



December 31, 2019

Natural Resources Technical Memorandum: WBS Element No. 17BP.11.R.157
Replace Bridge #020035 on SR 1422 (Fox Ridge Road) over Glade Creek, Sparta, Alleghany County, NCDOT Division 11

TGS Engineers (TGS) has completed the natural resource investigation and prepared a natural environmental field scoping meeting checklist for Bridge #020035 on SR 1422 (Fox Ridge Road) over Glade Creek in Alleghany County, NC (Figure 1). The study area for this project comprises approximately 3.0 acres in a rural landscape and ranges in elevation from approximately 2520 feet above mean sea level (msl) to 2800 feet above msl within 0.5 mile of the bridge (Figure 2). This memo summarizes the findings of the natural resource investigation. The field review included stream and wetland delineations and habitat assessments for federally protected species listed by the US Fish and Wildlife Service (USFWS) in Alleghany County. All work was conducted in accordance with the NCDOT Environmental Analysis Unit standard operating procedures. Field work was conducted on October 15, 2019.

WETLAND AND STREAM DELINEATION

Water resources in the study area are part of the New River Basin [US Geological Survey (USGS) Hydrologic Unit 05050001]. One stream was identified in the study area (Table 1). The physical characteristics of the stream is provided in Table 2.

Table 1. Surface water resources in the study area

Stream Name	Map ID	Type	NC DEQ Index Number	Best Usage Classification
Glade Creek	Glade Creek	Perennial	10-9-9	C; Tr

Table 2. Physical characteristics of surface water resources in the study area

Map ID	Length (ft)	Bank Height (ft)	Bankfull Width (ft)	Water Depth (in)	Channel Substrate	Velocity	Clarity
Glade Creek	211	3	15-30	3-12	Si, Sa, Gr, Cb, Bld	Moderate	Clear

Si – silt, Sa – sand, Gr – gravel, Cb – cobble, Bld – boulder

No jurisdictional wetlands were identified in the study area (Figure 3).

There are no designated Outstanding Resource Waters (ORW), High Quality Waters (HQW), or water supply watersheds (WS-I or WS-II) within the study area or within 1.0 mile downstream of the study area. There are no streams within the study area or within 1.0 mile downstream of the study area that are on the Final 2018 303(d) list of impaired streams.

CLEAN WATER ACT PERMITS

One jurisdictional stream was identified in the study area. A Section 404 permit from the US Army Corps of Engineers (USACE) and a Section 401 Water Quality Certification from NC Division of Environmental Quality (NC DEQ) will be required if impacts are proposed for this project.

CONSTRUCTION MORATORIA

There are no construction moratoria in effect for this project.

NC RIVER BASIN BUFFER RULES

There are no riparian buffer rules in effect for this project.

RIVERS AND HARBORS ACT SECTION 10 NAVIGABLE WATERS

No surface waters have been designated as Section 10 navigable waters within the study area.

ENDANGERED SPECIES ACT PROTECTED SPECIES HABITAT ASSESSMENTS

As of November 13, 2019, the USFWS lists three federally protected species for Alleghany County, NC. (Table 3).

Table 3. Federally protected species listed for Alleghany County

Scientific Name	Common Name	Federal Status	Biological Conclusion
<i>Glyptemys muhlenbergii</i>	Bog turtle	T (S/A)	Not Required
<i>Myotis grisescens</i>	Gray bat	E	Unresolved
<i>Myotis septentrionalis</i>	Northern long-eared bat	T	Unresolved

T (S/A) – Threatened due to similarity of appearance, E – Endangered, T – Threatened

Bog turtle

USFWS Recommended Survey Window: April 1 – October 1 (visual surveys); April 1 - June 15 (optimal for breeding/nesting); May 1-June 30 (trapping surveys)

Biological Conclusion: Not Required

Species listed as threatened due to similarity of appearance do not require Section 7 consultation with the USFWS. Moreover, suitable habitat (open, spring-fed, emergent wetlands) is not present within the study area. A review of the July 2019 North Carolina Natural Heritage Program (NCNHP) dataset indicates no known bog turtle occurrences within 1.0 mile of the study area.

Northern long-eared bat (NLEB) and Gray bat

USFWS Optimal Survey Window: June 1 – August 15

Biological Conclusion: Unresolved

A review of the July 2019 NCNHP dataset indicates no known occurrences of northern long-eared bat (NLEB) or gray bat within 1.0 mile of the study area. Additional information for both species will be provided by the NCDOT – Biological Surveys Group (BSG).

BALD EAGLE AND GOLDEN EAGLE PROTECTION ACT

Habitat for the bald eagle primarily consists of mature forest in proximity to large bodies of open water for foraging. Large dominant trees are utilized for nesting sites, typically within 1.0 mile of open water.

A desktop-GIS assessment of the project study area, as well as the area within a 1.13-mile radius (1.0 mile plus 660 feet) of the project limits, was performed on October 9, 2019, using 2018 color aerials. The Little River, located approximately 1300' from the project study area, is large enough to support foraging habitat for bald eagle. A review of the NCNHP database, updated November 2019, revealed no known occurrences of this species within 1.0 mile of the project study area. Additionally, no individuals or nests were observed during the field review conducted on October 15, 2019.

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QUALIFICATIONS OF CONTRIBUTORS

Investigator: Ryan Elliott
Education: B.S. Biology, 2014
Experience: Environmental Scientist, TGS, 2018-Present
Environmental Scientist, MMI, 2015-2018
Responsibilities: Wetland and stream delineation, T&E habitat survey, document Preparation

Investigator: Stacy Oberhausen, P.E.
Education: B.S. Civil Engineering, 1986
Experience: Project Engineer/Manager, TGS, 2016-Present
Engineer/Project Engineer/Engineering Spvr, NCDOT, 1986-2016
Responsibilities: Document review

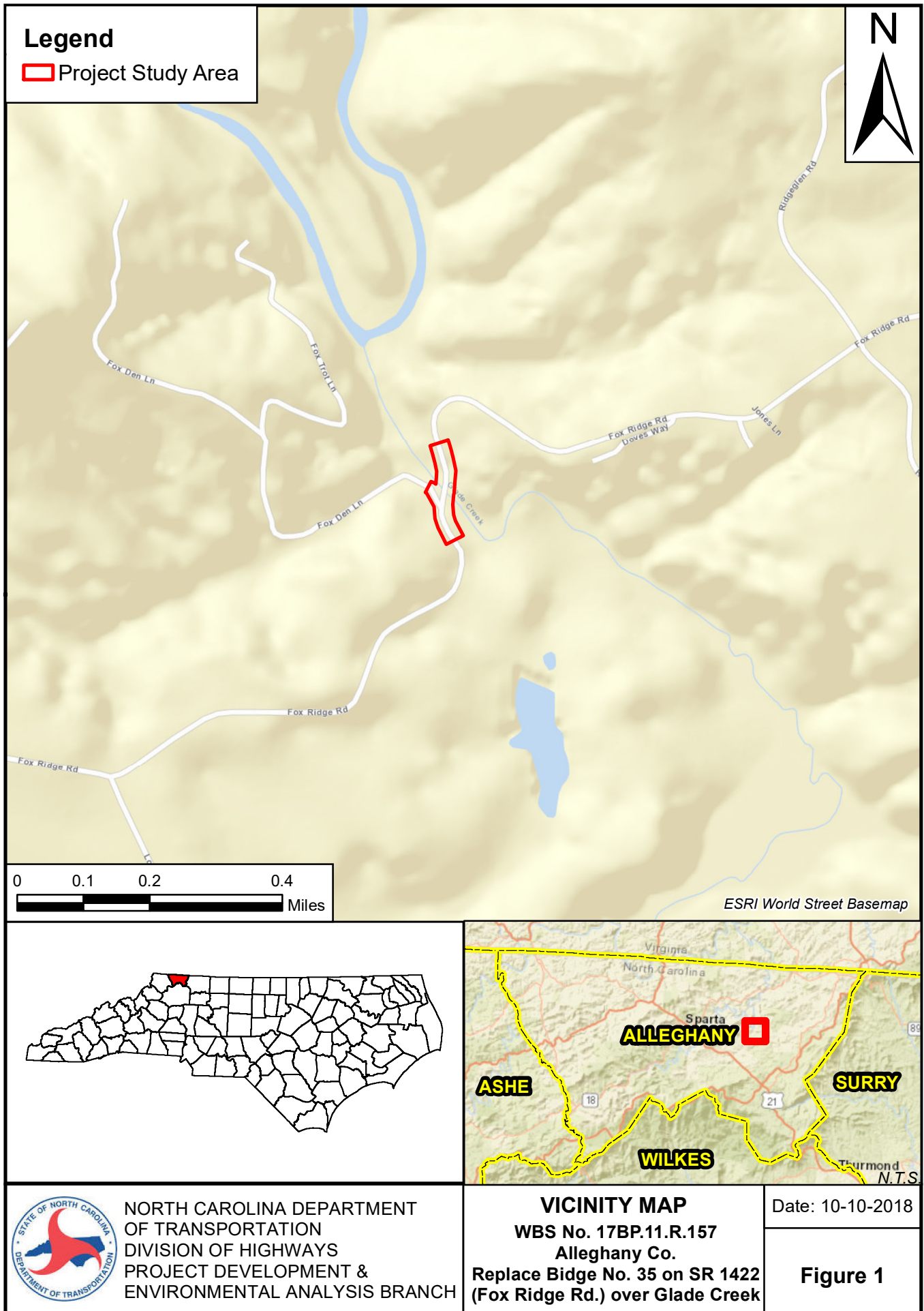
Investigator: Nancy Clemons
Education: Marketing Communications
Experience: Marketing Manager, TGS Engineers, 2015-Present
Director Marketing, The Pantry, Inc., 2010-2014;
Director Marketing, The John R. McAdams Company, 2004-2010
Responsibilities: Document review

If you have any questions or need additional information, please contact me at your earliest convenience at ryan.elliott@tgsengineers.com.

Attachments: FSM Checklist
Figure 1. Vicinity Map
Figure 2. USGS Topographic Map
Figure 3. Environmental Features Map
Natural Heritage Program Elemental Occurrence Database Report

Natural Environment FSM Checklist

	WBS	17BP.11.R.157
	County	Alleghany
	Bridge Number	020035
	Description	Replace Bridge No. 35 on Ridge Glen Road over Little River
Stream	Basin	New River
	Type	Glade Creek - Perennial
	Classification	Glade Creek - C; Tr
Stream	Non 404 (y/n)	No
Wetlands	USACE (y/n)	No
	Non 404 (y/n)	No
	CAMA (y/n)	No
NC DWQ Buffer Basin	y/n (if yes provide basin)	No
T&E Habitat	(y/n, with explanation)	Bald eagle - Yes, large bodies of water Bog turtle - No, no bogs or fens Gray bat - No, no caves or mines NLEB - Yes, pine trees
CAMA AECs	(y/n)	No
Wild and Scenic River	(y/n)	No
Project Comments		
Completed by: <i>Ryan Elliott</i>		



Legend

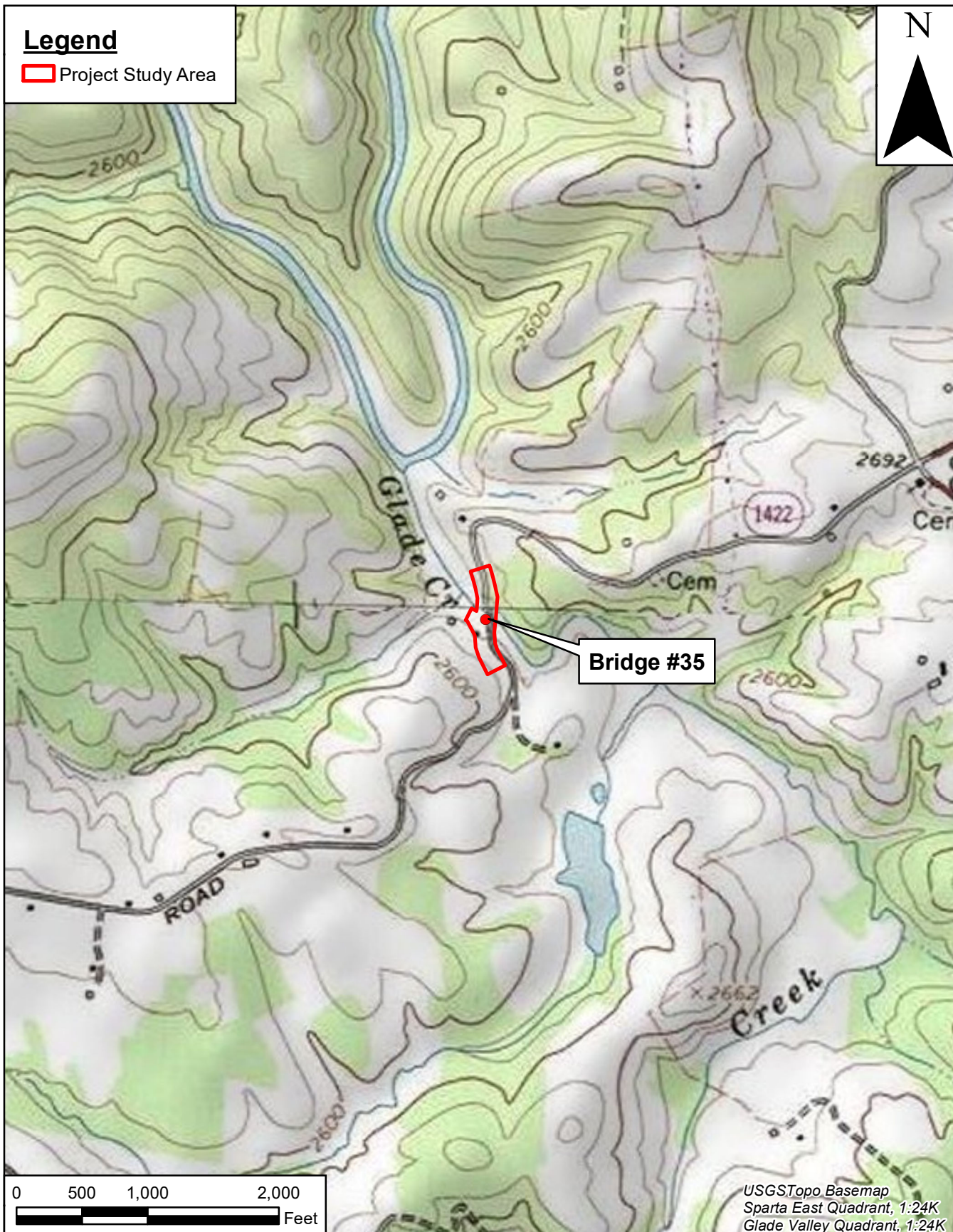
Project Study Area

USGS Topo Basemap
Sparta East Quadrant, 1:24K
Glade Valley Quadrant, 1:24K

Legend

Project Study Area

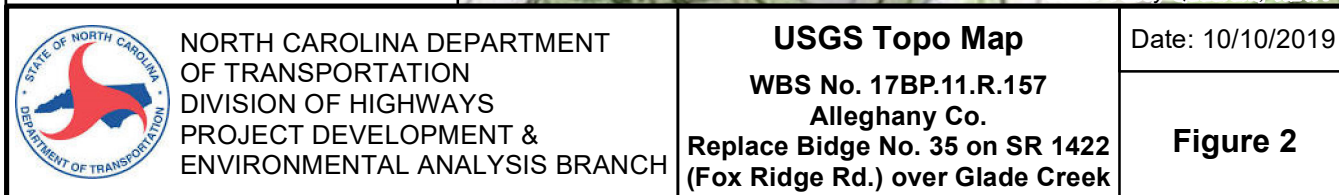
USGS Topo Basemap
Sparta East Quadrant, 1:24K
Glade Valley Quadrant, 1:24K

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Legend
 Project Study Area

Bridge #35

USGSTopo Basemap
 Sparta East Quadrant, 1:24K
 Glade Valley Quadrant, 1:24K



 NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS PROJECT DEVELOPMENT & ENVIRONMENTAL ANALYSIS BRANCH	USGS Topo Map WBS No. 17BP.11.R.157 Alleghany Co. Replace Bidge No. 35 on SR 1422 (Fox Ridge Rd.) over Glade Creek	Date: 10/10/2019
		Figure 2

 NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS PROJECT DEVELOPMENT & ENVIRONMENTAL ANALYSIS BRANCH	USGS Topo Map WBS No. 17BP.11.R.157 Alleghany Co. Replace Bidge No. 35 on SR 1422 (Fox Ridge Rd.) over Glade Creek	Date: 10/10/2019
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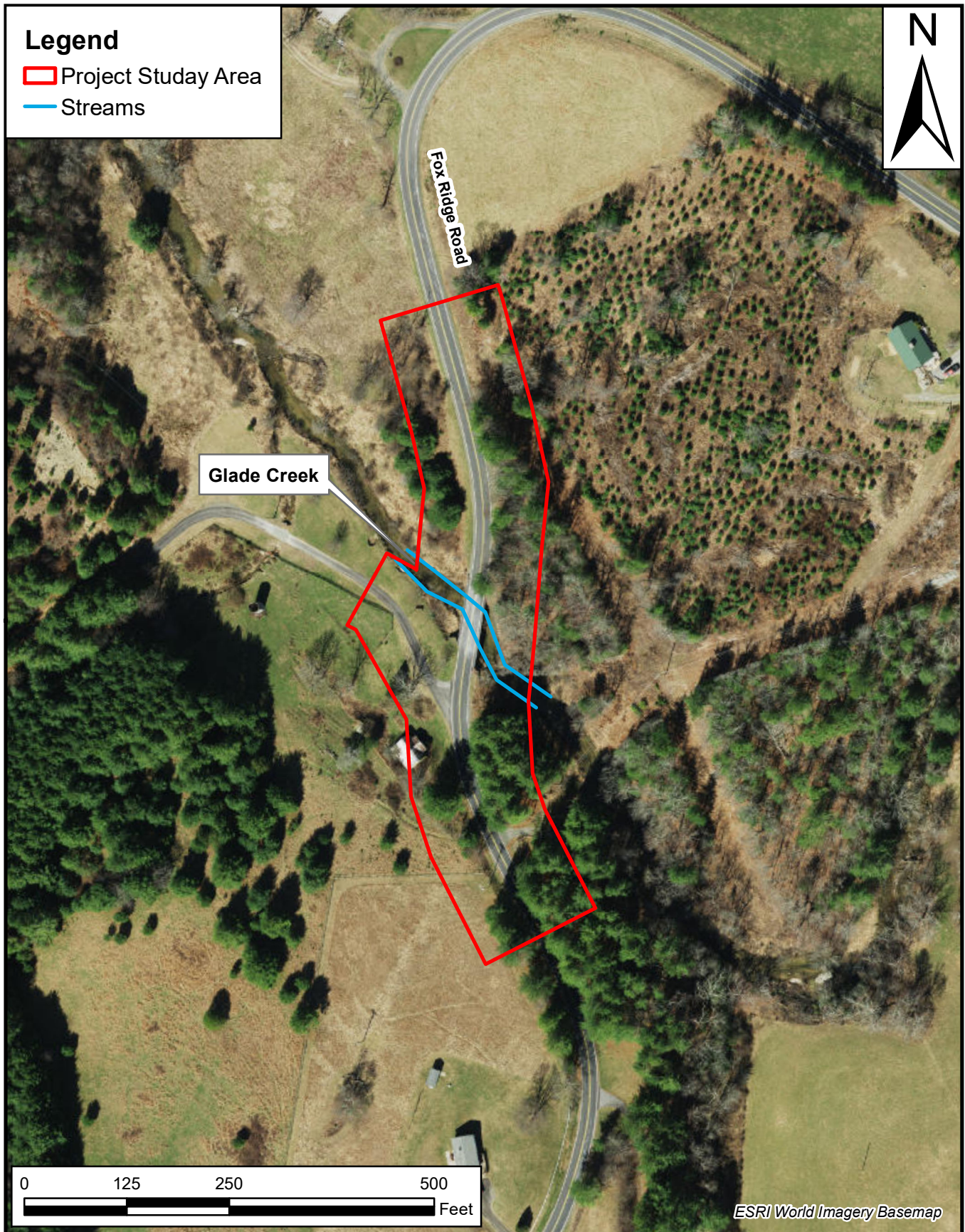
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		Figure 2



NORTH CAROLINA DEPARTMENT
OF TRANSPORTATION
DIVISION OF HIGHWAYS
PROJECT DEVELOPMENT &
ENVIRONMENTAL ANALYSIS BRANCH

Environmental Features Map

WBS No. 17BP.11.R.157
Alleghany Co.
Replace Bidge No. 35 on SR 1422
(Fox Ridge Rd.) over Glade Creek

Date: 10/9/2019

Figure 3

NCNHDE-10503

October 17, 2019

Ryan Elliott
TGS Engineers
706 Hillsborough St
Raleigh, NC 27603
RE: Bridge #35 Alleghany Co.; WBS No. 17BP.11.R.157

Dear Ryan Elliott:

The North Carolina Natural Heritage Program (NCNHP) appreciates the opportunity to provide information about natural heritage resources for the project referenced above.

A query of the NCNHP database indicates that there are records for rare species, important natural communities, natural areas, and/or conservation/managed areas within the proposed project boundary. These results are presented in the attached 'Documented Occurrences' tables and map.

The attached 'Potential Occurrences' table summarizes rare species and natural communities that have been documented within a one-mile radius of the property boundary. The proximity of these records suggests that these natural heritage elements may potentially be present in the project area if suitable habitat exists. Tables of natural areas and conservation/managed areas within a one-mile radius of the project area, if any, are also included in this report.

If a Federally-listed species is documented within the project area or indicated within a one-mile radius of the project area, the NCNHP recommends contacting the US Fish and Wildlife Service (USFWS) for guidance. Contact information for USFWS offices in North Carolina is found here: <https://www.fws.gov/offices/Directory/ListOffices.cfm?statecode=37>.

Please note that natural heritage element data are maintained for the purposes of conservation planning, project review, and scientific research, and are not intended for use as the primary criteria for regulatory decisions. Information provided by the NCNHP database may not be published without prior written notification to the NCNHP, and the NCNHP must be credited as an information source in these publications. Maps of NCNHP data may not be redistributed without permission.

Also please note that the NC Natural Heritage Program may follow this letter with additional correspondence if a Dedicated Nature Preserve, Registered Heritage Area, Clean Water Management Trust Fund easement, or an occurrence of a Federally-listed species is documented near the project area.

If you have questions regarding the information provided in this letter or need additional assistance, please contact Rodney A. Butler at rodney.butler@ncdcr.gov or 919-707-8603.

Sincerely,
NC Natural Heritage Program

Natural Heritage Element Occurrences, Natural Areas, and Managed Areas Intersecting the Project Area
 Bridge #35 Alleghany Co.
 Project No. WBS No. 17BP.11.R.157
 October 17, 2019
 NCNHDE-10503

Element Occurrences Documented Within Project Area

Taxonomic Group	EO ID	Scientific Name	Common Name	Last Observation Date	Element Occurrence Rank	Accuracy	Federal Status	State Status	Global Rank	State Rank
Amphibian	3818	Cryptobranchus alleganiensis alleganiensis	Eastern Hellbender	2018-09-11	AB	3-Medium	---	Special Concern	G3T2	S3
Freshwater Fish	15357	Etheostoma kanawhae	Kanawha Darter	2017-07-26	E	3-Medium	---	Significantly Rare	G4	S3
Freshwater Fish	3031	Exoglossum laurae	Tonguetied Minnow	2017-07-26	E	3-Medium	---	Significantly Rare	G4	S2
Freshwater Fish	28406	Notropis sp. 1	Kanawha Rosyface Shiner	2017-07-26	E	3-Medium	---	Significantly Rare	GNR	S2
Freshwater Fish	4374	Phenacobius teretulus	Kanawha Minnow	2014-09-17	E	3-Medium	---	Special Concern	G3G4	S3

Natural Areas Documented Within Project Area

Site Name	Representational Rating	Collective Rating
NEW/Little River Aquatic Habitat	R2 (Very High)	C3 (High)

No Managed Areas Documented within the Project Area

Definitions and an explanation of status designations and codes can be found at <https://ncnhde.natureserve.org/content/help>. Data query generated on October 17, 2019; source: NCNHP, Q3 Jul 2019. Please resubmit your information request if more than one year elapses before project initiation as new information is continually added to the NCNHP database.

Natural Heritage Element Occurrences, Natural Areas, and Managed Areas Within a One-mile Radius of the Project Area
 Bridge #35 Alleghany Co.
 Project No. WBS No. 17BP.11.R.157
 October 17, 2019
 NCNHDE-10503

Element Occurrences Documented Within a One-mile Radius of the Project Area

Taxonomic Group	EO ID	Scientific Name	Common Name	Last Observation Date	Element Occurrence Rank	Accuracy	Federal Status	State Status	Global Rank	State Rank
Amphibian	3818	Cryptobranchus alleganiensis alleganiensis	Eastern Hellbender	2018-09-11	AB	3-Medium	---	Special Concern	G3T2	S3
Bird	16162	Passerculus sandwichensis	Savannah Sparrow	2000-06-19	C?	5-Very Low	---	Significantly Rare	G5	S2B,S5N
Bird	18512	Passerculus sandwichensis	Savannah Sparrow	1983-06-14	E	3-Medium	---	Significantly Rare	G5	S2B,S5N
Freshwater Fish	15357	Etheostoma kanawhae	Kanawha Darter	2017-07-26	E	3-Medium	---	Significantly Rare	G4	S3
Freshwater Fish	3031	Exoglossum laurae	Tonguetied Minnow	2017-07-26	E	3-Medium	---	Significantly Rare	G4	S2
Freshwater Fish	28406	Notropis sp. 1	Kanawha Rosyface Shiner	2017-07-26	E	3-Medium	---	Significantly Rare	GNR	S2
Freshwater Fish	4374	Phenacobius teretulus	Kanawha Minnow	2014-09-17	E	3-Medium	---	Special Concern	G3G4	S3
Natural Community	27330	Acidic Cove Forest (Typic Subtype)	---	2010	C	3-Medium	---	---	G5	S4
Natural Community	27366	Montane Cliff (Acidic Herb Subtype)	---	2008-09-24	C	3-Medium	---	---	G3G4	S3
Natural Community	27390	Montane Oak--Hickory Forest (Acidic Subtype)	---	2010	C?	3-Medium	---	---	G4G5	S4S5
Vascular Plant	26862	Spartina pectinata	Freshwater Cordgrass	2008-10-15	E	2-High	---	Special Concern Vulnerable	G5	S1

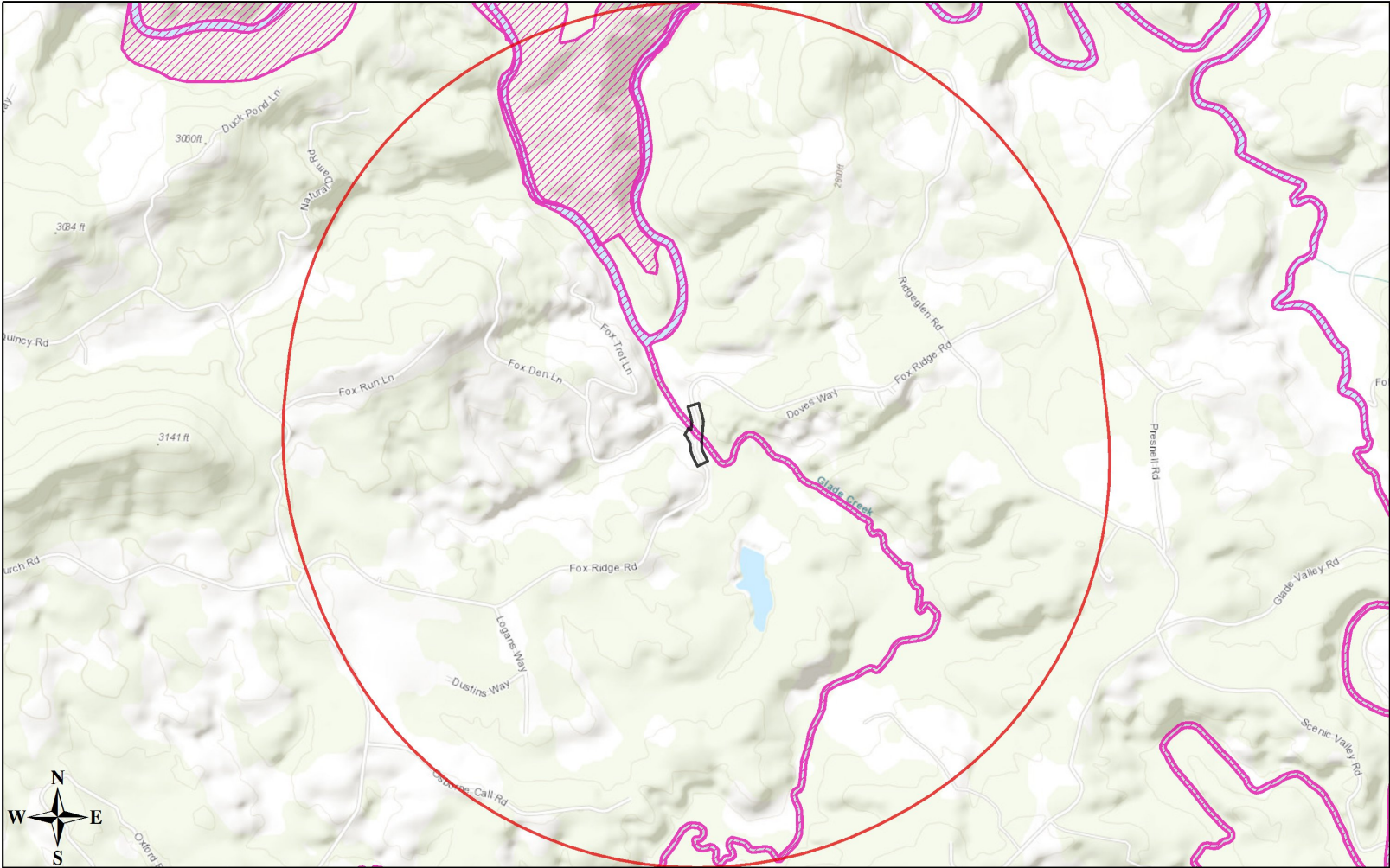
Natural Areas Documented Within a One-mile Radius of the Project Area

Site Name	Representational Rating	Collective Rating
Little River Slopes	R3 (High)	C5 (General)
NEW/Little River Aquatic Habitat	R2 (Very High)	C3 (High)

No Managed Areas are Documented Within a One-mile Radius of the Project Area

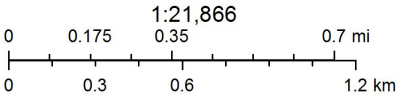
Definitions and an explanation of status designations and codes can be found at <https://ncnhde.natureserve.org/content/help>. Data query generated on October 17, 2019; source: NCNHP, Q3 Jul 2019. Please resubmit your information request if more than one year elapses before project initiation as new information is continually added to the NCNHP database.

NCNHDE-10503: Bridge #35 Alleghany Co.



October 17, 2019

- Project Boundary
- Buffered Project Boundary
- NHP Natural Area (NHNA)



Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community