

August 2, 2021

Terracon

Thomas & Hutton
615 Main Street, Suite 124
Nashville, Tennessee 37206

Attn: Chad Grass, P.E.
P: (912) 429-8349
E: grass.c@tandh.com

Re: Threatened and Endangered Species Habitat Assessment
White House Business Park
NEQ of Union Road and Melton Road
White House, Robertson County, Tennessee
Terracon Project No. 18217124A

Dear Mr. Grass:

Terracon is pleased to submit this Threatened and Endangered (T&E) Species Habitat Assessment report addressing federal Endangered Species Act (ESA) compliance requirements as they may affect work activities on the above referenced project site. It is the opinion of Terracon that further consultation with the United States Fish and Wildlife Service (USFWS), the Tennessee Natural Heritage Program (TN NHP), and the Tennessee Wildlife Resources Agency (TWRA) should be completed regarding the currently proposed impacts to potentially suitable habitat for the following species: streamside salamander (*Ambystoma barbouri*), redlips darter (*Etheostoma maydeni*), Indiana bat (*Myotis sodalis*), northern long-eared bat (*Myotis septentrionalis*), tri-colored bat (*Perimyotis subflavus*), tan riffleshell (*Epioblasma walkeri*), slabside pearl mussel (*Pleuroanaia dolabelloides*), brown bog sedge (*Carex buxbaumii*), Fetter-bush (*Leucothoe racemosa*), yellow water-crowfoot (*Ranunculus flabellaris*), sweetscent ladies'-tresses (*Spiranthes odorata*), and white water-buttercup (*Ranunculus aquatilis* var. *diffusus*).

If there are any questions regarding this report or if we may be of further assistance, please do not hesitate to contact us.

Sincerely,
Terracon Consultants, Inc.



Caitlan N. Howard
Staff Geologist



Terracon Consultants, Inc. 5217 Linbar Drive, Ste 209 Nashville, TN 37214
P [615] 333-6444 F [615] 333-6443 www.terracon.com

Geotechnical

Environmental

Construction Materials

Facilities

Threatened and Endangered Species Habitat Assessment Report

White House Business Park
NEQ of Union Road and Melton Road
White House, Robertson County, Tennessee

August 2, 2021

Terracon Project No. 18217124A



Prepared for:

Thomas & Hutton
Nashville, Tennessee

Prepared by:

Terracon Consultants, Inc.
Nashville, Tennessee

terracon.com

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Environmental



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Geotechnical



Materials

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1.0 INTRODUCTION

Terracon Consultants, Inc. (Terracon) was retained by Thomas & Hutton (client) to perform a Threatened and Endangered (T&E) Species Habitat Assessment, in accordance with our proposal dated April 19, 2021. The project site is approximately 207.93 acres and is identified as Parcels 117 058.04, 117 058.05, 117 058.06, and 117 059.00. The site consists of agricultural farmland, stands of trees along fence lines, three ponds, and two wooded areas in the southwest corner and near the northern boundary of the site. The center of the subject property is located at approximately 36.453219° N latitude and 86.687388° W longitude using the NAD83 datum. The site is planned for the proposed development of an industrial park. The location of the site is illustrated on a topographic map in Exhibit 1; an aerial photograph with approximate habitat locations in Exhibit 2; and site plans are shown in Exhibit 3. Exhibits are included in Appendix A.

2.0 SCOPE OF SERVICES

The purpose of performing a T&E species habitat assessment was to characterize the existing site conditions, observe the site for listed T&E species and their habitats, and provide an opinion regarding whether or not the proposed work activities onsite have the potential to negatively affect listed T&E species and/or their habitat.

3.0 SITE DESCRIPTION AND PRELIMINARY DATA GATHERING

The site consisted of two residences, Moss Branch, Mill Branch, a tributary of Mill Branch, and agricultural farmland prior to 1950. The southwestern residence was razed prior to 1971; a pole barn and a residence were constructed in 1973; and three ponds were excavated prior to 1974. The gravel-covered storage/laydown yard in the northern portion of the site has been present since at least 1980. Prior to 2006, the southern portion of the tributary of Mill Branch on the eastern portion of the site was filled, and a small road was constructed over a section of Moss Branch. Large earthen mounds observed at the site have been present since at least 2016. Based on a review of the USGS *White House, Tennessee* 7.5-minute topographic quadrangle map, the site ranges in elevation from approximately 790 feet to 860 feet above mean sea level with topography generally sloping to the south. The site is within the Sulphur Fork Watershed (HUC05130206003). During a concurrently conducted Preliminary Waters Assessment, Terracon personnel identified the presence of three perennial streams (S1-S2, and S4) totaling approximately 2,995 feet in length, three intermittent streams (S3, and S5-S6) totaling approximately 772 feet in length, six wet weather conveyances (WWC1-WWC6) totaling approximately 670 feet in length, and seven wetlands (WTLD1-WTLD6 and LW) totaling approximately 4.4 acres. While conducting field work for the T&E Species Habitat Assessment, Terracon personnel observed the following additional

habitat types: three ponds (Pond1-Pond3), three wooded areas (Woods1-Woods3), and two fields (Field1-Field2).

The first perennial stream (S1) consists of approximately 2,193 feet of onsite channel enters the site at a fence line at the northern boundary of the site at approximately 36.458493° N latitude and 86.686532° W longitude and ends where it submerges underground at approximately 36.455557° N latitude and 86.690352° W longitude. The second perennial stream (S2) consists of approximately 676 feet of onsite channel enters the site through a box culvert that runs northwest-southeast under Melton Road at the southern boundary of the site at approximately 36.447797° N latitude and 86.688319° W longitude and exits the site through a fence line near the southwestern corner of the site at approximately 36.447266° N latitude and 86.690218° W longitude. The third perennial stream (S4) consists of approximately 126 feet of onsite channel enters the site through a fence line at the southeastern corner of the site at approximately 36.449347° N latitude and 86.683198° W longitude and exits the site through a culvert that runs northeast-southwest under Melton Road at the southern boundary of the site at approximately 36.449325° N latitude and 86.683630° W longitude.

The first intermittent stream (S3) consists of approximately 42 feet of channel and starts where WWC2 ends at approximately 36.448008° N latitude and 86.688594° W longitude and ends where it discharges into S2 at approximately 36.447899° N latitude and 86.688653° W longitude. The second intermittent stream (S5) consists of approximately 77 feet of channel and begins at the western boundary of WTL4 at approximately 36.455127° N latitude and 86.688000° W longitude and ends where it discharges into S1 at approximately 36.455253° N latitude and 86.688193° W longitude. The third intermittent stream (S6) consists of approximately 653 feet of onsite channel and emerges at approximately 36.451417° N latitude and 86.690161° W longitude and exits the site through a fence line at the southwestern boundary of the site at approximately 36.449932° N latitude and 86.690364° W longitude.

The first wet weather conveyance (WWC1) consists of approximately 147 feet of channel and starts at approximately 36.448214° N latitude and 86.689683° W longitude and leaves the site at approximately 36.447846° N latitude and 86.689825° W longitude. The second wet weather conveyance (WWC2) consists of approximately 113 feet of channel and starts at approximately 36.448305° N latitude and 86.688534° W longitude and ends where S3 starts at approximately 36.448008° N latitude and 86.688594° W longitude. The third wet weather conveyance (WWC3) consists of approximately 32 feet of channel and starts at approximately 36.449421° N latitude and 86.683343° W longitude and ends where it converges with S4 at approximately 36.449315° N latitude and 86.683382° W longitude. The fourth wet weather conveyance (WWC4) consists of approximately 44 feet of channel and starts at the northwestern boundary of WTL4 at approximately 36.455337° N latitude and 86.687996° W longitude and ends where it converges with S1 at approximately 36.455359° N latitude and 86.688174° W longitude. The fifth wet weather conveyance (WWC5) consists of approximately 44 feet of channel and starts at the northwestern boundary of WTL6 at approximately 36.454720° N latitude and 86.688047° W

longitude and ends at Pond 2 at approximately 36.454880° N latitude and 86.688027° W longitude. The sixth wet weather conveyance (WWC6) consists of approximately 290 feet of onsite channel and starts where S1 submerges at approximately 36.455557° N latitude and 86.690352° W longitude and exits the site through a culvert at approximately 36.456260° N latitude and 86.690796° W longitude.

The first wetland (WTLD1) is approximately 0.003 acres in area and is located east of S1 (center coordinates: 36.455920° N, 86.687547° W). The second wetland (WTLD2) is approximately 0.129 acres in area and is located southeast of WTLD1 (center coordinates: 36.455564° N, -86.687647° W). The third wetland area (WTLD3) is approximately 0.433 acres in area and is located in a cultivated wheat field near the center of the site (center coordinates: 36.452278° N, -86.686097° W). The fourth wetland area (WTLD4) is approximately 0.188 acres in area and is located immediately northeast of Pond2 (center coordinates: 36.455201° N, -86.687854° W). The fifth wetland (WTLD5) is approximately 0.324 acres in area and is located immediately east of Pond3 (center coordinates: 36.454474° N, -86.688891° W). The sixth wetland area (WTLD6) is approximately 0.459 acres in size and is located immediately southeast of WWC5 (center coordinates: 36.454684° N, -86.687734° W). The seventh wetland area (LW – Linear Wetland) is approximately 2.883 acres in size and is located in the eastern portion of the site (center coordinates: 36.453264° N, -86.683787° W).

The first wooded area (Woods1) is located in the northwestern portion of the site (center coordinates: 36.457214° N, 86.686658° W), and the second wooded area (Woods2) is located in the southwestern corner of the site (center coordinates: 36.447722° N, -86.689597° W). The vegetative communities for Woods1 and Woods 2 included: shagbark hickory (*Carya ovata*), black walnut (*Juglans nigra*), American sycamore (*Platanus occidentalis*), pawpaw (*Asimina triloba*), red maple (*Acer rubrum*), American beech (*Fagus grandifolia*), poison ivy (*Toxicodendron radicans*), muscadine (*Vitis rotundifolia*), and multiflora rose (*Rosa multiflora*). The third wooded area (Woods3) encompasses LW (center coordinates: 36.453264° N, 86.683787° W). The vegetative community for Woods 3 includes: green ash (*Fraxinus pennsylvanica*), silver maple (*Acer saccharinum*), sweetgum (*Liquidambar styraciflua*), red maple (*Acer rubrum*), American elm (*Ulmus Americana*), black willow (*Salix nigra*), trumpet creeper (*Campsis radicans*), orange jewel weed (*Impatiens capensis*), giant goldenrod (*Solidago gigantea*), common fox sedge (*Carex vulpinoidea*), and poison ivy (*Toxicodendron radicans*).

The first pond (Pond1) is located in the northern portion of the site (center coordinates: 36.459312° N, 86.687545° W). The second pond (Pond2) is located east of the southern portion of S1 (center coordinates: 36.455030° N, 86.687974° W). The third pond (Pond3) is located west of Pond1 (center coordinates: 36.454823° N, 86.689256° W).

The first field (Field1) is located in the western portion of the site (center coordinates: 36.450984° N, 86.690027° W). The vegetative community for Field1 included: perennial rye grass (*Lolium perenne*), prairie buttercup (*Ranunculus platensis*), and white clover (*Trifolium repens*). The

second field (Field2) is located in the north-central portion of the site (central coordinates: 36.454608° N, 86.686679° W). The vegetative community for Field2 included: Bradford pear (*Pyrus calleryana*), perennial rye grass (*Lolium perenne*), broom sedge (*Andropogon virginicus*), multiflora rose (*rosa multiflora*), and sawtooth blackberry (*Rubus argutus*).

Before conducting the field assessment, Terracon personnel completed a data search of federally endangered/threatened species listed in the area. Terracon accessed the United States Fish and Wildlife Service (USFWS) Information, Planning, and Conservation (IPaC) decision support system. Additionally, Terracon sought consultation with the Tennessee Natural Heritage Program (TN NHP) and the Tennessee Wildlife Resources Agency (TWRA) to include state listed species in this Habitat Assessment. The above-mentioned agencies identified 13 threatened or endangered species with the potential to be present within Robertson County.

4.0 HABITAT ASSESSMENT

Terracon conducted site visits on May 17-20, 2021. The purpose of the site visits was to evaluate the existing site conditions, perform stream and wetland delineations, observe the site for listed T&E species and/or their habitats, and provide an opinion regarding whether or not the proposed development activities on-site would have an impact on listed T&E species. The USFWS website (<http://ecos.fws.gov/ipac>) was used to identify the project boundaries and the federally listed threatened or endangered species for this project area. Each of the species is discussed further below.

Vertebrate Animals

Amphibians

Streamside salamander (*Ambystoma barbourin*) is listed as endangered by the State of Tennessee. Streamside salamanders inhabit seasonally flowing karst streams in middle Tennessee.

(https://animaldiversity.org/accounts/Ambystoma_barbouri/)

Terracon personnel observed the presence of suitable habitat for the streamside salamander as S1 can be described as a seasonally flowing karst stream. No individuals of this species were observed. Pictures of the above-listed feature are included in Appendix B.

Fish

Redlips darter (*Etheostoma maydeni*) is listed as endangered by the State of Tennessee. Primary habitat for the redlips darter consists of slow-moving large creeks and rivers in pools.

(https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.1079255/Etheostoma_maydeni)

Terracon personnel observed the presence of suitable habitat for the redlips darter consisting of S1, S2, and S4. No individuals of this species were observed. Pictures of the above-listed features are included in Appendix B.

Mammals

Gray bat (*Myotis grisescens*) is listed as endangered by the USFWS. With rare exceptions, gray bats live in caves year-round. During the winter gray bats hibernate in deep, vertical caves. In the summer, they roost in caves which are near rivers. These caves are located in limestone karst areas of the Southeastern United States. They do not typically roost in houses or barns. (https://www.fws.gov/midwest/endangered/mammals/grbat_fc.html).

Northern long-eared bat (*Myotis septentrionalis*) is listed as threatened by the USFWS. Northern long-eared bats spend winter hibernating in caves and mines, called hibernacula. During the summer, northern long-eared bats roost singly or in colonies underneath tree bark, in cavities or in crevices of both live trees and snags (dead trees). This bat species has also been found rarely roosting in structures, like barns and sheds. Like most bats, northern long-eared bats emerge at dusk to feed.
(<https://www.fws.gov/midwest/endangered/mammals/nleb/nlebFactSheet.html>).

Indiana bat (*Myotis sodalis*) is listed as endangered by the USFWS. Indiana bats hibernate during winter in caves, or occasionally, in abandoned mines. For hibernation, they require cool, humid caves with stable temperatures, under 50° F, yet above freezing. After hibernation, Indiana bats migrate to their summer habitat in wooded areas where they typically roost under loose tree bark on living or dead trees.
(<http://www.fws.gov/midwest/Endangered/mammals/inba/inbafactsht.html>).

Tri-colored bat (*Perimyotis subflavus*) is listed as threatened by the State of Tennessee. Tri-colored bats generally inhabit forested landscapes but may roost near forest openings.
(<https://www.fws.gov/southeast/pdf/fact-sheet/tri-colored-bat.pdf>).

While on-site, Terracon personnel observed the presence of trees that may provide summer roosting habitat for the Indiana bat, northern long-eared bat, and tri-colored bats; however no suitable habitat was observed for the gray bat as no caves were observed onsite. Potential summer roosting trees observed included loose barked trees such as black willows (*Salix nigra*), sycamores (*Platanus occidentalis*), shagbark hickories (*Carya ovata*), white oaks (*Quercus alba*), and trees, both dead and alive, with snags and/or scaling bark. No individuals of these species were observed. Photographs of some of the above-mentioned summer roosting habitat trees are included in Appendix B.

Invertebrate Animals

Mussels

Tan riffleshell (*Epioblasma walkeri*) is listed as endangered by the State of Tennessee. It inhabits river headwaters in sand and gravel substrates.

(https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.113818/Epioblasma_walkeri)

Slabside pearlymussel (*Pleuonaia dolabelloides*) is listed as endangered by the State of Tennessee. It inhabits large creeks to moderate-sized rivers in sand, fine gravel, and cobble substrates.

(https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.106952/Pleuonaia_dolabelloides)

During the site visit, Terracon personnel observed suitable habitat for the tan riffleshell and slabside pearlymussel consisting of S1, S2, and S4. No individuals of these species were observed. Pictures of the above-listed features are included in Appendix B.

Vascular Plants

Wet Habitat species

Brown bog sedge (*Carex buxbaumii*) is listed as threatened by the USFWS. It inhabits swamps.

(https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.144092/Carex_buxbaumii)

Fetter-bush (*Leucothoe racemosa*) is listed as threatened by the State of Tennessee. It inhabits acidic wetlands and swamps.

(https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.152174/Leucothoe_racemosa)

Yellow water-crowfoot (*Ranunculus flabellaris*) is listed as threatened by the State of Tennessee. It inhabits ponds and marshes.

(https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.157274/Ranunculus_flabellaris)

Sweetscent Ladies'-tresses (*Spiranthes odorata*) is listed as endangered by the State of Tennessee. It inhabits swamps and pond margins.

(https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.140657/Spiranthes_odorata)

White Water-buttercup (*Ranunculus aquatilis* var. *diffuses*) is listed as endangered by the State of Tennessee. It inhabits ponds and streams.

(https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.152207/Ranunculus_aquatilis)

Terracon personnel observed suitable habitat for the above-listed wet habitat species consisting of WTLD1-WTLD2, WTLD4-6, and Pond1-Pond3. No individuals of these species were observed. Photographs of the above-mentioned features are included in Appendix B.

No other threatened or endangered species were listed in the IPaC Report or the TDEC Threatened and Endangered Species List for Robertson County.

5.0 FINDINGS

Based on the results of the resource review and the preliminary site visit, it is Terracon's opinion that the project site provides no suitable habitat for the following threatened or endangered species: gray bat (*Myotis grisescens*).

Potential roosting habitat for the Indiana bat, northern long-eared bat, and the tri-colored bat consisting of trees with snags and exfoliating bark was observed within the project site. Terracon recommends further consultation with the United States Fish and Wildlife Service (USFWS) and the Tennessee Wildlife Resources Agency (TWRA) for planning purposes. Terracon also recommends scheduling site clearing activities between October 15 and March 31 to avoid the bat summer roosting season.

Additionally, Terracon personnel observed suitable habitat for the following threatened or endangered species: streamside salamander (*Ambystoma barbouri*), redlips darter (*Etheostoma maydeni*), tan riffleshell (*Epioblasma walkeri*), slabside pearlymussel (*Pleuroaia dolabelloides*), brown bog sedge (*Carex buxbaumii*), Fetter-bush (*Leucothoe racemosa*), yellow water-crowfoot (*Ranunculus flabellaris*), sweetscent ladies'-tresses (*Spiranthes odorata*), and white water-buttercup (*Ranunculus aquatilis* var. *diffuses*).

According to Terracon's review of the Conceptual Master Development Plan dated December 2019, the following on-site T&E species habitats have potential proposed impacts:

- A proposed road will cross WWC6 which may be providing suitable habitat for the streamside salamander (*Ambystoma barbouri*).
- A proposed road will cross S1 which may be providing suitable habitat for the redlips darter (*Etheostoma maydeni*), tan riffleshell (*Epioblasma walkeri*), and slabside pearlymussel (*Pleuroaia dolabelloides*).
- A proposed road may impact three of the wetland areas (WTLD4-WTLD6) that may be providing suitable habitat for the brown bog sedge (*Carex buxbaumii*), Fetter-bush (*Leucothoe racemosa*), yellow water-crowfoot (*Ranunculus flabellaris*), sweetscent ladies'-tresses (*Spiranthes odorata*), and white water-buttercup (*Ranunculus aquatilis* var. *diffuses*).

Terracon recommends seeking further consultation with the USFWS, TN NHP, and TWRA to determine if further investigation is warranted at the site regarding the above-listed potential impacts.

Tables



Table 1
Federal and State Listed Protected Species for Robertson County, Tennessee
Robertson County Business Park
White House, Robertson County, Tennessee

Type	Scientific Name	Common Name	Fed. Status	State Status	Habitat	Habitat Present	Species Observed
State List							
Vertebrate Animal	<i>Ambystoma barbouri</i>	Streamside Salamander	-	E	Seasonally flowing karst streams; middle Tennessee.	Y	N
Vertebrate Animal	<i>Etheostoma maydeni</i>	Redlips Darter	-	E	Found in slow-moving large creeks and rivers in pools along the banks strewn with boulders and woody debris.	Y	N
Vertebrate Animal	<i>Perimyotis subflavus</i>	Tri-colored bat	-	T	Generally associated with forested landscapes but may roost near openings.	Y	N
Invertebrate Animal	<i>Epioblasma walkeri</i>	Tan Riffleshell	-	E	Found in river headwaters, in riffles and shoals in sand and gravel substrates; Tennessee & Cumberland river systems.	Y	N
Invertebrate Animal	<i>Pleuroaia dolabelloides</i>	Slabside Pearlymussel		E	Lg creeks to mod sized rivers, in riffles/shoals of sand, fine gravel, and cobble substrates with mod current; Tennessee R watershed.	Y	N
Vascular Plant	<i>Carex buxbaumii</i>	Brown Bog Sedge	-	E	Swamps	Y	N
Vascular Plant	<i>Leucothoe racemosa</i>	Fetter-bush	-	T	Acidic Wetlands And Swamps	Y	N
Vascular Plant	<i>Ranunculus flabellaris</i>	Yellow Water-crowfoot	-	T	Ponds And Marshes	Y	N
Vascular Plant	<i>Spiranthes odorata</i>	Sweetscent Ladies'-tresses	-	E	Swamps, Pond Margins	Y	N
Vascular Plant	<i>Ranunculus aquatilis var. diffuses</i>	White Water-buttercup	-	E	Ponds and streams	Y	N
Federal List							
Vertebrate Animal	<i>Myotis grisescens</i>	Gray Bat	LE	-	Cave obligate year-round; frequents forested areas; migratory.	N	N
Vertebrate Animal	<i>Myotis septentrionalis</i>	Northern Long-eared Bat	LT	-	Hibernates in caves; spring/summer maternity roosts are normally under the bark of standing trees.	Y	N
Vertebrate Animal	<i>Myotis sodalis</i>	Indiana Bat	LE	-	Hibernates in caves; spring/summer maternity roosts are normally under the bark of standing trees.	Y	N

Federal Status: LE Taxon is threatened by extinction throughout all or a significant portion of its range
 LT Taxon is likely to become an endangered species in the foreseeable future
 PE Taxon proposed for listing as endangered

APPENDIX A

Exhibits

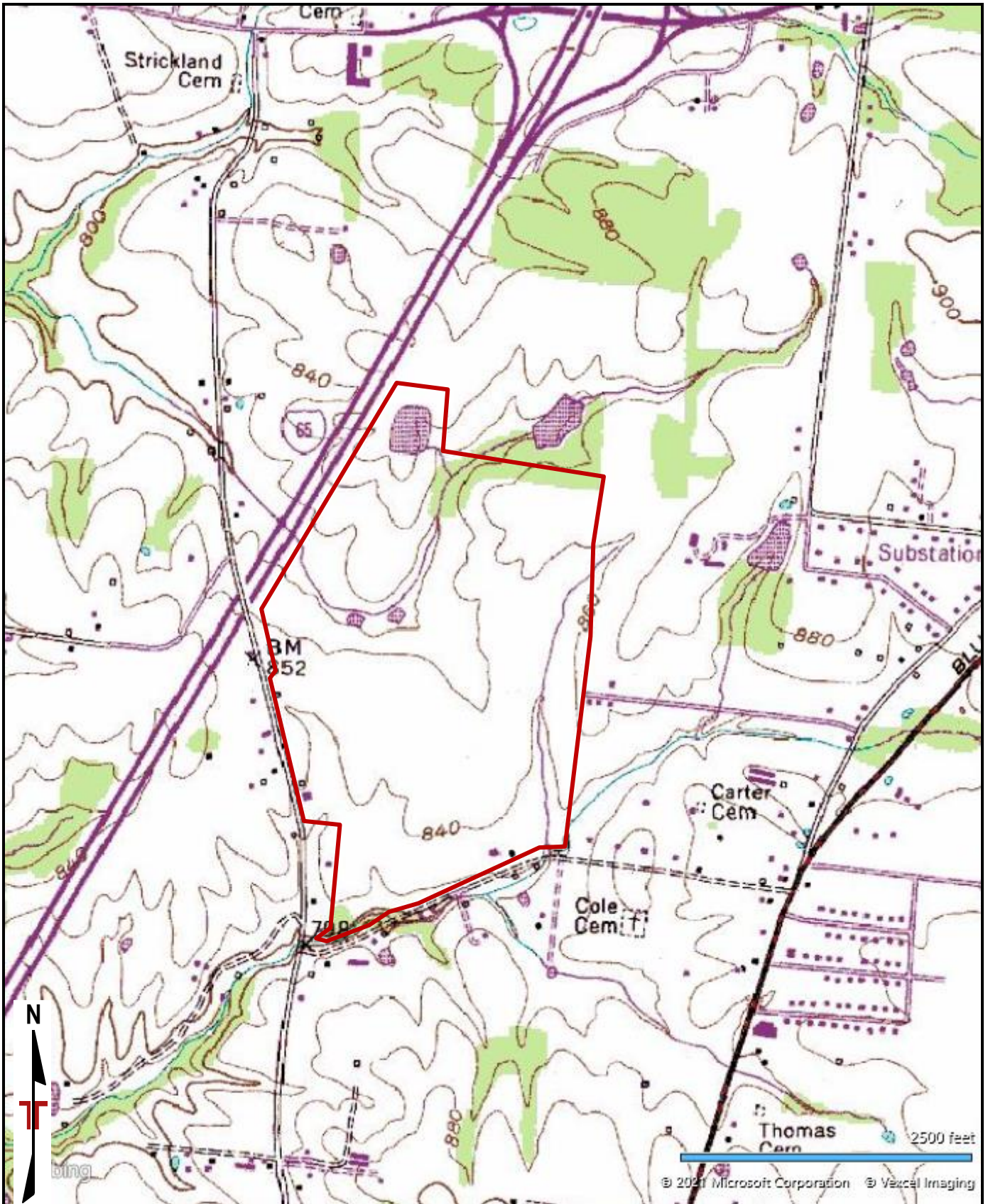


DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT
INTENDED FOR CONSTRUCTION PURPOSES

UNITED STATES GEOLOGIC SURVEY, 7.5-MINUTE MAP,
WHITE HOUSE, TENNESSEE QUADRANGLE, 1981

Project Mgr.	AMH
Drawn by:	CNH
Reviewed by:	AMH
Approved by:	AMH
Project No.	18217124B
Scale:	Not to Scale
File Name:	EX1
Date:	05/11/2021

Terracon
Consulting Engineers & Scientists

5217 Linbar Drive, Suite 309 Nashville, Tennessee 37211
PH. (615) 333-6444 FAX. (615) 333-6443

TOPOGRAPHIC MAP

White House Business Park
NEQ of Union Road and Melton Road
White House, Robertson County, Tennessee

EX

1

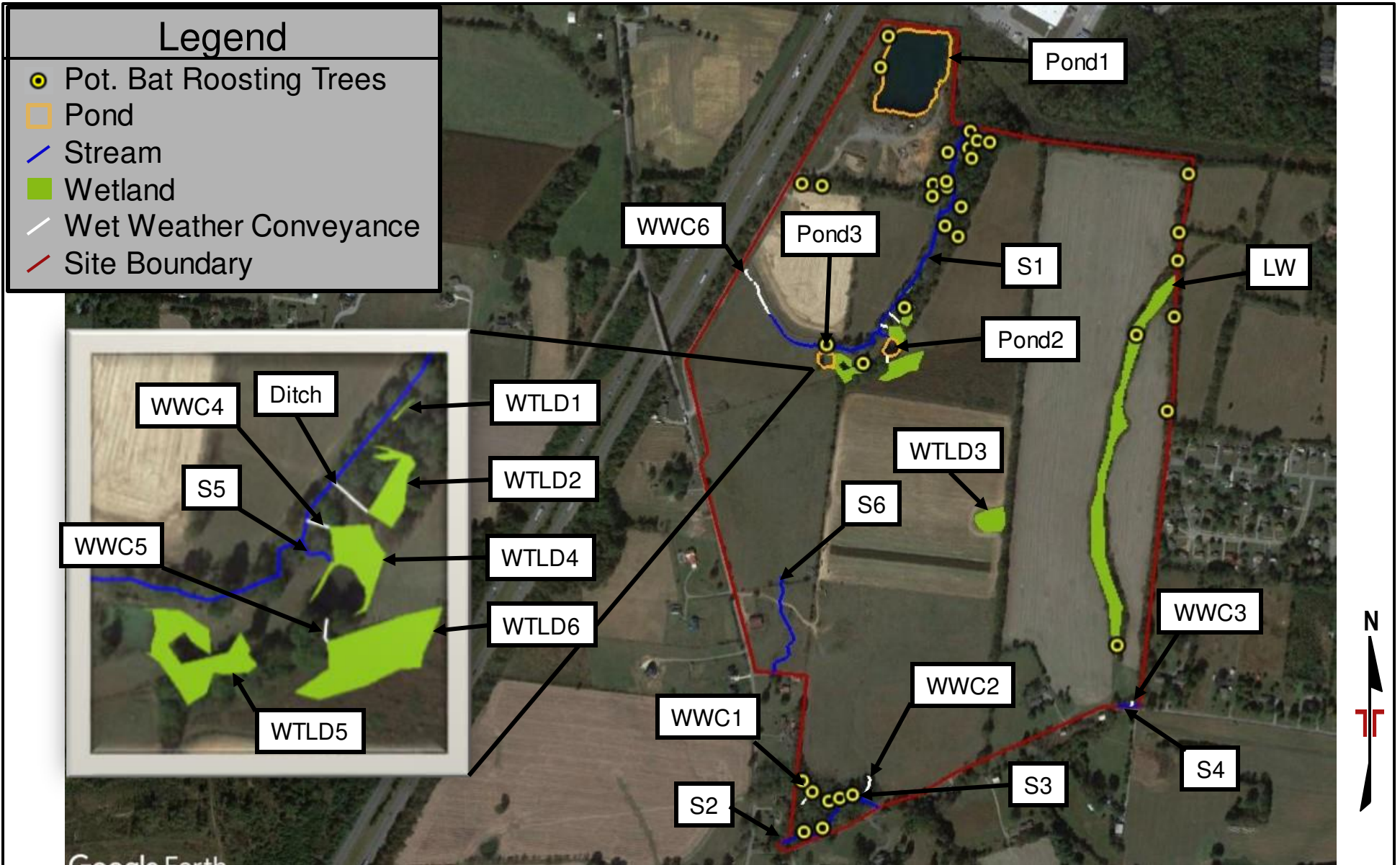


DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

Project Manager:
AMH
Drawn by:
CNH
Checked by:
AMH
Approved by:
AMH

Project No.
18217124B
Scale:
Not to Scale
File Name:
EX2
Date:
06/13/2021

Terracon
Consulting Engineers & Scientists
5217 Linbar Drive, Suite 309 Nashville, Tennessee 37211
PH. (615) 333-6444 FAX (615) 333-6443

Aerial Map
White House Business Park
NEQ of Union Road and Melton Road
White House, Robertson County, Tennessee

Exhibit
2



CONCEPTUAL MASTER DEVELOPMENT PLAN
WHITE HOUSE PROSPECTIVE INDUSTRIAL PROPERTY
WHITE HOUSE, ROBERTSON COUNTY, TENNESSEE

Created in December, 2019 By:

THE VALLEY
WORKS



APPENDIX B

Site Photographs



Photo 1 Downstream view of S1.



Photo 2 Upstream view of S2.



Photo 3 Downstream view of S4.



Photo 4 Upstream view of S3.



Photo 5 Upstream view of S5.



Photo 6 Upstream view of S6.



Photo 7 Upstream view of WWC1.



Photo 8 Downstream view of WWC2.



Photo 9 Upstream view of WWC3.



Photo 10 Upstream view of WWC4.



Photo 11 Downstream view of WWC5.



Photo 12 Downstream view of WWC6.



Photo 13 View of WTLD1 looking northeast from its southwestern boundary.



Photo 14 View of WTLD2 looking west from its eastern boundary.



Photo 15 View of WTLD3 looking west from its eastern boundary.



Photo 16 View of WTLD4 looking south from its northern boundary.



Photo 17 View of WTLD5 looking west from its eastern boundary.



Photo 18 View of WTLD6 looking southwest from its northeastern boundary



Photo 19 View of LW looking south from near its northern boundary.



Photo 20 View from within Woods1.



Photo 21 View from within Woods2.



Photo 22 View from within Woods3.



Photo 23 View of Pond1 looking east from its western boundary.



Photo 24 View of Pond2 looking southwest from its northeastern boundary.



Photo 25 View of Pond3 looking south from its northern boundary.



Photo 26 View of Field1 looking east from its northwestern boundary.



Photo 27 View of Field2 looking east from its northwestern boundary.



Photo 28 View of two dead trees with snags (potential summer roosting habitat).



Photo 29 View of a sycamore with exfoliating bark (potential summer roosting habitat).



Photo 30 View of a shagbark hickory with exfoliating bark (potential summer roosting habitat).



Photo 31 View of a black willow with exfoliating bark (potential summer roosting habitat).



Photo 32 View of a white oak with exfoliating bark (potential summer roosting habitat).

White House Business Park ■ White House, Tennessee
Date Pictures Taken: May 17-20, 2021 ■ Terracon Project No. 18217124B



Responsive ■ Resourceful ■ Reliable

APPENDIX C
IPAC Report
TDEC T&E Species List for Robertson County



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Tennessee Ecological Services Field Office
446 Neal Street
Cookeville, TN 38501-4027
Phone: (931) 528-6481 Fax: (931) 528-7075



In Reply Refer To:

May 17, 2021

Consultation Code: 04ET1000-2021-SLI-0779

Event Code: 04ET1000-2021-E-01702

Project Name: Robertson Co. Business Park

Subject: List of threatened and endangered species that may occur in your proposed project location 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.*).

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

www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

[http://](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
 - Migratory Birds
 - 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:

Tennessee Ecological Services Field Office

446 Neal Street

Cookeville, TN 38501-4027

(931) 528-6481

Project Summary

Consultation Code: 04ET1000-2021-SLI-0779

Event Code: 04ET1000-2021-E-01702

Project Name: Robertson Co. Business Park

Project Type: DEVELOPMENT

Project Description: Terracon Consultants, Inc. (Terracon) is addressing certain environmental criteria associated with the proposed construction of a proposed industrial park located in White House, Robertson County, Tennessee. The site consists of agricultural farmland, three ponds, two watercourses, stands of trees along fence lines, and two wooded areas in the southwest corner and near the northern boundary of the site. The location of the project site is shown on the attached Topographic Map, Exhibit 1 (USGS White House, Tennessee 7.5' quadrangle map) and the center of the project site is located at approximately latitude 36.453219° N and longitude 86.687388° W using the NAD83 datum.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@36.4536327,-86.68725724981854,14z>



Counties: Robertson County, Tennessee

Endangered Species Act Species

There is a total of 3 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 Fisheries¹, 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.

-
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
Gray Bat <i>Myotis grisescens</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6329	Endangered
Indiana Bat <i>Myotis sodalis</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/5949	Endangered
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	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.

Migratory Birds

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

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

-
1. The [Migratory Birds Treaty Act](#) of 1918.
 2. The [Bald and Golden Eagle Protection Act](#) of 1940.
 3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

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

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

NAME	BREEDING SEASON
Bald Eagle <i>Haliaeetus leucocephalus</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Sep 1 to Jul 31
Wood Thrush <i>Hylocichla mustelina</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Aug 31

Probability Of Presence Summary

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

Probability of Presence (■)

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

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

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

Breeding Season (■)

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

Survey Effort (|)

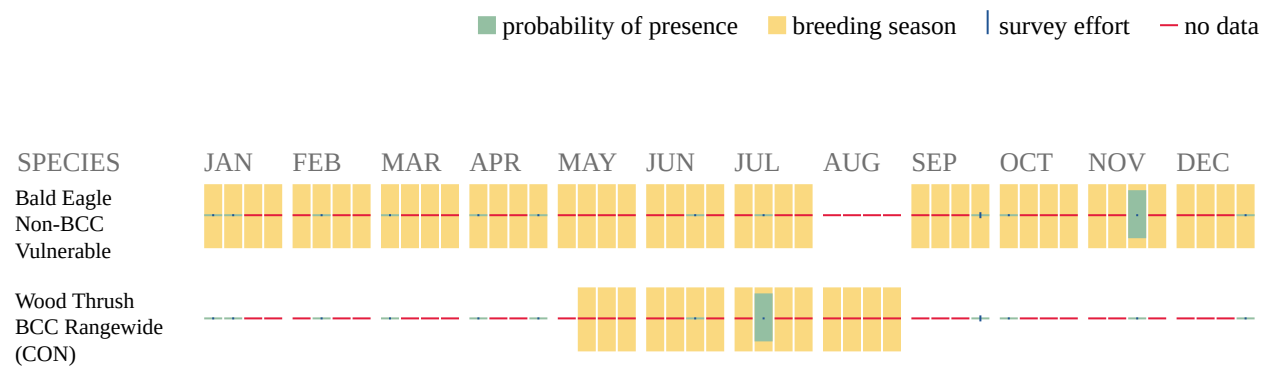
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

No Data (—)

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

Survey Timeframe

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



Additional information can be found using the following links:

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

Migratory Birds FAQ

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

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

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

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

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

occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

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

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

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

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

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

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

What are the levels of concern for migratory birds?

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

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

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can

implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

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

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

What if I have eagles on my list?

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

Proper Interpretation and Use of Your Migratory Bird Report

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

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

- [PEM1A](#)

FRESHWATER FORESTED/SHRUB WETLAND

- [PFO1C](#)

FRESHWATER POND

- [PUBHx](#)

RIVERINE

- [R4SBA](#)
 - [R5UBH](#)
-

**TDEC T&E Species List
for Robertson County**

County	Type	Category	Scientific Name	Common Name	Fed. Status	State Statu	Habitat
Robertson	Vertebrate Animal	Amphibian	Ambystoma barbouri	Streamside Salamander	--	E	Seasonally flowing karst streams; middle Tennessee.
Robertson	Vascular Plant	Flowering Plant	Carex buxbaumii	Brown Bog Sedge	--	E	Swamps
							Found in river headwaters, in riffles and shoals in sand and gravel substrates; Tennessee & Cumberland river systems.
Robertson	Invertebrate Animal	Mollusc	Epioblasma walkeri	Tan Riffleshell	LE	E	Found in slow-moving large creeks and rivers in pools along the banks strewn with boulders and woody debris.
Robertson	Vertebrate Animal	Fish	Etheostoma maydeni	Redlips Darter	--	E	
Robertson	Vascular Plant	Flowering Plant	Leucothoe racemosa	Fetter-bush	--	T	Acidic Wetlands And Swamps
							Cave obligate year-round; frequents forested areas; migratory.
Robertson	Vertebrate Animal	Mammal	Myotis grisescens	Gray Myotis	LE	E	
							Generally associated with forested landscapes but may roost near openings.
Robertson	Vertebrate Animal	Mammal	Perimyotis subflavus	Tri-colored bat	--	T	
							Lg creeks to mod sized rivers, in riffles/shoals of sand, fine gravel, and cobble substrates with mod current;
Robertson	Invertebrate Animal	Mollusc	Pleuroaia dolabelloides	Slabside Pearlymussel	LE	E	Tennessee R watershed.
Robertson	Vascular Plant	Flowering Plant	Ranunculus aquatilis var. diffusus	White Water-buttercup	--	E	Ponds And Streams
Robertson	Vascular Plant	Flowering Plant	Ranunculus flabellaris	Yellow Water-crowfoot	--	T	Ponds And Marshes
Robertson	Vascular Plant	Flowering Plant	Spiranthes odorata	Sweetscent Ladies'-tresses	--	E	Swamps, Pond Margins

APPENDIX D

Agency Correspondence

Howard, Caitlan N

From: Shaw, Ross <ross_shaw@fws.gov>
Sent: Friday, July 2, 2021 10:13 AM
To: Howard, Caitlan N
Cc: Elbert, Daniel C; Sikula, Nicole R; Pelren, David; Tennessee ES, FWS
Subject: RE: 2021-CPA-0455 Terracon and 2021-TA-0954 Terracon (PN 182171248), White House Business Park, Robertson Co, TN

Ms. Caitlan Howard
Staff Geologist
Terracon Consultants, Inc.
5217 Linbar Drive, #309
Nashville, TN 37211

Dear Ms. Howard:

Thank you for your email correspondence of May 24, 2021, regarding proposed construction of an industrial park on 207.93 acres in White House, Robertson County, Tennessee (36.453219° N, -86.687388° W using the NAD83 datum). The site consists of agricultural farmland and includes three ponds, two watercourses, stands of trees along fence lines, and two wooded areas.

You have requested a written response documenting whether the proposed project would affect federally listed endangered or threatened species or their habitats. Based on the information you provided and other information available to us, we are not reasonably certain your project would cause adverse effects to any federally listed species, nor cause "take" of any federally listed animals. However, based on the best available information, suitable habitat does not exist at the proposed project site for federally listed species that are known to occur in Robertson County. Therefore, we do not anticipate listed individuals to exist at this location. Additionally, no critical habitat has been designated that would overlap with the proposed project area. If the project should change, or other new information regarding potential effects to species becomes available that causes an increase in the risk of adverse effects to listed species, please contact this office at your earliest convenience if you would like our further technical assistance.

Thank you for the opportunity to comment on this proposed action. If you have any questions regarding the information we have provided, please do not hesitate to contact me and reference activities 2021-CPA-0455 Terracon and 2021-TA-0954 Terracon regarding this project.

Sincerely,
R. Todd Shaw
Fish & Wildlife Biologist
U.S. Fish and Wildlife Service
Tennessee Field Office
446 Neal Street
Cookeville, Tennessee 38501
Cell Phone: (509) 301-2459



STATE OF TENNESSEE

DEPARTMENT OF ENVIRONMENT AND CONSERVATION

Division of Natural Areas
Natural Heritage Program
William R. Snodgrass Tennessee Tower
312 Rosa L. Parks Avenue, 2nd Floor
Nashville, Tennessee 37243
Phone 615/532-0431 Fax 615/532-0046

June 16, 2021

Caitlan Howard
Terracon Consultants, Inc.
5217 Linbar Drive, Suite 309
Nashville, TN 37211

Subject: White House Business Park
(36.45324, -86.68756)
Robertson County, TN
Rare Species Database Review

Dear Ms. Howard:

Thank you for your correspondence of 11 May 2021 requesting a rare species database review for the proposed industrial park development in White House, Robertson County, Tennessee. The project area is bounded to the south by Melton Road and to the west by Union Road and Interstate 65. It includes three parcels: 074 117 058.04, 074 117 058.05, and 074 117 058.06. Moss Branch crosses the northernmost parcel and Mill Branch crosses the southernmost parcel.

Per your submittal:

Terracon Consultants, Inc. (Terracon) is addressing certain environmental criteria associated with the proposed construction of a proposed industrial park located in White House, Robertson County, Tennessee. The site consists of agricultural farmland, three ponds, two watercourses, stands of trees along fence lines, and two wooded areas in the southwest corner and near the northern boundary of the site.

We have reviewed the state's natural heritage database with regard to the project boundaries, and we find that no rare species have been observed previously within one mile of the project area.

Within four miles of the project area the following rare species have been reported:

Type	Scientific Name	Common Name	Global Rank	St. Rank	Fed. Prot.	St. Prot.	Habitat
Vascular Plant	<i>Collinsia verna</i>	Spring Blue-eyed Mary	G5	S1	--	E	Rich Wet-Mesic Woods
Vertebrate Animal	<i>Ambystoma barbouri</i>	Streamside Salamander	G4	S2	--	E	Seasonally flowing karst streams; middle

Type	Scientific Name	Common Name	Global Rank	St. Rank	Fed. Prot.	St. Prot.	Habitat
							Tennessee.
Vertebrate Animal	<i>Cryptobranchus alleganiensis</i>	Hellbender	G3	S3	No Status	E	Rocky, clear creeks and rivers with large shelter rocks.
Vertebrate Animal	<i>Pituophis melanoleucus melanoleucus</i>	Northern Pinesnake	G4T4	S3	--	T	Well-drained sandy soils in pine/pine-oak woods; dry mountain ridges; E portions of west TN, E to lower elev of the Appalachians.

Division of Natural Areas - Natural Heritage Program has reviewed the location of the proposed project workspace with respect to rare plant species. Based on the habitat within the project area and the type of project, we do not anticipate any impacts to occurrences of rare, threatened, or endangered plant species from this project.

Please note *Ambystoma barbouri* has been observed approximately 2.75 miles northeast of the project area and suitable habitat may be present at this site. Based on proximity, it would be prudent to survey Moss Branch and its tributaries in the project area for *Ambystoma barbouri*.

We ask that you coordinate this project with the Tennessee Wildlife Resources Agency (Region 2, Mike Murdock, 615-781-6581, mike.murdock@tn.gov) to ensure that legal requirements for protection of state listed rare animals are addressed. Additionally, we ask that you contact the U.S. Fish and Wildlife Service Field Office, Cookeville, Tennessee (931-525-4970) for comments regarding federally listed species. Please ensure that best management practices to address erosion and sediment are implemented and maintained during construction activities. Note that the [General Aquatic Resource Alteration Permit](#) states that “use of monofilament-type erosion control netting or blanket is prohibited in the stream channel, stream banks, or any disturbed riparian areas within 30 feet of top of bank.” Where necessary and feasible, we encourage use of biodegradable netting under the CGP (Construction General Stormwater Permit) as well.

Thank you for considering Tennessee’s rare species throughout the planning of this project. Should you have any questions, please do not hesitate to contact me at 615-532-4799 or dillon.blankenship@tn.gov.

Sincerely,

Dillon

Dillon Blankenship | Environmental Review Coordinator
Tennessee Natural Heritage Program