Appendix B - ENVIRONMENTAL OVERVIEW





ENVIRONMENTAL OVERVIEW

DESIGN STUDY TO DETERMINE IMPROVEMENTS NEEDED FOR US 150 BETWEEN SPRINGFIELD AND BARDSTOWN

NELSON AND WASHINGTON COUNTY, KENTUCKY

04-0396



I. Project Description and Physical Setting

A. Project Description

This design study has been commissioned by the Kentucky Transportation Cabinet (KYTC) to identify potential improvements to US 150 between Springfield, KY in Washington County and Bardstown, KY which is in Nelson County . The US 150 corridor has already been significantly improved from Interstate 75 near Mt. Vernon in Rockcastle County, KY to just west of Springfield, including the recently completed Springfield bypass (KYTC Item 4-307 open to traffic 2009). North of Bardstown US 150 runs concurrently with US 31E; this corridor is being improved from KY 508 to the Salt River Bridge. Currently this project is state funded; if future phases are federally funded a more intensive environmental document will be developed.

B. Purpose and Need

The purpose of the US 150 Improvement Project is to enhance local and regional mobility, increase capacity where necessary, and to provide a safer, more efficient connection between the Bluegrass Parkway and Springfield, Kentucky. Currently, US 150 provide the only regional east/west connection for areas between the Bluegrass Parkway in Bardstown and I-75 in Mt. Vernon. In an effort to provide a more reliable and safer regional connector, past improvements have been made to the US 150 corridor between the east end of the project area and I-75 in Rockcastle County.

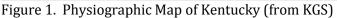
C. Climate

Kentucky has a mild, mid-latitude climate which can be highly variable. It is characterized by large seasonal temperature changes between summer and winter. The proximity to the Gulf of Mexico influences annual precipitation rates with warm, moist air rising from the south and meeting cooler air from the North. The mean annual temperature in Kentucky is 53° F but the average daily high ranges from 88° in July to 39° F in January. The average annual precipitation ranges is around 47 inches.

D. Geology and Soils

The project area is within the Outer Bluegrass Physiographic Region. This region is characterized by limestones, dolomites and shales of Ordovician and Silurian age. Near the BG Parkway interchange there is an area underlain by New Albany Shale. This is important to note because of the presence of pyrite within this bedrock and the potential for acid runoff. The design team should make provisions to treat any runoff if any rock cuts are left exposed in this area.





In Nelson County the soils are from the Pembroke-Beasley-Corydon soil association. These soils range from deep to shallow, are well-drained and moderately fine grained composed of degraded

limestone and shale. These soils are generally well suited for agriculture on moderately steep and level ground and many are classified as prime farmland or farmland of statewide importance.

In Washington County the soils are from either the Fairmount-Shrouts-Faywood (FMS) or Lowell-Faywood-Shelbyville (LFS) soil associations. The FSF soil association consists of shallow and moderately deep well drained soils with clay subsoil. The soils are underlain with Ordovician and Silurian limestone bedrock. These soils are most suitable for pasture and hay due to the slope of the ground. The prime farmland designated soils are generally located within the valleys of the Beech Fork River and along the bottoms of Cartwright Creek. The LFS soil association is comprised of deep and moderately deep well drained soils with clay or loam subsoil on generally gently sloping to moderately steep uplands. These soils are also well suited to hay and pasture use and if erosion is controlled row cropping. This association also has soils classified as prime farmland in the bottom land or on level ridges. See Appendix 2A for maps showing soil Farmland Classification within the study area

If the project is federalized the NRCS should be consulted to develop a farmland conversion impact analysis and if determined to be significant steps to avoid, minimize or mitigate for the loss of important farmlands will be considered.

E. Land Cover

With the exception of the area near Bardstown, the US 150 project corridor is a rural landscape. There are numerous, dispersed residences throughout and along the route along with abundant farmland and small patches of forest interspersed throughout the landscape. Table 1 shows the percentage of landuse within a 0.5 km buffer of the US 150 centerline or proposed realignments. See Appendix 2B for mapping)

NLCD Class	Area (Ac)	% Area
Open Water	24.46	0.44%
Developed, Open Space	536.41	9.69%
Developed, Low Intensity	165.46	2.99%
Developed, Medium Intensity	54.93	0.99%
Developed, High Intensity	18.46	0.33%
Deciduous Forest	1450.23	26.21%
Evergreen Forest	77.84	1.41%
Mixed Forest	56.27	1.02%
Shrub/Scrub	0.89	0.02%
Grassland/Herbaceous	58.04	1.05%
Pasture/Hay	2536.85	45.84%
Cultivated Crops	538.64	9.73%
Woody Wetlands	2.67	0.05%
Emergent Herbaceous Wetlands	12.90	0.23%

Table 1 – NLCD 2011 Land use within the US 150
Study Area in Washington and Nelson Counties.

II. Natural Environment

A. Air Quality and Noise Impacts

Nelson and Washington County are currently in attainment categories for all criteria pollutants. The present and forecasted traffic data for this corridor is below the threshold for Carbon Monoxide project level analysis. No further air quality analysis is required for these pollutants. Mobile Source Air Toxins (MSAT) are becoming of increasing concern due their impact on populations susceptible to asthma and other respiratory illnesses. Again, however, the traffic data indicate there is low potential for MSAT effects to the local population therefore a only a qualitative analysis would be required.

The primary noise receptors along the route are residences along with a few scattered churches and businesses. KYTC has an established Noise Analysis and Abatement Policy (KYTC 2012). If recommended improvements are federally funded and would be classified as 'Type I' according to the 2012 Policy a detailed noise impact analysis is required at affected locations. A 'Type I' project is one where there is a new alignment, substantial change to either the vertical or horizontal alignment or the addition of a through traffic lane such as a truck climbing lane.

B. Aquatic and Terrestrial Resources

The study area has numerous aquatic resources which must be considered when designing improvements to US 150. There are 10 stream crossings with existing US 150, the most prominent being the Beech Fork River at the Nelson/Washington County line. Additionally there are several stretches where Cartwright Creek or Parker Run flow parallel within close proximity to US 150. The Federal Emergency Management Agency Digital Flood Insurance Map (DFIRM) for the study area was accessed from the KY Geoportal to obtain 1% annual chance flood prone areas. There are mapped floodplain areas associated with Mill Creek and Cane Run in Nelson County. The Beech Fork River and Cartwright Creek form a large flood prone area near Fredericktown that spans both Nelson and Washington County.

Wetlands

The National Wetlands Inventory GIS dataset was used to map known wetland resources (Table 2). There are 89 mapped wetlands within the US 150 study area totaling 643.25 acres.

Туре	Description	Count	Area
PAB3Hh	Palustrine, Aquatic Bed, Rooted Vascular Permanently Flooded Diked/Impounded	1	1.36
PAB4Hh	Palustrine, Aquatic Bed, Floating Vascular, Permanently Flooded, diked/impounded	1	1.54
PEM1C	Palustrine, Emergent, Persistent, Seasonally Flooded	2	0.72
PEM1Ch	Palustrine, Emergent, Persistent, Seasonally Flooded	1	1.24
PF01A	Palustrine, Forested, Broad-Leaved Deciduous, Temporarily Flooded	1	0.57
PSS1C	Palustrine, Scrub-Shrub, Broad-Leaved Deciduous, Seasonally Flooded	1	0.85
PUBFh	Palustrine, Unconsolidated Bottom Semi permanently Flooded, Diked/Impounded	2	0.44
PUBFx	Palustrine, Unconsolidated Bottom Semi permanently Flooded, Excavated	2	1.17
PUBH	Palustrine, Unconsolidated Bottom Permanently Flooded,	11	3.06
PUBHh	Palustrine, Unconsolidated Bottom Permanently Flooded, Diked/Impounded	41	22.08
PUSC	Palustrine, Unconsolidated Shore, Seasonally Flooded	4	0.98
PUSCh	Palustrine, Unconsolidated Shore, Seasonally Flooded, Diked/Impounded	2	0.56
PUSCX	Palustrine, Unconsolidated Shore, Seasonally Flooded, Excavated	4	0.98
R2UBH	Riverine, Lower Perennial, Unconsolidated Bottom, Permanently Flooded	3	577.08
R2USC	Riverine, Lower Perennial, Unconsolidated Bottom, Seasonally Flooded	8	5.31
U	Upland	4	25.09

Table 2 – Type, Description, Count and Area of Wetlands within the US 150 Study Area.

Threatened and Endangered Species

The KYTC combined species list for Nelson and Washington Counties has 11 listed species (Table 3).

County	Name	Scientific Name	Listing Agency	Status
			KDFWR, KSNPC,	
Nelson	Gray Bat	Myotis grisescens	USFWS	Endangered
			KDFWR, KSNPC,	
Nelson	Indiana Bat	Myotis sodalis	USFWS	Endangered
	Northern Long-	Myotis		
Nelson	eared Bat	septentrionalis	KDFWR, USFWS	Threatened
Nelson	Clubshell	Pleurobema clava	KDFWR, KSNPC	Endangered
			KDFWR, KSNPC,	
Nelson	Fanshell	Cyprogenia stegaria	USFWS	Endangered
	Northern	Epioblasma	KDFWR, KSNPC,	
Nelson	Riffleshell	torulosa rangi	USFWS	Endangered
		Quadrula cylindrica		
Nelson	Rabbitsfoot	cylindrica	KSNPC	Endangered
		Epioblasma	KDFWR, KSNPC,	
Nelson	Snuffbox	triquetra	USFWS	Endangered
_	Price's Potato-			
Nelson	bean	Apios priceana	KSNPC, USFWS	Threatened
	Running Buffalo	Trifolium		
Nelson	Clover	stoloniferum	KSNPC, USFWS	Endangered
Nulses	Short's		VONDO	T. J J
Nelson	Bladderpod	Physaria globosa	KSNPC	Endangered
Washington	Indiana Bat	Myotis sodalis	USFWS	Endangered
_	Northern Long-	Myotis		
Washington	eared Bat	septentrionalis	USFWS	Threatened
Washington	Clubshell	Pleurobema clava	USFWS	Endangered
Washington	Fanshell	Cyprogenia stegaria	USFWS	Endangered

Table 3 – KYTC Combined List of Species Listed by USFWS, KDFWR or KSNPC.

<u>Gray Bat</u>

On April 21, 1975, *Myotis grisescens* was proposed for listing under the Endangered Species Act (40 FR 17590) and formally attained endangered status on April 28, 1976 (United States Department of Interior 1976). Foraging usually occurs in riparian areas or over water bodies. Habitat requirements for roosts are highly specific with fewer than 5% of caves representing suitable habitat (Tuttle 1979). M. grisescens utilizes different caves throughout a year with winter caves usually defined with deep vertical shafts providing a cold air trap while caves utilized during the summer (especially maternity caves) are usually characterized as having domed ceilings (acting as a warm air trap) which are located in close proximity to a stream or water body (USFWS 1982, Tuttle 1976). Other caves, known as dispersal caves are used as roosting sites during migration from maternity caves to hibernacula.

<u>Indiana Bat</u>

The Indiana Bat (*Myotis sodalis*) was listed as an endangered species by the U.S. Fish and Wildlife Service on 11 March 1967) and is currently protected under the Endangered Species Act of 1973, as

amended (Public Law 93-205). The species uses different habitats during the summer and winter months. In addition, male and female bats may use different habitat types. Both sexes of bat overwinter in caves or mines. In the summer, female bats form maternity colonies in characteristic trees. Males are more opportunistic and roost singly or in small groups in trees and small caves. During mid-fall the bats migrate to their winter habitat and begin swarming. Both males and females require forested areas and wetland/riparian areas for foraging (USFWS 2007).

Northern Long Eared Bat

The Northern Long-eared Bat (NLEB) was listed as threatened by the USFWS on April 2, 2015. The habitat requirements for the NLEB are similar to the Indiana Bat preferring to roost underneath the bark or in cavities of both living and dead trees in the summer and overwinter in caves.

The project area is within the area identified as "Potential" by the USFWS (Appendix X) for the forest-dwelling bat habitat in Kentucky. The implication for this is that the removal of trees within the final project area will have to be coordinated with USFWS. Most likely the Programmatic Agreement between KYTC and USFWS will be used to develop a Conservation Memorandum of Agreement to pay mitigation for the loss of potential roosting habitat.

<u>Clubshell Mussel</u>

The clubshell mussel was listed as Endangered on January 22, 1993 by the USFWS. The clubshell is found in small streams to large rivers in clean, coarse sand and cobble mixes within the current. It is most commonly found downstream of riffles and islands. It burrows and may be found several inches below the surface of the substrate. It is not found in waters heavily impacted by sediment or in slack-water conditions.

<u>Fanshell Mussel</u>

The fanshell mussel was formally listed as endangered under the Endangered Species Act of 1973, as amended, on June 21, 1990. The *Fanshell mussel* is usually found in medium to large rivers in sand and gravel. Individuals are often found in deeper water with moderate flow. The species was historically found throughout the Ohio River Basin with records from Pennsylvania, West Virginia, Ohio, Indiana, Illinois, Kentucky, Tennessee, Alabama, and Virginia.

Northern Riffleshell

The northern riffleshell mussel was listed as endangered on 22 January 1993. The mussel can be found in large or small streams. The mussel beds are most commonly found in riffles and swift running water with clean substrate bottoms that consist of both firmly packed sand and fine to coarse gravel. Typically the species is found in shallow water, although individuals have been found as deep as two meters.

Rabbitsfoot

The rabbitsfoot mussel was listed as threatened under the Endangered Species Act of 1973, as amended, on September 17, 2013. Rabbitsfoot primarily inhabit small to medium sized streams and rivers. It usually occurs in shallow water along the bank and runs and shoals with reduced water velocity. It is generally found on substrates such as gravel and sand and seldom burrows but is typically found lying on its side.

<u>Snuffbox</u>

The snuffbox mussel was listed as endangered by the USFWS on February 12, 2012. It is usually found in small streams to medium sized rivers inhabiting areas with swift current. Adults often burrow deep in sand, gravel or cobble substrates.

The Beech Fork River and Cartwright Creek within the US 150 study area contain the best habitat available for listed mussel species, however a Biological Assessment completed for the replacement of the bridges conducted in November 2011 found no listed mussel species in the areas near the US 150 crossing. Additionally, many of the other streams including upstream reaches of Cartwright Creek in Washington County are bedrock bottom which provides little to no substrate for mussel species.

Price's Potato Bean

This plant was listed as threatened on January 5, 1990. It is a member of the Pea family and is a herbaceous, perennial vine legume which grows from a single tuber. The species if often found in low, open woods near streams or within transition areas from floodplains to hillsides. It is shade intolerant and requires open wooded areas or edge habitat such as power line easements. It requires well-drained calcareous soils over limestone beds.

Running Buffalo Clover

Also a member of the Pea family, this plant was listed as endangered on July 6, 1987. It is historically associated buffalo, buffalo traces and open savannah woodlands. It is mostly associated with limestone-derived soils. It is dependent on partial shade (filtered sunlight) and moderate, periodic disturbance such as grazing livestock, mowing and foot, vehicle or logging trails.

Short's Bladderpod

Short's bladderpod was listed as a candidate endangered species on May 11, 2004. It is a member of the Mustard family and is a short-lived herb. Very little is known about the ecology or life history of this plant and populations may vary greatly from year to year. Short's bladderpod inhabits steep, rocky, wooded slopes and talus areas at the base of cliffs. It may also be found in areas on or along major waterways. It prefers dry limestone rocks and open rock ledges or calcareous soils as found in cedar glades. The plant may also be found in shale at the base of cliffs and within roadcuts.

These plants may be found within the project area and when plans are developed, impacted area should be searched by a qualified biologist for suitable habitat and extant populations.

III. Human Environment

A. Archaeology

A search of the Office of State Archaeology database returned no recorded sites within a 30m buffer of US 150. However, there have only been three recorded surveys within that buffer. The presence of Beech Fork and Cartwright Creek and the topography with wide flat ridges overlooking the water features seems ripe for prehistoric sites. When you combine the physical features of the study area the large number of residences appearing on the 1953 USGS topographic maps and the paucity of surveys there is relatively high probability of prehistoric and historic archaeological sites within the study area.

Since this project is currently state funded, archaeological resource surveys will be focused on jurisdictional stream crossings for USACE permits.

B. Historic Resources

The Kentucky Heritage Council records indicate 40 sites within the study area in their database, including 4 National Register Listed Properties. The remaining 36 sites have not been evaluated for

National Register listing and could be eligible. Additionally, there are a cluster of surveyed resources in Fredericktown which may be eligible as a Historic District. When design advances to Phase I, care should be taken to avoid impacts to these inventoried resources. If future phases are federally funded or USACE 404 permits are required Section 106 coordination will be required and the eligibility and effects to these resources will be evaluated.

C. Section 4(f) Section 6(f) Resources

Section 4(f) of the Department of Transportation Act (49 U.S.C. 303 and 23 U.S.C. 138 provides for the protection of historic sites listed or eligible for the National Register of Historic Places, public parks or recreation areas and wildlife and waterfowl reservations. Impacts to Section 4(f) resources must be determined as part of the federal NEPA process. There are numerous sites within the study area which would qualify as Section 4(f) resources including the KHC sites and Fredericktown Community Park. If any of the projects advanced from this scoping study are federally funded, the project level Section 4(f) analysis will be required as part of the NEPA process.

The Land Water Conservation Fund Act (16 U.S.C. 460 Section (4f) was enacted to preserve, develop and assure accessibility to outdoor recreation resources by providing funds for planning, acquisition and development of property and facilities. The Governor's Office of Local Development administers the program for Kentucky and any impacts with Section 6(f) properties should be coordinated through that office. Within the study area the Fredericktown Community Park has received 4 grants between December 1980 and September 2007 for constructing facilities. If a federally funded project advances near the park which will impact facilities, measures to mitigate for the loss of park resources will be evaluated.

D. Agriculture

The study area is home to numerous farms. There is one farm enrolled in the PACE (Purchase Agricultural Easement) program. This farm is located north of US 150 near Fredericktown and is also listed on the National Register as the Hamilton Farm. The PACE program, administered through the Kentucky Department of Agriculture, allows the state to purchase conservation easements to ensure that land currently in agricultural use is protected from future development and will remain in agricultural use in the future.

E. Socioeconomic

A socioeconomic analysis was conducted by the Lincoln Trail Area Development District and is included in the Appendices.

F. HAZMAT

Properties with hazardous material concerns were identified through aerial photography, Kentucky Department of Environmental Protection UST database, and Nationwide Environmental Title Research database search. There are seven sites located in Nelson County and 4 located in Washington County. A Phase 1 Environmental Site Assessment is recommended if any of the identified properties are impacted by the US 150 improvements.

Site	Location	County	Concern
Maywood Gas Station	2590 Springfield Rd US 150 MP 2.2	Nelson	UST
Bardstown Auto Wreckers	3205 Springfield Rd US 150 MP 2.8	Nelson	Petroleum products, heavy metals, acids
Bivens Automotive	3398 Springfield Rd US 150 MP 2.8	Nelson	Petroleum products, heavy metals, acids
Taylor Welding & Fabricating	4050 Springfield Rd US 150 MP 3.65	Nelson	heavy metals, gas canisters, acids
US 150 Quick Stop	4598 Springfield Rd US 150 MP 4.2	Nelson	UST
Botland Liquors	5201 Springfield Rd US 150 MP 4.73	Nelson	UST, petroleum products
Hutchins Brothers Trucking	475 Botland Loop US 150 MP 5.27	Nelson	Petroleum products
Mama's Touch Nursery and Landscaping	8689 Bardstown Rd US 150 MP 4.77	Washington	Possible former UST,
Mudd's Body Shop	8666 Bardstown Rd US 150 MP4.77	Washington	Petroleum products, heavy metals, acids
Pat Mattingly Trucking Company	5529 Bardstown Rd US 150 MP 3.05	Washington	Petroleum products
Farm/Trucking Company	US 150 MP 3.6	Washington	Petroleum products

Table 4 – Possible Hazardous Materials Sites

ENVIRONMENTAL OVERVIEW

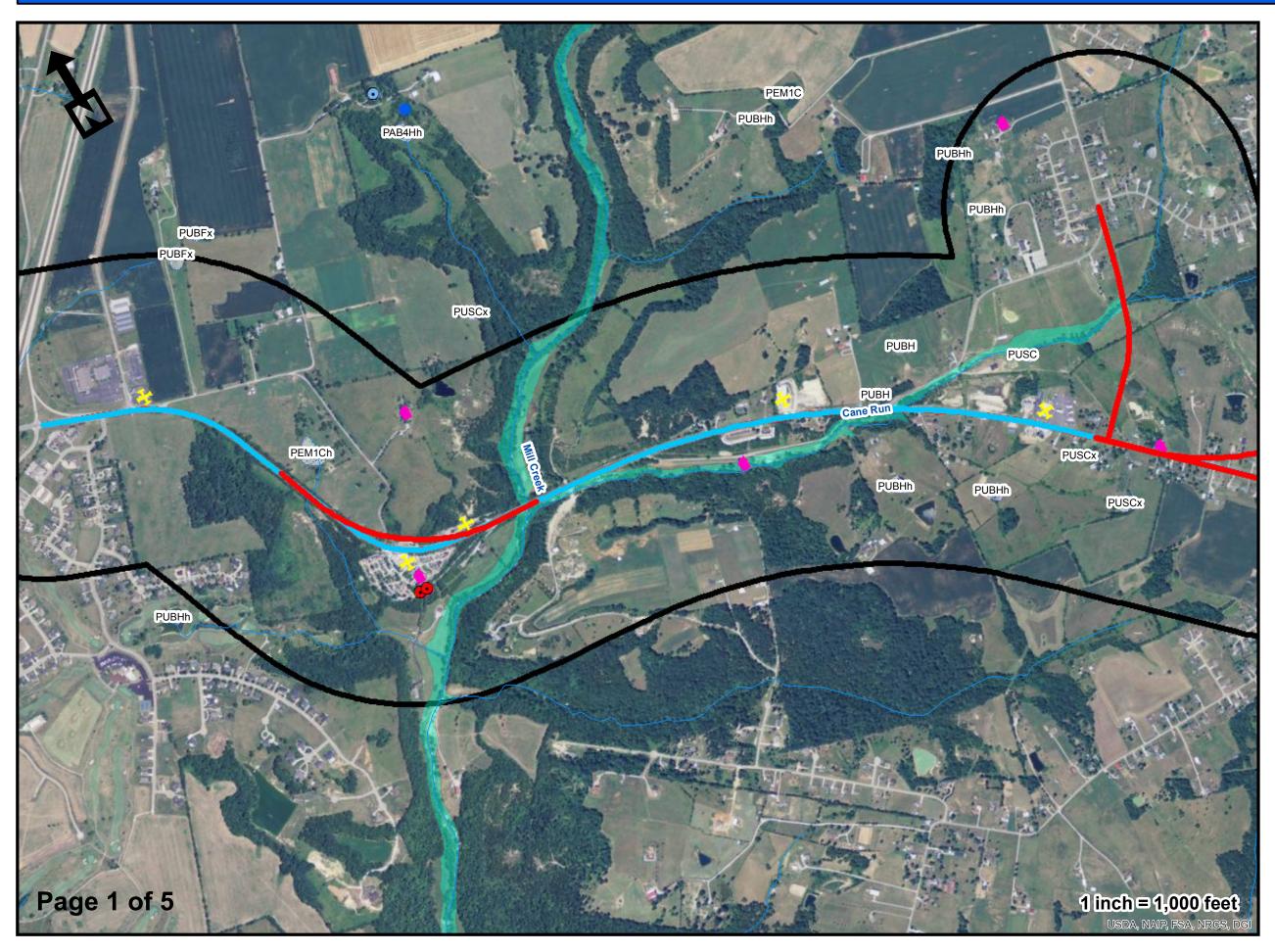
DESIGN STUDY TO DETERMINE IMPROVEMENTS NEEDED FOR US 150 BETWEEN SPRINGFIELD AND BARDSTOWN

NELSON AND WASHINGTON COUNTY, KENTUCKY

04-0396

APPENDIX 1 – ENVIRONMENTAL OVERVIEW MAP

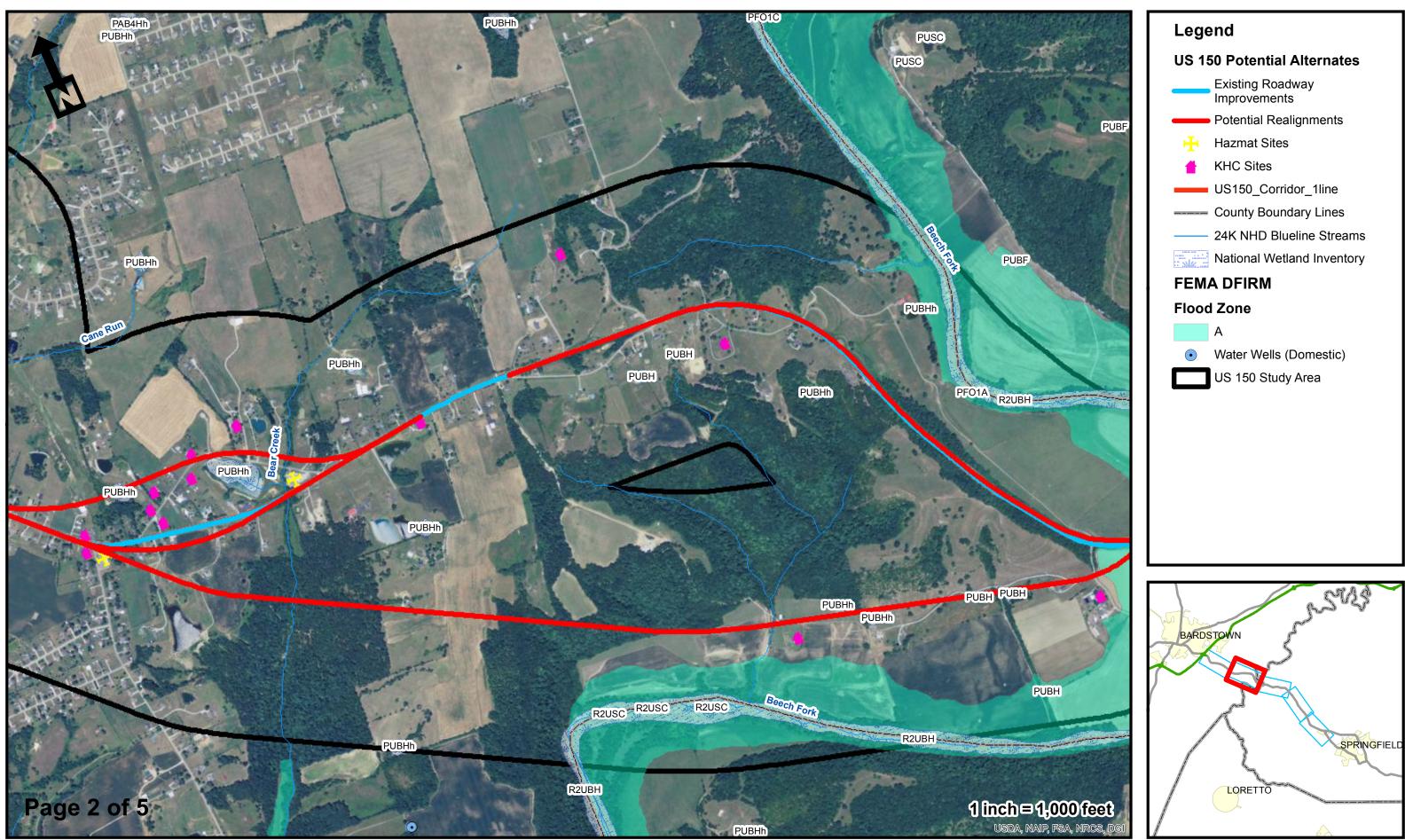


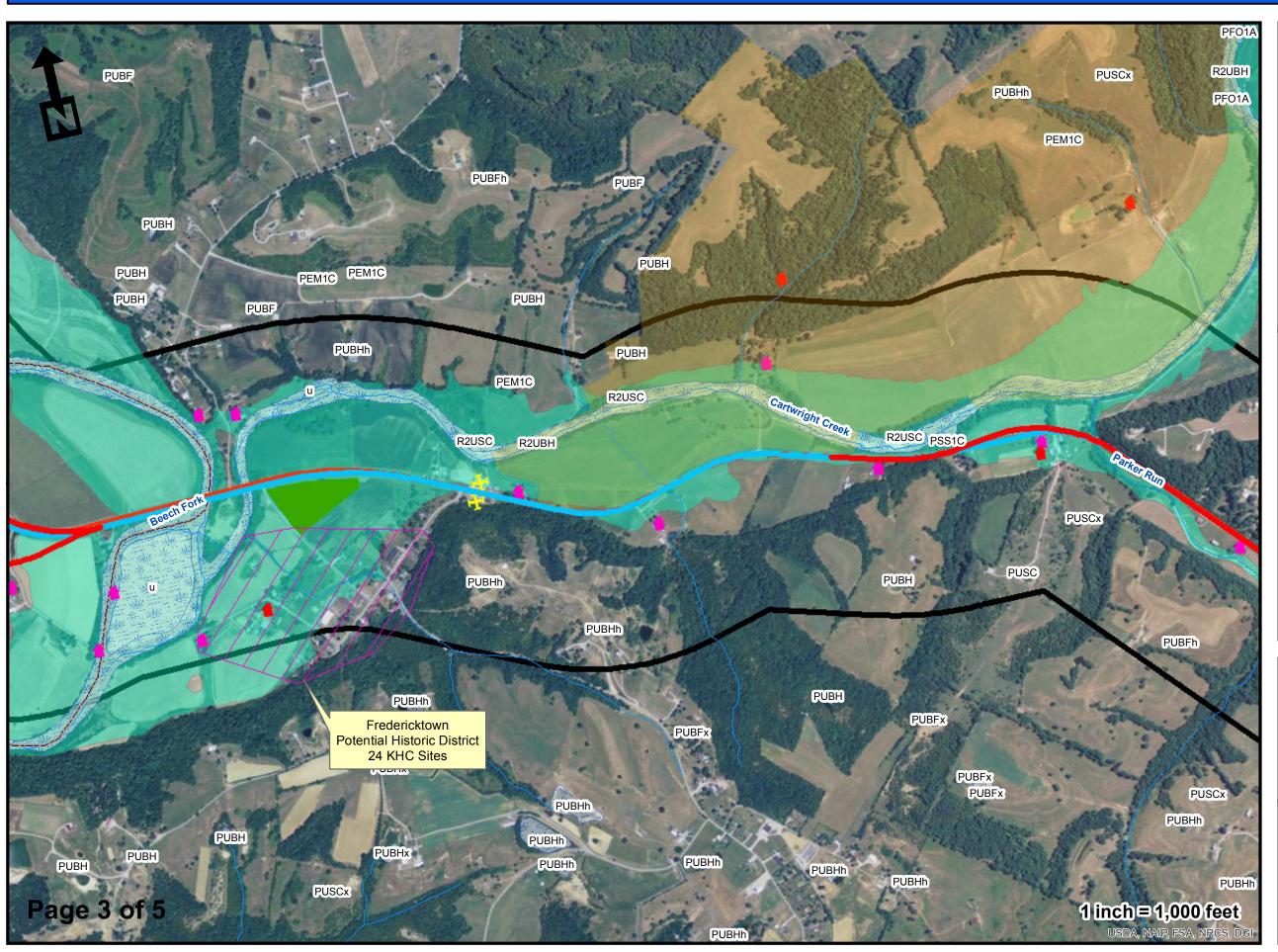


Legend **US 150 Potential Alternates** Existing Roadway Improvements Potential Realignments Hazmat Sites KHC Sites US150_Corridor_1line 24K NHD Blueline Streams National Wetland Inventory 1 33<u>16</u>2 -----31. 1 31.0 **FEMA DFIRM** Flood Zone A DOW Groundwater - Springs Water Wells (Domestic) Water Wells (Plugged) US 150 Study Area ~~~~~ BARDSTOWN

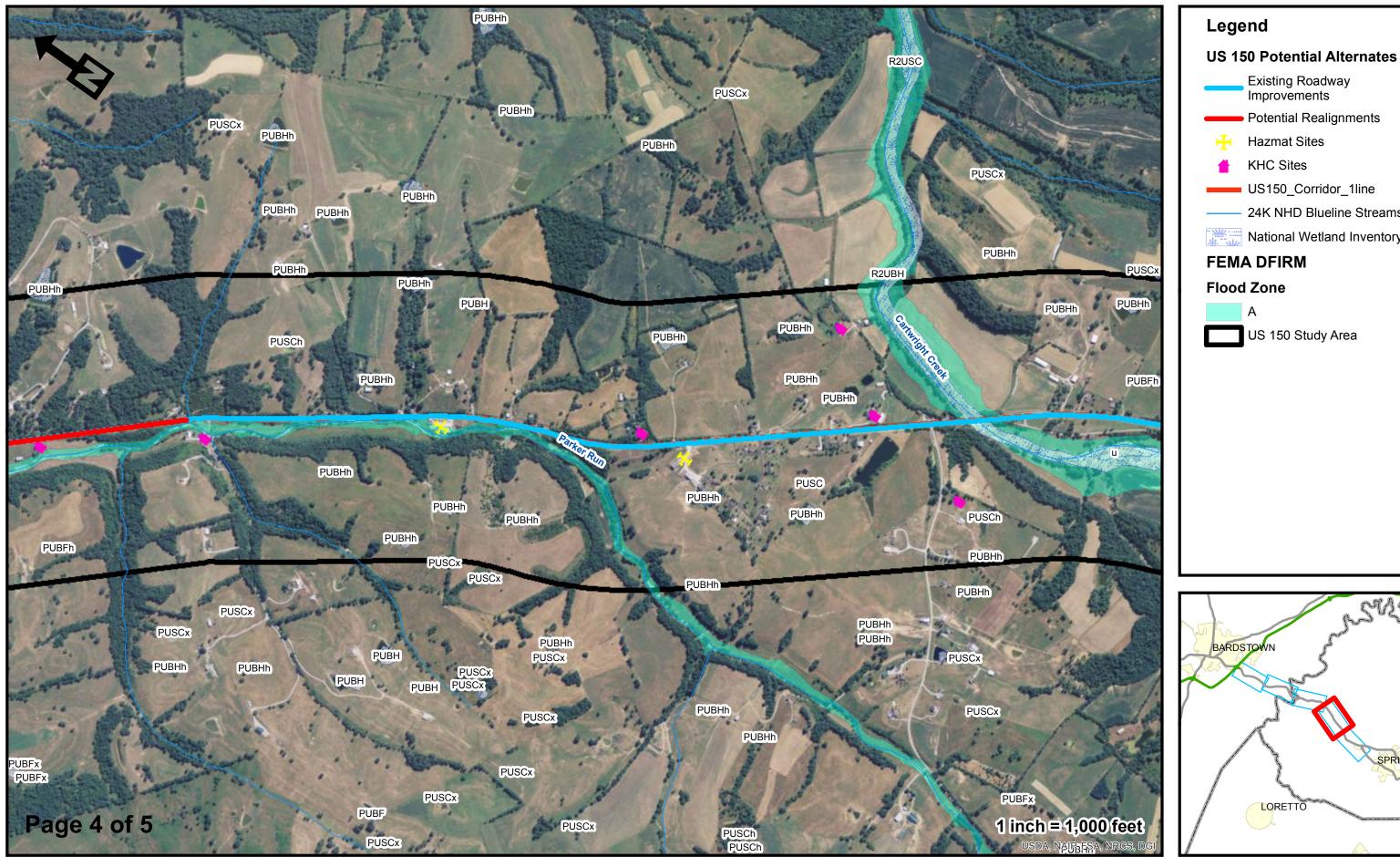
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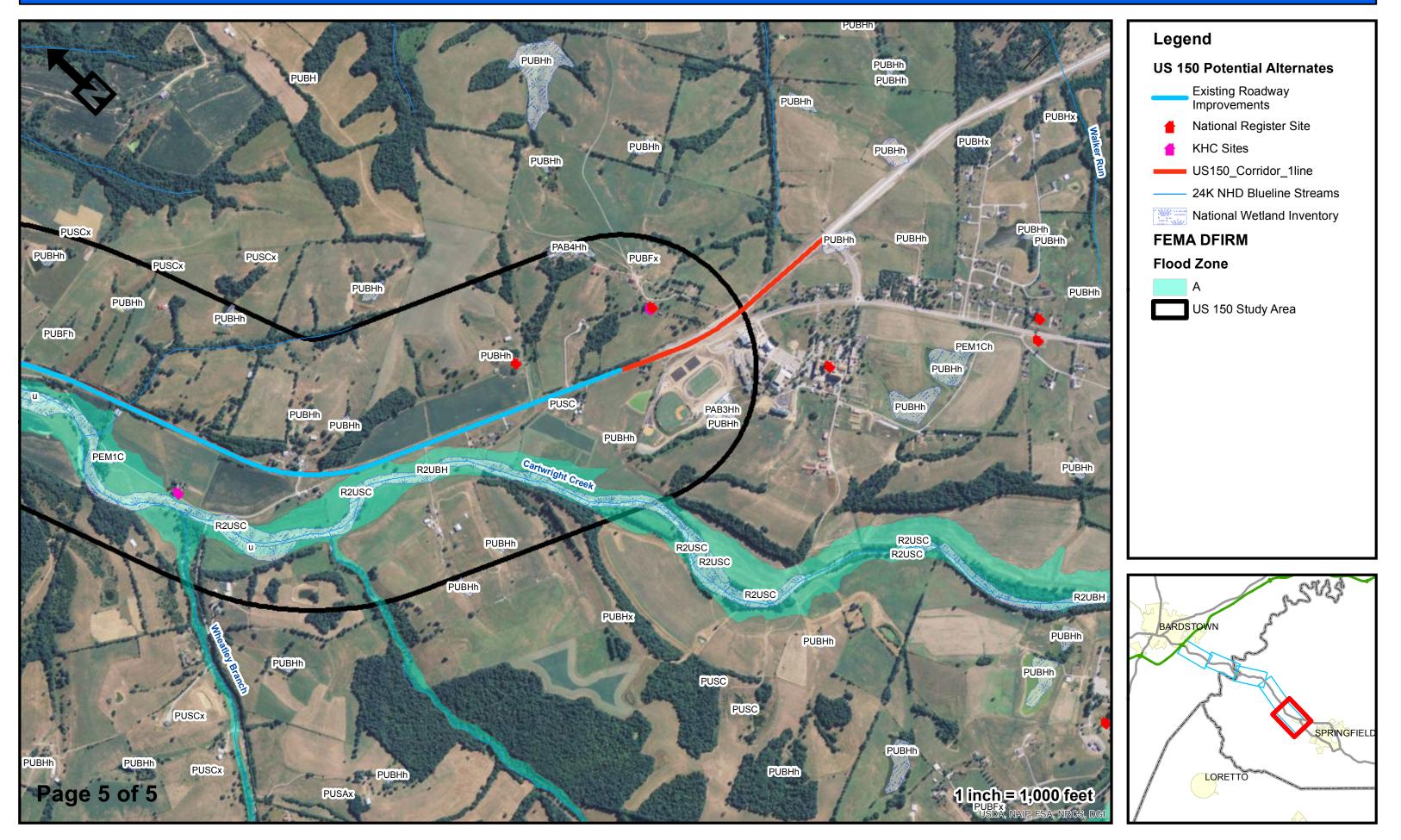




Legend **US 150 Potential Alternates** Existing Roadway Improvements Potential Realignments Hazmat Sites PACE Easement National Register Site KHC Sites Potential Historic District US150_Corridor_1line --- County Boundary Lines Local Parks 24K NHD Blueline Streams Sale: National Wetland Inventory **FEMA DFIRM Flood Zone** А US 150 Study Area LSUS BARDSTOWN SPRINGFIELI LORETTO



Hazmat Sites US150_Corridor_1line 24K NHD Blueline Streams National Wetland Inventory US 150 Study Area ~~~~~ SPRINGFIELI



ENVIRONMENTAL OVERVIEW

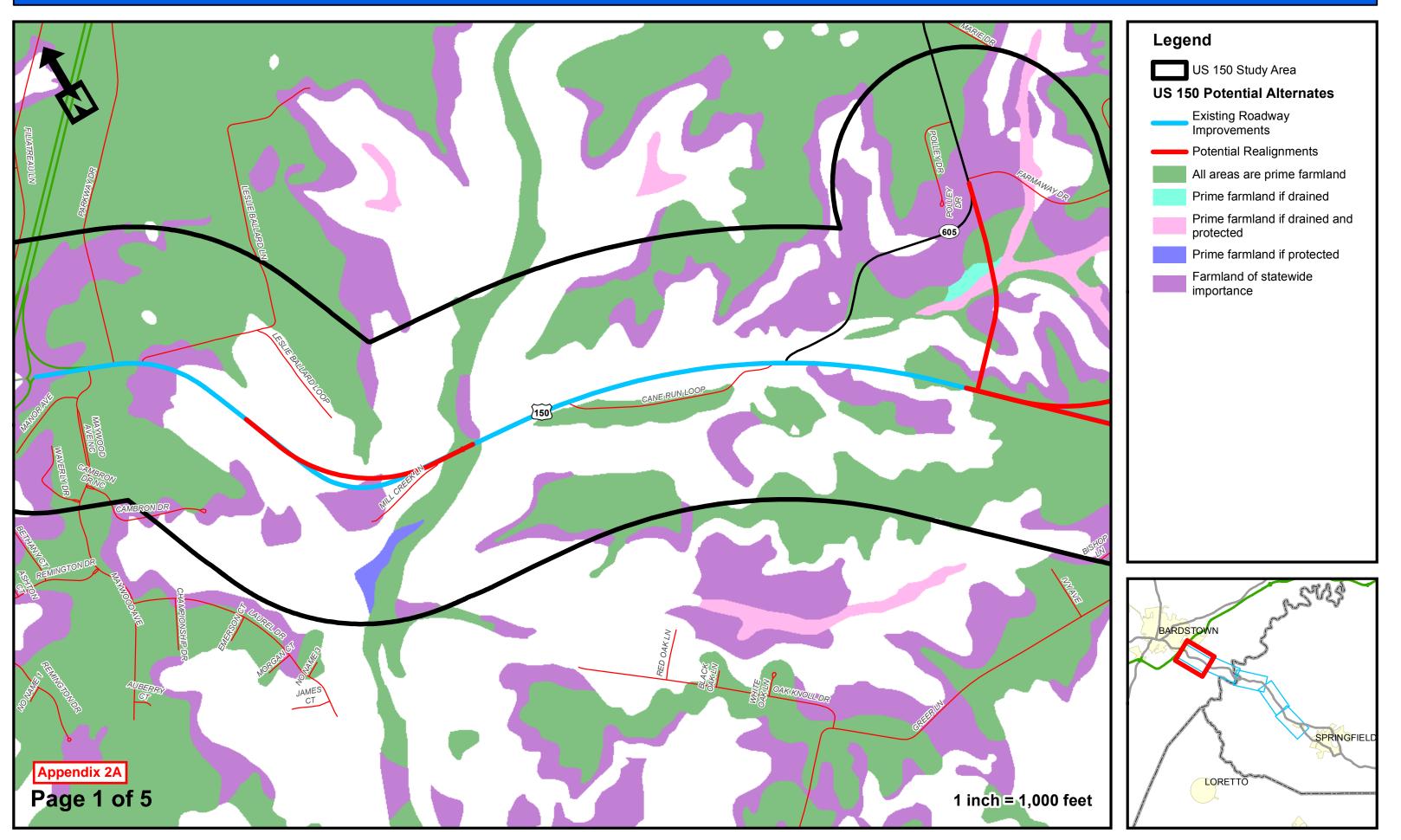
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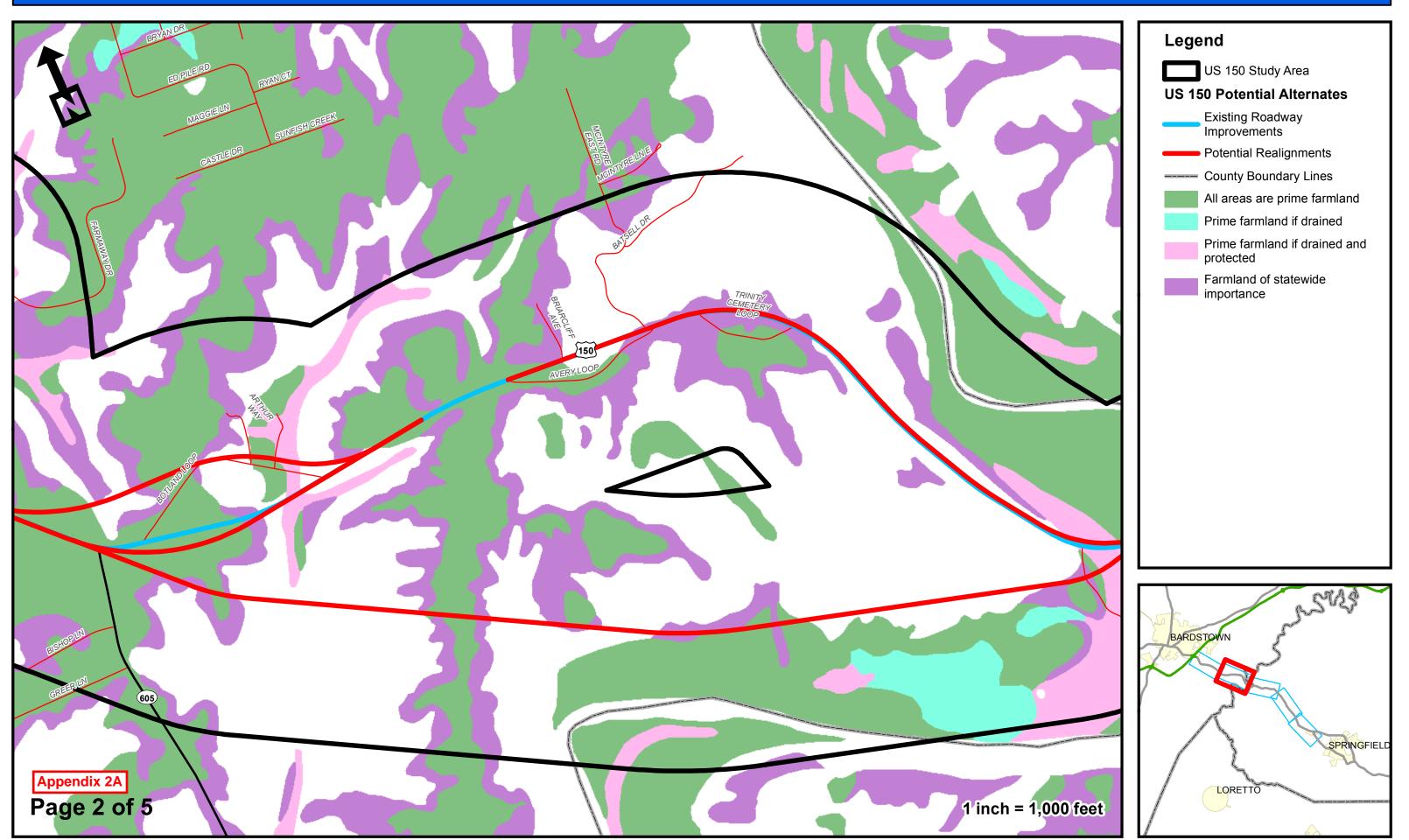
NELSON AND WASHINGTON COUNTY, KENTUCKY

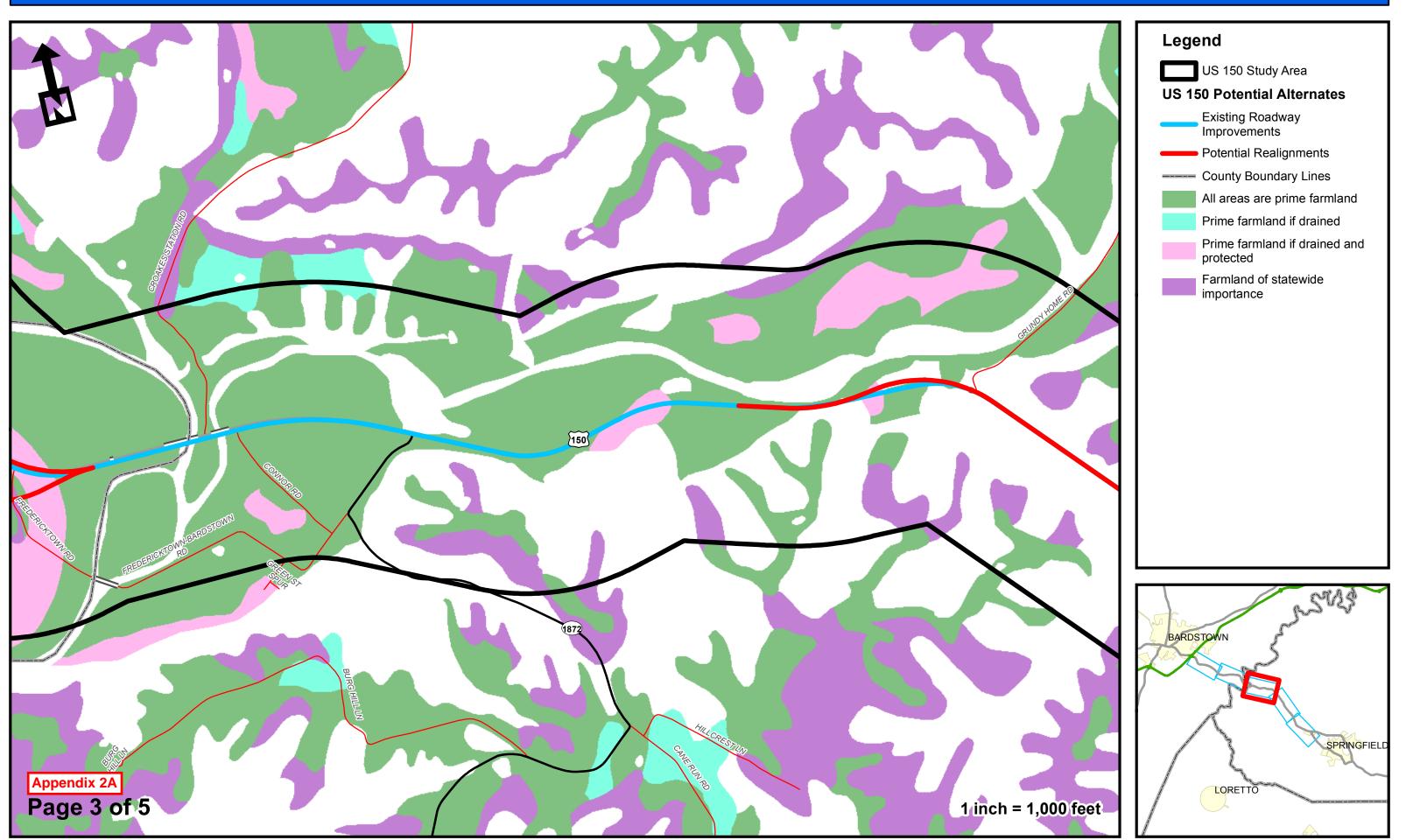
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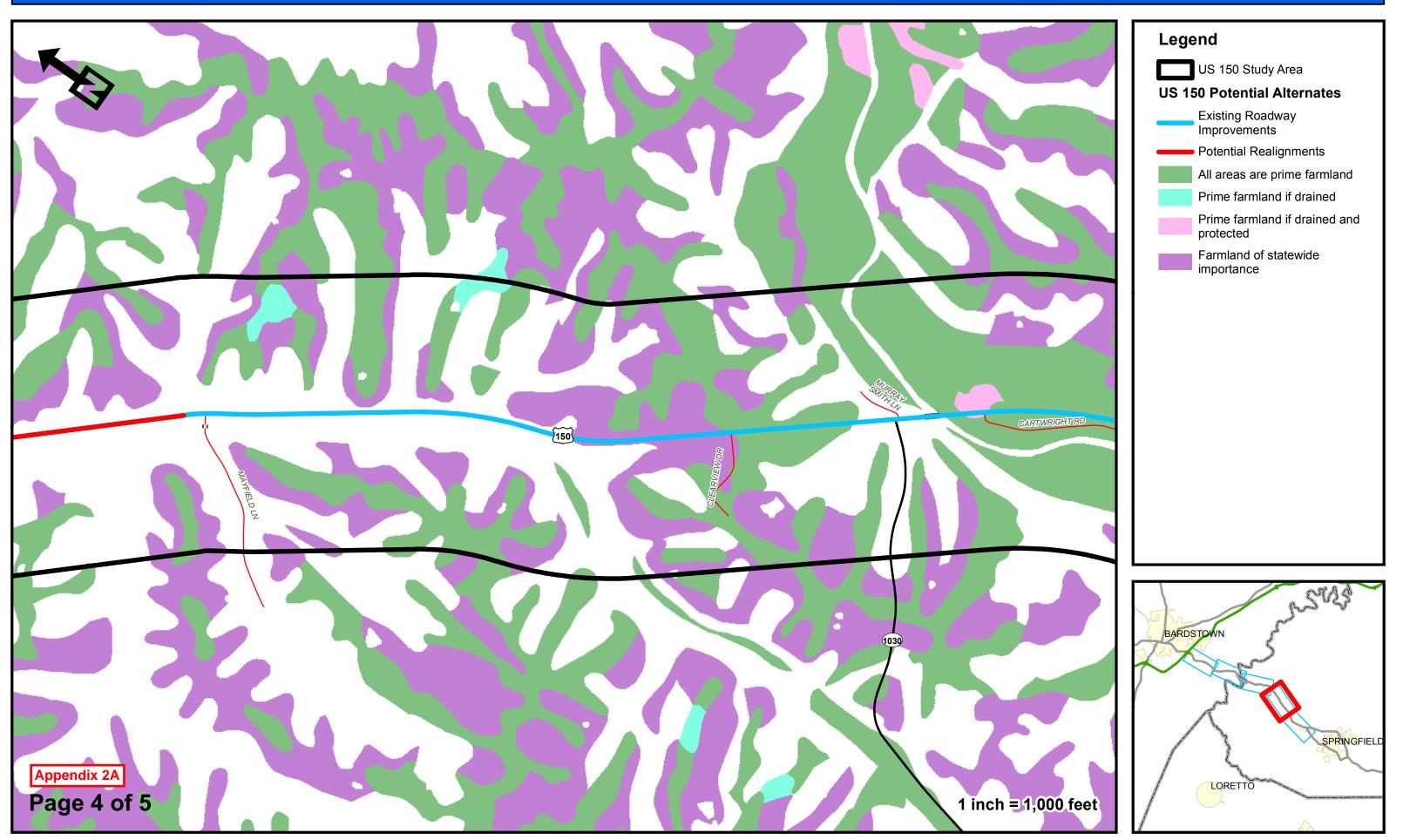
APPENDIX 2 – PHYSICAL SETTING ATTACHMENTS A. Farmland Classification Maps B. Land Use (NLCD 2010)

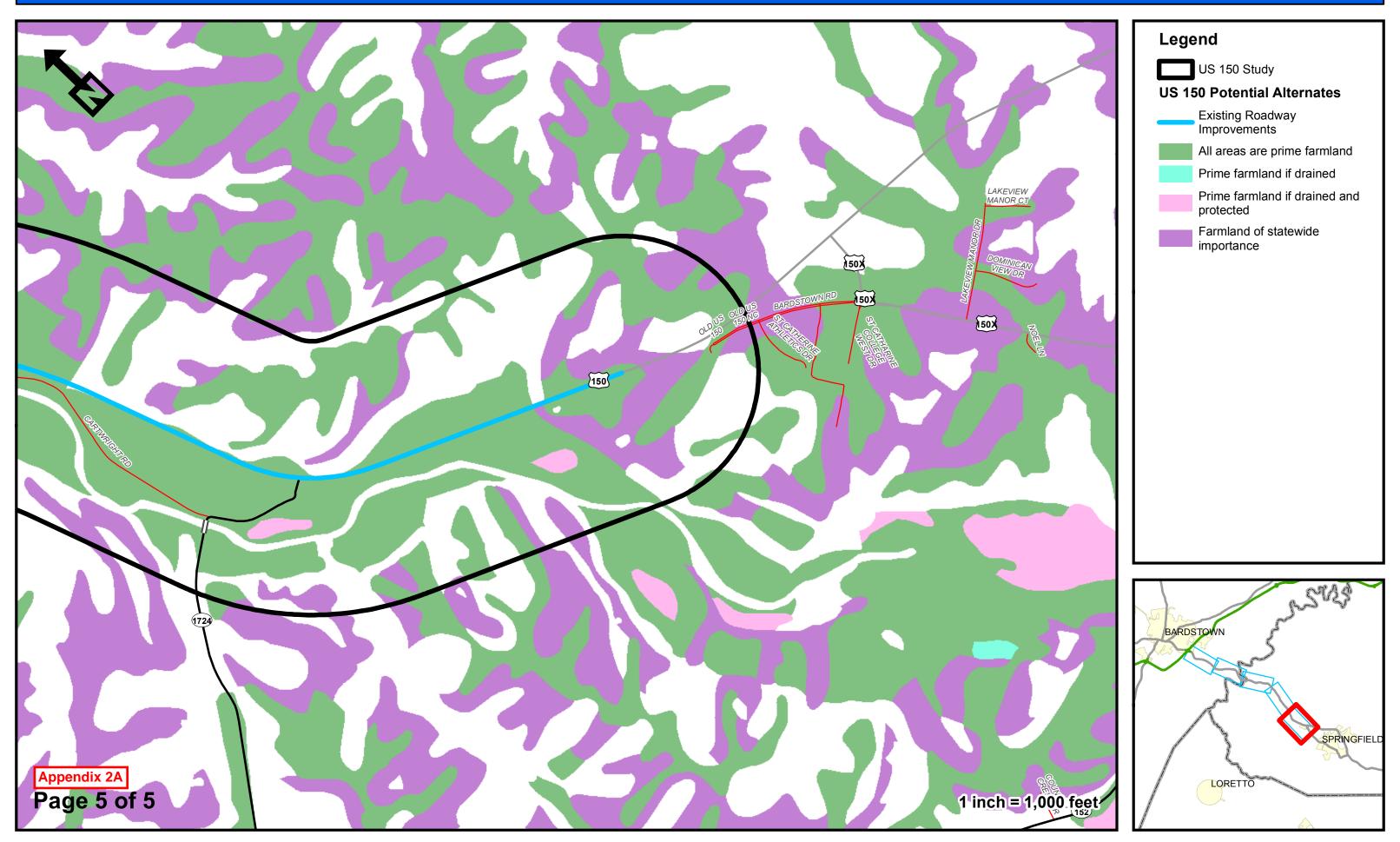


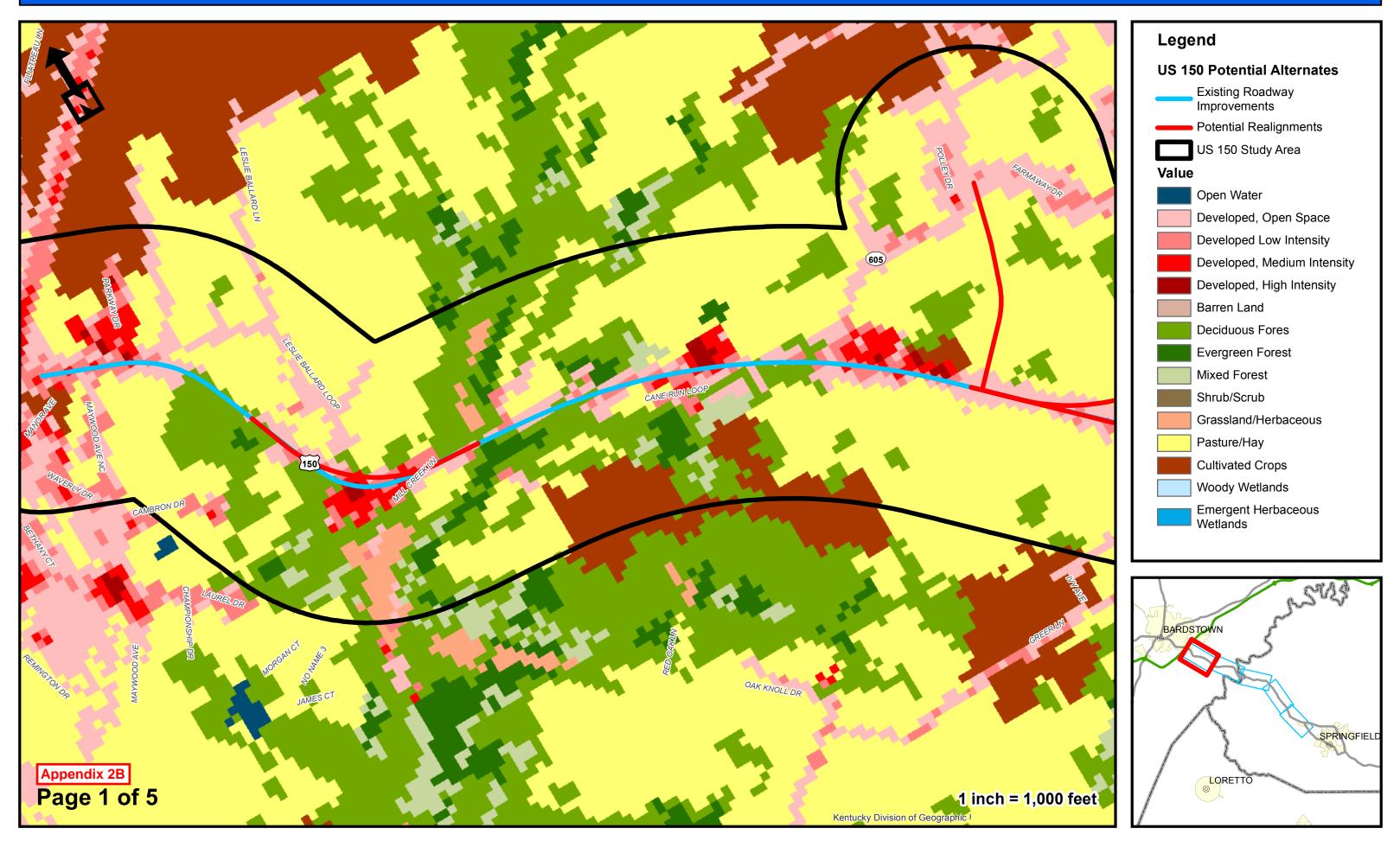


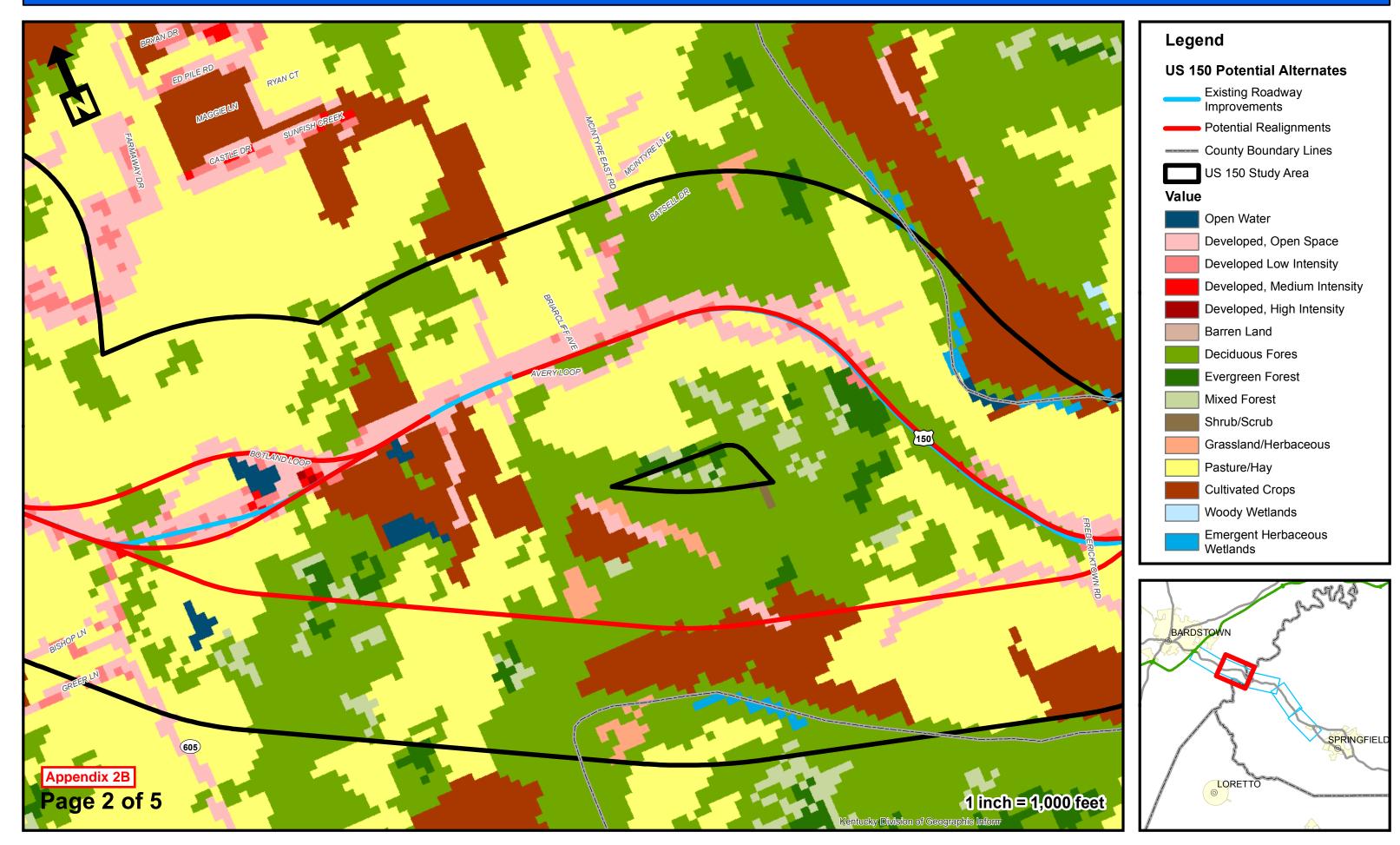


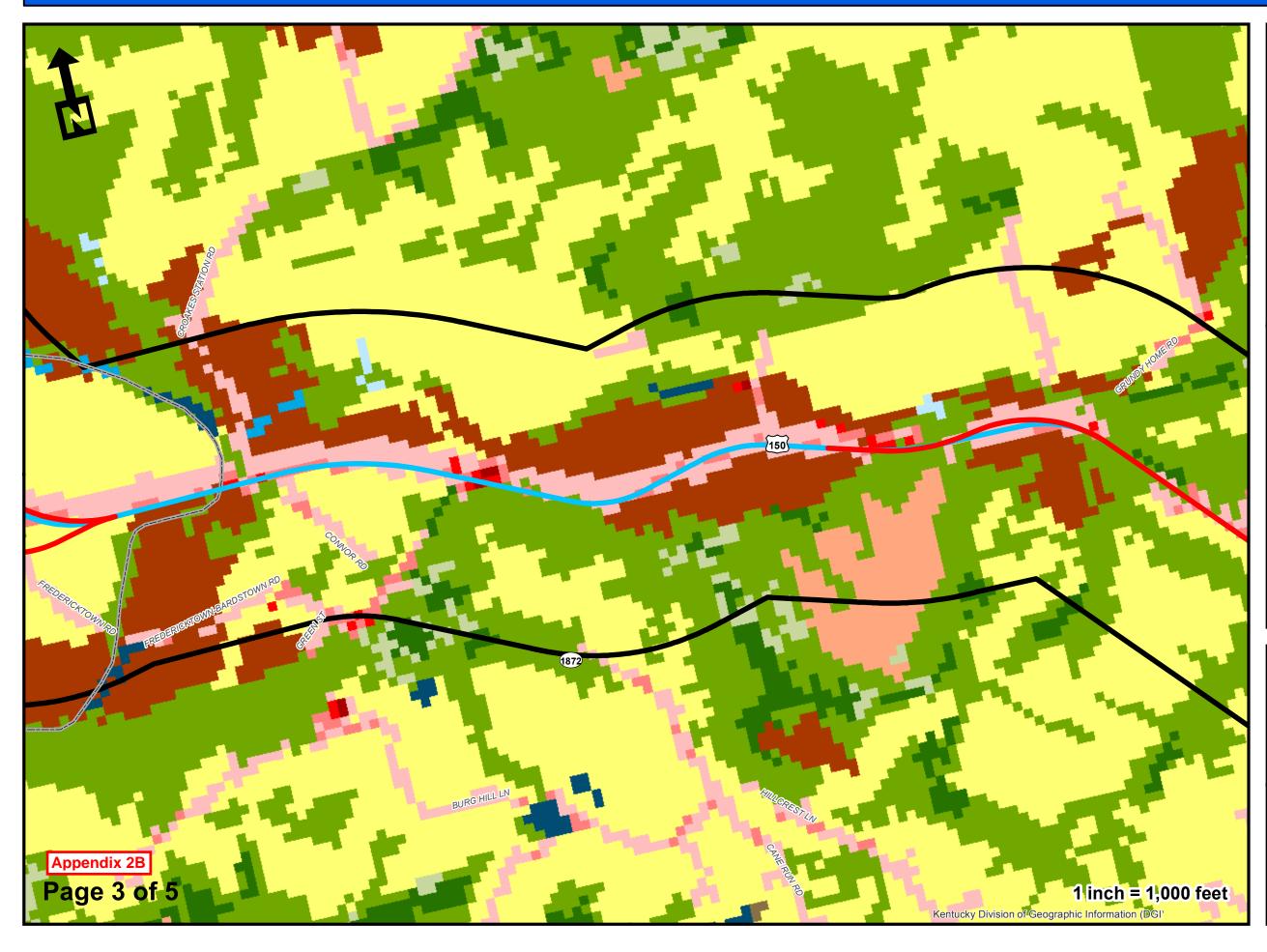


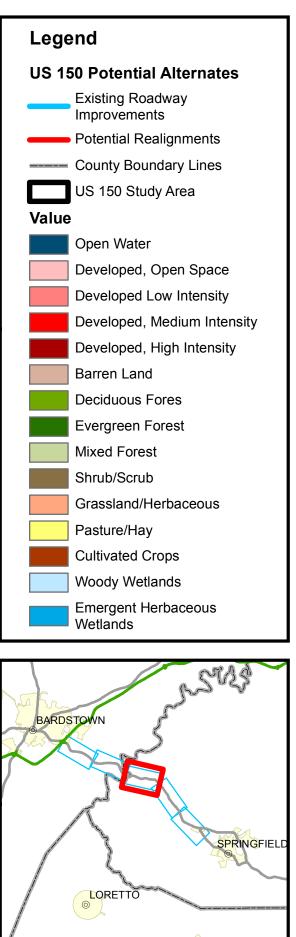


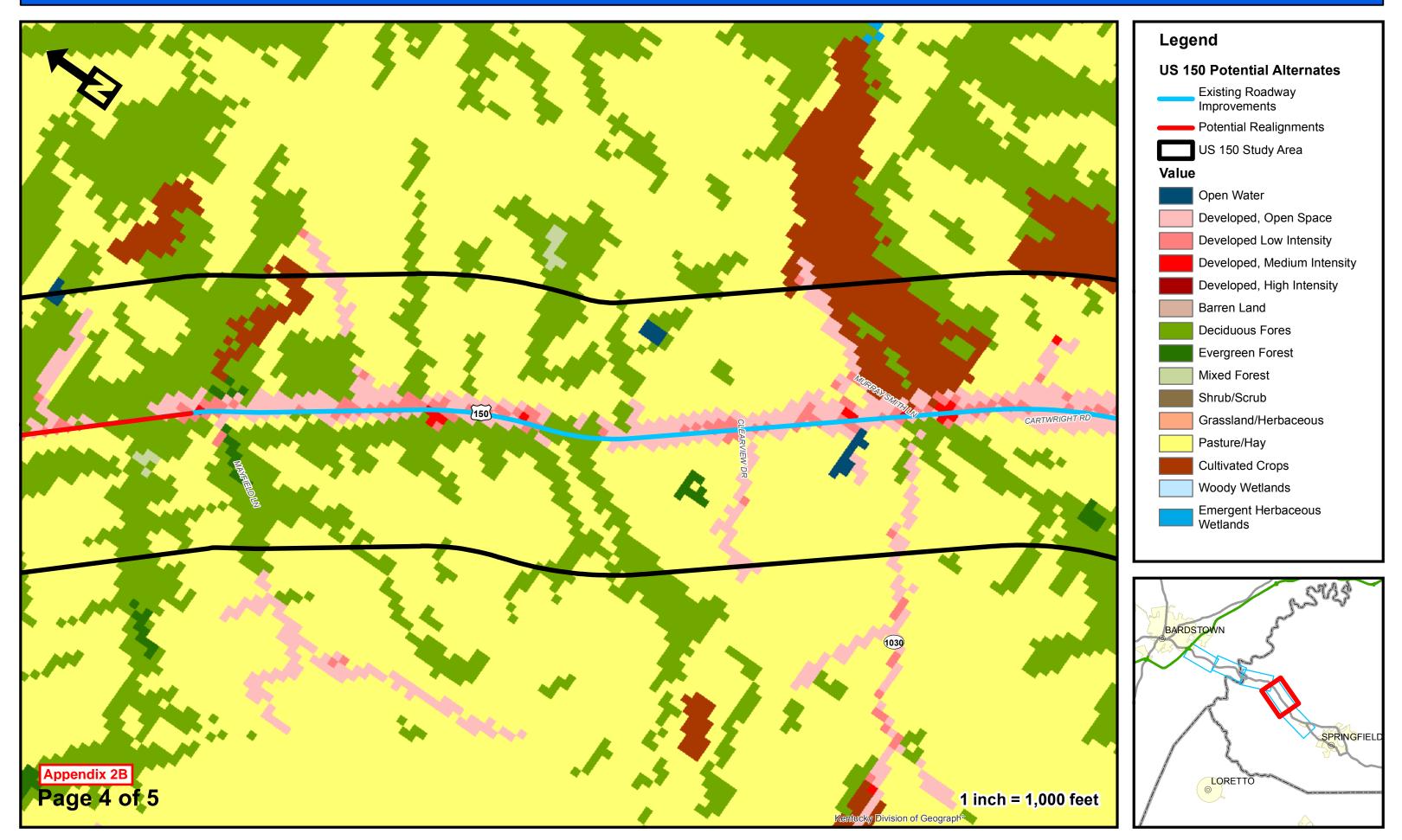


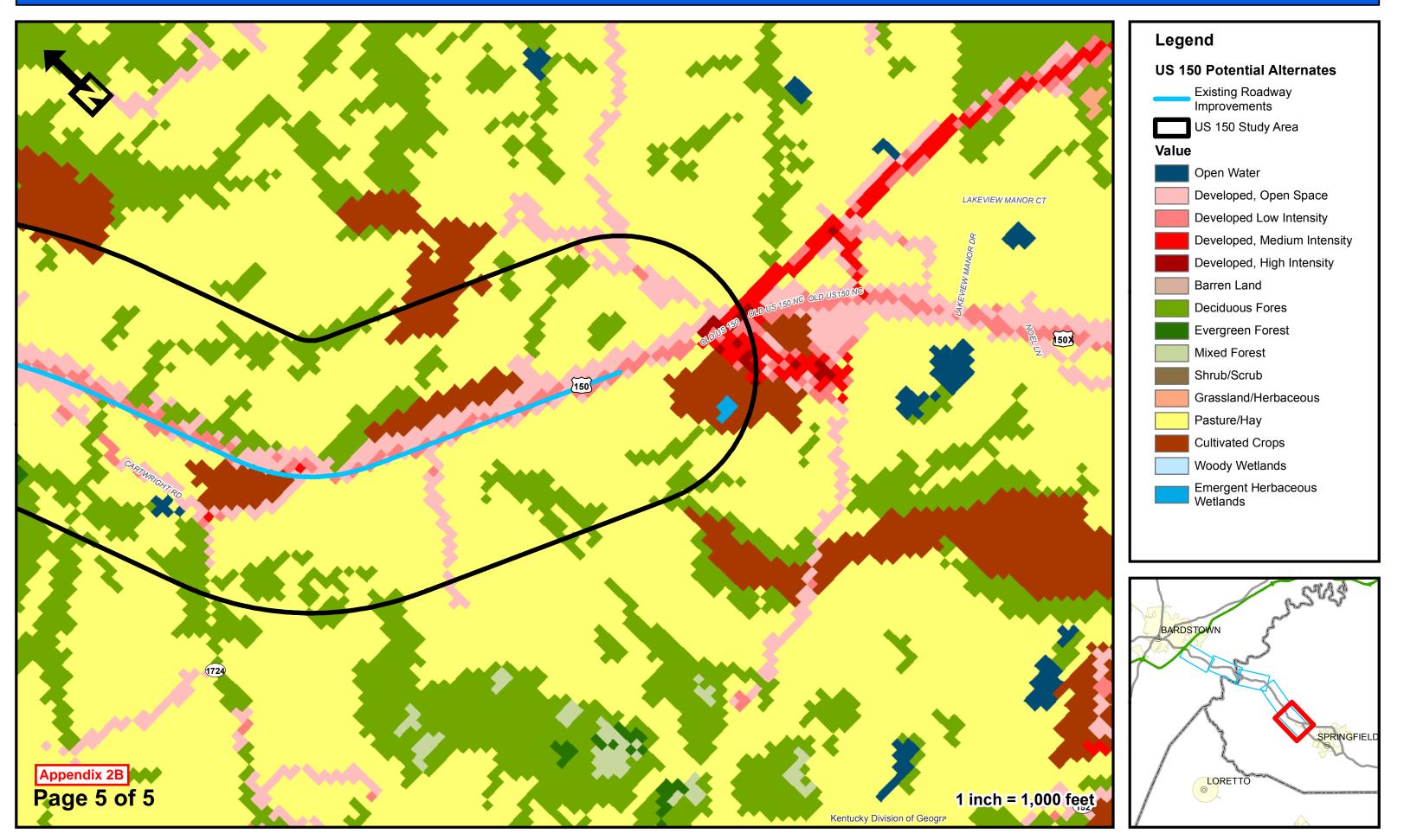












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NELSON AND WASHINGTON COUNTY, KENTUCKY

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APPENDIX 3 – NATURAL ENVIRONMENT ATTACHMENTS

- A. KDFWR Nelson County Species Report
- B. KSNPC Report of Endangered, Threatened, and special concern Plants, Animals, and Natural Communities of Kentucky for Nelson and Washington County





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Species Information

State Threatened, Endangered, and Special Concern Species observations for selected counties

Linked life history provided courtesy ofNatureServe Explorer .Records may include both recent and historical observations.US Status DefinitionsKentucky Status Definitions

List State Threatened, Endangered, and Special Concern Species observations in 2 selected counties. Selected counties are: Nelson, Washington.

Scientific Name and Life History	Common Name and Pictures	Class	County	US Status	KY Status	WAP	Reference
Noturus stigmosus	Northern Madtom	Actinopterygii	Nelson	Ν	S	Yes	Reference
Cryptobranchus alleganiensis alleganiensis	Eastern Hellbender	Amphibia	Nelson	N	E	Yes	Reference
Accipiter striatus	Sharp- shinned Hawk	Aves	Nelson	N	S	Yes	Reference
Anas clypeata	Northern Shoveler	Aves	Nelson	Ν	E		Reference
Anas discors	Blue-winged Teal	Aves	Nelson	Ν	т		Reference
Ardea alba	Great Egret	Aves	Nelson	N	Т	Yes	Reference
Asio flammeus	Short-eared Owl	Aves	Nelson	N	E	Yes	Reference
Asio otus	Long-eared Owl	Aves	Nelson	N	E	Yes	Reference
Chondestes	Lark	Aves	Nelson	N	Т	Yes	Reference

grammacus	Sparrow	Appendix 3	3A-2				
Cistothorus platensis	Sedge Wren	Aves	Nelson	Ν	S	Yes	Reference
Dolichonyx oryzivorus	Bobolink	Aves	Nelson	Ν	S	Yes	Reference
Egretta caerulea	Little Blue Heron	Aves	Nelson	Ν	E	Yes	Reference
Fulica americana	American Coot	Aves	Nelson	Ν	E		Reference
Haliaeetus leucocephalus	Bald Eagle	Aves	Nelson	Ν	Т	Yes	Reference
Ixobrychus exilis	Least Bittern	Aves	Nelson	Ν	Т	Yes	Reference
Junco hyemalis	Dark-eyed Junco	Aves	Nelson	Ν	S		Reference
Lophodytes cucullatus	Hooded Merganser	Aves	Nelson	Ν	Т	Yes	Reference
Pandion haliaetus	Osprey	Aves	Nelson	Ν	S	Yes	Reference
Peucaea aestivalis	Bachman's Sparrow	Aves	Nelson	Ν	E	Yes	Reference
Pheucticus Iudovicianus	Rose- breasted Grosbeak	Aves	Nelson	N	S	Yes	Reference
Pooecetes gramineus	Vesper Sparrow	Aves	Nelson	Ν	E	Yes	Reference
Sitta canadensis	Red- breasted Nuthatch	Aves	Nelson	N	E	Yes	Reference
Tyto alba	Barn Owl	Aves	Nelson	Ν	S	Yes	Reference
Cyprogenia stegaria	Fanshell	Bivalvia	Nelson	E	E	Yes	Reference
Epioblasma torulosa rangiana	Northern Riffleshell	Bivalvia	Nelson	E	Е	Yes	Reference

		Nelson	E	E	Yes	Reference
Pocketbook	Bivalvia	Nelson	N	E	Yes	Reference
Clubshell	Bivalvia	Nelson	E	E	Yes	Reference
Pyramid Pigtoe	Bivalvia	Nelson	N	E	Yes	Reference
Salamander Mussel	Bivalvia	Nelson	N	т	Yes	Reference
Little Spectaclecase	Bivalvia	Nelson	N	S	Yes	Reference
Northern Metalmark	Insecta	Nelson	N	т		Reference
Swamp Metalmark	Insecta	Nelson	N	E		Reference
A Heptageniid Mayfly	Insecta	Nelson	N	S		Reference
Regal Fritillary	Insecta	Nelson	N	Н		Reference
Gray Myotis	Mammalia	Nelson	E	т	Yes	Reference
Northern Myotis	Mammalia	Nelson	Т	E		Reference
Indiana Bat	Mammalia	Nelson	E	E	Yes	Reference
Evening Bat	Mammalia	Nelson	Ν	S	Yes	Reference
Henslow's Sparrow	Aves	Washington	Ν	S	Yes	Reference
Lark Sparrow	Aves	Washington	Ν	т	Yes	Reference
Bobolink	Aves	Washington	N	S	Yes	Reference
	Clubshell Pyramid Pigtoe Salamander Salamander Little Spectaclecase Northern Metalmark Swamp Metalmark Swamp Metalmark A Heptageniid Mayfly Regal ritillary Gray Myotis Gray Myotis Indiana Bat Evening Bat Evening Bat	ClubshellBivalviaPyramid DigtoeBivalviaSalamander MusselBivalviaLittle SpectaclecaseBivalviaNorthern MetalmarkInsectaSwamp MetalmarkInsectaSwamp MetalmarkInsectaSwamp MetalmarkInsectaSwamp MetalmarkInsectaSwamp MetalmarkInsectaSwamp MetalmarkInsectaSwamp MetalmarkInsectaSwamp MetalmarkInsectaSwamp MetalmarkMammaliaA Heptageniid MayflyMammaliaFritillaryMammaliaGray MyotisMammaliaMorthern MyotisMammaliaIndiana Bat SparrowMammaliaHenslow's SparrowAvesLark SparrowAvesBobolinkAves	ClubshellBivalviaNelsonPyramid DigtoeBivalviaNelsonSalamander MusselBivalviaNelsonLittle SpectaclecaseBivalviaNelsonNorthern MetalmarkInsectaNelsonSwamp MetalmarkInsectaNelsonSwamp MetalmarkInsectaNelsonSwamp MetalmarkInsectaNelsonSwamp MetalmarkInsectaNelsonSwamp MetalmarkInsectaNelsonGray MyotisMammaliaNelsonMorthern MyotisMammaliaNelsonMorthern MyotisMammaliaNelsonMarmaliaMammaliaNelsonMarmaliaNelsonMammaliaLark SparrowAvesWashington	ClubshellBivalviaNelsonEPyramid PigtoeBivalviaNelsonNSalamander VlusselBivalviaNelsonNLittle SpectaclecaseBivalviaNelsonNNorthern MetalmarkInsectaNelsonNSwamp MetalmarkInsectaNelsonNSwamp MetalmarkInsectaNelsonNA 	ClubshellBivalviaNelsonEPyramid DigtoeBivalviaNelsonNESalamander MusselBivalviaNelsonNTLittle SpectaclecaseBivalviaNelsonNSNorthern MetalmarkInsectaNelsonNTSwamp MetalmarkInsectaNelsonNESwamp MetalmarkInsectaNelsonNEGray MyotisMammaliaNelsonNSNorthern MyotisMammaliaNelsonTEMorthern MammaliaNelsonNESMorthern MuspitInsectaNelsonNEFreidilaryInsectaNelsonNESMorthern MyotisMammaliaNelsonETMorthern MyotisMammaliaNelsonEEIndiana Bat SparrowMammaliaNelsonNSLark SparrowAvesWashingtonNTBobolinkAvesWashingtonNT	ClubshellBivalviaNelsonEEYesPyramid PigtoeBivalviaNelsonNEYesSalamander dusselBivalviaNelsonNTYesLittle SpectaclecaseBivalviaNelsonNTYesNorthern MetalmarkInsectaNelsonNTYesSwamp MetalmarkInsectaNelsonNTYesSwamp MetalmarkInsectaNelsonNEYesGray MyotisMammaliaNelsonNHYesMorthern MyotisMammaliaNelsonNHYesMorthern MyotisMammaliaNelsonNHYesLindiana Bat SparrowMammaliaNelsonEEYesLark BobolinkAvesWashingtonNSYes

Junco hyemalis	Dark-eyed Junco	Aves	Washington	N	S		Reference
Peucaea aestivalis	Bachman's Sparrow	Aves	Washington	N	E	Yes	Reference
Thryomanes bewickii	Bewick's Wren	Aves	Washington	N	S	Yes	Reference
Tyto alba	Barn Owl	Aves	Washington	N	S	Yes	Reference
Mustela nivalis	Least Weasel	Mammalia	Washington	N	S		Reference

47 species are listed

Appendix 3A-4

Report of

Endangered, Threatened, and Special Concern Plants, Animals, and Natural Communities for Nelson County, Kentucky

> Kentucky State Nature Preserves Commission 801 Schenkel Lane Frankfort, KY 40601 (502) 573-2886 (phone) (502) 573-2355 (fax)

www.naturepreserves.ky.gov

Appendix 3B-1

Kentucky State Nature Preserves Commission Key for County List Report

Within a county, elements are arranged first by taxonomic complexity (plants first, natural communities last), and second by scientific name. A key to status, ranks, and count data fields follows.

STATUS

KSNPC: Kentucky State Nature	Preserves Commis	sion status:			
N or $blank = none$	E = endangered	T = threatened	S = special concern	H = historic	X = extirpated

<u>USESA</u>: U.S. Fish and Wildlife Service status: blank = none C = candidate LT = listed as threatened LE = listed as endangered SOMC = Species of Management Concern

RANKS

GRANK: Estimate of element abundance on a global scale:

G1 = Critically imperiled	GU = Unrankable
G2 = Imperiled	G#? = Inexact rank (e.g. $G2?$)
G3 = Vulnerable	G#Q = Questionable taxonomy
G4 = Apparently secure	G#T# = Infraspecific taxa (Subspecies and variety abundances are coded with a 'T' suffix; the 'G'
G5 = Secure	portion of the rank then refers to the entire species)
GH = Historic, possibly extinct	GNR = Unranked
GX = Presumed extinct	GNA = Not applicable

SRANK: Estimate of element abundance in Kentucky:

S1 = Critically imperiled	SU = Unrankable	Migratory species may have separate ranks for different
S2 = Imperiled	S#? = Inexact rank (e.g. G2?)	population segments (e.g. S1B, S2N, S4M):
S3 = Vulnerable	S#Q = Questionable taxonomy	S#B = Rank of breeding population
S4 = Apparently secure	S#T# = Infraspecific taxa	S#N = Rank of non-breeding population
S5 = Secure	SNR = Unranked	S#M = Rank of transient population
SH = Historic, possibly extirpated	SNA = Not applicable	
SX = Presumed extirpated		

COUNT DATA FIELDS

OF OCCURRENCES: Number of occurrences of a particular element from a county. Column headings are as follows:

E - currently reported from the county

H - reported from the county but not seen for at least 20 years

F - reported from county & cannot be relocated but for which further inventory is needed

X - known to have extirpated from the county

U - reported from a county but cannot be mapped to a quadrangle or exact location.

The data from which the county report is generated is continually updated. The date on which the report was created is in the report footer. Contact KSNPC for a current copy of the report.

Please note that the quantity and quality of data collected by the Kentucky Natural Heritage Program are dependent on the research and observations of many individuals and organizations. In most cases, this information is not the result of comprehensive or site-specific field surveys; many natural areas in Kentucky have never been thoroughly surveyed, and new species of plants and animals are still being discovered. For these reasons, the Kentucky Natural Heritage Program cannot provide a definitive statement on the presence, absence, or condition of biological elements in any part of Kentucky. Heritage reports summarize the existing information known to the Kentucky Natural Heritage Program at the time of the request regarding the biological elements or locations in question. They should never be regarded as final statements on the elements or areas being considered, nor should they be substituted for on-site surveys required for environmental assessments.

KSNPC appreciates the submission of any endangered species data for Kentucky from field observations. For information on data reporting or other data services provided by KSNPC, please contact the Data Manager at:

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Appendix 3B-3

County Report of Endangered, Threatened, and Special Concern Plants, Animals, and Natural Communities of Kentucky Kentucky State Nature Preserves Commission

Kentucky SI	entucky State Nature Preserves Commission					# of Occurrences					
County	Taxonomic Group	Scientific name	Common name	Statuses	Ranks	Ε	Н	F	X	U	
Velson	Vascular Plants	Adiantum capillus-veneris	Southern Maidenhair-fern	Τ/	G5 / S2S3	0	1	0	0	0	
lelson	Vascular Plants	Carex crawei	Crawe's Sedge	S /	G5 / S2S3	3	0	0	0	0	
Nelson	Vascular Plants	Dalea purpurea	Purple Prairie-clover	S /	G5 / S3?	9	0	0	0	0	
Nelson	Vascular Plants	Juniperus communis var. depressa	Ground Juniper	Τ/	G5T5 / S2	0	1	0	0	0	
Nelson	Vascular Plants	Lonicera dioica var. orientalis	Wild Honeysuckle	E /	G5TNRQ / S1	0	1	0	0	0	
Nelson	Vascular Plants	Physaria globosa	Globe Bladderpod	E/LE	G2 / S1	0	1	0	0	0	
lelson	Vascular Plants	Prenanthes crepidinea	Nodding Rattlesnake-root	S /	G4 / S3	1	0	0	0	0	
Velson	Vascular Plants	Silphium pinnatifidum	Tansy Rosinweed	S /	G3Q / S3	3	0	0	0	0	
Velson	Vascular Plants	Spiranthes magnicamporum	Great Plains Ladies'-tresses	Τ/	G4 / S2	1	0	0	0	0	
lelson	Vascular Plants	Trifolium stoloniferum	Running Buffalo Clover	T/LE	G3 / S2S3	0	0	1	0	0	
lelson	Vascular Plants	Veratrum woodii	Wood's Bunchflower	Τ/	G5 / S2	1	0	0	0	0	
elson	Vascular Plants	Viola septemloba var. egglestonii	Eggleston's Violet	S /	G4 / S3	5	3	0	0	0	
lelson	Aquatic Snails	Lioplax sulculosa	Furrowed Lioplax	S /	G5 / S3S4	0	2	0	0	0	
lelson	Freshwater Mussels	Cyprogenia stegaria	Fanshell	E / LE	G1Q / S1	3	2	0	1	C	
lelson	Freshwater Mussels	Epioblasma torulosa rangiana	Northern Riffleshell	E/LE	G2T2 / S1	0	0	0	2	0	
Velson	Freshwater Mussels	Epioblasma triquetra	Snuffbox	E/LE	G3 / S1	2	1	0	1	0	
lelson	Freshwater Mussels	Lampsilis ovata	Pocketbook	E /	G5 / S1	4	1	0	0	0	
lelson	Freshwater Mussels	Pleurobema clava	Clubshell	E/LE	G1G2 / S1	0	0	0	3	C	
Velson	Freshwater Mussels	Pleurobema rubrum	Pyramid Pigtoe	E / SOMC	G2G3 / S1	0	0	0	2	0	
lelson	Freshwater Mussels	Quadrula cylindrica cylindrica	Rabbitsfoot	T / LT	G3G4T3 / S2	0	1	0	0	0	
lelson	Freshwater Mussels	Simpsonaias ambigua	Salamander Mussel	T / SOMC	G3 / S2S3	1	0	0	0	0	
lelson	Freshwater Mussels	Villosa lienosa	Little Spectaclecase	S /	G5 / S3S4	5	2	0	0	0	
elson	Insects	Calephelis borealis	Northern Metalmark	Τ /	G3G4 / S2	1	0	0	0	0	
Velson	Insects	Calephelis muticum	Swamp Metalmark	Е /	G3 / S1	0	0	0	0	1	
lelson	Insects	Maccaffertium bednariki	A Heptageniid Mayfly	S /	G2G4 / S2	2	0	0	0	0	
elson	Insects	Speyeria idalia	Regal Fritillary	H / SOMC	G3 / SH	0	0	0	1	0	
elson	Fishes	Noturus stigmosus	Northern Madtom	S / SOMC	G3 / S2S3	6	1	0	0	0	

County Report of Endangered, Threatened, and Special Concern Plants, Animals, and Natural Communities of Kentucky
Kentucky State Nature Preserves Commission

Kentucky St	ate Nature Preserves Comn	nission				# of	Occuri	rences		
County	Taxonomic Group	Scientific name	Common name	Statuses	Ranks	Е	Н	F	Х	U
Nelson	Amphibians	Cryptobranchus alleganiensis alleganiensis	Eastern Hellbender	E / SOMC	G3G4T3T4 / S1	2	0	0	0	0
Nelson	Breeding Birds	Aimophila aestivalis	Bachman's Sparrow	E / SOMC	G3 / S1B	0	0	0	1	0
Nelson	Breeding Birds	Chondestes grammacus	Lark Sparrow	Τ /	G5 / S2S3B	0	1	0	0	0
Nelson	Breeding Birds	Cistothorus platensis	Sedge Wren	S /	G5 / S3B	0	1	0	0	0
Nelson	Breeding Birds	Haliaeetus leucocephalus	Bald Eagle	T / Delisted	G5 / S2B,S2S3N	2	0	0	0	0
Nelson	Breeding Birds	Ixobrychus exilis	Least Bittern	Τ /	G5 / S1S2B	0	1	0	0	0
Nelson	Breeding Birds	Tyto alba	Barn Owl	S /	G5 / S3	1	0	0	0	0
Nelson	Mammals	Myotis grisescens	Gray Myotis	T / LE	G3 / S2	3	0	0	0	0
Nelson	Mammals	Myotis sodalis	Indiana Bat	E/LE	G2 / S1S2	2	0	0	0	0
Nelson	Mammals	Nycticeius humeralis	Evening Bat	S /	G5 / S3	1	0	0	0	0
Nelson	Communities	Bottomland hardwood forest		S /	GNR / S3	1	0	0	0	0
Nelson	Communities	Calcareous sub-xeric forest		N /	GNR / S5	1	0	0	0	0
Nelson	Communities	Limestone slope glade		S /	GNR / S2S3	3	0	0	0	0
Nelson	Communities	Limestone/dolomite prairie		E/	GNR / S1	2	0	0	0	0
Nelson Cour	nty Total:					65	20	1	11	1

Report of

Endangered, Threatened, and Special Concern Plants, Animals, and Natural Communities for Washington County, Kentucky

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www.naturepreserves.ky.gov

Kentucky State Nature Preserves Commission Key for County List Report

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SRANK: Estimate of element abundance in Kentucky:

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S2 = Imperiled	S#? = Inexact rank (e.g. G2?)	population segments (e.g. S1B, S2N, S4M):
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S4 = Apparently secure	S#T# = Infraspecific taxa	S#N = Rank of non-breeding population
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County Report of Endangered, Threatened, and Special Concern Plants, Animals, and Natural Communities of Kentucky Kentucky State Nature Preserves Commission

Kentucky Star	te Nature Preserves Comn	nission				# of	Occur	rences		
County	Taxonomic Group	Scientific name	Common name	Statuses	Ranks	Е	Н	F	X	U
Washington	Freshwater Mussels	Simpsonaias ambigua	Salamander Mussel	T / SOMC	G3 / S2S3	1	0	0	0	0
Washington	Freshwater Mussels	Villosa lienosa	Little Spectaclecase	S /	G5 / S3S4	0	1	0	0	0
Washington	Breeding Birds	Aimophila aestivalis	Bachman's Sparrow	E / SOMC	G3 / S1B	0	0	0	1	0
Washington	Breeding Birds	Ammodramus henslowii	Henslow's Sparrow	S / SOMC	G4 / S3B	1	0	0	0	0
Washington	Breeding Birds	Chondestes grammacus	Lark Sparrow	Τ /	G5 / S2S3B	1	1	0	0	0
Washington	Breeding Birds	Thryomanes bewickii	Bewick's Wren	S / SOMC	G5 / S3B	5	0	0	0	0
Washington	County Total:					8	2	0	1	0

ENVIRONMENTAL OVERVIEW

DESIGN STUDY TO DETERMINE IMPROVEMENTS NEEDED FOR US 150 BETWEEN SPRINGFIELD AND BARDSTOWN

NELSON AND WASHINGTON COUNTY, KENTUCKY

04-0396

APPENDIX 4 – HUMAN ENVIRONMENT ATTACHMENTS

- A. LWCF Database
- B. National Conservation Easement Database Report for PACE Easement
- C. Socioeconomic Report



United States Department of the Interior National Park Service Land & Water Conservation Fund

Detailed Listing of Grants Grouped by County

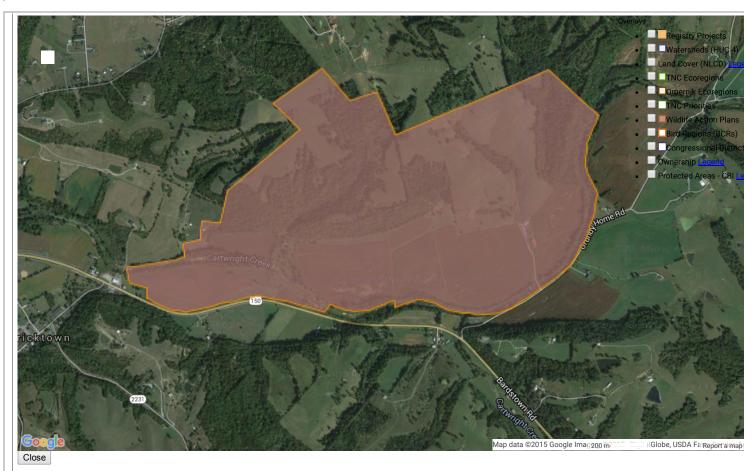
Today's Date: 10/6/2015

KENTUCKY - 21

Page: 87

Grant ID & Element	Туре	Grant Element Title	Grant Sponsor	Amount	Status	Date Approved	Exp. Date	Cong. District
WAS	SHINGT	ON						
226 - XXX	D	SPRINGFIELD CITY PARK	CITY OF SPRINGFIELD	\$8,955.85	С	6/14/1973	3/31/1974	2
635 - XXX	D	IDLE HOUR COMMUNITY PARK	CITY OF SPRINGFIELD	\$24,439.61	С	3/3/1980	10/31/1984	2
706 - XXX	С	FREDERICKTOWN COMMUNITY PARK	WASHINGTON COUNTY	\$54,875.49	С	12/10/1980	11/30/1985	2
866 - XXX	D	FREDERICKTOWN COMMUNITY PARK	WASHINGTON COUNTY	\$25,831.61	С	8/7/1984	7/31/1986	2
916 - XXX	D	SPRINGFIELD POOL RENOVATION	CITY OF SPRINGFIELD	\$19,288.80	С	4/4/1985	6/30/1986	2
965 - XXX	D	SPRINGFIELD POOL/IDLE HOUR PARK	CITY OF SPRINGFIELD	\$14,286.15	С	7/22/1986	7/31/1988	2
1062 - XXX	D	IDLE HOUR PARK/SPRINGFIELD POOL	CITY OF SPRINGFIELD	\$15,720.50	С	9/13/1989	8/31/1992	2
1134 - XXX	D	IDLE HOUR PARK/SPRINGFIELD POOL	CITY OF SPRINGFIELD	\$10,281.00	С	6/15/1993	6/30/1995	2
1156 - XXX	D	FREDERICKTOWN PARK IMPROVEMENTS	WASHINGTON COUNTY	\$8,414.24	С	8/2/1994	7/31/1996	2
1217 - XXX	D	IDLE HOUR PARK IMPROVEMENTS	CITY OF SPRINGFIELD	\$125,392.50	С	11/16/2001	9/30/2006	2
1254 - XXX	D	WILLISBURG COMMUNITY PARK	CITY OF WILLISBURG	\$61,950.00	С	8/8/2002	9/30/2007	2
1376 - XXX	R	FREDERICKTOWN PARK	WASHINGTON COUNTY FISCAL COURT	\$18,700.00	С	9/5/2007	7/30/2012	2
			WASHINGTON County Total:	\$388,135.75		County Count:	12	2





Why isn't my/our easement being displayed?

National Conservation Easement Database Portal

PACE-00019

Easement #: 39871 - Updated: July 16, 2015

Easement Summary

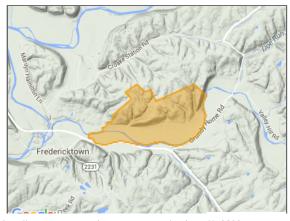
NCED Site 39871 (PACE-00019)

Easement Holder

Kentucky Department of Agriculture (Other)

Primary Contact

NCED Manager Send email



http://www.conservationeasement.us/projects/148239



Public Access

Please note that, by downloading or viewing this data, no right has been created to access lands with conservation easements. Most conservation easements are not open to the public. Entering an area that is not open to the public subjects an individual to possible sanctions for trespass, as determined by the state in which the easement is located.

Landowner Type:
Private

Easement Holder Type: Jointly Held

Conservation Purpose:
Open Space - Farm

Public Access:
O
Closed

Duration: 🕑 Permanent

Location (by county): Washington County (KY)

Watersheds: Rolling Fork

Congressional Districts: KY District 02 The National Conservation Easement Database

1 km Map Reportainap error

National Conservation Easement Database

NCED Record		
Security:	No Restrictions	
Site Name:	PACE-00019	0
Easement Holder:	Kentucky Department of Agriculture	0
Easement Holder Type:	Jointly Held	0
Landowner Type:	Private	0
Co-Held:	Yes	
Secondary Easement Holder:	Kentucky Department of Agriculture	0
Conservation Purpose:	Open Space - Farm	0
Public Access:	Closed	0
Duration:	Permanent	0
Term:		
Month of Establishment:	12	
Day of Establishment:	29	0
Year of Establishment:	2000	
State:	Kentucky	
Reported Area:	548.26 acres	
GIS Area:	594.87 acres	
Data Provider:	Kentucky State Nature Preserves Commission	
Data Aggregator:	NatureServe	

Bird Conservation Regions: Central Hardwoods

USFWS Regions: Southeast Region



US 150 from MP 2.212 (Nelson Co.) to MP 4.311 (Washington Co.) Nelson Co/Washington Co Item No. 4-396.00

Socioeconomic Study and Community Impact Report



January 2015

Prepared By: Lincoln Trail Area Development District 613 College Street Rd. P.O. Box 604 Elizabethtown, KY 42702 (270) 769-2393



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1.0 Introduction

The following document is an assessment of the community demographics and characteristics related to the defined project study area of US 150 from Parkway Dr. (Mile Point 2.212) in Nelson County to Cartwright Rd. (Mile Point 4.311) in Washington County. This project is listed as Item Number 4-396.00 in the Kentucky Six-Year Highway Plan FY 2014-2020 and is currently in the Planning phase.

The resources used to compile the data contained herein are the U.S. Census Bureau, Kentucky State Data Center, local elected officials, community leaders, and field observations of the study area. The information and results are intended to assist the Kentucky Transportation Cabinet in making informed and prudent decisions in the study area, particularly as it pertains to the requirements of Executive Order 12898¹, to ensure equal environmental protection to all groups potentially impacted by both short and longterm improvement strategies for this section of US 150.

This report includes data tables comparing the populations of the census divisions directly in and around the study area at the county, state, and national levels. Statistics are provided for minority, elderly, low-income, disabled, and limited English proficiency populations for census tracts and block groups, except where not available. For ease of analysis, maps are included that highlight areas of interest.

Of note, the data presented in this document is intended to highlight areas of concern that will require additional analysis should the project be advanced to future phases.

2.0 What is Environmental Justice?

The U.S. EPA Office of Environmental Justice (EJ) defines EJ as:

"The fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation and enforcement of environmental laws, regulations and policies. Fair treatment

¹ Executive Order 12898 signed on February 11, 1994 states "...each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations..."

means that no group of people, including racial, ethnic, or socio-economic group should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, local and tribal programs and policies."

A disproportionately high and adverse effect on a minority or low-income population means an adverse effect that:

1. is predominately borne by a minority population and/or low-income population, or

2. will be suffered by the minority population and/or low-income population and is appreciably more severe or greater in magnitude than the adverse effect that will be suffered by the non-minority population and/or non-low-income population.

2.1 Definitions

USDOT Order 5610.2 on EJ, issued in the April 15, 1997 Federal Register defines what constitutes low-income and minority population.

- **Low-Income** is defined as a person whose median household income is at or below the U.S. Department of Health and Human Services poverty guidelines.
- **Minority** is defined as a person who is: (1) Black (a person having origins in any black racial groups of Africa); (2) Hispanic (a person of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race); (3) Asian American (a person having origins in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent, or the Pacific Islands); or (4) American Indian and Alaskan Native (a person having origins in any of the original people of North America and who maintains cultural identification through tribal affiliation or community recognition).
- **Low-Income Population** is defined as any readily identifiable group of lowincome persons who live in geographic proximity, and if circumstances warrant geographically dispersed/transient persons who will be similarly affected by a proposed DOT program, policy or activity.
- **Minority Population** is defined as any readily identifiable group of minority persons who live in geographic proximity, and if circumstances warrant, geographically dispersed/transient persons who will be similarly affected by a proposed DOT program, policy or activity.

EO12898 and USDOT Order 5610.2 do not address consideration of the elderly population. However, the U.S. DOT encourages the study of these populations in EJ discussions and in accordance with EJ, Title VI of the Civil Rights Act of 1964 and the Kentucky Transportation Cabinet's advocacy of inclusive public involvement and equal treatment of all persons this study includes statistics for persons age 65 and over that are within the study and comparison areas.

3.0 Methodology

For this study, data was collected by using the method outlined by the Kentucky Transportation Cabinet document, "Methodology for Assessing Potential Environmental Justice Concerns for KYTC Planning Studies." (See Appendix B.) If applicable under the National Environmental Policy Act (NEPA), a more detailed analysis will be required when assessing the potential for adverse and disproportionate impacts to low-income and minority populations.

The primary sources of data used in the compilation of this report were the U.S. Census Bureau's 2010 Census, the U.S. Census Bureau's 2009-2013 ACS, Kentucky State Data Center, local elected officials, community leaders, and field observations. Statistics were compiled to present a detailed analysis of the community conditions for the project study area.

4.0 Census Data Analysis

The U.S. Census Bureau defines geographical units as:

- Census Tract (CT) A small, relatively, permanent statistical subdivision of a county or statistically equivalent entity delineated for data presentation purposes by a local group of census data users or the geographic staff of a regional census center in accordance with Census Bureau guidelines. CTs generally contain between 1,000 and 8,000 people. CT boundaries are delineated with the intention of being stable over many decades, so they generally follow relatively permanent visible features. They may also follow governmental unit boundaries and other invisible features in some instances; the boundary of a state or county is always a census tract boundary.
- **Block Group (BG)** A statistical subdivision of a CT. A BG consists of all tabulation blocks whose numbers begin with the same digit in a CT. BGs generally contain between 300 and 3,000 people, with an optimum size of 1,500 people.
- Census Block (CB) An area bounded on all sides by visible and/or invisible features shown on a map prepared by the Census Bureau. A CB is the smallest geographic entity for which the Census Bureau tabulates decennial census data.

The census data tables include percentages for minority, elderly, and low-income populations in the United States, Kentucky, Nelson County, Washington County, Census Tracts and Block Groups located in and around the study area, except where not available. This data was separated into similar geographical census units to obtain accurate measures of demographic data.

5.0 Study Findings

This Environmental Justice and Community Impact Report is to be used as a component of a programming study currently being conducted by the Kentucky Transportation Cabinet Division of Planning for the identification of short and long-term improvement strategies for the defined section of US 150. This study is intended to help define the location and purpose of the project and meet federal requirements regarding consideration of environmental issues as defined in the National Environmental Policy Act (NEPA).

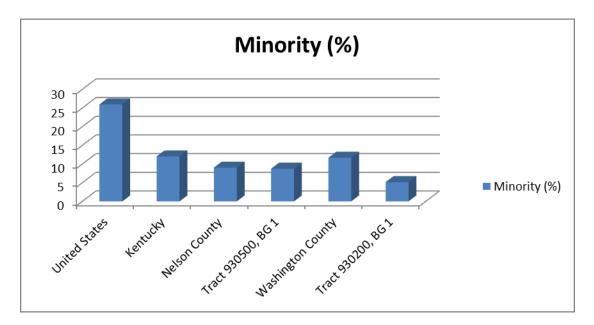
According to the 2010 Census, there are two (2) Census Tracts and two (2) Block Groups that encompass the population of the defined study area. These are listed below. (See Map 10.1 for geographic location.)

Nelson County Total Population	43,905
Washington County Total Population	11,774
Study Area Total Populations	5,698
Census Tract 930500 (Nelson) Block Group 1	6,171 3,993
Census Tract 930200 (Washington) Block Group 1	6,631 1,705

6.0 Study Findings / Population by Persons of Minority Origin

As described in the census data, the "White Alone" population percentage for the state of Kentucky, Nelson County and Washington County is 87.93%, 90.94% and 88.30%, respectively, which is much higher than the national percentage of 74.02%. The total minority population percentage for the state has been calculated and found to be 12.07%. The total minority percentage for Nelson County is well below this value at 9.06% and closer to state averages at 11.70% for Washington County, while the percentage for the study area is lower than all previously mentioned levels at 7.69%.

An analysis of block groups in the area reveals that neither BG 1 in CT 930500 in Nelson County (8.77%) or BG 1 in CT 930200 in Washington County (5.16%) have a concentration of minority populations that are higher than the national (25.98%), state (12.07%) or county (9.06% for Nelson and 11.70% for Washington) average.



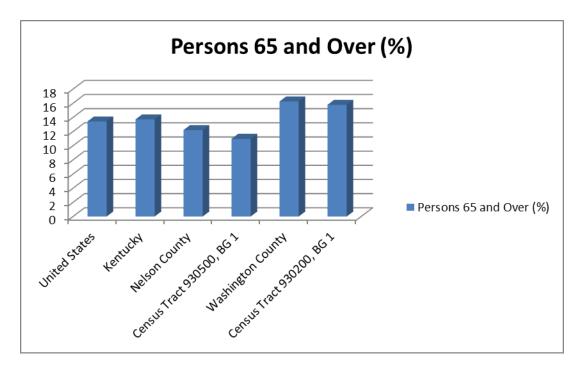
In accordance with the USDOT definition of *Minority*, all races were included in the minority concentration analysis. It is worth noting, though, that of the total minority population in CT 930500 BG 1 Nelson County, 38.57% are Black or African American Alone, 7.71% are Two or More Races, 9.43% are Asian Alone and 44.29% are of Hispanic or Latino Origin. For the total minority population in CT 930200 BG 1 in Washington County, the only minority category that is represented is the Two or More Races which represents 100% of all minorities for said census block group. Therefore, the areas indicated are representative of the Two or More Races, Black or African American, Asian Alone and Hispanic or Latino Origin populations in the study area.

Maps 10.4 displays the minority concentrations geographically

7.0 Study Findings / Population by Persons 65 and Over

As described in the census data, the population percentage of Persons 65 and Over are very consistent at the national and state levels -13.43% and 13.71%, respectively. The Nelson County level is slightly below the national and state average at 12.21% whereas the Washington County level is considerably higher than the national and state average at 16.25%.

When comparing block groups directly impacted by the study scope, CT 930500 BG 1 in Nelson County (10.97%) is below the Nelson County, State and National levels. CT 930200 BG 1 in Washington County (15.78%) is below the Washington County level but is higher than both the State and National levels.

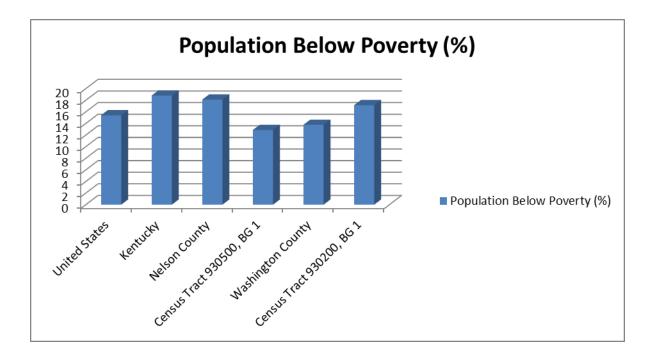


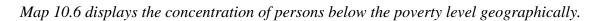
Maps 10.5 displays the 65 and over concentrations geographically

8.0 Study Findings / Population by Persons Below Poverty Level

As described in the 2013 American Community Survey of the U.S. Census Bureau data, the percentage of persons below the poverty level in the last 12 months in Kentucky is 18.8% and in Nelson County 18.1% – both well above the national level of 15.41%. However, Washington County (13.76%) had a percentage of persons below the poverty level in the last 12 months of both the National and the State levels.

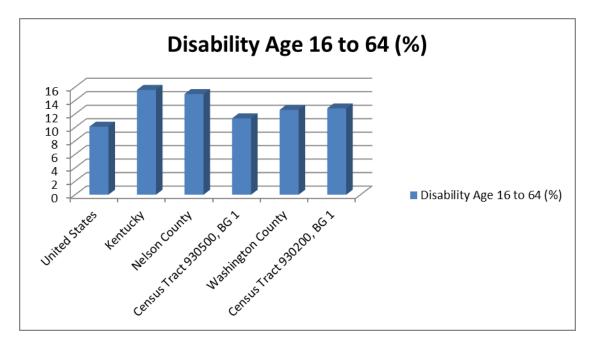
As illustrated in Map 10.8 and the Census Data table in Appendix C, CT 930500 BG 1 in Nelson County had a rate of persons below the poverty level in the last 12 months of 12.87%, well below National, State and County rates. CT 930200 BG 1 in Washington County, however, had a rate of persons below the poverty level in the last 12 months of 17.13%, which was above the National and County rates but below the State rate.





9.0 Study Findings / Population by Disability Age 16 to 64

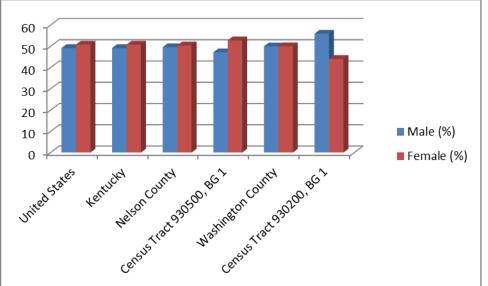
After an analysis of the 2013 American Community Survey of the U.S. Census Bureau's data of the population by disability age 16 to 64, the following results were found. The national average of disability (10.11%) was the lowest of all levels studied. The state level came in at the highest percentage at 15.57% and the county level for both Nelson County and Washington County were below both the National and State levels at 14.95% and 12.60% respectively. The defined study area produced results of 11.34% for CT 930500 BG 1 in Nelson County and 12.82% for CT 930200 BG 1 in Washington County.



Map 10.7 displays the concentration of persons with a disability aged 16 to 64 geographically

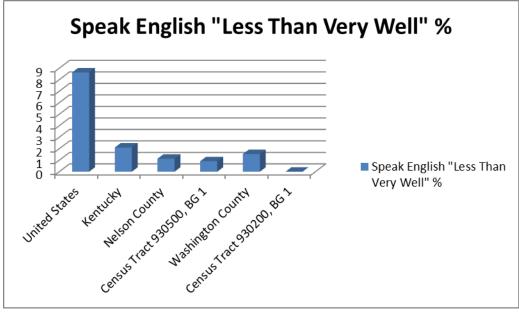
10.0 Study Findings / Population by Sex

As the 2013 American Community Survey of the U.S. Census Bureau data points out, the distribution of population broken up by sex is fairly evenly distributed at the National (49.19% male/50.81% female), State (49.20% male/50.80% female), and County (Nelson 49.61% male/50.39% female; Washington 49.98% male/50.02% female) levels. The data at the census block group level slightly deviates from that fairly even distribution. CT 930500 BG 1 in Nelson County has a distribution of 47.18% male/52.82% female. CT 930200 BG 1 in Washington County has a distribution of 55.95% male/44.05% female.



11.0 Study Findings / Population by English Proficiency

An analysis of the U.S. Census 2013 American Community Survey data shows that there is a large discrepancy of rates of all persons who speak a primary language other than English that are 5 years of age or older nationally (8.63%) vs. state (2.10%) vs. county (1.12% for Nelson County and 1.53% for Washington County). When examining the block groups in the study area, it is found that CT 930500 BG 1 in Nelson County has a rate of 0.91% whereas CT 930200 BG 1 in Washington County has a rate of 0.00% (there are no such persons in said block group).



Map 10.10 displays the concentration of persons aged 5+ who speak English "Not Well" geographically

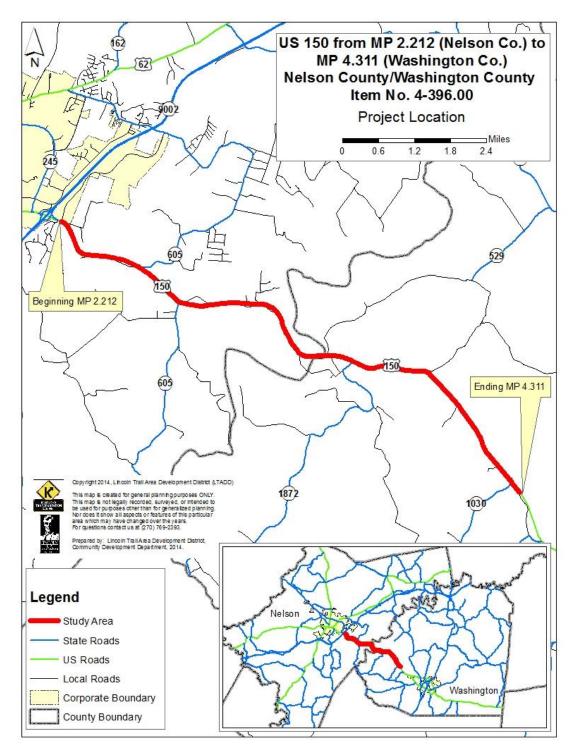
12.0 Conclusion

After a comprehensive analysis of the US 150 study area, both census block groups that comprise the study area had rates of minority, age, poverty, disabled, sex and English speaking near, at or below national, state and county averages.

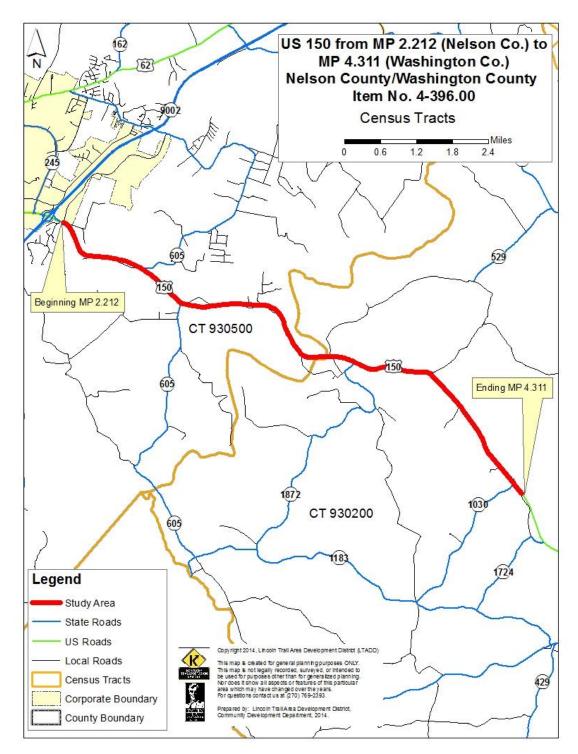
Of note, the data presented in this document is intended to highlight areas of concern that will require additional analysis should the project be advanced to future phases.

13.0 Study Area Maps

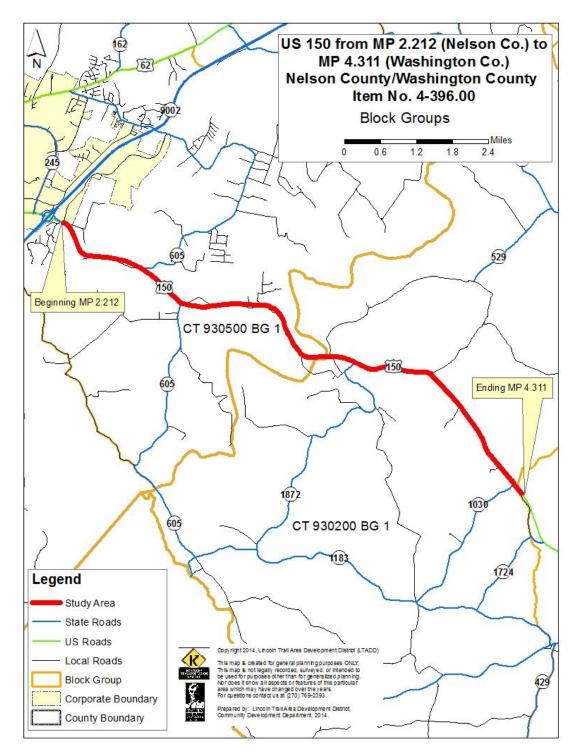
See below



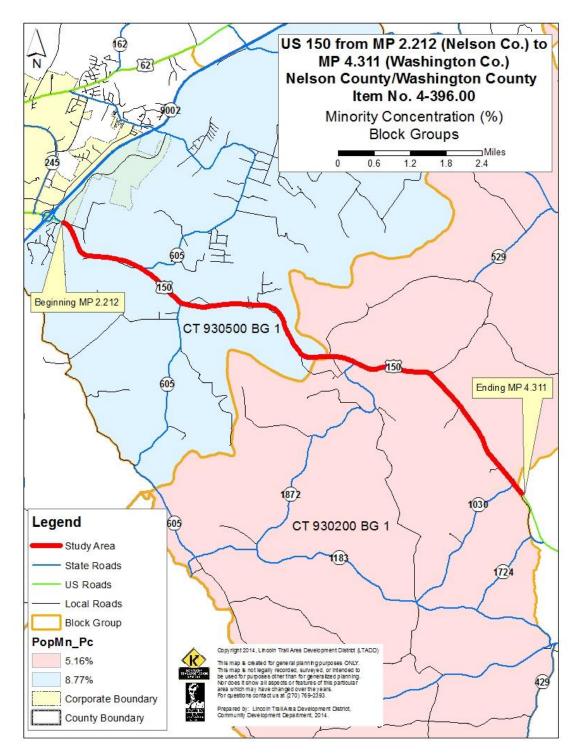
Map 10.1



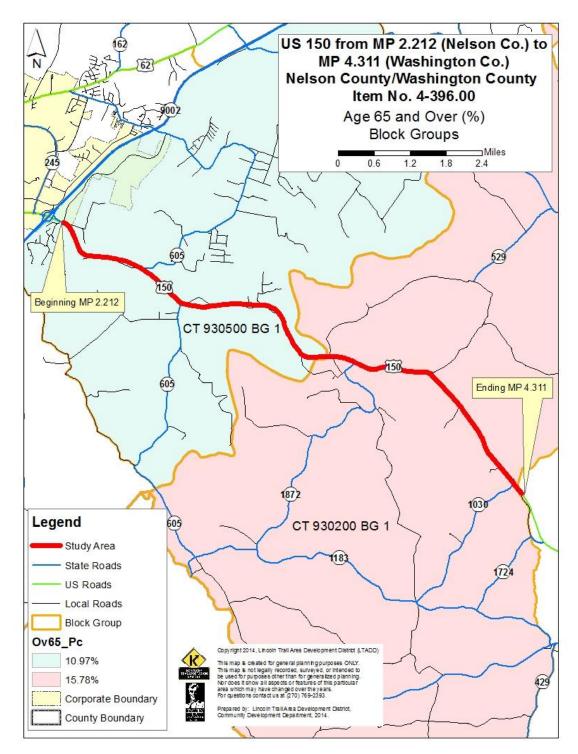
Map 10.2



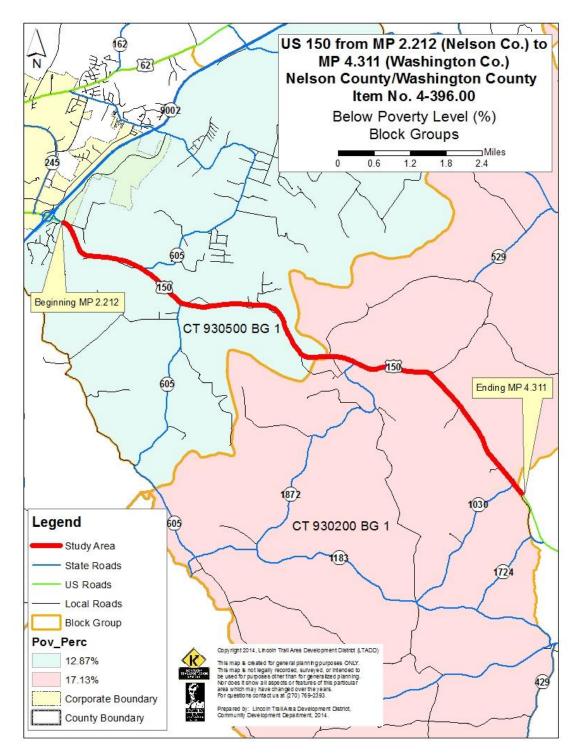
Map 10.3



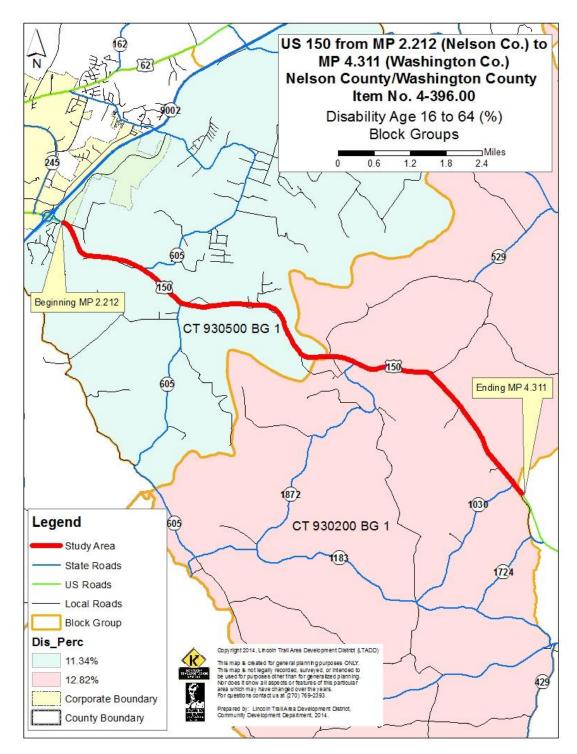
Map 10.4



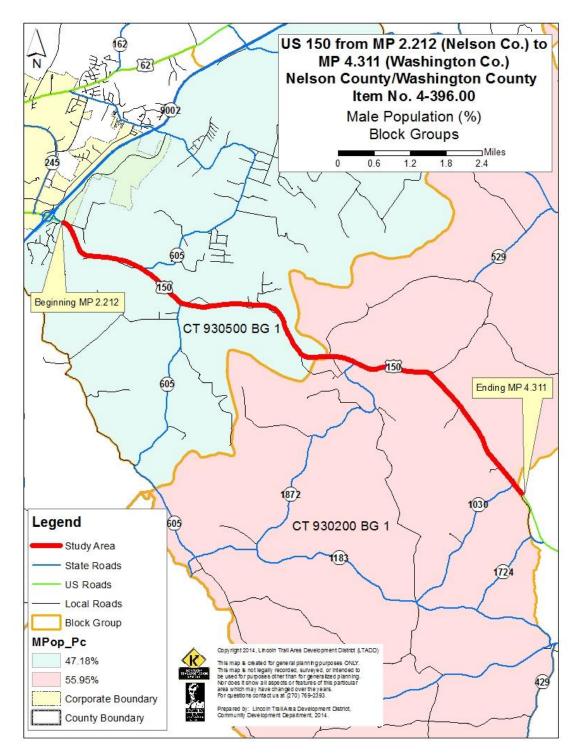
Map 10.5



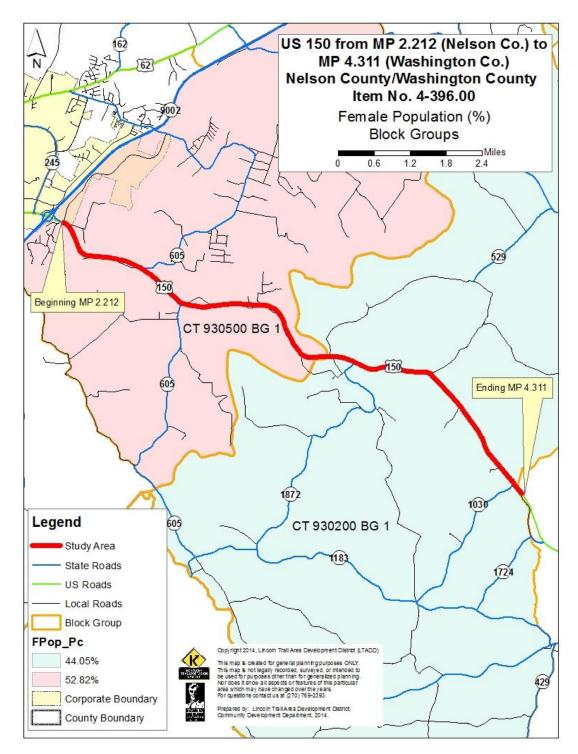
Map 10.6



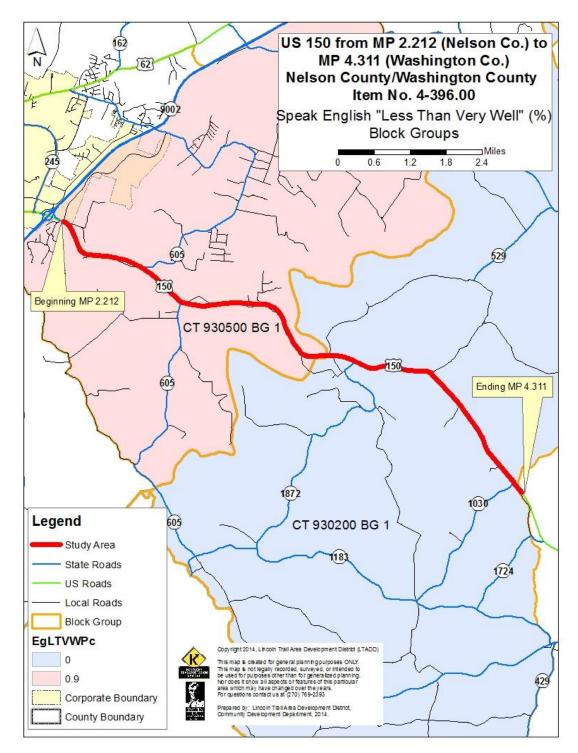
Map 10.7



Map 10.8



Map 10.9



Map 10.10

Appendix A: Planning Study Contact List

Honorable Dean Watts Nelson Co. Judge Executive PO Box 578 1 Court Square, 2nd Floor Bardstown, KY 40004 502.348.1800

Honorable John Settles Washington Co. Judge Executive PO Box 126 117 Cross Main Street Springfield, KY 40069 859.336.5410

Mrs. Barbara Tichenor Marion Co. PVA 1 Court Square, 2nd Floor Bardstown, KY 40004 502.348.1810

Mrs. Fran Carrico Washington Co. PVA 120 East Main Street Springfield, KY 40069 859.336.5420

Mr. John Royalty Mayor of Bardstown 220 N. Fifth Street Bardstown, KY 40004 502.348.5947

Mrs. Debbie Wakefield Mayor of Springfield 127 West Main Street Springfield, KY 40069 859.336.5440

Mr. Larry Hamilton, Director Public Works & Engineering 220 N. Fifth Street Bardstown, KY 40004 502.348.5947 Mr. Glenn Mattingly Springfield Public Works 127 West Main Street Springfield, KY 40069 859.336.5440

Mr. James Lemieux County Engineer Nelson County Road Dept. 1 Court Square, 2nd Floor Bardstown, KY 40004 502.348.1881

Washington County Road Dept. 887 Walnut Street Springfield, KY 40069 859.336.5429

Mrs. Barbie Bryant Bardstown City Clerk 220 N. Fifth Street Bardstown, KY 40004 502.348.5947 ext. 2206

Mrs. Laurie Smith Springfield City Clerk 127 West Main Street Springfield, KY 40069 859.336.5440

Methodology for Assessing Potential Environmental Justice Concerns for KYTC Planning Studies

Updated: February 1, 2002

The demographics of the affected area should be defined using U.S. Census data (Census tracts and block groups) and the percentages for minorities, low-income, elderly, or disabled populations should be compared to those for the following:

- Other nearby Census tracts and block groups,
- The county as a whole,
- The entire state, and
- The United States.

Information from PVA offices, social service agencies, local health organizations, local public agencies, and community action agencies can be used to supplement the Census data. Specifically, we are interested in obtaining the following information:

- Identification of community leaders or other contacts who may be able to represent these population groups and through which coordination efforts can be made.
- Comparison of the Census tracts and block groups encompassing the project area to other nearby Census tracts and block groups, county, state, and United States percentages.
- Locations of specific or identified minority, low-income, elderly, or disabled population groups within or near the project area. This may require some field reviews and/or discussions with knowledgeable persons to identify locations of public housing, minority communities, ethnic communities, etc., to verify Census data or identify changes that may have occurred since the last Census. Examples would be changes due to new residential developments in the area or increases in Asian and/or Hispanic populations.
- Concentrations or communities that share a common religious, cultural, ethnic, or other background, e.g., Amish communities.
- Communities or neighborhoods that exhibit a high degree of community cohesion or interaction and the ability to mobilize community actions at the start of community involvement.
- Concentrations of common employment, religious centers, and/or educational institutions with members within walking distance of facilities.
- Potential effects, both positive and negative, of the project on the affected groups as compared to the non-target groups. This may include, but are not limited to:
 - 1. Access to services, employment or transportation.
 - 2. Displacement of persons, businesses, farms, or non-profit organizations.
 - 3. Disruption of community cohesion or vitality.
 - 4. Effects to human health and/or safety.
- Possible methods to minimize or avoid impacts on the target population groups.

Methodology for Assessing Potential Environmental Justice Concerns for KYTC Planning Studies Page 2

If percentages of these populations are elevated within the project area, it should be brought to the attention of the Division of Planning immediately so that coordination with affected populations may be conducted to determine the affected population's concerns and comments on the project. Also, with this effort, representatives of minority, elderly, lowincome, or disabled populations should be identified so that, together, we can build a partnership for the region that may be incorporated into other projects. Also, we hope to build a Commonwealth-wide database of contacts. We are available to participate in any meetings with these affected populations or with their community leaders or representatives.

In identifying communities, agencies may consider as a community either a group of individuals living in geographic proximity to one another, or a geographically dispersed/transient set of individuals (such as migrant workers or Native Americans), where either type of group experiences common conditions of environmental exposure or effect. The selection of the appropriate unit of analysis may be a governing body's jurisdiction, a neighborhood, census tract, or other similar unit that is to be chosen so as not to artificially dilute or inflate the affected population. A target population also exists if there is (1) more than one minority or other group present and (2) the percentages, as calculated by aggregating all minority persons, exceed that of the general population or other appropriate unit of geographic analysis.

Maps should be included that show the Census tracts and block groups included in the analysis as well as the relation of the project area to those Census tracts and block groups.

Appendix C: Census Data Tables

Statistics for Racial and	Ethnic Minoritie	S					
	Total	Total Minority	Minority (%)	Black or African American Alone	Black or African American Alone (%)	American Indian and Alaska Native Alone	American Indian and Alaska Native Alone (%)
United States	311,536,594	80,944,015	25.98	39,167,010	12.57	2,540,309	1.01
Kentucky	4,361,333	526,320	12.07	341,576	7.83	8,811	0.20
Nelson County	43,905	3,977	9.06	2,307	5.25	79	0.18
Tract 930500, BG 1	3,993	350	8.77	135	3.38	-	0.00
Washington County	11,774	1,378	11.70	711	6.04	12	0.10
Tract 930200, BG 1	1,705	88	5.16	-	0.00	-	0.00
	Total	Some Other Race Alone	Some Other Race Alone (%)	Two or More Races	Two or More Races (%)	Asian Alone	Asian Alone (%)
United States	311,536,594	14,746,054	4.73	8,732,333	2.80	15,231,962	4.89
Kentucky	4,361,333	41,980	1.01	80,523	1.85	51,411	1.28
Nelson County	43,905	-	0.00	553	1.26	133	0.30
Tract 930500, BG 1	3,993	-	0.00	27	0.68	33	0.83
Washington County	11,774	-	0.00	220	1.87	18	0.15
Tract 930200, BG 1	1,705	-	0.00	88	5.16	-	0.00
	Total	Native Hawaiian and other Pacific Islander alone	Native Hawaiian and other Pacific Islander alone (%)	White Alone	White Alone (%)	Hispanic or Latino Origin*	Hispanic or Latinc Origin (%)*
United States	311,536,594	526,347	0.17	230,592,579	74.02	51,786,591	16.62
Kentucky	4,361,333	2,019	0.0004	3,835,013	87.93	136,340	3.13
Nelson County	43,905	-	0.00	39,928	90.94	905	0.02
Tract 930500, BG 1	3,993	-	0.00	3,643	91.23	155	3.88
Washington County	11,774	-	0.00	10,396	88.30	417	0.04
Tract 930200, BG 1	1,705	-	0.00	1,617	94.84	-	0.00
Source: US Census B	ureau, 2009-2013	American Com	nunity Surve	ey			
Table: B03002							

Statistics for Age, Poverty, a	and Disabled Popu	ulations	
	Total	Persons 65 and Over	Persons 65 and Over (%)
United States	311,536,594	41,851,042	13.43
Kentucky	4,361,333	597,875	13.71
Nelson County	43,905	5,360	12.21
Census Tract 930500, BG 1	3,993	438	10.97
Washington County	11,774	1,913	16.25
Census Tract 930200, BG 1	1,705	269	15.78
Source: US Census Burea	u. 2009-2013 Ame	rican Community	Survey
Table: B01001			Sarvey
	Total Population Age 16 to 64	Disability Age 16 to 64	Disability Age 16 to 64 (%)
United States	192,168,613	19,403,946	10.11
Kentucky	2,680,541	417,332	15.57
Nelson County	28,598	4,275	14.95
Census Tract 930500, BG 1	2,558	290	11.34
Washington County	7,475	942	12.60
Census Tract 930200, BG 1	1,014	130	12.82
Source: US Census Bureau	, 2009-2013 Amer	ican Community S	urvey
Table: C23023			
	Total	Population Below Poverty Level (Last 12 Months)	Population Below Poverty Level (Last 12 Months) (%)
United States	311,536,594	47,976,635	15.41
Kentucky	4,361,333	819,930	18.80
Nelson County	43,905	7,945	18.10
Census Tract 930500, BG 1	3,993	514	12.87
Washington County	11,774	1,620	13.76
Census Tract 930200, BG 1	1,705	292	17.13
Source: US Census Bureau	, 2009-2013 Amer	ican Community S	urvey
Table: B17021	,		,

Statistics for Sex, English P					
	Total	Male Population	Male Population (%)	Female Population	Female Population (%)
United States	311,536,594	153,247,412	49.19	158,289,182	50.81
Kentucky	4,361,333	2,145,986	49.20	2,215,347	50.80
Nelson County	43,905	21,780	49.61	22,125	50.39
Census Tract 930500, BG 1	3,993	1,884	47.18	2,109	52.82
Washington County	11,774	5,885	49.98	5,889	50.02
Census Tract 930200, BG 1	1,705	954	55.95	751	44.05
Source: US Census Bure	nunity Survey				
Table: B01001					
	Total Population 5+	Speak English 'Less Than Very Well' (Age 5+)	Speak English 'Less Than Very Well' (Age 5+) (%)		
United States	291,484,482	25,148,900	8.63		
Kentucky	4,082,467	85,829	2.10		
Nelson County	40,814	459	1.12		
Census Tract 930500, BG 1	3,623	33	0.91		
Washington County	11,093	170	1.53		
Census Tract 930200, BG 1	1,639	-	0.00		
Source: US Census Bures Table: B16004	au, 2009-2013 A	merican Comm	nunity Survey		