\$0		
18		Mitigation		N	Total acreage:	0	Consultant	\$72,000			\$0		
19	Bridges	Bridge activities in design				N	CO	\$2,000	0		\$0		
20		Bridges in house design for one span		0	Additional spans:	0	CO	\$25,000	0		\$0		
21		Culverts (single barrel, no bends, no extensions)		1	Add. bends:	1	CO	\$1,000	44		\$2,200		
22		Culverts multiple barrel		0	Add. barrels/bends:	0	CO	\$10,000	0		\$0		
23		Culverts extension with one barrel		0	Add. barrels/bends:	0	CO	\$8,000	0		\$0		
24		Retaining wall			Total length:	0	CO	\$5,000	0		\$0		
25		Bridges for one span		0	Additional spans:	0	Consultant	\$60,000			\$0		
26		Culverts (single barrel, no bends, no extensions)		0	Add. barrels/bends:	0	Consultant	\$27,000			\$0		
27		Retaining wall - Consultant			Total length:	0	Consultant	\$18,000			\$0		
28	Geotech	Geotech activities in design				Y	CO	\$6,000	120		\$6,000		
29		Roadway per mile		0.38	Additional mile:	0	CO	\$80,000	608		\$30,400		
30		Bridge (base = single span)		No. of spans:	0	Additional pier:	0	CO	\$25,000	0		\$0	
31		Culvert core holes			Length (ft) :		CO	\$16,000	0		\$0		
32		Retaining Wall			Length (ft) :	0	CO	\$23,000	0		\$0		
33		Landslide Investigation				N	CO	\$30,000	0		\$0		
34		Roadway per mile - consultant		0	Additional mile:	0	CO	\$176,000	0		\$0		
35		Bridges core holes - consultant		0	Additional piers:	0	Consultant	\$55,000			\$0		
36		Culvert core holes - consultant			Length (ft) :	0	Consultant	\$38,000			\$0		
37		Retaining Wall - consultant			Length (ft) :	0	Consultant	\$54,000			\$0		
38		Landslide - consultant				N	Consultant	\$75,000			\$0		
39	Design	Central office drainage				Y	CO	\$4,000	80		\$4,000		
40		Central office location				Y	CO	\$5,000	100		\$5,000		
41		Constructability review				N	CO	\$5,000	0		\$0		
42		Estimating - charged to OVERHEAD now				N	CO	\$5,000	0		\$0		
43		Pavement				Y	CO	\$2,000	40		\$2,000		
44		Phototech - charged to OVERHEAD now				N	CO	\$5,000	0		\$0		
45		Plan processing & printing				Y	CO	\$5,000	100		\$5,000		
46		PS&E				N	CO	\$5,000	0		\$0		
47		Railroad agreements				N	District/CO	\$10,000	0		\$0		
48		Signing Panel Signs				N	CO	\$1,000	0		\$0		
49		Survey coordination				N	CO	\$5,000	0		\$0		
50		Value engineering NHS projects				N	CO	\$50,000	0		\$0		
51	Planning	Basic planning activities in design				Y	District/CO	\$2,000	40		\$2,000		
52		Alternate studies by planning in design				N	CO/Consultant	\$500,000			\$0		
53a		Pre-design scoping studies (IPS)				N	District/CO	\$75,000	0		\$0		
53b		1st Look Studies (in-house)				N	District/CO	\$12,000	0		\$0		
53c		Project specific forecasts for design				N	CO/Consultant	\$5,000 to \$35,000	0		\$0		
53d		Project specific models for design				N	CO/Consultant	\$25,000 to \$150,000	0		\$0		
54	Other Divisions	Project Delivery & Preservation activities in design				Y	District/CO	\$2,000	40		\$2,000		
55		Legal activities in design				N	District/CO	\$0	0		\$0		
56		Right of way activities in design				Y	District/CO	\$4,000	100		\$4,000		
57		Utilities activities in design				Y	District/CO	\$4,000	80		\$4,000		
58		Traffic Operation activities in design				N	District/CO	\$4,000	0		\$0		
59		Multi-modal (traffic projections)				N	CO	\$8,000	0		\$0		
60		Lighting design				N	CO	\$12,000	0		\$0		
61		Signal design				N	District/CO	\$6,000	0		\$0		
62		Man-Hour Cost (average)		\$50	\$ / hour		Total Man Hours		3,242				
							total Project Cost (based on hourly estimate)		\$162,100		\$491,100		

KENTUCKY TRANSPORTATION CABINET

Division of Right of Way

RIGHT OF WAY COST ESTIMATE

PAGE # 1 OF 2 PAGES

COUNTY

Bullitt

ITEM NO.

None assigned

STATE NO.

None assigned

FED. NO.

None assigned

PROJECT

KY 44 (Old Mill Road) Turn Lane at Bullitt East High

HOW MANY ALTERNATES IN THIS ESTIMATE?

(Provide breakdown of cost for each alternate)

ALTERNATE	COST	ALTERNATE	COST	ALTERNATE	COST
1	\$100,000				

CLASS OF ESTIMATE / PLANS USED:

<input type="checkbox"/>	CLS E / NONE	<input checked="" type="checkbox"/>	CLS D / TOPO MAP	<input type="checkbox"/>	CLS C / PREL INSP	<input type="checkbox"/>	CLS B / FINAL INSP	<input type="checkbox"/>	CLS A / FINAL PLANS
--------------------------	--------------	-------------------------------------	------------------	--------------------------	-------------------	--------------------------	--------------------	--------------------------	---------------------

PURPOSE OF THIS ESTIMATE:

<input checked="" type="checkbox"/>	PRE - STUDY	<input type="checkbox"/>	UPDATE FOR INSP	<input type="checkbox"/>	REQUEST FUNDS	<input type="checkbox"/>	REQUEST ADDITIONAL FUNDS
-------------------------------------	-------------	--------------------------	-----------------	--------------------------	---------------	--------------------------	--------------------------

This estimate is based on the Six Year Plan scheduled authorization date of FY

6 YEAR PLAN ESTIMATE (THIS SECTION)	n/a
AMOUNT AUTHORIZED (THIS SECTION)	0
DIFFERENCE IN FUNDING REQUEST	
TOTAL FUNDS NEEDED	\$100,000

WHAT SPECIFICALLY CAUSED THE INCREASE / DECREASE?

WHY WAS THE WORK REQUIRING A CHANGE IN FUNDS NOT ORIGINALLY ANTICIPATED?

REMARKS:

This is a planning level request from the governor's office and no item numbers, etc have been assigned.

C Adam Ulrich

O
P
YT
O

ESTIMATE PREPARED BY (SIGNATURE)

DATE

RIGHT OF WAY SUPERVISOR'S SIGNATURE

DATE

COUNTY	Bullitt	ITEM NO.	None assigned	DATE	1/26/2018	PREPARER'S INITIALS	sm	PAGE	2	OF	2
		ALTERNATE		ALTERNATE		ALTERNATE		ALTERNATE			
		NO.	COST	TOTAL	NO.	COST	TOTAL	NO.	COST	TOTAL	
TOTAL PARCELS		7	\$20,000								
NONCONFORMING BILLBOARDS		0	0								
COURT COSTS		LS	\$10,000								
BUILDING REMOVAL											
ASBESTOS REMEDIATION		0									
UST CLEANUP / REMOVAL		0									
ADMINISTRATIVE COSTS			\$70,000								
ACQUISITION COST				\$100,000							
FAMILY UNITS											
BUSINESS MOVE EXPENSE											
BUSINESS REESTAB EXP		0									
TOTAL BUSINESS											
FARM MOVE EXPENSE		0									
FARM REESTAB EXP		0									
TOTAL FARMS											
NONPROFIT MOVE EXP		0									
NONPROFIT REESTAB		0									
TOTAL NONPROFIT											
MISCELLANEOUS MOVE											
GRAVE RELOCATIONS		0									
RELOCATION COST				0							
TOTAL PROJECT COST				\$100,000							
		ADMINISTRATIVE COST INCLUDES			ADMINISTRATIVE COST INCLUDES			ADMINISTRATIVE COST INCLUDES			
		10,000	/ PARCEL +	/ RELO							/ RELO
What assumptions were made to prepare this estimate? Use additional sheets for further explanation.		7 parcels potentially involved Permanent Drainage and Utility Easement: 17,186 sq. ft. or .40 acres Fee Simple: 5,958 sq. ft. or .14 acres									
Use landmark locations to accurately describe the project termini upon which this estimate is made.		\$1/SF fee simple, 50% PE, minor landscaping KY 44 in front of Bullitt East High and Old Mill Elementary School									
Give station numbers of project termini		None	TO	None							
Does this description accurately agree with the Precon Report?		YES		NO	YES			NO			

ALTERNATE #

Bullitt

ITEM NO.

FED. NO.

KY 44 Mod with Right Turn Lane

NO

IF MORE THAN ONE COUNTY IS INVOLVED, COSTS FOR EACH COUNTY MUST BE SEPERATELY IDENTIFIED.

Date 1/22/2018

Estimate Turn Lane KY 44

Estimated Cost:\$437,323.10

Contingency: 30.00%

Estimated Total: \$568,520.03

Base Date: 01/18/18

Spec Year: 08

Unit System: E

Work Type: GRADE & DRAIN WITH ASPHALT SURFACE

Highway Type: SECONDARY R

Urban/Rural Type: URBAN

Season: SUMMER

County: BULLITT

Latitude of Midpoint: 0

Longitude of Midpoint: 0

District: 05

Federal Project Number:

State Project Number:

<u>Line #</u>	<u>Item Number</u>	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	<u>Extension</u>
<u>Description</u>					
<u>Supplemental Description</u>					

Group 0001: PAVING

0005	00214	1,584.00	TON	\$68.53	\$108,551.52
CL3 ASPH BASE 1.00D PG64-22 Estimated 10.5" Base					
0006	22906ES403	660.00	TON	\$84.97	\$56,080.20
CL3 ASPH SURF 0.38A PG64-22 1.5" Surface					
0007	00001	948.00	TON	\$27.69	\$26,250.12
DGA BASE Estimated 6" DGA					
0038	02101	20.00	SQYD	\$80.00	\$1,600.00
CEM CONC ENT PAVEMENT-8 IN					

Total for Group 0001:\$192,481.84

Group 0002: ROADWAY

0008	01876	10.00	LF	\$45.00	\$450.00
STANDARD HEADER CURB MOD					
0009	02200	1,350.00	CUYD	\$22.95	\$30,982.50
ROADWAY EXCAVATION 1100 CY Mainline 250 CY for Structure Replacement					
0010	02726	1.00	LS	\$5,000.00	\$5,000.00
STAKING					
0011	02650	1.00	LS	\$50,000.00	\$50,000.00
MAINTAIN & CONTROL TRAFFIC					
0012	02545	1.00	LS	\$5,000.00	\$5,000.00
CLEARING AND GRUBBING					
0013	02569	1.00	LS	\$6,559.38	\$6,559.38
DEMOBILIZATION 1.5% of Total Cost					
0014	06514	10,000.00	LF	\$0.26	\$2,600.00
PAVE STRIPING-PERM PAINT-4 IN					
0021	20550ND	2,422.00	LF	\$2.05	\$4,965.10
SAWCUT PAVEMENT					
0022	01310	140.00	LF	\$12.30	\$1,722.00
REMOVE PIPE					
0024	02562	192.00	SQFT	\$7.14	\$1,370.88
TEMPORARY SIGNS					
0025	02598	2,700.00	SQYD	\$1.95	\$5,265.00
FABRIC-GEOTEXTILE TYPE III					
0026	05985	3,578.00	SQYD	\$0.79	\$2,826.62
SEEDING AND PROTECTION					
0027	05963	0.04	TON	\$750.00	\$30.00
INITIAL FERTILIZER					
0028	05992	2.22	TON	\$164.37	\$364.90
AGRICULTURAL LIMESTONE					

<u>Line #</u>	<u>Item Number</u>	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	<u>Extension</u>
<u>Description</u> <u>Supplemental Description</u>					
0029	05964 20-10-10 FERTILIZER	0.18	TON	\$900.00	\$162.00
0030	02014 BARRICADE-TYPE III	8.00	EA	\$109.37	\$874.96
0031	02585 EDGE KEY	306.00	LF	\$17.64	\$5,397.84
0032	05950 EROSION CONTROL BLANKET	400.00	SQYD	\$2.39	\$956.00
0033	02671 PORTABLE CHANGEABLE MESSAGE SIGN	2.00	EACH	\$3,370.10	\$6,740.20
0034	02701 TEMP SILT FENCE	1,800.00	LF	\$2.09	\$3,762.00
0035	06510 PAVE STRIPING-TEMP PAINT-4 IN	7,400.00	LF	\$0.11	\$814.00
0036	02705 SILT TRAP TYPE C	6.00	EACH	\$141.03	\$846.18
0037	02708 CLEAN SILT TRAP TYPE C	6.00	EACH	\$7.55	\$45.30
0040	02231 STRUCTURE GRANULAR BACKFILL For 4'x2' RCBC under KY 44	40.00	CUYD	\$55.41	\$2,216.40
0042	02720 SIDEWALK-4 IN CONCRETE	232.00	SQYD	\$67.12	\$15,571.84
0043	02721 REMOVE CONCRETE SIDEWALK	232.00	SQYD	\$14.15	\$3,282.80
0044	02704 SILT TRAP TYPE B	4.00	EACH	\$167.09	\$668.36
0045	02707 CLEAN SILT TRAP TYPE B	4.00	EACH	\$25.22	\$100.88
0046	23158ES505 DETECTABLE WARNINGS	52.00	SQFT	\$27.88	\$1,449.76
0047	01904 REMOVE CURB	50.00	LF	\$7.17	\$358.50

Total for Group 0002:\$160,383.40

Group 0003: DRAINAGE

0015	00440 ENTRANCE PIPE-15 IN	107.00	LF	\$46.65	\$4,991.55
0016	00441 ENTRANCE PIPE-18 IN	370.00	LF	\$44.96	\$16,635.20
0019	24694ED BOX CULVERT Approx. 65' long 4'x2' RCBC under KY 44 with bend	65.00	LF	\$650.00	\$42,250.00
0020	01433 SLOPED BOX OUTLET TYPE 1-18 IN	3.00	EACH	\$1,597.73	\$4,793.19

<u>Line #</u>	<u>Item Number</u>	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	<u>Extension</u>
<u>Description</u>					
<u>Supplemental Description</u>					
0039	02731	1.00	LS	\$15,000.00	\$15,000.00
REMOVE STRUCTURE					
Existing 4'x2' Box Culvert under KY 44 & existing structure under sidewalk					
0041	02625	2.00	EACH	\$393.96	\$787.92
REMOVE HEADWALL					

Total for Group 0003:\$84,457.86

4. Potential Threatened and Endangered Species

Bullitt County
5-347.51
KY 44 Turning Lanes @ Bullitt East H.S.

Potential Threatened and Endangered Species in Project Area

IPaC Information for Planning and Consultation
MY PROJECTS

U.S. Fish & Wildlife Service
DONNA HARDIN

Resources

ENDANGERED SPECIES 7

MIGRATORY BIRDS 6

FACILITIES

WETLANDS !

PRINT RESOURCE LIST


What's next?
Define a project at this location to evaluate potential impacts, get an official species list, and make species determinations.
DEFINE PROJECT

THUMBNAILS LIST

SPECIES GUIDELINES


Mammals

Endangered




Gray Bat
Myotis grisescens

Endangered



Indiana Bat
Myotis sodalis


Threatened



Northern Long-eared Bat
Myotis septentrionalis


Clams

Endangered




Orangefoot Pimpleback (pearly mussel)
Plethobasus cooperianus

Endangered



Pink Mucket (pearly mussel)
Lampsilis abrupta

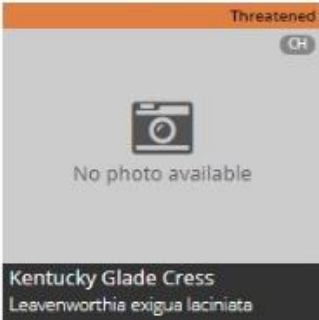
Endangered



Sheepnose Mussel
Plethobasus cyphus

Flowering Plants

Threatened



Kentucky Glade Cress
Leavenworthia exigua laciniata

5. Air Quality Conformity Status

Air Quality Conformity Status	
<p> 1. Project Description The project involves the construction and operation of a new industrial facility, including the installation of manufacturing equipment and the construction of associated infrastructure. </p>	<p> 2. Air Quality Impacts The project is expected to generate air quality impacts, including emissions of various pollutants, which may affect the surrounding environment and public health. </p>
<p> 3. Mitigation Measures To minimize air quality impacts, the project will implement a series of mitigation measures, including the use of low-pollution equipment, implementation of dust control measures, and the installation of air pollution control devices. </p>	<p> 4. Conclusion Based on the analysis of the project description, air quality impacts, and mitigation measures, it is concluded that the project can be implemented in a manner that is consistent with the applicable air quality standards. </p>

[illegible]

6. 5-347.50 Design Executive Summary

DESIGN EXECUTIVE SUMMARY

County: BULLITT Item No.: 5-347.50

Federal Project No.: _____ UPN: FD04 015 0044 023-026

MARS No.: 8065601D UPN: 8065601D

Project Description:

MT. WASHINGTON-TAYLORSVILLE RD; RECONSTRUCT KY 44 FROM MT. WASHINGTON BYPASS EAST 2.0 MILES (04CCN)
Milepoints: From:23.39 To:25.5
Purpose and Need: RELIABILITY / RECONSTRUCTION(O)

Roadway Classification:

☐ Local ☐ Collector ☒ Arterial ☐ Interstate ☒ Rural ☒ Urban

5-Lane Urban / 3-Lane Urban / 2-Lane Rural (Section Splits)

ADT(current) 15/10/7 (1000s) ADT (2033) 35/23/18 (1000s) DHV (2033) 4/3/2 (1000s)

Posted Speed Limit: ☐ 55 (rural) ☐ 35 (urban) ☒ Other (Specify): 45 MPH (West end), 55 mph (East end)

Design speed selected by the Project Team 45 MPH @ 5-lane/3-lane (urban sec.), 55 MPH @ 2-lane (rural sec.)

☒ Concurrence in noted Typical Exceptions to be obtained from Director of Design.

DESIGN CRITERIA	EXISTING	TYPICAL	PROJECT TEAM RECOMMENDATION
Number of Lanes	<u>2</u>	<u>5/3/2</u>	<u>5/3/2</u>
Pavement Width	<u>20'</u>	<u>57'/35'/24'</u>	<u>57'/35'/22' *</u>
Shoulder Width, Slope	<u>0'</u>	<u>8', 4% (Rural)</u>	<u>4', 4% (Rural) *</u>
Bridge Width	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
Minimum Radius ($e_{max} = 4\%, 8\%$)	<u>1146.28'</u>	<u>711' (45), 965' (55)</u>	<u>1150' (45 MPH), 2500' (55 MPH)</u>
Maximum Grade	<u>7.0%</u>	<u>7% (45), 5% (55)</u>	<u>1.4% (45 MPH), 7% ** (55 MPH)</u>
Minimum Sight Distance	<u>265'</u>	<u>360' (45), 495' (55)</u>	<u>742' (45 MPH), 514' (55 MPH)</u>
Border Area (urban)	<u>13'</u>	<u>10'</u>	<u>14' ***</u>

Design Criteria Notes:

Three typical sections are utilized on this project. A 5-lane curb-and-gutter section is implemented from the beginning of the project to just east of the entrances to Bullitt East High School and Old Mill Elementary School, where it narrows to a 3-lane curb-and-gutter section that runs to the church entrance east of Parkland Trace. From this point, until the end of the project, a 2-lane rural section is implemented with widening for turning lanes at crossroads. A map is attached showing the break stations. The curb-and-gutter sections are access by permit and the rural section is partially controlled access.

* The 11' ft lane with 4' shoulder section was selected to better match the existing roadway conditions beyond the project limits, as well as to lower project costs without creating adverse safety impacts.

** The 7% grade occurs tying back to existing at the east end of the project. The length of the 7% grade is less than 60 ft. Improving this grade would extend the project limits an additional 400 ft and would add significant construction and row costs.

*** The proposed border area is 14' to accommodate utility relocation as per project team recommendations.

DESIGN EXECUTIVE SUMMARY (continued)

Access Control Type: By permit (curb and gutter sections), Partial control (rural section)

Environmental Action: CE Level 1 (to be completed early 2010) Approval Date:

Existing Pavement Depths: Unknown (awaiting sampling)

- Attachments:
- (1) Map showing project location.
 - (2) Typical sections, including any bridges, on "8 1/2 X 11".
 - (3) Cost comparison table of alternates vs. Six-Year Plan.

- Discussions:
- (1) Alternatives considered including Preferred and No Build.
 - (2) If Preferred alternate cost is 15% or more above Six -Year Plan cost.
 - (3) Maintenance of Traffic Plan.
 - (4) Avoidance Alternatives to Water-Related Impacts.
 - (5) Consideration for bicycle and pedestrian facilities.
 - (6) Purpose and Need Statement.

Submitted By: *Amell Thompson* Date: March 15, 2010
Project Engineer, check one: (Depart of Highway ☐ or Consultant ☒)

Recommended By: Date:
Project Manager

Recommended By: Date:
Location Engineer

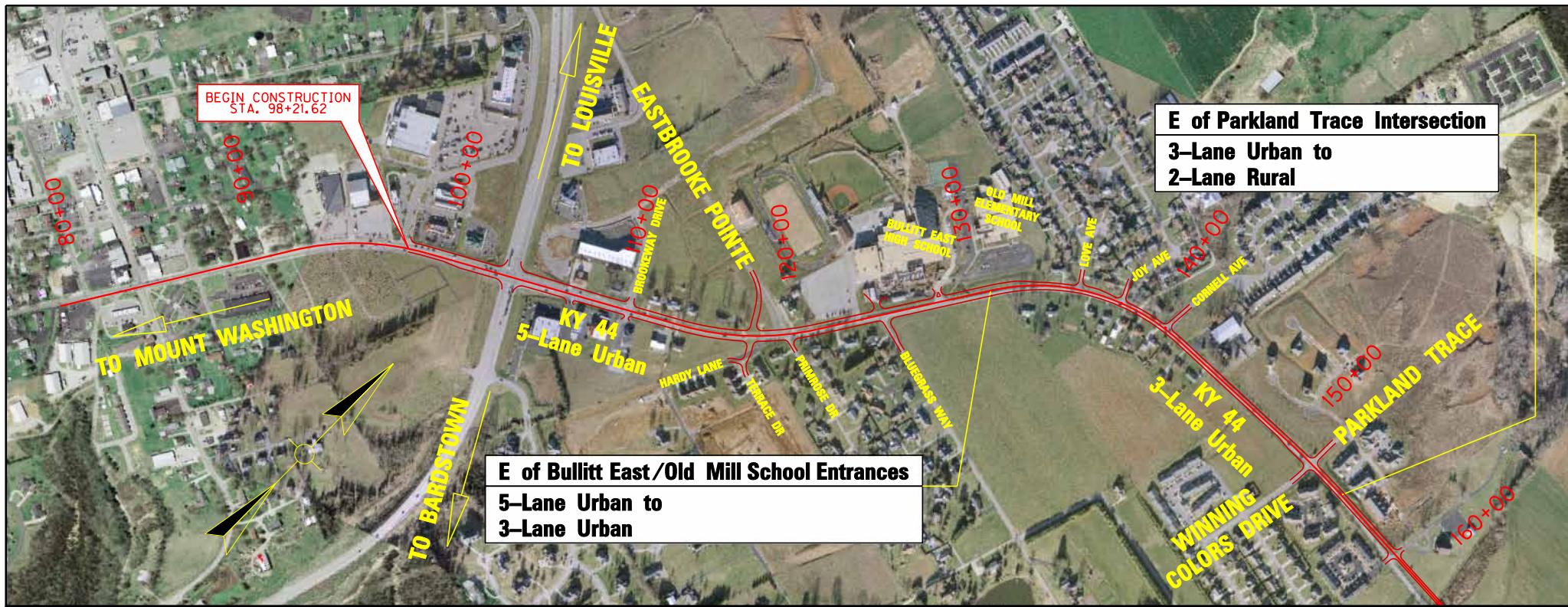
Recommended By: Date:
T.E.B.M. for Location

Comments:

Design criteria not met:
Rural section pavement width.
Rural section shoulder width.
Rural section maximum grade.

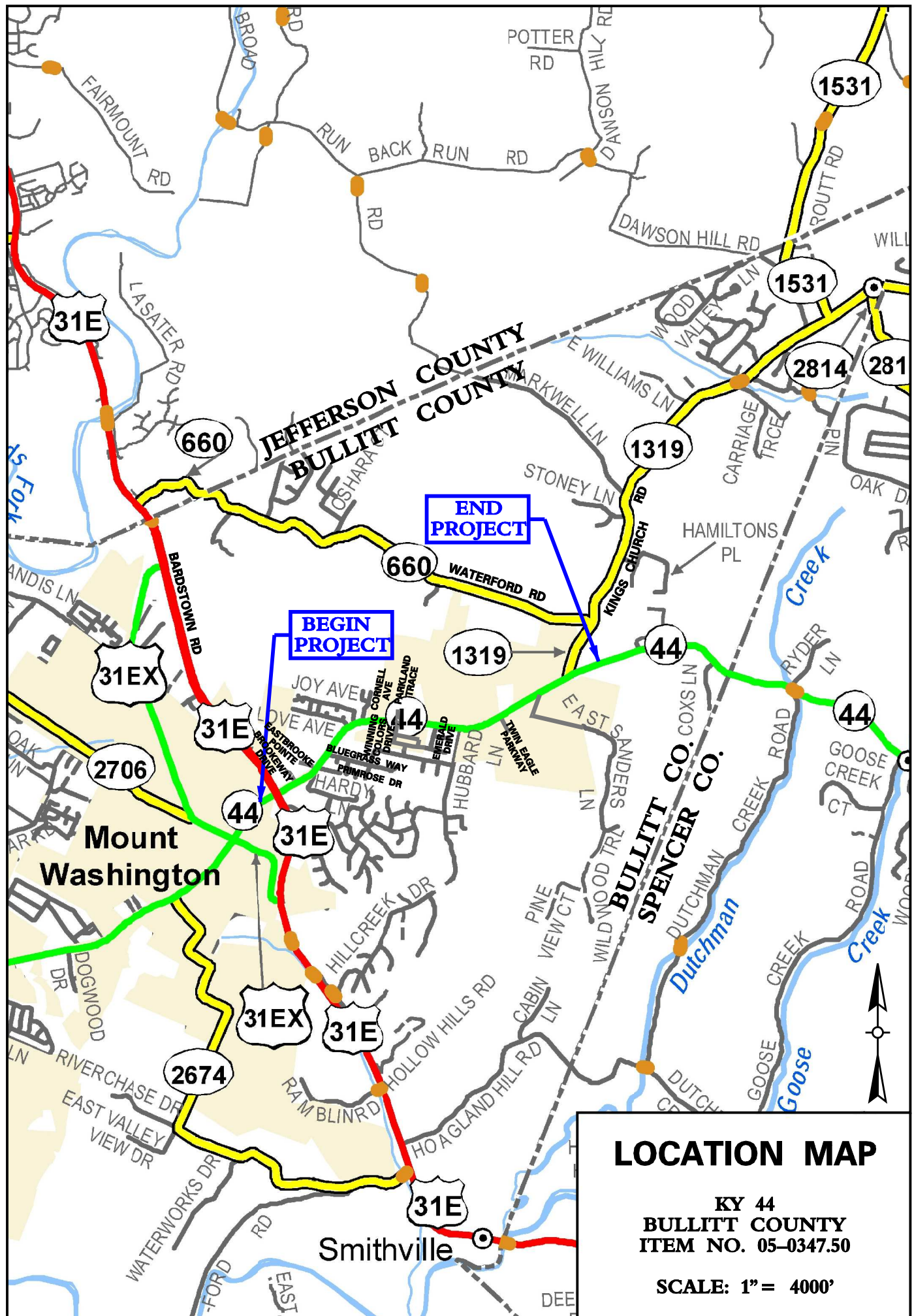
GEOMETRIC APPROVAL GRANTED BY:

Signature: Date:
Director, Division of Highway Design



Scale: 1" = 800'

Alternative 2
Transitions



**KY 44
OLD MILL ROAD
BULLITT COUNTY
ITEM NO. 05-0347.50**

PROJECT DESCRIPTION

This proposed improvement to KY 44 (Old Mill Road) in Mt. Washington begins at its intersection with US 31E/150 (Bardstown Road) and continues east to KY 1319 (Kings Church Road). The functional classification of KY 44 is currently as a Rural Principal Arterial west of Hubbard Lane and as a Rural Minor Arterial east of Hubbard Lane. It is a two-lane facility with 10-foot lanes and minimal shoulders. The posted speed limit is 45 mph from Bardstown Road to Cornell Avenue and 55 mph east of Cornell Avenue. The proposed alternatives used an urban template through the western portion designed for 45 mph and a rural template through the eastern portion designed for 55 mph. The Bullitt East High School and Old Mill Elementary School campuses are located on KY 44 less than a half-mile east of Bardstown Road. Land use in the corridor is primarily residential with some commercial use. Nearly all properties along the corridor are currently developed or have future proposed development.

PURPOSE AND NEED

The purpose of this project is to improve capacity, relieve congestion, and improve safety along KY 44 from US 31E/150 (Bardstown Road) to KY 1319 (Kings Church Road). KY 44's intersection with US 31E has a current overall LOS of C and a projected 2033 overall LOS of F. Crash data reveals 252 crashes along the subject section of KY 44 over the last ten years, including 122 rear end collisions, 50 angle collisions and 42 single vehicle collisions. Of the 29 crashes at the intersection of KY 44 and US 31E (Bardstown Road), 21 were rear end collisions. The significance of crashes along this section is further enhanced by the narrow roadway providing poor access for emergency vehicles. The KY 44 vertical alignment provides inadequate sight distance at the east end of the project, particularly at the intersections with East Sanders Lane and Kings Church Road. Relieving congestion and delays for traffic destined for Bullitt East High School and Old Mill Elementary School, especially during the a.m. peak hours, is particularly needed.

DESCRIPTION OF ALTERNATIVES

NO BUILD ALTERNATIVE:

Traffic trying to reach Bullitt East High School in the morning currently backs up more than a mile into Mt. Washington. Average daily traffic over this section of KY 44 is projected to more than double from 15,000 vehicles per day in 2008 to 35,000 vehicles per day in the design year (2033). In addition, nearly all the undeveloped properties along the corridor have proposed future residential development. Doing nothing would result in level-of-service F.

ALTERNATIVE 1:

Alternative 1 follows along the existing centerline. A five-lane urban template is implemented from Bardstown Road to just east of the school entrances. From there, the urban template narrows to three lanes and continues east to the Winning Colors Drive / Parkland Trace intersection. The urban template narrows to two lanes with widening for turn lanes at intersections and runs to Hubbard Lane. From there to the end of the project, east of Kings Church Road, a two-lane rural template is implemented that is widened for turn lanes at

intersections as needed.

ALTERNATIVE 2:

Alternative 2 follows a more meandering path with respect to the existing centerline. Similar to Alternative 1, it implements a five-lane urban template from Bardstown Road to just east of the school entrances, then narrows to a three-lane urban template that runs to the commercial entrances east of Winning Colors Drive / Parkland Trace. From there, the rural section begins and is offset far enough from the existing roadway to allow for its construction without impact to the existing roadway for the majority of its length. The rural section is two lanes with widening for turn lanes at intersections; it ends just east of Kings Church Road.

ALTERNATIVE 3:

Alternative 3 follows along the existing centerline. Similar to the other alternatives, it implements a five-lane urban template from Bardstown Road to just east of the school entrances, then narrows to a three-lane urban template that runs to the commercial entrances east of Winning Colors Drive / Parkland Trace. There is no proposed construction from those commercial entrances to just east of Twin Eagle Parkway, where a spot improvement begins. The spot improvement modifies the vertical alignment and increases sight distance at the East Sanders Lane and Kings Church Road intersections. The spot improvement implements a two-lane rural template that widens for a turn lane at Kings Church Road.

COST COMPARISON

Estimated Year 2009 costs at the Preliminary Line and Grade Stage for all alternatives were:

	Right of Way	Utilities	Construction
Six Year Plan	\$890,000	\$1,090,000	N/A
Alternative 1 Section 1	\$1,115,500	\$805,000	\$5,380,702
Alternative 1 Section 2	\$1,622,410	\$670,000	\$4,799,512
Alternative 2* Section 1	\$985,000*	\$775,000*	\$5,080,839*
Alternative 2* Section 2	\$1,922,000*	\$410,000*	\$4,223,220*
Alternative 3 Section 1	\$992,500	\$750,000	\$5,081,183
Alternative 3 Section 2	\$1,033,300	\$175,000	\$2,768,024

** Preferred alternative*

PREFERRED ALTERNATIVE

The No Build Alternative would not meet the purpose and need for this project. The urban sections of each alternative are similar, the major differences are in the crossroad connections, and the preferred connections could be applied to any of the alternatives. The major differences in the alternatives are in the rural sections east of Winning Colors Drive / Parkland Trace.

Alternative 2 was recommended by the project team for advancement to final design primarily due to the offset design of its rural section. The offset of the rural section relative to the existing roadway allows for complete construction for the majority of its length without impacting the existing roadway, reducing the length of traffic diversion needed for maintenance of traffic during construction and avoiding existing utilities. Right of way should also be cheaper along Alternative 2 as this alternative avoids affecting private sewage treatment systems

Alternative 3 was not selected as it is broken into sections at the ends of the project, leaving a portion of the roadway unimproved. Alternative 2 could be considered to be built in two sections with the first section being the urban design up to Winning Colors and the second section being the rural section from Winning Colors to Kings Church Road, but also allows for the entire roadway section to be improved.

PREFERRED ALTERNATIVE COST VERSUS SIX YEAR PLAN

At this time no construction cost is programmed for this project in the six year plan. Programmed utility and right of way costs are included in the table above. The estimated R/W costs for the Build Alternatives exceed the programmed six year plan R/W cost due to the changing nature of development along KY 44. An expansion of public sewers along KY 44 has led to development of agricultural property. Many properties that were zoned as Agricultural when the six year plan R/W costs were estimated are now zoned as Residential or Commercial, due to built or planned residential developments along the route and significant commercial growth near KY 44's intersection with US 31E. The completion of Phase I plans allowed for a more detailed right of way estimate and escalation of property values from the original estimate date has resulted in higher cost estimates..

MAINTENANCE OF TRAFFIC

The alignment of Alternative 2 is conducive to maintaining traffic. It is offset from the existing roadway in many places to aid in constructability. In the urban section, the proposed project phasing is based on part-width construction. A large portion of the rural section is on new alignment, minimizing conflict with the existing roadway.

A determination of whether the existing pavement can be overlaid or removed and replaced with the full depth pavement structure will influence the construction phasing, primarily in the urban section. If the existing pavement must be removed, temporary pavement widening will be required on the side of the existing roadway that permits the widest work area to support the shift of two lanes to that side. The temporary widening would take place in the area of the ultimate utility strip and sidewalk. If overlay is allowable, it can be accomplished using daytime one-lane closures prior to shifting traffic.

To complete the far eastern segment of the project (east of Kings Church Road), KY 44 will have to be closed for a short duration and traffic detoured onto Kings Church Road and KY 660.

Phase I will include construction of most areas that will not impact the existing facility

(including any temporary pavement widening if deemed necessary) and any temporary connections to the existing facility and crossroads.

Phase II will shift traffic to newly completed portions of the mainline roadway and temporary connections; at the far eastern end traffic will be shifted onto the detour route. Then the opposite side will be completed in the urban section. In the rural section, the existing roadway will be removed; the far eastern end and crossroad connections will be completed.

Phase III will include temporary pavement removal if necessary and shifting of traffic onto the completed roadway.

**KY 44
OLD MILL ROAD
BULLITT COUNTY
ITEM NO. 05-0347.50**

AVOIDANCE OF WATER-RELATED IMPACTS

Through the area of this project, KY 44 is generally located near a ridge line and does not impact any jurisdictional waters. None of the studied alternatives deviate substantially from the existing roadway. Stream impacts for the selected alignment are insignificant since most of the “channels” crossed convey drainage from relatively small residential and commercial areas adjacent to the roadway.

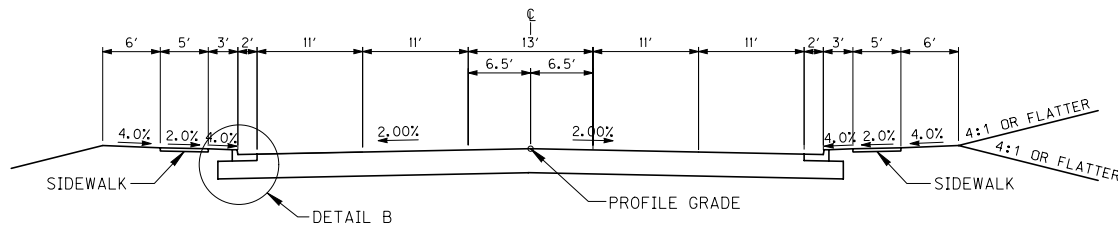
There are no known wetlands within the proposed right-of-way limits of the project.

**KY 44
OLD MILL ROAD
BULLITT COUNTY
ITEM NO. 05-0347.50**

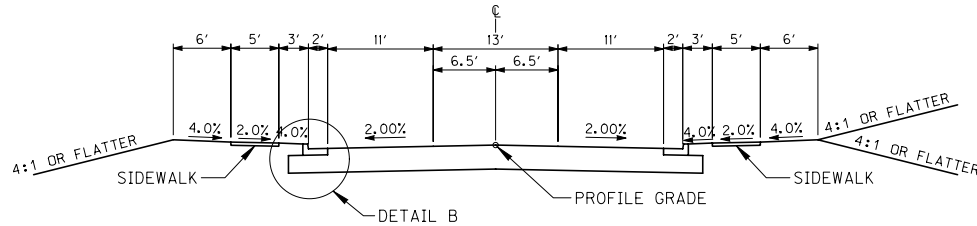
CONSIDERATION OF BICYCLE AND PEDESTRIAN FACILITIES

There is one existing pedestrian sidewalk that runs along the left side of KY 44 from Bardstown Road to Joy Avenue, through the area in front of Bullitt East High School and Old Mill Elementary School. East of Joy Avenue, pedestrians would need to use the through lanes and step off the roadway onto the earth shoulders to avoid traffic. Bicycle facilities currently do not exist on this section of KY 44; cyclists would need to use the through lanes for travel. There has been no indication of significant use of the roadway by cyclists and no approval plan for bicycle facilities exists at this time.

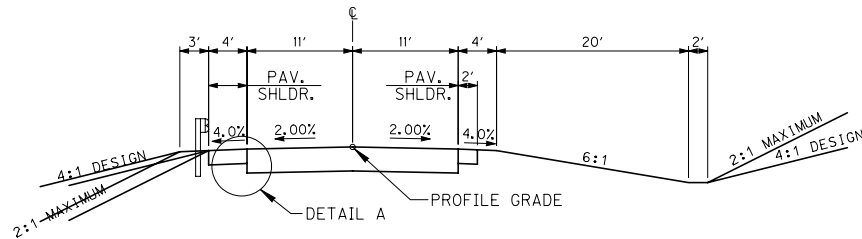
The selected alternative includes sidewalks on both sides of the road from Bardstown Road to Winning Colors Drive / Parkland Trace. The development to the east of Winning Colors Drive / Parkland Trace along KY 44 is rural in nature and with sparse development with no existing sidewalks and minimal pedestrian activity. The proposed design includes wider travel lanes and wider earth shoulders than currently exist. Both cyclists and pedestrians should encounter safer conditions than currently exist through the project limits.



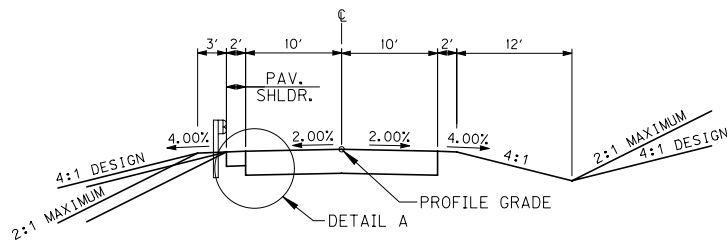
PROPOSED 5 LANE URBAN - TYPICAL SECTION
STA. 98+21.62 TO 130+78.35



PROPOSED 3 LANE URBAN - TYPICAL SECTION
STA. 130+78.35 TO 154+00.00

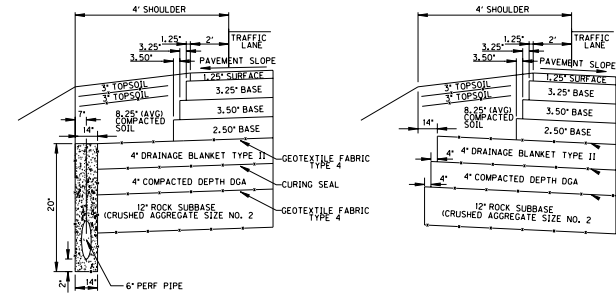


PROPOSED 2 LANE RURAL - TYPICAL SECTION
STA. 154+00.00 TO 219+00.00

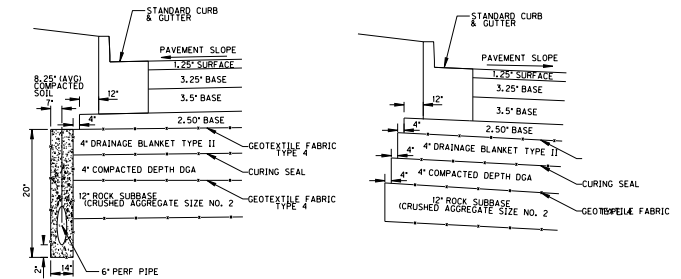


PROPOSED 2 LANE RURAL - TYPICAL SECTION
EAST SANDERS LANE & KINGS CHURCH ROAD

DETAIL "A"

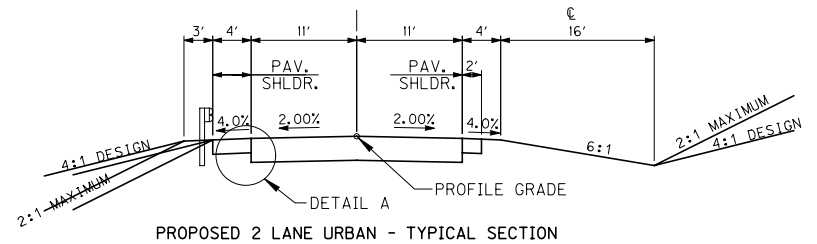


DETAIL "B"



PAVEMENT DESIGN

- 1.25" SURFACE — 1.25" DEPTH CLASS 3 ASPHALT SURFACE 0.388 PG 64-22
- 25.25" BASE — 6.75" DEPTH CLASS 3 ASPHALT BASE 1.000 PG 64-22 (3.25" + 3.50")
2.50" DEPTH CLASS 3 ASPHALT BASE 1.500 PG 64-22
4" DRAINAGE BLANKET - TYPE II - ASPHALT
4" DGA
12" ROCK SUBBASE (CRUSHED AGGREGATE SIZE NO. 2)
- ASPHALT SEAL COAT (AS NEEDED) — (TWO APPLICATIONS)
2.4 LB/SY EMULSIFIED ASPHALT RS-2
20 LB/SY ASPHALT SEAL AGGREGATE



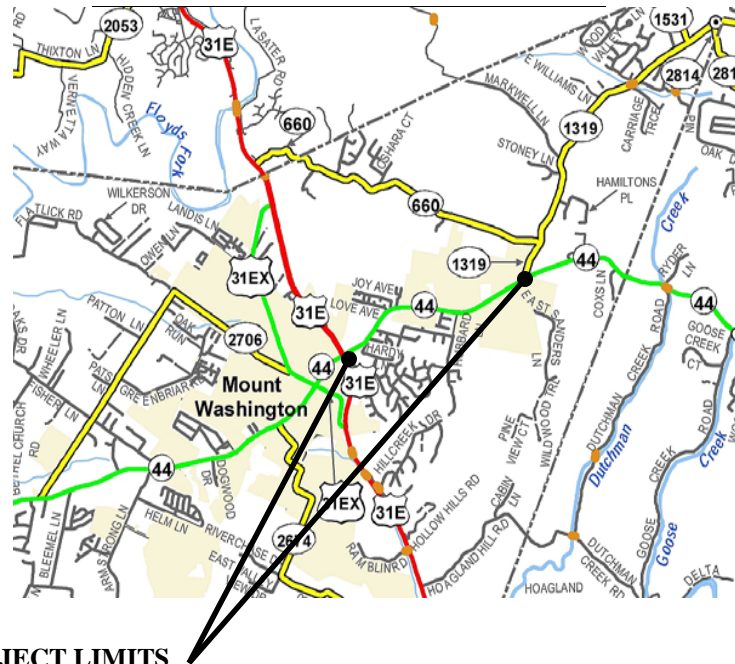
PROPOSED 2 LANE URBAN - TYPICAL SECTION

7. 5-347.50 Public Meeting Presentation



KY 44

Roadway Reconstruction Project

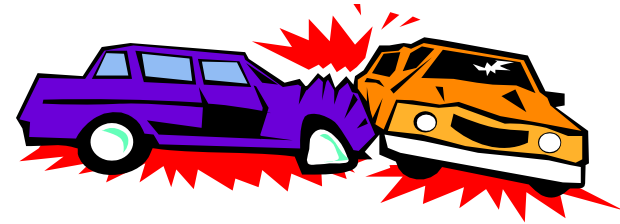


PROJECT LIMITS



BURGESS & NIPLE

Current condition of KY 44



Vehicles entering high speed traffic with limited sight distance

Two lane roadway with intersecting expanding developments





Development is continuing to expand thru-out the KY 44 roadway corridor



What is deficient with KY 44 road?

- **Narrow 2-lane road with no turn lanes**
- **High traffic volumes**
- **Expanding development of adjacent properties**
- **Very little pedestrian friendly areas for travel**
- **School bus and school event congestion**
- **Blind intersection at East Sanders Lane**
- **Rapidly growing commercial & residential community**



School bus congestion

Other reasons to improve KY 44

- **Increased traffic will cause further traffic congestion**
- **Improve safety now and in the future**
- **Improve road surface drainage**
- **Improve roadway sight distance**
- **Improve side road intersection safety**
- **Reduce rear end collisions**

**Improving the roadway will help
alleviate congestion**



Goals of the project

- **Blend the new roadway seamlessly with it's surroundings while solving congestion and safety issues**
- **Improve the capacity to accommodate future traffic volumes**
- **Improve intersection safety**
- **Accommodate bike and pedestrian traffic**
- **Accommodate school related traffic congestion**



School traffic backing up from US 31 E

Some Design Ideas to Consider

- **A roadway operating safely at 45-55 miles per hour design speed**
- **Widening roadway to 5 lane, 3 lane and or 2 lane sections**
- **Adding turn lanes for efficient turning movements and through traffic movement**
- **Improve approaching roadway intersections**
- **Other potential solutions might include sidewalks, multi-use paths, bike lanes, etc.**
- **Your ideas and concerns are needed.**

Please participate in development of your roadway

- **Learn about the project in today's workshop**
- **Meet our design team to ask questions and make suggestions**
- **Inform us of any developments critical to our design**
- **Provide your input today or contact us later by phone, e-mail, fax, or mail**
- **Please complete the questionnaire available today**

Thank You for your participation

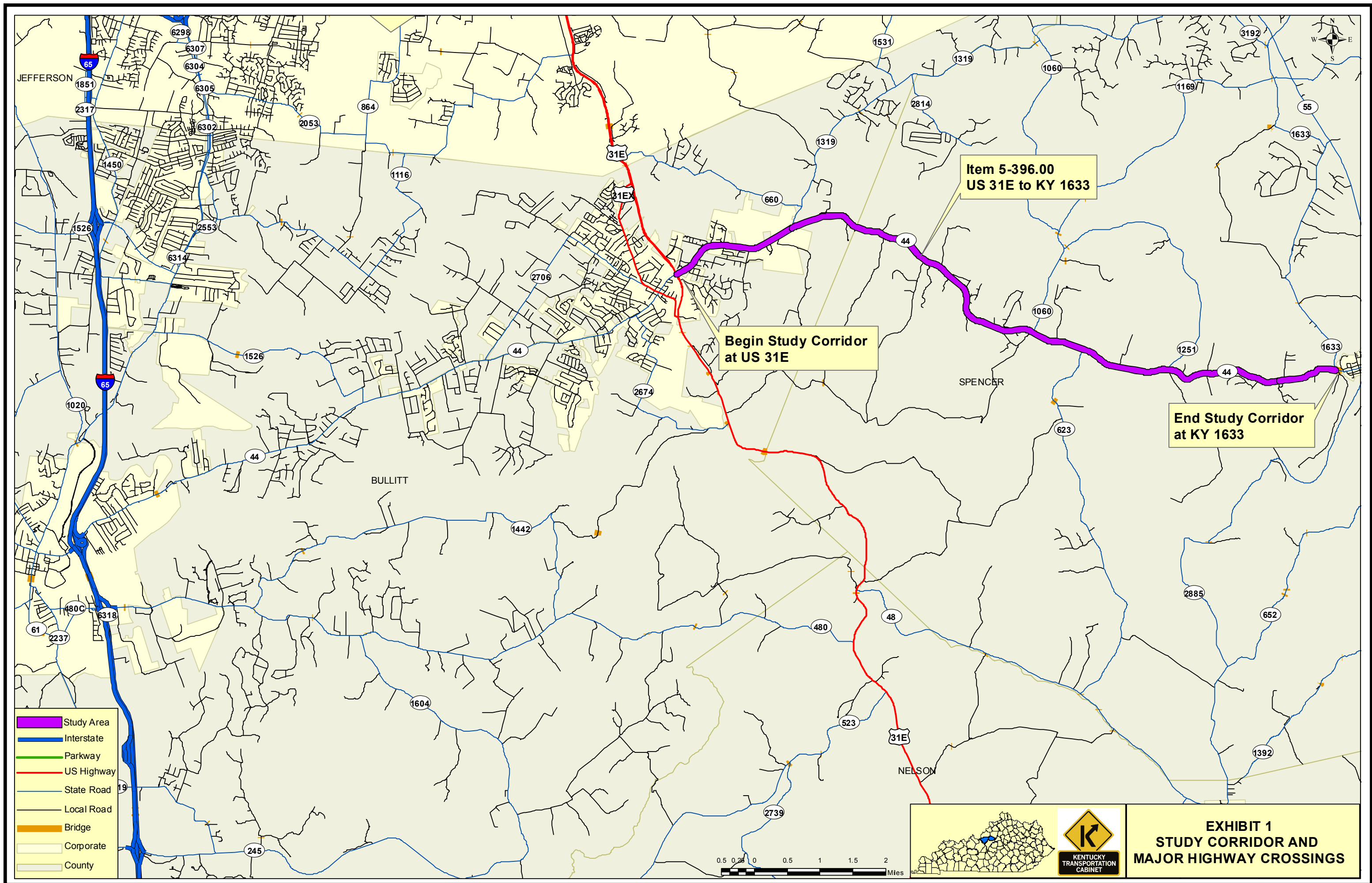


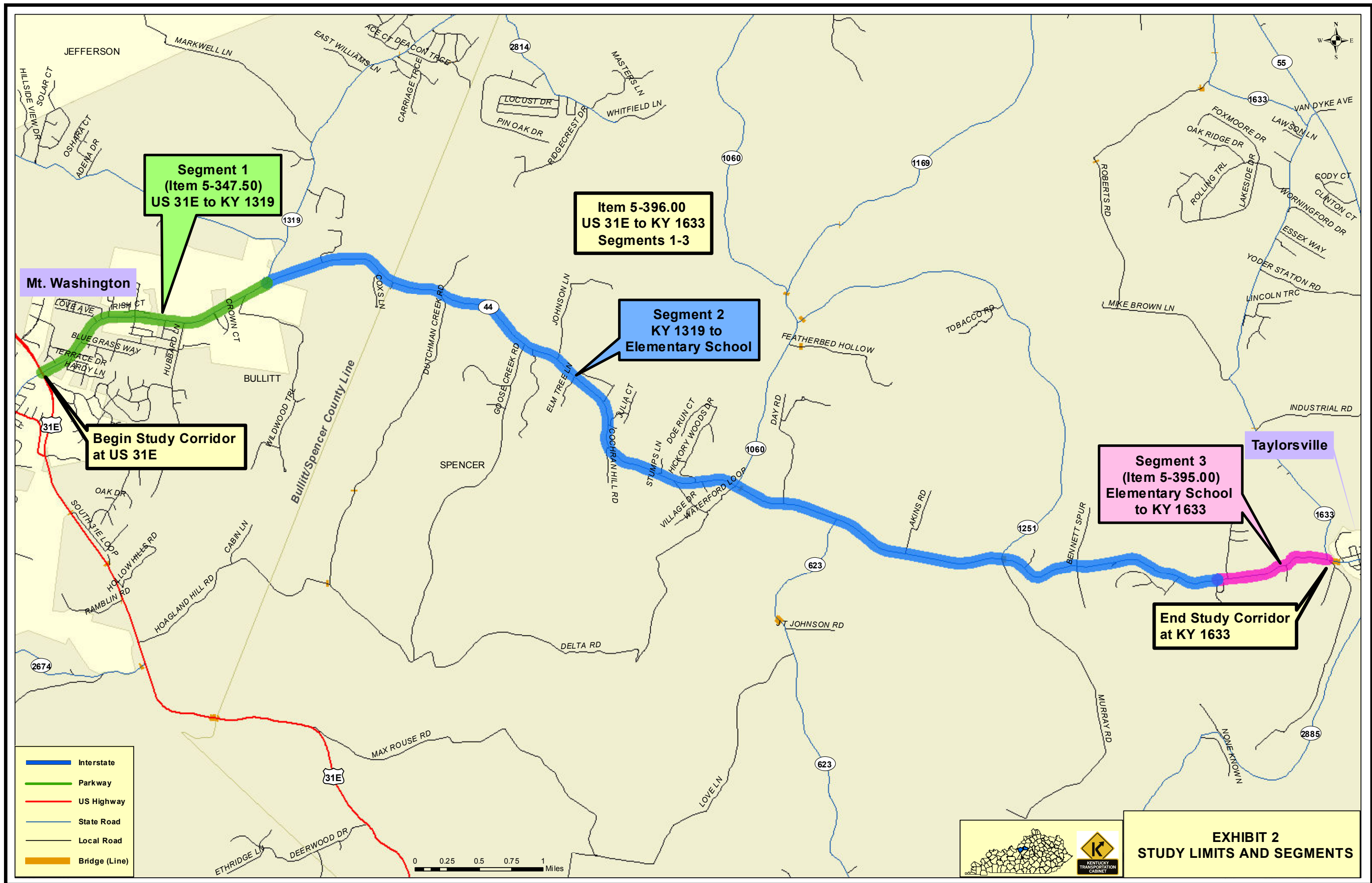
8. 5-396.00 Planning Study Appendix A (partial)

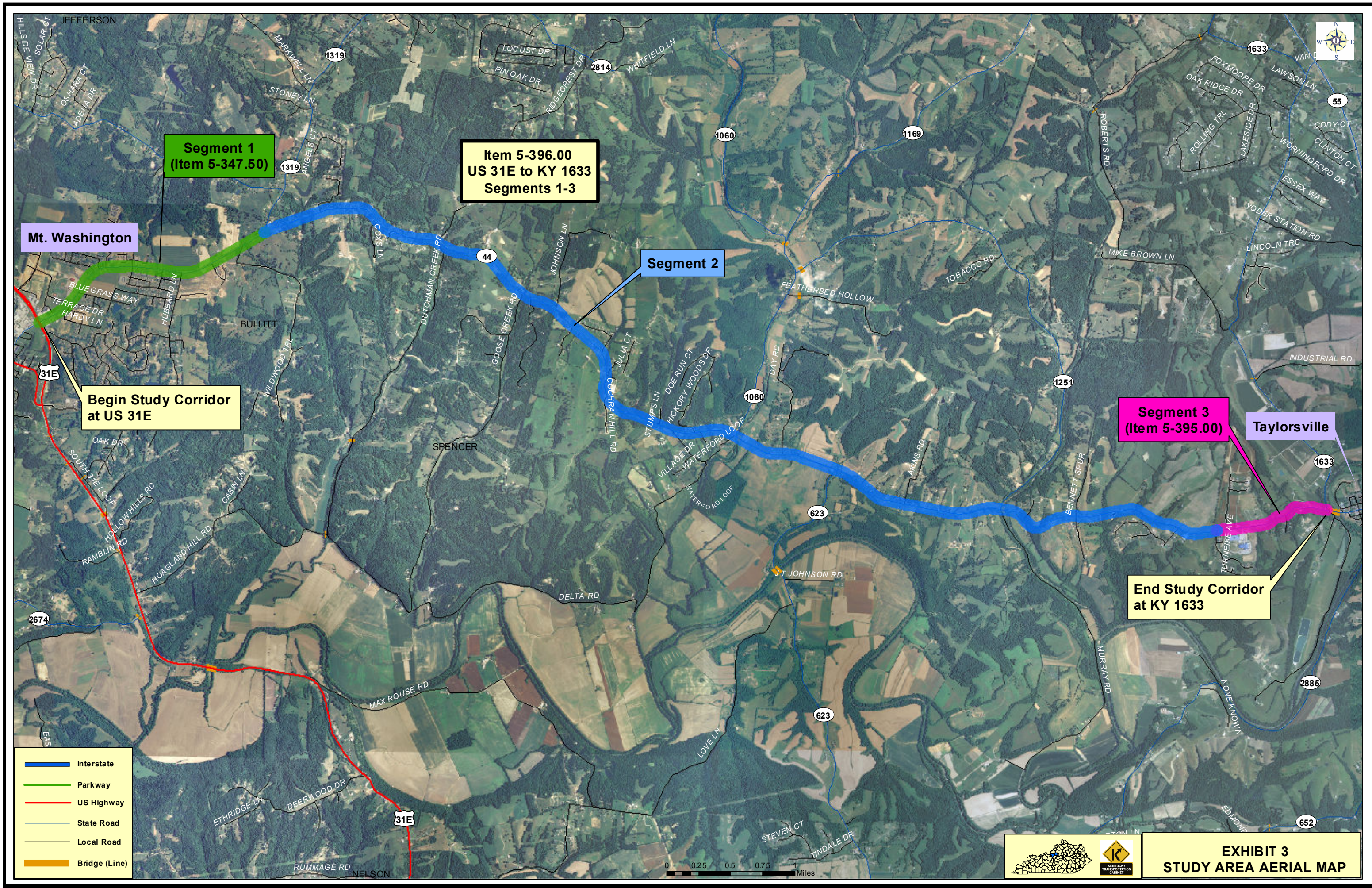
5-396.00

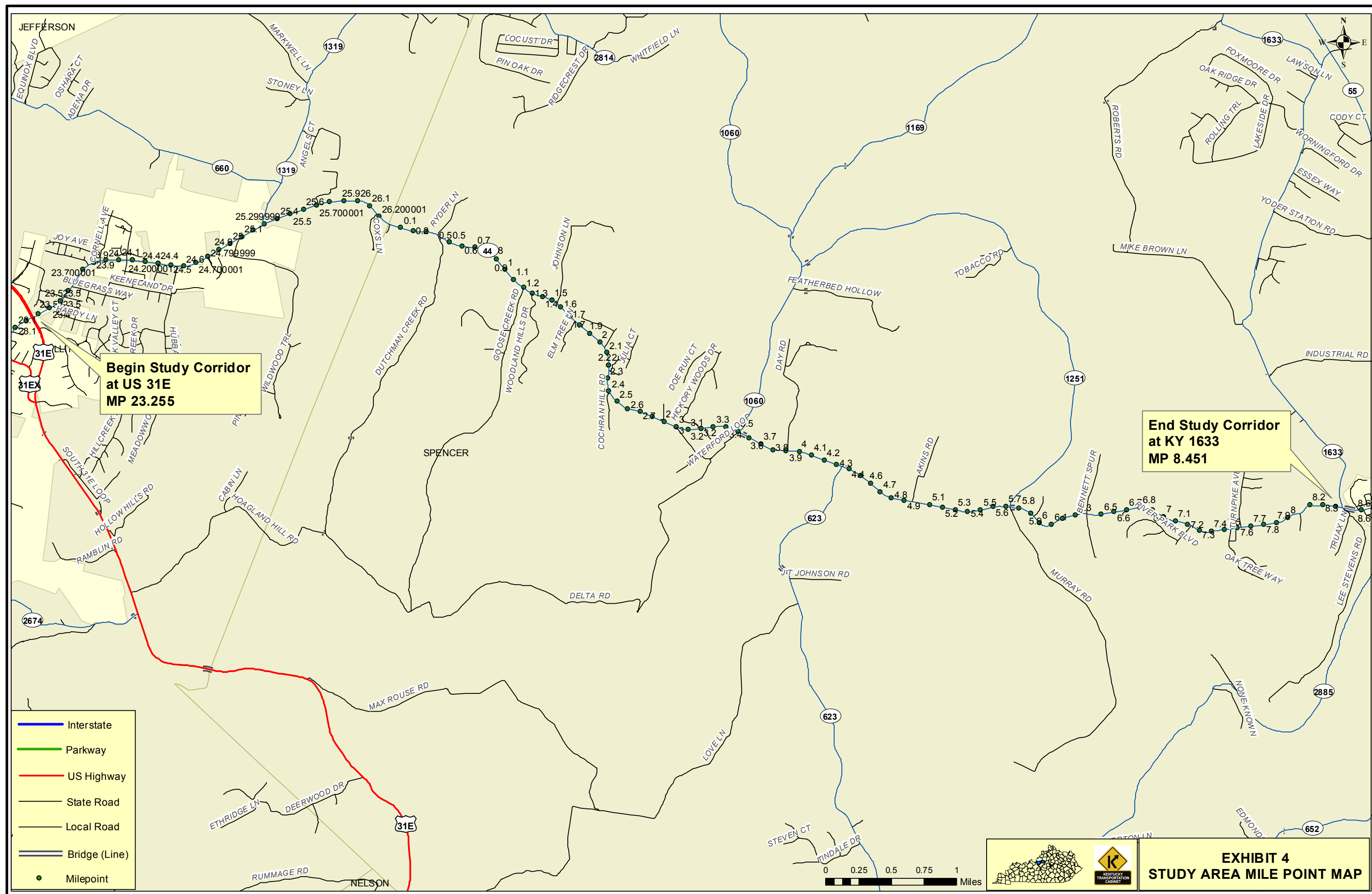
Appendix A

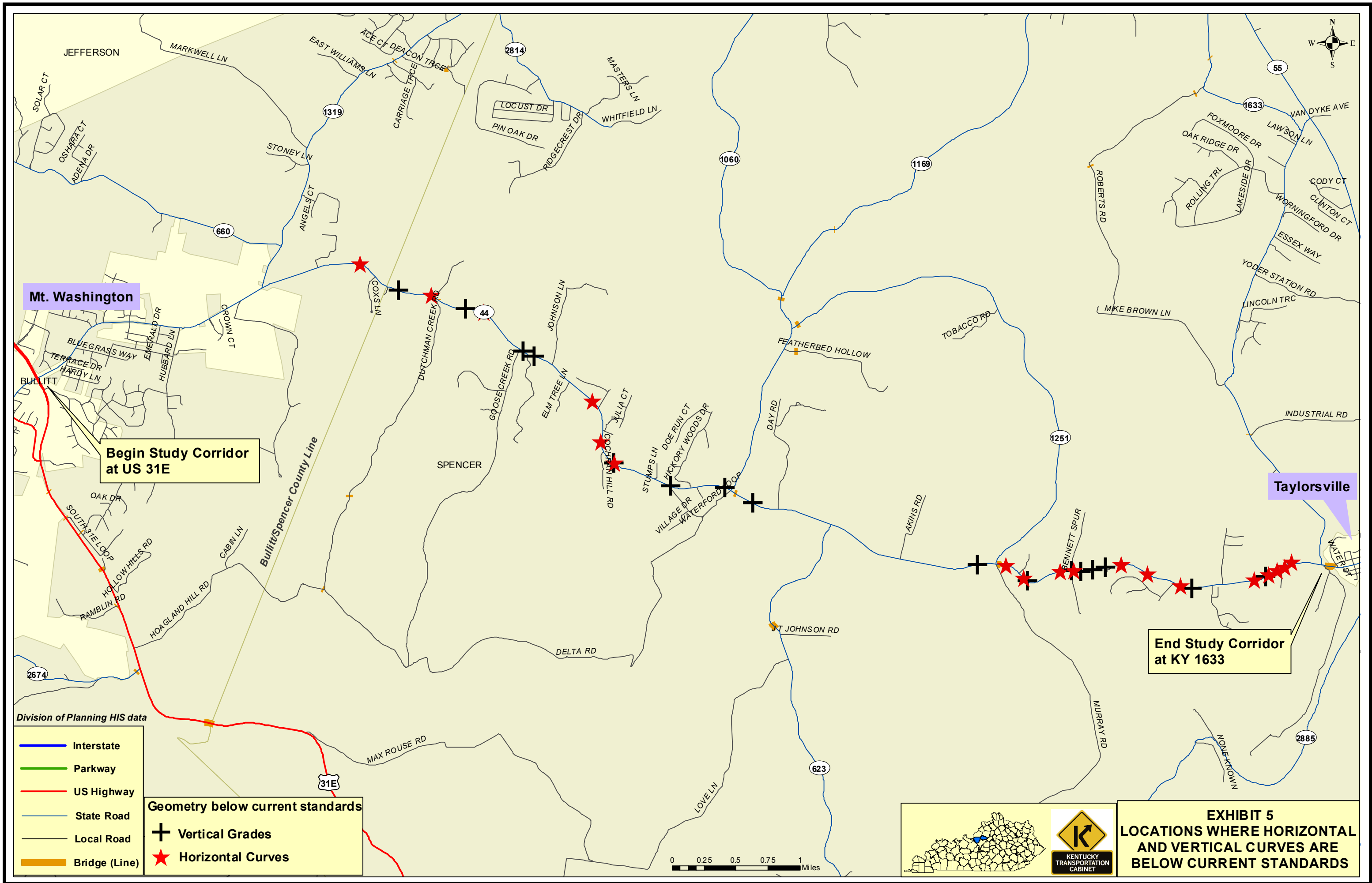
Exhibits

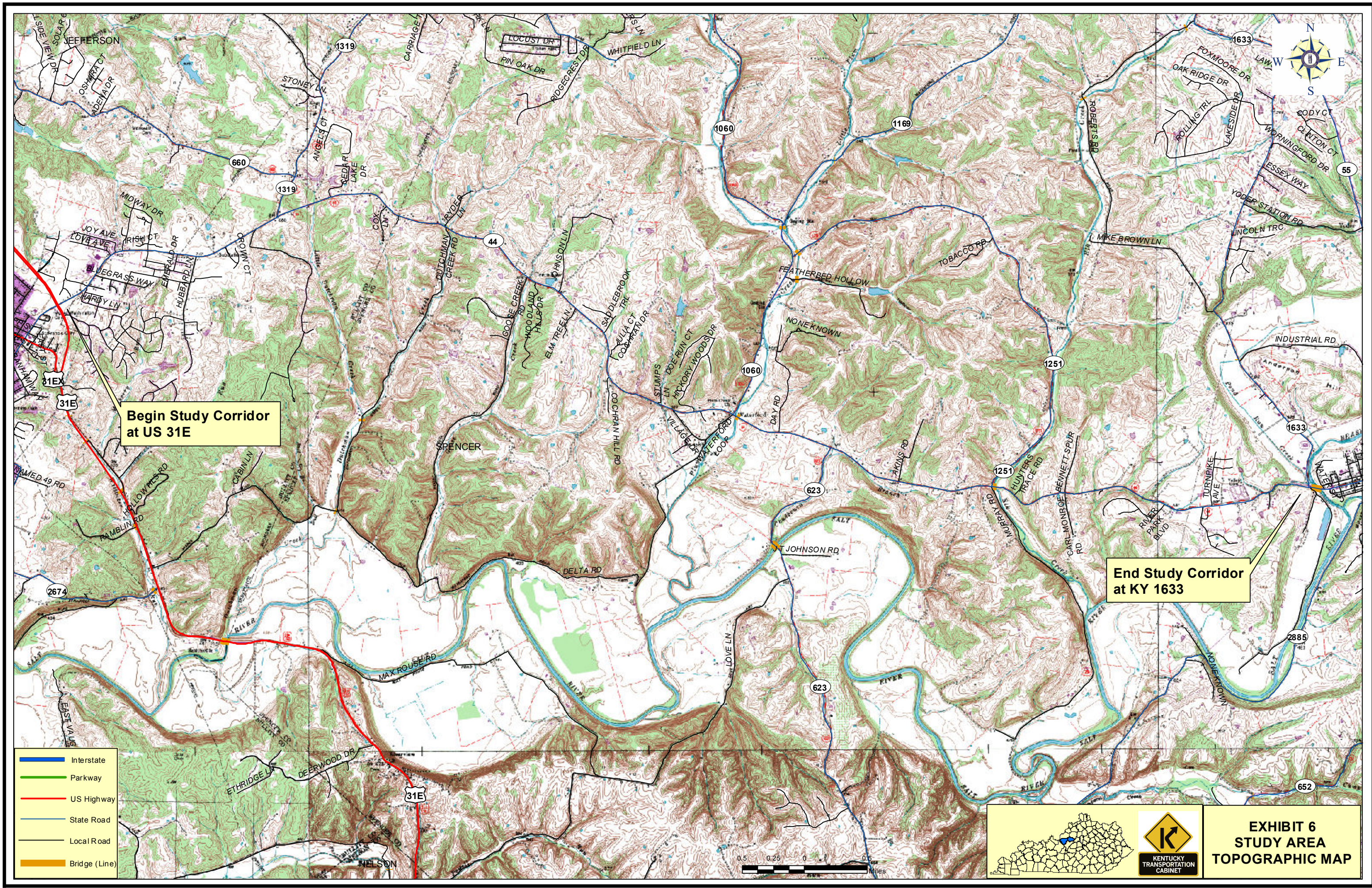












Begin Study Corridor
at US 31E

End Study Corridor
at KY 1633

- Interstate
- Parkway
- US Highway
- State Road
- Local Road
- Bridge (Line)

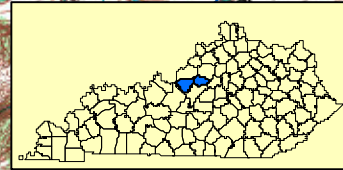
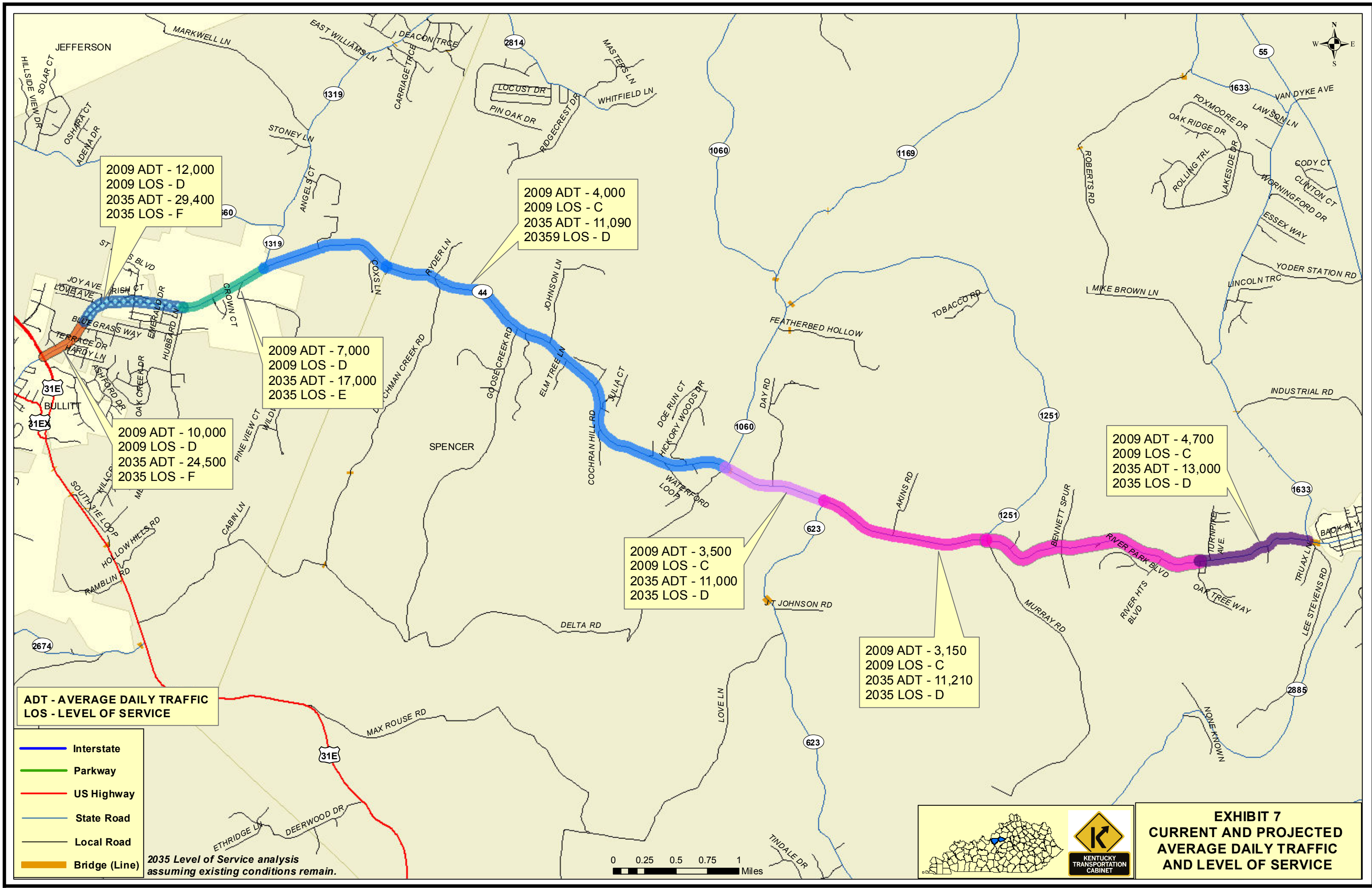
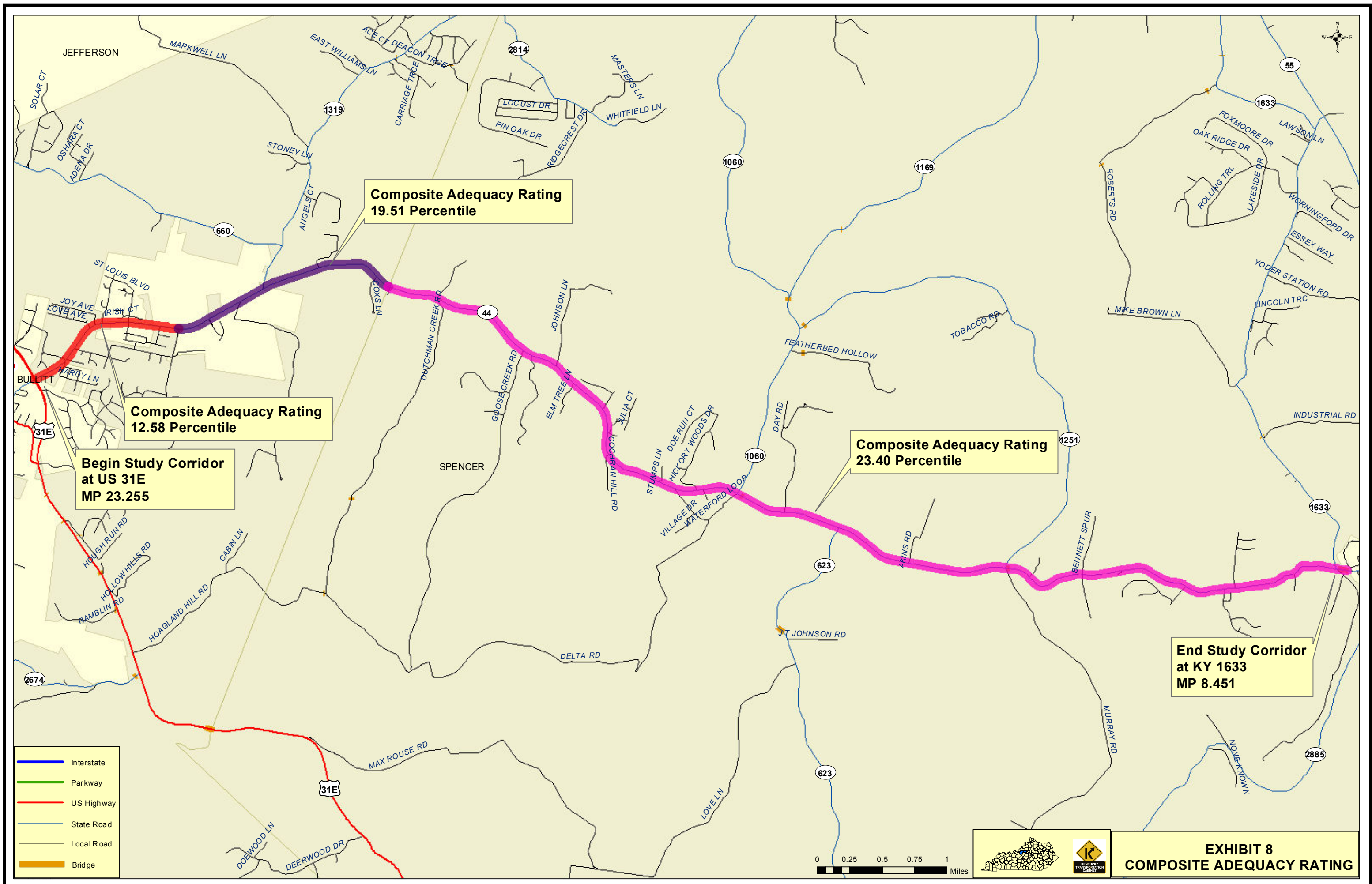
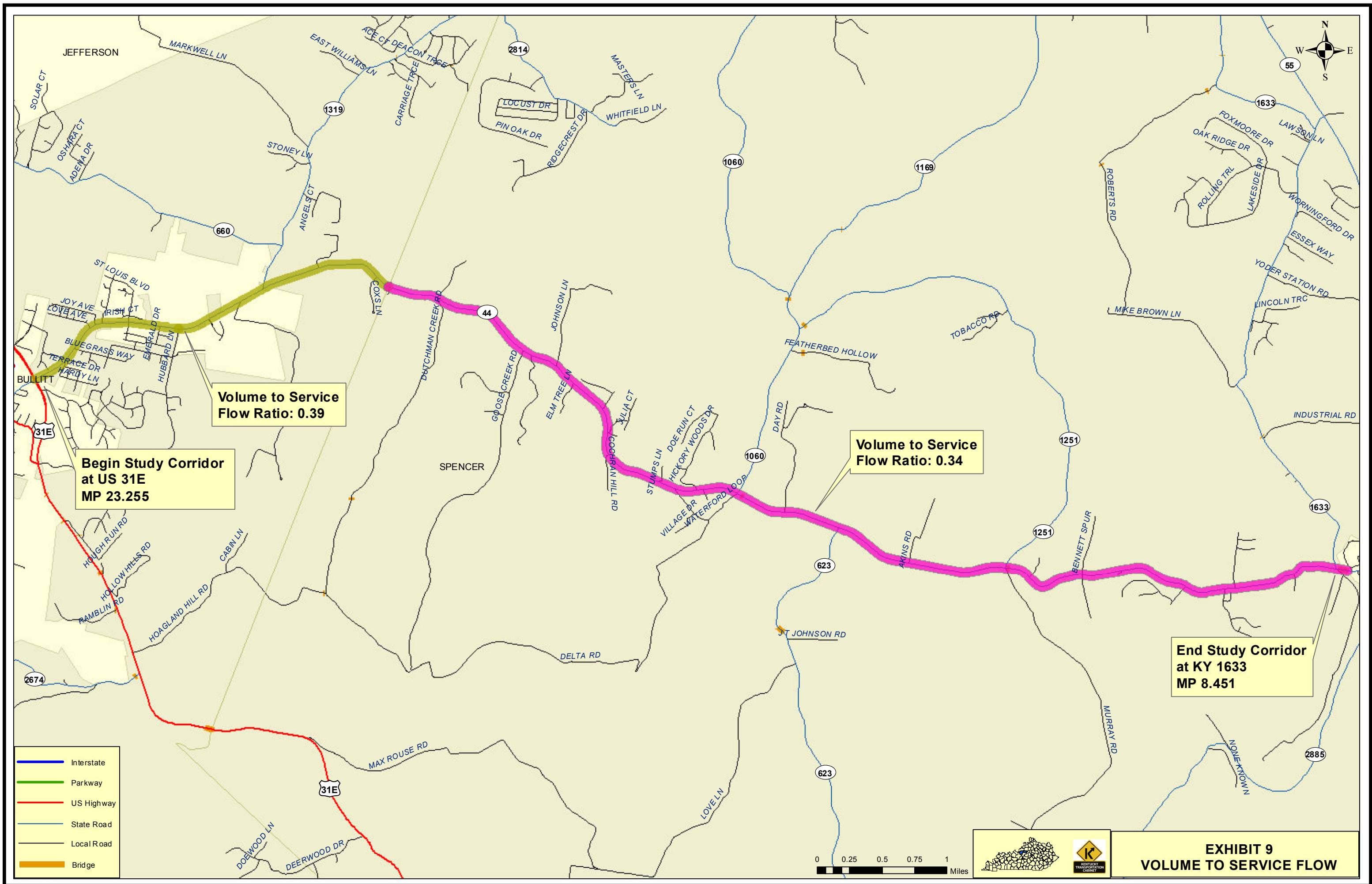
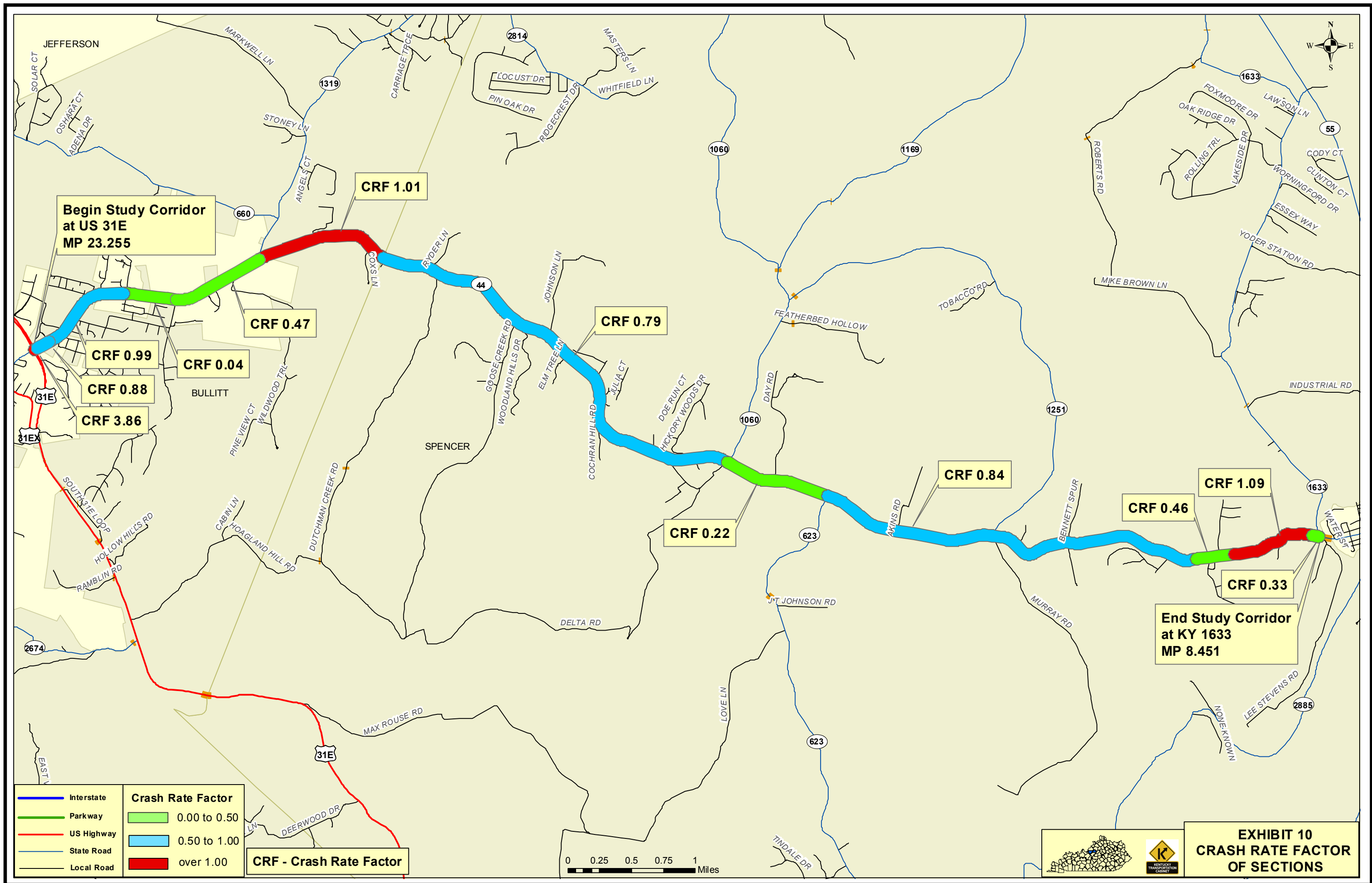


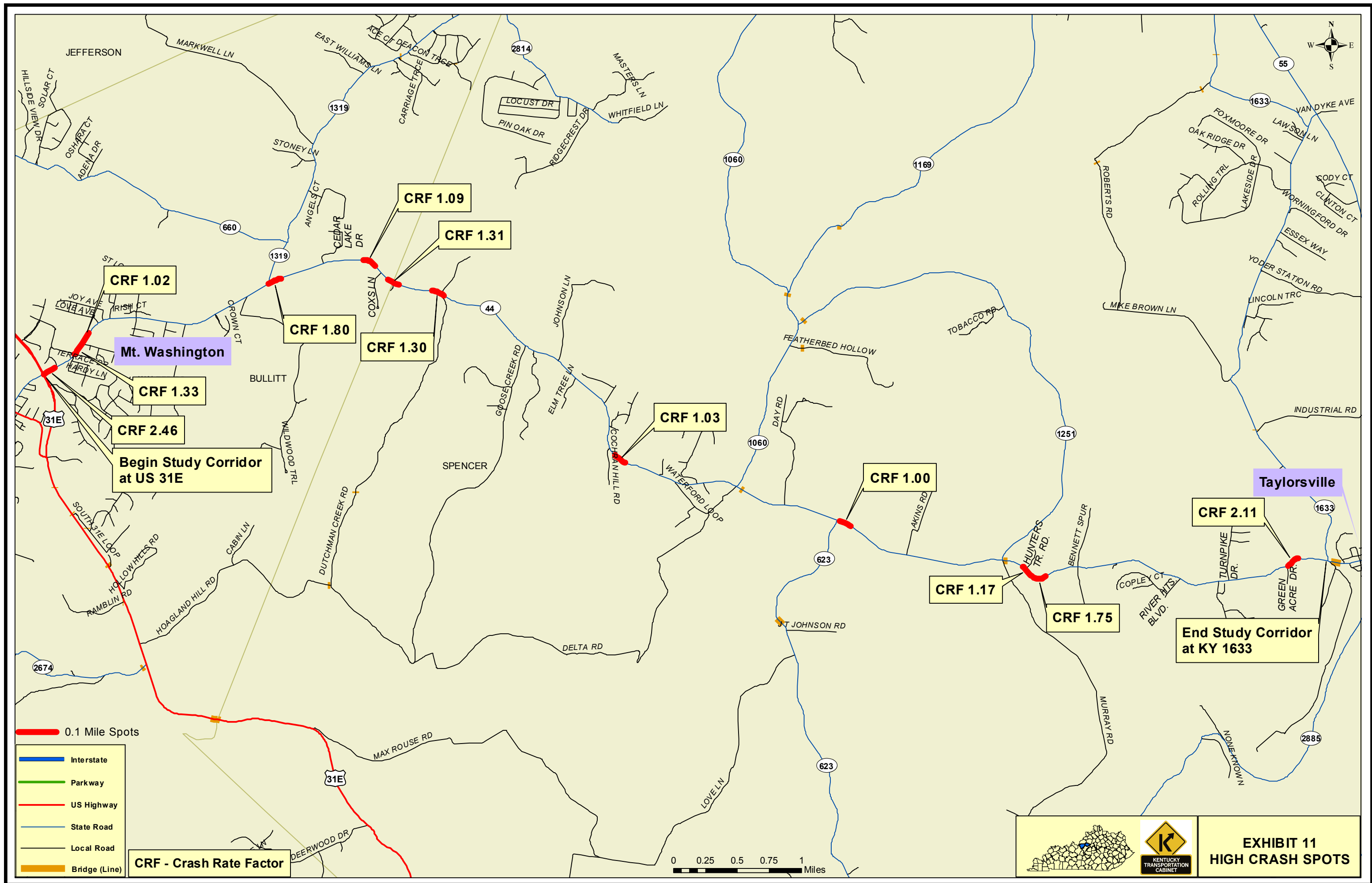
EXHIBIT 6
STUDY AREA
TOPOGRAPHIC MAP



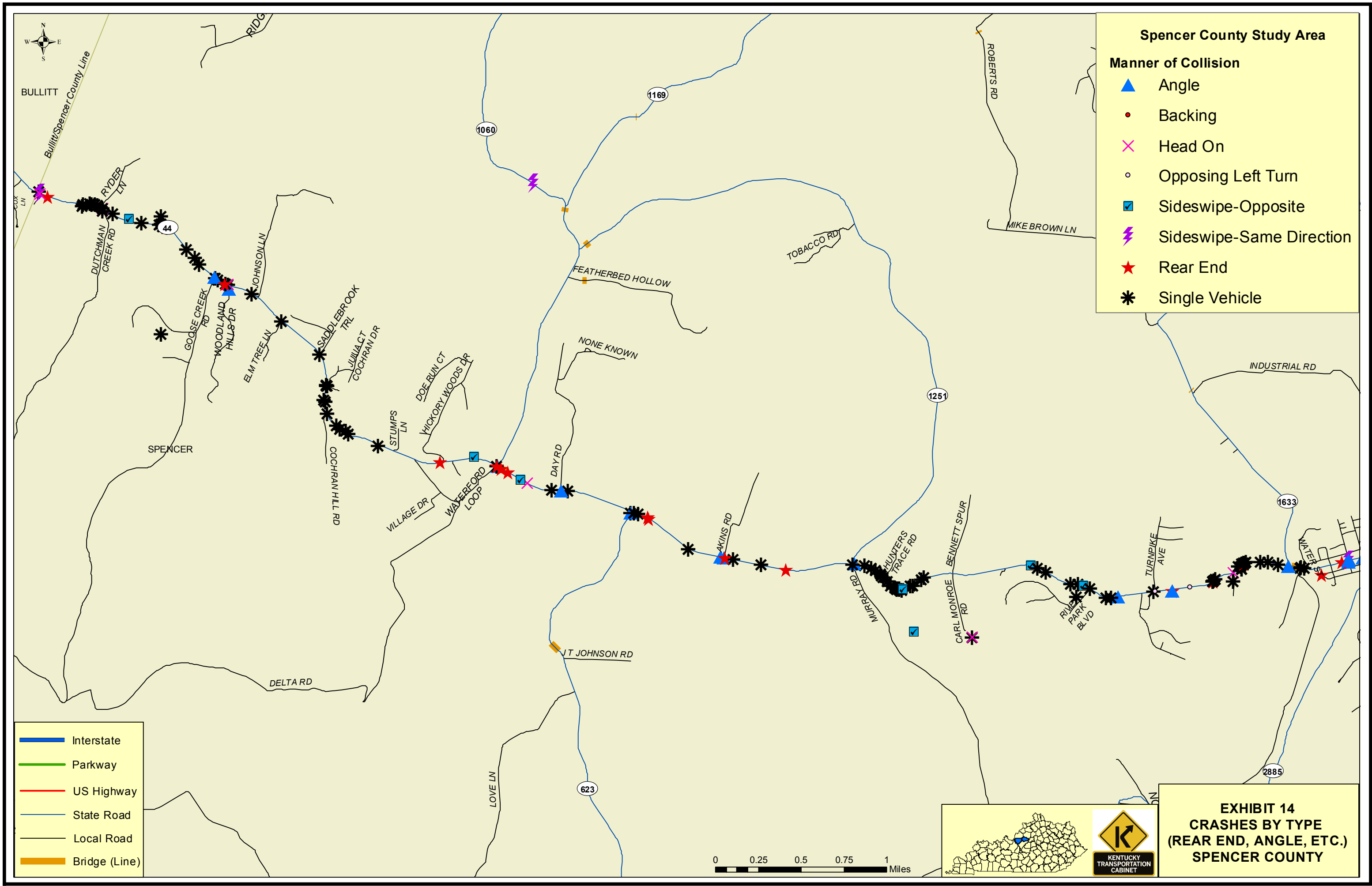












9. 5-396.00 Planning Study Appendix F (Environmental Overview)



Environmental Overview for Future Improvements to KY 44

**from US 31 E in Mount Washington to KY 1633
at Pond and Brashears Creeks in Spencer County**

Item No. 5-396.00

**(including Item No. 5-347.50 in Bullitt County
and Item No. 5-395.00 in Spencer County).**

October 2008

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ENVIRONMENTAL OVERVIEW

EXECUTIVE SUMMARY

This report presents an overview of impacts to the human and natural environments anticipated for three proposed projects within Bullitt and Spencer Counties. The project corridors are located between the eastern limits of Mount Washington in Bullitt County, and an area just west of Taylorsville in Spencer County. Each of the three projects has a Kentucky Transportation Cabinet project item number. Item Number 5-347.50 is located in Bullitt County between Mount Washington and the Bullitt County/Spencer County line. Item Number 5-395.00 is located in Spencer County just west of Taylorsville, and Item Number 5-396.00 is the comprehensive project corridor, including the two other projects included in this overview, beginning at the western limits of Item Number 5-347.50 and ending along the eastern terminus of Item Number 5-395.00. The entire corridor considered in this environmental overview includes an area of 1000 feet on either side of the existing KY 44. These three proposed projects are described in Section 1, Project Corridor Descriptions, and shown as Project Exhibits on pages 2 and 3. These maps are also included as Exhibits 1A and 1B beginning on page 51.

Field surveys, record searches and contacts with resource agencies, government representatives and the general public have identified environmental issues and sensitive areas within a defined project corridor. The project corridor concerns that were investigated include:

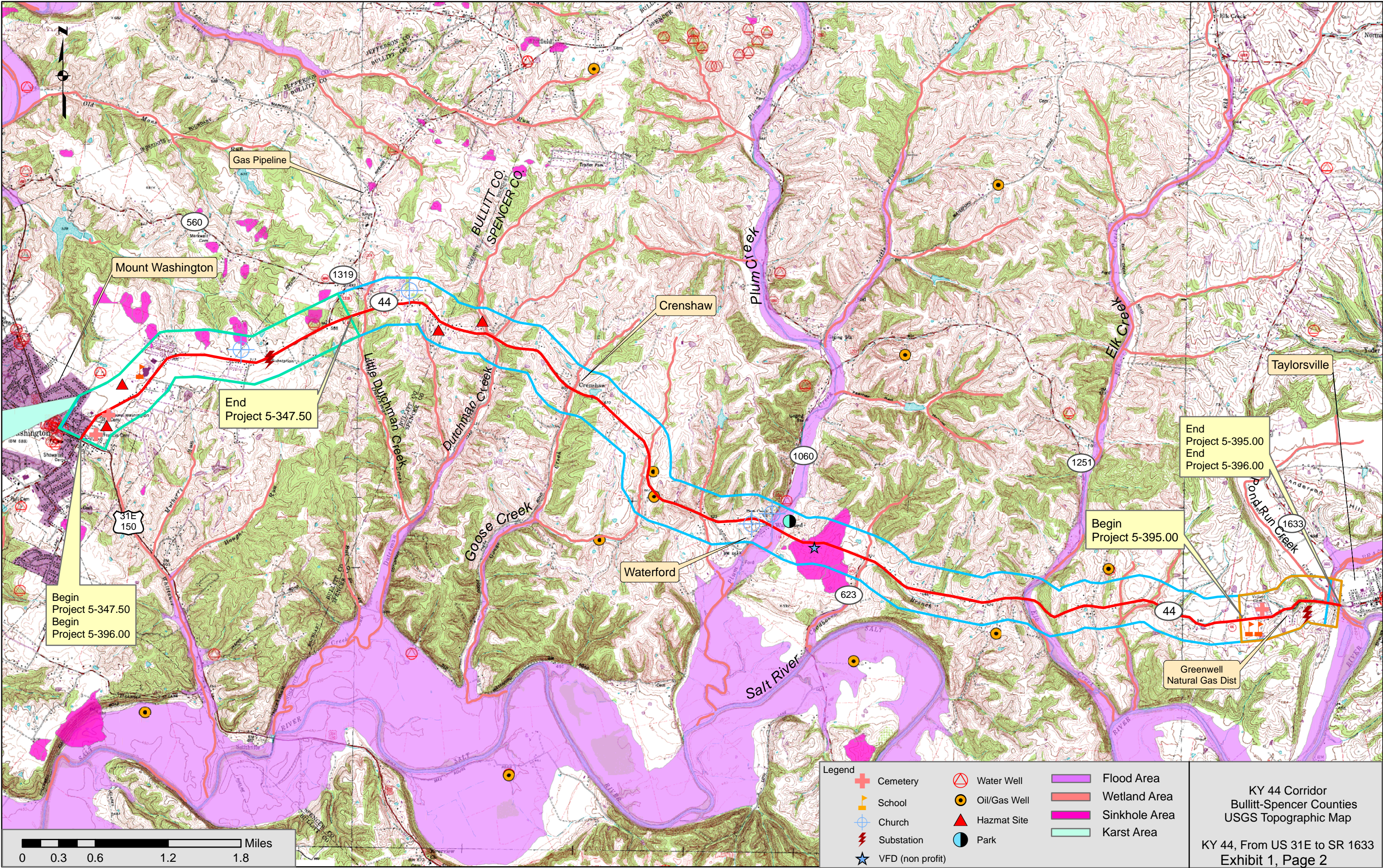
- Socioeconomic and community impacts.
- Environmental justice concerns.
- Culturally sensitive areas including churches, parks, cemeteries and schools.
- Cultural historic sites.
- Archaeological resources.
- Potential threatened and endangered species.
- Stream crossings, wetlands and sinkholes.
- Underground storage tanks and hazardous materials.
- Noise and air impacts.
- Hazardous Materials.
- Aquatic Impacts.
- Terrestrial Impacts.

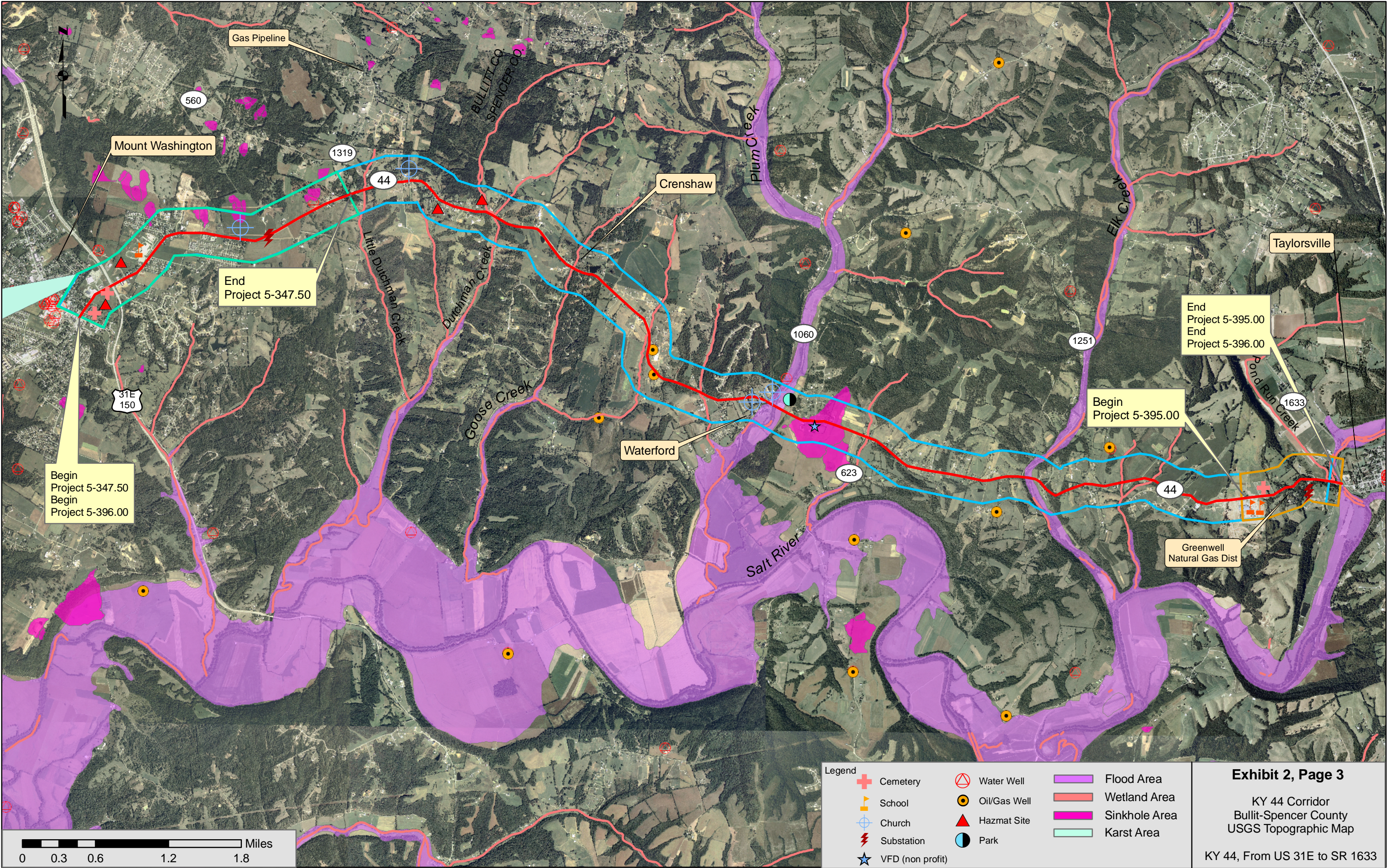
The methodology used to collect information contained in this environmental overview is included record searches, literature reviews, and field reconnaissance. Early coordination with appropriate resource agencies was undertaken. Cultural historic and archaeological resource overviews were conducted, and they are discussed in the text of this report, but will be submitted separately.

Improvements to, or construction of, a new KY 44 facility would enhance regional access for travelers, workers, tourists, and transporters of raw materials, finished products and agricultural products. Beneficial impacts include anticipated opportunities for industry, tourism, higher education and agricultural activities. Impacts are summarized for the human and natural environments in this executive summary, and results specific to each proposed action are provided in sections respective to each environmental concern.

• The Human Environment

Residential, non-profit and commercial relocations are expected in future design phases. Predominant land use in the project area is agricultural, and potential impacts to





farmlands rated as prime, unique, or of statewide importance will occur. Most of the farmland impacts will be located in the areas outside the city limits of Mount Washington and Taylorsville.

Several historic sites that are listed or potentially eligible for the National Register of Historic Places are located throughout the project corridors. Care will be taken to avoid these resources as alternatives are developed. If historic sites are unavoidable and federal funding is utilized, a Section 4(f) evaluation will be required. In addition to potential historic impacts, Section 4(f) could be required if the Waterford Park is impacted. Section 6(f) impacts appear to be avoided unless the project shifts northward in the Waterford area.

Areas within the project corridors are likely to include archaeological resources. These resources have been identified within the separately submitted archaeological overview.

Utilities in the area with the potential to be relocated include water lines, telephone and cable lines, sewer lines and electric power lines. Cellular towers, utilities, utility transfer stations and water towers also are located within or near the project corridor.

Service stations, former and existing automobile repair shops, and a truck sales company occur in the project corridors and could contain potential hazardous materials and underground storage tank sites. Further consideration will be necessary to confirm the presence of these sites and reasonable efforts will be made to assess avoidance and mitigation options.

- **The Natural Environment**

The project corridor would cross six streams requiring the widening of, or replacement of existing bridges and culverts. Impacts on these streams and their associated floodplains will require evaluation and appropriate mitigation measures.

Most wetlands appear to be avoided by any of the future projects. The project includes two areas along streams (Plum Creek and Elk Creek) where wetland impacts cannot be avoided. Impacts on these wetlands will require evaluation and appropriate mitigation measures.

I. Project Corridor Descriptions

This environmental overview addressed the potential environmental impacts associated with three proposed projects; the general project corridor (*State Item No. 5-396.00*) and two projects within the general project corridor (*State Item Nos. 5-347.50*, located within Bullitt County, and *5.395.00*, located within Spencer County). This environmental overview identifies potential concerns within the defined project corridors based upon available data and information sources. The projects could bring changes to the local communities including improvements in vehicular access, safety conditions, convenience, emergency response times, and reduce driving times. In addition, the projects could enhance the future quality of life and the economic vitality for residents within the area based on local and regional development efforts. Each area of environmental study will address anticipated impacts within the larger corridor and within each of the two specific project corridors. Following are descriptions of each of the three project corridors (See pages 2 and 3 and Project Figures beginning on Page 51).

A. Project Corridors

Item No. 5-396.00 This is the full project corridor which includes the two smaller projects. The comprehensive project area's termini (endpoints) are in Bullitt County at the intersection of KY 44 with US 31E/US 150 in Mount Washington, and at the junction of KY 44 with KY 1633 (Elk Creek Road) at Brashear's Creek at the Taylorsville City Limits in Spencer County, a distance of approximately 11.5 miles. The environmental footprint extends 1000 feet in either direction from the existing Kentucky 44.

Item No. 5-347.50 This project begins at the intersection of US 31E and KY 44 in Mount Washington and travels to the east between milepoints 23.4 and 25.5. Its approximate distance is 2.2 miles. The environmental footprint extends 1000 feet in either direction from the existing Kentucky 44. It remains entirely in Bullitt County.

Item No. 5-395.00 This project is located in Spencer County just west of Taylorsville. It begins at milepoint 7.4, near Oak Tree Way, and travels eastward to its terminus near milepoint 8.5 at KY 1633. It does not include the bridge over Brashears Creek. The environmental footprint extends 1000 feet in either direction from the existing Kentucky 44.

The project corridor will intersect or junction with several state and federal highways. Table 1, below, displays these roadways within the respective counties:

Table 1: Major Roadways (by County) that Intersect or Junction with KY 44 within and adjacent to the Project Corridor

Bullitt	
US 31E/US 150	KY 1319
Spencer	
KY 1060	KY 623
KY 1251	KY 1633
KY 2885	KY 55

B. Land Use

The corridor is located mainly in areas that are a blend of residential, commercial and agricultural land uses. New neighborhoods are being constructed in both counties, and in areas between the termini. Agricultural land, in accordance with United States Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS) guidance, includes fallow farmland, golf courses, and forested areas, which could still be used as farmland. The respective project areas' land uses are estimated and described in the following paragraphs and in Table 2 on the following page.

Item No. 5-347.50 It is estimated that approximately 1500 people are living in or will soon locate to the eastern portion of Bullitt County. It is estimated that at least half of the land use in this corridor is residential, and that the percentage of commercial and residential land uses will increase in the future.

Item No. 5-395.00 Several new neighborhoods are being constructed just west of Taylorsville and adjacent to the project corridor. The newer homes typically are listed from between \$100,000 to \$150,000 and higher. Almost half of this corridor is in use as residential and the percentage is continuing to increase. An area just west of the Valley Cemetery and across from two public schools is being converted from agricultural to

Environmental Overview

residential/commercial land use. Land use conversion to primarily residential and some commercial applications is anticipated to continue in the future.

Item No. 5-396.00 Agricultural land use is still widespread in the corridor, but residential development is ongoing and replacing farming activities. Tracts of land in planned neighborhoods between one acre and ten acres are for sale throughout the project area as part of the conversion to residential land use. Some commercial land use change is occurring, but is located primarily in the area just east of Mount Washington in Bullitt County. Land use conversion, primarily from agricultural to residential, is anticipated to continue throughout the project area in the future, but not as rapidly as Item Nos. 5-347.50 and 5-395.00.

Table 2, below, approximates the current land uses within each project corridor.

Table 2: Land Use Percentages of the Project Areas

Project Corridor	Percentage of Agricultural Land Use	Percentage of Residential Land Use	Percentage of Commercial Land Use
Item 5-347.50	25%	50%	25%
Item 5-395.00	50%	40%	10%
Item 5-396.00	75%	20%	5%

II. Existing Roadway Conditions

KY 44 is mainly a two-lane roadway within the project corridor. The exception is a small, four-lane portion between its intersection with US 31E and eastward approximately 100 yards where it transitions to a two-lane highway as it approaches Hardy Lane and Bullitt East High School. Table 3, below, provides the existing conditions of KY 44 throughout the project corridor.

Table 3: Features of Existing KY 44

Roadway Feature	KY 44 Bullitt County	KY 44 Spencer County
Average Right of Way Width	60 feet	60 feet
State System	State Secondary	State Secondary
Functional Classification	Urban Principal Arterial, then Rural Minor Arterial	Rural Minor Arterial
National Highway System	No	No
Truck Weight Class	AAA (80,000 pound gross weight limit)	AAA (80,000 pound gross weight limit)
Lanes (Total lanes and dimensions)	4 lanes, then 2 beginning as 12 feet wide, transitioning to 10 feet wide.	2 lanes, 10 feet wide, transitioning to 12 feet wide.
Speed Limit	45, 55 miles per hour	55, 45 miles per hour
Shoulders	3-feet, Combination	3-feet, Combination
Terrain	Rolling	Rolling
Percent Sight Distance*	NA	0

* Percent Passing Sight Distance is the percent of segment length (estimated to the nearest 10 percent) which has available passing sight distance (as measured from the driver's eye to the road surface) of at least 1,500 feet.

The Kentucky State Police Division of Data provided crash information for the project corridor. Information was provided for a four-year period between December 15, 2003 and December 15, 2007. A total of 230 crashes were reported by various law enforcement agencies and compiled at the KY State Police Division of Data for the four-year period. The details of the crashes are listed below.

**Table 4: Bullitt County Crashes on KY 44 from
the Intersection with US 31E to the Spencer County Line.**

Total Crashes	114
Property Damage Only	82
Injury Collisions	32 (Total injured = 41)
Fatal Collisions	0

**Table 5: Spencer County Crashes on KY 44 from
the Bullitt County Line to the junction with KY 1633.**

Total Crashes	116
Property Damage Only	83
Injury Collisions	31 (Total injured = 44)
Fatal Collisions	2 (Total Fatalities = 2)

Many of the crashes occurred at intersections and junctions along KY 44, but collisions were also recorded throughout the project corridor. As alternatives are developed a safety analysis to determine critical rate factors will be developed to determine if safety is a component of each project's purpose and need.

III. Potential Environmental Impacts

Table 6: Summary of Potential Environmental Impacts by Project

Study Area	5-347.50 Impacts	5-395.00 Impacts	5-396.00 Impacts
Stream Crossings	No blueline stream crossings are anticipated in the project corridor for Item No. 5-347.50.	The project corridor for Item No. 5-395.00 would require one blueline stream crossing; Pond Run Creek.	Blueline Streams – Little Dutchman Creek, Dutchman Creek, Goose Creek, Plum Creek, Elk Creek, and 4 unnamed blueline stream tributaries within the project area would be crossed.
Floodplain Encroachment	No impacts to floodplains were identified within this project corridor.	One area is located at the eastern terminus where Brashears Creek meets Pond Creek.	One area is located at Plum Creek near Waterford on both sides of the project. The second is a less extensive area at Elk Creek.
Springs	No impacts to springs are anticipated.		
Water Wells	A review of Kentucky Geological Society maps indicates wells are evident within the project corridors. As alternatives are identified, care will be taken to locate, and if possible, avoid wells.		
Caves	No caves were apparent within or near the project area.		
Ponds	Several ponds exist throughout the proposed corridors. None are used for domestic water supplies.		

Study Area	5-347.50 Impacts	5-395.00 Impacts	5-396.00 Impacts
Jurisdictional Wetlands	Wetlands are not likely to be impacted.		2 wetlands could be impacted by the project. These wetlands are located along the project streams and are riparian in nature. Other wetlands were identified near the project corridor, but are avoided.
Threatened and Endangered Species	<p>Indiana and gray bats are not likely to be identified within the project corridor.</p> <p>It is not likely that any mussels will be found in the corridor.</p> <p>Running buffalo clover could exist within the project corridor.</p>		<p>The federally endangered Indiana bat and gray bat could occur in the project areas, but only two trees that were suitable for habitat were located. The two shagbark hickory trees were located in subdivisions, but not in heavily forested areas.</p> <p>Running buffalo clover could exist within the project corridor.</p> <p>Although mussels have been identified in both counties, no habitat appeared to be suitable in any of the project streams.</p>
Natural Areas	No natural areas exist within or adjacent to the project corridor.		
Wild and Scenic Rivers	No wild and scenic river has been identified in the project area.		

Study Area	5-347.50 Impacts	5-395.00 Impacts	5-396.00 Impacts
Socioeconomic	<p>It is estimated that 10 to 15 relocations could occur in Item No. 5-347.50.</p> <p>No Environmental Justice concerns are apparent.</p>	<p>It is estimated that 5 to 7 residential and 2 to 5 commercial relocations could result.</p> <p>No Environmental Justice concerns are apparent.</p>	<p>It is estimated that 15 to 20 residential and 2 to 5 commercial relocations could occur.</p> <p>Environmental Justice concerns associated with low-income houses might occur in or near the Waterford area and on Stumps Lane within Item No.5-396.00. If federal funds become available for this project, field trips and a more detailed search of data could be required for build alternatives</p>
Farmland	<p>Farmland impacts would be low for this project, which is experiencing a rapid conversion to urban land uses.</p>		<p>The greatest potential for impacts to farmland exists on this project due to its larger project area and the rural characteristics of its land use.</p>
Environmental Justice	<p>No Environmental Justice issues are apparent.</p>		<p>Environmental justice issues for low-income populations might exist in the project area of Item No. 5-396.00 along Stumps Lane and in the community of Waterford, both in Spencer County. No minority community impacts would occur.</p>

Study Area	5-347.50 Impacts	5-395.00 Impacts	5-396.00 Impacts
Cultural/Historic Resources	No sites that are eligible for the National Register of Historic places exist throughout the corridor.	The potential for 9 sites that are eligible for the National Register of Historic places exists throughout the corridor. The impacts will depend upon the selection of and final design of an alignment. Section 106 will be required because the project will involve permitting from the U.S. Army Corps of Engineers. If federal funding is utilized, Section 4(f) resources could be impacted.	The potential for 18 sites that are eligible for the National Register of Historic places exists throughout the corridor. These sites include the 9 sites identified with Project 5-395.00 in Spencer County. The impacts will depend upon the selection of and final design of an alignment. Section 106 will be required because the project will involve permitting from the U.S. Army Corps of Engineers. If federal funding is utilized, Section 4(f) resources could be impacted.
Archaeological Resources	The project corridor features moderate to high probability for historic archaeological resources. A total of 2 previously identified archaeological surveys and 11 potentially historic sites are located within this project area. Further archaeological investigation is recommended for the project. If federal funding is utilized, Section 4(f) resources could be impacted.	The project corridor features moderate to high probability for historic archaeological resources. A total of 1 previously recorded archaeological site and 10 potentially historic sites are located within this project area. Further archaeological investigation is recommended for the project. If federal funding is utilized, Section 4(f) resources could be impacted.	The project corridor features moderate to high probability for historic archaeological resources. A total of two previously identified archaeological surveys and 52 potentially historic sites are located within this project area. Further archaeological investigation is recommended for the project. If federal funding is utilized, Section 4(f) resources could be impacted.
Hazardous Materials/ Underground Storage Tank Sites	It appears that one site might be located within Item No. 5-347.50.	It appears that one site could be located in Item No. 5-395.00	It appears that no more than three sites would be located in Item No. 5-396.00.

Study Area	5-347.50 Impacts	5-395.00 Impacts	5-396.00 Impacts
Air Quality	No major air quality impacts are predicted, but if federal funds are utilized, Bullitt County is located within the Louisville Air Quality Control Region, and has been designated as a non-attainment area for the Ozone 8-hour standard and for PM-2.5 (Particulate Matter < 2.5u). Coordination with the EPA and other agencies would be required.	No air quality impacts or issues are anticipated for this project. A baseline analysis would still be required if federal funds are utilized.	No major air quality impacts are predicted, but if federal funds are utilized, Bullitt County is located within the Louisville Air Quality Control Region, and has been designated as a non-attainment area for the Ozone 8-hour standard and for PM-2.5 (Particulate Matter < 2.5u). Coordination with the EPA and other agencies would be required.
Traffic Noise	No major noise impacts are anticipated, but if federal funds become available noise mitigation analyses could become necessary. Project 5-347.50 would involve improvements in an area that is heavily represented by residential land use.	The project corridor has been and is undergoing land use conversions to residential areas. As alternatives are developed, noise mitigation analyses might be required.	
Oil/Gas Wells	No oil or gas wells are located within the project corridor.		Two wells are located within the limits of Item No. 5-396.00 between Crenshaw and Waterford. No other oil or gas wells are located within any of the project corridors.

A. Socioeconomic/Environmental Justice

A review of census information, economic data, and a windshield survey were conducted to determine socioeconomic and environmental justice concerns. Discussions with local government representatives and field trips provided useful information. General socioeconomic data within Spencer and Bullitt Counties will be provided in this section, and specific areas will be addressed in the subsections below.

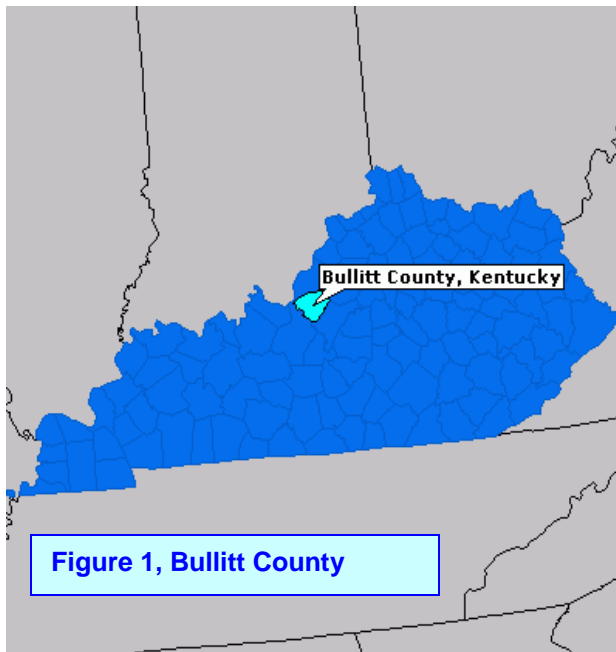
Table 7: Historic Population Growths and Rankings

Bullitt County and Spencer County are two of the fastest growing counties in Kentucky. Table 4, at the right, ranks the rate of population growth of Kentucky's counties. Spencer County's

Kentucky Top Counties Ranked by Rate of Population Growth, 1990-2000		
Rank	County	Percentage of Growth
1.	Spencer County	73.0%
2.	Boone County	49.3%
3.	Gallatin County	45.9%
4.	Grant County	42.2%
5.	Oldham County	38.8%
6.	Scott County	38.5%
7.	Shelby County	34.3%
8.	Trimble County	33.4%
9.	Anderson County	31.2%
10.	Menifee County	28.8%
11.	Bullitt County	28.7%

population increased by 73.00 % for the highest ranking, while Bullitt County's population increased by 28.74 % for the eleventh highest ranking of Kentucky's 120 counties. Spencer County has a lower population than Bullitt County. This means that an increase of 1000 people in Spencer County causes a 6.0 % growth while the same increase of 1000 people in Bullitt County reflects a 1.4% growth.

Socioeconomic Summary of Bullitt County



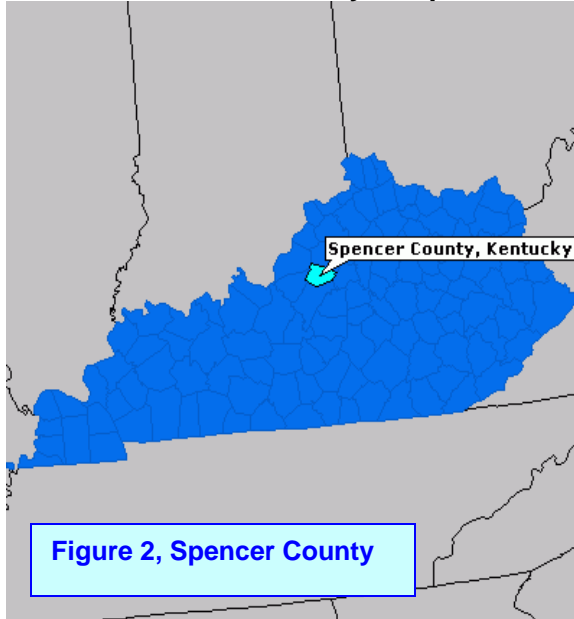
Bullitt County has 299.1 square miles in land area and a population density of 243.6 people per square mile. In the last three decades of the 1900s the population of Bullitt County increased by 134.7%. The U.S. Census data indicate that 99.2% of the population reported only one race, with 0.4% of these reporting African-American. The population of this county is 0.6% Hispanic (of any race). The average household size in the county is 2.75 persons compared to an average family size of 3.07 persons statewide.

In 2006 manufacturing was the largest of 20 major sectors. It had an average wage per job of \$39,827. Per capita income grew by 8.0% between 1995 and 2005 (adjusted for inflation).

Table 8: Bullitt County Socioeconomic Data Summary

People & Income Overview	Value	Industry Overview (2006) (By Place of Work)	Value
2006 Population	72,851	Covered Employment	13,721
Growth percentage since 1990	53.2%	Average wage per job	\$29,210
Households (2000)	22,171	Manufacturing - Percentage of all jobs in County	19.1%
Labor Force (persons) (2006)	36,964	Average wage per job	\$39,827
2006 Unemployment Rate percentage	6.0	Transportation & Warehousing – Percentage of all jobs in Bullitt County	0.5%
Per Capita Personal Income (2005)	\$24,693	Average wage per job	\$42,350
Median Household Income (2004)	\$49,055	Health Care, Social Assist. - Percentage of all jobs in County	5.3%
Poverty Rate (2004)	10.4	Average wage per job	\$30,172
H.S. Diploma or More - Percentage of Adults 25+ (2000)	76.0	Finance and Insurance - Percentage of all jobs in County	1.9%
Bachelor's Degree or Higher – Percentage of Adults 25+ (2000)	9.2	Average wage per job	\$34,536

Socioeconomic Summary of Spencer County



Spencer County has 185.9 square miles in land area and a population density of 88.6 people per square mile. In the last three decades of the 1900s Spencer County's population increased by 114.4%. The U.S. Census data indicate that 99.2% of the population reported only one race, with 1.1% of these reporting African-American. The population of this county is 1.1% Hispanic (of any race). The average county household size is 2.74 persons compared to an average family size of 3.08 persons statewide.

In 2006 health care and social assistance was the largest of 20 major sectors. It had an average wage per job of \$23,961. Per capita income grew by 6.1% between 1995 and 2005 (adjusted for inflation).

Table 9: Spencer County Socioeconomic Data Summary

People & Income Overview	Value	2006 Industry Overview (2006) By Place of Work	Value
2006 Population	16,475	Covered Employment	1,641
Growth percentage since 1990	142.2%	Average wage per job	\$26,146
Households (2000)	4,251	Manufacturing – Percentage of all jobs in County	1.3%
2006 Labor Force (persons)	8,478	Average wage per job	\$34,538
2006 Unemployment Rate percentage	6.1	Transportation & Warehousing – Percentage of all jobs in County	1.4%
Per Capita Personal Income (2005)	\$22,833	Average wage per job	\$39,824
Median Household Income (2004)	\$53,806	Health Care, Social Assist. – Percentage of all jobs in County	15.1%
Poverty Rate (2004)	9.3	Average wage per job	\$23,961
H.S. Diploma or More - Percentage of Adults 25+ (2000)	75.4	Finance and Insurance - Percentage all jobs in County	3.4%
Bachelor's Degree or More – Percentage of Adults 25+ (2000)	11.1	Average wage per job	\$32,690

Temporary impacts such as increased dust and noise will occur as a result of the project's construction phase. Traffic will be maintained throughout the construction process. Any inconveniences will be short term and minor. Long-term benefits include improved safety and travel conditions and an anticipated reduction in emergency response times.

**Table 10: Population Projections, 2005 – 2030
for Bullitt and Spencer Counties**

Area	2010	2020	2030
Bullitt	19,130	21,166	23,111
Spencer	12,765	14,066	15,339

Table 10, above, includes population projections for the counties. Bullitt and Spencer Counties are predicted to continue increasing in population at rates that are consistent with recent growth trends.

If no-build alternates are selected for the projects, the population trends should continue along the projected growth rates as illustrated above. If a build alternative is selected, the impacts to population trends are not anticipated to differ measurably.



Figure 3 – Project Area and Corresponding U.S. Census Tracts (Tracts are shown as the brown numbers).

1. Population by Race

U.S. Census 2002 figures were reviewed to determine the racial balance of the communities within the project area of study, and the results were compared against the racial characteristics of Kentucky (See Table 11 below).

**Table 11: Population Percentages by Race,
2002 for Kentucky and Project Area Counties**

Racial Composition	Kentucky	Bullitt County	Spencer County
White	90.1	96.1	96.8
Black	7.3	2.7	2.6
Asian, Pacific Islander	0.1	0.3	0.1
American Indian	0.25	0.2	0.0
Hispanic Origin	1.5	0.8	1.1

Census tracts were reviewed for each county within the study area to determine the areas populated by minority races. Reviews of the tracts and field visits have determined that no minority neighborhoods or communities will be displaced or segmented by the corridors that are currently being considered for this project.

Item No. 5-396.00 One area (Census Tract 801, Block Group 2, Group 2049) reported 14 people residing within its boundaries. A total of 6 of the 14 residents are African American, while the remaining 8 are Caucasian. Field visits and reviews of aerial maps indicate that the homes within Group 2049 are located approximately 800 to 1000 feet north of the existing KY 44. It is unlikely that relocations would occur within this area unless the project corridor shifts to the north. In addition, the Waterford Park, which was partially funded with Land, Water and Conservation Funds (LWCF) is located immediately east of Group 2049. The other areas within Census Tract 801 reported no minority communities.

Field visits and examinations of U.S. Census data indicated that high percentages of minority residents do not exist within or near the two smaller project corridors.

Item No. 5-395.00

- **Bullitt County Census Tract 201** was reviewed to determine which Blocks are included within the project area. Blocks 4001 and 4002 of Block Group 4 include the project area. It was revealed that 98.4 percent of the inhabitants within the tract were white in 2000. Reviews of the Census Data and field visits have indicated that no minority communities or disproportionate numbers of minorities will be relocated by this project.

Item No. 5-347.50

- **Spencer County Census Tract 801** was reviewed to determine the area which coincides with the project corridor. The project is located entirely within Census

Tract 801, and 98.4% of the inhabitants within this area are white. Only Block 2049 reported a higher ratio of minority residents. A total of 14 people lived within this Block, which is located between Plum Creek Road and Plum Creek to the north of KY 44 and the Waterford Loop Road. The Census Data indicated that 6 of the 14 residents are African American. The homes are located on the outer area of the northern limits of the project corridor and would not likely be relocated.

Potential impacts associated with the reconstruction of a highway appear to be low. If minority or ethnic communities are affected, all efforts will be made to design a roadway that will avoid relocating, dividing or otherwise disrupting minority communities.

The projects are not anticipated to cause racial balances to change if a Build Alternative is developed and selected for any of the three projects. The project would not displace or divide disproportionate numbers of minority or ethnic populations. Therefore, no environmental justice concerns appear to exist within the project corridor.

2. Poverty Rate Estimates

Census data were gathered for each of the counties within the project corridors. Poverty levels have improved for both Bullitt and Spencer Counties. The total population is the population for which poverty status is determined. Therefore, the total in this table should not be expected to match the total population in the population growth topic. The charts and tables indicate that the collective poverty rates have measurably declined in both counties, and almost categorically within each age group. Only one age group within Bullitt County did not decline. The 12- to 17-year-old category remained at 1.1 percent. The charts provide a visual comparison of the poverty rates for 1990 and 2000 and the tables provide the population totals next to the percentages for each decade.

The U.S. Census Bureau does not provide block level data for poverty status. The rapid growth rates in each county within the areas that comprise the environmental footprint have likely changed the 2000 census data. The influx of newly constructed homes would decrease the already low percentage residents living at or below the poverty levels. The field trips indicated that only two areas exist for the potential for clusters of low-income residents. The specific information is included on Pages 22 and 23.

The following pages provide comparisons of the project area, Bullitt County, Spencer County and Census Block poverty rates:

Table 12: Bullitt County

Poverty Status by Age Group, 1990 and 2000

(dark = in poverty; light = not in poverty)

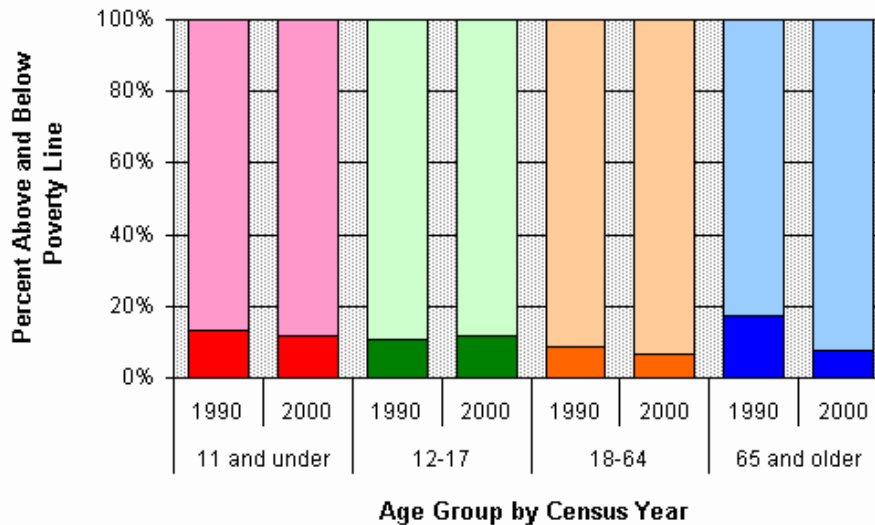


Table 13: Bullitt County Comparison of Poverty by Age, 1990 and 2000				
	1990		2000	
	Number	Percent	Number	Percent
Total Population	47,332	100.00%	60,807	100.00%
In Poverty	4,917	10.4%	4,806	7.9%
Not in Poverty	42,415	89.6%	56,001	92.1%
11 Years and Under	8,861	18.72%	10,869	17.87%
In Poverty	1,179	2.5%	1,251	2.2%
Not in Poverty	7,682	16.2%	9,618	15.8%
12 to 17 Years	4,945	10.45%	5,538	9.11%
In Poverty	522	1.1%	637	1.1%
Not in Poverty	4,423	9.3%	4,901	8.1%
18 to 64 Years	30,315	64.05%	39,737	65.35%
In Poverty	2,657	5.6%	2,564	4.2%
Not in Poverty	27,658	58.4%	37,173	61.1%
65 Years and Above	3,211	6.78%	4,663	7.67%
In Poverty	559	1.2%	354	0.6%
Not in Poverty	2,652	5.6%	4,309	7.1%

Table 14: Block Group 4, Census Tract 201, Bullitt County Poverty Status

	1999 Totals
Total:	1,548
Income in 1999 below poverty level:	0
Under 5 years	0
5 years	0
6 to 11 years	0
12 to 17 years	0
18 to 64 years	0
65 to 74 years	0
75 years and over	0
Income in 1999 at or above poverty level:	1,548
Under 5 years	98
5 years	0
6 to 11 years	127
12 to 17 years	193
18 to 64 years	1,042
65 to 74 years	73
75 years and over	15

Table 15: Spencer County

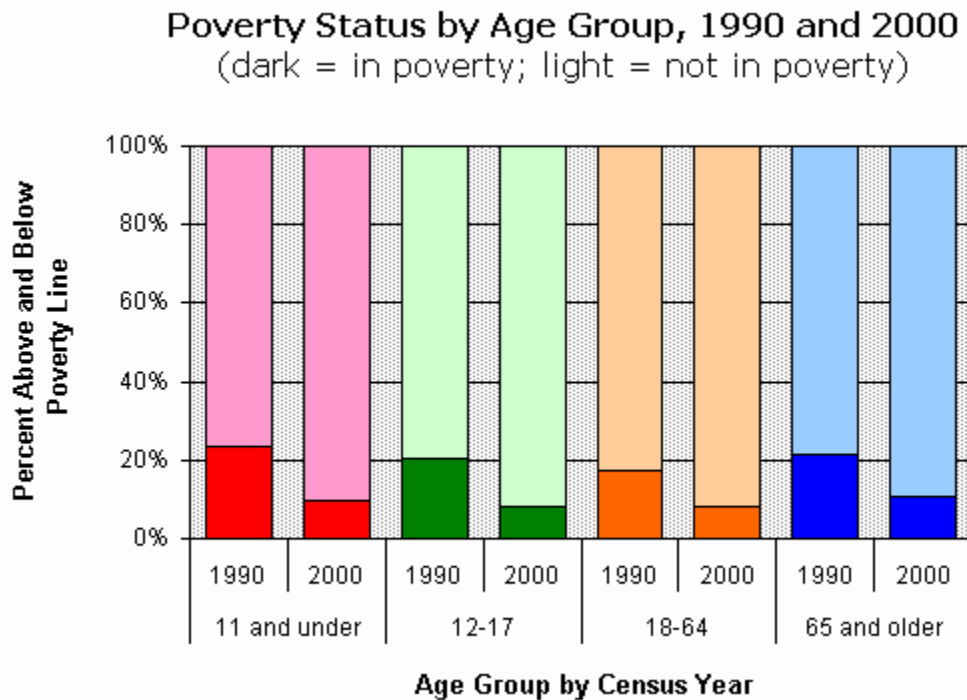


Table 16: Spencer County, Comparison of Poverty by Age, 1990 and 2000				
	1990		2000	
	Number	Percent	Number	Percent
Total Population	6,731	100.00%	11,597	100.00%
In Poverty	1,292	19.2%	1,015	8.8%
Not in Poverty	5,439	80.8%	10,582	91.3%
11 Years and Under	1,220	18.13%	2,072	17.87%
In Poverty	288	4.3%	206	1.8%
Not in Poverty	932	13.9%	1,866	16.1%
12 to 17 Years	635	9.43%	1,071	9.24%
In Poverty	131	2.0%	89	0.8%
Not in Poverty	504	7.5%	982	8.5%
18 to 64 Years	4,108	61.03%	7,489	64.58%
In Poverty	709	10.5%	619	5.3%
Not in Poverty	3,399	50.5%	6,870	59.2%
65 Years and Above	768	11.41%	965	8.32%
In Poverty	164	2.4%	101	0.9%
Not in Poverty	604	9.0%	864	7.5%

Table 17: Block Group 2, Census Tract 801, Spencer County Poverty Status

	Block Group 2, Census Tract 801, Spencer County, Kentucky
Total:	3,038
Income in 1999 below poverty level:	121
Under 5 years	6
5 years	0
6 to 11 years	0
12 to 17 years	5
18 to 64 years	73
65 to 74 years	27
75 years and over	10
Income in 1999 at or above poverty level:	2,917
Under 5 years	281
5 years	74
6 to 11 years	302
12 to 17 years	277
18 to 64 years	1,827
65 to 74 years	98
75 years and over	58



Figure 4 - Stumps Mobile Home Park in Spencer County

Item No. 5-396.00 Field trips and reviews of U.S. Census data have indicated that low income neighborhoods, family clusters or evidence of socially interdependent communities might exist within two areas of the project corridor. As projects develop, these areas will be further investigated in socioeconomic baseline studies and conceptual stage relocation reports. As alternatives are developed these analyses will assist in indicating Environmental Justice issues are evident, and if the project would affect the areas directly

(relocations) or indirectly (community divisions). One area is located within the Waterford Loop and the other is the Stumps mobile home park (See Figure 4, left) on Stumps Lane, north KY 44 and west of Waterford (See Figure 5 on next page). Field trips indicated that between 50 and 60 homes exist south of KY 44 within and surrounding the Waterford Loop, and an estimated 25 to 30% of these homes appear to be occupied by low-income residents. If environmental justice issues are determined to be of concern, care should be taken to avoid relocating and segmenting neighborhoods or communities that support these residents.

The majority of homes within the project area do not appear to be of low-income neighborhoods, and reviews of census data and conversations with local officials indicated that no low-income concerns exist within this area. Most individuals that would



meet conditions indicating existence at or below the poverty level are located within or near the limits of the cities. The potential impacts associated with the reconstruction of sections of KY 44 appear to avoid causing disproportional impacts to low income neighborhoods, and no environmental justice issues appear to exist within the corridor.

Item No. 5-347.50 No neighborhoods are located within the project corridor that would result in disproportionate impacts to low-income families. No environmental justice concerns area evident within the project.

Item No. 5-395.00 No neighborhoods are located within the project corridor that would result in disproportionate impacts to low-income families. No environmental justice concerns area evident within the project.

B. Economic Data

1. Major Manufacturers by County

The purpose of identifying and listing manufacturing statistics is to establish relationships between population patterns, commuting patterns, income distributions and employment conditions within the respective counties and the labor market areas. Data sources were reviewed for Spencer County, and no major manufacturers were identified within Spencer County. Table 18 on the following page lists the major manufacturing firms for Bullitt County, and their corresponding products, total number of employees and the year of establishment:

Table 18: Bullitt County Manufacturing Firms

Firm	Product(s)/Service(s)	Employees	Year Established
<i>Clermont</i>			
Jim Beam Brands Co	Dried grain, vodka & bourbon whiskey distillation; cordial cocktails	425	1934
<i>Lebanon Junction</i>			
MAC Manufacturing Co Inc	Automatic barrel filling devices, stencils, lifts & materials handling equipment; robots, pick and place units, and turntables	22	1957
Publishers Printing Co	Printing publications or magazines	862	1991
<i>Mt. Washington</i>			
Smith's Laminating Shop Inc	Custom laminated cabinets	31	2005
<i>Shepherdsville</i>			
AEC One Stop Group Inc	Home entertainment product distribution and fulfillment center	100	2003
Best Buy Stores L P	Computer products repair center	550	2006
Bluegrass Pallets Co	Wood pallets	21	1967
Bullitt County Stone Co	Crushed limestone	30	1967
Dri-View Manufacturing	Custom assembling, packaging & mailing service, warehousing and fulfillment services	53	2004
Genco	Distribution center; third party logistics	45	2004
Gordon Food Service	Foodservice distribution center	275	2006
GSI Commerce Solutions Inc	Electronic commerce fulfillment & distribution	300	2004
Linens N Things Inc (LNT)	Distribution center	260	2002
Monarch Hardware Manufacturing	Exit hardware	56	1965
Piccola Manufacturing Co	Materials handling equipment, specialty conveyors & prototypes; custom steel, stainless steel & aluminum fabricating & robotic welding	45	1950
Publishers Printing Co	Offset & lithographic printing, typesetting, saddle stitch & perfect binding	846	1866
Quality Stone & Ready Mix Inc	Crushed limestone & ready-mixed concrete	33	1965
Standard Publishing & Printing	Commercial offset & lithographic printing	26	1987
Union Tools Inc	Distribution of lawn and garden tools (non-motorized), light assembly	80	2002
Zappos.com	Fulfillment center; footwear, handbags, apparel and accessories	440	2006

Source: Kentucky Cabinet for Economic Development (8/21/2007).

2. Labor Force Market

The counties within this study area and the defined labor market areas indicate that a high number of the area population will be available for existing and future labor. Following are maps that identify the labor market areas (LMA) for both counties.

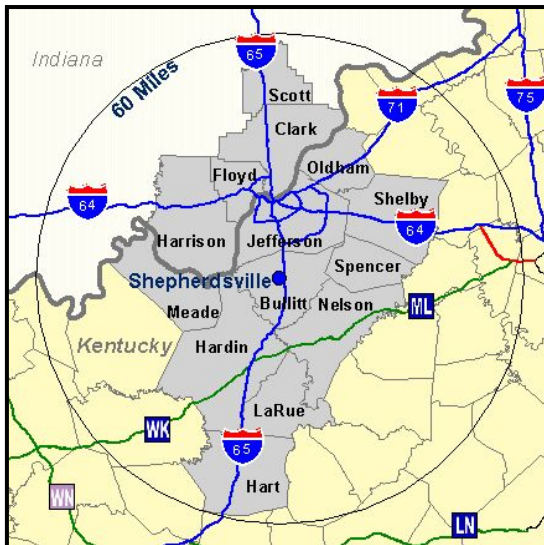


Figure 6: Bullitt County Labor Market Area

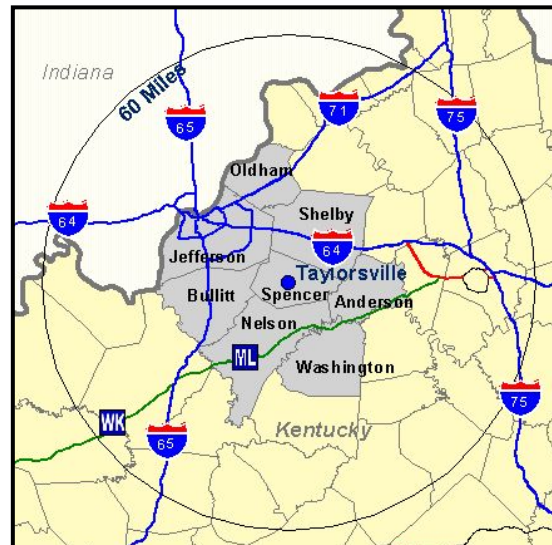


Figure 7: Spencer County Labor Market Area

Table 19, below, illustrates the conditions of labor forces for each of the counties and their respective labor market areas (LMA). Each county and its corresponding LMA is illustrated above.

TABLE 19: Labor Characteristics for Each County and LMA*

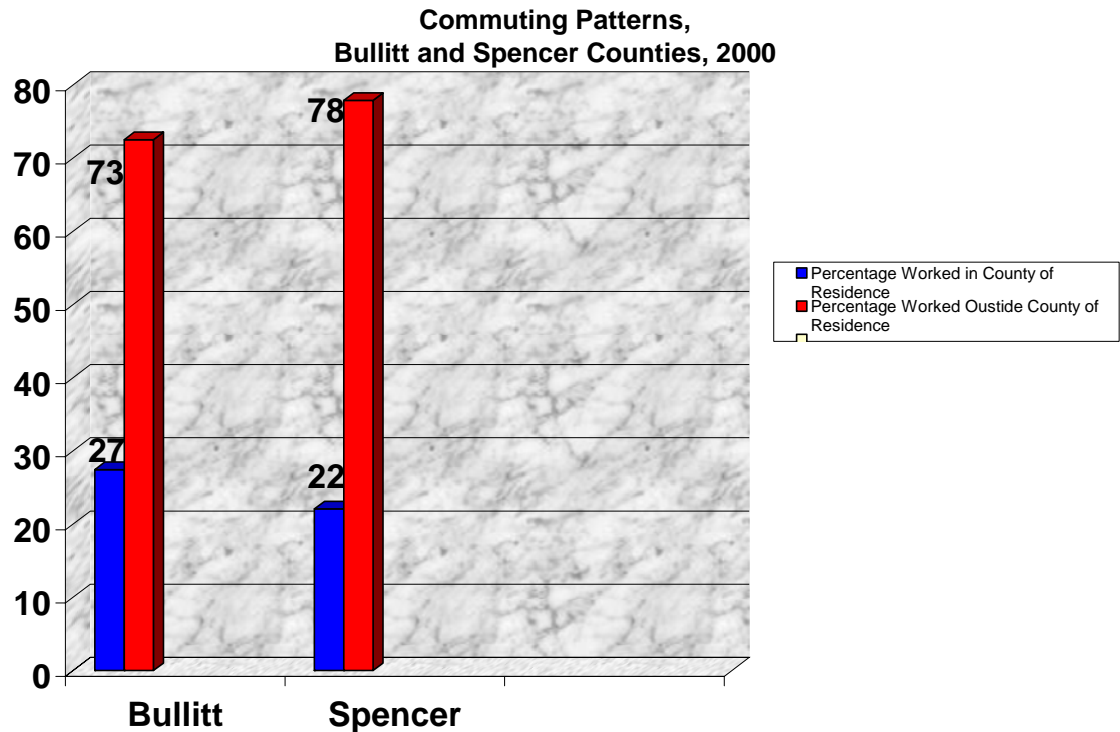
(* LMA totals overlap. Several counties are included in each LMA.)

	Bullitt County		Labor Market Area	
	2002	Nov. 2003	2002	Nov. 2003
Civilian Labor Force	7,958	7,753	43,144	43,299
Employed	7,527	7,415	40,311	40,944
Unemployed	431	338	2,833	2,355
Unemployment Rate (%)	5.4	4.4	6.6	5.4
	Spencer County		Labor Market Area	
	2002	Nov. 2003	2002	Nov. 2003
Civilian Labor Force	4,689	4,669	41,306	41,815
Employed	4,430	4,501	39,090	40,057
Unemployed	259	168	2,216	1,758
Unemployment Rate (%)	5.5	3.6	5.4	4.2
Unemployment Rate (%)	7.3	6.1	6.7	4.6
Unemployment Rate (%)	5.1	4.0	6.0	4.4

3. Commuting Patterns

Table 17, below, illustrates data that report the number of commuters who work within their respective counties and the total number of commuters who work outside their respective counties. It has been estimated that over 70 percent of the residents commute out of Bullitt and Spencer Counties to worksites.

**Table 20 – Commuting Pattern Percentages
of Residents and Employees, 2000**



C. FARMLAND

Build Alternatives will affect farmland and if federal funds are used to assist in financing proposed projects, Land Evaluation Site Assessments (LESA) will be conducted in coordination with the United States Department of Agriculture (USDA), Natural Resources Conservation Services (NRCS) offices for Bullitt and Spencer Counties for each Build Alternative as appropriate. The no-build alternate, if selected, would have no effects farmland. Improvements to crossroads will be necessary to provide safe and efficient access between the county seats and the improved KY 44. This could cause small additional losses of farmland.

Soils that are indicated (See Figure 8, following page) in green colors are of statewide importance and/or rated as prime farmland. Soils that are indicated in red and orange colors are not prime farmland or of state importance. Field trips and reviews of the USDA Web Soil Survey maps indicate that 50 to 60 percent of the project corridor is located within farmland that would be considered to have prime or unique

characteristics; however the projects would be primarily improvements to the existing roadway, and not a new facility. This would minimize impacts to farmland within the project corridor area. A Land Evaluation Summary Assessment form will be filled out once build alternatives are developed. The map includes a wider corridor to display a pattern of the soils in relation to the existing roadway.

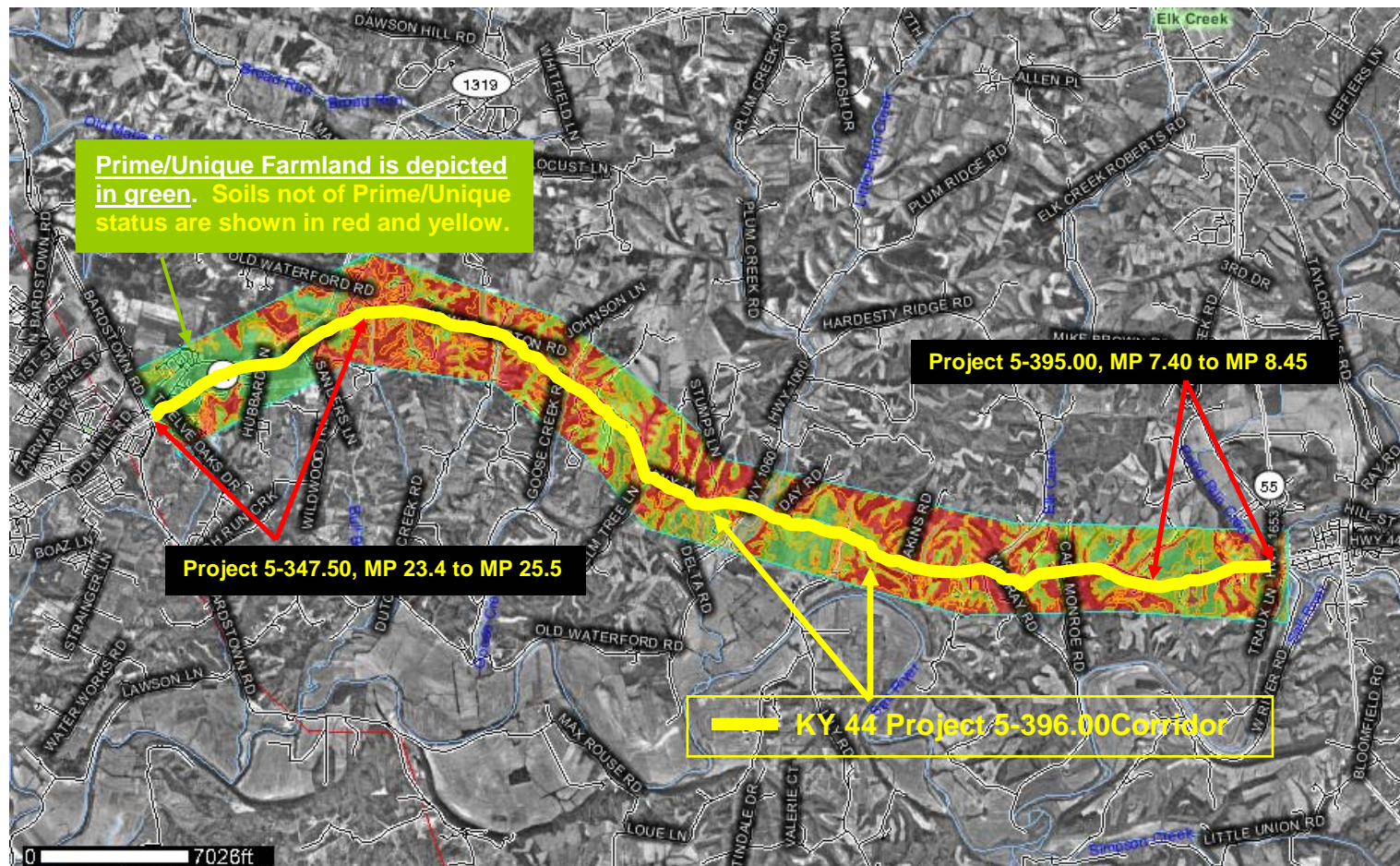


Figure 8, KY 44 Project and Farmland Soils

Item No. 5-396.00 Half of the comprehensive project corridor is situated on land that is classified as prime and unique farmland. An expanded view of the soils beyond the project corridor has been provided to indicate that the avoidance of prime and unique farmland is unavoidable. In addition, the project corridor would be mainly situated atop and along existing KY 44, which would minimize the amount excavations in comparison with a new highway.

Item No. 5-395.00 the Spencer County project, will also be located within an area of the overall project corridor that is mainly prime and unique farmland. Land use in this area is also changing. Several roadways have been constructed to accommodate new neighborhoods. In addition, a sign advertising parcels for sale was noted just west of the cemetery and across the street from the schools. Care will be taken to minimize impacts to areas where active farming is still prevalent.

Item No. 5-347.50, Much of the area within the western portion of the project in Bullitt County is experiencing a transition from agricultural to commercial and residential land use. Farmland within the Bullitt County project is mainly prime and unique farmland, however most of the land is in transition to residential and commercial land uses. The roadway improvements will not impact farmland losses as greatly as a new highway or road, but care should be taken to minimize impacts especially where farming activities are still evident.

- **Farmland Preservation** Under Kentucky's Farmland Preservation Program, the Purchase of Agricultural Conservation Easement (PACE) Corporation has been authorized to purchase agricultural conservation easements. These easements are to ensure that lands currently in agricultural use will continue to remain available for agriculture and not be converted to other uses. Since 1994, PACE has purchased conservation agreements with 75 farms totaling 16,238 acres. In addition, 19 easements on 3,069 acres have been donated to the program. Another 512 applications are pending for a total of 101,000 acres.

In the project area, three conservation easements have been purchased in Bullitt County. No conservation easements have been purchased in Spencer County. The easements in Bullitt County are not located within the project corridor area. The entire corridor does not appear to have the potential to impact conservation easements purchased by PACE.

D. Section 4(f) and Section 6(f) Resources

1. Section 6(f) Resources The project area was reviewed and inspected for outdoor recreational land and water areas, and facilities that were established with assistance from grants-in-aid from the Land and Water Conservation Fund (LWCF). The National Park Service and the Kentucky Department for Local Government administer these funds to local jurisdictions. Counties and cities in the project area have received funds for parks, swimming pools, boat ramps, tennis courts, and baseball fields (see Table 18 below for a breakdown of the number of Section 6(f) resources by county).

Table 21: Section 6(f) Resources

County	Number of Section 6(f) Resources within the Project Corridor	Section 6(f) Resources Potentially Affected
Bullitt	15	0
Spencer	6	1

Properties acquired or developed with LWCF assistance are prohibited by Section 6(f) of the Land and Water Conservation Fund Act from conversion to other than public outdoor recreation use without approval of the National Park Service. This approval can only occur after all practical alternatives have been

considered. When LWCF facilities are impacted through either partial or total acquisitions, the property acquired must be replaced with property that is of equal, or greater, fair market value, and the land must be used for similar purposes.

Item No. 5-396.00 While several recreational facilities within the project counties have received LWCF monies, only the Waterford Community Park near Taylorsville had the potential to be affected. The Waterford Community Park contains softball fields, basketball, a tot lot, walking trails, and picnic area. Any widening on the north side of KY 44 in front of the park would acquire property from a Section 6(f) resource, but it is not anticipated that the 6(f) portions of the property would be acquired. The Kentucky Transportation Cabinet contacted the Governors Office for Local Development (GOLD). GOLD conducted an archival research of the property and determined that if the existing roadway is widened to the north, no impacts would be realized to portions of the park that were funded with LWCF monies and no Section 6(f) impacts should occur to this park. If future Build Alternatives are selected in this area of the project corridor, further coordination with GOLD will be required to determine the locations of the LWCF portions of the park. Alternatives on the south side of the existing roadway would not likely require property acquisition from the park.

Item No. 5-347.50 The Bullitt County project will not impact any Section 6(f) resources.

Item No. 5-395.00 The Spencer County project will not impact any Section 6(f) resources.

2. Section 4(f) Resources If Federal Transportation funds are used as part of the financing of any of the three project corridors, It is national law that special effort be made to preserve public park and recreation lands, wildlife and waterfowl refuges, and historic sites. In the Transportation Act of 1966, a special provision was included to provide protection to these resources. This provision, known as Section 4(f), stipulates that the Federal Highway Administration (FHWA) will not approve any program or project, which requires the use of any publicly owned park, recreation area, or wildlife or waterfowl refuge, or any land from an historic site of national, state, or local significance, unless: (1) no feasible and prudent alternate is present, and (2) all possible avenues of avoidance or minimization are explored and implemented.

Item No. 5-347.50 – Bullitt County Project Corridor. Section 4(f) resource impacts were not identified within this corridor. No impacts are anticipated.

Item No. 5-395.00 – Spencer County Project Corridor. Section 4(f) resources are likely, and are associated with historic and archaeological sites that are listed on, or are eligible for the NRHP. No other resources were located within the corridor.

Item No. 5-396.00 – General Project Corridor. Section 4(f) resource impacts are likely and are associated with properties that are eligible for, or listed, on the

National Register of Historic Places. These resources include historic and archaeological sites. One other resources were located within this corridor, the Waterford Community Park, is a public park. If right of way requires acquisition of part or all of this property, a Section 4(f) impact will occur.

E. Aesthetics/Visual Impacts

It is anticipated that the project will have only a minimal visual impact on the area communities such as Mount Washington, Waterford and Taylorsville. The aesthetic quality of a community is composed of visual resources such as those physical features that make up the landscape, including land, water, vegetation, and man-made features (e.g., buildings, roadways, and structures). Visual impacts affect communities from two perspectives:

- 1) the view from the road, and
- 2) the view of the road.

Item Nos. 5-396.00, 5-347.50 and 5-396.00 – The project is expected to have only minor visual effects on the area. The project corridor is not part of the Kentucky Scenic Byway system. No corridor features, scenic areas or recognized areas of beauty should be acquired within the project corridor. The most noticeable visual impact of the project will be the removal of existing vegetation. This will affect nearby residents. To minimize visual impacts, efforts should be made to only clear vegetation necessary for construction, proper sight distances, and horizontal clearance requirements. Re-vegetation with native flora would minimize the visual impacts of the project construction.

Potential visual effects on several historic properties within Item No. 5-395.00, the Taylorsville project corridor, and Item No. 5-396.00, the Bullitt/Spencer project corridor, could be mitigated with appropriate landscaping.

If no-build alternates are selected, no visual changes will occur in the area. If Build Alternatives are selected, the improved roadways will be located in areas that have been occupied by the existing KY 44. Indirect and cumulative impacts could include highway commercial development (i.e. gas stations, restaurants, hotels) at intersections and junctions, and improvements to KY 44 could induce additional development along the existing corridor – primarily close to the city limits of Mount Washington and Taylorsville. However, some development is occurring throughout the entire project corridor and the projects could accelerate these activities.

F. Pedestrian and Bicycle Facilities

KYTC will consider the need for bicycle facilities and pedestrian walkways as required by the Kentucky Pedestrian and Bicycle Travel Policy (July 2002). The considerations will be for Item **No. 5-347.50** in Bullitt County, Item No. **5-395.00** in Spencer County, and for the entire project corridor (**Item No. 5-396.00**).

Item No. 5-396.00, Bullitt/Spencer Counties Project Corridor – Little bicycle traffic and no bicycle facilities exist within the entire project area. If a Build Alternative is selected, no facilities would be constructed for the entire project corridor. The new highway should still improve conditions for bicyclists by providing wider, paved shoulders or sidewalks as part of the improved roadway sections.

Item No. 5-347.50, Bullitt County – A portion of the KY 44 section in Bullitt County is urban in nature. Wider lanes exist in the area immediately east of the intersection with US 31E and a sidewalk is featured in this urban area between the intersection and the Bullitt East High and the Old Mill Elementary schools. The project lanes transition from 12 to 10-foot in width and to a rural facility just past the schools, and no bicycle facilities or pedestrian walkways exist within the remaining project area along KY 44. The concentration of homes and the high school in the area indicate that some pedestrian and bicycle traffic is likely to occur in this area, especially during school hours. Coordination with local officials should determine if the need for additions of or improvements to these facilities are needed within the project corridor.

Item No. 5-395.00, Spencer County – This project features no bicycle or pedestrian facilities. Due to the primarily rural nature of the project corridor it is anticipated that there will be little pedestrian traffic and there might not be a need for pedestrian walkways as part of the project. Schools and a subdivision exist on the south side of existing KY 44, but no sidewalks are featured along the roadway. Sidewalks might not be necessary in this area because the homes are not located along the roadway. If an urban curb and gutter typical section is used in this section, sidewalks would likely be included. Coordination with local officials should determine if the need for additions of or improvements to these facilities are needed within the project corridor.

G. Social Institutions, Non-profit Organizations

The project corridor features various public institutions including a volunteer fire department, three cemeteries, four churches and four public schools. Descriptions of these areas of interest and their locations in relation to the projects are provided on the following pages.

Item No. 5-396.00, the General Project Corridor –

Cemeteries – A cemetery associated with the Plum Creek Baptist Church was identified near the community of Waterford. It is located just north of KY 44 behind the church building and just west of Plum Creek.

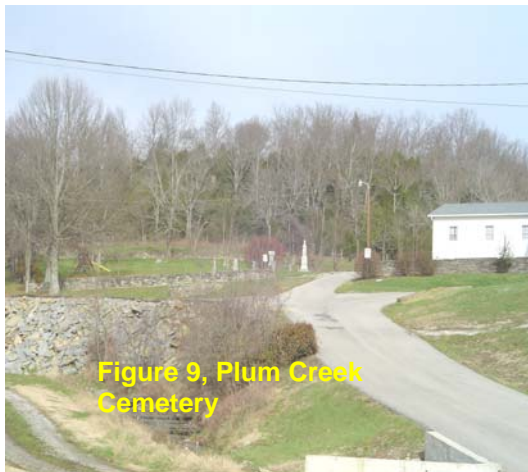


Figure 9, Plum Creek Cemetery



Figure 10, Plum Creek Baptist Church

Churches – A total of four churches exist within the entire project corridor. The First Assembly of God is located in the Item **No. 5-347.50** project section.

The Plum Creek Baptist Church, as seen above, is located in the community of Waterford and is associated with the cemetery mentioned in the previous section.

The Waterford Church of Christ, below, is located just west of the Plum Creek Baptist Church. It is located just north of the Waterford community.



Figure 11, Waterford Church of Christ

A Jehovah's Witnesses Kingdom Hall, below, is located just north of KY 44 in Bullitt County near Milepoint 25.7 at Cedar Lake Drive.



Figure 12, Kingdom Hall, Jehovah's Witnesses

Non-profit Organizations

The Spencer County Fire District, Station 3 building is located on the south side of existing KY 44 (5101 Mount Washington Road). It is a volunteer fire fighting operation. Interruption of services to area residents should be avoided if relocation is necessary.



Figure 13, Spencer County Fire District, Station No. 3

Item No. 5-347.50, Bullitt County

Cemeteries - The Saint Francis and Mount Washington Cemeteries are located within the project corridor on the south side of existing KY 44. It is unlikely that either of these cemeteries will be included as right-of-way for the project build alternatives. Care will be taken to avoid these sites if the corridor shifts or if alignments must be considered in the most southern areas of the corridor.

Schools - The Bullitt East High School is located just north of the project corridor between Milepoints 23.5 and 23.7. It is unlikely that the high school would be relocated by this project. Located immediately adjacent to Bullitt East High School is Old Mill Elementary School.



Figure 14, Bullitt East High School

Churches – The First Assembly of God (below) is located just north of the existing KY 44 near milepoint 24.4. The building is located off the road at a distance that should allow avoidance of relocation.



Figure 15, First Assembly of God
Property, Bullitt County

Item No. 5-395.00, Spencer County

Cemeteries – The Valley Cemetery is located on the northern edge of the project corridor along the existing KY 44 roadway at approximately Milepoint 7.9. Care should be taken in this area to avoid the cemetery if possible.



Schools – The Spencer County Middle and Elementary Schools are located on the south side of the existing KY 44 just past the Cemetery between milepoints 7.6 and 7.8.

Every effort will be made to avoid affecting or relocating these institutions. No other non-profit or social institutions are evident within this project corridor. As alternatives are developed, corridor-specific assessments will be required as part of the socioeconomic/conceptual state relocation report to identify specific impacts and mitigation measures if they cannot be avoided.

H. CULTURAL AND HISTORIC RESOURCES

1. Historic Resources

Information about the historic cultural resources Bullitt and Spencer Counties was compiled from the Kentucky Heritage Council (which is considered the State Historic Preservation Officer or SHPO) site files, National Register of Historic Places, and County planning documents. In March 2008, Cultural Resource Analysts, Inc. (CRAI) completed the fieldwork for the cultural historic overview survey of the KY 44 corridor between KY 1633 in Taylorsville and US 31E Bypass in Mt. Washington in Spencer and Bullitt Counties, Kentucky (5-347.50, 3-395.00, and 5-396.00). The map is included in the exhibits, which begin on page 51, as Figures 2A and 2B. The purpose of this survey was to identify cultural historic resources within this corridor, particularly those that appear potentially eligible for listing in the National Register of Historic Places. This survey report will be used as a planning study to guide the development of future transportation improvements in this area.

Prior to initiating fieldwork (January, February and March 2008), a search of records maintained by the SHPO was conducted to determine if previously recorded cultural historic sites were located in the area of potential effect. This inquiry indicated that 47 individual sites (Sites 1, 3, 4, 6, 8, 21-25, 30, 37-39, 41, 42, 44, 48, 52, 56, 58-74, 78, 82, 84, 87, 88, 90, 91, 116, 118, and 125) located within the area of potential effect had been previously documented. Four of these sites had been determined eligible for listing in the National Register of Historic Places according to the records of the Kentucky Heritage Council (Sites 38 [SP-64], 39 [SP-63], 42 [SP-62], and 52 [SP-61]). One of these sites is no longer extant (Site 42 [SP-62]). Another 7 previously identified historic sites are also no longer extant (Sites 23 [SP-T-2], 24 [SP-T-3], 59 [SP-W-2], 66 [SP-45], 67 [SP-46], 84 [SP-47], and 90 [SP-348]). Additionally, one previously identified historic site, Site 48 (SP-337), was indicated as the Foreman School #2, a former one-room school converted to a residence. As indicated on the mapping supplied by the Kentucky Heritage Council during the records review, this site is an American Bungalow that does not resemble the Foreman School #2 as pictured on the survey form. During the field survey, 78 previously unidentified individual historic sites (Sites 2, 5, 7, 9-20, 26-29, 31-36, 40, 43, 45-47, 49-51, 53-55, 57, 75-77, 79-81, 83, 85, 86, 89, 92-115, 117, and 119-124) were documented. Included in the survey were numerous barns that appeared to be over 50 years of age and examples of Ranch houses which may or may not be over 50 years of age. Ranch houses were built utilizing similar massing, fenestration, and materials during the third quarter of the twentieth century, thereby making the determination of exact age difficult. With the commonality of the Ranch type in both Spencer and Bullitt Counties, only exemplary examples would be eligible for listing in the National Register of Historic Places. During the survey, no Ranch-style houses appeared to meet the threshold standard for potential eligibility for listing in the National Register of Historic Places. A cemetery (Site 86) was indicated along the south side of KY 44 in Spencer County on a historic topographic map. This cemetery was not located during the overview survey, but its supposed approximate location is included on the report mapping. As a result of this survey, 15 sites were identified as potentially eligible for the National Register of Historic Places (Sites 1, 4, 6, 21, 22, 30, 32, 37, 44, 53, 54, 56, 63, 71, and 91). Final determinations of eligibility and National Register of Historic Places boundaries cannot be determined, however, until each site has been examined more closely and site-specific archival research has been completed. The totals of the sites are included in the table below:

Table 22: Cultural Historic Sites with Potential for Eligibility on the National Register of Historic Places, by Project Corridors*

Project No.	Total Number of Eligible Sites within Project Corridor
Item No. 347.50	0
Item No. 395.00	9
Item No. 396.00	18

*Please refer to Exhibits 2A and 2B at the back of the report to see locations of the sites.

A final determination of eligibility for the National Register sites will require additional research, photography, physical examination of the structures, and evaluation of these sites relative to the integrity standards established by similar properties in the counties under consideration, which are currently listed on the National Register, and consultation with the SHPO.

If any historic property listed or eligible for listing on the National Register is used for a federally funded transportation project, a Section 4(f) evaluation must be conducted. Under Section 4(f) of the Department of Transportation Act of 1966. A federally funded highway project can be approved only after a determination is made that no prudent and feasible alternative exists to using property from historic sites. If a historic property will be affected, avoidance alternates and mitigation measures must be considered.

2. Archaeological Resources

The study corridor consists primarily of dissected and undissected uplands, with lesser amounts of hillsides and alluvial landforms. Based on an assessment of the association between landforms and soils, it is considered likely that significant prehistoric archaeological sites could be discovered on any of the terraces or floodplains of the Salt River and its tributaries, particularly the larger tributaries (i.e., Brashears Creek, Elk Creek, Plum Creek). The upland areas are also considered to have the potential to contain archaeological sites, but these landforms are less likely to hold significant deposits because of disturbances (i.e., agricultural plowing, development) and erosion. The steep sideslopes and hillsides are considered to have low potential to contain archaeological sites, but it is possible that prehistoric caves, rockshelters, or historic cemeteries could be present. However, previous research in Bullitt and Spencer Counties suggests that cave and rockshelter sites are not often found in the region.

A review of historic maps suggested the locations of 52 potential historic sites, at least 10 of which potentially date to the nineteenth century. Most of the sites are located within the entire study corridor, Item No. 5-396.00.

Item No. 5-347.50 – A total of 10 potentially historic archaeological sites are located within Item 5-347.50.

Item No. 5-395.00 – A total of six potentially historic archaeological sites and one known site are located within Item No. 5-395.00.

Item No. 5-396.00 – The investigation revealed that two known sites are located within Item No. 5-396.00. These sites are more likely to contain significant archaeological deposits and are therefore more likely to be considered eligible for the NRHP. In addition, at least 7 cemeteries, 9 churches, and 6 schools are present within the study corridor. These sites could potentially be considered eligible for the NRHP because they represent site types that have not been researched extensively in Kentucky.

When alignments within a corridor are developed, an archaeological survey will be conducted to identify archaeological sites. It should be noted that additional archaeological sites could be present within each corridor, but they might not be documented at this time.

I. AQUATIC AND TERRESTRIAL RESOURCES

1. Watersheds

The project area is located within the Salt River Basin, which includes all three project areas. In addition, there are nearly 9,375 miles of streams in the watershed as indicated on the 1:24,000 scale topographic maps of the area. The watershed is bounded on the north and west by the Ohio River, on the east by the drainage divide with the Kentucky River Basin, on the south by the drainage divide with the Green and Tradewater Basin. The general topography ranges from nearly flat along alluvial plains to gently rolling

pastures to hilly, steeply sloping hillsides in upland areas. The elevation of land surface ranges from slightly less than 400 feet to more than 1,200 feet above mean sea level. The 15 counties that comprise the watershed include Anderson, Boyle, Bullitt, Casey, Hardin, Henry, Larue, Marion, Jefferson, Mercer, Nelson, Oldham, Shelby, Spencer, and Washington. Major population centers in the watershed include Louisville and Jefferson County, Bardstown, Fort Knox, LaGrange, Shelbyville, Taylorsville, and many other smaller communities.

Item No. 5-396.00 – Construction of the three projects will not impact the Salt River. A total of six named streams within the basin will be crossed if a build alternative is selected for Item No. 5-396.00, but mitigation measures will ensure that impacts are minimal. The perennial streams are Little Dutchman Creek, Dutchman Creek, Goose Creek, Plum Creek, and Elk Creek.

Item No. 5-347.50 – the Bullitt County project, will not cross a named stream.

Item No. 5-395.00 – the Spencer County project, would cross Pond Creek. Mussels on the USFWS list of endangered, threatened and candidate species were located downstream of this crossing area Brashears Creek and the Salt River (see page 42).

2. Floodplain Encroachment

The Federal Emergency Management Agency (FEMA) website was reviewed for information regarding floodplains within the proposed corridors. No published floodplain information is available for the project area in Bullitt County. Published information was searched to identify potential floodplain encroachments within Spencer County. The corridor crosses three known floodplain zones within Spencer County. All floodplains crossed are listed as 100-year flood areas with no flood hazard factors determined (Zone A areas). Maps of the areas where the 100-year Floodplain coincides with the project area are included in Figure 1, Appendix B. The locations of the floodplains in this figure are illustrated in purple shading.

Item No. 5-396.00, the Project Corridor – Two Zone A floodplain areas along Plum Creek and Elk Creek, and the potential to cross Pond Run Creek exists just west of the City of Taylorsville on the northern edge of the project corridor. Additional floodplain zones likely exist along streams in Bullitt County, but these zones are not mapped. Zone A floodplains could exist along Dutchmans and Little Dutchmans Creek, located along the boundary with Spencer County. The project could also cross the edge of Brashears Creek at the Taylorsville city limits. This area is located at the confluence of Pond Run Creek and Brashears Creek.

Some floodplain impacts (i.e. loss of riparian vegetation, disturbance of habitat, potential for increased sedimentation in the stream, etc) would be expected during construction if this corridor were selected. Fills and/or cuts in the floodplains during construction may limit the buffering capacity of flood control for that area.

Item No. 5-347.50, Bullitt County – It does not appear that any impacts to floodplains would likely be associated with this project. The project is located within an area that is

mostly developed, and no streams were evident in the area that appeared to have floodplain encroachments.

Item No. 5-395.00, Spencer County – This project is located adjacent to the Brashears Creek 100-year floodplain. The eastern terminus at KY 1633 does not appear to encroach upon the floodplain, but as alternatives are developed, further coordination with FEMA is recommended to ensure that impacts are avoided or minimized. The floodplain exhibits are included in Exhibits 1 and 2, pages 2 and 3.

3. Stream Crossings

The project area would involve crossing six named streams within the **Item No. 5-396.00** corridor. Impacts to these areas may range from water quality issues to channel changes to removal of plant and animal habitat. Bridges, culverts, and other structures will need to be constructed or widened and updated for the project areas. No crossings are anticipated for the **Item No. 5-347.50** corridor in Bullitt County. **Item No. 5-395.00** in Spencer County would cross Pond Creek.

Perennial (water is always present in perennial streams) and intermittent (water is present except in late summer and fall in intermittent streams) stream crossings occur throughout the study corridor. The project area has the potential to cross approximately 6 perennial streams (these streams currently have some structure, bridge or culvert, spanning them) and several intermittent streams. The perennial streams are Little Dutchman Creek, Dutchman Creek, Goose Creek, Plum Creek Elk Creek and Pond Creek. An area south of the confluence of Pond and Brashears Creeks and the KY 44 bridge into Taylorsville is an area where several species of mussels as identified in Tables 23 and 24 on Pages 40 and 41, have been cited in this area. The project does not appear to impact this area. If the corridor shifts to the south from the existing KY 44 bridge over Brashears Creek, the Environmental Coordinator in the KYTC District 5 office should be contacted.

Ephemeral stream (water rarely is present except during and immediately after a rain event) crossings could not be determined from viewing topographic maps and field visits. The amount of actual stream crossings will likely be reduced when alignments are selected within the corridor. Potential for channel changes exists as well with construction in this corridor. Various impacts to streams and creeks will likely require permits and potential stream restoration/mitigation. Ephemeral streams will be investigated once alignments are determined.

4. Outstanding and Exceptional Water Resources

The environmental footprint area is situated within the Salt River Basin. A review of the KY Environmental and Public Protection Cabinet website indicated that no Wild and Scenic rivers have been identified within the project area. In addition no Special Use waters, Exceptional Waters, Reference Reach or Federally Designated Waters or Streams are situated within the footprint area.

5. Wetlands

Wetlands were identified by conducting field visits and using National Wetland Inventory (NWI) maps for Bullitt and Spencer Counties. The maps included the Mt. Washington, Waterford and Taylorsville quadrangles. It appears that between 20 and 24 wetlands

classified as PUBHh were located within or adjacent to the project corridor. PUBHh wetlands are palustrine and have unconsolidated bottoms with over 25% of the cover of particles being greater than 6 to 7 centimeters. Their vegetative cover is less than 30 percent. These wetlands are permanently flooded, diked or impounded and can be fish or agricultural ponds.

Item No. 5-396.00 – General Project Corridor – Field visits and reviews of NWI maps revealed approximately fifteen to seventeen riverine wetlands, which occur along the streams that are crossed by the existing KY 44 and the studied 2000-foot wide corridor. No forested wetlands, emergent wetlands or lacustrine (lake) wetlands were observed or identified within the project corridor. A total of two riverine wetlands were identified along Plum Creek and Elk Creek. Upon selection of alignments within this project, many of the wetlands could be avoided. Actual totals of wetlands impacts cannot be addressed until final alignments are selected. Best judgment should be used when designing alignments to avoid impacting wetlands. If this is not possible, mitigation may be an option to compensate for the impacts.

Item No. 5-347.50, Bullitt County – Reviews of NWI maps indicated that an estimated 15 to 20 wetlands are located near the project area. Over half these wetlands are ponds and all of the wetlands are located on the edges or outside of the project corridor.

Item No. 5-395.00, Spencer County – No jurisdictional wetlands exist within the project corridor.

6. Federal and State Threatened and Endangered Species

The data summarized in this analysis represents known occurrences of federal threatened and endangered species within both corridor options. Information came from coordination with the United States Fish and Wildlife Service (USFWS) in Frankfort, Kentucky. In addition the Kentucky Department of Fish and Wildlife Resources and the KY State Nature Preserves provided information identifying species of concern that might exist within Bullitt and Spencer Counties. Initial data was also gathered from county records displayed on the USFWS website. This information is very general and does not necessarily imply that a specific number of impacts would occur within a corridor. The following paragraphs list and briefly describe the federally threatened and endangered species that can occur within the project's corridors.

Table 23 - Endangered, Threatened, & Candidate Species in Bullitt County

Group	Species	Common name	Legal* Status	Known** Potential
Mammals	<i>Myotis grisescens</i>	gray bat	E	K
	<i>Myotis sodalis</i>	Indiana bat	E	K
Mussels	<i>Pleurobema clava</i>	clubshell	E	K
	<i>Plethobasus cooperianus</i>	orangefoot pimpleback	E	K
	<i>Pleurobema plenum</i>	rough pigtoe	E	P

Table 23, Continued

Group	Species	Common name	Legal* Status	Known** Potential
	<i>Potamilus capax</i>	fat pocketbook	E	P
	<i>Cyprogenia stegaria</i>	fanshell	E	P
	<i>Epioblasma torulosa rangiana</i>	Northern riffleshell	E	P
	<i>Lampsilis abrupta</i>	pink mucket	E	P
	<i>Plethobasus cyphus</i>	sheepnose	C	P
	<i>Obovaria retusa</i>	ring pink	E	P

*E – Endangered Species, T – Threatened Species, C – Candidate Species

** - K – Known to exist in county, P – Potential to exist in county.

Table 24 - Endangered, Threatened, & Candidate Species in Spencer County

Group	Species	Common name	Legal* Status	Known** Potential
Mammals	<i>Myotis sodalis</i>	Indiana bat	E	K
	<i>Myotis grisescens</i>	gray bat	E	K
Mussels	<i>Pleurobema clava</i>	clubshell	E	K
	<i>Cyprogenia stegaria</i>	fanshell	E	K
	<i>Epioblasma torulosa rangiana</i>	Northern riffleshell	E	K
	<i>Lampsilis abrupta</i>	pink mucket	E	K
Plants	<i>Trifolium stoloniferum</i>	running buffalo clover	E	P

- Indiana Bat

Item No. 5-347.50, Item No. 5-395.00, & Item No. 5-396.00 – The federally endangered Indiana bat (*Myotis sodalis*) is a medium-sized bat, 3.5 inches in length, with dark gray to brownish-black fur (Slone and Wethington, 2001). Typical winter habitats for the Indiana bat include limestone caves with stable temperatures of 39 to 46 degrees F. During summer months, maternity colonies roost under loose bark in floodplain and riparian forests. Indiana bats forage along streams or other bodies of water near forests, as well as in the canopy of upland and bottomland forests. The Indiana bat is listed as occurring in Bullitt and Spencer Counties.

The project corridors feature no forested areas suitable for habitat since no contiguous tracts of forest exist. A total of two roosting trees were located in an area north of the existing KY 44 near Cedar Lake Road (within the **Item No. 5-396.00** project corridor). Both were hickory trees located in a developed residential area.

The project crosses several large streams, but no stands of suitable tree specimens were identified within the 2000-foot wide study corridor for any of the three project areas.

- **Gray Bat** The gray bat (*Myotis grisescens*, federally endangered) is a medium-sized bat, 3-4 inches in length, with gray fur which is sometimes russet in summer. Gray bats roost, breed, rear young, and hibernate in caves year round. They migrate between summer and winter caves and will use transient or stopover caves along the way (Slone and Wethington, 2001).

Item No. 5-347.50 – the Bullitt County project. The gray bat is listed as occurring in Bullitt County, but no streams are located within the project area. No suitable habitat for Gray bats exists within this corridor. Most of the project corridor in Bullitt County is clear of riparian zones from residential and commercial development or in association with development activities. Less karst topography occurs in this area of Bullitt County than in the footprint area in Spencer County.

Item No. 5-395.00 and Item No. 5-396.00 – The Gray bat is listed as occurring in Spencer County. Field visits to identify suitable habitat in the area were conducted, and none were found within the corridor. Therefore it is not likely to be encountered in Item No. 5-395.00, and is not likely to occur within the Bullitt County section of Item No. 5-396.00.

- **Mussel Species**

Area streams that were identified in the field trips and map reviews include Little Dutchman Creek, Dutchman Creek, Goose Creek, an unnamed tributary of Goose Creek, an unnamed tributary of Plum Creek, Plum Creek, Elk Creek and two unnamed tributaries, Chadbourne Branch and two unnamed tributaries, and Pond Creek and an unnamed tributary. It is unlikely that mussels would be located in these streams due to unsuitable habitat. The streams lacked depth, riffle pools and other features that typically support the aquatic habitat suitable for sustaining mussel populations. Surrounding land uses including residential development, culverts under the existing roadway, and agricultural activities contribute to the lack of suitable mussel habitat for any of the projects. As alternatives are developed, care will be taken to avoid this area. Additional studies and efforts to identify mussels would be conducted in the analyses of project alternatives to locate and either avoid or mitigate potential effects to these species.

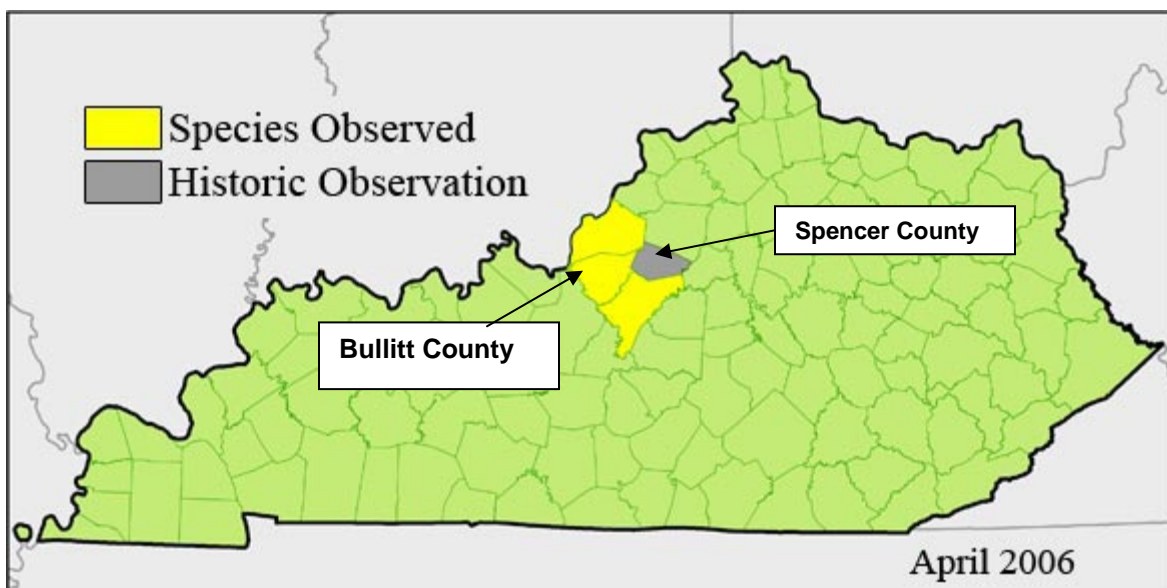
Although several mussels were identified that are listed on the USFWS list of threatened or endangered species (included in Tables 23 and 24, pages 40 and 41) no suitable mussel habitats appear to exist within the project corridors of **Item No. 5-347.50, Item No. 5-395.00 or Item No. 5-396.00**. Even though no mussel species are likely to be identified within the project corridor, several mussel species have been identified in Brashears Creek and the Salt River which is adjacent to **Item No. 5-395.00 and Item No. 5-396.00**. As alternatives are developed further investigation of all project streams and Brashears Creek and the Salt River could be conducted to confirm that mussels do not exist within project alternative corridors.

Item No. 5-395.00, & Item No. 5-396.00 – Running buffalo clover is a perennial clover and is listed as potentially existing only in Spencer County. The leaves are light green and the flowers are white and approximately 0.05 inches long. Flowering occurs in April and May. Habitats vary for this species, ranging from stream banks and low, moist forests to successional areas in mesic forests. Running buffalo clover grows in areas with filtered light. It is found in areas with moderate periodic disturbances such as light grazing, animal trails, footpaths, dirt roads or occasional mowing. Due to the rural nature of portions the project corridor, potential habitat for running buffalo clover is present. The project could disturb some potential habitat through construction activities and paving. As alternatives are developed, field visits could be required to determine if running buffalo clover exists within the proposed rights of way.

The U.S. Fish and Wildlife Services, the Kentucky Department of Fish and Wildlife Resources (KDFWR) Fish and Wildlife Information System (FWIS) and the Kentucky State Nature Preserves Commission (KSNPC) County Report of Monitored Species were consulted for lists of state and federal threatened and endangered species that could occur within the environmental footprint. Sensitivity will be shown to these species when considering alternatives. See Appendix A, Figure 1 for a list of state and federal threatened and endangered species that occur within the corresponding counties.

Item No. 5-346.50 and 5.396.00 – KY glade cress (*Leavenworthia exigua* var. *laciniata*) This plant is about 2-4 inches in height. Small white to lilac colored flowers with four petals appear usually beginning in mid to late March. It is believed that glade cress formerly grew in bison trails and wallows, especially since some of the main bison trails (such as State Road 480) and mineral licks in the region are located here in close association with the range of glade cress. With the bison gone, these tiny plants have become associated with other hoofed animals, primarily cattle.

Figure 17, Known Kentucky Occurrences of KY Glade Cress



Glade cress grows on areas of flat soil, usually the thin soils and gravel around the dolomite rock outcrops that are unique to this area. It is also found in lawns and pastures where moist bare soil is predominant in the spring.

Glade cress has been identified in areas near US 31E in Bullitt County and was observed historically in Spencer County; therefore efforts to locate this plant within the project corridor will be made during the terrestrial baseline analysis. According to the Kentucky State Nature Preserves website, "exotic pest plants are a threat to this species and should be removed. Avoid creating access to the site through trail or road construction. Timber removal within the project area could be beneficial and even necessary to maintain the open character of the habitat for this species. Hand removal of trees in the vicinity of the population is crucial to avoid impacts from timber operations."

7. Natural Areas

Natural areas are defined as land or water units where natural conditions are maintained to the greatest extent possible. Natural conditions usually result from allowing ordinary physical and biological processes to operate with a minimum of human intervention. No natural areas exist within or near the project corridors. No impacts will occur and no mitigation measures will be required for Item No. **5-396.00**, Item No. **5-395.00**, or Item No. **5-347.50**.

8. Karst Features/Sinkholes

Kentucky Geological Survey map data were reviewed for the project corridor for Karst potential. The map indicates that the project areas are located in low to moderate risk areas for Karst features. Most sinkholes appear to be avoided by Item No. 5-347.50 in Bullitt County and by 5-395.00 in Spencer County.

Item No. 5-396.00 – the main project corridor – An area in the middle of the project corridor features a large sinkhole just south of existing KY 44. Care should be taken to avoid this feature if future projects are developed within this area. No other sinkholes in or near the comprehensive project corridor were identified, other than the ones discussed in the project corridors below.

Item No. 5-347.50 – The Bullitt County project corridor is located within an area that is considered to have medium probability for Karst features to occur. All of the identified sinkholes, approximately two dozen, are located north of the project, and are outside the project corridor.

Item No. 5-395.00 – The Spencer County project corridor is also located within an area that is considered to have medium probability for Karst features. Field trips and maps identified no sinkholes within the project area.

J. Hazardous Materials and Underground Storage Tanks

A national record database search (conducted by FirstSearch Technology Corporation) and a windshield survey of the project area were conducted (December 2007) to identify any sites with hazardous materials or underground storage tanks. The records search identified sites on the Resource Conservation and Recovery Act (RCRA) Notifiers' list of hazardous waste generators, sites on the Comprehensive Environmental Response, Compensation, and Liability Act Information System of potential Superfund sites, or sites with incidents involving hazardous materials. Below are descriptions of sites within the project corridor that might have hazardous materials and/or underground storage tanks.

Item No. 5-347.50 – Bullitt County

BP/Fivestar An active gasoline/convenience store exists near the western terminus. This site includes three USTs for automobile fuels. Further ESA Phase I investigation will be required if project alternatives include the potential for removal of these tanks.

Item No. 5-395.00 – Spencer County

Jewell's Truck Sales

No USTs or hazardous materials were identified within this project corridor, but one possible site might exist at a truck/implement sales company located on the south side of the existing KY 44 just prior to the western terminus. As project alternatives are developed, it is recommended that a more detailed inspection of this site be conducted.

**Item No. 5-396.00 – General
Project Corridor**

Residential Site 1

This site, located on the south side of KY 44 and just east of Cox's Lane, was not detected in the database search. The field trip revealed several 55-gallon drums of a material including some barrels with a substance identified as "Line-X" with the identified chemical name, "isocyanate" on the barrel. According to the National Institute for Occupational Safety and

Health (NIOSH) website, isocyanates are a family of highly reactive, low molecular weight chemicals. Isocyanates are widely used in the manufacture of flexible and rigid foams, fibers, coatings such as paints and varnishes, and elastomers, and are increasingly used in the automobile industry, in automobile body repair, and in building insulation materials.

This site also featured two rusted 55 gallon drums that were toppled and resting along a small ditch below the driveway. The materials within the drums were not evident and no unusual odors or colors were noticed in the immediate vicinity of the barrels. The owner of the site was removing the barrels from the ditch during the field trip.

Every effort will be made to avoid all sites during the design process. If this site must be included in the right of way limits of the project, Phase II hazardous materials investigations are recommended.

J & D's Pub

This site is located on the south side of KY 44 in Bullitt County, approximately 0.2 miles east of Cedar Lake Drive and 0.6 miles west of the Spencer County line. It appears to have a repair facility that either might or might not be active behind the tavern. If project alignments are considered that might impact or acquire this site, further investigations are recommended. The site was not identified in the database search.



Residential Site 2

The site is located on the north side of KY 44 across from Dutchmans Creek Road near Ryder Lane. It appears to be either a residential or commercial automotive repair shop. No USTs were evident and the site did not appear in the database search. Some 55 gallon drums were noticed in the area, and one was rusted and toppled on its side. If the project area would include an alternative on this site, a Phase I ESA investigation should be conducted.



K. Air Quality

Air quality concerns routinely exist for most types of highway improvements. For the KY 44 project corridor, air quality issues are of particular concern relative to where the corridors fall in proximity to sensitive land uses, such as population centers in Mount Washington and Taylorsville. If Federal funding becomes available, Mobile Source Air Toxics (MSATs) analysis will be required.

Bullitt County is located within the Louisville Air Quality Control Region, and has been designated as a non-attainment area for the Ozone 8-hour standard and for PM-2.5 (Particulate Matter < 2.5u). Coordination with the EPA and other agencies will be required.

Spencer County is considered in attainment for all transportation-related pollutants (carbon monoxide (CO), hydrocarbons (HC), nitrogen oxides (NOx), and particulates).

Table 23, below, includes data extracted from the KYTC Highway Information website's Traffic Count Information field that displays the ranges of Vehicles per Day (VPD) for each of the project counties:

**TABLE 25: Range of Existing (2003 Figures)
Vehicles per Day for Project Counties***

Area	Vehicles Per Day
Bullitt County	3,220 to 19,500
Spencer County	3,220 to 12,100

*Source – Kentucky Transportation Cabinet, Highway Information System website

For the KY 44 corridor, maximum future traffic volumes will be determined for the respective projects if federal funding is activated (2030 projections). It is anticipated that as population increase continues into 2030 that the improvements will generate more traffic. These projections will be used to model future air quality impacts within the project corridor. At this time, it does not appear that future levels of transportation-related pollutants are expected to impact the attainment status of Spencer County or add to the pollutant burden in Bullitt County. More site-specific air quality analysis and

computer modeling will be conducted when alternatives are developed. No air quality mitigation is expected to be necessary for this project.

If the no-build alternate is selected, future impacts to air quality will not occur. Secondary and cumulative impacts include the potential for additional air impacts if industrial and commercial businesses move into available sites within the project region.

L. Traffic Noise

KY 44 carries normal volumes of traffic and the existing receptors are already accustomed to some level of traffic noise. The majority of the corridor has roadways crossing it, and depending on the alignments developed, noise levels could increase for some receptors as the roadway is moved closer but may decrease for other receptors as the roadway moves away from them. In addition, the corridor along KY 44 will require the relocation of some residences and commercial facilities. For the relocated individuals and/or families, traffic noise will not be an issue.

There are several neighborhoods throughout the project area, and a site-specific traffic noise analysis and computer modeling might be conducted as alternates are developed. Future traffic noise levels in the study area could approach or exceed regulatory thresholds for which noise abatement considerations are appropriate at individual receivers (e.g., for residences 67 dBA and commercial facilities 72 dBA). A traffic noise analysis, including a cost analysis of noise barriers and other forms of abatement considerations for impacted receivers could be necessary for residential and church facilities in the project area. Cultural resources that would be considered sensitive receivers might be assessed by computer modeling once alternates have been developed. Every effort will be made to avoid or minimize noise impacts to cultural resources.



Once alternatives have been developed, computer modeling would assess each alternate's predicted impact on the area noise environment. Receptor sites would be selected that are representative of residences, businesses, churches, parks, and other areas of development along the project corridor.

M. Construction

Potential construction impacts from the projects are expected to be minimal, of short-term duration, and with no adverse environmental impacts. Traffic will be maintained at all times. A maintenance-of-traffic plan would be prepared during the design phase for Item Nos. **5-347.50** and **5-395.00**, and for any projects that might be developed between these areas as part of Item No. **5-396.00**. The KYTC Division of Environmental Analysis and the KYTC Division of Highway Design would coordinate construction commitments in the design notes. The Contractor would be required to follow all requirements as outlined by KYTC.

APPENDIX A

Federal and State Threatened and Endangered Species Lists by Agency

1. Federal Threatened and Endangered Species reported by USFWS as having potential to occur within the project corridors.

Species Common Name	Species Scientific Name	Listed Status
Mammals		
Indiana Bat	<i>Myotis sodalis</i>	Endangered
Gray Bat	<i>Myotis grisescens</i>	Endangered
Plants		
Running Buffalo Clover	<i>Trifolium stoloniferum</i>	Endangered
Mussels		
clubshell	<i>Pleurobema clava</i>	Endangered
fanshell	<i>Cyprogenia stegaria</i>	Endangered
Northern riffleshell	<i>Epioblasma torulosa rangiana</i>	Endangered
pink mucket	<i>Lampsilis abrupta</i>	Endangered
orangefoot pimpleback	<i>Plethobasus cooperianus</i>	Endangered
rough pigtoe	<i>Pleurobema plenum</i>	Endangered
fat pocketbook	<i>Potamilus capax</i>	Endangered
Sheepnose	<i>Plethobasus cyphus</i>	Candidate
ring pink	<i>Obovaria retusa</i>	Endangered

2. Federal-listed threatened or endangered species reported from quadrangles within the project area. Information obtained from Kentucky Department of Fish and Wildlife Resources (KDFWR) website.

Taxonomic Group	Species	KDFWR Status*	Quadrangle
Birds	<i>Ardea herodias</i> (Great Blue Heron)	S	Waterford
	<i>Vireo bellii</i> (Bell's vireo)	S	Waterford
Bivalves	<i>Pleurobema clava</i> (Clubshell)	E	Waterford, Taylorsville
	<i>Cyprogenia stegaria</i> (Fanshell)	E	Waterford
	<i>Epioblasma torulosa rangiana</i> (Northern Riffleshell)	E	Waterford
	<i>Lampsillis abrupta</i> (Pink Mucket)	E	Waterford
	<i>Toxolasma lividus</i> (Purple Lilliput)	E	Waterford
	<i>Pleurobema rubrum</i> (Pyramid Pigtoe)	E	Waterford
	<i>Simpsonaias ambigua</i> (Salamander Mussel)	T	Mount Washington, Waterford
	<i>Epioblasma triquetra</i> (Snuffbox)	E	Waterford
Mammals	<i>Myotis sodalis</i> (Indiana bat)	E	Mount Washington

* E = Endangered T = Threatened S = Special Concern

3. Kentucky State Nature Preserves Commission (KSNPC)

Standard Occurrence Report
KSNPC Federally Listed Elements within a 5-mile radius of the KY 44 (31E to 1633) Project (Bullitt and Spencer Counties)

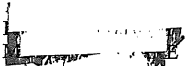

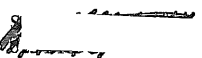
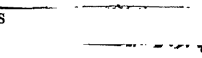
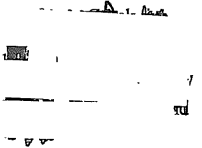
EOCODE	SNAME	SCOMNAME	GRANK	SRANK	SPROT	USES	OTHER STATUS	IDENT	LASTOB	PREC	EOCRANK	COUNTY	7.5 MINUTE QUADRANGLE	LAT	LONG	EPA WATERBODY	DIRECTIONS	HABITAT
Extant in Kentucky																		
Freshwater Mussels																		
IMBIV10020*038	Cyprogenia stegaria	Fanshell	G1	S1	E	LE		Y	1982-06-07	S	X	Spencer	Waterford	380108N	0852838W	05140102110 - Salt River (Mount Washington - Smithville)		Medium to large streams and rivers with moderate to strong current in coarse sand and gravel and depth ranging from shallow to deep (Goodrich and Van Der Schalie 1944, Neel and Allen 1964, Parmalee 1967, Johnson 1980, Gordon and Layzer 1989).
IMBIV10020*054	Cyprogenia stegaria	Fanshell	G1	S1	E	LE		Y	1979-10-20	M	X	Spencer	Waterford	380124N	0852554W	05140102110 - Salt River (Mount Washington - Smithville) 05140102140 - Plumb Creek (Waterford - Wilsonville)		
IMBIV10020*155	Cyprogenia stegaria	Fanshell	G1	S1	E	LE		Y	2005-05-25	S	X	Spencer	Taylorsville	380436N	0851916W	05140102100 - Brashears Creek		
IMBIV16184*017	Epioblasma torulosa rangiana	Northern Riffleshell	G2T2	S1	E	LE		Y	1982-06-07	S	X	Spencer	Waterford	380108N	0852838W	05140102110 - Salt River (Mount Washington - Smithville)		Riffles or shoals with current and substrate of sand and/or gravel in small to moderate-size rivers (Clarke 1981, Watters 1987).
IMBIV21110*022	Lampsilis abrupta	Pink Mucket	G2	S1	E	LE		Y	1982-10-02	M	X	Spencer	Waterford	380123N	0852554W	05140102110 - Salt River (Mount Washington - Smithville) 05140102140 - Plumb Creek (Waterford - Wilsonville)		Large rivers in habitats ranging from silt to boulders, but apparently more commonly from gravel and cobble. Collected from shallow and deep water with current velocity ranging from zero to swift (Ahlstedt 1983, Bogan and Parmalee 1983, Buchanan 1980), but never standing pools of water (Lauritsen 1987).

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Standard Occurrence Report
KSNPC Federally Listed Elements within a 5-mile radius of the KY 44 (31E to 1633) Project (Bullitt and Spencer Counties)

EOCODE	SNAME	SCOMNAME	GRANK	SRANK	SPROT	USES	OTHER STATUS	IDENT	LASTOB	PREC	ERANK	COUNTY	7.5 MINUTE QUADRANGLE	LAT	LONG	EPA WATERBODY	DIRECTIONS	HABITAT
IMBIV31030*060	<i>Obovaria retusa</i>	Ring Pink	G1	S1	E	LE		Y	1998-09-24	S	X	Bullitt	Samuels	375941N	0853332W	05140102110 - Salt River (Mount Washington - Smithville)		
IMBIV35060*007	<i>Pleurobema clava</i>	Clubshell	G2	S1	E	LE		Y	1978-07-04	M	H	Jefferson	Jeffersontown Waterford Fisherville Mount Washington	380758N	0853106W	05140102190 - Floyds Fork (Fern Creek - Jeffersontown) 05140102180 - Floyds Fork (La Grange)		This species is an inhabitant of small streams and rivers (Goodrich and Van Der Schalie 1944; Ortmann 1919,1925), although in Kentucky it is known from moderately large rivers. Often deeply buried in the substrate and consequently difficult to find (Watters 1987).
IMBIV35060*015	<i>Pleurobema clava</i>	Clubshell	G2	S1	E	LE		Y	1900-Pre	S	X	Spencer	Waterford	380108N	0852836W	05140102110 - Salt River (Mount Washington - Smithville)		
IMBIV35060*016	<i>Pleurobema clava</i>	Clubshell	G2	S1	E	LE		Y	1983-08-03	M	X	Spencer	Taylorsville	380313N	0851918W	05140102040 - Salt River (Van Buren) 05140102100 - Brashears Creek		
IMBIV35060*017	<i>Pleurobema clava</i>	Clubshell	G2	S1	E	LE			1983-02-19	M	X	Spencer	Taylorsville	380213N	0852025W	05140102100 - Brashears Creek 05140102040 - Salt River (Van Buren) 05140102110 - Salt River (Mount Washington - Smithville)		
IMBIV35060*023	<i>Pleurobema clava</i>	Clubshell	G2	S1	E	LE		Y	1982-04-23	M	X	Spencer	Taylorsville	380202N	0852108W	05140102100 - Brashears Creek 05140102110 - Salt River (Mount Washington - Smithville) 05140102040 - Salt River (Van Buren)		
IMBIV35060*024	<i>Pleurobema clava</i>	Clubshell	G2	S1	E	LE		Y	2005-05-25	S	X	Spencer	Taylorsville	380436N	0851916W	05140102100 - Brashears Creek		

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EOCODE	SNAME	SCOMNAME	GRANK	SRANK	SPROT	USES	OTHER STATUS	IDENT	LASTOB	PREC	EORANK	COUNTY	7.5 MINUTE QUADRANGLE	LAT	LONG	EPA WATERBODY	DIRECTIONS	HABITAT
IMBIV35060*025	<i>Pleurobema clava</i>	Clubshell	G2	S1	E	LE		Y	1983-08-04	S	X	Spencer	Taylorsville	380355N	0851745W	05140102100 - Brashears Creek		This species is an inhabitant of small streams and rivers (Goodrich and Van Der Schalie 1944; Ortmann 1919,1925), although in Kentucky it is known from moderately large rivers. Often deeply buried in the substrate and consequently difficult to find (Watters 1987).
IMBIV35060*026	<i>Pleurobema clava</i>	Clubshell	G2	S1	E	LE		Y	1983-08-27	M	X	Spencer	Taylorsville	380459N	0851732W	05140102100 - Brashears Creek		
IMBIV35060*032	<i>Pleurobema clava</i>	Clubshell	G2	S1	E	LE		Y	1980-07-19	M	X	Spencer	Waterford	380125N	0852553W	05140102140 - Plumb Creek (Waterford - Wilsonville) 05140102110 - Salt River (Mount Washington - Smithville)		
Mammals																		
AMACC01100*073	<i>Myotis sodalis</i>	Indiana Bat	G2	S1S2	E	LE		Y	1988-06	S	E	Jefferson	Mount Washington	380505N	0853321W	05140102190 - Floyds Fork (Fern Creek - Jeffersontown)		Indiana bats use primarily caves for hibernacula, although they are occasionally found in old mine portals.
AMACC01100*163	<i>Myotis sodalis</i>	Indiana Bat	G2	S1S2	E	LE		Y	2005-05-26	S	E	Spencer	Taylorsville	380434N	0851920W	05140102100 - Brashears Creek		

Extirpated from Kentucky

Freshwater Mussels

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Standard Occurrence Report
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DR# 08-119_fed

EOCODE	SNAME	SCOMNAME	GRANK	SRANK	SPROT	USES A	OTHER STATUS	IDENT	LASTOB	PREC	EORANK	COUNTY	7.5 MINUTE QUADRANGLE	LAT	LONG	EPA WATERBODY	DIRECTIONS	HABITAT
IMBIV47050*008	<i>Villosa fabalis</i>	Rayed Bean	G1G2	SX	X	C		Y	1983-08-03	M	X	Spencer	Taylorville	380312N	0851918W	05140102100 - Brashears Creek 05140102040 - Salt River (Van Buren)		Occurs in small to medium-size rivers where it lives deeply buried in sand and gravel bound together by the roots of aquatic vegetation (Bogan and Parmalee 1983; Ortmann 1925, 1926; Parmalee 1967; Stansbery 1976). This small mussel is easy to overlook because of the habitat occupied.
IMBIV47050*009	<i>Villosa fabalis</i>	Rayed Bean	G1G2	SX	X	C		Y	1983-08-04	S	X	Spencer	Taylorville	380355N	0851745W	05140102100 - Brashears Creek		

EOCODE	SNAME	SCOMNAME	GRANK	SRANK	SPROT	USES	OTHER STATUS	IDENT	LASTOB	PREC	FORANK	COUNTY	7.5 MINUTE QUADRANGLE	LAT	LONG	EPA WATERBODY	DIRECTIONS	HABITAT
Extant in Kentucky																		
Freshwater Mussels																		
IMBIV10020*038	Cyprogenia stegaria	Fanshell	G1	S1	E	LE		Y	1982-06-07	S	X	Spencer	Waterford	380108N	0852838W	05140102110 - Salt River (Mount Washington - Smithville)		Medium to large streams and rivers with moderate to strong current in coarse sand and gravel and depth ranging from shallow to deep (Goodrich and Van Der Schalie 1944, Neel and Allen 1964, Parmalee 1967, Johnson 1980, Gordon and Layzer 1989).
IMBIV10020*054	Cyprogenia stegaria	Fanshell	G1	S1	E	LE		Y	1979-10-20	M	X	Spencer	Waterford	380124N	0852554W	05140102110 - Salt River (Mount Washington - Smithville) 05140102140 - Plumb Creek (Waterford - Wilsonville)		
IMBIV10020*155	Cyprogenia stegaria	Fanshell	G1	S1	E	LE		Y	2005-05-25	S	X	Spencer	Taylorsville	380436N	0851916W	05140102100 - Brashears Creek		
IMBIV16184*017	Epioblasma torulosa rangiana	Northern Riffleshell	G2T2	S1	E	LE		Y	1982-06-07	S	X	Spencer	Waterford	380108N	0852838W	05140102110 - Salt River (Mount Washington - Smithville)		Riffles or shoals with current and substrate of sand and/or gravel in small to moderate-size rivers (Clarke 1981, Watters 1987).
IMBIV16190*044	Epioblasma triquetra	Snuffbox	G3	S1	E	SOMC		Y	1982-06-07	S	F	Spencer	Waterford	380108N	0852838W	05140102110 - Salt River (Mount Washington - Smithville)		Occurs in medium-sized streams to large rivers generally on mud, rocky, gravel, or sand substrates in flowing water (Baker 1928, Buchanan 1980, Johnson 1978, Murraray and Leonard 1962, Parmalee 1967). Often deeply buried in substrate and overlooked by collectors.

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Standard Occurrence Report
KSNPC Monitored Aquatic Elements within a 5-mile radius of the KY 44 (31E to 1633) Project (Bullitt and Spencer Counties)

DR# 08-119_aquatic

EOCODE	SNAME	SCOMNAME	GRANK	SRANK	SPROT	USESA	OTHER STATUS	IDENT	LASTOB	PREC	EO RANK	COUNTY	7.5 MINUTE QUADRANGLE	LAT	LONG	EPA WATERBODY	DIRECTIONS	HABITAT
IMBIV21110*022	Lampsilis abrupta	Pink Mucket	G2	S1	E	LE		Y	1982-10-02	M	X	Spencer	Waterford	380123N	0852554W	05140102110 - Salt River (Mount Washington - Smithville) 05140102140 - Plumb Creek (Waterford - Wilsonville)		Large rivers in habitats ranging from silt to boulders, but apparently more commonly from gravel and cobble. Collected from shallow and deep water with current velocity ranging from zero to swift (Ahlstedt 1983, Bogan and Parmalee 1983, Buchanan 1980), but never standing pools of water (Lauritsen 1987).
IMBIV31030*060	Obovaria retusa	Ring Pink	G1	S1	E	LE		Y	1998-09-24	S	X	Bullitt	Samuels	375941N	0853332W	05140102110 - Salt River (Mount Washington - Smithville)		
IMBIV35060*007	Pleurobema clava	Clubshell	G2	S1	E	LE		Y	1978-07-04	M	H	Jefferson	Jeffersontown Waterford Fisherville Mount Washington	380758N	0853106W	05140102190 - Floyds Fork (Fern Creek - Jeffersontown) 05140102180 - Floyds Fork (La Grange)		This species is an inhabitant of small streams and rivers (Goodrich and Van Der Schalie 1944; Ortmann 1919,1925), although in Kentucky it is known from moderately large rivers. Often deeply buried in the substrate and consequently difficult to find (Watters 1987).
IMBIV35060*015	Pleurobema clava	Clubshell	G2	S1	E	LE		Y	1900-Pre	S	X	Spencer	Waterford	380108N	0852836W	05140102110 - Salt River (Mount Washington - Smithville)		
IMBIV35060*016	Pleurobema clava	Clubshell	G2	S1	E	LE		Y	1983-08-03	M	X	Spencer	Taylorsville	380313N	0851918W	05140102040 - Salt River (Van Buren) 05140102100 - Brashears Creek		

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EOCODE	SNAME	SCOMNAME	GRANK	SRANK	SPROT	USESA	OTHER STATUS	IDENT	LASTOB	PREC	EO RANK	COUNTY	7.5 MINUTE QUADRANGLE	LAT	LONG	EPA WATERBODY	DIRECTIONS	HABITAT
IMBIV35060*017	Pleurobema clava	Clubshell	G2	S1	E	LE			1983-02-19	M	X	Spencer	Taylorsville	380213N	0852025W	05140102100 - Brashears Creek 05140102040 - Salt River (Van Buren) 05140102110 - Salt River (Mount Washington - Smithville)		This species is an inhabitant of small streams and rivers (Goodrich and Van Der Schalie 1944; Ortmann 1919,1925), although in Kentucky it is known from moderately large rivers. Often deeply buried in the substrate and consequently difficult to find (Watters 1987).
IMBIV35060*023	Pleurobema clava	Clubshell	G2	S1	E	LE		Y	1982-04-23	M	X	Spencer	Taylorsville	380202N	0852108W	05140102100 - Brashears Creek 05140102110 - Salt River (Mount Washington - Smithville) 05140102040 - Salt River (Van Buren)		
IMBIV35060*024	Pleurobema clava	Clubshell	G2	S1	E	LE		Y	2005-05-25	S	X	Spencer	Taylorsville	380436N	0851916W	05140102100 - Brashears Creek		
IMBIV35060*025	Pleurobema clava	Clubshell	G2	S1	E	LE		Y	1983-08-04	S	X	Spencer	Taylorsville	380355N	0851745W	05140102100 - Brashears Creek		
IMBIV35060*026	Pleurobema clava	Clubshell	G2	S1	E	LE		Y	1983-08-27	M	X	Spencer	Taylorsville	380459N	0851732W	05140102100 - Brashears Creek		
IMBIV35060*032	Pleurobema clava	Clubshell	G2	S1	E	LE		Y	1980-07-19	M	X	Spencer	Waterford	380125N	0852553W	05140102140 - Plumb Creek (Waterford - Wilsonville) 05140102110 - Salt River (Mount Washington - Smithville)		

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KSNPC Monitored Aquatic Elements within a 5-mile radius of the KY 44 (31E to 1633) Project (Bullitt and Spencer Counties)

DR# 08-119_aquatic

EOCODE	SNAME	SCOMNAME	GRANK	SRANK	SPROT	USES	OTHER STATUS	IDENT	LASTOB	PREC	ERANK	COUNTY	7.5 MINUTE QUADRANGLE	LAT	LONG	EPA WATERBODY	DIRECTIONS	HABITAT
IMBIV35250*023	<i>Pleurobema rubrum</i>	Pyramid Pigtoe	G2	S1	E	SOMC		Y	1982-06-07	S	X	Spencer	Waterford	380108N	0852838W	05140102110 - Salt River (Mount Washington - Smithville)		Inhabits medium to large rivers and usually occurs in sand or gravel bottoms in deep waters (Ahlstedt 1984, Murray and Leonard 1962, Parmalee et al. 1982).
IMBIV35250*028	<i>Pleurobema rubrum</i>	Pyramid Pigtoe	G2	S1	E	SOMC		Y	1982-10-02	M	X	Spencer	Waterford	380123N	0852554W	05140102140 - Plumb Creek (Waterford - Wilsonville) 05140102110 - Salt River (Mount Washington - Smithville)		
IMBIV41010*007	<i>Simpsonaias ambigua</i>	Salamander Mussel	G3	S2S3	T	SOMC		Y	1980-07-21	G	F	Bullitt Spencer Jefferson Nelson	Mount Washington Samuels Waterford Fairfield	380048N	0853041W	05140102110 - Salt River (Mount Washington - Smithville) 05140102160 - Cedar Creek (Cedar Grove) 05140102190 - Floyds Fork (Fern Creek - Jeffersontown) 05140102140 - Plumb Creek (Waterford - Wilsonville) 05140102150 - Cox Creek (Fairfield)		Often found buried in substrate such as soft mud and/or gravel, and/or under flat stones in shallow water in small streams where the current may be swift (Baker 1928, Buchanan 1980, Goodrich and Van Der Schalie 1944).
IMBIV41010*009	<i>Simpsonaias ambigua</i>	Salamander Mussel	G3	S2S3	T	SOMC		Y	1982-06-07	S	F	Spencer	Waterford	380108N	0852838W	05140102110 - Salt River (Mount Washington - Smithville)		

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EOCODE	SNAME	SCOMNAME	GRANK	SRANK	SPROT	USES	OTHER STATUS	IDENT	LASTOB	PREC	FORANK	COUNTY	7.5 MINUTE QUADRANGLE	LAT	LONG	EPA WATERBODY	DIRECTIONS	HABITAT
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IMBIV43030*029	<i>Toxolasma lividus</i>	Purple Lilliput	G2	S1	E	SOMC		Y	1982-06-07	S	X	Spencer	Waterford	380108N	0852838W	05140102110 - Salt River (Mount Washington - Smithville)	E	Small to medium-sized streams (Goodrich and Van Der Schalie 1944, Parmalee 1967, Stansbery 1976, Lauritsen 1987). Parmalee (1967) reported its occurrence on mud but related that sand or fine gravel beds in shallow running water was the preferred habitat.
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Extirpated from Kentucky

Freshwater Mussels

IMBIV47050*008	<i>Villosa fabalis</i>	Rayed Bean	G1G2	SX	X	C		Y	1983-08-03	M	X	Spencer	Taylorsville	380312N	0851918W	05140102100 - Brashears Creek 05140102040 - Salt River (Van Buren)		Occurs in small to medium-size rivers where it lives deeply buried in sand and gravel bound together by the roots of aquatic vegetation (Bogan and Parmalee 1983; Ortmann 1925, 1926; Parmalee 1967; Stansbery 1976). This small mussel is easy to overlook because of the habitat occupied.
IMBIV47050*009	<i>Villosa fabalis</i>	Rayed Bean	G1G2	SX	X	C		Y	1983-08-04	S	X	Spencer	Taylorsville	380355N	0851745W	05140102100 - Brashears Creek		

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EOCODE	SNAME	SCOMNAME	GRANK	SRANK	SPROT	USES	OTHER STATUS	IDENT	LASTOB	PREC	EO RANK	COUNTY	7.5 MINUTE QUADRANGLE	LAT	LONG	EPA WATERBODY	DIRECTIONS	HABITAT
Extant in Kentucky																		
Breeding Birds																		
ABPBX96010*002	Chondestes grammacus	Lark Sparrow	G5	S2S3B	T			Y	1937-05-15	M	H	Bullitt	Samuels	375824N	0853221W	05140102150 - Cox Creek (Fairfield)		Open situations with scattered bushes and trees, prairie, forest edge, cultivated areas, orchards, fields with bushy borders, and savanna (B83COM01NA).
Mammals																		
AMACC01040*116	Myotis grisescens	Gray Myotis	G3	S2	T	LE		Y	2005-07-26	S	E	Nelson	Samuels	375447N	0853010W	05140102150 - Cox Creek (Fairfield)		
AMACC01100*073	Myotis sodalis	Indiana Bat	G2	S1S2	E	LE		Y	1988-06	S	E	Jefferson	Mount Washington	380505N	0853321W	05140102190 - Floyds Fork (Fern Creek - Jeffersontown)		Indiana bats use primarily caves for hibernacula, although they are occasionally found in old mine portals.
AMACC01100*163	Myotis sodalis	Indiana Bat	G2	S1S2	E	LE		Y	2005-05-26	S	E	Spencer	Taylorsville	380434N	0851920W	05140102100 - Brashears Creek		
AMACC01100*188	Myotis sodalis	Indiana Bat	G2	S1S2	E	LE		Y	2005-07-27	S	E	Nelson	Samuels	375507N	0853125W	05140102150 - Co Creek (Fairfield)		

SENSITIVE ELEMENTS: Locational information for sensitive plants, animals, and natural communities, if released by the Kentucky State Nature Preserves Commission, may not be released in any document or correspondence. Please refer to the Data License Agreement for a full description of rights and restrictions.

Extant in Kentucky
Mammals

EOCODE	SNAME	SCOMNAME	GRANK	SRANK	SPROT	UESA	OTHER STATUS	IDENT	LASTOB	PREC	EO RANK	COUNTY	7.5 MINUTE QUADRANGLE	LAT	LONG	EPA WATERBODY	DIRECTIONS	HABITAT
AMACC01040*044	<i>Myotis grisescens</i>	Gray Myotis	G3	S2	T	LE			1984-02-13	M	H	Bullitt	Brooks Shepherdsville	CONTACT KSNPC	CONTACT KSNPC	05140102170 - Salt River (Shepardsville) 05140102190 - Fern Creek (Fern Creek - Jeffersontown)	NT-	Gray bats use primarily caves throughout the year, although they move from one cave to another seasonally. Males and young of the year use different caves in summer than females.

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EOCODE	SNAME	SCOMNAME	GRANK	SRANK	SPROT	USES	OTHER STATUS	IDENT	LASTOB	PREC	ERANK	COUNTY	7.5 MINUTE QUADRANGLE	LAT	LONG	EPA WATERBODY	DIRECTIONS	HABITAT
Extant in Kentucky																		
Vascular Plants																		
PDBRA1L042*030	<i>Leavenworthia exigua</i> var. <i>laciniata</i>	Kentucky Gladecress	G4T1T2	S1S2	E	SOMC		Y	2004-04-23	S	D	Bullitt	Mount Washington	380410N	0853038W	05140102190 - Floyds Fork (Fern Creek - Jeffersontown)		In full sun on flat-bedded outcrops of Silurian limestone or dolomite in shallow soils of glades, rock oucrops, pastures and lawns.
PDBRA1L042*038	<i>Leavenworthia exigua</i> var. <i>laciniata</i>	Kentucky Gladecress	G4T1T2	S1S2	E	SOMC		Y	1994-04-02	S	D	Bullitt	Mount Washington	380310N	0853117W	05140102110 - Salt River (Mount Washington - Smithville)		
PDBRA1L042*039	<i>Leavenworthia exigua</i> var. <i>laciniata</i>	Kentucky Gladecress	G4T1T2	S1S2	E	SOMC		Y	1994-04-02	S	X	Bullitt	Mount Washington	380252N	0853204W	05140102110 - Salt River (Mount Washington - Smithville)		
PDBRA1L042*040	<i>Leavenworthia exigua</i> var. <i>laciniata</i>	Kentucky Gladecress	G4T1T2	S1S2	E	SOMC		Y	1994-04-02	S	F	Bullitt	Mount Washington	380219N	0853309W	05140102110 - Salt River (Mount Washington - Smithville)		
PDBRA1L042*046	<i>Leavenworthia exigua</i> var. <i>laciniata</i>	Kentucky Gladecress	G4T1T2	S1S2	E	SOMC		Y	1994-04-04	S	F	Bullitt	Mount Washington	380341N	0853020W	05140102110 - Salt River (Mount Washington - Smithville)		
PDBRA1L042*049	<i>Leavenworthia exigua</i> var. <i>laciniata</i>	Kentucky Gladecress	G4T1T2	S1S2	E	SOMC		Y	1983-04-04	S	X	Bullitt Spencer	Waterford	380346N	0852913W	05140102110 - Salt River (Mount Washington - Smithville)		
PDBRA1L042*069	<i>Leavenworthia exigua</i> var. <i>laciniata</i>	Kentucky Gladecress	G4T1T2	S1S2	E	SOMC		Y	1994-04-19	S	C	Bullitt	Mount Washington	380346N	0853116W	05140102190 - Floyds Fork (Fern Creek - Jeffersontown)		
PDVIO040H0*012	<i>Viola septemloba</i> var. <i>egglestonii</i>	Eggleston's Violet	G4	S3	S			Y	1992-06-03	S	C	Bullitt	Mount Washington	380252N	0853204W	05140102110 - Salt River (Mount Washington - Smithville)		Calcareous barrens, glades and dry prairies associated with silurean and Mississippian limestones.

Freshwater Mussels

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Standard Occurrence Report
KSNPC Monitored Elements within a 1-mile radius of the KY 44 (31E to 1633) Project (Bullitt and Spencer Counties)

EOCODE	SNAME	SCOMNAME	GRANK	SRANK	SPROT	USES	OTHER STATUS	IDENT	LASTOB	PREC	ERANK	COUNTY	7.5 MINUTE QUADRANGLE	LAT	LONG	EPA WATERBODY	DIRECTIONS	HABITAT
IMBIV10020*054	Cyprogenia stegaria	Fanshell	G1	S1	E	LE		Y	1979-10-20	M	X	Spencer	Waterford	380124N	0852554W	05140102110 - Salt River (Mount Washington - Smithville) 05140102140 - Plumb Creek (Waterford - Wilsonville)		Medium to large streams and rivers with moderate to strong current in coarse sand and gravel and depth ranging from shallow to deep (Goodrich and Van Der Schalie 1944, Neel and Allen 1964, Parmalee 1967, Johnson 1980, Gordon and Layzer 1989).
IMBIV21110*022	Lampsilis abrupta	Pink Mucket	G2	S1	E	LE		Y	1982-10-02	M	X	Spencer	Waterford	380123N	0852554W	05140102110 - Salt River (Mount Washington - Smithville) 05140102140 - Plumb Creek (Waterford - Wilsonville)		Large rivers in habitats ranging from silt to boulders, but apparently more commonly from gravel and cobble. Collected from shallow and deep water with current velocity ranging from zero to swift (Ahlstedt 1983, Bogan and Parmalee 1983, Buchanan 1980), but never standing pools of water (Lauritsen 1987).
IMBIV35060*017	Pleurobema clava	Clubshell	G2	S1	E	LE			1983-02-19	M	X	Spencer	Taylorsville	380213N	0852025W	05140102100 - Brashears Creek 05140102040 - Salt River (Van Buren) 05140102110 - Salt River (Mount Washington - Smithville)		This species is an inhabitant of small streams and rivers (Goodrich and Van Der Schalie 1944; Ortmann 1919,1925), although in Kentucky it is known from moderately large rivers. Often deeply buried in the substrate and consequently difficult to find (Watters 1987).

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EOCODE	SNAME	SCOMNAME	GRANK	SRANK	SPROT	USES	OTHER STATUS	IDENT	LASTOB	PREC	FORANK	COUNTY	7.5 MINUTE QUADRANGLE	LAT	LONG	EPA WATERBODY	DIRECTIONS	HABITAT
IMBIV35060*023	<i>Pleurobema clava</i>	Clubshell	G2	S1	E	LE		Y	1982-04-23	M	X	Spencer	Taylorsville	380202N	0852108W	05140102100 - Brashears Creek 05140102110 - Salt River (Mount Washington - Smithville) 05140102040 - Salt River (Van Buren)	3	This species is an inhabitant of small streams and rivers (Goodrich and Van Der Schalie 1944; Ortmann 1919,1925), although in Kentucky it is known from moderately large rivers. Often deeply buried in the substrate and consequently difficult to find (Watters 1987).
IMBIV35060*032	<i>Pleurobema clava</i>	Clubshell	G2	S1	E	LE		Y	1980-07-19	M	X	Spencer	Waterford	380125N	0852553W	05140102140 - Plumb Creek (Waterford - Wilsonville) 05140102110 - Salt River (Mount Washington - Smithville)		
IMBIV35250*028	<i>Pleurobema rubrum</i>	Pyramid Pigtoe	G2	S1	E	SOMC		Y	1982-10-02	M	X	Spencer	Waterford	380123N	0852554W	05140102140 - Plumb Creek (Waterford - Wilsonville) 05140102110 - Salt River (Mount Washington - Smithville)	1	Inhabits medium to large rivers and usually occurs in sand or gravel bottoms in deep waters (Ahlstedt 1984, Murray and Leonard 1962, Parmalee et al. 1982).
IMBIV41010*007	<i>Simpsonaias ambigua</i>	Salamander Mussel	G3	S2S3	T	SOMC		Y	1980-07-21	G	F	Bullitt Spencer Jefferson Nelson	Mount Washington Samuels Waterford Fairfield	380048N	0853041W	05140102110 - Salt River (Mount Washington - Smithville) 05140102160 - Cedar Creek (Cedar Grove) 05140102190 - Floyds Fork (Fern Creek - Jeffersontown) 05140102140 - Plumb Creek (Waterford - Wilsonville) 05140102150 - Cox Creek (Fairfield)	1	Often found buried in substrate such as soft mud and/or gravel, and/or under flat stones in shallow water in small streams where the current may be swift (Baker 1928, Buchanan 1980, Goodrich and Van Der Schalie 1944).

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EOCODE	SNAME	SCOMNAME	GRANK	SRANK	SPROT	USES	OTHER	STATUS	IDENT	LASTOB	PREC	FORANK	COUNTY	7.5 MINUTE QUADRANGLE	LAT	LONG	EPA WATERBODY	DIRECTIONS	HABITAT
Others																			
Communities																			
CTGLD00060*002	Dolomite glade		GNR	S2					Y	1994-04-02	S	X	Bullitt	Mount Washington	380251N	0853202W		MT WASHINGTON CEDAR GLADE, CA 0.3 AIR MI E OF JCT KY 44 AND US 31E.	

APPENDIX B

References

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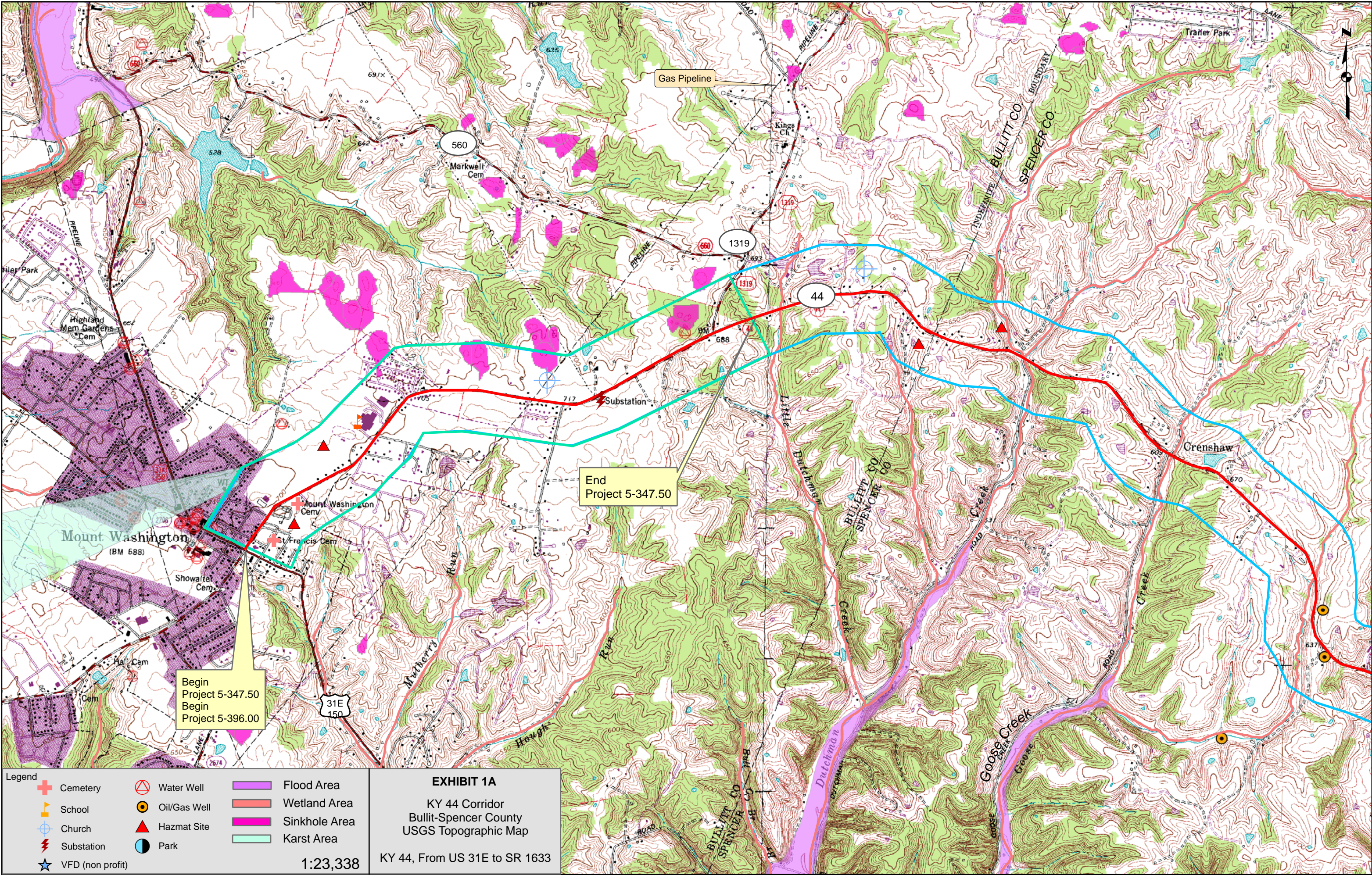
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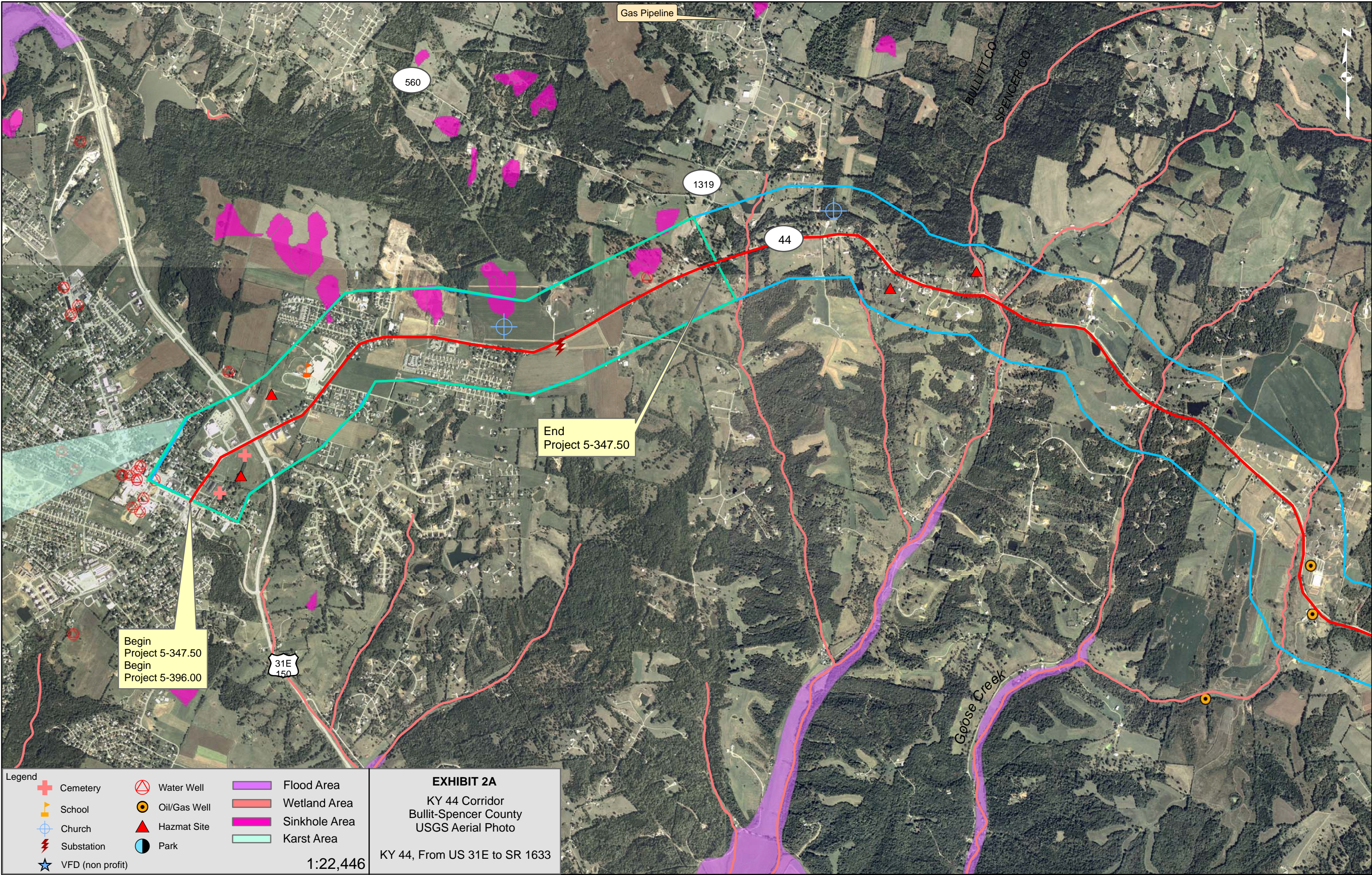
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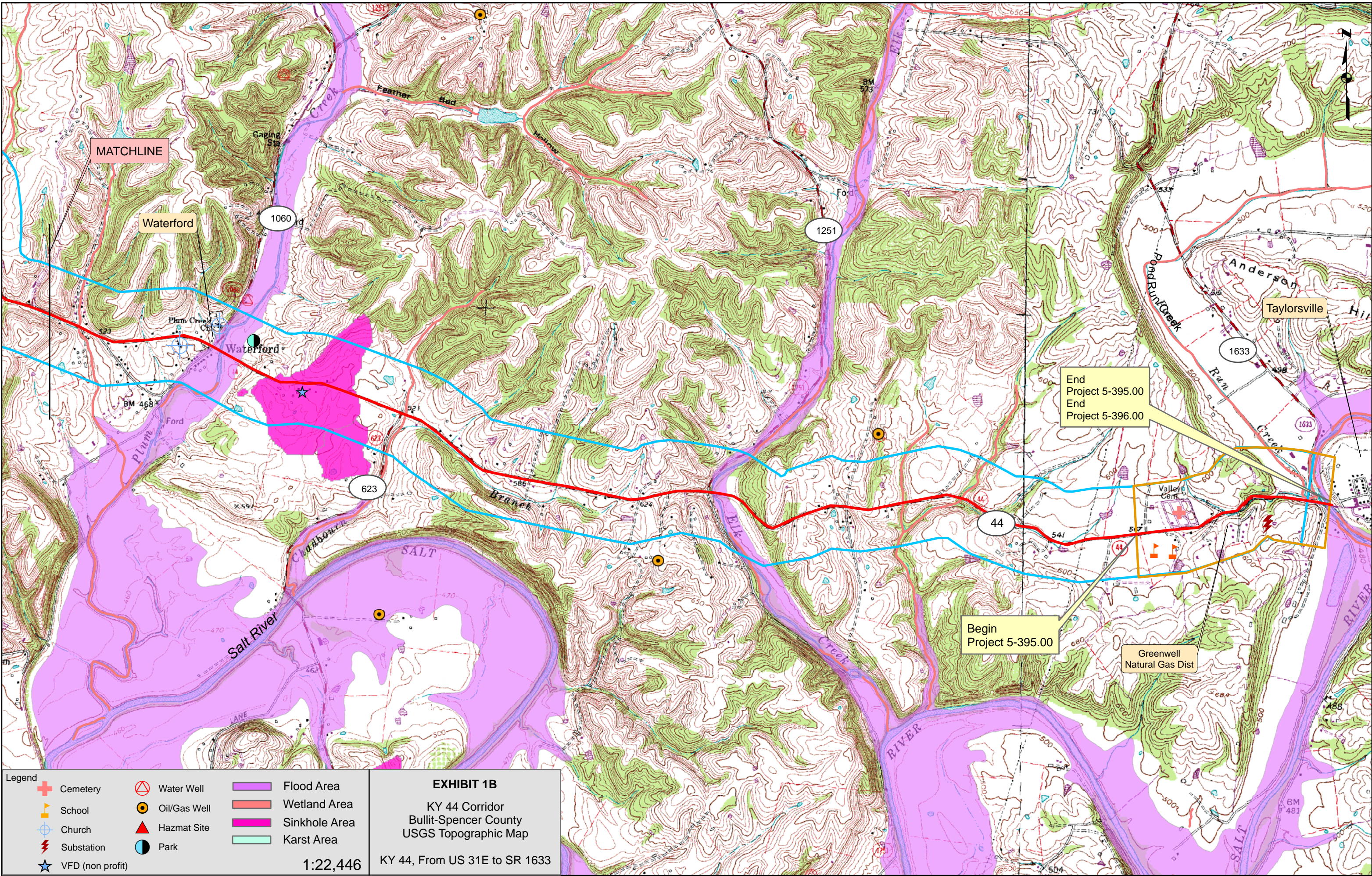
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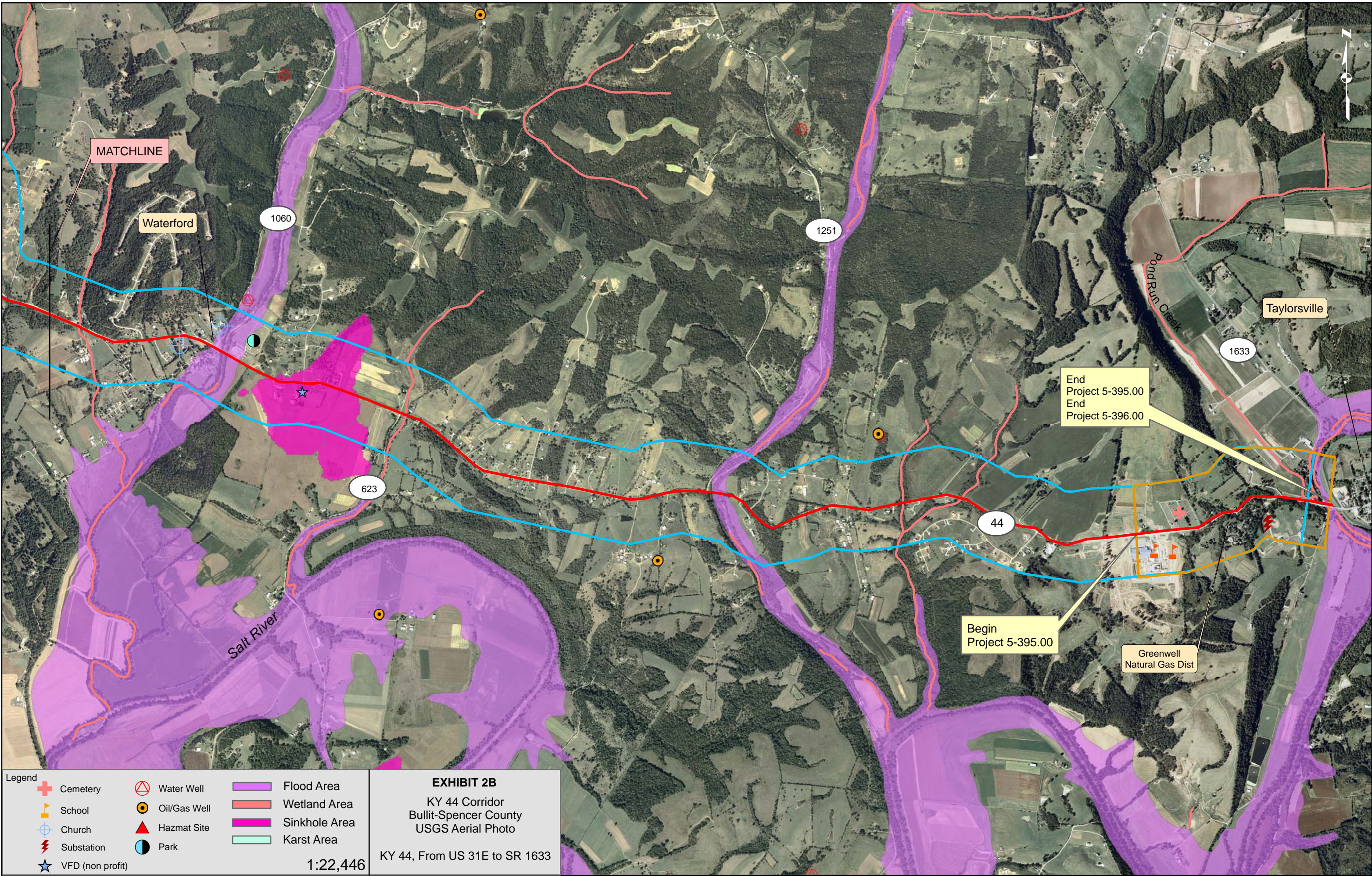
APPENDIX C

Project Area Maps









Legend

Cemetery

School

Church

Substation

VFD (non profit)

Water Well

Oil/Gas Well

Hazmat Site

Park

Flood Area

Wetland Area

Sinkhole Area

Karst Area

EXHIBIT 2B

KY 44 Corridor

Bullit-Spencer County

USGS Aerial Photo

KY 44, From US 31E to SR 1633

1:22,446

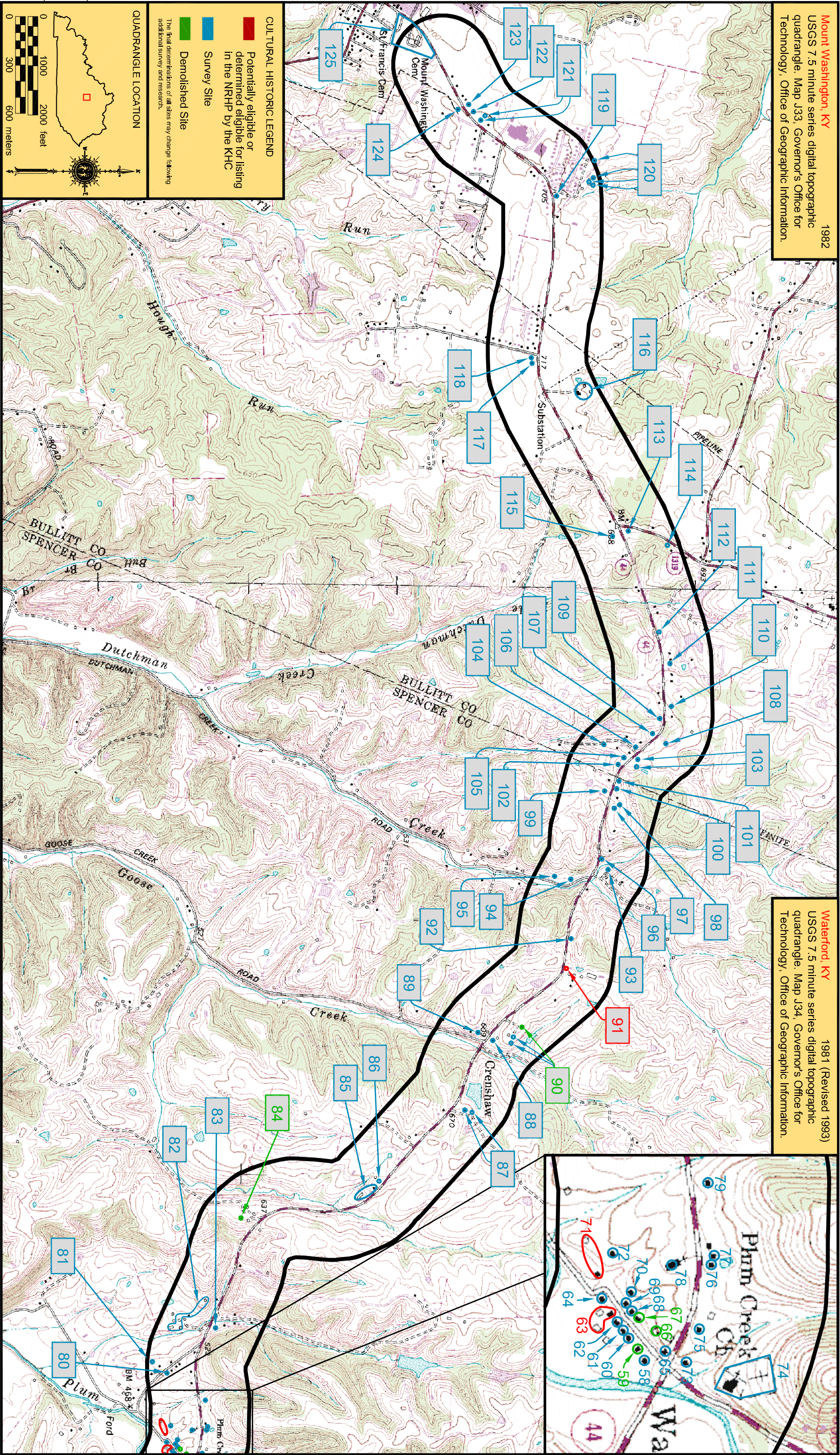


Figure 2a. Topographic map showing project area and cultural historic sites.

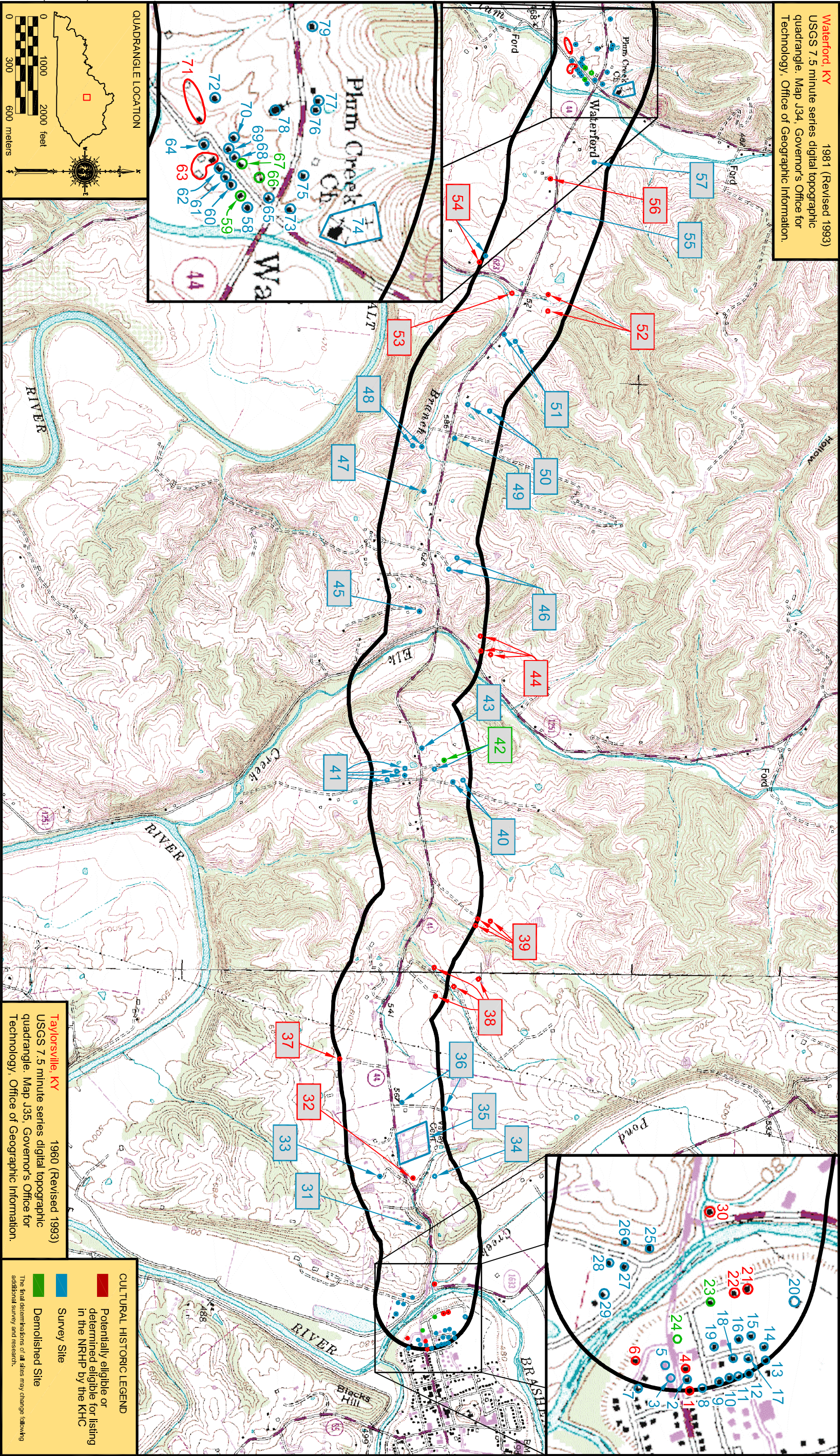


Figure 2b. Topographic map showing project area and cultural historic sites.

APPENDIX D

CORRESPONDENCE AND COORDINATION



ENVIRONMENTAL AND PUBLIC PROTECTION CABINET

Steven L. Beshear
Governor

DEPARTMENT FOR ENVIRONMENTAL PROTECTION
300 FAIR OAKS LANE
FRANKFORT, KENTUCKY 40601
PHONE (502) 564-2150
FAX (502) 564-4245
www.dep.ky.gov

Robert D. Vance
Secretary

R. Bruce Scott
Commissioner

January 31, 2008

Mr. John Brown
HMB Professional Engineers
3 HMB Circle
U.S. 460
Frankfort, KY 40601

Re: Bullitt and Spencer Counties Improvements to KY 44. Item No. 5-396.00, 05-347.50.
Environmental Overview Study (SERO 2007-35)

Dear Mr. Brown,

The Environmental and Public Protection Cabinet serves as the state clearinghouse for review of environmental documents generated pursuant to the National Environmental Policy Act (NEPA). Within the Cabinet, the Commissioner's Office in the Department for Environmental Protection coordinates the review for Kentucky state agencies.

The Kentucky agencies listed on the attached sheet have been provided an opportunity to review the above referenced report. Responses were received from 3 of the reviewing agencies that were forwarded a copy of the document. Comments were received from the Kentucky Divisions of Water, Waste Management, and Air Quality.

If you should have any questions, please contact me at (502) 564-2150, ext. 112.

Sincerely,

Larry C. Taylor
State Environmental Review Officer

Enclosures

Division of Water Comments

Environmental Overview Study for Improvements to KY 44

Endorsement:

A request for review of the Environmental Overview Study for Improvements to KY 44 in Bullitt and Spencer Counties, Kentucky was received on December 21, 2007. The Division of Water (DOW) completed this review and found that the information provided warranted an endorsement of this project. Below are the comments that were received.

Water Quality Branch:

No comment.

Groundwater Branch:

The KYTC, as well as their contractor, HMB Engineering, Inc., have the necessary background and experience to conduct the appropriate hydrogeologic studies for this project. Standard procedures developed by the KYTC should suffice in guiding this process, including: KYTC Best Management Practices, the Kentucky Department of Highways Standard Specifications, and the KYTC Generic Groundwater Protection Plan. However, if, during the course of this investigation, these procedures are found to be inadequate, KYTC and its consultant are strongly encouraged to contact the Kentucky Geological Survey and the Groundwater Branch of the Kentucky Division of Water to develop any new measures that may be necessary.

Enforcement Branch:

The Division of Enforcement does not object to the project proposed by the applicant.

Division of Waste Management Comments

Project Number: SERO 2007-35

All solid waste generated by this project must be disposed at a permitted facility. If underground storage tanks are encountered they must be properly addressed. If asbestos, lead paint, and/or other contaminants are encountered during this project, they must be properly addressed.

Division for Air Quality Comments

REVIEW DATE: January 10, 2008

TITLE: Environmental Overview Study – Improvements to KY 44, Bullitt and Spencer Counties, No. 05-396.00 and 05-347.50

PROJECT NUMBER: SERO 2007 - 35

SPONSOR: HMB Professional Engineers

COMMENTS: Kentucky Division for Air Quality's comments are provided below

The following Kentucky Administrative Regulations apply to this proposed project:

Kentucky Division for Air Quality Regulation **401 KAR 63:010** Fugitive Emissions states that no person shall cause, suffer, or allow any material to be handled, processed, transported, or stored without taking reasonable precaution to prevent particulate matter from becoming airborne. Additional requirements include the covering of open bodied trucks, operating outside the work area transporting materials likely to become airborne, and that no one shall allow earth or other material being transported by truck or earth moving equipment to be deposited onto a paved street or roadway. Please note the Fugitive Emissions Fact Sheet located at http://www.air.ky.gov/homepage_repository/e-Clearinghouse.htm.

Kentucky Division for Air Quality Regulation **401 KAR 63:005** states that open burning is prohibited. Open Burning is defined as the burning of any matter in such a manner that the products of combustion resulting from the burning are emitted directly into the outdoor atmosphere without passing through a stack or chimney. Open burning may be utilized for the expressed purposes listed on the Open Burning Fact Sheet located at http://www.air.ky.gov/homepage_repository/e-Clearinghouse.htm. Although, vegetative matter accumulated by land clearing is included as a permissible method of disposal, the Division encourages the use of chipping and grinding in order to avoid excessive particulate emissions in the immediate vicinity of the project.

Finally, the projects listed in this document must meet the conformity requirements of the Clean Air Act as amended and the transportation planning provisions of Title 23 and Title 49 of United States Code.

The Division also suggests an investigation into compliance with applicable local government regulations.

Every effort should be made to maintain compliance with the preceding regulations and requirements. The Division also suggests an investigation into compliance with applicable regulations in the local governments. If there are any questions relating to this matter, please contact Joe Forgacs at (502) 573-3382, extension 309.

Appendix G
Geotechnical Review

M E M O R A N D U M

P-001-2012

TO: Keith Damron, PE
Director
Division of Planning

FROM: Bart Asher, PE, PLS
Geotechnical Branch Manager
Division of Structural Design

BY: Christian Wallover, PG
Geotechnical Branch

DATE: March 14, 2012

SUBJECT: Bullitt & Spencer Counties
KY 44 (US 31E to KY 1633)
Item No. 5-396.00
MARS No. 8105001P
Planning Study

At your request, a geotechnical review has been conducted for the proposed project on KY 44 from Mount Washington to Taylorsville. In this report is an assessment of site conditions and potential geologic impacts to the project based upon available data. A geologic maps identifying areas of concern is attached. Refer to the Geologic Maps of the Mount Washington (#1282), Waterford (#1432) and Taylorsville (#1433) Quadrangles for more detailed information.

The study area is within the Outer Blue Grass Physiographic Region of Kentucky. This Region is known to contain carbonate units able to produce sinkholes, caves, sinking streams and springs. Geologic mapping indicates the project traverses across multiple rock formations including the Laurel Dolomite; Osgood and Brassfield Formations; Saluda Dolomite, Bardstown Member, and Rowland Member of the Drakes Formation; Grant Lake Limestone; Calloway Creek Limestone and Clays Ferry Formation. These rock formations range in composition from limestone/dolomite with minor amounts of shale, interbedded limestone and clay shale varying from 40 to 90 percent limestone, to highly erodible clay shale with minor dolomite.

Geotechnical Engineering Roadway Reports were issued for the reconstruction of KY 44 from US 31E to KY 1319 (R-020-2009), and widening of KY 44 from Turnpike Ave. to KY 1633 (R-025-2009). These reports can be found at the following websites:

R-020-2009 (Item No. 5-347.50)
<http://kgs.uky.edu/kgsweb/KYTC/Reports/R-020-2009.pdf>

R-025-2009 (Item No. 5-395.00)

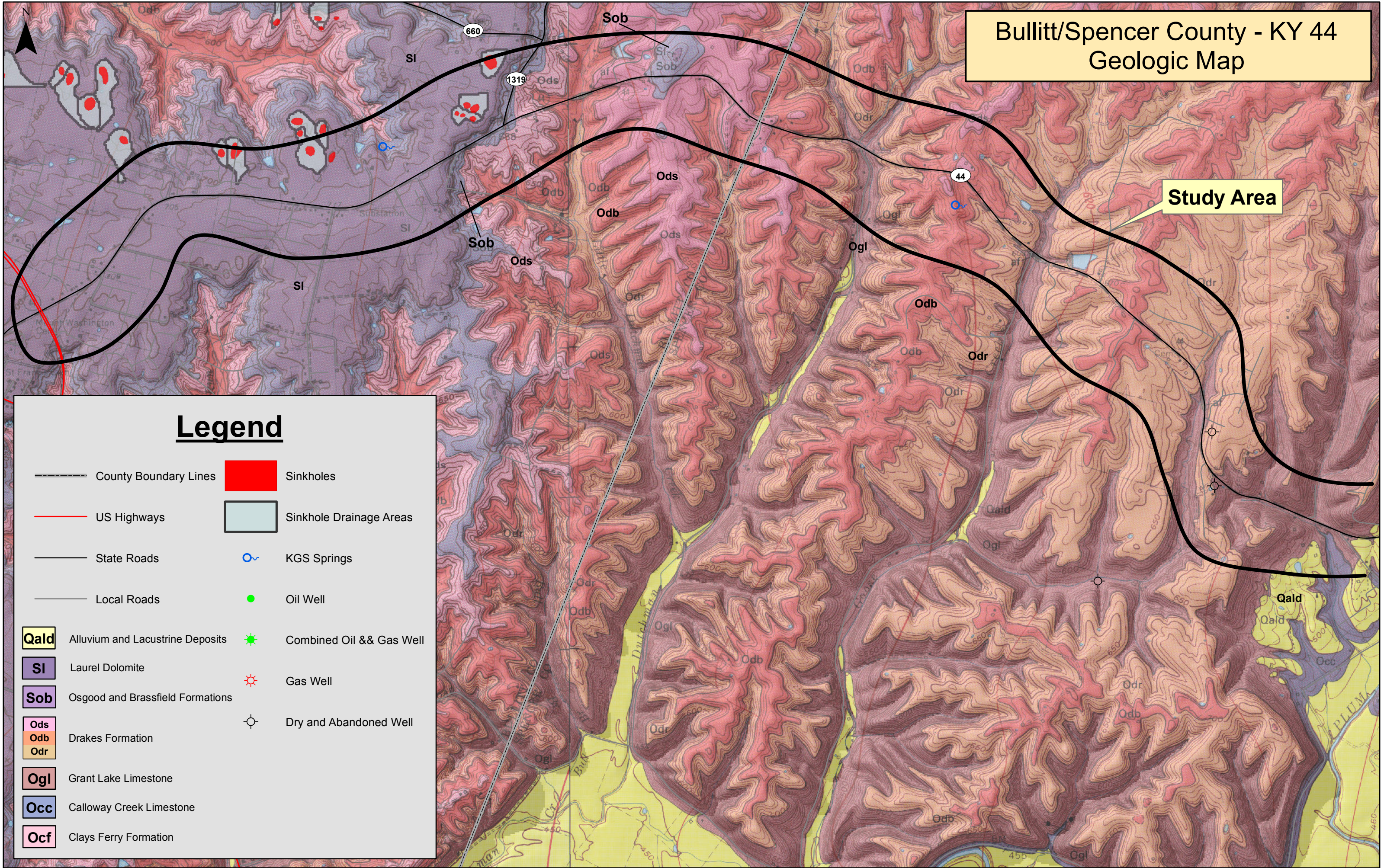
<http://kgs.uky.edu/kgsweb/KYTC/Reports/R-025-2009.pdf>

Geotechnical Concerns:

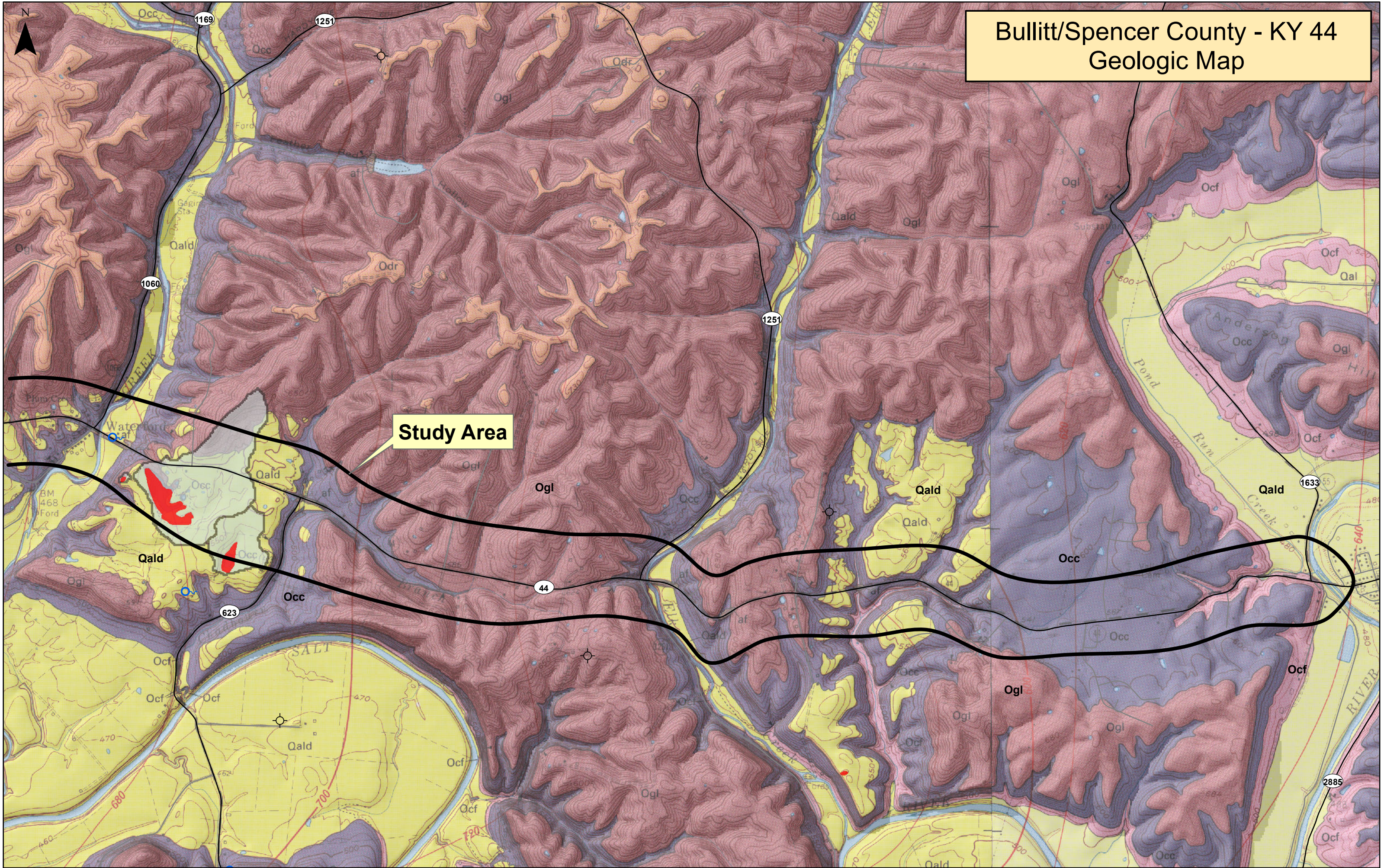
- 1) Alluvium and lacustrine deposits consisting of silt, clay, gravel and sand are found in valleys along the creeks and rivers. Lacustrine deposits are considered highly erodible and may require slope protection for cut sections and around any structures. Due to anticipated depths of these deposits (0-70'+), bridge piers located in these areas may need to be founded on drilled shafts or piles.
- 2) The Osgood Formation, found west of the Bullitt/Spencer County Line, consists of erodible clay shale. This shale has very poor engineering characteristics and may result in flatter than normal cut slopes and fills. Osgood Formation shale is not desirable for embankment construction and embankments should be constructed out of durable material if available.
- 3) The project is located in an area of low to moderate karst potential. Numerous sinkholes in the Laurel Dolomite Formation have been identified on the attached geologic map. Sinkholes, caves and variable rocklines are also common in the upper part of the Calloway Creek Limestone, the upper part of the Saluda Dolomite Member and near the contact of the Bardstown and Rowland Members of the Drakes Formation. Springs and wet hillside conditions may be encountered at the base of the Laurel Dolomite. Springs and seeps are likely in the lower parts of the Saluda Dolomite and Rowland Members. All karst features should be located, and during preliminary line grade development will require the appropriate design procedures for remediation.
- 4) Abandoned and operating quarries may be found in the Calloway Creek Limestone and Saluda Dolomite and Rowland Members of the Drakes Formation.
- 5) Several abandoned gas wells are within the study area and should be avoided. Refer to the attached map for known locations.
- 6) This project is in a classified seismic zone 2, which is defined as an area of moderate earthquake damage due to earthquake activity.

Should there be any questions, please call the Geotechnical Branch at 502-564-2374.

cc: Sreenu Gutti
Paul Davis
Tom Hall



Bullitt/Spencer County - KY 44 Geologic Map



0 1,250 2,500 5,000 Feet

Appendix H
Resource Agency Coordination



RECEIVED

FEB 28 2012

CABINET FOR ECONOMIC DEVELOPMENT *Div. of Planning*

Steven L. Beshear
Governor

Old Capitol Annex
300 West Broadway
Frankfort, Kentucky 40601
ThinkKentucky.com

Larry M. Hayes
Secretary

2/17/2012

Keith Damron P.E.
Director, Division of Planning,
Kentucky Transportation Cabinet
200 Mero Street 5th Floor
Frankfort, Kentucky 40622

Re: KY 44 Corridor Study from US 31E (Bullitt County) to KY 1633 (Spencer County) Item No. R-396.00

Dear Mr. Damron:

The Kentucky Cabinet for Economic Development's Site Evaluation Branch reviewed the proposed study in relation to the following industrial sites and did not see any negative impact on the sites. In fact, we see potential positive impacts by improving safety and functionality of the roadway as it will improve truck access to both communities.

Bullitt County site in Mt. Washington: <http://www.thinkkentucky.com/edis/PDF/Site/SM029-001.pdf> Spencer County site in Taylorsville: <http://www.thinkkentucky.com/edis/PDF/Site/SM215-007.pdf> . We wish you the best of luck as you complete this study and appreciate your invitation to provide comments.

Thanks

Erik Dunnigan

Commissioner of Business Development



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MAR 9 7 2012

Div. of Planning

Steven L. Beshear
Governor

**Energy and Environment Cabinet
Department for Environmental Protection**

Division for Air Quality
200 Fair Oaks Lane, 1st Floor
Frankfort, Kentucky 40601-1403
Web site: air.ky.gov

Leonard K. Peters
Secretary

March 6, 2012

Mr. Keith R. Damron, P.E.
Director
Division of Planning
Kentucky Transportation Cabinet
200 Mero Street, 5th Floor
Frankfort, Kentucky 40622

Dear Mr. Damron:

The Division has reviewed the planning study for evaluating potential impacts for a proposed highway project from US 31E in Bullitt County to KY 1633 in Spencer County, Item Number 05-396.00. The following Kentucky Administrative Regulations apply to this proposed project:

Kentucky Division for Air Quality Regulation **401 KAR 63:010** Fugitive Emissions states that no person shall cause, suffer, or allow any material to be handled, processed, transported, or stored without taking reasonable precaution to prevent particulate matter from becoming airborne. Additional requirements include the covering of open bodied trucks, operating outside the work area transporting materials likely to become airborne, and that no one shall allow earth or other material being transported by truck or earth moving equipment to be deposited onto a paved street or roadway. Please note the Fugitive Emissions Fact Sheet located at <http://air.ky.gov/Pages/OpenBurning.aspx>

Kentucky Division for Air Quality Regulation **401 KAR 63:005** states that open burning is prohibited. Open Burning is defined as the burning of any matter in such a manner that the products of combustion resulting from the burning are emitted directly into the outdoor atmosphere without passing through a stack or chimney. However, open burning may be utilized for the expressed purposes listed on the Open Burning Brochure located at <http://air.ky.gov/Pages/OpenBurning.aspx>

Mr. Keith Damron
Page 2
March 6, 2012

The Division would like to offer the following suggestions on how this project can help us stay in compliance with the NAAQS. More importantly, these strategies are beneficial to the health of citizens of Kentucky.

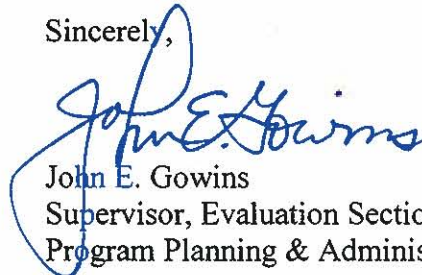
- Utilize alternatively fueled equipment.
- Utilize other emission controls that are applicable to your equipment.
- Reduce idling time on equipment.

Finally, the projects listed in this document must meet the conformity requirements of the Clean Air Act as amended and the transportation planning provisions of Title 40 of United States Code.

The Division also suggests an investigation into compliance with applicable local government regulations.

The Division appreciates the opportunity to review this submittal. If you have any questions regarding this matter, please contact Joe Forgacs of my staff at (502) 564-3999.

Sincerely,



John E. Gowins
Supervisor, Evaluation Section
Program Planning & Administration Branch

JEG/jmf



**KENTUCKY DEPARTMENT OF FISH & WILDLIFE RESOURCES
TOURISM, ARTS, AND HERITAGE CABINET**

Steven L. Beshear
Governor

#1 Sportsman's Lane
Frankfort, Kentucky 40601
Phone (502) 564-3400
1-800-858-1549
Fax (502) 564-0506
fw.ky.gov

Marcheta Sparrow
Secretary

Dr. Jonathan W. Gassett
Commissioner

20 February 2012

Keith Damron, P.E.
Director, Division of Planning
KY Transportation Cabinet
200 Mero Street 5th Floor
Frankfort, KY 40622

RE: Planning Study
KY 44 Corridor Study from US 31E (Bullitt County) to KY 1633 (Spencer County)
Item No. 5-396.00

Dear Mr. Damron:

The Kentucky Department of Fish and Wildlife Resources (KDFWR) has received your request for information regarding the subject project. The Kentucky Fish and Wildlife Information System indicates the federally-endangered Indiana bat (*Myotis sodalis*), Fanshell (*Cyprogenia stegaria*), Clubshell (*Pleurobema clava*), and Pink Mucket (*Lampsilis abrupta*) are known to occur within close proximity to the project site. Additionally, both the western and eastern ends of the project (Begin to Goose Creek Rd and Bennett Spur to End) fall within known maternity summer habitat for the Indiana bat according to the U.S. Fish and Wildlife Service Kentucky Field Office (USFWS KFO). Therefore, I recommend contacting the USFWS KFO (502-695-0468) to discuss this project and ways to ensure compliance under the Federal Endangered Species Act. Please be aware that our database system is a dynamic one that only represents our current knowledge of various species distributions.

It appears that the proposed project has the potential to impact wetland habitats. The KDFWR recommends that you look at the appropriate US Department of Interior National Wetland Inventory Map (NWI) and the appropriate county soil surveys to determine where the proposed project may impact wetlands. Additionally, field verification may be needed to determine the extent and quality of wetland habitats within the project area. Any planning should include measures designed to eliminate and/or reduce impacts to wetland habitats. If impacts cannot be avoided, mitigation should be properly designed and proposed to offset the losses. KDFWR will recommend, at a minimum, a 2:1 mitigation ratio for any permanent loss or degradation of wetland habitats.

Additionally, the KDFWR recommends the following measures for any work that may occur within a stream to help reduce impacts to the aquatic environment:



- When crossing a stream, any pipe should be laid perpendicular to the stream bank to minimize the direct impacts to the streambed.
- Avoidance of impacts to intermittent and perennial streams if it is feasible.
- Development/excavation during low flow period to minimize disturbances.
- Proper placement of erosion control structures below highly disturbed areas to minimize entry of silt to the stream.
- Replanting of disturbed areas after construction, including reforestation of stream banks, with native vegetation for soil stabilization and enhancement of fish and wildlife populations.
- Avoid impacts to forested areas if possible. If impacts cannot be avoided we recommend reforestation of common areas with native trees to promote use by various species of wildlife.
- Return all disturbed instream habitat to stable condition upon completion of construction in the area.
- Preservation of any tree canopy overhanging the stream.

To minimize indirect impacts to aquatic resources, strict erosion control measures should be developed and implemented prior to construction to minimize siltation into streams and storm water drainage systems located within the project area. Such erosion control measures may include, but are not limited to silt fences, staked straw bales, brush barriers, sediment basins, and diversion ditches. Erosion control measures will need to be installed prior to construction and should be inspected and repaired regularly as needed.

I hope this information is helpful to you, and if you have questions or require additional information, please call me at (502) 564-7109 extension 4453.

Sincerely,



Dan Stoelb
Wildlife Biologist

Cc: Environmental Section File

RECEIVED

MAR 14 2012

Div. of Planning

Keith Damron, P.E.
Director
Division of Planning
Kentucky Transportation Cabinet
200 Mero Street 5th Floor
Frankfort, KY 40622

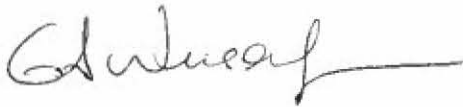
March 12, 2012

Keith,

This letter pertains to the planning study for KY-44 between Taylorsville and Mount Washington. As you are probably already aware, this route transects geologic units that are susceptible to karst development. Our online karst potential map shows a low to medium probability of karst development along the corridor with greater potential at each end of the route and lesser potential in the center. I consulted our karst specialist, and he is not aware of any site specific issues in the area, such as caves.

The Silurian Osgood Formation is exposed near the intersection of KY-1319. This shale-rich unit may contain low-durability material that is susceptible to slides. However, exposure to this unit along the alignment is very limited.

If you have any specific questions relating to the geology of the area, I would be glad to assist you or your staff.



Jerry Weisenfluh
Associate Director

Kentucky Geological Survey
Research
504 Rose Street
228 Mining & Mineral Resources Bldg.
Lexington, KY 40506-0107
Phone: (859) 257-5500
Fax: (859) 257-1147
www.uky.edu/kgs



KENTUCKY STATE NATURE PRESERVES COMMISSION

Steven L. Beshear
Governor

801 Schenkel Lane
Frankfort, Kentucky 40601-1132
Phone (502) 573-2886
Fax (502) 573-2355
<http://naturepreserves.ky.gov>

February 28, 2012

Dr. Leonard Peters
Secretary
Energy and
Environment Cabinet

Donald S. Dott, Jr.
Director

Keith Damron
Director
Division of Planning
Kentucky Transportation Cabinet
200 Mero Street, 5th floor
Frankfort, KY 40622

Dear Mr. Damron,

We received notice of a planning study for the KY 44 Corridor and are concerned about possible impacts to a rare plant that is known to occur along the proposed construction corridor. Kentucky gladeblossom (*Leavenworthia exigua* var. *laciniata*) is a globally rare plant and one of only two plants endemic to the state and recorded from this area. It is important that a thorough survey for this rare plant be conducted within the proposed area of construction.

Please feel free to contact me if you have additional questions. I thank you for the opportunity to comment on this upcoming study.

Sincerely,

Deborah L. White
Natural Heritage Manager/ Botanist

RECEIVED

FEB 29 2012

Div. of Planning

DW/fh

United States Department of Agriculture



Natural Resources Conservation Service
771 Corporate Drive, Suite 210
Lexington, KY 40503

March 14, 2012

Kentucky Transportation Cabinet
Division of Planning
ATTN: Keith Damron, P.E., Director
200 Mero Street 5th Floor
Frankfort, KY 40622

RE: Planning Study
KY 44 Corridor Study from US 31E (Bullitt County) to KY 1633 (Spencer County)
Item No. 5-396.00

Dear Mr. Damron:

In regards to the planning study for KY 44 Corridor, the USDA-Natural Resources Conservation Service (NRCS) is concerned with potential impacts that projects might have upon prime farmland soils, farmlands of statewide importance, PL-566 watershed structures, wetlands, Wetland Reserve Program (WRP) easements, and Grassland Reserve Program (GRP) easements. Based upon the information provided, Kentucky NRCS does not anticipate the proposed actions will affect WRP easements, GRP easements or PL-566 watershed structures. NRCS is not aware of any plans or activities related to our agency in the defined project area. If federal dollars are to be used to convert wetlands or convert important prime farmlands from agricultural uses to non-agricultural uses a Form AD-1006 (or Form NRCS-CPA-106 if the project is a corridor type project) must be submitted to the local NRCS office. These forms may be obtained from the local NRCS office and are also available as electronic forms on the web at <http://forms.sc.egov.usda.gov/eForms/welcomeAction.do?Home>. The current defined project area may impact prime farmland soils and farmlands of statewide importance. NRCS recommends further investigation into the impacts on the soils. We appreciate the opportunity to comment and provide input for the scoping process of this study.

Sincerely,

A handwritten signature in blue ink that reads "Elizabeth Crane-Wexler".

ELIZABETH CRANE-WEXLER
Acting Assistant State Conservationist

RECEIVED

MAR 15 2012

Div. of Planning

Helping People Help the Land

An Equal Opportunity Provider and Employer





STEVEN L. BESHEAR
GOVERNOR

**TOURISM, ARTS AND HERITAGE CABINET
KENTUCKY HERITAGE COUNCIL**

MARCHETA SPARROW
SECRETARY

THE STATE HISTORIC PRESERVATION OFFICE
300 WASHINGTON STREET
FRANKFORT, KENTUCKY 40601
PHONE (502) 564-7005
FAX (502) 564-5820
www.heritage.ky.gov

LINDY CASEBIER
ACTING EXECUTIVE DIRECTOR AND
STATE HISTORIC PRESERVATION OFFICER

March 9, 2012

Mr. Keith R. Damron, P. E., Director
Division of Planning
Kentucky Transportation Cabinet
200 Mero Street
5th Floor West
Frankfort, KY 40622

**Re: Planning Study
KY 44 Corridor Study from US 31E (Bullitt County) to KY 1633 (Spencer County)
Item No. 5-396.00**

Dear Mr. Damron:

Our office recently received a request for comments on the above-referenced project. Because FHWA is the lead federal agency on this project, the Kentucky Transportation Cabinet (KYTC) must ensure compliance with relevant state and federal regulations regarding cultural resources. These may include any or all of the following: the Advisory Council on Historic Preservation's Rules and Regulations for the Protection of Historic and Cultural Properties (36CRF, Part 800) pursuant to the National Historic Preservation Act of 1966; the National Environmental Policy Act of 1969; Executive Order 11593, Kentucky Antiquities Act; Kentucky Cave Protection Act; and graves protection legislation.

In order to determine if properties eligible for listing in the National Register of Historic Places will be affected by this project, you must submit one copy of a historic architectural survey report and one copy of an archaeological survey report to this office for review and comment. The reports must be completed by professionals meeting the Secretary of the Interior's Standards for Professional Qualifications in archaeology, history, or architectural history, and they must meet the Kentucky Heritage Council's *Specifications for Conducting Fieldwork and Preparing Cultural Resource Assessment Reports*, available at <http://heritage.ky.gov/envreview>. The determination of the area of potential effect (APE) for both archaeological and cultural historic resources should be made in consultation with our office. The documents enclosed with your letter show a study area for the project that may or may not be adequate to account for all potential direct or indirect impacts. This effort should be coordinated with the Division of Environmental Analysis at KYTC.

Pending our review of the requested documentation, there may be a need for additional consultation with our office to determine how to avoid, minimize, or mitigate any adverse effects to significant cultural resources. Thank you for giving our office an opportunity to comment in the planning stages for this project. If you have any questions, please contact Vicki Birenberg at (502) 564-7005, ext. 127, or Vicki.Birenberg@ky.gov.

Page 2

Planning Study

KY 44 Corridor Study from US 31E (Bullitt County) to KY 1633 (Spencer County)

Item No. 5-396.00

March 9, 2012

Sincerely,



Lindy Casebier
Acting Executive Director and
State Historic Preservation Officer

cc: Amanda Abner – KYTC – DEA
Sreenu Gutti – KYTC – Division of Planning

LC:vmb



DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, LOUISVILLE
CORPS OF ENGINEERS
P.O. BOX 59
LOUISVILLE KY 40201-0059
FAX: (502) 315-6677
<http://www.lrl.usace.army.mil/>

March 21, 2012

RECEIVED

MAR 22 2012

Div. of Planning

Operations Division
Regulatory Branch (South)

Mr. Keith Damron
Kentucky Transportation Cabinet
Direct, Division of Planning
200 Mero Street, 5th Floor
Frankfort, Kentucky 40622

Dear Damron:

This is in regard to your letter requesting comments for the proposed improvements to KY 44 highway project beginning at US 31E and Ending at KY 1633. The proposed highway project would improve safety of the road and provide a linkage that would connect the cities of Mount Washington, Bullitt County to Taylorsville, Spencer County, Kentucky.

The U.S. Army Corps of Engineers (USACE) exercises regulatory authority under Section 10 of the Rivers and Harbors Act of 1899 (33 USC 403) and Section 404 of the Clean Water Act, 1972 (33 USC 1344) for certain activities in "waters of the United States (U.S.)." Section 404 requires that a DA permit be obtained for the placement or discharge of dredged and/or fill material into waters of the U.S., including wetlands, prior to conducting the work.

"Waters of the U.S." include hydrologically connected lakes, rivers and stream channels exhibiting an Ordinary High Water Mark (OHWM), wetlands, sloughs, wet meadows and wetlands adjacent to "waters of the U.S." The Ordinary High Water Mark (OHWM) elevation is the line on the bank established by the changing water surface and indicated by physical characteristics such as a clear natural line impressed on the bank; shelving; changes in the character of the soil; destruction of terrestrial vegetation; and other indications as determined upon inspection of the area.

Section 10 requires that a Department of the Army (DA) permit be obtained for any work that occurs in, under or over a navigable water. These waters include all waters that are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce.

Based on the information provided by you, the following "waters of the U.S." may be located within the project area: Pond Run Creek, Elk Creek, Plum Creek, Goose Creek, Dutchmans Creek, Little Dutchmans

Creek and any other stream channels (perennial, intermittent ephemeral) and/or hydrologically connected lakes exhibiting an OHWM and any adjacent wetlands within the proposed project area. A delineation of "waters of the U.S." should be completed if the proposed project would impact "waters of the U.S.," including wetlands.

We do not have any comments on the general environmental impacts of the proposed project(s). Our lack of comments on specific potential environmental impacts should not be construed as concurrence that no significant environmental damage would result from the project. Our comments on this project are limited to only those effects which may fall within our area of jurisdiction and thus does not obviate the need to obtain other permits from state or local agencies.

This project may necessitate the discharge of dredged or fill material into "waters of the U.S., including jurisdictional wetlands, and you should submit a DA permit application for review by this office if the project would impact "waters of the U.S." We will need a completed DA permit application along with additional details regarding the project's design, scope, photos, construction methods, purpose, a delineation of all "waters of the U.S." Please allow sufficient time in your preconstruction schedule for the processing of a DA permit application. Copies of DA permit application forms can be obtained by writing to the above address ATTN: CELRL-OP-FS or online at <http://www.lrl.usace.army.mil/>.

If we can be of any further assistance, please contact us by writing to the above address ATTN: CELRL-OP-FS, or by calling me at 502-315-6709.

Sincerely,

A handwritten signature in blue ink, appearing to read "Meagan Chapman", is written over the typed name.

Meagan Chapman
Project Manager
Regulatory Branch



KENTUCKY STATE POLICE

Steven L. Beshear
Governor

919 Versailles Road
Frankfort, Kentucky 40601
www.kentuckystatepolice.org

J. Michael Brown
Secretary

Rodney Brewer
Commissioner

February 13, 2012

Mr. Keith R. Damron, P.E.
Director
Division of Planning
Kentucky Transportation Cabinet
200 Mero Street
5th Floor West
Frankfort, KY 40622

RECEIVED

FEB 16 2012

Div. of Planning

Dear Mr. Damron:

We are in receipt of your letter requesting our comments in regards to the Planning Study for KY 44 Corridor Study from US 31E (Bullitt County) to KY 1633 (Spencer County), Item No. 5-396.00.

At this time, we do not perceive any problems as it pertains to commercial vehicle enforcement.

If you have any questions, please do not hesitate to contact us.

Sincerely,

Lieutenant Colonel Keith Percy
Director
Commercial Vehicle Enforcement Division



ENERGY AND ENVIRONMENT CABINET

Steven L. Beshear
Governor

DEPARTMENT FOR ENVIRONMENTAL PROTECTION
300 FAIR OAKS LANE
FRANKFORT, KENTUCKY 40601
PHONE (502) 564-2150
FAX (502) 564-4245
www.dep.ky.gov

Leonard K. Peters
Secretary

R. Bruce Scott
Commissioner

March 14, 2012

Mr. Keith Damron, P.E.
Director, Division of Planning
Kentucky Transportation Cabinet
200 Mero St. 5th Floor
Frankfort, KY 40622

Re: Planning Study – KY 44 Corridor Study from US 31E to KY 1633 (Item No. 5-396.00)
(SERO-2012-8)

Dear Mr. Damron,

The Energy and Environment Cabinet serves as the state clearinghouse for review of environmental documents generated pursuant to the National Environmental Policy Act (NEPA). Within the Cabinet, the Commissioner's Office in the Department for Environmental Protection coordinates the review for Kentucky state agencies.

We received your letter dated February 2, 2012 requesting review of your project for the KY 44 Corridor Study from US 31E to KY 1633 (Item No. 5-396.00). We distributed copies to the State Nature Preserves Commission, the Kentucky Heritage Council, the Division of Water, the Division for Air Quality, the Division of Waste Management, the Division of Conservation, and the Department for Natural Resources. Comments were received from the Division of Water, the Division of Air Quality and the Division of Waste Management.

If you should have any questions, please contact me at (502) 564-2150, ext. 3125.

Sincerely,

A handwritten signature in cursive script that reads "Ronald T. Price".

Ronald T. Price
State Environmental Review Officer

**COMMONWEALTH OF KENTUCKY
STATE ENVIRONMENTAL REVIEW PROCESS**

Project Number: SERO 2012 -8

Initial Coordination Effort

Project Title:

Planning Study - KY 44 Corridor Study from US 31E to KY 163

The following Commonwealth of Kentucky agencies make up the State Environmental Review Process. Their response is listed below. Agencies that did not receive the document for review or did not respond are also noted.

REVIEWING AGENCIES:	RESPONSE:
Division of Water.....	COMMENTS ATTACHED
Division of Waste Management.....	COMMENTS ATTACHED
Division for Air Quality.....	COMMENTS ATTACHED
Department for Public Health.....	Not Sent for Review
Cabinet for Economic Development.....	Not Sent for Review
Division of Forestry.....	Not Sent for Review
Department of Parks.....	Not Sent for Review
Department of Agriculture.....	Not Sent for Review
Nature Preserves Commission.....	No Response Received
Kentucky Heritage Council.....	No Response Received
Division of Conservation.....	No Response Received
Department for Natural Resources.....	No Response Received
Department of Fish and Wildlife Resources....	No Response Received
Transportation Cabinet.....	Not Sent for Review
Department for Military Affairs.....	Not Sent for Review

Division of Water Comments

Planning Study - KY 44 Corridor Study from US 31E to KY 163

Endorsement:

A request for review of the Planning Study - KY 44 Corridor Study from US 31E to KY 163 in Spencer County, Kentucky was received on February 21, 2012. The Division of Water (DOW) completed this review and has provided the following comments.

Compliance & Technical Assistance Branch: No comments

Water Quality Branch: Best management practices shall be utilized to reduce runoff from the project area into adjacent surface waters.

Watershed Management: The contractor(s) constructing the project may need a groundwater protection plan depending on the onsite activities. Any water well or monitoring well in the construction area will need to be properly abandoned by a certified water well or monitoring well driller before any construction occurs on the well location.

No comments for Water Withdrawal Permitting, Floodplain Section or Water Management Planning.

Enforcement Branch: The Division of Enforcement does not object to the project proposed by the applicant.

Division of Waste Management Comments

Project Number: SERO 2012-8

All solid waste generated by this project must be disposed at a permitted facility. If underground storage tanks are encountered they must be properly addressed. If asbestos, lead paint or other contaminants are encountered during this project they must be properly addressed.

Division for Air Quality Comments



Steven L. Beshear
Governor

**Energy and Environment Cabinet
Department for Environmental Protection**

Leonard K. Peters
Secretary

Division for Air Quality
200 Fair Oaks Lane, 1st Floor
Frankfort, Kentucky 40601-1403
Web site: air.ky.gov

March 6, 2012

Mr. Keith R. Damron, P.E.
Director
Division of Planning
Kentucky Transportation Cabinet
200 Mero Street, 5th Floor
Frankfort, Kentucky 40622

Dear Mr. Damron:

The Division has reviewed the planning study for evaluating potential impacts for a proposed highway project from US 31E in Bullitt County to KY 1633 in Spencer County, Item Number 05-396.00. The following Kentucky Administrative Regulations apply to this proposed project:

Kentucky Division for Air Quality Regulation 401 KAR 63:010 Fugitive Emissions states that no person shall cause, suffer, or allow any material to be handled, processed, transported, or stored without taking reasonable precaution to prevent particulate matter from becoming airborne. Additional requirements include the covering of open bodied trucks, operating outside the work area transporting materials likely to become airborne, and that no one shall allow earth or other material being transported by truck or earth moving equipment to be deposited onto a paved street or roadway. Please note the Fugitive Emissions Fact Sheet located at <http://air.ky.gov/Pages/OpenBurning.aspx>

Kentucky Division for Air Quality Regulation 401 KAR 63:005 states that open burning is prohibited. Open Burning is defined as the burning of any matter in such a manner that the products of combustion resulting from the burning are emitted directly into the outdoor atmosphere without passing through a stack or chimney. However, open burning may be utilized for the expressed purposes listed on the Open Burning Brochure located at <http://air.ky.gov/Pages/OpenBurning.aspx>

Mr. Keith Damron

Page 2

March 6, 2012

The Division would like to offer the following suggestions on how this project can help us stay in compliance with the NAAQS. More importantly, these strategies are beneficial to the health of citizens of Kentucky.

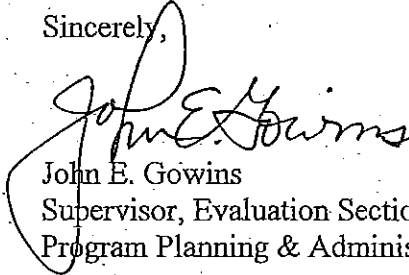
- Utilize alternatively fueled equipment.
- Utilize other emission controls that are applicable to your equipment.
- Reduce idling time on equipment.

Finally, the projects listed in this document must meet the conformity requirements of the Clean Air Act as amended and the transportation planning provisions of Title 40 of United States Code.

The Division also suggests an investigation into compliance with applicable local government regulations.

The Division appreciates the opportunity to review this submittal. If you have any questions regarding this matter, please contact Joe Forgacs of my staff at (502) 564-3999.

Sincerely,

A handwritten signature in black ink, appearing to read "John E. Gowins". The signature is written in a cursive, flowing style with a large initial "J".

John E. Gowins
Supervisor, Evaluation Section
Program Planning & Administration Branch

JEG/jmf

Appendix I
Photos



Photo No. I1 – US 31E - KY 44 intersection, looking east



Photo No. I2 – KY 44 in front of Bullitt East High School
and Old Mill Elementary School



Photo No. I3 – KY 44 at KY 1319 intersection.



Photo No. 14 – KY 44 intersects KY 1319 at a skew



Photo No. 15 – KY 44 approaching the Bullitt/Spencer County line from the east side



Photo No. 16 – KY 44 going east approaching Goose Creek Rd



Photo No. 17 – at MP 2.0 and going east. Entrance to Saddlebrook Trail/Jewel Valley Rd is in the curve on the left



Photo No. I8 – MP 3.0 and traveling east. Waterford Loop intersection is ahead on the right just before the curve to the left



Photo No. I10 – KY 44 – Hickory Woods intersection looking east



Photo No. I9 – Pin Oak subdivision is seen at the beginning of the three lane section near Spencer County Elementary School



KY 44 Highway Crossings





Photo No. I15 - KY 44 and Carl Monroe /Bennett Spur intersection looking east



Photo No. I16 - KY 44 and Akins Rd intersection at MP 5.0



Photo No. I17 - KY 44 going east at River Heights Blvd intersection



Photo No. I18 – Spencer County Elementary School sign
along KY 44



Photo No. I19 – The three lane section of KY 44 in front
of Spencer County Elementary School



Photo No. I20 – Valley Cemetery along KY 44

10. Bullitt East H.S. Site Plan

