ATTACHMENT A

Modification to Conference Opinion

Extension of Macy Grove Road from North Main Street (NC 150) to Piney Grove Road (SR 1969) in Kernersville, Forsyth County, North Carolina

TIP U-6003
SAW-2018-00393
Service Log #22-229
Service ECOSphere Project Code 2022-0090839

Prepared by:

U.S. Fish and Wildlife Service
Asheville Ecological Services Field Office
160 Zillicoa Street
Asheville, North Carolina 28801

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Janet Mizzi
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INTRODUCTION

This constitutes a modification to the January 4, 2023 *Conference Opinion (CO) for Extension of Macy Grove Road from North Main Street (NC 150) to Piney Grove Road (SR 1969) in Kernersville, Forsyth County, North Carolina.* The U.S. Fish and Wildlife Service (Service) received notification (via email) from Amy Euliss, North Carolina Department of Transportation (NCDOT) on June 29, 2023 on the modification of the project conservation measures. The notification explained the need for modifying the language in several of the conservation measures to accurately reflect project actions. We have reviewed the information and outline the needed modification to the CO below in accordance with section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 - 1543) (Act).

CONSULTATION HISTORY

No changes to the original CO. Additions follow:

- June 29, 2023 – Notice received via email from NCDOT of modified conservation measures.
- July 5, 2023 - Acknowledgement of receipt sent via email from Service to NCDOT.

DESCRIPTION OF THE PROPOSED ACTION AND ACTION AREA

No changes to the original CO, with the exception of changes to detailed language in the conservation measures. The following section provides the updated conservation measures:

Conservation Measures:

CM 1. No blasting will occur at night.

CM 2. NCDOT's Construction Manual 2018 Standard Specifications Section 220 Blasting, or most updated version, will be followed for all blasting activities.

CM 3. Blast monitoring will be required per NCDOT's Section 220 Standard Specifications if within 1,000 feet of a utility or structure and includes, but is not limited to, using seismographs capable of measuring air overpressure and vibration in the vertical, longitudinal, and transverse directions at the closest utility or structure to each blast.

CM 4. Blast mats or over burden will be used for all blasts.

CM 5. NCDOT will implement a tree clearing moratorium during the maternity and fall migratory season (June 1 to October 15) to protect non-volant bats and those building fat reserves and entering hibernation.

CM 6. Tree clearing limits will be clearly denoted on project plans and NCDOT or USACE will ensure that contractors understand the limits.

CM 7. Tree clearing will be minimized to what is required to implement the project safely.

CM 8. NCDOT will not remove trees until ambient temperatures are 50 degrees F or above on the day of removal from April 1 to May 31.

CM 9. Permanent lighting will be downward facing, full cut-off lens light (with the same intensity or less for replacement lighting).

CM 10. Lighting used for nighttime construction will be limited to what is necessary to maintain safety standards. Temporary lighting will only direct light towards active work areas except in instances necessitating balloon lighting.

STATUS OF THE SPECIES

Information provided in the previous CO remains valid.

ENVIRONMENTAL BASELINE

No changes. All original information remains accurate.

EFFECTS OF THE ACTION

Effects analyzed in the CO are still relevant and valid.

CONCLUSION
No changes.

INCIDENTAL TAKE STATEMENT
No changes.

CONSERVATION RECOMMENDATIONS
No changes.

REINITIATION AND CLOSING STATEMENT
No changes.

ATTACHMENT B

Conference Opinion

Extension of Macy Grove Road from North Main Street (NC 150) to Piney Grove Road (SR 1969) in Kernersville, Forsyth County, North Carolina

TIP U-6003
SAW-2018-00393
Service Log #22-229
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Table of Contents

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Consultation History

March 18, 2022:	The North Carolina Department of Transportation (NCDOT) requests informal consultation on U-6003.
March 21, 2022:	The U.S. Army Corps of Engineers (USACE) determined that they are the Federal lead for the project and requests informal consultation.
April 26, 2022:	The U.S. Fish and Wildlife Service (Service) sends questions to USACE on the northern long-eared bat and tricolored bat.
April 27-28, 2022:	The Service and NCDOT discuss tree clearing dates but do not address all questions.
May 17, 2022:	The Service notifies the USACE that the 60-day timeline for informal consultations has passed and will need to be reinitiated when the USACE submits complete project information to the Service.

May 19, 2022:	The USACE requests initiation of informal consultation and includes an updated concurrence request letter (dated May 5, 2022) with a new determination for the northern long-eared bat and additional information on tricolored bat.
May 23, 2022:	The Service submits additional questions to USACE and NCDOT. NCDOT provides responses on the same day.
May 25, 2022:	The Service requests a meeting to discuss outstanding concerns.
May 27, 2022:	The Service, NCDOT, and USACE meet to discuss the project. NCDOT provides additional information for the consultation.
June 6, 2022:	The Service conducts a site visit to the action area.
June 16, 2022:	The Service sends NCDOT and USACE a concurrence letter which concludes informal consultation. However, it does not render concurrence with a "may affect, not likely to adversely affect" conclusion for tricolored bat.
June 23, 2022:	NCDOT provides additional information on blasting and asks additional questions.
July 7, 2022:	The Service responds to questions and recommends another meeting.
July 8, 2022:	The Service, NCDOT, and USACE meet. An NCDOT blasting expert provides information on blasting. The Service recommended a Conference Opinion to address tricolored bat. Decision is put on hold as NCDOT determines whether the project timeline is changing and when tree clearing will be needed. After the meeting, NCDOT notifies USACE of the revised let date, a change in tree clearing conservation measures, and the need for formal consultation.
August 17, 2022:	The Service and USACE discuss initiation of formal consultation. USACE submits the request in writing after a phone call. The Service responds and notes the 135-day deadline for conclusion of consultation is December 30, 2022.
November 14, 2022:	The Service asks USACE and NCDOT if they could add one more conservation measure to the project description.
November 28, 2022:	NCDOT agrees to additional conservation measure.
December 6, 2022:	NCDOT and the Service discuss an existing conservation measure and agree to modify it to reduce adverse effects.
December 8, 2022:	The Service sends the draft conference opinion to USACE and NCDOT for review.
December 12, 2022:	NCDOT sends comments on the draft conference opinion.
December 15, 2022:	USACE sends a question on the draft conference opinion.
December 21, 2022:	The Service answers the USACE's question.
December 22, 2022:	USACE confirms they have no more concerns with the conference opinion.

Informal Consultation

An informal consultation and concurrence letter, completed on June 16, 2022, reviewed all currently listed species within the action area, including Schweinitz's sunflower (*Helianthus schweinitzii*) and northern long-eared bat (*Myotis septentrionalis*). While that consultation determined that the project was not likely to jeopardize the continued existence of the tricolored bat (*Perimyotis subflavus*), it did not conclude that conservation measures would minimize all adverse effects from the project on tricolored bat. As a result, NCDOT requested a conference opinion for tricolored bat as their project is expected to be ongoing after the effective date of a final listing, if one occurs.

In November 2022, the Service updated the consultation range for the northern-long eared bat. This project is no longer within the consultation range for the species, and therefore, section 7 consultation is no longer required for the northern-long eared bat on this project. This finding supersedes information in the June 16, 2022 informal concurrence letter.

Conference Opinion

1. Introduction

This document transmits the Service's Conference Opinion (Opinion) based on the Service's review of the proposed extension of Macy Grove Road and its effects on the tricolored bat in accordance with section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.). The Service received the request for formal conference on August 17, 2022.

This Opinion is based on information in the original concurrence requests NCDOT and USACE submitted on March 18, 2022, revisions submitted on May 5 and 19, 2022, and additional correspondence and meeting notes from May 23 and 27, 2022 and July 8, 2022. A complete administrative record of this consultation is on file at the Asheville Ecological Services Field Office.

On July 5, 2022, the U.S. District Court of the Northern District Court of California vacated the 2019 regulations implementing section 7 of the Endangered Species Act. On September 21, 2022, the Ninth Circuit Court of Appeals granted a request to stay the U.S. District Court of Northern California's July 5, 2022, order that vacated the 2019 Endangered Species Act regulations. As a result, the 2019 regulations are again in effect, and the Service has relied upon the 2019 regulations in rendering this Opinion. However, because the outcome of the legal challenges to 2019 Endangered Species Regulations is still unknown, we considered whether our substantive analyses and conclusions in this consultation would have been different if the pre-2019 regulations were applied. Our analysis included the prior definition of "*effects of the action*," among other prior terms and provisions. We considered all the "*direct and indirect effects*" and the "*interrelated and interdependent activities*" when determining the "*effects of the action*." As a result, we determined the substantive analysis and conclusions would have been the same, irrespective of which regulations applied.

2. Proposed Action

As defined in the Service's section 7 regulations (50 CFR 402.02), "action" means "*all activities or programs of any kind authorized, funded, or carried out, in whole or in part, by Federal agencies in the United States or upon the high seas*." The "action area" is defined as "*all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action*." The direct and indirect effects of the actions and activities must be considered in conjunction with the effects of other past and present Federal, State, or private activities, as well as the cumulative effects of reasonably certain future state or private activities within the action area.

2.1 Action Area

The action area includes the project footprint and a noise buffer. The project footprint is approximately 400 feet (ft) by 5,000 ft long on new alignment between North Main Street and Piney Grove Road. It also includes work on about 600 ft of Linville Springs Road and 100 ft by 1,600 ft of Piney Grove Road. The action area includes a 400-meter (0.25 mile) sound buffer around the project footprint. The action area encompasses approximately 800 acres.

2.2 Project Description

NCDOT proposes extending Macy Grove Road on new alignment from North Main Street (NC 150) to Piney Grove Road (SR 1969) in Kernersville, Forsyth County. The new roadway is needed to relieve congestion by providing west-east traffic circulation, allowing traffic to loop around Kernersville. This is an extension of the Kernersville Loop to accommodate future traffic demands. The project is state-funded, though it requires a Clean Water Act 404 Permit; therefore, the USACE is the designated lead Federal

action agency for section 7 consultation. The let date for construction is November 2023. NCDOT may complete utility relocations prior to the November 2023 let date. There are no bridges in the action area, and NCDOT will not replace the three small culverts (36-inch, 30-inch, and 24-inch diameter) that occur in the action area.

NCDOT estimated the maximum amount of tree clearing to be 12.7 acres over a 0.96-mile-long corridor. Tree clearing will occur along the new road corridor and involve clearing along streams and wetlands. With a let date of November 2023, it is unlikely that the contractor will be able to mobilize and complete tree removal efforts prior to April 1st and avoid adverse effects to bats.

NCDOT will replace and may relocate existing lights at the intersection of Linville Springs Road and Piney Grove Road. NCDOT will add new permanent lighting to the intersection of Macy Grove Road and North Main Street. Night work in the form of grading and paving may occur throughout the construction period. Construction crews need temporary night lighting for safety and visibility.

Blasting may be needed to allow site development. In accordance with blasting specifications, before blasting occurs, NCDOT will remove all overburden material including trees for at least 30 feet (ft) beyond blasting or rock limits, whichever is less. NCDOT blasting operations use minimal charges, blast mats, and overburden which reduce noise to a level less than the pre-blast warning horn. The use of blasting mats helps to contain blasts and suppress noise and dust. Blast mats are less likely to be used for mass blasting, which may be used in areas of high rock.

Operational and maintenance activities for the proposed project include stormwater device maintenance and management; use of the road for transportation by vehicles, bikes, and pedestrians; maintenance of the road, sidewalk, signs, lights, etc.; and other related activities.

2.4 Conservation Measures

CM 1. No blasting will occur at night.
CM 2. NCDOT's Construction Manual 2012 Standard Specifications Section 220 Blasting will be followed for all blasting activities.
CM 3. Blast monitoring will be required per NCDOT's Section 220 Standard Specifications and includes, but is not limited to, using seismographs capable of measuring air overpressure and vibration in the vertical, longitudinal, and transverse directions at the closest utility or structure to each blast.
CM 4. Blast mats will be used for smaller rock removal.
CM 5. NCDOT will implement a tree clearing moratorium during the maternity and fall migratory season (June 1 to October 15) to protect non-volant bats and those building fat reserves and entering hibernation.
CM 6. Tree clearing limits will be clearly denoted on project plans and NCDOT or USACE will ensure that contractors understand the limits.
CM 7. Tree clearing will be minimized to what is required to implement the project safely.
CM 8. NCDOT will not remove trees until ambient temperatures are 50 degrees F or above on the day of removal from April 1 to May 31.
CM 9. Temporary and permanent lighting will be downward facing, full cut-off lens light (with the same intensity or less for replacement lighting).
CM 10. Lighting used for nighttime construction will be limited to what is necessary to maintain safety standards and will only direct light towards active work areas.

2.5 Interrelated and Interdependent Actions

A conference opinion evaluates the effects of a proposed Federal action on species proposed for listing under the Endangered Species Act. For purposes of consultation under section 7 of the Endangered Species Act, the effects of a Federal action on listed species include the direct and indirect effects of the action, plus the effects of interrelated or interdependent actions. "*Interrelated actions are those that are part of a larger action and depend on the larger action for their justification. Interdependent actions are those that have no independent utility apart from the action under consideration*" (50 CFR §402.02).

While this project is not a highway interchange, it is a new road on new alignment and is "*a valuable economic development catalyst*" (Town of Kernersville 2018). Despite this, development activities are likely to occur regardless of the proposed action under consultation, as the Land Use Plan (Town of Kernersville 2018) already zones the area for mixed residential and commercial neighborhoods. Also, development activity does not depend on the action for its justification and has independent utility. Therefore, development activity is not interdependent or interrelated and will not be analyzed as an indirect effect with the effects of the action in this Opinion. No other potential interrelated or interdependent actions were identified.

3. Status of the Tricolored Bat

Scientific Name: *Perimyotis subflavus*
Status: Proposed Endangered
Date of Proposed Listing: September 14, 2022
Critical Habitat: None proposed to be designated

This section summarizes best available data about the life history, population size, and distribution of and threats to the tricolored bat throughout its range that are relevant to formulating an opinion about the action. The Service received a petition to list the tricolored bat as threatened on June 16, 2016. On December 20, 2017, the Service found the petition presented substantial scientific or commercial information indicating that the petitioned action may be warranted. The Service commenced a review (known as a 12-month finding) to determine if listing of the tricolored bat was warranted. The Service proposed to list the tricolored bat as endangered on September 14, 2022, and released the Species Status Assessment (SSA, Service 2022b) in conjunction with that announcement. No conservation or recovery plans exist for this species.

3.1 Life History

Inactive Season

Tricolored bats are an obligate hibernator with populations in subtropical regions hibernating even in the absence of severe winters (McNab 1974). In Missouri, tricolored bats enter hibernation with an average beginning date of mid-October and an average ending date of mid-April (LaVal and LaVal 1980). In Western North Carolina, the winter, inactive season is considered to be October 15 to April 1st. However, tricolored bats have been found in bridges and culverts in Western North Carolina as early as February 6th and as late as November 7th (Katherine Etchison, NCWRC, September 20, 2022, personal communication).

In addition to caves, tricolored bats use a wide variety of other hibernacula including mines (Whitaker and Stacy 1996, Brack 2007), storm sewers (Goehring 1954), box culverts (Sandel et al. 2001, Lutsch et al. 2022), and surge tunnels at quarries (Slider and Kurta 2011). Recent evidence indicates that tricolored bats also hibernate in rock faces in Nebraska (Lemen et al. 2016) and suggests that the species may have a wider winter range than previously suspected. Hibernating tricolored bats typically roost singly but will form small clusters and often select a roost on the walls as opposed to the ceiling of the hibernaculum

(Brack 1979, Kurta 2008). Throughout most of the range, they select relatively warm, stable sites often located further from the hibernaculum entrance than other bat species (Brack 2007). Individuals in hibernation alternate between bouts of torpor that last, on average, about 15 and 25 days though may last longer (Brack and Twente 1985) and short periods of arousal (McNab 1982, Service 2022b).

As previously noted, there is little information about tricolored bat movements, including swarming sites and hibernacula, but the species is currently believed to be a short distance regional migrant (Fraser et al. 2012; Fujita and Kunz 1984). Species engaging in regional migration travel annually from hibernaculum to summer roosting sites, and then move among swarming locations in the autumn (Fenton 1969; Fraser et al. 2012; Hitchcock 1965). Recent research has led to speculations that some individuals migrate farther distances than previously suspected, and that migratory behavior may differ between males and females (Davis 1959; Fraser et al. 2012). Fraser et al. (2012) investigated tricolored bat migration by conducting stable hydrogen isotope analyses of 184 museum specimen fur samples and compared the results to published values of collection site growing season precipitation. Their results suggested that 33% of males and 16% of females collected during the postulated non-molt period were south of their location for fur growth. Fraser et al. (2012) also noted that if tricolored bats only engaged in regional migration, then evidence would be expected to show equal numbers of bats migrating north and south during the non-molt period. Respectively, Fraser et al. (2012) concluded that at least some tricolored bats, of both sexes, engage in latitudinal migration.

Summer Habitat Use

Tricolored bat roost trees may occur in a relatively small area. One study found that the average distance between roost trees was 86 meter (m) (range 5-482 m) and between capture locations and roost trees was 2.5 kilometer (range 165 to 2,290 m) (Schaefer 2016). Roost home ranges were between 0.005 acres (ac) and 10.9 ac for seven individuals (Schaefer 2016) and 0.25 to 5.7 ac for four individuals (Veilleux and Veilleux 2004b). In Indiana, Veilleux and Veilleux (2004b) radio-tracked four tricolored bats to their respective roosts trees and found that minimum and maximum distances from roosts trees were between 21 m and 926 m. A study in Nova Scotia found that the average roosting area of maternity colonies using more than five trees (n=5; 12 to 31 trees) varied from 4 - 191 ac, with a mean of 67.5 ac (Table 4 in Poissant 2009). A study conducted in Arkansas radio-tagged 28 male and nine female tricolored bats and found that roosts trees varied from 1-3 roost trees for males and 1-5 roost trees for females (Perry and Thill 2007b). Seven of 14 female roosts were colonies and based on exit counts and visible pups, the estimated number of bats (adults and pups) in colonies was 3-13, with an average of 6.9 (±1.5) (Perry and Thill 2007b). Other studies report maternity colony sizes of 3.7 individuals (Veillieux and Veillieux 2004b), 15 individuals (Whitaker and Hamilton 1998), and 18 individuals with an average of 10 individuals (Poissant 2009). Perry and Thill (2007b) found males roosting in forested habitats also occupied by females, but primarily in solitary roosts. One study found that individuals within a roosting area/colony did not switch or overlap other roost areas/colonies though all individuals from all colonies shared foraging space (Poissant 2009).

Maternity colonies are most likely to be found roosting in umbrella-shaped clusters of dead leaves, but may also be found in live leaf foliage, lichens, patches of pine needles caught in tree limbs, buildings, caves, bridges, culverts, and rock crevices (Humphrey 1975, Veilleux et al. 2003, Veilleux and Veilleux 2004a; b, Veilleux et al. 2004, Perry and Thill 2007, Newman et al. 2021). Perry and Thill (2007) suggest that tricolored bat's yellow-brown coloration allows them to blend in with brown, dead leaf clusters imparting protection from visual predators. Oak (genus *Quercus*) and maple (*Acer*) trees are preferred by maternity colonies of tricolored bats presumably because the ends of the branches tend to have many leaves (Veilleux et al. 2003; 2004, Perry and Thill 2007), and thus maternity colonies are more often associated with uplands than bottomland forest. O'Keefe (2009) found male tricolored bats primarily in hickories, maples, and birches and not oaks. Veilleux et al. (2003) found 27% of tricolored bat roosts in oak trees when oaks compromised only 3% of the available trees; others found at least 80% of tricolored

bat roosts in oaks (Leput 2004, Perry and Thill 2007). Tricolored bats are known to forage near trees, as well as forest perimeters, and along waterways (Fujita and Kunz 1984).

In Indiana, female tricolored bat maternity roosts occurred mostly in upland habitats (9.4%) as opposed to riparian (0.8%) and bottomland (0.2%) habitats (Veilleux et al. 2003). Preferred upland habitat by this species could be related to the greater availability of preferred roost tree species: white oak (Quercus alba), bur oak (*Quercus macrocarpa*), and red oak (*Quercus rubra*) (Veilleux et al. 2003). O'Keefe (2009) found that non-reproductive tricolored bats in North Carolina only roosted in forest stands older than 72 years, and preferentially roosted at lower elevations, closer to non-linear openings, and closer to streams than expected by random chance. Other researchers have found that at the stand level or greater, tricolored bats seem to roost selectively in more mature forest within riparian buffers or corridors (Perry and Thill 2007, O'Keefe 2009), within a diversity of patch types, farther than expected from roads (Perry et al. 2008), and in unharvested pine or pine-hardwood stands greater than or equal to 50 years old (94% of female roosts and 52% of male roosts, Perry and Thill 2007b). One small study in the Nantahala National Forest in Macon County, North Carolina found male tricolored bat roosts were on average 136 m from roads or trails, and while the distance ranged from 4 to 285 m, 75% of the roads in the study area were gated grass-covered U.S. Forest Service roads with virtually no vehicular traffic (O'Keefe 2009). Other studies found tricolored bat roosts on average 70 m and 52 m from edges (Leput 2004, Veilleux et al. 2003, respectively).

Tricolored bats vary their roost position in the canopy and landscape depending on reproductive conditions. Reproductive female bats roost lower in the canopy and farther from forest edges than non-reproductive females. Veilleux and Veilleux (2004b) speculated that lower position in the canopy and greater distances from the forest edge may reduce wind exposure and allow for more stable temperatures. Gestation is typically 44 days (Wimsatt 1945), and females produce twin pups whose mass is approximately 44-54% of the size of the mother, a higher ratio than most Vespertilionid bats (Kurta and Kunz 1987). Young are volant at 3 weeks and act as adults around 4 weeks old (Hoying and Kunz 1998). Post-natal growth rates slow during cold snaps because the mothers cannot eat, and available energy is used for thermoregulation (Hoying and Kunz 1998). As with other species of bats, some male tricolored bats remain at hibernacula year-round (Whitaker and Rissler 1992). Most males roost in the same types of leaf clusters used by female tricolored bats (Veilleux and Veilleux 2004a), although they return to the same roost for multiple days, with one individual in Arkansas roosting in the same cluster for 33 days (Perry and Thill 2007). Male bats also select roosts in the same species of trees, although males tend to use thinner and shorter trees (Veilleux and Veilleux 2004a). Males also tend to roost at lower heights than females; often 16.4 ft (5 m) from the ground (Perry and Thill 2007).

Culverts

Katzenmeyer (2016), conducting winter surveys in Mississippi over five years, found tricolored bats in culverts as small as 2 ft tall and 30 ft long. Tricolored bats use culverts in Florida as small as 3 ft tall by 60 ft long though smaller culverts are not surveyed. Preliminary analysis did not find an effect of culvert height or length on tricolored bat presence in Florida (L. Smith, personal communication, March 9, 2022). The Louisiana Department of Wildlife and Fisheries has surveyed more than 1,000 culverts over three winters and found tricolored bats in 21% of them. Summer surveys of a much smaller number of culverts found the species in about 4% of surveyed culverts. The shortest length culvert occupied by tricolored bats was 23.3 ft long. The culvert with the shortest height was 2.5 ft tall. The smallest culvert used by the species in Georgia is a 3 ft tall pipe culvert that is 388 ft long (Emily Ferrall, personal communication, April 7, 2022). In North Carolina, tricolored bats have been found in culverts as small as 40 inches in height by 60 ft long (Cheryl Knepp, personal communication, September 8, 2021). There are numerous culvert records for this species across multiple states (Walker et al. 1996, Martin et al. 2005, Katzenmeyer 2016, L. Smith, personal communication, 2022, Nikki Anderson, unpublished data, March 24, 2022).

3.2 Population Size

White-nose syndrome (WNS) has recently decimated tricolored bat populations in several states. Before the onset of WNS, the tricolored bat was generally believed to be common and secure throughout most of its range in the eastern US, with some even considering the species to be rapidly increasing in population and range, especially in grassland areas (Benedict et al. 2000, Sparks and Choate 2000, Geluso et al. 2004). However, subsequent analysis of survey data suggests that even prior to WNS, the tricolored bat, along with several other WNS-affected species, was in a state of gradual decline in the eastern US (Ingersoll et al. 2013). Correcting for biases inherent in hibernacula counts, Ingersoll et al. (2013) found that from 1999-2011, (i.e., both pre- and post-WNS), the tricolored bat declined by 34% in a multi-state study area (New York, Pennsylvania, West Virginia, and Tennessee). Capture rates of tricolored bats in Pennsylvania declined by 56% between pre-WNS years (2001-2008) and 2013 (Butchkoski and Bearer 2016), which is similar to the 53.8% decline observed in Missouri hibernacula (Colatskie 2017). Cheng et al. (2021) estimates range-wide declines of 93% from 1995 to 2018 and a 59% overlap of species and WNS occurrence ranges. The range-wide population of tricolored bats is estimated to be 67,898 individuals as of 2020 (Service 2022b).

3.3 Distribution

Tricolored bats are known from 39 States (from New Mexico north to Wyoming and all states to the east), Washington D.C., 4 Canadian Provinces (Ontario, Quebec, New Brunswick, Nova Scotia), and Guatemala, Honduras, Belize, Nicaragua, and Mexico. The species current distribution in New Mexico, Colorado, Wyoming, South Dakota, and Texas is the result of westward range expansion in recent decades (Geluso et al. 2005, Adams et al. 2018, Hanttula and Valdez 2021) as well as into the Great Lakes Basin (Kurta et al. 2007; Slider and Kurta 2011). This expansion is largely attributed to increases in trees along rivers and increases in suitable winter roosting sites, such as abandoned mines and other human-made structures (Benedict et al. 2000, Geluso et al. 2005, Slider and Kurta 2011).

3.4 Threats

WNS is a threat to many bat species throughout North America. While WNS has been assumed to be the sole driver of bat population declines, new research indicates that many factors are likely acting synergistically (Ingersoll et al. 2016). Bats are subject to a suite of severe threats (Mickleburgh et al. 1992, Hutson et al. 2001, Pierson 1998), including disturbance and altered microclimates of critical hibernacula and day roosts (Tuttle 1979, Neilson and Fenton 1994, Thomas 1995), loss and modification of foraging areas (Pierson 1998, Hein 2012, Jones et al. 2009), toxicity and changed prey composition and abundances from pesticide use and other chemical compounds (Shore and Rattner 2001, Clark 1988), climate change (Frick et al. 2010, Rodenhouse et al. 2009), and in-flight collisions with vehicles, buildings, and wind turbines (Russell et al. 2009, Arnett et al. 2008, Kunz et al. 2007). Bats are often subject to more than one of these threats simultaneously; such co-occurring threats may result in synergistic or interacting effects, with impacts more severe than from any single threat in isolation (Crain et al. 2008, Kannan et al. 2010, Laurance and Useche 2009, Harvell et al. 2002). The tendency of tricolored bats to occupy a wide variety of hibernacula makes them vulnerable to entombment during mine closures (Whitaker and Stacy 1996). As with other bats, chemical contamination may kill bats directly or lead to sublethal effects that eventually lead to death or reduced reproduction (Clark et al. 1978, Clark et al. 1980, Clark et al. 1982, Eidels et al. 2016). Climate change is also an emerging threat to the tricolored bat, primarily because temperature is an essential feature of both hibernacula and maternity roosts. Lastly, the tricolored bat (and other bat species) may be threatened by the recent surge in construction and operation of wind turbines across the species' range. Mortality of tricolored bats has been documented at multiple operating wind turbines/farms.

4. Environmental Baseline

The U-6003 action area is in the Northern Inner Piedmont ecoregion in the Upper Dan River Basin. The project footprint is 37% developed open space, 27% forested, 23% developed low intensity, 11% pasture/hay/grass/forb/shrub regeneration, and 1% developed medium intensity. Building footprints within 1 mile of the action area cover 5% of the land. The project footprint includes woody habitats, three unnamed intermittent streams, two perennial streams (East Belews Creek, Unnamed Tributary to East Belews Creek), one unnamed stream that is intermittent and perennial, and two small wetlands. Three small culverts (36-inch, 30-inch, and 24-inch diameter) are near the intersection of North Main Street and Macy Grove Road.

Suitable tree and culvert roosts for tricolored bat occur within the action area. The closest element occurrence record for the tricolored bat is approximately 18 miles away at Hanging Rock State Park in Stokes County. The Service surveyed the three culverts at the intersection of Macy Grove Road and North Main Street on June 6, 2022 and found no evidence of bat use. NCDOT reviewed hibernacula locations and underground mine data to determine if project activities may impact winter roosting habitat for tricolored bats and did not find this habitat type in or near the action area. Given the lack of presence/absence surveys, presence of suitable habitat, and the proximity of known active and inactive season occurrence records within 18 miles, tricolored bats are assumed to be present in the action area.

As a conservative scenario, we estimate that 1,120 tricolored bats could be roosting within the action area and 18 tricolored bats could be roosting within areas where NCDOT will remove trees. As presented in Section 3.1 *Life History*, a maternity colony could occupy an area between 0.0005 and 191 ac (Schaefer 2016, Veilleux and Veilleux 2004b, Poissant 2009) and the size of maternity colonies vary from 3 to 18 individuals (Veilleux and Veilleux 2004b, Schaefer 2016, Perry and Thill 2007b, Whitaker and Hamilton 1998, Poissant 2009). For our conservative estimation, we used approximate numbers from Schaefer 2016 and assume that a maternity colony of 7 bats occupies 5 acres. The action area is 800 acres so 1,120 tricolored bats (= (800 acres/5 acres) x 7 bats) could occur. NCDOT will remove trees on 12.7 acres which could support 18 tricolored bats (= (12.7 acres/5 acres) x 7 bats).

5. Effects of the Action

In accordance with 50 CFR 402.02, the pre-2019 Endangered Species Act regulatory definition of effects of the action is "*the direct and indirect effects of an action on the species or critical habitat, together with the effects of other activities that are interrelated or interdependent with that action, that will be added to the environmental baseline. Indirect effects are those that are caused by the proposed action and are later in time, but still are reasonably certain to occur. Interrelated actions are those that are part of a larger action and depend on the larger action for their justification. Interdependent actions are those that have no independent utility apart from the action under consideration."* The 2019 regulatory definition of effects of the action is "*all consequences to listed species or critical habitat that are caused by the proposed action, including the consequences of other activities that are caused by the proposed action. A consequence is caused by the proposed action if it would not occur but for the proposed action and it is reasonably certain to occur. Effects of the action may occur later in time and may include consequences occurring outside the immediate area involved in the action*." Both were considered during the writing of this Opinion. This section analyzes the direct and indirect effects or consequences of the action on the tricolored bat. The effects of the action are added to the environmental baseline and, after taking into consideration the status of the species, serve as the basis for the determination in this Opinion (50 CFR 402.14(g)(4)).

Stressors are alterations of the environment that may result from the proposed action that are relevant to the species. Based on the description of the proposed action and the species' biology, NCDOT and the Service have identified four stressors to bats (Table 1). Each section below describes a stressor, the

species response to the stressor, and the rationale for the determination of effects. Tricolored bat may be present in the action area and vulnerable to effects from construction between April 1 and October 15. However, tricolored bats have been found in bridges and culverts in Western North Carolina as early as February 6th and as late as November 7th. The closest such inactive season detection is in Stokes County about 20 miles from the action area (Katherine Etchison, NCWRC, September 20, 2022, personal communication). Stressors from construction will last the length of the project while bats are active on the landscape. Individual stressors will generally be short term in nature.

5.1 Stressors

Tree Removal: Loss of Tree Roosts and Individuals

Tricolored bats can roost in a variety of places in the summer, including trees where they are often found roosting in the foliage. Tricolored bat females show some roost fidelity, returning to the same small roosting area day after day within a single summer and across successive years, and show use of their natal roosting habitat (Veilleux and Veilleux 2004b). While tricolored bat females may switch roost sites frequently, both with and without volant offspring (Whitaker 1998, Amelon 2006), they have stayed as long as 17 days in one roost tree. Trees are an ephemeral resource, especially when dead trees are used as roosts. Potential bat responses to roost loss, caused by natural factors or felling by humans, depends on when the loss occurs.

Removal of an occupied roost tree during the active season has direct and immediate effects when bats are present. If a bat is in the tree and a tree is cut down, the bat may either 1) fly out (adults or volant pups) of the tree while the tree is still falling, 2) stay in the tree and be crushed by the fall, 3) stay in the tree and fly away (adults or volant pups) or be retreived by adults (non-volant pups) once the tree is on the ground, or 4) stay in the tree and die on the ground (non-volant pups not retrieved by adults). Whether and how a bat escapes from a falling/fallen tree is also likely to be related to ambient temperatures, which affect bat activity levels. Below 50 degrees Fahrenheit (F), bats may be slow to arouse if they are in torpor, leading to increased response times if disturbed. Also, daytime flushing of bats causes them to be more susceptible to predation (e.g., raptors) (Mikula et al. 2016) and expend additional energy resources finding roosts that may impact the fitness of the individual, especially if distrubed in the spring when fat reserves are low. Finally, the removal of primary or alternate maternity tree roosts could lead to the fragmentation or break up of a maternity colony as it has been shown to do for some *Myotis* species (Sparks *et al*. 2003; Silvis *et al*. 2014).

Due to their small size, it is extremely unlikely to detect a tricolored bat killed or injured by trees removed in a forested setting. However, the Service has accounts of Indiana bat (*Myotis sodalis*) injury and mortality resulting from tree removal during the active season. Three accounts document adult and juvenile bat mortality as well as adult and juvenile survival (Cope et al. 1974, Belwood 2002, and J. Whitaker, personal communication, 2005 as cited in the *Programmatic Biological Opinion for Activities Affecting Indiana Bat and Northern Long-Eared Bat on Eastern Band of Cherokee Indians Trust Lands*, Service Log #4-2-22-010).

Due to the let schedule for this project, scheduled for November 2023, and the size of the tree clearing effort, NCDOT will be removing trees during the winter (October 16 through March 31) and active season (April 1 through May 31). Therefore, bats may be present in some trees cleared by the project. Their chances of survival may be reduced due to issues associated with the spring migratory period. The weeks following emergence from hibernation mark a critical period when bats incur energetic costs of clearing infection, recovering from over-winter sickness (Reichard and Kunz 2009, p. 461; Meteyer et al. 2012, p. 3; Field et al. 2015, p. 20; Fuller et al. 2020, pp. 7–8), migration, and reproduction, all when their fat reserves are their lowest. Compliance with conservation measures (CM 8) will, however, ensure that

bats are not in torpor during tree removal. Within the project area, average low temperatures in April are about 49 degrees F, rising to about 58 degrees F in May.

In summary, we find that tree removal from construction may affect and is likely to adversely affect (LAA) the tricolored bat. Adverse effects from tree clearing may result in crushing, killing, wounding, or energetic and reproductive impacts that result in harm to tricolored bats. CMs 5, 6, 7, and 8 will serve to minimize the amount of take to the maximum extent possible, which includes a tree clearing moratorium from June 1st through October 15th.

Tree Removal: Reduction of Habitat

We agree with the biological rationale provided in NCDOT's letter that effects from a reduction in commuting and foraging area due to 12.7 ac of tree removal during construction are expected to be insignificant due to the availability of alternative forested habitat in the immediate and surrounding areas, and therefore "not likely to adversely affect" (NLAA) the tricolored bat.

Lighting

We agree with the biological rationale provided in NCDOT's letter that effects from lighting on nighttime foraging and commuting activities are expected to be insignificant due to the pre-existence of permanent lighting, and the temporary and limited nature and spatial extent of night work. While NCDOT will replace and potentially relocate existing lights at the intersection of Linville Springs Road and Piney Grove Road, these lighting changes are not expected to change baseline conditions at this location. We believe construction-related temporary night lighting will have insignificant effects based on the implementation of CMs 9 and 10 and are thus NLAA the tricolored bat. We do not expect the operation and maintenance of permanent lighting to significantly change or alter lighting from baseline conditions and thus believe effects from the replacement and relocation of existing permanent lighting to be insignificant with the implementation of CM 9 and thus NLAA the tricolored bat.

Noise and Vibration

The use of construction equipment and certain construction activities are anticipated to cause temporary and sporadic increased noise and vibration levels (CalTrans 2016) within the action area any time of year, day, or night, during and post-construction. The maximum noise level expected for the project is from blasting, which can create an average maximum background noise level of 112 decibels (dBA) at locations 50 ft away (CalTrans 2016) up to 126 dBA (NRC 2012). Blasting can create significant noise (measured in decibels, dBA), flying rock, ground vibration (measured in peak particle velocity, inches per second), and air vibration (airblasts, measured in unweighted decibels, dB). Blasting is expected to produce noise levels of 95 dBA at 250 ft away within the proposed project area. According to noise attenuation formulas (CalTrans 2016), noise from point sources traveling over a soft site (for example, forest or meadow) attenuates at approximately 7.5 dBA for each doubling of distance. Therefore, blasting is not expected to meet background noise levels of 60 dBA for several miles. Blasting imparts energy into the air and substrate which may cause an impact to bat roosts. Increases in air pressure or ground vibration could presumably cause roost trees to shake or fall or underground environments to collapse.

Typical roadway construction activities that are also part of this project produce slightly less noise: jack hammers and pile drivers (101-110 dBA at 50 ft), track hoes (91-106 dBA at 50 ft), guardrail installation (95-105 dBA at 50 ft), and truck horns (104 dBA at 50 ft). For comparison, natural background levels of noise within most of the action area include the occasional thunderclap and thunder (110-120 dBA) and sounds associated with wind blowing through the trees and birds singing (60-62 dBA) (CalTrans 2016).

A review of the literature on ground vibration impacts to bats turned up just one report from West Virginia. It summarized other results that concluded that hibernating bats could withstand ground vibration levels (peak particle velocity) of 0.06 to 0.20 inches per second without adverse effects

(WVDEP 2006). NCDOT did not provide an estimate of peak particle velocity for their project, however, no occupied cave, mine, or culvert habitat is expected to be impacted by the project.

Available information on airblast pressure impacts to bats is limited. A blast registering an airblast of 140 dB may cause glass and plaster breakage though structure damage is not expected at less than 175 dB (Singh et al. 2005). Other sources state that airblasts at 134 dB are likely to cause minor structural damage (Nicholson 2005). Humans experience an airblast with a peak overpressure of 130 dB as mildly to distinctly unpleasant. Airblasts that measure 134 dB are equivalent to winds of about 28.5 miles per hour per Nicholson (2005) or 20-28 miles per hour per WVDEP (2006). Winds reaching gale force of 70 miles per hour are equivalent to an airblast of 149.5 dB (Nicholson 2005). Wind gusts higher than 28.5 miles per hour occurred in every month of 2021 in Kernersville (Weather Underground, Weather History, accessed October 17, 2022), which we assume is similar to other years.

NCDOT estimates that bats exposed to the blasting noise associated with this project will not have an adverse response as construction noises are expected to be similar to thunderstorm noises. Based on the above, we also expect airblasts to be similar to strong winds present in the action area. We do not expect, and have no evidence, that thunderstorms or strong winds adversely affect bat populations (i.e., that they cause mortality of or harm to bats).

A biological opinion written by the Service's Virginia Field Office submitted that the impacts of blasting and rough grading are a source of noise on the landscape and create edge habitat similar to that of roads (Service 2022c). Thus, bats are expected to respond to the noise from blasting in a similar manner as they respond to noise from roads. That response is typically avoidance. Berthinussen and Altringham (2012) found that bat activity, including that of *Myotis* spp., increased with distance from a road while noise levels decreased with distance from a road. Additionally, a large-scale analysis found the majority (>95%) of Indiana bat roosts are located >100 ft and >90% are located >300 ft from roads (Service 2018). However, bats have been noted to tolerate noise, for instance when they roost on bridges and in culverts underneath roads and/or above loud rivers and streams, therefore, it is not definitive that bats will shift or abandon their roosts as a result of any adjacent disturbances.

To reduce and minimize noise and vibratory impacts, NCDOT has included several conservation measures. First, blasting will not occur at night (CM 1) so will not interfere with echolocation and foraging/commuting activity. Second, NCDOT will place blast mats or overburden material (for example, soil) over all blast sites, which minimizes noise, air blasts, and debris (flying rock) (CM 4). Third, blasting will not occur until trees within 30 ft have been removed (CM 2), increasing the distance between any roosting bat and blasting activity. Per the NCDOT Division 9 Construction Engineer, trees within 20-30 ft of the blast site are removed prior to blasting and NCDOT blasting activities are not strong enough to cause trees to fall or glass to break. Lastly, NCDOT will follow standard specifications (Section 220 Blasting) (CM 2), which requires that blasts should be designed such that air-overpressure (i.e., airblast, or airwaves generated by the blasting activity) at any structure does not exceed 133 dB.

Due to the implementation of these conservation measures, we believe all construction noise and vibratory effects from the action are likely to be insignificant and NLAA the tricolored bat. Noise and vibratory effects from operations and maintenance activities mimics those stressors already present in this medium- to low-density developed area. We believe, therefore, that effects from operations and maintenance activities will be discountable and NLAA the tricolored bat.

5.2 Cumulative Effects

Cumulative effects are defined as "*those effects of future State or private activities, not involving Federal activities, that are reasonably certain to occur within the action area of the Federal action subject to*

consultation" (50 CFR 402.02). Future Federal actions unrelated to the proposed action are not considered because they require separate consultation pursuant to section 7 of the Endangered Species Act.

Parcels in the action area are zoned primarily for mixed residential and business support (Town of Kernersville 2018). The potential exists for additional tree clearing, construction activities, and additional lighting to occur in the future associated with residential, commercial, and/or business development in the area.

5.3 Summary of Effects

In summary, of the anticipated stressors and effects discussed above, construction-phase, active, spring season tree removal is the stressor that is expected to adversely affect the tricolored bat. Take from this stressor is expected in the form of harm, wounding, and/or killing. The other stressors and operation- and maintenance-phase activities discussed above are expected to have no effect or insignificant or discountable effects on tricolored bat (Table 1).

Table 1. Summary of Effects

Project Activity / Stressor	Construction Phase Activities		Operations and Maintenance (O&M) Phase Activities		Effect Determination Summary
	Does Stressor Occur During Construction?	Effect to the Species	Does Stressor Occur during O&M?	Effect to the Species	
Tree Removal / Loss of Tree Roosts and Individuals	Yes	Direct. Adverse (Harm, Wound, Kill). Minimized by CMs 5, 6, 7, 8.	NA, not included in this Opinion		LAA
Tree Removal / Reduction of Habitat	Yes	Indirect. Insignificant.	NA, not included in this Opinion		NLAA
Night Lighting	Yes, temporary construction night lighting	Direct. Insignificant due to CMs 9 and 10.	Yes, permanent lighting	Direct. Insignificant due to CM 9.	NLAA
Noise and Vibration	Yes, construction equipment and blasting	Direct. Insignificant. Minimized by CMs 1, 2, 3, 4.	Yes, traffic	Direct; Discountable.	NLAA

6. Conclusion

After reviewing the current status of tricolored bat, the environmental baseline for the action area, the effects of the proposed action, and the cumulative effects, it is the Service's Opinion that the action, as proposed, is not likely to jeopardize the continued existence of the tricolored bat.

1. Although some activities associated with the proposed action are expected to result in adverse effects to the tricolored bat, we have determined that the species' reproduction, numbers, and distribution will not be appreciably reduced because of the proposed action. If the tricolored bat range-wide population is 67,898 individuals (Service 2022b), then this project will adversely affect less than 0.03% (= 18 / 67,898) of the range-wide population. Section 4 *Environmental Baseline* describes how we estimated 18 bats.
2. Effects of the action will adversely affect a small portion (12.7 acres) of tricolored bat habitat.

7. Incidental Take Statement

Section 9 of the Endangered Species Act and Federal regulations pursuant to section 4(d) of the Endangered Species Act prohibit the taking of endangered and threatened species, respectively, without

special exemption. Take "*means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct*" (16 U.S.C §1532). Harm in the definition of "take" in the Endangered Species Act "*means an act which actually kills or injures wildlife. Such act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering*" (50 CFR 17.3). Incidental taking "*means any taking otherwise prohibited, if such taking is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity*" (50 CFR 17.3). Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to, and not intended as part of, the agency action is not considered to be prohibited under the Endangered Species Act, provided that such taking is in compliance with the terms and conditions of this Incidental Take Statement.

The prohibitions against taking the species found in section 9 of the Endangered Species Act do not apply until the species is listed. However, the Service advises USACE to consider implementing the following reasonable and prudent measures. If this Opinion is adopted as a biological opinion following a listing, these measures, with their implementing terms and conditions, will be binding conditions of any grant or permit issued, as appropriate, for the exemption in section 7(o)(2) to apply. USACE has a continuing duty to regulate the activity covered by this incidental take statement. If USACE (1) fails to assume and implement the terms and conditions or (2) fails to require NCDOT or a contractor to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, the protective coverage of section 7(o)(2) may lapse. To monitor the impact of incidental take, USACE must report the progress of the action and its impact on the species to the Service as specified in the incidental take statement [50 CFR §402.14(i)(3)].

7.1 Amount or Extent of Take Anticipated

Incidental take of tricolored bat is anticipated to occur as a result of the Macy Grove Road Extension Project (U-6003) due to the removal of trees. The take associated with this project is expected in the form of harm, wounding, and/or killing.

The Service anticipates the incidental taking of tricolored bats associated with this project will be difficult to detect because: 1) the individuals are small, mostly nocturnal, and occupy trees and foliage where they are especially difficult to observe, 2) finding dead or injured bats during or following project implementation is unlikely, and 3) some incidental take is in the form of non-lethal harm and not directly observable. Given this, the Service will measure the extent of take for tricolored bats using a surrogate: the total acreage of tree removal associated with U-6003 (estimated to contain 18 tricolored bats, see *Environmental Baseline*), which will not exceed 12.7 acres.

This surrogate measure is appropriate because the anticipated taking will result from the effects of tree removal. The surrogate measure serves to set a clear limit for determining when take has been exceeded for tricolored bat. In this Opinion, the Service determined that this level of anticipated take is not likely to result in jeopardy to the species.

7.2 Reasonable and Prudent Measures

The Service believes the following reasonable and prudent measure(s) are necessary and appropriate to minimize take of tricolored bat. The prohibitions against taking tricolored bat found in section 9 of the Endangered Species Act do not apply until the species is listed. However, the Service advises the USACE to consider implementing the following reasonable and prudent measures (RPMs). If this Opinion is adopted as a biological opinion following a listing, these measures, with their implementing terms and conditions, will be nondiscretionary.

RPM 1. Ensure that the contractor understands and follows the measures listed in Section 2.4 *Conservation Measures*, Section 7.2 *Reasonable and Prudent Measures*, and Section 7.3 *Terms and Conditions* of this Opinion.
RPM 2. Reduce take to the maximum extent practicable.
RPM 3. Monitor and document the surrogate measure of take and report it to the Service.

7.3 Terms and Conditions

In order to be exempt from the prohibitions of section 9 of the Endangered Species Act, the USACE must comply with the following terms and conditions (T&C), which implement the RPMs above and outline required reporting and/or monitoring requirements. When incidental take is anticipated, the T&Cs must include provisions for monitoring project activities to determine the actual project effects on listed fish or wildlife species (50 CFR §402.14(i)(3)). These T&Cs are nondiscretionary.

T&C 1a. Ensure that the procedures listed in Section 2.4 *Conservation Measures*, Section 7.2 *Reasonable and Prudent Measures*, and Section 7.3 *Terms and Conditions* of this Opinion are being implemented and that all project plans are being implemented in a manner that ensures the conditions of this Opinion are met.
T&C 1b. A biologist with knowledge of bat biology and this Opinion shall conduct on-site training with all individuals involved in ground disturbing activities including tree removal to review the requirements of this Opinion, species biological needs, and how to report any wildlife observations.
T&C 2. Fell as many of the trees as possible prior to April 1st. Fell all trees prior to June 1st.
T&C 3a. Project monitoring, carried out by the Federal agency or non-Federal designated representative, ensures the terms of this Opinion are carried out, provides the Service with information essential to assessing the effects of various actions on listed species, and allows the Service to track incidental take levels. Monitor the acreage of tree removal during construction to ensure the surrogate measure of take is not exceeded for tricolored bat.
T&C 3b. Once the project is complete, provide a report to this office by the end of the calendar or fiscal year in which the project is completed, whichever is more distant, that 1) indicates the acres of tree removal, 2) provides results/feedback/lessons-learned on the effectiveness of CMs, RPMs, and T&Cs, and 3) documents the start and end of the project and the dates of tree removal.

The RPMs, with their implementing T&Cs, are designed to minimize the impact of incidental take that might otherwise result from the proposed action. If, during the course of the action, the level of incidental take is exceeded, such incidental take represents new information requiring re-initiation of consultation and review of the RPMs. The Federal agency must immediately provide an explanation of the causes of the taking and review with the Service the need for possible modification of the RPMs.

8. Conservation Recommendations

Section 7(a)(l) of the Endangered Species Act directs Federal agencies to use their authorities to further the purposes of the Endangered Species Act by carrying out conservation programs for the benefit of endangered and threatened species. The following conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of the proposed action on listed species, to help implement recovery plans, or to develop information.

CR 1. During any tree removal activities during the active bat season (April 1 through May 31), have a biologist monitor to see if they observe any bats flying from falling trees. After felling, have a biologist survey fallen trees for any evidence or sign of bats. This will

provide additional anecdotal evidence of taking and additional information about roosting bats when their roost tree is felled during the active season.

For the Service to be kept informed of actions minimizing or avoiding adverse effects or benefitting listed species or their habitats, we request notification of the implementation of any conservation recommendations.

9. Reinitiation Notice

This concludes the conference for the Macy Grove Road Extension (U-6003). If the species is listed, ask the Service to confirm this Opinion as a Biological Opinion issued through formal consultation. The request must be in writing. If the Service reviews the proposed action and finds that there have been no significant changes in the action as planned or in the information used during the conference, the Service will confirm the Opinion as the Biological Opinion on the project and no further section 7 consultation will be necessary.

The Federal agency shall request reinitiation of consultation if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect the species in a manner or to an extent not considered in this conference opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the species or critical habitat that was not considered in this conference opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action.

The incidental take statement provided in this conference opinion does not become effective until the species is listed, and the Opinion is adopted as the Biological Opinion. At that time, the project will be reviewed to determine whether any take of the tricolored bat has occurred. Modifications of the Opinion and incidental take statement may be appropriate to reflect that take.

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