

ENVIRONMENTAL OVERVIEW
I-65 Conceptual Improvements Study
KYTC ITEM #5-550.00

Bullitt & Jefferson Counties: From Preston Highway
in Lebanon Junction, Bullitt County to Gene Snyder
Freeway in Louisville, Jefferson County



Prepared for:
Kentucky Transportation Cabinet
Central Office
Highway District 5

Prepared by:
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I-65 CONCEPTUAL IMPROVEMENTS STUDY
KYTC ITEM #5-550.00

Executive Summary

This Environmental Overview has been prepared for the I-65 Conceptual Improvements Study in Bullitt and Jefferson Counties, Kentucky (KYTC Item #5-550.00). This planning study is the first step in establishing goals, completing an existing conditions analysis, identifying potential concerns, developing cost estimates, and evaluating preliminary alternatives along I-65 from Preston Highway (KY 61) in Lebanon Junction to the Gene Snyder Freeway (I-265) in Louisville. The purpose of this Environmental Overview is to identify environmental resources of significance, potential jurisdictional features, and other environmental areas of concern that should be considered during project development. Natural and human environment resources within the study area were identified from secondary sources. Based on this information, the key environmental features within the study area include:

Surface Streams: Barley Creek, Bluelick Creek, Brooks Run, Buffalo Run, Cain Run, Clear Run, Crooked Creek, Floyds Fork, Long Lick Creek, Mud Run, Mud Creek, and Salt River pass through the study area. 100-year floodplain is associated with each of these twelve (12) streams in addition to Wilson Creek and Rolling Fork (which are located outside of the study corridor at the project south terminus). Federal Emergency Management Agency (FEMA) designated floodway occurs in the study area at six (6) locations associated with: Crooked Creek, Long Lick Creek, Salt River, Floyds Fork, Brooks Run (near N Preston Hwy), and Brooks Run (near the I-65/State Hwy 1526 interchange).

Wetlands: 240 NWI wetlands are mapped in the study area including: 4 emergent (PEM), 1 forested (PFO), 2 scrub-shrub (PSS), 137 ponds (PUB), 1 lake (LUB), and 94 riverine (RUB and RSB). These National Wetland Inventory (NWI) wetlands are scattered throughout the study area. No extensive wetland complexes are present in the study area.

Threatened and Endangered Species: Ten (10) federal-listed species (7 endangered and 3 threatened) were reported by U.S. Fish and Wildlife Service (USFWS) to have the potential to occur in the study area. Potential summer roost and foraging habitat for the federal-endangered Indiana bat (*Myotis sodalis*) the federal-threatened northern long-eared bat (*Myotis septentrionalis*) is present in several woodlots throughout the study area. No suitable roost habitat for Gray bat (*Myotis grisescens*) is present (no cave entrances known) within the study area or vicinity. Most of the southern half of the study area in Bullitt County lies within USFWS-designated habitat (Known Summer 1) for Indiana bat, having required mitigation measures for impacts to forested habitat. The middle portion of the study area in Bullitt County and the northwest portion of the study area in Jefferson County lies within USFWS-designated habitat (Known Summer 1) for northern long-eared bat, having required mitigation measures for impacts to forested habitat. The four (4) endangered mussel species listed for the project area are all considered medium to big river species and suitable habitat is likely to occur in the larger rivers within the study area (Floyds Fork, Salt River). The one (1) threatened mussel is considered a small to medium river species and there is potential for suitable habitat to occur in the smaller rivers within the study area. One (1) endangered plant, running buffalo clover (*Trifolium stoloniferum*), and one (1) threatened plant, Kentucky glade cress (*Leavenworthia exigua laciniata*), are listed for the study area. Running buffalo clover and Kentucky glade cress both prefer limestone areas with some disturbance. Potential habitat for both species may be present in a small portion of the study area, particularly in the northern half.

Kentucky State Nature Preserves (KNP) provided 32 records for occurrences of KNP-monitored species, managed areas, areas of significant biodiversity, and bat habitats within 1-mile of the project area.

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Groundwater: Twelve (12) water wells are mapped within the study area (all in Bullitt County), with one being a public water supply (non-transient, non-community) and the remaining for domestic use. No wellhead protection areas or springs are mapped within the study area.

Karst: The project area is predominantly underlain by bedrock with limited or no potential for karst development. A small area underlain by bedrock with high potential for karst development occurs in the central portion of the study area in Bullitt County. Sixteen (16) sinkholes are mapped within the study area, accounting for less than 0.2% of the area. Those sinkholes are generally scattered around the middle portion of the study area in Bullitt County. No cave entrances are known within the study area.

Farmland: Approximately 33% of the soils in the study area are identified as Prime Farmland (20%) and Farmland of Statewide Importance (13%). Extensive portions of the study area are currently utilized as hay and pasture lands with few cultivated crop fields.

Hazardous Materials Concerns: Database records review summary: 148 records of potential concern occur within the study area, including: 23 RCRA records; 4 AIR air emission records; 1 TRI toxics release inventory record; and 120 UST records. Records of potential concern are scattered throughout the study area, with a higher concentration around the KY 44 / I-65 interchange and the KY 480 / I-65 interchange.

Oil and Gas Wells: Eight oil and gas wells are mapped within the study area. Three are listed as “domestic gas well, non-commercial, for household use” and five are listed as “dry and abandoned”.

Section 4(f)/Section 6(f): Four potential Section 4(f) resources are identified in the study area, including Shepherdsville City Park, Lebanon Junction Ballfield Complex, Bernheim Arboretum and Research Forest, and Knobs State Forest and Wildlife Management Area. One of these resources (Lebanon Junction Ballfield Complex) is identified as a Land and Water Fund (LWCF) recipient [Section 6(f)], administered by the National Park Service (NPS).

Air Quality: The study area is in a Nonattainment Area for 8-hour ozone (2015 standard) and is in attainment for PM_{2.5} (2012 Standard). Both ozone and PM_{2.5} are transportation-related criteria pollutants for which the EPA has established National Ambient Air Quality Standards (NAAQS).

Environmental Justice (EJ): EJ communities include those with minority and low-income populations. The study area is comprised of parts of 23 census block groups, of which five are in Jefferson County and 18 are in Bullitt County. Based on the most recent data from the U.S. Census Bureau American Community Survey (ACS) (2013-2017), of the five block groups that are included in Jefferson County, the percentages for minorities in two census blocks are greater than the county percentage for minority (27.7%) and the state percentage (12.7%). Three block groups in Jefferson County have percentages of population in poverty that exceed both the county and state percentages, which are 15.0% and 18.3%, respectively. Eight of Bullitt County’s 18 block groups have percentages of minorities greater than that of the county (3.7%); none exceed the state average of 12.7%. Eleven of Bullitt County’s 18 block groups have percentages of population in poverty that exceed the county rate of 10.2% and three census blocks exceed the state rate of 18.3%. Additional EJ data are provided in Attachment 5, Socioeconomic Report.

Cultural-Historic and Archaeological Resources: One National Register of Historic Places (NRHP) District (Lebanon Junction Historic District) and 70 previously recorded historic architectural resources are located in the project area. Of the 70 previously recorded historic architectural resources, the vast majority are residential houses and outbuildings. In addition, the Kentucky Heritage Council (KHC) records include two schools and four cemeteries in the study area. The NRHP status of 65 resources is currently undetermined. One resource (BU

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171) is considered eligible for inclusion in the NRHP, three are contributing resources (BULJ 32-34) to the Lebanon Junction Historic District, and one resource (BU 172) has been demolished. Fifty-one (51) previously recorded archaeological sites are located in the study area. One site (15Bu236) is listed in the NRHP. Three sites (15Bu631, 15Bu693, 15Bu694) are recommended as eligible for inclusion in the NRHP. The remaining sites have either not been assessed for inclusion in the NRHP (23 sites) or are inventory sites that are not eligible for NRHP inclusion (24 sites). Of the 51 sites, three are documented as “apparently undisturbed”, and two are documented as “less than 25% disturbed”. Five (5) preliminary archaeological sites have been recorded within the study area.

Community Resources: Community resources and sensitive noise receptors include: 8 schools (including one childcare center), 11 houses of worship, 6 cemeteries, 4 parks/managed areas, 2 fire departments, and 1 police station in the study area.

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 - KDFWR State-Listed Species, Bullitt and Jefferson Counties
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Environmental Overview

Stantec Consulting Services, Inc. has prepared this Environmental Overview as part of the I-65 Conceptual Improvements Study (KYTC Item #5-550.00) being conducted for the Kentucky Transportation Cabinet (KYTC). This overview identifies known natural and human features which occur within the study area that should be considered during project development. The I-65 corridor under review begins approximately 0.9 mile southwest of the intersection with Preston Highway (KY 61) in Lebanon Junction, Bullitt County (MP 104.788) and proceeds north to the Gene Snyder Freeway (I-265) interchange in Louisville, Jefferson County (MP 124.700), Kentucky, a total length of approximately 19.9-miles. The study area extends as a 4,000-foot wide corridor centered on the existing I-65 alignment, for a total area of 16.08-square miles (see **Figure 1**).

Table 1 below provides a summary of the features that were identified within the study area. Natural environment features within the study area are identified on **Figures 2.1** and **2.2**, and human environment features are identified on **Figure 3**. The information listed in **Table 1** and shown on the attached mapping was obtained from secondary sources. This information provides an overview of resources of significance within the study area, as well as other environmental issues of potential concern. More detailed environmental studies may be required as the project is further developed in accordance with the National Environmental Policy Act (NEPA).

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Table 1: Environmental Resources/Features in the I-65 Conceptual Improvements Study Area Bullitt and Jefferson Counties, KY		
Environmental Category	Resource/Feature	Source/Information
USGS Streams	<p>Barley Creek, Bluelick Creek, Brooks Run, Buffalo Run, Cain Run, Clear Run, Crooked Creek, Floyds Fork, Long Lick Creek, Mud Run, Mud Creek, Salt River, and approximately 48 additional USGS unnamed streams are located within the study area.</p> <p>No streams in the study area are designated as Special Use Waters as defined by the Kentucky Division of Water (KDOW). No streams in the study area have a KDOW existing Designated Use as of the most recent reporting year (2016).</p>	Source: USGS 24K NHD dataset (2004a), KDOW 305b and 303(d) Report (2016), KDOW Watershed Viewer (2019), ESRI USGS map service layer
Other Streams	Topographic contours indicate the potential presence of additional drainage features throughout the study area.	Source: ESRI USGS map service layer
Watersheds	<p>The study area crosses two (2) Watershed Cataloging Units, including: Rolling Fork (HUC-8: 05140103) and Salt (HUC-8: 05140102), from south to north respectively.</p> <p>No KDOW designated Priority Watersheds are present in the study area.</p> <p>The study area partially overlaps two Wildlife Management Areas (WMA); Knobs State Forest and WMA (Kuhn Tract) and Knobs State Forest and WMA (Aaron Tract) located in the Rolling Fork watershed towards the southern end of the study corridor east of I-65.</p> <p>The study area overlaps one Watershed Planning area (Lower Floyds Fork) located in the Salt watershed towards the north end of the study corridor. The current plan status for the Lower Floyds Fork is inactive.</p>	Source: USGS 8-Digit HUC (2004b), KDOW (2019)
Wetlands	<p>240 National Wetlands Inventory (NWI) wetlands are mapped in the study area including: 4 emergent (PEM), 1 forested (PFO), 2 scrub-shrub (PSS), 137 ponds (PUB), 1 lake (LUB), and 94 riverine (RUB and RSB). No extensive NWI-mapped wetland complexes are present in the study area.</p> <p>Hydric soils occur across approximately 34% of the study area. This soil type indicates the potential for additional non-NWI mapped wetlands to be present in the study area.</p>	Source: USFWS 24K NWI map dataset (2018), USDA SSURGO KY111 and KY608 (2019)
Ponds	137 ponds are mapped (NWI) within the study area, with approximately 30 additional ponds evident on recent aerial imagery. Most appear to be utilized as farm ponds (livestock watering), followed by private recreational ponds.	Source: USFWS 24K NWI map dataset (2018), NAIP Aerial map service layer

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Table 1: Environmental Resources/Features in the I-65 Conceptual Improvements Study Area Bullitt and Jefferson Counties, KY		
Environmental Category	Resource/Feature	Source/Information
USFWS Species List	<p>Indiana bat (<i>Myotis sodalis</i>, endangered), Gray bat (<i>Myotis grisescens</i>, endangered), and northern long-eared bat (<i>Myotis septentrionalis</i>, threatened) are known to occur in Bullitt and Jefferson Counties. Four (4) endangered mussels [orangefoot pimpleback (<i>Plethobasus cooperianus</i>), pink mucket (<i>Lampsilis abrupta</i>), fanshell (<i>Cyprogenia stegaria</i>), and sheepsnose mussel (<i>Plethobasus cyphus</i>)], one (1) threatened mussel [rabbitsfoot (<i>Quadrula cylindrica cylindrica</i>)], one (1) endangered plant [running buffalo clover (<i>Trifolium stoloniferum</i>), and one (1) threatened plant [Kentucky glade cress (<i>Leavenworthia exigua laciniata</i>)] may or could potentially occur in the study area.</p> <p>Known Summer 1 habitat designated area for Indiana bat is mapped in Bullitt County that overlaps most of the southern half of the study corridor. Known Summer 1 habitat designated area for northern long-eared bat is mapped in Bullitt County overlapping the middle portion of the study corridor and in Jefferson County overlapping the northwest portion of the study corridor. This designated habitat type refers to mitigation measures required for impacts to potential habitat for forest dwelling bats (Indiana bat and Northern long-eared bat).</p> <p>Potential summer roost and foraging habitat for Indiana bat and northern long-eared bat (woodlots and riparian woodlands) is present in several woodlots throughout the study area.</p> <p>The four (4) endangered mussel species listed for the project area are all considered medium to big river species and suitable habitat is likely to occur in the larger rivers within the study area (Floyds Fork, Salt River). The one (1) threatened mussel is considered a small to medium river species and there is potential for suitable habitat to occur in the smaller rivers within the study area.</p> <p>Habitat for Gray bat is not known to be present as no cave entrances are known in the study area vicinity (nearest is over one mile to the east), and geology in the area does not support a large amount of karst development (more than half of the project area is in areas of non-karst and the remainder of the project area only has moderate karst development potential).</p> <p>Running buffalo clover and Kentucky glade cress both prefer limestone areas with some disturbance. Potential habitat for both species may be present in a small portion of the study area, particularly in the northern half.</p>	<p>Source: USFWS IPaC Trust Resource Report (2019), USFWS Kentucky Ecological Services Field Office, Indiana bat and northern long-eared bat habitat areas map (2018b), USFWS Conservation Strategy (2016), NAIP Aerial map service layer, NatureServe (2019), KGS (2005), KSS (2019)</p>

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Table 1: Environmental Resources/Features in the I-65 Conceptual Improvements Study Area Bullitt and Jefferson Counties, KY		
Environmental Category	Resource/Feature	Source/Information
KDFWR Species List	<p>Kentucky Department of Fish and Wildlife (KDFWR) lists five (5) additional federal-endangered mussels (beyond the 4 species listed by USFWS), including ring pink (<i>Obovaria retusa</i>), clubshell (<i>Pleurobema clava</i>), spectaclecase (<i>Cumberlandia monodonta</i>), snuffbox (<i>Epioblasma triquetra</i>), and fat pocketbook (<i>Potamilus capax</i>), as occurring (either recently or historically) in Bullitt and/or Jefferson Counties. In addition, KDFWR lists the following Federal-Threatened, Endangered, and Candidate Species as occurring (either recently or historically) in Bullitt and/or Jefferson Counties:</p> <ul style="list-style-type: none"> • 1 federal-endangered bird; interior least tern (<i>Stemula antillarum athalassos</i>) • 3 federal-threatened birds; red knot (<i>Calidris canutus</i>), piping plover (<i>Charadrius melodus</i>), and wood stork (<i>Mycteria americana</i>) • 1 federal-candidate insect; Louisville cave beetle (<i>Pseudanophthalmus troglodytes</i>) <p>KDFWR lists the following additional State-Threatened, Endangered, and Special Concern Species as occurring (either recently or historically) in Bullitt and/or Jefferson Counties:</p> <ul style="list-style-type: none"> • 25 state-endangered species (15 birds, 3 mussels, 1 mammal, 2 crustaceans, 3 fish, 1 amphibian) • 17 state-threatened species (12 birds, 2 mussels, 2 reptiles, 1 gastropod) • 27 state-special concern species (14 birds, 5 fish, 3 mammals, 1 mussel, 1 reptile, 2 gastropods, 1 insect) 	Source: KDFWR – Federal and State Species List for Bullitt and Jefferson Counties (2019)

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Table 1: Environmental Resources/Features in the I-65 Conceptual Improvements Study Area Bullitt and Jefferson Counties, KY		
Environmental Category	Resource/Feature	Source/Information
KSNPC Species Database	<p>Kentucky State Nature Preserves Commission (KSNPC) provided 32 records for occurrences of Kentucky Nature Preserves (KNP) monitored species, managed areas, areas of significant biodiversity, and bat habitats within 1-mile of the project area.</p> <p>Twenty (20) federal or state-endangered, threatened, or special concern listed species occurrences with a known range within 1-mile of the study area were reported, including:</p> <ul style="list-style-type: none"> • 8 plants (1 federal-threatened and state-endangered, 2 state-endangered, and 5 state-threatened), • 5 insects (1 federal-endangered and state-extirpated, 1 federal-species of management concern and state-extirpated, 2 state-endangered, and 1 state-species of concern), • 1 reptile (federal-species of management concern and state-threatened), • 2 birds (1 federal-species of management concern and state-species of concern, and 1 state-threatened), • 2 mammals (1 federal-endangered and state-threatened, and 1 federal-endangered and state-endangered), • 1 fish (federal-species of management concern and state-species of concern), and • 1 mussel (federal-endangered and state-endangered) <p>Database records indicate 4 records for Managed Areas that occur within 1-mile of the study area. These include:</p> <ul style="list-style-type: none"> • Bernheim Arboretum & Research Forest, • Fort Knox Military Reservation, • Jefferson Memorial Forest, and • Knobs State Forest and Wildlife Management Area <p>The Bernheim Forest Macrosite was reported as an area of significant biodiversity within 1-mile of the project area. Two records of “Summer 1” bat habitats within 1-mile of the project area were reported for <i>Myotis septentrionalis</i> and <i>Myotis sodalis</i>.</p>	Source: KSNPC Natural Heritage Database response (May 10, 2019)
Groundwater	<p>12 water wells are mapped within the study area, including: 11 domestic use and 1 public water supply (non-transient, non-community). The one (1) public water supply well is located just north of Lebanon Junction, east of the intersection of South Preston Hwy and State Hwy 733 (Wilson Creek Road). No wellhead protection areas are present in the study area.</p> <p>No springs are mapped within the study area.</p>	Source: KGS Water Wells and Springs data repository and dataset layer (2017), KDOW Wellhead Protection Areas data download (2018)

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Table 1: Environmental Resources/Features in the I-65 Conceptual Improvements Study Area Bullitt and Jefferson Counties, KY		
Environmental Category	Resource/Feature	Source/Information
Karst	<p>The project area is predominantly underlain by bedrock with limited or no potential for karst development. A small area underlain by bedrock with high potential for karst development occurs in the central portion of the study area in Bullitt County and along the I-65 corridor between Shepherdsville and just south of Jefferson County. Sixteen (16) sinkholes are mapped within the study area, accounting for less than 0.2% of the area. Those sinkholes are scattered around the middle portion of the study area in Bullitt County.</p> <p>No cave entrances are known within study area, with the nearest recorded entrance over 1.2 miles distant.</p>	Source: Paylor and Currens (2002), KGS (2005), Bullitt County Karst Areas (Carey and Stickney 2005), Jefferson County Karst Areas (Carey and Stickney 2005), KGS (2003), KSS Data Request response (May 12, 2019)
Floodplain	FEMA 100-Year floodplains are located within the study area at eleven (11) locations: Wilson Creek and Rolling Fork (located south of the project south terminus), Cain Run, Crooked Creek and Barley Creek, Long Lick Creek and six unnamed tributaries to Long Lick Creek, Salt River, Buffalo Run and five unnamed tributaries to Salt River, Floyds Fork and Mud Run, Clear Run and Bluelick Creek, Brooks Run and an unnamed tributary to Brooks Run (near N Preston Hwy), Brooks Run and three unnamed tributaries to Brooks Run (near the I-65/State Hwy 1526 interchange), and Mud Creek. The floodplain at each location varies from wide (spanning the width of the study corridor) to narrow (approximately 60 feet to 120 feet).	Source: FEMA National Flood Hazard Layer, Kentucky Statewide (2019)
Floodway	FEMA designated floodway occurs in the study area at six (6) locations: Crooked Creek, Long Lick Creek, Salt River, Floyds Fork, Brooks Run (near N Preston Hwy), and Brooks Run (near the I-65/State Hwy 1526 interchange).	Source: FEMA National Flood Hazard Layer, Kentucky Statewide (2019)
Farmlands	Approximately 33% of the soils in the study area are identified as Prime Farmland (20%) and Farmland of Statewide Importance (13%). Extensive portions of the study area are currently utilized as hay and pasture lands with few cultivated crop fields.	Source: USDA SSURGO KY608 and KY111 (2019)
Hazardous Materials	<p>Database records review summary: 148 records of potential concern occur within the study area, including 23 RCRA records, 4 AIR air emission records, 1 TRI toxics release inventory record, and 120 UST records.</p> <p>Multiple UST records within the study area report removal of tanks more than 15 years ago.</p>	Source: USEPA Envirofacts (2019), KDWM (2019)
Oil and Gas Wells	Eight (8) oil/gas wells are mapped within the study area. Three (3) are listed as “domestic gas well, non-commercial, for household use” and five (5) are listed as “dry and abandoned”. Five oil/gas wells are mapped towards the southern end of the study corridor, two wells are mapped just south of the Jefferson County border, and one well is mapped in Shepherdsville.	Source: KGS (2019a and 2019b)
Section 4(f)	<p>Four potential Section 4(f) resources are identified in the study area, including:</p> <ul style="list-style-type: none"> • Shepherdsville City Park • Lebanon Junction Ballfield Complex • Knobs State Forest and Wildlife Management Area (just north of State Hwy 733) 	Source: NAIP Aerial map service layer, ESRI Parks (2015), USFWS IPac (2019), KGN Local Parks (2007), KSNPC (2019)

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Environmental Category	Resource/Feature	Source/Information
Section 6(f)	Based on current Land and Water Conservation Fund (LWCF) records, there is one Section 6(f) resources in the study area (Lebanon Junction Ballfield Complex).	Source: LWCF (2019)
Air Quality	<p>The study area is in a Nonattainment Area for 8-hour ozone (2015 standard) and is in attainment for PM2.5 (2012 Standard), both are transportation-related criteria pollutants for which the EPA has established National Ambient Air Quality Standards (NAAQS).</p> <p>Four (4) USEPA permitted air emissions facilities are located within the study area; in Bullitt County between I-65/N Preston Hwy and W Hebron Lane.</p>	Source: KYTC (2019), USEPA Green Book (2019), USEPA Envirofacts (2019)
Noise	<p>Noise sensitive land use areas are present throughout the study area with higher concentrations of potential noise sensitive receptors occurring approximately in the northern half, particularly within Jefferson County.</p> <p>Land use in the approximate southern half of the study area is predominantly agricultural, rural residential, and forested, with smaller areas of scattered industrial and commercial development. Land use in the approximate northern half of the study area is predominantly industrial and commercial development, suburban residential, with smaller areas of scattered agricultural, rural residential, and forest.</p>	Source: KYTC Noise Policy (2015), NAIP aerial map service layer
Environmental Justice	<p>The project area includes portions of five census block groups in Jefferson County and eighteen census block groups in Bullitt County.</p> <p>Based on the most recent U.S. Census American Community Survey (2013-2017), 2 Jefferson County block groups within the study area exceed the Jefferson County percentage of minority population (27.7%) and 2 exceed the state percentage of 12.7%. Eight block groups in Bullitt County exceed the percentage of minority population in Bullitt County (3.7%) and two exceed the state percentage of minority population (12.7%).</p> <p>There are three block groups in Jefferson County which exceed the percentage of population in poverty for Jefferson County (15.0%) and the state percentage of population in poverty (18.3%). In Bullitt County, 11 block groups exceed the percentage of population in poverty in Bullitt County (10.2%) as well as the percentage of the population in poverty in Kentucky (18.3%).</p> <p>Additional analysis of socio-economic characteristics of the study area is provided in the Socioeconomic Report included as Attachment 5.</p>	Source: US Census Bureau, ACS 5-year data 2013-2017 (2017a), US Census Bureau QuickFacts (2017b), KYTC Environmental Justice Analysis (2014)

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Environmental Category	Resource/Feature	Source/Information
Cultural - Archaeology	<p>A review of the Kentucky Office of State Archaeology (KYOSA) records determined that 51 previously recorded archaeological sites are located in the study area. One site (15Bu236) is listed in the National Register of Historic Places (NRHP). Three sites (15Bu631, 15Bu693, 15Bu694) are recommended as eligible for inclusion in the NRHP. The remaining sites have either not been assessed for inclusion in the NRHP (23 sites) or are inventory sites that are not eligible for NRHP inclusion (24 sites).</p> <p>Of the 51 sites, three are documented as “apparently undisturbed”, and two are documented as “less than 25% disturbed”.</p> <p>Five (5) preliminary archaeological sites have been recorded within the study area.</p> <p>An intensive archaeological survey, including pedestrian survey, shovel testing, and bucket augering, is recommended prior to any development outside of existing rights-of-way.</p>	Source: KYOSA (2019)
Cultural – Historic Architecture	<p>Kentucky Heritage Council (KHC) records indicate that one NRHP District and 70 previously recorded historic architectural resources are located in the project area. The NRHP District (Lebanon Junction Historic District) is located immediately south of South Poplar Street.</p> <p>Of the 70 previously recorded historic architectural resources the vast majority are residential houses and outbuildings (barns, sheds, garages, privies, etc.). In addition, the KHC records include two schools and four cemeteries in the study area.</p> <p>The NRHP status of 65 resources is currently undetermined. One resource (BU 171) is considered eligible for inclusion in the NRHP, three are contributing resources (BULJ 32-34) to the Lebanon Junction Historic District, and one resource (BU 172) has been demolished.</p> <p>Existing historic architectural resources should be avoided, and additional cultural historic investigations are recommended for any proposed project activities.</p>	Source: KHC (2019)
Houses of Worship	Eleven (11) houses of worship (church, mosque, synagogue, etc.) were identified throughout the study area.	Source: ESRI USA topo map service layer, Google Maps
Schools	Eight (8) school facilities were identified in the study area including: Bullitt Central High School, Bernheim Middle School, Roby Elementary School, Young At Heart Childcare Center, and four (4) Bullitt County Public Schools listings.	Source: ESRI USA topo map service layer, ESRI Aerial map service layer, Google Maps

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Table 1: Environmental Resources/Features in the I-65 Conceptual Improvements Study Area Bullitt and Jefferson Counties, KY		
Environmental Category	Resource/Feature	Source/Information
Cemeteries	Six (6) known cemeteries are located within the study area; Eastview Church of Christ Cemetery on the west side of Blue Lick Road, Terry Cemetery on the east side of Blue Lick Road, Maraman Cemetery on the south side of Cedar Grove Road (State Highway 480), an unnamed cemetery on the north side of Wilson Creek Road (State Highway 733), an unnamed cemetery on the west side of Pine Tavern Road, and Brooks Cemetery which does not appear to have any marked burials. Brooks Cemetery is located on the south side of John Harper Road (State Highway 1526) adjacent to the entrance/exits ramps for I-65. The burials at Brooks Cemetery were likely removed during the construction of I-65.	Source: KHC (2019), ESRI USA topo map service layer, NAIP Aerial map service layer, Google Maps
Public Services	Public service and utility facilities located within the study area include: <ul style="list-style-type: none"> • 1 police department (Shepherdsville City Police Department) • 2 fire department stations (Shepherdsville City Fire Department; Southeast Bullitt County Fire Department Station 3) • 9 cellular towers, 3 substations, 1 water tower, 13 transmission line segments, 2 pipeline segments • 3 railroad tracks (CSX mainline, CSX South Lebanon spur, and RJC railroad) • 1 rest area along I-65 	Source: ESRI USA topo map service layer, NAIP Aerial map service layer, Google Maps, KIA (2019), USDOT (2017), Ventryx (2017), USEIA (2018)
Residences and Businesses	Residential land use in the study area includes single-family rural homes, single-family urban subdivisions, and multi-family apartment complexes. Residential land use is scattered throughout the study corridor with higher density occurring in the northern half of the study area as the study area approaches the Louisville metropolitan area. Commercial development in the study area is more concentrated around the interchanges along I-65 and especially in the vicinity of Shepherdsville. In general, the density of commercial development increases northward throughout the study corridor as the study area approaches the Louisville metropolitan area.	Source: NAIP Aerial map service layer, Google Maps

ENVIRONMENTAL OVERVIEW
I-65 CONCEPTUAL IMPROVEMENTS STUDY
KYTC ITEM #5-550.00

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I-65 CONCEPTUAL IMPROVEMENTS STUDY
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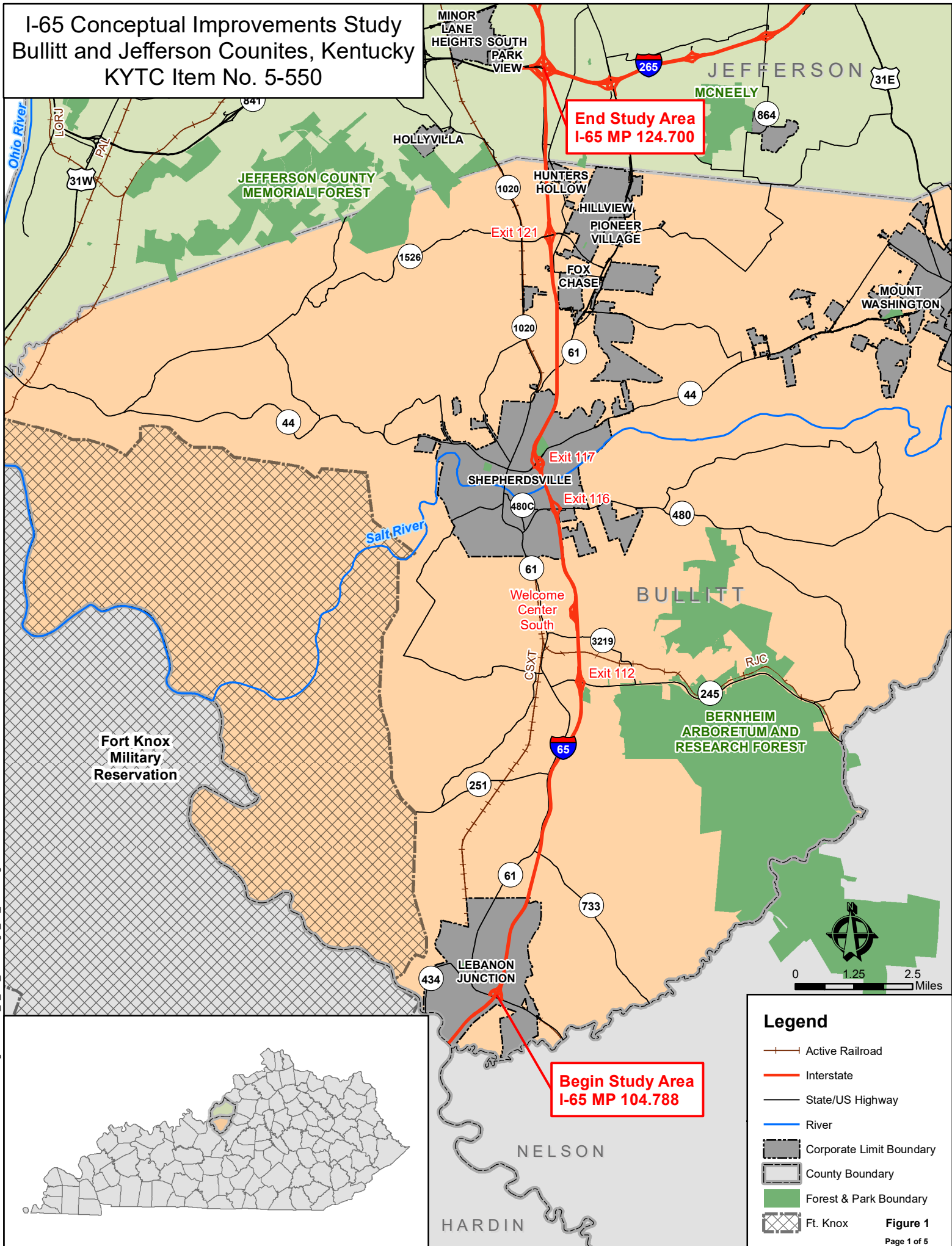
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I-65 CONCEPTUAL IMPROVEMENTS STUDY
KYTC ITEM #5-550.00

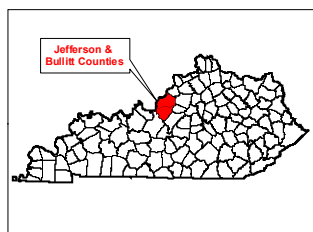
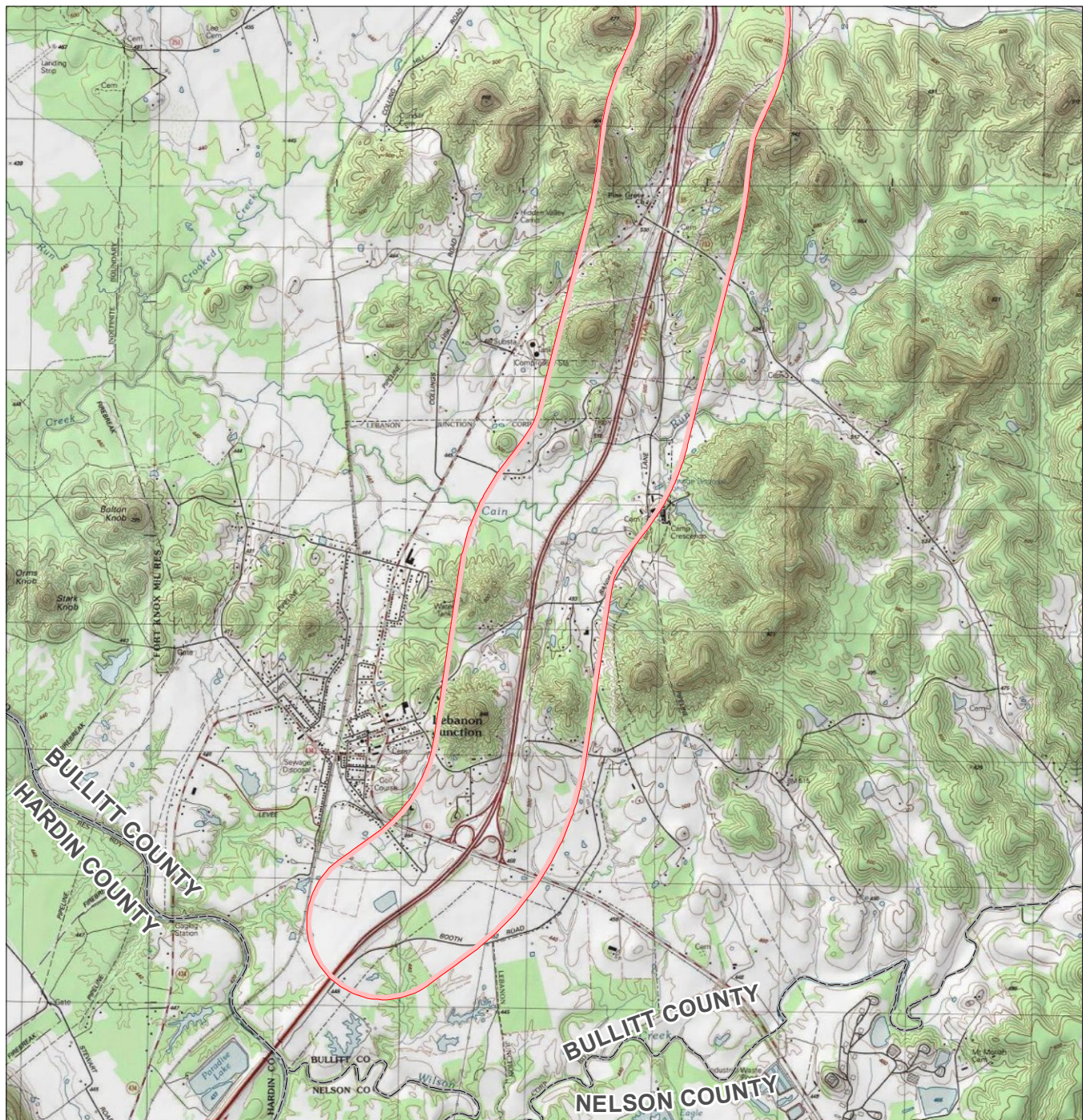
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FIGURES

1. Project Location Map
- 2.1 Environmental Footprint: Natural Environment
- 2.2 Environmental Footprint: Natural Environment – Farmland
Classification of Soils
3. Environmental Footprint: Human Environment

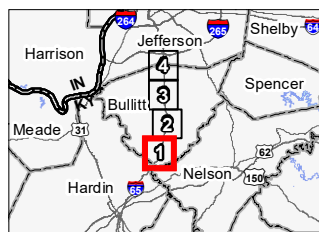
I-65 Conceptual Improvements Study Bullitt and Jefferson Counties, Kentucky KYTC Item No. 5-550





- Notes**
1. Coordinate System: NAD 1983 StatePlane Kentucky FIPS 1600 Feet
 2. Data Sources include: Stantec, KYTC, USGS, NADS
 3. Background: USGS 7.5' Topographic Quadrangles

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Legend

 Study Area

Figure No.

1

Title

Project Location Map

Client/Project

KYTC-DEA, KYTC District 5
Environmental Red Flag Summary
I-65 Conceptual Improvements Study
KYTC Item No. 5-550.00

Project Location

Jefferson and Bullitt
Counties, Kentucky

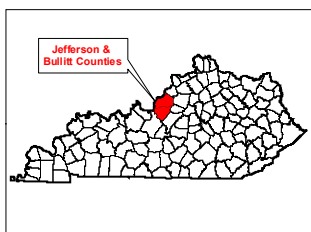
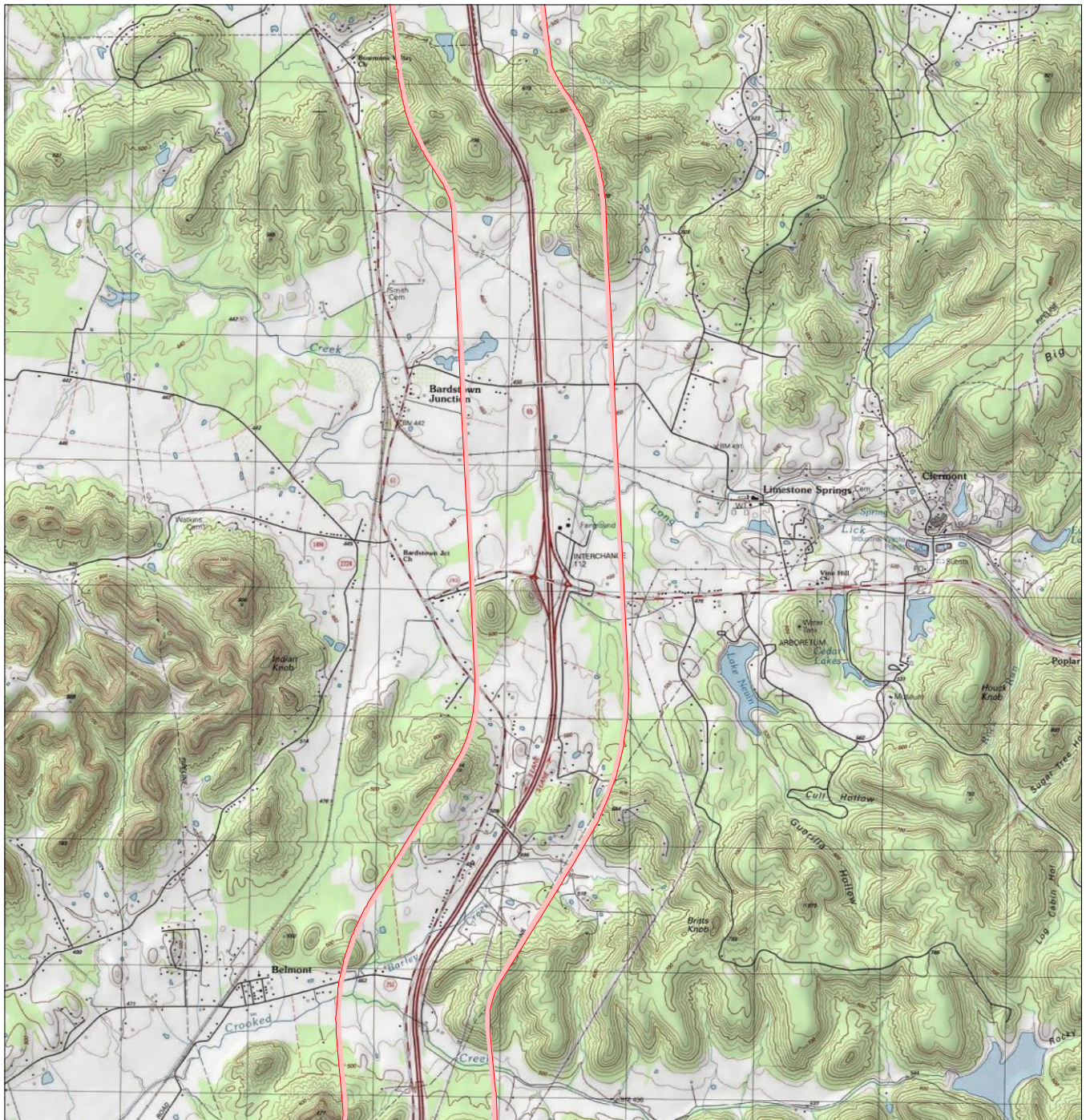
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Prepared by JH on 2019-05-06

Technical Review by XXX on 2019-XX-XX
Independent Review by XXX on 2019-XX-XX

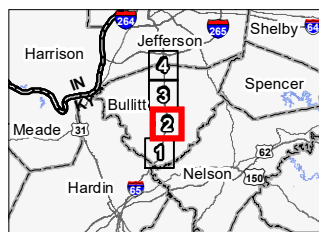
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- Notes**
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Legend

Study Area

Figure No.

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Title

Project Location Map

Client/Project

KYTC-DEA, KYTC District 5
Environmental Red Flag Summary
I-65 Conceptual Improvements Study
KYTC Item No. 5-550.00

Project Location

Jefferson and Bullitt
Counties, Kentucky

178558003

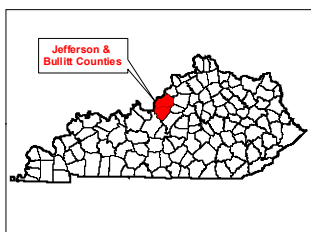
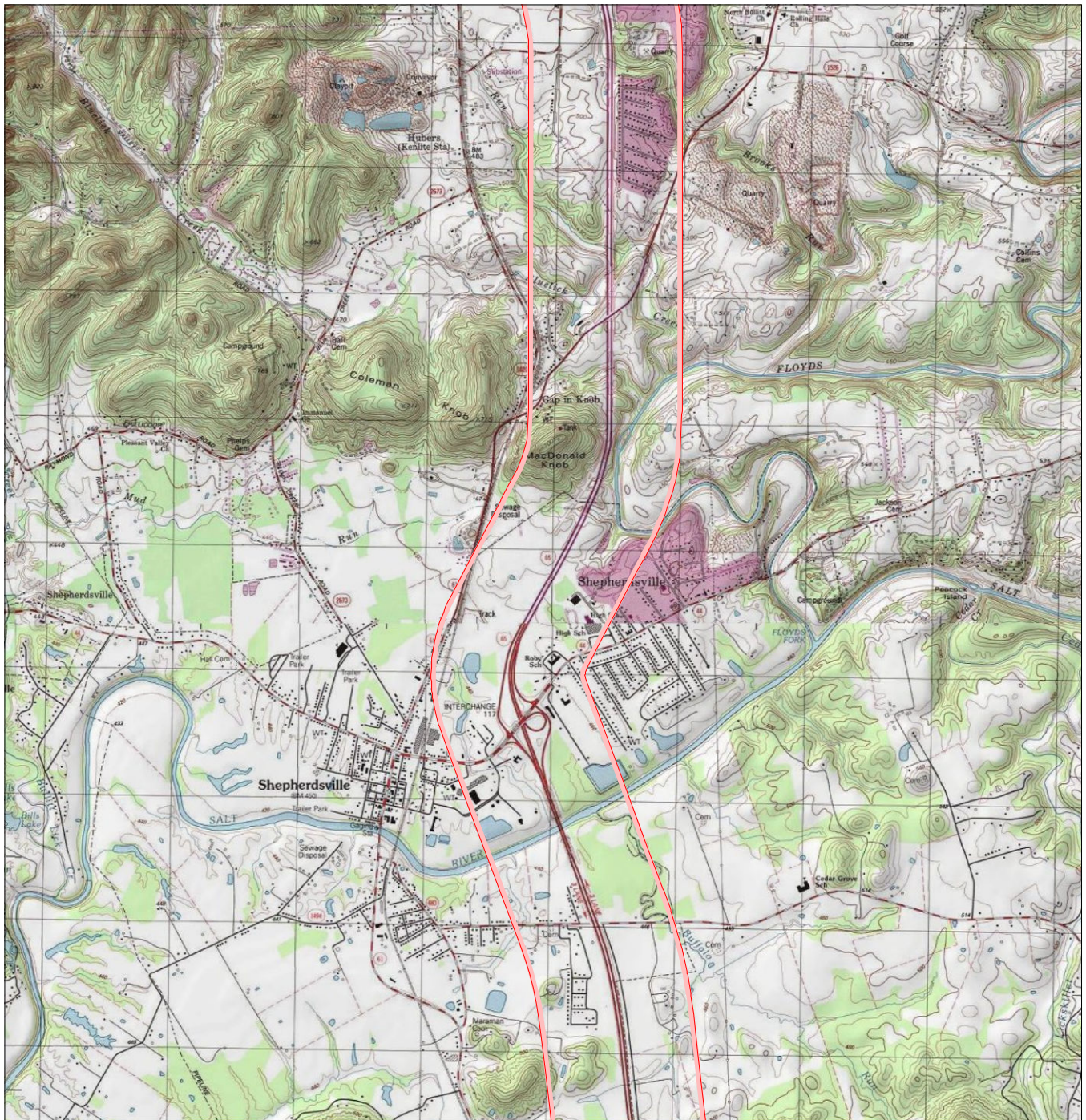
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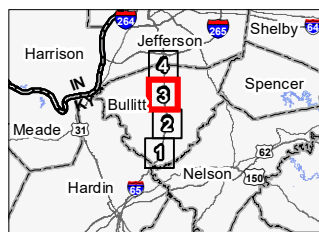
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Legend

Study Area

Figure No.

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Project Location Map

Client/Project

KYTC-DEA, KYTC District 5
Environmental Red Flag Summary
I-65 Conceptual Improvements Study
KYTC Item No. 5-550.00

Project Location

Jefferson and Bullitt
Counties, Kentucky

178558003

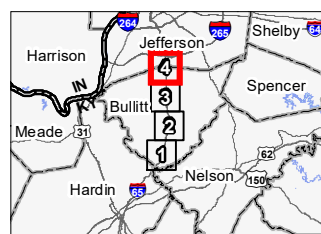
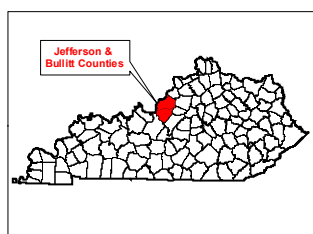
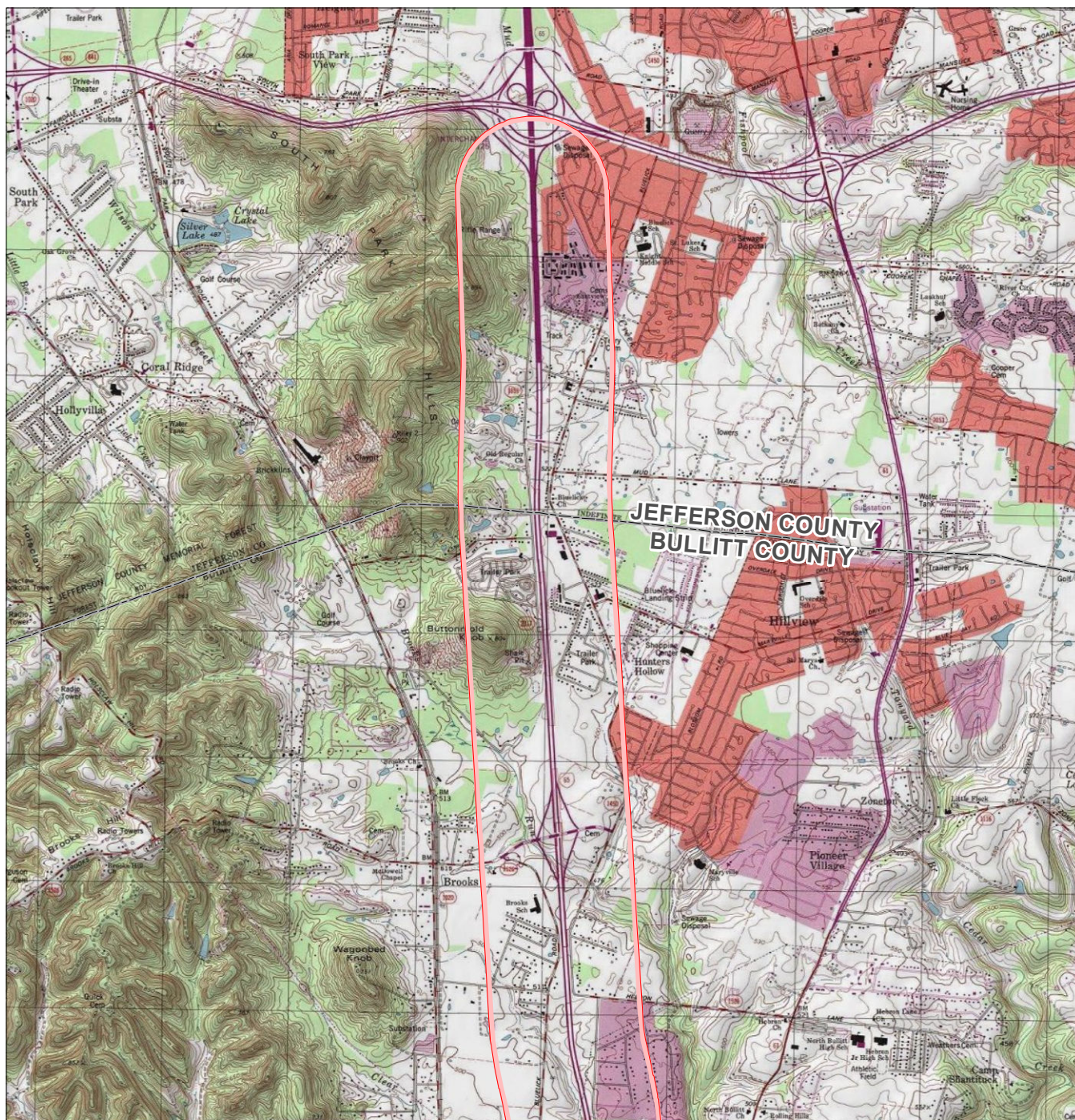
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Technical Review by XXX on 2019-XX-XX

Independent Review by XXX on 2019-XX-XX

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Legend
 Study Area

Figure No.
1
 Title
Project Location Map

Client/Project
 KYTC-DEA, KYTC District 5
 Environmental Red Flag Summary
 I-65 Conceptual Improvements Study
 KYTC Item No. 5-550.00

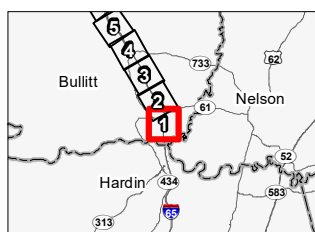
Project Location
 Jefferson and Bullitt
 Counties, Kentucky
 178558003
 Prepared by JH on 2019-05-06
 Technical Review by XXX on 2019-XX-XX
 Independent Review by XXX on 2019-XX-XX

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Notes
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Legend

-  Study Area
-  Sinkhole
-  Spring*
-  Groundwater Well
-  Domestic Use
-  Public Water Systems

 National Wetlands Inventory
Feature

- National Hydrography Dataset
-  Perennial Stream
 -  Intermittent Stream
 -  Waterbody

FEMA Flood Hazard Area

-  100-year Flood Zone
 100-year Floodway

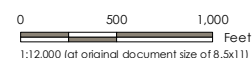
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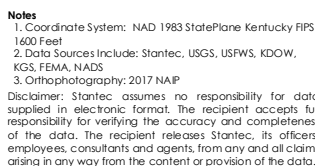
Figure No.
2.1






Title
**Environmental Footprint:
Natural Environment**

Client/Project
KYTC-DEA, KYTC District 5
Environmental Red Flag Summary
I-65 Conceptual Improvements Study
KY 61 / I-265, KYTC Item No. 5-550.00

Project Location	178558003
Jefferson and Bullitt	Prepared by JLH on 2019-05-06
Counties, Kentucky	Technical Review by XXX on 2019-XX-XX
	Independent Review by XXX on 2019-XX-XX





 Study Area
 Sinkhole
 Spring*
 Groundwater Well
 Domestic Use
 Public Water Systems

 National Wetlands Inventory Feature

National Hydrography Dataset

 Perennial Stream

 Intermittent Stream

 Waterbody

FEMA Flood Hazard Area

 100-year Flood Zone

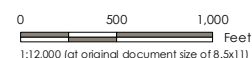
 100-year Floodway

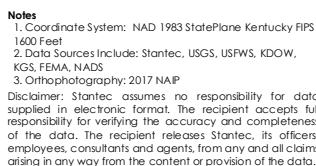
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Environmental Footprint: Natural Environment

Client/Project
KYTC-DEA, KYTC District 5
Environmental Red Flag Summary
I-65 Conceptual Improvements Study
KY 61 / I-265, KYTC Item No. 5-550.00

Project Location	178558003
Jefferson and Bullitt Counties, Kentucky	Prepared by JLH on 2019-05-06 Technical Review by XXX on 2019-XX-XX Independent Review by XXX on 2019-XX-XX





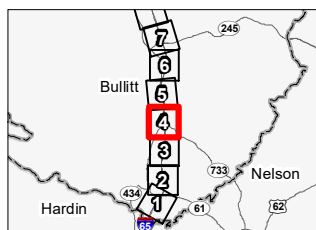
 Study Area
 Sinkhole
 Spring*
 Groundwater Well
 Domestic Use
 Public Water Systems

 100-year Floodway

*No features within study extent

0 500 1,000 Feet
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1. Coordinate System: NAD 1983 StatePlane Kentucky FIPS 1600 Feet
2. Data Sources Include: Stantec, USGS, USFWS, KDOW, KGS, FEMA, NADS
3. Orthophotography: 2017 NAIP

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 Study Area
 Sinkhole
 Spring*
 Groundwater Well
 Domestic U
 Public Wate

Groundwater Well

● Domestic Use

Public Water Systems

 National Wetlands Inventory
Feature

National Hydrography Dataset

 Perennial Stream

 Intermittent Stream

 Waterbody

FEMA Flood Hazard Area

 100-year Flood Zone 100-year Floodway

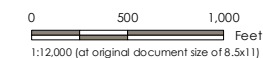
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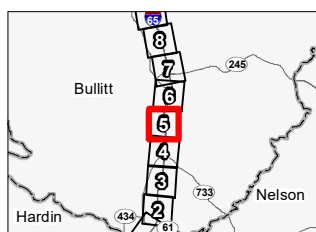
Figure No.
2.1

Environmental Footprint: Natural Environment

Client/Project
KYTC-DEA, KYTC District 5
Environmental Red Flag Summary
I-65 Conceptual Improvements Study
KY 61 / I-265, KYTC Item No. 5-550.00

Project Location	178558003
Jefferson and Bullitt	Prepared by JLH on 2019-05-06
Counties, Kentucky	Technical Review by XXX on 2019-XX-XX
	Independent Review by XXX on 2019-XX-XX





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 Study Area
 Sinkhole
 Spring*
 Groundwater Well
 Domestic Use
 Public Water Systems

FEMA Flood Hazard Area

 100-year Floodway

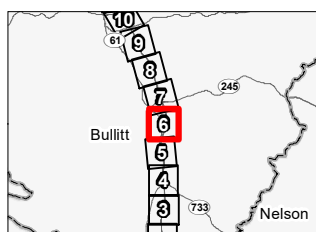
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Environmental Footprint: Natural Environment






Client/Project
KYTC-DEA, KYTC District 5
Environmental Red Flag Summary
I-65 Conceptual Improvements Study
KY 61 / I-265, KYTC Item No. 5-550.00

Project Location	178558003
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Counties, Kentucky	Technical Review by XXX on 2019-XX-XX
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Legend

-  Study Area
 Sinkhole
 Spring*
 Groundwater Well
 Domestic Use
 Public Water Systems

 National Wetlands Inventory
Feature

- National Hydrography Dataset
-  Perennial Stream
 -  Intermittent Stream
 -  Waterbody

FEMA Flood Hazard Area

-  100-year Flood Zone
-  100-year Floodway

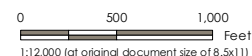
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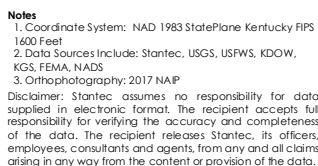
Figure No.
21

Environmental Footprint: Natural Environment


Client/Project
KYTC-DEA, KYTC District 5
Environmental Red Flag Summary
I-65 Conceptual Improvements Study
KY 61 / I-265, KYTC Item No. 5-550.00

Project Location	178558003
Jefferson and Bullitt	Prepared by JLH on 2019-05-06
Counties, Kentucky	Technical Review by XXX on 2019-XX-XX
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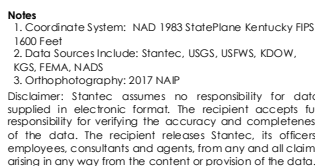
 Study Area
 Sinkhole
 Spring*
 Groundwater Well
 Domestic Use
 Public Water Systems

 100-year Floodway








*No features within study extent

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 Study Area
 Sinkhole
 Spring*
 Groundwater Well
 Domestic Use
 Public Water Systems

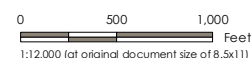
-  National Wetlands Inventory Feature
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-  FEMA Flood Hazard Area
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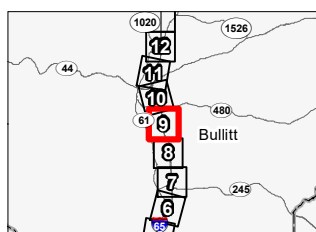
*No features within study extent

Environmental Footprint: Natural Environment

Client/Project
KYTC-DEA, KYTC District 5
Environmental Red Flag Summary
I-65 Conceptual Improvements Study
KY 61 / I-265, KYTC Item No. 5-550.00

Project Location	178558003
Jefferson and Bullitt	Prepared by JLH on 2019-05-06
Counties, Kentucky	Technical Review by XXX on 2019-XX-XX
	Independent Review by XXX on 2019-XX-XX





1. Coordinate system: NAD 1983 StatePlane Kentucky FIPS 1600 Feet
2. Data Sources include: Stantec, USGS, USFWS, KDOW, KGS, FEMA, NADS
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 Study Area
 Sinkhole
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 Groundwater Well
 Domestic Use
 Public Water Systems

 Perennial Stream
 Intermittent Stream
 Waterbody

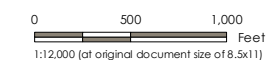
 100-year Flood Zone

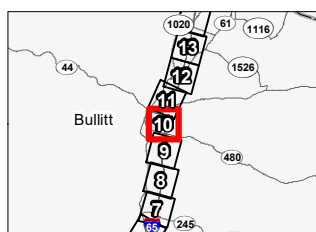
 100-year Floodway

Figure No.
2.1






Client/Project
KYTC-DEA, KYTC District 5
Environmental Red Flag Summary
I-65 Conceptual Improvements Study
KY 61 / I-265, KYTC Item No. 5-550.00

Project Location	178558003
Jefferson and Bullitt	Prepared by JLH on 2019-05-06
Counties, Kentucky	Technical Review by XXX on 2019-XX-XX
	Independent Review by XXX on 2019-XX-XX










Legend

-  Study Area
 Sinkhole
 Spring*
 Groundwater Well
 Domestic Use
 Public Water Systems

 National Wetlands Inventory
Feature

- National Hydrography Dataset
-  Perennial Stream
 -  Intermittent Stream
 -  Waterbody

FEMA Flood Hazard Area

-  100-year Flood Zone
-  100-year Floodway

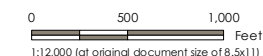
*No features within study extent

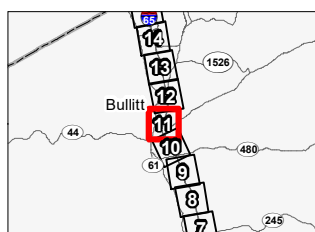
Figure No.
2.1

Environmental Footprint: Natural Environment






Client/Project
KYTC-DEA, KYTC District 5
Environmental Red Flag Summary
I-65 Conceptual Improvements Study
KY 61 / I-265, KYTC Item No. 5-550.00

Project Location	178558003
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Legend

-  Study Area
 Sinkhole
 Spring*
 Groundwater Well
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 National Wetlands Inventory
Feature

- National Hydrography Dataset
-  Perennial Stream
 -  Intermittent Stream
 -  Waterbody

FEMA Flood Hazard Area

-  100-year Flood Zone
-  100-year Floodway

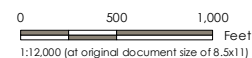
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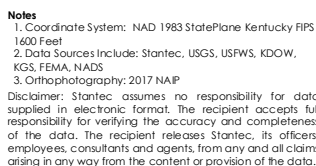
Figure No.
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Title
**Environmental Footprint:
Natural Environment**

Client/Project
KYTC-DEA, KYTC District 5
Environmental Red Flag Summary
I-65 Conceptual Improvements Study
KY 61 / I-265, KYTC Item No. 5-550.00

Project Location	178558003
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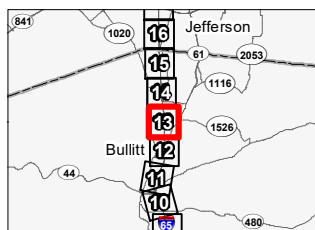
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 Sinkhole
 Spring*
 Groundwater Well
 Domestic Use
 Public Water Systems

 100-year Floodway






*No features within study extent


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Legend

-  Study Area
-  Sinkhole
-  Spring*
-  Domestic Use
-  Public Water Systems

 National Wetlands Inventory
Feature

- National Hydrography Dataset
- Perennial Stream
 - Intermittent Stream
 - Waterbody

FEMA Flood Hazard Area

-  100-year Flood Zone
-  100-year Floodway

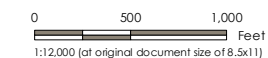
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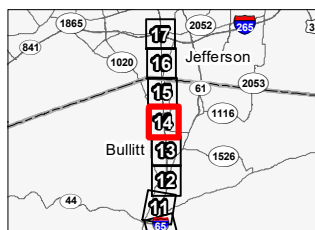
Figure No.
2.1

Environmental Footprint: Natural Environment






Client/Project
KYTC-DEA, KYTC District 5
Environmental Red Flag Summary
I-65 Conceptual Improvements Study
KY 61 / I-265, KYTC Item No. 5-550.00


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Legend

-  Study Area
-  Sinkhole
-  Spring*
-  Domestic Use
-  Public Water Systems

 National Wetlands Inventory
Feature

- National Hydrography Dataset
-  Perennial Stream
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 -  Waterbody

FEMA Flood Hazard Area

-  100-year Flood Zone
-  100-year Floodway

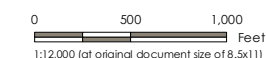
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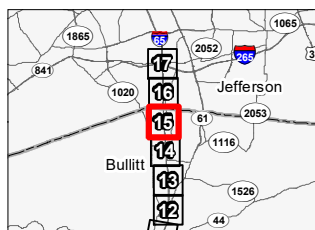
Figure No.
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Environmental Footprint: Natural Environment

Client/Project
KYTC-DEA, KYTC District 5
Environmental Red Flag Summary
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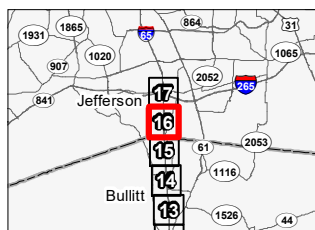




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Legend

- Study Area
- Sinkhole
- Spring*
- Groundwater Well
- Domestic Use
- Public Water Systems

- National Wetlands Inventory Feature
- National Hydrography Dataset
- Perennial Stream
- Intermittent Stream
- Waterbody
- FEMA Flood Hazard Area
- 100-year Flood Zone
- 100-year Floodway

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Figure No.
2.1

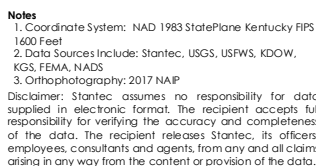
Environmental Footprint: Natural Environment

Client/Project
 KYTC-DEA, KYTC District 5
 Environmental Red Flag Summary
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 KY 61 / I-265, KYTC Item No. 5-550.00

Project Location
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 178558003
 Prepared by JH on 2019-05-06
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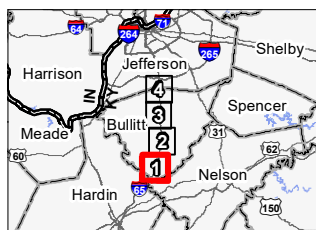
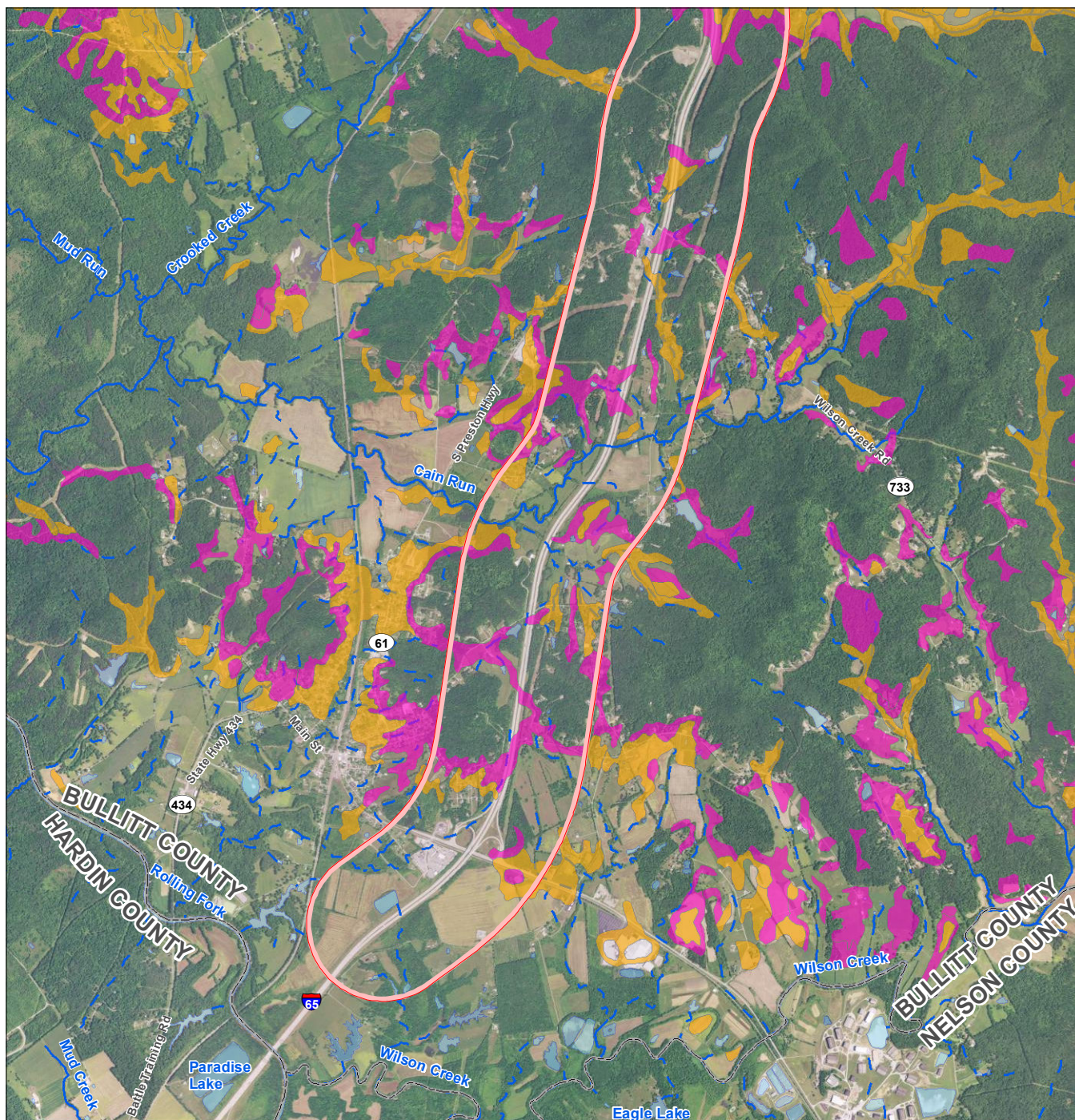
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*No features within study extent





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Legend

- Study Area
- Farmland Classification**
 - Prime Farmland
 - Farmland of Statewide Importance
- National Hydrography Dataset**
 - Perennial Stream
 - - - Intermittent Stream
 - Waterbody

Figure No.
2.2

Environmental Overview Farmland Classification of Soils

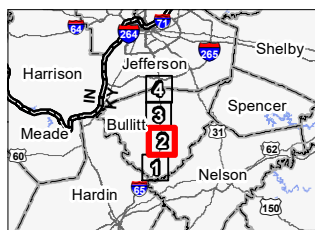
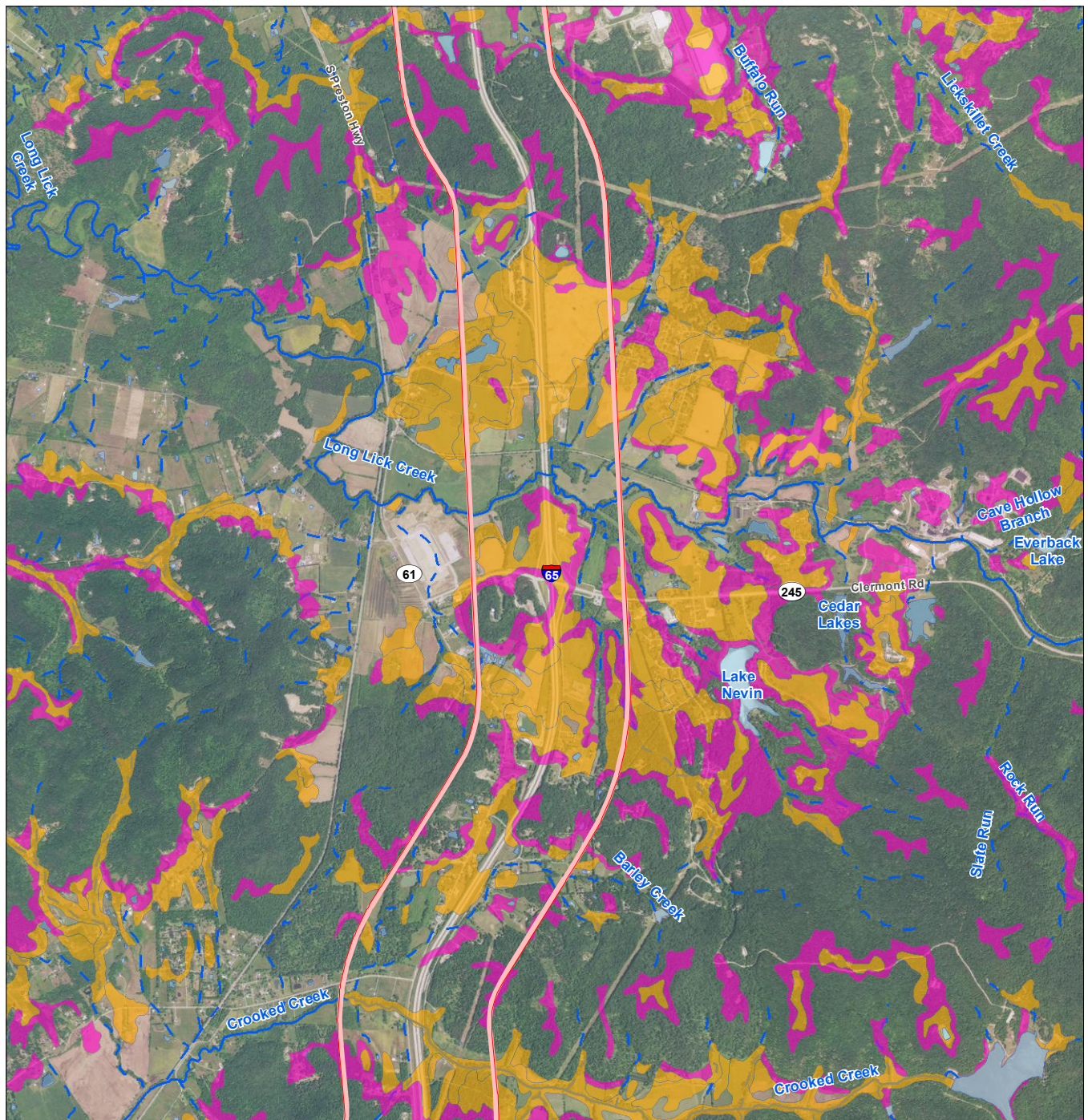
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KYTC-DEA, KYTC District 5
Environmental Red Flag Summary
I-65 Conceptual Improvements Study
KY 61 / I-265, KYTC Item No. 5-550.00

Project Location
Jefferson and Bullitt
Counties, Kentucky

17558003
Prepared by JH on 2019-05-06
Technical Review by XXX on 2019-XX-XX
Independent Review by XXX on 2019-XX-XX

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Legend

- Study Area
- Prime Farmland
- Farmland of Statewide Importance
- National Hydrography Dataset
- Perennial Stream
- Intermittent Stream
- Waterbody

Figure No.
2.2

Environmental Overview Farmland Classification of Soils

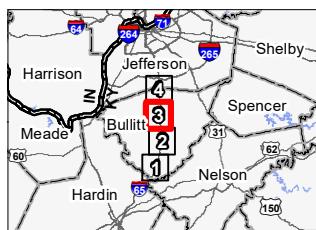
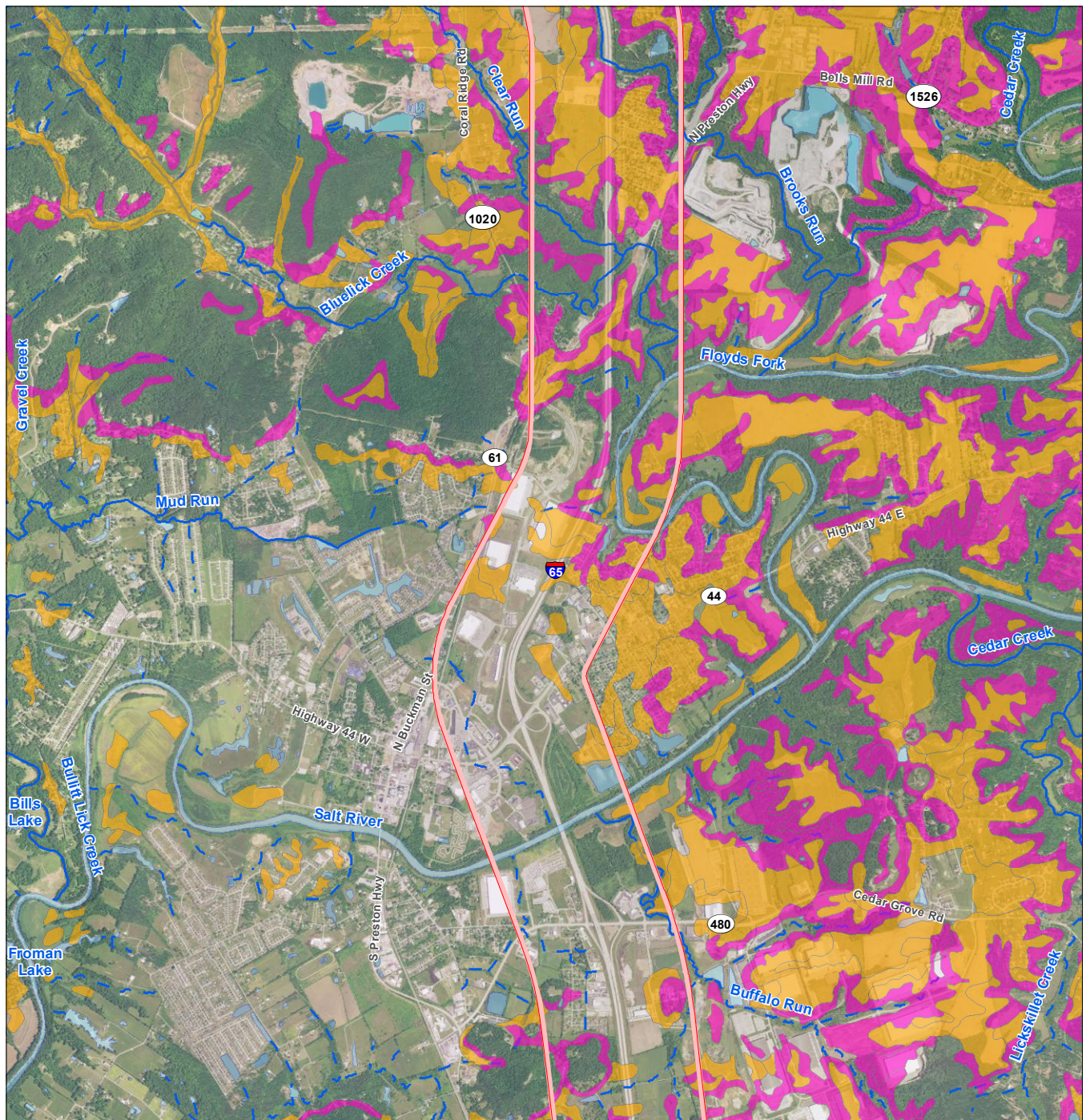
Client/Project
KYTC-DEA, KYTC District 5
Environmental Red Flag Summary
I-65 Conceptual Improvements Study
KY 61 / I-265, KYTC Item No. 5-550.00

Project Location
Jefferson and Bullitt
Counties, Kentucky

17558003
Prepared by JH on 2019-05-06
Technical Review by XXX on 2019-XX-XX
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Legend

- Study Area
- Farmland Classification**
 - Prime Farmland
 - Farmland of Statewide Importance
- National Hydrography Dataset**
 - Perennial Stream
 - Intermittent Stream
 - Waterbody

Figure No.
2.2

Environmental Overview Farmland Classification of Soils

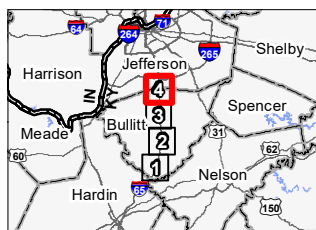
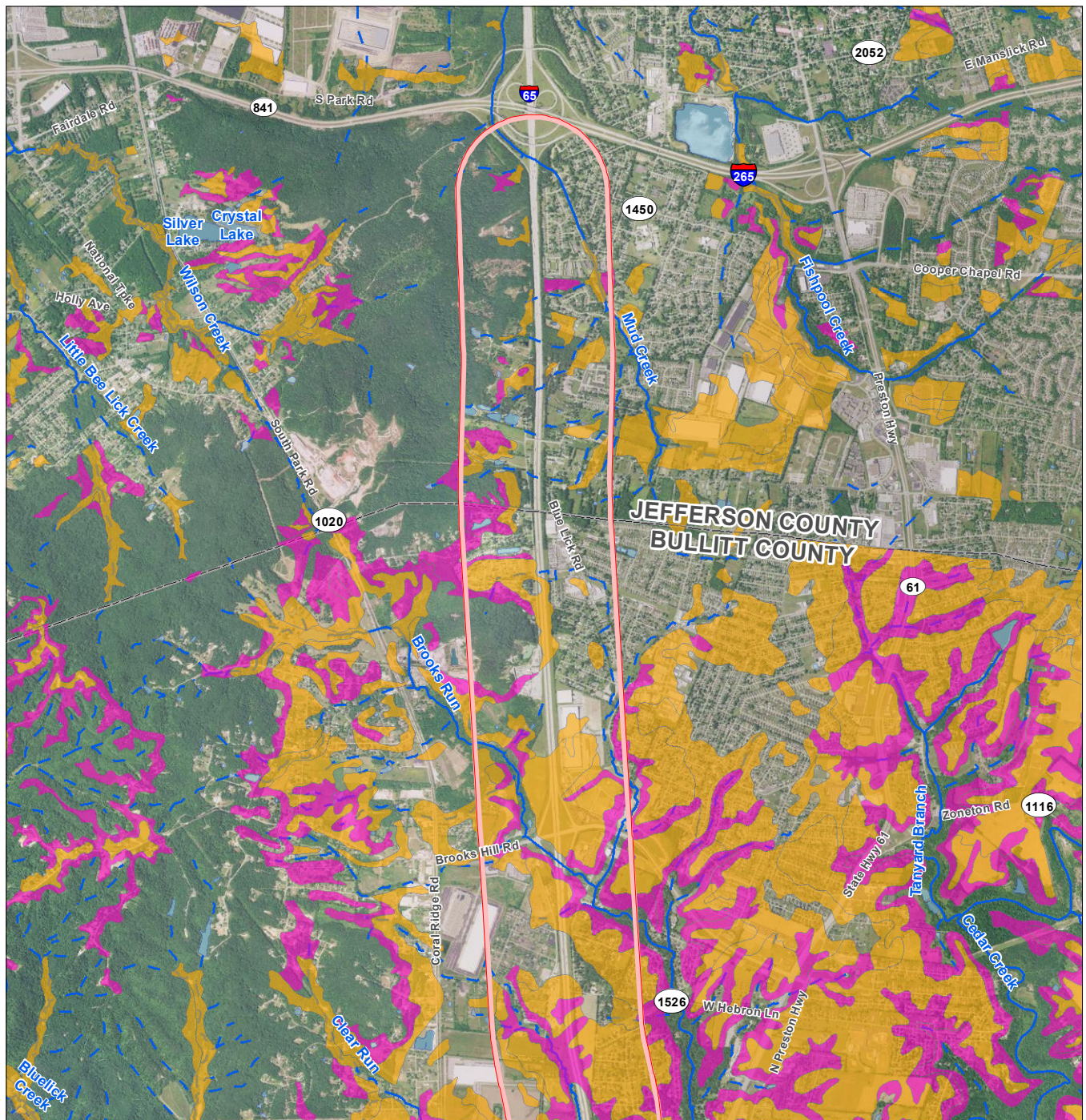
Client/Project
KYTC-DEA, KYTC District 5
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Project Location
Jefferson and Bullitt
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17558003
Prepared by JH on 2019-05-06
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Legend

- Study Area
- Prime Farmland
- Farmland of Statewide Importance
- National Hydrography Dataset
- Perennial Stream
- - - Intermittent Stream
- Waterbody

Figure No.
2.2

Environmental Overview Farmland Classification of Soils

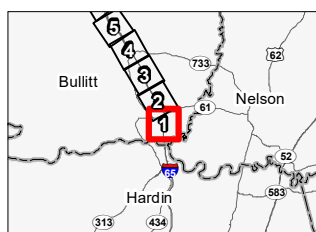
Client/Project
KYTC-DEA, KYTC District 5
Environmental Red Flag Summary
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KY 61 / I-265, KYTC Item No. 5-550.00

Project Location
Jefferson and Bullitt
Counties, Kentucky

178558003
Prepared by JH on 2019-05-06
Technical Review by XXX on 2019-XX-XX
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Legend

- | | |
|--------------------------|---------------------------------------|
| Study Area | Existing Transmission Line |
| Hazmat Record | Existing Pipeline |
| UST Location | Existing Railway |
| Noise Sensitive Receptor | Cemetery |
| Municipal Building | Previously Recorded Historic Resource |
| Existing Water Tower | NRHP Historic District |
| Existing Cell Tower | Managed Land |
| Existing Substation | Public Use Land |
| Oil/Gas Well | |
| Dry and Abandoned | |
| Domestic Use | |

Figure No.
3

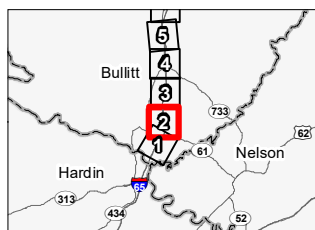
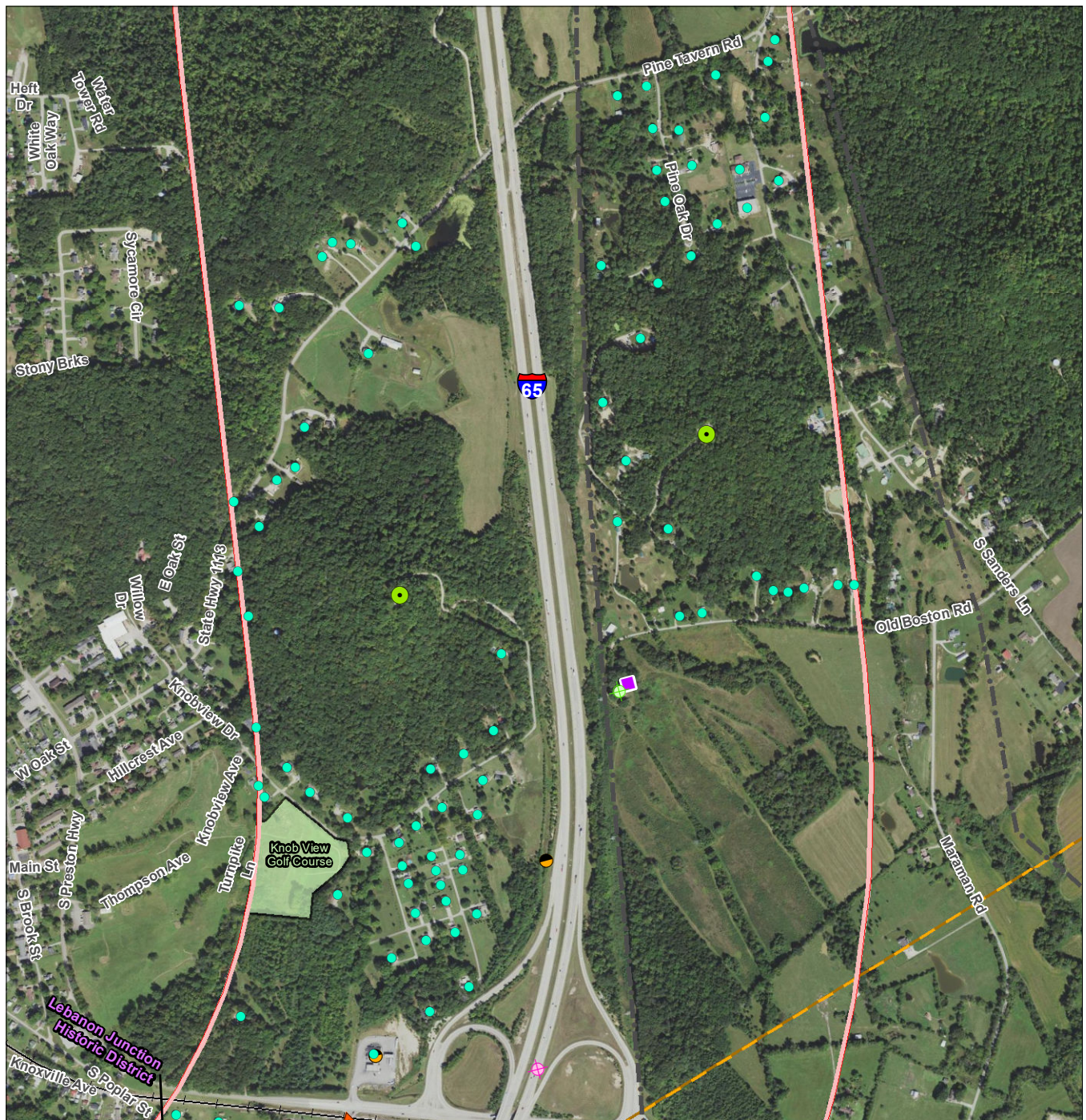
Environmental Footprint: Human Environment

Client/Project
 KYTC-DEA, KYTC District 5
 Environmental Red Flag Summary
 I-65 Conceptual Improvements Study
 KY 61 / I-265, KYTC Item No. 5-550.00

Project Location
 Jefferson and Bullitt
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 178558003
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Legend

- Study Area
- ▲ Hazmat Record
- UST Location
- Noise Sensitive Receptor
- Municipal Building
- Existing Water Tower
- Existing Cell Tower
- Existing Substation
- + Oil/Gas Well
- + Dry and Abandoned
- + Domestic Use
- Existing Transmission Line
- Existing Pipeline
- Existing Railway
- + Cemetery
- Previously Recorded Historic Resource
- NRHP Historic District
- Managed Land
- Public Use Land

Figure No.
3

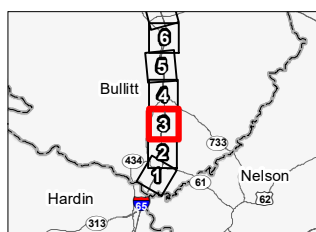
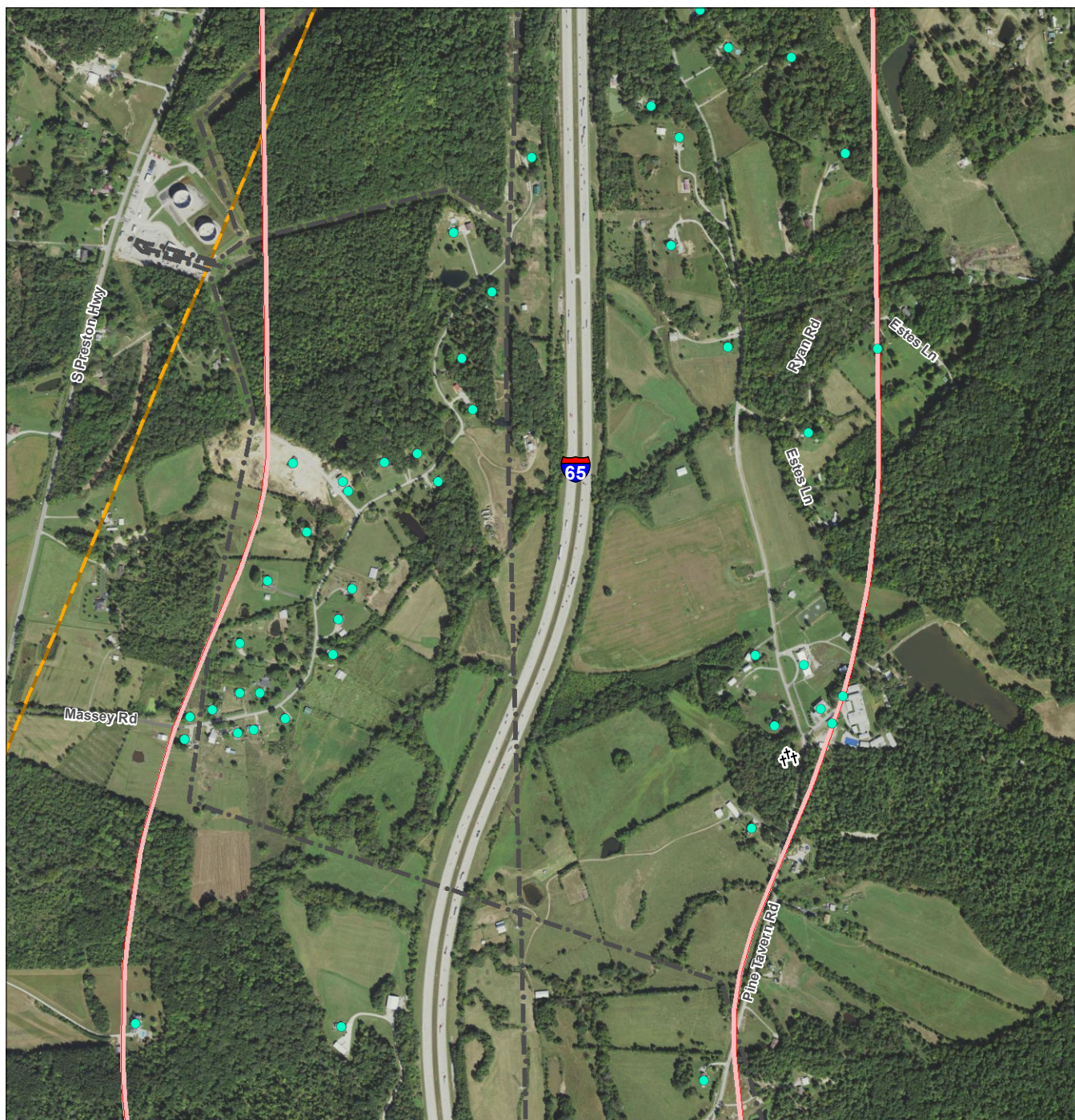
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Client/Project
 KYTC-DEA, KYTC District 5
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Legend

- | | |
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| Study Area | Existing Transmission Line |
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| Municipal Building | Previously Recorded Historic Resource |
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| Oil/Gas Well | |
| Dry and Abandoned | |
| Domestic Use | |

Figure No.
3

Environmental Footprint: Human Environment

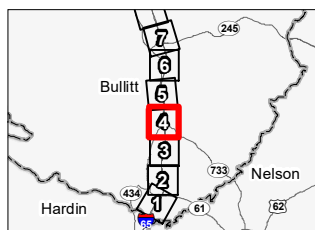
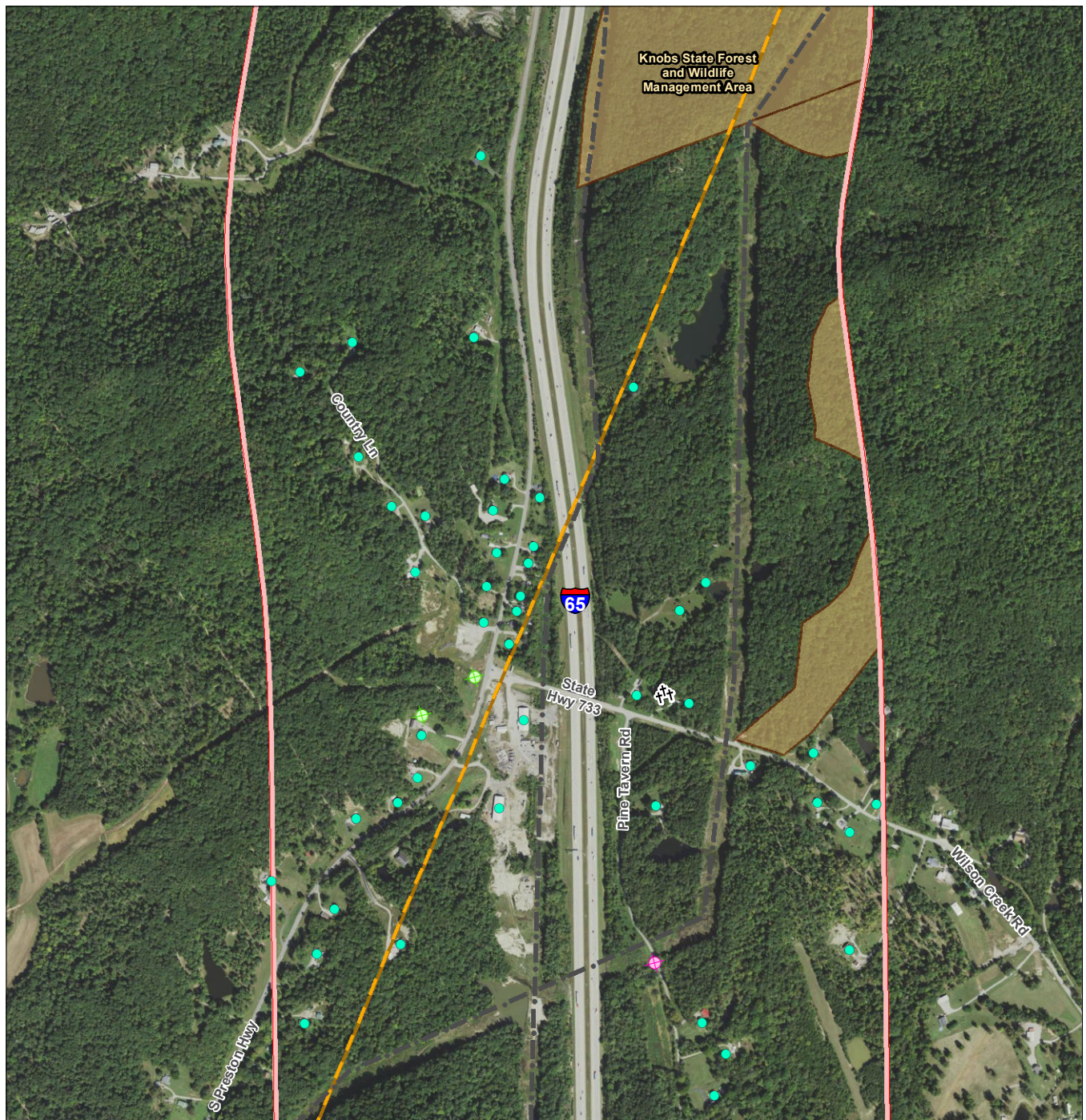
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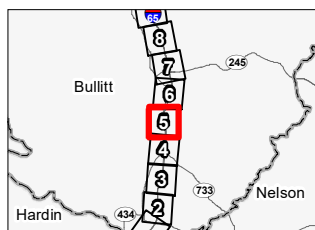
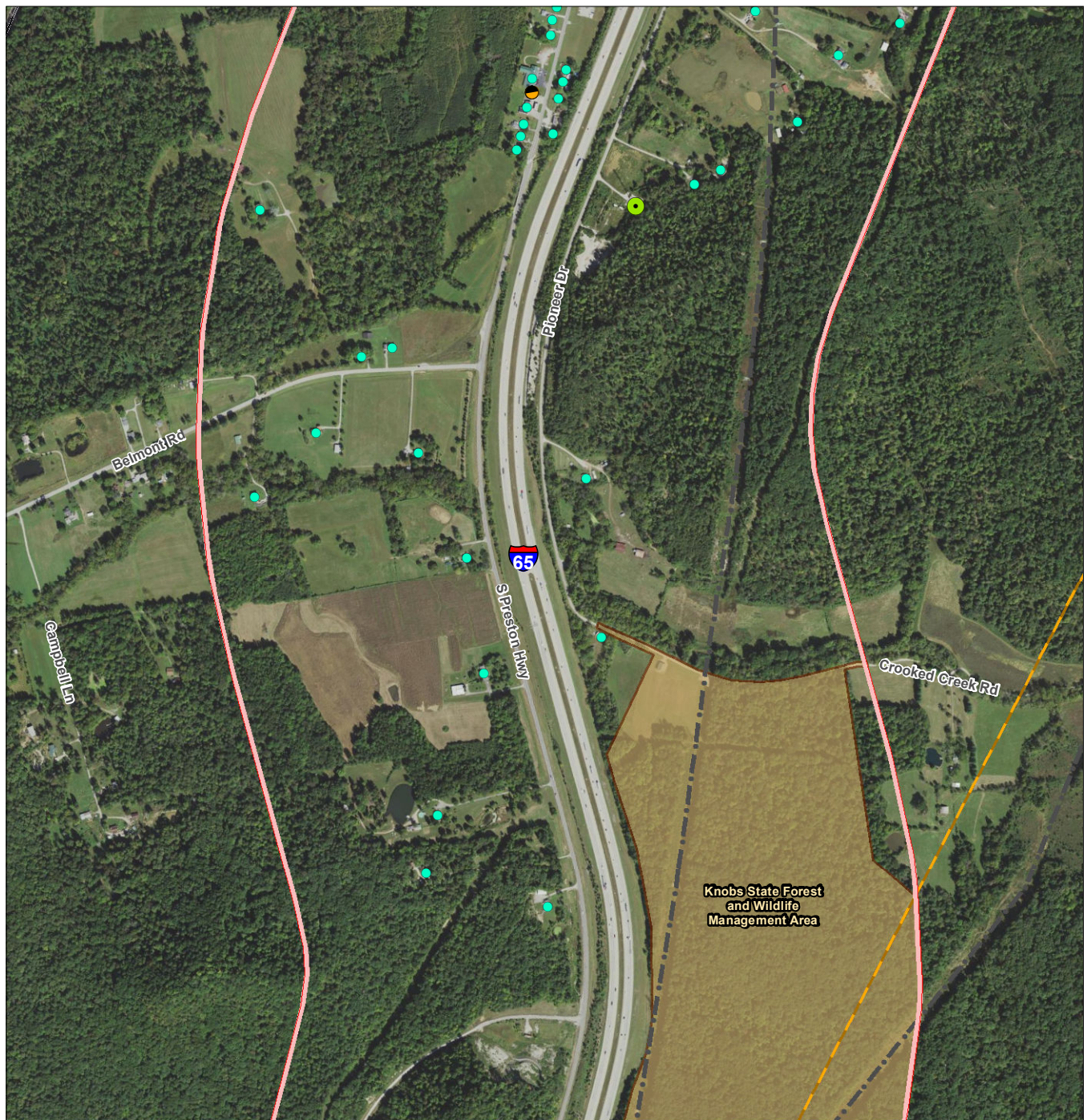
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| Domestic Use | |

Figure No.
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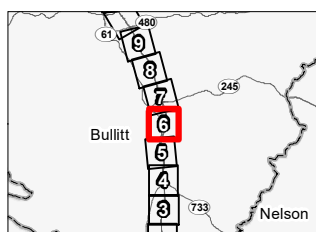
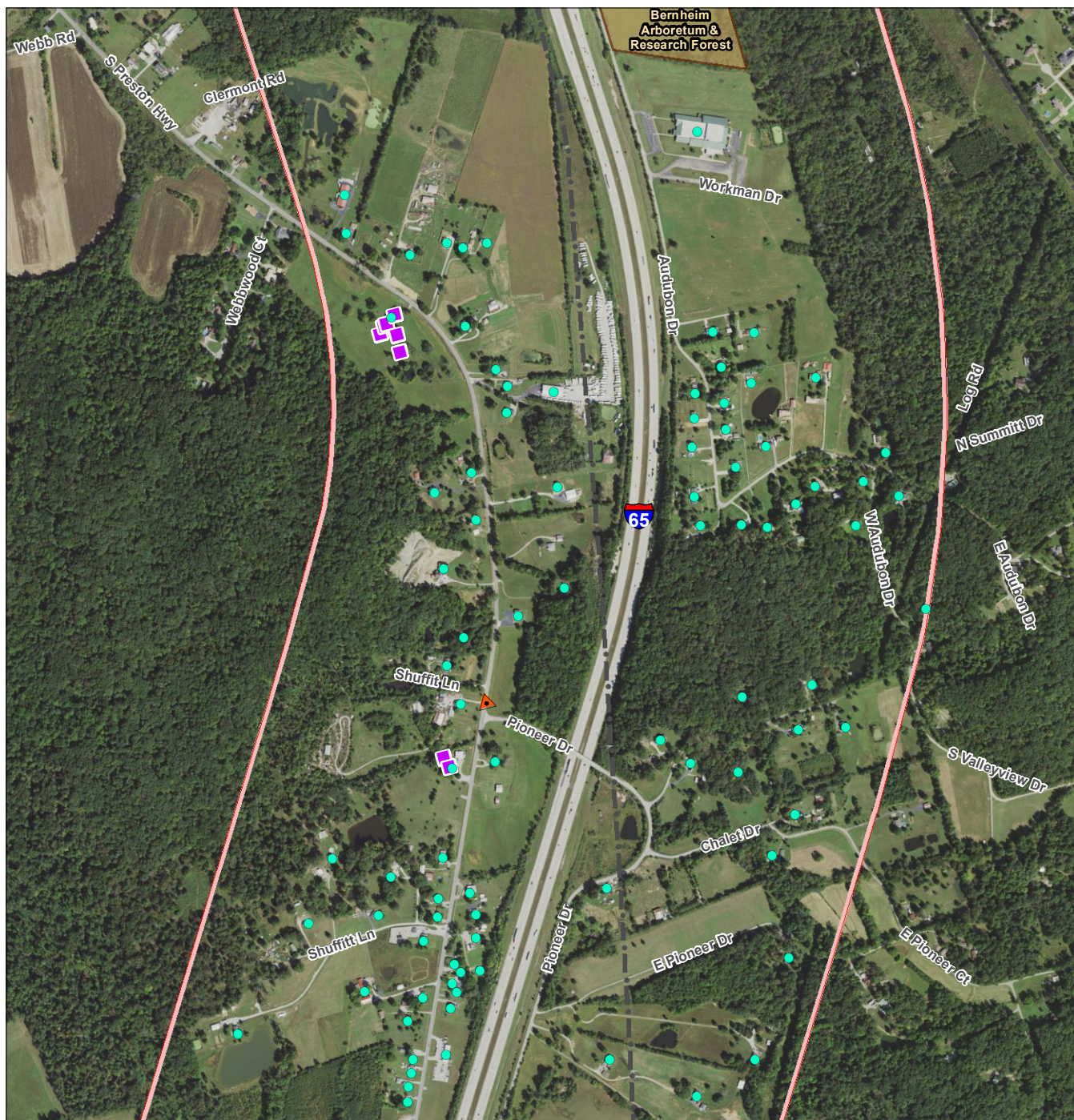
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| Dry and Abandoned | |
| Domestic Use | |

Figure No.
3

Environmental Footprint: Human Environment

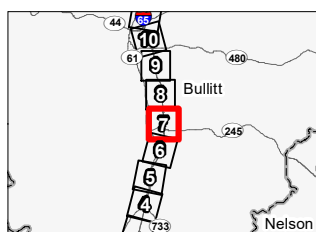
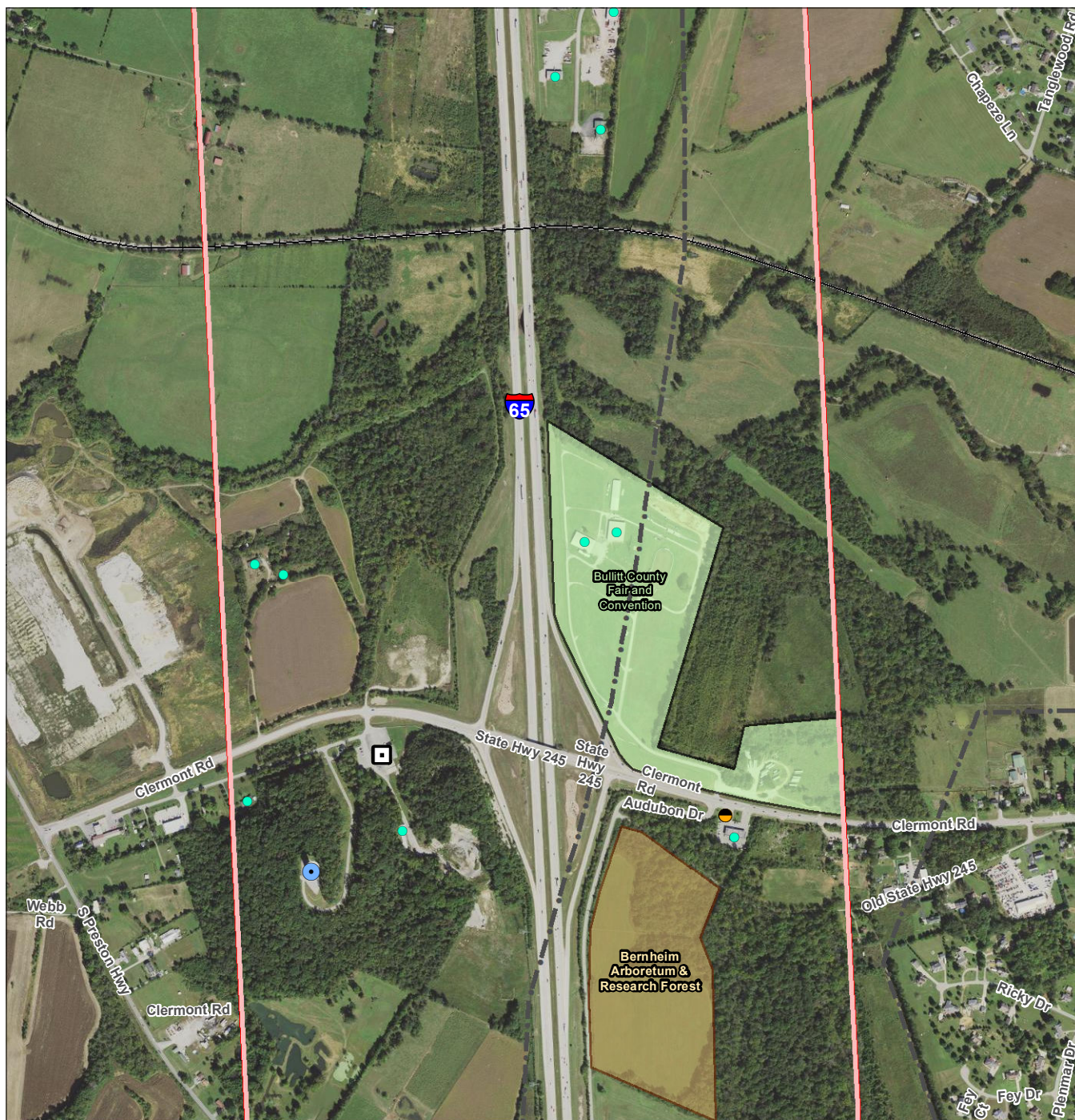
Client/Project
 KYTC-DEA, KYTC District 5
 Environmental Red Flag Summary
 I-65 Conceptual Improvements Study
 KY 61 / I-265, KYTC Item No. 5-550.00

Project Location
 Jefferson and Bullitt
 Counties, Kentucky

178558003
 Prepared by JH on 2019-05-06
 Technical Review by XXX on 2019-XX-XX
 Independent Review by XXX on 2019-XX-XX

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Notes
 1. Coordinate System: NAD 1983 StatePlane Kentucky FIPS 1600 Feet
 2. Data Sources Include: Stantec, KHC, KYOSA, USEPA, KYDWM, PADUS, FCC, Ventyx, USEIA, NADS
 3. Orthophotography: 2017 NAP
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Legend

- | | |
|--------------------------|---------------------------------------|
| Study Area | Existing Transmission Line |
| Hazmat Record | Existing Pipeline |
| UST Location | Existing Railway |
| Noise Sensitive Receptor | Cemetery |
| Municipal Building | Previously Recorded Historic Resource |
| Existing Water Tower | NRHP Historic District |
| Existing Cell Tower | Managed Land |
| Existing Substation | Public Use Land |
| Oil/Gas Well | |
| Dry and Abandoned | |
| Domestic Use | |

Figure No.
3

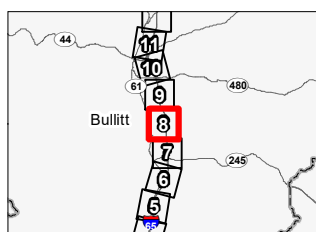
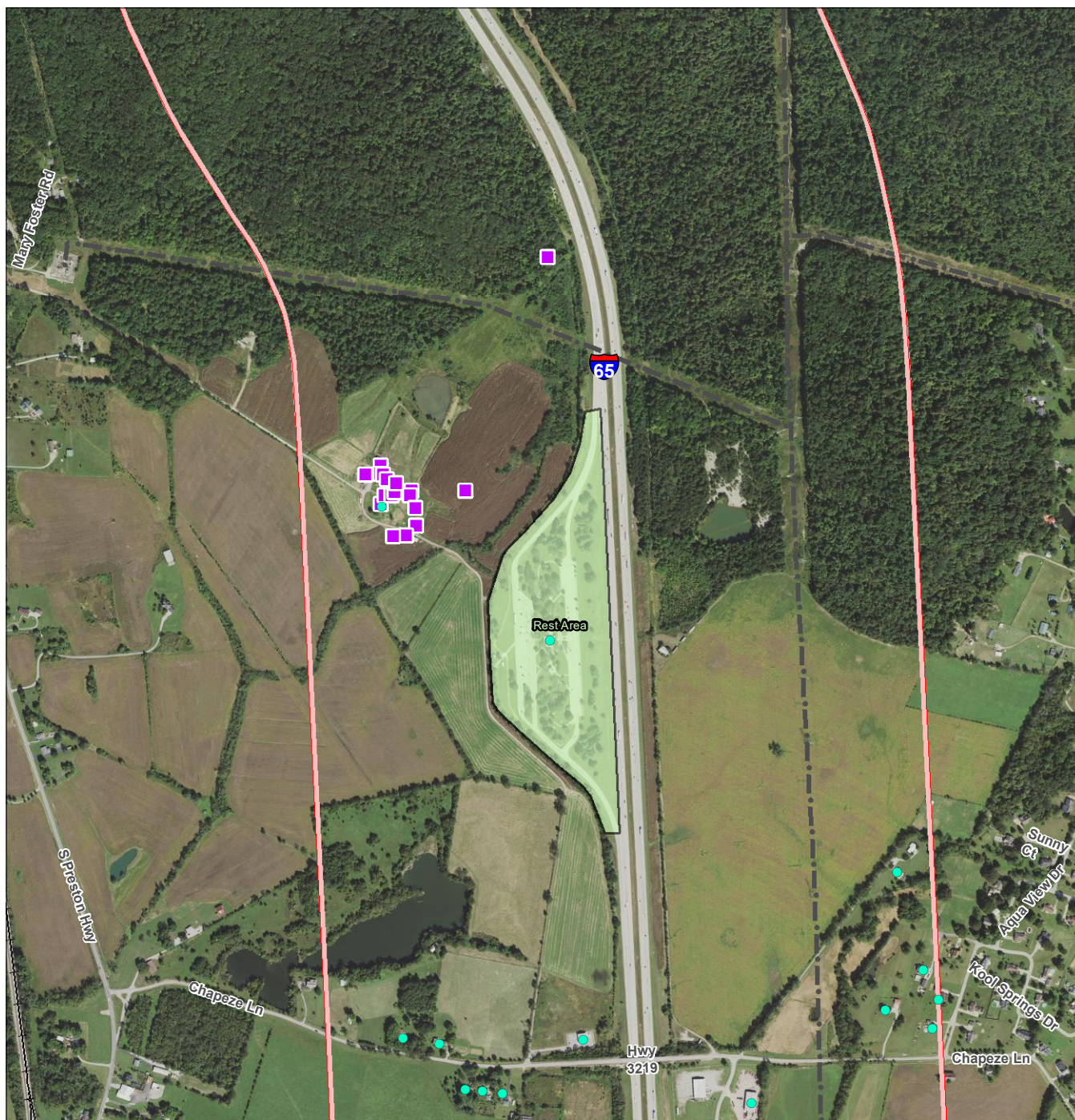
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Client/Project
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| Dry and Abandoned | |
| Domestic Use | |

Figure No.
3

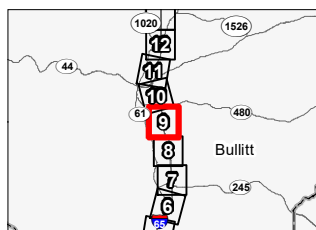
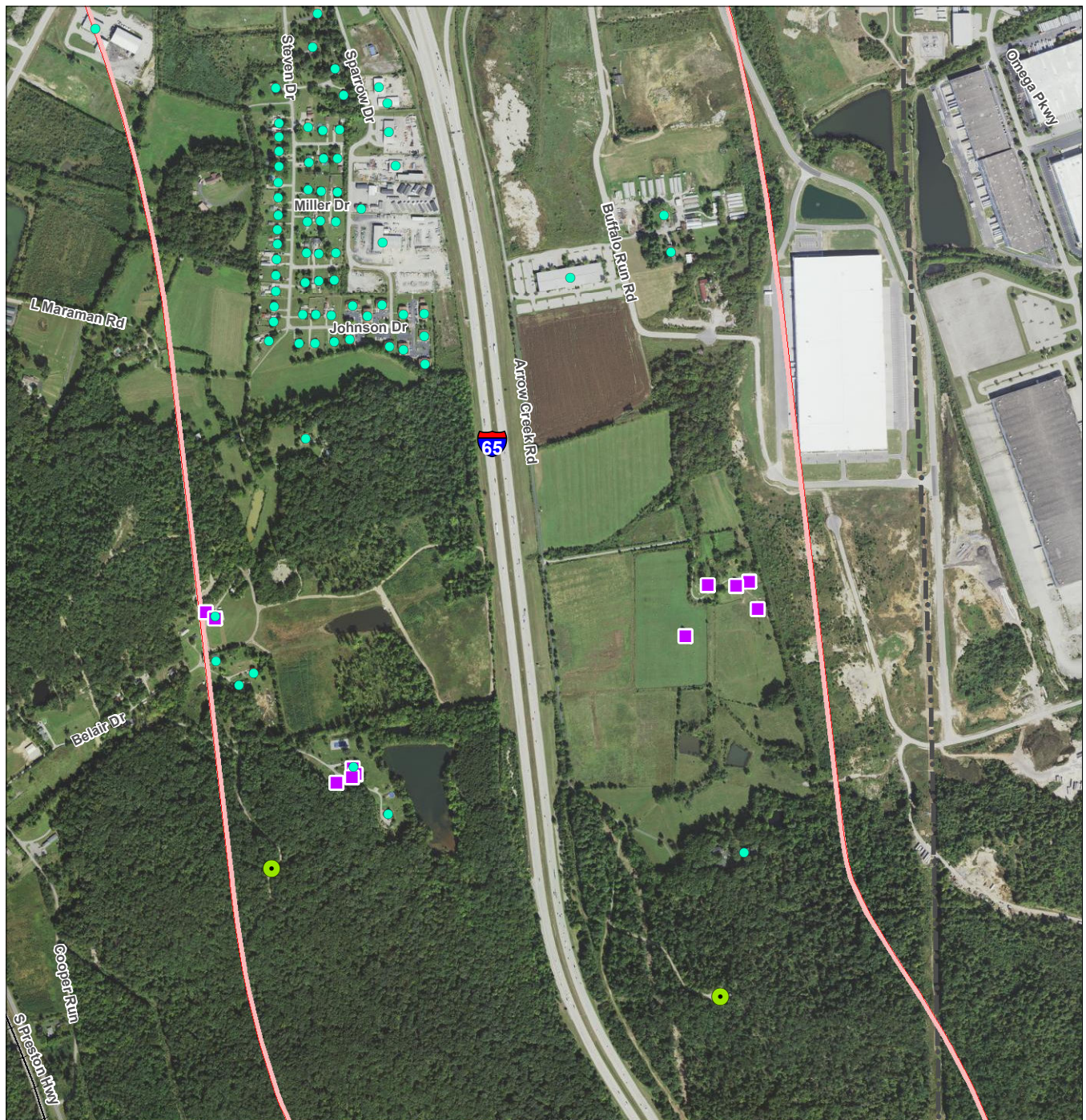
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Legend

- Study Area
- ▲ Hazmat Record
- UST Location
- Noise Sensitive Receptor
- Municipal Building
- Existing Water Tower
- Existing Cell Tower
- Existing Substation
- + Oil/Gas Well
 - + Dry and Abandoned
 - + Domestic Use
- Existing Transmission Line
- Existing Pipeline
- Existing Railway
- + Cemetery
- Previously Recorded Historic Resource
- NRHP Historic District
- Managed Land
- Public Use Land

Figure No.
3

Environmental Footprint: Human Environment

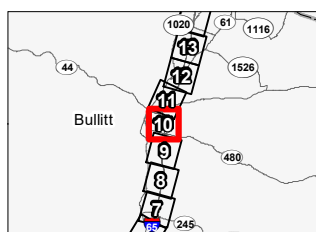
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- | | |
|--------------------------|---------------------------------------|
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| Oil/Gas Well | |
| Dry and Abandoned | |
| Domestic Use | |

Figure No.
3

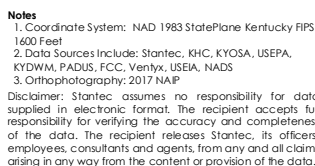
Environmental Footprint: Human Environment

Client/Project
 KYTC-DEA, KYTC District 5
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 I-65 Conceptual Improvements Study
 KY 61 / I-265, KYTC Item No. 5-550.00

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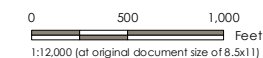


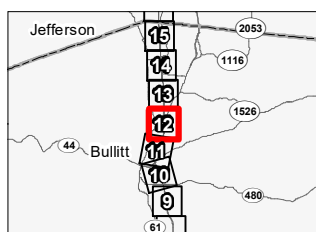
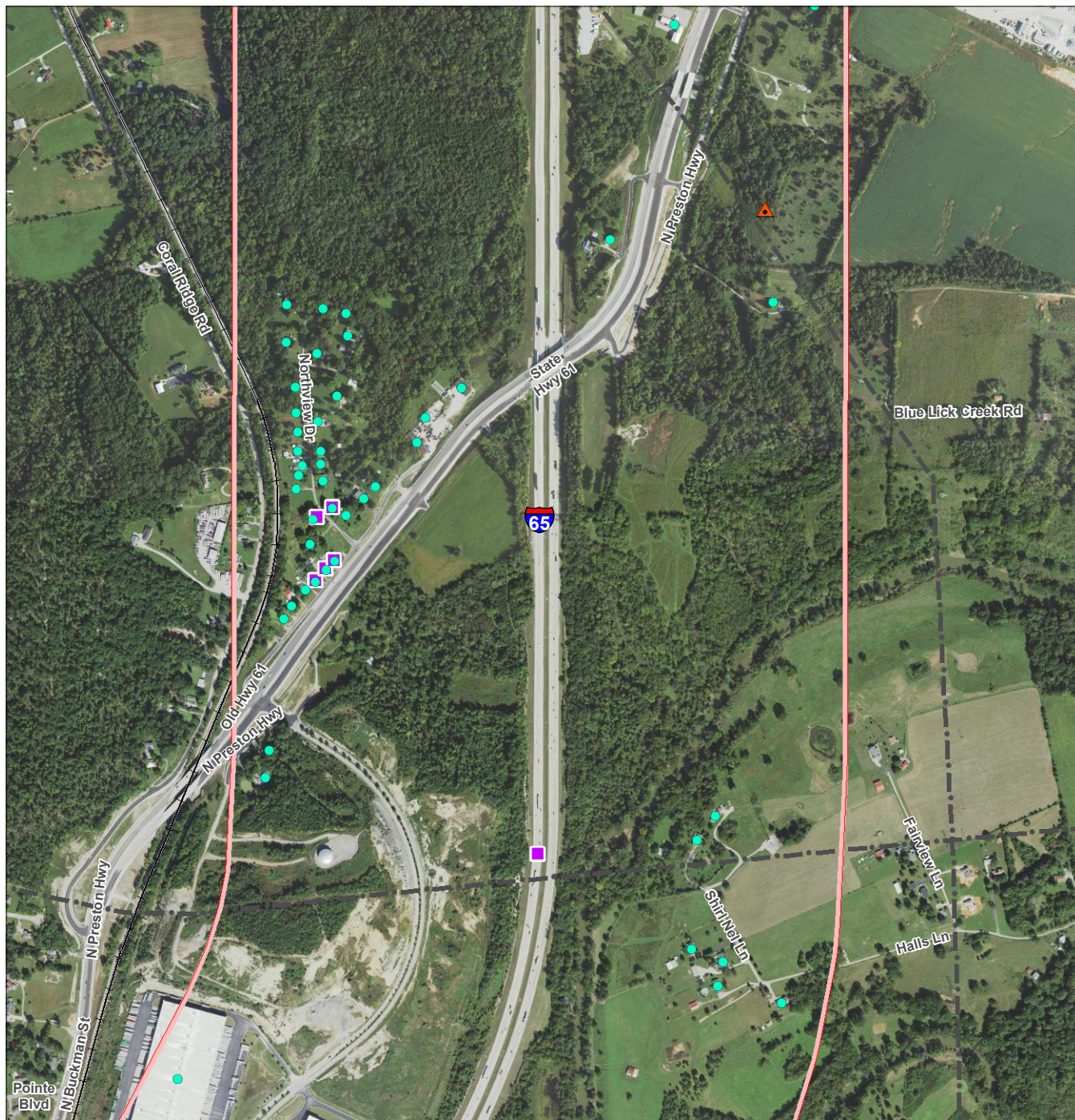
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	Hazmat Record		Existing Pipeline
	UST Location		Existing Railway
	Noise Sensitive Receptor		Cemetery
	Municipal Building		Previously Recorded Historic Resource
	Existing Water Tower		NRHP Historic District
	Existing Cell Tower		Managed Land
	Existing Substation		Public Use Land
Oil/Gas Well			
	Dry and Abandoned		
	Domestic Use		

Environmental Footprint: Human Environment

Client/Project
KYTC-DEA, KYTC District 5
Environmental Red Flag Summary
I-65 Conceptual Improvements Study
KY 61 / I-265, KYTC Item No. 5-550.00

Project Location	178558003
Jefferson and Bullitt Counties, Kentucky	Prepared by JLH on 2019-05-06 Technical Review by XXX on 2019-XX-XX Independent Review by XXX on 2019-XX-XX





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Legend

- Study Area
- ▲ Hazmat Record
- UST Location
- Noise Sensitive Receptor
- Municipal Building
- Existing Water Tower
- Existing Cell Tower
- Existing Substation
- + Oil/Gas Well
- + Dry and Abandoned
- + Domestic Use
- Existing Transmission Line
- Existing Pipeline
- Existing Railway
- + Cemetery
- Previously Recorded Historic Resource
- NRHP Historic District
- Managed Land
- Public Use Land

Figure No.
3

Environmental Footprint: Human Environment

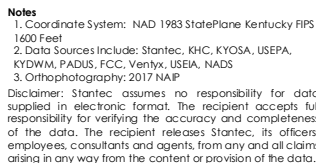
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 KY 61 / I-265, KYTC Item No. 5-550.00

Project Location
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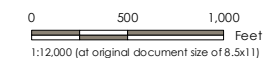


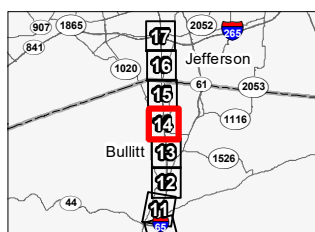
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	Hazmat Record		Existing Pipeline
	UST Location		Existing Railway
	Noise Sensitive Receptor		Cemetery
	Municipal Building		Previously Recorded Historic Resource
	Existing Water Tower		NRHP Historic District
	Existing Cell Tower		Managed Land
	Existing Substation		Public Use Land
Oil/Gas Well			
	Dry and Abandoned		
	Domestic Use		

Title
**Environmental Footprint:
Human Environment**

Client/Project
KYTC-DEA, KYTC District 5
Environmental Red Flag Summary
I-65 Conceptual Improvements Study
KY 61 / I-265, KYTC Item No. 5-550.00

Project Location	178558003
Jefferson and Bullitt	Prepared by JLH on 2019-05-06
Counties, Kentucky	Technical Review by XXX on 2019-XX-XX
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 Study Area

-  Hazmat Record
-  UST Location
-  Noise Sensitive Receptor
-  Municipal Building
-  Existing Water Tower
-  Existing Cell Tower
-  Existing Substation

Oil/Gas Well

-  Dry and Abandoned
 Domestic Use





-  Existing Transmission Line
-  Existing Pipeline
-  Existing Railway
-  Cemetery
-  Previously Recorded Historic Resource
-  NRHP Historic District
-  Managed Land
-  Public Use Land

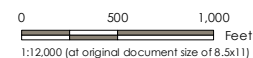
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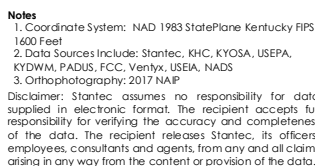
Title

Environmental Footprint: Human Environment

Client/Project
KYTC-DEA, KYTC District 5
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I-65 Conceptual Improvements Study
KY 61 / I-265, KYTC Item No. 5-550.00

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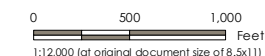


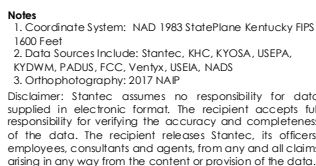
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	Hazmat Record		Existing Pipeline
	UST Location		Existing Railway
	Noise Sensitive Receptor		Cemetery
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Oil/Gas Well			
	Dry and Abandoned		
	Domestic Use		

Environmental Footprint: Human Environment

Client/Project
KYTC-DEA, KYTC District 5
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I-65 Conceptual Improvements Study
KY 61 / I-265, KYTC Item No. 5-550.00

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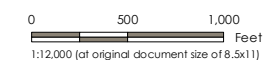


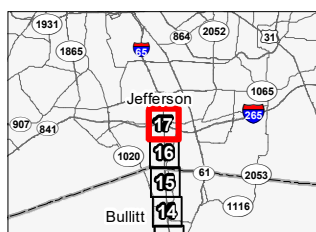
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	Dry and Abandoned		
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Environmental Footprint: Human Environment

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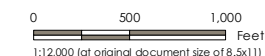
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- Figure No. **2**

Title
**Environmental Footprint:
Human Environment**

Client/Project
KYTC-DEA, KYTC District 5
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I-65 Conceptual Improvements Study
KY 61 / I-265, KYTC Item No. 5-550.00

Project Location 178558003
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ATTACHMENTS

1. Threatened and Endangered Species
2. Karst
3. National Park Service LWCF (Section 6(f)) Resources
4. Air Quality - Transportation Related Pollutants
5. Environmental Justice
6. Cultural-Historic Resources

ATTACHMENT 1

THREATENED AND ENDANGERED SPECIES

- USFWS I-65 IPaC Trust Resource Report
- USFWS Maps of Known Indiana and Northern Long-eared Bat Habitat
- KDFWR State-Listed Species, Bullitt and Jefferson Counties
- KSNPC Natural Heritage Database Response (redacted)

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Project information

NAME

I-65 Conceptual Improvements Study

LOCATION

Bullitt and Jefferson counties, Kentucky




DESCRIPTION

Improve safety, reduce congestion, and provide better connectivity along I-65 from Preston Highway in Lebanon Junction to the Gene Snyder Freeway in Louisville.

Local office

Kentucky Ecological Services Field Office

☎ (502) 695-0468

 (502) 695-1024

J C Watts Federal Building, Room 265
330 West Broadway
Frankfort, KY 40601-8670

<http://www.fws.gov/frankfort/>

NOT FOR CONSULTATION

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population, even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Log in to IPaC.
2. Go to your My Projects list.
3. Click PROJECT HOME for this project.
4. Click REQUEST SPECIES LIST.

Listed species¹ and their critical habitats are managed by the [Ecological Services Program](#) of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries²).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact [NOAA Fisheries](#) for [species under their jurisdiction](#).

1. Species listed under the [Endangered Species Act](#) are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the [listing status page](#) for more information.
2. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME

STATUS

Gray Bat *Myotis grisescens* Endangered

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/6329>

Indiana Bat *Myotis sodalis* Endangered

This species only needs to be considered if any of the following conditions apply:

- All activities in this location should consider possible effects to this species. The project area includes known "summer 1" habitat.
- All activities in this location should consider possible effects to this species. The project area includes "potential" habitat.

There is **final** critical habitat for this species. Your location is outside the critical habitat.

<https://ecos.fws.gov/ecp/species/5949>

Northern Long-eared Bat *Myotis septentrionalis* Threatened

This species only needs to be considered if the following condition applies:

- The specified area includes areas in which incidental take would not be prohibited under the 4(d) rule. For reporting purposes, please use the "streamlined consultation form," linked to in the "general project design guidelines" for the species.

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/9045>

Clams

NAME	STATUS
Fanshell <i>Cyprogenia stegaria</i> No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/4822	Endangered
Orangefoot Pimpleback (pearlymussel) <i>Plethobasus cooperianus</i> No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/1132	Endangered
Pink Mucket (pearlymussel) <i>Lampsilis abrupta</i> No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/7829	Endangered
Rabbitsfoot <i>Quadrula cylindrica cylindrica</i> There is final critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/5165	Threatened

Sheepnose Mussel *Plethobasus cyphus*

Endangered

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/6903>

Flowering Plants

NAME

STATUS

Kentucky Glade Cress *Leavenworthia exigua laciniata*

Threatened

There is **final** critical habitat for this species. Your location is outside the critical habitat.<https://ecos.fws.gov/ecp/species/698>Running Buffalo Clover *Trifolium stoloniferum*

Endangered

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/2529>

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

1. The [Migratory Birds Treaty Act](#) of 1918.
2. The [Bald and Golden Eagle Protection Act](#) of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern <http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php>
- Measures for avoiding and minimizing impacts to birds <http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php>
- Nationwide conservation measures for birds <http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf>

The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern](#) (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the [FAQ below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)
Bald Eagle <i>Haliaeetus leucocephalus</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Sep 1 to Jul 31
Blue-winged Warbler <i>Vermivora pinus</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds May 1 to Jun 30
Eastern Whip-poor-will <i>Antrostomus vociferus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Aug 20

Golden Eagle *Aquila chrysaetos*

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.

<https://ecos.fws.gov/ecp/species/1680>

Breeds elsewhere

Henslow's Sparrow *Ammodramus henslowii*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/3941>

Breeds May 1 to Aug 31

Kentucky Warbler *Oporornis formosus*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds Apr 20 to Aug 20

Lesser Yellowlegs *Tringa flavipes*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9679>

Breeds elsewhere

Prairie Warbler *Dendroica discolor*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds May 1 to Jul 31

Red-headed Woodpecker *Melanerpes erythrocephalus*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds May 10 to Sep 10

Rusty Blackbird *Euphagus carolinus*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds elsewhere

Wood Thrush *Hylocichla mustelina*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds May 10 to Aug 31

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ “Proper Interpretation and Use of Your Migratory Bird Report” before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is $0.25/0.25 = 1$; at week 20 it is $0.05/0.25 = 0.2$.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

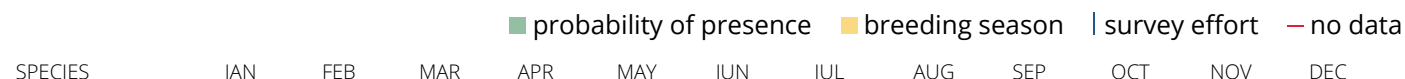
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (—)

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



Bald Eagle Non-BCC Vulnerable (This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.)													
Blue-winged Warbler BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)													
Eastern Whip-poor-will BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)													
Golden Eagle Non-BCC Vulnerable (This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.)													
Henslow's Sparrow BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)													
Kentucky Warbler BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)													



Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) and/or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project

intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [AKN Phenology Tool](#).

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: [The Cornell Lab of Ornithology All About Birds Bird Guide](#), or (if you are unsuccessful in locating the bird of interest there), the [Cornell Lab of Ornithology Neotropical Birds guide](#). If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

FRESHWATER EMERGENT WETLAND

[PEM1Fh](#)

[PEM1C](#)

[PEM1Cx](#)

FRESHWATER FORESTED/SHRUB WETLAND

[PSS1F](#)

[PFO1A](#)

[PSS1Ch](#)

FRESHWATER POND

[PUBHh](#)

[PUBHx](#)

[PUBH](#)

[PUBGx](#)

[PUSCx](#)

[PAB3Hh](#)

[PUSC](#)

[PUBFx](#)

[PUBF](#)

[PAB4F](#)

[PUBFh](#)

LAKE

[L1UBHh](#)

RIVERINE

[R2UBH](#)

[R5UBH](#)

[R4SBC](#)

[R5UBFx](#)

A full description for each wetland code can be found at the [National Wetlands Inventory website](#)

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error

is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted.

Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

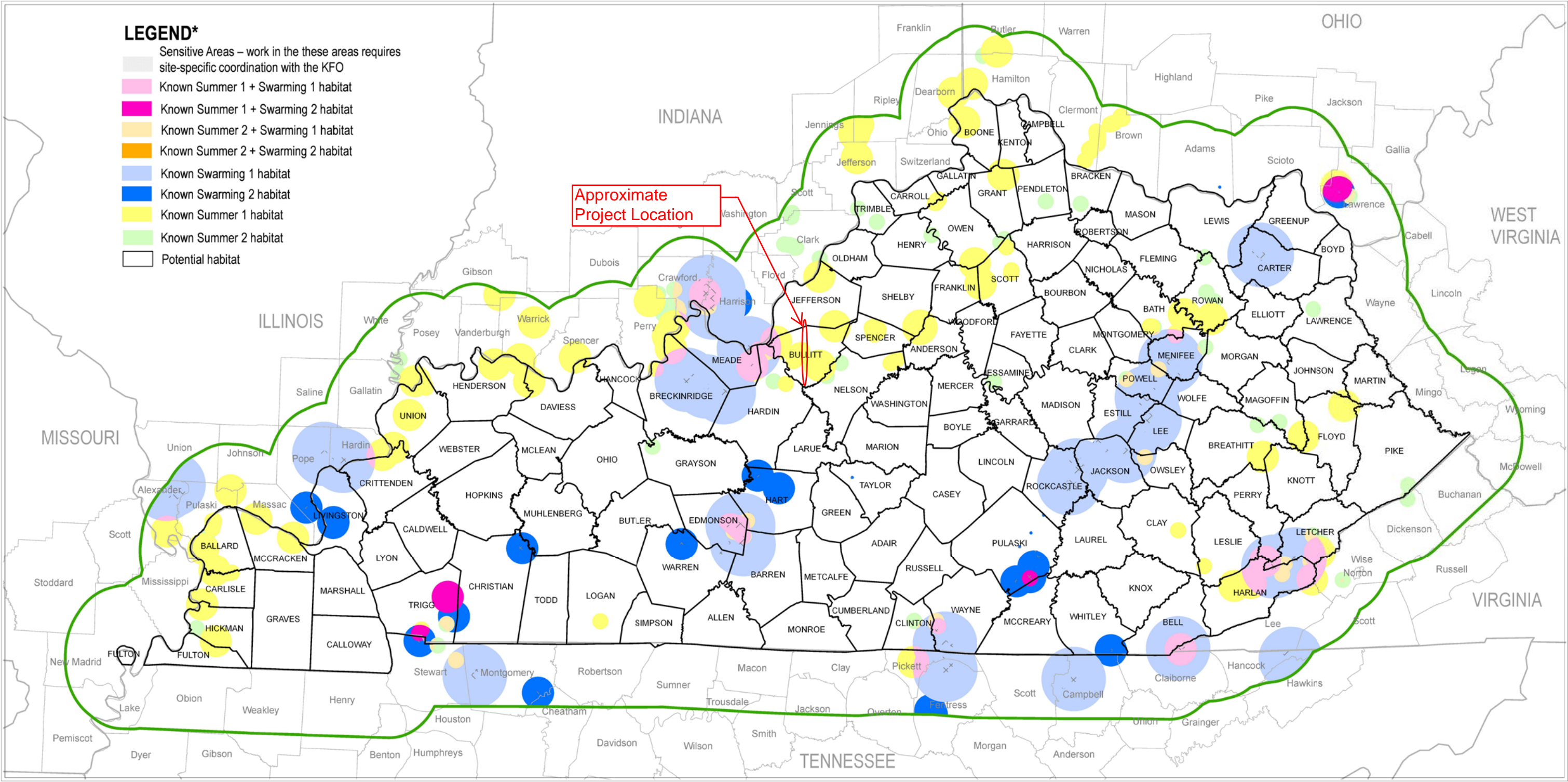
Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

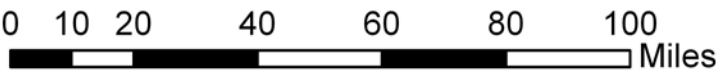


Known Indiana bat habitat in Kentucky and within 20 miles (January 2018)



NOTE: This map is based on species occurrence information and is subject to change as new data become available. Please contact our office at 502/695-0468 to ensure you are working with the most current version.

*For an explanation of terms, please see the Conservation Strategy for Forest-Dwelling Bats in the Commonwealth of Kentucky.

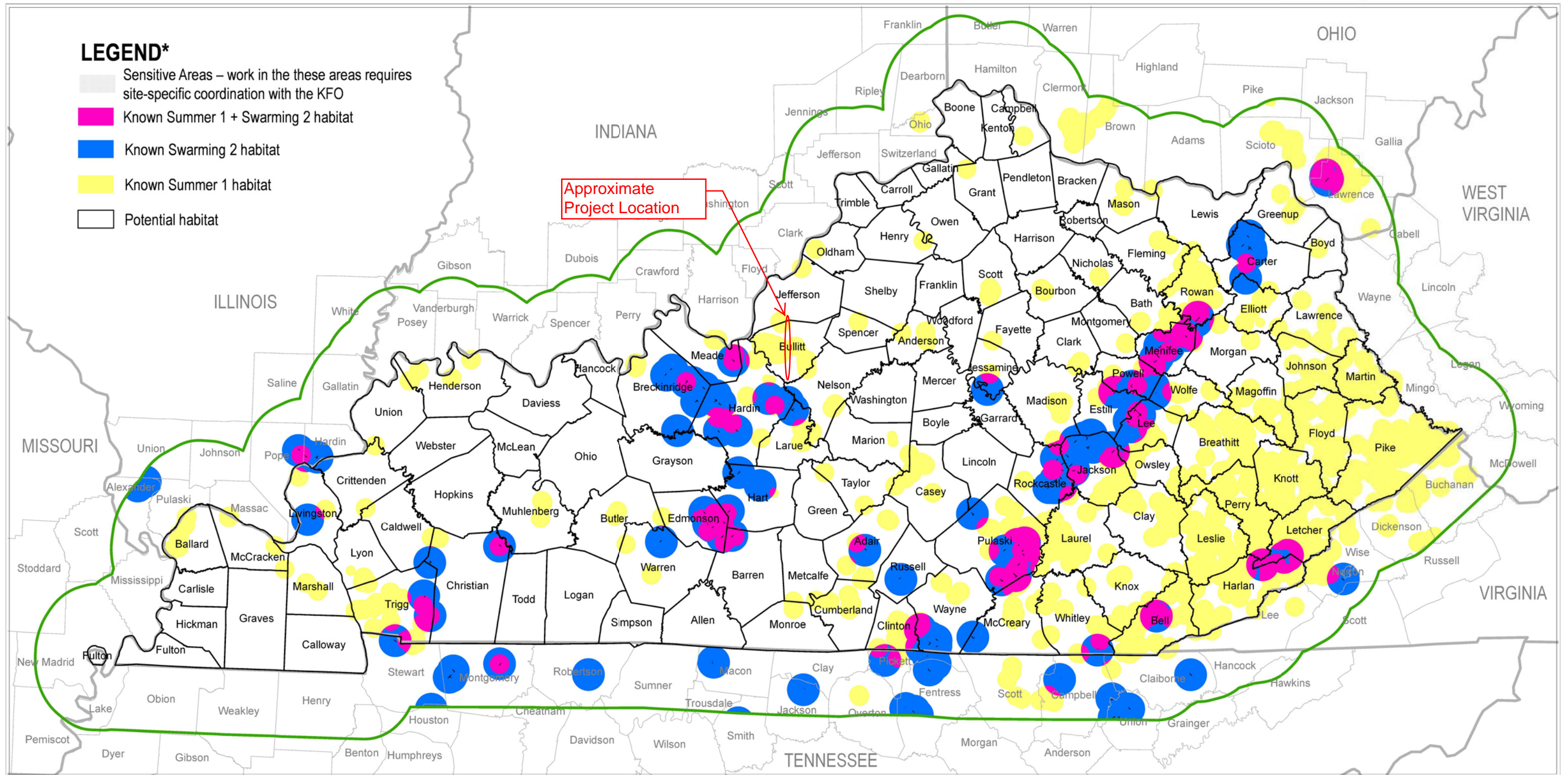


The USFWS makes no warranty for use of this map and cannot be held liable for actions or decisions based on map content. This map was produced as an appendix to the Conservation Strategy for Forest-Dwelling Bats in the Commonwealth of Kentucky and should only be used in the context of this Strategy.

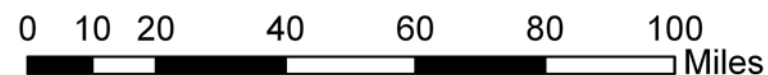




Known northern long-eared bat habitat in Kentucky and within 20 miles (January 2018)



NOTE: This map is based on species occurrence information and is subject to change as new data become available. Please contact our office at 502/695-0468 to ensure you are working with the most current version.
*For an explanation of terms, please see the Conservation Strategy for Forest-Dwelling Bats in the Commonwealth of Kentucky.



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Species Information

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

Linked life history provided courtesy of NatureServe Explorer .
Records may include both recent and historical observations.
[US Status Definitions](#) [Kentucky Status Definitions](#)

List State Threatened, Endangered, and Special Concern Species observations in 1 selected county.
Selected county is: Bullitt.

Scientific Name and Life History	Common Name and Pictures	Class	County	US Status	KY Status	WAP	Reference
<i>Accipiter striatus</i>	Sharp-shinned Hawk	Aves	Bullitt	N	S	Yes	Reference
<i>Ammodramus henslowii</i>	Henslow's Sparrow	Aves	Bullitt	N	S	Yes	Reference
<i>Anas clypeata</i>	Northern Shoveler	Aves	Bullitt	N	E		Reference
<i>Anas discors</i>	Blue-winged Teal	Aves	Bullitt	N	T		Reference
<i>Asio flammeus</i>	Short-eared Owl	Aves	Bullitt	N	E	Yes	Reference
<i>Certhia americana</i>	Brown Creeper	Aves	Bullitt	N	E	Yes	Reference
<i>Chondestes grammacus</i>	Lark Sparrow	Aves	Bullitt	N	T	Yes	Reference
<i>Circus cyaneus</i>	Northern Harrier	Aves	Bullitt	N	T	Yes	Reference
<i>Empidonax minimus</i>	Least Flycatcher	Aves	Bullitt	N	E	Yes	Reference
<i>Fulica americana</i>	American Coot	Aves	Bullitt	N	E		Reference
<i>Haliaeetus leucocephalus</i>	Bald Eagle	Aves	Bullitt	N	T	Yes	Reference
<i>Ictiobus niger</i>	Black Buffalo	Actinopterygii	Bullitt	N	S	Yes	Reference
<i>Junco hyemalis</i>	Dark-eyed Junco	Aves	Bullitt	N	S		Reference
<i>Lampsilis ovata</i>	Pocketbook	Bivalvia	Bullitt	N	E	Yes	Reference

<i>Lophodytes cucullatus</i>	Hooded Merganser	Aves	Bullitt	N	T	Yes	Reference
<i>Myotis austroriparius</i>	Southeastern Myotis	Mammalia	Bullitt	N	E	Yes	Reference
<i>Myotis grisescens</i>	Gray Myotis	Mammalia	Bullitt	E	T	Yes	Reference
<i>Myotis septentrionalis</i>	Northern Myotis	Mammalia	Bullitt	T	E		Reference
<i>Myotis sodalis</i>	Indiana Bat	Mammalia	Bullitt	E	E	Yes	Reference
<i>Noturus stigmosus</i>	Northern Madtom	Actinopterygii	Bullitt	N	S	Yes	Reference
<i>Nyctanassa violacea</i>	Yellow-crowned Night-heron	Aves	Bullitt	N	T	Yes	Reference
<i>Nycticeius humeralis</i>	Evening Bat	Mammalia	Bullitt	N	S	Yes	Reference
<i>Obovaria retusa</i>	Ring Pink	Bivalvia	Bullitt	E	E	Yes	Reference
<i>Orconectes jeffersoni</i>	Louisville Crayfish	Malacostraca	Bullitt	N	E	Yes	Reference
<i>Pandion haliaetus</i>	Osprey	Aves	Bullitt	N	S	Yes	Reference
<i>Passerculus sandwichensis</i>	Savannah Sparrow	Aves	Bullitt	N	S	Yes	Reference
<i>Phalacrocorax auritus</i>	Double-crested Cormorant	Aves	Bullitt	N	T		Reference
<i>Plethobasus cooperianus</i>	Orangefoot Pimpleback	Bivalvia	Bullitt	E	E	Yes	Reference
<i>Pleurobema clava</i>	Clubshell	Bivalvia	Bullitt	E	E	Yes	Reference
<i>Pleurobema rubrum</i>	Pyramid Pigtoe	Bivalvia	Bullitt	N	E	Yes	Reference
<i>Podilymbus podiceps</i>	Pied-billed Grebe	Aves	Bullitt	N	E	Yes	Reference
<i>Pooecetes gramineus</i>	Vesper Sparrow	Aves	Bullitt	N	E	Yes	Reference
<i>Sitta canadensis</i>	Red-breasted Nuthatch	Aves	Bullitt	N	E	Yes	Reference
<i>Toxolasma lividum</i>	Purple Lilliput	Bivalvia	Bullitt	N	E	Yes	Reference
<i>Tyto alba</i>	Barn Owl	Aves	Bullitt	N	S	Yes	Reference
<i>Ursus americanus</i>	American Black Bear	Mammalia	Bullitt	N	S	Yes	Reference

<i>Villosa lienosa</i>	Little Spectaclecase	Bivalvia	Bullitt	N	S	Yes	Reference
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37 species are listed



Species Information

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

Linked life history provided courtesy of NatureServe Explorer .

Records may include both recent and historical observations.

[US Status Definitions](#) [Kentucky Status Definitions](#)

List State Threatened, Endangered, and Special Concern Species observations in 1 selected county.

Selected county is: Jefferson.

Scientific Name and Life History	Common Name and Pictures	Class	County	US Status	KY Status	WAP	Reference
<i>Accipiter striatus</i>	Sharp-shinned Hawk	Aves	Jefferson	N	S	Yes	Reference
<i>Acipenser fulvescens</i>	Lake Sturgeon	Actinopterygii	Jefferson	N	E	Yes	Reference
<i>Actitis macularius</i>	Spotted Sandpiper	Aves	Jefferson	N	E	Yes	Reference
<i>Alasmidonta marginata</i>	Elktoe	Bivalvia	Jefferson	N	T	Yes	Reference
<i>Alosa alabamae</i>	Alabama Shad	Actinopterygii	Jefferson	N	E	Yes	Reference
<i>Ammodramus henslowii</i>	Henslow's Sparrow	Aves	Jefferson	N	S	Yes	Reference
<i>Anas clypeata</i>	Northern Shoveler	Aves	Jefferson	N	E		Reference
<i>Anas discors</i>	Blue-winged Teal	Aves	Jefferson	N	T		Reference
<i>Apalone mutica mutica</i>	Midland Smooth Softshell	Reptilia	Jefferson	N	S	Yes	Reference
<i>Ardea alba</i>	Great Egret	Aves	Jefferson	N	T	Yes	Reference
<i>Asio flammeus</i>	Short-eared Owl	Aves	Jefferson	N	E	Yes	Reference
<i>Asio otus</i>	Long-eared Owl	Aves	Jefferson	N	E	Yes	Reference
<i>Atractosteus spatula</i>	Alligator Gar	Actinopterygii	Jefferson	N	E	Yes	Reference

<i>Bartramia longicauda</i>	Upland Sandpiper	Aves	Jefferson	N	H	Yes	Reference
<i>Botaurus lentiginosus</i>	American Bittern	Aves	Jefferson	N	H	Yes	Reference
<i>Bubulcus ibis</i>	Cattle Egret	Aves	Jefferson	N	S		Reference
<i>Cardellina canadensis</i>	Canada Warbler	Aves	Jefferson	N	S	Yes	Reference
<i>Certhia americana</i>	Brown Creeper	Aves	Jefferson	N	E	Yes	Reference
<i>Chondestes grammacus</i>	Lark Sparrow	Aves	Jefferson	N	T	Yes	Reference
<i>Circus cyaneus</i>	Northern Harrier	Aves	Jefferson	N	T	Yes	Reference
<i>Cistothorus platensis</i>	Sedge Wren	Aves	Jefferson	N	S	Yes	Reference
<i>Clonophis kirtlandii</i>	Kirtland's Snake	Reptilia	Jefferson	N	T	Yes	Reference
<i>Cryptobranchus alleganiensis alleganiensis</i>	Eastern Hellbender	Amphibia	Jefferson	N	E	Yes	Reference
<i>Cumberlandia monodonta</i>	Spectaclecase	Bivalvia	Jefferson	E	E	Yes	Reference
<i>Cyprogenia stegaria</i>	Fanshell	Bivalvia	Jefferson	E	E	Yes	Reference
<i>Dolichonyx oryzivorus</i>	Bobolink	Aves	Jefferson	N	S	Yes	Reference
<i>Egretta caerulea</i>	Little Blue Heron	Aves	Jefferson	N	E	Yes	Reference
<i>Egretta thula</i>	Snowy Egret	Aves	Jefferson	N	E		Reference
<i>Empidonax minimus</i>	Least Flycatcher	Aves	Jefferson	N	E	Yes	Reference
<i>Epioblasma triquetra</i>	Snuffbox	Bivalvia	Jefferson	E	E	Yes	Reference
<i>Falco peregrinus</i>	Peregrine Falcon	Aves	Jefferson	N	E	Yes	Reference
<i>Fulica americana</i>	American Coot	Aves	Jefferson	N	E		Reference
<i>Gammarus bousfieldi</i>	Bousfield's Amphipod	Malacostraca	Jefferson	N	E	Yes	Reference
<i>Haliaeetus leucocephalus</i>	Bald Eagle	Aves	Jefferson	N	T	Yes	Reference
<i>Ictinia mississippiensis</i>	Mississippi Kite	Aves	Jefferson	N	S	Yes	Reference
<i>Ictiobus niger</i>	Black Buffalo	Actinopterygii	Jefferson	N	S	Yes	Reference

<i>Ixobrychus exilis</i>	Least Bittern	Aves	Jefferson	N	T	Yes	Reference
<i>Junco hyemalis</i>	Dark-eyed Junco	Aves	Jefferson	N	S		Reference
<i>Lampsilis abrupta</i>	Pink Mucket	Bivalvia	Jefferson	E	E	Yes	Reference
<i>Lampsilis ovata</i>	Pocketbook	Bivalvia	Jefferson	N	E	Yes	Reference
<i>Leptoxis praerosa</i>	Onyx Rocksnail	Gastropoda	Jefferson	N	S		Reference
<i>Lithasia verrucosa</i>	Varicose Rocksnail	Gastropoda	Jefferson	N	S		Reference
<i>Lophodytes cucullatus</i>	Hooded Merganser	Aves	Jefferson	N	T	Yes	Reference
<i>Lota lota</i>	Burbot	Actinopterygii	Jefferson	N	S	Yes	Reference
<i>Mustela nivalis</i>	Least Weasel	Mammalia	Jefferson	N	S		Reference
<i>Myotis grisescens</i>	Gray Myotis	Mammalia	Jefferson	E	T	Yes	Reference
<i>Myotis septentrionalis</i>	Northern Myotis	Mammalia	Jefferson	T	E		Reference
<i>Myotis sodalis</i>	Indiana Bat	Mammalia	Jefferson	E	E	Yes	Reference
<i>Notropis hudsonius</i>	Spottail Shiner	Actinopterygii	Jefferson	N	S		Reference
<i>Noturus stigmosus</i>	Northern Madtom	Actinopterygii	Jefferson	N	S	Yes	Reference
<i>Nyctanassa violacea</i>	Yellow-crowned Night-heron	Aves	Jefferson	N	T	Yes	Reference
<i>Nycticeius humeralis</i>	Evening Bat	Mammalia	Jefferson	N	S	Yes	Reference
<i>Nycticorax nycticorax</i>	Black-crowned Night-heron	Aves	Jefferson	N	T	Yes	Reference
<i>Obovaria retusa</i>	Ring Pink	Bivalvia	Jefferson	E	E	Yes	Reference
<i>Ophisaurus attenuatus longicaudus</i>	Eastern Slender Glass Lizard	Reptilia	Jefferson	N	T	Yes	Reference
<i>Orconectes jeffersoni</i>	Louisville Crayfish	Malacostraca	Jefferson	N	E	Yes	Reference
<i>Pandion haliaetus</i>	Osprey	Aves	Jefferson	N	S	Yes	Reference
<i>Passerculus sandwichensis</i>	Savannah Sparrow	Aves	Jefferson	N	S	Yes	Reference

<i>Percopsis omiscomaycus</i>	Trout-Perch	Actinopterygii	Jefferson	N	S		Reference
<i>Peucaea aestivalis</i>	Bachman's Sparrow	Aves	Jefferson	N	E	Yes	Reference
<i>Phalacrocorax auritus</i>	Double-crested Cormorant	Aves	Jefferson	N	T		Reference
<i>Pheucticus ludovicianus</i>	Rose-breasted Grosbeak	Aves	Jefferson	N	S	Yes	Reference
<i>Plethobasus cooperianus</i>	Orangefoot Pimpleback	Bivalvia	Jefferson	E	E	Yes	Reference
<i>Plethobasus cyphus</i>	Sheepnose	Bivalvia	Jefferson	E	E	Yes	Reference
<i>Pleurobema clava</i>	Clubshell	Bivalvia	Jefferson	E	E	Yes	Reference
<i>Pleurobema rubrum</i>	Pyramid Pigtoe	Bivalvia	Jefferson	N	E	Yes	Reference
<i>Podilymbus podiceps</i>	Pied-billed Grebe	Aves	Jefferson	N	E	Yes	Reference
<i>Poocetes gramineus</i>	Vesper Sparrow	Aves	Jefferson	N	E	Yes	Reference
<i>Potamilus capax</i>	Fat Pocketbook	Bivalvia	Jefferson	E	E	Yes	Reference
<i>Pseudanophthalmus troglodytes</i>	Louisville Cave Beetle	Insecta	Jefferson	C	T		Reference
<i>Quadrula cylindrica cylindrica</i>	Rabbitsfoot	Bivalvia	Jefferson	T	T	Yes	Reference
<i>Rallus elegans</i>	King Rail	Aves	Jefferson	N	E	Yes	Reference
<i>Riparia riparia</i>	Bank Swallow	Aves	Jefferson	N	S	Yes	Reference
<i>Satyrium favonius ontario</i>	Northern Hairstreak	Insecta	Jefferson	N	S		Reference
<i>Setophaga fusca</i>	Blackburnian Warbler	Aves	Jefferson	N	T	Yes	Reference
<i>Simpsonaias ambigua</i>	Salamander Mussel	Bivalvia	Jefferson	N	T	Yes	Reference
<i>Sitta canadensis</i>	Red-breasted Nuthatch	Aves	Jefferson	N	E	Yes	Reference
<i>Speyeria idalia</i>	Regal Fritillary	Insecta	Jefferson	N	H		Reference

<i>Sternula antillarum athalassos</i>	Interior Least Tern	Aves	Jefferson	E	E	Yes	Reference
<i>Thryomanes bewickii</i>	Bewick's Wren	Aves	Jefferson	N	S	Yes	Reference
<i>Tyto alba</i>	Barn Owl	Aves	Jefferson	N	S	Yes	Reference
<i>Vermivora chrysoptera</i>	Golden-winged Warbler	Aves	Jefferson	N	T	Yes	Reference
<i>Villosa lienosa</i>	Little Spectaclecase	Bivalvia	Jefferson	N	S	Yes	Reference
<i>Webbhelix multilineata</i>	Striped Whitelip	Gastropoda	Jefferson	N	T		Reference

84 species are listed



MATTHEW G. BEVIN
GOVERNOR

CHARLES G. SNAVELY
SECRETARY

ENERGY AND ENVIRONMENT CABINET
OFFICE OF KENTUCKY NATURE PRESERVES
300 SOWER BOULEVARD
FRANKFORT, KENTUCKY 40601
(502) 573-2886

ZEB WEESE
EXECUTIVE DIRECTOR

May 10, 2019

Michael deVilliers
Stantec Consulting Services, Inc.
11687 Lebanon Road
Cincinnati, OH 45241

Project:	I-65 Conceptual Improvements Study
Project ID:	19-0106
Project Type:	Standard (*customers will be invoiced), 1 mile buffer (\$120 fee)
Site Acreage:	10,292.64
Site Lat/Lon:	37.963188 / -85.700538
County:	Bullitt; Jefferson
USGS Quad:	BROOKS; LEBANON JUNCTION; SHEPHERDSVILLE
Watershed HUC12:	Bluelick Creek-Floyds Fork; Bullitt Lick Creek-Salt River; Crooked Creek; Headwaters Southern Ditch; Long Lick Creek +

Dear Michael deVilliers,

This letter is in response to your data request for the project referenced above. We have reviewed our Natural Heritage Program Database to determine if any of the endangered, threatened, or special concern plants and animals or exemplary natural communities monitored by the Office of Kentucky Nature Preserves occur within your general project area. Your project does pose a concern at this time, therefore please see the attached reports for more detailed information.

I would like to take this opportunity to remind you of the terms of the data request license, which you agreed upon in order to submit your request. The license agreement states "Data and data products received from the Office of Kentucky Nature Preserves, including any portion thereof, may not be reproduced in any form or by any means without the express written authorization of the Office of Kentucky Nature Preserves." The exact location of plants, animals, and natural communities, if released by the Office of Kentucky Nature Preserves, may not be released in any document or correspondence. These products are provided on a temporary basis for the express project (described above) of the requester, and may not be redistributed, resold or copied without the written permission of the Biological Assessment Branch (300 Sower Blvd - 4th Floor, Frankfort, KY, 40601. Phone: 502-782-7828).

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 plants and animals are still being discovered. For these reasons, the Kentucky Natural Heritage

Project ID: 19-0106

May 10, 2019

Page 2

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. We would greatly appreciate receiving any pertinent information obtained as a result of on-site surveys.

If you have any questions, or if I can be of further assistance, please do not hesitate to contact me.

Sincerely,

Nour Salam

Geoprocessing Specialist

Standard Occurrence Report
KNP monitored species within 1 Miles of Project Area

EO ID	Scientific Name	Common Name	GRank	SRank	SPROT	USESA	STWG	Last Obs Date	Precision	EO Rank	Lat / Lon	Directions	Habitat
3098	<i>Agrimonia gryposepala</i>	Tall Hairy Groovebur	G5	S1S2	T			1959-pre	M	H		Trail 1, Bernheim Forest.	Rich, moist woods, thickets and woodland borders.
16248	<i>Arabidopsis lyrata ssp. lyrata</i>	Lyre-leaf Rockcress	G5	S1S2	E								
1314	<i>Cabomba caroliniana</i>	Carolina Fanwort	G5	S2	T			1940-07-31	M	X		SOUTH PARK LAKE.	Swamps, ponds and quiet streams.
10385	<i>Calephelis muticum</i>	Swamp Metalmark	G3	S1	E			1999-Pre	C	U		Sensitive Element - Contact KSNPC	Wet meadows, marshes and bogs (Opler and Malikul 1992).
10815	<i>Clonophis kirtlandii</i>	Kirtland's Snake	G2	S2	T	SOMC	Y	2000-09-08	S	E		Smith's Dump, Pryor Valley Road, NW of Shepherdsville.	Moist meadows, edges, and open woods; Probably occurred formerly in prairie situations. Spends much of the year underground, using crayfish burrows. Can be found under logs, debris. Many recent records have been made in marginal habitat of suburban and ur
2058	<i>Ixobrychus exilis</i>	Least Bittern	G4G5	S1S2B	T		Y	1967-06-27	C	H		Nelson County.	Tall vegetation in marshes, primarily freshwater, less commonly in coastal brackish marshes and mangrove swamps. Preference for marshes with scattered bushes or other woody growth. Infrequently in marshes
15811	<i>Lanius ludovicianus</i>	Loggerhead Shrike	G4	S3S4B,S4N	S	SOMC	Y	1985	G	NR		SW block of quad	
11111	<i>Leavenworthia exigua var. laciniata</i>	Kentucky Gladecress	G4T1T2	S1S2	E	LT		2004-04-22	S	D		Along west side of SR61, ca 0.20 mi N of Hebron Rd on slope west of small drainage (house address was 4895).	In full sun on flat-bedded outcrops of Silurian limestone or dolomite in shallow soils of glades, rock outcrops, pastures and lawns.
11112	<i>Leavenworthia exigua var. laciniata</i>	Kentucky Gladecress	G4T1T2	S1S2	E	LT		2015-05-01	S	C		Along SR 61, east side at bottom slope of lawn of house number 3120.	In full sun on flat-bedded outcrops of Silurian limestone or dolomite in shallow soils of glades, rock outcrops, pastures and lawns.
14079	<i>Leavenworthia exigua var. laciniata</i>	Kentucky Gladecress	G4T1T2	S1S2	E	LT		2015-05-01	S	D		North of KY 61 west of the I-65 overpass and includes two small cedar glades with	In full sun on flat-bedded outcrops of Silurian limestone or dolomite in shallow soils of glades, rock

Standard Occurrence Report
KNP monitored species within 1 Miles of Project Area

EO ID	Scientific Name	Common Name	GRank	SRank	SPROT	USESA	STWG	Last Obs Date	Precision	EO Rank	Lat / Lon	Directions	Habitat
												approximately 300-350 individuals.	outcrops, pastures and lawns.
14080	<i>Leavenworthia exigua</i> var. <i>laciniata</i>	Kentucky Gladecress	G4T1T2	S1S2	E	LT		2015-05-01	S	D		North of Becnel Lane on the west side of KY 61.	In full sun on flat-bedded outcrops of Silurian limestone or dolomite in shallow soils of glades, rock outcrops, pastures and lawns.
10371	<i>Liatris cylindracea</i>	Slender Blazingstar	G5	S2S3	T			No Date	C	H		Hardin County.	Dry calcareous or siliceous soil, hillside glades, prairie openings.
1208	<i>Lonicera reticulata</i>	Grape Honeysuckle	G5	S2	T			1991-pre	G	H?		Muldraugh's Hill, Hardin Co.	Rocky woods and banks.
8169	<i>Myotis grisescens</i>	Gray Myotis	G4	S2	T	LE	Y	1984-02-13	M	H		Sensitive Element - Contact KSNPC	Primarily use 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. Smaller colonies also occasionally roost under bridge structures.
16273	<i>Myotis sodalis</i>	Indiana Bat	G2	S1S2	E	LE	Y	2016-05-13	G	E		Bernhheim forest, mist net site 591 (no coordinates provided)	Primarily use caves for hibernacula, although they are occasionally found in old mine portals. During summer, colonies are found behind slabs of exfoliating bark of dead trees, often in bottomland or floodplain habitats, but also in upland situations.
8422	<i>Nannothemis bella</i>	Elfin Skimmer	G4G5	S1	E			1948-06-08	C	H		Radcliffe, Hardin County.	Bogs, sometimes calcareous fens with some sedge meadows and marl deposits (Dunkle 2000). Adults are often found near the margin of the pond or bog in small pockets of sunshine. Larvae seem to prefer shallow holes near the edge of the water, and have been
6566	<i>Nicrophorus americanus</i>	American Burying Beetle	G2G3	SX	X	LE		1926-09-13	C	X		LOUISVILLE. AVOCA.	American burying beetles have been found in a variety of habitats, but the preferred habitat may be mature

Standard Occurrence Report
KNP monitored species within 1 Miles of Project Area

EO ID	Scientific Name	Common Name	GRank	SRank	SPROT	USESA	STWG	Last Obs Date	Precision	EO Rank	Lat / Lon	Directions	Habitat
													forests. Carrion availability, especially the appropriate physical size of carrion, in a given area is suspected to be more important than vegetati
5099	<i>Noturus stigmosus</i>	Northern Madtom	G3	S2S3	S	SOMC	Y	1890-07-24	G	H		ROLLING FORK SALT RIVER, 1.25 MI E OF BOOTH.	Large streams and rivers in moderate to swift current over gravel and sand, and sometimes debris or pondweed for cover (Burr and Warren 1986, Etnier and Starnes 1993).
6272	<i>Noturus stigmosus</i>	Northern Madtom	G3	S2S3	S	SOMC	Y	1999-06-08	S	D		ROLLING FORK AT KY 434.	Large streams and rivers in moderate to swift current over gravel and sand, and sometimes debris or pondweed for cover (Burr and Warren 1986, Etnier and Starnes 1993).
9071	<i>Noturus stigmosus</i>	Northern Madtom	G3	S2S3	S	SOMC	Y	2009-08-26	S	C		Salt River at KY 61.	Large streams and rivers in moderate to swift current over gravel and sand, and sometimes debris or pondweed for cover (Burr and Warren 1986, Etnier and Starnes 1993).
10212	<i>Plethobasus cooperianus</i>	Orangefoot Pimpleback	G1	S1	E	LE	Y	1980-09-15	S	X		SALT RIVER AT TOWN OF SALT RIVER AND SHEPERDSVILLE.	Usually found in large rivers in sand and gravel substrates (Ahlstedt 1983, Bogan and Parmalee 1983, Miller, A.C. et al. 1986).
4738	<i>Sagittaria graminea</i>	Grassleaf Arrowhead	G5	S1S2	T			1957-	M	H		Southpark Lake.	Swamps, mud, or shallow water of lakeshores, ponds & sloughs.
4765	<i>Satyrium favonius ontario</i>	Northern Oak Hairstreak	G4G5T4	S2	S			19---05-31	G	NR		NEAR IROQUOIS PARK, LOUISVILLE.	This species is found in woods or edges with evergreen or deciduous oaks (Opler and Malikul 1992). Main habitat requirements are black jack oak (<i>Quercus marilandica</i>) and a nectar source such as farkleberry (<i>Vaccinium arboretum</i>) or dogbane (
7950	<i>Silene regia</i>	Royal Catchfly	G3	S1	E			1982-07-18	C	H		US 62 NEAR SONORA.	Dry woods, barrens and prairies, and on KY roadsides.

Standard Occurrence Report
KNP monitored species within 1 Miles of Project Area

EO ID	Scientific Name	Common Name	GRank	SRank	SPROT	USES A	STWG	Last Obs Date	Precision	EO Rank	Lat / Lon	Directions	Habitat
3566	<i>Speyeria idalia</i>	Regal Fritillary	G3	SX	X	SOMC		1954-07-25	C	X		LOUISVILLE. [Jefferson County]	Tall-grass prairie in midwest, but is found in other open grassy situations elsewhere. Damp meadows or pastures with boggy or marshy areas in the east, but dry mountain pastures are also selected in some areas. It is restricted to the Upper Austral and Tr

Managed Areas within 1 Miles of Project Area

MA ID	Managed Area Name	Unit Type	Owner Name	Managing Institution
236	<i>Bernheim Arboretum & Research Forest</i>	Research Forest	Bernheim Arboretum & Research Forest	Bernheim Arboretum & Research Forest
56	<i>Fort Knox Military Reservation</i>	Military Lands	US Department of the Army	US Department of the Army
94	<i>Jefferson Memorial Forest</i>	Local Park/Preserve	Jefferson County Fiscal Court	Metro Parks
582	<i>Knobs State Forest and Wildlife Management Area</i>	State Forest/WMA	Kentucky Department of Fish and Wildlife Resources & Kentucky Division of Forestry	Kentucky Department for Fish and Wildlife Resources; Kentucky Division of Forestry

Areas of Significant Biodiversity within 1 Miles of Project Area

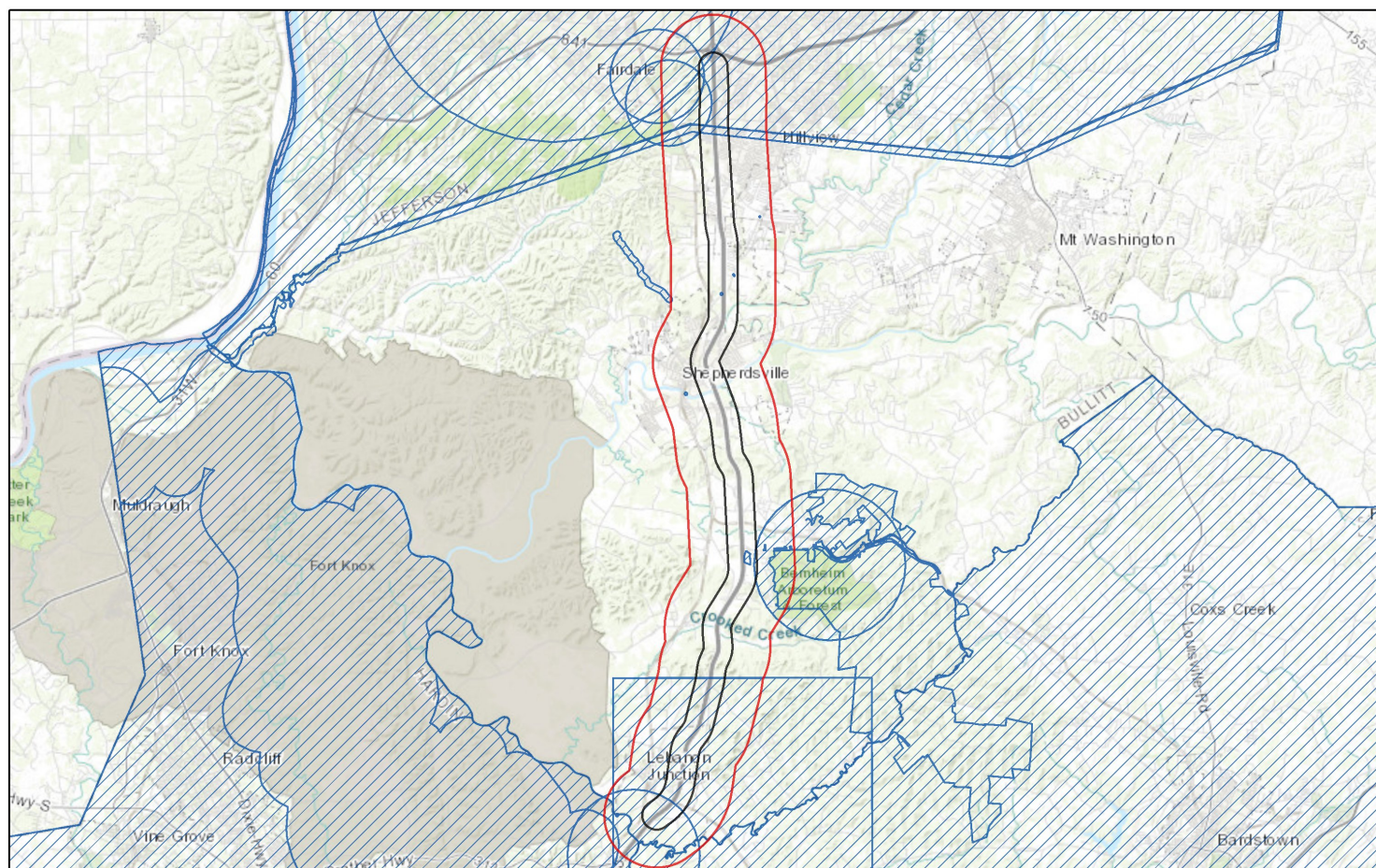
Site ID	Site Name
541	<i>Bernheim Forest Macrosite</i>

Bat Habitats within 1 Miles of Project Area

Habitat	Species	USFWS
<i>SUMMER 1</i>	<i>M. septentrionalis</i>	Contact USFWS at (502) 695-0468 or KentuckyES@fws.gov
<i>Summer 1</i>	<i>M. sodalis</i>	Contact USFWS at (502) 695-0468 or KentuckyES@fws.gov

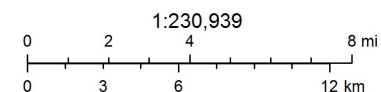
THESE DATA ARE VALID ONLY ON THE DATE ON WHICH THE REPORT WAS GENERATED.
THESE DATA MAY ONLY BE USED FOR THE PROJECT NAMED ABOVE.

I-65 Conceptual Improvements Study



May 10, 2019

- Project Boundary
- Buffered Project Boundary
- Element Occurrences



Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri

ATTACHMENT 2

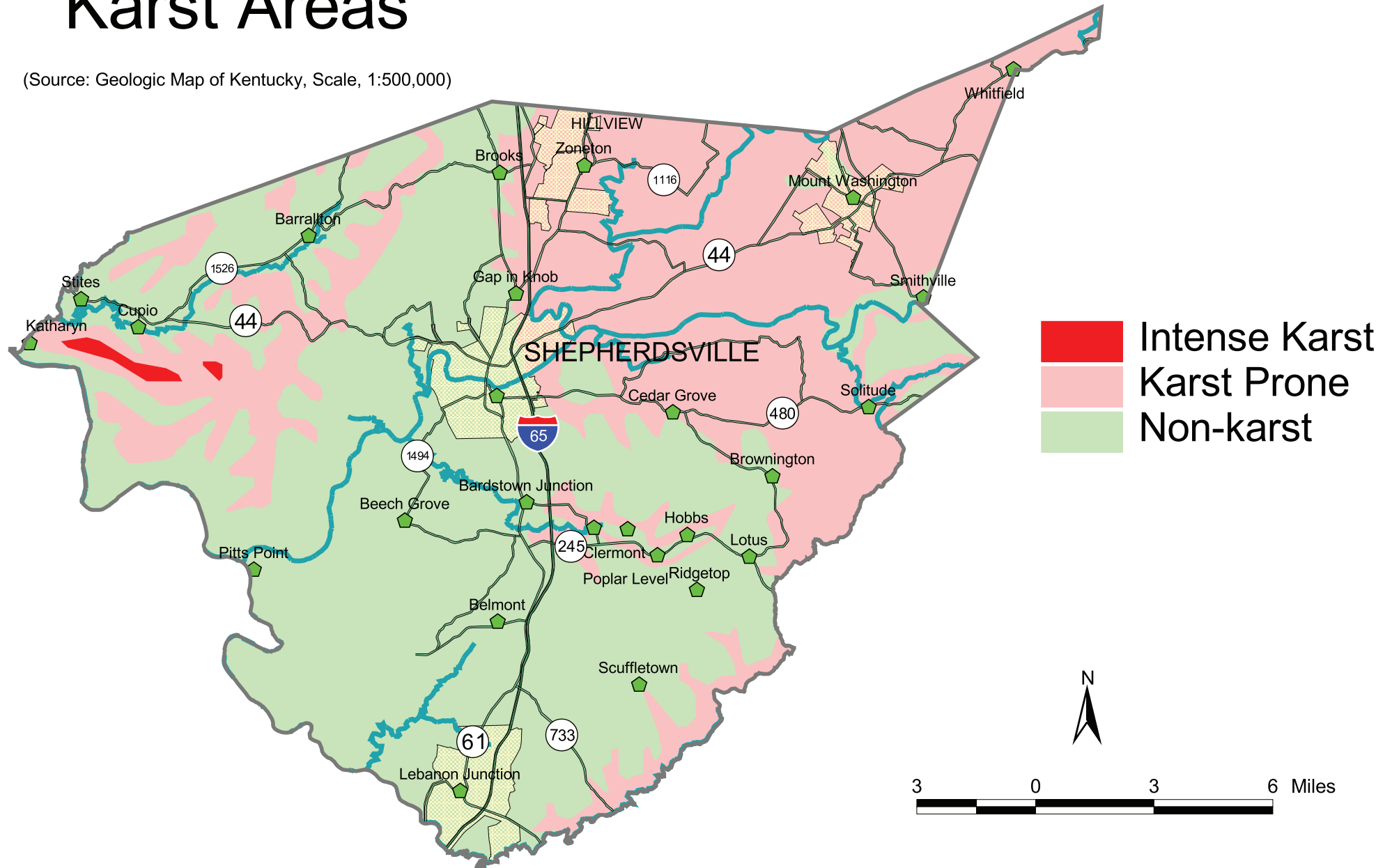
KARST

- Bullitt County Karst Areas Map
- Jefferson County Karst Areas Map
- KSS Cave Data Request Response

Bullitt County

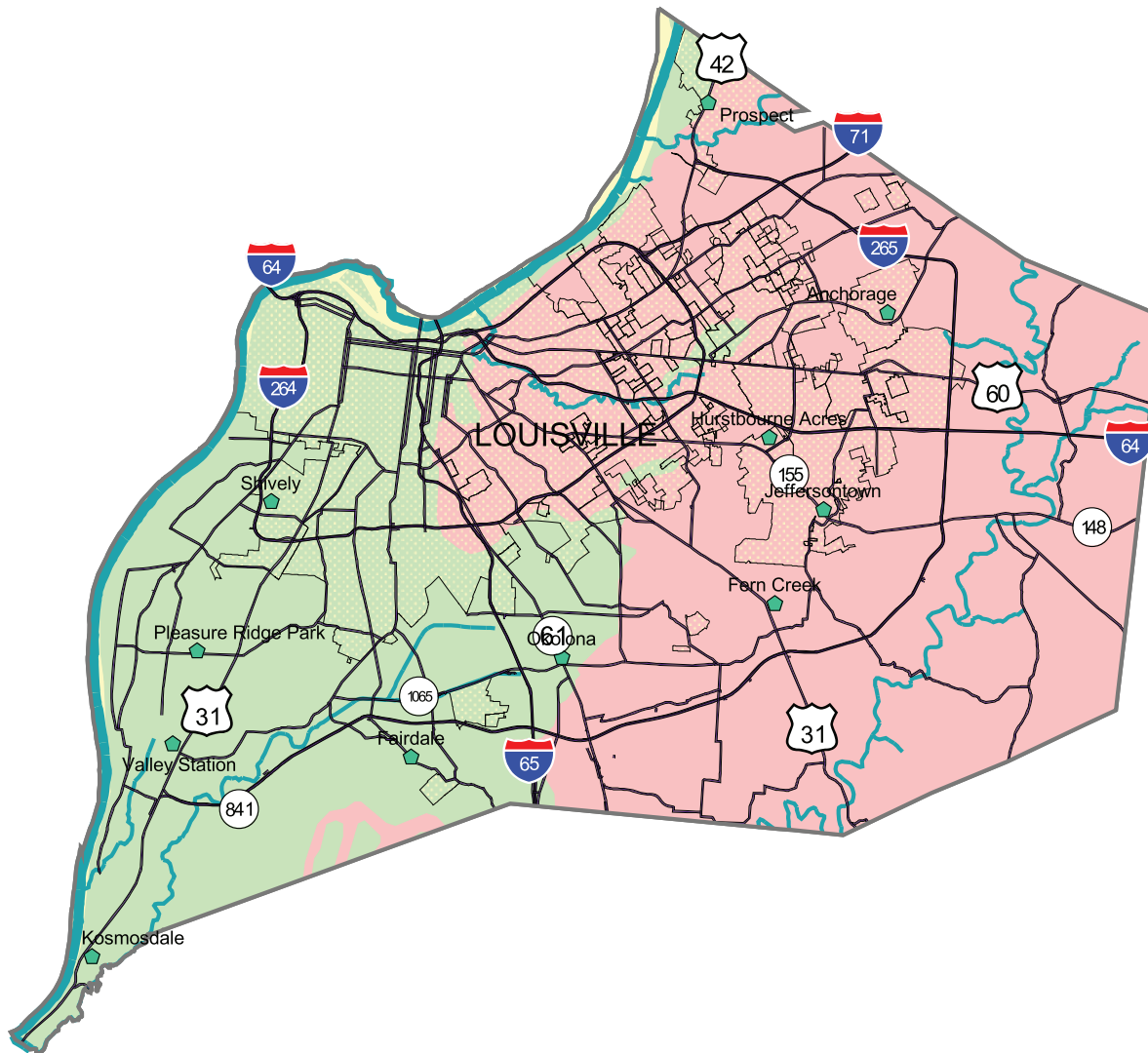
Karst Areas

(Source: Geologic Map of Kentucky, Scale, 1:500,000)

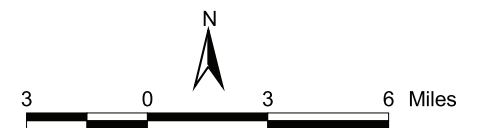


Jefferson County Karst Areas

(Source: Geologic Map of Kentucky, Scale, 1:500,000)



 Karst Prone
 Non-karst



de Villiers, Michael

From: hkalnitz@fuse.net
Sent: Sunday, May 12, 2019 10:43 AM
To: de Villiers, Michael
Cc: caverjoshbrewer23@gmail.com; vanders33@yahoo.com; sarahmariecaver@gmail.com; 'Kentucky Speleological Survey'; John Cassidy
Subject: RE: KSS Data Request by Michael deVilliers (request : deVillars.5.10.19)

Michael

A search through our database returned no known caves located within the shapefile buffer zone provided. For reference the closest caves are 1.25miles due east of the eastern edge of the buffer. The geology in the area does not support a large amount of Karst development.

The fee for this search is \$50 + \$10 per cave record, for a total of \$50. You will be invoiced by our treasurer, John Cassidy.

Please remember that data reported by KSS is as has been reported to us, but not guaranteed to be complete or correct. There may be unknown caves, sinks or other unreported or unknown karst features. Use caution when using this data. Let us know if we can be of any further help, or if you need additional information on this request.

Thank You
Howard Kalnitz
KSS Database Committee

From: Kentucky Speleological Survey <christopherdmorris@gmail.com>
Sent: Friday, May 10, 2019 11:53 AM
To: christopherdmorris@gmail.com
Cc: caverjoshbrewer23@gmail.com; vanders33@yahoo.com; sarahmariecaver@gmail.com; hkalnitz@fuse.net
Subject: KSS Data Request by Michael deVilliers

Name: Michael deVilliers
Address: 11687 Lebanon Road
City: Cincinnati
State: Ohio
Phone: 5136196463
Email:

Organization: Stantec Consulting Services Inc

Data/Information Requested: Location data of known cave entrances within the I-65 Conceptual Improvements Study study area. See attached project location map and shapefile (zip) for study area boundary.

Intended Use of Data/Information: Information will be provided in an abbreviated Environmental Overview document, part of a larger scoping study being conducted for KYTC District 5 and KYTC Central Office. Information indicating the presence of caves in the study area will be used to consider roadway improvement alternative development or avoidance activities.

Qualifications: 10+ years as an Environmental Specialist preparing base study environmental reports for KYTC and ODOT projects. Experienced with handling sensitive and confidential information and providing redaction as necessary when reports will be provided in public domain.

Attachment(s):

ATTACHMENT 3

NATIONAL PARK SERVICE LAND AND WATER CONSERVATION FUND (LWCF: SECTION 6(f) RESOURCES)

- LWCF List for Bullitt and Jefferson Counties

KentuckyCounties

State	Grant Number	Element Number	Grant Name	Grant Status	Grant Type	Fiscal Year	Obligation Amount	Sponsor Name	Grant County	Grant CD.
KY	147	XXX	SHEPHERDSVILLE SWIMMING POOL PARK	C	D	1972	71,600.76	BULLITT COUNTY	BULLITT	2
KY	148	XXX	LEBANON JUNCTION SWIMMING POOL PARK	C	D	1972	42,047.14	BULLITT COUNTY	BULLITT	2
KY	149	XXX	MT. WASHINGTON SWIMMING POOL-PARK	C	D	1972	63,226.92	BULLITT COUNTY	BULLITT	2
KY	212	XXX	FRANK E. SIMON MEMORIAL PARK	C	C	1973	118,421.46	BULLITT COUNTY	BULLITT	2
KY	317	XXX	LEBANON JUNCTION MEMORIAL PARK	C	D	1975	1,050.65	CITY OF LEBANON JUNCTION	BULLITT	2
KY	394	XXX	BULLITT COUNTY LAND ACQ. AND DEV.	C	C	1976	37,703.33	CITY OF MT. WASHINGTON & BULLITT COUNTY	BULLITT	2
KY	472	XXX	LEBANON JUNCTION BALLFIELD	C	D	1977	9,643.55	CITY OF LEBANON JUNCTION	BULLITT	2
KY	474	XXX	REMOVE	W	D	1977	0	BULLITT CO. FISCAL C'T	BULLITT	2
KY	636	XXX	MT. WASHINGTON PARK	C	D	1980	26,750.33	CITY OF MT. WASHINGTON	BULLITT	2
KY	716	XXX	LEBANON JUNCTION BALLFIELD COMPLEX	C	D	1981	13,294.76	CITY OF LEBANON JUNCTION	BULLITT	2
KY	772	XXX	BULLITT COUNTY PARK	C	D	1983	25,409.49	BULLITT COUNTY	BULLITT	2
KY	853	XXX	HILLVIEW PARK	C	C	1984	28,717.97	CITY OF HILLVIEW	BULLITT	2
KY	858	XXX	BULLITT COUNTY PARK	C	D	1984	33,409.20	BULLITT COUNTY	BULLITT	2
KY	944	XXX	BULLITT COUNTY PARK	C	D	1986	29,693.08	BULLITT COUNTY	BULLITT	2
KY	1,148	XXX	SHEPHERDSVILLE PARK	C	D	1993	11,500.00	CITY OF SHEPHERDSVILLE	BULLITT	2
KY	1,173	XXX	FRANK E. SIMON MEMORIAL PARK	C	D	1994	34,845.00	BULLITT COUNTY	BULLITT	2
KY	1,411	XXX	SPENCER COUNTY PARK	W	D	2010	50,000.00	SPENCER COUNTY FISCAL COURT	BULLITT	2
KY	1,420	XXX	BULLITT COUNTY SWIMMING POOL RENOVATION	C	R	2011	32,500.00	BULLITT COUNTY FISCAL COURT	BULLITT	2
									Total:18	Total:18
							Sum:629,813.64			

KentuckyCounties

State	Grant Number	Element Number	Grant Name	Grant Status	Grant Type	Fiscal Year	Obligation Amount	Sponsor Name	Grant County	Grant CD.
KY	16	XXX	HAYS KENNEDY PARK	C	A	1969	23,050.00	JEFFERSON COUNTY	JEFFERSON	3
KY	31	XXX	BERRYTOWN PARK	C	A	1969	27,000.00	JEFFERSON COUNTY	JEFFERSON	3
KY	36	XXX	DES PRES PARK	C	A	1969	61,042.50	JEFFERSON COUNTY	JEFFERSON	3
KY	37	XXX	REMOVE	C	A	1969	57,500.00	JEFFERSON COUNTY	JEFFERSON	4
KY	38	XXX	MCNEELY LAKE ADDITION	C	A	1969	46,400.00	JEFFERSON COUNTY	JEFFERSON	2
KY	39	XXX	CHARLIE VETTINER GOLF COURSE	C	A	1969	23,625.00	JEFFERSON COUNTY	JEFFERSON	3
KY	84	XXX	CROSBY PARK	C	A	1971	73,750.00	JEFFERSON COUNTY	JEFFERSON	3
KY	119	XXX	JEFFERSON FOREST ADDITION	C	A	1971	11,358.40	JEFFERSON COUNTY	JEFFERSON	2
KY	131	XXX	EP TOM SAWYER STATE PARK	C	D	1972	821,864.72	DEPT. OF PARKS	JEFFERSON	3
KY	134	XXX	RIVERFIELDS	C	C	1972	266,719.26	JEFFERSON COUNTY	JEFFERSON	3
KY	151	XXX	WILLIAM B. STANSBURY PARK	C	D	1972	13,024.32	CITY OF LOUISVILLE	JEFFERSON	3
KY	153	XXX	CENTRAL PARK TENNIS COURT	C	D	1972	19,341.03	CITY OF LOUISVILLE	JEFFERSON	3
KY	154	XXX	WYANDOTTE PARK TENNIS COURTS	C	D	1972	12,666.38	CITY OF LOUISVILLE	JEFFERSON	3
KY	155	XXX	CRESCENT HILL PARK TENNIS	C	D	1972	13,409.13	CITY OF LOUISVILLE	JEFFERSON	3
KY	156	XXX	IROQUOIS PARK TENNIS COURTS	C	D	1972	14,644.69	CITY OF LOUISVILLE	JEFFERSON	3
KY	157	XXX	SENECA PARK TENNIS COURTS DEV.	C	D	1972	7,748.99	CITY OF LOUISVILLE	JEFFERSON	3
KY	158	XXX	TYLER PARK TENNIS COURT	C	D	1972	12,989.84	CITY OF LOUISVILLE	JEFFERSON	3
KY	160	XXX	ALGONQUIN PARK TENNIS & BASKETBALL	C	D	1972	12,541.66	CITY OF LOUISVILLE	JEFFERSON	3
KY	209	XXX	JEFFERSONTOWN COMMUNITY CENTER PARK	C	D	1973	15,200.65	CITY OF JEFFERSONTOWN	JEFFERSON	3
KY	230	XXX	DOUGLASS COMMUNITY CENTER PARK	C	D	1973	30,308.46	CITY OF LOUISVILLE	JEFFERSON	3
KY	241	XXX	FARNSLEY PARK ACQ/	C	D	1974	60,381.00	CITY OF SHIVELY	JEFFERSON	3
KY	276	XXX	HIGHWIEW PARK ADDITION	C	C	1974	94,105.15	JEFFERSON COUNTY	JEFFERSON	3

KY	278	XXX	TENNIS COURTS LIGHTING	C	D	1975	25,480.00	CITY OF LOUISVILLE	JEFFERSON	3
KY	318	XXX	BRIARWOOD PICNIC SHELTER	C	D	1975	2,525.24	CITY OF BRIARWOOD	JEFFERSON	3
KY	324	XXX	PICNIC AREAS ON FIVE COUNTY PARKS	C	D	1975	72,297.89	JEFFERSON COUNTY	JEFFERSON	0
KY	330	XXX	JEFFERSON COUNTY PARKS- TENNIS COURTS	C	D	1975	135,740.50	JEFFERSON COUNTY	JEFFERSON	0
KY	343	XXX	SHAWNEE PARK PAVILION	C	D	1975	44,109.52	CITY OF LOUISVILLE	JEFFERSON	4
KY	362	XXX	CITY OF LOUISVILLE PARKS RENOVATION	C	D	1976	112,112.00	CITY OF LOUISVILLE	JEFFERSON	3
KY	377	XXX	RIVER GLEN PARK ACQUISITION	C	A	1976	183,456.00	CITY OF LOUISVILLE	JEFFERSON	3
KY	385	XXX	JEFFERSON COUNTY PARKS DEVELOPMENT	C	D	1976	140,151.78	JEFFERSON COUNTY	JEFFERSON	0
KY	441	XXX	LOUISVILLE CITY PARKS DEVELOPMENT	C	D	1977	156,631.03	CITY OF LOUISVILLE	JEFFERSON	3
KY	467	XXX	JEFFERSON COUNTY PARKS ACQ. & DEV.	C	C	1977	108,944.13	JEFFERSON COUNTY	JEFFERSON	0
KY	503	XXX	RIVER GLEN PARK RECLAMATION	C	D	1978	113,515.20	CITY OF LOUISVILLE	JEFFERSON	3
KY	518	XXX	VALLEY HIGH SCHOOL BALLFIELD LIGHTIN	C	D	1978	18,234.00	JEFFERSON COUNTY	JEFFERSON	3
KY	524	XXX	IROQUOIS PARK TENNIS COURTS	C	D	1978	30,390.00	CITY OF LOUISVILLE	JEFFERSON	3
KY	525	XXX	WYANDOTTE PARK BATHHOUSE RENOVATION	C	D	1978	58,387.24	CITY OF LOUISVILLE	JEFFERSON	3
KY	527	XXX	HIGHVIEW PARK IMPROVEMENTS	C	D	1978	154,984.24	JEFFERSON COUNTY	JEFFERSON	3
KY	531	XXX	LEEDS PARK TENNIS COURTS	C	D	1978	11,985.52	CITY OF SHIVELY	JEFFERSON	3
KY	532	XXX	REMOVE	W	D	1978	0	CITY OF JEFFERSONTOWN	JEFFERSON	4
KY	533	XXX	BLUE LICK PARK DEVELOPMENT	C	D	1978	75,543.31	JEFFERSON COUNTY	JEFFERSON	2
KY	534	XXX	JEFFERSON COUNTY MEMORIAL FOREST	C	A	1978	381,500.12	JEFFERSON COUNTY	JEFFERSON	2

KY	560	XXX	WARWICK VILLA PARK FOOTBALL FIELD	C	D	1979	10,256.97	CITY OF ST. MATTHEWS	JEFFERSON	3
KY	574	XXX	SUN VALLEY TENNIS COURTS	C	D	1979	85,289.50	JEFFERSON COUNTY	JEFFERSON	3
KY	579	XXX	SHAWNEE GOLF COURSE MAINTENANCE BUIL	C	D	1979	32,841.82	CITY OF LOUISVILLE	JEFFERSON	3
KY	580	XXX	LONG RUN GOLF COURSE	C	D	1979	160,931.89	JEFFERSON COUNTY	JEFFERSON	2
KY	582	XXX	SENECA PARK BALL DIAMOND LIGHTS	C	R	1979	52,317.56	CITY OF LOUISVILLE	JEFFERSON	3
KY	590	XXX	IROQUOIS G.C. MAINTENANCE BUILDING	C	D	1979	20,474.50	CITY OF LOUISVILLE	JEFFERSON	3
KY	644	XXX	ST. MATTHEWS COMMUNITY CENTER PARK	C	A	1980	103,188.19	CITY OF ST. MATTHEWS	JEFFERSON	3
KY	657	XXX	EASTERN HIGH SCHOOL TENNIS COURTS	C	D	1980	26,129.73	JEFFERSON COUNTY	JEFFERSON	3
KY	673	XXX	SHAWNEE MAINTENANCE FACILITY RENOVAT	C	R	1980	86,238.93	CITY OF LOUISVILLE	JEFFERSON	3
KY	679	XXX	BLACKACRE AND BEARGRASS PRESERVES	C	A	1980	535,434.50	NATURE PRESERVE COMM.	JEFFERSON	3
KY	710	XXX	WARWICK VILLA PARK	C	D	1981	17,579.50	CITY OF ST. MATTHEWS	JEFFERSON	3
KY	713	XXX	REMOVE	W	D	1981	0	CITY OF ANCHORAGE	JEFFERSON	4
KY	779	XXX	GEORGE ROGERS CLARK PARK	C	R	1983	17,070.19	CITY OF LOUISVILLE	JEFFERSON	3
KY	787	XXX	EVA BANDMAN PARK	C	R	1983	25,380.00	CITY OF LOUISVILLE	JEFFERSON	3
KY	793	XXX	E P TOM SAWYER STATE PARK	C	D	1983	99,705.00	DEPT. OF PARKS	JEFFERSON	3
KY	817	XXX	TOM THUMB POOLS	C	R	1984	20,022.37	CITY OF LOUISVILLE	JEFFERSON	3
KY	818	XXX	JEFFERSON CO. PICNIC AREAS	C	D	1984	16,949.38	JEFFERSON COUNTY	JEFFERSON	3
KY	819	XXX	HAYS KENNEDY PARK	C	D	1984	19,930.27	JEFFERSON COUNTY	JEFFERSON	3
KY	827	XXX	RIVERVIEW PARK	C	D	1984	24,864.62	JEFFERSON COUNTY	JEFFERSON	3
KY	862	XXX	IROQUOIS PARK	C	D	1984	33,409.20	CITY OF LOUISVILLE	JEFFERSON	3
KY	863	XXX	MCNEELY PARK DEVELOPMENT	C	D	1984	33,409.20	JEFFERSON COUNTY	JEFFERSON	2
KY	917	XXX	COX PARK	C	D	1985	32,346.00	JEFFERSON COUNTY	JEFFERSON	4

KY	918	XXX	CHEROKEE PARK	C	D	1985	29,990.80	CITY OF LOUISVILLE	JEFFERSON	3
KY	929	XXX	CHICKASAW PARK	C	D	1985	32,183.76	CITY OF LOUISVILLE	JEFFERSON	3
KY	961	XXX	REMOVE	W	D	1986	0	CITY OF SHIVELY	JEFFERSON	3
KY	966	XXX	REMOVE	W	D	1986	32,346.00	JEFFERSON COUNTY	JEFFERSON	4
KY	967	XXX	HIGHVIEW PARK IMPROVEMENTS	C	D	1986	32,346.00	JEFFERSON COUNTY	JEFFERSON	3
KY	968	XXX	RIVER GLEN PARK	C	D	1986	15,548.72	CITY OF LOUISVILLE	JEFFERSON	3
KY	973	XXX	LONG RUN PARK	C	D	1986	15,769.82	JEFFERSON COUNTY	JEFFERSON	2
KY	1,004	XXX	CHEROKEE PARK	C	R	1987	20,216.25	CITY OF LOUISVILLE	JEFFERSON	3
KY	1,025	XXX	E. P.	C	D	1987	49,185.97	KY DEPT. OF PARKS	JEFFERSON	3
KY	1,046	XXX	JEFFERSON COUNTY MEMORIAL FOREST	C	A	1989	24,259.50	JEFFERSON COUNTY	JEFFERSON	2
KY	1,125	XXX	FARNSLEY-MOREMEN LANDING	C	D	1992	15,392.72	JEFERSON COUNTY	JEFFERSON	3
KY	1,144	XXX	IROQUOIS PARK TRAIL	C	D	1993	21,967.56	CITY OF LOUISVILLE	JEFFERSON	2
KY	1,253	XXX	JEFFERSONTOWN YOUTH FOOTBALL COMPLEX	C	D	2002	61,950.00	CITY OF JEFFERSONTOWN	JEFFERSON	3
KY	1,259	XXX	FAIRMOUNT FALLS	C	A	2002	61,950.00	JEFFERSON COUNTY FISCAL COURT	JEFFERSON	3
KY	1,275	XXX	JEFFERSONTOWN YOUTH FOOTBALL COMPLEX	C	D	2003	79,005.00	CITY OF JEFFERSON	JEFFERSON	3
KY	1,307	XXX	DOUGLASS HILLS PARK	C	D	2004	6,064.00	DOUGLASS HILLS	JEFFERSON	3
KY	1,312	XXX	CROSS CREEK PARK	C	C	2004	44,999.50	CITY OF MIDDLETOWN	JEFFERSON	3
KY	1,334	XXX	FLOYDS FORK TRAIL	C	D	2005	75,000.00	LOUISVILLE METRO GOVERNMENT	JEFFERSON	3
KY	1,434	XXX	CROSS CREEK PARK PHASE II	C	D	2012	20,356.00	CITY OF MIDDLETOWN	JEFFERSON	3
KY	1,455	XXX	WARREN C. WALKER PARK POOL RENOVATION	C	R	2013	10,500.00	CITY OF DOUGLASS HILLS	Jefferson	0
KY	1,458	XXX	GASLIGHT SPLASH PARK	C	D	2013	61,000.00	CITY OF JEFFERSONTOWN	Jefferson	0
									Total:84	Total:78
							Sum:5,708,459.82			

ATTACHMENT 4

AIR QUALITY - TRANSPORTATION RELATED POLLUTANTS

- Areas of Air Quality Concern in KY (March 2019)

Areas of Air Quality Concern in KY

2015 8-hour ozone:**



Nonattainment Area



Attainment/Unclassifiable Area

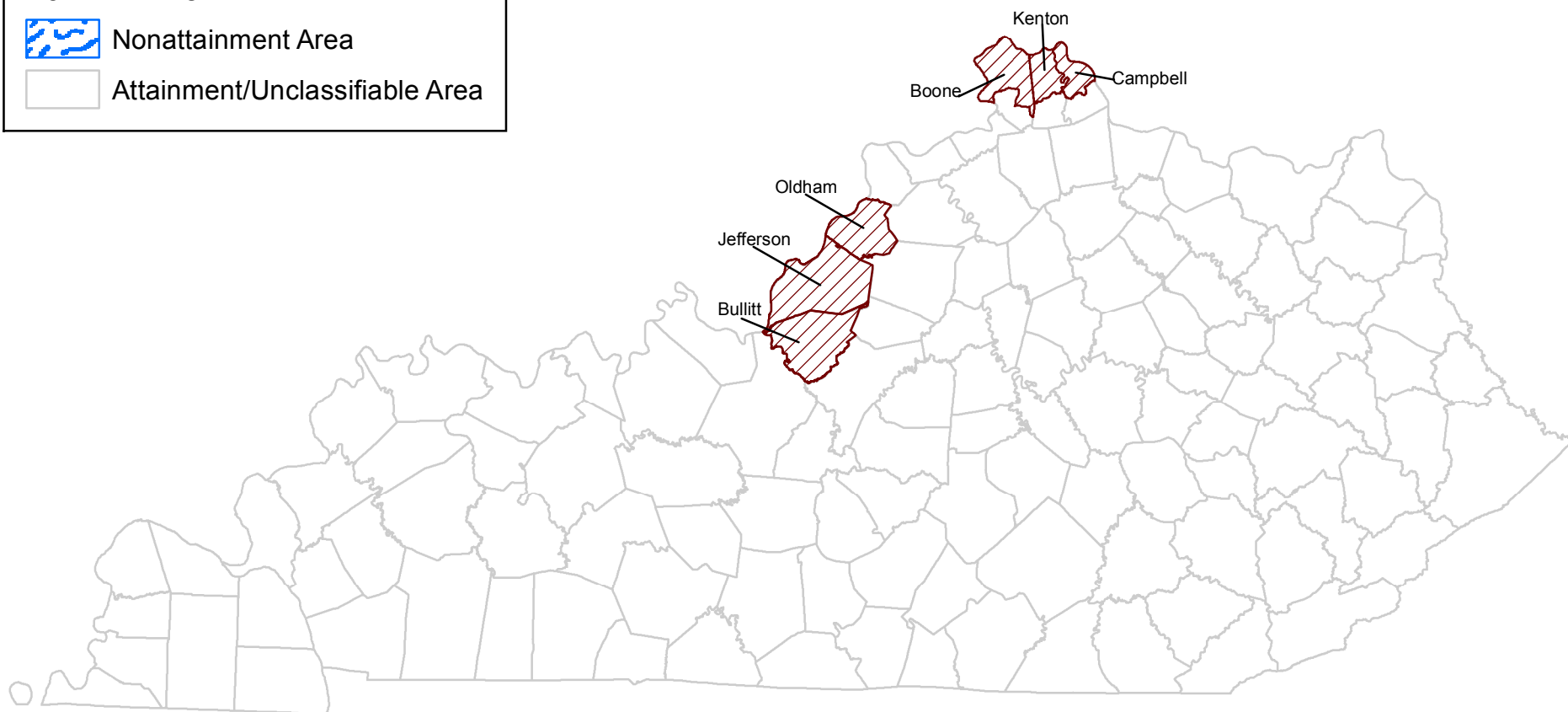
2012 PM2.5:



Nonattainment Area



Attainment/Unclassifiable Area



**The 2015 8-hour ozone NAAQS includes the counties of Jefferson, Oldham, Bullitt, and partial counties of Boone, Kenton, and Campbell .

As of March 2019

ATTACHMENT 5

SOCIOECONOMIC REPORT



**I-65 Conceptual Improvements Study
KYTC Item #05-550.00**

Socioeconomic Report

Draft

June 21, 2019

Prepared for:

Kentucky Transportation Cabinet
Central Office
Highway District 5

Prepared by:

Stantec Consulting Services Inc.

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1.0 INTRODUCTION

This Socioeconomic Study was prepared as part of the I-65 Conceptual Improvements Study for Bullitt and Jefferson Counties, Kentucky being conducted by the Kentucky Transportation Cabinet (KYTC). The I-65 Conceptual Improvements Study, which is included in Kentucky's FY 2018-FY2024 Highway Plan as Item No. 05-550.00, is being performed to identify short-term and long-term improvements for the widening of I-65, including possible new interchanges. The purpose of the project is to improve safety, reduce congestion, and provide better connectivity along I-65 from KY 61 (Preston Highway) in Lebanon Junction to the Gene Snyder Freeway in Louisville. This report presents an overview of selected socioeconomic characteristics in the I-65 Conceptual Improvements Study area, including the identification of areas within the study area with potential Environmental Justice communities. This information will be utilized by KYTC in making informed transportation decisions to ensure that minority and low-income populations and other underserved populations are not disproportionately impacted by the proposed project.

1.1 OVERVIEW OF ENVIRONMENTAL JUSTICE

There are several laws and Executive Orders that have been implemented to ensure that Federal agencies consider the impacts of their decisions on underserved populations. Specifically, Executive Order 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which was published on April 15, 1997, directs agencies to 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.” The Federal Highway Administration (FHWA) issued the Final DOT Environmental Justice Order on May 2, 2012 (DOT Order 5610.2(a), which updated the original Environmental Justice Order and set forth steps to prevent disproportionately high and adverse effects to minority or low income populations through environmental justice analyses conducted as part of Federal transportation planning. Other laws which protect underserved populations include Title VI of the Civil Rights Act of 1964, the Age Discrimination Act of 1975, the Americans with Disabilities Act. In addition, the Limited English Proficiency Executive Order requires Federal agencies to examine the services they provide and identify any need for services to those with Limited English Proficiency (LEP) to ensure that they have meaningful access to those services. Underserved populations that are to be considered in projects receiving Federal funds include minorities, low-income, older adults (≥ 65), individuals with disabilities, and individuals with LEP.

1.2 OVERVIEW OF I-65 CONCEPTUAL IMPROVEMENTS STUDY AREA

The I-65 Conceptual Improvements Study Area is located in parts of Jefferson and Bullitt Counties in Kentucky, just south of Louisville. The study area includes portions of three census tracts in Jefferson County, that are further divided into five block groups. The portion of Bullitt County within the study area includes portions of nine census tracts and is further subdivided into eighteen block groups, which are shown on **Figure 1**. This study includes US Census data at the block group level, which provides the greatest level of detail of socioeconomic data for the study area.



1.3 SOCIOECONOMIC ANALYSIS

1.3.1 Methodology

This report is based on 2013-2017 U.S. Census Bureau American Community Survey (ACS) data, which is the most current data available at the block group level. The methodologies used in this planning document are appropriate for identifying possible areas of concern in small urban areas and potential project corridors. However, during future phases of project development, a more detailed and robust analysis would be required for the NEPA documentation when assessing the potential for adverse and disproportionate impacts to underserved populations. The following populations were identified within the study area for the I-65 Conceptual Improvements Study:

- **Minority - Defined as:**
 1. Black (a person having origins in any of the 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 – Defined as “a person whose median household income is at or below the Department of Health and Human Services (HHS) poverty guidelines.”**
- **Elderly – Defined as persons 65 years of age and older**
- **Disabled – Defined as a person having a physical or mental impairment that affects one or more major life activities, such as walking, bathing, dressing, eating, etc.**
- **Limited English Proficiency (LEP) – Defined as a person who is not fluent in the English language, often because it is not their native language.**

The primary source of data for this report is the following tables of the 2013-2017 U.S. Census Bureau American Community Survey:

- B01001 – Sex By Age
- B16004 – Age by Language Spoken at Home by Ability to Speak English for the Population 5 Years and Over
- B17021 – Poverty Status of Individuals in the Past 12 Months by Living Arrangement
- C21007 – Age by Veteran Status by Poverty Status in the Past 12 Months by Disability Status for the Civilian Population 18 Years and Over
- B02001 – Race



Census data was gathered for the United State, Commonwealth of Kentucky, Bullitt and Jefferson Counties, census tracts and block groups within the I-65 Conceptual Improvements Study Area. This report uses the population percentages for Bullitt and Jefferson Counties as the reference threshold for identifying underserved populations.

1.3.2 Study Findings

This section presents mapping of the I-65 Conceptual Improvements Study Area which depicts the underserved populations within the study area. The maps are based on data presented in Table 1 on the following page.

Population by Persons of Minority Origin

Based on the U.S. Census American Community Survey 2013-2017, Jefferson County's population is comprised of 27.7% minorities. Using this number as a reference threshold, two of Jefferson County's five block groups that are within the study area have a higher percentage of minorities than Jefferson County. Bullitt County's population is 3.7% minorities. Of Bullitt Counties eighteen block groups within the study area, eight have higher percentages of minorities than the county. **Figure 2** shows the block groups within Jefferson and Bullitt Counties with higher percentages of minorities than the counties they are in. These block groups are also highlighted on **Table 1**.

Population by Persons Below Poverty Level

Based on the U.S. Census American Community Survey 2013-2017, 15.0% of Jefferson County's population had income in the past 12 months below the poverty level. The Census Bureau uses a set of money income thresholds that vary by family size and composition to determine who is in poverty. If a family's total income is less than the family's threshold, then that family and every individual in it is considered in poverty (U.S. Census website, <https://www.census.gov/topics/income-poverty/poverty/guidance/poverty-measures.html>, accessed June 18, 2019). Of Jefferson County's five census blocks within the study area, three have poverty rates which exceed that for the county. Bullitt County's poverty rate is 10.2%. Of Bullitt Counties eighteen block groups within the study area, eleven have higher percentages of poverty than the county. **Figure 3** shows the block groups within Jefferson and Bullitt Counties with higher poverty rates than the counties they are in. These block groups are also highlighted on **Table 1**.

Population by Persons Ages 65 and Older

Based on the U.S. Census American Community Survey 2013-2017, 14.9% of Jefferson County's population is over the age of 65. Using this number as a reference threshold, two of Jefferson County's five block groups that are within the study area have higher percentages of older residents than that of Jefferson County. A total of 14.3% of Bullitt County's population is over the age of 65. Of Bullitt Counties eighteen block groups within the study area, two have higher percentages of older residents than the county. **Figure 4** shows the block groups within Jefferson and Bullitt Counties with higher percentages of older residents than the counties they are in. These block groups are also highlighted on **Table 1**.



Table 1. Percentages of EJ Populations for the U.S., Kentucky, Bullitt, and Jefferson Counties Compared to Census Tract Block Groups

		Total Population	Minority	Poverty	65 and Over	Disability	LEP
United States		321,004,407	27.0%	14.6%	14.9%	15.3%	4.1%
Kentucky		4,424,376	12.7%	18.3%	15.2%	21.1%	1.0%
Bullitt County*		78,622	3.7%	10.2%	14.3%	18.5%	0.3%
Jefferson County*		764,378	27.7%	15.0%	14.9%	17.0%	2.0%
Census Tract	Block Group						
Jefferson County							
011712	1	1734	27.9%	6.8%	12.1%	15.9%	1.9%
011713	1	952	11.7%	26.8%	13.6%	22.2%	8.2%
011713	2	851	0.0%	8.6%	16.5%	16.4%	0.0%
011713	3	783	27.1%	29.4%	6.4%	20.6%	0.0%
012001	1	1560	6.8%	25.7%	19.0%	21.2%	0.0%
Bullitt County							
020300	1	1391	2.1%	17.3%	21.3%	18.9%	0.0%
020400	2	2285	4.9%	3.2%	31.9%	20.2%	0.8%
020601	1	1428	5.3%	7.0%	8.3%	19.8%	0.0%
020601	2	1797	11.4%	13.5%	7.4%	20.4%	0.2%
020602	1	1491	12.1%	2.5%	21.4%	14.8%	0.3%
020701	2	2923	7.2%	20.5%	9.0%	12.0%	0.6%
020701	3	1109	0.0%	3.2%	26.2%	29.7%	0.0%
020702	1	1173	1.6%	6.1%	17.1%	17.8%	0.0%
020800	1	1106	9.2%	30.6%	15.2%	38.5%	4.6%
020800	2	1637	0.6%	11.2%	17.7%	20.4%	0.9%
020800	3	1753	0.0%	13.6%	15.4%	27.8%	0.0%
021101	1	782	0.0%	17.9%	24.4%	22.0%	0.0%
021101	2	4425	2.5%	10.5%	4.0%	10.4%	0.6%
021101	3	1859	0.0%	0.0%	12.0%	8.3%	0.9%
021200	1	1778	5.1%	13.2%	8.1%	16.1%	0.0%
021200	2	1481	4.3%	22.2%	17.5%	20.6%	0.0%
021200	3	645	0.0%	8.2%	20.6%	29.6%	0.0%
021200	4	1165	0.0%	13.2%	15.9%	32.9%	0.6%

*Reference Percentage

Source: U.S. Census, 2013-2017 American Community Survey 5-Year Estimates



Population by Persons By Disability Status 18 Years and Over

Based on the U.S. Census American Community Survey 2013-2017 for the disability status for the civilian population 18 years and over. The Americans with Disabilities Act defines an individual with a disability as: A person who has a physical or mental impairment that substantially limits one or more major life activities, a person who has a history or record of such an impairment, or a person who is perceived by others as having such an impairment. A total of 17.0% of Jefferson County's population is disabled. Using this number as a reference threshold, three of Jefferson County's five block groups that are within the study area have a higher percentage of disabled residents than that of Jefferson County. Bullitt County's population has a disability rate of 18.5%. Of Bullitt County's eighteen block groups within the study area, twelve have higher percentages of disabled residents than the county. **Figure 5** shows the block groups within Jefferson and Bullitt Counties with higher rates of disabled residents than the counties they are in. These block groups are also highlighted on **Table 1**.

Population by Persons with Limited English Proficiency

Based on the U.S. Census American Community Survey 2013-2017, 2.0% of Jefferson County's population has Limited English Proficiency (LEP), defined as speaking English "not well" or "not at all". Using this number as a reference threshold, one of Jefferson County's five block groups that are within the study area has a higher percentage of residents with LEP than that of Jefferson County. A total of 0.3% of Bullitt County's population has LEP. Of Bullitt County's eighteen block groups within the study area, six have higher percentages of individuals with LEP than the county. **Figure 6** shows the block groups within Jefferson and Bullitt Counties with higher percentages of individuals with LEP than the counties they are in. These block groups are also highlighted on **Table 1**.

1.3.3 Population Projections and Land Use Trends in the Study Area

Based on the review of available planning studies for the I-65 study area, population projections and land use in the study area were identified and summarized below for KYTC's consideration in planning transportation improvements within the I-65 corridor.

Population Projections

According to the U.S. Census and the Kentucky State Data Center, Bullitt County had a population of 74,319 in 2010. The county's population is expected to grow to 98,245 by 2040, an increase of 32.2%. Similarly, Jefferson County's population is expected to grow from 741,096 in 2010 to 875,459 in 2040, an increase of 18.1%.

Land Use

According to the Bullitt County Comprehensive Plan (2015), Bullitt County's unincorporated areas will continue to see a decline in agricultural areas and an increase towards industrial, commercial, and residential uses. Within the I-65 corridor, the Comprehensive Plan noted that there is an increase in industrial development which is expected to continue. The Kentuckiana Regional Planning and Development Agency (KIPDA)'s *Regional Freight Mobility Study* (February 28, 2019) identified the area along the I-65 corridor as a growing freight generation area due to the increase in commercial and industrial businesses. The Bullitt County Economic Development Authority is promoting nine "shovel ready" industrial sites along I-65 between Lebanon Junction on the southern end of the I-65 study corridor and I-265 on the northern end of the I-65 study corridor. (<http://gobullittky.com/sites-and-buildings/sites>, accessed June 19,



2019). The development of these sites will add to the recent industrial development in the corridor. A Kentucky Opportunity Zone is located in Bullitt Census Tracts 207.01 and 208 which primarily includes the area on the west side of I-65 between Shepherdsville and the City of Hillview. (See **Figure 7**) Kentucky Opportunity Zones are low-income U.S. Census Tracts that encourage individuals and corporations to invest in a variety of economic development projects through “Opportunity Funds”. This designation will stimulate further development in this part of the study corridor. In addition, KIPDA’s *Regional Freight Mobility Study* identified two major freight clusters in close proximity to the study area. One is the Shepherdsville Distribution Center at the intersection of I-65 and Cedar Grove Road in Shepherdsville, Bullitt County. This cluster includes 1,734,700 square feet of space and supports 1,660 jobs. The second cluster is just outside the northern end of the study area at the intersection of I-65/I-265/Old Preston Highway in Jefferson County. This freight cluster includes 982,428 square feet of space and supports 373 jobs. The continued industrial and commercial development of the I-65 study corridor is supported by Bullitt County’s Comprehensive Plan. Based on this plan, future growth at the City of Lebanon Junction at the southern end of the I-65 corridor will occur in close proximity to I-65 and will be industrial and commercial uses. The Comprehensive Plan also indicated that the City of Shepherdsville, at the interchange of I-65 and Highway 44, has experienced significant growth in the tourism, commercial, and industrial sectors. In addition, industrial development has occurred at the I-65 interchanges for Highway 480 and Highway 44 East. Further development near the I-65 exits is important in supporting the diverse economic base that was created by the Shepherdsville annexation (2015, Bullitt County Planning and Zoning).



2.0 REFERENCES

Bullitt County Economic Development Authority, “Commercial/Industrial Sites,” accessed June 19, 2019, <http://gobullittky.com/sites-and-buildings/commercialindustrial>

Bullitt County Planning and Zoning, *2015 Comprehensive Plan Bullitt County, Kentucky*, March 12, 2015.

Kentuckiana Regional Planning and Development Agency (KIPDA), *Regional Freight Mobility Study*, February 28, 2019.

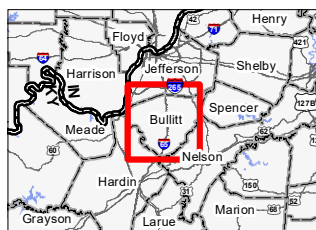
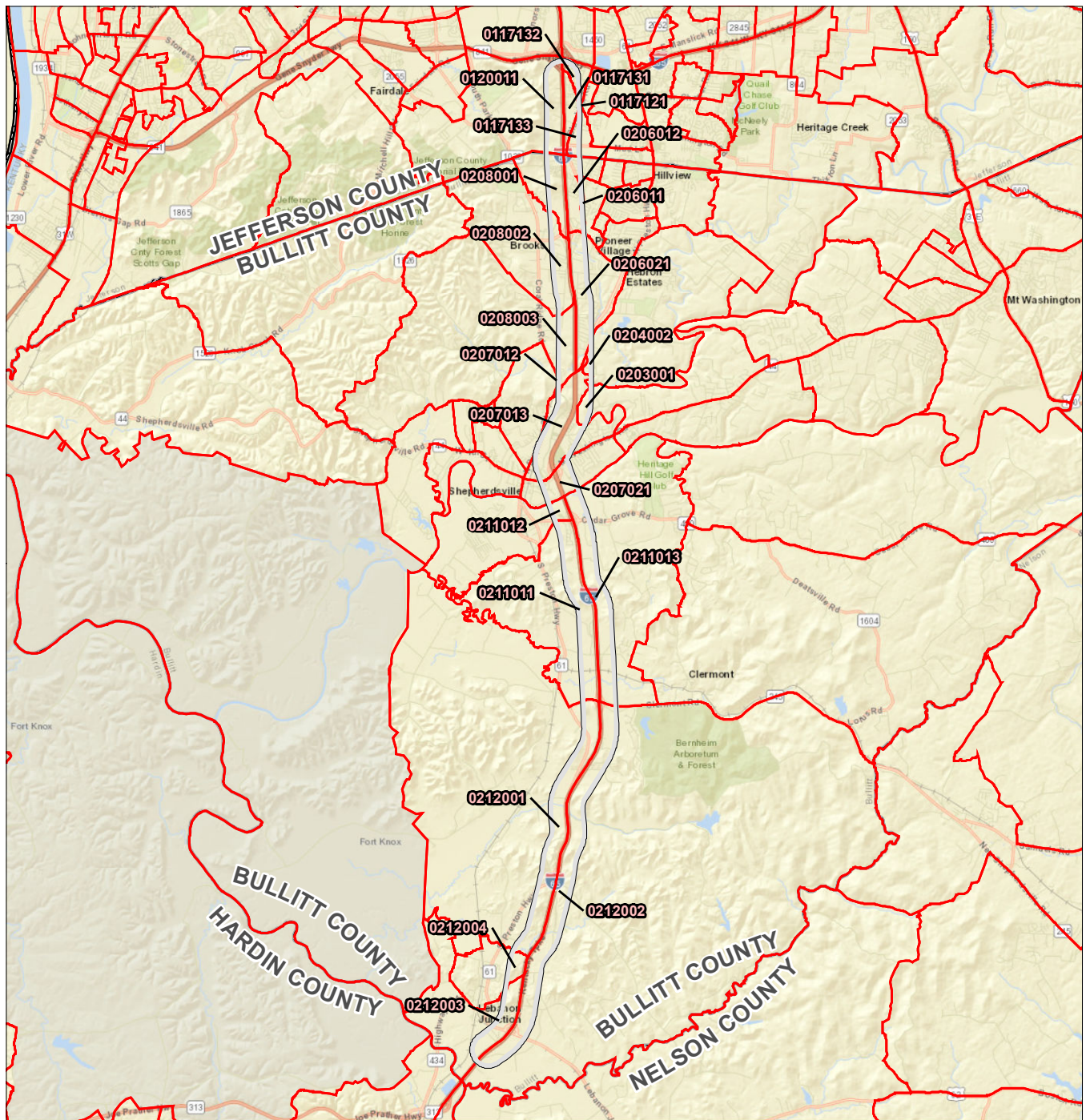
Louisville Metro Government, *Plan 2040: A Comprehensive Plan for Louisville Metro*, January 1, 2019.

U.S. Census Bureau American Community Survey 2013-2017, accessed June 4, 2018, <https://www.census.gov/programs-surveys/acs/>.

.



FIGURES



Legend

- Study Area
- Census Tract Block Group (2010)

- Notes**
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 2. Data Sources Include: Stantec, USGS, USBC, NADS
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Figure No.
1

Project Overview Map

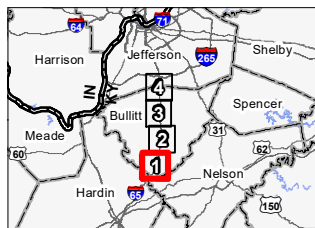
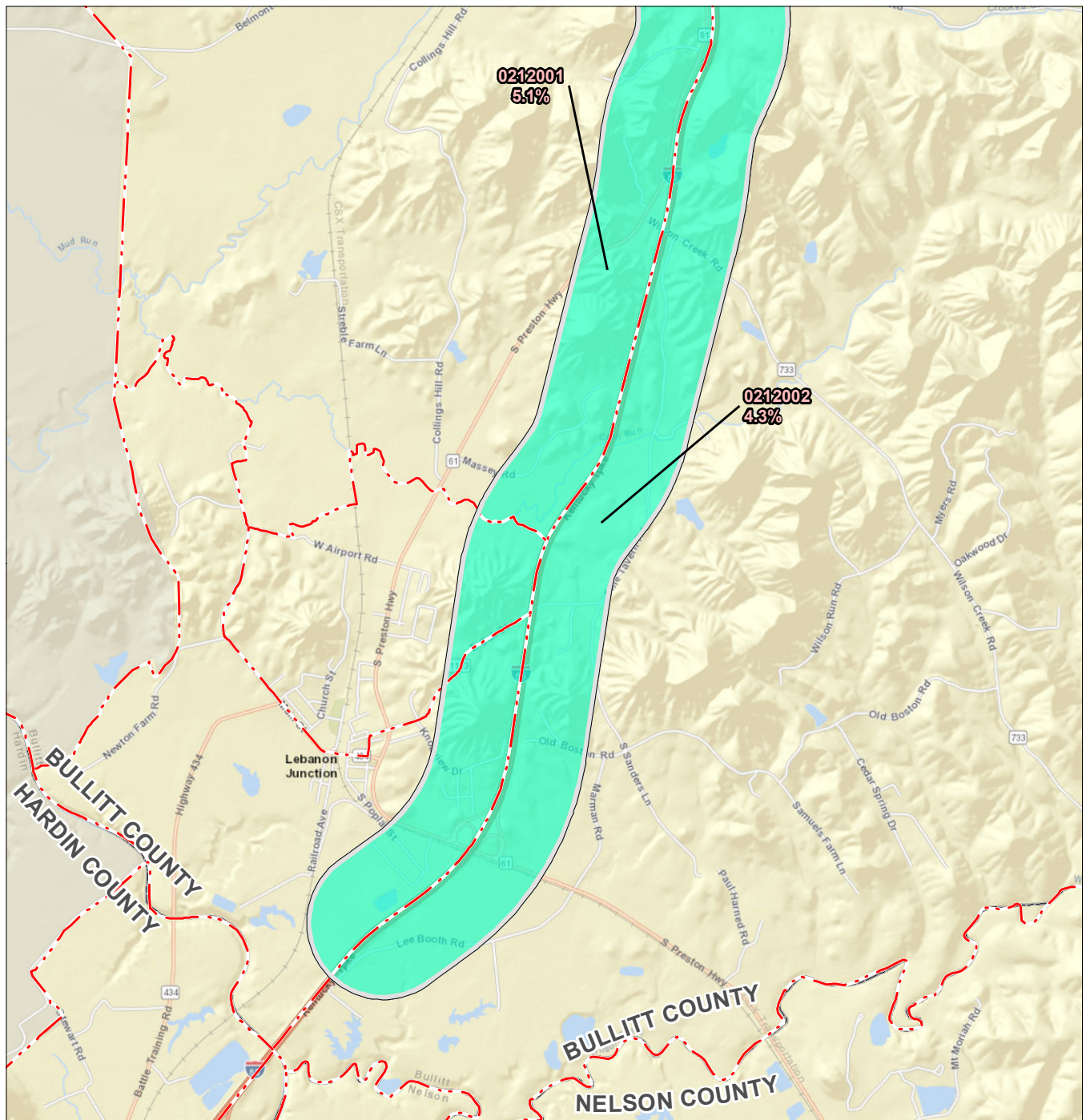
Client/Project
KYTC-DEA, KYTC District 5
Environmental Red Flag Summary
I-65 Conceptual Improvements Study
KY 61 / I-265, KYTC Item No. 5-550.00

Project Location
Jefferson and Bullitt
Counties, Kentucky

178558003
Prepared by JH on 2019-06-20

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Legend

- Study Area
- Census Tract Block Group (2010)
- Minority Population (Percent)**
 - 0.0 - 9.9%
 - 10.0 - 12.1%
 - > 27.0%

Figure No.
2

Minority Population Map

Bullitt Co. Block Groups Above 3.7%
Jefferson Co. Block Groups Above 27.7%

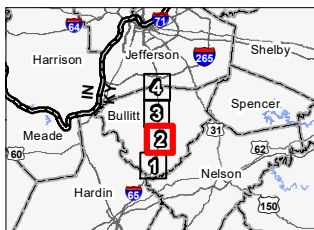
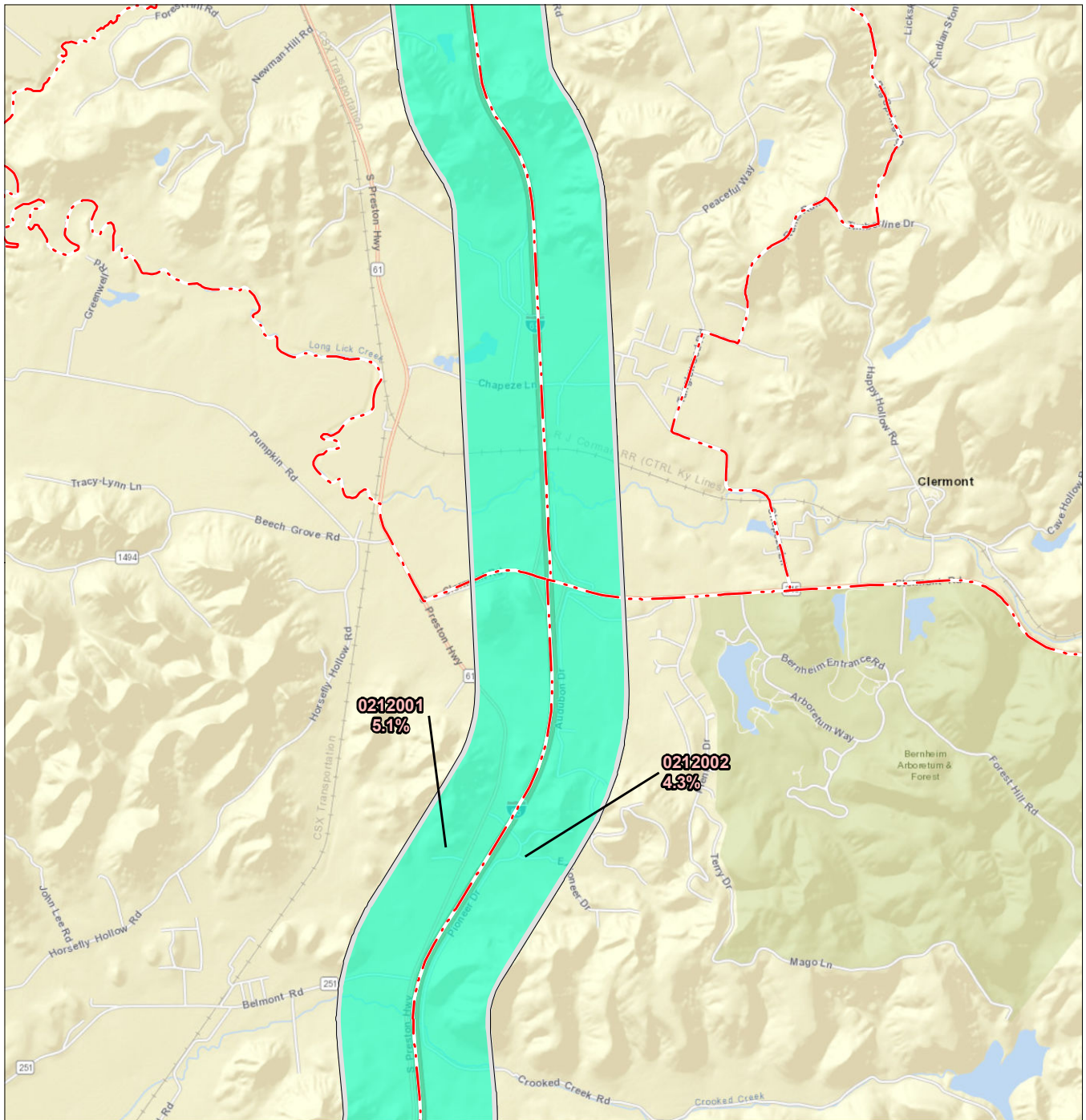
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Project Location
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Counties, Kentucky

17858003
Prepared by JH on 2019-06-07
Technical Review by XXX on 2019-XX-XX
Independent Review by XXX on 2019-XX-XX

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- Census Tract Block Group (2010)
- Minority Population (Percent)**
 - 0.0 - 9.9%
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 - > 27.0%

Figure No.
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Minority Population Map

Bullitt Co. Block Groups Above 3.7%
Jefferson Co. Block Groups Above 27.7%

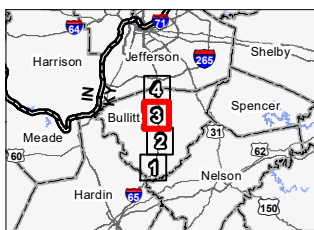
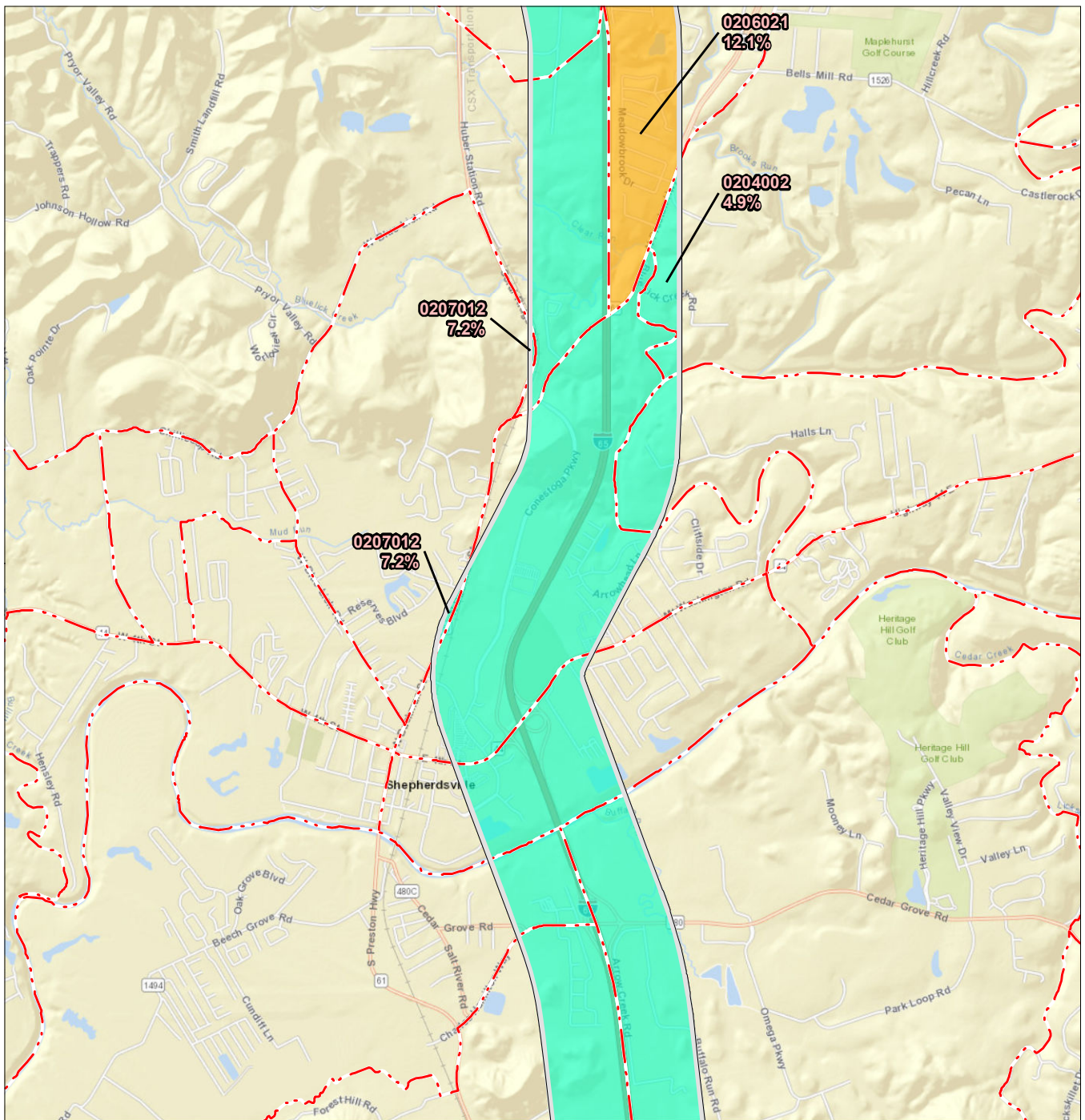
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Project Location
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Minority Population Map

Bullitt Co. Block Groups Above 3.7%
Jefferson Co. Block Groups Above 27.7%

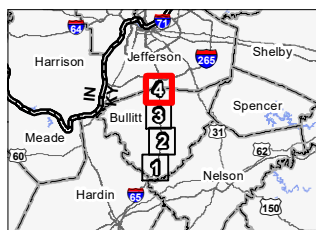
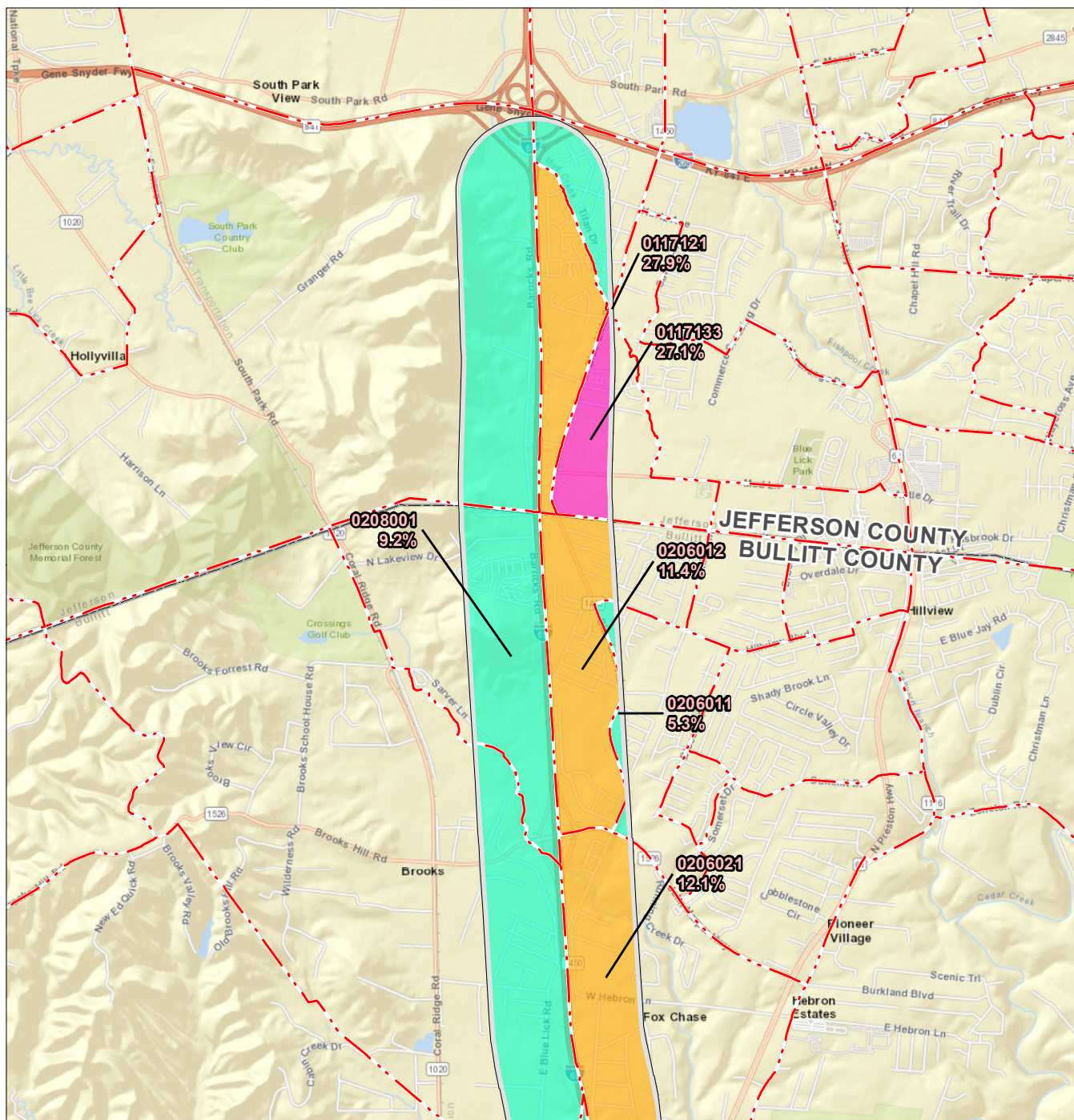
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- Study Area
- Census Tract Block Group (2010)
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Minority Population Map

Bullitt Co. Block Groups Above 3.7%
Jefferson Co. Block Groups Above 27.7%

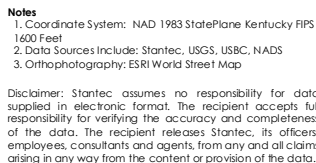
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Study Area

Census Tract Block Group (2010)

Poverty Status (Percent)

0.0 - 9.9%

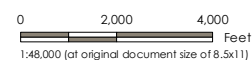
10.0 - 19.9%

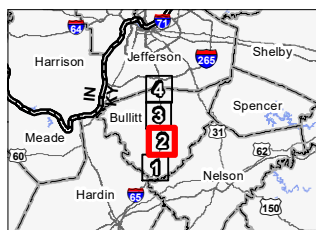
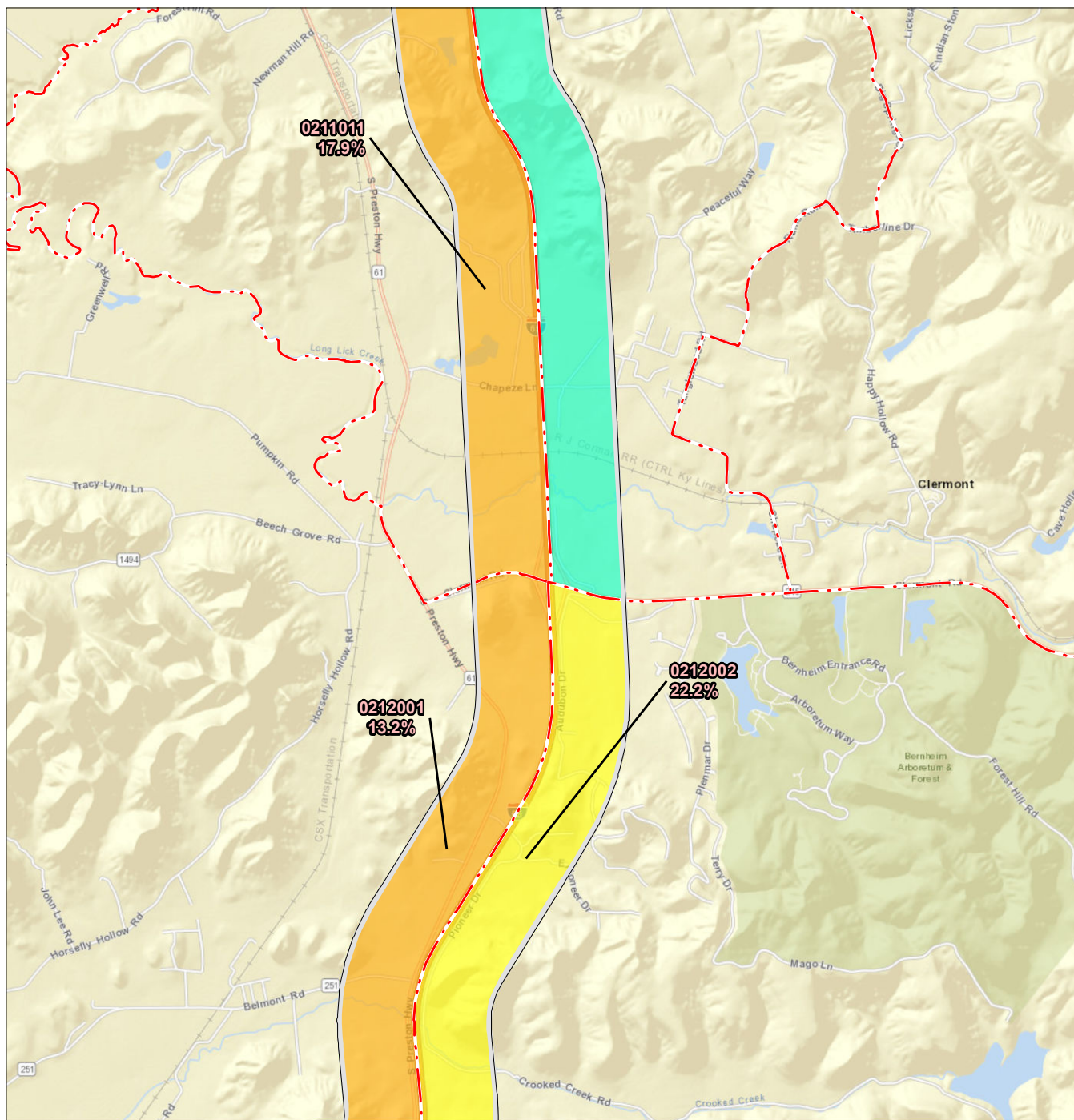
20.0 - 29.9%

> 30.0%

Title	<p>Poverty Status Map</p> <p>Bullitt Co. Block Groups Above 10.2%</p> <p>Jefferson Co. Block Groups Above 15.0%</p>
Client/Project	<p>KYTC-DEA, KYTC District 5</p> <p>Environmental Red Flag Summary</p> <p>I-65 Conceptual Improvements Study</p> <p>KY 61 / I-265, KYTC Item No. 5-550</p>

Project Location	178558003
Jefferson and Bullitt Counties, Kentucky	Prepared by JLH on 2019-06-07 Technical Review by XXX on 2019-XX-XX Independent Review by XXX on 2019-XX-XX





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Legend

- Study Area
- Census Tract Block Group (2010)
- Poverty Status (Percent)**
- 0.0 - 9.9%
- 10.0 - 19.9%
- 20.0 - 29.9%
- > 30.0%

Figure No.
3

Title

Poverty Status Map
Bullitt Co. Block Groups Above 10.2%
Jefferson Co. Block Groups Above 15.0%

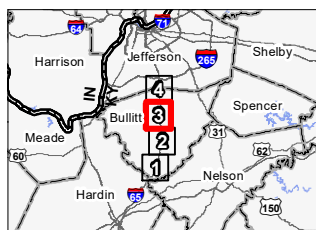
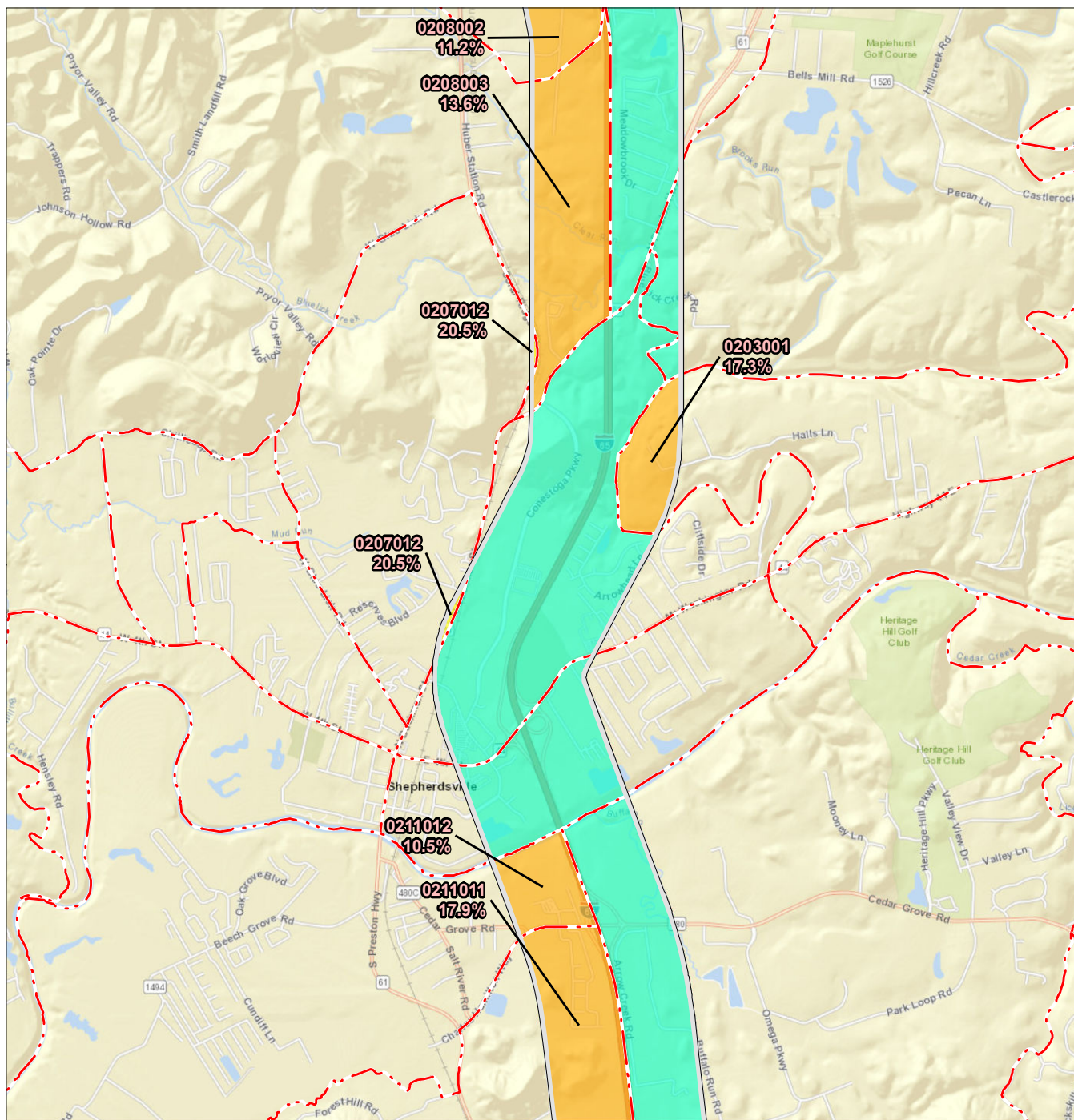
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KY 61 / I-265, KYTC Item No. 5-550.00

Project Location
Jefferson and Bullitt
Counties, Kentucky

17658003
Prepared by JH on 2019-06-07
Technical Review by XXX on 2019-XX-XX
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Poverty Status Map
Bullitt Co. Block Groups Above 10.2%
Jefferson Co. Block Groups Above 15.0%

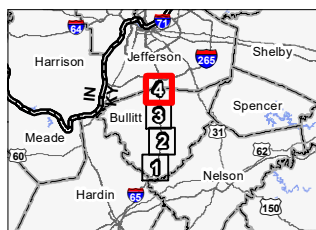
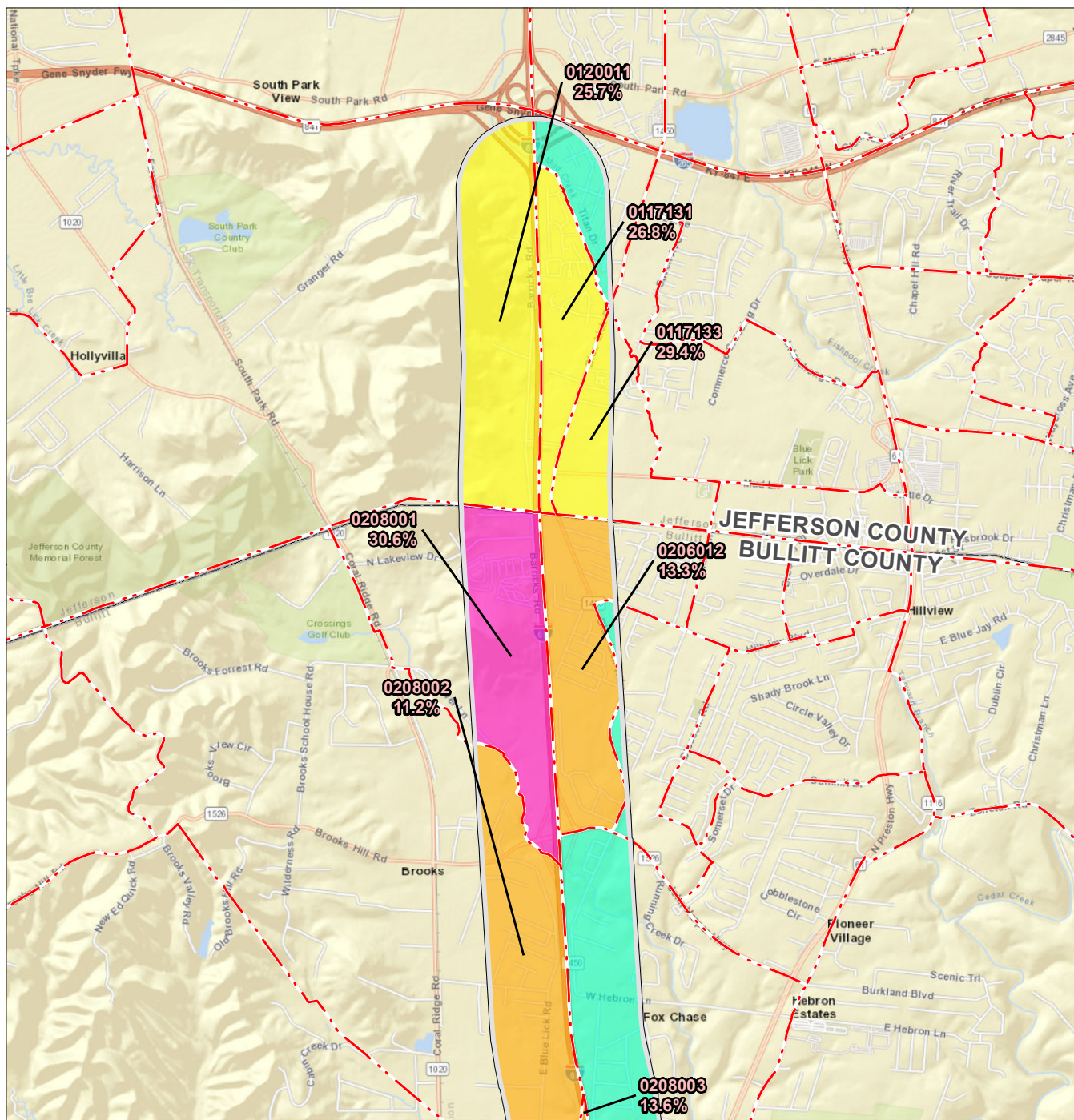
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 - > 30.0%

Figure No.
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Poverty Status Map
 Bullitt Co. Block Groups Above 10.2%
 Jefferson Co. Block Groups Above 15.0%

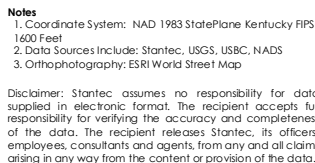
Client/Project
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Project Location
 Jefferson and Bullitt
 Counties, Kentucky

17658003
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 Technical Review by XXX on 2019-XX-XX
 Independent Review by XXX on 2019-XX-XX

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Study Area

Census Tract Block Group (2010)

Age 65 and Over (Percent)

0.0 - 9.9%

10.0 - 19.9%

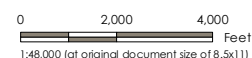
20.0 - 29.9%

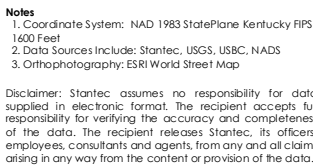
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Age 65 and Over Map
 Bullitt Co. Block Groups Above 14.3%
 Jefferson Co. Block Groups Above 14.9%

Client/Project
KYTC-DEA, KYTC District 5
Environmental Red Flag Summary
I-65 Conceptual Improvements Study
KY 61 / I-265, KYTC Item No. 5-550.00

Project Location	178558003
Jefferson and Bullitt Counties, Kentucky	Prepared by JLH on 2019-06-07 Technical Review by XXX on 2019-XX-XX Independent Review by XXX on 2019-XX-XX





Study Area

Census Tract Block Group (2010)

Age 65 and Over (Percent)

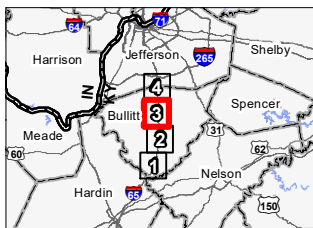
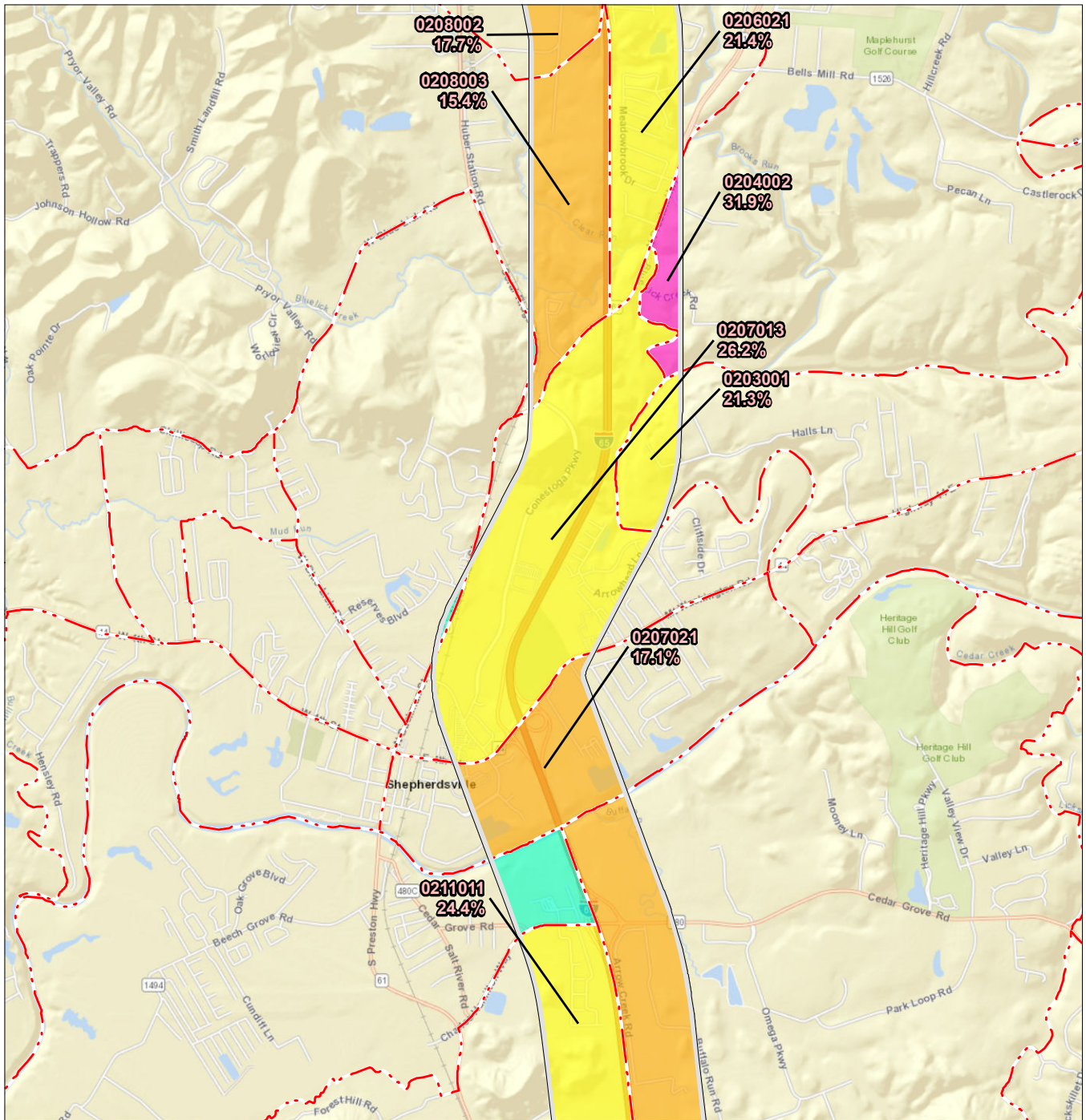
0.0 - 9.9%

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> 30.0%





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Legend

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- Census Tract Block Group (2010)
- Age 65 and Over (Percent)**
 - 0.0 - 9.9%
 - 10.0 - 19.9%
 - 20.0 - 29.9%
 - > 30.0%

Figure No.

4

Title

Age 65 and Over Map
Bullitt Co. Block Groups Above 14.3%
Jefferson Co. Block Groups Above 14.9%

Client/Project

KYTC-DEA, KYTC District 5
Environmental Red Flag Summary
I-65 Conceptual Improvements Study
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Project Location

Jefferson and Bullitt
Counties, Kentucky

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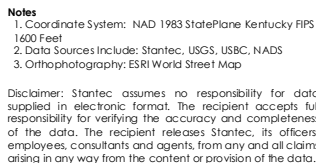
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Study Area

Census Tract Block Group (2010)

Age 65 and Over (Percent)

0.0 - 9.9%

10.0 - 19.9%

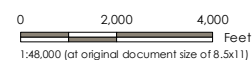
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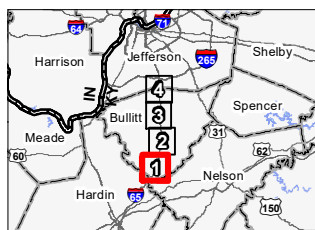
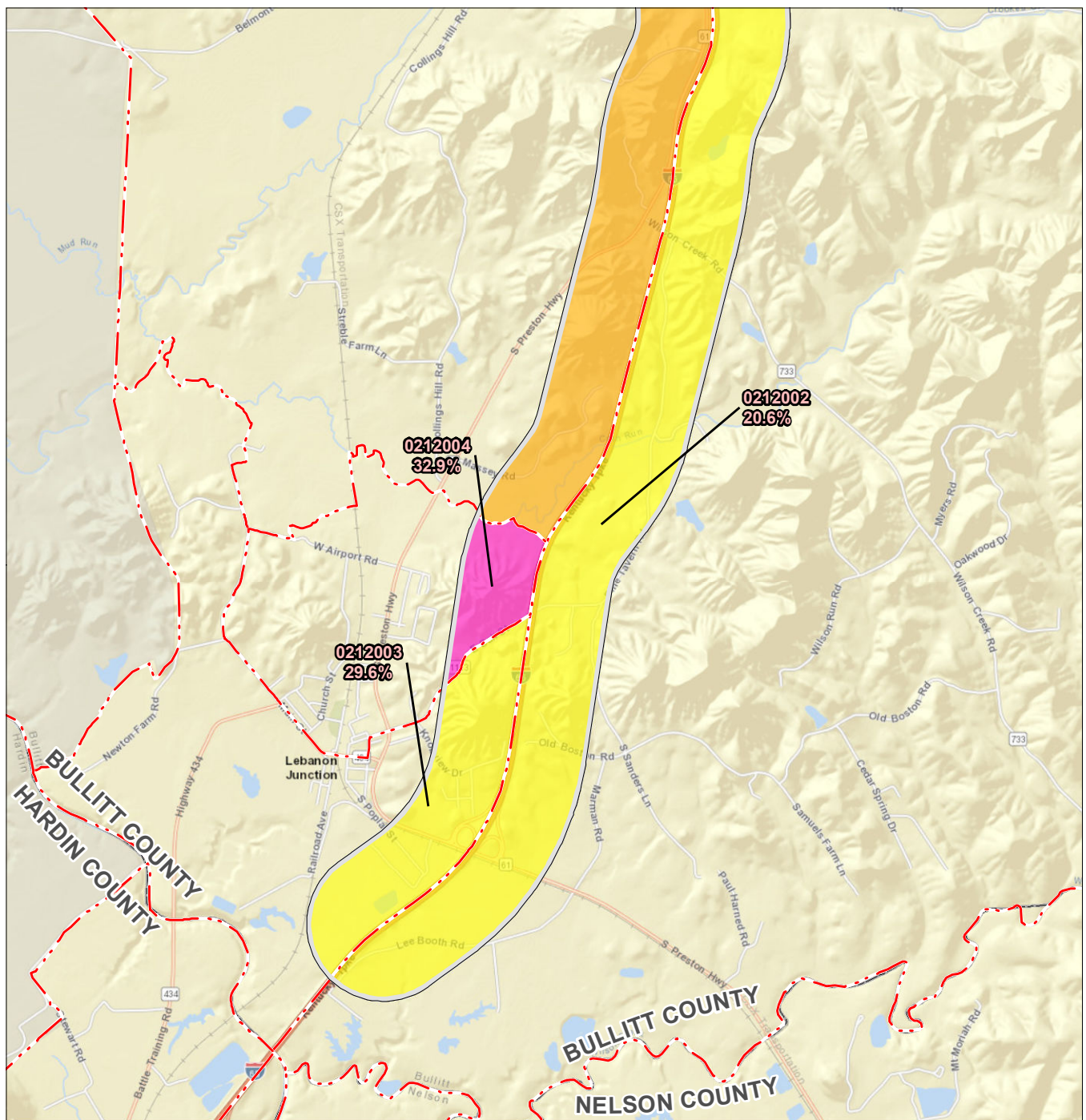
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Age 65 and Over Map
Bullitt Co. Block Groups Above 14.3%
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Legend

- Study Area
- Census Tract Block Group (2010)
- Disability Status (Percent)**
 - 0.0 - 9.9%
 - 10.0 - 19.9%
 - 20.0 - 29.9%
 - > 30.0%

Figure No.
5

Disability Status Map (Age 18 and Over)
 Bullitt Co. Block Groups Above 18.5%
 Jefferson Co. Block Groups Above 17.0%

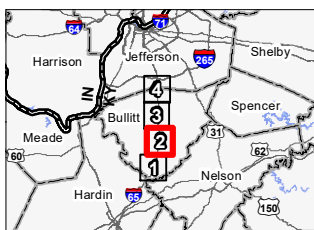
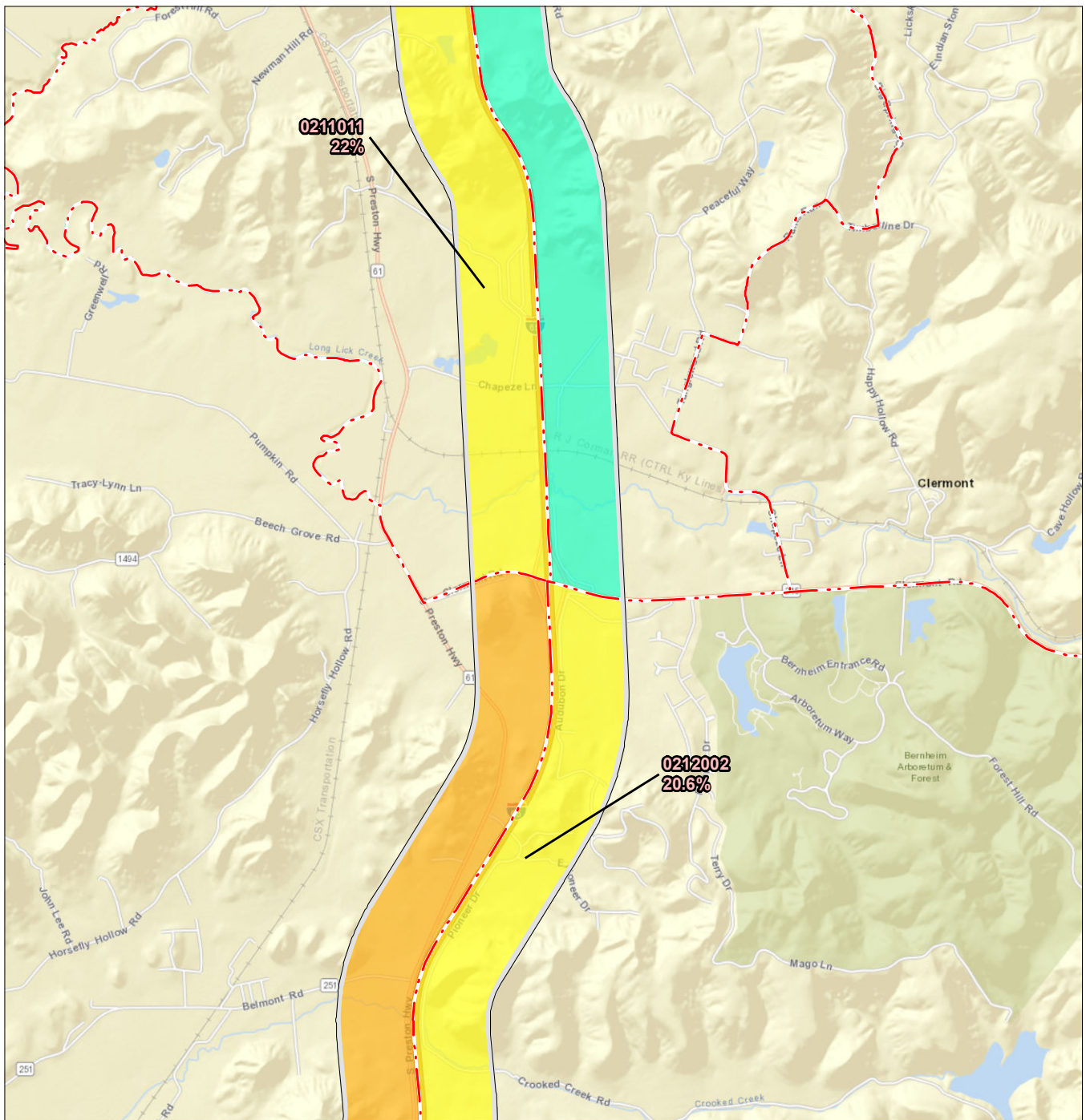
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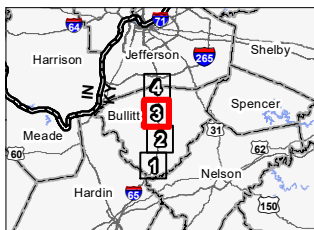
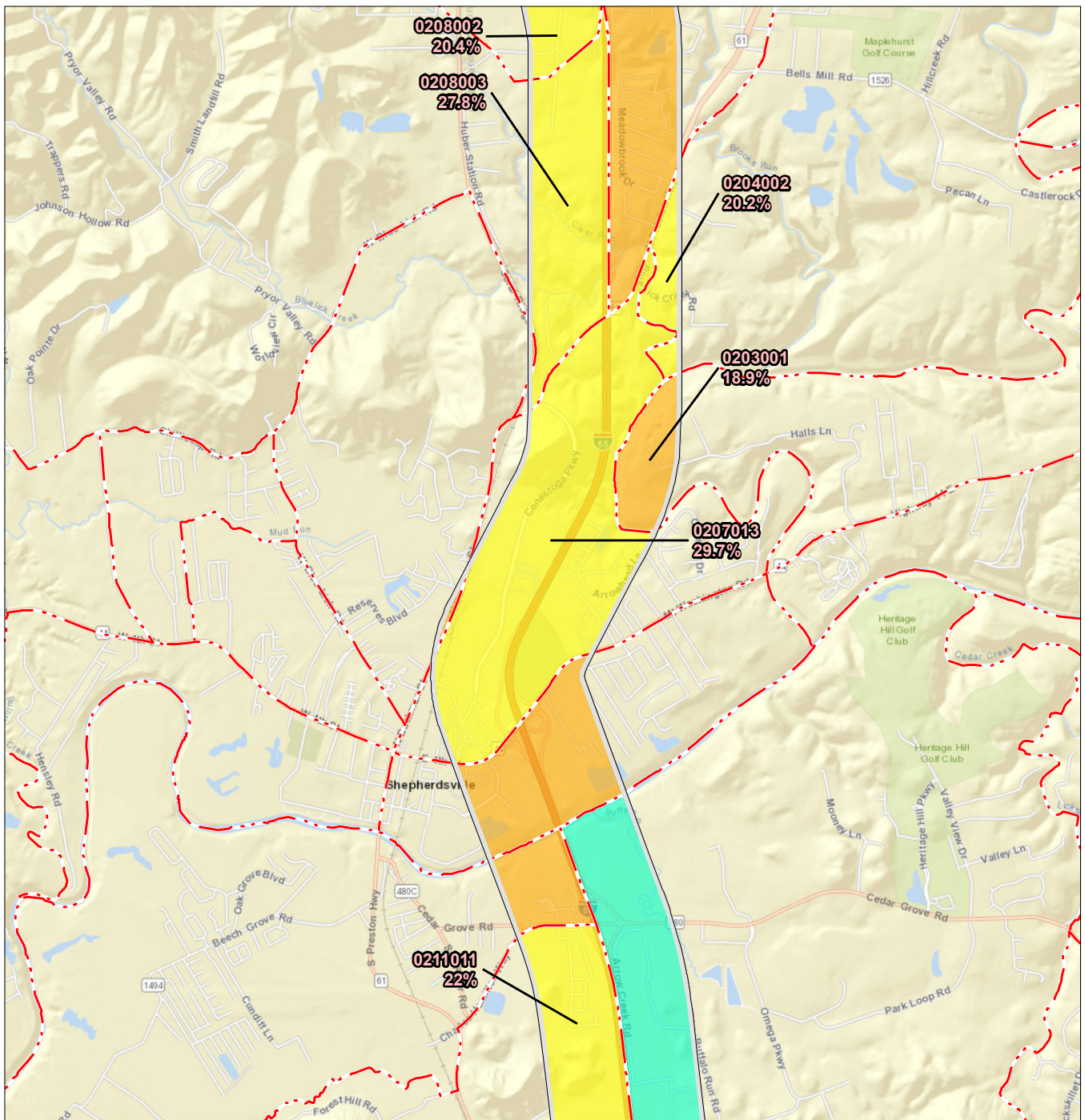
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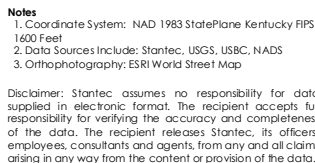
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Study Area

Census Tract Block Group (2010)

Disability Status (Percent)

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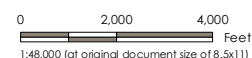
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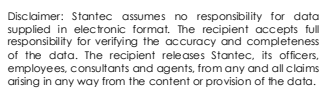
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Jefferson Co. Block Groups Above 17.0%

Client/Project
 KYTC-DEA, KYTC District 5
 Environmental Red Flag Summary
 I-65 Conceptual Improvements Study
 KY 61 / I-265, KYTC Item No. 5-550.00

Project Location	178558003
Jefferson and Bullitt	Prepared by JLH on 2019-06-07
Counties, Kentucky	Technical Review by XXX on 2019-XX-XX
	Independent Review by XXX on 2019-XX-XX





Study Area

Census Tract Block Group (2010)

Limited English Proficiency (Percent)

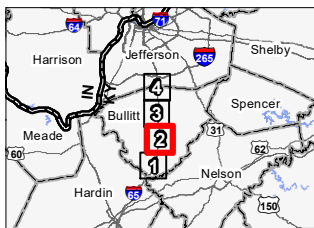
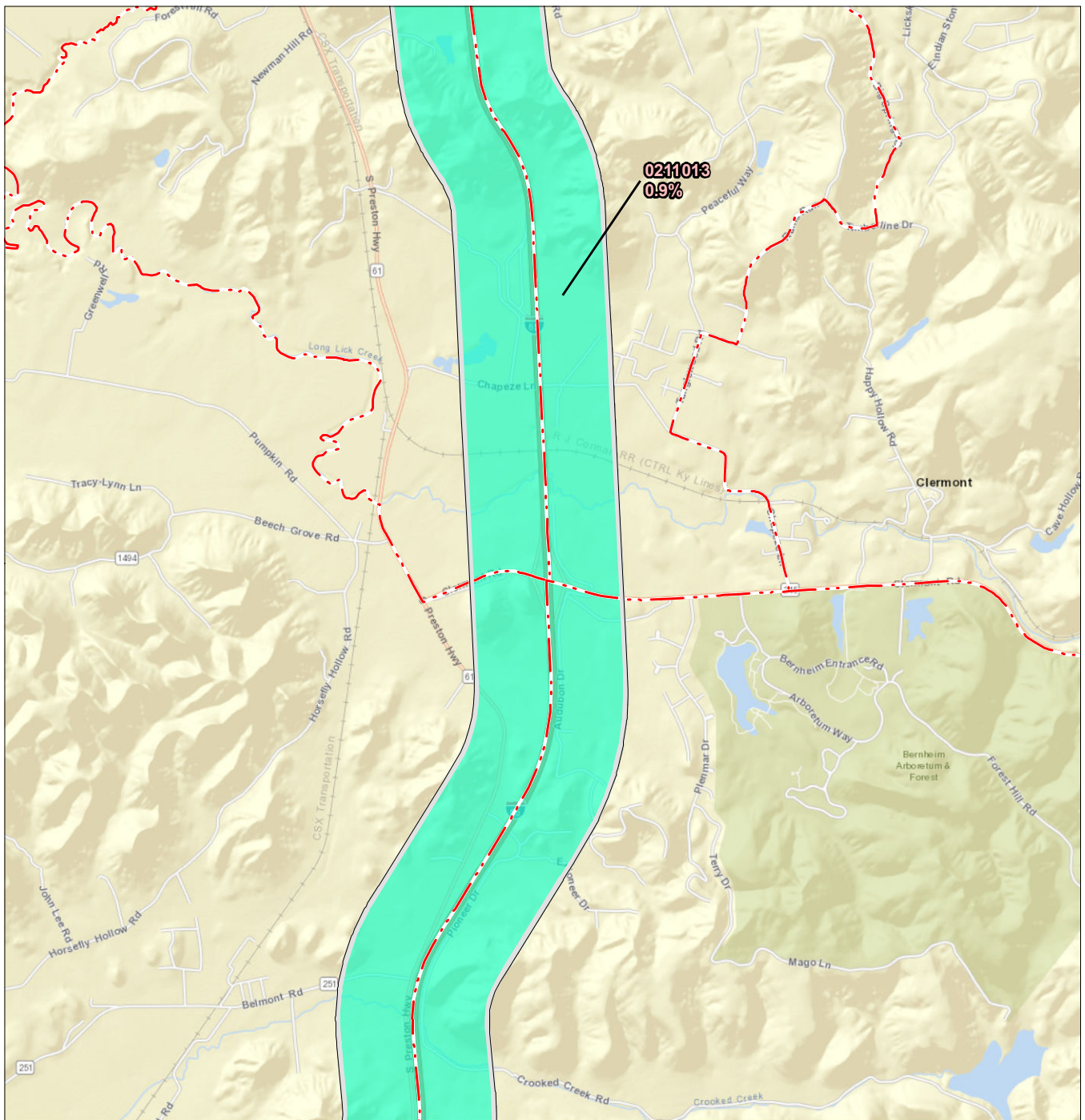
0.0 - 0.9%

1.0 - 2.9%

3.0 - 4.9%

> 5.0%





- Notes**
1. Coordinate System: NAD 1983 StatePlane Kentucky FIPS 1600 Feet
 2. Data Sources Include: Stantec, USGS, USBC, NADS
 3. Orthophotography: ESRI World Street Map

Disclaimer: Stantec assumes no responsibility for data supplied in electronic format. The recipient accepts full responsibility for verifying the accuracy and completeness of the data. The recipient releases Stantec, its officers, employees, consultants and agents, from any and all claims arising in any way from the content or provision of the data.

Legend

- Study Area
- Census Tract Block Group (2010)
- Limited English Proficiency (Percent)**
 - 0.0 - 0.9%
 - 1.0 - 2.9%
 - 3.0 - 4.9%
 - > 5.0%

Figure No.
5

Limited English Proficiency Map

Bullitt Co. Block Groups Above 0.3%
Jefferson Co. Block Groups Above 2.0%

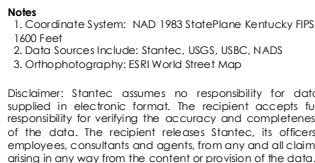
Client/Project
KYTC-DEA, KYTC District 5
Environmental Red Flag Summary
I-65 Conceptual Improvements Study
KY 61 / I-265, KYTC Item No. 5-550.00

Project Location
Jefferson and Bullitt
Counties, Kentucky

178558003
Prepared by JH on 2019-06-07
Technical Review by XXX on 2019-XX-XX
Independent Review by XXX on 2019-XX-XX

0 2,000 4,000
Feet
1:48,000 (at original document size of 8.5x11)





Study Area

Census Tract Block Group (2010)

Limited English Proficiency (Percent)

0.0 - 0.9%

1.0 - 2.9%

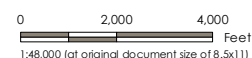
3.0 - 4.9%

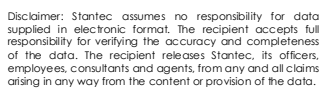
> 5.0%

Limited English Proficiency Map
 Bullitt Co. Block Groups Above 0.3%
 Jefferson Co. Block Groups Above 2.0%

Client/Project
KYTC-DEA, KYTC District 5
Environmental Red Flag Summary
I-65 Conceptual Improvements Study
KY 61 / I-265, KYTC Item No. 5-550.00

Project Location	178558003
Jefferson and Bullitt Counties, Kentucky	Prepared by JLH on 2019-06-07 Technical Review by XXX on 2019-XX-XX Independent Review by XXX on 2019-XX-XX





Study Area

Census Tract Block Group (2010)

Limited English Proficiency (Percent)

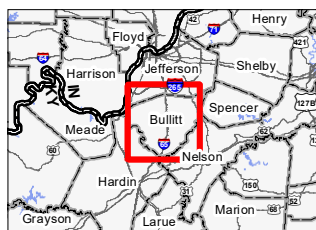
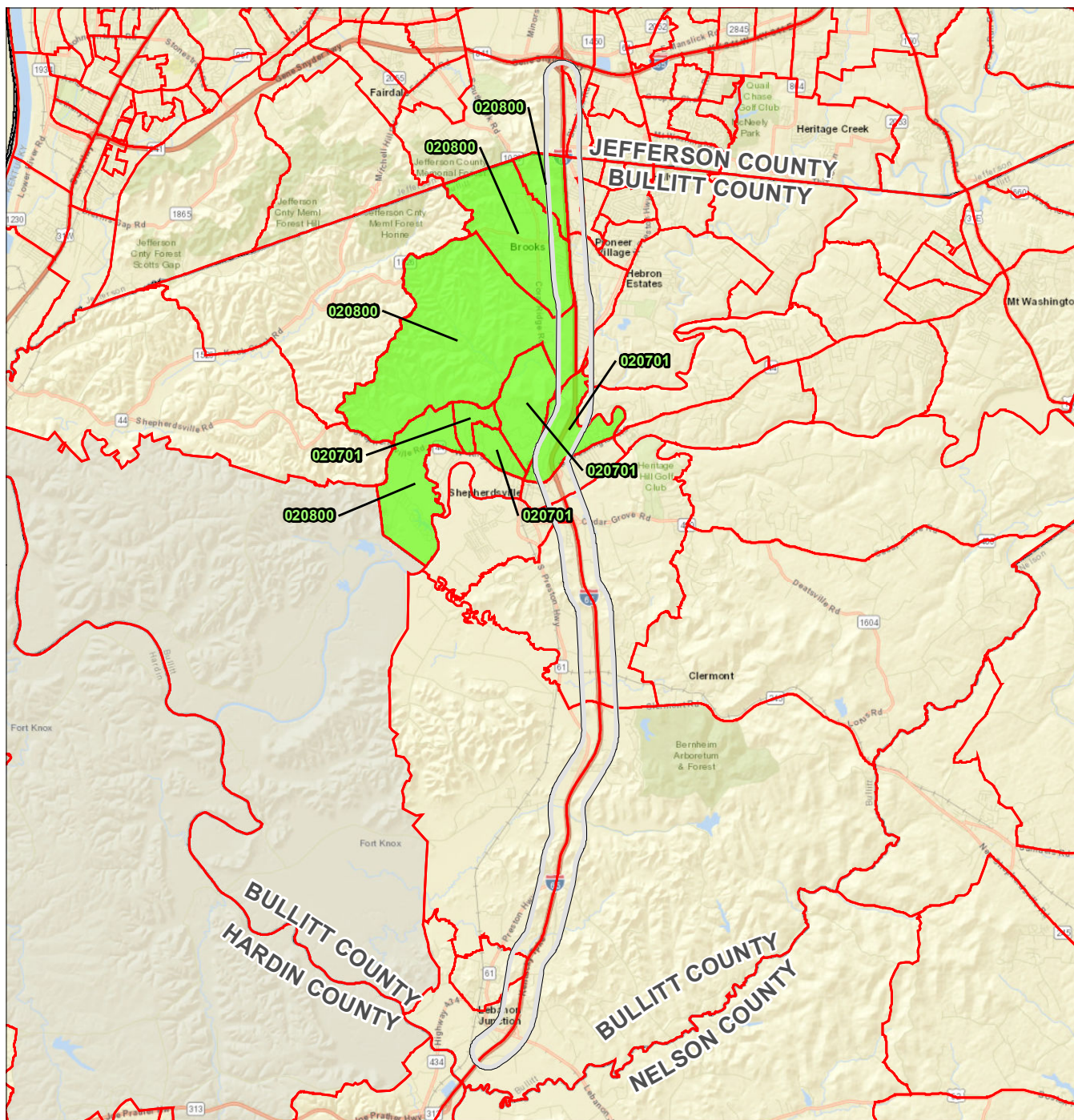
0.0 - 0.9%

1.0 - 2.9%

3.0 - 4.9%

> 5.0%





Legend

- Study Area
- Census Tract Block Group (2010)
- Kentucky Opportunity Zone (2010)

Notes

1. Coordinate System: NAD 1983 StatePlane Kentucky FIPS 1600 Feet
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3. Orthophotography: ESRI World Street Map

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Figure No.

7

Title

Kentucky Opportunity Zone Map

Client/Project

KYTC-DEA, KYTC District 5
Environmental Red Flag Summary
I-65 Conceptual Improvements Study
KY 61 / I-265, KYTC Item No. 5-550.00

Project Location

Jefferson and Bullitt
Counties, Kentucky

17858003

Prepared by JH on 2019-06-20

0 1.5 3 Miles
1:198,000 (at original document size of 8.5x11)



ATTACHMENT 6

CULTURAL-HISTORIC RESOURCES

- KHC Data Request Response
(Not Available for Public
Release)
- KOSA Data Request Response
(Not Available for Public
Release)