APPENDIX P: BRIDGE SURVEY REPORT FOR THE NORTHERN LONG-EARED BAT AND INDIANA BAT

Draft Bridge Survey Report for the Northern Long-Eared Bat (*Myotis septentrionalis*) and Indiana Bat (*Myotis sodalis*)

I-495 & I-270 Managed Lanes Study

Montgomery and Prince George's County, Maryland
& Fairfax County, Virginia

Prepared for:
Maryland Department of Transportation State Highway Administration

Under Contract to:
Rummel Klepper & Kahl

October 2019

Prepared by:

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Introduction

The Maryland Department of Transportation-State Highway Administration (MDOT-SHA) and Federal Highway Administration (FHWA) have initiated a highway improvements study of the I-495 and I-270 corridors. This study, referred to as the I-495 & I-270 Managed Lanes Study (MLS), is evaluating potential transportation improvements to portions of the I-495 and I-270 corridors in Montgomery and Prince George's Counties, Maryland, and Fairfax County, Virginia . As part of the environmental review process for the MLS, coordination was initiated with state and federal regulatory agencies regarding the potential presence of listed rare, threatened, or endangered (RTE) species within the corridor study boundary (CSB). The CSB is shown in **Figure 1 – Location Map**. To assess the potential presence of federally listed threatened or endangered species, the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) tool was accessed online by MDOT-SHA on July 11, 2018. Because the CSB spans both Maryland and Virginia, the environmental review process was carried out through both the Chesapeake Bay Field Office and the Virginia Field Office of the USFWS. The review from the Chesapeake Bay Field Office indicated no threatened, endangered, or candidate species present within the Maryland portion of the CSB. The Virginia Field Office indicated the potential presence of the Northern Long-eared Bat (*Myotis septentrionalis*) (NLEB), a federally listed threatened species, within the Virginia portion of the CSB.

In early 2019, the USFWS learned of recent detections of both NLEB and Indiana bat (*Myotis sodalis*) (IB) near the CSB during bat population surveys on National Park Service (NPS) lands in the Metropolitan Washington D.C. area by researchers from Virginia Tech. The project team was also given permission to use the Virginia Tech NPS bat survey data for this study. **Figure 2** shows the locations of NLEB and IB detections in relation to the CSB as provided by the NPS bat study (Deeley et al. *in review*). As a result of these data gathered from the NPS bat study, the USFWS became concerned that the replacement of the American Legion Bridge over the Potomac River could potentially impact these protected bats.

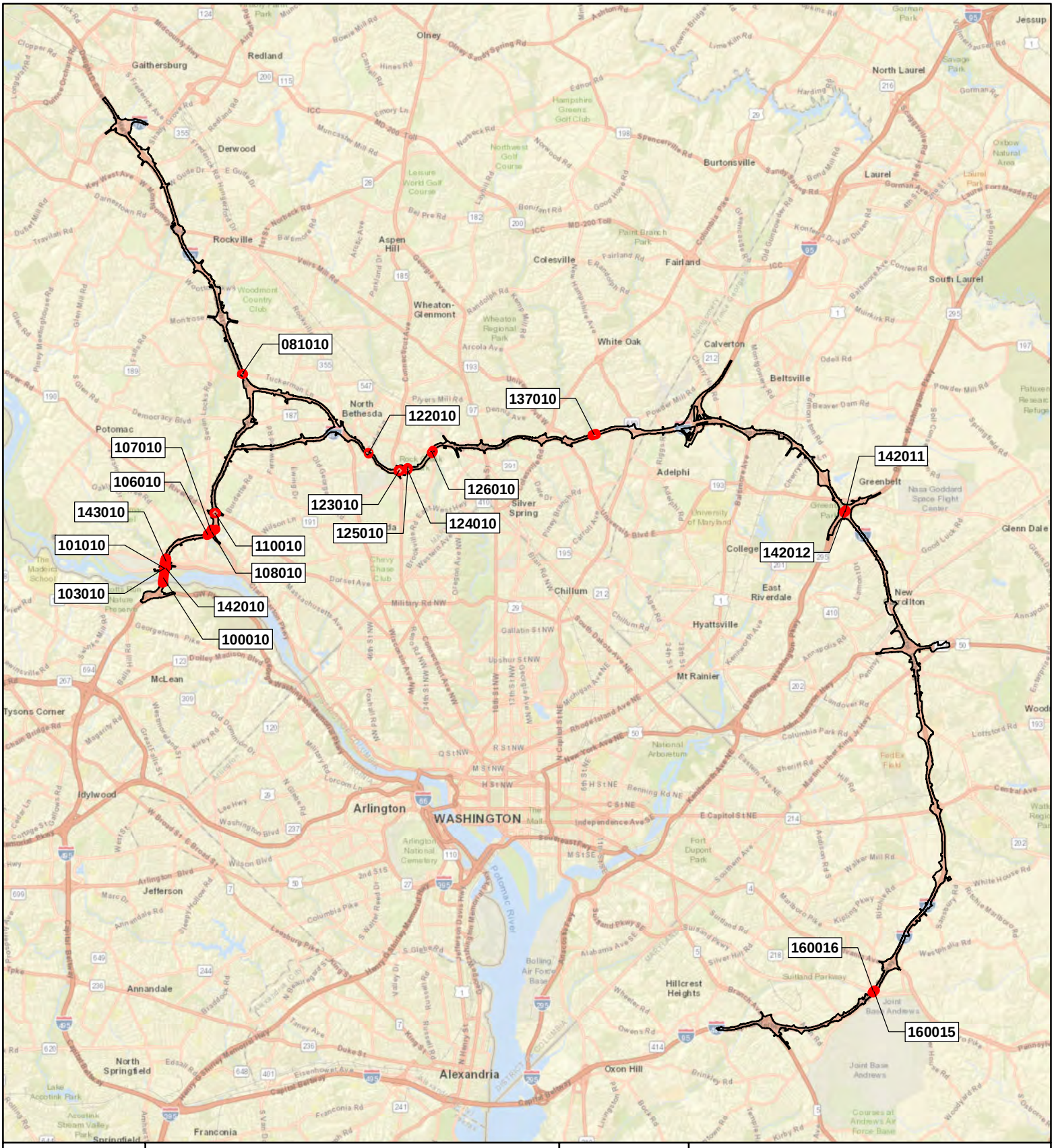
The IB is a federally listed endangered species. As a result, the USFWS met with MDOT-SHA and FHWA on March 25, 2019 to further discuss project coordination efforts regarding the NLEB and IB. On July 18, 2019, the USFWS submitted a letter to the MDOT-SHA providing comments on the IPaC Section 7 coordination for the two federally-listed bat species. The USFWS letter specifies two potential Endangered Species Act (ESA) consultation pathways that can be used when transportation projects may affect the NLEB or IB. These include 1) the Programmatic Biological Opinion (BO) for Transportation Projects in the Range of the Indiana Bat and Northern Long-eared Bat, dated December 15, 2016, and 2) the Programmatic BO on Final 4(d) Rule for the Northern Long-eared Bat and Activities Excepted from Take Prohibitions, dated January 5, 2016. Either of these two BOs could be used to help facilitate ESA Section 7(a)(2) compliance for the I-495 & I-270 Managed Lanes Study. Section 7(a)(2) requires federal agencies to consult with the USFWS to ensure that they are not undertaking, funding, permitting, or authorizing actions

likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat.

According to the July 18, 2019 USFWS letter to MDOT-SHA, the study would not qualify under the Programmatic BO for Transportation Projects referenced above because the study proposes to clear more than 20 acres of suitable habitat within any given five-mile section of roadway. The letter states that the study would qualify under the Programmatic BO on Final 4(d) Rule for the NLEB even though forest clearing may affect NLEB. However, based on the data collected by researchers at Virginia Tech over the previous two summers, the USFWS recommended surveys be conducted in the I-495 & I-270 Managed Lanes Study project corridor to determine if IB are utilizing summer habitat within the study corridor.

A follow-up meeting between the MDOT-SHA, FHWA, and USFWS was held on July 26, 2019 to further discuss potential bat survey activities and to finalize an acceptable survey approach. It was determined that insufficient time was available to conduct trapping surveys within the acceptable window of May 15 to August 15 in 2019. However, it was decided that bat surveys of bridges, both visual and emergence, adjacent to suitable forest habitat could be conducted prior to the August 15 deadline. Suitable forest habitat includes areas of contiguous forest meeting the definition of forest interior dwelling bird species (FIDS[1]) habitat, in proximity to a water resource, or adjacent to areas where NLEB and IB were detected by the Virginia Tech researchers. A preliminary list of bridges to be surveyed was presented to the USFWS for approval at the July 26, 2019 meeting. After the meeting, the USFWS revised the list to include a few additional bridges. The USFWS also accepted the proposed approach to conduct bat emergence surveys at the American Legion Bridge and the bridge over Northwest Branch, because these two bridges are too tall to visually assess. All agency correspondence, including results of the IPaC tool, agency letters, and meeting minutes are included in **Appendix A**. This report summarizes the results of the bridge bat assessments, including both visual and emergence surveys. Trapping and acoustic studies will be conducted separately during the survey window in 2020.

[1] FIDS habitat is described as forests at least 50 acres in size with 10 or more acres of forest interior habitat (i.e., forest greater than 300 feet from the nearest forest edge) or riparian forests at least 50 acres in size with an average total width of at least 300 feet.



Bridge Bat Survey
I-495/I-270 Managed Lanes Study

Figure 1:
Vicinity Map with Bridge Locations

Fairfax County, VA and
Montgomery and Prince George's Counties, MD
August 2019

COASTAL RESOURCES INC.

N

Corridor Study Boundary

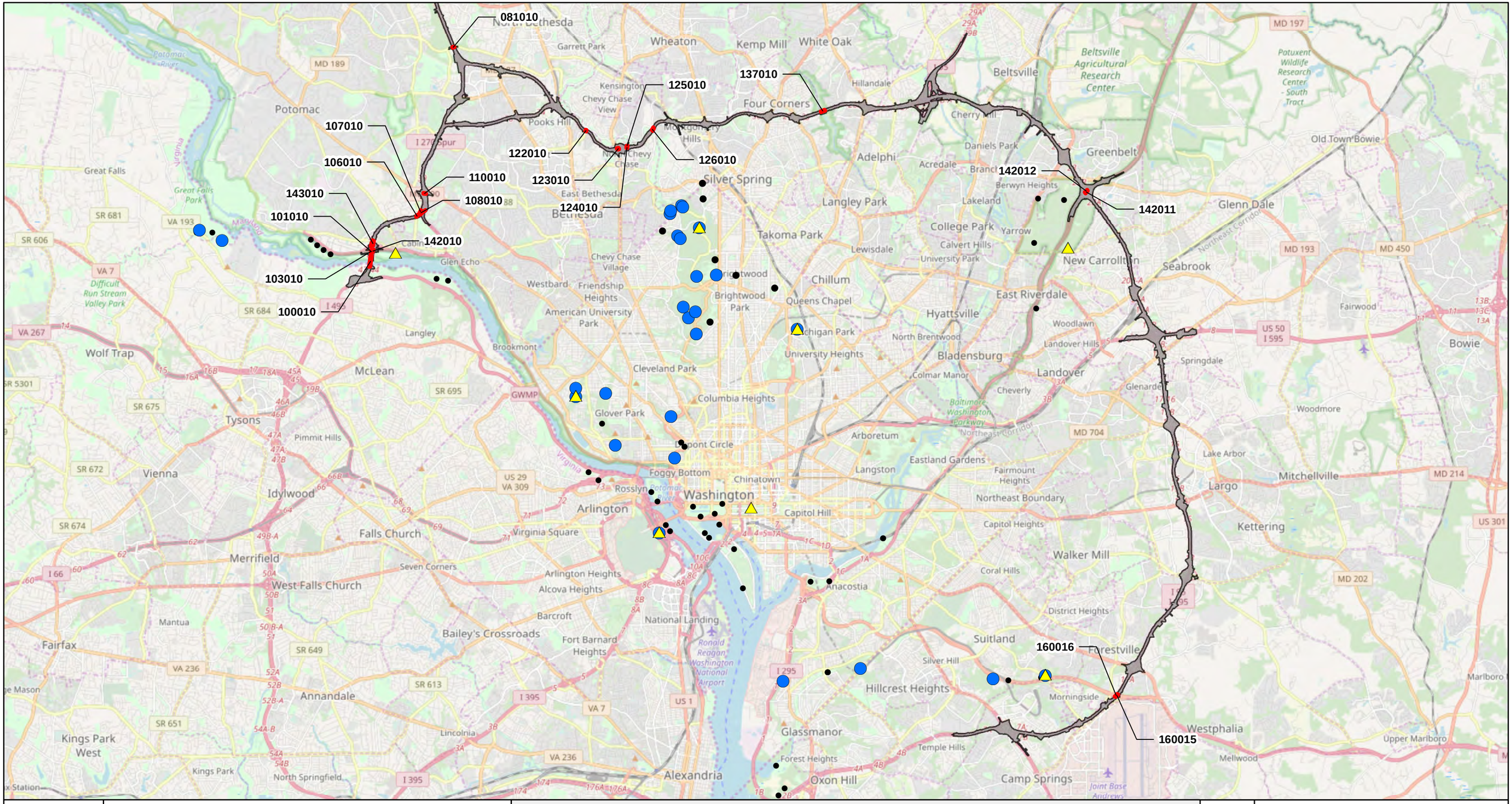
Bridges Surveyed

1 in = 3 miles

0 3 6

miles

Map Center, NAD83
38.971, -77.023



Bridge Bat Survey

I-495/I-270 Managed Lanes Study

Figure 2: Northern Long-Eared Bat and Indiana Bat Detection Locations, 2016–2017

Fairfax and Arlington Counties, VA
Montgomery and Prince George's Counties, MD
Washington, D.C.

August 2019

COASTAL RESOURCES INC.

- Indiana Bat (IB) Detection Locations
- Northern Long-Eared Bat (NLEB) Detection Locations
- Observation Locations Without NLEB or IB Detection
- Corridor Study Boundary
- Bridges Surveyed

Bat detection data provided by Virginia Tech.

N

1 in = 2 miles

0 2 4 miles

Map Center, NAD83
38.928, -77.0244

Methodology

Visual Bat Surveys of Bridges

Following the July 26, 2019 meeting with the USFWS, 14 bridges plus associated ramps were identified for inclusion in diurnal bridge surveys for the presence of day-roosting bats or evidence (e.g., guano or urine staining) of night roosting bats. The 14 bridges and associated ramps surveyed are listed in **Table 1** along with approximate bridge lengths, widths, vertical clearances, and other relevant information. The federal bridge identification numbers have been shortened to just the last six digits for simplicity. Bridges and associated ramps that had at least one common abutment were assessed together; these structure dimensions are included on the same row of the table. Those ramps with completely independent abutments were treated as a separate bridge structure and are shown as a separate row in the table.

Field maps on an aerial base image were prepared that highlighted each of the 14 selected bridges and associated ramps to be surveyed (**Appendix B**). Equipment used in the visual assessments and for safety included high powered spotlights, binoculars, digital cameras, hardhats, high visibility vests, a Trimble Global Positioning System (GPS) to record the location of any bats found during the surveys, and USFWS Bridge/Structure Assessment Forms for recording all survey data.

Systematic visual surveys of bridges were conducted during daylight hours between August 5 and August 12, 2019. Each bridge structure survey was carried out by two surveyors. Surfaces beneath the bridges were assessed across their entire span from the junction of each abutment with the bridge deck. Inspections included visual surveys of all abutments, decks, piers, and other structures associated with each bridge. Suitable roosting habitat for bats on bridge structures includes cracks or crevices formed from spalling concrete, junctions of the bridge abutment with the bridge deck, expansion joints, and other cave-like areas associated with bridges. Surveys for the presence of day roosting bats typically began at each abutment with surveyors shining bright spotlights into dark spaces across the entire width of each bridge. The assessment then extended along the bridge deck and included each bridge pier and cap across each bridge width and length, focusing greatest attention on spaces generally less than two inches in width. In addition to looking for the visual presence of day roosting bats, evidence of bats was also assessed by listening for high pitched squeaking sounds of day roosting bats and searching for guano or urine staining or odor that may indicate use by day or night roosting bats.

Table 1. I-495 & I-270 Managed Lanes Study bridges assessed for bat presence.

Federal Bridge ID[1]	Bridge Name/Location	Structure Length (Ft)	Deck Width (Ft)	Min. Vertical Clearance[2] (Ft)	Comments
100010	American Legion Br. over Potomac River	1,443	138	64	Assessed land portion of bridges only
101010/ 142010	Clara Barton Pkwy EB	361/ 439	158/ 28	20/ 14	Includes ramp from I-495 NB to Clara Barton Pkwy WB
104010/ 143010	McArthur Blvd/Clara Barton Pkwy WB	607/ 336	150/ 28	13/ 16	Includes ramp from I-495 SB to Clara Barton Pkwy WB
103010	Clara Barton Pkwy WB Ramp	220	28	14	Clara Barton Pkwy to I-495 SB
106010	Seven Locks Road	155	156	16	I-495 over Seven Locks Road
108010	Cabin John Branch/Cabin John Pkwy EB	354	156	36	Crosses both the road and stream
107010	Ramp from Cabin John Pkwy to SB I495	294	28	22	Crosses Cabin John Branch
109010	I-495 NB Ramp to River Road EB	205	28	14	Crosses ramp from Cabin John Pkwy to I-495 NB
110010	River Road	314	101	16	River Road over I-495
081010	Tuckerman Lane	103	193	15	I-270 over Tuckerman Lane
122010	Cedar Lane	107	164	14	I-495 over Cedar Lane
123010	Connecticut Avenue	226	173	18	I-495 over Connecticut Avenue
124010	Kensington Pkwy	131	163	14	I-495 over Kensington Pkwy
125010	Outer Loop Ramp to MD 185	134	43	20	Crosses Kensington Pkwy
126010	Rock Creek/Stoney Brook Drive	379	153	14	I-495 over Rock Creek & Stoney Brook Drive
137010	Northwest Branch	506	126	95	I-495 over Northwest Branch
142012/ 142011	MD 295 SB/ MD 295 NB	241/ 253	60/ 59	15/ 21	Two spans over I-495
160015/ 160016	Suitland Pkwy	392/ 387	59/ 59	14/ 14	Two spans of I-495 over Suitland Pkwy

[1]Last 6 digits of Federal Bridge Structure Number

[2]Vertical clearance refers to the minimum vertical underclearance of the bridge over a roadway or waterbody

As noted above, FHWA/State DOT/FRA Bridge/Structure Assessment Forms (FHWA/FRA. 2018, Appendix D) were completed for each bridge or bridge/ramp combination as listed in **Table 1**. Data collected included associated waterbody (if applicable), federal structure ID, date and time of inspection, names of inspectors, county, and any documented evidence of the presence of bats. The forms also provide a checklist of types of potential bat roosting habitat present for each bridge, including:

- All vertical crevices sealed at the top that are 0.5-1.25" wide and ≥4" deep
- All crevices >12" deep and not sealed
- All expansion joints
- Spaces between concrete end walls and the bridge deck

Completed data forms are included in **Appendix C**. Photographs were also taken of each assessed bridge, including shots looking at each bridge abutment and from each bridge abutment toward the bridge piers. These are included in a photographic log in **Appendix D**. Other representative photographs were taken of suitable crevices or expansion joints as appropriate. Photographic documentation was also provided for any observed bats or bat evidence, such as guano or staining. Photographs of the evidence of roosting bats are included in a separate photographic log included in **Appendix E**.

Bat Emergence Surveys of Bridges

The USFWS was concerned that a visual bridge assessment alone would not be sufficient to determine the potential presence of roosting bats for the American Legion Bridge and the bridge over Northwest Branch, because of the high vertical clearance of both bridges and the wide expanse of the American Legion Bridge over the Potomac River. For these two bridges, the USFWS agreed that a dusk emergence survey could be completed to potentially document bats exiting roost sites on the bridges.

The first attempt to conduct an emergence survey at the American Legion Bridge was made on August 6, 2019. However, a strong thunderstorm hit the area just prior to the start of the survey causing the survey to be postponed. The American Legion Bridge emergence survey was conducted the following week on August 12, 2019. The emergence survey of the Northwest Branch bridge was conducted on August 13, 2019. The emergence survey protocol was adopted from Appendix E of the User's Guide for the Range-wide Programmatic Consultation for Indiana Bat and Northern Long-eared Bat (USFWS et al. 2019). Surveys were conducted by two teams of biologists stationed beneath the bridges on opposite sides of the Potomac River and Northwest Branch, with each bridge being surveyed on successive evenings. Surveys were conducted from one half hour before sunset and continued until one hour after sunset or until it was too dark to see. Surveyors on either side of the waterbodies positioned themselves such that one was closer to the bridge abutments and the other closer to the waterbody. Surveyors also tried to position themselves so that emerging bats would be silhouetted against the sky as they emerged. Both surveys were carried out under favorable weather conditions, including temperatures above 50ºF, wind speeds less than nine miles per hour, and no rain. Bat emergence data were recorded on USFWS Bat

Emergence Survey Datasheets. Recorded data included survey start and end times, time of local sunset, and timed observations of numbers of bats seen emerging. Other pertinent notes were also recorded on the datasheets. Completed bat emergence datasheets are included in **Appendix F**.

Results and Discussion

During the visual bridge assessments, three bridges were found to have evidence of bat use; however, there was no visual evidence of use of the bridges by the NLEB or the IB. Five big brown bats (*Eptesicus fuscus*) were observed solitarily roosting in five separate gaps between the pier caps of the McArthur Boulevard/Clara Barton Parkway Westbound bridge (104010/143010) (See Photos 1-4 in **Appendix E**). The small amount of guano found below each of the cracks with roosting bats (Photos 5-7, **Appendix E**) indicates that this is not likely a permanent or high frequency roosting location. This bridge shared several of the characteristics of bridges that are used as roosts by bats: the roosts were concrete, located between 10 and 20 feet off the ground, had vertical cracks that were more than 12 inches in depth, and were located near a contiguous tract of forest and water resources. The gaps between pier caps that the bats were using as roosts were about one to two inches wide and more than 12 inches in depth. Not all cracks were sealed at the top but were still protected from the elements by the bridge deck.

A small amount of bat guano, likely from a larger species (not *Myotis*), was observed underneath the American Legion Bridge (100010) during the emergence surveys (see below) on the Maryland side of the Potomac River. The guano was observed under vertical cracks in bridge piers that were about 25 feet high, one nearest the Potomac River and the other on the next set of piers landward (Photo 13 in **Appendix E**). The minute amount of guano indicates that these are not common roosting areas for bats and may be used as a night roost or temporary day roost. Additionally, a small amount of, what is likely older bat guano (Photos 11 & 12 in **Appendix E**), was observed under the south side of the Seven Locks Road bridge (106010) below the crack where the abutment and bridge deck join. All observed guano appeared to be from a larger bat species like the big brown bat.

Bats are more likely to be found roosting on bridges constructed of concrete that have vertical, sealed crevices approximately 0.5 to 1.25 inches wide, more than 12 inches deep, more than 10 feet from the ground, and have low traffic volume (Keeley and Tuttle 1999, Hendricks et. al 2005, Bektas et al. 2018). Of the 14 structures and associated ramps surveyed, most had metal I-beams and decking. While all bridges had concrete abutments, cracks from flaking concrete and the gap at the junction of the bridge deck and abutment were very low to the ground, less than four feet in most cases. Most of the bridges surveyed had some areas with cracked or sealed crevices in concrete structures that could provide suitable roosting habitat for bats. However, potential limitations of these bridges as favorable roosts for bats are the degree of shelter from the elements, the height of ground clearance, intensity of disturbance from vehicular or human traffic both above and under the bridge, stability of thermal regimes, and protection from predators.

Bridges with crevices that are not sealed or that are completely sealed are unlikely to be used as a roost for bats. Metal structures generally do not provide as much thermal buffering as concrete structures (Civjan 2017, Erickson et al. 2002, Kaarakka 2017). Bridges with concrete abutments

that can be accessed by potential predators, such as snakes and raccoons, are also unlikely to provide suitable roost habitat. Several of the surveyed bridges had evidence of snakes and raccoons.

The visual survey was limited to areas that could be safely or practically accessed. Most pier caps and expansion joints or cracks over pier caps could not be surveyed because they could not be accessed. Some areas at the bridge abutments could not be accessed because they were in hard to reach areas or other structures such as pipes or flakes of broken concrete obstructed the view. Many bridges had wood and metal platforms under the decks that precluded view of I-beams, under-deck, and pier-cap and expansion joint surfaces. The Northwest Branch bridge was difficult to survey because of its height. Most girder surfaces could not be seen, and portions of the west abutment could not be safely surveyed because of its height and the vertical exposure of the abutment slope. The Eastbound Clara Barton Parkway (101010/142010) and the Suitland Parkway (160015/160016) bridges could not be surveyed because they were under construction.

Bat Emergence Surveys of Bridges

The American Legion Bridge emergence survey began at 1937 hours, a half-hour before sunset, and ended at 2107 hours. All surveyors were positioned under or next to the bridge where bats could be seen with a silhouetted view. On the Virginia side of the Potomac River, the first bat was observed flying at 2015 hours. At 2041 hours, three bats of at least two different species, as evidenced by different body shapes and sizes, were observed at the same time on the Virginia side of the Potomac River. Bats were continuously observed until approximately 2045 hours. The last bat on the Virginia side was observed by flashlight at 2058 hours. On the Maryland side of the bridge, the first bats were observed flying near the bridge at 2030 hours. Two bats were observed near a bridge pier that had crevices where bat guano were discovered; however, the bats were not seen departing the crevices. Bat activity continued near the bridge until about 2030 hours. Bat activity over the Potomac River was not observed from either side. While bats were observed flying under and around the bridge deck, abutments, and piers, surveyors were unable to positively confirm that bats emerged from any part of the bridge structure.

The emergence survey of the Northwest Branch bridge began a half-hour before sunset at 1936 hours and ended once it was too dark to see any bats flying at 2037 hours. Because of the narrow, deep valley and adjacent dense forest spanned by this bridge, only a small area of sky could be observed from any position under or next to the bridge. Most of the field of view was of the valley slopes that made observing a bat silhouette unlikely and the area became dark very soon after sunset. The first bat was observed at 2003 hours and most activity was observed between 2010 hours and 2025 hours, with bats flying around girders and underneath the bridge deck. At 2014 hours, three bats were observed at the same time. By 2040 hours, observed activity had died down. Around 2006 hours, one bat did appear to drop down from bridge girders on the west side of the bridge, but surveyors cannot say with certainty that bats were observed exiting the structure.

Conclusions

Between August 5 and August 12, 2019, two teams of surveyors assessed 14 bridge structures and associated ramp bridges within the I-495 & I-270 Managed Lanes Study corridor. Two bridges, including the Clara Barton Parkway Eastbound bridge and Suitland Parkway bridge were under construction and were boarded up beneath the decks. Assessed bridges were those that occurred within 1,000 feet of suitable bat habitat or were near locations where either NLEB or IB were detected during a study by researchers from Virginia Tech. While suitable bat roosting habitat features were present on most bridges, most did not combine all necessary habitat variables. Bat guano was found beneath the American Legion Bridge on the Maryland side of the Potomac River, the McArthur Boulevard/Clara Barton Parkway Westbound bridge, and the bridge over Seven Locks Road. Based on the results of the visual assessment, there was no evidence of use of the bridges by the northern long-eared bat or the Indiana bat. However, five big brown bats, not state or federally listed, were found day-roosting singly within gaps between pier caps of the bridge over the McArthur Boulevard/Clara Barton Parkway Westbound bridge. All five roosting bats were in locations with a vertical clearance of at least 10 feet with forested habitat adjacent to the bridge. All had small amounts of guano on the ground beneath them suggesting that these were not extensively used roosts.

On August 12 and August 13, 2019 respectively, bat emergence surveys were conducted beneath the American Legion Bridge and the bridge over Northwest Branch. Small and larger bats were observed flying beneath or near each bridge, but no bats were definitively confirmed exiting the bridge structures.

Based on suitable conditions for bridge roosting reported in the literature and evidence of roosting bats from this study, CSB bridges that support or could support roosting bats include the American Legion Bridge, Clara Barton Parkway Eastbound bridge (not surveyed due to construction, but with conditions similar to the McArthur Boulevard/Clara Barton Parkway Westbound bridge), McArthur Boulevard/Clara Barton Parkway Westbound bridge, Seven Locks Road bridge, and Northwest Branch bridge. Prior to construction, follow up surveys of these bridges should be conducted to determine the potential presence of roosting bats, or time of year restrictions should be imposed to initiate construction when bats would be hibernating away from the project area.

To further determine the potential presence of NLEB or IB within the CSB, additional studies are being planned for spring and summer of 2020. These studies may include acoustic and/or trapping of bats along the CSB. Coordination with the USFWS and researchers from Virginia Tech regarding these studies is ongoing.

References

Bektas, B. A., Z. Hans, and B. Phares. 2018. Assessing bridge characteristics for use and importance as roosting habitats for bats. Bridge Engineering Center, Institute for Transportation, Iowa State University, Ames, IA.

Civjan, S., E. Dumont, A. Bennett, and A. Berthaume. 2017. Investigation of northern-long eared bat roosting sites on bridges. University of Massachusetts, Fall River, MA.

Deeley, S., S. Freeze, and L. Rohrbaugh. *In review*. Post-White nose syndrome national capital region bat communities. Natural Resource Report. National Park Service, Fort Collins, Colorado.

Erickson, G. A., et al. 2003. Bat and bridges technical bulletin (Hitchhikerguide to bat roosts), California Department of Transportation, Sacramento CA.

FHWA/FRA. 2018. User's guide for the range-wide biological assessment for transportation projects for Indiana bat and northern long-eared bat, Version 5.0. Federal Highway Administration and Federal Railroad Administration, Washington, DC.

Hendricks, P., S. Lenard, C. Currier, and J. Johnson. 2005. Bat use of highway bridges in south-central Montana. Montana Department of Transportation, Helena, MT.

Kaarakka, H. 2017. 2017 Roost monitoring report. Wisconsin Bat Program, Bureau of Natural Heritage Conservation, Wisconsin Department of Natural Resources, Madison, WI.

Keeley, B. W. and M. D. Tuttle. 1999. Bats in American Bridges. Bat Conservation International Inc., Austin, TX.

United States Fish and Wildlife Service. 2016. Programmatic Biological Opinion (BO) for Transportation Projects in the Range of the Indiana Bat and Northern Long-eared Bat. Midwest Regional Office, Bloomington, Minnesota. 151 pp.

United States Fish and Wildlife Service. 2016. Programmatic Biological Opinion on Final 4(d) Rule for the Northern Long-eared Bat and Activities Excepted from Take Prohibitions. Midwest Regional Office, Bloomington, Minnesota. 103 pp.

VDOT Environmental Division. Preliminary bat inventory guidelines for bridges. Virginia Department of Transportation <http://www.virginiadot.org/business/resources/const/VDOTBatInventoryGuidelines.pdf>. Accessed 11 September 2019.

Appendix A
Agency Correspondence

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Chesapeake Bay Ecological Services Field Office
177 Admiral Cochrane Drive
Annapolis, MD 21401-7307
Phone: (410) 573-4599 Fax: (410) 266-9127
http://www.fws.gov/chesapeakebay/
http://www.fws.gov/chesapeakebay/endsppweb/ProjectReview/Index.html

In Reply Refer To: July 11, 2018
Consultation Code: 05E2CB00-2018-SLI-1540
Event Code: 05E2CB00-2018-E-03365
Project Name: I-495 and I-270 Managed Lanes Study

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. This species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Wetlands

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Chesapeake Bay Ecological Services Field Office
177 Admiral Cochrane Drive
Annapolis, MD 21401-7307
(410) 573-4599

This project's location is within the jurisdiction of multiple offices. Expect additional species list documents from the following office, and expect that the species and critical habitats in each document reflect only those that fall in the office's jurisdiction:

Virginia Ecological Services Field Office
6669 Short Lane
Gloucester, VA 23061-4410
(804) 693-6694

Project Summary

Consultation Code: 05E2CB00-2018-SLI-1540

Event Code: 05E2CB00-2018-E-03365

Project Name: I-495 and I-270 Managed Lanes Study

Project Type: TRANSPORTATION

Project Description: Environmental Impact Statements (EIS) and Record of Decision (ROD) for the Traffic Relief Plan: I-495 and I-270 Managed Lanes Study in compliance with the National Environmental Policy Act (NEPA) process. The study limits include I-495 (Capital Beltway) in Montgomery and Prince George's Counties, Maryland, near the American Legion Bridge (ALB) in Virginia to near the Woodrow Wilson Bridge approximately at MD 210, and I-270 from I-495 to I-370, including the east and west spurs along I-270.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/38.976551115377056N76.87217305679863W

Counties: Montgomery, MD | Prince George's, MD | Fairfax, VA

Endangered Species Act Species

There is a total of 0 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. 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.

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

USFWS National Wildlife Refuge Lands And Fish Hatcheries

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 OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

Wetlands

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

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

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

FRESHWATER EMERGENT WETLAND

- PEM1Fh
- PEM1/SS1Fh
- PEM1Ch
- PEM5Ax
- PEM1A
- PEM1E
- PEM1/SS1A
- PEM1/SS1C
- PEM5A

FRESHWATER FORESTED/SHRUB WETLAND

- PFO1A
- PFO1/EM1F
- PFO1Ax
- PFO1C
- PSS1C
- PSS1A
- PSS1Ah
- PFO1/EM5Ax
- PFO1E
- PSS1Cx
- PSS1/EM5A

FRESHWATER POND

- PABHx
- PABHh
- PUBFx

- PUBFh
- PUBHh
- PUBHx
- PUSCx

LAKE

- L1UBHh
- L1UBHx

RIVERINE

- R4SBC
- R5UBH
- R2UBH
- R3UBH
- R2UBHx
- R2USC

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Virginia Ecological Services Field Office
6669 Short Lane
Gloucester, VA 23061-4410
Phone: (804) 693-6694 Fax: (804) 693-9032
http://www.fws.gov/northeast/virginiafield/

In Reply Refer To: July 11, 2018
Consultation Code: 05E2VA00-2018-SLI-4358
Event Code: 05E2VA00-2018-E-09962
Project Name: I-495 and I-270 Managed Lanes Study

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*). Any activity proposed on National Wildlife Refuge lands must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered

species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Virginia Ecological Services Field Office
6669 Short Lane
Gloucester, VA 23061-4410
(804) 693-6694

This project's location is within the jurisdiction of multiple offices. Expect additional species list documents from the following office, and expect that the species and critical habitats in each document reflect only those that fall in the office's jurisdiction:

Chesapeake Bay Ecological Services Field Office
177 Admiral Cochrane Drive
Annapolis, MD 21401-7307
(410) 573-4599

Project Summary

Consultation Code: 05E2VA00-2018-SLI-4358

Event Code: 05E2VA00-2018-E-09962

Project Name: I-495 and I-270 Managed Lanes Study

Project Type: TRANSPORTATION

Project Description: Environmental Impact Statements (EIS) and Record of Decision (ROD) for the Traffic Relief Plan: I-495 and I-270 Managed Lanes Study in compliance with the National Environmental Policy Act (NEPA) process. The study limits include I-495 (Capital Beltway) in Montgomery and Prince George's Counties, Maryland, near the American Legion Bridge (ALB) in Virginia to near the Woodrow Wilson Bridge approximately at MD 210, and I-270 from I-495 to I-370, including the east and west spurs along I-270.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/38.976551115377056N76.87217305679863W

Counties: Montgomery, MD | Prince George's, MD | Fairfax, VA

Endangered Species Act Species

There is a total of 2 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. 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.

Mammals

NAME	STATUS
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Clams

NAME	STATUS
Yellow Lance *Elliptio lanceolata* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4511	Threatened

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

USFWS National Wildlife Refuge Lands And Fish Hatcheries

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 OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

Northern Long-Eared Bat Survey Options Meeting
I-495 & I-270 Managed Lanes Study
MDOT SHA P3 Program Office Conference Room 10
June 18, 2019 @ 1:00 PM

Handouts: Agenda, NLEB Proposed Survey Approach Draft, FIDS layer determination flow chart
A/V: Online map displaying bridge structures, potential FIDS habitat, MDNR FIDS habitat, widest potential LOD, and contiguous forest of 15 acres or more

A meeting was conducted on June 18, 2019 with representatives of the US Fish and Wildlife Services (USFWS) to expand on a conference call conducted several months prior. The meeting focused on the northern long-eared bat (NLEB) survey approaches and permit process necessary for the I-495 & I-270 Managed Lanes Study. A summary of the topics discussed at the meeting follows.

Ray Li stated that Maryland USFWS and Virginia USFWS offices agreed that Maryland USFWS will take the lead on NLEB protocol, then discuss information with Virginia USFWS. Since this is a contentious project with strong ecological implications and political ties, the protocol for documenting federally listed species must be carefully followed. Future risk can be minimized by following specific procedure now. Ray presented three options for Section 7 Consultation:

1. 4D rule: Submit a short form (2 pages) and if no response received in 30 days, project is OK to proceed (Note: will not apply to this project).
2. Programmatic Biological Opinion: Must perform surveys or assume NLEB populations are present; follow all time of year restrictions; FHWA needs to commit to conservation measures (Note: this will likely be the strategy for this project, if the Programmatic applies).
3. Formal Biological Opinion: Most expensive, more detailed, and least risk.

Ray noted that USFWS is a participating agency, not a concurring agency for the Managed Lanes Study.

The NEPA Team presented the online maps to demonstrate the location of known detection locations, FIDS layers, bridge structures in need of modification/replacement within 1,000 ft of potential FIDS habitat, and contiguous forest of at least 15 acres. Maddy Sigrist and David Smith briefly explained the process of developing a refined FIDS layer.

- The American Legion Bridge (ALB), Northwest Branch bridge, and Rock Creek were viewed and discussed at length and other bridge structures were briefly discussed. Tree clearing impacts surrounding the ALB are minimized because it is being replaced on its current alignment. However, this area is of concern because the Programmatic Biological Opinion limits the LOD to 300-feet from the road edge, and the LOD surpasses this limit in one constructability bump-out adjacent to the ALB. Justin asked if it's possible to treat the ALB separately from the rest of the project, with the majority of the project under the Programmatic Agreement and the ALB under a Biological Opinion. Ray was unsure whether the ALB area would be able to be treated separately, but he agreed to look into this possibility.
- David explained that 16 bridges are slated for modification/replacement, but that a total of 8 bridges were surrounded by suitable NLEB habitat and proposed for bridge survey.

Ray asked whether the project is following the Section 4(f) process.

- Justin Reel confirmed that the project will file the Section 4(f) evaluation os concurrent with the NEPA process.

Ray asked whether the NPS will require their own NEPA report for the project.

- Erron Ramsey responded that ideally the NPS will adopt the Record of Decision, but this needs to be confirmed between FHWA and NPS.

David presented the possible survey techniques that could be performed within the scope of the project. These techniques include:

- Bridge Bat Guano Survey
- Bridge Bat Roost Departure Survey
- Bat Acoustics Survey
- NLEB Maternity Roost Tree Habitat Assessment

David and Ray discussed which technique may be most appropriate to apply to the project since there is a tight timeline and the project would prefer to avoid tree clearing time of year restrictions in some areas if possible.

- It was determined that the guano survey should be conducted and if some bridges are determined to be inaccessible, then visual surveys would be necessary.
- The 16 bridge locations identified within 1000-feet of FIDS habitat were reviewed on-screen.
- Trevor asked that a map of each of the 16 bridge locations be provided with justification for why it was or was not proposed for survey so that the USFWS can determine which bridges will require survey.
- David noted that survey data of NLEB detections is available from Dr. Mark Ford at Virginia Tech via his graduate student Sabrina Deeley's study. David was not sure what year the acoustic survey was conducted, but thought it was from the 2016/17 survey year. He agreed to check into this date and confirm his findings with to the group.
  - **Update:** Dr. Ford periodically provides survey data to USFWS and performed stationary acoustic monitoring over multiple nights according to USFWS protocols. The survey was conducted during summer active periods of 2016 and 2017. The data will be submitted to NPS and published later this year.
- David and Ray noted that acoustic surveys may produce false positives and that netting is the most accurate way to confirm presence of NLEB. May want to conduct net surveys in specific areas where detections have been recorded.
- The group reviewed the NLEB positive detection locations provided by Sabrina Deeley. There were no positive detections within the Managed Lane Study corridor study boundary, however there were detections within approximately 0.25 miles at Greenbelt Park, 1 mile at Henson Creek Park, and 0.3 miles at Clara Barton Parkway.
- Trevor Clark noted that the tree clearing time of year restriction is June 1 through July 31. Advance tree clearing may be a possibility for the project if NLEB are detected or are assumed to be present in areas with tight timelines.
- Bridges cannot be built under these time of year restrictions because construction will take years and cannot be delayed or phased. David suggested that one solution to bridge

construction is starting the construction outside the roosting timeframe, therefore bats would be deterred from using the bridge as a roost. Ray was open to this idea.

USFWS asked if GIS files could be shared with them. Erron Ramsey responded that MDOT SHA P3 Upper Management will not allow electronic versions of the LOD files to be shared at this time.

Action Items:

- David will follow-up with Dr. Mark Ford's lab regarding data collection timeframe, protocols used, and whether they will share/publish the data.
  - **Update:** Dr. Ford periodically provides survey data to USFWS and performed stationary acoustic monitoring over multiple nights according to USFWS protocols. The survey was conducted during summer active periods of 2016 and 2017. The data will be submitted to NPS and published later this year.
- The NEPA Team will create a package of bridge structure snapshots that will include the layers presented on the A/V display in this meeting and all 16 bridge structures that require modification/replacement within 1,000 ft of potential FIDS habitat. David will provide rationales for either discarding bridge structures as a concern or identifying structures that require further study for NLEB habitat.
- After USFWS receives the bridge structure package, they will suggest the survey approaches that should be implemented for the project and determine whether a Programmatic Biological Opinion is appropriate for the project.
- Ray will follow-up with Sheri Cowarn with the Endangered Species Program at USFWS on the approach to documenting NLEB on this project. Ray will also look into whether the size of the project requires a Formal Biological Opinion.
- RK&K will follow-up with constructability team and determine the reasoning for the extended LOD at American Legion Bridge.

Attendees:

Name	Agency	Email
Maddy Sigrist	NEPA Team	msigrist@rkk.com
Christina Simini	NEPA Team	csimini@rkk.com
Justin Reel	NEPA Team	jreel@rkk.com
Greg O'Hare	NEPA Team	gohare@rkk.com
Erron Ramsey	NEPA Team	eramsey@rkk.com
Ray Li	USFWS	ray_li@fws.gov
Trevor Clark	USFWS	trevor_clark@fws.gov
Stacy Talmadge	NEPA Team	stalmadge@mdot.maryland.gov

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Chesapeake Bay Field Office
177 Admiral Cochrane Drive
Annapolis, Maryland 21401
http://www.fws.gov/chesapeakebay

July 18, 2019

Caryn J.G. Brookman
Environmental Program Manager
Maryland Department of Transportation
State Highway Administration
I-495 & I-270 P3 Office
707 North Calvert Street, Mail Stop P-601
Baltimore, MD 21202

Re: Indiana bat and northern long-eared bat coordination for the I-495 & I-270 Managed Lanes Study in Montgomery and Prince George's Counties, Maryland

Dear Ms. Brookman:

The U.S. Fish and Wildlife Service (Service) has reviewed all of the project information provided to us via the I-495 & I-270 P3 Program website, Information for Planning and Consultation (IPaC) system, and email regarding the I-495 & I-270 Managed Lanes Study. The comments provided below are in accordance with Section 7 of the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*).

The following two programmatic consultations can be used to streamline the Endangered Species Act (ESA) consultation process when transportation projects may affect the threatened northern long-eared bat (*Myotis septentrionalis*, NLEB): 1) the Programmatic Biological Opinion (BO) for Transportation Projects in the Range of the Indiana Bat and Northern Long-Eared Bat, dated May 20, 2016, and 2) the Programmatic Biological Opinion on Final 4(d) Rule for the Northern Long-Eared Bat and Activities Excepted from Take Prohibitions, dated January 5, 2016. The Programmatic BO for Transportation Projects also addresses the endangered Indiana bat (*Myotis sodalis*).

The Service has reviewed the Programmatic BO for Transportation Projects and the Programmatic BO on Final 4(d) Rule for the NLEB to see if one or both of these Programmatic BOs can be used for ESA Section 7(a)(2) compliance for the I-495 & I-270 Managed Lanes Study. Section 7(a)(2) requires Federal agencies to consult with the Service to ensure that they are not undertaking, funding, permitting, or authorizing actions likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat.

The Service has determined that the I-495 & I-270 Managed Lanes Study falls outside of the scope of the Programmatic BO for Transportation Projects because the maximum acreage

anticipated for any given project addressed in the Programmatic BO is approximately 20 acres of suitable habitat (generally per 5-mile section of road); the I-495 & I-270 Managed Lanes Study estimates approximately 76.2 acres of trees cleared per 5-mile section of road according to an email message from Maddy Sigrist of RK&K dated July 10, 2019.

Given that Dr. W. Mark Ford and Sabrina Deeley of Virginia Tech found Indiana bats while conducting bat population surveys within the project area between August 2017 and August 2018 by acoustic and/or mist-netting sampling techniques and also during 2016-2017 bat survey efforts, the Service recommends surveys (mist-netting, radio-tracking, emergence and bridge) be conducted in the I-495 & I-270 Managed Lanes Study project corridor to determine if Indiana bat are utilizing summer habitat within the project corridor.

Conducting Indiana bat surveys will let the Service know if conservation measures need to be implemented to avoid adverse effects to the Indiana bat. If adverse effects to the Indiana bat cannot be addressed, formal consultation will be needed to meet the requirements of Section 7(a)(2) of the ESA.

While forest clearing may affect NLEB, the Service has determined that the Programmatic BO on Final 4(d) Rule for the NLEB can be used for ESA Section 7(a)(2) compliance for NLEB. The Service recommends that the State Highway Administration (SHA) complete the Northern Long-Eared Bat (NLEB) Consultation and 4(d) Rule Consistency Determination Key within IPaC as soon as possible.

Conducting surveys (mist-netting, radio-tracking, emergence, and bridge) will further the conservation of the NLEB as stated in Section 7(a)(1) of the ESA. Conservation recommendations are discretionary Federal agency activities intended to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information. The Service developed the following conservation measures for all Federal agencies to consider if their actions may affect the NLEB:

1. Perform NLEB surveys according to the most recent Range-wide Indiana Bat/NLEB Summer Survey Guidelines. Benefits from agencies voluntarily performing NLEB surveys include:

a. Surveys will help Federal agencies meet their responsibilities under section 7(a)(1) of the Act. The Service and partners will use the survey data to better understand habitat use and distribution of NLEBs, track the status of the species, evaluate threats and impacts, and develop effective conservation and recovery actions. Active participation of federal agencies in survey efforts will lead to a more effective conservation strategy for the NLEB.

b. Should the Service reclassify the species as endangered in the future, an agency with a good understanding of how the species uses habitat based on surveys within its action areas could inform greater flexibility under section 7(a)(2) of the Act. Such information could facilitate an expedited consultation and incidental take statement that may, for example, exempt taking associated with tree removal during the active season, but outside of the pup season, in known occupied habitat.

If the State Highway Administration (SHA) is interested in conducting surveys to help carry out conservation of the NLEB under Section 7(a)(1) of the Endangered Species Act, our office would be happy to discuss this further. The Service is available to work with the SHA and its contractor(s) to develop a study plan for all recommended survey phases (mist-netting, radio-tracking, emergence, and bridge) for NLEB in addition to the surveys required for Indiana bat. The summer mist-netting season is from May 15 through August 15 of 2019. Should SHA choose to do bat surveys this year, the Service can work with SHA as soon as possible to insure that the bat surveys are completed by August 15, 2019.

We appreciate the opportunity to provide information relevant to threatened and endangered fish and wildlife resources. If you have any questions or concerns regarding this letter, please contact Trevor Clark of my Endangered Species staff at (410) 573-4527 or by email at Trevor_Clark@fws.gov.

Sincerely,

Genevieve LaRouche
Field Supervisor

Northern Long-Eared Bat Coordination Meeting
I-495 & I-270 Managed Lanes Study
MDOT SHA P3 Program Office Conference Room 20
July 26, 2019 @ 1:00 PM

Handouts: Agenda, Letter from USFWS to Caryn Brookman dated July 18, 2019, Maps of bridges within 1000' of potential FIDS habitat and proposal for survey

A/V: Online map displaying bridge structures, potential FIDS habitat, corridor study boundary, Northern Long Eared Bat (NLEB) positive detection sites, Indiana bat positive detection sites, areas within Alts 9/10/13B/13C that are > 300-feet from the existing edge of pavement, and contiguous forest of 15 acres or more

A meeting was conducted on July 26, 2019 with representatives of the US Fish and Wildlife Service (USFWS) to discuss the letter received from USFWS dated July 18, 2019 and its recommendations.

1. Introductions

2. Review of USFWS letter dated 7/18/19:
    - Need to thoroughly consider the probability of the Indiana Bat and NLEB occurring within the corridor study boundary. New information regarding Indiana bat detections near MLS corridor study boundary. 3 acoustic calls detected by Dr. Ford's team from VA Tech.
    - NLEB is a federally threatened species – 4(d) Rule applies. The 4(d) rule is designed to protect the bat while minimizing regulatory requirements for landowners, land managers, government agencies and others within the species' range. There is a formal and an informal process.
    - Indiana Bat is a federally endangered species – Section 7 applies.

3. USFWS recommends (not requires) additional surveys for NLEB within the study area. According to the final 4(d) rule for the northern long-eared bat, in areas of the country impacted by white-nose syndrome (this includes Maryland), incidental take is prohibited if tree removal activities occur within a quarter-mile of a hibernaculum or from activities that cut down or destroy known, occupied maternity roost trees, or any other trees within 150 feet of that maternity roost tree, during the pup-rearing season which is June 1 through July 31 (Federal Register/Vol. 81, No. 9/ Thursday, January 14, 2016/Rules and Regulations).

4. Indiana bat is endangered – not as much flexibility.
    - Ford's acoustic data includes three positive detections for Indiana Bat near the corridor study boundary.
    - Want better information for presence/distribution data
    - Because Dr. Ford's group did thorough NPS surveys, suggest that it would be a good idea to compliment Ford's surveys outside of the areas already looked at to determine where Indiana Bats are occurring.

- Follow-up with mist netting to identify roost trees
  - Dr. Ford's team follows USFWS Summer Survey Guide protocol
  - Recommend survey intervals every kilometer typically, but project is urban enough not to be that thorough; more targeted survey areas appropriate.
- If identified by acoustic survey, then follow-up with mist netting
- Do habitat survey first? The USFWS Summer Guidelines define habitat broadly. Forest assessment within 15-acre contiguous forest areas? Some type of screening – LIDAR data to determine tree sizes?
- For NPS land, coordinate with Dr. Ford's team and use their data.
- These Indiana bat detections could be false positives, but have to go through the process.
- Can do some background work to see where surveys may be needed.
- For NPS lands, USFWS will get Dr. Ford's protocols
- Ray Li will think more about where to survey.
- "Range-Wide Indiana Bat Guidelines - Appendix F Linear Projects" gives insight into where to survey. Survey timeframe May 15 through August 15, 2020.
- What if the Indiana Bat is found within the LOD? What if roost trees are identified within LOD?
  - Time of year restriction May 1 to July 31 for no tree clearing within identified areas for Indiana Bat (informally)
  - A lot of flexibility between formal/informal
- 2019 survey season is nearly complete: May 15 through August 15.
- December 2020 FEIS/ROD due
- Dr. Ford has not captured any Indiana Bats as far as Ray Li knows
- Would need to try to protect known roost trees and a buffer around them.
- Trevor Clark will look into requirements for tree clearing buffer.
- Is there a disturbance buffer versus a tree clearing buffer? i.e., noise?
  - Ambient noise; make a good justification that new construction would not exceed ambient levels.
  - What is the buffer for a roost tree?
  - No known Indiana bat roost trees in Maryland.
- Outside of NPS property, we should come up with a site-specific survey plan: ALB, Rock Creek near Beltway, Greenbelt Park, Suitland Parkway?
  1. Coordinate with Dr. Ford's team
  2. Screening for suitable habitat
  3. Determine survey areas
  4. Perform 2020 survey
  5. Follow informal consultation – TOYR? – Reforestation if impact roost trees?

5. Bridge Survey recommended, not required.
   - Good voluntary conservation measure
   - Mapped bridge locations within 1000' of potential FIDS habitat
   - USFWS will review the bridge locations and let the project team know which bridges to survey by Wednesday, 7/31.
   - USFWS wants bridge survey to be completed by 8/15/19.

- David Smith will complete bridge survey by 8/15/19. Will complete dusk emergence surveys around the ALB and NW Branch bridges.

6. IPaC assisted consultation still needed. Project team will complete IPaC after bridge surveys completed in August.

7. Need to schedule a follow-up meeting to determine sites for survey; site-specific survey protocol; and results of the bridge surveys.

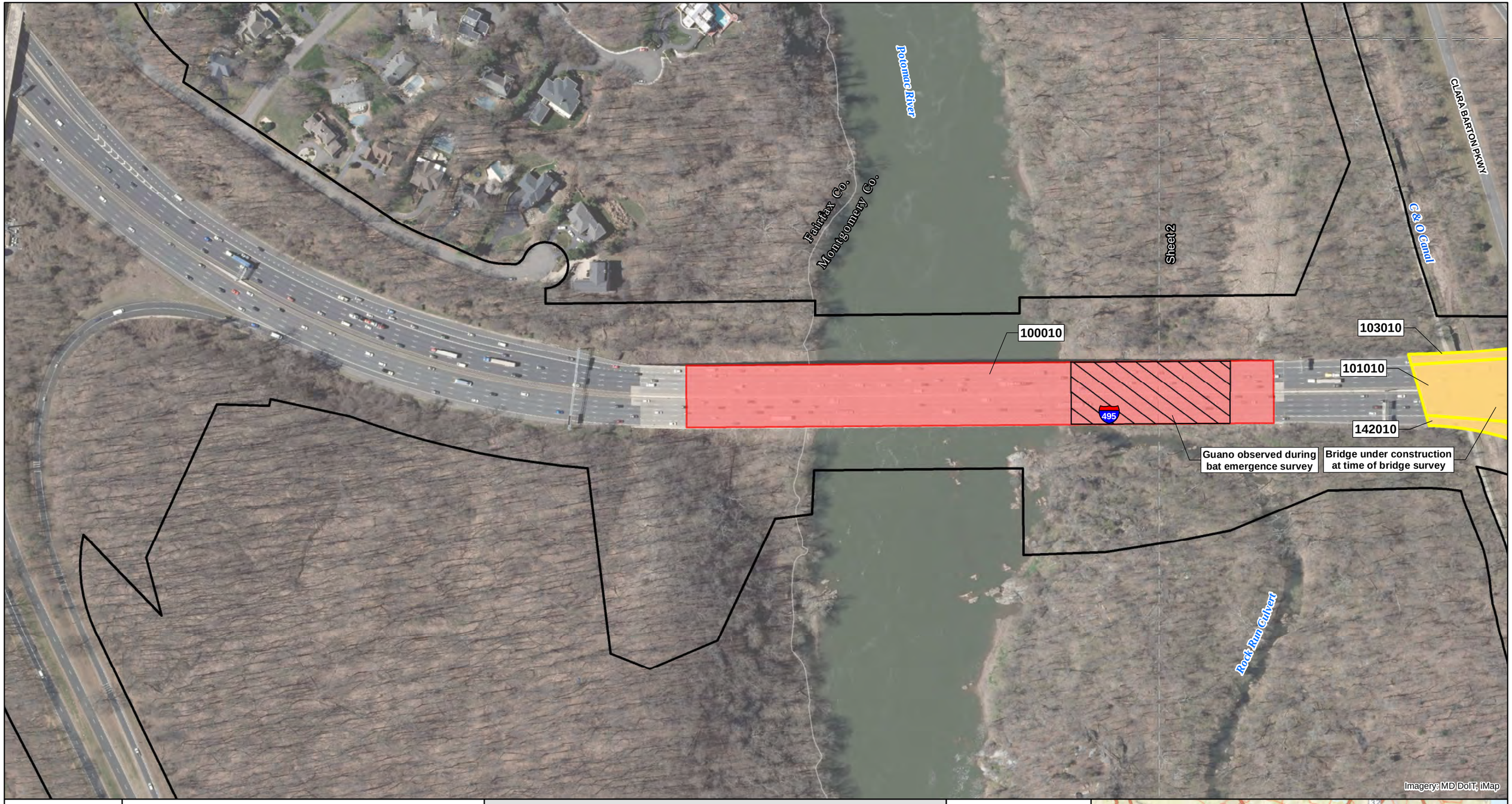
Action Items:

1. USFWS will provide list of bridges to survey by Wednesday, 7/31/19.
2. David Smith and team will complete bridge and emergence surveys by 8/15/19.
3. Trevor Clark will determine the protective buffer around roost trees for tree clearing.
4. MLS Project Team will complete IPaC in August/September 2019.
5. USFWS will determine habitat assessment protocol.
6. Caryn Brookman will schedule a follow-up meeting to determine sites for survey, site-specific survey protocol, and the results of the bridge survey.
7. Project team will conduct 2020 surveys after further coordination with USFWS.

Attendees:

Name	Agency	Email
Caryn Brookman	GEC	CBrookman@mdot.maryland.gov
Jeanette Mar	FHWA	Jeanette.Mar@dot.gov
Ray Li	USFWS	ray_li@fws.gov
Trevor Clark	USFWS	trevor_clark@fws.gov
Maddy Sigrist	NEPA Team	msigrist@rkk.com
Justin Reel	NEPA Team	jreel@rkk.com
Scott Schifflett	GEC	sshifflett@atcsplc.com
Erron Ramsey	NEPA Team	eramsey@rkk.com
Stacy Talmadge	GEC	STalmadge@mdot.maryland.gov
Pam McNicholas	GEC	pam.mcnicholas@wsp.com
David Smith	NEPA Team	dsmith@cri.biz

Appendix B
Bridge Bat Visual Survey Maps



COASTAL RESOURCES INC.

Bridge Bat Visual Survey

I-495/I-270 Managed Lanes Study

Appendix B
Sheet 1 of 11

Fairfax County, VA and
Montgomery and Prince George's Counties, MD
August 2019

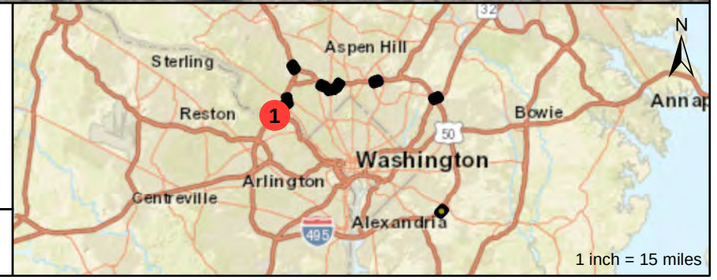
- Corridor Study Boundary
- Bridges Surveyed
- Bridge Under Construction at Time of Bridge Surveys
- Guano Observed

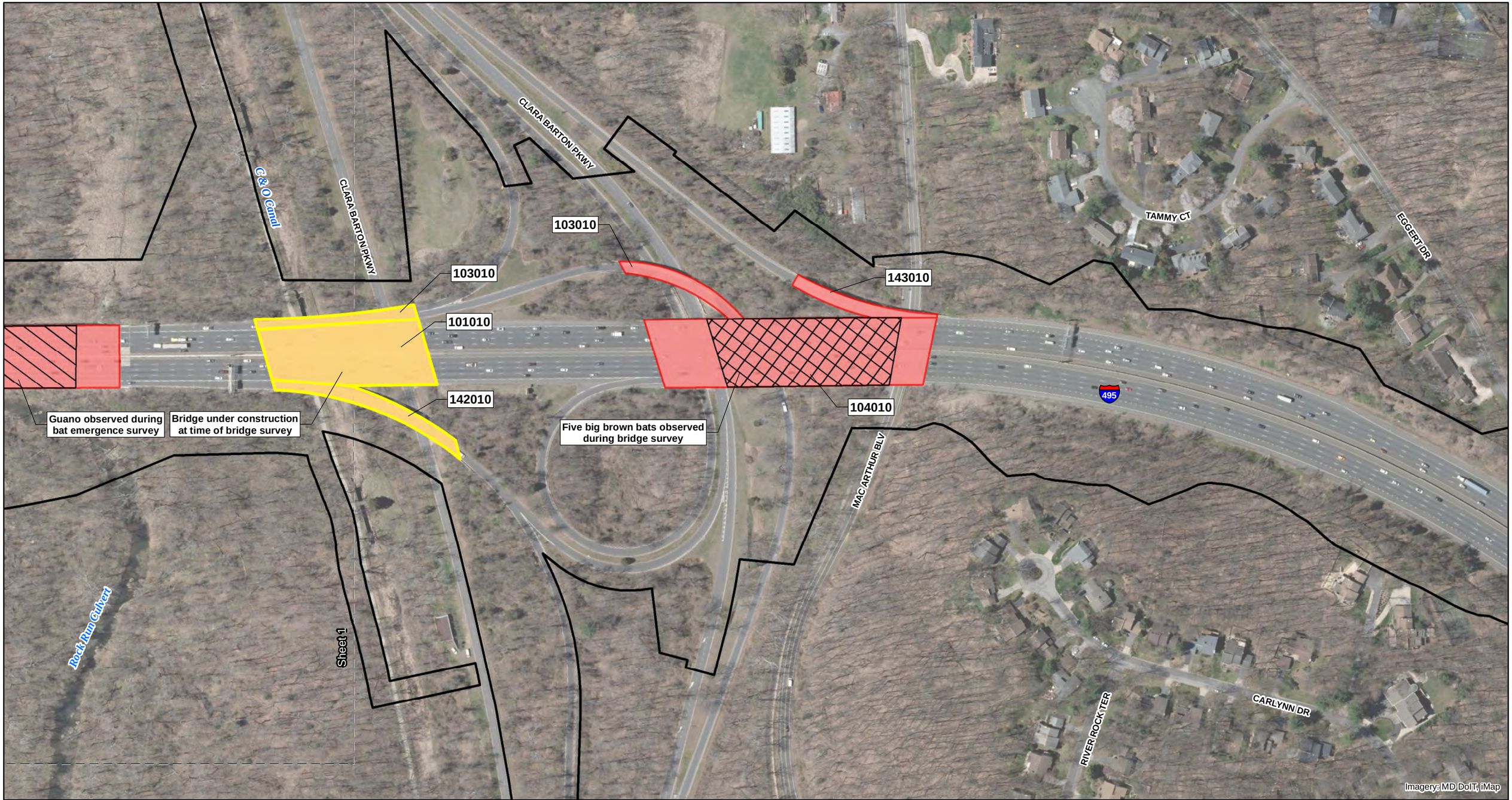
1 inch = 200 feet

0 100 200

feet

Map Center, NAD83
38.968, -77.1797





COASTAL RESOURCES INC.

Bridge Bat Visual Survey

I-495/I-270 Managed Lanes Study

Appendix B
Sheet 2 of 11

Fairfax County, VA and
Montgomery and Prince George's Counties, MD
August 2019

- Corridor Study Boundary
- Bridges Surveyed
- Bridge Under Construction at Time of Bridge Surveys
- Big Brown Bat Day Roost
- Guano Observed

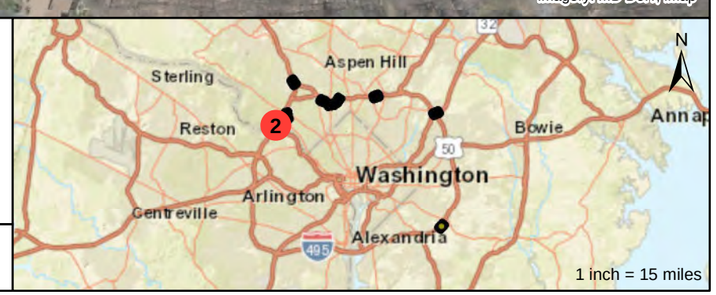
N

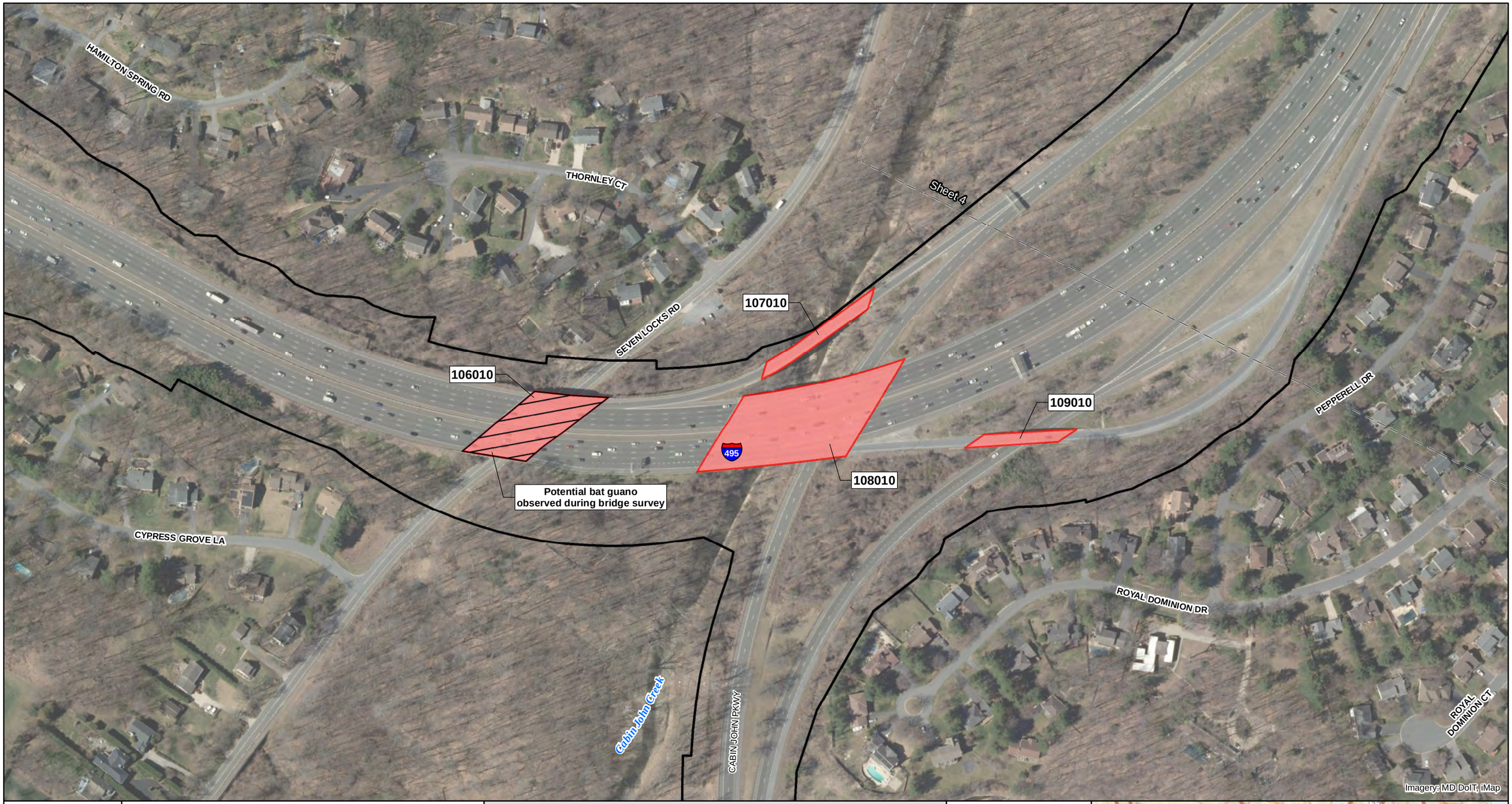
1 inch = 200 feet

0 100 200

feet

Map Center, NAD83
38.975, -77.1784





COASTAL RESOURCES INC.

Bridge Bat Visual Survey

I-495/I-270 Managed Lanes Study

Appendix B
Sheet 3 of 11

Fairfax County, VA and
Montgomery and Prince George's Counties, MD
August 2019

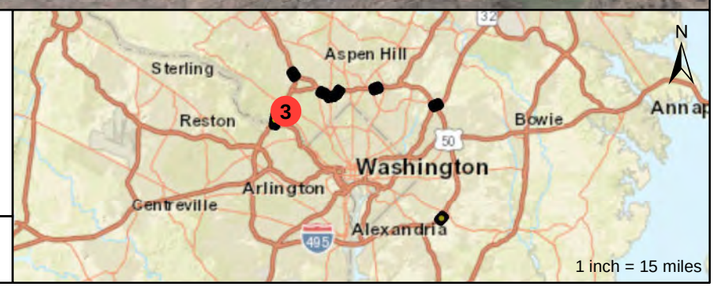
- Corridor Study Boundary
- Bridges Surveyed
- Guano Observed

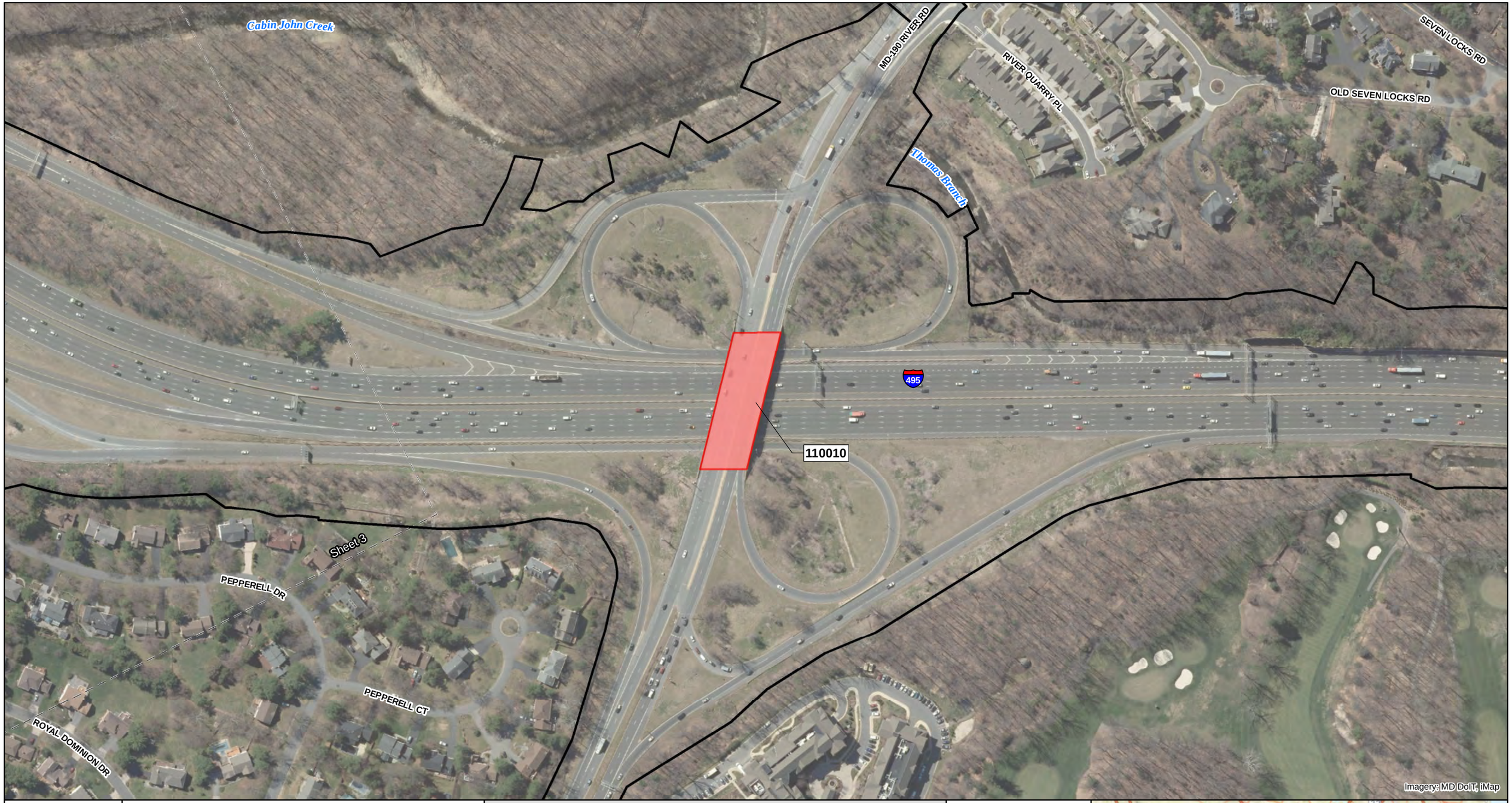
1 inch = 200 feet

0 100 200

feet

Map Center, NAD83
38.9848, -77.1591





COASTAL RESOURCES INC.

Bridge Bat Visual Survey

I-495/I-270 Managed Lanes Study

Appendix B
Sheet 4 of 11

Fairfax County, VA and
Montgomery and Prince George's Counties, MD
August 2019

Corridor Study Boundary

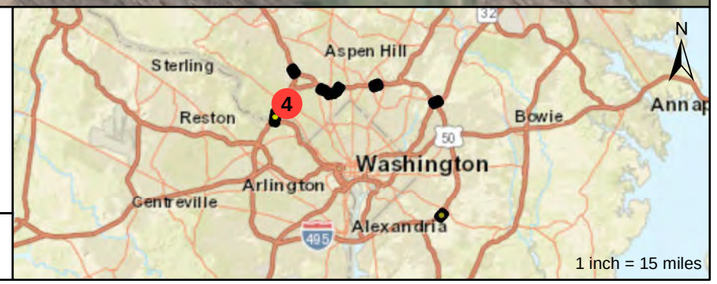
Bridges Surveyed

1 inch = 200 feet

0 100 200

feet

Map Center, NAD83
38.9912, -77.1573



COASTAL RESOURCES INC.

Bridge Bat Visual Survey

I-495/I-270 Managed Lanes Study

Appendix B
Sheet 5 of 11

Fairfax County, VA and
Montgomery and Prince George's Counties, MD
August 2019

Corridor Study Boundary

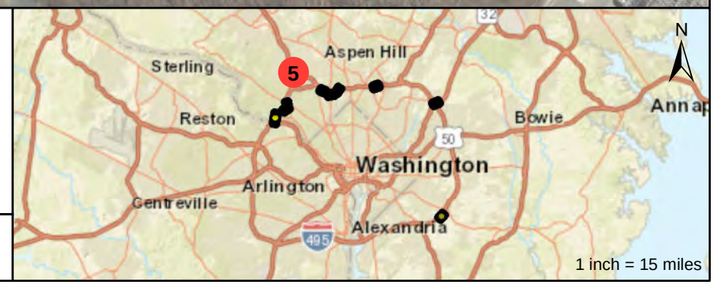
Bridges Surveyed

1 inch = 200 feet

0 100 200

feet

Map Center, NAD83
39.0379, -77.1456



COASTAL RESOURCES INC.

Bridge Bat Visual Survey

I-495/I-270 Managed Lanes Study

Appendix B
Sheet 6 of 11

Fairfax County, VA and
Montgomery and Prince George's Counties, MD
August 2019

Corridor Study Boundary

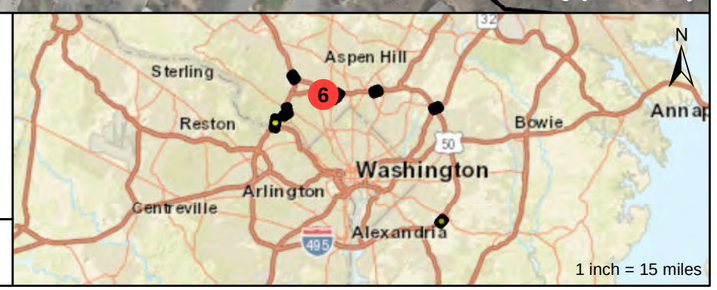
Bridges Surveyed

1 inch = 200 feet

0 100 200

feet

Map Center, NAD83
39.0113, -77.0912



COASTAL RESOURCES INC.

Bridge Bat Visual Survey

I-495/I-270 Managed Lanes Study

Appendix B
Sheet 7 of 11

Fairfax County, VA and
Montgomery and Prince George's Counties, MD
August 2019

Corridor Study Boundary

Bridges Surveyed

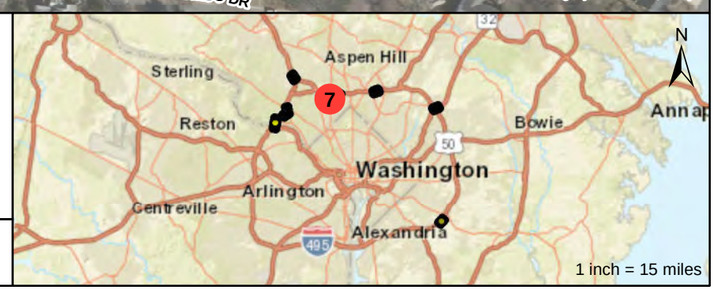
N

1 inch = 200 feet

0 100 200

feet

Map Center, NAD83
39.0057, -77.0764



COASTAL RESOURCES INC.

Bridge Bat Visual Survey

I-495/I-270 Managed Lanes Study

Appendix B
Sheet 8 of 11

Fairfax County, VA and
Montgomery and Prince George's Counties, MD
August 2019

Corridor Study Boundary

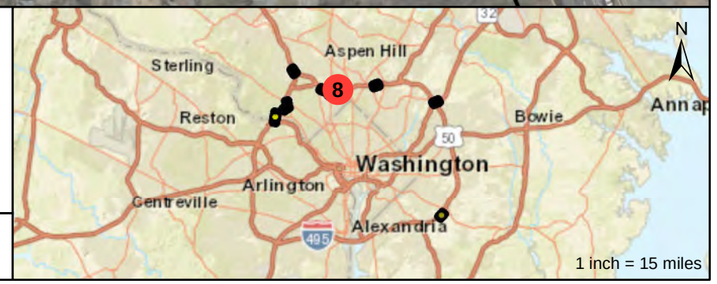
Bridges Surveyed

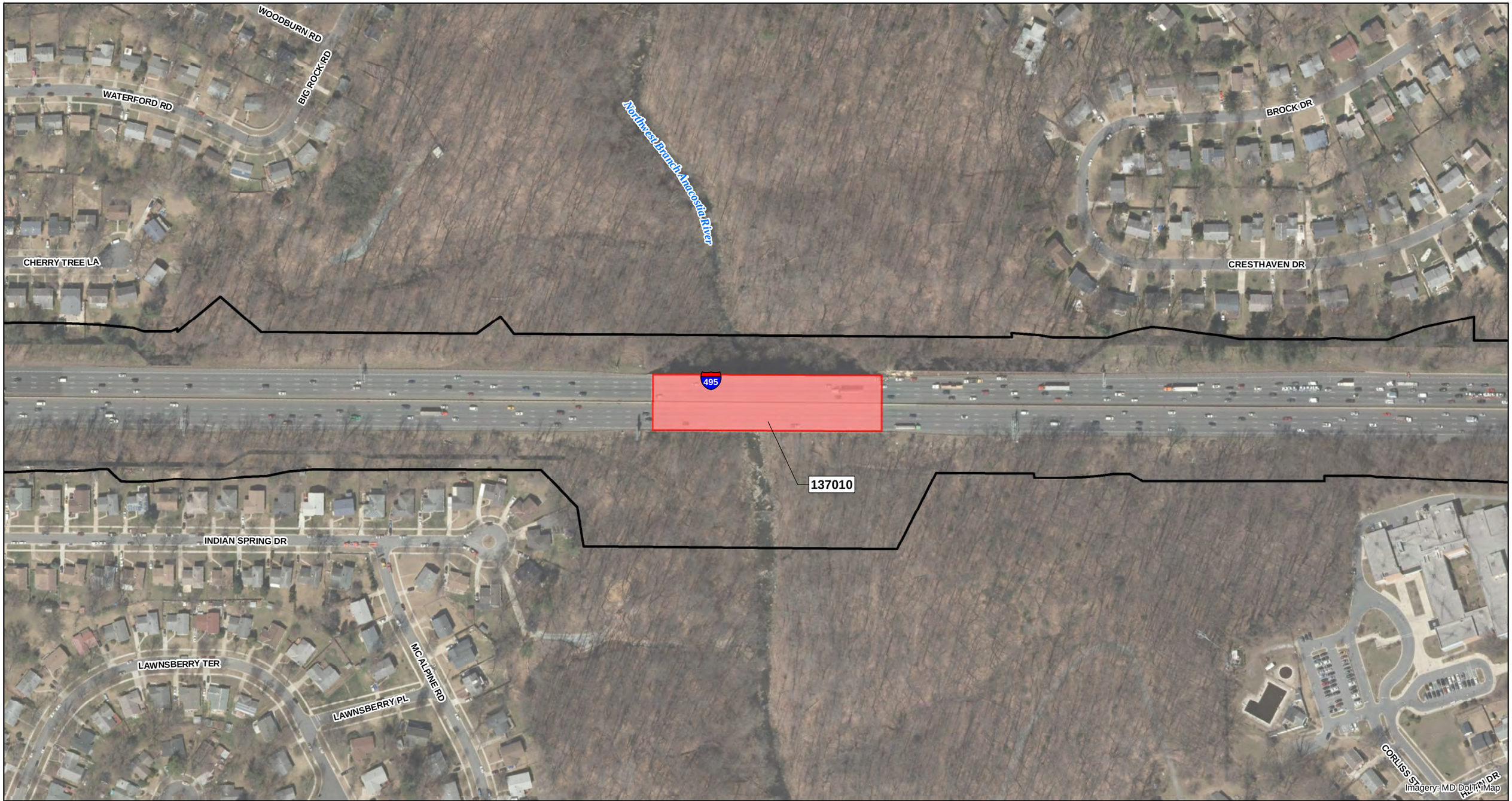
1 inch = 200 feet

0 100 200

feet

Map Center, NAD83
39.0118, -77.0637





COASTAL RESOURCES INC.

Bridge Bat Visual Survey

I-495/I-270 Managed Lanes Study

Appendix B
Sheet 9 of 11

Fairfax County, VA and
Montgomery and Prince George's Counties, MD
August 2019

Corridor Study Boundary

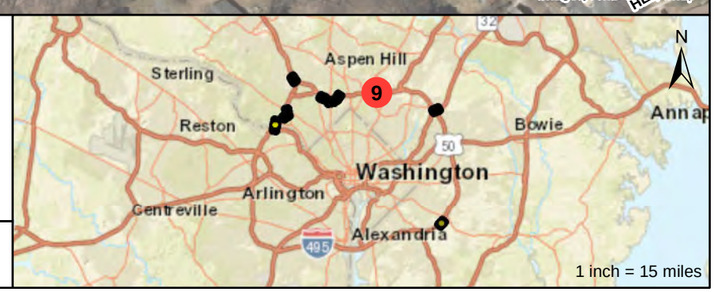
Bridges Surveyed

1 inch = 200 feet

0 100 200

feet

Map Center, NAD83
39.0176, -76.9942



COASTAL RESOURCES INC.

Bridge Bat Visual Survey

I-495/I-270 Managed Lanes Study

Appendix B
Sheet 10 of 11

Fairfax County, VA and
Montgomery and Prince George's Counties, MD
August 2019

Corridor Study Boundary

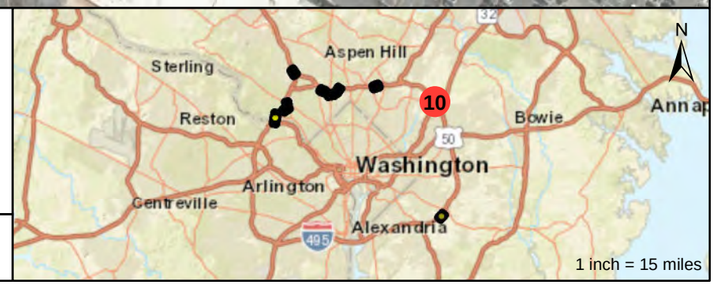
Bridges Surveyed

1 inch = 200 feet

0 100 200

feet

Map Center, NAD83
38.9934, -76.8838



RENA RD
OP 59
FORESTVILLE RD
PENN BELT PL
SUITLAND PY
160016
Bridge under construction
at time of bridge survey
95
160015
SUITLAND PY
MD-337 ALLENTOWN RD
NORTH PERIMETER RD
BURTON LN
Henson Creek
Imagery: MD DoIT, iMap

COASTAL RESOURCES INC.

Bridge Bat Visual Survey
I-495/I-270 Managed Lanes Study

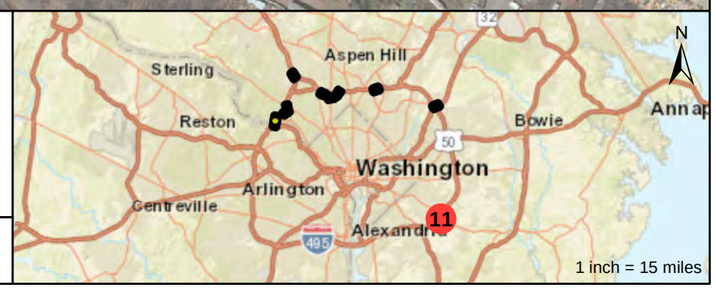
Appendix B
Sheet 11 of 11

Fairfax County, VA and
Montgomery and Prince George's Counties, MD
August 2019

- Corridor Study Boundary
- Bridges Surveyed
- Bridge Under Construction at Time of Bridge Surveys

1 inch = 200 feet
0 100 200
feet

Map Center, NAD83
38.8304, -76.874



Appendix C
Bridge Survey Data Forms

APPENDIX D: Bridge/Structure Assessment Form

This form will be completed and submitted to the District Environmental Manager by the Contractor prior to conducting any work below the deck surface either from the underside; from activities above that bore down to the underside; from activities that could impact expansion joints; from deck removal on bridges; or from structure demolition for bridges/structures within 1000 feet of suitable bat habitat.

DRS, AC, KS, JS

DOT Project #	Water Body	Date/Time of Inspection	Within 1,000ft of suitable bat habitat (circle one)
	Potomac River	6 Aug 2019, 1030	(Yes) No

Route	County	Federal Structure ID
I-495	Fairfax, VA	100010

American Legion Bridge South Abutment

If the bridge/structure is 1,000 feet or more from suitable bat habitat (e.g., an urban or agricultural area without suitable foraging habitat or corridors linking the bridge to suitable foraging habitat), check box and STOP HERE. No assessment required. ☐
Please submit to the U.S. Fish and Wildlife Service.

Areas Inspected (Check all that apply)

Bridges		Culverts/Other Structures		Summary Info (circle all that apply)			
All vertical crevices sealed at the top and 0.5-1.25" wide & ≥4" deep	✓	Crevices, rough surfaces or imperfections in concrete		Human disturbance or traffic under bridge/in culvert or at the structure	High	(Low)	None
All crevices >12" deep & not sealed	✓	Spaces between walls, ceiling joists		Possible corridors for netting	None/poor	Marginal	(Excellent)
All guardrails	N/A						
All expansion joints	✓						
Spaces between concrete end walls and the bridge deck	✓						

Vertical surfaces on concrete I-beams	N/A						

Evidence of Bats (Circle all that apply) Presence of one or more indicators is sufficient evidence that bats may be using the structure.

(None)

Visual (e.g. survey, thermal, emergent etc.)
- Live __number seen
- Dead __number seen

Photo documentation Y/N

Guano
Odor Y/N
Photo documentation Y/N

Staining definitively from bats
Photo documentation Y/N

Audible

Assessment Conducted By: DRS, KS, SP **Signature(s):** [signature]

District Environmental Use Only: Date Received by District Environmental Manager: _____

DOT Bat Assessment Form Instructions

1. Assessments must be completed no more than 2 years prior to conducting any work below the deck surface on all bridges, regardless of whether assessments have been conducted in the past.
2. Any bridge/structure suspected of providing habitat for any species of bat will be removed from work schedules until such time that the DOT has coordinated with the USFWS. Additional studies may be undertaken by the DOT to determine what species may be utilizing each structure identified as supporting bats prior to allowing any work to proceed.
3. Any questions should be directed to the District Environmental Manager.

Vertical cracks at south abutment and bridge deck, but excessive noise & vibration. Minor crevices on bridge, piers best opportunity. Photo 1 looking at pier crevices. Photo 2 looking N at piers. Photo 3 looking S. at S abutment.

Last Revised June 2017

APPENDIX D: Bridge/Structure Assessment Form

This form will be completed and submitted to the District Environmental Manager by the Contractor prior to conducting any work below the deck surface either from the underside; from activities above that bore down to the underside; from activities that could impact expansion joints; from deck removal on bridges; or from structure demolition for bridges/structures within 1000 feet of suitable bat habitat.

DRS, JS, KS, AC

DOT Project #	Water Body	Date/Time of Inspection	Within 1,000ft of suitable bat habitat (circle one)
	Potoma River	5 Aug. 2019 / 0840	(Yes) No

Route	County	Federal Structure ID
I-495	Montgomery	100010

American Legion Bridge North Abutment

If the bridge/structure is 1,000 feet or more from suitable bat habitat (e.g., an urban or agricultural area without suitable foraging habitat or corridors linking the bridge to suitable foraging habitat), check box and STOP HERE. No assessment required. ☐
Please submit to the U.S. Fish and Wildlife Service.

Areas Inspected (Check all that apply)

Bridges		Culverts/Other Structures		Summary Info (circle all that apply)			
All vertical crevices sealed at the top and 0.5-1.25" wide & ≥4" deep	✓	Crevices, rough surfaces or imperfections in concrete		Human disturbance or traffic under bridge/in culvert or at the structure	High	(Low)	None
All crevices >12" deep & not sealed	N/A	Spaces between walls, ceiling joists		Possible corridors for netting	None/poor	Marginal	(Excellent)
All guardrails	N/A						
All expansion joints	✓						
Spaces between concrete end walls and the bridge deck	N/A						

Vertical surfaces on concrete I-beams	N/A						

Evidence of Bats (Circle all that apply) Presence of one or more indicators is sufficient evidence that bats may be using the structure.

None

Visual (e.g. survey, thermal, emergent etc.)
- Live __number seen
- Dead __number seen

Guano
Odor Y/N
Photo documentation Y/N

Staining definitively from bats
Photo documentation Y/N

Photo documentation Y/N

Audible

AC camera - Ph. 1-3 Looking up at abutment at deck connection. Photo 4 looking at gap between concrete betw. inner and outer loop. JS camera - Photo 5 & 6 looking at abutment/deck juct. Photo 7 looking N at abutment, Photo 9 looking at pier cracks. AC camera - Photo 5-8 pier cracks.

Assessment Conducted By: DRS, JS, KS, AC **Signature(s):** David Smith

District Environmental Use Only: Date Received by District Environmental Manager: _____

DOT Bat Assessment Form Instructions

1. Assessments must be completed no more than 2 years prior to conducting any work below the deck surface on all bridges, regardless of whether assessments have been conducted in the past.
2. Any bridge/structure suspected of providing habitat for any species of bat will be removed from work schedules until such time that the DOT has coordinated with the USFWS. Additional studies may be undertaken by the DOT to determine what species may be utilizing each structure identified as supporting bats prior to allowing any work to proceed.
3. Any questions should be directed to the District Environmental Manager.

Concrete deck between inner and outer loops w/ possible gap on vertical surface. No evidence of staining or guano build up beneath bridge. Moose feces observed piers on N. bank Potomac River w/ cracks up high on side walls creating great spaces for bats. Bat guano found beneath these cracks during emergence surveys on 12 Aug 2019.

Last Revised June 2017

APPENDIX D: Bridge/Structure Assessment Form

This form will be completed and submitted to the District Environmental Manager by the Contractor prior to conducting any work below the deck surface either from the underside; from activities above that bore down to the underside; from activities that could impact expansion joints; from deck removal on bridges; or from structure demolition for bridges/structures within 1000 feet of suitable bat habitat.

DRS, JS, AC, KS

DOT Project #	Water Body	Date/Time of Inspection	Within 1,000ft of suitable bat habitat (circle one)
	N/A	5 Aug 2019 0832	(Yes) No

Route	County	Federal Structure ID
I-495	Montgomery	104010, 103010, 142010

Clara Barton Parkway Eastbound, including I-495 Ramp to Clara Barton Pkwy WB & Ramp from CBP to I-495 SB

If the bridge/structure is 1,000 feet or more from suitable bat habitat (e.g., an urban or agricultural area without suitable foraging habitat or corridors linking the bridge to suitable foraging habitat), check box and STOP HERE. No assessment required. ☐
Please submit to the U.S. Fish and Wildlife Service.

Areas Inspected (Check all that apply)

Bridges		Culverts/Other Structures		Summary Info (circle all that apply)			
All vertical crevices sealed at the top and 0.5-1.25" wide & ≥4" deep	N/A	Crevices, rough surfaces or imperfections in concrete		Human disturbance or traffic under bridge/in culvert or at the structure	High	Low	(None)
All crevices >12" deep & not sealed	N/A	Spaces between walls, ceiling joists		Possible corridors for netting	None/poor	Marginal	(Excellent)
All guardrails	N/A						
All expansion joints							
Spaces between concrete end walls and the bridge deck	N/A						

Vertical surfaces on concrete I-beams	N/A						

Evidence of Bats (Circle all that apply) Presence of one or more indicators is sufficient evidence that bats may be using the structure.

None

Visual (e.g. survey, thermal, emergent etc.)
- Live __number seen
- Dead __number seen

Photo documentation Y/N

Guano
Odor Y/N
Photo documentation Y/N

Staining definitively from bats
Photo documentation Y/N

Audible

JS camera-Photo 1 Looking up at abutment end wall connection to bridge deck, #2 Looking W at Southabutm. Photo 3 looking up at metal plates. Photo 4 looking south at metal plates.

Assessment Conducted By: DRS, JS, KS, AC **Signature(s):**

District Environmental Use Only: Date Received by District Environmental Manager: _____

DOT Bat Assessment Form Instructions

1. Assessments must be completed no more than 2 years prior to conducting any work below the deck surface on all bridges, regardless of whether assessments have been conducted in the past.
2. Any bridge/structure suspected of providing habitat for any species of bat will be removed from work schedules until such time that the DOT has coordinated with the USFWS. Additional studies may be undertaken by the DOT to determine what species may be utilizing each structure identified as supporting bats prior to allowing any work to proceed.
3. Any questions should be directed to the District Environmental Manager.

Bridge under repair; scaffolding and metal plates erected beneath bridge. Disturbance likely precludes use by bats.

APPENDIX D: Bridge/Structure Assessment Form

This form will be completed and submitted to the District Environmental Manager by the Contractor prior to conducting any work below the deck surface either from the underside; from activities above that bore down to the underside; from activities that could impact expansion joints; from deck removal on bridges; or from structure demolition for bridges/structures within 1000 feet of suitable bat habitat.

DRS, SP

DOT Project #	Water Body	Date/Time of Inspection	Within 1,000ft of suitable bat habitat (circle one)
	N/A	12 Aug 2019, 1513	(Yes) / No

Route	County	Federal Structure ID
I-495	NCO	104010, 143010

I-495 Mainline over Clara Barton PKWY WB and McArthur Blvd. & SB I495 Ramp to WB Clara Barton PKWY

If the bridge/structure is 1,000 feet or more from suitable bat habitat (e.g., an urban or agricultural area without suitable foraging habitat or corridors linking the bridge to suitable foraging habitat), check box and STOP HERE. No assessment required. ☐
Please submit to the U.S. Fish and Wildlife Service.

Areas Inspected (Check all that apply)

Bridges		Culverts/Other Structures		Summary Info (circle all that apply)			
All vertical crevices sealed at the top and 0.5-1.25" wide & ≥4" deep	✓	Crevices, rough surfaces or imperfections in concrete		Human disturbance or traffic under bridge/in culvert or at the structure	High	(Low)	None
All crevices >12" deep & not sealed	✓	Spaces between walls, ceiling joists		Possible corridors for netting	None/poor	(Marginal)	Excellent
All guardrails	N/A						
All expansion joints	✓						
Spaces between concrete end walls and the bridge deck	✓						

Vertical surfaces on concrete I-beams	N/A						

Evidence of Bats (Circle all that apply) Presence of one or more indicators is sufficient evidence that bats may be using the structure.

None

Visual (e.g. survey, thermal, emergent etc.) Guano Staining definitively from bats

- Live ✓ number seen 5 Odor Y/N Photo documentation Y/N
- Dead __number seen Photo documentation Y/N

Photo documentation Y/N

Audible Single big brown bat observed in 1"-1.5" gap between bridge piers at ramp to Clara Barton PKWY westbound from I-495 S. bound. Small scattering of bat feces on rocks below where bat observed. Photo 4-6 looking up at bat in crevice. Photos 7, 11-13 bat feces. Photo 14-16 overall shot looking W at bridge pier where bat roosting. Single big brown bats also obs. on 4 more piers cap gaps on outer part of N bound I-495

Assessment Conducted By: David Smith **Signature(s):** David Smith

District Environmental Use Only: Date Received by District Environmental Manager: _____

Photo 10 looking W at 4 piers cap gaps w/ bats.

DOT Bat Assessment Form Instructions

1. Assessments must be completed no more than 2 years prior to conducting any work below the deck surface on all bridges, regardless of whether assessments have been conducted in the past.
2. Any bridge/structure suspected of providing habitat for any species of bat will be removed from work schedules until such time that the DOT has coordinated with the USFWS. Additional studies may be undertaken by the DOT to determine what species may be utilizing each structure identified as supporting bats prior to allowing any work to proceed.
3. Any questions should be directed to the District Environmental Manager.

Long metal deck bridge over McArthur Blvd & Clara Barton PKWY Westbound; also includes ramp from S bound I-495 to W. bound Clara Barton PKWY. Abutm wall high precluding view of abutment/deck junction. Poss. suitable areas for roosting, but noisy and vibratory. Metal girders supporting deck on metal I-beams w/ 1/4"-1/2" gaps betw. small angle irons. No bats or evidence observed. Photo 1 looking W at piers/decks. Photo 2 looking S. at piers/decks. Photo 3 looking W. at N. abutment, several stick nests obs, likely Rock Pigeon. Photo 25 looking S at S abutment I-495. Rat feces on S. Abutment.

APPENDIX D: Bridge/Structure Assessment Form

This form will be completed and submitted to the District Environmental Manager by the Contractor prior to conducting any work below the deck surface either from the underside; from activities above that bore down to the underside; from activities that could impact expansion joints; from deck removal on bridges; or from structure demolition for bridges/structures within 1000 feet of suitable bat habitat.

DRS, SP

DOT Project #	Water Body	Date/Time of Inspection	Within 1,000ft of suitable bat habitat (circle one)
	N/A	12 Aug. 2019, 1730	(Yes) No

Route	County	Federal Structure ID
Ramp to I-495 SB	MD	103010

Ramp From Westbound Clara Barton Pkwy to Southbound I-495

If the bridge/structure is 1,000 feet or more from suitable bat habitat (e.g., an urban or agricultural area without suitable foraging habitat or corridors linking the bridge to suitable foraging habitat), check box and STOP HERE. No assessment required. ☐
Please submit to the U.S. Fish and Wildlife Service.

Areas Inspected (Check all that apply)

Bridges		Culverts/Other Structures		Summary Info (circle all that apply)			
All vertical crevices sealed at the top and 0.5-1.25" wide & ≥4" deep	✓	Crevices, rough surfaces or imperfections in concrete		Human disturbance or traffic under bridge/in culvert or at the structure	High	Low	(None)
All crevices >12" deep & not sealed	✓	Spaces between walls, ceiling joists		Possible corridors for netting	(None/poor)	Marginal	Excellent
All guardrails	N/A						
All expansion joints	✓						
Spaces between concrete end walls and the bridge deck	✓						

Vertical surfaces on concrete I-beams	N/A						

Evidence of Bats (Circle all that apply) Presence of one or more indicators is sufficient evidence that bats may be using the structure.

None

Visual (e.g. survey, thermal, emergent etc.)
- Live __number seen
- Dead __number seen

Photo documentation Y/N

Guano
Odor Y/N
Photo documentation Y/N

Staining definitively from bats
Photo documentation Y/N

Audible

Assessment Conducted By: David Smith **Signature(s):** David Smith

District Environmental Use Only: Date Received by District Environmental Manager: _____

DOT Bat Assessment Form Instructions

1. Assessments must be completed no more than 2 years prior to conducting any work below the deck surface on all bridges, regardless of whether assessments have been conducted in the past.
2. Any bridge/structure suspected of providing habitat for any species of bat will be removed from work schedules until such time that the DOT has coordinated with the USFWS. Additional studies may be undertaken by the DOT to determine what species may be utilizing each structure identified as supporting bats prior to allowing any work to proceed.
3. Any questions should be directed to the District Environmental Manager.

Photo 22 looking S. at S. abutment. No gaps at south abutment and bridge deck. Photo 23 looking N. at piers. Photo 24 looking N. at N abutment; N abutment also sealed at deck.

APPENDIX D: Bridge/Structure Assessment Form

This form will be completed and submitted to the District Environmental Manager by the Contractor prior to conducting any work below the deck surface either from the underside; from activities above that bore down to the underside; from activities that could impact expansion joints; from deck removal on bridges; or from structure demolition for bridges/structures within 1000 feet of suitable bat habitat.

DRS, AC

DOT Project #	Water Body	Date/Time of Inspection	Within 1,000ft of suitable bat habitat (circle one)
	Seven Locks Road	5 Aug 2019, 1015	(Yes) No

Route	County	Federal Structure ID
I-495	MO	106010

Seven Locks Road

If the bridge/structure is 1,000 feet or more from suitable bat habitat (e.g., an urban or agricultural area without suitable foraging habitat or corridors linking the bridge to suitable foraging habitat), check box and STOP HERE. No assessment required. ☐
Please submit to the U.S. Fish and Wildlife Service.

Areas Inspected (Check all that apply)

Bridges		Culverts/Other Structures		Summary Info (circle all that apply)			
All vertical crevices sealed at the top and 0.5-1.25" wide & ≥4" deep	✓	Crevices, rough surfaces or imperfections in concrete		Human disturbance or traffic under bridge/in culvert or at the structure	High	Low	(None)
All crevices >12" deep & not sealed	✓	Spaces between walls, ceiling joists		Possible corridors for netting	(None/poor)	Marginal	Excellent
All guardrails	N/A						
All expansion joints	✓						
Spaces between concrete end walls and the bridge deck	✓						

Vertical surfaces on concrete I-beams	N/A						

Evidence of Bats (Circle all that apply) Presence of one or more indicators is sufficient evidence that bats may be using the structure.

None

Visual (e.g. survey, thermal, emergent etc.)
- Live __number seen
- Dead __number seen

Photo documentation Y/N

(Guano) ?
Odor Y/(N)
Photo documentation (Y)/N
17 & 18

Staining definitively from bats
Photo documentation Y/N

Audible

Assessment Conducted By: DRS, AC **Signature(s):** David Smith

District Environmental Use Only: Date Received by District Environmental Manager: _____

DOT Bat Assessment Form Instructions

1. Assessments must be completed no more than 2 years prior to conducting any work below the deck surface on all bridges, regardless of whether assessments have been conducted in the past.
2. Any bridge/structure suspected of providing habitat for any species of bat will be removed from work schedules until such time that the DOT has coordinated with the USFWS. Additional studies may be undertaken by the DOT to determine what species may be utilizing each structure identified as supporting bats prior to allowing any work to proceed.
3. Any questions should be directed to the District Environmental Manager.

AC camera Photo 9 Looking up at junct. of abutment and bridge deck at holes in foam sealer. Photo 10-11 Looking north at crack along concrete beam betw. inner loop & outer loop. Photo 12 looking south at souther abutment. Photo 13-14 Looking at gaps in N abutment. Photo 15 & 16 looking at cracks in concrete support betw/ inner & outer loops. Photo 17-18 poss. bat feces. Photo 19-22 looking up into space betw/ abutment and deck behind foam sealer where feces found beneath. Photo 23 Looking S at bridge piers. Photo 24 looking N. at N. abutment.

APPENDIX D: Bridge/Structure Assessment Form

This form will be completed and submitted to the District Environmental Manager by the Contractor prior to conducting any work below the deck surface either from the underside; from activities above that bore down to the underside; from activities that could impact expansion joints; from deck removal on bridges; or from structure demolition for bridges/structures within 1000 feet of suitable bat habitat.

DRS, AC

DOT Project #	Water Body	Date/Time of Inspection	Within 1,000ft of suitable bat habitat (circle one)
	Cabin John Branch	5 Aug 2019 1450	(Yes) No

Route	County	Federal Structure ID
I-495	MO	108010

I-495 Mainline over Cabin John PKWY & Cabin John Branch

If the bridge/structure is 1,000 feet or more from suitable bat habitat (e.g., an urban or agricultural area without suitable foraging habitat or corridors linking the bridge to suitable foraging habitat), check box and STOP HERE. No assessment required. ☐
Please submit to the U.S. Fish and Wildlife Service.

Areas Inspected (Check all that apply)

Bridges		Culverts/Other Structures		Summary Info (circle all that apply)			
All vertical crevices sealed at the top and 0.5-1.25" wide & ≥4" deep	✓	Crevices, rough surfaces or imperfections in concrete		Human disturbance or traffic under bridge/in culvert or at the structure	High	(Low)	None
All crevices >12" deep & not sealed	✓	Spaces between walls, ceiling joists		Possible corridors for netting	None/poor	Marginal	(Excellent)
All guardrails	N/A						
All expansion joints	✓						
Spaces between concrete end walls and the bridge deck	✓						

Vertical surfaces on concrete I-beams	N/A						

Evidence of Bats (Circle all that apply) Presence of one or more indicators is sufficient evidence that bats may be using the structure.

(None)

Visual (e.g. survey, thermal, emergent etc.)
- Live __number seen
- Dead __number seen

Photo documentation Y/N

Guano
Odor Y/N
Photo documentation Y/N

Staining definitively from bats
Photo documentation Y/N

Audible

Assessment Conducted By: DPS, AC **Signature(s):** [signature]

District Environmental Use Only: Date Received by District Environmental Manager: _____

DOT Bat Assessment Form Instructions

1. Assessments must be completed no more than 2 years prior to conducting any work below the deck surface on all bridges, regardless of whether assessments have been conducted in the past.
2. Any bridge/structure suspected of providing habitat for any species of bat will be removed from work schedules until such time that the DOT has coordinated with the USFWS. Additional studies may be undertaken by the DOT to determine what species may be utilizing each structure identified as supporting bats prior to allowing any work to proceed.
3. Any questions should be directed to the District Environmental Manager.

some horizontal crevices at top of abutments. Vertical crevice on N abutment (photos 45), Photo 43 looking N at N abutm. Photo 44 looking S at piers. Photos 46-48 looking at crack in S. abutm. Photo 49 looking S at S abutm. Photo 50 look. N at piers.

APPENDIX D: Bridge/Structure Assessment Form

This form will be completed and submitted to the District Environmental Manager by the Contractor prior to conducting any work below the deck surface either from the underside; from activities above that bore down to the underside; from activities that could impact expansion joints; from deck removal on bridges; or from structure demolition for bridges/structures within 1000 feet of suitable bat habitat.

DRS, AC

DOT Project #	Water Body	Date/Time of Inspection	Within 1,000ft of suitable bat habitat (circle one)
	Cabin John Branch	5 Aug 2019, 1515	(Yes) No

Route	County	Federal Structure ID
I-495	MD	107010

Ramp from Cabin John PKwy to Southbound I-495

If the bridge/structure is 1,000 feet or more from suitable bat habitat (e.g., an urban or agricultural area without suitable foraging habitat or corridors linking the bridge to suitable foraging habitat), **check box and STOP HERE. No assessment required.** ☐
Please submit to the U.S. Fish and Wildlife Service.

Areas Inspected (Check all that apply)

Bridges		Culverts/Other Structures		Summary Info (circle all that apply)			
All vertical crevices sealed at the top and 0.5-1.25" wide & ≥4" deep	✓	Crevices, rough surfaces or imperfections in concrete		Human disturbance or traffic under bridge/in culvert or at the structure	High	(Low)	None
All crevices >12" deep & not sealed	✓	Spaces between walls, ceiling joists		Possible corridors for netting	None/poor	(Marginal)	Excellent
All guardrails	N/A						
All expansion joints	✓						
Spaces between concrete end walls and the bridge deck	✓						

Vertical surfaces on concrete I-beams	N/A						

Evidence of Bats (Circle all that apply) Presence of one or more indicators is sufficient evidence that bats may be using the structure.

None

Visual (e.g. survey, thermal, emergent etc.)
- Live __number seen
- Dead __number seen

Photo documentation Y/N

Guano
Odor Y/N
Photo documentation Y/N

Staining definitively from bats
Photo documentation Y/N

Audible

Assessment Conducted By: DRS, AC **Signature(s):** David Smith

District Environmental Use Only: Date Received by District Environmental Manager: _____

DOT Bat Assessment Form Instructions

1. Assessments must be completed no more than 2 years prior to conducting any work below the deck surface on all bridges, regardless of whether assessments have been conducted in the past.
2. Any bridge/structure suspected of providing habitat for any species of bat will be removed from work schedules until such time that the DOT has coordinated with the USFWS. Additional studies may be undertaken by the DOT to determine what species may be utilizing each structure identified as supporting bats prior to allowing any work to proceed.
3. Any questions should be directed to the District Environmental Manager.

Horizontal gap at top of abutments. Photo 51 looking S at S abutm. Photo 52 looking N at piers. Photo 53 looking S at piers. Photo 54 looking N at N abutm.

Last Revised June 2017

APPENDIX D: Bridge/Structure Assessment Form

This form will be completed and submitted to the District Environmental Manager by the Contractor prior to conducting any work below the deck surface either from the underside; from activities above that bore down to the underside; from activities that could impact expansion joints; from deck removal on bridges; or from structure demolition for bridges/structures within 1000 feet of suitable bat habitat.

DRS, AC

DOT Project #	Water Body	Date/Time of Inspection	Within 1,000ft of suitable bat habitat (circle one)
	N/A	5 Aug 2019 1410	(Yes) No

Route	County	Federal Structure ID
I-495	MD	109010

Ramp From Northbound I-495 to Eastbound River Road

If the bridge/structure is 1,000 feet or more from suitable bat habitat (e.g., an urban or agricultural area without suitable foraging habitat or corridors linking the bridge to suitable foraging habitat), check box and STOP HERE. No assessment required. ☐
Please submit to the U.S. Fish and Wildlife Service.

Areas Inspected (Check all that apply)

Bridges		Culverts/Other Structures		Summary Info (circle all that apply)			
All vertical crevices sealed at the top and 0.5-1.25" wide & ≥4" deep	✓	Crevices, rough surfaces or imperfections in concrete		Human disturbance or traffic under bridge/in culvert or at the structure	High	(Low)	None
All crevices >12" deep & not sealed	✓	Spaces between walls, ceiling joists		Possible corridors for netting	(None/poor)	Marginal	Excellent
All guardrails	N/A						
All expansion joints	✓						
Spaces between concrete end walls and the bridge deck	✓						

Vertical surfaces on concrete I-beams	N/A						

Evidence of Bats (Circle all that apply) Presence of one or more indicators is sufficient evidence that bats may be using the structure.

None

Visual (e.g. survey, thermal, emergent etc.)
- Live __number seen
- Dead __number seen

Photo documentation Y/N

Guano
Odor Y/N
Photo documentation Y/N

Staining definitively from bats
Photo documentation Y/N

Audible

Assessment Conducted By: DRS, AC **Signature(s):** [signature]

District Environmental Use Only: Date Received by District Environmental Manager: _____

DOT Bat Assessment Form Instructions

1. Assessments must be completed no more than 2 years prior to conducting any work below the deck surface on all bridges, regardless of whether assessments have been conducted in the past.
2. Any bridge/structure suspected of providing habitat for any species of bat will be removed from work schedules until such time that the DOT has coordinated with the USFWS. Additional studies may be undertaken by the DOT to determine what species may be utilizing each structure identified as supporting bats prior to allowing any work to proceed.
3. Any questions should be directed to the District Environmental Manager.

Vertical gaps at abutment/deck junct. Photo 39-40 looking up at gaps on S abut. Photo 41 looking N at piers; Photo 42 looking S at abut. (S). DRS phone #1 looking N at abut. (N), #2 looking S at piers.

APPENDIX D: Bridge/Structure Assessment Form

This form will be completed and submitted to the District Environmental Manager by the Contractor prior to conducting any work below the deck surface either from the underside; from activities above that bore down to the underside; from activities that could impact expansion joints; from deck removal on bridges; or from structure demolition for bridges/structures within 1000 feet of suitable bat habitat.

DRS, AC

DOT Project #	Water Body	Date/Time of Inspection	Within 1,000ft of suitable bat habitat (circle one)
	N/A	5 Aug 2019 1300	(Yes) No

Route	County	Federal Structure ID
I-495	MD	110010

River Road over I-495

If the bridge/structure is 1,000 feet or more from suitable bat habitat (e.g., an urban or agricultural area without suitable foraging habitat or corridors linking the bridge to suitable foraging habitat), check box and STOP HERE. No assessment required. ☐
Please submit to the U.S. Fish and Wildlife Service.

Areas Inspected (Check all that apply)

Bridges		Culverts/Other Structures		Summary Info (circle all that apply)			
All vertical crevices sealed at the top and 0.5-1.25" wide & ≥4" deep	✓	Crevices, rough surfaces or imperfections in concrete		Human disturbance or traffic under bridge/in culvert or at the structure	High	Low	(None)
All crevices >12" deep & not sealed	✓	Spaces between walls, ceiling joists		Possible corridors for netting	None/poor	(Marginal)	Excellent
All guardrails	N/A						
All expansion joints	✓						
Spaces between concrete end walls and the bridge deck	✓						

Vertical surfaces on concrete I-beams	N/A						

Evidence of Bats (Circle all that apply) Presence of one or more indicators is sufficient evidence that bats may be using the structure.

None

Visual (e.g. survey, thermal, emergent etc.)
- Live __number seen
- Dead __number seen

Photo documentation Y/N

Guano
Odor Y/N
Photo documentation Y/N

Staining definitively from bats
Photo documentation Y/N

Audible

Assessment Conducted By: DR3, AC **Signature(s):** Brad Smith

District Environmental Use Only: Date Received by District Environmental Manager: _____

DOT Bat Assessment Form Instructions

1. Assessments must be completed no more than 2 years prior to conducting any work below the deck surface on all bridges, regardless of whether assessments have been conducted in the past.
2. Any bridge/structure suspected of providing habitat for any species of bat will be removed from work schedules until such time that the DOT has coordinated with the USFWS. Additional studies may be undertaken by the DOT to determine what species may be utilizing each structure identified as supporting bats prior to allowing any work to proceed.
3. Any questions should be directed to the District Environmental Manager.

Moose facus. Minor gaps along E & W abutments at bridge deck. Photo 33 looking E at piers from W. side. Photo 34 looking W at W abutment. Photo 35 looking at crevice along W abutment. Photo 36 looking W at piers. Photo 37 looking E at E abutment. Photo 38 looking at gap betw. fabric and abutment.

APPENDIX D: Bridge/Structure Assessment Form

This form will be completed and submitted to the District Environmental Manager by the Contractor prior to conducting any work below the deck surface either from the underside; from activities above that bore down to the underside; from activities that could impact expansion joints; from deck removal on bridges; or from structure demolition for bridges/structures within 1000 feet of suitable bat habitat.

DRS, AC

DOT Project #	Water Body	Date/Time of Inspection	Within 1,000ft of suitable bat habitat (circle one)
	N/A	5 Aug 2019, 1220	(Yes) No

Route	County	Federal Structure ID
I-270	MD	081010

I-270 Mainline over Tuckerman Lane

If the bridge/structure is 1,000 feet or more from suitable bat habitat (e.g., an urban or agricultural area without suitable foraging habitat or corridors linking the bridge to suitable foraging habitat), check box and STOP HERE. No assessment required. ☐
Please submit to the U.S. Fish and Wildlife Service.

Areas Inspected (Check all that apply)

Bridges		Culverts/Other Structures		Summary Info (circle all that apply)			
All vertical crevices sealed at the top and 0.5-1.25" wide & ≥4" deep	✓	Crevices, rough surfaces or imperfections in concrete		Human disturbance or traffic under bridge/in culvert or at the structure	High	Low	(None)
All crevices >12" deep & not sealed	✓	Spaces between walls, ceiling joists		Possible corridors for netting	(None/poor)	Marginal	Excellent
All guardrails	N/A						
All expansion joints	✓						
Spaces between concrete end walls and the bridge deck	✓						

Vertical surfaces on concrete I-beams	N/A						

Evidence of Bats (Circle all that apply) Presence of one or more indicators is sufficient evidence that bats may be using the structure.

None

Visual (e.g. survey, thermal, emergent etc.)
- Live __number seen
- Dead __number seen

Photo documentation Y/N

Guano
Odor Y/N
Photo documentation Y/N

Staining definitively from bats
Photo documentation Y/N

Audible

Assessment Conducted By: DRS, AC **Signature(s):** [signature]

District Environmental Use Only: Date Received by District Environmental Manager: _____

DOT Bat Assessment Form Instructions

1. Assessments must be completed no more than 2 years prior to conducting any work below the deck surface on all bridges, regardless of whether assessments have been conducted in the past.
2. Any bridge/structure suspected of providing habitat for any species of bat will be removed from work schedules until such time that the DOT has coordinated with the USFWS. Additional studies may be undertaken by the DOT to determine what species may be utilizing each structure identified as supporting bats prior to allowing any work to proceed.
3. Any questions should be directed to the District Environmental Manager.

Suitable crevices along E and W bound I-80 abutments and deck. Also cracks in bridge abutment slopes near top. Photos 25 cracks in abutment slope. Photo 26 looking W at bridge pier. Photos 27-28 Looking up into crevice at end abutment. Photo 29 looking E at E abutment. Photo 30 looking W at W abutment. Photo 31 looking E at W bridge pier.

APPENDIX D: Bridge/Structure Assessment Form

This form will be completed and submitted to the District Environmental Manager by the Contractor prior to conducting any work below the deck surface either from the underside; from activities above that bore down to the underside; from activities that could impact expansion joints; from deck removal on bridges; or from structure demolition for bridges/structures within 1000 feet of suitable bat habitat.

JS/KS

DOT Project #	Water Body	Date/Time of Inspection	Within 1,000ft of suitable bat habitat (circle one)
	N/A	08/05/19 1030	(Yes) No

Route	County	Federal Structure ID
I-495	Montgomery	127010

I-495 Mainline over Cedar Lane

If the bridge/structure is 1,000 feet or more from suitable bat habitat (e.g., an urban or agricultural area without suitable foraging habitat or corridors linking the bridge to suitable foraging habitat), check box and STOP HERE. No assessment required. ☐
Please submit to the U.S. Fish and Wildlife Service.

Areas Inspected (Check all that apply)

Bridges		Culverts/Other Structures		Summary Info (circle all that apply)			
All vertical crevices sealed at the top and 0.5-1.25" wide & ≥4" deep	✓	Crevices, rough surfaces or imperfections in concrete		Human disturbance or traffic under bridge/in culvert or at the structure	High	Low	(None)
All crevices >12" deep & not sealed	✓	Spaces between walls, ceiling joists		Possible corridors for netting	(None/poor)	Marginal	Excellent
All guardrails	NA						
All expansion joints	✓						
Spaces between concrete end walls and the bridge deck	✓						

Vertical surfaces on concrete I-beams	NA						

Evidence of Bats (Circle all that apply) Presence of one or more indicators is sufficient evidence that bats may be using the structure.

None

Visual (e.g. survey, thermal, emergent etc.)
- Live __number seen
- Dead __number seen

Photo documentation Y/N

Guano
Odor Y/N
Photo documentation Y/N

Staining definitively from bats
Photo documentation Y/N

Audible

Assessment Conducted By: Jennifer Saville **Signature(s):** _____

District Environmental Use Only: Date Received by District Environmental Manager: _____

DOT Bat Assessment Form Instructions

1. Assessments must be completed no more than 2 years prior to conducting any work below the deck surface on all bridges, regardless of whether assessments have been conducted in the past.
2. Any bridge/structure suspected of providing habitat for any species of bat will be removed from work schedules until such time that the DOT has coordinated with the USFWS. Additional studies may be undertaken by the DOT to determine what species may be utilizing each structure identified as supporting bats prior to allowing any work to proceed.
3. Any questions should be directed to the District Environmental Manager.

- Bridge freshly painted
- found 2 large snake sheds
  ~5ft Black Racer + Rat snake

Photos: 10 - E. Abutment looking up at crack where deck meets wall
11 - Facing E. abutment wall
12 - From E. abutment looking at abutment wall
13 - From W. abutment facing W. Piers
14 - From W. abutment facing W. abutment Wall

Last Revised June 2017

APPENDIX D: Bridge/Structure Assessment Form

This form will be completed and submitted to the District Environmental Manager by the Contractor prior to conducting any work below the deck surface either from the underside; from activities above that bore down to the underside; from activities that could impact expansion joints; from deck removal on bridges; or from structure demolition for bridges/structures within 1000 feet of suitable bat habitat.

JS/KS

DOT Project #	Water Body	Date/Time of Inspection	Within 1,000ft of suitable bat habitat (circle one)
		08/05/2019 1300	(Yes) No

Route	County	Federal Structure ID
I-495	Montgomery	123010

I-495 Mainline over Connecticut Avenue (MD185)

If the bridge/structure is 1,000 feet or more from suitable bat habitat (e.g., an urban or agricultural area without suitable foraging habitat or corridors linking the bridge to suitable foraging habitat), check box and STOP HERE. No assessment required. ☐
Please submit to the U.S. Fish and Wildlife Service.

Areas Inspected (Check all that apply)

Bridges		Culverts/Other Structures		Summary Info (circle all that apply)			
All vertical crevices sealed at the top and 0.5-1.25" wide & ≥4" deep	✓	Crevices, rough surfaces or imperfections in concrete		Human disturbance or traffic under bridge/in culvert or at the structure	High	Low	None
All crevices >12" deep & not sealed	✓	Spaces between walls, ceiling joists		Possible corridors for netting	None/poor	Marginal	Excellent
All guardrails	N/A						
All expansion joints	✓						
Spaces between concrete end walls and the bridge deck	✓						

Vertical surfaces on concrete I-beams	NA						

Evidence of Bats (Circle all that apply) Presence of one or more indicators is sufficient evidence that bats may be using the structure.

None

Visual (e.g. survey, thermal, emergent etc.)
- Live __number seen
- Dead __number seen

Photo documentation Y/N

Guano
Odor Y/N
Photo documentation Y/N

Staining definitively from bats
Photo documentation Y/N

Audible

Assessment Conducted By: Jennifer Saville **Signature(s):** _____

District Environmental Use Only: Date Received by District Environmental Manager: _____

DOT Bat Assessment Form Instructions

1. Assessments must be completed no more than 2 years prior to conducting any work below the deck surface on all bridges, regardless of whether assessments have been conducted in the past.
2. Any bridge/structure suspected of providing habitat for any species of bat will be removed from work schedules until such time that the DOT has coordinated with the USFWS. Additional studies may be undertaken by the DOT to determine what species may be utilizing each structure identified as supporting bats prior to allowing any work to proceed.
3. Any questions should be directed to the District Environmental Manager.

- Black rubber (gasket?) btw bridge deck + abut wall, so there is no crack
- Bridge freshly painted
- Wood decking below bridge covers expansion joints

Photos:
1312 - From E. abutment facing W @ piers
1320a - Facing W. abutment
1320b - From W. abutment facing E. at piers

APPENDIX D: Bridge/Structure Assessment Form

This form will be completed and submitted to the District Environmental Manager by the Contractor prior to conducting any work below the deck surface either from the underside; from activities above that bore down to the underside; from activities that could impact expansion joints; from deck removal on bridges; or from structure demolition for bridges/structures within 1000 feet of suitable bat habitat.

JS, KS

DOT Project #	Water Body	Date/Time of Inspection	Within 1,000ft of suitable bat habitat (circle one)
		08/05/19 1130	(Yes) / No

Route	County	Federal Structure ID
I-495	Montgomery	124010

I-495 Mainline over Kensington Road

If the bridge/structure is 1,000 feet or more from suitable bat habitat (e.g., an urban or agricultural area without suitable foraging habitat or corridors linking the bridge to suitable foraging habitat), check box and STOP HERE. No assessment required. ☐
Please submit to the U.S. Fish and Wildlife Service.

Areas Inspected (Check all that apply)

metal + wood decking under bridge obscure views of I beams + expansion joints

Bridges		Culverts/Other Structures		Summary Info (circle all that apply)			
All vertical crevices sealed at the top and 0.5-1.25" wide & ≥4" deep	✓	Crevices, rough surfaces or imperfections in concrete		Human disturbance or traffic under bridge/in culvert or at the structure	High	Low	(None)
All crevices >12" deep & not sealed	✓	Spaces between walls, ceiling joists		Possible corridors for netting	(None/poor)	Marginal	Excellent
All guardrails	NA						
All expansion joints	✓						
Spaces between concrete end walls and the bridge deck	✓						

Vertical surfaces on concrete I-beams	NA						

Evidence of Bats (Circle all that apply) Presence of one or more indicators is sufficient evidence that bats may be using the structure.

None

Visual (e.g. survey, thermal, emergent etc.)
- Live __number seen
- Dead __number seen

Photo documentation Y/N

Guano
Odor Y/N
Photo documentation Y/N

Staining definitively from bats
Photo documentation Y/N

Audible

Assessment Conducted By: Jennifer Saville **Signature(s):** _____

District Environmental Use Only: Date Received by District Environmental Manager: _____

DOT Bat Assessment Form Instructions

1. Assessments must be completed no more than 2 years prior to conducting any work below the deck surface on all bridges, regardless of whether assessments have been conducted in the past.
2. Any bridge/structure suspected of providing habitat for any species of bat will be removed from work schedules until such time that the DOT has coordinated with the USFWS. Additional studies may be undertaken by the DOT to determine what species may be utilizing each structure identified as supporting bats prior to allowing any work to proceed.
3. Any questions should be directed to the District Environmental Manager.

Eabut Evidence of racoons
Both abut can see light btw crack/crevasses where abut. wall + decking meet on both sides
large joints thru out bottom of struc. (can see cars thru)

Photos: 15 - Looking at E. abutment
1140 - From E abutment looking W at piers
KS phone - From W abutment @ W abutment
KS phone - From W abutment looking E at piers

APPENDIX D: Bridge/Structure Assessment Form

This form will be completed and submitted to the District Environmental Manager by the Contractor prior to conducting any work below the deck surface either from the underside; from activities above that bore down to the underside; from activities that could impact expansion joints; from deck removal on bridges; or from structure demolition for bridges/structures within 1000 feet of suitable bat habitat.

JS/KS

DOT Project #	Water Body	Date/Time of Inspection	Within 1,000ft of suitable bat habitat (circle one)
		08/05/19 1147	(Yes) / No

Route	County	Federal Structure ID
I-495	Montgomery	175010

I-495 Outer Loop Ramp to MD 185

If the bridge/structure is 1,000 feet or more from suitable bat habitat (e.g., an urban or agricultural area without suitable foraging habitat or corridors linking the bridge to suitable foraging habitat), check box and STOP HERE. No assessment required. ☐
Please submit to the U.S. Fish and Wildlife Service.

Areas Inspected (Check all that apply)

Bridges		Culverts/Other Structures		Summary Info (circle all that apply)			
All vertical crevices sealed at the top and 0.5-1.25" wide & ≥4" deep	✓	Crevices, rough surfaces or imperfections in concrete		Human disturbance or traffic under bridge/in culvert or at the structure	High	Low	(None)
All crevices >12" deep & not sealed	✓	Spaces between walls, ceiling joists		Possible corridors for netting	(None/poor)	Marginal	Excellent
All guardrails	NA						
All expansion joints	NA						
Spaces between concrete end walls and the bridge deck	✓						

Vertical surfaces on concrete I-beams	NA						

Evidence of Bats (Circle all that apply) Presence of one or more indicators is sufficient evidence that bats may be using the structure.

None

Visual (e.g. survey, thermal, emergent etc.)
- Live __number seen
- Dead __number seen

Photo documentation Y/N

Guano
Odor Y/N
Photo documentation Y/N

Staining definitively from bats
Photo documentation Y/N

Audible

Assessment Conducted By: Jennifer Saville **Signature(s):** _____

District Environmental Use Only: Date Received by District Environmental Manager: _____

DOT Bat Assessment Form Instructions

1. Assessments must be completed no more than 2 years prior to conducting any work below the deck surface on all bridges, regardless of whether assessments have been conducted in the past.
2. Any bridge/structure suspected of providing habitat for any species of bat will be removed from work schedules until such time that the DOT has coordinated with the USFWS. Additional studies may be undertaken by the DOT to determine what species may be utilizing each structure identified as supporting bats prior to allowing any work to proceed.
3. Any questions should be directed to the District Environmental Manager.

- Metal + wood decking below bridge deck obscure view of I beams + expansion joints

Photos: 1147a - Facing E abutment from E abutment
1147b - Facing W at piers from E abutment
KS Phone - Facing W abutment from W abutment
KS Phone - Facing E at piers from W abutment

APPENDIX D: Bridge/Structure Assessment Form

This form will be completed and submitted to the District Environmental Manager by the Contractor prior to conducting any work below the deck surface either from the underside; from activities above that bore down to the underside; from activities that could impact expansion joints; from deck removal on bridges; or from structure demolition for bridges/structures within 1000 feet of suitable bat habitat. JS/KS/DS/SP

DOT Project #	Water Body	Date/Time of Inspection	Within 1,000ft of suitable bat habitat (circle one)
	Rock Creek	08/05/19 1230 08/06/19 1150	Yes (circled) No

Route	County	Federal Structure ID
I-495	Montgomery	126010

Rock Creek / Stoney Brook Drive

If the bridge/structure is 1,000 feet or more from suitable bat habitat (e.g., an urban or agricultural area without suitable foraging habitat or corridors linking the bridge to suitable foraging habitat), check box and STOP HERE. No assessment required. ☐
Please submit to the U.S. Fish and Wildlife Service.

Areas Inspected (Check all that apply)

Bridges		Culverts/Other Structures		Summary Info (circle all that apply)			
All vertical crevices sealed at the top and 0.5-1.25" wide & ≥4" deep	✓	Crevices, rough surfaces or imperfections in concrete		Human disturbance or traffic under bridge/in culvert or at the structure	High	Low	None (circled)
All crevices >12" deep & not sealed	✓	Spaces between walls, ceiling joists		Possible corridors for netting	None/poor (circled)	Marginal	Excellent
All guardrails	NA						
All expansion joints	✓						
Spaces between concrete end walls and the bridge deck	✓						

Vertical surfaces on concrete I-beams	NA						

~~Evidence of Bats~~ (Circle all that apply) Presence of one or more indicators is sufficient evidence that bats may be using the structure.

None

Visual (e.g. survey, thermal, emergent etc.)
- Live __number seen
- Dead __number seen

Photo documentation Y/N

Guano

Odor Y/N

Photo documentation Y/N

Staining definitively from bats

Photo documentation Y/N

6 Aug 2019 W Abutment: Top of W Abutment w/ rubber mat covering most of gap to bridge deck. Some openings in corners adjacent to I-beams.

Audible

Assessment Conducted By: Jennifer Saville/Dave Smith **Signature(s):** [signatures]

District Environmental Use Only: Date Received by District Environmental Manager: _____

DOT Bat Assessment Form Instructions

1. Assessments must be completed no more than 2 years prior to conducting any work below the deck surface on all bridges, regardless of whether assessments have been conducted in the past.
2. Any bridge/structure suspected of providing habitat for any species of bat will be removed from work schedules until such time that the DOT has coordinated with the USFWS. Additional studies may be undertaken by the DOT to determine what species may be utilizing each structure identified as supporting bats prior to allowing any work to proceed.
3. Any questions should be directed to the District Environmental Manager.

5 Aug 2019 E Abutment:
- Wood decking under bridge obscures view of metal I beams + expansion joints
- Need waders to access E abut bc. of stream, too deep for knee boots
- W abut - rubber (gasket?) between bridge deck + abut wall seals potential crevice

Photos 5 Aug 2019: 1224a - From E abutment looking at E abutment
1224b - From E abutment looking up at rubber gasket
1231 - From E abutment looking W at piers

Photos 6 Aug 2019: 4 - Looking W. at W abutment
5. Looking at corner gap on abutment wall

APPENDIX D: Bridge/Structure Assessment Form

This form will be completed and submitted to the District Environmental Manager by the Contractor prior to conducting any work below the deck surface either from the underside; from activities above that bore down to the underside; from activities that could impact expansion joints; from deck removal on bridges; or from structure demolition for bridges/structures within 1000 feet of suitable bat habitat.

JS/KS/DS/SP

DOT Project #	Water Body	Date/Time of Inspection	Within 1,000ft of suitable bat habitat (circle one)
	Northwest Branch Anacostia River	08/05/19 1400/08/06/19 Eabut wAbut 1300	Yes / No

Route	County	Federal Structure ID
I 495	Montgomery	137010

Northwest Branch

If the bridge/structure is 1,000 feet or more from suitable bat habitat (e.g., an urban or agricultural area without suitable foraging habitat or corridors linking the bridge to suitable foraging habitat), check box and STOP HERE. No assessment required. ☐
Please submit to the U.S. Fish and Wildlife Service.

Areas Inspected (Check all that apply)

Bridges		Culverts/Other Structures		Summary Info (circle all that apply)			
All vertical crevices sealed at the top and 0.5-1.25" wide & ≥4" deep	✓	Crevices, rough surfaces or imperfections in concrete		Human disturbance or traffic under bridge/in culvert or at the structure	High	Low	None
All crevices >12" deep & not sealed	✓	Spaces between walls, ceiling joists		Possible corridors for netting	None/poor	Marginal	Excellent
All guardrails	NA						
All expansion joints	✓						
Spaces between concrete end walls and the bridge deck	✓						

over NWB Anacostia

Vertical surfaces on concrete I-beams	NA						

Evidence of Bats (Circle all that apply) Presence of one or more indicators is sufficient evidence that bats may be using the structure.

None

Visual (e.g. survey, thermal, emergent etc.)
- Live __number seen
- Dead __number seen

Photo documentation Y/N

Audible

Guano
Odor Y/N
Photo documentation Y/N

Staining definitively from bats
Photo documentation Y/N

Assessment Conducted By: Jennifer Saville, David Smith **Signature(s):**

District Environmental Use Only: Date Received by District Environmental Manager: _____

DOT Bat Assessment Form Instructions

1. Assessments must be completed no more than 2 years prior to conducting any work below the deck surface on all bridges, regardless of whether assessments have been conducted in the past.
2. Any bridge/structure suspected of providing habitat for any species of bat will be removed from work schedules until such time that the DOT has coordinated with the USFWS. Additional studies may be undertaken by the DOT to determine what species may be utilizing each structure identified as supporting bats prior to allowing any work to proceed.
3. Any questions should be directed to the District Environmental Manager.

5 Aug 2019 W Abutment:
Bridge is very high + access to abuts. is on very loose steep slopes
- W abut too high to throughly survey

6 Aug 2019 E Abutment:
E abutment at deck w/ 0.25" gaps in places. Few areas of good roosting habitat. The gap between inner and outer loops ± 2" w/o foam filling. No evidence of bats.

Photos 5 Aug 2019: Facing E pics from W abutment
Photos 6 Aug 2019: 6- Gap between inner and outer loop
7- Looking E at E abutment
8- Looking up and west at under girder of bridge

APPENDIX D: Bridge/Structure Assessment Form

This form will be completed and submitted to the District Environmental Manager by the Contractor prior to conducting any work below the deck surface either from the underside; from activities above that bore down to the underside; from activities that could impact expansion joints; from deck removal on bridges; or from structure demolition for bridges/structures within 1000 feet of suitable bat habitat.

DS, KS, SP

DOT Project #	Water Body	Date/Time of Inspection	Within 1,000ft of suitable bat habitat (circle one)
	N/A	6 Aug. 2019, 1415	(Yes) No

Route	County	Federal Structure ID
I-495	PG	142012/142011

MD 295

If the bridge/structure is 1,000 feet or more from suitable bat habitat (e.g., an urban or agricultural area without suitable foraging habitat or corridors linking the bridge to suitable foraging habitat), check box and STOP HERE. No assessment required. ☐
Please submit to the U.S. Fish and Wildlife Service.

Areas Inspected (Check all that apply)

Bridges		Culverts/Other Structures		Summary Info (circle all that apply)			
All vertical crevices sealed at the top and 0.5-1.25" wide & ≥4" deep	✓	Crevices, rough surfaces or imperfections in concrete		Human disturbance or traffic under bridge/in culvert or at the structure	High	Low	(None)
All crevices >12" deep & not sealed	✓	Spaces between walls, ceiling joists		Possible corridors for netting	(None/poor)	Marginal	Excellent
All guardrails	N/A						
All expansion joints	✓						
Spaces between concrete end walls and the bridge deck	✓						

Vertical surfaces on concrete I-beams	N/A						

Evidence of Bats (Circle all that apply) Presence of one or more indicators is sufficient evidence that bats may be using the structure.

None

Visual (e.g. survey, thermal, emergent etc.)
- Live __number seen
- Dead __number seen

Photo documentation Y/N

Guano
Odor Y/N
Photo documentation Y/N

Staining definitively from bats
Photo documentation Y/N

Audible

Assessment Conducted By: DRS, KS, SP **Signature(s):** Dan Smith

District Environmental Use Only: Date Received by District Environmental Manager: _____

DOT Bat Assessment Form Instructions

1. Assessments must be completed no more than 2 years prior to conducting any work below the deck surface on all bridges, regardless of whether assessments have been conducted in the past.
2. Any bridge/structure suspected of providing habitat for any species of bat will be removed from work schedules until such time that the DOT has coordinated with the USFWS. Additional studies may be undertaken by the DOT to determine what species may be utilizing each structure identified as supporting bats prior to allowing any work to proceed.
3. Any questions should be directed to the District Environmental Manager.

NBound 295-Horiz. crevice at top of N abutment in places. Photo 9 looking S. at piers. NAbut. Photo 10 looking N at N. abutment. SBound 295 N abutm. - Photo 11 looking S at piers. Photo 12 looking N at N abutment. SBound 295 S Abutm. - Similar cracks at top abutment. Also crevice formed by cracked concrete on angled deck ceiling. Photo 13 looking N at piers. Photo 14 looking at S abutm. NBound S. Abutm. - Similar to others. Feces (rodent) obs. Photo 15 looking N at piers. Photo 16 looking S. at S. abutm. Boards placed under deck of travel lanes.

APPENDIX D: Bridge/Structure Assessment Form

This form will be completed and submitted to the District Environmental Manager by the Contractor prior to conducting any work below the deck surface either from the underside; from activities above that bore down to the underside; from activities that could impact expansion joints; from deck removal on bridges; or from structure demolition for bridges/structures within 1000 feet of suitable bat habitat. DS, KS, SP

DOT Project #	Water Body	Date/Time of Inspection	Within 1,000ft of suitable bat habitat (circle one)
	N/A	6 Aug 2019, 1530	(Yes) No

Route	County	Federal Structure ID
I-495	PG	160015/160016

Suitland Parkway

If the bridge/structure is 1,000 feet or more from suitable bat habitat (e.g., an urban or agricultural area without suitable foraging habitat or corridors linking the bridge to suitable foraging habitat), check box and STOP HERE. No assessment required. ☐
Please submit to the U.S. Fish and Wildlife Service.

Areas Inspected (Check all that apply)

Bridges		Culverts/Other Structures		Summary Info (circle all that apply)			
All vertical crevices sealed at the top and 0.5-1.25" wide & ≥4" deep		Crevices, rough surfaces or imperfections in concrete		Human disturbance or traffic under bridge/in culvert or at the structure	High	Low	None
All crevices >12" deep & not sealed		Spaces between walls, ceiling joists		Possible corridors for netting	None/poor	Marginal	Excellent
All guardrails							
All expansion joints							
Spaces between concrete end walls and the bridge deck							

Vertical surfaces on concrete I-beams							

Evidence of Bats (Circle all that apply) Presence of one or more indicators is sufficient evidence that bats may be using the structure.

None

Visual (e.g. survey, thermal, emergent etc.)
- Live __number seen
- Dead __number seen

Photo documentation Y/N

Audible

Guano
Odor Y/N
Photo documentation Y/N

Staining definitively from bats
Photo documentation Y/N

Assessment Conducted By: DRS, KS, SP **Signature(s):** [signature]

District Environmental Use Only: Date Received by District Environmental Manager: _____

DOT Bat Assessment Form Instructions

1. Assessments must be completed no more than 2 years prior to conducting any work below the deck surface on all bridges, regardless of whether assessments have been conducted in the past.
2. Any bridge/structure suspected of providing habitat for any species of bat will be removed from work schedules until such time that the DOT has coordinated with the USFWS. Additional studies may be undertaken by the DOT to determine what species may be utilizing each structure identified as supporting bats prior to allowing any work to proceed.
3. Any questions should be directed to the District Environmental Manager.

Bridges under construction. Photo 17 looking S at S abutment of S Bound I-495. Photo 18 looking N at construction. Photo 19 looking at S abutment of N bound I-495.

Last Revised June 2017

Appendix D
Bridge Survey Photo Log

Photo 1: American Legion Bridge North (100010) – Looking north at abutment

Photo 2: American Legion Bridge North (100010) – Looking at cracks in pier

Photo 3: American Legion Bridge North (100010) – Looking at cracks in pier

Photo 4: American Legion Bridge North (100010) – Looking at cracks in pier

Photo 5: American Legion Bridge North (100010) – Looking at abutment/deck connection

Photo 6: American Legion Bridge North (100010) – Looking at gap in concrete between inner and outer loops

Photo 7: American Legion Bridge South (100010) – Looking at south abutment

Photo 8: American Legion Bridge South (100010) – Looking north at piers

Photo 9: American Legion Bridge South (100010) – Looking at cracks in piers

Photo 10: Clara Barton Parkway East (101010/142010) – Looking south at metal plates

Photo 11: Clara Barton Parkway East (101010/142010) – Looking west at metal plates

Photo 12: Clara Barton Parkway East (101010/142010) – Looking at abutment connection to bridge deck

Photo 13: McArthur Blvd/Clara Barton Pkwy West (104010/143010) – Looking at north abutment

Photo 14: McArthur Blvd/Clara Barton Pkwy West (104010/143010) – Looking north at pier cap gaps with bats

Photo 15: McArthur Blvd/Clara Barton Pkwy West (104010/143010) – Looking north at piers & decks

Photo 16: McArthur Blvd/Clara Barton Pkwy West (104010/143010) – Looking south at piers & decks

Photo 17: McArthur Blvd/Clara Barton Pkwy West (104010/143010) – Looking at south abutment

Photo 18: McArthur Blvd/Clara Barton Pkwy West (104010) – Looking up at bat in crevice

Photo 19: McArthur Blvd/Clara Barton Pkwy West (104010) – Looking up at bat roosting in pier cap gap

Photo 20: McArthur Blvd/Clara Barton Pkwy West (104010) – Looking north at bridge pier, bat roosting location

Photo 21: Clara Barton Pkwy West (103010) – Looking at north abutment

Photo 22: Clara Barton Pkwy West (103010) – Looking at south abutment

Photo 23: Seven Locks Road (106010) – Looking at north abutment

Photo 24: Seven Locks Road (106010) – Looking south at piers

Photo 25: Seven Locks Road (106010) – Looking at south abutment

Photo 26: Seven Locks Road (106010) – Looking into space between abutment and deck above where possible bat guano was found

Photo 27: Seven Locks Road (106010) – looking at cracks in concrete support between inner and outer loops

Photo 28: Cabin John Parkway (108010) – Looking at north abutment

Photo 29: Cabin John Parkway (108010) – Looking south at piers

Photo 30: Cabin John Parkway (108010) – Looking at south abutment

Photo 31: Cabin John Parkway (108010) – Looking north at piers

Photo 32: Cabin John Parkway (108010) – Looking at vertical crevice in north abutment

Photo 33: Cabin John Parkway (108010) – Looking at cracks in south abutment

Photo 34: Ramp to southbound I-495 (107010) – Looking at north abutment

Photo 35: Ramp to southbound I-495 (107010) – Looking south at piers

Photo 36: Ramp to southbound I-495 (107010) – Looking at south abutment

Photo 37: Ramp to southbound I-495 (107010) – Looking north at piers

Photo 38: Northbound ramp to River Road (109010) – Looking at north abutment

Photo 39: Northbound ramp to River Road (109010) – Looking south at piers

Photo 40: Northbound ramp to River Road (109010) – Looking at south abutment

Photo 41: Northbound ramp to River Road (109010) – Looking north at piers

Photo 42: Northbound ramp to River Road (109010) – Looking at gaps on south abutment

Photo 43: River Road (110010) – Looking at west abutment

Photo 44: River Road (110010) – Looking east at piers

Photo 45: River Road (110010) – Looking at east abutment

Photo 46: River Road (110010) – Looking west at piers

Photo 47: River Road (110010) – Looking at crack along west abutment

Photo 48: Tuckerman Lane (081010) – Looking at north abutment

Photo 49: Tuckerman Lane (081010) – Looking south from north abutment

Photo 50: Tuckerman Lane (081010) – Looking at south abutment

Photo 51: Tuckerman Lane (081010) – Looking north from south abutment

Photo 52: Tuckerman Lane (081010) – Looking at cracks in abutment slope

Photo 53: Tuckerman Lane (081010) – Looking into crevice at end of abutment

Photo 54: Cedar Lane (122010) – Looking at west abutment

Photo 55: Cedar Lane (122010) – Looking east at piers

Photo 56: Cedar Lane (122010) – Looking at east abutment

Photo 57: Cedar Lane (122010) – Looking west at piers

Photo 58: Cedar Lane (122010) – Looking at crack between abutment and deck on east abutment

Photo 59: Connecticut Avenue (123010) – Looking at west abutment

Photo 60: Connecticut Avenue (123010) – Looking east at piers (8/5/2019)

Photo 61: Connecticut Avenue (123010) – Looking at east abutment

Photo 62: Connecticut Avenue (123010) – Looking west at piers

Photo 63: Kensington Parkway (124010) – Looking at west abutment

Photo 64: Kensington Parkway (124010) – Looking east at piers

Photo 65: Kensington Parkway (124010) – Looking at east abutment

Photo 66: Kensington Parkway (124010) – Looking west at piers

Photo 67: Kensington Parkway Ramp (125010) – Looking at west abutment

Photo 68: Kensington Parkway Ramp (125010) – Looking east at piers

Photo 69: Kensington Parkway Ramp (125010) – Looking at east abutment

Photo 70: Kensington Parkway Ramp (125010) – Looking west at piers

Photo 71: Rock Creek/Stoney Brook Drive (126010) – Looking at west abutment and piers

Photo72: Rock Creek/Stoney Brook Drive (126010) – Looking at corner gap on abutment wall

Photo 73: Rock Creek/Stoney Brook Drive (126010) – Looking at east abutment

Photo 74: Rock Creek/Stoney Brook Drive (126010) – Looking west at piers

Photo 75: Northwest Branch (137010) – Looking at west abutment

Photo 76: Northwest Branch (137010) – Looking east at bridge piers and girders

Photo 77: Northwest Branch (137010) – Looking east at bridge across river

Photo 78: Northwest Branch (137010) – Looking at east abutment

Photo 79: Northwest Branch (137010) – Looking west at bridge piers and girders

Photo 80: Northwest Branch (137010) – Looking at gap in deck between inner and outer loops

Photo 81: MD-295 Northbound (142011) – Looking at north abutment

Photo 82: MD-295 Northbound (142011) – Looking south at piers

Photo 83: MD-295 Northbound (142011) – Looking at south abutment

Photo 84: MD-295 Northbound (142011) – Looking north at piers

Photo 85: MD-295 Southbound (142012) – Looking at north abutment

Photo 86: MD-295 Southbound (142012) – Looking south at piers

Photo 87: MD-295 Southbound (142012) – Looking south at abutment

Photo 88: MD-295 Southbound (142012) – Looking north at piers

Photo 89: Suitland Parkway (160016) – Looking at south abutment of southbound I-495

Photo 90: Suitland Parkway (160015) – Looking at south abutment of northbound I-495

Photo 91: Suitland Parkway (160015/160016) – Looking north at construction zone under I-495

Appendix E
Bat Evidence Photo Log

Appendix E: Bat Evidence Photo Log

Photo 1. Big brown bat individual A found in gap between pier caps of the McArthur Boulevard/Clara Barton Parkway Westbound bridge (104010/143010).

Photo 2. Big brown bat individual B found in gap between pier caps of the McArthur Boulevard/Clara Barton Parkway Westbound bridge (104010/143010).

Appendix E: Bat Evidence Photo Log

Photo 3. Big brown bat individual C found in gap between pier caps of the McArthur Boulevard/Clara Barton Parkway Westbound bridge (104010/143010).

Photo 4. Big brown bat individual D found in gap between pier caps of the McArthur Boulevard/Clara Barton Parkway Westbound bridge (104010/143010).

Appendix E: Bat Evidence Photo Log

Photo 5. Bat guano below gap between pier caps where bat is roosting in the McArthur Boulevard/Clara Barton Parkway Westbound bridge (104010/143010).

Photo 6. Bat guano below gap between pier caps where bat is roosting in the McArthur Boulevard/Clara Barton Parkway Westbound bridge (104010/143010).

Appendix E: Bat Evidence Photo Log

Photo 7. Bat guano below gap between pier caps where bat is roosting in the McArthur Boulevard/Clara Barton Parkway Westbound bridge (104010/143010).

Photo 8. Reperesentative photo of gap between pier caps where bats were obseved roosting in the McArthur Boulevard/Clara Barton Parkway Westbound bridge (104010/143010).

Appendix E: Bat Evidence Photo Log

Photo 9. View beneath bridge where bats were observed roosting between gaps in pier caps in the McArthur Boulevard/Clara Barton Parkway Westbound bridge (104010/143010).

Photo 10. CRI staff photographing bat roosting between pier cap gap in the McArthur Boulevard/Clara Barton Parkway Westbound bridge (104010/143010).

Appendix E: Bat Evidence Photo Log

Photo 11: Bat guano observed under the south abutment of the Seven Locks Road Bridge (106010).

Photo 12: Bat guano found at the south abutment of the Seven Locks Road Bridge (106010).

Appendix E: Bat Evidence Photo Log

Photo 13: Bat guano found on the Maryland side of the Potomac River under the American Legion Bridge (100010).

Appendix F
Bat Emergence Data Forms

USFWS BAT EMERGENCE SURVEY DATASHEET

Date: 12 Aug 2019 **Surveyor(s) Full Name:** David Smith, Shannon Pursell
State: MD **County:** MP **Project Name:** I-495 NLS
Site Name/#: Am. Legion Br. **Roost Name/#** _____ **Bat #:** _____
Lat/Long or UTM of Roost: _____
Description of Roost/Habitat Feature Surveyed: Large interstate bridge over the Potomac River - North side of river
Bat Species Known to be using this Roost/Feature (if not known, leave blank):
_____
Other Suspected Bat Species (explain): _____
Weather Conditions during Survey (temperature, precipitation, wind speed):
81°F, ptly. cloudy, light winds
Survey Start Time: 1933 **Time of Sunset:** 2003 **Survey End Time:** 2050

NOTE: Emergence surveys should begin ½ hour before sunset and continue until at least one hour after sunset or until it is otherwise too dark to see emerging bats. The surveyor(s) should position him or herself so that emerging bats will be silhouetted against the sky as they exit the roost. Tallies of emerging bats should be recorded every few minutes or as natural breaks in bat activity allow. Please ensure that surveyor(s) are close enough to the roost to observe all exiting/returning bats, but not close enough to influence emergence (i.e., do not stand directly beneath the roost and do not make unnecessary noise and/or conversation, and minimize use of lights other than a small flashlight to record data, if necessary). Do not shine a light on the roost tree crevice/cave/mine entrance itself as this may prevent or delay bats from emerging. If available, use of an infra-red, night vision, or thermal-imaging video camera or spotting scope and an ultrasonic bat detector are strongly recommended but not required.

Time	Number of Bats Leaving Roost*	Comments / Notes
2031	1-2	Flying near piers at edge of river. Some piers contained suitable roost crevices, but bats not observed leaving crevices. Some bat guano observed beneath crevices. One bat observed flying near second set piers from river. May have emerged from crevice; guano on rock beneath crevice
2031-2040	±10	Up to 10 bats observed flying near bridge. Unknown if bats emerged from bridge.

APPENDIX E: PHASE 4 EMERGENCE SURVEYS

Site Name/#: _____ **Roost Name/#:** _____

Time	Number of Bats Leaving Roost*	Comments / Notes
Total Number of Bats Observed Emerging from the Roost/Feature During the Survey:		

* If any bats return to the roost during the survey, then they should be subtracted from the tally.

Describe Emergence: Did bats emerge simultaneously, fly off in the same direction, loiter, circle, disperse, etc. If a radio-tagged bat was roosting in the tree, at what time did it emerge?

_____

_____

_____

USFWS BAT EMERGENCE SURVEY DATASHEET

Date: 08/12/19 **Surveyor(s) Full Name:** Jennifer Saville / Kevin Stohlgren

State: VA **County:** _____ **Project Name:** _____

Site Name/#: ALB, VA Side **Roost Name/#** _____ **Bat #:** _____

Lat/Long or UTM of Roost: _____

Description of Roost/Habitat Feature Surveyed: American Legion Bridge Abutments + over Potomac River

Bat Species Known to be using this Roost/Feature (if not known, leave blank):

_____

Other Suspected Bat Species (explain): _____

Weather Conditions during Survey (temperature, precipitation, wind speed):
85°, Slight breeze (Beaufort 1), Mostly clear sky

Survey Start Time: 1937 **Time of Sunset:** 2007 **Survey End Time:** 2107

NOTE: Emergence surveys should begin ½ hour before sunset and continue until at least one hour after sunset or until it is otherwise too dark to see emerging bats. The surveyor(s) should position him or herself so that emerging bats will be silhouetted against the sky as they exit the roost. Tallies of emerging bats should be recorded every few minutes or as natural breaks in bat activity allow. Please ensure that surveyor(s) are close enough to the roost to observe all exiting/returning bats, but not close enough to influence emergence (i.e., do not stand directly beneath the roost and do not make unnecessary noise and/or conversation, and minimize use of lights other than a small flashlight to record data, if necessary). Do not shine a light on the roost tree crevice/cave/mine entrance itself as this may prevent or delay bats from emerging. If available, use of an infra-red, night vision, or thermal-imaging video camera or spotting scope and an ultrasonic bat detector are strongly recommended but not required.

Time	Number of Bats Leaving Roost*	Comments / Notes
2015	1	1 bat flew from vacinity of abut
—	—	observed bats continuously until 2047
2041		saw 3 bats @ one time, likely 2 diff.
		spp. Can't tell if they came from
		Bridge tho
2058		spotted 1 bat by flashlight

APPENDIX E: PHASE 4 EMERGENCE SURVEYS

Site Name/#: ALB, VA Side **Roost Name/#:** _____

Time	Number of Bats Leaving Roost*	Comments / Notes
Total Number of Bats Observed Emerging from the Roost/Feature During the Survey:		

* If any bats return to the roost during the survey, then they should be subtracted from the tally.

Describe Emergence: Did bats emerge simultaneously, fly off in the same direction, loiter, circle, disperse, etc. If a radio-tagged bat was roosting in the tree, at what time did it emerge?

Bats continuously circled around bridge piers on land, Did not see much activity over water
Both observers located ~~~50ft from 2nd pier towards wat~~ between 2nd + 3rd pier (closest to H_2O) ~50ft from 2nd pier

USFWS BAT EMERGENCE SURVEY DATASHEET

Date: 8/13/19 **Surveyor(s) Full Name:** David Smith, Jennifer Saville, Kevin Stahlgren, Amanda Crue
State: MD **County:** Montgomery **Project Name:** I-495/270 Managed Lanes Study
Site Name/#: NWB Anacostia **Roost Name/#** _____ **Bat #:** _____
Lat/Long or UTM of Roost: _____
Description of Roost/Habitat Feature Surveyed: Bridge Abutments, piers, + bottom of bridge Deck
Bat Species Known to be using this Roost/Feature (if not known, leave blank):
_____
Other Suspected Bat Species (explain): _____
Weather Conditions during Survey (temperature, precipitation, wind speed):
80°, very slight breeze (Beaufort 1), slightly overcast, rain earlier in day
Survey Start Time: 1936 **Time of Sunset:** 2006 **Survey End Time:** 2037

NOTE: Emergence surveys should begin ½ hour before sunset and continue until at least one hour after sunset or until it is otherwise too dark to see emerging bats. The surveyor(s) should position him or herself so that emerging bats will be silhouetted against the sky as they exit the roost. Tallies of emerging bats should be recorded every few minutes or as natural breaks in bat activity allow. Please ensure that surveyor(s) are close enough to the roost to observe all exiting/returning bats, but not close enough to influence emergence (i.e., do not stand directly beneath the roost and do not make unnecessary noise and/or conversation, and minimize use of lights other than a small flashlight to record data, if necessary). Do not shine a light on the roost tree crevice/cave/mine entrance itself as this may prevent or delay bats from emerging. If available, use of an infra-red, night vision, or thermal-imaging video camera or spotting scope and an ultrasonic bat detector are strongly recommended but not required.

Time	Number of Bats Leaving Roost*	Comments / Notes
2003		1st bat, Tricolor?
2014		3 bats near bridge
2030		Activity dies down

Site Name/#: NWB Anacostia Bridg. **Roost Name/#:** _____

Time	Number of Bats Leaving Roost*	Comments / Notes
Total Number of Bats Observed Emerging from the Roost/Feature During the Survey:		

* If any bats return to the roost during the survey, then they should be subtracted from the tally.

Describe Emergence: Did bats emerge simultaneously, fly off in the same direction, loiter, circle, disperse, etc. If a radio-tagged bat was roosting in the tree, at what time did it emerge?

First bats observed ~2023. One appeared to drop down from bridge. Observed only 2-3 bats @ any given time btw 2023 - 2035 circling under bridge + near piers. Bats most active btw 2010 and 2025.

Difficult to see bridge completely b/c of dense forest on hill slopes. Bridge expanse is short, but very high over deep valley

USFWS BAT EMERGENCE SURVEY DATASHEET

Date: 13 Aug 2019 **Surveyor(s) Full Name:** David Smith

State: MD **County:** MO **Project Name:** I-495 NLS

Site Name/#: NW Branch Bridge about mi **Roost Name/#** _____ **Bat #:** _____

Lat/Long or UTM of Roost: _____

Description of Roost/Habitat Feature Surveyed: _____

_____

Bat Species Known to be using this Roost/Feature (if not known, leave blank):

_____

Other Suspected Bat Species (explain): _____

Weather Conditions during Survey (temperature, precipitation, wind speed):

88°F, humid, partly cldy, calm to light winds - 1 on Beaufort

Survey Start Time: 1933 **Time of Sunset:** 2006 **Survey End Time:** 2036

NOTE: Emergence surveys should begin ½ hour before sunset and continue until at least one hour after sunset or until it is otherwise too dark to see emerging bats. The surveyor(s) should position him or herself so that emerging bats will be silhouetted against the sky as they exit the roost. Tallies of emerging bats should be recorded every few minutes or as natural breaks in bat activity allow. Please ensure that surveyor(s) are close enough to the roost to observe all exiting/returning bats, but not close enough to influence emergence (i.e., do not stand directly beneath the roost and do not make unnecessary noise and/or conversation, and minimize use of lights other than a small flashlight to record data, if necessary). Do not shine a light on the roost tree crevice/cave/mine entrance itself as this may prevent or delay bats from emerging. If available, use of an infra-red, night vision, or thermal-imaging video camera or spotting scope and an ultrasonic bat detector are strongly recommended but not required.

Time	Number of Bats Leaving Roost*	Comments / Notes
2006	1	Appeared to drop out of bridge W side
		NW Br. above W most bridge pier.
		App. to be small bat.
2014	1	Foraging beneath bridge on W side
		NW Br.
2017	1	Larger bat foraging on US side bridge
		W NW Br.

APPENDIX E: PHASE 4 EMERGENCE SURVEYS

Site Name/#: _____ **Roost Name/#:** _____

Time	Number of Bats Leaving Roost*	Comments / Notes
Total Number of Bats Observed Emerging from the Roost/Feature During the Survey:		

* If any bats return to the roost during the survey, then they should be subtracted from the tally.

Describe Emergence: Did bats emerge simultaneously, fly off in the same direction, loiter, circle, disperse, etc. If a radio-tagged bat was roosting in the tree, at what time did it emerge?

_____

_____

_____