

Carolina Crossroads

Preliminary Bat Habitat Assessment

Prepared for:
South Carolina Department of Transportation
Columbia, South Carolina

Prepared by:
HDR

August 2023

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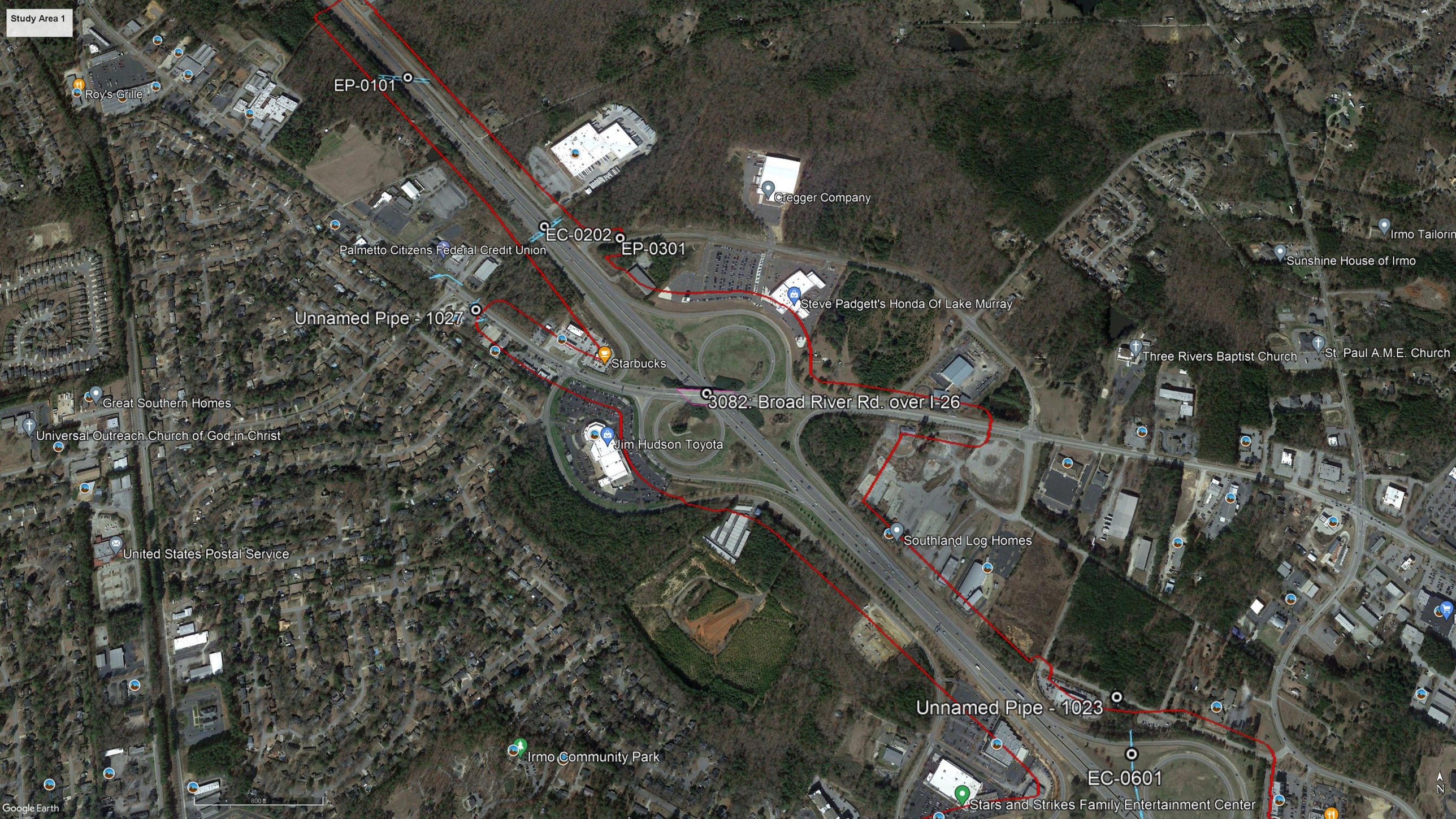
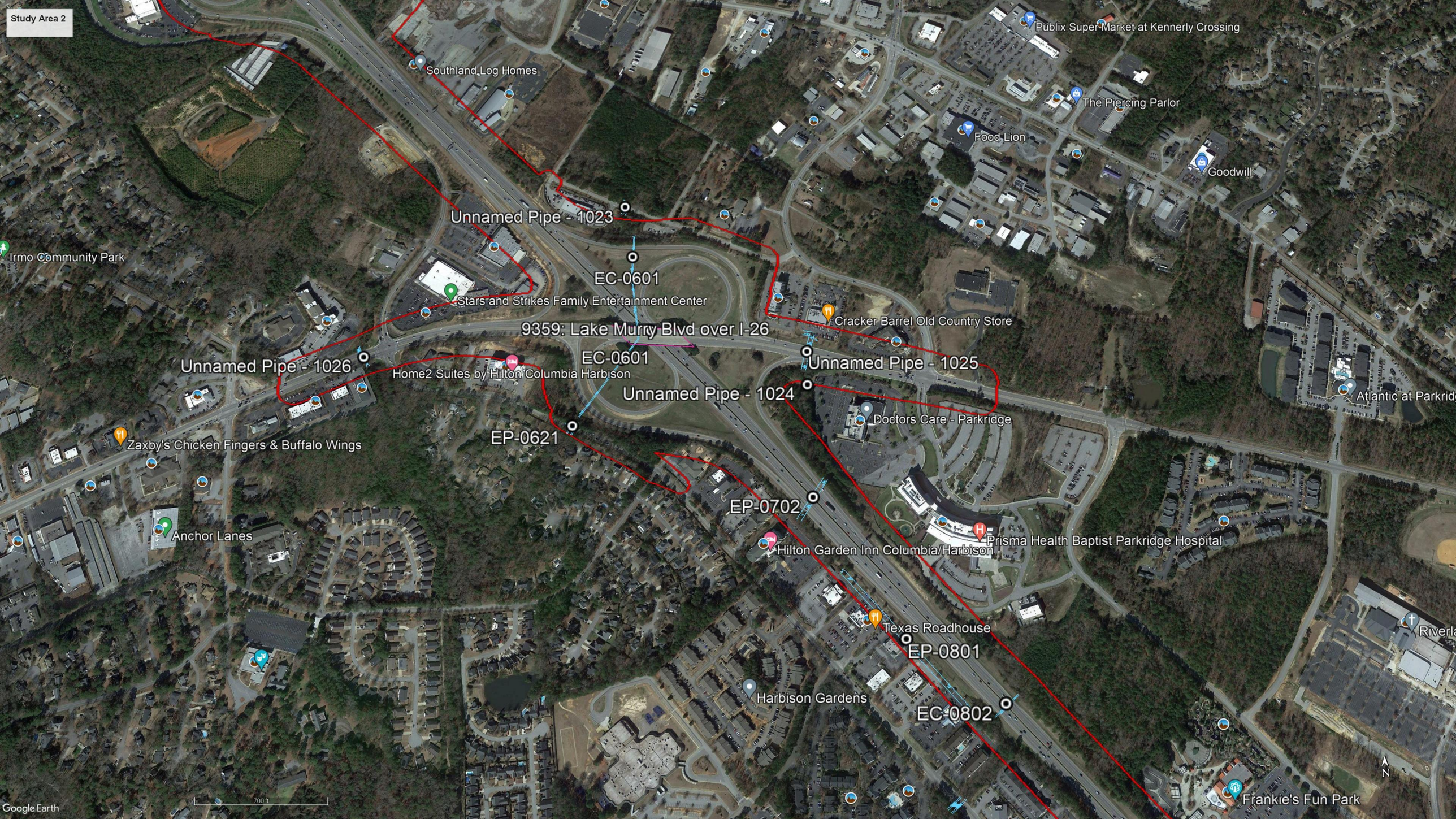
Acronyms and Abbreviations

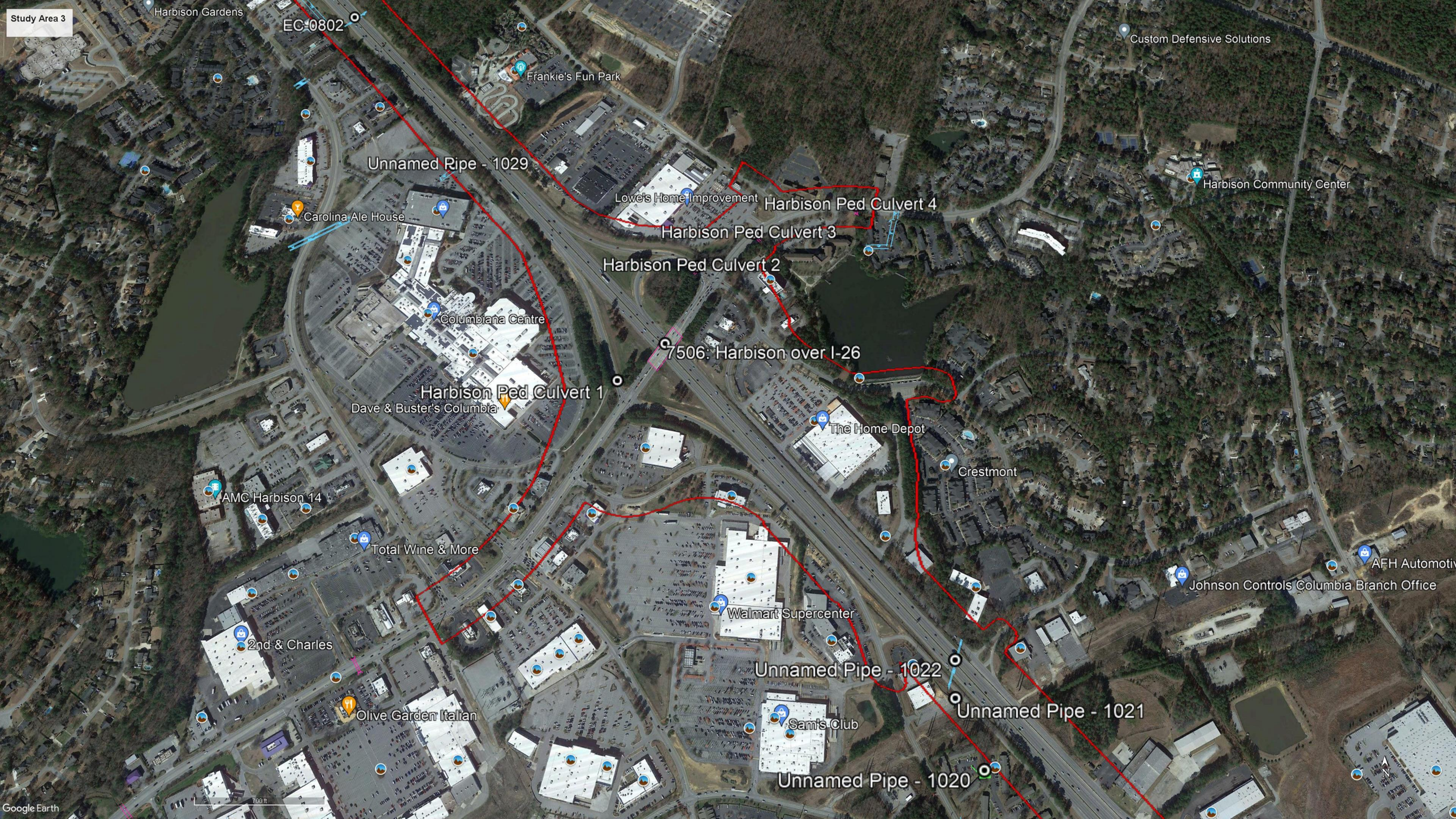
DBH	diameter at breast height
IPaC	Information, Planning, and Consultation
NLCD	National Land Cover Database
Project	Carolina Crossroads Project
SCDNR	South Carolina Department of Natural Resources
SCDOT	South Carolina Department of Transportation
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey

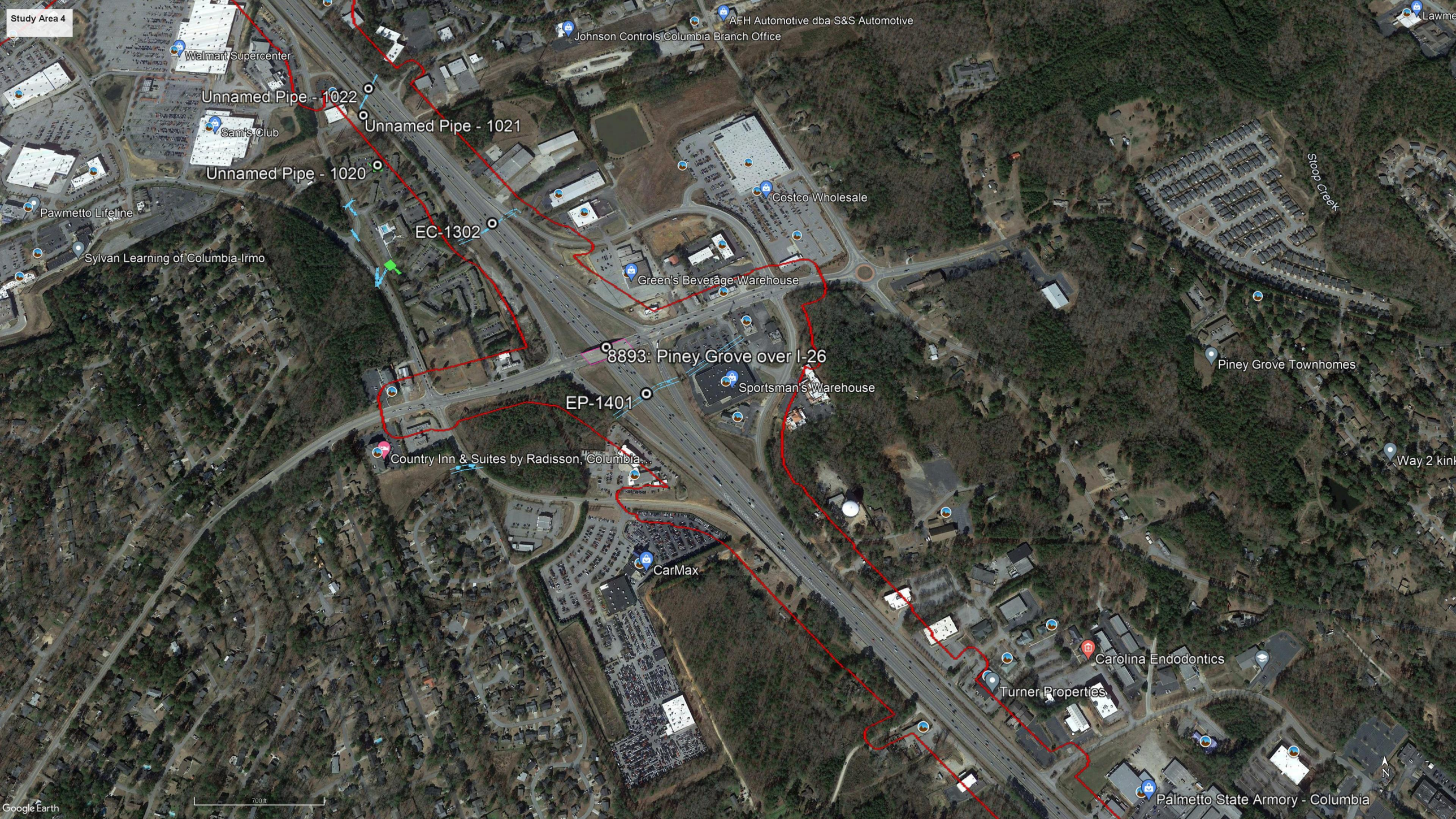
Appendix A

Project Area Maps

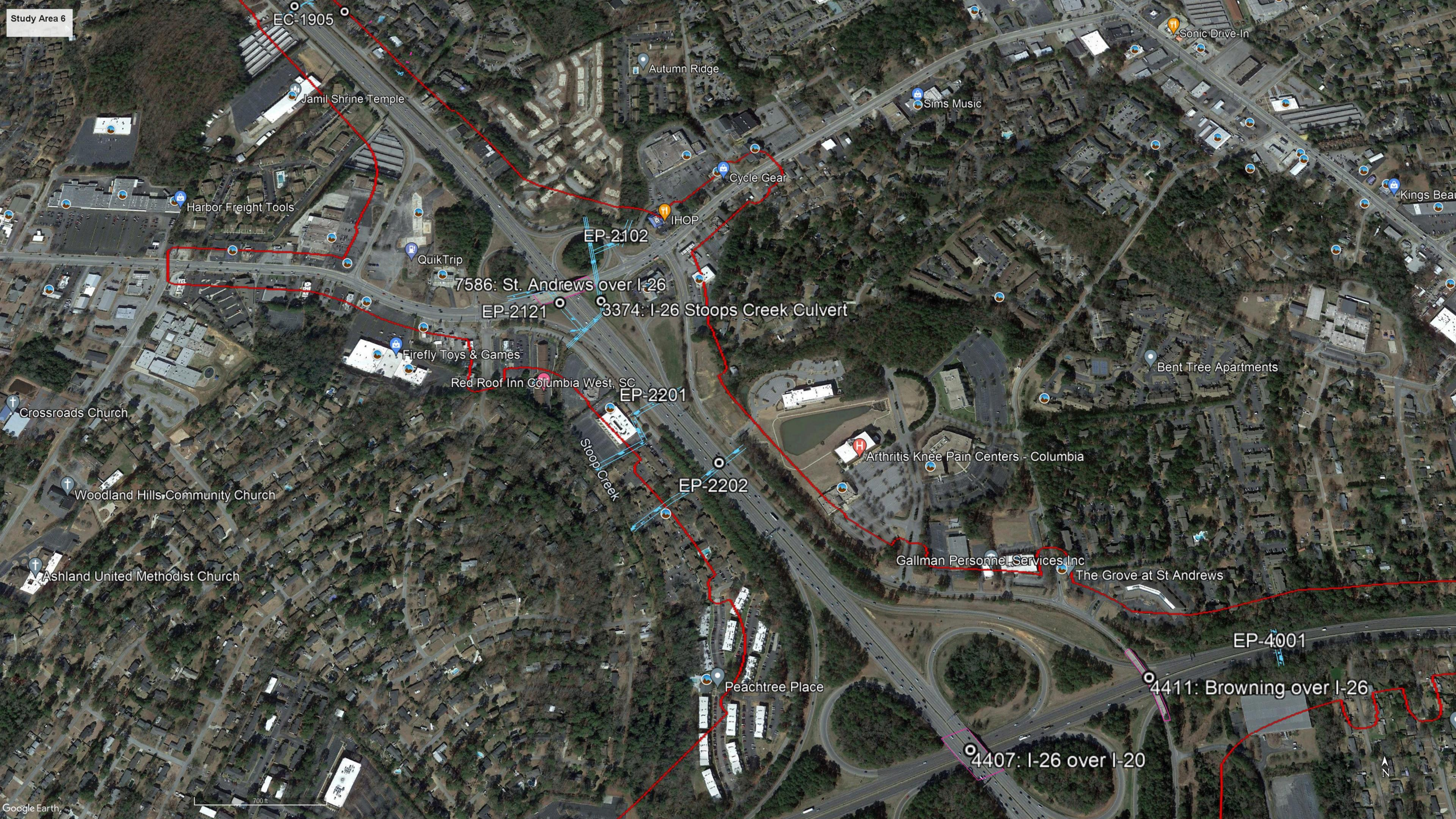

Study Area 1
EP-0101
Roy's Grille
Cregger Company
EC-0202
EP-0301
Palmetto Citizens Federal Credit Union
Irmo Tailorin
Sunshine House of Irmo
Steve Padgett's Honda Of Lake Murray
Unnamed Pipe - 1027
Starbucks
Three Rivers Baptist Church
St. Paul A.M.E. Church
3082. Broad River Rd. over I-26
Great Southern Homes
Universal Outreach Church of God in Christ
Jim Hudson Toyota
Southland Log Homes
United States Postal Service
Unnamed Pipe - 1023
Irmo Community Park
EC-0601
Stars and Strikes Family Entertainment Center
800 ft
Google Earth
N

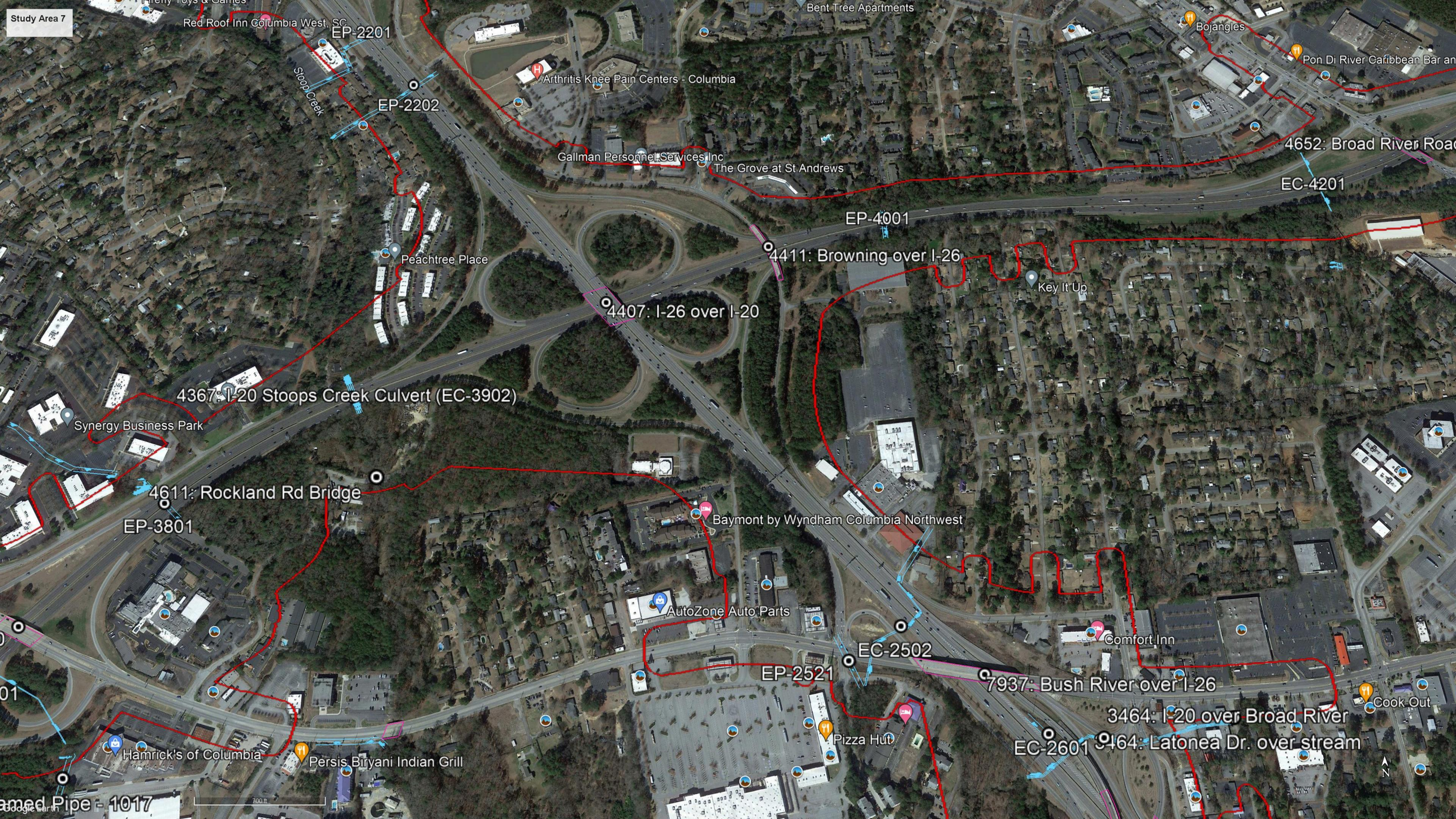

Study Area 2
Publix Super Market at Kennerly Crossing
Southland Log Homes
The Piercing Parlor
Food Lion
Goodwill
Unnamed Pipe - 1023
Irmo Community Park
EC-0601
Stars and Strikes Family Entertainment Center
Cracker Barrel Old Country Store
9359: Lake Murry Blvd over I-26
EC-0601
Unnamed Pipe - 1026
Home2 Suites by Hilton Columbia Harbison
Unnamed Pipe - 1025
Unnamed Pipe - 1024
Doctors Care - Parkridge
EP-0621
Zaxby's Chicken Fingers & Buffalo Wings
EP-0702
Anchor Lanes
Prisma Health Baptist Parkridge Hospital
Hilton Garden Inn Columbia/Harbison
Texas Roadhouse
EP-0801
Harbison Gardens
EC-0802
Frankie's Fun Park
N
700 ft
Google Earth

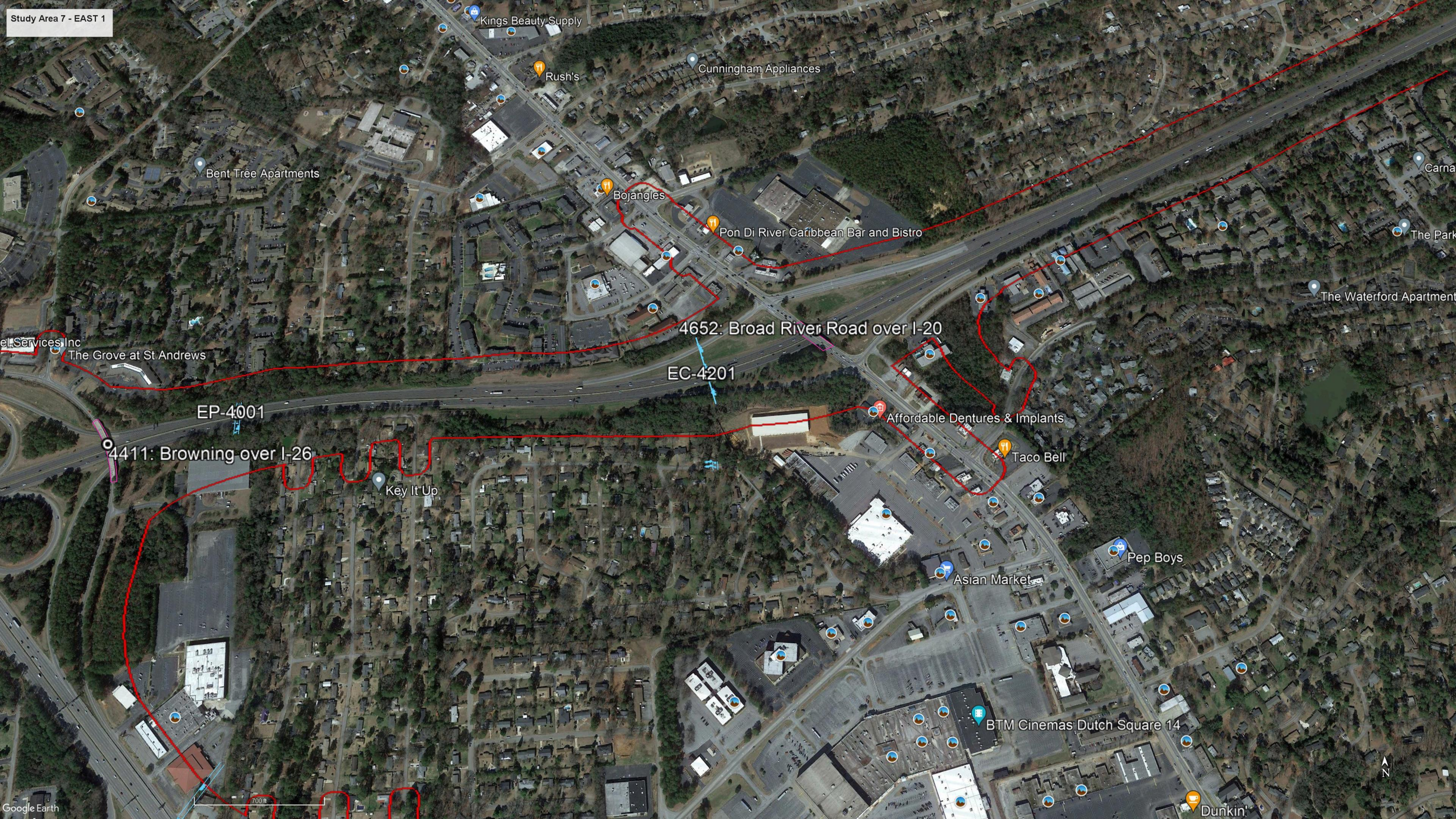

Study Area 3
Harbison Gardens
EC-0802
Custom Defensive Solutions
Frankie's Fun Park
Unnamed Ripe - 1029
Harbison Community Center
Lowe's Home Improvement
Harbison Ped Culvert 4
Carolina Ale House
Harbison Ped Culvert 3
Harbison Ped Culvert 2
Columbiana Centre
7506: Harbison over I-26
Harbison Ped Culvert 1
Dave & Buster's Columbia
The Home Depot
Crestmont
AMC Harbison 14
Total Wine & More
AFH Automoti
Johnson Controls Columbia Branch Office
Walmart Supercenter
2nd & Charles
Unnamed Pipe - 1022
Unnamed Pipe - 1021
Olive Garden Italian
Sam's Club
Unnamed Pipe - 1020
Google Earth
700 ft
N

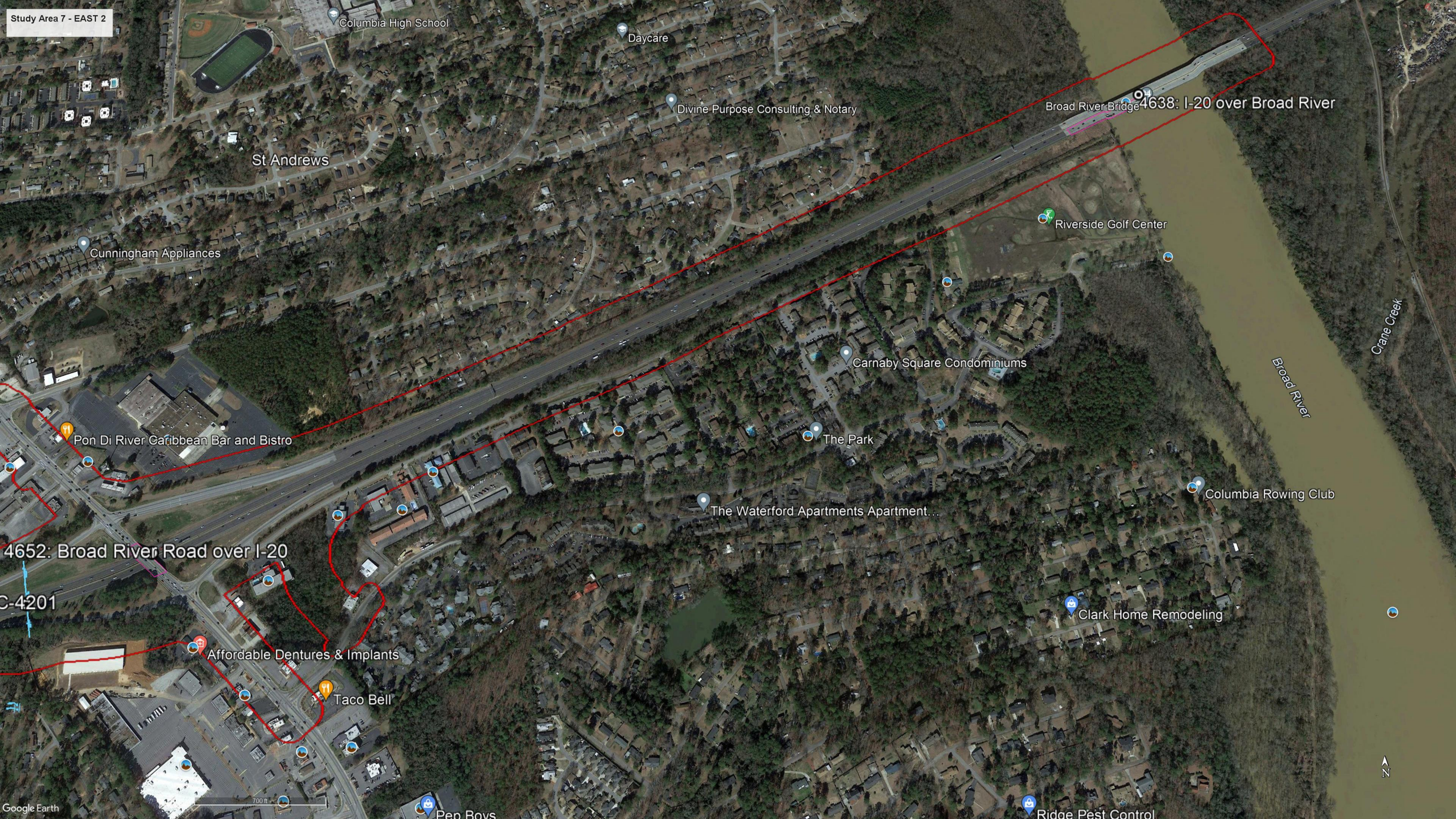

Study Area 4
Walmart Supercenter
Johnson Controls Columbia Branch Office
AFH Automotive dba S&S Automotive
Unnamed Pipe - 1022
Unnamed Pipe - 1021
Sam's Club
Unnamed Pipe - 1020
Pawmetto Lifeline
EC-1302
Costco Wholesale
Stoop Creek
Sylvan Learning of Columbia-Irmo
Green's Beverage Warehouse
8893: Piney Grove over I-26
Piney Grove Townhomes
Sportsman's Warehouse
EP-1401
Country Inn & Suites by Radisson, Columbia...
CarMax
Carolina Endodontics
Turner Properties
Palmetto State Armory - Columbia
Google Earth
700 ft
N

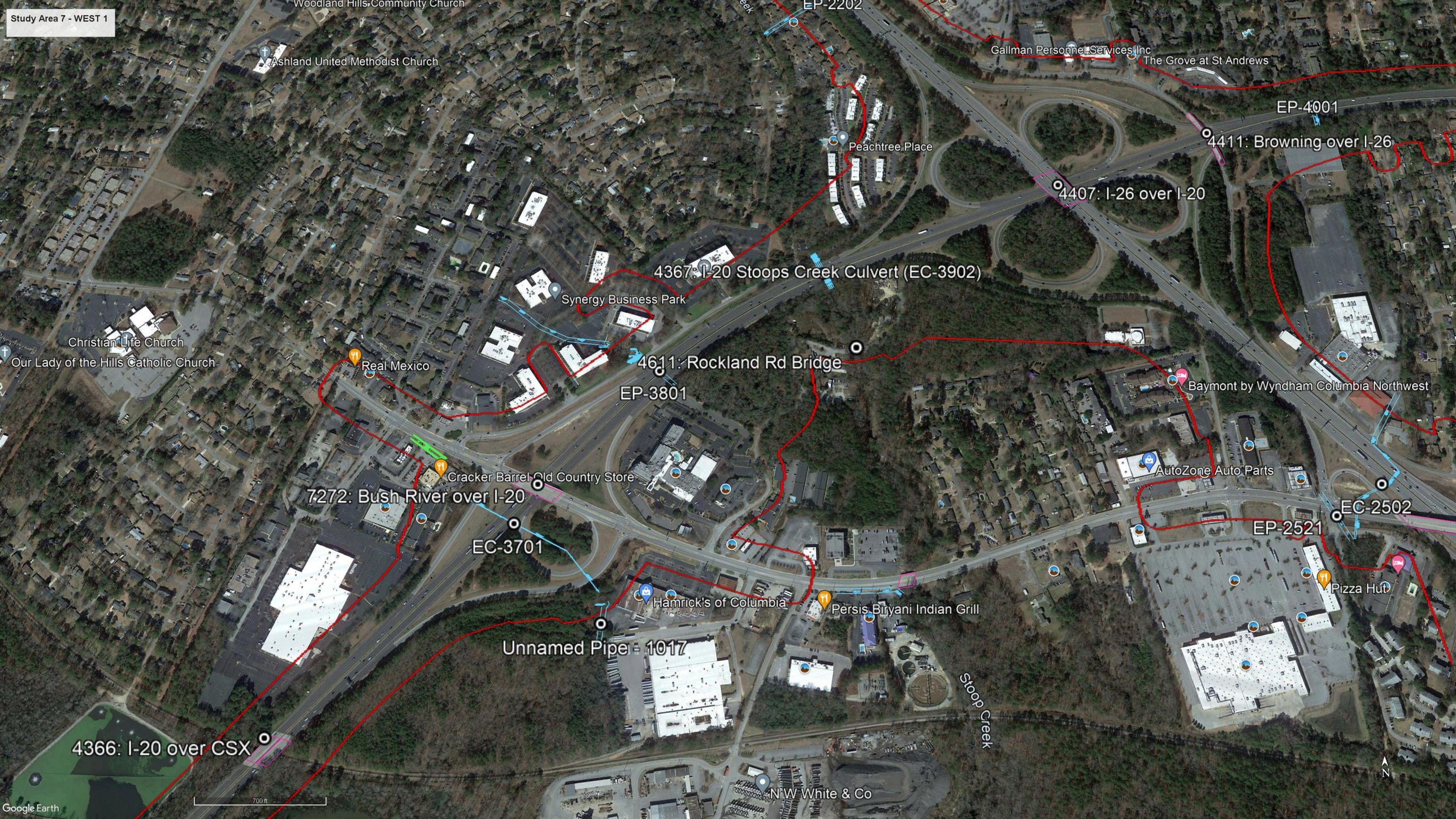

Study Area 5
Turner Properties
Palmetto State Armory - Columbia
Columbia Powersports Center
Floor & Decor
Direct Roadside Assistance
Dick Smith Nissan of St. Andrews
Palmetto Decorators
Camping World
Scouting For Flags
EC-1905
Jamil Shrine Temple
Stoop Creek
Broad River Auto Repair
Pinegrove Elementary School
Autumn Ridge
Google Earth
700 ft
N

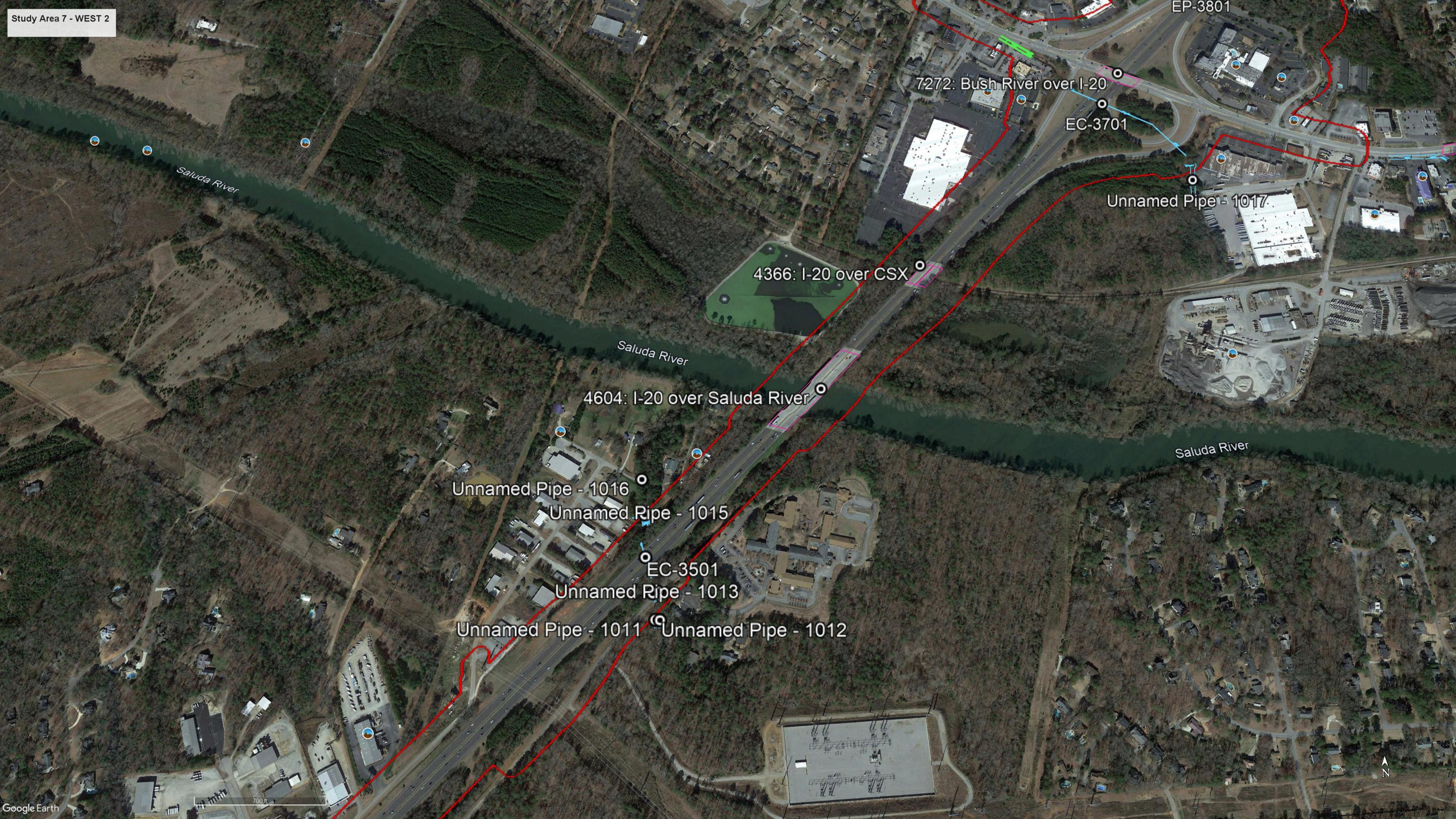

Study Area 6
EC-1905
Autumn Ridge
Sonic Drive-In
Jamil Shrine Temple
Sims Music
Cycle Gear
Harbor Freight Tools
IHOP
EP-2102
QuikTrip
7586: St. Andrews over I-26
EP-2121
3374: I-26 Stoops Creek Culvert
Firefly Toys & Games
Bent Tree Apartments
Red Roof Inn Columbia West, SC
EP-2201
Crossroads Church
Stoop Creek
Arthritis Knee Pain Centers - Columbia
EP-2202
Woodland Hills Community Church
Gallman Personnel Services Inc
The Grove at St Andrews
Ashland United Methodist Church
EP-4001
Peachtree Place
4411: Browning over I-26
4407: I-26 over I-20
700 ft
N
Google Earth

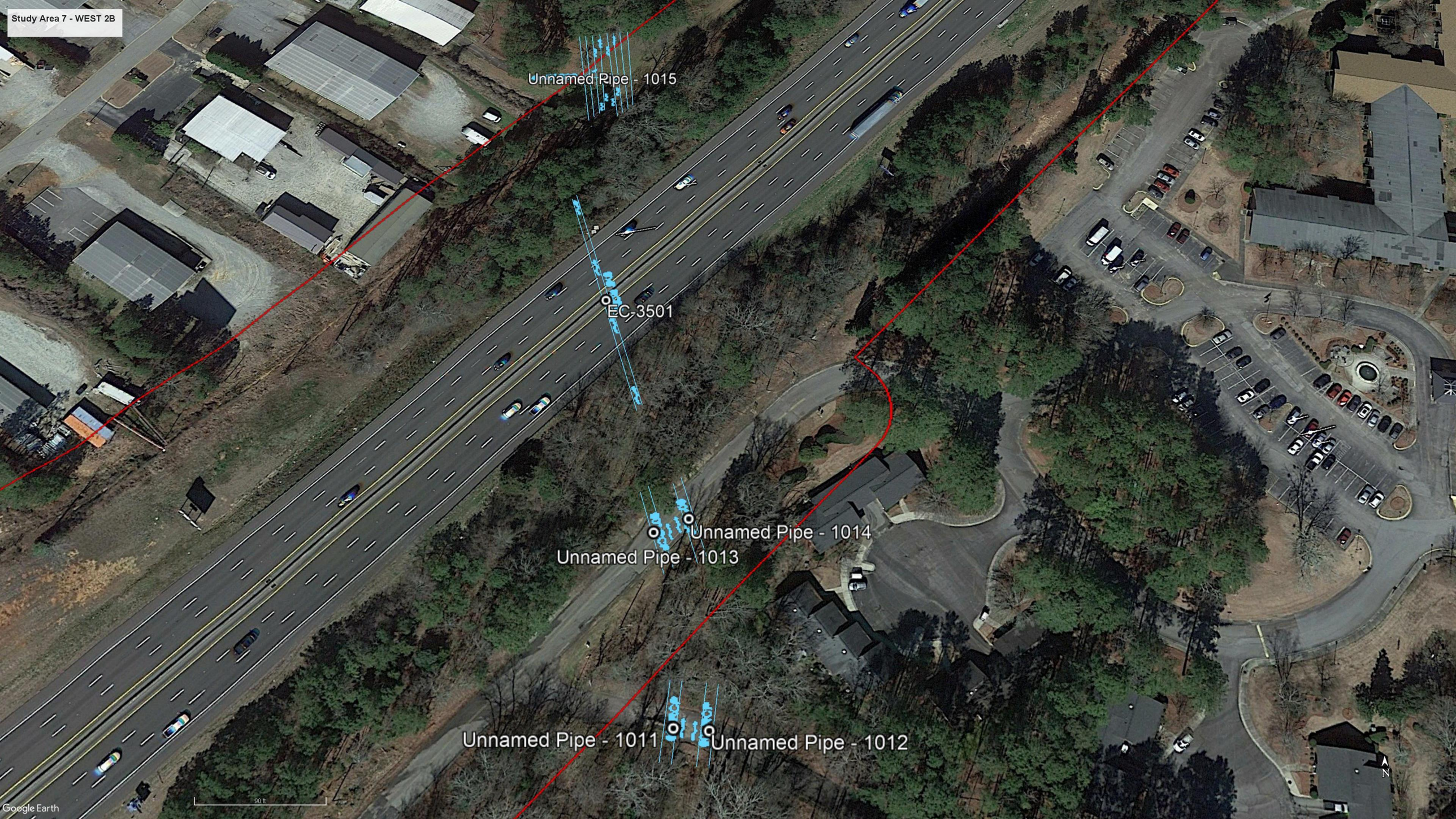

Study Area 7
Red Roof Inn Columbia West, SC
EP-2201
Stoop Creek
EP-2202
Arthritis Knee Pain Centers - Columbia
Bent Tree Apartments
Bojangles
Pon Di River Caribbean Bar an
Gallman Personnel Services Inc
The Grove at St Andrews
4652: Broad River Road
EC-4201
EP-4001
4411: Browning over I-26
Peachtree Place
Key It Up
4407: I-26 over I-20
4367: I-20 Stoops Creek Culvert (EC-3902)
Synergy Business Park
4611: Rockland Rd Bridge
EP-3801
Baymont by Wyndham Columbia Northwest
AutoZone Auto Parts
EC-2502
Comfort Inn
EP-2521
7937: Bush River over I-26
Cook Out
3464: I-20 over Broad River
Pizza Hut
EC-2601
3464: Latonea Dr. over stream
Hamrick's of Columbia
Persis Biryani Indian Grill
700 ft
N


Study Area 7 - EAST 1
Kings Beauty Supply
Rush's
Cunningham Appliances
Bent Tree Apartments
Bojangles
Pon Di River Caribbean Bar and Bistro
The Park
The Waterford Apartment
4652: Broad River Road over I-20
EC-4201
The Grove at St Andrews
EP-4001
4411: Browning over I-26
Affordable Dentures & Implants
Taco Bell
Key It Up
Pep Boys
Asian Market
BTM Cinemas Dutch Square 14
Dunkin'
700 ft
N
Google Earth

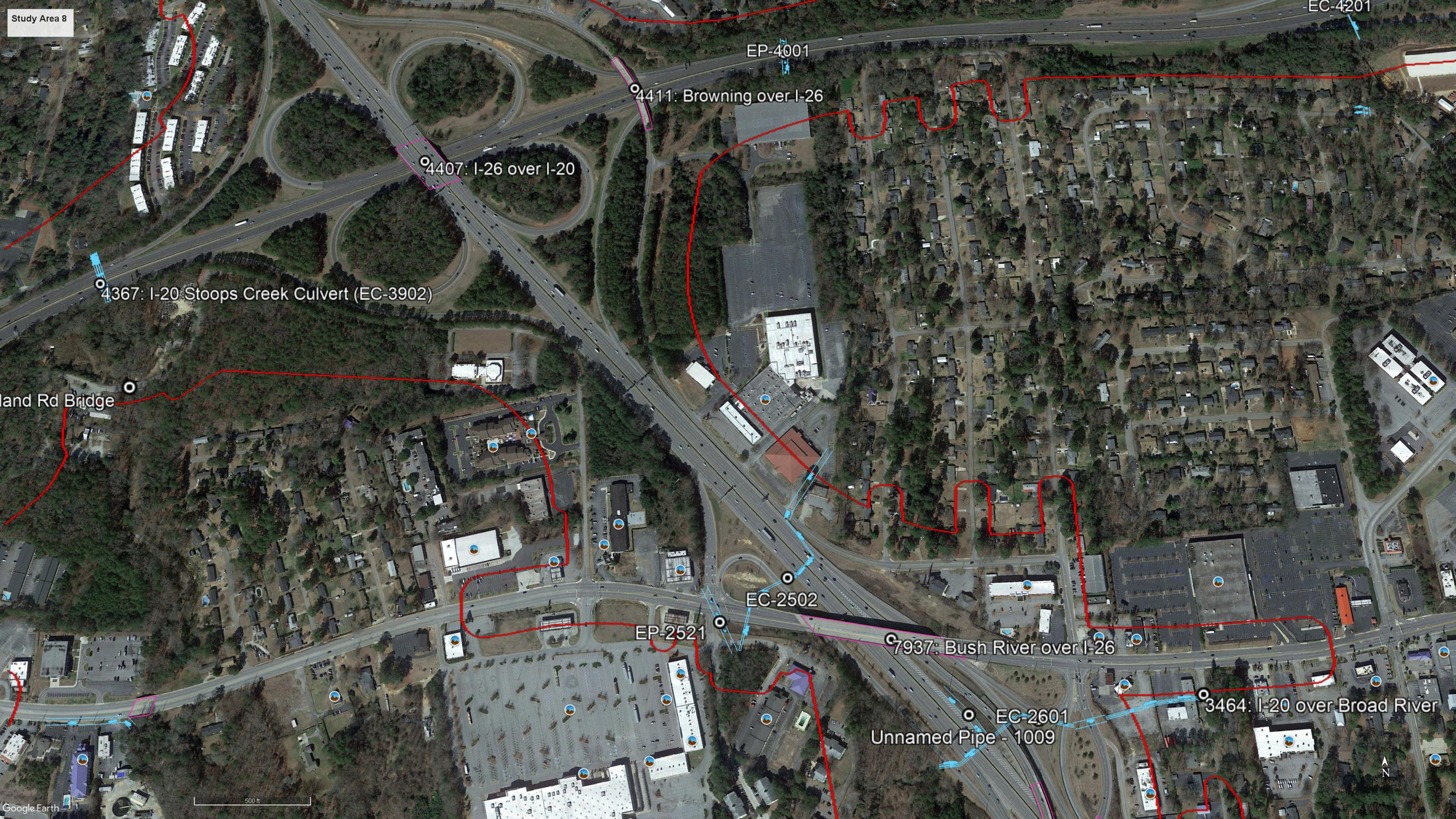

Study Area 7 - EAST 2
Columbia High School
Daycare
Divine Purpose Consulting & Notary
Broad River Bridge
4638: I-20 over Broad River
St Andrews
Riverside Golf Center
Cunningham Appliances
Carnaby Square Condominiums
Crane Creek
Broad River
Pon Di River Caribbean Bar and Bistro
The Park
Columbia Rowing Club
The Waterford Apartments Apartment...
4652: Broad River Road over I-20
C-4201
Clark Home Remodeling
Affordable Dentures & Implants
Taco Bell
Pep Boys
Ridge Pest Control
700 ft
Google Earth
N

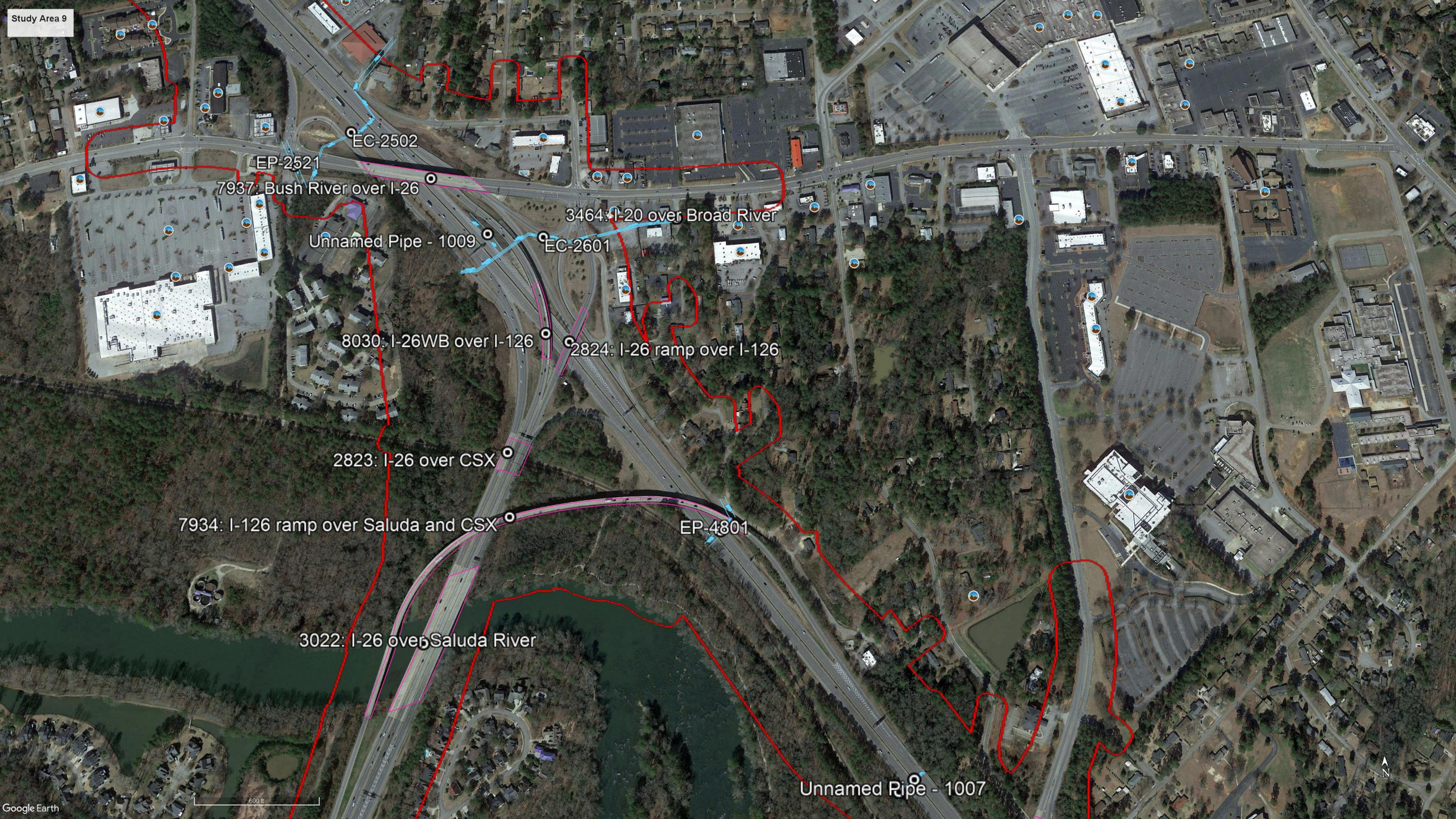

Study Area 7 - WEST 1
Woodland Hills Community Church
Ashland United Methodist Church
EP-2202
Gallman Personnel Services Inc
The Grove at St Andrews
EP-4001
4411: Browning over I-26
Peachtree Place
4407: I-26 over I-20
4367: I-20 Stoops Creek Culvert (EC-3902)
Synergy Business Park
Christian Life Church
Our Lady of the Hills Catholic Church
Real Mexico
4611: Rockland Rd Bridge
EP-3801
Baymont by Wyndham Columbia Northwest
Cracker Barrel Old Country Store
AutoZone Auto Parts
7272: Bush River over I-20
EC-2502
EP-2521
EC-3701
Pizza Hut
Hamrick's of Columbia
Persis Biryani Indian Grill
Unnamed Pipe - 1017
Stoop Creek
4366: I-20 over CSX
N W White & Co
700 ft
Google Earth
N

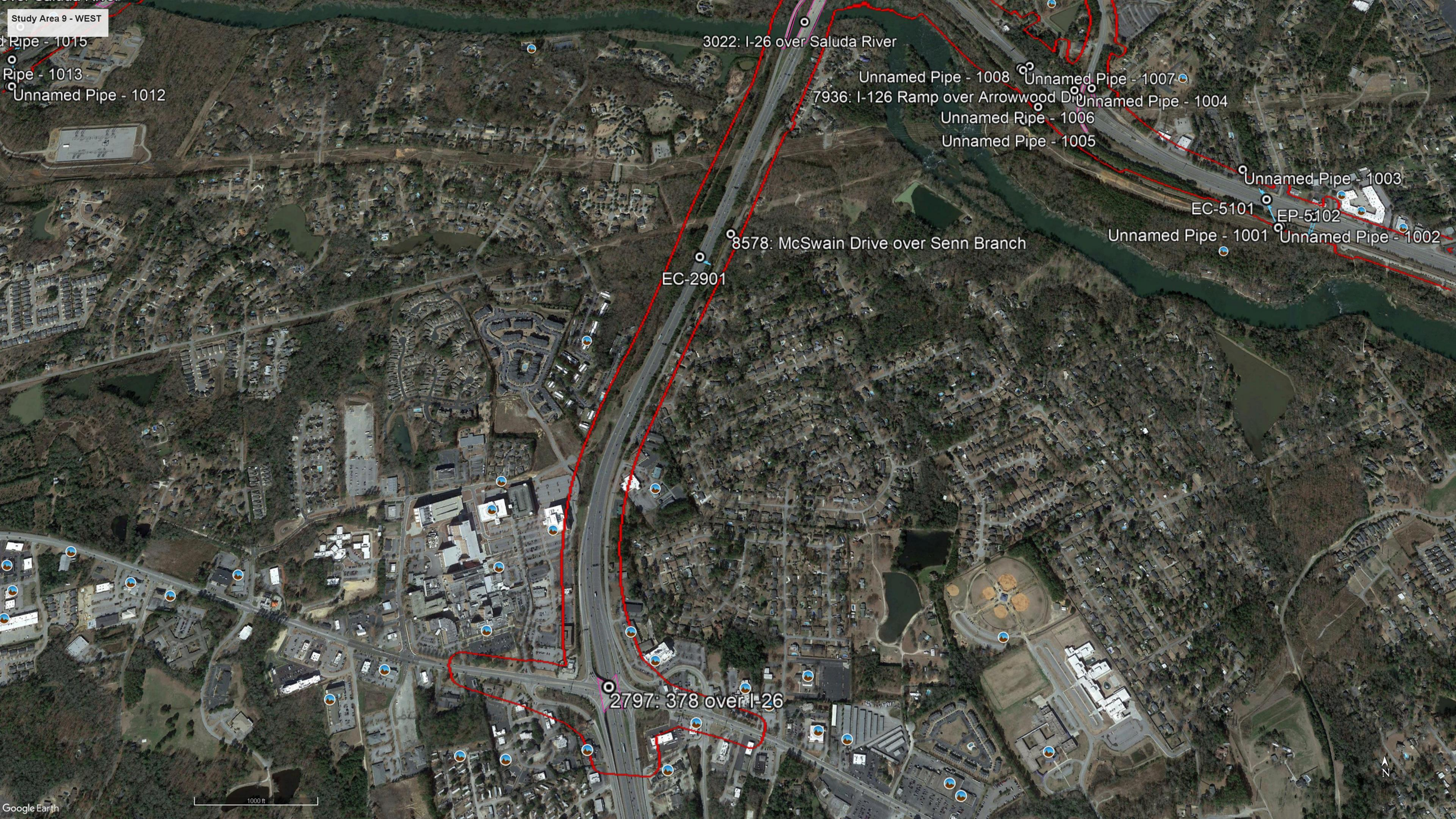

Study Area 7 - WEST 2
EP-3801
7272: Bush River over I-20
EC-3701
Unnamed Pipe - 1017
Saluda River
4366: I-20 over CSX
Saluda River
4604: I-20 over Saluda River
Saluda River
Unnamed Pipe - 1016
Unnamed Pipe - 1015
EC-3501
Unnamed Pipe - 1013
Unnamed Pipe - 1011
Unnamed Pipe - 1012
700 ft
N
Google Earth

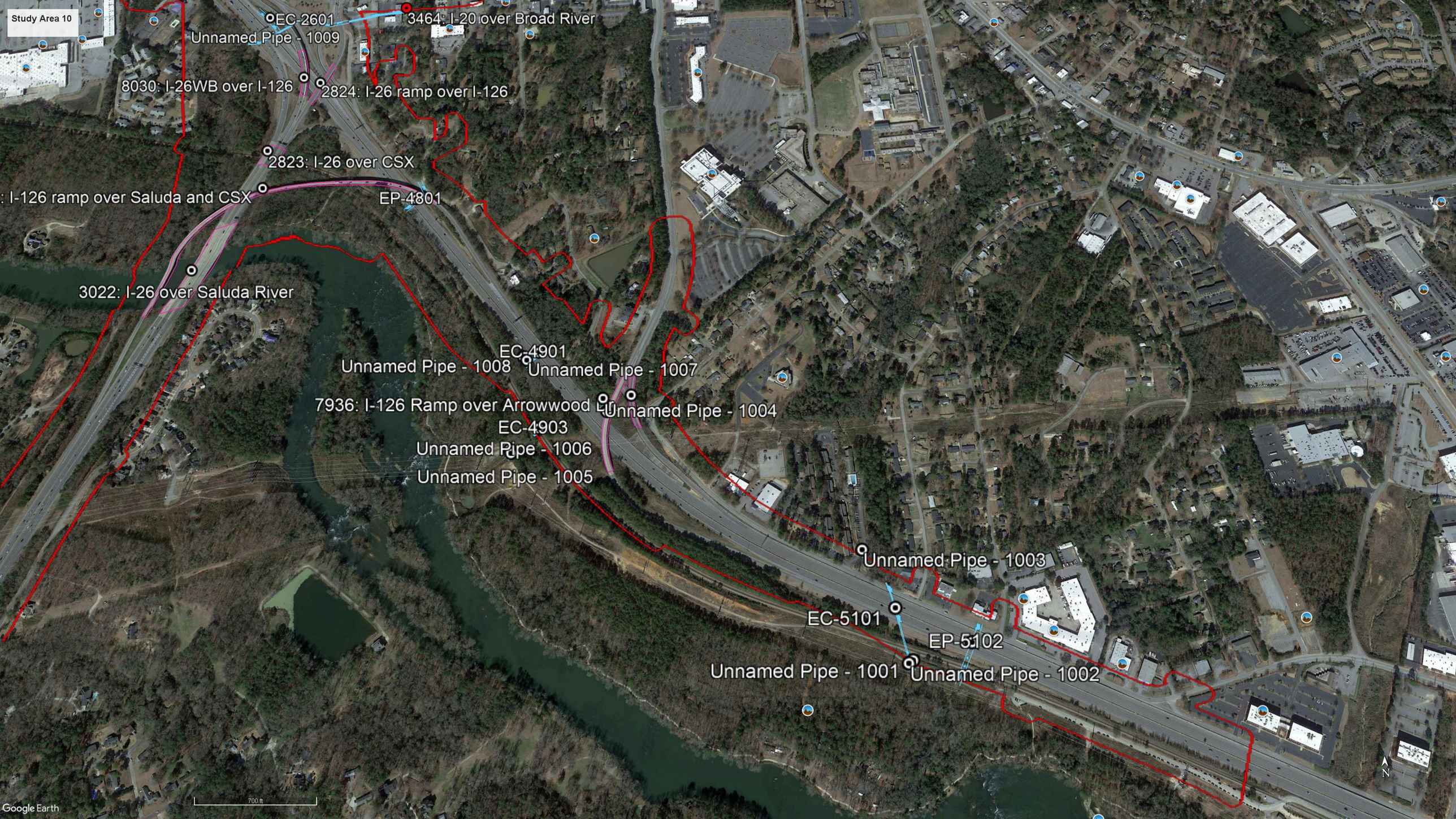

Study Area 7 - WEST 2B
Unnamed Pipe - 1015
EC-3501
Unnamed Pipe - 1014
Unnamed Pipe - 1013
Unnamed Pipe - 1011
Unnamed Pipe - 1012
90 ft
N
Google Earth

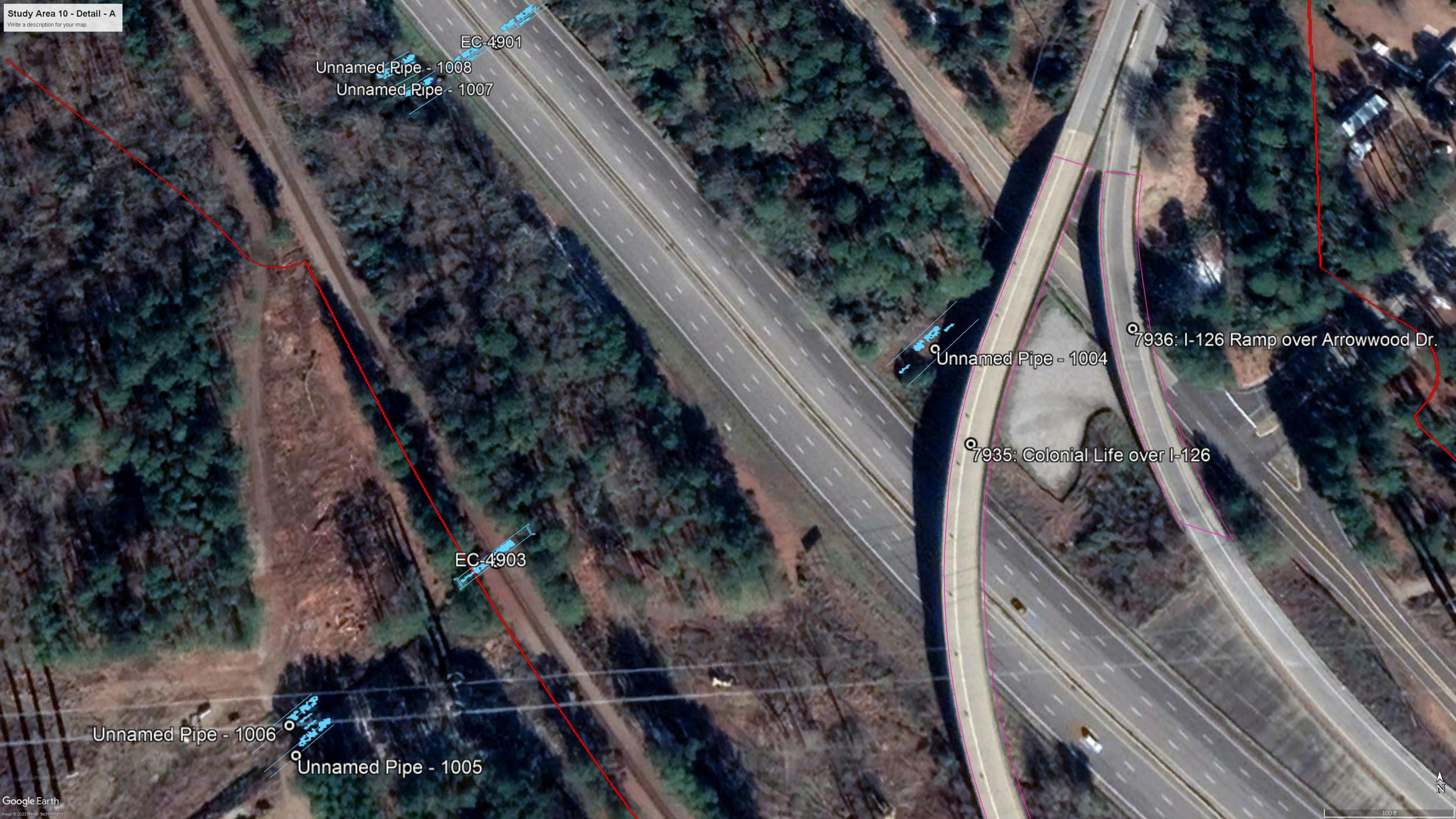

Study Area 7 - WEST 3
Unnamed Pipe - 1011
Unnamed Pipe - 1012
EC-3201
Unnamed Pipe - 1010
500 ft
N
Google Earth

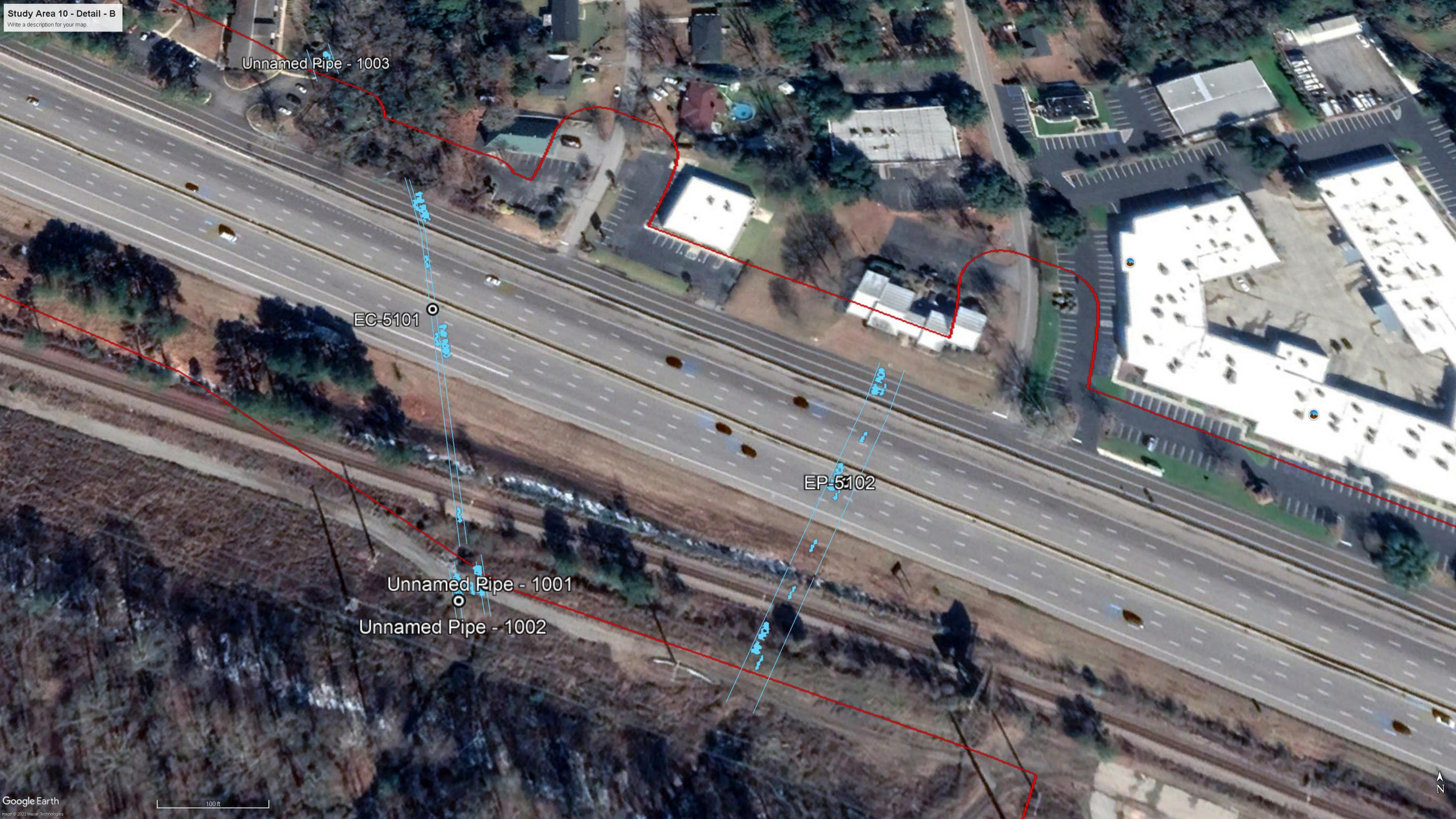

Study Area 8
EC-4201
EP-4001
4411: Browning over I-26
4407: I-26 over I-20
4367: I-20 Stoops Creek Culvert (EC-3902)
land Rd Bridge
EC-2502
EP-2521
7937: Bush River over I-26
EC-2601
Unnamed Pipe - 1009
3464: I-20 over Broad River
N
500 ft
Google Earth


Study Area 9
EC-2502
EP-2521
7937: Bush River over I-26
3464: I-20 over Broad River
Unnamed Pipe - 1009
EC-2601
8030: I-26WB over I-126
2824: I-26 ramp over I-126
2823: I-26 over CSX
7934: I-126 ramp over Saluda and CSX
EP-4801
3022: I-26 over Saluda River
Unnamed Pipe - 1007
600 ft
N
Google Earth


Study Area 9 - WEST
Ripe - 1015
Ripe - 1013
Unnamed Pipe - 1012
3022: I-26 over Saluda River
Unnamed Pipe - 1008
Unnamed Pipe - 1007
7936: I-126 Ramp over Arrowwood Dr
Unnamed Pipe - 1004
Unnamed Pipe - 1006
Unnamed Pipe - 1005
Unnamed Pipe - 1003
EC-5101
EP-5102
Unnamed Pipe - 1001
Unnamed Pipe - 1002
8578: McSwain Drive over Senn Branch
EC-2901
2797: 378 over I-26
1000 ft
Google Earth
N


Study Area 10
EC-2601
3464: I-20 over Broad River
Unnamed Pipe - 1009
8030: I-26WB over I-126
2824: I-26 ramp over I-126
2823: I-26 over CSX
: I-126 ramp over Saluda and CSX
EP-4801
3022: I-26 over Saluda River
EC-4901
Unnamed Pipe - 1008
Unnamed Pipe - 1007
7936: I-126 Ramp over Arrowwood
Unnamed Pipe - 1004
EC-4903
Unnamed Pipe - 1006
Unnamed Pipe - 1005
Unnamed Pipe - 1003
EC-5101
EP-5102
Unnamed Pipe - 1001
Unnamed Pipe - 1002
N
700 ft
Google Earth


Study Area 10 - Detail - A
Write a description for your map.
EC-4901
Unnamed Pipe - 1008
Unnamed Pipe - 1007
Unnamed Pipe - 1004
7936: I-126 Ramp over Arrowwood Dr.
7935: Colonial Life over I-126
EC-4903
Unnamed Pipe - 1006
Unnamed Pipe - 1005
Google Earth
Image © 2023 Maxar Technologies
N
100 ft


Study Area 10 - Detail - B
Write a description for your map.
Unnamed Pipe - 1003
EC-5101
EP-5102
Unnamed Pipe - 1001
Unnamed Pipe - 1002
Google Earth
100 ft
N

Appendix B

U.S. Fish and Wildlife Information for Planning and Consultation Report and South Carolina Department of Natural Resources Natural Heritage Report

IPaC resource list

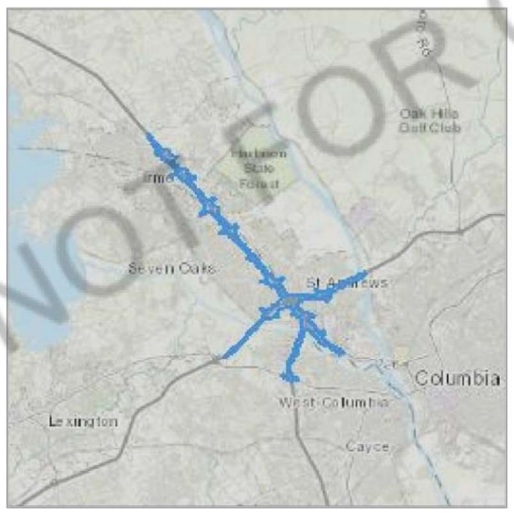
This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list 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.

NOT FOR CONSULTATION

Location

Lexington and Richland counties, South Carolina



Local office

South Carolina Ecological Services

(843) 727-4707
(843) 727-4218

176 Croghan Spur Road, Suite 200

Charleston, SC 29407-7558

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. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. 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 iurisdiction.

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. IPaC only shows species that are regulated by USFWS (see FAQ).

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
Tricolored Bat Perimyotis subflavus Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/1051 5	Proposed Endangered

Birds

NAME	STATUS
Red-cockaded Woodpecker Picoiaes Dorealis Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp pecies/761 4	Endangered

Insects

NAME	STATUS
Monarch Butterfly Danaus plexippus Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ec/q_gpecies/9743	Candidate

Flowering Plants

NAME	STATUS
Canby's Dropwort Oxyoolis canDyi Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp pecies/7738	Endangered
Rough-leaved Loosestrife Lysimacnia asoerulaefolia Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp pecies/2747	Endangered

Smooth Coneflower Ecninacea laevigata Threatened

Wherever found

No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp pecies/3473

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.

You are still required to determine if your project(s) may have effects on all above listed species.

Bald & Golden Eagles

Bald and golden eagles are protected under the Bald and Golden Eagle Protection Act and the Migatrory Bird Treaty Act.

Any person or organization who plans or conducts activities that may result in impacts to bald or golden eagles, or their habitats, should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

Additional information can be found using the following links:

- Eagle Managment https://www.fws.gov/prgram/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migtrory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf

There are bald and/or golden eagles in your project area.

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

Bald Eagle Haliaeetus leucocepnalus — Breeds Sep 1 to Jul 31

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.

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 (•)

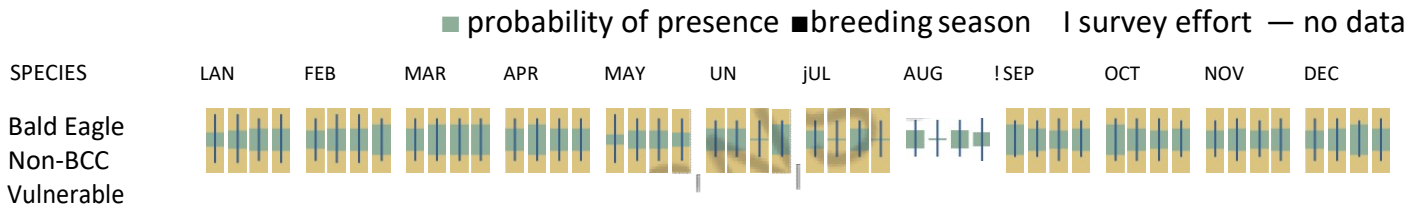
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (I)
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.



What does lPaC use to generate the potential presence of bald and golden eagles in my specified location?

The potential for eagle presence 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). To see a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does lPaC use to generate the probability of presence graphs of bald and golden eagles in my specified location?

TheMigratory BirdResource Listiscomprised ofUSFWS Birds ofConservation 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 1Okm 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 Rapid Avian Information Locator (RAIL) Tool.

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. Please contact your local Fish and Wildlife Service Field Office if you have questions.

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 Migtrory 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 https://www.fws.gov/prgram/migatrory-birds/species
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migtrory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.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 ma in 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
American Kestrel Falco sparverius oaulus This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9587	Breeds Apr 1 to Aug 31
Bald Eagle Haliaeetus leucocepnalus 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.	Breeds Sep 1 to Jul 31
Black-billed Cuckoo Coccyzus er nroptnalmus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp pecies/9399	Breeds May 1 5 to Oct 10
Brown-headed Nuthatch Sitta Dusilia This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Mar 1 to Jul 15
Cerulean Warbler Dendroica cerulea This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp pecies/2974	Breeds Apr 26 to Jul 20
Chimney Swift Chaetura oelagica This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 15 to Aug 25
Eastern Whip-poor-will Antrostomus vociferus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Aug 20
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 pecies/9679	Breeds elsewhere
Painted Bunting Passerina ciris This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Apr 25 to Aug 15
Prairie Warbler Denaroica aiscolor This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Jul 31
Prothonotary Warbler Protonotaria citrea This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA andAlaska.	Breeds Apr 1 to Jul 31
Red-headed Woodpecker MelanerDes e tnrocepnalus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA andAlaska.	Breeds May 10 to Sep 10
Rusty Blackbird Euphagus carolinus This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds elsewhere
Swallow-tailed Kite Elanoides forficatus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp pecies/8938	Breeds Mar 10 torun 30
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.

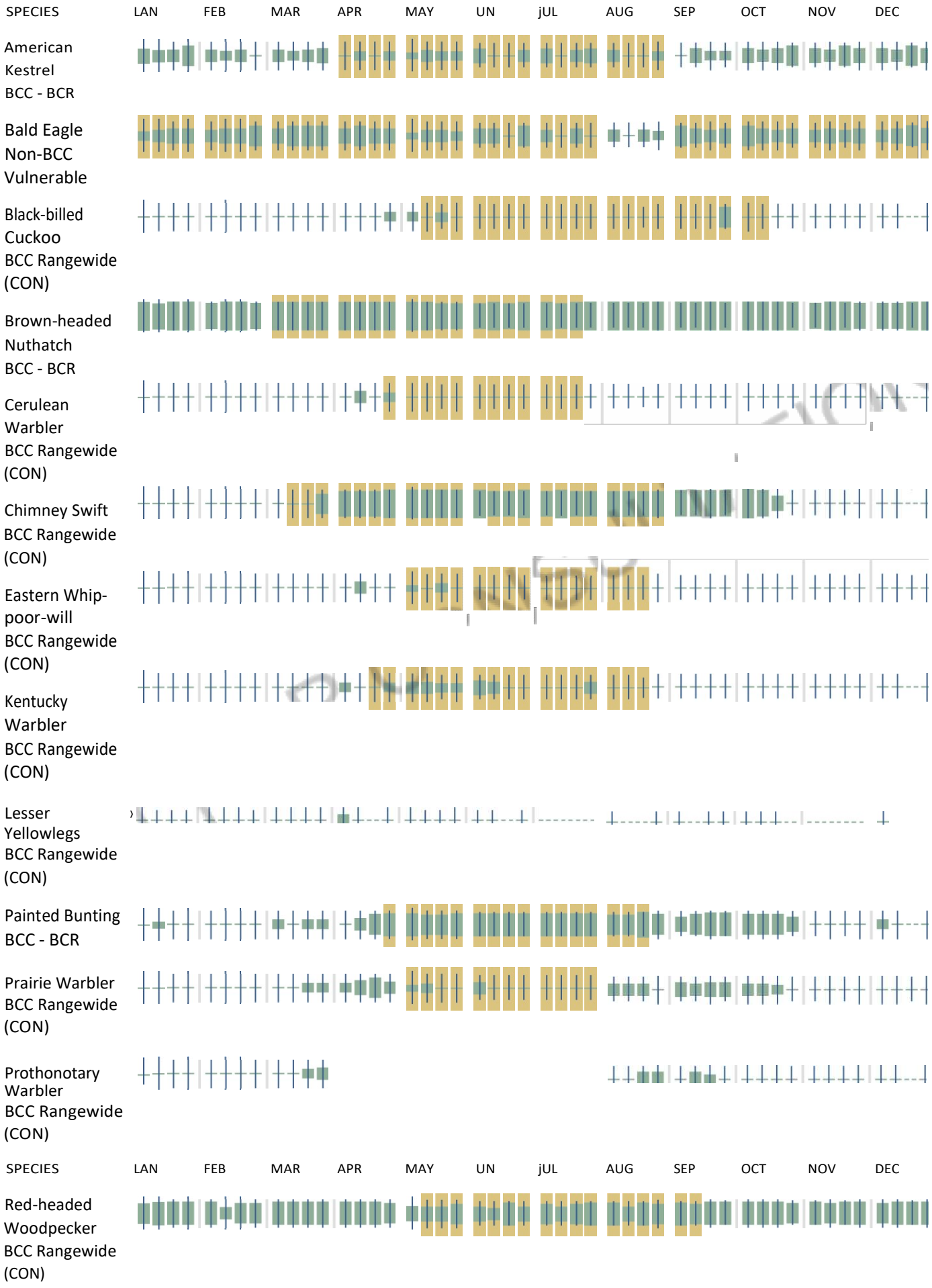
Survey Effort (I)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

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.

■ probability of presence ■ breeding season I survey effort — no data


SPECIES
LAN
FEB
MAR
APR
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AUG
SEP
OCT
NOV
DEC
American Kestrel BCC - BCR
Bald Eagle Non-BCC Vulnerable
Black-billed Cuckoo BCC Rangewide (CON)
Brown-headed Nuthatch BCC - BCR
Cerulean Warbler BCC Rangewide (CON)
Chimney Swift BCC Rangewide (CON)
Eastern Whip-poor-will BCC Rangewide (CON)
Kentucky Warbler BCC Rangewide (CON)
Lesser Yellowlegs BCC Rangewide (CON)
Painted Bunting BCC - BCR
Prairie Warbler BCC Rangewide (CON)
Prothonotary Warbler BCC Rangewide (CON)
SPECIES
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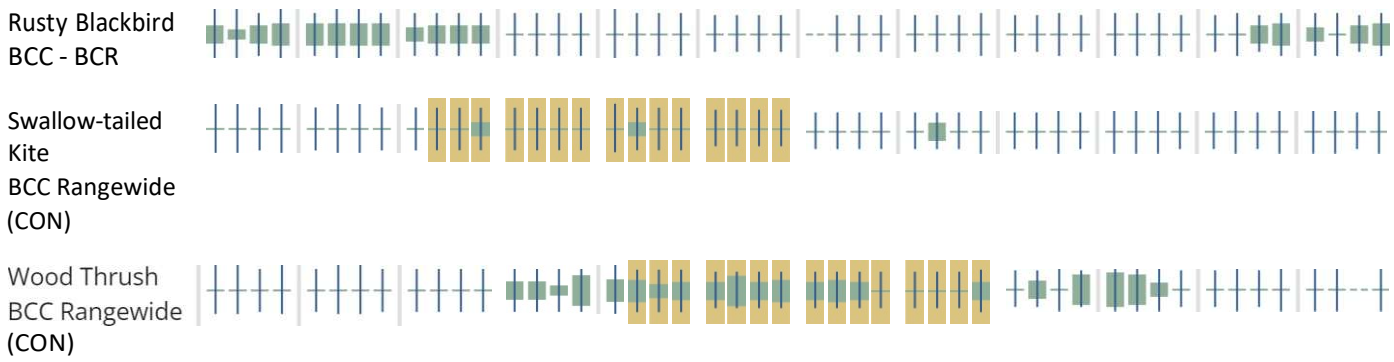
Red-headed Woodpecker BCC Rangewide (CON)



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 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 lPaC use to generate the list of migratory birds that potentially occur in my specified location?

TheMigratory BirdResource Listiscomprised ofUSFWS Birds ofConservation 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 1Okm 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 Rapid Avian Information Locator (RAIL) Tool.

What does lPaC 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 theAvianKnowledge Network(AKN). Thisdataisderivedfromagrowing collection ofsurvey, 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 ofpresence 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 or migrating in my 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 query your location using the RAIL Tool and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. 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 Mapp g 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 Spiegl 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 (NWI)

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. ArmCyorpspof Engineers District.

Wetland information is not available at this time

This can happen when the National Wetlands Inventory (NWI) map service is unavailable, or for very large projects that intersect many wetland areas. Try again, or visit the NWI maps to view wetlands at this location.

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 tuberficid 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.

South Carolina Department of Natural Resources

Robert H. Boyles, Jr.
Director

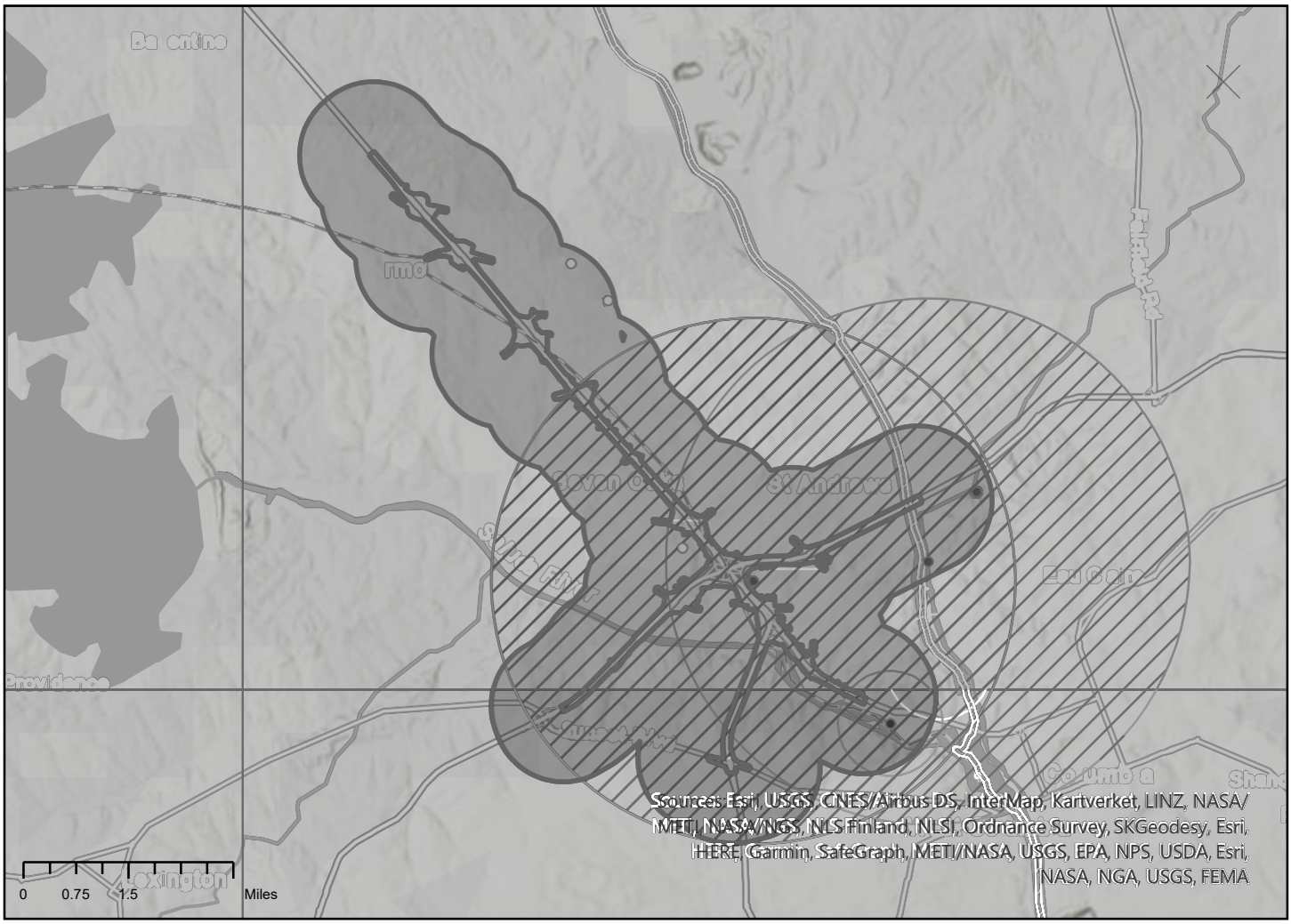
Emily C. Cope
Deputy Director for Wildlife and Freshwater Fisheries

PO Box 167
Columbia, SC 29202
(803) 734-1396
speciesreview@dnr.sc.gov

Requested on Friday, June 30, 2023 by *Johanna Velasquez*.

Re: Request for Threatened and Endangered Species Consultation
Johanna Velasquez, HDR Inc. - Carolina Crossroads - Road - Richland County-Lexington County, South Carolina

The South Carolina Department of Natural Resources (SCDNR) has received your request for threatened and endangered species consultation of the above named project in Richland County-Lexington County, South Carolina. The following map depicts the project area and a 1 mile buffer surrounding:



Live Life Outdoors

South Carolina Department of Natural Resources

Robert H. Boyles, Jr.
Director

Emily C. Cope
Deputy Director for Wildlife and Freshwater Fisheries

This report includes the following items:
A - A report for species which intersect the project area
B - A report for species which intersect the buffer around the project area
C - A list of best management practices relevant to species near to or within the project area
D - A list of best management practices relevant to the project type
E - A list of state & federally listed species within the county of the project area
F - Instructions to submit new species observation records to the SC Natural Heritage Program

Please be advised:

The contents of this report, including all tables, maps, recommendations, and various other text, are produced as a direct result of the information a user provides at the time of submission. The SCDNR assumes that all information submitted by the user represents the project scope as proposed, and recommends that additional reports be requested should the scope deviate from how the project was initially represented to the SCDNR.

The technical comments outlined in this report are submitted to speak to the general impacts of the activities as described through inquiry by parties outside the South Carolina Department of Natural Resources. These technical comments are submitted as guidance to be considered and are not submitted as final agency comments that might be related to any unspecified local, state or federal permit, certification or license applications that may be needed by any applicant or their contractors, consultants or agents presently under review or not yet made available for public review. In accordance with its policy 600.01, Comments on Projects Under Department Review, the South Carolina Department of Natural Resources, reserves the right to comment on any permit, certification or license application that may be published by any regulatory agency which may incorporate, directly or by reference, these technical comments.

Interested parties are to understand that SCDNR may provide a final agency position to regulatory agencies if any local, state or federal permit, certification or license applications may be needed by any applicant or their contractors, consultants or agents. For further information regarding comments and input from SCDNR on your project, please contact our Office of Environmental Programs by emailing environmental@dnr.sc.gov or by visiting www.dnr.sc.gov/environmental. Pursuant to Section 7 of the Endangered Species Act, requests for formal letters of concurrence with regards to federally listed species should be directed to the USFWS.

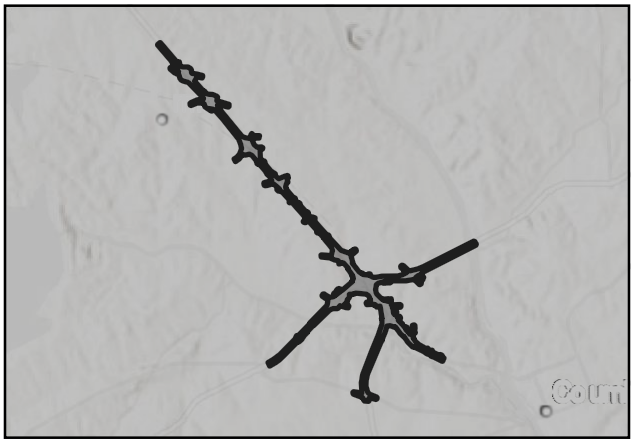
Should you have any questions or need more information, please do not hesitate to contact our office by email at speciesreview@dnr.sc.gov or by phone at 803-734-1396.

Sincerely,

Joseph Lemeris, Jr.
Heritage Trust Program
SC Department of Natural Resources

Live Life Outdoors

A. Project Area - Species Report



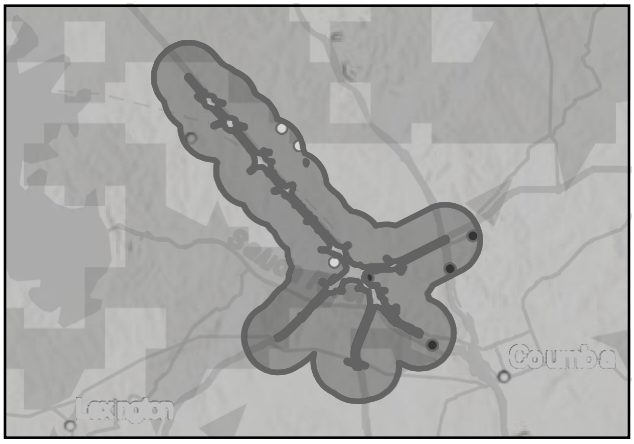
There are 7 tracked species records found within the project foot print. The following table outlines occurrences found within the project footprint (if any), sorted by listing status and species name. Please keep in mind that this information is derived from existing databases and do not assume that it is complete. Areas not yet inventoried may contain significant species or communities. You can find more information about global and state rank status definitions by visiting Natureserve's web page. Please note that certain sensitive species found on site may be listed in this table but are not represented on the map. Please contact speciesreview@dnr.sc.gov should you have further questions related to sensitive species found within the project area.

Map Credits: Sources: Esri, USGS, CNES/Airbus DS, InterMap, Kartverket, LINZ, NASA/METI, NASA/NGS, NLS Finland, NLSI, Ordnance Survey, SKGeodesy, Esri, NASA, NGA, USGS, Esri, HERE, Garmin, SafeGraph, FAO, METI/NASA, USGS, EPA, NPS

Scientific Name	Common Name	Federal Protection Status	State Protection Status	G Rank	S Rank	Last Obs. Date	Type
Alosa aestivalis	Blueback Herring	Not Applicable	Not Applicable	G3G4	S5	2021	Zoological
Alosa mediocris	Hickory Shad	Not Applicable	Not Applicable	G4	S4	2021	Zoological
Alosa sapidissima	American Shad	Not Applicable	Not Applicable	G5	S4S5	2022-05-04	Zoological
Astragalus michauxii	Sandhills Milkvetch, Michaux's	Not Applicable	Not Applicable	G3	S2	1971-06-02	Botanical
Ludwigia spathulata	Southern Water-purslane	Not Applicable	Not Applicable	G2	S2	1977-07-01	Botanical
Nestronia umbellula	Nestronia, Conjurer's-nut,	Not Applicable	Not Applicable	G4	S3	1888-04-01	Botanical
Sceptridium lunarioides	Winter Grapefern	Not Applicable	Not Applicable	G4?	S1	1890	Botanical

B. Buffer Area - Species Report

The following table outlines rare, threatened or endangered species found within 1 miles of the project footprint, arranged in order of protection status and species name. Please keep in mind that this information is derived from existing databases and do not assume that it is complete. Areas not yet inventoried may contain significant species or communities. You can find more information about global and state rank status definitions by visiting Natureserve's web page. Please note that certain sensitive species found within the buffer area may be listed in this table but are not represented on the map.



Map Credits: Sources: Esri, USGS, CNES/Airbus DS, InterMap, Kartverket, LINZ, NASA/METI, NASA/NGS, NLS Finland, NLSI, Ordnance Survey, SKGeodesy, Esri, NASA, NGA, USGS, Esri, HERE, Garmin, SafeGraph, FAO, METI/NASA, USGS, EPA, NPS

Scientific Name	Common Name	Federal Protection Status	State Protection Status	G Rank	S Rank	Last Obs. Date	Type
Clemmys guttata	Spotted Turtle	ARS: At-Risk Species	ST: State Threatened	G5	S3	2009-07-01	Zoological
Haliaeetus leucocephalus	Bald Eagle	Bald & Golden Eagle	ST: State Threatened	G5	S3B,S3N	2022	Zoological
Icterus galbula	Baltimore Oriole	MBTA: Migratory Bird	Not Applicable	G5	S3B,S4N	2014-02-26	Zoological
Alosa aestivalis	Blueback Herring	Not Applicable	Not Applicable	G3G4	S5	2021	Zoological
Alosa mediocris	Hickory Shad	Not Applicable	Not Applicable	G4	S4	2021	Zoological
Alosa sapidissima	American Shad	Not Applicable	Not Applicable	G5	S4S5	2022-05-04	Zoological
Cambarus aldermanorum	Carolina Needlenose Crayfish	Not Applicable	Not Applicable	GNR	S3	2006-08-10	Zoological
Sciurus niger	Eastern Fox Squirrel	Not Applicable	Not Applicable	G5	S3S4	1980-06-01	Zoological
Terrapene carolina	Eastern Box Turtle	Not Applicable	R: Regulated	G5	S3S4	2022-08-13	Zoological
Astragalus michauxii	Sandhills Milkvetch, Michaux's	Not Applicable	Not Applicable	G3	S2	1971-06-02	Botanical
Ludwigia spathulata	Southern Water-purslane	Not Applicable	Not Applicable	G2	S2	1977-07-01	Botanical
Magnolia pyramidata	Pyramid Magnolia	Not Applicable	Not Applicable	G4	S1	1979-11-01	Botanical
Nestronia umbellula	Nestronia, Conjurer's-nut,	Not Applicable	Not Applicable	G4	S3	1888-04-01	Botanical
Sceptridium lunarioides	Winter Grapefern	Not Applicable	Not Applicable	G4?	S1	1890	Botanical

C. Species Best Management Practices (1 of 2)

SCDNR offers the following comments and best management practices (BMPs) regarding this project's potential impacts to species of concern which may be found on or near to the project area. Please contact speciesreview@dnr.sc.gov should you have further questions with regard to survey methods, consultation, or other species-related concerns.



Map Credits: Sources: Esri, USGS, CNES/Airbus DS, InterMap, Kartverket, LINZ, NASA/METI, NASA/NGS, NLS Finland, NLSI, Ordnance Survey, SKGeodesy, Esri, HERE, Garmin, SafeGraph, METI/NASA, USGS, EPA, NPS, USDA, Esri, NASA, NGA, USGS

BMP Output

The SCDNR recommends that water construction-related activities such as dredging or piling installation be avoided during the months of February through April to limit disturbance to american shad, hickory shad, or blueback herring migrations that occur during this time.

Regarding spotted turtle (1 of 3): The spotted turtle (Clemmys guttata) is a state-threatened species and a federal At-Risk species (ARS). Spotted turtles may be allowed to be relocated into areas of suitable habitat, management, and conservation status; however, any plans for relocation should be submitted for review to SCDNR with a detailed description and images of the current and future habitat and proposed work plan and methodologies as it pertains to a relocation project. It should be noted that not all habitats are suitable for relocation.

- Avoid any construction in areas within or adjacent to aquatic resources (wetlands, streams, etc.) from January 15th through May 31st.
- Prior to any construction activity, install silt fencing from November 15th through January 15th. Silt fencing should include 45-degree arms to direct spotted turtles to the uplands adjacent to the waterbody and away from the construction site. The 45-degree arms should be placed at a minimum of 100 ft from the waterbody and no more than 300 ft from the waterbody. Additionally, silt fence arms should extend at least 50-ft and extend in each direction so that the ends of each 45-degree angle to the fence meet to form a triangle. Silt fencing should remain in place throughout the duration of the proposed construction activities.
- Prior to construction, monitor the silt fencing to ensure it is effectively working properly on a monthly basis. This should effectively exclude the species from the project area prior to construction activities. Once construction activities begin, the silt fence should be monitored weekly for the integrity of the fencing and the presence of spotted turtles or other herpetofauna or small wildlife species. If spotted turtles are encountered, the SCDNR state herpetologist should be notified immediately by calling 854-202-0472.

Regarding spotted turtle (2 of 3): Should the applicant not be able to install the silt fencing in accordance with the proposed window, it will require the applicant to install the exclusion fencing when the species is more active and has the potential to trap individuals with the area of proposed construction. Therefore, the SCDNR recommends checking the perimeter of the fencing twice daily for 14 days prior to ground disturbance and/or clearing in areas adjacent to and near these wetlands to ensure that spotted turtles are not trapped within the proposed project footprint.

Any turtles found within the construction area during this initial monitoring period and the construction monitoring period described below must be relocated. The relocation plan must be submitted to SCDNR for review prior to the installation of the silt fencing and the proper permits acquired from the SCDNR Herpetologist for the movement of a state protected species. Please contact the State Herpetologist by calling 854-202-0472.

C. Species Best Management Practices (2 of 2)

SCDNR offers the following comments and best management practices (BMPs) regarding this project's potential impacts to species of concern which may be found on or near to the project area. Please contact speciesreview@dnr.sc.gov should you have further questions with regard to survey methods, consultation, or other species-related concerns.



Map Credits: Sources: Esri, USGS, CNES/Airbus DS, InterMap, Kartverket, LINZ, NASA/METI, NASA/NGS, NLS Finland, NLSI, Ordnance Survey, SKGeodesy, Esri, HERE, Garmin, SafeGraph, METI/NASA, USGS, EPA, NPS, USDA, Esri, NASA, NGA, USGS

BMP Output

Regarding spotted turtle (3 of 3): For areas where construction will occur in wetlands, the SCDNR recommends the following to prevent the take of this state protected species:

- Surveys for the presence of spotted turtle in wetlands to be impacted should occur from February 15th – April 15th. The best window for visually identifying spotted turtles as well as successfully trapping is February to early May. Visual surveys are usually most effective February to April and trapping, usually March to May. All of this depends on water levels in the surveyed wetland habitat. If dry or extremely low water levels, neither method will be effective or appropriate. Spotted turtles utilize wetland habitat during certain times of the year, but during periods of drought or low water levels, spotted turtles will aestivate in the surrounding forests adjacent to wetlands. The SCDNR recommends one of the methods detailed in the Spotted Turtle Assessment Protocol developed by the Spotted Turtle Working Group be utilized. Following completion of surveys, the results should be submitted to SCDNR, and further coordination occur if spotted turtle are found to be present onsite.

An active bald eagle nest(s) is known to occur within or near to your project area. Surveys during the nesting season (October through May) to rule out nests in the project area are advised to avoid negative impacts to bald eagles. Eagle nests may occur in areas which have not yet been surveyed where suitable habitat is present, as the SCDNR does not survey every nest every year. Bald eagles are a state listed threatened species and are federally protected under the Bald and Golden Eagle Protection Act. If bald eagle nests are found to be within 660 feet of the project area, please consult with the U.S. Fish and Wildlife Service and the National Bald Eagle Management Guidelines to ensure that impacts are avoided to this species before proceeding with any construction activities.. https://www.dnr.sc.gov/wildlife/baldeagle/pdf/NationalBaldEagleManagementGuidelines.pdf https://www.fws.gov/sites/default/files/documents/bald-eagle-monitoring-guidelines-2007.pdf

In the interest of preserving plant diversity, the South Carolina Plant Conservation Alliance performs native plant rescues in order to protect and preserve our diversity of native plants. If you are interested in assisting with this important endeavor please contact Mr. Keith Bradley at (803) 734-4032, or by email: BradleyK@dnr.sc.gov before any development occurs onsite. There may be plants of interest on the project site that the Alliance would like to preserve.

Species in the above table with SWAP priorities of High, Highest or Moderate are designated as having conservation priority under the South Carolina State Wildlife Action Plan (SWAP). SWAP species are those species of greatest conservation need not traditionally covered under any federal funded programs. Species are listed in the SWAP because they are rare or designated as at-risk due to knowledge deficiencies; species common in South Carolina but listed rare or declining elsewhere; or species that serve as indicators of detrimental environmental conditions. SCDNR recommends that appropriate measures should be taken to minimize or avoid impacts to the aforementioned species of concern.

D. Project Best Management Practices (1 of 2)

SCDNR offers the following comments and best management practices (BMPs) regarding this project's potential impacts to natural resources within or surrounding the project area. Please contact our Office of Environmental Programs at environmental@dnr.sc.gov should you have further questions with regard to best management practices related to this project area.



Map Credits: Sources: Esri, USGS, CNES/Airbus DS, InterMap, Kartverket, LINZ, NASA/METI, NASA/NGS, NLS Finland, NLSI, Ordnance Survey, SKGeodesy, Esri, HERE, Garmin, SafeGraph, METI/NASA, USGS, EPA, NPS, USDA, Esri, NASA, NGA, USGS

BMP Output

Review of available data, National Wetlands Inventory and hydric soils, indicate that wetlands or waters of the United States are present within your project area. These areas may require a permit from the U.S. Army Corps of Engineers (USACE), as well as a compensatory mitigation plan. SCDNR advises that you consult with the USACE Regulatory to determine if jurisdictional wetlands are present and if a permit and mitigation is required for any activities impacting these areas. For more information, please visit their website at www.sac.usace.army.mil/Missions/Regulatory. Additionally, a 401 Water Quality Certification may also be required from the SC Department of Health & Environmental Control. For more information, please visit their website at https://www.scdhec.gov/environment/water-quality/water-quality-certification-section-401-clean-water-act.

- All necessary measures must be taken to prevent oil, tar, trash and other pollutants from entering the adjacent offsite areas/wetlands/water.
- Once the project is initiated, it must be carried to completion in an expeditious manner to minimize the period of disturbance to the environment.
- Upon project completion, all disturbed areas must be permanently stabilized with vegetative cover (preferable), riprap or other erosion control methods as appropriate.
- The project must be in compliance with any applicable floodplain, stormwater, land disturbance, shoreline management guidance or riparian buffer ordinances.
- Prior to beginning any land disturbing activity, appropriate erosion and siltation control measures (e.g. silt fences or barriers) must be in place and maintained in a functioning capacity until the area is permanently stabilized.
- Materials used for erosion control (e.g., hay bales or straw mulch) will be certified as weed free by the supplier.
- Inspecting and ensuring the maintenance of temporary erosion control measures at least:
  a. on a daily basis in areas of active construction or equipment operation;
  b. on a weekly basis in areas with no construction or equipment operation; and
  c. within 24 hours of each 0.5 inch of rainfall.
- Ensuring the repair of all ineffective temporary erosion control measures within 24 hours of identification, or as soon as conditions allow if compliance with this time frame would result in greater environmental impacts.
- Land disturbing activities must avoid encroachment into any wetland areas (outside the permitted impact area). Wetlands that are unavoidably impacted must be appropriately mitigated.
- Your project may require a Stormwater Permit from the SC Department of Health & Environmental Control, please visit https://www.scdhec.gov/environment/water-quality/stormwater

D. Project Best Management Practices (2 of 2)

SCDNR offers the following comments and best management practices (BMPs) regarding this project's potential impacts to natural resources within or surrounding the project area. Please contact our Office of Environmental Programs at environmental@dnr.sc.gov should you have further questions with regard to best management practices related to this project area.



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BMP Output

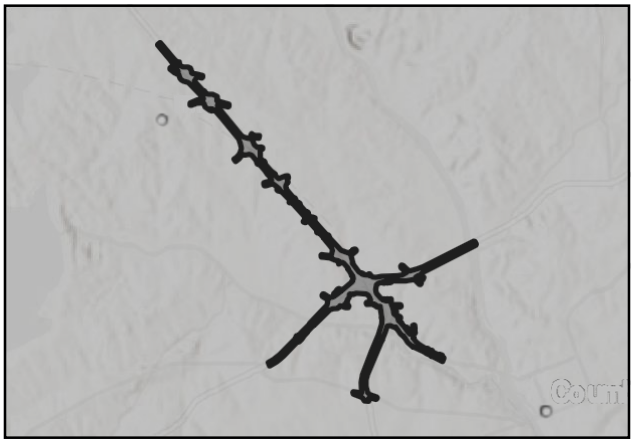
- If clearing must occur, riparian vegetation within wetlands and waters of the U.S. must be conducted manually and low growing, woody vegetation and shrubs must be left intact to maintain bank stability and reduce erosion.
- Construction activities must avoid and minimize, to the greatest extent practicable, disturbance of woody shoreline vegetation within the project area. Removal of vegetation should be limited to only what is necessary for construction of the proposed structures.
- Where necessary to remove vegetation, supplemental plantings should be installed following completion of the project. These plantings should consist of appropriate native species for this ecoregion and exclude plant species found on the exotic pest plant council list: https://www.se-eppc.org/southcarolina/SCEPPC_LIST2014finalOct.pdf.

- Review of available data, National Hydrography Dataset, indicates that streams or waters of the United States are present within your project area. These areas may require a permit from the U.S. Army Corps of Engineers (USACE), as well as a compensatory mitigation plan. SCDNR advises that you consult with the USACE Regulatory to determine if jurisdictional waters are present and if a permit and mitigation is required for any activities impacting these areas. For more information, please visit their website at www.sac.usace.army.mil/Missions/Regulatory. Additionally, a 401 Water Quality Certification or a State Navigable Waters permit may also be required from the SC Department of Health & Environmental Control. For more information, please visit the following websites:
    - https://www.scdhec.gov/environment/water-quality/water-quality-certification-section-401-clean-water-act
    - https://www.scdhec.gov/environment/water-quality/navigable-waters
- Excavation/Construction activities must not occur during fish spawning season from March through June due to its negative impacts on eggs and reproduction activities.
- If clearing must occur, riparian vegetation within wetlands and waters of the U.S. must be conducted manually and low growing, woody vegetation and shrubs must be left intact to maintain bank stability and reduce erosion.
- Construction activities must avoid and minimize, to the greatest extent practicable, disturbance of woody shoreline vegetation within the project area. Removal of vegetation should be limited to only what is necessary for construction of the proposed structures.
- Where necessary to remove vegetation, supplemental plantings should be installed following completion of the project. These plantings should consist of appropriate native species for this ecoregion.

Your project area includes a FEMA special flood hazard area and may require a permit from the County National Floodplain Insurance Program Manager before impacts occur to aquatic resources and the associated floodplains on site. Please refer to https://www.dnr.sc.gov/water/flood/documents/nfipadmindirectory.pdf to find your appropriate contact information.

All tributary crossings for road projects must be made with appropriately sized bridges and/or culverts. Culverts must be sized and designed to prevent alteration of the natural stream morphology. SCDNR prefers that arched or bottomless culverts are utilized; however, if using boxed culverts or pipes, the bottom elevation of the culvert or pipe must be at or below the stream bed elevation to allow for natural migration of aquatic organisms up- and downstream. Where feasible, disturbed stream banks should be restored by using bioengineering techniques for stream bank stabilization. Stream banks at crossings must be restored after construction has been completed. Disturbed stream banks can be restored by planting woody vegetation and by using bioengineering techniques for stream bank stabilization.

E. State & Federally Listed Species in Richland County-Lexington County



The South Carolina Department of Natural Resources' Heritage Trust Program organizes a database that captures and tracks element of occurrence data for rare, threatened and endangered species, both federal and state. Please keep in mind that this information included within this report is derived from existing databases, and do not assume that it is complete. Areas not yet inventoried may contain significant species or communities. If your project requires the assessment of potential threatened or endangered species that could be within the project area, the SCDNR asks that you include a review of the state listed species within the county or watershed in addition to those that may be within the report as being within the project footprint or within 1-mile of the proposed project area. Consideration should be given to the occurrence of suitable habitat onsite, species movement and connectivity of habitat when assessing the likelihood of a state listed species on the project area.

Map Credits: Sources: Esri, USGS, CNES/Airbus DS, InterMap, Kartverket, LINZ, NASA/METI, NASA/NGS, NLS Finland, NLSI, Ordnance Survey, SKGeodesy, Esri, NASA, NGA, USGS, Esri, HERE, Garmin, SafeGraph, FAO, METI/NASA, USGS, EPA, NPS

County	Scientific Name	Common Name	G Rank	S Rank	Federal Protection Status	State Protection Status	Group Type
Lexington	*Acipenser brevirostrum*	Shortnose Sturgeon	G3	S3	LE: Federally Endangered	SE: State Endangered	Zoological
Lexington	*Bombus pensylvanicus*	American Bumble Bee	G3G4	SNR	ARS: At-Risk Species	Not Applicable	Zoological
Lexington	*Clemmys guttata*	Spotted Turtle	G5	S3	ARS: At-Risk Species	ST: State Threatened	Zoological
Lexington	*Dryobates borealis*	Red-cockaded Woodpecker	G3	S2	LE: Federally Endangered	SE: State Endangered	Zoological
Lexington	*Eurycea chamberlaini*	Chamberlain's Dwarf Salamander	G4	S3	ARS: At-Risk Species	Not Applicable	Zoological
Lexington	*Haliaeetus leucocephalus*	Bald Eagle	G5	S3B,S3N	Bald & Golden Eagle Protection Act	ST: State Threatened	Zoological
Lexington	*Heterodon simus*	Southern Hog-nosed Snake	G2	S1S2	Not Applicable	ST: State Threatened	Zoological
Lexington	*Moxostoma robustum*	Robust Redhorse	G1	S1	ARS: At-Risk Species	Not Applicable	Zoological
Lexington	*Perimyotis subflavus*	Tricolored Bat	G3G4	S1S2	LEP: Federally Endangered (Proposed)	Not Applicable	Zoological
Lexington	*Lindera subcoriacea*	Bog Spicebush	G3	S3	ARS: At-Risk Species	Not Applicable	Botanical
Richland	*Acipenser brevirostrum*	Shortnose Sturgeon	G3	S3	LE: Federally Endangered	SE: State Endangered	Zoological
Richland	*Atrytone arogos*	Arogos Skipper; Eastern Beard Grass Skipper	G2G3	SH	ARS: At-Risk Species	Not Applicable	Zoological
Richland	*Bombus pensylvanicus*	American Bumble Bee	G3G4	SNR	ARS: At-Risk Species	Not Applicable	Zoological
Richland	*Cambarus spicatus*	Broad River Spiny Crayfish	G3	S2	ARS: At-Risk Species	Not Applicable	Zoological
Richland	*Clemmys guttata*	Spotted Turtle	G5	S3	ARS: At-Risk Species	ST: State Threatened	Zoological
Richland	*Corynorhinus rafinesquii*	Rafinesque's Big-eared Bat	G3G4	S2	Not Applicable	SE: State Endangered	Zoological
Richland	*Danaus plexippus*	Monarch Butterfly	G4	S4	C: Candidate	Not Applicable	Zoological
Richland	*Dryobates borealis*	Red-cockaded Woodpecker	G3	S2	LE: Federally Endangered	SE: State Endangered	Zoological
Richland	*Dryophytes andersonii*	Pine Barrens Treefrog	G4	S2S3	Not Applicable	ST: State Threatened	Zoological
Richland	*Elassoma boehlkei*	Carolina Pygmy Sunfish	G2	S1	Not Applicable	ST: State Threatened	Zoological
Richland	*Eurycea chamberlaini*	Chamberlain's Dwarf Salamander	G4	S3	ARS: At-Risk Species	Not Applicable	Zoological
Richland	*Haliaeetus leucocephalus*	Bald Eagle	G5	S3B,S3N	Bald & Golden Eagle Protection Act	ST: State Threatened	Zoological
Richland	*Heterodon simus*	Southern Hog-nosed Snake	G2	S1S2	Not Applicable	ST: State Threatened	Zoological
Richland	*Lithobates capito*	Carolina Gopher Frog	G2G3	S1	ARS: At-Risk Species	SE: State Endangered	Zoological
Richland	*Moxostoma robustum*	Robust Redhorse	G1	S1	ARS: At-Risk Species	Not Applicable	Zoological
Richland	*Perimyotis subflavus*	Tricolored Bat	G3G4	S1S2	LEP: Federally Endangered (Proposed)	Not Applicable	Zoological
Richland	*Balduina atropurpurea*	Bog Honeycomb-head, Purple Honeycomb-head, Purple Balduina	G2	S1	ARS: At-Risk Species	Not Applicable	Botanical
Richland	*Echinacea laevigata*	Smooth Purple Coneflower	G2G3	S3	LT: Federally Threatened	Not Applicable	Botanical
Richland	*Lindera subcoriacea*	Bog Spicebush	G3	S3	ARS: At-Risk Species	Not Applicable	Botanical
Richland	*Lysimachia asperulifolia*	Pocosin Loosestrife, 'Roughleaf Loosestrife'	G3	S1	LE: Federally Endangered	Not Applicable	Botanical
Richland	*Sporobolus teretifolius*	Wireleaf Dropseed	G2	S1	ARS: At-Risk Species	Not Applicable	Botanical
Richland	*Tiedemannia canbyi*	Canby's Cowbane	G2	S2	LE: Federally Endangered	Not Applicable	Botanical

F. Instructions for Submitting Species Observations

The SC Natural Heritage Dataset relies on continuous monitoring and surveying for species of concern throughout the state. Any records of species of concern found within this project area would greatly benefit the quality and comprehensiveness of the statewide dataset for rare, threatened and endangered species. Below are instructions for how to download the SC Natural Heritage Occurrence Reporting Form through the Survey123 App.



Map Credits: Sources: Esri, USGS, CNES/Airbus DS, InterMap, Kartverket, LINZ, NASA/METI, NASA/NGS, NLS Finland, NLSI, Ordnance Survey, SKGeodesy, Esri, HERE, Garmin, SafeGraph, METI/NASA, USGS, EPA, NPS, USDA, Esri, NASA, NGA, USGS

Conservation Ranks & SWAP Priority Status

The SC Natural Heritage Program assigns S Ranks for species tracked within the state of South Carolina based on ranking methodology developed by NatureServe and its state program network. For information conservation rank definitions, please visit https://explorer.natureserve.org/AboutTheData/Statuses

The SCDNR maintains and updates it's State Wildlife Action Plan (SWAP) every 10 years. This plan categorizes species of concern by Moderate, High, and Highest Priority. Please visit https://www.dnr.sc.gov/swap/index.html for more information about the SC SWAP.

Important Information Regarding Element Occurrence Data:

The South Carolina Department of Natural Resources' Heritage Trust Program organizes a database that captures and tracks element of occurrence data for rare, threatened and endangered species, both federal and state. Please keep in mind that this information included within this report is derived from existing databases, and do not assume that it is complete. Areas not yet inventoried may contain significant species or communities. If your project requires the assessment of potential threatened or endangered species that could be within the project area, the SCDNR asks that you include a review of the state listed species within the county or watershed in addition to those that may be within the report as being within the project footprint or within 1-mile of the proposed project area. Consideration should be given to the occurrence of suitable habitat onsite, species movement and connectivity of habitat when assessing the likelihood of a state listed species on the project area. To view these lists please visit our county and watershed dashboards at our website: https://schtportal.dnr.sc.gov/portal/apps/sites/#track

Instructions for accessing the SC Natural Heritage Occurrence Reporting Form

For use in a browser (on your desktop/PC):

1) Follow https://bit.ly/scht-reporting-form
2) Select 'Open in browser'
3) The form will open and you can begin entering data!

This method of access will also work on a browser on a mobile device, but only when connected to the internet. To use the form in the field without relying on data/internet access, follow the steps below.

For use on a smartphone or tablet using the field app:

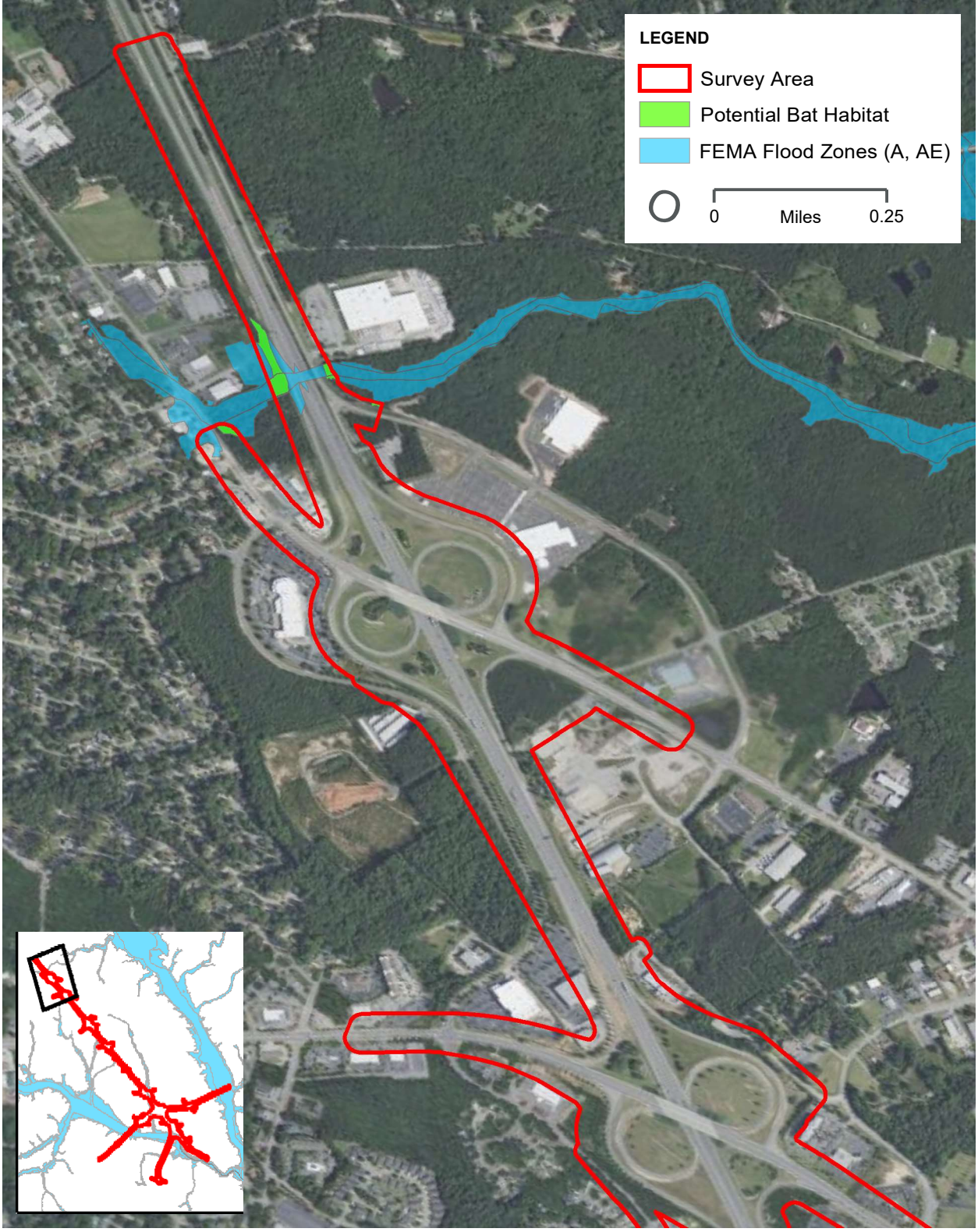
1) Download the Survey123 App from the Google Play store or the Apple Store. This app is free to download. Allow the app to use your location.
2) Use the camera app (or other QR Reader app) to scan the QR code on this page from your smartphone or tablet. Click on the 'Open in the Survey123 field app'. This will prompt a window to allow Survey123 to download the SC Natural Heritage Occurrence Reporting Form. Select 'Open.'
3) The form will automatically open in Survey123, and you can begin entering data! This form will stay loaded in the app on your device until you manually delete it, and you can submit as many records as you like.

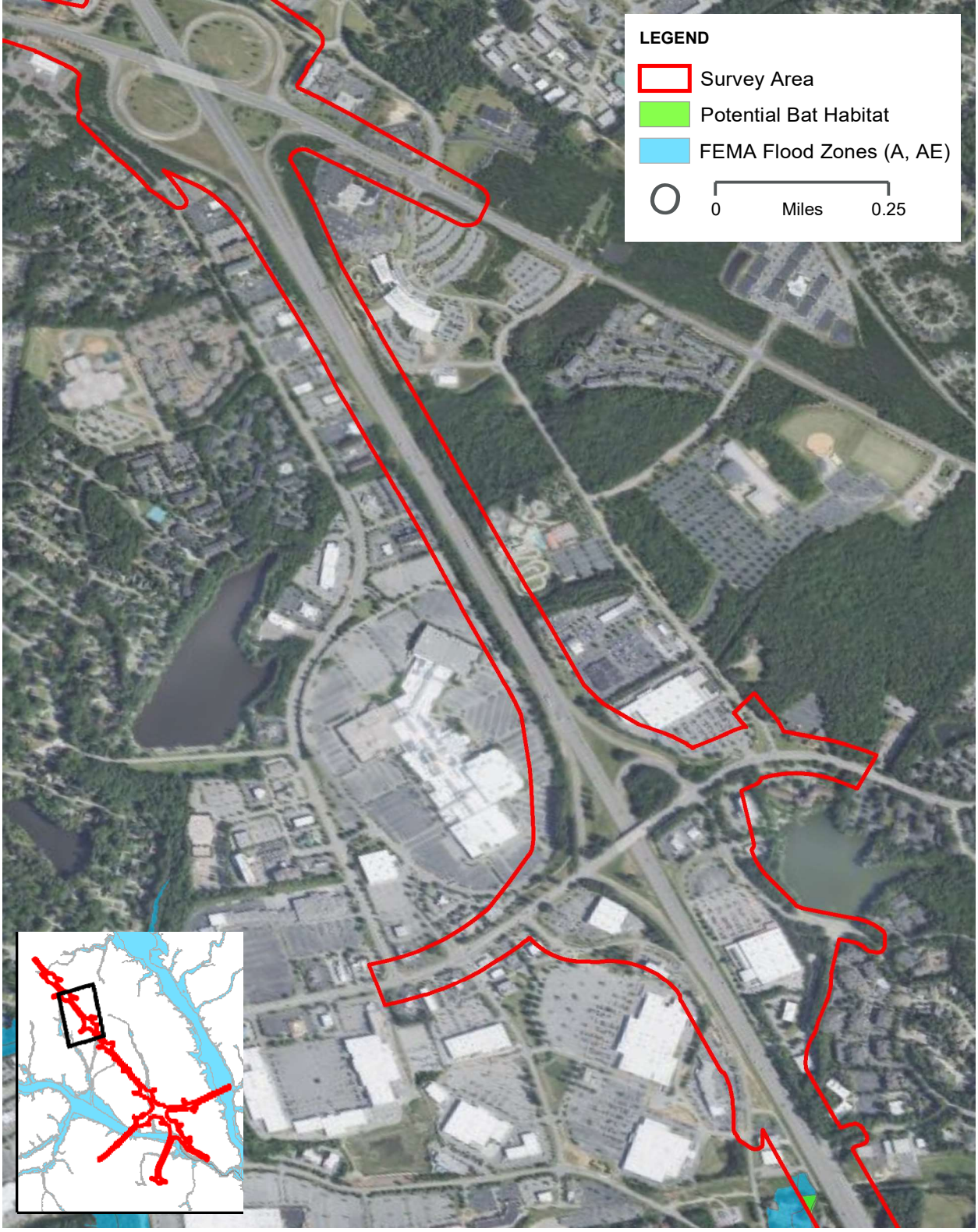
SOUTH CAROLINA DEPARTMENT OF NATURAL RESOURCES

The HERITAGE TRUST Program

Appendix C

Potential Suitable Bat Roosting Habitat Maps


LEGEND
Survey Area
Potential Bat Habitat
FEMA Flood Zones (A, AE)
0
Miles
0.25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Survey Area
Potential Bat Habitat
FEMA Flood Zones (A, AE)
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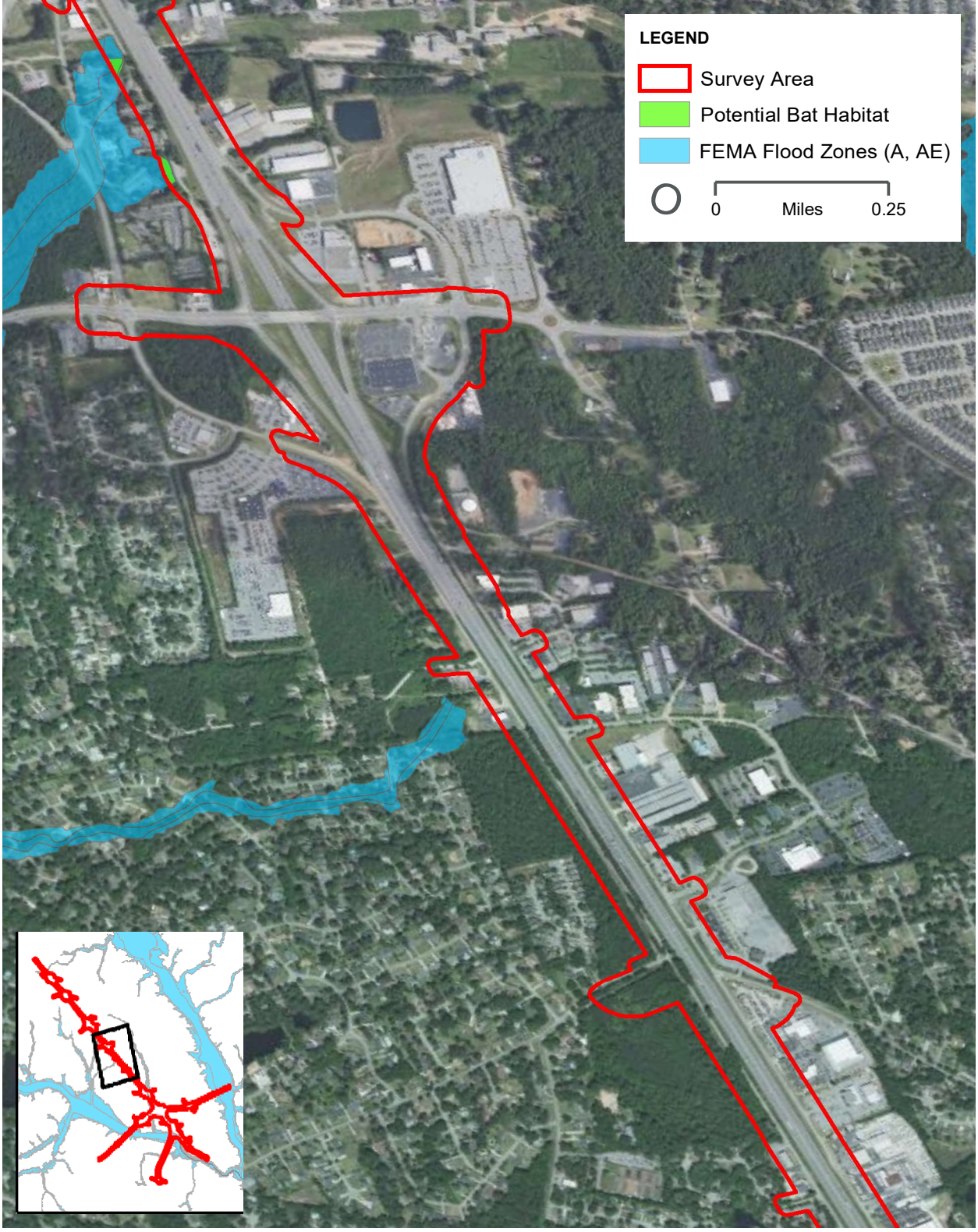
Miles
0.25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Potential Bat Habitat
FEMA Flood Zones (A, AE)
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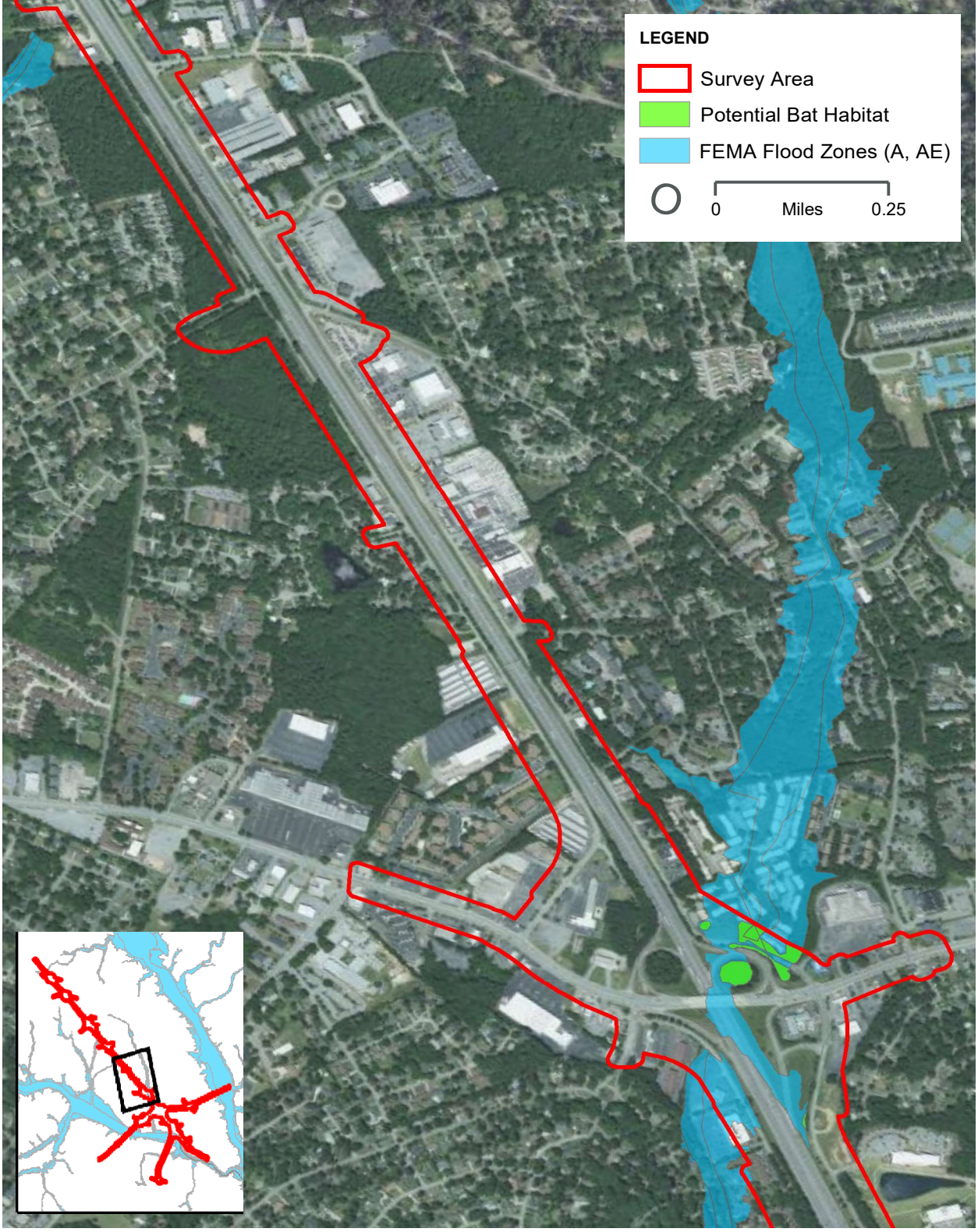
Miles
0.25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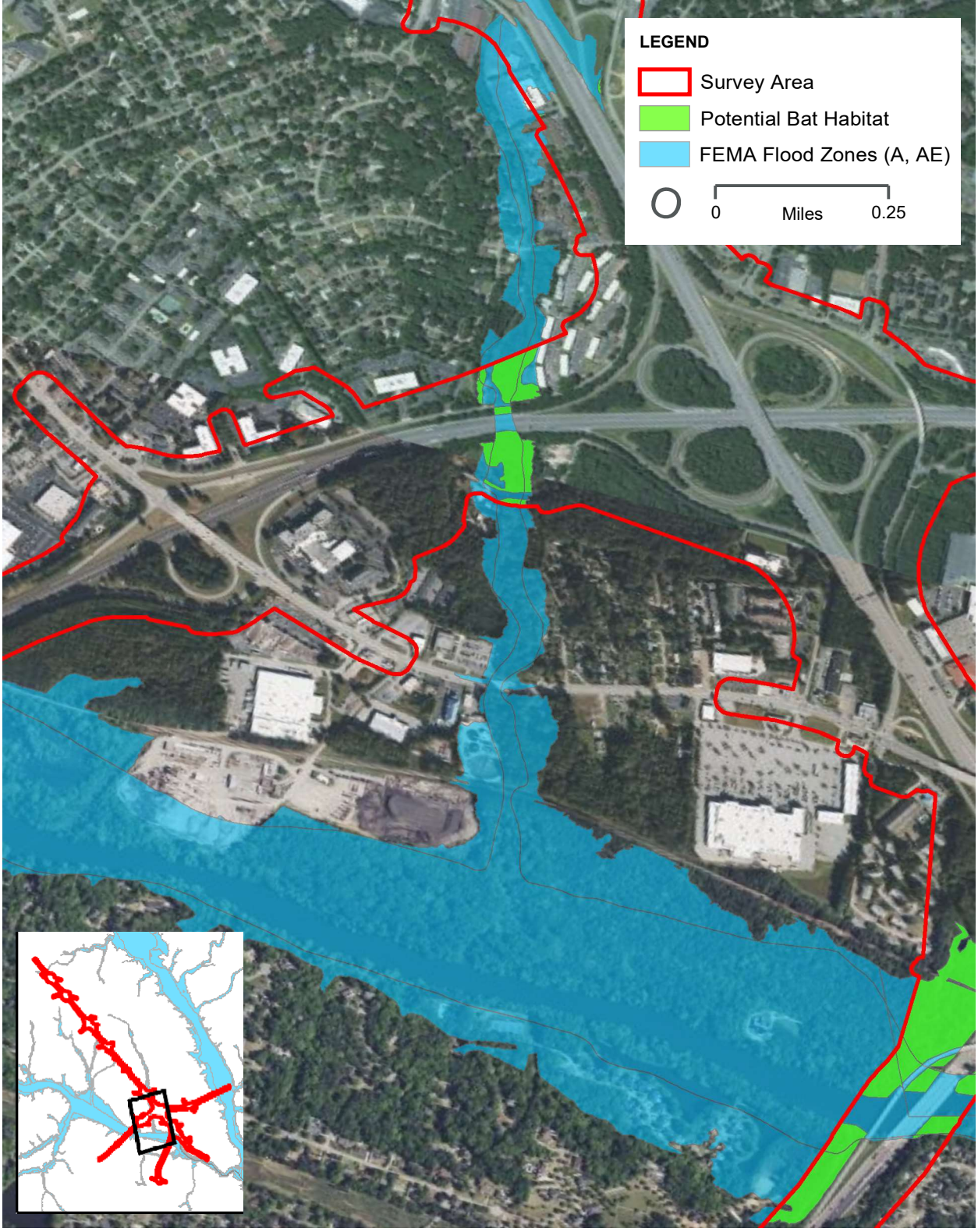
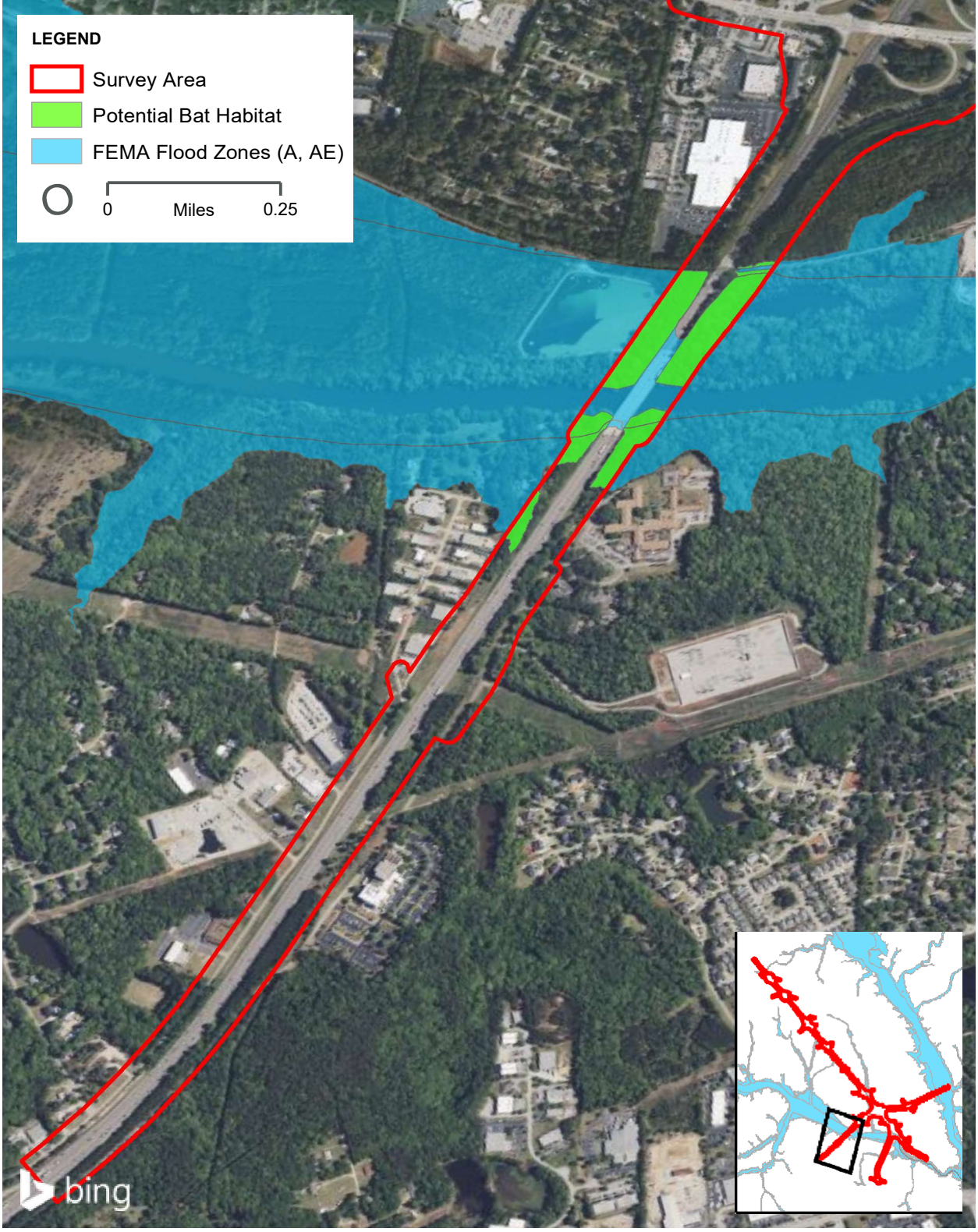
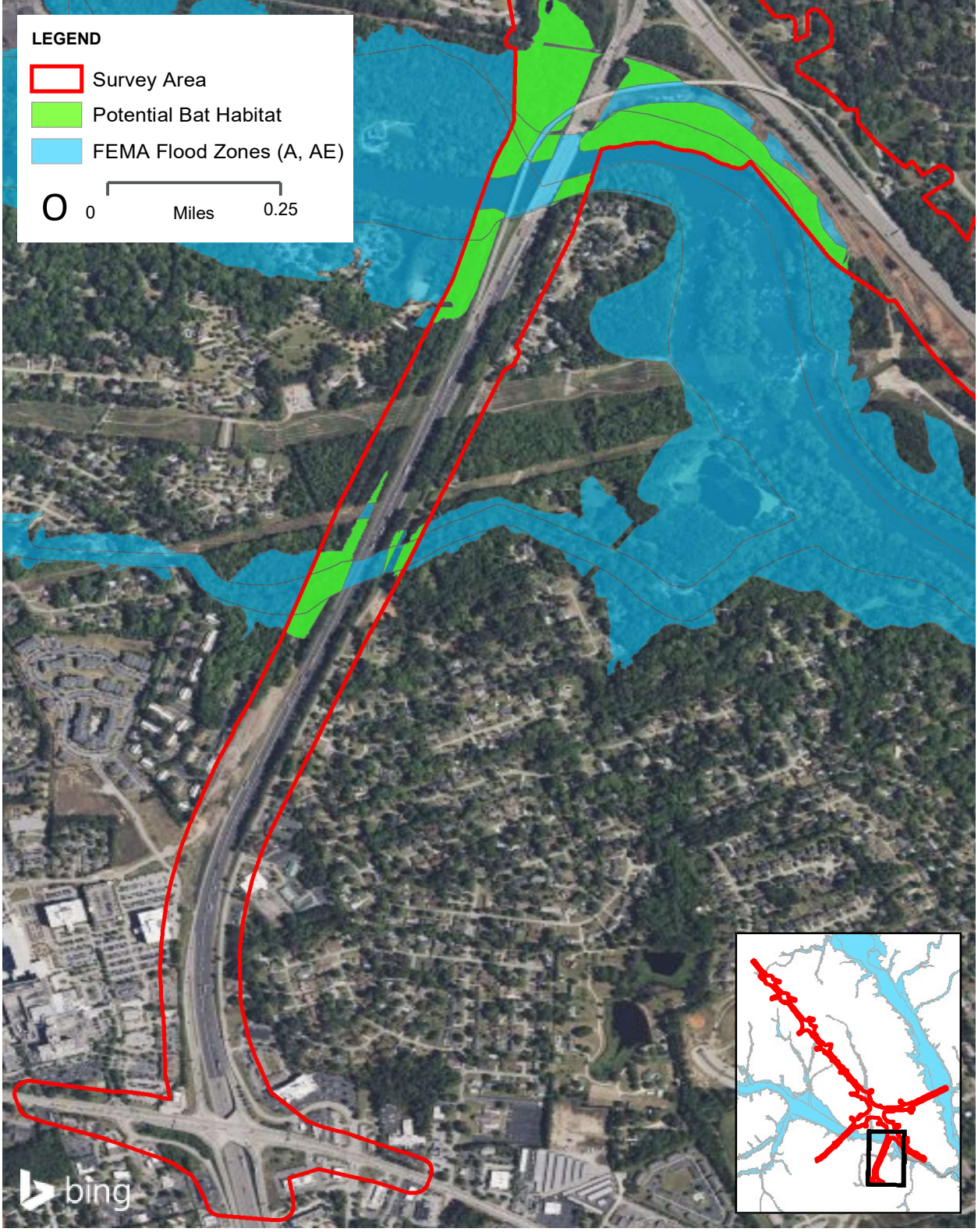
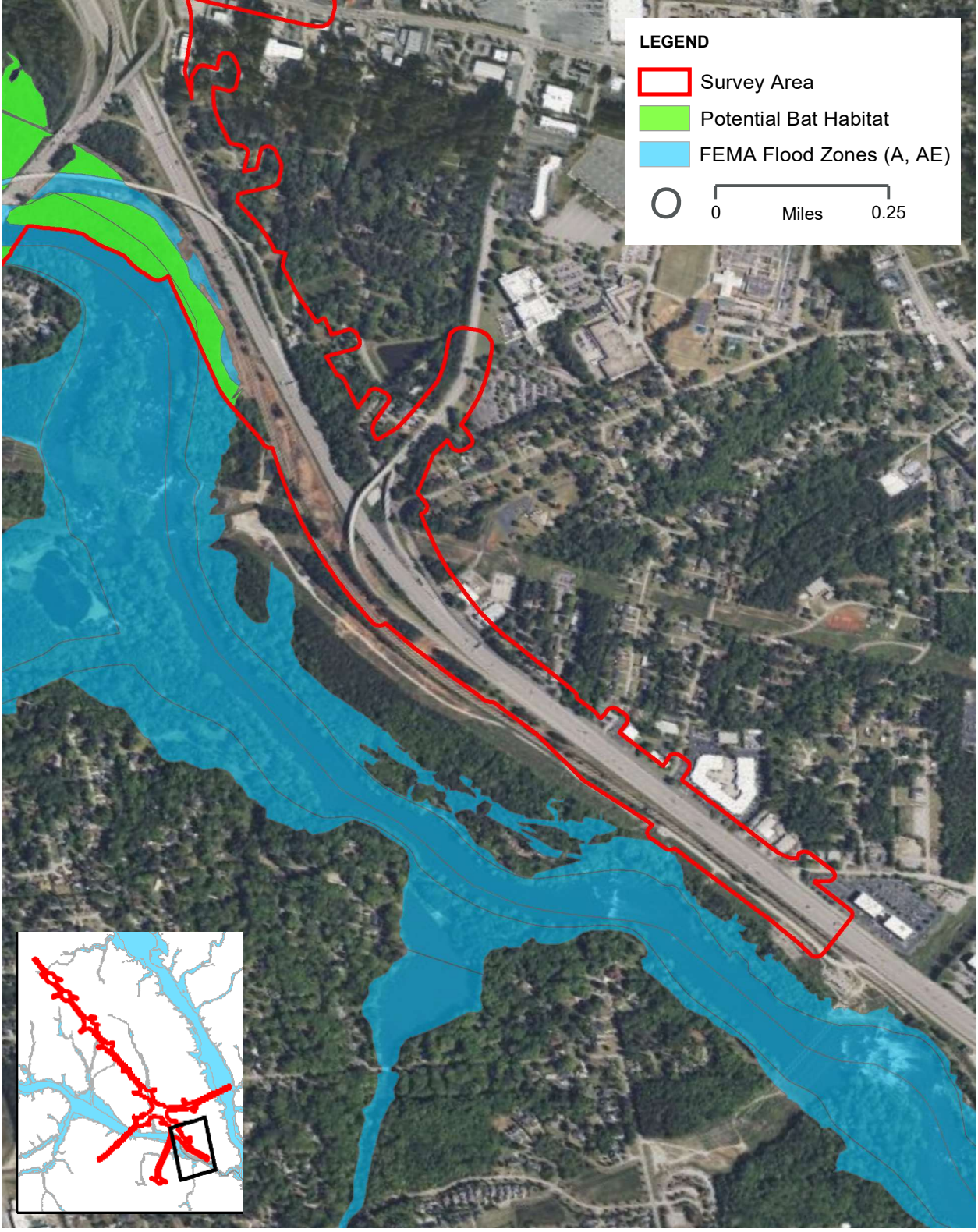
Survey Area
Potential Bat Habitat
FEMA Flood Zones (A, AE)
0
Miles
0.25


LEGEND
Survey Area
Potential Bat Habitat
FEMA Flood Zones (A, AE)
0
Miles
0.25


LEGEND
Survey Area
Potential Bat Habitat
FEMA Flood Zones (A, AE)
0
Miles
0.25
bing


LEGEND
Survey Area
Potential Bat Habitat
FEMA Flood Zones (A, AE)
0
Miles
0.3


LEGEND
Survey Area
Potential Bat Habitat
FEMA Flood Zones (A, AE)
0
0
Miles
0.25
bing


LEGEND
Survey Area
Potential Bat Habitat
FEMA Flood Zones (A, AE)
0
Miles
0.25

Appendix D

Representative Photographs



Photograph 1 – Phase 1, Unnamed Culvert (Pipe) 1001 – Outflow



Photograph 2 – Phase 3, Unnamed Culvert (Box) 1010



Photograph 3 – Phase 3, Culvert EC-3201 – Outflow to stream



Photograph 4 – Phase 3, Culvert EP-2201 – Inaccessible



Photograph 5 – Phase 3, Bridge 4604: I-20 over Saluda River



Photograph 6 – Phase 3, Culvert EP 2121 (Pipe) – Inside view



Photograph 7 – Phase 3, Culvert EP-2201 (Double Box)



Photograph 8 – Phase 3, Culvert EP-2201 (Double Box) –
Inside view to street access

Appendix E

Bat Habitat Survey Forms

Bat Habitat Assessment Form

Culverts

Observers: SE/EP
Date: 6/26/23
County: Richland
TIP or DOT project number: , ‹
Road Name above culvert: 1 *Z D*
Structure #: EC-4201
Name of the feature culvert is carrying (stream): UT Saluda River

% Surrounding habitat w/in 1 mi. of project footprint (approx)
Urban/commercial Suburban/residential
Herb/Shrub/Grassland Agricultural
Deciduous/Evergreen/Mixed Forest
Woody Wetland/Herb Wetland/OpWatee2

Any trees L3" DBH within project footprint? N/A yes n

Complete this section for Indiana bat counties (Cherokee, Clay, Graham, Haywood, Jackson, Macon, Swain, Rutherford: Bat Cave/Lake Lure area only) ”

Any trees or snags 15“ DBH with exfoliating (shag) bark c dvices?	N/A	yes	no	
If yes to shag/snag, how much sunlight do they receive during the day?	N/A	1-3 hours	4-6 hours	7+ hours
If yes to shag/snag, list spp of habitat trees 15" db				
If large hollow trees or snags ?5"DBH are present in sunlit areas, provide photos and location.				

Presence of:	In project footprint		In vicinty (0.5 mi)	
caves	yes	mo	yes	no
abandoned mines	yes	no	yes	no
If'yes' to any of the above, provide description and location.				

Major water source in project footprint:	N/A	river	m_/creek	pond	Ial‹e swamp
Suitable drinking habitat in the form of non stagnant, smooth or slack water areas?	yesG	no	N/A		
Structure specific questions:					
Guard rails	none?	concrete	timber	metal	
Culvert material	concrete	timber	metal	plastic	
Number of barrels:	(double, triple, etc.)				
Culvert height: '	Culvert width: ”I!		Culvert length:		
If culvert is buried/crushed/sedimentation, observed narrowest opening height:	@				
Culvert type	pipe	Xbox	arch	other	
Openings protected from high winds		no			
Crevices present:	yes/	no			
Rough surfaces, imperfections, bird nests	yes/	no			
Human disturbance in culvert	high	med	low	nonel	
Depth of water in culvert (if applicable)					

Below section completed only if bats/evidence of bats observed:	Evidence of bats using?	yes	(no)
Emergence count performed? (If yes, complete form)	yes	(no)	
Evidence of bats using bird nests, if present?	yes	no	
Type of evidence	guano	staining	bats
Roost material	concrete	metal	other:
Bat species present: NO Bats Found			

Notes n ude esc t o of ba ocat n w thin cu ve e e tat on bu d d a n e n ets n e cu ve t et

Bat Habitat Assessment Form

Culverts

Observers: SE/EP
Date: 6/26/23
County: Richland
TIP or DOT project number: Carolina Crossroads
Road Name above culvert: I-20
Structure #: EP - 4001
Name of the feature culvert is carrying (stream): UT Saluda River

% Surrounding habitat w/in 1 mi. of project footprint (approx)	Urban/commercial	Suburban/residential
	Herb/Shrub/Grassland	Agricultural
	Deciduous/Evergreen/Mixed Forest	
	Woody Wetland/Herb Wetland/Open Water	
Any trees ?3" DBH within project footprint?	N/A	yes

CompteteJJzis section for Indiana bat counties (Cherokee, Clay, Graham, Haywood, Jackson, Macon, Swain, Rutherford: Bat CavLafleLur+ area only)

Any trees or snags ú5" DBH with exfolatng (shag) bark or crevices?	N/A	yes	no
If yes to shag/snag, how much sunlight do they receive during the òay?	N/A	1-3 hours	4-6 hours 7+hours
If yes to shag/snag, list spp of habitat trees ú5" dbh			
lf large hollow trees or snags k5"DBH are present in sunlit areas, provide photos and location.			

Presence of:	In project footprint		In vicinty (0.5 mi)	
caves	yes	,no	yes	no
abandoned mines	yes	no	yes	no
If 'yes' to any of the above, provide description and location.				

Major water source in project footprint:	N/A	river	eat/creek	pond	lake swamp
Suitable drinking habitat in the form of non stagnant, smooth or slack water areas?		eds		no	N/A

Structure specific questions:

Guard raiis	none/	concrete	timber	metal
Culvert material	çoncrete¿	timber	metal	plastic
Number of barrels:	(double, triple, etc.)			
Culvert height: +/ '	Culvert width: *)		Culvert length:	
If culvert is buried/crushed/sedimentation, observed narrowest opening height:				

Culvert type	piped	box	arch	other
Openings protected from high winds	yesV	no		
Crevices present:	yes	no		
Rough surfaces, imperfections, bird nests	yes	no		
Human disturbance in culvert	high	med	low	none
Depth of water in culvert (if applicable)	'			

Below section completed only if bats/evidence of bats observed:	Evidence of bats using?	yes	no"
Emergence count performed? (If yes, camplete form)	yes	no	
Evidence of bats using bird nests, if present?	yes	no	
Type of evidence	guano	staining	bats
Roost material	concrete	metal	other:

No Bats Found

Bat species present:

the e n ude de tion o b t o a th u e e t bu d a a e n e s e u ve t et

Bat Habitat Assessment Form

Culverts

Observers: ” ' !’ !

Date:

County:

Name of the feature culvert is carrying (stream):

TIP or DOT project number: Carolina Crossroads

Road Name above culvert: I-20

Structured: 4367 (EC - 3902)

+ Iuda River

% Surrounding habitat w/in 1 mi. of project footprint (approx)

Urban/commercial _(/ Suburban/residential
Herb/Shrub/Grassland Agricultural
Deciduous/Evergreen/Mixed Forest
Woody Wetland/Herb Wetland/Open Water

Any trees z3" DBH within project footprint? N/A yes

Complete this section for Indiana bat counties (Cherokee, Clay, Graham, Haywood, Jackson, Macon, Swain, Rutherford: Bat Cave/Lake Lure area only)

Any trees or snags a5" DBH with exfoliating (shag) bark or crevices? N/A yes no

If yes to shag/snag, how much sunlight do they receive during the day? N/A 1-3 hours 4-6 hours 7+ hours

If yes to shag/snag, list spp of habitat trees ?5“ dbh

If large hollow trees or snags Z5"DBH are present in sunlit areas, provide photos and location.

Presence of:	In project footprint		In vicinty (0.5 mi)	
caves	yes	now	yes	no
abandoned mines	yes	no	yes	no

If 'yes' to any of the above, provide description and location.

Major water source in project footprint: N/A river st e / ee pond lake swamp

Suitable drinking habitat in the form of non stagnant, smooth or slack water areas? e no N/A

Structure specific questions:

Guard rails	none '	concrete	timber	metal
Culvert material	Concrete	timber	metal	plastic

Number of barrels: (double, triple, etc.)

Culvert height: ! ’ Culvert width: ! ’ Culvert length:

If culvert is buried/crushed/sedimentation, observed narrowest opening height:

Culvert type	pipe	boH	arch	other
Openings protected from high winds	yes	no		
Crevices present:	yes	no		
Rough surfaces, imperfections, bird nests	yes	no		
Human disturbancein culvert	high	med	low	none

Depth of water in culvert (if applicable) /

Below section completed only if bats/evidence of bats observed: Evidence of bats using? yes no

Emergence count performed? (If yes, complete form) yes "not

Evidence of bats using bird nests, if present? yes ‹not

Type of evidence guano staining bats

NO Bats Found

Roost material concrete metal other:

Bat species present:

Notes in ude des ti n o bat at n with n cu e e tat o bu d ra na e ets ns de cu ert et

Bat Habitat Assessment Form

Culverts

Observers: SE/EP
Date: 6/27/23
County: Lexington
Name of the feature culvert is carrying (stream): UT Saluda River

TIP or DOT project number: / " na Crossroads
Road Name above culvert:
Structure #: EC-2901

% Surrounding habitat w/in 1 mi. ofprojectfootprint (approx)		
	Urban/commercial	Suburban/residential
	Herb/Shrub/Grassland	Agricultural 0
	Deciduous/Evergreen/Mixed Forest 15	
	Woody Wetland/Herb Wetland/Open Water	

Any trees ?3" DBH within project footprint? N/A yes o

Complete this section for Indiana bat counties (Cherokee, Clay, Graham, Haywood, Jackson, Macon, Swain, Rutherford: Bat Cave/Lake Lure area only)

Any trees or snags US" DBH with exfoliating (shag) bark or crevices? N/A yes no
If yes to shag/snag, how much sunlight do they receive during the day? N/A 1-3 hours 4-6 hours 7+ hours
If yes to shag/snag, list spp of habitat trees ?5" dbh
If large hollow trees or snags ?5"DBH are present in sunlit areas, provide photos and location.

Presence of:	In project footprint	In vicinty (0.5 mi)
caves	yes	yes n
abandoned mines	yes o	yes

If 'yes' to any of the above, provide description and location.

Major water source in project footprint: N/A river /stream/creeks pond lake swamp
Suitable drinking habitat in the form of non stagnant, smooth or slack water areas? eds no N/A

Structure specific questions:

Guard rails	one	concrete	timber	metal
Culvert material	concretes	timber	metal	plastic

Number of barrels: (double, triple, etc.)
Culvert height: ' Culvert width: / Culvert length: / 6
If culvert is buried/crushed/sedimentation, observed narrowest opening height: /

Culvert type	pipe	oX	arch	other
Openings protected from high winds	eds	no		
Crevices present:	eds	no		
Rough surfaces, imperfections, bird nests	e	no		
Human disturbancein culvert	high	med		none

Depth of water in culvert (if applicable)
) "

Below section completed only if bats/evidence of bats observed: Evidence of bats using? yes not
Emergence count performed? (If yes, complete form) yes (no)
Evidence of bats using bird nests, if present? yes (no)
Type of evidence guano staining bats
Roost material concrete metal other:
Bat species present:

No Bats Found

tNhete in u e es ri i o bat ocat o w th u ve entat o bu du ra na e n e de u ert etc

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Bat Habitat Assessment Form

Culverts

Observers: SE/EP
Date: 6/27/29
County: Richland
TIP or DOT project number: Carolina Crossroads
Road Name above culvert: I-126
Structure #: EP-5102
Name of the feature culvert is carrying (stream): U "'4 Tuda River

% Surrounding habitat w/in 1 mi. of project footprint (approx)	Urban/commercial ___"	Suburban/residential	
	Herb/Shrub/Grassland	Agricultural	
	Deciduous/Evergreen/Mixed Forest		
	Woody Wetland/Herb Wetland/Open Water /6		
Any trees ?3" DBH within project footprint?	N/A	yes	mo

Complete this section for Indiana bat counties (Cherokee, Clay, Graham, Haywood, Jackson, Macon, Swain, Rutherford: Bat Give/Lake Lure area only)

Any trees or snags 15" DBHwith exfolJa ng (shag) bark or crevices?	N/A	yes	no	
If yes to shag/snag, how much sunlight do they recetvec!urín the day? N/A	1-3 hours	4-6 hours	7+ hours	
If yes to shag/snag, list spp of habitat trees ú5" dbh				
If large hollow trees or snags ?5"DBH are present in sunlit areas, provide photos and location.				

Presence of:	In project footprint		In vicinty (0.5 mi)	
caves	yes	o	yes	.no/
abandoned mines	yes	/flo	yes	no

li 'yes' to any of the above, provide description and location.

Major water source in project footprint:	N/A	river	stream/creek	pond	lake	swamp
Suitable drinking habitat in the form of non stagnant, smooth or slacl‹ water areas?		est	no	N/A		

Structure specific questions:

Guard rails		none	concrete	timber	metal
Culvert material	,	concrete	timber	metal	plastic
Number of barrels:	/	(double, triple, etc.)			
Culvert height:	Culvert width:"" _____		Culvert length: _____"		
If culvert is buried/crushed/sedimentation, observed narrowest opening height: _____"					
Culvert type		pre	box	arch	other
Openings protected from high winds		Eyes	no		
Crevices present:		yes	no		
Rough surfaces, imperfections, bird nests		,•yes	no		
Human disturbance in culvert		high	nned	low	none
Depth of water in culvert (if applicable)		/ ''			

Below section completed only if bats/evidence of bats observed:	Evidence of bats using?	yes	no
Emergence count performed? (If yes, complete form)	yes	no	
Evidence of bats using bird nests, if present?	yes	no	
Type of evidence	guano	staining	bats
Roost material	concrete	metal	other:
Bat species present:			

NO Bats Found

Notes (include description of bat location within culvert, sedimentation buildup, drainage inlets inside culvert, etc.)

Bat Habitat Assessment Form

Culverts

Observers: SE/EP
TIP or DOT project number: Carolina Crossroads
Date: 6/27/23
RoadNameaboveculvert:
County: Richland
Structure #: - 5101
Name of the feature culvert is carrying (stream): UT Saluda River

%Surrounding habitat w/in 1 mi. of project footprint (approx)	Urban/commercial		Suburban/residential
	Herb/Shrub/Grassland		Agricultural
	Deciduous/Evergreen/Mixed Forest		
	Woody Wetland/Herb Wetland/Open Water		//
Any trees >3" DBH within project footprint?	N/A		yes

Complete this section for Indiana bat counties (Cherokee, Clay, Graham, Haywood, Jackson, Macon, Swain, Rutherford: Bat Cave/Lake Luoeneaea

Any trees or snags 5" DBH with exfolia g (shag) baTk or crevices?	NQ	--	yes	no
If yes to shag/snag, howjltuch softlight do they receive during the day? N/A	1-3 hours	4-6 hours	7+ hours	

If yes tD Shag/snag, llst spp of habitat trees ?5" dbh
If large hollow trees or snags ?5"DBH are present in sunlit areas, provide photos andlocation.

Presence of:	In project footprint	In vicinty (0.5 mi)	
caves	yes	yes	o
abandoned mines		yes	o

If 'yes' to any of the above, provide description and location.

Major water source in project footprint: N/A river stream/cree pond lake swamp
Suitable drinking habitat in the form of non stagnant, smooth or slacl‹ water areas? eye no N/A
Structure specific questions:

Guard rails	‹ftone---	concrete	timber	metal	
Culvert material	toncrete)	timber	metal	plastic	
Number of barrels:	1	(double, triple, etc.)			
Culvert height: /<	Culvert width:		Culvert length:	460'	
If culvert is buried/crushed/sedimentation, observed narrowest opening height:	6				
Culvert type	pipebody		arch	other	
Openings protected from high winds	Yes ” no				
Crevices present:	yes	no			
Rough surfaces, imperfections, bird nests	“yes"	no			
Human disturbancein culvert	high	med	low	none	
Depth ofwater in culvert (if applicable)					

Below section completed only if bats/evidence of bats observed:	Evidence of bats using?	yes	no
Emergence count performed? (If yes, complete form)	yes	no	
Evidence of bats using bird nests, if present?	yes	no	
Type of evidence	guano	staining	bats
Roost material	concrete	metal	other:

No Bats Found

Bat species present:

Note n ude des i tion of bat oca with u ve e ta o bu du a na e n et de cuve etc

Bat Habitat Assessment Form

Culverts

Observers: SE/EP
Date: 6/27/23
County: Richland
Name of the feature culvert is carrying (stream): UT Salt Fork River

TIP or DOT project number: Carolina Crossroads
Road Name above culvert: Unnamed Rd
Structure #: Unnamed Pipe - 1001

% Surrounding habitat w/in 1 mi. of project footprint (approx)	Urban/commercial	Suburban/residential "
	Herb/Shrub/Grassland	Agricultural
	Deciduous/Evergreen/Mixed Forest	
	Woody Wetland/Herb Wetland/OpWateer	
Any trees ?3" DBH within project footprint?	N/A	yes o

Complete this section for Indiana bat counties (Cherokee, Clay, Graham, Haywood, Jackson, Macon, Swain, Rutherford: Bat Cave/Lake Lure area only) - "

Any trees or snags ?5"'D@I-Fwit6exfoltating (Sbag)bark or crevices?	N/A	yes no
If yes to shag/snag, how much sunlight do they receive during the day? N/A	1-3 hours 4-6 hours 7+ hours	
If yes to shag/snag, list spp of habitat trees ?5" dbh		
If large hollow trees or snags ?5"DBH are present in sunlit areas, provide photos and location.		

Presence of:	In project footprint	In vicinty (0.5 mi)
caves	yes o	yes (no)
abandoned mines	yes n	ves (no)

If 'yes' to any of the above, provide description and location.

Major water source in project footprint:	N/A	river t c e	pond	lake	swamp
Suitable drinking habitat in the form of non stagnant, smooth or slack water areas?	¿/ e		no	N/A	
Structure specific questions:			"""		
Guard rails	, none	concrete	timber	metal	
Culvert material	concrete /timber		metal	plastic	
Number of barrels: /	(double, triple, etc.)				
Culvert height:	Culvert width: '//		Culvert length: 60'		
If culvert is buried/crushed/sedimentation, observed narrowest opening height:			5		
Culvert type	pipe	box	arch	other	
Openings protected from high winds	ye	MO			
Crevices present:		no			
Rough surfaces, imperfections, bird nests	",Eyes	no			
Human disturbancein culvert	high	med	HOW	none	
Depth of water in culvert (if applicable)	f"				

Below section completed only if bats/evidence of bats observed:	Evidence of bats using?	yes (no)
Emergence count performed? (If yes, complete form)	yes NO	
Evidence of bats using bird nests, if present?	yes (no)	
Type of evidence	guano	staining bats
Roost material	concrete	metal other:
Bat species present:		

No Bats Found

Note in ude de c i t o o bat oca i w th u ve en at o bu du n e ets s de cu ve t etc

Bat Habitat Assessment Form

/UIVQFtS

Observers: SE / EP
Date: 6/27/23
County: Rich / C. d
TIP or DOT project number: Carolina Crossroads
Road Name above culvert: Unnamed Road
Structure #: Unnamed Pipe 1002
Name of the feature culvert is carrying (stream): UT Saluda River

% Surrounding habitat w/in 1 mi. of project footprint (approx)	Urban/commercial ___"	Suburban/residential "'	
	Herb/Shrub/Grassland	Agricultural	
	Deciduous/Evergreen/Mixed Forest	'T	Woody
	Wetland/Herb Wetland/Open Water	ZK	
Any trees 23" DBH within project footprint?	N/A	yes	,mo

Complete this section for Indiana bat counties (Cherokee, Clay, Graham, Haywood, Jackson, Macon, Swain, Rutherford: Bat Cave/Lake Lure area only)

Any trees or snags ?5" DBH with exfoliating (shag) bark or crevices?	N/A	yes	no
If yes to shag/snag, how much sunlight do they receive during the day?	N/A	1-3 hours	4-6 hour 7+ hours
If yes to shag/snag, list spp of habitat trees ?5" dbh			
If large hollow trees or snags ?5"DBH are present in sunlit areas, provide photos and location.			

Presence of:	In project footprint		In vicinty (0.5 mi)	
caves	yes	,rio	yes	,no;
abandoned mines	yes	no	yes	no
If 'yes' to any of the above, provide description and location.				

Major water source in project footprint:	N/A	river	stream/creek	pond	lake	swamp
Suitable drinking habitat in the form of non stagnant, smooth or slack water areas?				yes	no	N/A
Structure specific questions:						
Guard rails		none	concrete	timber	metal	
Culvert material		,concrete	timber	metal	plastic	
Number of barrels:		(double, triple, etc.)				
Culvert height:	Culvert width:			Culvert length:	60'	
If culvert is buried/crushed/sedimentation, observed narrowest opening height:					4'	
Culvert type		‹ pipe	bOH	a£Ch	other	
Openings protected from high winds		yes ›	no			
Crevices present:		yes "j	no			
Rough surfaces, imperfections, bird nests		yes“	no			
Human disturbancein culvert		high	med	HOW	none	
Depth of water in culvert (if applicable)		/				

Below section completed only if bats/evidence of bats observed:	Evidence of bats using?	yes	n
Emergence count performed? (If yes, complete form)	yes	no)	
Evidence of bats using bird nests, if present?	yes	no	
Type of evidence	guano	staining	bats
Roost material	concrete	metal	other:

NO Bats Found

Bat species present:

Note n ude e c i t n o bat at o w th n u ve entat o bu du d a a e ets n de cu vert etc

Bat Habitat Assessment Form

Culverts

Observers: SE/EP
Date: 6/27/23
County: Richland
TIP or DOT project number: Carolina Crossroads
Road Name above culvert: Railroad
Structure #: - 4903
Name of the feature culvert is carrying (stream): UT Saluda River

% Surrounding habitat w/in 1 mi. of project footprint (approx)
Urban/commercial Suburban/residential
Herb/Shrub/Grassland Agricultural
Deciduous/Evergreen/Mixed Forest /
Woody Wetland/Herb Wetland/Open Water

Any trees >3" DBH within project footprint? N/A yes .rn

Complete ths section for Indiana bat counties (Cherokee, Clay, Graham, Haywood, Jackson, Macon, Swain, Rutherford: Bat Cave/Lake Lure area only)
Any trees or snags 15" DBH with exfofiating (shag) bark or crevices?
If yes to shag/snag, how much sunlight do they receive dwtng theda ? N/A N hotlrs 4 6 hours + hours
If yes to shag/snag, list spp of habitat trees ?5" dbh " If large hollow trees or snags ?5"DBH are present in sunlit areas, provide photos and location.

Presence of:	In project footprint		In vicinty (0.5 mi)	
caves	yes	o	yes	,no
abandoned mines	yes	.mo+	yes	no

If 'yes' to any of the above, provide description and location.

Major water source in project footprint: N/A river stream/creek pond lake swamp
Suitable drinking habitat in the form of non stagnant, smooth or slack water areas? yes › no N/A
Structure specific questions:

Guard rails	none	‹concrete	timber	metal
Culvert material	o ret	timber	metal	plastic

Number of barrels: 1 (double, triple, etc.)
Culvert height: " Culvert width: " Culvert length: 80'
If culvert is buried/crushed/sedimentation, observed narrowest opening height:

Culvert type	pipe	\.box	arch	other
Openings protected from high winds	(yes	no		
Crevices present:	‹"yes	no		
Rough surfaces, imperfections, bird nests	yes	no		
Human disturbancein culvert	high	med		none
Depth of water in culvert (if applicable)	7. ""			

Below section completed only if bats/evidence of bats observed: Evidence ofbats uslng? yes no
Emergence count performed? (Ifyes, complete form) yes no
Evidence of bats using bird nests, ifpresent? yes no
Type of evidence guano staining bats
Roost material concrete metal other:

NO Bats Found

Bat species present:
Note i c ude de r t n o bat ca i w thi u e e at o b d a na e e s s de cu e t etc

Bat Habitat Assessment Form

Culverts

Observers: SE/EP
Date: 6/27/23
County: Richmond
Name of the feature culvert is carrying (stream): Mill Fix Indian River

TIP or DOT project number: @Carolina Crossroads
Road Name above culvert: I-126
Structure #: EC-4901

% Surrounding habitat w/in 1 mi. of project footprint (approx)	Urban/commercial	Suburban/residential
	Herb/Shrub/Grassland	Agricultural
	Deciduous/Evergreen/Mixed Forest	/
	Woody Wetland/Herb Wetland/Open Water	

Any trees >3" DBH within project footprint? N/A yes ono

Complete this section for Indiana bat counties (Cherokee, Clay, Graham, Haywood, Jackson, Macon, Swain, " Rutherford: Bat Cave/Lake Lure area only)

Any trees or snags 15" DBH with exfoliating (shag) bark or crevices?	N/A	yes	no
If yes to shag/snag, how much sunlight do they receive during the day? N/A	1-3 hours	4-6 hours	7+ hours

If yes to shag/snag, list spp of habitat trees ?5" dbh
If large hollow trees or snags ?5"DBH are present in sunlit areas, provide photos and location.

Presence of:	In project footprint	In vicinty (0.S mi)	
caves	yes	yes	(no)
abandoned mines	yes	yes	(no)

If 'yes' to any of the above, provide description and location.

Major water source in project footprint: N/A river 'stream/creek pond lake swamp
Suitable drinking habitat in the form of non stagnant, smooth or slack water areas? yes no N/A
Structure specific questions: "

Guard rails	none	concrete ›	timber	metal	
Culvert material	concrete	timber	metal	plastic	
Number of barrels: 1	(double, triple, etc.)				
Culvert height: "	Culvert width: "	Culvert length: /			
If culvert is buried/crushed/sedimentation, observed narrowest opening height: S""					
Culvert type	pipe	'//box	arch	other	
Openings protected from high winds	e	no			
Crevices present:	e	no			
Rough surfaces, imperfections, bird nests	¿eT	no			
Human disturbance in culvert	high	med	low	‹money	
Depth of water in culvert (if applicable)	""				

Below section completed only if bats/evidence of bats observed: Evidence ofbats using? yes (no
Emergence count performed? (If yes, complete form) yes no
Evidence of bats using bird nests, if present? yes ‹no
Type of evidence guano staining bats
concrete metal other:

Bats Found

Roost material
Bat species present:
Note c ude de i ti n o bat a D with u ve entat o bu du a a e et n de u ve e c

Bat Habitat Assessment Form

~~Culvqrts~~Culverts

Observers: SE/EP
Date: 6/27/23
County: Richland
Name of the feature culvert is carrying (stream):

TIP or DOT project number:
Road Nameabove culvert: @
Structure #: EC-2601

% Surrounding habitat w/in 1 mi. of project footprint (approx)	Urban/commercial	Suburban/residential	
	Herb/Shrub/Grassland	Agricultural	
	Deciduous/Evergreen/Mixed Forest		
	Woody Wetland/Herb Wetland/Open Waters		
Any trees >3" DBH within project footprint?	N/A	yes	mo

Complete this section for Indiana bat counties (Cherokee, Clay, Graham, Haywood, Jackson, Macon, Swain, Rutherford: Bat Cave/take Lure area only)

Any trees or snags ?5" DBH with exfoliating (shag) bark or crevices?	N/A	yes	no
lfyesto shag/snag, how much sun4ghtdotheyreceiveduringthe day? N/A	1-3 hours	4-6 hours	7+ hours

If yes to shag/snag, list spp of habitat trees ?5" dbh
If large hollow trees or snags Z5"DBH are present in sunlit areas, provide photos andlocation.

Presence of:	In project footprint	In vicinty (0.5 mi)
caves	yes o	e
abandoned mines	yes	y , ,.,

If 'yes' to any of the above, provide description and location.

Major water source in project footprint:	N/A	river	stream/creek	pond	lake	swamp
Suitable drinking habitat in the form of non stagnant, smooth or slack water areas?				‹yes	no	N/A

Structure specific questions:

Guard rails			concrete	timber	metal
Culvert material		concrete. timber		metal	plastic
Number of barrels:	(double, triple, etc.)				
Culvert height: /v	Culvert width: /c "		Culvert length: 1,200'		
If culvert is buried/crushed/sedimentation, observed narrowest opening height:			6		
Culvert type		pipe		arch	other
Openings protected from high winds		syst	no		
Crevices present:		yes	no		
Rough surfaces, imperfections, bird nests		eyes	no		
Human disturbancein culvert		high	med	low	none
Depth of water in culvert (if applicable)		"			

Below section completed only if bats/evidence of bats observed:	Evidence of bats using?	yes	go	
Emergence count performed? (If yes, complete form)	yes	knob		
Evidence of bats using bird nests, if present?	yes	o		
Type of evidence	guano	staining	bats	
Roost material No Bats	concrete	metal	other:	

Bat species present:

Notes (include description of bat location within culvert, sedimentation buildup, drainage inlets inside culverts etc.)

Bat Habitat Assessment Form

Culverts

Observers: SE/EP
Date: 6/27/23
County: Richland
Name of the feature culvert is carrying (stream): L Saluda River

TIP or DOT project number: Carolina Crossroads
Road Name above culvert: I-26
Structure #: unnamed Pipe 1009

% Surrounding habitat w/in 1 mi. af project footprint (approx)

Urban/commercial Suburban/residential
Herb/Shrub/Grassland Agricultural
Deciduous/Evergreen/Mixed Forest
Woody Wetland/Herb Wetland/Open Water

Any trees >3" DBH within project footprint? N/A yes know

Complete this section for Indiana bat counties (Cherokee, Clay, Graham, Haywood, Jackson, Macon, Swain, Rutherford: Bat Cave/Lake Lure area only)

Any trees or snags 15" DBH with exfoliating (shag) bark or crevices? N/A yes no
If yes to shag/snag, how much sunligh/6J they receive during the day? N/A 1-3 hours 4-6 hours 7+ hours
If yes to shag/snag, list spp o ab tat trees >5" dbh ' """ "
If large hollow trees or snags ?5"DBH are present in sunlit areas, provide photos and location.

Presence of:	In project footprint		In vicinty (0.5 mi)	
caves	yes	no"	yes	no
abandoned mines	yes	no	yes	no

If 'yes' to any of the above, provide description and location.

Major water source in project footprint: N/A river stream/creek pond lake swamp
Suitable drinking habitat in the form of non stagnant, smooth or slack water areas? yes no N/A

Structure specific questions:

Guard rails	none	concrete	timber	metal
Culvert material	concrete	timber	metal	plastic

Number of barrels: (double, triple, etc.)
Culvert height: Culvert width: " Culvert length: 'D
If culvert is buried/crushed/sedimentation, observed narrowest opening height: "

Culvert type	pps	box	arch	other
Openings protected from high winds	Eyes	no		
Crevices present:	yes	no		
Rough surfaces, imperfections, bird nests	yes	no		
Human disturbance in culvert	"high	med	low	none
Depth of water in culvert (if applicable)	/ "			

Below section completed only if bats/evidence of bats observed: Evidence ofbats using? yes no
Emergence count performed? (If yes, complete form) yes no
Evidence of bats using bird nests, if present? yes no
Type of evidence guano staining bats
Roost material concrete metal other:
Bat species present:

No Bats Found

Notes (include description of bat location within culvert, sedimentation buildup, drainage inlets inside culvert, etc.)

Bat Habitat Assessment Form

Culverts

Observers: SE/EP
Date: 6/27/23
County: Richland
Name of the feature culvert is carrying (stream):

TIP or DOT project number: Carolina Crossroads
Road Name above culvert:
Structure #: % "

% Surrounding habitat w/in 1 mi. of project footprint (approx)
Urban/commercial Suburban/residential
Herb/Shrub/Grassland Agricultural
Deciduous/Evergreen/Mixed Forest
Woody Wetland/Herb Wetland/Open Water

Any trees ?3" DBH within project footprint? N/A yes n

Complete this section for Indiana bat counties (Cherokee, Clay, Graham, Haywood, Jackson, Macon, Swain, Rutherford: Bat Cave/Lake Lure area only)
Any trees or snags 15" DBH with exfoliating (shag) bark or crevices? N/A yes" "no
If yes to shag/snag, how much sunlight do they receive during the day?"W/A " 1-3 hours 4-6 hours 7+ hours
If yes to shag/snag, list spp of labitat trees ?5" dbh
If large hollow trees or snags ?5"DBH are present in sunlit areas, provide photos and location.

Presence of:	In project footprint		In vicinty (0.5 mi)	
caves	yes	no	yes	no
abandoned mines	yes	not	yes	no

If 'yes' to any of the above, provide description and location.

Major water source in project footprint: N/A river stream/creek › pond lake swamp
Suitable drinking habitat in the form of non stagnant, smooth or slack water areas? yes no N/A

Structure specific questions:

Guard rails	none	concrete	timber	metal
Culvert material	concrete	timber	metal	plastic
Number of barrels:	(double, triple, etc.)			
Culvert height: "	Culvert width: /"		Culvert length: 4100'	
If culvert is buried/crushed/sedimentation, observed narrowest opening height: 4'				
Culvert type	pipe	box	arch	other
Openings protected from high winds	Eyes "/›	no		
Crevices present:	!"yes	no		
Rough surfaces, imperfections, bird nests	yes '	no		
Human disturbance in culvert	high	med	low	none
Depth of water in culvert (if applicable)	/ ""			

Below section completed only if bats/evidence of bats observed: Evidence of bats using? yes o
Emergence count performed? (If yes, complete form) yes .n
Evidence of bats using bird nests, if present? yes o
Type of evidence guano staining bats
Roost material concrete metal other:
Bat species present:

No Bats Found

Notes (include description of bat location within culvert, sedimentation buildup, dra[nage inlets inside culverts etc.)

Bat HabitatAssessment Form

CUlvertS

Observers: SE/EP
Date: 6/27/23
County: Richland Rd
Name of the feature culvert is carrying (stream): UT Saluda River

TIP or DOT project number: !/‹'- na (crossroads
Road Name above culvert:
Structure #: EP-2521

% Surrounding habitat w/in 1 mi. of project footprint (approx)
Urban/commercial Suburban/residential
Herb/Shrub/Grassland Agricultural
Deciduous/Evergreen/Mixed Forest
Woody Wetland/Herb Wetland/Open Water

Any trees >3" DBH within project footprint? N/A yes ,/ no

Complete this section for Indiana bat counties (Cherokee, Clay, Graham, Haywood, Jackson, Macon, Swain, Rutherford: Bat Cave/Lake Lure area only)

Any trees or snags 15" DBH with exfojiating (shag) bark or crevices? N/A" yes no
If yes to shag/snag, how much sunlight do they receive durlng the day? N/A k-3 ho.vs 4-6 hours 7+hours
If yes to shag/snag, list spp of habitat trees ?5" dbh
If large hollow trees or snags ?5"DBH are present in sunlit areas, provide photos andlocation.

Presence of:	In project footprint		In vicinty (0.S mi)	
caves	yes	o	yes	(no)
abandoned mines	yes		yes	(no)

If 'yes' to any of the above, provide description and location.

Major water source in project footprint: N/A river stream/creek pond lake swamp
Suitable drinking habitat in the form of non stagnant, smooth or slack water areas? ,yes no N/A

Structure specific questions:

Guard rails	none›	concrete	timber	metal
Culvert material	ofic ete	timber	metal	plastic
Number of barrels: /	(double, triple, etc.)			
Culvert height:	Culvert width: ___"		Culvert length:	
If culvert is buried/crushed/sedimentation, observed narrowest opening height:				
Culvert type	pipe	box	arch	other
Openings protected from high winds	y	no		
Crevices present:	""yes	no		
Rough surfaces, imperfections,bird nests	yes""	no		
Human disturbancein culvert	high	med	HOW	none
Depth of water in culvert (if applicable)	" "			

Below section completed only if bats/evidence of bats observed: Evidence ofbats using? yes po
Emergence count performed? (If yes, complete form) yes no
Evidence of bats using bird nests, if present? yes 'no
Type of evidence !"" guano staining bats
Roost material concrete metal other:
Bat species present:
thoees n u e desc i o o b t o tion h c e e tat b du d e n ets s de c ve t etc

Bat Habitat Assessment Form

CUlVQ£tS

Observers:

TIP or DOT project number: Carolina Crossroads

Date: /

RoadName above culvert:

County: Lexington

Structure #: EP-1401

Name of the feature culvert is carrying (stream): UT Kinley Creek

% Surrounding habitat w/in 1 mi. of project footprint (approx)	Urban/commercial	Suburban/residential
	Herb/Shrub/Grassland ____ ›	Agricultural ____ ”! ____
	Deciduous/Evergreen/Mixed Forest	"
	Woody Wetland/Herb Wetland/Open Water	

Any trees ?3“ DBH within project footprint? N/A yes o

Complete this section for Indiana bat counties (Cherokee, CJay, Graham Haywood, Jztckson, Macon, Swain, Rutherford: BatCave/LakeLou/earemanly)” ” —

Any trees or snags aS" DBH with exfoliating (shag) bark or crevices? N/A yes no

If yes to shag/snag,-how much sunlight do they receive during the day? N/A 1-3 hours 4-6 hours 7+ hours

If yes tD shag/snag, list spp of habitat trees ?5" dbh

If large hollow trees or snags ?5"DBH are present in sunlit areas, provide photos and location.

Presence of:	In project footprint		In vicinty (0.5 mi)	
caves	yes		yes	no
abandoned mines	yes	Ono	yes	*no*

If ’yes' to any of the above, provide description and location.

Major water source in project footprint: N/A river ‘stream/creek pond lake swamp

Suitable drinking habitat in the form of non stagnant, smooth or slack water areas? yes no N/A

Structure specific questions:

Guard rails	one	concrete	timber	metal
Culvert material	c cre?é	timber	metal	plastic

Number of barrels: ' (double, triple, etc.)

Culvert height: " Culvert width: 4’ Culvert length:

If culvert is buried/crushed/sedimentation, observed narrowest opening height:

Culvert type	piped	box	arch	other
Openings protected from high winds	(yes)	○○		
Crevlces present:	yes	○○		
Rough surfaces, imperfections, bird nests	yes	no		
Human disturbance in culvert	high	med	low	none ./

Depth of water in culvert (if applicable) /"‘

Below section completed only if bats/evidence of bats observed:	Evidence of bats using?	yes	n
Emergence count performed? (If yes, complete form)	yes	(no)	
Evidence of bats using bird nests, if present?	yes	(no)	
Type of evidence NO Bats Found	guano	staining	bats
Roost material	concrete	metal	other:

Bat species present:

Notes (include description of bat location within culvert, sedimentation buildup, drainage inlets inside culvert, etc.)

Bat Habitat Assessment Form

Culverts

Observers: SE/EP
Date: 6/28/23
County: Lexington
TIP or DOT project number: Ÿ?• / na (crossroads
Road Name above culvert:
Structure #: EC - 1302
Name of the feature culvert is carrying (stream): UT Kinley Creek

% Surrounding habitat w/in 1 mi. of project footprint (approx)
Urban/commercial_____" Suburban/residential 40
Herb/Shrub/Grassland Agricultural
Deciduous/Evergreen/Mixed Forest
Woody Wetland/Herb Wetland/Open Water '

Any trees >3" DBH within project footprint? N/A yes , no

Complete this section for Indiana bat counties (Cherokee, Clay, Graham, HaywoojJ, Jacl‹son, Macon, Swain, Rutherford: Bat Cpve/LakeVurmarea öm)
Any trees or snags 15" DBH with exfoliating (shag) barl‹ or crevices? N/A yes no
If yes to shag/snag, how much sunlight do they receive during the day? N/A" 1-3 hours 4-6 hours 7+ hours
If yes to shag/snag, list spp of habitat trees?5" dbh _____
If large hollow trees or snags ?5"DBH are present in sunlit areas, provide photos and location.

Presence of:	In project footprint		In vicinty (0.5 mi)	
caves	yes	n"o '	yes	no
abandoned mines	yes	no?	yes	no

If 'yes' to any of the above, provide description and location.

Major water source in project footprint: N/A river stream/creek pond lake swamp
Suitable drinking habitat in the form of non stagnant, smooth or slack water areas? yes no N/A
Structure specific questions:

Guard rails	ose	concrète	timber	metal
Culvert material	c ete	imber	metal	plastic

Number of barrels: (double, triple, etc.)
Culvert height: " Culvert width:_____" Culvert length:_____"
If culvert is buried/crushed/sedimentation, observed narrowest opening height:

Culvert type	pipe	box	arch	other
Openings protected from high winds	yens	no		
Crevices present:	yes	no		
Rough surfaces, imperfections, bird nests	eye	no		
Human disturbancein culvert	high	med	(low	none

Depth of water in culvert (if applicable) " lbs ""

Below section completed a•!v if bats/evidence of bats observed: Evidence of bats using? yes n
Emergence count performed? (If yes, complete form) yes n"o
Evidence of bats using bird nests, if present? , yes ana
Type of evidence), guano staining bats
Roost material !\ ! (Hou concrète metal other:
Bat species present:
Notes (include description of bat location within culvert, sedimentation buildup, drainage inlets inside culvert, etc.)

72 " £ / e *' 5 b y/ /?/ /V < › 7s /?/

Bat Habitat Assessment Form

Culverts

Observers: ' '

TIP or DOT project number: '• " na Crossroad

Date:

Road Name above culvert: I-26

County: Lexington

Structure #: unnamed Pipe 1022

Name of the feature culvert is carrying (stream): UT Kinley Creek

% Surrounding habitat w/in 1 mi. of project footprint (approx)	Urban/commercial	Suburban/residential
	Herb/Shrub/Grassland	Agricultural
	Deciduous/Evergreen/Mixed Forest	'
	Woody Wetland/Herb Wetland/Open Water	

Any trees ?3" DBH within project footprint? N/A yes n"o

Complete this section for Indiana bat counties (Cherokee, Clay, Graham, Haywood, Jackson, Macon, Swain, Rutherford: Bat Cave/Lake Lure area only) — - -- - -"

Any trees o? s gs?5" DBH with exfDliatirfg (shag) bark or crevices? N/A yes no

If yes to shag/snag how much sunlight do they receive duringthmday? N/A "" " - 1-3-hours -6 hours 7+ hours

If yes tD shag/snag' list spp of.habitat trees15" dbh "

If large hollow trees or snags ?5"DBH are present in sunlit areas, provide photos and location.

Presence of:	In prDject footprint	In vicinty (0.5 mi)
caves	yes	yes np.)
abandoned mines	yes ‹gò/	yes Uno

If 'yes' to any of the above, provide description and location.

Major water source in project footprint: N/A river ea cr pond lake swamp

Suitable drinking habitat in the form of non stagnant, smooth or slack water areas? eyes no N/A

Structure specific questions:

Guard rails	one	concrete	timber	metal
Culvert material	ocretè+	timber	metal	plastic

Number of barrels: ' (double, triple, etc.)

Culvert height: lb Culvert width: /< " Culvert length: "

If culvert is buried/crushed/sedimentation, observed narrowest opening height:

Culvert type	pipe		arch	other
Openings protected from high winds	yes	no		
Crevices present:	yes+	no		
Rough surfaces, imperfections,bird nests	yes	no		
Human disturbancein culvert	high	med	low	none
Depth ofwaterin culvert (if applicable)				

Below section completed only if bats/evidence of bats observed: Evidence of bats using? yes (no)

Emergence count performed? (If yes, complete form)	yes	(no)		
Evidence of bats using bird nests, if present?	yes	(no)		
Type of evldence	guano	staining	bats	
Roost material	concrete	metal	other:	

Bat species present:)" '

Notes (include description of bat location within culvert, sedimentation buildup, draimage inlets inside culvert, etc.)

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Bat Habitat Assessment Form

Culverts

Observers: SE/EP
Date: 6/20/23
County: Lexington
TIP or DOT project number: Carolina Crossroads
Road Name above culvert: Giles Pkwy
Structure #: named Pipe 1021
Name of the feature culvert is carrying (stream): Abbey Creek

% Surrounding habitat w/in 1 mi. of project footprint (approx)	Urban/commercial	Suburban/residential	"
	Herb/Shrub/Grassland	Agricultural	
	Deciduous/Evergreen/Mixed Forest	'	
	Woody Wetland/Herb Wetland/Open Water		

Any trees >3" DBH within project footprint? N/A yes rfo/

Complete this section for Indiana bat counties (Cherokee, Clay, Graham, Haywood, Jackson, Macon, Swain, Rutherford: Bat Cave/Lake Lure area only) "

Any trees or snags 15" DB i e atng (shag} barkor crevices? N/'A yes BO

If yes to shag/snag, how much sunlight dcrJhey receive during 2he day? N/A %-3 hours -4-6It0urs 7+ hours

If yes to shag/snag, list spp of habitat trees ?5" dbh

If large hollow trees or snags ?5"DBH are present in-szfnlit areas, provide photos and location.

Presence of:	In project footprint		In vicinty (0.5 mi)	
caves	yes	no	yes	no!
abandoned mines	yes	‹not	yes	not

If 'yes' to any of the above, provide description and location.

Major water source in project footprint: N/A river stream/creek pond lal‹e swamp

Suitable drinking habitat in the form of non stagnant, smooth or slack water areas? yes no N/A

Structure specific questions:

Guard rails	none	concrete	timber	metal
Culvert material	concrete	timber	metal	plastic
Number of barrels: 1	(double, triple, etc.)			
Culvert height: "	Culvert width:		Culvert length: "	
If culvert is buried/crushed/sedimentation, observed narrowest opening height: "				
Culvert type	pe	box	arch	other
Openings protected from high winds		no		
Crevices present:	yens	no		
Rough surfaces, imperfections, bird nests	yes	no		
Human disturbancein culvert	high	med	o	none
Depth of water in culvert (if applicable)	""			

Below section completed anly if bats/evidence of bats observed: Evidence ofbats using? yes , no

Emergence count performed? (If yes, complete form)	yes	no	
Evidence of bats using bird hests, if present?	yes	,•nò)	
Type of evidence	guano	staining	bats
Roost material	concrete	metal	other:

No Bats Found

Bat species present:

Notes (include description of bat location within culvert, sedimentatlon buildup, drainage inlets inside culvert, etc.)

Bat Habitat Assessment Form

Culverts

Observers: SE/EP
Date: 6/28/22
County: Levinator

TIP or DOT project number: Carolina Cross
Road Name above culvert: NA
Structure #: Harbison Ped Culverts 1-4

Name of the feature culvert is carrying (stream):

% Surrounding habitat w/in 1 mi. of project footprint (approx)	Urban/commercial	Suburban/residential '/	
	Herb/Shrub/Grassland	Agricultural	!!
	Deciduous/Evergreen/Mixed Forest	'	
	Woody Wetland/Herb Wetland/Open Water		
Any trees >3" DBH within project footprint?	N/A	yes	(nO

Complete this section for Indiana bat counties (Cherokee, Clay, Graham, Haywood, Jackson, Macon, Swain, Rutherford: Bat Cave/Lake Lure area only)

Any trees or snags ¿5" DBH with exfoliating (shag) bark or crevices?	N/A	yes	no
If yes to shag/snag, how much sunlight do they receive during the day?	N/A	1-3 hours	4-6 hours 7+ hours
If yes to shag/snag, list spp of habitat trees ?5" döh		” “	
If large hollow trees or snags ?5"DBH are present in sunlit areas, provide photos and location.			

Presence of:	In project footprint	lu vicinty (0.5 mi)	
caves	yes	yes	no
abandoned mines	yes @	yes	no

If 'yes' to any of the above, provide description and location.

Major water source in project footprint:	N/A”	river	stream/creek	pond	lake	swamp
Suitable drinking habitat in the form of non stagnant, smooth ar slack water areas?				yes	no	N/A

Structure specific questions:

Guard rails	,none”!	concrete	timber	metal	
Culvert material	concrète	timber	metal	plastic	
Number of barrels:	(double, triple, etc.)				
Culvert height: /	Culvert width: "		Culvert length:	50'	
If culvert is buried/crushed/sedimentation, observed narrowest opening height: / “					
Culvert type	pipe	Xbox	arch	other	
Openings protected from high winds	yes				
Crevices present:	e	no			
Rough surfaces, imperfections, bird nests	‹'es“.?	no			
Human disturbance in culvert	¿highs	med	IOW	none	
Depth of water in culvert (if applicable)	”“”				

Below section completed only if bats/evidence of bats observed:	Evidence of bats using?	yes	,no	
Emergence count performed? (If yes, complete form)	yes	no		
Evidence of bats using bird nests, if present?	yes	mo		
Type of evidence	guano	staining	bats	
Roost material	!. '•'	concrète	metal	other:

Bat species present: ND

Notes (include description of bat location within culvert, sedimentation buildup, drainage inlets inside culvert, etc.)

Bat Habitat Assessment Form

Bridges

Observers: î" TIP or DOT project number: Carolina Vosskamp

Date: 6/26/23 Bridge Road (Name of facility carried) A

County: Richland Bridge Number: 4638

Crossing (Name of the feature intersected): Broad River

% Surrounding habitat w/in 1 mi. of project footprint (approx)	Urban/Commercial	!'	Suburban/Residential
	Herb/Shrub/Grassland	/T	Agricultural
	Deciduous/Evergreen/Mixed Forest		/
	Woody Wetland/Herb Wetland/Open Water		
Any trees >3" DBH within project footprint?	N/A	yes	o

Complete this section for Indiana bat counties (Avery: Cranberry Mine area only, Cherokee, Clay, Graham, Haywood, Jackson, Macon, Rutherford: Bat Cave/Lake LtłFe area only, Swain)

Any shaggy trees or snags >5" DBH?	N/A	yes		no
If yes to shag/snag, how much sunlight do they receive during the day?	N/A	1-3 hours	4-6 hours	7+ haurs

If yes to shag/snag, list species óf habitat trees >5" dbh

If snags >5"DBH are present in sunlit areas, provide photos and lDCdtíon.

If large hollow trees are present, provide photos and location.

Presence of:	In project footprint		In vicinty (0.5 mi)
Caves	yes	o	yes
Abandoned mines	yes	ÿo7	yes

If 'yes' to any of the above, provide photos, description, and location.

Major water source in project footprint	N/A	ive	stream/creek	pond	lake	SWd M}g
Suitable drinking habitat in the form of non-stagnant, smooth or slack water?				yes”	no	N/A

Structure specific questions:

Artificial lighting	unknown	yes	mo		
Guard rails			ete> timber	metal	
Deck type		eț	m2:.	open grid	
Beam type	none	concrete	steel	timber	
End/back wall type	concretes	timber	masonry		
Creosote evidence				yes	no
Suitable roosting crevices present (/ -1/” wide)				yes	no
Deck drains				yes	no

Max height of bridge deck above ground or water (ft):	ń/J/ ÍÍJ				
Bridge alignment	N/S	E/W	NW/SE	NE/SW	
Human disturbance under bridge	high	med		none	

Evidence of bats using bridge? (photos needed)	yes	no
Below section completed anly if bats/evidence of bats observed:		
Emergence count performed? (If yes, complete form next page)	yes	n
Evidence of bats using bird nests, if present?	yes	no

Type of Evidence (circle all that apply)	guano	staining	bats observed
Roost Type		crevice	open area
Raost Material		metal	concrete

NO bats

Bat species present (list all species):

Notes (list each species locations and estimated number of each species):

Bat Habitat Assessment Form

Bridges

Observers: SE/EP
Date: 6/26/23
County: Richland
Crossing (Name of the feature intersected): I-20

TIP or DOT project number: +' !/ ** .' !°' 4
Bridge Road (Name of facility arrie • f
Bridge Number: 4605 2

% Surrounding habitat w/in 1 mi. of project footprint (approx)	Urban/Commercial		Suburban/Residential	
	Herb/Shrub/Grassland		Agricultural	
	Deciduous/Evergreen/Mixed Forest		6	
	Woody Wetland/Herb	Wetland/Open Water	*T	
Any trees >3" DBH within project footprint?	N/A	yes	¿not	

Complete this section for Indiana bat counties (Avery: Cranberry Mine area only, Cherokee, Clay, Graham, Haywood, Jackson, Macon, Rutherford: Bat Cave/Lake Lure area only, Swain)

Any shaggy trees or snags >5" DBH?	N/A	yes	no	
If yes to shag/snag, how much sunlight do they receive during the day?	N/A	1-3hours	4-6 hours	7+ hours

If yes to shag/snag, list species af habitat trees >5" dbh
If snags >5"DBH are present in sunlit areas, provide photos and location.
If large hollow trees are present, provide photos and location.

Presence of:	In project footprint		In vicinty (0.5 mi)	
Caves	yes	no"	yes	no
Abandoned mines	yes	no›	yes	no

If 'yes' to any of the above, provide photos, description, and location.

Major water source in project footprint	N/A	river	stream/creek	pond	lake	swamy
Suitable drinking habitat in the form of non-stagnant, smooth or slack water?				yes	no	!N/A

Structure specific questions:

Artificial lighting	unknown	yes				
Guard rails	none	concrete	timber	jet I		
Deck type	concrete	") metal	timber	open grid		
Beam type	none.	And	steel	timber		
End/back wall type	,concrete	timber	masonry			
Creosote evidence				yes		no
Suitable roosting crevices present (?z-1X" wide)				yes		no
Deck drains				yes	%	

Max height of bridge deck above ground or water (ft):				
Bridge alignment	N/S	E/W	ANW/SE	NE/SW
Human disturbance under bridge	thighs	med	low	none

Evidence of bats using bridge? (photos needed)	yes	no
Below section completed only if bats/evidence of bats observed:		
Emergence count performed? (If yes, complete form next page)	yes	(
Evidence of bats using bird nests, if present?	yes	not
Type of Evidence (circle all that apply)	guano	staining bats observed
Roost Type		crevice open area
Roost Material		metal concrete
Bat species present (list all species):		

NO [illegible] found

Notes (lsteach species locations andesNmated number ofeach species):

Bat Habitat Assessment Form

Observers: SE/EP
Date: 6/26/23
County: R...
Crossing (Name of the feature intersected): I-20

Bridges
TIP or DOT project number: CT/ NA CrossRoads
Bridge Road (Name of facility carried)
Bridge Number:

% Surrounding habitat w/in 1 mi. of project footprint (approx)	Urban/Commercial		Suburban/Residential
	Herb/Shrub/Grassland		Agricultural
	Deciduous/Evergreen/Mixed Forest		
	Woody Wetland/Herb Wetland/Open Water		
Any trees >3" DBH within project footprint?	N/A	yes	o

Complete this section for Indiana bat counties (Avery: Cranberry Mine area only, Cherokee, Clay Grnham, Haywood, Jackson, Macan, Rutherford: Bat Cave/Lake Lure area only, Swain)

Any shaggy trees or snagsv5"DBH?.	N/A	yes		no
If yes to shag/snag, how much sunlight do they receive during the dav	N/A	1-3 hours	4-6 hours	7+ hours

If yes to shag/snag, list speciemf habitztlrees"fi5" dbh _____
If snags >5"DBH are present in sunlit areas, provide photos and location.
If large hollow trees are present, provide photos and location.

Presence of:	In project footprint		In vicinty (0.5 mi)	
Caves	yes	n	yes	(no)
Abandoned mines	yes		yes	(no)

If 'yes' to any of the above, provide photos, description, and location.

Major water source in project footprint	river	stream/creel‹	pond	take	swamp
Suitable drinking habitat in the farm of non-stagnant, smooth or slack water?			yes	no	/N/A "¿

Structure specific questions:

Artificial lighting	unknown	yes	n"o "		
Guard rails	none	et	timber	metal	
Deck type	oncrete	?metal	timber	open grid	
Beam type	none	ćoncrete	steel	timber	
End/bacl‹ wall type	ncrete	timber	masonry		
Creosote evidence				yes	:h
Suitable roosting crevices present (? - 1X" wide)					no
Deck drains				yes	no

Max height of bridge deck above ground or water Ęft): 70'

Bridge alignment	N/S	E/W	NW/SE	NE/SW
Human disturbance under bridge	high	med	low	none

Evidence of bats using bridge? (photos needed)	yes	(no)
Below section completed only if bats/evidence of bats observed:		
Emergence count performed? (If yes, complete form next page)	yes	n
Evidence of bats using bird nests, if present?	yes	o
Type of Evidence (circle all that apply)	guano	staining / bats observed
Roost Type		crevice / open area
Roost Material		metal / concrete

NO Bats found

Bat species present (list all species): _____
Notes (list each species locations and estimated number of each species):



Bat Habitat Assessment Form

Bridges

Observers: SE/EP
Date: 6/26/23
County: Richland
Crossing (Name of the feature intersected):

TIP or DOT project number:
Bridge Road (Name of facility carried) -W 4G
Bridge Number: /
" '"

% Surrounding habitat w/in 1 mi. of project footprint (approx)	Urban/Commercial	Suburban/Residential	"
	Herb/Shrub/Grassland /	Agricultural	+"
	Deciduous/Evergreen/Mixed Forest		
	Woody Wetland/Herb Wetland/Open Water		'"'
Any trees >3" DBH within project footprint?	N/A	yes	not

Complete this section for Indiana bat count e Ave : C anbe Mine area on Cherokee, Clay, Graham, Haywood, Jackson, Macon, Rutherfod: Bat Cave/La e ure-areziofiFyWwain)

Any shaggy trees or snags >5' DBH?	N/A	yes	no
If yes to shag/snag, how uch-sunlight"üo they receive during the days	N/A	1-3 hour?	4-6 hours 7+ haurs

If yes to shag/snag, list species of habitat trees >5" dbh
If snags >5"DBH are pres@en su areas, provide photos and location.
If large hollow trees are present, provide photos and location.

Presence of:	In project footprint		In vicinty (0.5 mi)	
Caves	yes	/?fb	yes	‹iTq
Abandoned mines	yes	And	yes	not

If 'yes' to any of the above, provide photos, description, and location.

Major water source in project footprint	N/AQ	river	stream/creek	pond	lake	swamp
Suitable drinking habitat in the form of non-stagnant, smooth or slack water?				yes	no	N/A

Structure specific questions:

Artificial lighting	unknown	yes			
Guard rails	none	ocrete	timber	metal	
Deck type	concrète	metal	timber	open grid	
Beam type	none	Viet	steel	timber	
End/bacl‹ wall type	‹ concrète	Jtimber	masonry		
Creosote evidence				yes	Uno
Suitable roosting crevices present (? - 1X" wide)				.yes	no
Deck drains				des	no

Max height of bridge deck above ground or water (ft):	"				
Bridge alignment	N/S	E/W	NW/SQ	NE/5W	
Human disturbance under bridge	h	med	low	none	

Evidence of bats using bridge? (photos needed)	yes	(no)
Below section completed anly if bats/evidence of bats observed:		
Emergence count performed? (If yes, complete form next page)	yes	knob
Evidence of bats using bird nests, if present?	yes	o
Type of Evidence (circle all that apply) guano	staining	bts observed
Roost Type	crevice	open area
Roost Material	metal	concrete

Bat species present (list all species): _____

Notes (list each species locations and estimated number of each species):

Bat Habitat Assessment Form

Observers: SE/EP
Date: 6/26/23
County: Lexington
Crossing (Name of the feature intersected): _____

TIP or DOT project number: Carolina Crossroads; Bridges
Bridge Road (Name of facility carried) Rockland Rd
Bridge Number: 4611

% Surrounding habitat w/in 1 mi. of project footprint (approx)	Urban/Commercia)	Suburban/Residential ”
	Herb/Shrub/Grassland	Agricultural
	Deciduous/Evergreen/Mixed Forest !	
	Woody Wetland/Herb Wetland/Open Water	
Any trees >3" DBH within project footprint?	N/A	yes

Complete this section for Indiana bat counties (Avery: Cranberry Mine area only, Cherokee, Clay, Graham, Haywood, Jackson, Macon, Rutherford: Bat Caye/Lake Lure area c›nly, Swéifi§ “ ” “” --
Any shaggy trees or snags >5" DBH? ’ N/A yes no
If yes to shag/snag, how mu sunlight do they receive during the day? N/A ” “ 3 hours 4-6 hours 7+ hours
If yes to shag/snag, list species of habitat trees >5" dbh
If snags >5"DBH are present in sunlit areas, provide photos and location.
If large hollow trees are present, provide photos and location.

Presence of:	In project footprint		In vicinty (0.5 mi)	
Caves	yes		yes	ono
Abandoned mines	yes	‹ non	yes	‹no
If 'yes' to any of the above, provide photos, description, and location.				

Major water source in project footprint	N/A	river	treanj/creek	pond	lake	swamp
Suitable drinking habitat in the farm of non-stagnant, smooth or slack water?				yes	no	N/A

Structure specific questions:

Artificial lighting	unknown	yes			
Guard rails	none	owmoe	timber	metal	
Deck type	¿concretes	metal	timber	opengrid	
Beam type	none	concrete	steel	timber	
End/back wall type	concrete	timber	masonry		
Creosote evidence				yes	(no)
Suitable roosting crevices present (fix-1/“ wide)				ye+	no
Deck drains				yes	(no)

Max height of bridge deck above ground or water (ft): '”

Bridge alignment	N/S		NW/SE	NE/SW	
Human disturbance under bridge	high	med	’low	none	

Evidence of bats using bridge? (photos needed)	yes	(no)
Below section completed only if bats/evidence of bats observed:		
Emergence count performed? (If yes, complete form next page)	yes	no!
Evidence of bats using bird nests, if present?	yes	note
Type of Evidence (circle all that apply)	guano staining	bats observed
Roost Type	crevice	open area
Roost Material	metal	concrete

No bats

Bat species present (list all species): _____
Notes (list each species taxations and estimated number of each species):

Bat Habitat Assessment Form

Bridges

Observers: SE / EP
Date: 6/27/23
County: Lexington
Crossing (Name of the feature intersected): Senn Br h

TIP or DOT project number: / naCrossroads
Bridge Road (Name of facility carried) Mc AJ] Dr
Bridge Number: 85

% Surrounding habitat w/in 1 mi. of project footprint (approx)	Urban/Commercial		Suburban/Residential
	Herb/Shrub/Grassland	/•	Agricultural
	Deciduous/Evergreen/Mixed Forest	/	
	Woody Wetland/Herb Wetland/Open Water		
Any trees >3" DBH within project footprint?	N/A	yes	mo

Complete this section for Indiana bat counties (Avery: Cranberry Mine area only, Cherokee, Clay, Graham, Haywood, Jackson, Macon, Rutherford: Bat Cave/Lake Lure area only, Swain) -

Any shaggy trees or snags >5" DBH?	N/A	yes ”		no
If yes to shag/snag, how much sunlight do they receive during the day?	N/A		1-3 hours	4-6 hours 7+hours
If yes to shag/snag, list species of habitat treas >5" db1	” “	” ””		

If snags >5"DBH are present in sunlit areas, provide photos and location.
If large hollow trees are present, provide photos anb location.

Presence of:	In project footprint		In vicinty (0.5 mi)	
Caves	yes (		yes	‹no ›
Abandoned mines	yes	›no+	yes	no°

If 'yes' to any of the above, provide photos, description, and location.

Major water source in project footprint	N/A	river	stream/creek	pond	lake	swamp
Suitable drinking habitat in the farm of non-stagnant, smooth or slack water?				yes	no	N/A

Structure specific questions:

Artificial lighting	unknown	yes	no '		
GUard rail5	none	concrete '	timber	metal	
Deck type	concrete	metal	timber	open grid	
Beam type	none	concrete‘	steel	timber	
End/back wall type	concrete	timber	masonry		
Creosote evidence				yes	'no
Suitable roosting crevices present (1x - 1 “ wide)				yes	no
Deck drains				yes	no

Max height of bridge deck above ground or water (ft): *af*

Bridge alignment	N/S	E/W	NW/SE	E SWS	
Human disturbance under bridge	high	med flows		none	

Evidence of bats using bridge? (photos needed)	yes	**no**
Below section completed only if bats/evidence of bats observed:		
Emergence count performed? (If yes, complete form next page)	yes	no
Evidence of bats using bird nests, if present?	yes	no
Type of Evidence (circle all that apply)	staining	bats observed
Roost Type	crevice	open area
Roost Material	metal	concrete

No bats '!!' guano

Bat species present (list all species): _____

Notes (list each species locations and estimated number of each species):

Bat Habitat Assessment Form

Bridges

Observers: SE/EP
Date: 6/27/23
County: Richland/Lexington
Crossing (Name of the feature intersected): Saluda River

TIP or DOT project number: Carolina Crossroads
Bridge Road (Name of facility carried) I-26
Bridge Number: 2

% Surrounding habitat w/in 1 mi. of project footprint (approx)	Urban/Commercial		Suburban/Residential
	Herb/Shrub/Grassland	/T	Agricultural
	Deciduous/Evergreen/Mixed Forest		/
	Woody Wetland/Herb Wetland/Open Water		
Any trees >3" DBH within project footprint?	N/A	yes	ono

Complete this section for Indiana bat counties (Avery: Cranberry Mine area only, Cherokee, Clay, Graham, Haywood, Jackson, Macon, Rutherford: Bat Cave/LakmL rear rfl aWn/

Any shaggy trees nags 5" DBH?	N/A	yes	no	
If yes to shag/snag, w u hsgtjJJghtAe-they receive doripgt:he day?	N/A	1-3 hours	4-6 hours	7+ hours

If yes to shag/snag, list species of habitat treesas" dbh-
If snags >5"DBH are present in sunlit areas, provide photos and location.
If large hollow trees are present, provide photos and location.

Presence of:	In project footprint	In vicinty (0.5 mi)	
Caves	yes	yes	n
Abandoned mines	yes	yes	

If 'yes' to any of the above, provide photos, description, and location.

Major water source in project footprint	N/A	ixv r*	stream/creeI‹	pond	lake	swamp
Suitable drinking habitat in the form of non-stagnant, smooth ar slack water?				yes "	no	N/A

Structure specific questions:

Artificial lighting	unknown	yes			
Guard rails	none	gon.crete	timber	metal	
Deck type	concrete	metal	timber	open grid	
Beam type	none	concrete'	steel	timber	
End/back wall type	.¢oncrete/	timber	masonry		
Creosote evidence				yes	(no)
Suitable roosting crevices present (/ - 1/" wide)				(yes)	no
Deck drains				(yes)	no

Max height of bridge decI‹ above ground or water (ft):	!/+ ' I I /		›/é	
Bridge alignment	N/S	E/W	NW/SE	(NE/SW)
Human disturbance under bridge	high	med	low	none

Evidence of bats using bridge? (photos needed)	yes	(no)
Below section completed only if bats/evidence of bats observed:		
Emergence count performed? (If yes, complete form next page)	yes	
Evidence of bats using bird nests, if present?	yes	o
Type of Evidence (circle all that ap lv)	guano	staining bats observed
Roost Type		crevice open area
Roost Material		metal concrete

No Bats Found

Bat species present (list all species): _____

Notes (list each species locations and estimated number of each species):

Bat Habitat Assessment Form

Bridges

Observers: SE/EP
Date: 6/27/23
County: Richland
Crossing (Name of the feature intersected): Arrowwood Dr

TIP or DOT projectnumber: Carolina Crossroads
Bridge Road (Name of facility carried) I-26
Bridge Number: 7936

% Surrounding habitat w/in 1 mi. of project footprint (approx)	Urban/Commercial		Suburban/Residential
	Herb/Shrub/Grassland	/	Agricultural
	Deciduous/Evergreen/Mixed Forest		/
	Woody Wetland/Herb Wetland/Open Water		
Any trees >3" DBH within project foDtprint?	N/A	yes	, no

Complete this section for Indiana bat counties (Avery. Cranberry Mine area only, Cherokee, Clay fiéham, Haywood, Jackson, Macon,-Rutherford: Bat Cave/Lake Lure area only, Swain)

Any shaggy trees or snags >5" DBH?	N/A	yes	no	
If yes to shag/snag, hgy/ much sunligKVdo they receive during the day?	N/A	1-3 hours	4-6 hours	7+ hours

If yes to shag/snag, list species of habitat trees >5" dbh
If snags >5"DBH are present in sunlit areas, provide photos and location.
If large hollow trees are present, provide photos and location.

Presence of:	In project footprint		In vicinty (0.5 mi)	
Caves	yes		yes	Ono
Abandoned mines	yes	prro	yes	mó

If 'yes' to any of the above, provide photos, description, and location.

Major water source in project footprint	/A	river	stream/creek	pond	take	swamp
Suitable drinking habitat in the form of non-stagnant, smooth or slack water?				yes	no	N/A

Structure specific questions:

Artificial lighting	unknown	yes	no		
Guard rails	none	concrete	timber	metal	
Deck type	ćoncrete	"metal	timber	open grid	
Beam type	none	corJcrete	e	timber	
End/back wall type	concrete	timber	masonry		
Creosote evidence				yes	no
Suitable roosting crevices present (? - 1 "wide)				yes	na
Deck drains				,yes	no

Max height of bridge decl‹ above ground or water (ft): ”

Bridge alignment	/SQ	E/W	NW/SE	NE/SW	
Human disturbance under bridge	high ”/	med	low	none	

Evidence of bats using bridge? (photos needed)	yes	ho*
Below section completed only if bats/evidence of bats observed:		
Emergence count performed? (If yes, complete form next page)	yes	no!
Evidence of bats using bird nests, if present?	yes	

Type of Evidence (circle all that apply)	'	guano	staining	bats observed
Roost Type	NO Bats		crevice	open area
Roost Material			metal	concrete

Bat species present (list all species): _____
Notes (list each species locations and estimated number of each species):

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Bat Habitat Assessment Form

Bridges

Observers: SE/EP
Date: 6/27/23
County: Richland
Crossing (Name of the feature intersected): I-126

TIP or DOT projectnumber: Carolina Crossroads
Bridge Road (Nameof facility carried) Colonial Life Rd
Bridge Number:

% Surrounding habitat w/in 1 mi. of project footprint (approx)	Urban/Commercial		Suburban/Residential
	Herb/Shrub/Grassland		Agricultural
	Deciduous/Evergreen/Mixed Forest		
	Woody Wetland/Herb Wetland/Open Water		
Any trees >3" DBH within project footprint?	N/A	yes	0o

Complete this section for Indiana bat counties Avery: Cvaobgrcy Mine area only, Cherokee, Clay, Graham, Haywood, Jackson, Macqn Rutherford: Bat Cave/Lake Lure area anly, Swain)

Any shaggy trees or snags >5' DBH?	N/A	yes	no	
If yes to shag/snag, howuh sunlightclo they receive during the day?.	N/A	1-3 hours	4-6 hours	7+ hours
If yes to shag/snag, list species af habitat trees >5" dbh				
If snags >5"DBH are present in sunlit areas, provide photos and location.				
If large hollow trees are present, provide photos and location.				

Presence of:	In project footprint		In vicinty (0.S mi)	
Caves	yes	go	yes	,no
Abandoned mines	yes	rlo	yes	go'/
If 'yes' to any of the above, provide photos, description, and location.				

Major water source in project footprint	/A	river	stream/creek	pond	lake	swamp
Suitable drinking habitat in the farm of non-stagnant, smooth or slack water?				yes	no	N/A

Structure specific questions:

Artificial lighting	unknown	yes	n		
Guard rails	none		timber	metal	
Deck type	concrete	metal	timber	open grid	
Beam type	none	concrete	'steel	timber	
End/back wall type	concrete	timber	masonry		
Creosote evidence				yes	mo
Suitable roosting crevices present (/ - 1 "wide)				yes	no
Deck drains				yes	no

Max height of bridge deck above ground or water (ft):

Bridge alignment	N/S	E/W	NW/SE	NE/SW
Human di5tUFbance under bridge	high	med	low	none

Evidence of bats using bridge? (photos needed)	yes	no
Below section completed only if bats/evidence of bats observed:		
Emergence count performed? (If yes, complete form next page)	yes	r\of
Evidence of bats using bird nests, if present?	yes	ri"o¿
Type of Evidence (circle all that apply) , guano	staining	bats observed
Roost Type	crevice	open area
Roost Material	metal	concrete

NO Bats

Bat species present (list all species):

Notes (list each species locations and estimated number of each species):

Bat Habitat Assessment Form

Bridges

Observers: SE/EP
Date: 6/27/23
County: Richland / Lexington
Crossing (Name of the feature intersected): Saluda River

TIP or DOT project number: Carolina Crossroads
Bridge Road (Name of facility carried) I-126
Bridge Number: 7934

% Surrounding habitat w/in 1 mi. of project footprint (approx)	Urban/Commercial		Suburban/Residential
	Herb/Shrub/Grassland	/	Agricultural
	Deciduous/Evergreen/Mixed Forest		
	Woody Wetland/Herb Wetland/Open Water		
Any trees >3" DBH within project footprint?	N/A	yes	knob

Complete this section for Indiana bat counties (Avery: Cranberry Mine area only, Cherokee, Clay, Graham, Haywood, Jackson, Macon, Rutherford Bat Cave/Lake Lure area only, Swain)

Any shaggy trees or snags >5" DBH?	N/A	yes		no
If yes to shag/snag, how much sunlight dD-they receive during the day?	N/A	1-3 hours	4-6 hours	7+ hours

If yes to shag/snag, list species of habitat trees >5" dbh
If snags >5"DBH are present in sunlit areas, provide photos and location.
If large hollow trees are present, provide photos and location.

Presence of:	In project footprint		In vicinty (0.5 mi)	
Caves	yes	n	yes	n
Abandoned mines	yes		yes	

If 'yes' to any of the above, provide photos, description, and location.

Major water source in project footprint	N/A	river	stream/creek	pond	lake	swamp
Suitable drinking habitat in the form of non-stagnant, smooth or slack water?				yes	no	N/A

Structure specific questions:

Artificial lighting	unknown	yes	(no)		
Guard Fdïls	none	foset	timber	metal	
Deck type	concrele	metal	timber	open grid	
Bearn type	none	c"óncrete	steel	timber	
End/back wall type	concrete	timber	masonry		
Creosote evidence				yes	n
Suitable roosting crevices present (fix - 1 "wide)				(yes)	no
Deck drains				(yes)	no

Max height of bridge deck above ground or wate(ft): Approx 60'					
Bridge alignment	N/S	E/W	(NW/SE)	NE/SW	
Human disturbance under bridge	high	med	low"/	none	

Evidence of bats using bridge? (photos needed)	yes	(no)
Below section completed only if bats/evidence of bats observed:		
Emergence count performed? (If yes, complete form next page)	yes	
Evidence of bats usíng bird nests, if present?	yes	o
Type of Evidence (circle all that apply)	\/ ' guano	staining / bats observed
Roost Type		crevice / open area
Roost Material		metal / concrete

No Bats for

Bat species present (list all species): _____

Notes (list each species locations and estimated number of each species):

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Bat Habitat Assessment Form

Bridges

Observers: SE/EP
Date: 6/27/23
County: Richland
Crossing (Name af the feature intersected): CSX

TIP or DOT project number: Carolina Crossroads
Bridge Road (Name of facility carried) I-26
Bridge Number: "01

% Surrounding habitat w/in 1 mi. of project footprint (approx)	Urban/Commercial		Suburban/Residential
	Herb/Shrub/Grassland	/	Agricultural
	Deciduous/Evergreen/Mixed Forest		
	Woody Wetland/Herb Wetland/Open Water		
Any trees >3" DBH within project footprint?	N/A	yes	not

Complete this section for Indiana bat counties (Avery: Cranberry Mine area only, Cherokee, ClayGraham, Haywood, Jackson, Macon, Rutherford: Bat Cave/Lake Lure area only, Swain) " "

Any shaggy trees or snags >5" DBH?	N/A	yes	no	
If yes to shag/snag, how much sunlight do they receive during the day?	N/A	1-3 hours	4-6 hours	7+ hours

If yes to shag/snag, list species of habitat trees >5" dbh
If snags >5"DBH are present in sunlit areas, provide photos and location.
If large hollow trees are present, provide photos and location.

Presence of:	In project footprint		In vicinity (0.5 mi)	
Caves	yes	(no)	yes	no
Abandoned mines	yes	(no)	yes	¿not

If 'yes' to any of the above, provide photos, description, and location.

Major water source in project footprint	A	river	stream/creek	pond	lake	swamp
Suitable drinking habitat in the form of non-stagnant, smooth or slack water?				yes	no	(N/A)

Structure specific questions:

Artificial lighting	unknown	yes	n		
Guard rails	none	§orfcreté	timber	metal	
Deck type	concrete	metal	timber	open grid	
Beam type	none	concrete	steel	timber	
End/back wall type	concrete	timber	masonry		
Creosote evidence				yes	no
Suitable roosting crevices present (fix - 1 ”wide)				yes	no
Deck drains				yes	no

Max height of bridge deck above ground or water (ft):

Bridge alignment	N/S	E/W	NW/SE	ONE/SW	
Human disturbance under bridge	high	med	low	none	

Evidence of bats using bridge? (photos needed)	yes	
Below section completed only if bats/evidence of bats observed:		
Emergence count performed? (If yes, complete form next page)	yes	o
Evidence of bats using bird nests, if present?	yes	Ono
Type of Evidence (circle all that apply)	guano	staining bats observed
Roost Type		crevice open area
Roost Material		metal concrete

/, Bats found

Bat species present (list all species): _____

Notes (list each species locations and estimated number of each species):

Bat Habitat Assessment Form

Bridges

Observers: SE/EP
Date: 6/27/23
County: Richland
Crossing (Name af the feature intersected): I-126

TIP or DOT project number: NA Crossroads
Bridge Road (Name of facility carried)
Bridge Number:

% Surrounding habitat w/in 1 mi. of project footprint (approx)	Urban/Commercial		Suburban/Residential
	Herb/Shrub/Grassland		Agricultural
	Deciduous/Evergreen/Mixed Forest		
	Woody Wetland/Herb Wetland/Open Water		
Any trees >3" DBH within project footprint?	N/A	yes	

Complete this section for Indiana bat counties (Avery: Cranberry Mine area only, Cherokee, Clay, Graham, Haywood, Jackson, Macon, Rutherford: Bat Cave/Lake Lure area only, Swain)

Any shaggy trees or snags >5" DBH?	N/A	yes	no
If yes to shag/snag, how mu?fi sunlight do they receive during the day?	N/A	1-3 hours	4-6 hours 7+ haurs

If yes to shag/snag, list species of habitat trees >5" dbh
If snags >5"DBH are present in sunlit areas, provide photos and location.
If large hollow trees are present, provide photos and location.

Presence of:	In project footprint	In vicinty (0.5 mi)
Caves	yes	yes /fi@
Abandoned mines	yes	yes

If 'yes' to any of the above, provide photos, description, and location.

Major water source in project footprint: river stream/creek pond lake swamp

Suitable drinking habitat in the form of non-stagnant, smooth or slack water? yes no /N/A

Structure specific questions:

Artificial lighting	unknown	e	no		
Guard rails	none	Concrete	timber	metal	
Deck type	concreté>	metal	timber	open grid	
Beam type	none	.c'oncet	steel	timber	
End/back wall type	concreté	timber	masonry		
Creosote evidence				yes	no
Suitable roosting crevices present (/ - 1X" wide)				yes ›	no
Deck drains				yes" I	no

Max height of bridge deck above ground or water (ft):

Bridge alignment	N/S	E/W	NW/SE	NE/SW
Human disturbance under bridge	high	med	low	none

Evidence of bats using bridge? (photos needed) yes no

Below section completed only if bats/evidence of bats observed:

Emergence count performed? (If yes, complete form next page) yes ono

Evidence of bats using bird nests, if present? yes o

Type of Evidence (circle all that apply)	No Bats	guano	staining	bats observed
Roost Type			crevice	open area
Roost Material			metal	concrete

Bat species present (list all species): _____

Notes (list each species locations and estimated number of each species):

Bat Habitat Assessment Form

Bridges

Observers: SE/EP
Date: 6/27/23
County: Richland
Crossing (Name of the feature intersected): I-26

TIP or DOT project number: na Crossroads
Bridge Road (Name of facility carried) //6 / •fi4'<
Bridge Number:

% Surrounding habitat w/in 1 mi. of project footprint (approx)	Urban/Commercial	Suburban/Residential	""
	Herb/Shrub/Grassland /	Agricultural	
	Deciduous/Evergreen/Mixed Forest		'=
	Woody Wetland/Herb Wetland/Open Water		
Any trees >3" DBH within project footprint?	N/A	yes	to

Complete this section for Indiana bat counties (Avery: Cranberry Mine area only, Cherokee, Clay, Graham, Haywood, Jackson, Macon, Rutherford: Bat Cave/Lake Lure area only, Swain)

Any shaggy trees or snags >5" DBH?	N/A	yes		no
If yes to shag/snag, how much sunlight da they receive during the day?	N/A	1-3 hours	4-6 hours	7+ hours

If yes to shag/snag, list species of habitat trees >5" dbh
If snags >5"DBH are present in sunlit areas, provide photos and location.
If large hollow trees are present, provide photos and location.

Presence of:	In project footprint		In vicinty (0.5 mi)	
Caves	yes	(no)	yes	knob
Abandoned mines	yes	(no)	yes	not

If 'yes' to any of the above, provide photos, description, and location.

Major water source in project footprint	river	stream/creek	pond	lake	swamp
Suitable drinking habitat in the form of non-stagnant, smooth or slack water?			yes	no	NBA

Structure specific questions:

Artificial lighting	unknown	‹y s//	no		
Guard rails	none	. concree?	timber	metal	
Deck type	. concrete	metal	timber	open grid	
Beam type	none	concrete		timber	
End/back wall type	o cr	tim,ber	masonry		
Creosote evidence				yes	‹'no
Suitable roosting crevices present (fiz - 1 "wide)				yes	BO
Deck drains				yes '	no

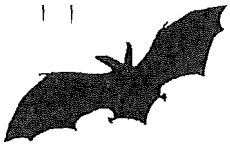
Max height of bridge deck above ground or water (ft): 70'

Bridge alignment	N/S	(E/W)	NW/SE	NE/SW
Human disturbance under bridge	(high)	med	low	none

Evidence of bats using bridge? (photos needed)	yes	(no)
Below section completed only if bats/evidence of bats observed:		
Emergence count performed? (If yes, complete form next page)	yes	(no)
Evidence of bats using bird nests, if present?	yes	(no)

Type of Evidence (circle all that apply)		guano	staining	bats observed
Roost Type	NV Bats Found		crevice	open area
Roost Material			metal	concrete

Bat species present (list all species):
Notes (list each species locations and estimated number of each species):



Bat Habitat Assessment Form

Bridges

Observers:
Date: 6/27/23
County: Richland
Crossing (Name of the feature intersected): I-126

TIP or DOT project number: Carolina Crossroad
Bridge Road (Name of facility carried) I-26
Bridge Number: %

% Surrounding habitat w/in 1 mi. of project footprint (approx)	Urban/Commercial		Suburban/Residential
	Herb/Shrub/Grassland	/ /7	Agricultural
	Deciduous/Evergreen/Mixed Forest		/
	Woody Wetland/Herb Wetland/Open Water		
Any trees >3" DBH within project footprint?	N/A	yes	

Complete this section for Indiana bat counties (Avery: Cranberry Mine area only, Cherokee, Clay, Graham, Haywood, Jackson, Macon, Rutherford: Bat Cave/Lake Lure area only, Swain)

Any shaggy trees or snags >5" DBH?	N/A	yes		no
If yes to shag/snag, how much sunlight do they receive during the day?	N/A	1-3 hours	4-6 hours	7+ hours

If yes to shag/snag, list species of habitat trees >5" dbh
If snags >5"DBH are present in sunlit areas, provide photos and location.
If large hollow trees are present, provide photos and location.

Presence of:	In project footprint		In vicinty (0.5 mi)	
Caves	yes	‹no	yes	' no
Abandoned mines	yes	no	yes	no

If 'yes' to any of the above, provide photos, description, and location.

Major water source in project footprint	N/A	river	stream/creek	pond	lake	swamp
Suitable drinking habitat in the form of non-stagnant, smooth or slack water?				yes	no	N/A

Structure specific questions:

Artificial lighting	unknown	e	no		
Guard rails	none	o c ed	timber	metal	
Deck type	<concrete	metal	timber	open grid	
Beam type	none	c ete	steel	timber	
End/back wall type	concrete	/timber	masonry		
Creosote evidence				yes	n
Suitable roosting crevices present (fi - 1 "wide)				(yes)	no
Deck drains				yes	,

Max height of bridge decl‹ above ground or water (ft): 20'

Bridge alignment	(N/S)	E/W	NW/SE	NE/SW	
Human disturbance under bridge	(high)	med	low	none	

Evidence of bats using bridge? (photos needed)	yes	(no)
Below section completed only if bats/evidence of bats observed:		
Emergence count performed? (If yes, complete form next page)	yes	mo
Evidence of bats using bird nests, if present?	yes	And
Type of Evidence (circle all that apply)	guano staining	bats observed
Roost Type	crevice	open area
Roost Material	metal	concrete

NO bats found

Bat species present (list all species): _____

Notes (list each species locations and estimated number of each species):

15

Bat Habitat Assessment Form

Bridges

Observers: SE/EP
Date: 6/28/23
County: Lexington
Crossing (Name of the feature intersected): I-26

TIP or DOT project number: Carolina Crossroads
Bridge Road (Name of facility carried) Piney Grove Rd
Bridge Number: 8873

% Surrounding habitat w/in 1 mi. of project footprint (approx)	Urban/Commercial	Suburban/Residential
	Herb/Shrub/Grassland /	Agricultural
	DeciduousfEvergreen/Mixed Forest	
	Woody Wetland/Herb Wetland/Open Water""	
Any trees >3" DBH within project footprint?	N/A yes	o

Complete this section for Indiana bat counties (Avery: Cranberry Mine area only, Cherokee, Clay, Graham, Haywood, Jackson, Macon, Rutherford: Bat Cave/Lake Lure area only, Swain)

Any shaggy trees or snags >5" DBH?	N/A	e	—	no
If yes to shag/snag, how much sunlight do they receive during the day?	N/A "	1-3 hours	4-6 hours	7+ hours

If yes to shag/snag, list species of habitat trees >5" dbh
If snags >5"DBH are present hfslinlit areas, provide photos and location.
If large hollow trees are present, provide photos and location.

Presence of:	In project footprint		In vicinty (0.5 mi)	
Caves	yes	(no)	yes	(no)
Abandoned mines	yes	(no)	yes	(no)

If 'yes' to any of the above, provide photos, description, and location.

Major water source in project footprint	/\	river	stream/creek	pond	lake	swamp
Suitable drinking habitat in the form of non-stagnant, smooth or slack water?				yes	no	‹N/AQ

Structure specific questions:

Artificial lighting	unknown	Eye	no		
Guard rails	none	rettimber		metal	
Deck type	oncret	metaltimber		open grid	
Beam type	none	concrete	e	timber	
End/back wall type	Concrete	°timber	masonry		
Creosote evidence				yes	no
Suitable roosting crevices present (? - 1 "wide)				•,yes ›	no
Deck drains				yes	no

Max height of bridge deck above ground or water (ft):

Bridge alignment	N/S	(E/W)	NW/SE	NE/SW	
Human disturbance under bridge	(high)	med	low	none	

Evidence of bats using bridge? (photos needed)	yes	(no)
Below section completed only if bats/evidence of bats observed:		
Emergence count performed? (If yes, complete form next page)	yes	
Evidence of bats using bird nests, if present?	yes	o

Type of Evidence (circle all that apply)	NO bats found	guano	staining	bats observed
Roost Type			crevice	open area
Roost Material			metal	concrete

Bat species present (list all species): _____

Notes (list each species locations and estimated number of each species):

16

Bat Habitat Assessment Form

Bridges

Observers: SE/EP
Date: 6/26/23
County: Richland
Crossing (Name of the feature intersected): I-26

TIP or DOT project number: Carolina Crossroads
Bridge Road (Name of facility carried) Harbison Blvd
Bridge Number: WC6@

% Surrounding habitat w/in 1 mi. of project footprint (approx)	Urban/Commercial	"' '>	Suburban/Residential	" "
	Herb/Shrub/Grassland			
	Agricultural		Deciduous/Evergreen/Mixed	
	Forest		/	
	Woody Wetland/Herb Wetland/Open Water			
Any trees >3" DBH within project footprint?	N/A	yes	"no	

Complete this section for Indiana bat counties (Avery: Cranberry Mine area only, Cherokee, Clay, Graham, Haywood, Jackson, Macon, Rutherford: Bat Cave/Lake Lure area only, Swain)

Any shaggy trees or snags >5" DBH?	N/A	yes	no	
If yes to shag/snag, how much sunlight do they receive during the day?	N/A	1-3 hours	4-6 hours	7+ hours

If yes to shag/snag, list species of habitat trees >5" dbh
If snags >S"DBH are present in sunlit areas, provide photos and location.
If large hollow trees are present, provide photos and location.

Presence of:	In project footprint		In vicinty (0.5 mi)	
Caves	yes	„no›	yes	‹no
Abandoned mines	yes	nq)	yes	'no›

If 'yes' to any of the above, provide photos, description, and location.

Major water source in project footprint	,N/A	river	stream/creek	pond	lake	swamp
Suitable drinking habitat in the form of non-stagnant, smooth or slack water?				yes	no	N/A

Structure specific questions:

Artificial lighting	unknown	yes			
Guard rails	none	concret	timber	metal	
Deck type	concrete	metal	timber	open grid	
Beam type	none	concrete	eye	timber	
End/bacl‹ wall type	concrete"›	timber	masonry		
Creosote evidence				yes	%
Suitable roosting crevices present (fi - 1 ”wide)				yes	no
Deck drains				yes	no

Max height of bridge deck above ground or water (ft):	"//t			
Bridge alignment	N/S	E/W	NW/SE	SOEW
Human disturbance under bridge	i	med	low	none

Evidence of bats using bridge? (photos needed)	R	M
Below section completed only if bats/evidence of bats observed:	o	a
Emergence count performed? (If yes, complete form next page)	o	t
Evidence of bats using bird nests, if present?	s	e
Type of Evidence (circle all that apply)	t	r
Roost Type		i

Bat species present (list all species):
Notes (list each species locations and estimated number of each species):

al

	yes	no
	yes	(o,
	yes	
guano	staining	bats observed
	crevice	open area
	metal	concrete

Bat species present (list all species): _____

Notes (list each species locations and estimated number of each species):

South Carolina Bats in Bridges and Culverts

Submitted by: Anna.Lark@hdrinc.com_HDR

Submitted time: Jul 10, 2023, 11:38:27 AM

Would you like to see the optional questions?

Simplified Survey

Contact Information

Investigator Name(s)

Jenessa Kay

Phone

(704) 807-1604

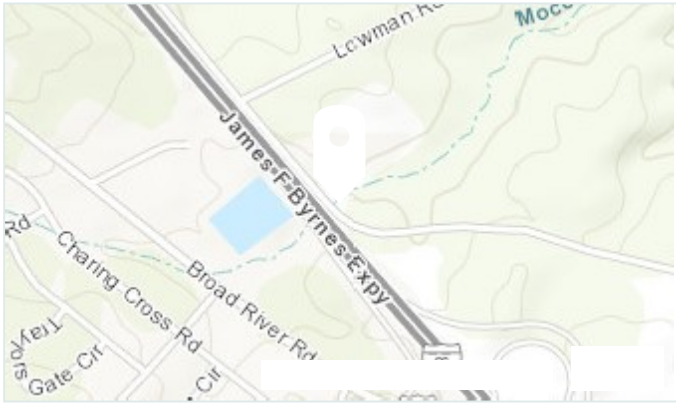
Location Information

Date

Jun 28, 2023

Location

Lat: 34.103003 Lon: -81.178262



longitude

-81.1782619078468

latitude

34.1030029300919

SCDOT Structure ID #

EC 0202

Structure Information

Structure Type

Culvert – Box

Underdeck/Culvert Material

Concrete

Road Type

Interstate

Conditions Under Structure

- **Concrete**
- **Flowing water**

Number of Total Culverts

1

Supplemental Culvert Information

repeatnum

1

Structure #

Culvert Height (ft)

6

Culvert Width (ft)

6

Bat Information

Bat Indicators

- **None**

Bats Present

No

Area Information

Areas Inspected

- **Crevices**
- **Rough surfaces**

Migratory Bird Information

Is there evidence of migratory birds using the structure?

No

South Carolina Bats in Bridges and Culverts

Submitted by: Anna.Lark@hdrinc.com_HDR

Submitted time: Jul 10, 2023, 11:38:27 AM

Would you like to see the optional questions?

Simplified Survey

Contact Information

Investigator Name(s)

Jenessa Kay

Phone

(704) 807-1604

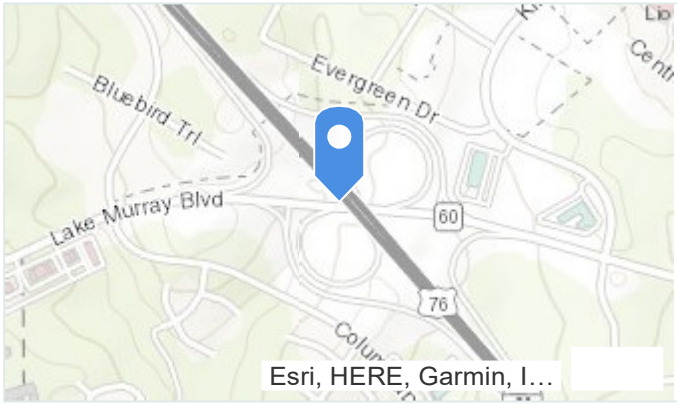
Location Information

Date

Jun 28, 2023

Location

Lat: 34.091 Lon: -81.166127



longitude

-81.1661272974139

latitude

34.0910002052923

SCDOT Structure ID #

9359

Structure Information

Structure Type

Bridge - Steel I-beam

Underdeck/Culvert Material

Corrugated Steel

Road Type

Interstate

Conditions Under Structure

- **Concrete**
- **Four (or more) lane highway**

Number of Total Culverts

1

Supplemental Culvert Information

repeatnum

1

Bat Information

Bat Indicators

- **None**

Bats Present

No

Area Information

Areas Inspected

- **Vertical surfaces on I-beams**
- **Vertical surfaces between concrete end walls and bridge deck**
- **Rough surfaces**
- **Expansion joints**
- **Guardrails**
- **Crevices**

Migratory Bird Information

Is there evidence of migratory birds using the structure?

No

South Carolina Bats in Bridges and Culverts

Submitted by: Anna.Lark@hdrinc.com_HDR

Submitted time: Jul 10, 2023, 11:38:27 AM

Would you like to see the optional questions?

Simplified Survey

Contact Information

Investigator Name(s)

Jenessa Kay

Phone

(704) 807-1604

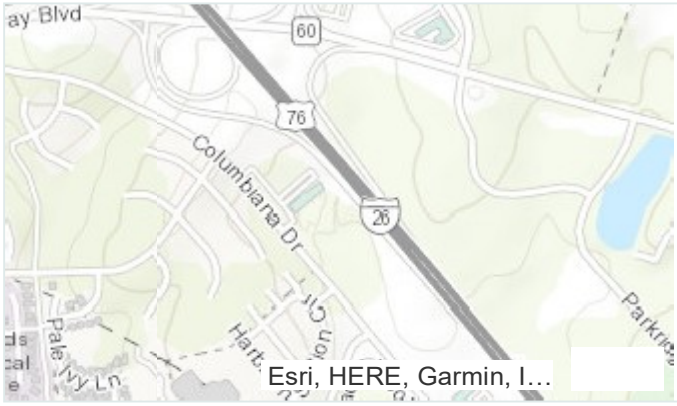
Location Information

Date

Jun 28, 2023

Location

Lat: 34.087691 Lon: -81.163085



longitude

-81.163085101923

latitude

34.0876905341503

SCDOT Structure ID #

EP 0702

Structure Information

Structure Type

Culvert – Pipe/Round

Underdeck/Culvert Material

Concrete

Road Type

Interstate

Conditions Under Structure

- **Concrete**
- **Standing water**

Number of Total Culverts

1

Supplemental Culvert Information

repeatnum

1

Structure #

Culvert Height (ft)

5

Culvert Width (ft)

5

Bat Information

Bat Indicators

- **None**

Bats Present

No

Area Information

Areas Inspected

- **Crevices**
- **Rough surfaces**

Migratory Bird Information

Is there evidence of migratory birds using the structure?

No

South Carolina Bats in Bridges and Culverts

Submitted by: Anna.Lark@hdrinc.com_HDR

Submitted time: Jul 10, 2023, 11:38:28 AM

Would you like to see the optional questions?

Simplified Survey

Contact Information

Investigator Name(s)

Jenessa Kay

Phone

(704) 807-1604

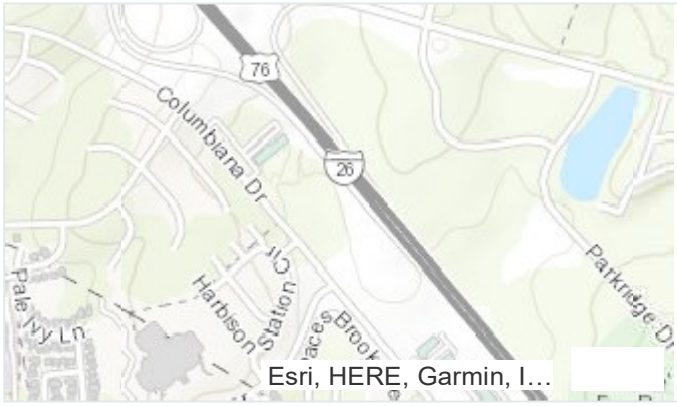
Location Information

Date

Jun 28, 2023

Location

Lat: 34.08685 Lon: -81.1623



longitude

-81.1623000701551

latitude

34.0868498678718

SCDOT Structure ID #

EP0801

Structure Information

Structure Type

Culvert – Pipe/Round

Underdeck/Culvert Material

Corrugated Steel

Conditions Under Structure

- **Flowing water**

Number of Total Culverts

1

Supplemental Culvert Information

repeatnum

1

Structure #

Culvert Height (ft)

7

Culvert Width (ft)

7

Bat Information

Bat Indicators

- **None**

Bats Present

No

Area Information

Areas Inspected

- **Rough surfaces**
- **Crevices**

Migratory Bird Information

Is there evidence of migratory birds using the structure?

Yes

Additional Information

Would you like to include additional information?

- **Comment(s)**

Additional Comments

Run parallel to interstate. Metal pipe, bottom rusted through in some places

South Carolina Bats in Bridges and Culverts

Submitted by: Anna.Lark@hdrinc.com_HDR

Submitted time: Jul 10, 2023, 11:38:28 AM

Would you like to see the optional questions?

Simplified Survey

Contact Information

Investigator Name(s)

Jenessa Kay

Phone

(704) 807-1604

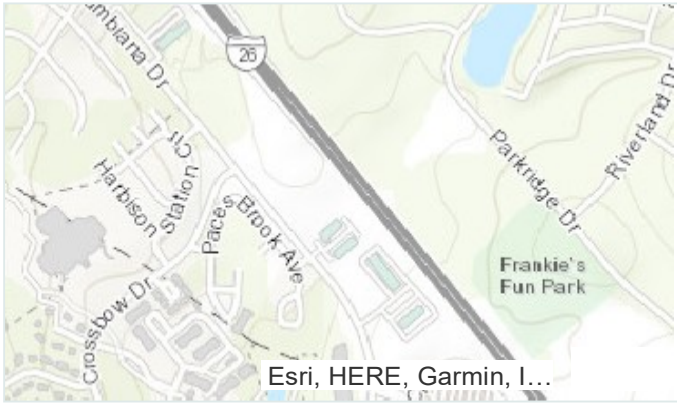
Location Information

Date

Jun 28, 2023

Location

Lat: 34.084787 Lon: -81.160229



longitude

-81.1602288790189

latitude

34.0847868692327

SCDOT Structure ID #

EC 0802

Structure Information

Structure Type

Culvert – Box

Underdeck/Culvert Material

Concrete

Road Type

Interstate

Conditions Under Structure

- **Concrete**
- **Flowing water**
- **Bare ground /sediment**

Number of Total Culverts

1

Supplemental Culvert Information

repeatnum

1

Structure #

Culvert Height (ft)

6

Culvert Width (ft)

6

Bat Information

Bat Indicators

- **None**

Bats Present

No

Area Information

Areas Inspected

- **Rough surfaces**
- **Crevices**

Migratory Bird Information

Is there evidence of migratory birds using the structure?

No

South Carolina Bats in Bridges and Culverts

Submitted by: Anna.Lark@hdrinc.com_HDR

Submitted time: Jul 10, 2023, 11:38:19 AM

Would you like to see the optional questions?

Simplified Survey

Contact Information

Investigator Name(s)

Jenessa Kay

Phone

(704) 807-1604

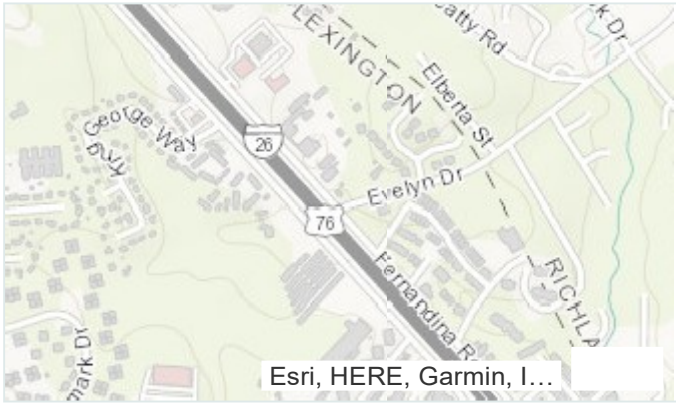
Location Information

Date

Jun 27, 2023

Location

Lat: 34.051074 Lon: -81.124053



longitude

-81.12405313819

latitude

34.0510735588982

SCDOT Structure ID #

EC1905

Structure Information

Structure Type

Culvert – Pipe/Round

Underdeck/Culvert Material

Corrugated Steel

Road Type

State Road

Conditions Under Structure

- **Rip rap**
- **Flowing water**

Number of Total Culverts

2

Supplemental Culvert Information

repeatnum

1

Structure #

Culvert Height (ft)

5

Culvert Width (ft)

5

repeatnum

2

Structure #

Culvert Height (ft)

5

Culvert Width (ft)

5

Bat Information

Bat Indicators

- **None**

Bats Present

No

Area Information

Areas Inspected

- **Crevices**

Migratory Bird Information

Is there evidence of migratory birds using the structure?

No

South Carolina Bats in Bridges and Culverts

Submitted by: Anna.Lark@hdrinc.com_HDR

Submitted time: Jul 10, 2023, 11:38:21 AM

Would you like to see the optional questions?

Simplified Survey

Contact Information

Investigator Name(s)

Jenessa Kay

Phone

(704) 807-1604

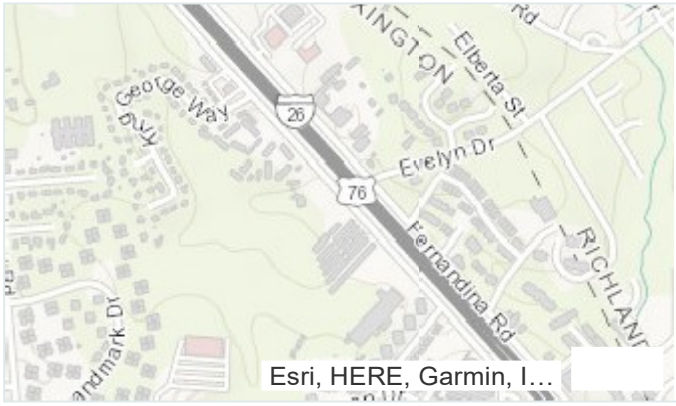
Location Information

Date

Jun 27, 2023

Location

Lat: 34.050553 Lon: -81.124756



longitude

-81.1247560830023

latitude

34.0505528439874

SCDOT Structure ID #

EC 1901

Structure Information

Structure Type

Culvert – Pipe/Round

Underdeck/Culvert Material

Concrete

Road Type

Interstate

Conditions Under Structure

- **Bare ground /sediment**

Number of Total Culverts

1

Supplemental Culvert Information

repeatnum

1

Structure #

Culvert Height (ft)

6

Culvert Width (ft)

6

Bat Information

Bat Indicators

- **None**

Bats Present

No

Area Information

Areas Inspected

- **Crevices**

Migratory Bird Information

Is there evidence of migratory birds using the structure?

No

Additional Information

Would you like to include additional information?

- **Image**

Image



image1-20230627-141535.jpg

Please provide a description of your image.

Entrance adjacent to storage favility

South Carolina Bats in Bridges and Culverts

Submitted by: Anna.Lark@hdrinc.com_HDR

Submitted time: Jul 10, 2023, 11:38:22 AM

Would you like to see the optional questions?

Simplified Survey

Contact Information

Investigator Name(s)

Jenessa Kay

Phone

(704) 807-1604

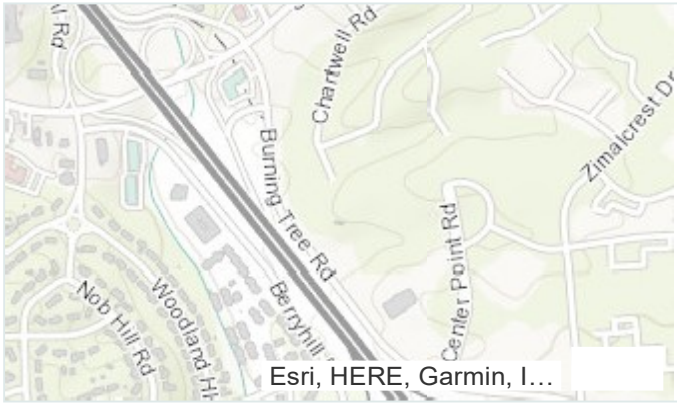
Location Information

Date

Jun 27, 2023

Location

Lat: 34.042555 Lon: -81.113947



longitude

-81.1139469664198

latitude

34.0425551820142

SCDOT Structure ID #

EP 2202

Structure Information

Structure Type

Culvert – Pipe/Round

Underdeck/Culvert Material

Concrete

Road Type

Interstate

Conditions Under Structure

- **Concrete**
- **Flowing water**

Number of Total Culverts

1

Supplemental Culvert Information

repeatnum

1

Structure #

Culvert Height (ft)

5

Culvert Width (ft)

5

Bat Information

Bat Indicators

- **None**

Bats Present

No

Area Information

Areas Inspected

- **Crevices**
- **Rough surfaces**

Migratory Bird Information

Is there evidence of migratory birds using the structure?

No

South Carolina Bats in Bridges and Culverts

Submitted by: Anna.Lark@hdrinc.com_HDR

Submitted time: Jul 10, 2023, 11:38:23 AM

Would you like to see the optional questions?

Simplified Survey

Contact Information

Investigator Name(s)

Jenessa Kay

Phone

(704) 807-1604

Location Information

Date

Jun 27, 2023

Location

Lat: 34.044038 Lon: -81.11954



longitude

-81.1195398563679

latitude

34.0440380422473

SCDOT Structure ID #

EP2201

Structure Information

Structure Type

Culvert – Pipe/Round

Underdeck/Culvert Material

Concrete

Road Type

Interstate

Conditions Under Structure

- **Concrete**
- **Flowing water**
- **Rip rap**

Number of Total Culverts

1

Supplemental Culvert Information

repeatnum

1

Structure #

Culvert Height (ft)

4

Culvert Width (ft)

4

Bat Information

Bat Indicators

- **None**

Bats Present

No

Area Information

Areas Inspected

- **Crevices**
- **Rough surfaces**

Migratory Bird Information

Is there evidence of migratory birds using the structure?

No

Additional Information

Would you like to include additional information?

- **Comment(s)**

Additional Comments

Could not access culvert as too small and filled with riprap. Looked in with light and did not see any evidence of bats

South Carolina Bats in Bridges and Culverts

Submitted by: Anna.Lark@hdrinc.com_HDR

Submitted time: Jul 10, 2023, 11:38:24 AM

Would you like to see the optional questions?

Simplified Survey

Contact Information

Investigator Name(s)

Jenessa Kay

Phone

(704) 807-1604

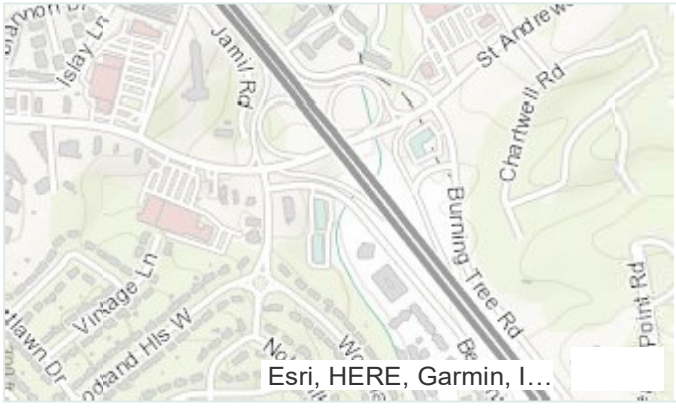
Location Information

Date

Jun 27, 2023

Location

Lat: 34.043568 Lon: -81.11797



longitude

-81.1179695430252

latitude

34.0435679431125

SCDOT Structure ID #

3374, 2102, 2121

Structure Information

Structure Type

Culvert – Box

Underdeck/Culvert Material

Concrete

Road Type

Interstate

Conditions Under Structure

- **Concrete**
- **Rip rap**
- **Flowing water**
- **Bare ground /sediment**

Number of Total Culverts

2

Supplemental Culvert Information

repeatnum

1

Structure #

Culvert Height (ft)

8

Culvert Width (ft)

10

repeatnum

2

Structure #

Culvert Height (ft)

8

Culvert Width (ft)

10

Bat Information

Bat Indicators

- **None**

Bats Present

No

Area Information

Areas Inspected

- **Rough surfaces**
- **Crevices**

Migratory Bird Information

Is there evidence of migratory birds using the structure?

No

Additional Information

Would you like to include additional information?

- **Comment(s)**

> Additional Comments
>
> **2102 and 2121 connections, both 4-foot concrete**

South Carolina Bats in Bridges and Culverts

Submitted by: Anna.Lark@hdrinc.com_HDR

Submitted time: Jul 10, 2023, 11:38:24 AM

Would you like to see the optional questions?

Simplified Survey

Contact Information

Investigator Name(s)

Jenessa Kay

Phone

(704) 807-1604

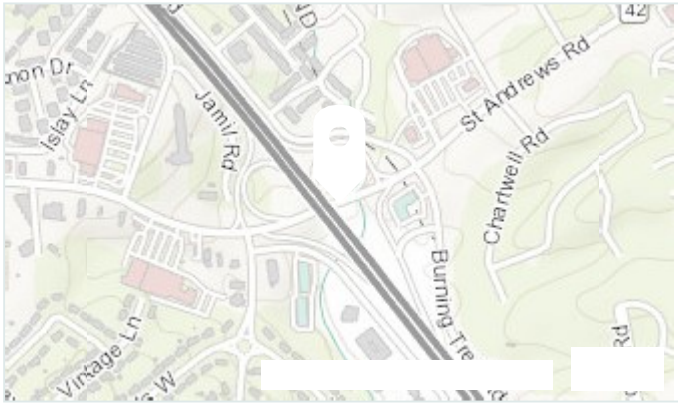
Location Information

Date

Jun 27, 2023

Location

Lat: 34.044713 Lon: -81.117598



longitude

-81.1175984324604

latitude

34.0447132654644

SCDOT Structure ID #

7586

Structure Information

Structure Type

Bridge - Steel I-beam

Underdeck/Culvert Material

Corrugated Steel

Road Type

Interstate

Conditions Under Structure

- **Bare ground /sediment**
- **Concrete**
- **Four (or more) lane highway**

Number of Total Culverts

1

Supplemental Culvert Information

repeatnum

1

Bat Information

Bat Indicators

- **None**

Bats Present

No

Area Information

Areas Inspected

- **Vertical surfaces on I-beams**
- **Vertical surfaces between concrete end walls and bridge deck**
- **Expansion joints**
- **Rough surfaces**

Migratory Bird Information

Is there evidence of migratory birds using the structure?

No

South Carolina Bats in Bridges and Culverts

Submitted by: Anna.Lark@hdrinc.com_HDR

Submitted time: Jul 10, 2023, 11:38:25 AM

Would you like to see the optional questions?

Simplified Survey

Contact Information

Investigator Name(s)

Jenessa Kay

Phone

(704) 807-1604

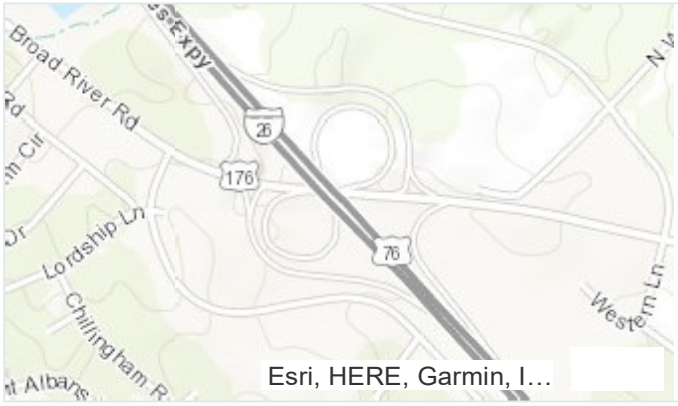
Location Information

Date

Jun 27, 2023

Location

Lat: 34.09882 Lon: -81.174417



longitude

-81.174416877405

latitude

34.0988203604092

SCDOT Structure ID #

3082

Structure Information

Structure Type

Bridge - Steel I-beam

Underdeck/Culvert Material

Corrugated Steel

Road Type

Interstate

Conditions Under Structure

- **Concrete**
- **Four (or more) lane highway**

Number of Total Culverts

1

Supplemental Culvert Information

repeatnum

1

Bat Information

Bat Indicators

- **None**

Bats Present

No

Area Information

Areas Inspected

- **Vertical surfaces on I-beams**
- **Vertical surfaces between concrete end walls and bridge deck**
- **Expansion joints**
- **Rough surfaces**

Migratory Bird Information

Is there evidence of migratory birds using the structure?

No

South Carolina Bats in Bridges and Culverts

Submitted by: Anna.Lark@hdrinc.com_HDR

Submitted time: Jul 10, 2023, 11:38:25 AM

Would you like to see the optional questions?

Simplified Survey

Contact Information

Investigator Name(s)

Jenessa Kay

Phone

(704) 807-1604

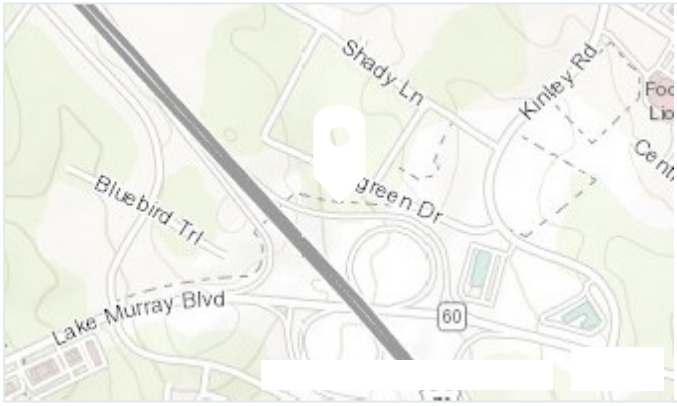
Location Information

Date

Jun 27, 2023

Location

Lat: 34.092762 Lon: -81.166195



longitude

-81.1661945656698

latitude

34.0927619627064

SCDOT Structure ID #

EC0601

Structure Information

Structure Type

Culvert – Box

Underdeck/Culvert Material

Concrete

Road Type

Interstate

Conditions Under Structure

- **Concrete**
- **Flowing water**

Number of Total Culverts

1

Supplemental Culvert Information

repeatnum

1

Structure #

Culvert Height (ft)

6

Culvert Width (ft)

6

Bat Information

Bat Indicators

- **None**

Bats Present

No

Area Information

Areas Inspected

- **Rough surfaces**
- **Crevices**

Migratory Bird Information

Is there evidence of migratory birds using the structure?

No

South Carolina Bats in Bridges and Culverts

Submitted by: Anna.Lark@hdrinc.com_HDR

Submitted time: Jul 10, 2023, 11:38:26 AM

Would you like to see the optional questions?

Simplified Survey

Contact Information

Investigator Name(s)

Jenessa Kay

Phone

(704) 807-1604

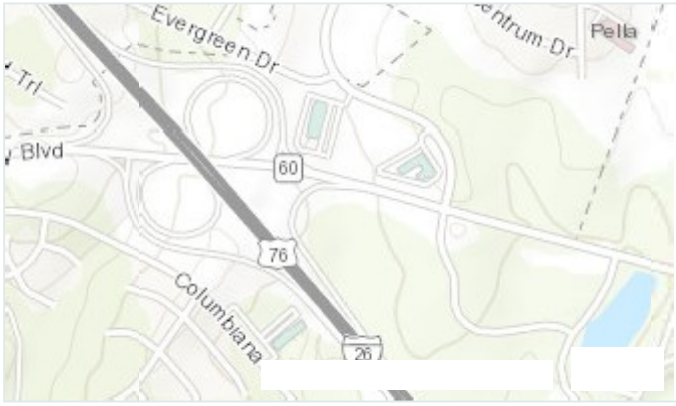
Location Information

Date

Jun 27, 2023

Location

Lat: 34.090107 Lon: -81.162683



longitude

-81.1626830492948

latitude

34.0901065510008

SCDOT Structure ID #

Unnamed 1025

Structure Information

Structure Type

Culvert – Pipe/Round

Underdeck/Culvert Material

Concrete

Road Type

Interstate

Conditions Under Structure

- **Concrete**
- **Flowing water**

Number of Total Culverts

1

Supplemental Culvert Information

repeatnum

1

Structure #

Culvert Height (ft)

5

Culvert Width (ft)

5

Bat Information

Bat Indicators

- **None**

Bats Present

No

Area Information

Areas Inspected

- **Rough surfaces**
- **Crevices**

Migratory Bird Information

Is there evidence of migratory birds using the structure?

No

Additional Information

Would you like to include additional information?

- **Comment(s)**

Additional Comments

Copperhead present, didn’t walk full length

South Carolina Bats in Bridges and Culverts

Submitted by: Anna.Lark@hdrinc.com_HDR

Submitted time: Jul 10, 2023, 11:38:26 AM

Would you like to see the optional questions?

Simplified Survey

Contact Information

Investigator Name(s)

Jenessa Kay

Phone

(704) 807-1604

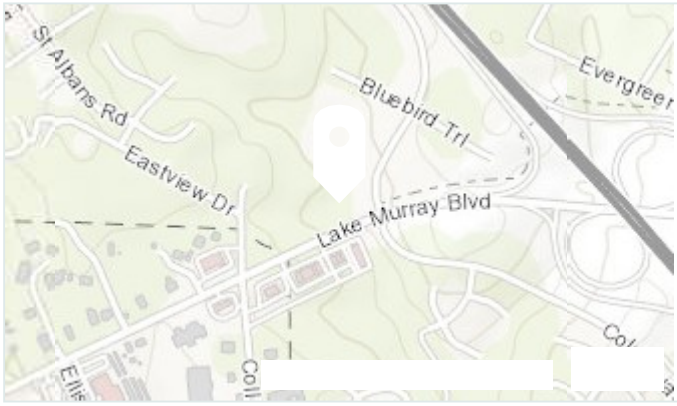
Location Information

Date

Jun 27, 2023

Location

Lat: 34.091043 Lon: -81.171866



longitude

-81.1718660324557

latitude

34.0910431158277

SCDOT Structure ID #

Unnamed 1026

Structure Information

Structure Type

Culvert – Box

Underdeck/Culvert Material

Concrete

Road Type

State Road

Conditions Under Structure

- **Rip rap**
- **Flowing water**

Number of Total Culverts

1

Supplemental Culvert Information

repeatnum

1

Structure #

Culvert Height (ft)

8

Culvert Width (ft)

8

Bat Information

Bat Indicators

- **None**

Bats Present

No

Area Information

Areas Inspected

- **Crevices**
- **Rough surfaces**

Migratory Bird Information

Is there evidence of migratory birds using the structure?

No