OMB Number: 4040-0004
Expiration Date: 12/31/2022

Application for Federal Assistance SF-424

* 1. Type of Submission:
- [ ] Preapplication
- [x] Application
- [ ] Changed/Corrected Application

* 2. Type of Application:
- [x] New
- [ ] Continuation
- [ ] Revision

* If Revision, select appropriate letter(s):

* Other (Specify):

* 3. Date Received: 08/17/2021

4. Applicant Identifier:

5a. Federal Entity Identifier:

5b. Federal Award Identifier:

State Use Only:

6. Date Received by State:

7. State Application Identifier:

8. APPLICANT INFORMATION:

* a. Legal Name: Huntingdon County

* b. Employer/Taxpayer Identification Number (EIN/TIN): 236003031

* c. Organizational DUNS: 0397489180000

d. Address:

* Street1: 223 Penn St.

Street2:

* City: Huntingdon

County/Parish: Huntingdon

* State: PA: Pennsylvania

Province:

* Country: USA: UNITED STATES

* Zip / Postal Code: 16652-1457

e. Organizational Unit:

Department Name:

Division Name:

f. Name and contact information of person to be contacted on matters involving this application:

Prefix:

* First Name: Brandon

Middle Name:

* Last Name: Carson

Suffix:

Title: Executive Director

Organizational Affiliation: Alleghenies Broadband, Inc.

* Telephone Number:

Fax Number:

* Email:

Application for Federal Assistance SF-424

*** 9. Type of Applicant 1: Select Applicant Type:**

B: County Government

Type of Applicant 2: Select Applicant Type:

Type of Applicant 3: Select Applicant Type:

* Other (specify):

*** 10. Name of Federal Agency:**

National Telecommunications and Information Admini

11. Catalog of Federal Domestic Assistance Number:

11.031

CFDA Title:

Broadband Infrastructure Program

*** 12. Funding Opportunity Number:**

NTIA-BROADBAND-INFRASTRUCTURE-PROGRAM-21

* Title:

BROADBAND INFRASTRUCTURE PROGRAM

13. Competition Identification Number:

NTIA-BROADBAND-INFRASTRUCTURE-PROGRAM-21

Title:

Broadband Infrastructure Program

14. Areas Affected by Project (Cities, Counties, States, etc.):

1234-Areasaffected_map.pdf | Add Attachment | Delete Attachment | View Attachment

*** 15. Descriptive Title of Applicant's Project:**

Rural Broadband Infrastructure Expansion in the Alleghenies

Attach supporting documents as specified in agency instructions.

Add Attachments | Delete Attachments | View Attachments

Application for Federal Assistance SF-424

16. Congressional Districts Of:

* a. Applicant: 13 | * b. Program/Project: 13

Attach an additional list of Program/Project Congressional Districts if needed.

1259-Congressdist_list.docx | Add Attachment | Delete Attachment | View Attachment

17. Proposed Project:

* a. Start Date: 11/29/2021 | * b. End Date: 11/29/2022

18. Estimated Funding ($):

* a. Federal	20,463,175.30
* b. Applicant	0.00
* c. State	0.00
* d. Local	0.00
* e. Other	2,273,686.14
* f. Program Income	0.00
* g. TOTAL	22,736,861.44

*** 19. Is Application Subject to Review By State Under Executive Order 12372 Process?**

☒ a. This application was made available to the State under the Executive Order 12372 Process for review on 09/15/2021 .

☐ b. Program is subject to E.O. 12372 but has not been selected by the State for review.

☐ c. Program is not covered by E.O. 12372.

*** 20. Is the Applicant Delinquent On Any Federal Debt? (If "Yes," provide explanation in attachment.)**

☐ Yes ☒ No

If "Yes", provide explanation and attach

Add Attachment | Delete Attachment | View Attachment

21. *By signing this application, I certify (1) to the statements contained in the list of certifications and (2) that the statements herein are true, complete and accurate to the best of my knowledge. I also provide the required assurances** and agree to comply with any resulting terms if I accept an award. I am aware that any false, fictitious, or fraudulent statements or claims may subject me to criminal, civil, or administrative penalties. (U.S. Code, Title 218, Section 1001)**

☒ ** I AGREE

** The list of certifications and assurances, or an internet site where you may obtain this list, is contained in the announcement or agency specific instructions.

Authorized Representative:

Prefix: | * First Name: Mark

Middle Name:

* Last Name: Sather

Suffix:

* Title: Huntingdon County Commissioner

* Telephone Number: 8146433091 | Fax Number:

* Email: msather@huntingdoncounty.net

* Signature of Authorized Representative: Zack D Lee | * Date Signed: 08/17/2021

OMB Number: 4040-0008
Expiration Date: 02/28/2022

BUDGET INFORMATION - Construction Programs

NOTE: Certain Federal assistance programs require additional computations to arrive at the Federal share of project costs eligible for participation. If such is the case, you will be notified.

COST CLASSIFICATION	a. Total Cost	b. Costs Not Allowable for Participation	c. Total Allowable Costs (Columns a-b)
1. Administrative and legal expenses	$ 786,127.75	$	$ 786,127.75
2. Land, structures, rights-of-way, appraisals, etc.	$ 7,216,880.00	$	$ 7,216,880.00
3. Relocation expenses and payments	$	$	$
4. Architectural and engineering fees	$ 636,100.70	$	$ 636,100.70
5. Other architectural and engineering fees	$ 47,800.00	$	$ 47,800.00
6. Project inspection fees	$ 75,536.80	$	$ 75,536.80
7. Site work	$ 6,517,248.40	$	$ 6,517,248.40
8. Demolition and removal	$	$	$
9. Construction	$ 5,540,935.50	$	$ 5,540,935.50
10. Equipment	$ 1,916,232.23	$	$ 1,916,232.23
11. Miscellaneous	$	$	$
12. SUBTOTAL *(sum of lines 1-11)*	$ 22,736,861.38	$	$ 22,736,861.38
13. Contingencies	$	$	$
14. SUBTOTAL	$ 22,736,861.38	$	$ 22,736,861.38
15. Project (program) income	$	$	$
16. TOTAL PROJECT COSTS *(subtract #15 from #14)*	$ 22,736,861.38	$	$ 22,736,861.38

FEDERAL FUNDING

17. Federal assistance requested, calculate as follows: (Consult Federal agency for Federal percentage share.) Enter the resulting Federal share.	Enter eligible costs from line 16c Multiply X 90 %	$ 20,463,175.24

ASSURANCES - CONSTRUCTION PROGRAMS

OMB Number: 4040-0009
Expiration Date: 02/28/2022

Public reporting burden for this collection of information is estimated to average 15 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Office of Management and Budget, Paperwork Reduction Project (0348-0042), Washington, DC 20503.

PLEASE DO NOT RETURN YOUR COMPLETED FORM TO THE OFFICE OF MANAGEMENT AND BUDGET. SEND IT TO THE ADDRESS PROVIDED BY THE SPONSORING AGENCY.

NOTE: Certain of these assurances may not be applicable to your project or program. If you have questions, please contact the Awarding Agency. Further, certain Federal assistance awarding agencies may require applicants to certify to additional assurances. If such is the case, you will be notified.

As the duly authorized representative of the applicant:, I certify that the applicant:

1. Has the legal authority to apply for Federal assistance, and the institutional, managerial and financial capability (including funds sufficient to pay the non-Federal share of project costs) to ensure proper planning, management and completion of project described in this application.
2. Will give the awarding agency, the Comptroller General of the United States and, if appropriate, the State, the right to examine all records, books, papers, or documents related to the assistance; and will establish a proper accounting system in accordance with generally accepted accounting standards or agency directives.
3. Will not dispose of, modify the use of, or change the terms of the real property title or other interest in the site and facilities without permission and instructions from the awarding agency. Will record the Federal awarding agency directives and will include a covenant in the title of real property acquired in whole or in part with Federal assistance funds to assure non-discrimination during the useful life of the project.
4. Will comply with the requirements of the assistance awarding agency with regard to the drafting, review and approval of construction plans and specifications.
5. Will provide and maintain competent and adequate engineering supervision at the construction site to ensure that the complete work conforms with the approved plans and specifications and will furnish progressive reports and such other information as may be required by the assistance awarding agency or State.
6. Will initiate and complete the work within the applicable time frame after receipt of approval of the awarding agency.
7. Will establish safeguards to prohibit employees from using their positions for a purpose that constitutes or presents the appearance of personal or organizational conflict of interest, or personal gain.
8. Will comply with the Intergovernmental Personnel Act of 1970 (42 U.S.C. §§4728-4763) relating to prescribed standards of merit systems for programs funded under one of the 19 statutes or regulations specified in Appendix A of OPM's Standards for a Merit System of Personnel Administration (5 C.F.R. 900, Subpart F).
9. Will comply with the Lead-Based Paint Poisoning Prevention Act (42 U.S.C. §§4801 et seq.) which prohibits the use of lead-based paint in construction or rehabilitation of residence structures.
10. Will comply with all Federal statutes relating to non-discrimination. These include but are not limited to: (a) Title VI of the Civil Rights Act of 1964 (P.L. 88-352) which prohibits discrimination on the basis of race, color or national origin; (b) Title IX of the Education Amendments of 1972, as amended (20 U.S.C. §§1681 1683, and 1685-1686), which prohibits discrimination on the basis of sex; (c) Section 504 of the Rehabilitation Act of 1973, as amended (29) U.S.C. §794), which prohibits discrimination on the basis of handicaps; (d) the Age Discrimination Act of 1975, as amended (42 U.S.C. §§6101-6107), which prohibits discrimination on the basis of age; (e) the Drug Abuse Office and Treatment Act of 1972 (P.L. 92-255), as amended relating to nondiscrimination on the basis of drug abuse; (f) the Comprehensive Alcohol Abuse and Alcoholism Prevention, Treatment and Rehabilitation Act of 1970 (P.L. 91-616), as amended, relating to nondiscrimination on the basis of alcohol abuse or alcoholism; (g) §§523 and 527 of the Public Health Service Act of 1912 (42 U.S.C. §§290 dd-3 and 290 ee 3), as amended, relating to confidentiality of alcohol and drug abuse patient records; (h) Title VIII of the Civil Rights Act of 1968 (42 U.S.C. §§3601 et seq.), as amended, relating to nondiscrimination in the sale, rental or financing of housing; (i) any other nondiscrimination provisions in the specific statue(s) under which application for Federal assistance is being made; and (j) the requirements of any other nondiscrimination statue(s) which may apply to the application.

11. Will comply, or has already complied, with the requirements of Titles II and III of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (P.L. 91-646) which provide for fair and equitable treatment of persons displaced or whose property is acquired as a result of Federal and federally-assisted programs. These requirements apply to all interests in real property acquired for project purposes regardless of Federal participation in purchases.

12. Will comply with the provisions of the Hatch Act (5 U.S.C. §§1501-1508 and 7324-7328) which limit the political activities of employees whose principal employment activities are funded in whole or in part with Federal funds.

13. Will comply, as applicable, with the provisions of the Davis-Bacon Act (40 U.S.C. §§276a to 276a-7), the Copeland Act (40 U.S.C. §276c and 18 U.S.C. §874), and the Contract Work Hours and Safety Standards Act (40 U.S.C. §§327-333) regarding labor standards for federally-assisted construction subagreements.

14. Will comply with flood insurance purchase requirements of Section 102(a) of the Flood Disaster Protection Act of 1973 (P.L. 93-234) which requires recipients in a special flood hazard area to participate in the program and to purchase flood insurance if the total cost of insurable construction and acquisition is $10,000 or more.

15. Will comply with environmental standards which may be prescribed pursuant to the following: (a) institution of environmental quality control measures under the National Environmental Policy Act of 1969 (P.L. 91-190) and Executive Order (EO) 11514; (b) notification of violating facilities pursuant to EO 11738; (c) protection of wetlands pursuant to EO 11990; (d) evaluation of flood hazards in floodplains in accordance with EO 11988; (e) assurance of project consistency with the approved State management program developed under the Coastal Zone Management Act of 1972 (16 U.S.C. §§1451 et seq.); (f) conformity of Federal actions to State (Clean Air) implementation Plans under Section 176(c) of the Clean Air Act of 1955, as amended (42 U.S.C. §§7401 et seq.); (g) protection of underground sources of drinking water under the Safe Drinking Water Act of 1974, as amended (P.L. 93-523); and, (h) protection of endangered species under the Endangered Species Act of 1973, as amended (P.L. 93-205).

16. Will comply with the Wild and Scenic Rivers Act of 1968 (16 U.S.C. §§1271 et seq.) related to protecting components or potential components of the national wild and scenic rivers system.

17. Will assist the awarding agency in assuring compliance with Section 106 of the National Historic Preservation Act of 1966, as amended (16 U.S.C. §470), EO 11593 (identification and protection of historic properties), and the Archaeological and Historic Preservation Act of 1974 (16 U.S.C. §§469a-1 et seq).

18. Will cause to be performed the required financial and compliance audits in accordance with the Single Audit Act Amendments of 1996 and OMB Circular No. A-133, "Audits of States, Local Governments, and Non-Profit Organizations."

19. Will comply with all applicable requirements of all other Federal laws, executive orders, regulations, and policies governing this program.

20. Will comply with the requirements of Section 106(g) of the Trafficking Victims Protection Act (TVPA) of 2000, as amended (22 U.S.C. 7104) which prohibits grant award recipients or a sub-recipient from (1) Engaging in severe forms of trafficking in persons during the period of time that the award is in effect (2) Procuring a commercial sex act during the period of time that the award is in effect or (3) Using forced labor in the performance of the award or subawards under the award.

SIGNATURE OF AUTHORIZED CERTIFYING OFFICIAL	TITLE
Zack D Lee	Huntingdon County Commissioner
APPLICANT ORGANIZATION	DATE SUBMITTED
Huntingdon County	08/17/2021

SF-424D (Rev. 7-97) Back

FORM **CD-511**
(REV 1-05)

U.S. DEPARTMENT OF COMMERCE

CERTIFICATION REGARDING LOBBYING

Applicants should also review the instructions for certification included in the regulations before completing this form. Signature on this form provides for compliance with certification requirements under 15 CFR Part 28, 'New Restrictions on Lobbying.' The certifications shall be treated as a material representation of fact upon which reliance will be placed when the Department of Commerce determines to award the covered transaction, grant, or cooperative agreement.

LOBBYING

As required by Section 1352, Title 31 of the U.S. Code, and implemented at 15 CFR Part 28, for persons entering into a grant, cooperative agreement or contract over $100,000 or a loan or loan guarantee over $150,000 as defined at 15 CFR Part 28, Sections 28.105 and 28.110, the applicant certifies that to the best of his or her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, 'Disclosure Form to Report Lobbying.' in accordance with its instructions.

(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure occurring on or before October 23, 1996, and of not less than $11,000 and not more than $110,000 for each such failure occurring after October 23, 1996.

Statement for Loan Guarantees and Loan Insurance

The undersigned states, to the best of his or her knowledge and belief, that:

In any funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this commitment providing for the United States to insure or guarantee a loan, the undersigned shall complete and submit Standard Form-LLL, 'Disclosure Form to Report Lobbying,' in accordance with its instructions.

Submission of this statement is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required statement shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure occurring on or before October 23, 1996, and of not less than $11,000 and not more than $110,000 for each such failure occurring after October 23, 1996.

As the duly authorized representative of the applicant, I hereby certify that the applicant will comply with the above applicable certification.

* NAME OF APPLICANT

Huntingdon County

* AWARD NUMBER

* PROJECT NAME

Rural Broadband Infrastructure Expansion in the Alleghenies

Prefix:

* First Name: Mark

Middle Name:

* Last Name: Sather

Suffix:

* Title: Huntingdon County Commissioner

* SIGNATURE: Zack D Lee

* DATE: 08/17/2021

NTIA Broadband Infrastructure Program 2021

Executive Summary

Project Title: Rural Broadband Infrastructure Expansion in the Alleghenies

Project Applicant: Huntingdon County

Counties to be Served: Huntingdon County, Bedford County, Fulton County, Mifflin County, Juniata County, Franklin County

Purpose: Huntingdon County, in partnership with Fulton and Bedford Counties, Upward Broadband, Crowsnest Broadband, and Alleghenies Broadband, Inc. (ABI), is seeking funding from the National Telecommunications and Information Administration's (NTIA) Broadband Infrastructure Program for the expansion of reliable, high-speed internet service to rural communities in the south-central region of Pennsylvania.

Funding:

Amount Requested: $20,463,175.30
Partnership Cost-share: $2,273,686.14
Total Project Cost: $22,736,861.44

Project Description: The proposed project includes the construction of new infrastructure to support an expansion of fixed wireless service to unserved and underserved residents and businesses within the Southern Alleghenies and surrounding region. In total, the project will result in the construction of 30 new towers and equipment fit ups to 16 existing tower sites, and will provide reliable, high-speed internet service to over 7,000 unserved households throughout the six-county region. By county, the project includes:

- Construction of 10 new towers and 4 equipment fit ups in Bedford County
- Construction of 9 new towers and 9 equipment fit ups in Huntingdon County
- Construction of 8 new towers and 3 equipment fit ups in Fulton County
- Construction of 3 new towers in Mifflin, Juniata, and Franklin Counties

Collaborative Partnerships: Huntingdon County will be partnering with the following entities to complete the project: Fulton County, Bedford County, Upward Broadband, Crowsnest Broadband, and Alleghenies Broadband, Inc.

Project Sustainability & Capacity: Huntingdon, Bedford, and Fulton Counties have previous experience in managing federal grants and engage in broadband planning efforts for the Southern Alleghenies Region on a regular basis. Upward Broadband and Crowsnest Broadband have years of experience in providing fixed wireless internet service to residents and businesses throughout central Pennsylvania. Furthermore, Upward Broadband and Crowsnest Broadband frequently work with the mentioned counties to assist with the decision-making process for broadband investments within the region. Alleghenies Broadband, Inc. or ABI, was formed in late 2020 with the sole purpose of partnering with Internet Service Providers (ISPs) to provide high-speed internet to areas identified as lacking reliable, high-speed internet service by supporting the development of broadband infrastructure throughout the region.

Impact Measures

Construction of 30 new towers

Equipment fit ups to 16 existing tower sites

Provide adequate service to 7,261 unserved households

Provide adequate service to 26,943 unserved individuals

Description of Covered Partnership: The covered partnership for the Rural Broadband Infrastructure Expansion in the Alleghenies project encompasses several public- and private-sector entities located in central Pennsylvania. The partnership includes Huntingdon County, Bedford County, Fulton County, Alleghenies Broadband, Inc. (ABI), Upward Broadband, and Crowsnest Broadband. The three counties (Huntingdon, Bedford, and Fulton) have experience in managing federal grants and engage in broadband planning efforts within the Southern Alleghenies Region on a regular basis. Upward Broadband and Crowsnest Broadband have years of experience in providing fixed wireless internet service to residents and businesses throughout central Pennsylvania. Additionally, these providers work with the counties frequently to assist in the decision-making process for broadband investments within the Region. Alleghenies Broadband, Inc., or ABI was formed in late 2020 with the sole purpose of partnering with ISPs to provide high-speed internet to areas identified as lacking reliable, high-speed internet service by supporting the development of broadband infrastructure throughout the Region.

Please see attached Table of Funded Project Participants and Unfunded Informal Collaborators.

Please see attached Resumes of Key Personnel.

Covered Partnership of "Rural Broadband Infrastructure Expansion in the Alleghenies"						
Entity Name	**POC**	**Title**	**Email**	**Administrative Role**	**Requested Portion of NTIA Funding**	**Provided Portion of Cost-share**
Alleghenies Broadband, Inc.	Brandon Carson	Executive Director		Subrecipient	$4,182,043.74	-
County of Bedford, PA	Barry Dallara	County Commissioner	bdallara@bedfordcountypa.org	Collaborator	-	$560,000
County of Fulton, PA	Randy Bunch	County Commissioner	rbunch@co.fulton.pa.us	Collaborator	-	$360,000
County of Huntingdon, PA	Jeff Thomas	County Commissioner	jthomas@huntingdoncounty.net	Applicant	-	$400,000
Crowsnest Broadband	Dwayne Zimmerman	Owner	info@crowsnestbb.net	Subrecipient	$841,050	-
Upward Broadband	Tim Beiler	Owner	[redacted]	Subrecipient	$15,440,081.56	$953,686.14
Scope of Work	Alleghenies Broadband, Inc.	The scope of work to be undertaken by Alleghenies Broadband, Inc. includes tower construction and the purchase and installation of equipment in partnership with Crowsnest Broadband and Upward Broadband.				
	Crowsnest Broadband	The scope of work to be undertaken by Crowsnest Broadband includes tower construction and the purchase and installation of equipment in Bedford County in partnership with Alleghenies Broadband, Inc.				
	Upward Broadband	The scope of work to be undertaken by Upward Broadband includes tower construction and the purchase and installation of equipment in Fulton, Huntingdon, Mifflin, Juniata, and Franklin Counties in partnership with Alleghenies Broadband, Inc.				

Redaction Explanation:
Upward Staff Personal Information

Description of Project: The Rural Broadband Infrastructure Expansion in the Alleghenies project has a total project cost of approximately $22,736,861.44 and the covered partnership will provide a 10% cost-share in the amount of $2,273,686.14. The federal funding requested for this project is $20,463,175.30. A detailed budget and a budget justification are included as attachments in this application.

If awarded, the funds will be used to construct 30 new towers, as well outfit them with broadband equipment, and to provide 16 existing tower sites with new equipment. The unserved areas that were targeted for this proposal were identified by using various sources of information such as the Southern Alleghenies Regional Broadband Study, FCC 477 Data, and Ookla Speedtest Data, as well as assistance from each of the counties and local ISPs. The tower locations that were selected to service the targeted, unserved areas were identified by Crowsnest Broadband and Upward Broadband in coordination with ABI and the counties. Tower sites were selected based upon ability to service identified areas, location, cost of constructing an access road and extending utilities, and impact on the surrounding environment.

The detailed budget and associated budgetary information were prepared by an engineering firm, in collaboration with ABI, Crowsnest Broadband, and Upward Broadband. Multiple site visits and meetings were held to determine the most cost-efficient and effective locations to expand broadband infrastructure.

While many WISPs have opted for low-cost infrastructure, Upward Broadband and Crowsnest Broadband believe broadband investment should be designed as a long-term solution. Therefore, we are intentional, especially at our tower sites, to have robust electrical supply, backup power plans, secure and significantly sized structures, and durable tower feedlines and tower equipment. While this results in a higher upfront cost, we are confident that these facilities will then serve us well for decades to come.

This series of towers will be connected by a licensed backhaul link generally using radios capable of servicing approximately 1.4 Gbit of symmetrical capacity each. The final leg to the potential client takes place via an unlicensed PtMP (Point to multipoint) connection; this last leg operates in the 2.4 Ghz, 3.65 Ghz, 5Ghz, and 60Ghz spectrum for MMWave technology. Each customer is equipped with an antenna with the size based on the distance from the tower and type of customer usage (personal, business, etc.).

Upward Broadband and Crowsnest Broadband have access to a wide range of tools, vehicles, supplies, buying power, human resources, etc., and those resources can be leveraged to meet our needs. With current experience implementing and managing a WISP, products can be ordered and installations scheduled within a matter of days.

<u>Crowsnest Broadband Customer Pricing</u>

Residential:

↓12Mb/s | ↑10Mb/s Price: $54/month. Activation Fee: $175

↓30Mb/s | ↑20Mb/s Price: $79/month. Activation Fee: $175

↓60Mb/s | ↑30Mb/s Price: $99/month. Activation Fee: $175

↓100Mb/s | ↑40Mb/s Price: $129/month. Activation Fee: $175

↓150Mb/s | ↑45Mb/s Price: $169/month. Activation Fee: $175

Business:

↓12Mb/s | ↑10Mb/s Price: $64/month. Activation Fee: $250

↓30Mb/s | ↑20Mb/s Price: $89/month. Activation Fee: $250

↓60Mb/s | ↑30Mb/s Price: $109/month. Activation Fee: $250

↓100Mb/s | ↑40Mb/s Price: $139/month. Activation Fee: $250

↓150Mb/s | ↑45Mb/s Price: $179/month. Activation Fee: $250

Upward Broadband Customer Pricing

Residential:

↓10Mb/s | ↑2Mb/s Price: $49.95/month. Activation Fee: $149

↓25Mb/s | ↑5Mb/s Price: $69.95/month. Activation Fee: $149

↓50Mb/s | ↑10Mb/s Price: $99.95/month. Activation Fee: $99

↓100Mb/s | ↑20Mb/s Price: $299.95/month. Activation Fee: $99

Business:

↓10Mb/s | ↑10Mb/s Price: $79.95/month. Activation Fee: $199

↓25Mb/s | ↑15Mb/s Price: $99.95/month. Activation Fee: $199

↓50Mb/s | ↑30Mb/s Price: $129.95/month. Activation Fee: $149

↓100Mb/s | ↑60Mb/s Price: $199.95/month. Activation Fee: $149

Activation fee does not cover cost to connect a customer. Upward Broadband initially absorbs that extra expense and has calculated the minimum monthly cost to help recover the expense absorption.

All proposed blocks will have access to a minimum of 25/3Mb/s service but being mindful that customers may have budgetary concerns or simply different priorities, a lower plan than 25/3Mb/s is available for customers. Every household in the PFSA will have access to 25/3Mb/s and offering a lower plan does not add any additional equipment or expenses to the costs shown in this proposal.

Description of Project Service Area: The proposed service area for the project encompasses a broad, rural area of south-central Pennsylvania, including Huntingdon, Bedford, Fulton, Mifflin, Juniata, and Franklin Counties. Many areas in Huntingdon, Bedford, and Fulton Counties that

have been proposed to be served through this project have been previously identified as lacking reliable, high-speed internet service through a broadband study for the Southern Alleghenies Region, which was funded by the Appalachian Regional Commission (ARC) and completed in the spring of 2020. As a result of the study, reports for each county in the eight-county region were developed to inform stakeholders and help guide the decision-making process for improving and expanding broadband infrastructure in the Region. For example, it is noted in the Bedford County Report that, "The center portion of the county, by the FCC definition, is largely served. In the more rural parts of the county designated as underserved and unserved, fixed point wireless broadband is going to be an important strategy for improving Internet service for some years." While counties may differ slightly in size or population, the difficulty of reaching large, rural areas containing mountainous terrain remains similar for each of these counties.

The project completely and partially covers nearly 1,200 unserved/underserved census blocks throughout the six counties. The list of census blocks to be served by the project has been attached. By county, the project will serve 400 census blocks in Bedford County, 329 census blocks in Huntingdon County, 211 census blocks in Fulton County, 119 census blocks in Mifflin County, 111 census blocks in Franklin County, and 27 census blocks in Juniata County. The unserved census blocks were identified by using Fixed Broadband Deployment Data from FCC's Form 477 in comparison with the proposed coverage area.

In total, the project plans to connect approximately 7,261 households in unserved blocks throughout the six-county area. By county, the project will serve 2,103 households in Bedford County, 2,979 households in Huntingdon County, 1,229 in Fulton County, and 950 in Mifflin County. The estimated number of households to be served by this project was determined by using county structure and address point data and selecting data that intersected with the proposed coverage area. The selected structure and address point data was then compared to the identified unserved census block data to produce a final result. It is important to note that structure and/or address point data was not made available for Franklin and Juniata Counties.

The percentage of the total unserved population to be served by the project is 64.5 percent or 17,373 persons for the six-county area. By county, the project will serve 57.9 percent (8,748 persons) of the total unserved population in Bedford County, 63.6 percent (11,094 persons) in Huntingdon County, 73.8 percent (4,029 persons) in Fulton County, and 73.9 percent (3,071 persons) in Mifflin County. Population estimates for the proposed project were calculated by using the results of the household data and multiplying those results, by county, by the Persons per Household value provided through the U.S. Census Bureau's American Community Survey (ACS) 5-Year Estimates for the period of 2015-2019.

Huntingdon is a USDA classified rural county with a population of 45,369 and a population density of 52. The county has a digital distress score of 67.6. The median household income is well below the national average at $ 51,678.00. This project's proposed coverage would provide high speed reliable internet service to 2,979 households. Economists have estimated the average consumer benefits of broadband access to be between $1,500 and $2,200 per year. At an average of $1,850 per household per year, the five-year economic growth benefit of this project is expected to be. $27,555,750.00. The ten-year economic growth benefit of this project is expected

to be $55,111,500.00. The fifteen-year economic growth benefit of this project is expected to be $82,667,250.00

Fulton is a USDA classified rural county with a population of 14,506 and a population density of 33. The county has a digital distress score of 96.8. The median household income is well below the national average at $ 53,476.00. This project's proposed coverage would provide high speed reliable internet service to 1,229 households. Economists have estimated the average consumer benefits of broadband access to be between $1,500 and $2,200 per year. At an average of $1,850 per household per year, the five-year economic growth benefit of this project is expected to be. $11,368,250.00. The ten-year economic growth benefit of this project is expected to be $22,736,500.00. The fifteen-year economic growth benefit of this project is expected to be $34,104,750.00.

Mifflin is a USDA classified rural county with a population of 46,276 and a population density of 113. The county has a digital distress score of 99.1. The median household income is well below the national average at $ 50,219.00. This project's proposed coverage would provide high speed reliable internet service to 950 households. Economists have estimated the average consumer benefits of broadband access to be between $1,500 and $2,200 per year. At an average of $1,850 per household per year, the five-year economic growth benefit of this project is expected to be. $8,787,500.00. The ten-year economic growth benefit of this project is expected to be $17,575,000.00. The fifteen-year economic growth benefit of this project is expected to be $26,362,500.00

Bedford is a USDA classified rural county with a population of 48,337 and a population density of 48. The county has a digital distress score of 91.8. The median household income is well below the national average at $ 50,509.00. This project's proposed coverage would provide high speed reliable internet service to 2,103 households. Economists have estimated the average consumer benefits of broadband access to be between $1,500 and $2,200 per year. At an average of $1,850 per household per year, the five-year economic growth benefit of this project is expected to be. $19,452,750.00. The ten-year economic growth benefit of this project is expected to be $38,905,500.00. The fifteen-year economic growth benefit of this project is expected to be $58,358,250.00

Juniata is a USDA classified rural county with a population of 24,624 and a population density of 63. The county has a digital distress score of 86.1. The median household income is well below the national average at $ 53,879.00. This project's proposed coverage would provide high speed reliable internet service to 27 Census blocks. Economists have estimated the average consumer benefits of broadband access to be between $1,500 and $2,200 per year. Households per affected unserved census block data were not readily available to the applicant but the economic potential is significant.

Franklin is a USDA classified metro county with a population of 154,147 and a population density of 200. The county has a digital distress score of 51. The median household income is equivalent to the national average at $ 63,379.00. Though Franklin County is primarily urban or metro, this project's proposed coverage would provide reliable, high-speed internet service to

111 rural Census blocks found within the county. Economists have estimated the average consumer benefits of broadband access to be between $1,500 and $2,200 per year. Households per affected unserved census block data were not readily available to the applicant but the economic potential is significant.

Previous research on the state of broadband in the region was completed by the Southern Alleghenies Planning and Development Commission (SAP&DC) in its Broadband Feasibility Study. The Study identified unserved and underserved areas in the Southern Alleghenies Region and outlined a potential fixed wireless network that can provide reliable broadband access to unserved rural areas. It also included surveys to gauge public perceptions of broadband in resident's homes and communities. Survey results demonstrate that throughout Bedford, Fulton, and Huntingdon Counties, the majority of residents are dissatisfied with their current internet service. The lack of reliable internet is important to residents, as respondents noted that the quality of broadband service in their area is an important factor in where they chose to live. One resident in Bedford noted they were "considering moving out of the area due to poor internet and inability to work and do online classes at home without interruption." In addition to being dissatisfied with their current broadband service, a majority of respondents in Fulton and Huntingdon Counties stated that they currently have no alternative to their current Internet Provider. A Huntingdon resident stated that not having "to rely on cable/internet would be great. However, it's our only option if we want fast reliable internet." These results demonstrate that broadband service in the region is poor, and a significant number of residents do not have an alternative to their current internet plans. A summary of survey responses has been provided in a table below:

	Bedford	Fulton	Huntingdon
% of respondents that are interested in faster and/or more reliable internet service	92%	95%	95%
% of respondents are "dissatisfied" or "very dissatisfied" with current internet service	53%	75%	66%
% of respondents believe that local Government should help facilitate better internet access	93%	91%	94%

The proposed project will address the following statutory funding priorities:

Funding Priority 1 - Covered broadband projects designed to provide broadband service to the greatest number of households in an eligible service area:

The project will provide reliable, high-speed internet service to portions of three counties in the Southern Alleghenies Region and central Pennsylvania. The use of fixed wireless technology will ensure the tower sites can provide high-quality broadband service to a large geographic area, including households, businesses, and community anchor institutions. The project will provide coverage for approximately 7,261 households in nearly 1,200 unserved/underserved census blocks throughout the six-county service area. The percentage of the total unserved population to be served by the project is 64.5 percent or 17,373 persons for the six-county area. The percentage of the unserved population by county that will be served by the proposed project is as follows:

- Bedford County: 57.9 percent (2,103 households)
- Huntingdon County: 63.6 percent (2,979 households)
- Fulton County: 73.8 percent (1,229 households)
- Mifflin County: 73.9 percent (950 households)

Funding Priority 2 - Covered broadband projects designed to provide broadband service in an eligible service area that is wholly within any area other than: (i) a county, city, or town that has a population of more than 50,000 inhabitants; and (ii) the urbanized area contiguous and adjacent to a city or town of more than 50,000 inhabitants.

The proposed coverage area offered by the wireless tower sites will completely serve areas with populations below the 50,000-inhabitant threshold. All three counties served in this project (Bedford, Huntingdon, and Fulton Counties) have populations of less than 50,000 people. Most of the tower sites are in unserved rural towns with populations of less than 1,000 people, such as Allensville, Burnt Cabins, Cassville, and Waterfall. The wireless tower sites outlined in the application will primarily service remote rural communities with small populations. In addition, the proposed wireless towers will also be capable of microwaving their signal to other towers, thereby expanding the number of rural households and businesses that can be served.

Funding Priority 3 - Covered broadband projects that are the most cost-effective, prioritizing such projects in areas that are the most rural:

By utilizing fixed wireless technology, the proposed broadband projects will provide broadband internet to rural areas in the Southern Alleghenies Region in a cost-effective manner. Wireless technology is also well suited to deliver high-speed internet to a large geographic area, especially rural communities. Wireless also offers the ability to use off-grid solar, which are most common in rural areas. In terms of cost, wireless is significantly less expensive than using either fiber or cable to provide service. Overall, fixed wireless has been identified as the most practical and cost-effective strategy for rural areas in the Southern Alleghenies Region.

Funding Priority 4 - Covered broadband projects designed to provide broadband service with a download speed of not less than 100 megabits per second and an upload speed of not less than 20 megabits per second.

The proposed project sites will utilize fixed wireless technology that will be capable of providing high-speed internet, including download speeds of at least 100 megabits per second (Mbps) and upload speeds of at least 20 Mbps. The use of fixed wireless tower sites will be able to deliver these speeds to any location within the line of sight of the tower, including rural areas.

Scalability: The deployment of the proposed fixed wireless infrastructure will be able to expand over time in order to increase capacity for an expanding customer base with higher usage. The towers will be large enough for mobile carriers to add their broadband equipment, resulting in greater capacity at the site. The towers will also be sufficiently large enough to add new hardware to the tower site, including 5g and fiber technology, which will expand coverage area and increase the number of customers the tower can serve. Using wireless technology, the towers will be able to serve existing as well as future households, businesses, and community anchor institutions, such as county facilities, municipal facilities, libraries, K12 and higher education facilities, fire and rescue stations, and public safety locations. The proposed towers would also be able to serve organizations located in rural areas, such as State Game Lands and State Parks. The technology that will be deployed on these tower sites can also be used on other vertical assets, such as 911 towers, that will provide reliable, high-speed internet to future users.

Project Plan: A project plan is included with this application as a separate attachment.

Description of Project Area: In anticipation of NEPA, the applicant has prepared a preliminary biological assessment utilizing IPAC and the Pennsylvania Department of Conservation and Natural Resources' Conservation Explorer tool. The attached reviews are only intended as guidance for NTIA during the application process. It does not describe final anticipated actions as the course of activity is dependent on award from NTIA and successful NEPA review. The applicant has designed this project to minimize the potential for adverse impacts on the environment. The applicant intends to comply with the environmental and historic preservation requirements applicable to an award received under the Broadband Infrastructure Program (including, but not limited to, the National Environmental Policy Act and the National Historic Preservation Act). The applicant will obtain all necessary federal, State, and local governmental permits and approvals necessary for the proposed work to be conducted. NTIA is encouraged to utilize the two attached preliminary reports, the attached flood maps, the attached KMZs of project area and detailed site descriptions below.

Site 1 - [redacted] is located at [redacted] - [redacted] in Fulton County. The site will be a new construction of a lattice freestanding vertical framework tower at a height of 195' on a concrete pad within a 50' by 100' fenced area. The site will also have an 80"x 80" building to house communications equipment. The site will be enclosed by a 6' high fence and gate. The utility will be served to the site by Grid-tied power. Including the installation of two 3" conduit at a depth of 42" for 3300ft. The site will be accessed by a 15ft wide access road. The access road will be 170ft long. The site is located on [redacted] and borders [redacted] Owner: [redacted]

Site 2 - [redacted] is located at [redacted] - [redacted] in Fulton County. The site will be a new construction of a lattice freestanding vertical framework tower at a height of 195' on a concrete

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pad within a 50’ by 100’ fenced area. The site will also have an 80"x 80" building to house communications equipment. The site will be enclosed by a 6' high fence and gate. The utility will be served to the site by Grid-tied power. Including the installation of two 3" conduit at a depth of 42" for 3168ft. The site will be accessed by a 15ft wide access road. The access road will be 3168ft long. The site is located on [redacted] and borders [redacted]

Site 3 - [redacted] is located at [redacted] - [redacted] in Fulton County. The site will be a new construction of a lattice freestanding vertical framework tower at a height of 195' on a concrete pad within a 50’ by 100’ fenced area. The site will also have an 80"x 80" building to house communications equipment. The site will be enclosed by a 6' high fence and gate. The utility will be served to the site by Grid-tied power. Including the installation of two 3" conduit at a depth of 42" for 5280ft. The site will be accessed by a 15ft wide access road. The access road will be 5280ft long. The site is located on [redacted] and borders [redacted] Wildlife Management Area: [redacted]

Site 4 - [redacted] is located at [redacted] - [redacted] in Fulton County. The site will be a new construction of a lattice freestanding vertical framework tower at a height of 195' on a concrete pad within a 50’ by 100’ fenced area. The site will also have an 80"x 80" building to house communications equipment. The site will be enclosed by a 6' high fence and gate. The utility will be served to the site by Grid-tied power. Including the installation of two 3" conduit at a depth of 42" for 2600ft. The site will be accessed by a 15ft wide access road. The access road will be 900ft long. The site is located on [redacted] and borders [redacted]

Site 5 - [redacted] is located at [redacted] - [redacted] in Fulton County. The site will be a new construction of a lattice freestanding vertical framework tower at a height of 195' on a concrete pad within a 50’ by 100’ fenced area. The site will also have an 80"x 80" building to house communications equipment. The site will be enclosed by a 6' high fence and gate. The utility will be served to the site by Grid-tied power. Including the installation of two 3" conduit at a depth of 42" for 100ft. The site will be accessed by a 15ft wide access road. The access road will be 100ft long. The site is located on [redacted] and borders [redacted] Owner: [redacted]

Site 6 - [redacted] is located at [redacted] - [redacted] in Fulton County. The site will be a new construction of a lattice freestanding vertical framework tower at a height of 195' on a concrete pad within a 50’ by 100’ fenced area. The site will also have an 80"x 80" building to house communications equipment. The site will be enclosed by a 6' high fence and gate. The utility will be served to the site by Grid-tied power. Including the installation of two 3" conduit at a depth of 42" for 5280ft. The site will be accessed by a 15ft wide access road. The access road will be 3960ft long. The site is located on [redacted] and borders [redacted] Owner: [redacted]

Site 7 - [redacted] is located at [redacted] - [redacted] in Fulton County. The site will be a new construction of a lattice freestanding vertical framework tower at a height of 195' on a concrete pad within a 50’ by 100’ fenced area. The site will also have an 80"x 80" building to house communications equipment. The site will be enclosed by a 6' high fence and gate. The utility will

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be served to the site by Grid-tied power. Including the installation of two 3" conduit at a depth of 42" for 5280ft. The site will be accessed by a 15ft wide access road. The access road will be 5280ft long. The site is located on [redacted] and borders [redacted] Wildlife Management Area: [redacted]

Site 8 - [redacted] is located at [redacted] - [redacted] in Fulton County. The site will be a new construction of a lattice freestanding vertical framework tower at a height of 195' on a concrete pad within a 50’ by 100’ fenced area. The site will also have an 80"x 80" building to house communications equipment. The site will be enclosed by a 6' high fence and gate. The utility will be served to the site by Grid-tied power. Including the installation of two 3" conduit at a depth of 42" for 5280ft. The site will be accessed by a 15ft wide access road. The access road will be 5280ft long. The site is located on [redacted] and borders [redacted] Wildlife Management Area: [redacted]

Site 9 - [redacted] is located at [redacted] - [redacted] in Huntingdon County. The site will be a new construction of a lattice freestanding vertical framework tower at a height of 195' on a concrete pad within a 50’ by 100’ fenced area. The site will also have an 80"x 80" building to house communications equipment. The site will be enclosed by a 6' high fence and gate. The utility will be served to the site by Grid-tied power. Including the installation of two 3" conduit at a depth of 42" for 100ft. The site will be accessed by a 15ft wide access road. The access road is extent and sufficient 0ft long. The site is located on [redacted] and borders [redacted]

Site 10 - [redacted] is located at [redacted] - [redacted] in Huntingdon County. The site will be a new construction of a lattice freestanding vertical framework tower at a height of 195' on a concrete pad within a 50’ by 100’ fenced area. The site will also have an 80"x 80" building to house communications equipment. The site will be enclosed by a 6' high fence and gate. The utility will be served to the site by Grid-tied power. Including the installation of two 3" conduit at a depth of 42" for 100ft. The site will be accessed by a 15ft wide access road. The access road is extent and sufficient. The site is located on [redacted] and borders [redacted]

Site 11 - [redacted] is located at [redacted] - [redacted] in Huntingdon County. The site will be a new construction of a lattice freestanding vertical framework tower at a height of 195' on a concrete pad within a 50’ by 100’ fenced area. The site will also have an 80"x 80" building to house communications equipment. The site will be enclosed by a 6' high fence and gate. The utility will be served to the site by Grid-tied power. Including the installation of two 3" conduit at a depth of 42" for 100ft. The site will be accessed by a 15ft wide access road. The access road will be 4000ft long. The site is located on [redacted] and borders [redacted] Owner: [redacted]

Site 12 - [redacted] is located at [redacted] - [redacted] in Huntingdon County. The site will be a new construction of a lattice freestanding vertical framework tower at a height of 195' on a concrete pad within a 50’ by 100’ fenced area. The site will also have an 80"x 80" building to house communications equipment. The site will be enclosed by a 6' high fence and gate. The utility will be served to the site by Off-grid Solar and backup generator. The site will be accessed

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by a 15ft wide access road. The access road will be 10560ft long. The site is located on [redacted] and borders [redacted]

Site 13 - [redacted] is located at [redacted] - [redacted] in Huntingdon County. The site will be a new construction of a lattice freestanding vertical framework tower at a height of 195' on a concrete pad within a 50’ by 100’ fenced area. The site will also have an 80"x 80" building to house communications equipment. The site will be enclosed by a 6' high fence and gate. The utility will be served to the site by Off-grid Solar and backup generator. The site will be accessed by a 15ft wide access road. The access road will be 6300ft long. The site is located on [redacted] and borders [redacted]

Site 14 - [redacted] is located at [redacted] - [redacted] in Huntingdon County. The site will be a new construction of a lattice freestanding vertical framework tower at a height of 195' on a concrete pad within a 50’ by 100’ fenced area. The site will also have an 80"x 80" building to house communications equipment. The site will be enclosed by a 6' high fence and gate. The utility will be served to the site by Grid-tied power. Including the installation of two 3" conduit at a depth of 42" for 300ft. The site will be accessed by a 15ft wide access road. The access road will be 100ft long. The site is located on [redacted] and borders [redacted]

Site 15 - [redacted] is located at [redacted] - [redacted] in Huntingdon County. The site will be a new construction of a lattice freestanding vertical framework tower at a height of 195' on a concrete pad within a 50’ by 100’ fenced area. The site will also have an 80"x 80" building to house communications equipment. The site will be enclosed by a 6' high fence and gate. The utility will be served to the site by Grid-tied power. Including the installation of two 3" conduit at a depth of 42" for 100ft. The site will be accessed by a 15ft wide access road. The access road is extent and sufficient. The site is located on [redacted] and borders [redacted]

Site 16 - [redacted] is located at [redacted] - [redacted] in Huntingdon County. The site will be a new construction of a lattice freestanding vertical framework tower at a height of 195' on a concrete pad within a 50’ by 100’ fenced area. The site will also have an 80"x 80" building to house communications equipment. The site will be enclosed by a 6' high fence and gate. The utility will be served to the site by Off-grid Solar and backup generator. The site will be accessed by a 15ft wide access road. The access road will be 3300ft long. The site is located on [redacted] and borders [redacted] Owner: [redacted]

Site 17 - [redacted] is located at [redacted] - [redacted] in Huntingdon County. The site will be a new construction of a lattice freestanding vertical framework tower at a height of 195' on a concrete pad within a 50’ by 100’ fenced area. The site will also have an 80"x 80" building to house communications equipment. The site will be enclosed by a 6' high fence and gate. The utility will be served to the site by Grid-tied power, including the installation of two 3" conduit at a depth of 42" for 2640ft. The site will be accessed by a 15ft wide access road. The access road will be 2640ft long. The site is located on [redacted] and borders [redacted] Owner: [redacted]

Site 18 - [redacted] is located at [redacted] - [redacted] in Huntingdon County. The site will be a new construction of a lattice freestanding vertical framework tower at a height of 195' on a

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concrete pad within a 50’ by 100’ fenced area. The site will also have an 80"x 80" building to house communications equipment. The site will be enclosed by a 6' high fence and gate. The utility will be served to the site by Grid-tied power. Including the installation of two 3" conduit at a depth of 42" for 600ft. The site will be accessed by a 15ft wide access road. The access road will be 500ft long. The site is located on [redacted] and borders [redacted]

Site 19 - [redacted] is located at [redacted] - [redacted] in Huntingdon County. The site will be a new construction of a lattice freestanding vertical framework tower at a height of 195' on a concrete pad within a 50’ by 100’ fenced area. The site will also have an 80"x 80" building to house communications equipment. The site will be enclosed by a 6' high fence and gate. The utility will be served to the site by Grid-tied power. Including the installation of two 3" conduit at a depth of 42" for 3600ft. The site will be accessed by a 15ft wide access road. The access road will be 1584ft long. The site is located on [redacted] and borders [redacted]

Site 20 - [redacted] is located at [redacted] - [redacted] in Huntingdon County. The site will be a new construction of a lattice freestanding vertical framework tower at a height of 195' on a concrete pad within a 50’ by 100’ fenced area. The site will also have an 80"x 80" building to house communications equipment. The site will be enclosed by a 6' high fence and gate. The utility will be served to the site by Off-grid Solar and backup generator. The site will be accessed by a 15ft wide access road. The access road will be 2000ft long. The site is located on [redacted] and borders [redacted]

Site 21 - Buck Falls is located at 39.907, -78591 in Bedford County. The site will be a new construction of a lattice freestanding vertical framework tower at a height of 195' on a concrete pad within a 50’ by 100’ fenced area. The site will also have an 80"x 80" building to house communications equipment. The site will be enclosed by a 6' high fence and gate. The utility will be served to the site by Grid-tied power. Including the installation of two 3" conduit at a depth of 42" for 1310ft. The site will be accessed by a 15ft wide access road. The access road will be 1310ft long. The site is located on Private lands and borders Private lands.

Site 22 - Rainsburg is located at 39.908, -78.486 in Bedford County. The site will be a new construction of a lattice freestanding vertical framework tower at a height of 195' on a concrete pad within a 50’ by 100’ fenced area. The site will also have an 80"x 80" building to house communications equipment. The site will be enclosed by a 6' high fence and gate. The utility will be served to the site by Grid-tied power. Including the installation of two 3" conduit at a depth of 42" for 1405ft. The site will be accessed by a 15ft wide access road. The access road will be 1405ft long. The site is located on Private lands and borders PA Government lands: Wildlife Management Area: STATE GAME LANDS 97.

Site 23 - North Breezewood is located at 40.047, -78237 in Bedford County. The site will be a new construction of a lattice freestanding vertical framework tower at a height of 195' on a concrete pad within a 50’ by 100’ fenced area. The site will also have an 80"x 80" building to house communications equipment. The site will be enclosed by a 6' high fence and gate. The utility will be served to the site by Grid-tied power, including the installation of two 3" conduit at

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a depth of 42" for 1182ft. The site will be accessed by a 15ft wide access road. The access road will be 1182ft long. The site is located on Private lands and borders Private lands.

Site 24 - Yellow Creek is located at 40.109, -78.367 in Bedford County. The site will be a new construction of a lattice freestanding vertical framework tower at a height of 195' on a concrete pad within a 50’ by 100’ fenced area. The site will also have an 80"x 80" building to house communications equipment. The site will be enclosed by a 6' high fence and gate. The utility will be served to the site by Grid-tied power. Including the installation of two 3" conduit at a depth of 42" for 2594ft. The site will be accessed by a 15ft wide access road. The access road will be 2594ft long. The site is located on Private lands and borders PA Government lands: Wildlife Management Area: STATE GAME LANDS 73.

Site 25 - Imler is located at 40.216, -78.525 in Bedford County. The site will be a new construction of a lattice freestanding vertical framework tower at a height of 195' on a concrete pad within a 50’ by 100’ fenced area. The site will also have an 80"x 80" building to house communications equipment. The site will be enclosed by a 6' high fence and gate. The utility will be served to the site by Grid-tied power. Including the installation of two 3" conduit at a depth of 42" for 2361ft. The site will be accessed by a 15ft wide access road. The access road will be 2361ft long. The site is located on Private lands and borders Private lands.

Site 26 - Queen is located at 40.253, -78.501 in Bedford County. The site will be a new construction of a lattice freestanding vertical framework tower at a height of 195' on a concrete pad within a 50’ by 100’ fenced area. The site will also have an 80"x 80" building to house communications equipment. The site will be enclosed by a 6' high fence and gate. The utility will be served to the site by Grid-tied power. Including the installation of two 3" conduit at a depth of 42" for 3063ft. The site will be accessed by a 15ft wide access road. The access road will be 3063ft long. The site is located on Private lands and borders Private lands.

In preparation for NEPA review the applicant would highlight the following CATEX from DOC as DOC through NTIA is involved in issuing grants for siting, construction, operation, and maintenance, communications systems, and similar electronic equipment. These types of electronic equipment are essential to support the nationwide telecommunications network.

A-2 New construction upon or improvement of land where all of the following conditions are met:

(a) The site is in a developed area and/or a previously disturbed site;

(b) The structure and proposed use are compatible with applicable Federal, tribal, state, and local planning and zoning standards and consistent with federally approved state coastal management programs;

(c) The proposed use will not substantially increase the number of motor vehicles at the facility or in the area;

(d) The site and scale of construction or improvement are consistent with those of existing, adjacent, or nearby buildings, and;

(e) The construction or improvement will not result in uses that exceed existing support infrastructure capacities (roads, sewer, water, parking, etc.).

A-4 Siting/construction/operation of microwave/radio communication towers less than 200 feet in height without guy wires on previously disturbed ground.

A-5 Retrofit/upgrade existing microwave/radio communication towers that do not require ground disturbance.

A-6 Adding fiber optic cable to transmission structures or burying fiber optic cable in existing transmission line rights-of-way.

Description of Any Support Provided: The broadband providers of this covered partnership have not received any federal funds related to the project service area.

Description of Labor Standards: The proposed project will adhere to all labor standards established by the Davis-Bacon Act of 1931, including the setting of labor wages at or above the prevailing wage rate as established. The proposed project will also incorporate strong labor protections through labor agreements and community benefit agreements, as well as local hire provisions.

Huntingdon County, Pennsylvania
OFFICE OF
COUNTY COMMISSIONERS
HUNTINGDON, PENNSYLVANIA 16652

PHONE: 814-643-3091
FAX: 814-643-8152

November 17, 2021

Herbert C. Hoover Building (HCHB)
U.S. Department of Commerce
National Telecommunications and Information Administration
1401 Constitution Avenue, N.W.
Washington, D.C. 20230

To whom it may concern:

Huntingdon County, in partnership with Fulton and Bedford counties, Upward Broadband, Crowsnest Broadband, and Alleghenies Broadband, Inc. (ABI), is seeking funding from the National Telecommunications and Information Administration's (NTIA) Broadband Infrastructure Program for the expansion of reliable, high-speed internet service to rural communities in the south-central region of Pennsylvania. The proposed project includes the construction of new infrastructure to support an expansion of fixed wireless service to unserved and underserved residents and businesses within the Southern Alleghenies and surrounding region.

As the authorized representative for Huntingdon County in this project proposal, I write this letter to request a one-year extension on the period of performance for the project, should the project be awarded.

Should you have any questions regarding our position in the project proposal or require any additional information, please feel free to contact Deputy Chief Clerk, Tracey Rhodes at 814-643-3091 or tjrhodes@huntingdoncounty.net

Mark Sather
Chairman

Scott Walls
Vice Chairman

Jeff Thomas
Secretary

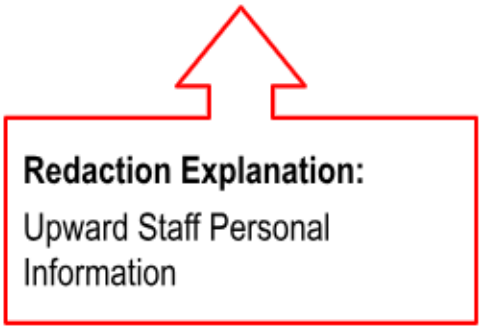
Broadband Expansion In The Alleghenies

Biological Assessment

Prepared using IPaC

Generated by [redacted]

August 14, 2021



The purpose of this Biological Assessment (BA) is to assess the effects of the proposed project and determine whether the project may affect any Federally threatened, endangered, proposed or candidate species. This BA is prepared in accordance with legal requirements set forth under Section 7 of the Endangered Species Act (16 U.S.C. 1536 (c)).

In this document, any data provided by U.S. Fish and Wildlife Service is based on data as of August 14, 2021.

Prepared using IPaC version 5.63.1

Broadband Expansion In The Alleghenies Biological Assessment

Table Of Contents

1 Description Of The Action

1.1 Project Name

Broadband Expansion in the Alleghenies

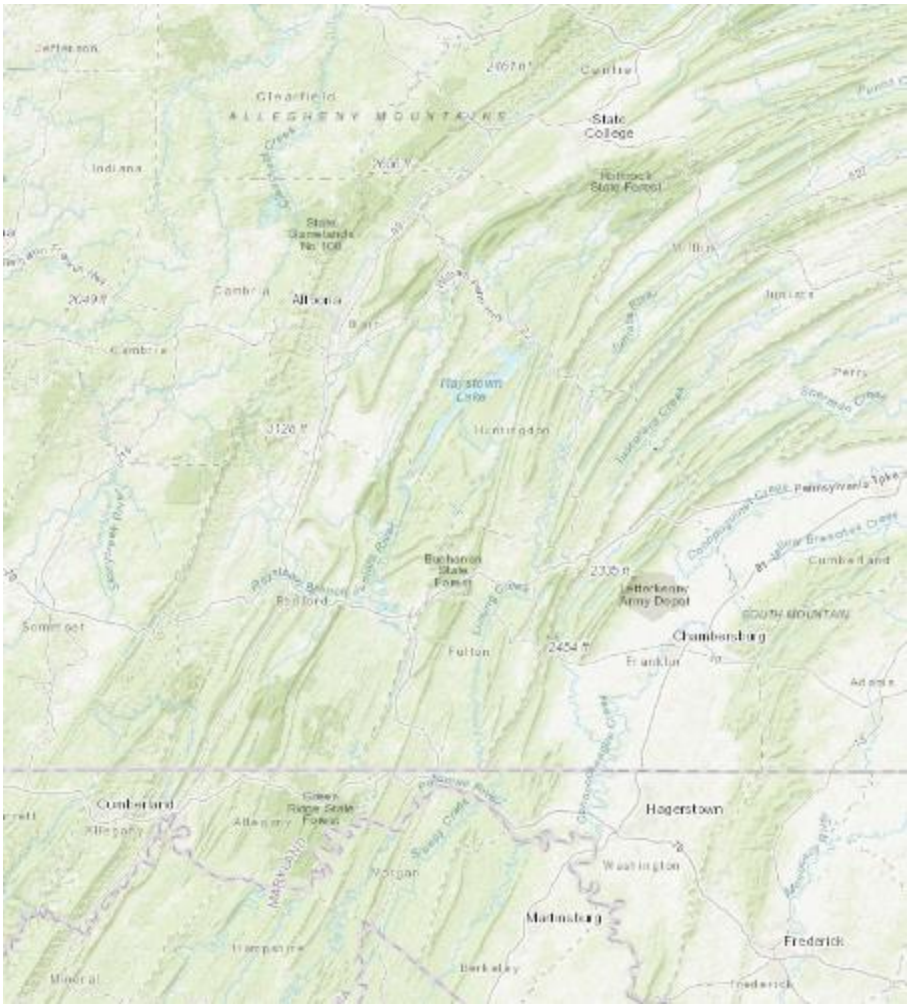
1.2 Executive Summary

This Environmental review is preliminary and only intended as guidance for NTIA during application process. It does not describe final anticipated actions as the course of activity is dependent on award from NTIA and successful NEPA review.

Effect determination summary

1.3 Project Description

1.3.1 Location



LOCATION
Pennsylvania

1.3.2 Description of project habitat

Currently Unknown

1.3.3 Project proponent information

Provide information regarding who is proposing to conduct the project, and their contact information. Please provide details on whether there is a Federal nexus.

Requesting Agency

Upward Broadband

FULL NAME
[redacted]

STREET ADDRESS
[redacted]

CITY
Harrisonburg

STATE
VA

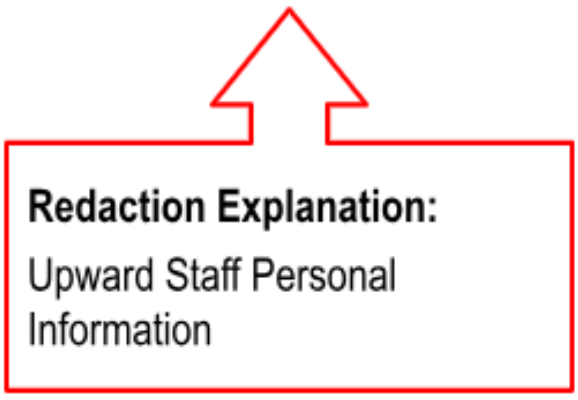
ZIP
22801

PHONE NUMBER
[redacted]

E-MAIL ADDRESS
[redacted]

Lead agency

Lead agency is the same as requesting agency



1.3.4 Project purpose

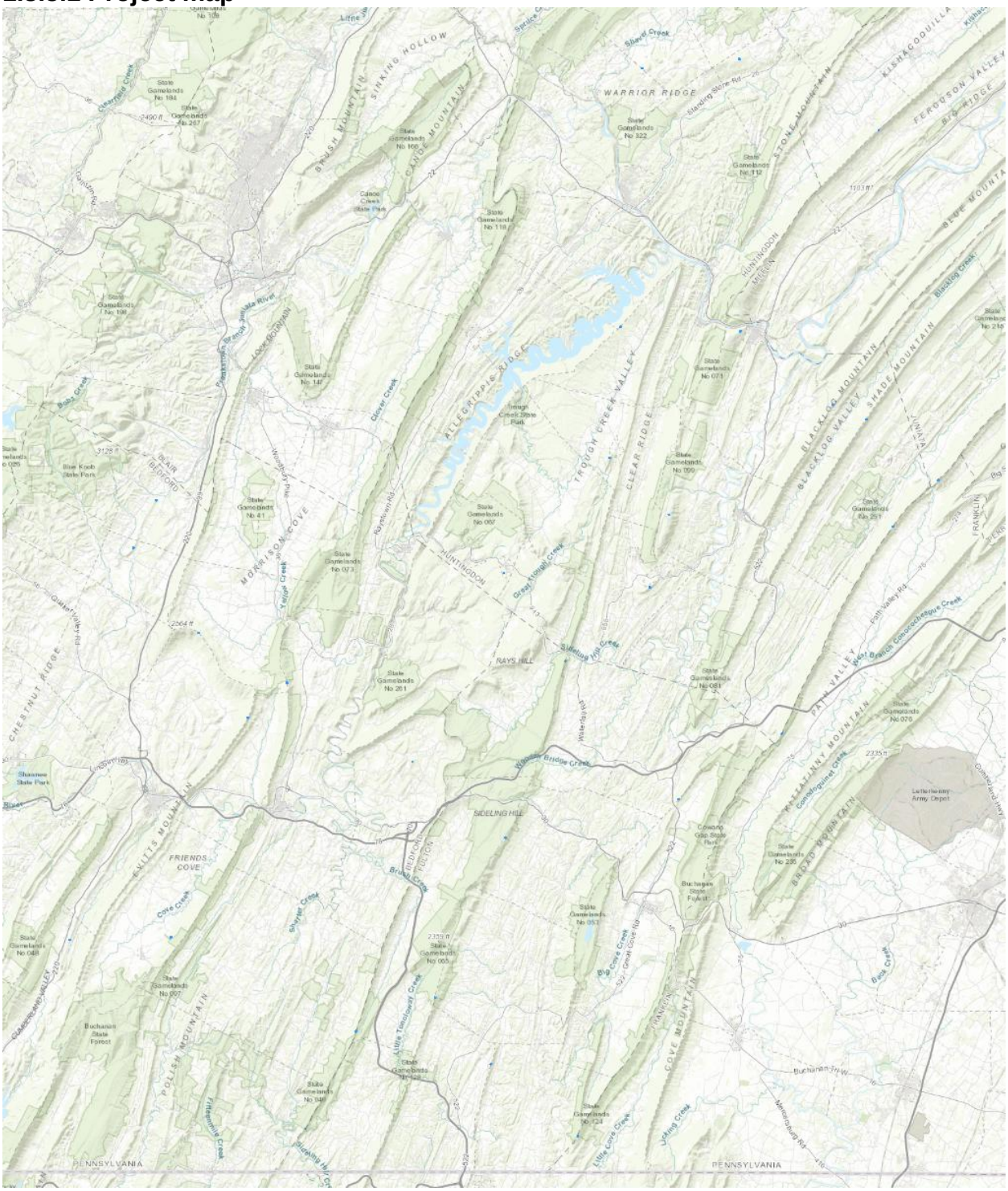
The project will provide reliable, high-speed internet service to portions of six counties in the Southern Alleghenies Region and central Pennsylvania. The use of fixed wireless technology will ensure the tower sites can provide high-quality broadband service to a large geographic area, including households, businesses, and community anchor institutions. The project will provide coverage for approximately 17,373 persons in over 1,200 unserved/underserved census blocks throughout the six county service area.

By utilizing fixed wireless technology, the proposed broadband projects will provide broadband internet to rural areas in the Southern Alleghenies region in a cost-effective manner. Wireless technology is also well suited to deliver high-speed internet to a large geographic area, especially rural communities. Wireless also offers the ability to use off-grid solar which are most common in rural areas. In terms of cost, Wireless is significantly less expensive than using either fiber or cable to provide service. Overall, fixed wireless has been identified as the most practical and cost-effective strategy for rural areas in the Southern Alleghenies region.

1.3.5 Project type and deconstruction

This project is a residential, commercial, industrial development project.

1.3.5.1 Project map



LEGEND

Project footprint

Layer 1: Access road construction, adjuster surveys/assessments, geotechnical investigation, in-ground utilities construction, install permanent fence, install photovoltaic panels, install tower components, install utilities, maintain access road, tower installation, access road (structure)

1.3.5.2 access road

Structure completion date
March 31, 2022

Removal/decommission date (if applicable)
Not applicable

Stressors

PLANT FEATURES

- Increase in invasive plant species (native and non-native)

SOIL AND SEDIMENT

- Increase in dust

ENVIRONMENTAL PROCESSES

- Increase in surface runoff

Description
See Project Application

1.3.5.3 access road construction

Activity start date
March 31, 2022

Activity end date
Unspecified

Stressors

ANIMAL FEATURES
- Decrease in hibernacula

PLANT FEATURES
- Decrease in trees
- Decrease in vegetation

ENVIRONMENTAL QUALITY FEATURES
- Increase in soil moisture/saturation

SOIL AND SEDIMENT
- Increase in dust
- Increase in soil compaction

ENVIRONMENTAL PROCESSES
- Change in surface runoff
- Increase in erosion
- Increase in sedimentation rates
- Increase in surface runoff

HUMAN ACTIVITIES
- Increase in ground vibrations
- Increase in soil disturbance

Description
See Project Application

1.3.5.4 adjuster surveys/assessments

Activity start date
Unspecified

Activity end date
Unspecified

Stressors
This activity is not expected to have any impact on the environment.

Description
See project description

1.3.5.5 geotechnical investigation

Activity start date
Unspecified

Activity end date
Unspecified

Stressors

HUMAN ACTIVITIES

- Increase in ground vibrations

Description
See project description

1.3.5.6 in-ground utilities construction

Activity start date
March 31, 2022

Activity end date
Unspecified

Stressors

PLANT FEATURES

- Decrease in trees
- Decrease in vegetation

ENVIRONMENTAL QUALITY FEATURES

- Increase in soil moisture/saturation

SOIL AND SEDIMENT

- Increase in dust
- Increase in soil compaction

ENVIRONMENTAL PROCESSES

- Change in surface runoff
- Increase in erosion
- Increase in sedimentation rates
- Increase in surface runoff

HUMAN ACTIVITIES

- Increase in ground vibrations
- Increase in human presence
- Increase in noise
- Increase in soil disturbance
- Increase in vehicle traffic

Description
See project description

1.3.5.7 install permanent fence

Activity start date
May 31, 2022

Activity end date
Unspecified

Stressors

PLANT FEATURES

- Decrease in vegetation

HUMAN ACTIVITIES

- Increase in noise
- Increase in soil disturbance

Description
See project description

1.3.5.8 install photovoltaic panels

Activity start date
May 31, 2022

Activity end date
Unspecified

Stressors
This activity is not expected to have any impact on the environment.

Description
See project description

1.3.5.9 install tower components

Activity start date
September 30, 2022

Activity end date
Unspecified

Stressors

PLANT FEATURES
- Decrease in vegetation

SOIL AND SEDIMENT
- Increase in dust
- Increase in soil compaction

HUMAN ACTIVITIES
- Increase in ground vibrations
- Increase in noise
- Increase in soil disturbance

Description
See project description

1.3.5.10 install utilities

Activity start date
March 31, 2022

Activity end date
Unspecified

Stressors

HUMAN ACTIVITIES
- Increase in noise

Description
See project description

1.3.5.11 maintain access road

Activity start date
March 31, 2022

Activity end date
Unspecified

Stressors

ENVIRONMENTAL QUALITY FEATURES
- Increase in soil moisture/saturation

SOIL AND SEDIMENT
- Increase in soil compaction

ENVIRONMENTAL PROCESSES
- Increase in erosion
- Increase in sedimentation rates
- Increase in surface runoff

HUMAN ACTIVITIES
- Increase in ground vibrations
- Increase in human presence
- Increase in noise
- Increase in soil disturbance
- Increase in vehicle traffic

Description
See project description

1.3.5.12 tower installation

Activity start date
September 30, 2022

Activity end date
Unspecified

Stressors

PLANT FEATURES
- Decrease in vegetation

ENVIRONMENTAL QUALITY FEATURES
- Increase in soil moisture/saturation

SOIL AND SEDIMENT
- Increase in dust
- Increase in soil compaction

ENVIRONMENTAL PROCESSES
- Increase in erosion
- Increase in sedimentation rates

HUMAN ACTIVITIES
- Increase in ground vibrations
- Increase in human presence
- Increase in noise
- Increase in soil disturbance
- Increase in vehicle traffic

Description
See project description

1.3.6 Anticipated environmental stressors
Describe the anticipated effects of your proposed project on the aspects of the land, air and water that will occur due to the activities above. These should be based on the activity deconstructions done in the previous section and will be used to inform the action area.

1.3.6.1 Animal Features

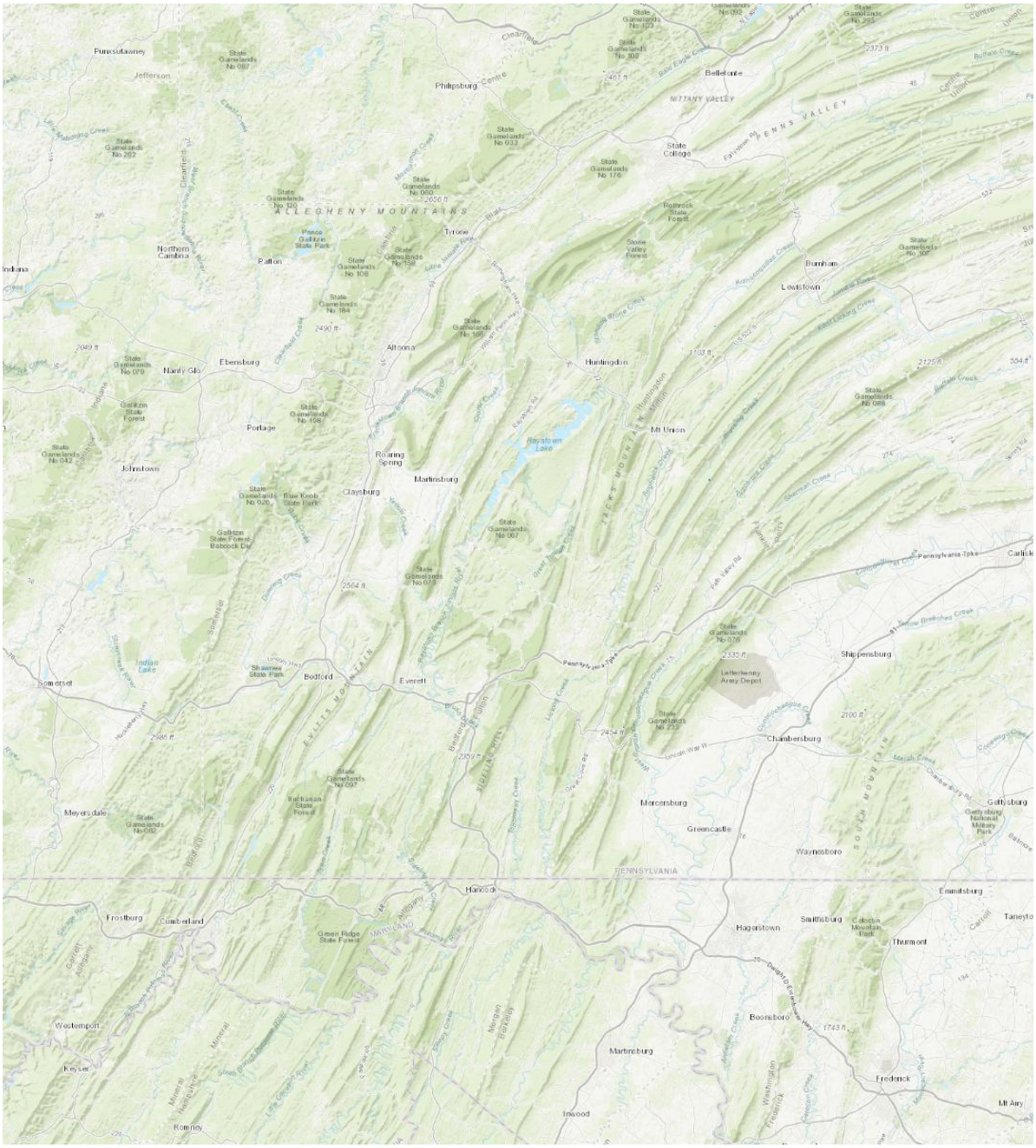
Individuals from the Animalia kingdom, such as raptors, mollusks, and fish. This feature also includes byproducts and remains of animals (e.g., carrion, feathers, scat, etc.), and animal-related structures (e.g., dens, nests, hibernacula, etc.).

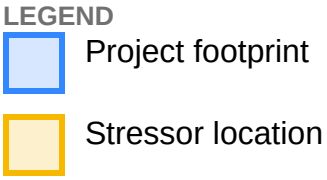
1.3.6.1.1 Decrease in hibernacula

ANTICIPATED MAGNITUDE

See project description

STRESSOR LOCATION




LEGEND
Project footprint
Stressor location

CONSERVATION MEASURES

- TBD

STRUCTURES AND ACTIVITIES

- Access road construction

1.3.6.2 Plant Features

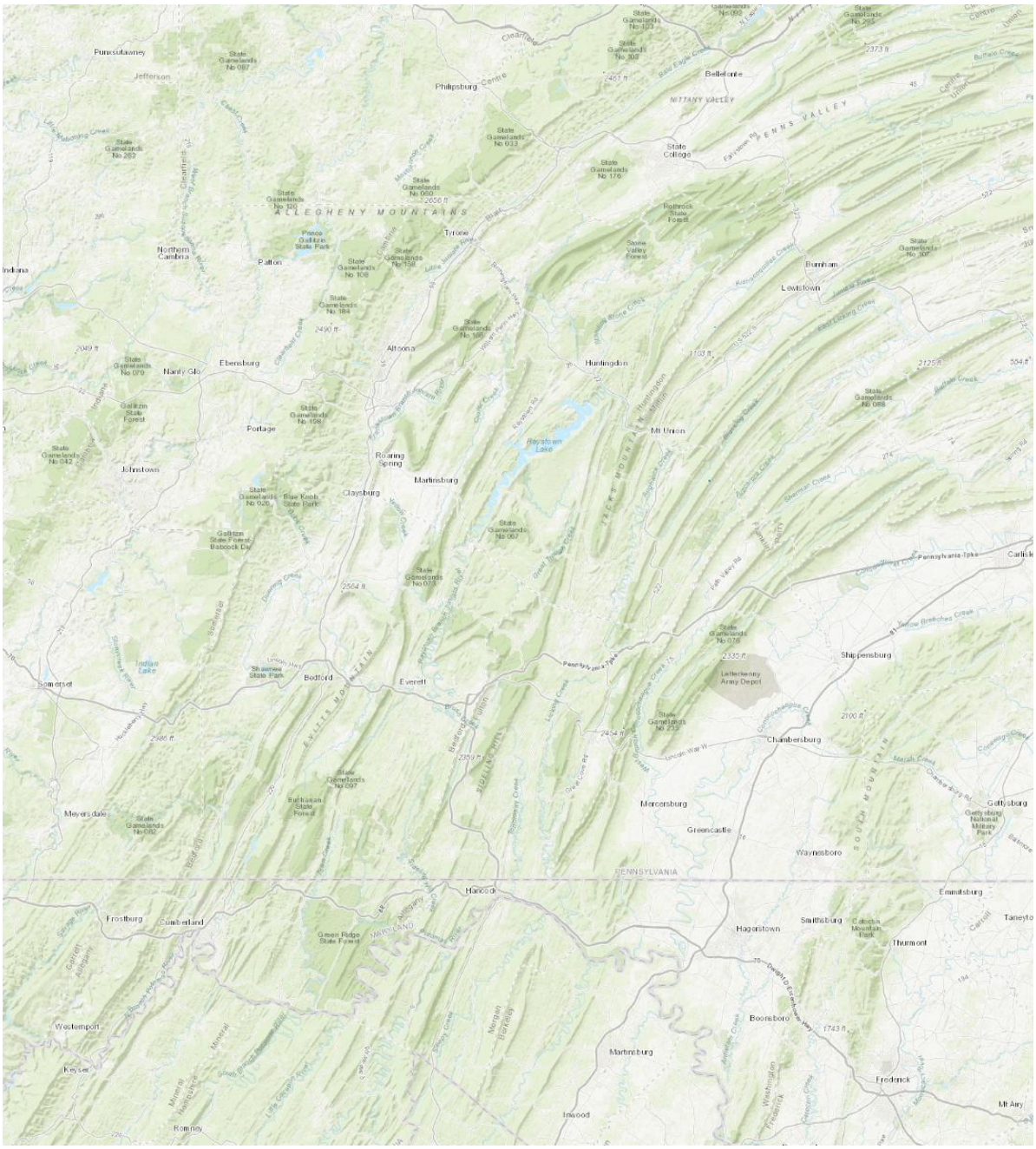
Individuals from the Plantae kingdom, such as trees, shrubs, herbs, grasses, ferns, and mosses. This feature also includes products of plants (e.g., nectar, flowers, seeds, etc.).

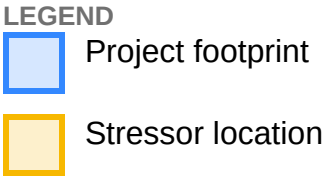
1.3.6.2.1 Decrease in trees

ANTICIPATED MAGNITUDE

See project description

STRESSOR LOCATION




LEGEND
Project footprint
Stressor location

CONSERVATION MEASURES

- TBD

STRUCTURES AND ACTIVITIES

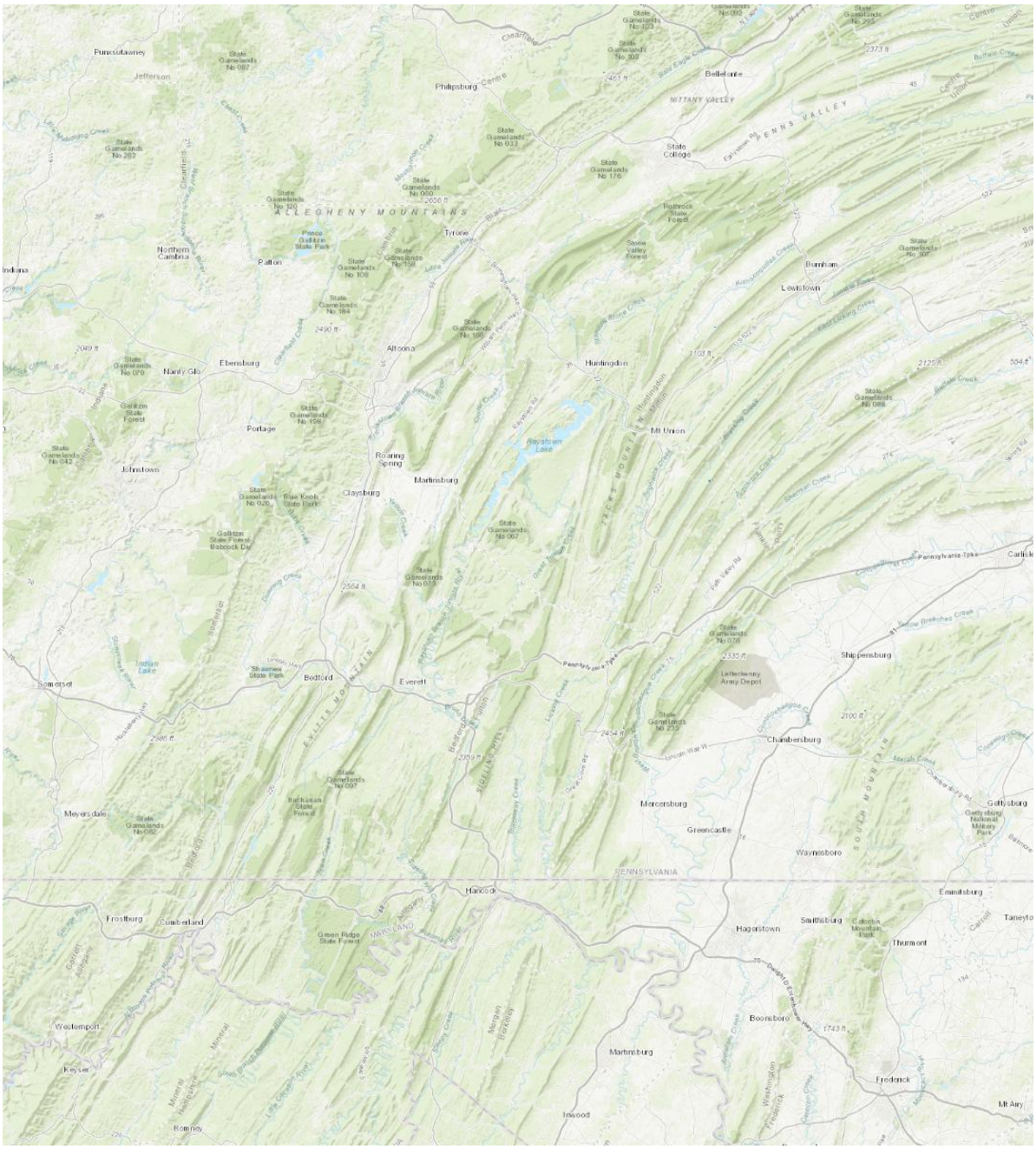
- Access road construction
- In-ground utilities construction

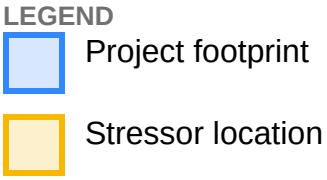
1.3.6.2.2 Decrease in vegetation

ANTICIPATED MAGNITUDE

See project description

STRESSOR LOCATION




LEGEND
Project footprint
Stressor location

CONSERVATION MEASURES

No conservation measures for this stressor

STRUCTURES AND ACTIVITIES

- Access road construction
- Tower installation
- Install tower components
- Install permanent fence
- In-ground utilities construction

1.3.6.2.3 Increase in invasive plant species (native and non-native)

ANTICIPATED MAGNITUDE

This stressor is not expected to occur; the following explanation has been provided:

See project description

CONSERVATION MEASURES

- TBD

STRUCTURES AND ACTIVITIES

- Access road

1.3.6.3 Aquatic Features

Bodies of water on the landscape, such as streams, rivers, ponds, wetlands, etc., and their physical characteristics (e.g., depth, current, etc.). This feature includes the groundwater and its characteristics. Water quality attributes (e.g., turbidity, pH, temperature, DO, nutrients, etc.) should be placed in the Environmental Quality Features.

1.3.6.4 Environmental Quality Features

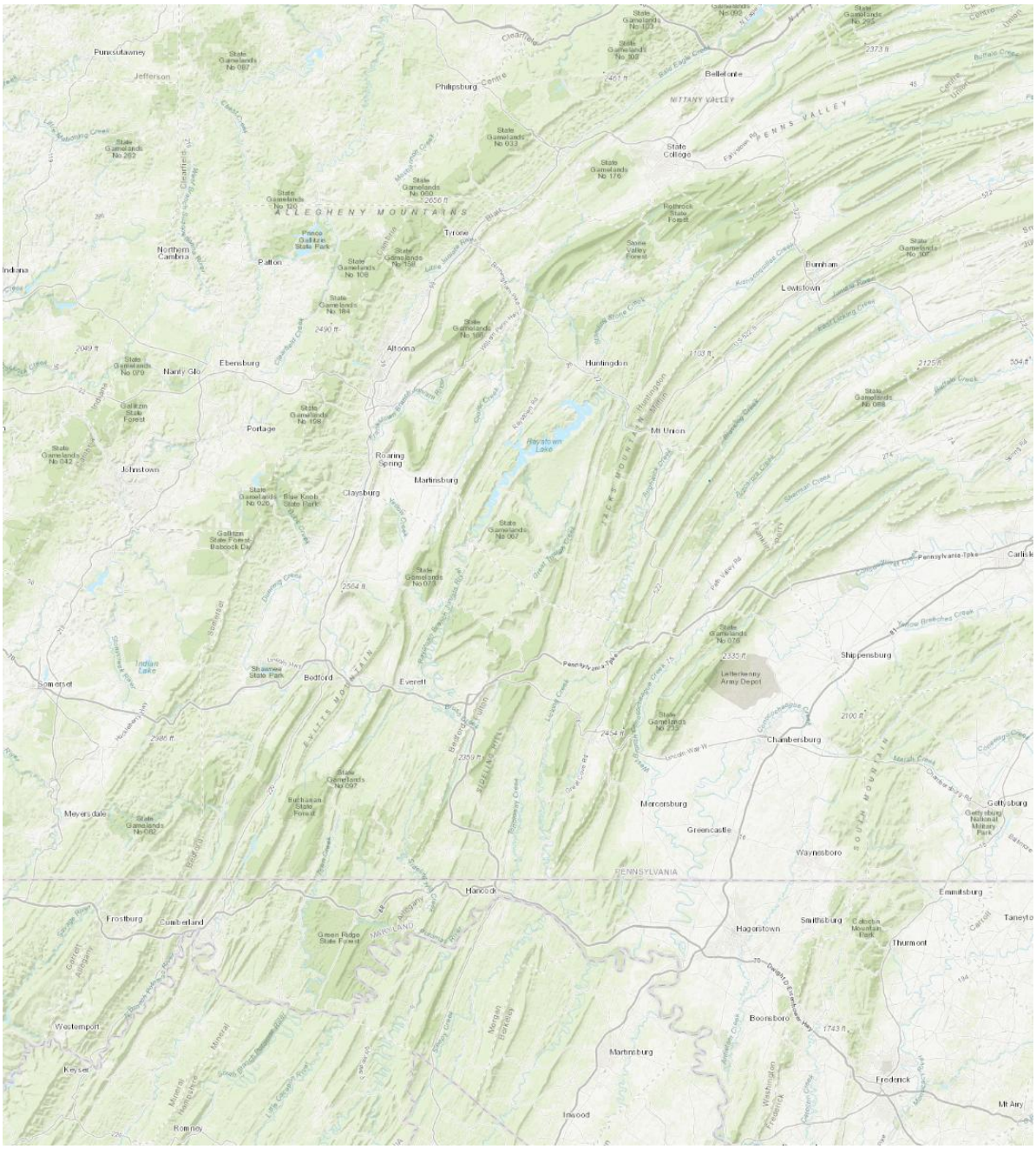
Abiotic attributes of the landscape (e.g., temperature, moisture, slope, aspect, etc.).

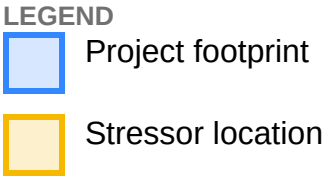
1.3.6.4.1 Increase in soil moisture/saturation

ANTICIPATED MAGNITUDE

See project description

STRESSOR LOCATION




LEGEND
Project footprint
Stressor location

CONSERVATION MEASURES

No conservation measures for this stressor

STRUCTURES AND ACTIVITIES

- Access road construction
- Tower installation
- Maintain access road
- In-ground utilities construction

1.3.6.5 Soil and Sediment

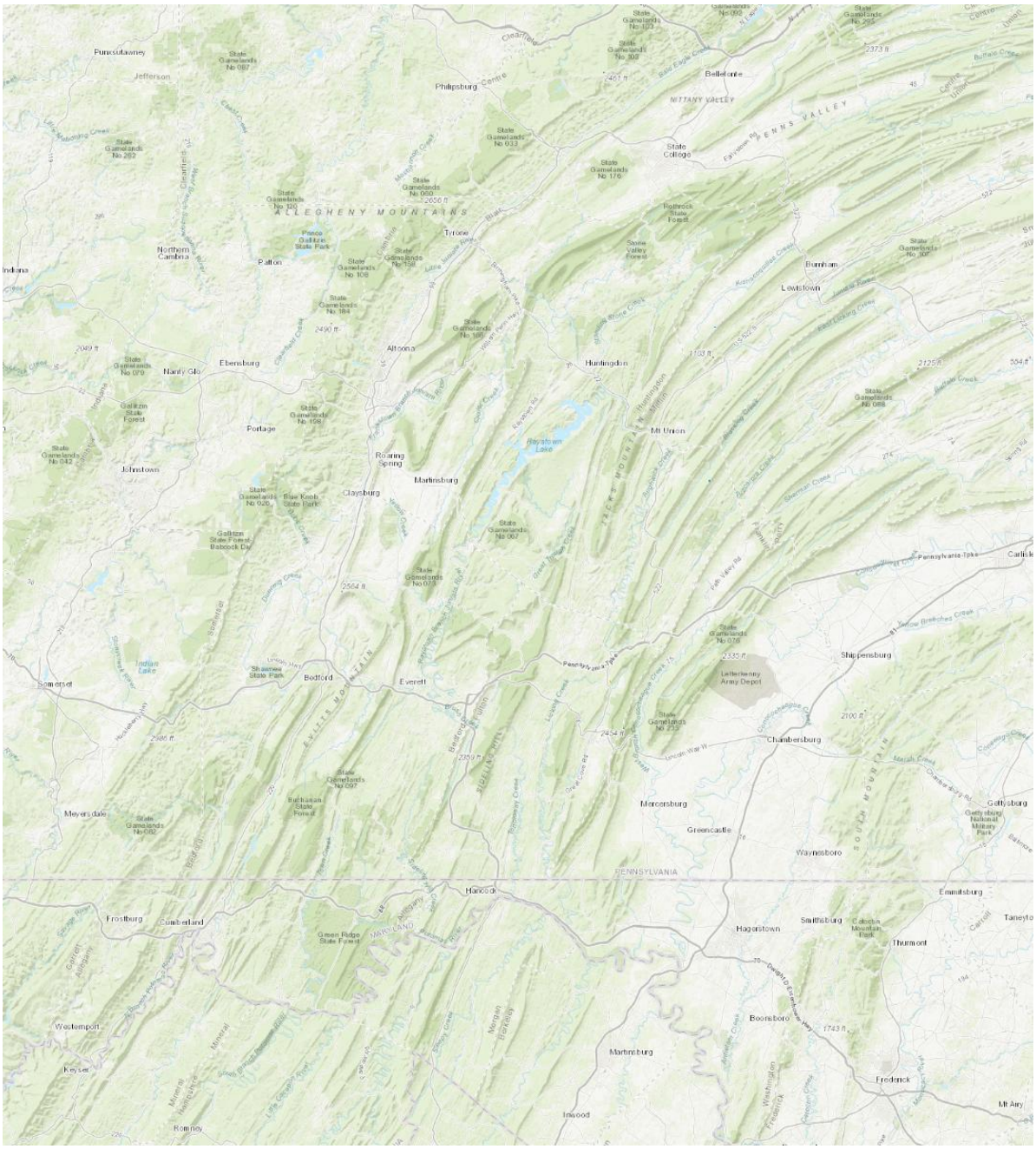
The topmost layer of earth on the landscape and its components (e.g., rock, sand, gravel, silt, etc.). This feature includes the physical characteristics of soil, such as depth, compaction, etc. Soil quality attributes (e.g, temperature, pH, etc.) should be placed in the Environmental Quality Features.

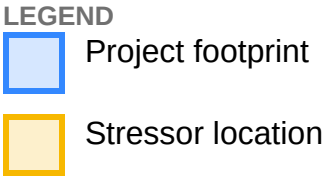
1.3.6.5.1 Increase in dust

ANTICIPATED MAGNITUDE

See project description

STRESSOR LOCATION




LEGEND
Project footprint
Stressor location

CONSERVATION MEASURES

- TBD

STRUCTURES AND ACTIVITIES

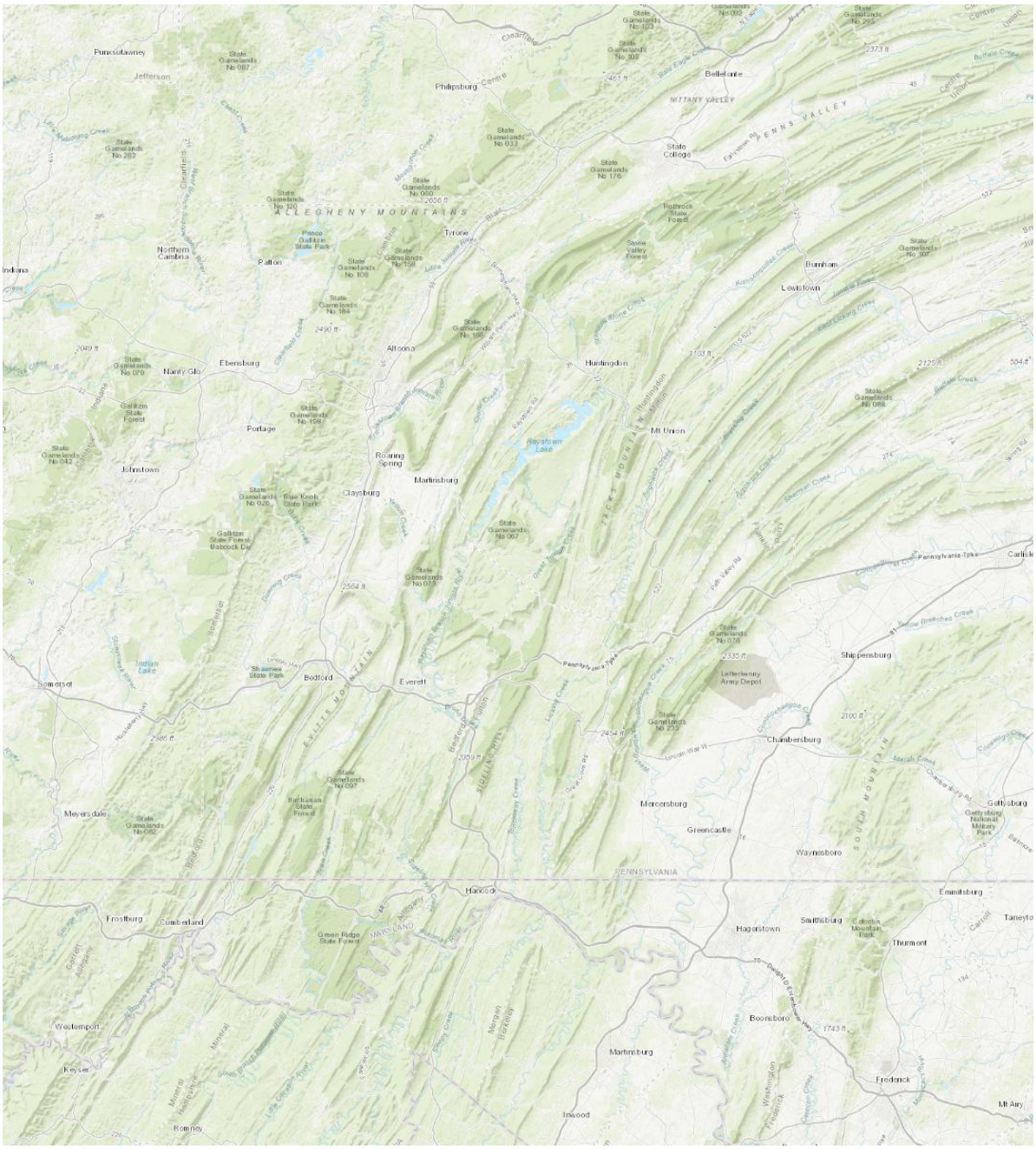
- Access road construction
- Tower installation
- Install tower components
- Access road
- In-ground utilities construction

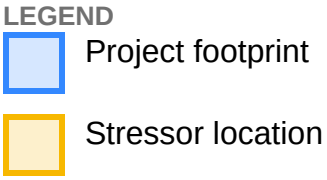
1.3.6.5.2 Increase in soil compaction

ANTICIPATED MAGNITUDE

Unknown

STRESSOR LOCATION




LEGEND
Project footprint
Stressor location

CONSERVATION MEASURES

- Restrict off-road activites
- Restrict siting

STRUCTURES AND ACTIVITIES

- Access road construction
- Tower installation
- Install tower components
- Maintain access road
- In-ground utilities construction

1.3.6.6 Environmental Processes

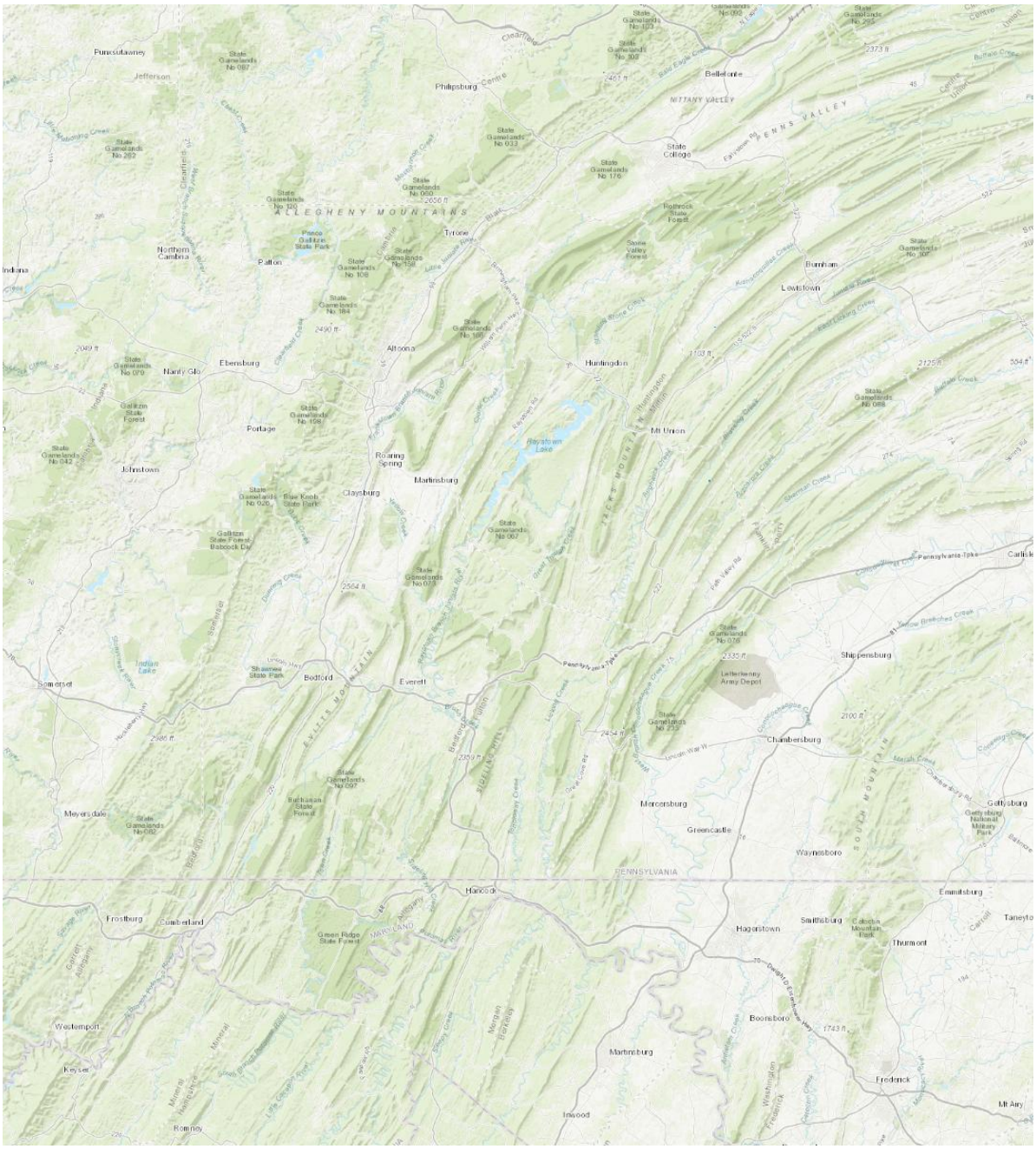
Abiotic processes that occur in the natural environment (e.g., erosion, precipitation, flood frequency, photoperiod, etc.).

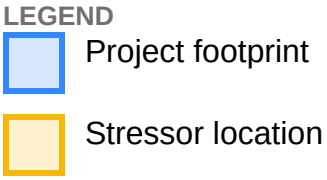
1.3.6.6.1 Change in surface runoff

ANTICIPATED MAGNITUDE

Unknown

STRESSOR LOCATION




LEGEND
Project footprint
Stressor location

CONSERVATION MEASURES

- Restrict off-road activites

STRUCTURES AND ACTIVITIES

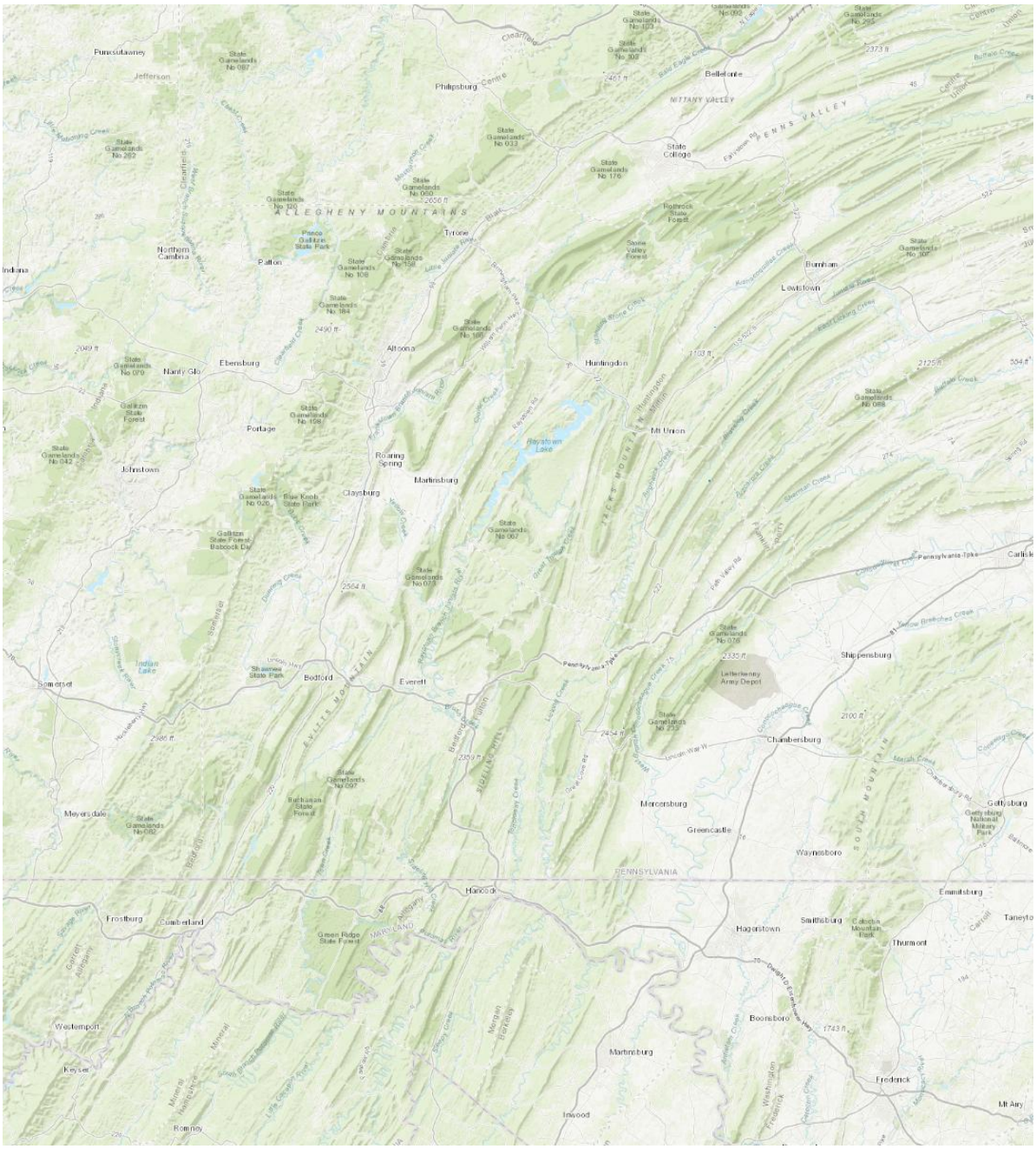
- Access road construction
- In-ground utilities construction

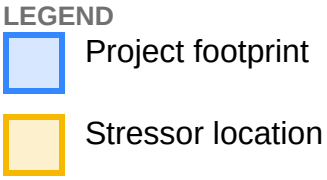
1.3.6.6.2 Increase in erosion

ANTICIPATED MAGNITUDE

Unknown

STRESSOR LOCATION




LEGEND
Project footprint
Stressor location

CONSERVATION MEASURES

- Restrict off-road activites
- 300' wetland buffer

STRUCTURES AND ACTIVITIES

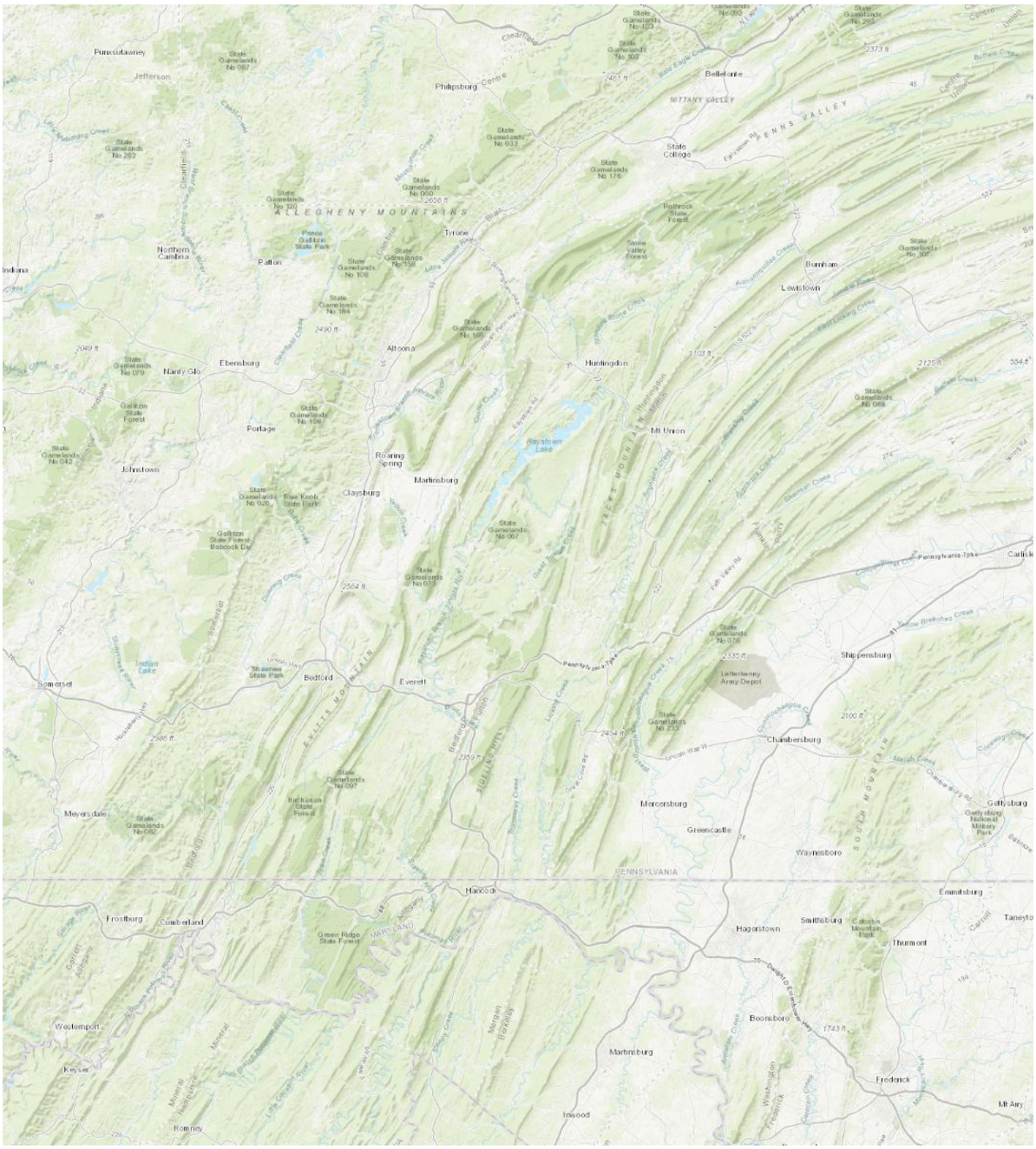
- Access road construction
- Tower installation
- Maintain access road
- In-ground utilities construction

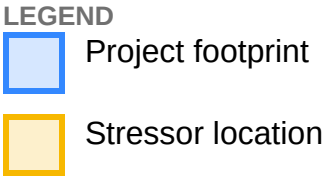
1.3.6.6.3 Increase in sedimentation rates

ANTICIPATED MAGNITUDE

Unknown

STRESSOR LOCATION




LEGEND
Project footprint
Stressor location

CONSERVATION MEASURES

- Restrict off-road activites
- 300' wetland buffer
- Implement sediment control measures

STRUCTURES AND ACTIVITIES

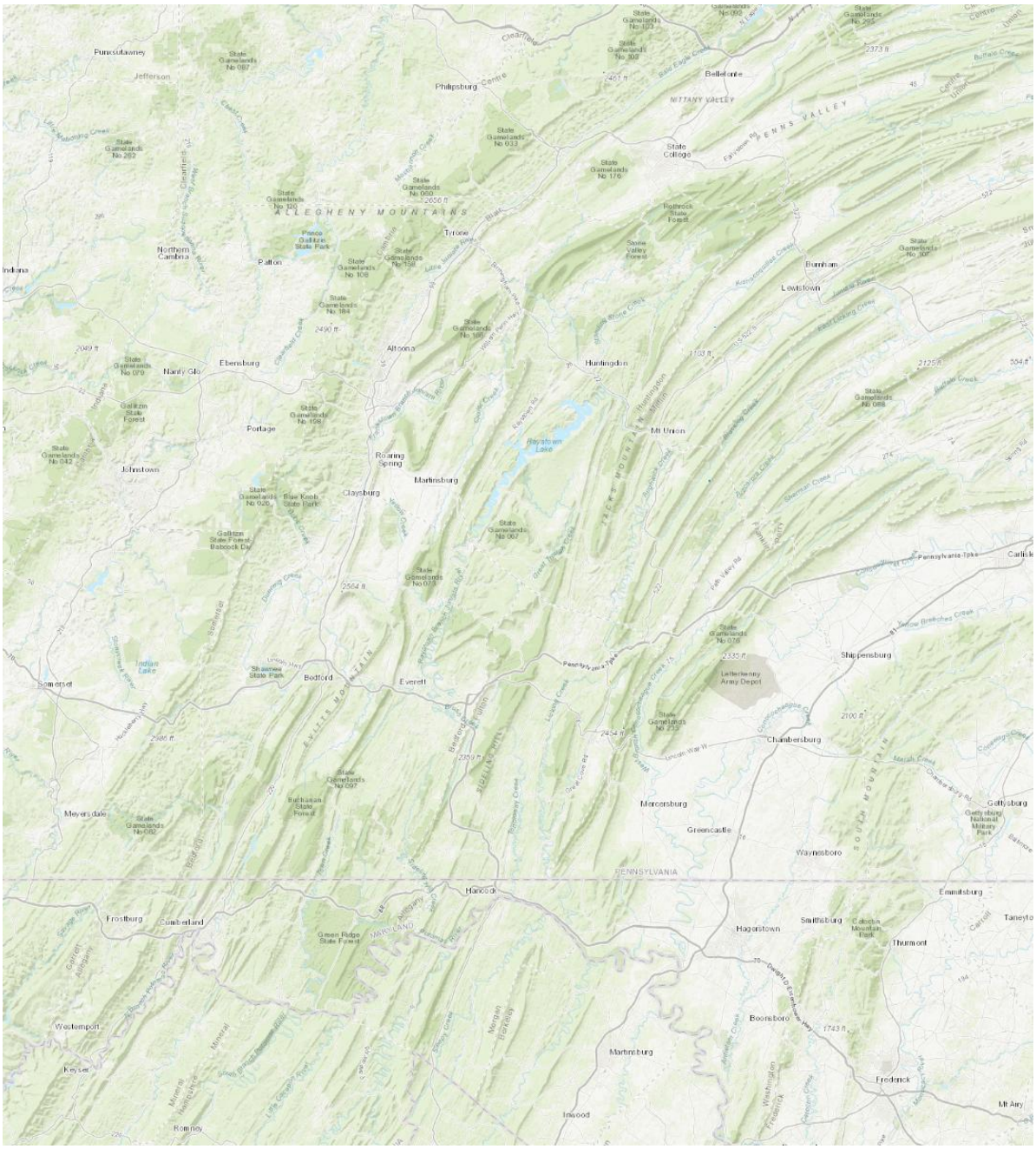
- Access road construction
- Tower installation
- Maintain access road
- In-ground utilities construction

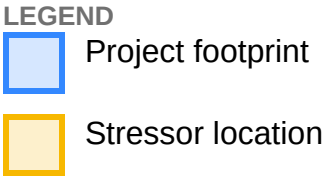
1.3.6.6.4 Increase in surface runoff

ANTICIPATED MAGNITUDE

Unknown

STRESSOR LOCATION




LEGEND
Project footprint
Stressor location

CONSERVATION MEASURES

- Restrict off-road activites
- 300' wetland buffer
- Implement sediment control measures

STRUCTURES AND ACTIVITIES

- Access road construction
- Maintain access road
- Access road
- In-ground utilities construction

1.3.6.7 Human Activities

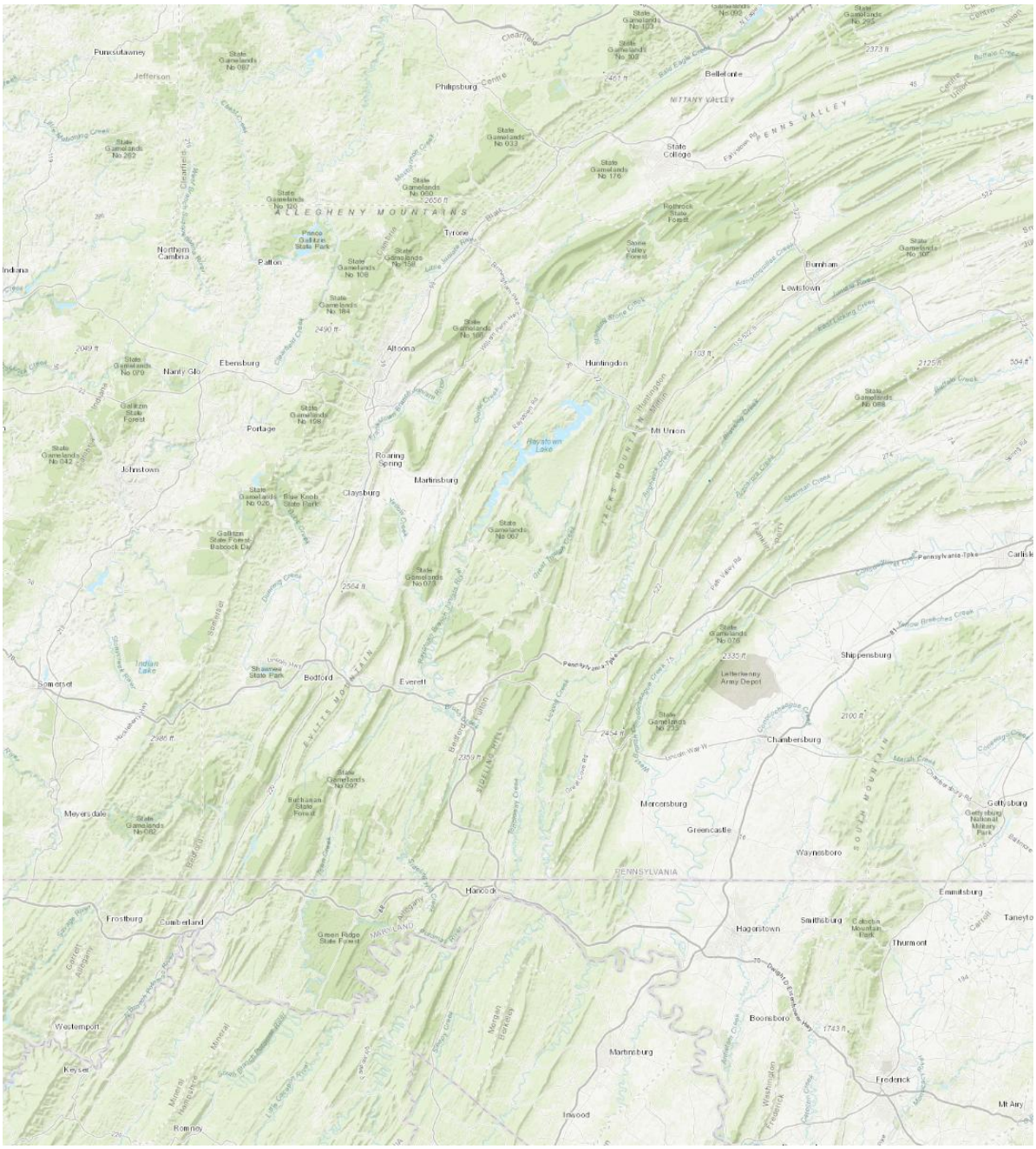
Human actions in the environment (e.g., fishing, hunting, farming, walking, etc.).

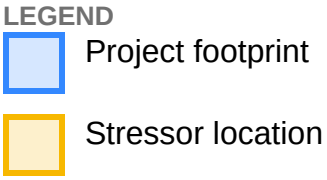
1.3.6.7.1 Increase in ground vibrations

ANTICIPATED MAGNITUDE

Unknown

STRESSOR LOCATION




LEGEND
Project footprint
Stressor location

CONSERVATION MEASURES

- Restrict off-road activites
- Restrict siting
- 300' wetland buffer
- Implement sediment control measures

STRUCTURES AND ACTIVITIES

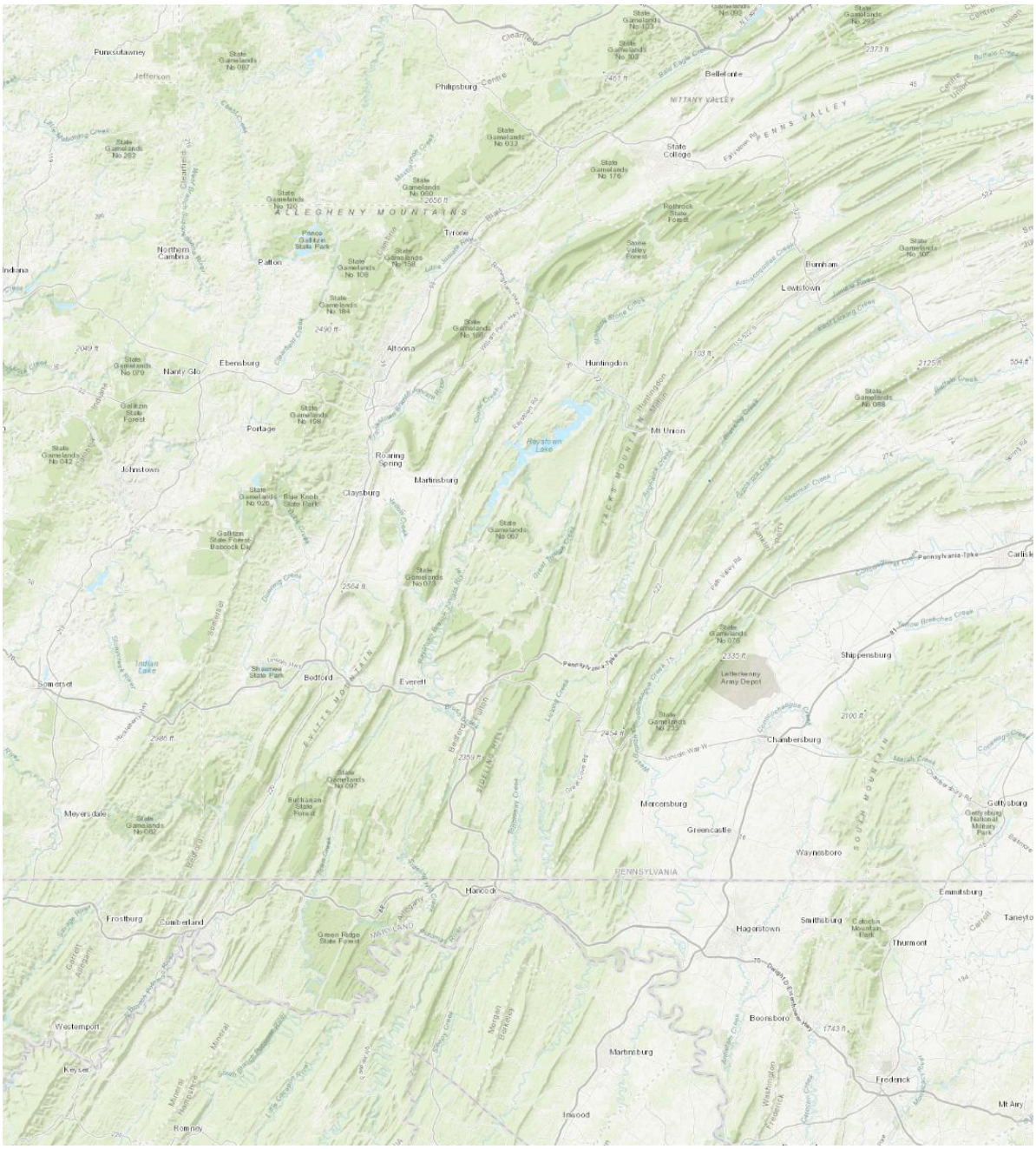
- Access road construction
- Tower installation
- Geotechnical investigation
- Install tower components
- Maintain access road
- In-ground utilities construction

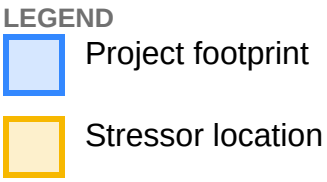
1.3.6.7.2 Increase in human presence

ANTICIPATED MAGNITUDE

Unknown

STRESSOR LOCATION




LEGEND
Project footprint
Stressor location

CONSERVATION MEASURES

- Restrict off-road activites
- Restrict siting

STRUCTURES AND ACTIVITIES

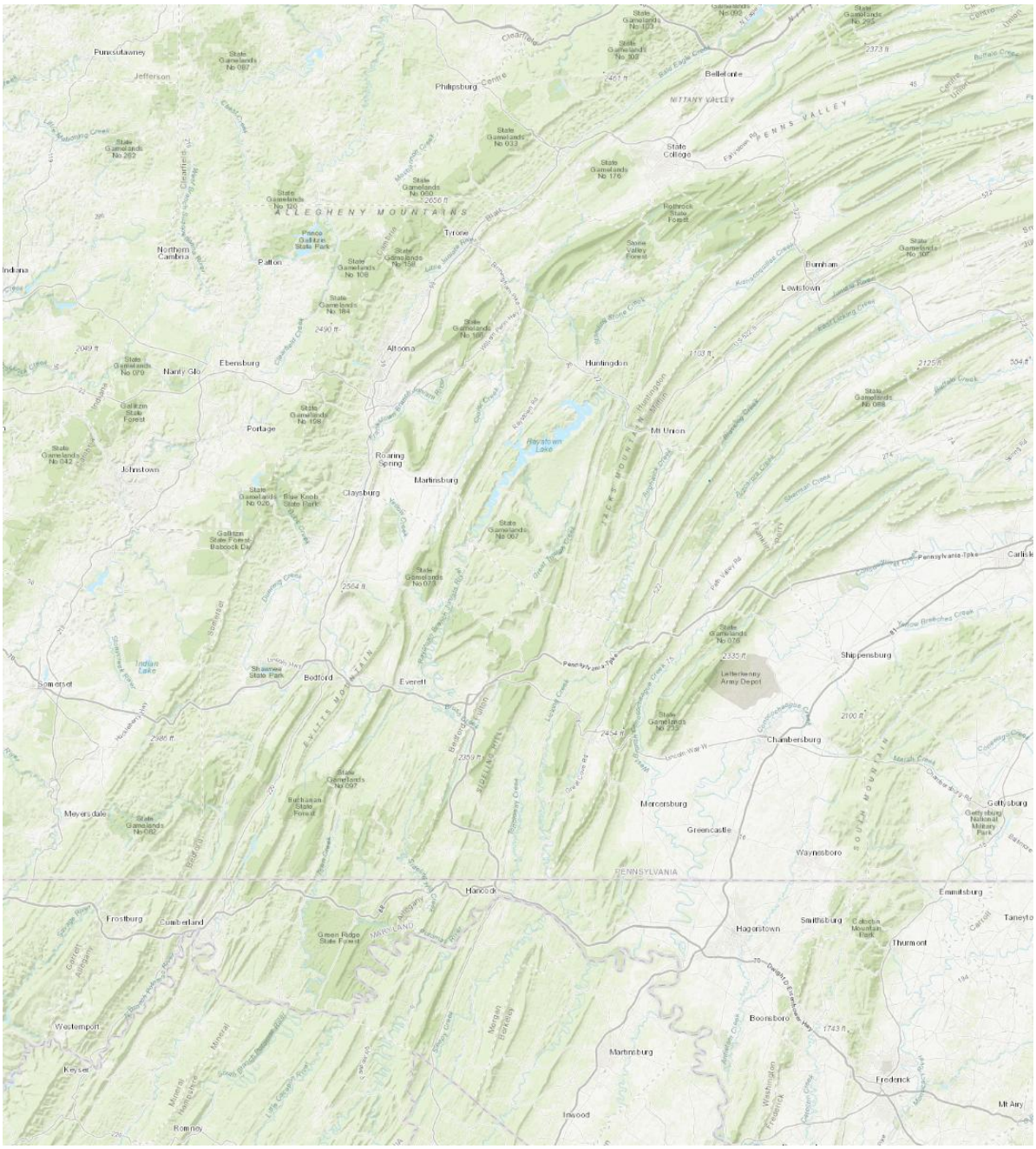
- Tower installation
- Maintain access road
- In-ground utilities construction

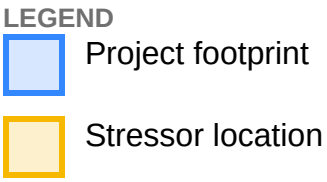
1.3.6.7.3 Increase in noise

ANTICIPATED MAGNITUDE

Unknown

STRESSOR LOCATION




LEGEND
Project footprint
Stressor location

CONSERVATION MEASURES

- TBD
- Restrict off-road activites
- Restrict siting
- 300' wetland buffer
- Implement sediment control measures

STRUCTURES AND ACTIVITIES

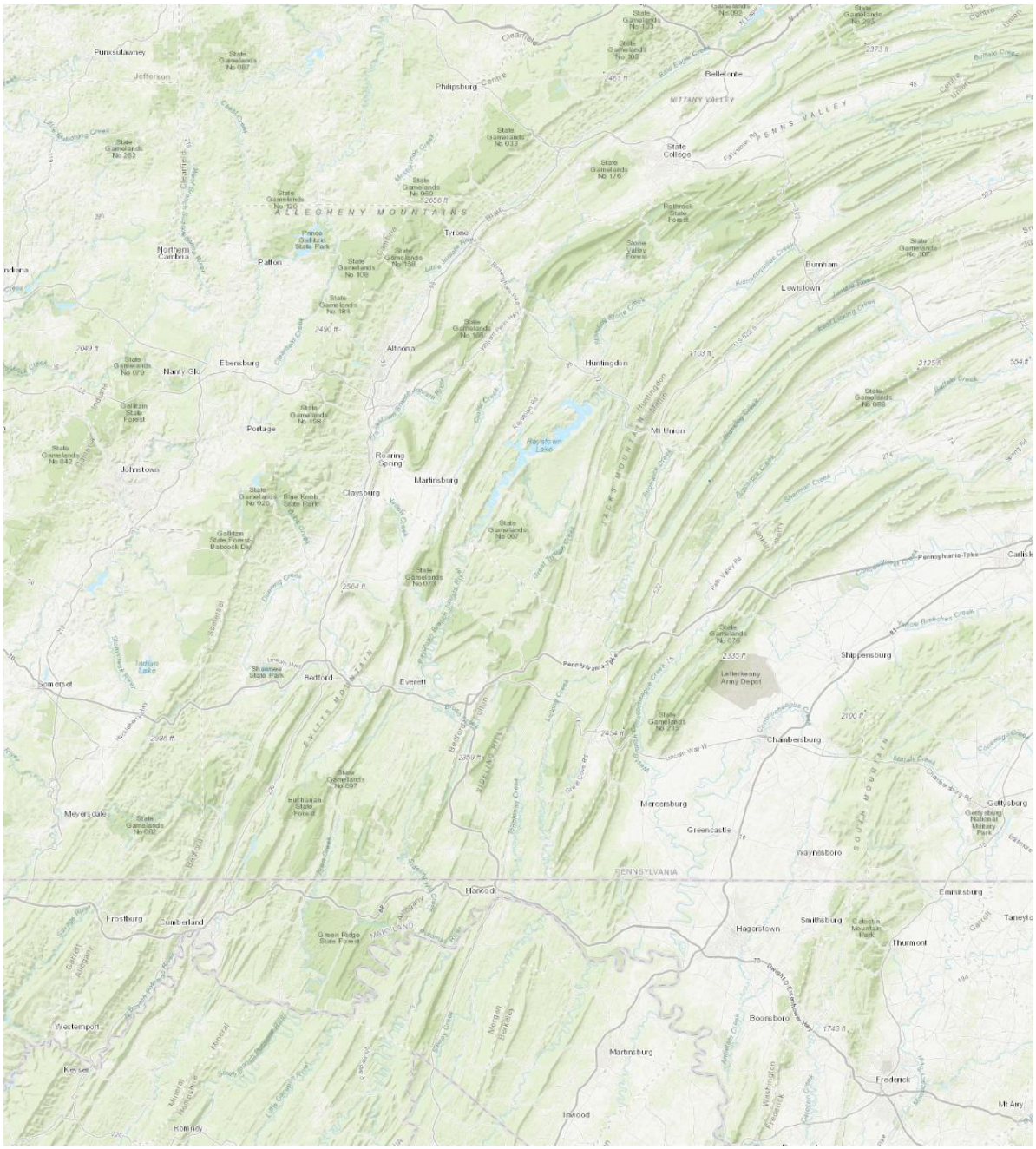
- Install utilities
- Tower installation
- Install tower components
- Maintain access road
- Install permanent fence
- In-ground utilities construction

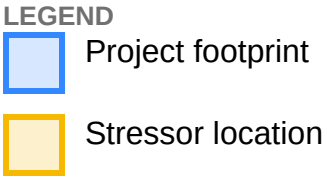
1.3.6.7.4 Increase in soil disturbance

ANTICIPATED MAGNITUDE

Unknown

STRESSOR LOCATION




LEGEND
Project footprint
Stressor location

CONSERVATION MEASURES

- Restrict off-road activites
- Restrict siting
- 300' wetland buffer

STRUCTURES AND ACTIVITIES

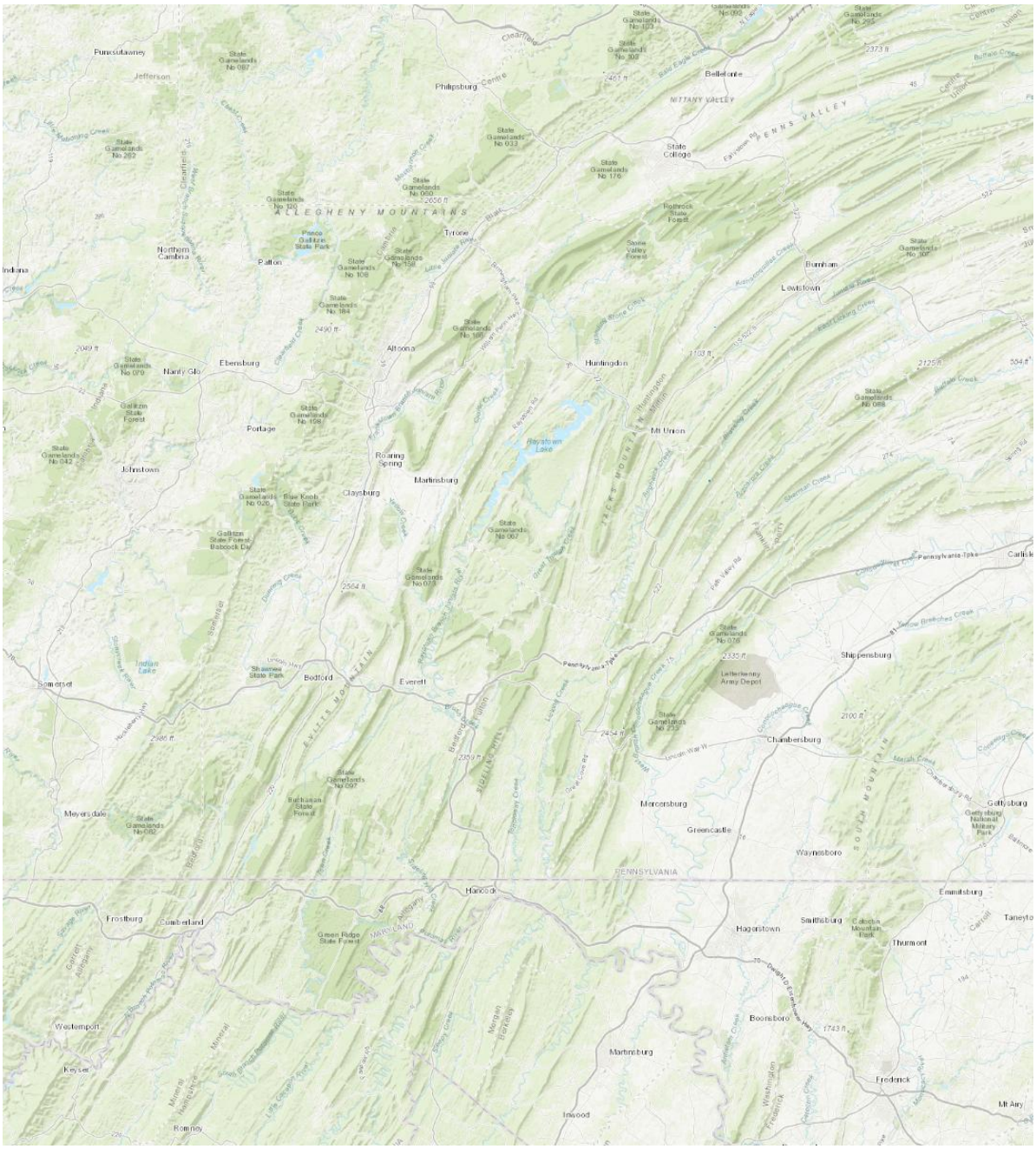
- Access road construction
- Tower installation
- Install tower components
- Maintain access road
- Install permanent fence
- In-ground utilities construction

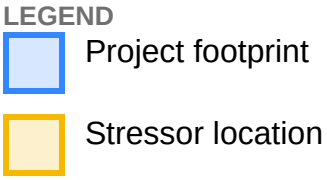
1.3.6.7.5 Increase in vehicle traffic

ANTICIPATED MAGNITUDE

Unknown

STRESSOR LOCATION




LEGEND
Project footprint
Stressor location

CONSERVATION MEASURES

- Restrict off-road activites

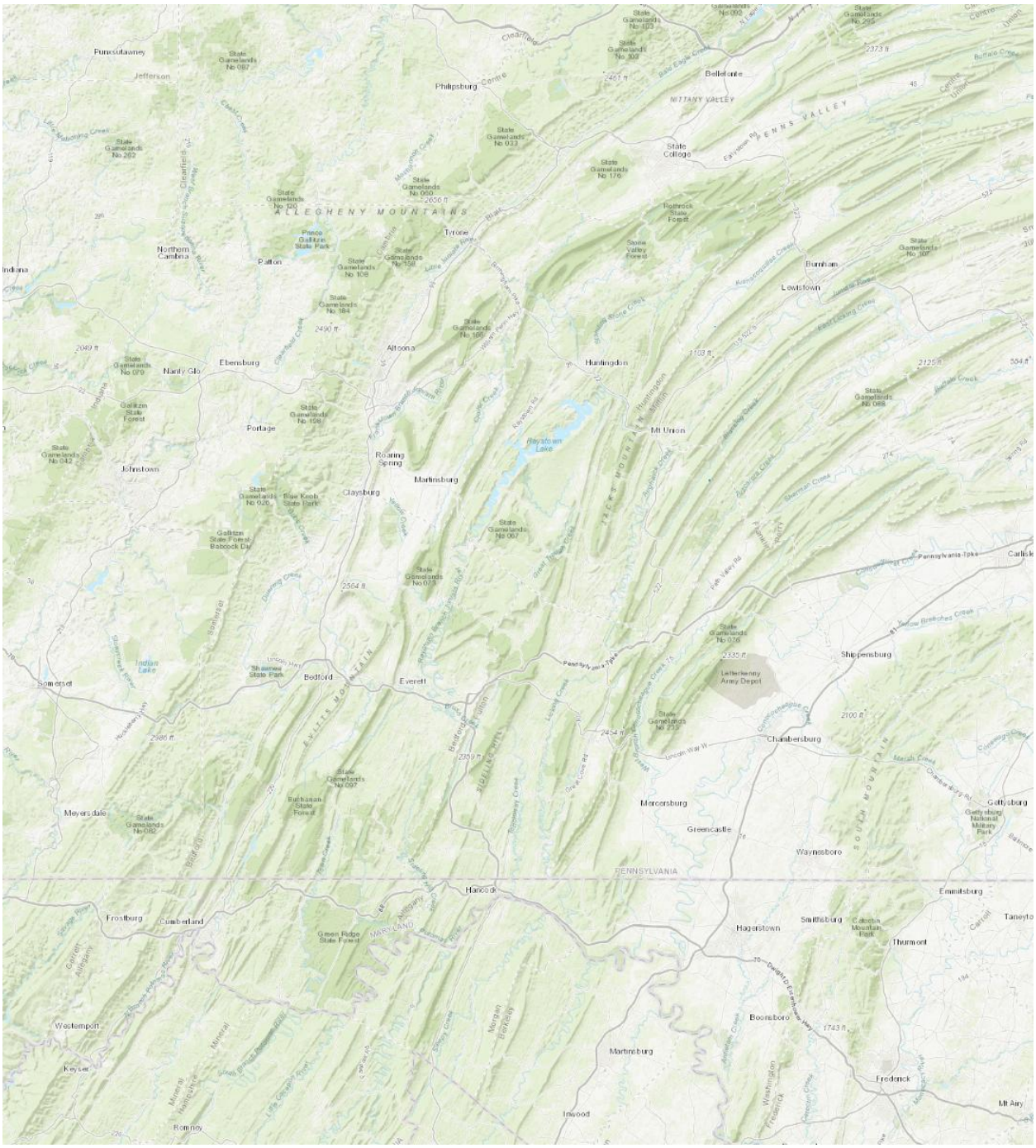
STRUCTURES AND ACTIVITIES

- Tower installation
- Maintain access road
- In-ground utilities construction

1.3.6.8 Miscellaneous

Miscellaneous should only be used if the created feature does not fit into one of the other categories or if the creator is not sure in which category it should be placed.

1.4 Action Area



1.5 Conservation Measures

1.5.1 300' wetland buffer

Description

Activities or projects should not be conducted within 300 feet of any wetlands or vernal pools.

Stressors

- Increase in erosion
- Increase in ground vibrations
- Increase in noise
- Increase in sedimentation rates
- Increase in soil disturbance
- Increase in surface runoff

Resource needs

- hibernacula (humidity: high, temperature: <10°c (50.0°f) but infrequently drops below freezing and and the temperature is relatively stable.)
- insects (type: flying)
- travel corridors (location: between two whole patches of forests., type: hedgerow, riparian corridor and forest edge)
- trees (size: > or = 5 inches dbh, spatial arrangement: within 1000 feet of forest, structure: cracks, crevices, loose bark, type: dead, nearly dead and living with dead parts)

Direct interactions

- injury

1.5.2 TBD

Description
As advised throughout NEPA review

Stressors
- Decrease in hibernacula
- Decrease in trees
- Increase in dust
- Increase in invasive plant species (native and non-native)
- Increase in noise

Direct interactions
- auditory disturbance
- collisions
- disturbance

1.5.3 implement sediment control measures

Description
Design project or implement measures to reduce or prevent sedimentation into aquatic systems in order to reduce or eliminate additional water turbidity. Avoid siting project components in sensitive and/or highly erosive habitats where erosion of stream banks is likely. Implement preventative measures to ensure that project activities do not increase sedimentation into aquatic systems, or filter and/or remove any additional sediment introduced by project activities.

Stressors
- Increase in ground vibrations
- Increase in noise
- Increase in sedimentation rates
- Increase in surface runoff

Resource needs
- travel corridors (location: between two whole patches of forests., type: hedgerow, riparian corridor and forest edge)

1.5.4 restrict off-road activites

Description

Restrict use of vehicles off-road in locations where presence of species is known or assumed. Avoid driving heavy equipment/vehicles in sensitive habitats (e.g., wetlands, streams). Avoid use of vehicles in areas where soil disturbance would result in increased sedimentation or decreased water quality. Only use vehicles on already-established roads or paths. Refuel vehicles only in the project specific staging areas.

Stressors

- Change in surface runoff
- Increase in erosion
- Increase in ground vibrations
- Increase in human presence
- Increase in noise
- Increase in sedimentation rates
- Increase in soil compaction
- Increase in soil disturbance
- Increase in surface runoff
- Increase in vehicle traffic

Resource needs

- insects (type: flying)
- travel corridors (location: between two whole patches of forests., type: hedgerow, riparian corridor and forest edge)
- trees (size: > or = 5 inches dbh, spatial arrangement: within 1000 feet of forest, structure: cracks, crevices, loose bark, type: dead, nearly dead and living with dead parts)

Direct interactions

- displacement
- disturbance
- injury

1.5.5 restrict siting

Description
Restrict siting of project components near known or assumed occupied habitat for listed species. Design project to avoid siting permanent or temporary components and their associated infrastructure in or within close proximity to listed species or their habitats to reduce the likelihood of impacting those species. Avoid all activities that could result in alteration of suitable habitat or direct harm to listed species. Apply appropriate time of year restrictions and buffer zones between project activities and known or assumed current species records. Contact appropriate State and Federal agencies to determine the time of year restrictions and size of buffers to be applied. Surveys should be conducted in suitable habitat in order to determine species presence or probable absence. Avoid all activities that may remove, displace, injure or kill listed species, as well as the physical alteration of suitable habitat if the species are not present if the result of the activity will impair essential behavioral patterns.

Stressors
- Increase in ground vibrations
- Increase in human presence
- Increase in noise
- Increase in soil compaction
- Increase in soil disturbance

Resource needs
- travel corridors (location: between two whole patches of forests., type: hedgerow, riparian corridor and forest edge)

Direct interactions
- displacement
- disturbance
- injury

1.6 Prior Consultation History
None undertaken nor currently requested

1.7 Other Agency Partners And Interested Parties
Unnecessary at this stage

1.8 Other Reports And Helpful Information

See attached proposed report from Pennsylvania Department of Conservation and Natural Resources using the conservation explorer tool

Relevant documentation

- Proposed_NTIA

2 Species Effects Analysis

This section describes, species by species, the effects of the proposed action on listed, proposed, and candidate species, and the habitat on which they depend. In this document, effects are broken down as direct interactions (something happening directly to the species) or indirect interactions (something happening to the environment on which a species depends that could then result in effects to the species).

These interactions encompass effects that occur both during project construction and those which could be ongoing after the project is finished. All effects, however, should be considered, including effects from direct and indirect interactions and cumulative effects.

2.1 Indiana Bat

2.1.1 Status of the species

This section should provide information on the species' background, its biology and life history that is relevant to the proposed project within the action area that will inform the effects analysis.

2.1.1.1 Legal status

The Indiana Bat is federally listed as 'Endangered' and additional information regarding its legal status can be found on the ECOS species profile.

2.1.1.2 Recovery plans

Available recovery plans for the Indiana Bat can be found on the ECOS species profile.

2.1.1.3 Life history information

The Indiana bat is a medium-sized Myotis, closely resembling the little brown bat (Myotis lucifugus) but differing in coloration. Its fur is a dull grayish chestnut rather than bronze, with the basal portion of the hairs on the back a dull-lead color. This bat's underparts are pinkish to cinnamon, and its hind feet are smaller and more delicate than in M. lucifugus. The calcar (heel of the foot) is strongly keeled.

Identified resource needs

Hibernacula

Humidity: high, temperature: <10°c (50.0°f) but infrequently drops below freezing and and the temperature is relatively stable.

Insects

Type: flying

Open water

Type: streams, rivers, ponds, wetlands, lakes and road ruts

Travel corridors

Location: between two whole patches of forests., type: hedgerow, riparian corridor and forest edge

Trees

Size: > or = 5 inches dbh, spatial arrangement: within 1000 feet of forest, structure: cracks, crevices, loose bark, type: dead, nearly dead and living with dead parts

2.1.1.4 Conservation needs

Unknown and TBD

2.1.2 Environmental baseline

*The environmental baseline describes the species' health **within the action area only** at the time of the consultation, and does not include the effects of the action under review. Unlike the species information provided above, the environmental baseline is at the scale of the Action area.*

2.1.2.1 Species presence and use

US Fish and Wildlife indicates the proposed counties are within the range/recovery units. No other determination made.

2.1.2.2 Species conservation needs within the action area

Unknown and TBD

2.1.2.3 Habitat condition (general)

hibernacula (humidity: high, temperature: <10°c (50.0°f) but infrequently drops below freezing and and the temperature is relatively stable.)
Unknown

insects (type: flying)
Unknown

travel corridors (location: between two whole patches of forests., type: hedgerow, riparian corridor and forest edge)
Unknown

trees (size: > or = 5 inches dbh, spatial arrangement: within 1000 feet of forest, structure: cracks, crevices, loose bark, type: dead, nearly dead and living with dead parts)
Unknown

2.1.2.4 Influences
Unknown

2.1.2.5 Additional baseline information
Unknown

2.1.3 Effects of the action
This section considers and discusses all effects on the listed species that are caused by the proposed action and are reasonably certain to occur, including the effects of other activities that would not occur but for the proposed action.

2.1.3.1 Indirect interactions

RESOURCE NEED	STRESSORS	CONSERVATION MEASURES	AMOUNT OF RESOURCE IMPACTED	INDIVIDUALS AFFECTED
Hibernacula (humidity: high, temperature: <10°c (50.0°f) but infrequently drops below freezing and and the temperature is relatively stable.)	Increase in ground vibrations Increase in erosion Decrease in hibernacula Increase in sedimentation rates	300' wetland buffer	Unknown	Unknown

RESOURCE NEED	STRESSORS	CONSERVATION MEASURES	AMOUNT OF RESOURCE IMPACTED	INDIVIDUALS AFFECTED
	Increase in soil disturbance			
Insects (type: flying)	Increase in dust Increase in surface runoff Decrease in vegetation Decrease in trees Increase in soil compaction Increase in erosion Increase in sedimentation rates Increase in soil disturbance Increase in vehicle traffic	Restrict off-road activites 300' wetland buffer	Unknown	Unknown
Open water (type: streams, rivers, ponds, wetlands, lakes and road ruts)			***This resource is not present in the action area*** N/A	***There will be no impacts to this resource, so no individuals will be affected.***
Travel corridors (location: between two whole patches of forests., type: hedgerow, riparian corridor and forest edge)	Decrease in vegetation	Restrict off-road activites Restrict siting 300' wetland buffer Implement sediment control measures	Unknown	Unknown

RESOURCE NEED	STRESSORS	CONSERVATION MEASURES	AMOUNT OF RESOURCE IMPACTED	INDIVIDUALS AFFECTED
Trees (size: > or = 5 inches dbh, spatial arrangement: within 1000 feet of forest, structure: cracks, crevices, loose bark, type: dead, nearly dead and living with dead parts)	Decrease in vegetation Decrease in trees	Restrict off-road activites 300' wetland buffer	Unknown	Unknown

2.1.3.2 Direct interactions

DIRECT IMPACT	CONSERVATION MEASURES	INDIVIDUALS IMPACTED	IMPACT EXPLANATION
Auditory disturbance	TBD	Yes	Unknown
Collisions	TBD	No	Unknown
Displacement	Restrict off-road activites Restrict siting	Yes	Unknown
Disturbance	TBD Restrict off-road activites Restrict siting	Yes	Unknown
Injury	Restrict off-road activites Restrict siting 300' wetland buffer	Yes	Unknown

2.1.4 Cumulative effects

Unknown

2.1.5 Discussion and conclusion

Determination: NLAA

Compensation measures

Unknown

2.2 Northeastern Bulrush

2.2.1 Status of the species

This section should provide information on the species' background, its biology and life history that is relevant to the proposed project within the action area that will inform the effects analysis.

2.2.1.1 Legal status

The Northeastern Bulrush is federally listed as 'Endangered' and additional information regarding its legal status can be found on the ECOS species profile.

2.2.1.2 Recovery plans

Available recovery plans for the Northeastern Bulrush can be found on the ECOS species profile.

2.2.1.3 Life history information

Northeastern bulrush, first described as a new species by A.E. Schuyler in 1962, is a leafy, perennial herb approximately 80-120 centimeters in height. The lowermost leaves are up to 8 millimeters (mm) wide and 40-60 times as long as wide, while the uppermost leaves are 3-5 mm wide and 30-50 times as long as wide (Schuyler 1962). Flowering culms (stems) are produced from short, woody, underground rhizomes. The umbellate inflorescence has distinctly arching rays, which bear clusters of brown spikelets (small, elongated flower clusters). Each of the minute flowers has six small (1.1-1.7 mm long), rigid perianth bristles, and each bristle is armed with thickwalled, sharply pointed barbs projecting downward. Flowers have 0-3 stamens and a 3-parted style. The yellow-brown achenes (Figure 2) are 1.10-1.35 mm long, obovate, and tough and thickened above the seed (Schuyler 1962). Flowering occurs from mid-June to July, and fruit sets between July and September (Crow 1982).

Identified resource needs

Soil

Percent organic: moderate to high and ph level: acidic to circumneutral

Sunlight

Amount: <50% canopy closure

Wetland

Elevation: 225m and above, time of year: seasonal fluctuations in water level; early spring inundation and type: vernal pools

2.2.1.4 Conservation needs

Unknown

2.2.2 Environmental baseline

*The environmental baseline describes the species' health **within the action area only** at the time of the consultation, and does not include the effects of the action under review. Unlike the species information provided above, the environmental baseline is at the scale of the Action area.*

2.2.2.1 Species presence and use

Unknown Impact

2.2.2.2 Species conservation needs within the action area

Unknown

2.2.2.3 Habitat condition (general)

Unknown

2.2.2.4 Influences

Unknown

2.2.2.5 Additional baseline information

Unknown

2.2.3 Effects of the action

This section considers and discusses all effects on the listed species that are caused by the proposed action and are reasonably certain to occur, including the effects of other activities that would not occur but for the proposed action.

2.2.3.1 Indirect interactions

RESOURCE NEED	STRESSORS	CONSERVATION MEASURES	AMOUNT OF RESOURCE IMPACTED	INDIVIDUALS AFFECTED
Soil (percent organic: moderate to high and ph level: acidic to circumneutral)			***This resource is not present in the action area*** Unknown	***There will be no impacts to this resource, so no individuals will be affected.***
Sunlight (amount: <50% canopy closure)			***This resource is not present in the action area*** Will not occur as a result of activities	***There will be no impacts to this resource, so no individuals will be affected.***
Wetland (elevation: 225m and above, time of year: seasonal fluctuations in water level; early spring inundation and type: vernal pools)			***This resource is not present in the action area*** Maps show no protected wetland within the area	***There will be no impacts to this resource, so no individuals will be affected.***

2.2.3.2 Direct interactions

No direct interactions leading to effects on species are expected to occur from the proposed project.

2.2.4 Cumulative effects

Unknown

2.2.5 Discussion and conclusion

Determination: NE

3 Critical Habitat Effects Analysis

No critical habitats intersect with the project action area.

4 Summary Discussion, Conclusion, And Effect Determinations

4.1 Effect Determination Summary

SPECIES (COMMON NAME)	SCIENTIFIC NAME	LISTING STATUS	PRESENT IN ACTION AREA	EFFECT DETERMINATION
Indiana Bat	Myotis sodalis	Endangered	Yes	NLAA
Northeastern Bulrush	Scirpus ancistrochaetus	Endangered	Yes	NE
Northern Long-eared Bat† **. This species or critical habitat is covered by a DKey.**	Myotis septentrionalis	Threatened		MA

† This species or critical habitat is covered by a DKey.

4.2 Summary Discussion

Will follow guidance throughout NEPA review.

4.3 Conclusion

Will follow guidance throughout NEPA review.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Pennsylvania Ecological Services Field Office
110 Radnor Road Suite 101
State College, PA 16801-7987
Phone: (814) 234-4090 Fax: (814) 234-0748
http://www.fws.gov/northeast/pafo/

In Reply Refer To: August 14, 2021
Consultation code: 05E2PA00-2021-TA-1315
Event Code: 05E2PA00-2021-E-05693
Project Name: Broadband Expansion in the Alleghenies

Subject: Verification letter for the 'Broadband Expansion in the Alleghenies' project under the January 5, 2016, Programmatic Biological Opinion on Final 4(d) Rule for the Northern Long-eared Bat and Activities Excepted from Take Prohibitions.

Dear Jacob Lester:

The U.S. Fish and Wildlife Service (Service) received on August 14, 2021 your effects determination for the 'Broadband Expansion in the Alleghenies' (the Action) using the northern long-eared bat (*Myotis septentrionalis*) key within the Information for Planning and Consultation (IPaC) system. This IPaC key assists users in determining whether a Federal action is consistent with the activities analyzed in the Service's January 5, 2016, Programmatic Biological Opinion (PBO). The PBO addresses activities excepted from "take"[1] prohibitions applicable to the northern long-eared bat under the Endangered Species Act of 1973 (ESA) (87 Stat.884, as amended; 16 U.S.C. 1531 et seq.).

Based upon your IPaC submission, the Action is consistent with activities analyzed in the PBO. The Action may affect the northern long-eared bat; however, any take that may occur as a result of the Action is not prohibited under the ESA Section 4(d) rule adopted for this species at 50 CFR §17.40(o). Unless the Service advises you within 30 days of the date of this letter that your IPaC-assisted determination was incorrect, this letter verifies that the PBO satisfies and concludes your responsibilities for this Action under ESA Section 7(a)(2) with respect to the northern long-eared bat.

Please report to our office any changes to the information about the Action that you submitted in IPaC, the results of any bat surveys conducted in the Action area, and any dead, injured, or sick northern long-eared bats that are found during Action implementation. If the Action is not completed within one year of the date of this letter, you must update and resubmit the information required in the IPaC key.

This IPaC-assisted determination allows you to rely on the PBO for compliance with ESA Section 7(a)(2) only for the northern long-eared bat. It **does not** apply to the following ESA-protected species that also may occur in the Action area:

- Indiana Bat *Myotis sodalis* Endangered
- Northeastern Bulrush *Scirpus ancistrochaetus* Endangered

If the Action may affect other federally listed species besides the northern long-eared bat, a proposed species, and/or designated critical habitat, additional consultation between you and this Service office is required. If the Action may disturb bald or golden eagles, additional coordination with the Service under the Bald and Golden Eagle Protection Act is recommended.

---

[1]Take means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct [ESA Section 3(19)].

Action Description
You provided to IPaC the following name and description for the subject Action.

1. Name

Broadband Expansion in the Alleghenies

2. Description

The following description was provided for the project 'Broadband Expansion in the Alleghenies':

See Application for full description

Approximate location of the project can be viewed in Google Maps: [redacted]

Redaction Explanation:
Tower Site Information Remove to Maintain Network Security

Determination Key Result

This Federal Action may affect the northern long-eared bat in a manner consistent with the description of activities addressed by the Service's PBO dated January 5, 2016. Any taking that may occur incidental to this Action is not prohibited under the final 4(d) rule at 50 CFR §17.40(o). Therefore, the PBO satisfies your responsibilities for this Action under ESA Section 7(a)(2) relative to the northern long-eared bat.

Determination Key Description: Northern Long-eared Bat 4(d) Rule

This key was last updated in IPaC on May 15, 2017. Keys are subject to periodic revision.

This key is intended for actions that may affect the threatened northern long-eared bat.

The purpose of the key for Federal actions is to assist determinations as to whether proposed actions are consistent with those analyzed in the Service's PBO dated January 5, 2016.

Federal actions that may cause prohibited take of northern long-eared bats, affect ESA-listed species other than the northern long-eared bat, or affect any designated critical habitat, require ESA Section 7(a)(2) consultation in addition to the use of this key. Federal actions that may

affect species proposed for listing or critical habitat proposed for designation may require a conference under ESA Section 7(a)(4).

Determination Key Result

This project may affect the threatened Northern long-eared bat; therefore, consultation with the Service pursuant to Section 7(a)(2) of the Endangered Species Act of 1973 (87 Stat.884, as amended; 16 U.S.C. 1531 et seq.) is required. However, based on the information you provided, this project may rely on the Service's January 5, 2016, *Programmatic Biological Opinion on Final 4(d) Rule for the Northern Long-Eared Bat and Activities Excepted from Take Prohibitions* to fulfill its Section 7(a)(2) consultation obligation.

Qualification Interview

1. Is the action authorized, funded, or being carried out by a Federal agency?

   Yes

2. Have you determined that the proposed action will have "no effect" on the northern long-eared bat? (If you are unsure select "No")

   No

3. Will your activity purposefully **Take** northern long-eared bats?

   No

4. [Semantic] Is the project action area located wholly outside the White-nose Syndrome Zone?

   Automatically answered
   No

5. Have you contacted the appropriate agency to determine if your project is near a known hibernaculum or maternity roost tree?

   Location information for northern long-eared bat hibernacula is generally kept in state Natural Heritage Inventory databases – the availability of this data varies state-by-state. Many states provide online access to their data, either directly by providing maps or by providing the opportunity to make a data request. In some cases, to protect those resources, access to the information may be limited. A web page with links to state Natural Heritage Inventory databases and other sources of information on the locations of northern long-eared bat roost trees and hibernacula is available at www.fws.gov/midwest/endangered/mammals/nleb/nhisites.html.

   Yes

6. Will the action affect a cave or mine where northern long-eared bats are known to hibernate (i.e., hibernaculum) or could it alter the entrance or the environment (physical or other alteration) of a hibernaculum?

   No

7. Will the action involve Tree Removal?

   Yes

8. Will the action only remove hazardous trees for the protection of human life or property?

   No

9. Will the action remove trees within 0.25 miles of a known northern long-eared bat hibernaculum at any time of year?

   No

10. Will the action remove a known occupied northern long-eared bat maternity roost tree or any trees within 150 feet of a known occupied maternity roost tree from June 1 through July 31?

    No

Project Questionnaire

If the project includes forest conversion, report the appropriate acreages below. Otherwise, type '0' in questions 1-3.

1. Estimated total acres of forest conversion:

0

2. If known, estimated acres of forest conversion from April 1 to October 31

0

3. If known, estimated acres of forest conversion from June 1 to July 31

0

If the project includes timber harvest, report the appropriate acreages below. Otherwise, type '0' in questions 4-6.

4. Estimated total acres of timber harvest

0

5. If known, estimated acres of timber harvest from April 1 to October 31

0

6. If known, estimated acres of timber harvest from June 1 to July 31

0

If the project includes prescribed fire, report the appropriate acreages below. Otherwise, type '0' in questions 7-9.

7. Estimated total acres of prescribed fire

0

8. If known, estimated acres of prescribed fire from April 1 to October 31

0

9. If known, estimated acres of prescribed fire from June 1 to July 31

0

If the project includes new wind turbines, report the megawatts of wind capacity below. Otherwise, type '0' in question 10.

10. What is the estimated wind capacity (in megawatts) of the new turbine(s)?

0

1. PROJECT INFORMATION

Project Name: **NTIA Proposed Tower Sites**
Date of Review: **7/29/2021 01:56:55 PM**
Project Category: **Communication, Cell or communication tower (include access roads in project area), new tower**
Project Area: **3.26 acres**
County(s): **Bedford; Franklin; Fulton; Huntingdon; Juniata; Mifflin**
Watersheds HUC 8: **Cacapon-Town; Conococheague-Opequon; Lower Juniata; North Branch Potomac; Raystown; Upper Juniata**
Watersheds HUC 12: **Aughwick Creek-Juniata River; Barnetts Run-Tonoloway Creek; Beaver Creek; Beaverdam Creek; Big Cove Creek; Blacklog Creek; Buffalo Run; Cove Creek; Crooked Run-Sideling Hill Creek; Cumberland Valley Run-Raystown Branch Juniata River; East Branch Sideling Hill Creek; Great Trough Creek; Little Trough Creek; Little Wills Creek; Lower Dunning Creek; Lower Shaver Creek; Lower Sideling Hill Creek; Lower Standing Stone Creek; Lower Yellow Creek; Middle West Branch Conococheague Creek; Narrows Branch Tuscarora Creek; Owl Creek-Licking Creek; Patterson Run-Licking Creek; Saddler Creek; Scrubgrass Creek; Shade Creek; Shobers Run; Shoup Run; Shy Beaver Creek-Raystown Lake; Snake Spring Valley Run; Three Springs Creek; Trough Spring Branch-Tuscarora Creek; Tub Mill Run-Raystown Branch Juniata River; Upper Kishacoquillas Creek; Upper Standing Stone Creek; Wilson Run-Elk Lick Creek**
Decimal Degrees: [redacted]
Degrees Minutes Seconds: [redacted]

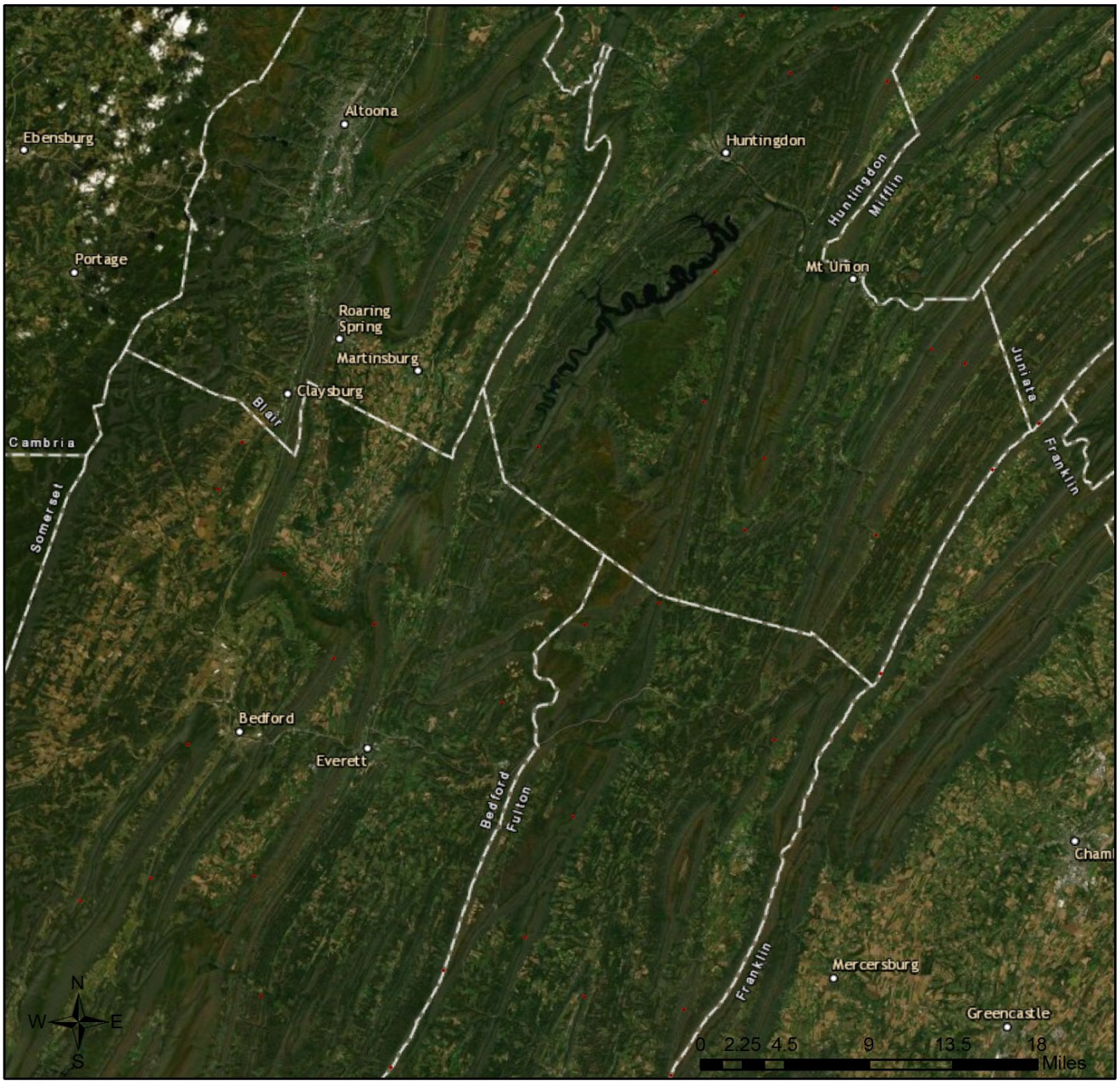
2. SEARCH RESULTS - LARGE PROJECT

Agency	Results	Response
PA Game Commission	**Potential Impact**	**FURTHER REVIEW IS REQUIRED, See Agency Response**
PA Department of Conservation and Natural Resources	**Potential Impact**	**FURTHER REVIEW IS REQUIRED, See Agency Response**
PA Fish and Boat Commission	**Potential Impact**	**FURTHER REVIEW IS REQUIRED, See Agency Response**
U.S. Fish and Wildlife Service	**Potential Impact**	**FURTHER REVIEW IS REQUIRED, See Agency Response**

Large Project. The project area is greater than 10 miles and/or 5,165 acres and therefore is categorized as a Large Project, and is not analyzed by the PNDI tool. Coordination is therefore required with the four jurisdictional agencies to determine if potential impacts to threatened and endangered and/or special concern species and resources within the project area. Please see the DEP Information section of the receipt if a PA Department of Environmental Protection Permit is required.

Redaction Explanation:
Tower Site Information Remove to Maintain Network Security

NTIA Proposed Tower Sites

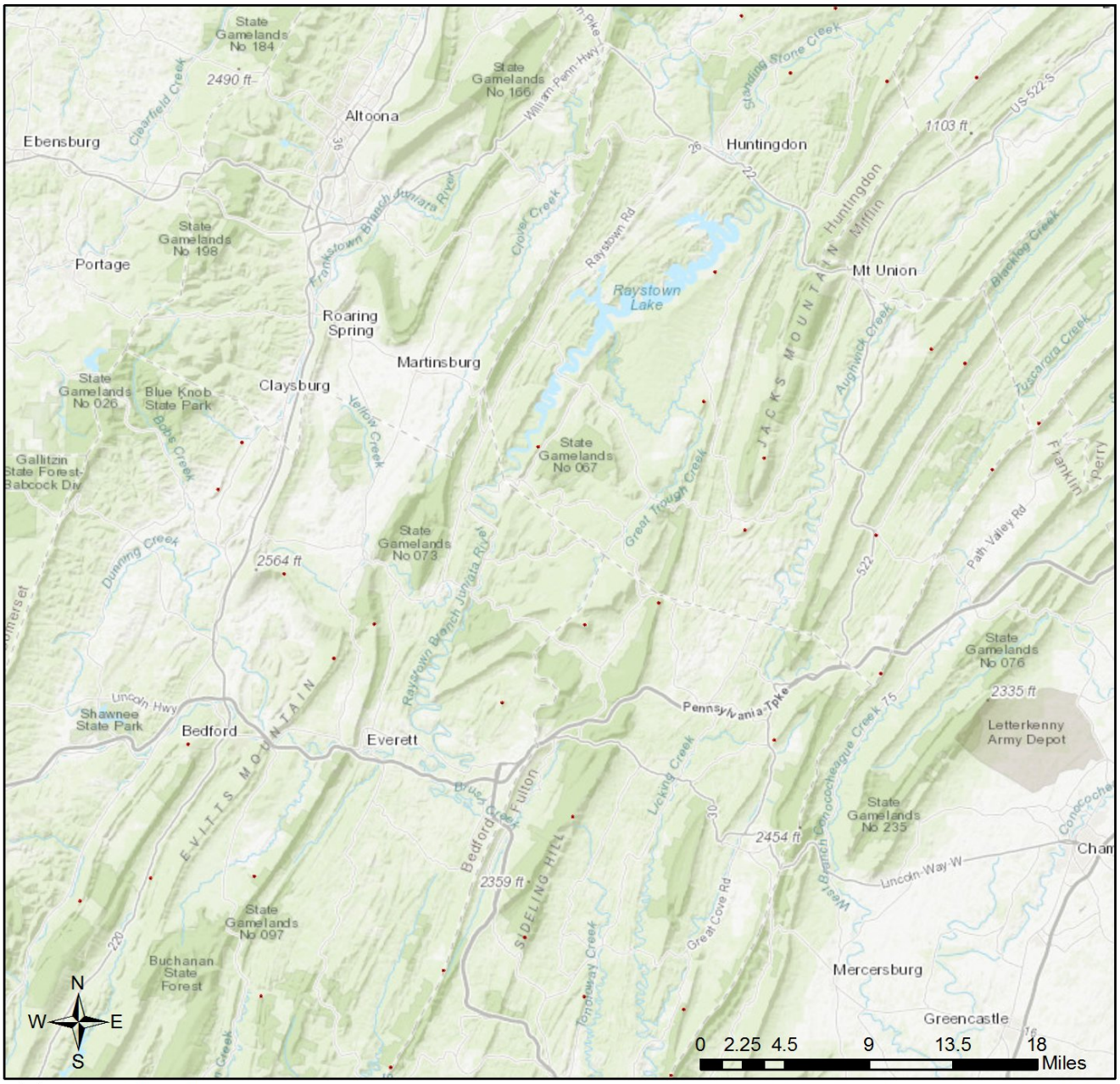


Project Boundary

Buffered Project Boundary

Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community
Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China

NTIA Proposed Tower Sites



Project Boundary

Buffered Project Boundary

Service Layer Credits: 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

3. AGENCY COMMENTS

Regardless of whether a DEP permit is necessary for this proposed project, any potential impacts to threatened and endangered species and/or special concern species and resources must be resolved with the appropriate jurisdictional agency. In some cases, a permit or authorization from the jurisdictional agency may be needed if adverse impacts to these species and habitats cannot be avoided.

These agency determinations and responses are **valid for two years** (from the date of the review), and are based on the project information that was provided, including the exact project location; the project type, description, and features; and any responses to questions that were generated during this search. If any of the following change: 1) project location, 2) project size or configuration, 3) project type, or 4) responses to the questions that were asked during the online review, the results of this review are not valid, and the review must be searched again via the PNDI Environmental Review Tool and resubmitted to the jurisdictional agencies. The PNDI tool is a primary screening tool, and a desktop review may reveal more or fewer impacts than what is listed on this PNDI receipt. The jursidictional agencies **strongly advise against** conducting surveys for the species listed on the receipt prior to consultation with the agencies.

PA Game Commission

RESPONSE:

Further review of this project is necessary to resolve the potential impact(s). Please send project information to this agency for review (see WHAT TO SEND).

PA Department of Conservation and Natural Resources

RESPONSE:

Further review of this project is necessary to resolve the potential impact(s). Please send project information to this agency for review (see WHAT TO SEND).

PA Fish and Boat Commission

RESPONSE:

Further review of this project is necessary to resolve the potential impact(s). Please send project information to this agency for review (see WHAT TO SEND).

U.S. Fish and Wildlife Service

RESPONSE:

Further review of this project is necessary to resolve the potential impact(s). Please send project information to this agency for review (see WHAT TO SEND).

WHAT TO SEND TO JURISDICTIONAL AGENCIES

If project information was requested by one or more of the agencies above, upload* or email the following information to the agency(s) (see AGENCY CONTACT INFORMATION). Instructions for uploading project materials can be found here. This option provides the applicant with the convenience of sending project materials to a single location accessible to all three state agencies (but not USFWS).
*If information was requested by USFWS, applicants must email, or mail, project information to IR1_ESPenn@fws.gov to initiate a review. USFWS will not accept uploaded project materials.

Check-list of Minimum Materials to be submitted:
____Project narrative with a description of the overall project, the work to be performed, current physical characteristics of the site and acreage to be impacted.
____A map with the project boundary and/or a basic site plan(particularly showing the relationship of the project to the physical features such as wetlands, streams, ponds, rock outcrops, etc.)
In addition to the materials listed above, USFWS REQUIRES the following
____**SIGNED** copy of a Final Project Environmental Review Receipt

The inclusion of the following information may expedite the review process.
____Color photos keyed to the basic site plan (i.e. showing on the site plan where and in what direction each photo was taken and the date of the photos)
____Information about the presence and location of wetlands in the project area, and how this was determined (e.g., by a qualified wetlands biologist), if wetlands are present in the project area, provide project plans showing the location of all project features, as well as wetlands and streams.

4. DEP INFORMATION

The Pa Department of Environmental Protection (DEP) requires that a signed copy of this receipt, along with any required documentation from jurisdictional agencies concerning resolution of potential impacts, be submitted with applications for permits requiring PNDI review. Two review options are available to permit applicants for handling PNDI coordination in conjunction with DEP's permit review process involving either T&E Species or species of special concern. Under sequential review, the permit applicant performs a PNDI screening and completes all coordination with the appropriate jurisdictional agencies prior to submitting the permit application. The applicant will include with its application, both a PNDI receipt and/or a clearance letter from the jurisdictional agency if the PNDI Receipt shows a Potential Impact to a species or the applicant chooses to obtain letters directly from the jurisdictional agencies. Under concurrent review, DEP, where feasible, will allow technical review of the permit to occur concurrently with the T&E species consultation with the jurisdictional agency. The applicant must still supply a copy of the PNDI Receipt with its permit application. The PNDI Receipt should also be submitted to the appropriate agency according to directions on the PNDI Receipt. The applicant and the jurisdictional agency will work together to resolve the potential impact(s). See the DEP PNDI policy at https://conservationexplorer.dcnr.pa.gov/content/resources.

5. ADDITIONAL INFORMATION

The PNDI environmental review website is a preliminary screening tool. There are often delays in updating species status classifications. Because the proposed status represents the best available information regarding the conservation status of the species, state jurisdictional agency staff give the proposed statuses at least the same consideration as the current legal status. If surveys or further information reveal that a threatened and endangered and/or special concern species and resources exist in your project area, contact the appropriate jurisdictional agency/agencies immediately to identify and resolve any impacts.

For a list of species known to occur in the county where your project is located, please see the species lists by county found on the PA Natural Heritage Program (PNHP) home page (www.naturalheritage.state.pa.us). Also note that the PNDI Environmental Review Tool only contains information about species occurrences that have actually been reported to the PNHP.

6. AGENCY CONTACT INFORMATION

PA Department of Conservation and Natural Resources
Bureau of Forestry, Ecological Services Section
400 Market Street, PO Box 8552
Harrisburg, PA 17105-8552
Email: RA-HeritageReview@pa.gov

U.S. Fish and Wildlife Service
Pennsylvania Field Office
Endangered Species Section
110 Radnor Rd; Suite 101
State College, PA 16801
Email: IR1_ESPenn@fws.gov
NO Faxes Please

PA Fish and Boat Commission
Division of Environmental Services
595 E. Rolling Ridge Dr., Bellefonte, PA 16823
Email: RA-FBPACENOTIFY@pa.gov

PA Game Commission
Bureau of Wildlife Habitat Management
Division of Environmental Planning and Habitat Protection
2001 Elmerton Avenue, Harrisburg, PA 17110-9797
Email: RA-PGC_PNDI@pa.gov
NO Faxes Please

7. PROJECT CONTACT INFORMATION

Name:_____
Company/Business Name:_____
Address:_____
City, State, Zip:_____
Phone:(_____)_____Fax:(_____)_____
Email:_____

8. CERTIFICATION

I certify that ALL of the project information contained in this receipt (including project location, project size/configuration, project type, answers to questions) is true, accurate and complete. In addition, if the project type, location, size or configuration changes, or if the answers to any questions that were asked during this online review change, I agree to re-do the online environmental review.

_____ _____
applicant/project proponent signature date

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Pennsylvania Ecological Services Field Office
110 Radnor Road Suite 101
State College, PA 16801-7987
Phone: (814) 234-4090 Fax: (814) 234-0748
http://www.fws.gov/northeast/pafo/

In Reply Refer To: August 14, 2021
Consultation Code: 05E2PA00-2021-SLI-1315
Event Code: 05E2PA00-2021-E-05692
Project Name: Broadband Expansion in the Alleghenies

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

Any activity proposed on National Wildlife Refuge lands must undergo a "Compatibility Determination' conducted by the Refuge. Please contact the individual Refuge to discuss any questions or concerns.

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

Attachment(s):

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

Official Species List

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

This species list is provided by:

Pennsylvania Ecological Services Field Office
110 Radnor Road Suite 101
State College, PA 16801-7987
(814) 234-4090

Project Summary

Consultation Code: 05E2PA00-2021-SLI-1315
Event Code: 05E2PA00-2021-E-05692
Project Name: Broadband Expansion in the Alleghenies
Project Type: COMMUNICATIONS TOWER
Project Description: See Application for full description
Project Location:

Approximate location of the project can be viewed in Google Maps: [redacted]

Counties: Pennsylvania

Redaction Explanation:
Tower Site Information Remove to Maintain Network Security

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 Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

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

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

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

Flowering Plants

NAME	STATUS
Northeastern Bulrush *Scirpus ancistrochaetus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6715	Endangered

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.

Task	Comment	Responsible Person	Responsible Entity	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23
Project Planning Meeting		All	All Partnership Entities																								
Project Start Date			All Partnership Entities																								
Site Visits		[redacted]	Upward Broadband																								
Site Lease Agreement		[redacted]	Upward Broadband																								
Survey, As Needed		TBD	3rd Party Engineer, TBD																								
TOW/AIR Approval		[redacted]	Upward Broadband																								
SHPO/NEPA		[redacted]	Upward Broadband																								
106 Compliance Review		[redacted]	Upward Broadband																								
Licensing Coordination		[redacted]	Upward Broadband																								
Geotech Report	Post NEPA	TBD	3rd Party Engineer, TBD																								
Design/Construction Dwgs		TBD	3rd Party Engineer, TBD																								
Steel Procurement Quotes		TBD	Upward Broadband; 3rd Party Contractor,																								
Tower Foundation Quotes		TBD	Upward Broadband; 3rd Party Contractor,																								
Tower Construction Quotes		TBD	Upward Broadband; 3rd Party Contractor,																								
Purchasing Tower Equipment		[redacted]	Upward Broadband																								
Utility to Tower Agreements/Applications	Post NEPA	[redacted]	Upward Broadband																								
Fiber Optic Internet to Tower Agreements	Post NEPA	[redacted]	Upward Broadband																								
Permit Applications	Post NEPA	[redacted]	Upward Broadband																								
Permit Approval		County Community Development	Huntingdon County																								
Tower Order		[redacted]	Upward Broadband																								
Site Access Construction (Road, Utility,	Post Permit	TBD	3rd Party Contractor, TBD																								
Foundation Construction	Post Permit	TBD	3rd Party Contractor, TBD																								
Building Construction	Post Permit	TBD	3rd Party Contractor, TBD																								
Tower Delivery		TBD	3rd Party Contractor, TBD																								
Tower Stack		TBD	3rd Party Contractor, TBD																								
Inspections Complete		County Community Development	Huntingdon County																								
Construction Complete		TBD	3rd Party Contractor, TBD																								
Service Deployment	Post Inspection	[redacted]	Upward Broadband																								
Towers Operational and Providing Service		[redacted]	Upward Broadband																								
Prepare Quarterly Reports		Brandon Carson	ABI Inc.																								
Project Complete																											

Redaction Explanation:

Upward Staff Personal Information

Budget Narrative

1 Administrative and Legal Expenses: The total cost associated is: $760,247.64 The proposed cost share amounting to 10% of total project funds is: $341,146.81 The amount requested from NTIA amounting in total to 90% of project costs $419,100.83

1.1 Project Manager: Administration: The total cost associated is: $174,132.53.

Justification: This position is responsible for coordinating all elements of project development and site development including reviews, surveys, engineering, materials, construction, and operation.

1.2 Pre-application Reimbursement: The total cost associated is: $50,000.00.

Justification: This application involved significant effort from multiple teams and firms and amount to expenses far greater that the $50,000 allowable here.

1.3 Indirect Costs at 10% Modified Total Direct Cost Subtotal: The total cost associated is: $68,273.36

1.3.1 Project Manager: Project Management - The total cost associated is: $19,348.06.

Justification: This position is responsible for coordinating all elements of project development and site development including reviews, surveys, engineering, materials, construction, and operation.

1.3.2 Project Manager: Administration - The total cost associated is: $19,348.06.

Justification: This position is responsible for coordinating all elements of project development and site development including reviews, surveys, engineering, materials, construction, and operation.

1.3.3 Employee Labor Antenna Systems (per hour): The total cost associated is: $13,320.94.

Justification: The position is responsible for the provisioning of towers with necessary equipment.

1.3.4 Employee Labor Electrical: The total cost associated is: $5,759.29.

Justification: This position is responsible for electrical work both at tower sites and set up for customers

1.3.5 Employee Labor Hut: The total cost associated is: $478.43.

Justification: This position is responsible for the installation and provisioning of the polar sheds.

1.3.6 Employee Labor Routers/Switches: The total cost associated is: $10,018.58.

Justification: The position is responsible for the provisioning of towers and clients with necessary equipment.

1.4 Environmental Fees: The total cost associated is: $159,025.14.

Justification: This represents the expected costs associated with NEPA review and environmental analysis.

1.5 Utilities: The total cost associated is: $31,805.03.

Justification: This represents the expected costs associated with electricity usage at the tower sites each month for the period of performance.

1.6 FCC Filing Fees: The total cost associated is: $22,064.74.

Justification: This represents the fee associated with licensed backhaul links.

1.7 Licensing Coordination per Link: The total cost associated is: $23,217.67.

Justification: This represents the cost associated with licensed backhaul links.

1.8 80G Licensing: The total cost associated is: $4,975.00.

Justification: This represents the fee associated with licensed backhaul links.

1.9 Leases: The total cost associated is: $230,962.82.

Justification: This represents the lease costs from landowners for the project's period of performance

2 Land, structures, rights-of-way, appraisals, etc. The total cost associated is: $7,216,878.64 The proposed cost share amounting to 10% of total project funds is: $454,862.42 The amount requested from NTIA amounting in total to 90% of project costs $6,762,016.23

Justification: This represents the cost associated with the development of access roads to tower sites and assumes any right of way fees.

2.1 Access Roads: The total cost associated is: $7,204,289.15.

Justification: This represents the cost associated with the development of access roads and assumes any right of way fees.

2.2 Right of Way: This is subsumed in 2.1 Access Roads

2.3 Access Road Gate: The total cost associated is: $12,589.49.

Justification: Gates limiting access to the access road and tower site.

3 Relocation expenses and payments: None expected.

4 Architectural and engineering fees: The total cost associated is: $636,100.57.

Justification: The proposed cost share amounting to 10% of total project funds is: $213,505.17 The amount requested from NTIA amounting in total to 90% of project costs $283,680.00

4.1 Plans: The total cost associated is: $265,041.91.

Justification: This cost represents the expected cost associated with engineering plans for site development.

4.2 Designs: The total cost associated is: $371,058.67.

Justification: This cost represents the expected cost associated with designing site development.

5 Other architectural and engineering fees: The total cost associated is: $47,707.54.

Justification: This cost represents the expected cost associated with engineering site development.

6 Project inspection fees: The total cost associated is: $75,536.94.

Justification: This cost represents inspection fees for sites.

6.1 Permit: The total cost associated is: $59,634.43.

Justification: Local and State Permits

6.2 PE Stamp: The total cost associated is: $15,902.51.

Justification: Fee associated with required PE stamped drawings.

7 Site Work: The total cost associated is: $6,517,248.48.

7.1 Site Prep

7.2 Site Utility Work: The total cost associated is: $6,517,248.48.

Justification: This cost represents the estimated expense of provisioning sites with necessary utilities including electricity and fiber where applicable.

8 Demolition and removal: None expected.

9 Construction: The total cost associated is: $7,489,401.32.

Justification: The proposed cost share amounting to 10% of total project funds is: $1,137,156.04 The amount requested from NTIA amounting in total to 90% of project costs $4,793,389.37

9.1 Tower Construction with Full Utility Access: The total cost associated is: $2,309,151.10.

Justification: This represents the cost associated with tower construction where utilities are provided to the site.

9.2 Tower Construction With Off-Grid Solar: The total cost associated is: $371,058.67.

Justification: This represents the cost associated with tower construction where utilities are not provided to the site and off-grid solar is utilized.

9.3 Tower Foundation with Full Utility Access: The total cost associated is: $848,134.10.

Justification: This represents the cost associated with tower foundations where utilities are provided to the site.

9.4 Tower Foundation with Off-Grid Solar: The total cost associated is: $159,025.14.

Justification: This represents the cost associated with tower foundation where utilities are not provided to the site and off-grid solar is utilized.

9.5 Construction: Equipment: The total cost associated is: $2,017,757.74.

9.6 Project Manager: Project Management: The total cost associated is: $174,132.53.

Justification: This position is responsible for coordinating all elements of project development and site development including reviews, surveys, engineering, materials, construction, and operation.

9.7 Employee Labor Antenna Systems (per hour): The total cost associated is: $119,888.46.

Justification: The position is responsible for the provisioning of towers with necessary equipment.

9.8 Employee Labor Electrical: The total cost associated is: $51,833.65.

Justification: This position is responsible for electrical work both at tower sites and set up for customers

9.9 Employee Labor Hut: The total cost associated is: $4,305.84.

Justification: This position is responsible for the installation and provisioning of the polar sheds.

9.10.0 Employee Labor Routers/Switches: The total cost associated is: $90,167.26.

Justification: The position is responsible for the provisioning of towers and clients with necessary equipment.

9.11 Building: The total cost associated is: $397,562.86.

Justification: This represents the cost associated with onsite buildings for tower equipment.

9.12 Ice Bridge: The total cost associated is: $198,781.43.

Justification: This represents the cost associated with ice bridges to protect the building from damage.

9.13 Gang Meter: The total cost associated is: $381,660.34.

Justification: Cost associated with required electrical provisioning for sites.

9.14 Fence: The total cost associated is: $288,047.54

Justification: Fence limiting access to tower site.

9.15 Gate: The total cost associated is: $79,512.57

Justification: Gates limiting access to tower site.

10 Equipment

11 Miscellaneous

12 Subtotal The total cost associated is: $22,743,121.14

13 Contingencies

14 Subtotal The total cost associated is: $22,743,121.14

15 Project Income

16 Total Project Costs

The total cost associated is: $22,743,121.14. The proposed cost share amounting to 10% of total project funds is: $2,274,312.11. The amount requested from NTIA amounting in total to 90% of project costs $20,468,809.03.

Justification: This cost includes a 10% cost share from the covered partnership of nonfederal funds.

17 Federal Assistance Requested: The total cost associated is: $20,468,809.03.

Justification: This cost represents 90% of the Total Project Costs and is the requested award amount.

NTIA Broadband Infrastructure Program: Broadband Expansion in the Alleghenies
Budget Narrative

The **Pre-Application Development – Administrative Fee** is 1 unit at $50,000 per unit. The total cost is $50,000. The Federal portion is $50,000. This amounts to 100%. The Nonfederal portion is $0. This amounts to 0%. for pre-application expenses including engineering, network planning, census block mapping, and site scouting. A subaward will be made to the engineering firm who completed pre proposal work for the amount of their expenses.

A breakdown of these expenses is as follows:

1. $25,000.00 in employee compensation for Engineering; 171.30578 hours from third party engineering firm:

- Engineer III [redacted] hours at $[redacted] per hour
- Engineer IV [redacted] hours at $[redacted] per hour
- Client services director [redacted] hours at $[redacted] per hour

2. $14,529.02 - Network planning:

- Employee Compensation: [redacted] hours at $[redacted] per hour for direct labor: $11,614.67
- Associated Taxes and Benefits:
  Workers Compensation Expense: $94.66
  401(k) Match: 285.14
  Holiday and Paid Time Off benefits: $520.10
  Medical Benefits: $732.19
  FICA: $657.04
  FUTA: $4.42
  SUTA: $620.80

3. $5,256.93 - Census block mapping
- Employee Compensation: [redacted] hours at $[redacted] per hour for direct labor: $4,202.45
- Associated Taxes and Benefits:
  Workers Compensation expense: $34.25
  401(k) Match: $103.17
  Holiday and Paid Time Off benefits: $188.19
  Medical Benefits: $264.92
  FICA: $237.73
  FUTA: $1.60
  SUTA: $224.62
4. $131.60, vehicle expense: Mileage reimbursement to [redacted] for 235 miles driven with personal vehicle at a rate of $.56 per mile on [redacted] for a meeting with Fulton County Commissioners to discuss cost match for NTIA Broadband Infrastructure application.

Redaction Explanation: Upward Staff Personal Information and Pay Rate

5. $5,082.45- Site Scouting:
    - Employee Compensation: [redacted] hours at $[redacted] per hour for direct labor: $4,062.97
    - Associated Taxes and Benefits:
      Workers Compensation expense: $33.11
      401(k) Match: $99.75
      Holiday and Paid Time Off benefits: $181.94
      Medical Benefits: $256.13
      FICA: $229.84
      FUTA: $1.54
      SUTA: $217.17

The **Project Manager: Administration** is [redacted] units (Units indicate labor hours) at $[redacted] per unit. The total cost is $200,000. The Federal portion is $180,000. This amounts to 90%. The Nonfederal portion is $20,000. This amounts to 10%. This is for hours invested in grant management, compliance, and project development oversight.

The **10% de minimus IDC** is 1 unit at $70,520.60 per unit. The total cost is $70,520.60. The Federal portion is $70,520.60. This amounts to 100%. The Nonfederal portion is $0. This amounts to 0%. This is reflected as 10% of total anticipated labor costs as reflected in the appropriate categories of this budget. This number is calculated off of 100% of the direct labor costs budgeted for this project.

Total labor:

- Project Manager: Prj Mgmt
  $200,000 ([redacted] hours at $[redacted] per hour)
- Project Manager: Prj Admin
  $200,00 ([redacted] hours at $[redacted] per hour)
- Employee Labor – antenna systems
  $134,024.86 ([redacted] hours at $[redacted] per hour)
- Employee labor – electrical
  $65,546.25 ([redacted] hours at $[redacted] per hour)
- Employee labor – hut
  $4809.06 ([redacted] hours at $[redacted] per hour)
- Employee labor – routers/switches
  $100,825.83 ([redacted] hours at $[redacted] per hour)

Total Labor Total= $705,206 * 10%= **$70,520.60**

This money will be used for indirect office space rental, utilities, and clerical and managerial staff salaries.

Redaction Explanation: Upward Staff Personal Information and Pay Rate

Budget Narrative

The **Environmental Fees** is 26.5 units (Units indicate the estimated cost of environmental review per tower) at $5,000.10 per unit. The total cost is $132,502.65. The Federal portion is $119,252.39. This amounts to 90%. The Nonfederal portion is $13,250.27. This amounts to 10%. Each unit accounts for one of the 26 new construction towers under this proposal. The .5 unit accounts for expenditures for any site requiring a higher level of review. This category accounts for anticipated NEPA, Environmental, and Historical Reviews associated with tower construction.

The **Utilities** is 636 units (Units indicate the estimated cost of Utilities per month per tower for 2 years) at $44.75 per unit. The total cost is $28,461. The Federal portion is $25,614.90. This amounts to 90%. The Nonfederal portion is $2,846.10. This amounts to 10%. This accounts for anticipated utilities at tower sites for the period of performance. Each unit accounts for one month estimated utility expenses at each of the 26 new construction towers under this proposal, based on our existing experience with utility cost at tower sites. The remaining 12 units allow for increase in cost of utility rates across the project.

The **FCC Filing Fees** is 40 units (Units indicate filing fees per tower) at $550.50 per unit. The total cost is $22,020. The Federal portion is $19,818. This amounts to 90%. The Nonfederal portion is $2,202. This amounts to 10%. This accounts for FCC fees associated with link planning. Each unit represents the FCC filing fee the agency charges per tower. There are 40 towers associated with this plan.

The **Licensing Coordination per Link** is 33 units (Units indicate licensing coordination fee per link) at $556.50 per unit. The total cost is $18,364.50. The Federal portion is $16,528.05. This amounts to 90%. The Nonfederal portion is $1,836.45. This amounts to 10%. This accounts for the fees associated with coordination of proposed links.

The **80G Licensing** is 5 units (Units indicate 80GHz Licensing per link) at $995.00 per unit. The total cost is $4,975. The Federal portion is $4,477.50. This amounts to 90%. The Nonfederal portion is $497.50. This amounts to 10%. This accounts for licensing fees for 80GHz links. There are 5 80GHz that would need to be coordinated with the FCC. $995 is the cost that the coordination agency charges per filing.

The **Leases** is 984 units (Units indicate estimated lease expense per month per tower for 2 years) at $263.50 per unit. The total cost is $259,284. The Federal portion is $233,355.60. This amounts to 90%. The Nonfederal portion is $25,928.40. This amounts to 10%. This accounts for anticipated costs of tower leases. This represents 2 years of anticipated lease costs based on our leasing expenses on other projects. Each unit accounts for one month estimated lease expenses at each of the towers under this proposal. The remaining units allow for average annual escalation rate in lease expense.

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The Administrative and Legal Expenses total is $786,127.75. The Federal portion is $719567.035. This amounts to 91.53%. The Nonfederal portion is $66,560.715. This amounts to 8.47%.

The **Access Roads** are 25 units (Units indicate estimated access road costs per site) at $288,171.70 per unit. The total cost is $7,204,292.50. The Federal portion is $6,476,803.04. This amounts to 90%. The Nonfederal portion is $727,489.46. This amounts to 10%. This accounts for development necessary to access for 25 tower sites and/or tower site locations. 25 sites need access road improvements, based on estimates we received from contractors this represents an estimated average of 2,681.48 ft of activity for each of the 25 sites:

$49,950.70 to clear the right of way (2,681.48ft * $18.62803377239435/ft)

$150,049.30 for establishing a roadway (2,681.48ft * $55.95764279427779/ft)

$88,171.70 for erosion control. (2,681.48ft * $32.88172949266823/ft)

The **Access Road Gate** is 25 units (Units indicate estimated access road gate per site) at $503.50 per unit. The total cost is $12,587.50. The Federal portion is $11,328.75. This amounts to 90%. The Nonfederal portion is $1,258.75. This amounts to 10%. This accounts for the anticipated cost of gates to appropriately secure tower sites per best practice.

The Land, Structures, and Rights-of-Way Expenses total is $7,216,880. The Federal portion is $6,488,131.79. This amounts to 90%. The Nonfederal portion is $728,748.21. This amounts to 10%.

The **Plans** are 26.5 units (Units indicate estimated expenses of Plans per tower) at $10,000.75 per unit. The total cost is $265,019.88. The Federal portion is $238,517.89. This amounts to 90%. The Nonfederal portion is $26,501.99. This amounts to 10%. This is the anticipated cost for engineering plans and related documents for tower construction. Plans costs are estimated expenses related to engineer-certified drawings and other specifications that will need to be drawn up throughout the design phase and construction process at each of the 26 new construction towers under this proposal. The .5 units accounts for expenditures for any site requiring additional drawings related to a higher level of review. Estimates are based on a 3rd party engineering firm that conducted preliminary site visits on August 6, 2021.

$10,000.75 per site for 26 sites, .5 units accounts for expenditures for any site requiring additional drawings related to a higher level of review.

$2,500.25 for each site plan drawing
$2,500.25 for each site as-built plan
$1,500.00 for each elevation drawing
$1,500.25 for each electrical one-line drawing
$2,000.00 for each grading and drainage plan

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The **Designs** are 26.5 units (Units indicate estimated design costs per tower) at $14,003.05 per unit. The total cost is $371,080.83. The Federal portion is $333,972.74. This amounts to 90%. The Nonfederal portion is $37,108.08. This amounts to 10%. This is the anticipated cost for tower designs and drawings. Design costs are estimated expenses related to tower design, foundation design, final design costs and activities related to site/tower construction at each of the 26 new construction towers under this proposal. Design costs are estimated expenses related to tower design, foundation design, final design costs and activities related to site/tower construction. The .5 units accounts for expenditures for any site requiring a modified foundation design. Estimates are based on a 3rd party engineering firm that conducted preliminary site visits on August 6, 2021.

$14,003.05 per site for 26 sites, The .5 units accounts for expenditures for any site requiring a modified foundation design.
$6,500.7625 per site for core borings
$1,500.7625 per site for tower design
$1,500.00 per site for foundation design
$2000.7625 per site for building design with ice bridge
$2,500.00 per site for utility design

The Architectural and Engineering Fees total is $636,100.70. The Federal portion is $572,490.63.This amounts to 90%. The Nonfederal portion is $63,610.07. This amounts to 10%.

The **Other Architectural and Engineering Fees** is 40 units (Units indicate estimated fees per tower) at $1,195 per unit. The total cost is $47,800. The Federal portion is $43,020. This amounts to 90%. The Nonfederal portion is $4,780. This amounts to 10%. This is the anticipated cost per tower, for 40 total towers, for additional drawings/surveys related to tower construction. Estimates are based on a 3rd party engineering firm that conducted preliminary site visits on August 6, 2021.

$1,000.00 per site for 40 tower sites for municipal consultant review fees
$195.00 per site for 40 Tower sites for County planning commission review

The Other Architectural and Engineering total is $47,800. The Federal portion is $43,020. This amounts to 90%. The Nonfederal portion is $4,780. This amounts to 10%.

The **Permit** is 40 units (Units indicate estimated permitting costs per tower) at $1,450.04 per unit. The total cost is $58,001.60. The Federal portion is $52,201.44. This amounts to 90%. The Nonfederal portion is $5,800.16. This amounts to 10%. This is the cost anticipated with associated permits per tower for 40 towers to support provisioning and buildout.

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The **PE Stamp** is 40 units (Units indicate estimated P.E. Stamp expenses per tower) at $438.38 per unit. The total cost is $17,535.20. The Federal portion is $15,781.68. This amounts to 90%. The Nonfederal portion is $1,753.52. This amounts to 10%. This is the cost per tower for 40 towers for PE certified drawings to support buildout.

The Project Inspection Fees total is $75,536.80. The Federal portion is $67,983.12. This amounts to 90%. The Nonfederal portion is $7,553.68. This amounts to 10%.

The **Site Utility Work** is 20 units (Units indicate estimated utility work per site) at $325,862.42 per unit. The total cost is $6,517,248.40. The Federal portion is $5,865,523.56. This amounts to 90%. The Nonfederal portion is $651,724.84. This amounts to 10%. This is the cost anticipated to have utilities run to the 20 towers that need utility work based on estimates that we have received. Estimates are based on a utility and quotes received on July 19, 2021.

$325,862.42 per site for 20 tower sites
2984.3 feet of utility activity (conduit runs, pull boxes and secondary digging) per site at $104 per foot.
$15,495.22 for bonding.

The Site Work total is $6,517,248.40. The Federal portion is $5,865,523.56. This amounts to 90%. The Nonfederal portion is $651,724.84. This amounts to 10%.

The **Tower Construction with Full Utility Access** is 22 units (Units indicate estimated costs per tower) at $109,143.90 per unit. The total cost is $2,401,165.80. The Federal portion is $2,161,049.22. This amounts to 90%. The Nonfederal portion is $240,116.58. This amounts to 10%. This is the cost associated with tower construction for 22 sites requiring full utility access, based on quotes we have received on July 13, 2021.

$109,143.90 per site for 22 sites:
$100,000.00 per site for tower materials and installation.
    $60,000.00 in Materials
    $40,000.00 in Installation
$9,143.90 in freight expense

The **Tower Construction With Off-Grid Solar** is 4 units (Units indicate quoted costs to provide solar power per tower) at $70,000 per unit. The total cost is $280,000. The Federal portion is $252,000. This amounts to 90%. The Nonfederal portion is $28,000. This amounts to 10%. This is the anticipated cost associated with tower construction for 4 sites with off-grid power, based on quotes we have received on July 13, 2021.

$70,000.00 per site for 4 sites:
$64,000.00 per site for tower materials and installation.
    $38,400.00 in Materials
    $25,600.00 in Installation
$6,000.00 per site in freight expense

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The **Tower Foundation with Full Utility Access** is 22 units (Units indicate estimated foundation costs per tower) at $38,698.23 per unit. The total cost is $851,361.06. The Federal portion is $766,224.95. This amounts to 90%. The Nonfederal portion is $85,136.11. This amounts to 10%. This is the cost for tower foundation. This is the cost associated with tower construction for 22 sites requiring full utility access, based on estimates we have received on July 13, 2021.

$38,698.23 per site for 22 sites:
$15,285.80085 for installation
$23,412.42915 for materials

The **Tower Foundation with Off-Grid Solar** is 4 units (Units indicate estimated foundation costs per tower) at $39,424 per unit. The total cost is $157,696. The Federal portion is $141,926.40. This amounts to 90%. The Nonfederal portion is $15,769.60. This amounts to 10%. This is the cost for tower foundation. This is the anticipated cost associated with tower construction for 4 sites with off-grid power, based on estimates we have received. This is the cost for tower foundation. This is the cost associated with tower construction for 22 sites requiring full utility access, based on estimates we have received on July 13, 2021.

$39,424.00 per site for 4 sites.
$17,740.8 for installation
$21,683.20 for materials

The **Construction: Equipment** is totaled at $1,916,232.23 per unit. The total cost is $1,916,232.23. The Federal portion is $1,724,617.71. This amounts to 90%. The Nonfederal portion is $191,614.53. This amounts to 10%. This is the anticipated cost of equipment related to construction activities to provision towers appropriately within PFSA, based on estimates we have received. The breakdown is itemized in section 10 of the Budget.

The **Project Manager: Project Management** is [redacted] units (Units indicate estimated labor hours) at [redacted] per unit. The total cost is: $200,000. The Federal portion is $180,000. This amounts to 90%. The Nonfederal portion is $20,000. This amounts to 10%. This is for hours invested in site development throughout the buildout phase.

The **Employee Labor Antenna Systems** is [redacted] units (Units indicate estimated labor hours) at [redacted] per unit. The total cost is $134,024.86. The Federal portion is $120,622.37. This amounts to 90%. The Nonfederal portion is $13,402.49. This amounts to 10%. This is the cost associated with Antenna construction for tower sites.

Redaction Explanation: Upward Staff Personal Information and Pay Rate

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The **Employee Labor Electrical** is [redacted] units (Units indicate estimated labor hours) at $[redacted] per unit. The total cost is $65,546.25. The Federal portion is $58,991.63. This amounts to 90%. The Nonfederal portion is $6,554.63. This amounts to 10%. This is the cost associated with electrical construction for tower sites.

The **Employee Labor Hut** is [redacted] units (Units indicate estimated labor hours) at $[redacted] per unit. The total cost is $4,809.06. The Federal portion is $4,328.16. This amounts to 90%. The Nonfederal portion is $480.90. This amounts to 10%. This is the labor cost associated with hut construction for tower sites.

The **Employee Labor Routers/Switches** is [redacted] units (Units indicate estimated labor hours) at [redacted] per unit. The total cost is $100,825.83. The Federal portion is $90,743.25. This amounts to 90%. The Nonfederal portion is $10,082.58. This amounts to 10%. This is the labor cost associated with routers and switches for PFSA at tower sites.

The **Building** is 26 units (Units indicate estimated cost per building per site) at $15,291.52 per unit. The total cost is $397,579.52. The Federal portion is $357,821.57. This amounts to 90%. The Nonfederal portion is $39,757.95. This amounts to 10%. Each unit represents a tower for a total of 26 towers. Based on estimates we received from contractors.

$15,291.52 per site for 26 sites
$10,000.00 per site for prefabricated building
$5,291.52 per for building foundation

The **Ice Bridge** is 26 units (Units indicate estimated cost per ice bridge per site) at $7,644.74 per unit. The total cost is $198,763.24. The Federal portion is $178,886.92. This amounts to 90%. The Nonfederal portion is $19,876.32. This amounts to 10%. Based on estimates we received from contractors.

$7,644.74 per site for 26 sites
$4950.00 per site for ice bridge materials
$2,694.74 for Ice bridge foundation

The **Gang Meter** is 26 units (Units indicate estimated expense of gang meter installation per site) at $14,676.92 per unit. The total cost is $381,599.90. The Federal portion is $343,439.93. This amounts to 90%. The Nonfederal portion is $38,159.99. This amounts to 10%. This item is for 26 units for each of 26 new towers constructed under this proposal. Based on estimates we received from contractors on July 23,2021.

$14,676.92 per site for 26 sites
$10,000.00 for gang meter
$4,676.92 for related materials

Redaction Explanation: Upward Staff Personal Information and Pay Rate

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The **Fence** is 26 units (Units indicate estimated expense for fencing per site) at $11,079.39 per unit. The total cost is $288,064.01. The Federal portion is $259,257.61. This amounts to 90%. The Nonfederal portion is $28,806.40. This amounts to 10%. Based on estimates we received from contractors.

$11,079.39 per site for 26 sites
400ft of fencing per site at $22.158 per foot
$2,216.19 for gravel

The **Gate** is 26 units (Units indicate installation of gates per site) $3,057.69 per unit. The total cost is $79,499.94. The Federal portion is $66,549.40. This amounts to 84% The Nonfederal portion is $12,950.54. This amounts to 16%.

The Construction Expenses total is $5,540,935.50. The Federal portion is $4,981,841.40. This amounts to 90%. The Nonfederal portion is $559,094.10. This amounts to 10%.

The Equipment Expenses total is $1,916,232.23. The Federal portion is $1,724,617.70. This amounts to 90%. The Nonfederal portion is $191,614.53 This amounts to 10%.

#	COST CLASSIFICATION	Detailed Description of Budget (for grant period)			Breakdown of Costs	
1	**Administrative and legal expenses**	**Units**	**Unit Cost**	**Total Cost**	**Federal**	**NonFederal**
	PreApplication Development- Administrative Fee	1	$ 50,000	$ 50,000.00	$50,000.000000	
	Project Manager:Administration	[redacted]	$ [redacted]	$ 200,000.00	$180,000.000000	$20,000.000000
	10% de minimus IDC (calculated as 10% of all associated labor costs, as broken out on original budget 1.3= sum of 1.3.1-1.3.6)	1	$ 70,521	$ 70,520.60	$70,520.600000	
	Environmental Fees	26.50	$ 5,000.10	$ 132,502.65	$119,252.385000	$13,250.265000
	Utilities	636.00	$ 44.75	$ 28,461.00	$25,614.900000	$2,846.100000
	FCC Filing Fees	40.00	$ 550.50	$ 22,020.00	$19,818.000000	$2,202.000000
	Licensing Coordination per Link	33.00	$ 556.50	$ 18,364.50	$16,528.050000	$1,836.450000
	80G Licensing	5.00	$ 995.00	$ 4,975.00	$4,477.500000	$497.500000
	Leases	984.00	$ 263.50	$ 259,284.00	$233,355.600000	$25,928.400000
				Total Administrative and Legal Expenses	**$719,567.035000**	**$66,560.715000**
2	**Land, structures, rights-of-way, appraisals, etc.**	**Units**	**Unit Cost**	**Total Cost**	**Federal**	**NonFederal**
	Access Roads	25	$ 288,172	$ 7,204,292.50	$6,476,803.043350	$727,489.456650
	Right of Way					
	Access Road Gate	25	$ 504	$ 12,587.50	$11,328.750000	$1,258.750000
				Total Land, Structures, and Rights-of-way Expenses	**$6,488,131.793350**	**$728,748.206650**
3	**Relocation expenses and payments**	**Units**	**Unit Cost**	**Total Cost**	**Federal**	**NonFederal**
	None Required for this Project				$0.000000	
				Total Relocation Expenses and Payments	**$0.000000**	**$0.000000**
4	**Architectural and engineering fees**	**Units**	**Unit Cost**	**Total Cost**	**Federal**	**NonFederal**
	Plans	26.5	$ 10,000.75	$ 265,019.88	$238,517.887500	$26,501.987500
	Designs	26.5	$ 14,003.05	$ 371,080.83	$333,972.742500	$37,108.082500
				Total Architectural and Engineering Fees	**$572,490.630000**	**$63,610.070000**
5	**Other architectural and engineering fees**	**Units**	**Unit Cost**	**Total Cost**	**Federal**	**NonFederal**
	Other architectural and engineering fees	40	$ 1,195	$ 47,800.00	$43,020.000000	$4,780.000000
				Total Other Architectural and Engineering	**$43,020.000000**	**$4,780.000000**
6	**Project inspection fees**	**Units**	**Unit Cost**	**Total Cost**	**Federal**	**NonFederal**
	Permit	40	$ 1,450	$ 58,001.60	$52,201.440000	$5,800.160000
	PE Stamp	40	$ 438	$ 17,535.20	$15,781.680000	$1,753.520000
				Total Project Inspection Fees	**$67,983.120000**	**$7,553.680000**
7	**Site work**	**Units**	**Unit Cost**	**Total Cost**	**Federal**	**NonFederal**
	Site Prep					
	Site Utility Work	20	$ 325,862.42	$ 6,517,248.40	$5,865,523.560000	$651,724.840000
				Total	**$5,865,523.560000**	**$651,724.840000**
8	**Demolition and removal**	**Units**	**Unit Cost**	**Total Cost**	**Federal**	**NonFederal**
	None Required for this Project					
				Total Demolition and Removal Expenses	**$0.000000**	**$0.000000**
9	**Construction**	**Units**	**Unit Cost**	**Total Cost**	**Federal**	**NonFederal**
	Tower Construction with Full Utility Access	22	$ 109,143.90	$ 2,401,165.80	$2,161,049.220000	$240,116.580000
	Tower Construction With Off-Grid Solar	4	$ 70,000.00	$ 280,000.00	$252,000.000000	$28,000.000000
	Tower Foundation with Full Utility Access	22	$ 38,698.23	$ 851,361.06	$766,224.954000	$85,136.106000
	Tower Foundation with Off-Grid Solar	4	$ 39,424.00	$ 157,696.00	$141,926.400000	$15,769.600000
	Construction: Equipment (see detailed breakdown below)	1	$ -	$ -	$0.000000	$0.000000
	Project Manager: Project Management	[redacted]	$ [redacted]	$ 200,000.00	$180,000.000000	$20,000.000000

Redaction Explanation: Upward Staff Personal Information and Pay Rate

Redaction Explanation: Upward Staff Personal Information and Pay Rate

	Employee Labor Antenna Systems (per hour)	[redacted]	$ [redacted]	$ 134,024.86	$120,622.374000	$13,402.486000
	Employee Labor Electrical	[redacted]	$ [redacted]	$ 65,546.25	$58,991.625000	$6,554.625000
	Employee Labor Hut	[redacted]	$ [redacted]	$ 4,809.06	$4,328.157929	$480.906437
	Employee Labor Routers/Switches	[redacted]	$ [redacted]	$ 100,825.83	$90,743.247000	$10,082.583000
	Building	26	$ 15,291.52	$ 397,579.52	$357,821.568000	$39,757.952000
	Ice Bridge	26	$ 7,644.74	$ 198,763.24	$178,886.916000	$19,876.324000
	Gang Meter	26	$ 14,676.92	$ 381,599.92	$343,439.928000	$38,159.992000
	Fence	26	$ 11,079.39	$ 288,064.01	$259,257.609000	$28,806.401000
	Gate	26	$ 3,057.69	$ 79,499.94	$66,549.399774	$12,950.540226
				Total Construction Expenses	**$4,981,841.398703**	**$559,094.095663**
10	**Equipment**	**Units**	**Unit Cost**	**Total Cost**	**Federal**	**NonFederal**
	Bud Industries Backplate 16" X 11" PTX-11-68-P	40	$9.98	$ 399.20	$359.280000	$39.920000
	Cat6 preterminated ethernet cables	201	$2.76	$ 554.76	$499.284000	$55.476000
	End table	30	$20.00	$ 600.00	$540.000000	$60.000000
	3/8" Angle Grounding Adapter	335	$4.31	$ 1,443.85	$1,299.465000	$144.385000
	Rack mounting kit for Edgeswitch 10X	33	$14.43	$ 476.19	$428.571000	$47.619000
	Ferrite Chokes	1472	$0.76	$ 1,118.72	$1,006.848000	$111.872000
	3/8" Angle Adapter	250	$4.31	$ 1,077.50	$969.750000	$107.750000
	Short extension/splitter cords	150	$10.00	$ 1,500.00	$1,350.000000	$150.000000
	Wyze Home Starter Bundle (contact and motion sensors)	30	$53.24	$ 1,597.20	$1,437.480000	$159.720000
	MCB for Aviat radios 2-pole	71	$54.00	$ 3,834.00	$3,450.600000	$383.400000
	Universal Ground Kit for 0.1-0.6" cable and Cat5	270	$14.06	$ 3,796.20	$3,416.580000	$379.620000
	3.5" RMC pipe - 40" long	64	$73.49	$ 4,703.36	$4,233.024000	$470.336000
	Aircube Wireless access point	30	$76.00	$ 2,280.00	$2,052.000000	$228.000000
	Preterminated Fiber (6 feet)	44	$39.00	$ 1,716.00	$1,544.400000	$171.600000
	Modular PSU for EdgePower	55	$81.00	$ 4,455.00	$4,009.500000	$445.500000
	15' Cat7 Ethernet cable	214	$13.41	$ 2,869.74	$2,582.766000	$286.974000
	Bud Industries Juction Box 16X12 PTQ-11068-C	40	$94.91	$ 3,796.40	$3,416.760000	$379.640000
	164' (50M) terminated fiber for licensed radios	12	$99.36	$ 1,192.32	$1,073.088000	$119.232000
	SFP+ modules for licensed radios	130	$57.38	$ 7,459.40	$6,713.460000	$745.940000
	1 Gb Gbic Modules	144	$15.90	$ 2,289.60	$2,060.640000	$228.960000
	250' (75M) 16 awg power cable for licensed radios	24	$190.83	$ 4,579.92	$4,121.928000	$457.992000
	250' (75M) terminated fiber for licensed radios	24	$133.92	$ 3,214.08	$2,892.672000	$321.408000
	492' (150M) terminated fiber for licesned radios	1	$300.00	$ 300.00	$270.000000	$30.000000
	492' (150M) 16 awg power cable for licensed radios	1	$451.00	$ 451.00	$405.900000	$45.100000
	410' (125M) 16 awg power cable for licensed radios	1	$352.43	$ 352.43	$317.187000	$35.243000
	328' (100M) terminated fiber for licensed radios	18	$169.56	$ 3,052.08	$2,746.872000	$305.208000
	328' (100M) 16 awg power cable for licensed radios	19	$254.45	$ 4,834.55	$4,351.095000	$483.455000
	410' (125M) terminated fiber for licesned radios	1	$235.44	$ 235.44	$211.896000	$23.544000

Redaction Explanation: Upward Staff Personal Information and Pay Rate

	164' (50M) 16 awg power cable for licensed radios	13	$127.23	$ 1,653.99	$1,488.591000	$165.399000
	25' Cat7 Ethernet cable	216	$19.03	$ 4,110.48	$3,699.432000	$411.048000
	10 Gb Gbic Modules	124	$39.21	$ 4,862.04	$4,375.836000	$486.204000
	ComScope Universal Barrel Cushion 1-5/8" hanger	1880	$2.67	$ 5,019.60	$4,517.640000	$501.960000
	Edgeswitch 10X	36	$110.00	$ 3,960.00	$3,564.000000	$396.000000
	EdgePower	131	$249.00	$ 32,619.00	$29,357.100000	$3,261.900000
	SnapStack 1-5/8" Stackable Snap In Hanger Kit	1880	$4.06	$ 7,632.80	$6,869.520000	$763.280000
	Pipe to Pipe Clamp 1-1/2" to 3-1/2"	364	$29.65	$ 10,792.60	$9,713.340000	$1,079.260000
	DC Surge protector	121	$357.24	$ 43,226.04	$38,903.436000	$4,322.604000
	Edgepoint Switch	33	$532.80	$ 17,582.40	$15,824.160000	$1,758.240000
	Eaton Comms Card	34	$291.00	$ 9,894.00	$8,904.600000	$989.400000
	2" RMC pipe - 10' long	153	$103.33	$ 15,809.49	$14,228.541000	$1,580.949000
	Edgeswitch 16 XG	33	$629.50	$ 20,773.50	$18,696.150000	$2,077.350000
	RF Elements Twistport adapter	352	$57.72	$ 20,317.44	$18,285.696000	$2,031.744000
	10 awg 2 wire power cable (per foot)	15700	$0.91	$ 14,287.00	$12,858.300000	$1,428.700000
	Eaton UPS	34	$582.00	$ 19,788.00	$17,809.200000	$1,978.800000
	MTI Dish 2'	12	$1,269.67	$ 15,236.04	$13,712.436000	$1,523.604000
	36U 4 post rack	34	$660.00	$ 22,440.00	$20,196.000000	$2,244.000000
	Single mode armored fiber (500')	2	$585.60	$ 1,171.20	$1,054.080000	$117.120000
	Single mode armored fiber (300')	55	$466.04	$ 25,632.20	$23,068.980000	$2,563.220000
	5 Ghz Rocket radios Gen2	282	$222.47	$ 62,736.54	$56,462.886000	$6,273.654000
	Cambium ePMP™ 1000, 2.4 GHz 90 degree Sector Antenna	83	$417.36	$ 34,640.88	$31,176.792000	$3,464.088000
	5GHz PtMP LTU Radio	97	$446.88	$ 43,347.36	$39,012.624000	$4,334.736000
	Cambium ePMP™ 1000, 2.4 GHz Connectorized Radio with GPS Sync	89	$639.36	$ 56,903.04	$51,212.736000	$5,690.304000
	RF Elements Assymetrical horns	349	$291.93	$ 101,883.57	$91,695.213000	$10,188.357000
	3 ft. Aviat 11 Ghz dish	45	$901.20	$ 40,554.00	$36,498.600000	$4,055.400000
	External Couple Assy	2	$337.43	$ 674.86	$607.374000	$67.486000
	2 meter Aviat Fiber Jumper	2	$19.08	$ 38.16	$34.344000	$3.816000
	Radwin Neo Duo	20	$1,930.00	$ 38,600.00	$34,740.000000	$3,860.000000
	Eaton Extended Battery Module	136	$554.00	$ 75,344.00	$67,809.600000	$7,534.400000
	WTM 4200 Radios with base and enterprise license, Warranty, and Shipping	93	$6,395.28	$ 594,761.04	$535,284.936000	$59,476.104000
	Construction Contracts	26	$ 4,392.59	$ 114,207.31	$102,795.270072	$11,412.039564
	Cambium PMP 450m Access Point	48	$8,157.39	$ 391,554.72	$352,399.248000	$39,155.472000
				Total Equipment Expenses	**$1,724,617.707072**	**$191,614.532564**
11	**Miscellaneous**	**Units**	**Unit Cost**	**Total Cost**	**Federal**	**NonFederal**
				Total Miscellaneous Expenses	**$0.000000**	**$0.000000**
12	**SUBTOTAL**				$0.000000	$0.000000
13	**Contingencies**	**Units**	**Unit Cost**	**Total Cost**	**Federal**	**NonFederal**
				Total Contingencies	**$0.000000**	**$0.000000**

14	**SUBTOTAL**				**$20,463,175.244125**	**$2,273,686.139877**
15	Program Income (NA)	NA	NA	NA	$0.000000	$0.000000
16	**TOTAL PROJECT COSTS BY SHARE**				**$20,463,175.244125**	**$2,273,686.139877**
	TOTAL PROJECT COST			**$22,736,861.38**	**MATCH %**	**$0.100000**

#	COST CLASSIFICATION	Detailed Description of Budget (for grant period)			Breakdown of Costs	
1	**Administrative and legal expenses**	**Units**	**Unit Cost**	**Total Cost**	**Federal**	**NonFederal**
	PreApplication Development-Administrative Fee	1	$ 50,000	$ 50,000	50000.0000	
	Project Manager:Administration	[redacted]	$ [redacted]	$ 174,120	156708.0000	17412.0000
	10% de minimus IDC (calculated as 10% of all associated labor costs, as broken out on original budget 1.3= sum of 1.3.1-1.3.6)	1	$ 70,521	$ 70,521	70520.6000	

Redaction Explanation: Upward Staff Personal Information and Pay Rate

	Environmental Fees	26.50	$ 5,000.10	$ 132,503	119252.3850	13250.2650	
	Utilities	636.00	$ 44.75	$ 28,461	25614.9000	2846.1000	
	FCC Filing Fees	40.00	$ 550.50	$ 22,020	19818.0000	2202.0000	
	Licensing Coordination per Link	33.00	$ 556.50	$ 18,365	16528.0500	1836.4500	
	80G Licensing	5.00	$ 995.00	$ 4,975	4477.5000	497.5000	
	Leases	984.00	$ 263.50	$ 259,284	233355.6000	25928.4000	
				Total Administrative and Legal Expenses	**696275.0350**	63972.7150	$760,247.75
2	**Land, structures, rights-of-way, appraisals, etc.**	**Units**	**Unit Cost**	**Total Cost**	**Federal**	**NonFederal**	
	Access Roads	25	$ 288,172	$ 7,204,292.50	6483863.2500	720429.2500	
	Right of Way						
	Access Road Gate	25	$ 504	$ 12,588	11328.7500	1258.7500	
				Total Land, Structures, and Rights-of-way Expenses	**6495192.0000**	**721688.0000**	$7,216,880.00

3	Relocation expenses and payments	Units	Unit Cost	Total Cost	Federal	NonFederal	
	None Required				0.0000		
				Total Relocation Expenses and Payments	0.0000	0.0000	
4	Architectural and	Units	Unit Cost	Total Cost	Federal	NonFederal	
	Plans	26.5	$ 10,000.75	$ 265,020	238517.8875	26501.9875	
	Designs	26.5	$ 14,003.05	$ 371,081	333972.7425	37108.0825	
				Total Architectural and Engineering Fees	572490.6300	63610.0700	$636,100.70
5	Other architectu	Units	Unit Cost	Total Cost	Federal	NonFederal	
	Other architectur	40	$ 1,195	$ 47,800	43020.0000	4780.0000	
				Total Other Architectural and Engineering	43020.0000	4780.0000	$47,800.00
6	Project inspection	Units	Unit Cost	Total Cost	Federal	NonFederal	
	Permit	**40**	**$ 1,450**	**$ 58,002**	**52201.4400**	**5800.1600**	
	Stamp	**40**	**$ 438**	**$ 17,535**	**15781.6800**	**1753.5200**	
				Total Project Inspection Fees	67983.1200	7553.6800	$75,536.80
7	Site work	Units	Unit Cost	Total Cost	Federal	NonFederal	
	Site Prep						
	Utility	**20**	**$ 325,862.42**	**$ 6,517,248**	**5865523.5600**	**651724.8400**	
				Total	5865523.5600	651724.8400	$6,517,248.40
8	Demolitio n and	Units	Unit Cost	Total Cost	Federal	NonFederal	
	None Required						
				Total Demolition and Removal Expenses	0.0000	0.0000	$0.00
9	Constructi on	Units	Unit Cost	Total Cost	Federal	NonFederal	
	Constructi	22	$ 109,143.90	$ 2,401,166	2161049.2200	240116.5800	
	Constructi	4	$ 70,000.00	$ 280,000	252000.0000	28000.0000	
	Foundatio	21	$ 40,541.00	$ 851,361	766224.9000	85136.1000	
	Foundatio	5.5	$ 28,672.00	$ 157,696	141926.4000	15769.6000	
	Constructi	1	$2,011,404.19	$ 2,011,404	1810263.7710	201140.4190	

	Manager:	[redacted]	$ [redacted]	$ 174,120	156708.0000	17412.0000
	Employee	[redacted]	$ [redacted]	$ 119,895	107905.7880	11989.5320
	Employee	[redacted]	$ [redacted]	$ 51,686	46517.6250	5168.6250
	Employee	[redacted]	$ [redacted]	$ 4,297	3867.2640	429.6960
	Employee	[redacted]	$ [redacted]	$ 85,916	77323.9500	8591.5500
	Building	26.5	$ 15,003.00	$ 397,580	357821.5500	39757.9500
	Bridge	26.5	$ 7,500.50	$ 198,763	178886.9250	19876.3250
	Meter	26.5	$ 14,400.00	$ 381,600	343440.0000	38160.0000
	Fence	26.5	$ 10,870.34	$ 288,064	259257.6090	28806.4010
	Gate	26.5	$ 3,000.00	$ 79,500	66549.4500	12950.5500
				Total Construction Expenses	**6729742.4520**	**753305.3280**

Redaction Explanation: Upward Staff Personal Information and Pay Rate

$7,483,047.78

$22,736,861.43

Bedford County Commissioners' Office

COUNTY OF BEDFORD
200 SOUTH JULIANA STREET
BEDFORD, PENNSYLVANIA 15522

TELEPHONE: 814-623-4807 FAX: 814-623-0991

Barry L. Dallara, Chairman
Deb Baughman, Vice-Chairman
Alan Frederick, Secretary

DEBRA K. BROWN
Chief Clerk/Director of Elections

August 12, 2021

Herbert C. Hoover Building (HCHB)
U.S. Department of Commerce
National Telecommunications and Information Administration
1401 Constitution Avenue, N.W.
Washington, D.C. 20230

To whom it may concern:

Huntingdon County, in partnership with Fulton and Bedford counties, Upward Broadband, Crowsnest Broadband, and Alleghenies Broadband, Inc. (ABI), is seeking funding from the National Telecommunications and Information Administration's (NTIA) Broadband Infrastructure Program for the expansion of reliable, high-speed internet service to rural communities in the south-central region of Pennsylvania. The proposed project includes the construction of new infrastructure to support an expansion of fixed wireless service to unserved and underserved residents and businesses within the Southern Alleghenies and surrounding region.

As the authorized representative for Bedford County in this project proposal, I write this letter to express our commitment to collaborate with Alleghenies Broadband and private internet service providers to identify areas of need in the region and strategies for addressing those needs. Furthermore, as part of the project proposal, the covered partnership will provide 10 percent of the total eligible costs of the project as a non-federal cost match. Bedford County commits to providing a portion of the matching funds in the amount of $560,000.

Should you have any questions regarding our position in the project proposal or require any additional information, please feel free to contact Barry Dallara at 814-623-4807.

Sincerely,

Barry L. Dallara, Chairman
Bedford County Commissioners

Fulton County Commissioners

116 West Market Street, Suite 203, McConnellsburg, PA 17233

Telephone: (717) 485-3691 Fax: (717) 485-9411 Email: commissioners@co.fulton.pa.us

Stuart L. Ulsh, Chair
Randy H. Bunch, Vice-Chair
Paula J. Shives

Lisa Mellott-McConahy, Chief Clerk
Jim Stein, County Solicitor

August 10, 2021

Herbert C. Hoover Building (HCHB)
U.S. Department of Commerce
National Telecommunications and Information Administration
1401 Constitution Avenue, N.W.
Washington, D.C. 20230

To whom it may concern:

Huntingdon County, in partnership with Fulton and Bedford counties, Upward Broadband, Crowsnest Broadband, and Alleghenies Broadband, Inc. (ABI), is seeking funding from the National Telecommunications and Information Administration's (NTIA) Broadband Infrastructure Program for the expansion of reliable, high-speed internet service to rural communities in the south-central region of Pennsylvania. The proposed project includes the construction of new infrastructure to support an expansion of fixed wireless service to unserved and underserved residents and businesses within the Southern Alleghenies and surrounding region.

As the authorized representative for Fulton County in this project proposal, I write this letter to express our commitment to collaborate with Alleghenies Broadband and private internet service providers to identify areas of need in the region and strategies for addressing those needs. Furthermore, as part of the project proposal, the covered partnership will provide 10 percent of the total eligible costs of the project as a non-federal cost match. Fulton County commits to providing a portion of the matching funds in the amount of $360,000.

Should you have any questions regarding our position in the project proposal or require any additional information, please feel free to contact Stuart L. Ulsh, Chairman at 717-485-3691.

Sincerely,

Stuart L Ulsh

Stuart L. Ulsh, Chairman

Fulton County Commissioners

MARK A. SATHER
SCOTT WALLS
JEFF THOMAS

HEATHER FELLMAN
Chief Clerk

LARRY NEWTON
Solicitor

MEETING DAY
TUESDAY--9:30 A.M.

PHONE: 814-643-3091
FAX: 814-643-8152

Huntingdon County, Pennsylvania

OFFICE OF

COUNTY COMMISSIONERS

HUNTINGDON, PENNSYLVANIA 16652

August 10, 2021

Herbert C. Hoover Building (HCHB)
U.S. Department of Commerce
National Telecommunications and Information Administration
1401 Constitution Avenue, N.W.
Washington, D.C. 20230

To whom it may concern:

Huntingdon County, in partnership with Fulton and Bedford counties, Upward Broadband, Crownsnest Broadband, and Alleghenies Broadband, Inc. (ABI), is seeking funding from the National Telecommunications and Information Administration's (NTIA) Broadband Infrastructure Program for the expansion of reliable, high-speed internet service to rural communities in the south-central region of Pennsylvania. The proposed project includes the construction of new infrastructure to support an expansion of fixed wireless service to unserved and underserved residents and businesses within the Southern Alleghenies and surrounding region.

As the authorized representative for Huntingdon County in this project proposal, I write this letter to express our commitment to collaborate with Alleghenies Broadband and private internet service providers to identify areas of need in the region and strategies for addressing those needs. Furthermore, as part of the project proposal, the covered partnership will provide 10 percent of the total eligible costs of the project as a non-federal cost match. Huntingdon County commits to providing a portion of the matching funds in the amount of $400,000.

Should you have any questions regarding our position in the project proposal or require any additional information, please feel free to contact Brandon Carson, Executive Director Alleghenies Broadband, Inc. at 814-949-6506 or brandon@allegheniesbroadband.com.

Sincerely,
Huntingdon County Commissioners

Mark Sather
Chairman

Scott Walls
Vice Chairman

Jeff Thomas
Secretary

SAP&DC

PROGRESS THROUGH REGIONAL COOPERATION

SOUTHERN ALLEGHENIES PLANNING & DEVELOPMENT COMMISSION

August 13, 2021

Commissioner Jeff Thomas
Huntingdon County
223 Penn Street
Huntingdon, PA 16652

RE: Executive Order 12372
Huntingdon County
Rural Broadband Infrastructure Expansion in the Alleghenies

Dear Commissioner Thomas:

The Southern Alleghenies Planning and Development Commission (SAP&DC), acting in its role as a designated Regional Clearinghouse, is in receipt of documents pertaining to the above-referenced project.

The proposed project was found consistent with the region's Comprehensive Economic Development Strategy (CEDS) through: Goal 4: Upgrade and expand telecommunications service in the region. Objective B: Promote the deployment of high-speed broadband and cellular services throughout the Region. Strategy 2: Seek out funding to help support initiatives for the Region to improve broadband connectivity.

In accordance with SAP&DC's review procedure, a summary of the project will be presented to the SAP&DC Board of Directors during its meeting scheduled for September 15, 2021. Should their action differ from this letter, you will be notified immediately.

This letter will serve as verification that the review process, in accordance with Executive Order 12372, has been initiated. Should you have any questions, please feel free to contact our office.

Sincerely,

Stacy LoCastro
Grants Coordinator

c: File

August 16, 2021

Herbert C. Hoover Building (HCHB)
U.S. Department of Commerce
National Telecommunications and Information Administration
1401 Constitution Avenue, N.W.
Washington, D.C. 20230

To whom it may concern:

Huntingdon County, in partnership with Fulton and Bedford counties, Upward Broadband, Crowsnest Broadband, and Alleghenies Broadband, Inc. (ABI), is seeking funding from the National Telecommunications and Information Administration's (NTIA) Broadband Infrastructure Program for the expansion of reliable, high-speed internet service to rural communities in the south-central region of Pennsylvania. The proposed project includes the construction of new infrastructure to support an expansion of fixed wireless service to unserved and underserved residents and businesses within the Southern Alleghenies and surrounding region.

As the authorized representative for Alleghenies Broadband, Inc. in this project proposal, I write this letter to express our commitment to collaborate with the counties and private internet service providers mentioned previously to advance this important project and bring reliable, high-speed internet service to our rural communities. Furthermore, as part of the project proposal, the covered partnership will provide 10 percent of the total eligible cost of the project as a non-federal cost-share. While ABI will not be providing a portion of the non-federal share, ABI commits to providing staff support to ensure the successful completion of the effort.

Should you have any questions regarding our position in the project proposal or require any additional information, please feel free to contact me at

Sincerely,

Brandon W. Carson, Executive Director
Alleghenies Broadband, Inc.

August 16, 2021

Herbert C. Hoover Building (HCHB)
U.S. Department of Commerce
National Telecommunications and Information Administration
1401 Constitution Avenue, N.W.
Washington, D.C. 20230

To whom it may concern:

Huntingdon County, in partnership with Fulton and Bedford counties, Upward Broadband, Crowsnest Broadband, and Alleghenies Broadband, Inc. (ABI), is seeking funding from the National Telecommunications and Information Administration's (NTIA) Broadband Infrastructure Program for the expansion of reliable, high-speed internet service to rural communities in the south-central region of Pennsylvania. The proposed project includes the construction of new infrastructure to support an expansion of fixed wireless service to unserved and underserved residents and businesses within the Southern Alleghenies and surrounding region.

As the authorized representative for Crowsnest Broadband in this project proposal, I write this letter to express our commitment to collaborate with the Counties, Alleghenies Broadband, and Upward Broadband to identify areas of need in the region and strategies for addressing those needs. Furthermore, as part of the project proposal, the covered partnership will provide 10 percent of the total eligible cost of the project as a non-federal cost-share. Crowsnest Broadband will not be providing funds toward the non-federal share but commits to working closely with the named partners to ensure the successful completion of the project.

Should you have any questions regarding our position in the project proposal or require any additional information, please feel free to contact Dwayne Zimmerman at (814) 204-2089 or Dz@Crowsnestitsupport.com.

Sincerely,

Dwayne Zimmerman, Lead Engineer/CEO
Crowsnest Broadband

August 2021

Herbert C. Hoover Building (HCHB)
U.S. Department of Commerce
National Telecommunications and Information Administration
1401 Constitution Avenue, N.W.
Washington, D.C. 20230

To whom it may concern:

Paradise Energy Solutions, LLC dba Upward Broadband, in partnership with Huntingdon, Fulton and Bedford counties, Crowsnest Broadband, and Alleghenies Broadband, Inc. (ABI), is seeking funding from the National Telecommunications and Information Administration's (NTIA) Broadband Infrastructure Program for the expansion of reliable, high-speed internet service to rural communities in the south-central region of Pennsylvania. The proposed project includes the construction of new infrastructure to support an expansion of fixed wireless service to unserved and underserved residents and businesses within the Southern Alleghenies and surrounding region.

As the authorized representative for Upward Broadband in this project proposal, I write this letter to express our commitment to collaborate with Alleghenies Broadband and these County governments to identify areas of need in the region and strategies for addressing those needs. Furthermore, as part of the project proposal, the covered partnership will provide 10 percent of the total eligible costs of the project as a non-federal cost match. Upward Broadband commits to providing a portion of the matching funds in the amount of $953,686.14.

Should you have any questions regarding our position in the project proposal or require any additional information, please feel free to contact Tim Beiler, Owner/CEO at 717-296-2380 or tim@upwardbroadband.com.

Sincerely,

Tim Beiler Owner/CEO

JESSE TOPPER, MEMBER

Harrisburg Office:
P.O. Box 202078
Harrisburg, PA 17120-2078
Phone: (717) 787-7076
FAX: (717) 782-2933

District Offices:
133 South Richard Street
Bedford, PA 15522-1343
Phone: (814) 623-9097
FAX: (814) 623-6633

421 Lincoln Way East, Suite A
McConnellsburg, PA 17233
Phone: (717) 485-4430
FAX: (717) 485-3979

House of Representatives
Commonwealth of Pennsylvania
Harrisburg

COMMITTEES:
Appropriations
Education
Liquor Control
Rules

www.RepTopper.com

August 4, 2021

Brandon Carson, Executive Director
Alleghenies Broadband, Inc.
3 Sheraton Drive
Altoona, PA 16601

Re: NTIA Broadband Infrastructure Program
Rural Broadband Infrastructure Expansion in the Alleghenies
Huntingdon County

To Whom It May Concern:

I am writing to lend my support of the Huntingdon County partnership project seeking NTIA funding to improve and expand reliable internet coverage for Huntingdon, Bedford, and Fulton Counties. The last year of remote work and virtual education proved how valuable reliable and consistent internet is to everyone.

The rural communities are deeply underserved in telecommunications infrastructure. Many residents in my district have only one option for phone and internet service, and it is slow and unreliable. To add to their frustration, cell service can also be less than dependable or non-existent. This creates not just hardships for opportunities for remote work and school, but also safety concerns when emergencies may arise with no reliable communications.

Huntingdon County's pursuit of improved broadband infrastructure will not only benefit its own residents, but the neighboring counties as well. In this day and age of instant access to information, communications, and entertainment the rural residents of Huntingdon, Bedford, and Fulton need to gain adequate access as well.

Thank you for your consideration for Huntingdon County's project. If you would like any more information, please do not hesitate to contact my office.

Sincerely,

Jesse W. Topper
State Representative
78th Legislative District
JWT/ekw

ROBERT P. CASEY, JR.
PENNSYLVANIA

COMMITTEES:
FINANCE
HEALTH, EDUCATION, LABOR, AND PENSIONS
SELECT COMMITTEE ON INTELLIGENCE
SPECIAL COMMITTEE ON AGING

United States Senate
WASHINGTON, DC 20510

August 5, 2021

The Honorable Evelyn Remaley
Acting Assistant Secretary of Commerce for Communications and Information
National Telecommunications and Information Administration
1401 Constitution Ave., NW
Washington, DC 20230

Dear Ms. Remaley:

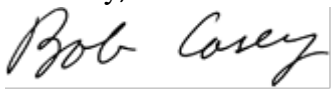
I write in support of the application by Huntingdon County for the NTIA Broadband Infrastructure Program. I urge you to give this application full and fair consideration.

I am informed that Huntingdon County seeks the grant for the Rural Broadband Infrastructure Expansion in the Alleghenies project. This project seeks to expand reliable, high-speed internet service to rural communities in the south-central region of Pennsylvania.

I understand Huntingdon County has partnered with Fulton and Bedford Counties, Upward Broadband, Crowsnest Broadband, and Alleghenies Broadband, Inc. (ABI), for this project with the intention to construct new infrastructure to support an expansion of fixed wireless service to unserved and underserved residents and businesses within the Southern Alleghenies and surrounding region.

Thank you in advance for your thoughtful consideration. Please include this letter in the official record of the application. Consistent with all applicable laws, rules and regulations, I also respectfully request that you keep me informed of the status of this grant application. Finally, if you have any questions, comments or concerns, please feel free to contact me or my staff at (202) 224-6851.

Sincerely,



Robert P. Casey, Jr.
United States Senator

JOHN JOYCE, M.D.
13TH DISTRICT, PENNSYLVANIA
WWW.JOHNJOYCE.HOUSE.GOV

COMMITTEE ON ENERGY
AND COMMERCE
Subcommittee on Health
Subcommittee on Oversight and Investigations

DOCTORS CAUCUS
Vice-Chairman

Congress of the United States
House of Representatives
Washington, DC 20515–3813

August 17, 2021

The Honorable Evelyn Remaley
Acting Assistant Secretary of Commerce for Communications and Information
National Telecommunications and Information Administration
1401 Constitution Ave., NW
Washington, DC 20230

Dear Secretary Remaley,

I write in support of Bedford, Fulton, and Huntingdon County, Pennsylvania, which are seeking funding from the National Telecommunications and Information Administration's (NTIA) Broadband Infrastructure Program for the expansion of reliable, high-speed internet service to rural communities across South Central Pennsylvania.

In my district, broadband connectivity continues to be a major concern for my constituents. The rural communities of South Central Pennsylvania continue to fall behind urbanized areas with regard to access to high-speed broadband. Nationwide, households average connectivity speed of 12 to 25 Mbps. In Bedford, Fulton, and Huntingdon counties this is not the case. According to a 2019 study conducted by the Center for Rural Pennsylvania, these counties fall well below the national range with average speeds of 4.67, 6.65, and 3.71 Mbps, respectively. With these counties lagging behind the national average, Pennsylvania's 13th Congressional District is in urgent need of support to improve broadband infrastructure.

This proposed project would construct new infrastructure to support an expansion of fixed wireless service to the unserved and underserved residents and businesses within these three counties in my district, and the greater Southern Alleghenies region.

I appreciate your consideration of this request. In the event you have any questions, please contact Frederic Sottnick of my staff at: Frederic.Sottnick@mail.house.gov or 202-981-3325.

Thank you,

John Joyce, M.D.
Member of Congress

Network Diagram(s) and System Design(s):

Upward Broadband

While many WISPs have opted for low-cost infrastructure, Upward Broadband and Crowsnest believe broadband investment should be designed as a long-term solution. Therefore, we are intentional, especially at our tower sites, to have robust electrical supply, backup power plans, secure and significantly sized structures, and durable tower feedlines and tower equipment. While this results in a higher upfront cost, we are confident that these facilities will then serve us well for decades to come.

Upward Broadband and Crowsnest have access to a wide range of tools, vehicles, supplies, buying power, human resources, etc., and we can leverage those resources to meet our needs. With current experience implementing and managing a WISP, we can have products ordered and installations scheduled within a matter of days.

Our network is monitored by a Preseem 10000C QoE (Quality of Experience) device, which analyzes network traffic and identifies bottlenecks and allocates bandwidth accordingly to improve the customer's user-end experience. The traffic shaping and optimization ensures that subscribers get a great experience even if the network or the subscriber's own internet connection is congested and improves their overall access speed. Additionally, QoE helps identify areas of the network that deliver a poor subscriber experience and allow us to quickly determine if a complaint is a result of a problem in the network or the home. This improves the subscriber experience by monitoring the network for problem areas and optimizing traffic to improve access speed. Traffic is managed by an EdgeRouter Infinity manufactured by Ubiquiti. Technicians can monitor each connection remotely using Ubiquiti's UISP cloud service. This allows us to troubleshoot problems and most often, to spot outages or speed issues, even before the customer does. We can also make configuration changes, if needed.

The middle mile links use carrier-grade licensed backhaul microwave radios capable of delivering 1.4GB of data per second symmetrical throughput, in some cases, that throughput can be doubled with additional hardware (this is indicated on the backhaul map below). The radios used for these licensed links are carrier grade and the antennas are sized for greater than 99.999% reliability based on a study which factors in multipath and rain events. Each link will involve working with an FCC coordinator to coordinate and license these links for our use. Some links have increased capacity, up to 10 Gbps symmetrical throughput, while these add some cost, they add tremendous value for long-term scalability and expansion. Upward Broadband and Crowsnest are experienced providers that have successfully deployed these particular backhaul products throughout our other networks and we believe they are an ideal solution for this project service area.

The final leg to the client takes place via an unlicensed PtMP (Point to multipoint) connection; this last leg operates in the 5Ghz spectrum. We will utilize 30° horns that increase our supported distance and significantly reduce interference. Each tower will be equipped with 5Ghz radios manufactured by Ubiquiti. These radios enable us to provide up to 360-degree coverage area from most towers. Although these radios provide a 31-mile range, we generally only connect to devices within a 10-mile radius of the tower to ensure quality signal and throughput. In some instances, given population density, towers will be equipped with LTU Rockets. The LTUs support higher density traffic and improved capacity in additional spectrums, such as the 5.9Ghz

frequency that Upward Broadband has received a Special Temporary Authority to operate in. We will also be usi se frequencies allow us to reach households that don't have a clear line of sight to the tower. We will be able to penetrate some foliage with these frequencies. Each customer is equipped with an antenna sized based on the distance from the tower and type of customer usage (personal, business, etc). Each antenna is protected with an inline surge protector linked into the building's grounding system or grounded with an independent ground rod to ensure durability and reliability.

A router connects to the antenna and provides DHCP and NAT services downstream. Customers can provide their own router or Upward Broadband or Crowsnest can supply a router for them. This router provides full and reliable wired and wireless connectivity with typical latency of less than 40ms. Once the router is set up and configured, our customers link to the internet by connecting to the wireless network or through Ethernet cables from the router to their computer.

In Huntingdon County, our network plan utilizes both existing and new build towers. In total 20 sites including 12 proposed new build sites will provide access to 329 unserved census blocks representing 2979 households. There will be businesses, schools, municipal buildings, and other clients that we will be able to serve as well. Some of these already have coverage, but many do not.

Internet access will be served to our existing [redacted] tower via high speed fiber optic cable capable of delivering 10 Gb of data per second. The [redacted] tower will serve as the head-end for the Huntingdon County network. Fiber lines will run from [redacted] to [redacted] and [redacted] will also link to [redacted] via an 11GHz licensed backhaul link capable of servicing approximately 1.4Gbps of symmetrical capacity.

[redacted] will link to [redacted] via an 11GHz licensed backhaul link capable of servicing approximately 1.4Gbps of symmetrical capacity.

[redacted] will link to 4 tower sites: [redacted] via an 11GHz licensed backhaul link capable of servicing approximately 1.4Gbps of symmetrical capacity. [redacted] will link to [redacted] via an 18GHz/80GHz licensed backhaul link capable of servicing approximately 10Gbps of symmetrical capacity.

Internet access will be provided to our existing [redacted] tower via high-speed fiber optic cable capable of delivering 10 Gb of data per second. [redacted] will link to [redacted] via an 11GHz/80GHz licensed backhaul link capable of servicing approximately 10Gbps of symmetrical capacity.

[redacted] will link to [redacted] via an 18GHz licensed backhaul link capable of servicing approximately 1.4Gbps of symmetrical capacity. [redacted] will link to [redacted] tower via an 11GHz licensed backhaul link capable of servicing approximately 1.4Gbps of symmetrical capacity.

Internet access will be served to an existing [redacted] tower from our existing [redacted] tower using a licensed 11GHz link capable of 1.4Gbps symmetrical capacity. There is also fiber available at this tower for future expansion. [redacted] will link to [redacted] via an 18GHz/80GHz licensed backhaul link capable of servicing approximately 10Gbps of symmetrical capacity. [redacted] will link to [redacted] via an 18GHz/80GHz licensed backhaul link capable of servicing approximately 10Gbps of symmetrical capacity.

Redaction Explanation:
Tower Site Information Remove to Maintain Network Security

Internet access will be provided to an existing [redacted] tower via high-speed fiber optic cable capable of delivering 10 Gb of data per second. [redacted] will link to [redacted] via an 18GHz licensed backhaul link capable of servicing approximately 1.4Gbps of symmetrical capacity. [redacted] will link to [redacted] via an 18GHz licensed backhaul link capable of servicing approximately 1.4Gbps of symmetrical capacity.

In Fulton County, our network plan utilizes both existing and new build towers. In total 10 sites including 8 proposed new build sites will provide access to 211 unserved census blocks representing 1229 households. There will be businesses, schools, municipal buildings, and other clients that we will be able to serve as well. Some of these already have coverage, but many do not.

Internet access will be served to our existing [redacted] tower via high-speed fiber optic cable capable of delivering 10 Gb of data per second. The [redacted] tower will serve as the head end for the Fulton County network. [redacted] will link to [redacted] via an 18GHz/80GHz licensed backhaul link capable of servicing approximately 10Gbps of symmetrical capacity. [redacted] will link to [redacted] via an 11GHz licensed backhaul link capable of servicing approximately 1.4Gbps of symmetrical capacity. [redacted] will link to [redacted] via an 11GHz licensed backhaul link capable of servicing approximately 1.4Gbps of symmetrical capacity. [redacted] will link to [redacted] via a double 11GHz licensed backhaul link capable of servicing approximately 2.9Gbps of symmetrical capacity.

[redacted] will link to [redacted] via an 11GHz licensed backhaul link capable of servicing approximately 1.4Gbps of symmetrical capacity. [redacted] will link to [redacted] via an 18GHz licensed backhaul link capable of servicing approximately 1.4Gbps of symmetrical capacity.

Internet access will be served to an existing [redacted] tower from our existing [redacted] tower using an 18GHz/80GHz licensed link capable of delivering 10 Gb of data per second. [redacted] will link to [redacted] via an 11GHz licensed backhaul link capable of servicing approximately 1.4Gbps of symmetrical capacity.

[redacted] will link to [redacted] via an 18GHz licensed backhaul link capable of servicing approximately 1.4Gbps of symmetrical capacity.

<u>Crowsnest Broadband</u>

In Bedford County, our network plan utilizes both existing and new build towers. In total 14 sites including 9 proposed new build sites will provide access to 400 unserved census blocks representing 2103 households. There will be businesses, schools, municipal buildings, and other clients that we will be able to serve as well. Some of these already have coverage, but many do not.

New Enterprise will be served via an 11GHz or 18 GHz licensed backhaul link from our existing BFB Curryville location. This link will be capable of servicing approximately 1.4Gbps of symmetrical capacity. The BFB Curryville location is an existing location that is served via a 10Gbps Fiber optic private e-line circuit from a local fiber partner.

Redaction Explanation:
Tower Site Information Remove to Maintain Network Security

Yellow Creek will be served via an 11GHz or 18GHz licensed backhaul link from the New Enterprise location. This link will be capable of servicing approximately 1.4Gbps of symmetrical capacity.

Rainsburg will be served via an 11GHz or 18GHz licensed backhaul link from the New Enterprise location. This link will be capable of servicing approximately 1.4Gbps of symmetrical capacity.

Imler will be served via an 11GHz or 18GHz licensed backhaul link from the Pleasantville location. This link will be capable of servicing approximately 1.4Gbps of symmetrical capacity. The Pleasantville location is an existing location that is served via a 1Gbps Fiber optic private e-line circuit from a local fiber partner.

Queen will be served via an 11GHz or 18GHz licensed backhaul link from the Imler location. This link will be capable of servicing approximately 1.4Gbps of symmetrical capacity.

North Breezewood will be served via an 11GHz or 18GHz licensed backhaul link from the Breezewood location. This link will be capable of servicing approximately 1.4Gbps of symmetrical capacity. The Breezewood location is an existing location that is served via multiple 11 GHz licensed microwave links from 2 other existing locations.

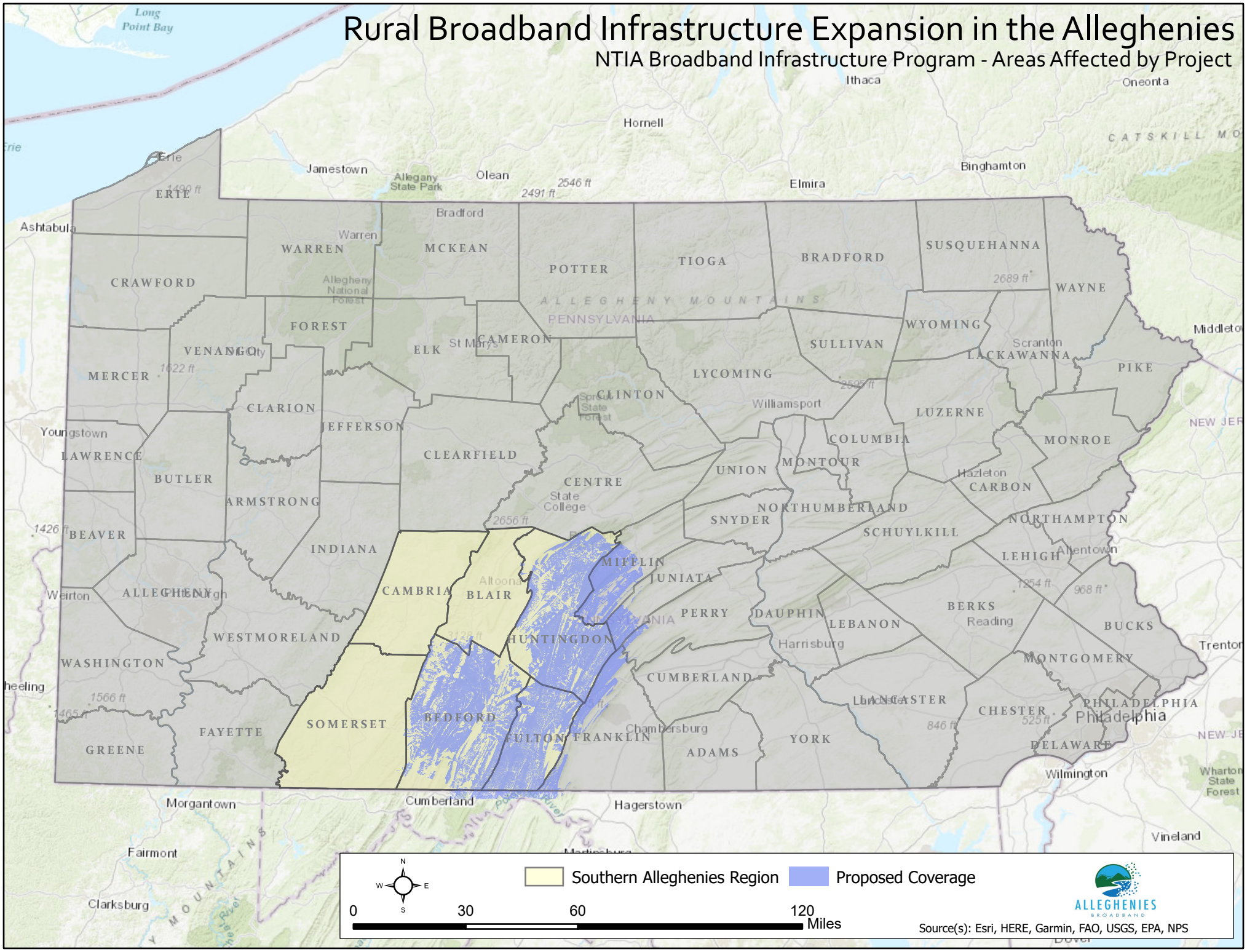
Chaneysville will be served via an 11GHz or 18GHz licensed backhaul link from the Martin Hill location. This link will be capable of servicing approximately 1.4Gbps of symmetrical capacity. The Martin Hill location is an existing location that is served via multiple 11 GHz licensed microwave links from 2 other existing locations.

Kinton Knob will be served via an 18/80GHz licensed backhaul link from the PSAP location. This link will be capable of servicing approximately 10Gbps of symmetrical capacity. The PSAP location is an existing core network location that is served via two redundant 10Gbps fiber DIA circuits from 2 existing local fiber providers.

Mulligans Cove will be served via an 11GHz licensed backhaul link from the Kinton Knob location. This link will be capable of servicing approximately 1.4Gbps of symmetrical capacity.

Rural Broadband Infrastructure Expansion in the Alleghenies

NTIA Broadband Infrastructure Program - Areas Affected by Project



National Flood Hazard Layer FIRMette

FEMA

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Area of 1% annual chance flood with average depth less than one foot or with drainag areas of less than one square mile *Zone*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 / 17.5 Cross Sections with 1% Annual Chance / Water Surface Elevation
- Coastal Transect
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represe an authoritative property location.

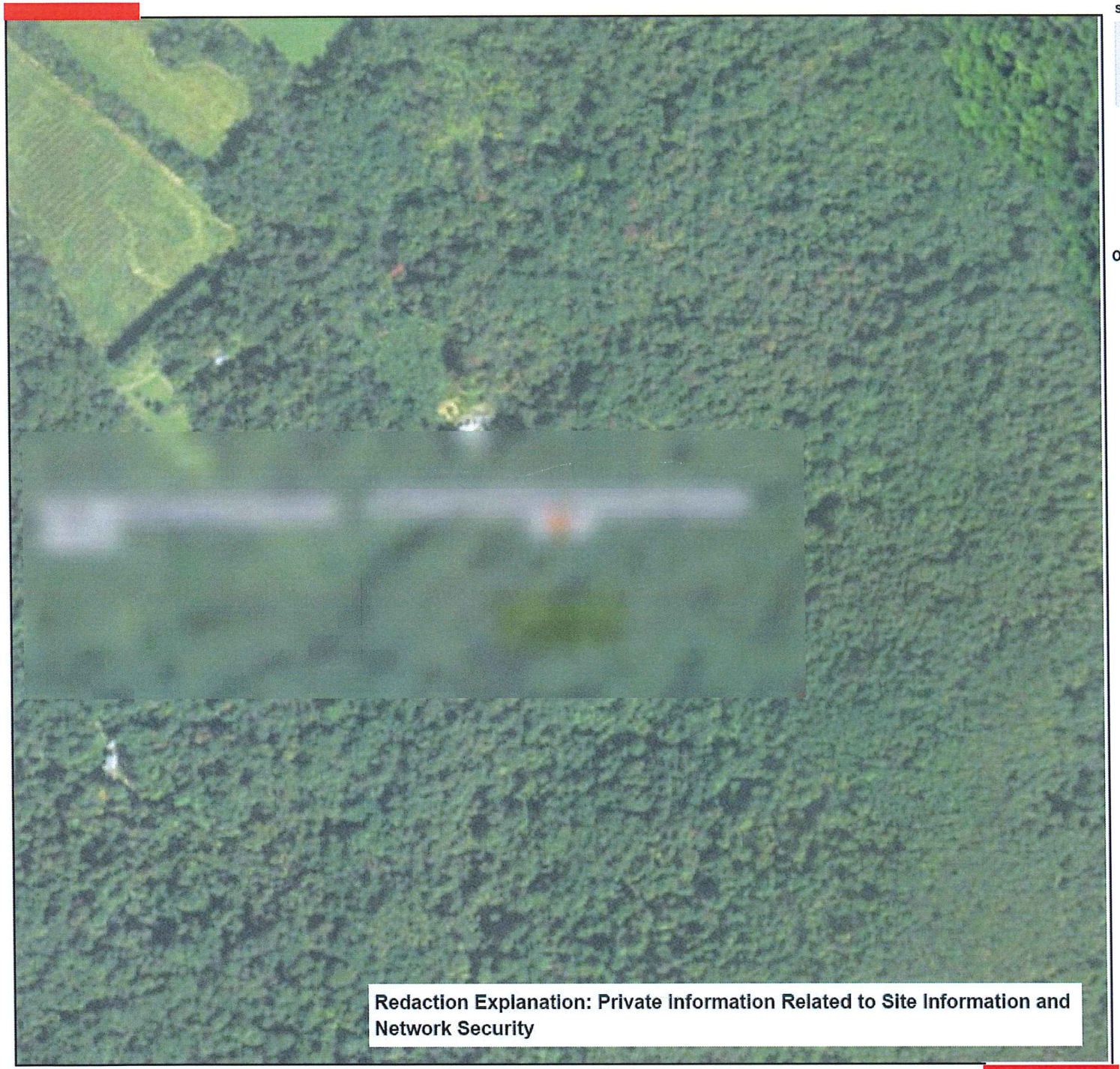
This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 8/15/2021 at 9:11 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

National Flood Hazard Layer FIRMette

FEMA



0 250 500 1,000 1,500 2,000 Feet

1:6,000

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Area of 1% annual chance flood with average depth less than one foot or with drainag areas of less than one square mile *Zone*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represe an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 8/15/2021 at 5:38 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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National Flood Hazard Layer FIRMette

FEMA

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Area of 1% annual chance flood with average depth less than one foot or with drainag areas of less than one square mile *Zone*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represe an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 8/15/2021 at 9:13 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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National Flood Hazard Layer FIRMette

FEMA

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Area of 1% annual chance flood with average depth less than one foot or with drainag areas of less than one square mile *Zone*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 / 17.5 Cross Sections with 1% Annual Chance / Water Surface Elevation
- Coastal Transect
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represe an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 8/15/2021 at 9:02 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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National Flood Hazard Layer FIRMette

FEMA

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Area of 1% annual chance flood with average depth less than one foot or with drainag areas of less than one square mile *Zone*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 / 17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
- Coastal Transect
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represe an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 8/15/2021 at 9:08 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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National Flood Hazard Layer FIRMette

FEMA

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Area of 1% annual chance flood with average depth less than one foot or with drainag areas of less than one square mile *Zone*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN — Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 — Cross Sections with 1% Annual Chance
- 17.5 — Water Surface Elevation
- Coastal Transect
- 513 — Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represe an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

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National Flood Hazard Layer FIRMette

FEMA

0 250 500 1,000 1,500 2,000 Feet 1:6,000

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Area of 1% annual chance flood with average depth less than one foot or with drainag areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represe an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 8/15/2021 at 9:14 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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National Flood Hazard Layer FIRMette

FEMA

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Area of 1% annual chance flood with average depth less than one foot or with drainag areas of less than one square mile *Zone*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 / 17.5 Cross Sections with 1% Annual Chance / Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represe an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 8/15/2021 at 9:04 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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National Flood Hazard Layer FIRMette

FEMA

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Area of 1% annual chance flood with average depth less than one foot or with drainag areas of less than one square mile *Zone*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 / 17.5 Cross Sections with 1% Annual Chance / Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represe an authoritative property location.

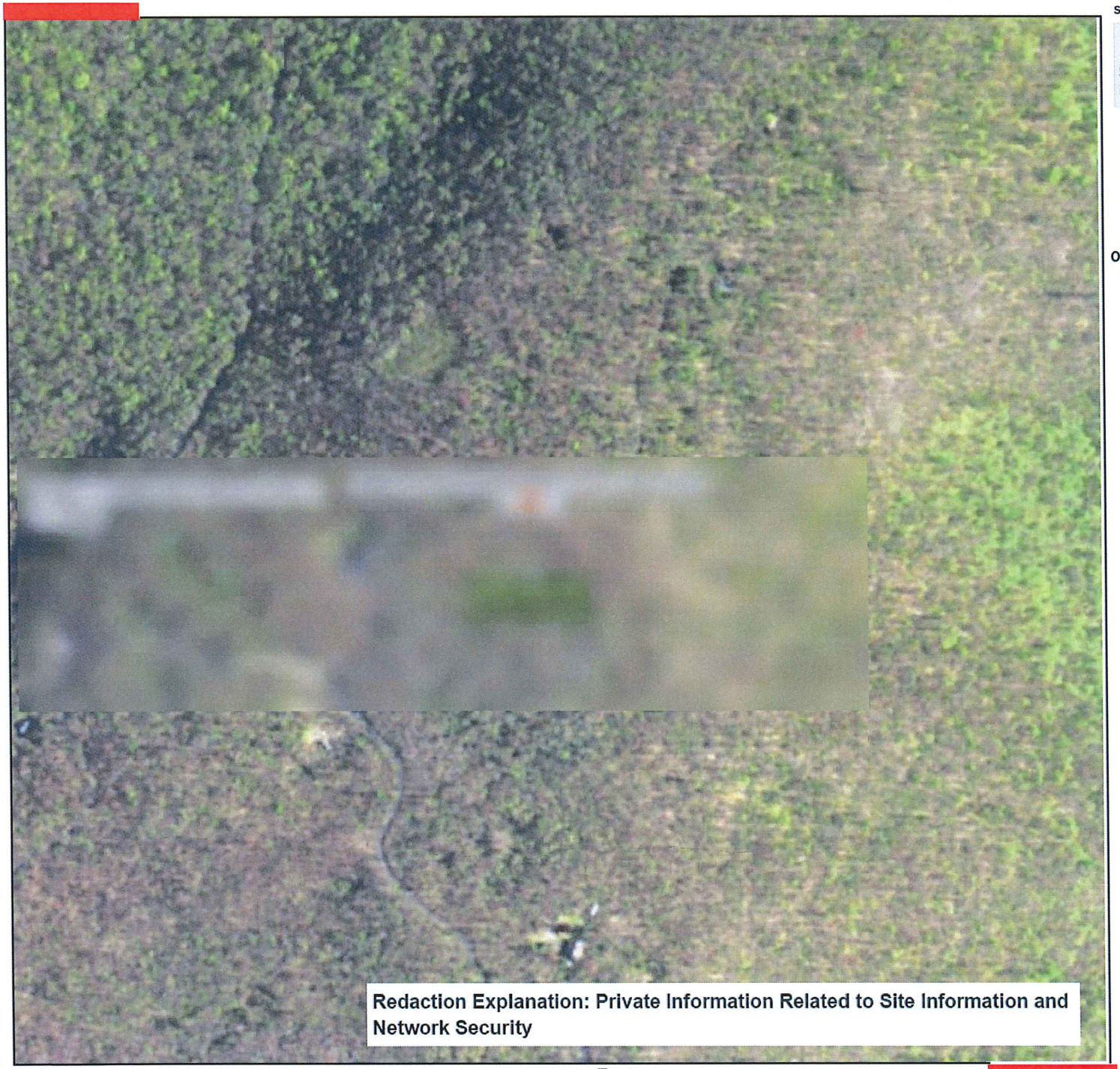
This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 8/15/2021 at 9:00 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

National Flood Hazard Layer FIRMette

FEMA



0 250 500 1,000 1,500 2,000 Feet

1:6,000

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Area of 1% annual chance flood with average depth less than one foot or with drainag areas of less than one square mile *Zone*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 / 17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
- Coastal Transect
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represe an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 8/15/2021 at 9:09 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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National Flood Hazard Layer FIRMette

FEMA

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1:6,000

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Area of 1% annual chance flood with average depth less than one foot or with drainag areas of less than one square mile *Zone*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represe an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

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National Flood Hazard Layer FIRMette

FEMA

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Area of 1% annual chance flood with average depth less than one foot or with drainag areas of less than one square mile *Zone*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 / 17.5 Cross Sections with 1% Annual Chance / Water Surface Elevation
- Coastal Transect
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represe an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 8/15/2021 at 9:18 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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National Flood Hazard Layer FIRMette

FEMA

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Area of 1% annual chance flood with average depth less than one foot or with drainag areas of less than one square mile *Zone*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 / 17.5 Cross Sections with 1% Annual Chance / Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represe an authoritative property location.

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The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 8/15/2021 at 5:41 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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National Flood Hazard Layer FIRMette

FEMA

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Area of 1% annual chance flood with average depth less than one foot or with drainag areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN — Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 / 17.5 — Cross Sections with 1% Annual Chance Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

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National Flood Hazard Layer FIRMette

FEMA

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Area of 1% annual chance flood with average depth less than one foot or with drainag areas of less than one square mile *Zone*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

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National Flood Hazard Layer FIRMette

FEMA

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Area of 1% annual chance flood with average depth less than one foot or with drainag areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

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This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 8/15/2021 at 9:03 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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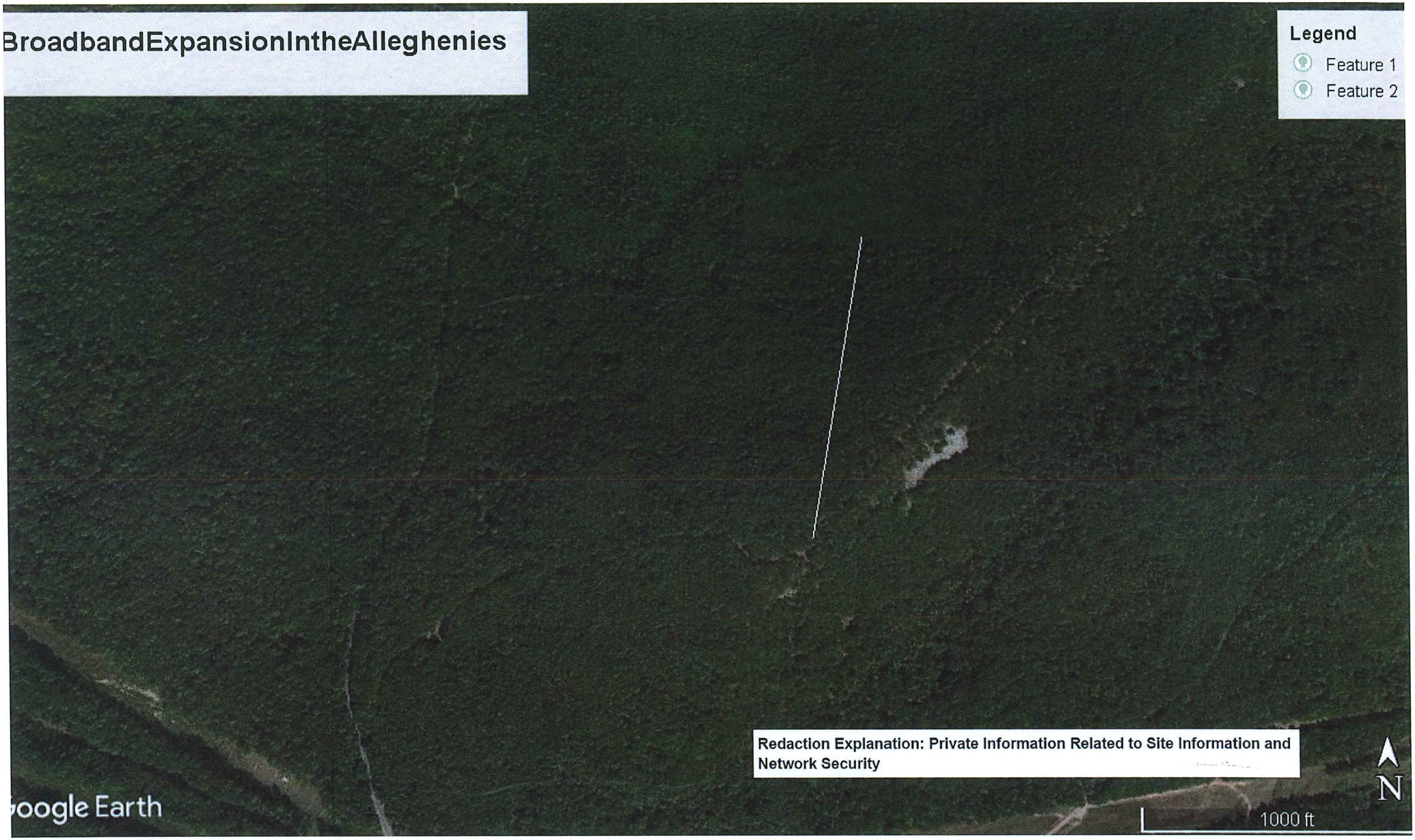
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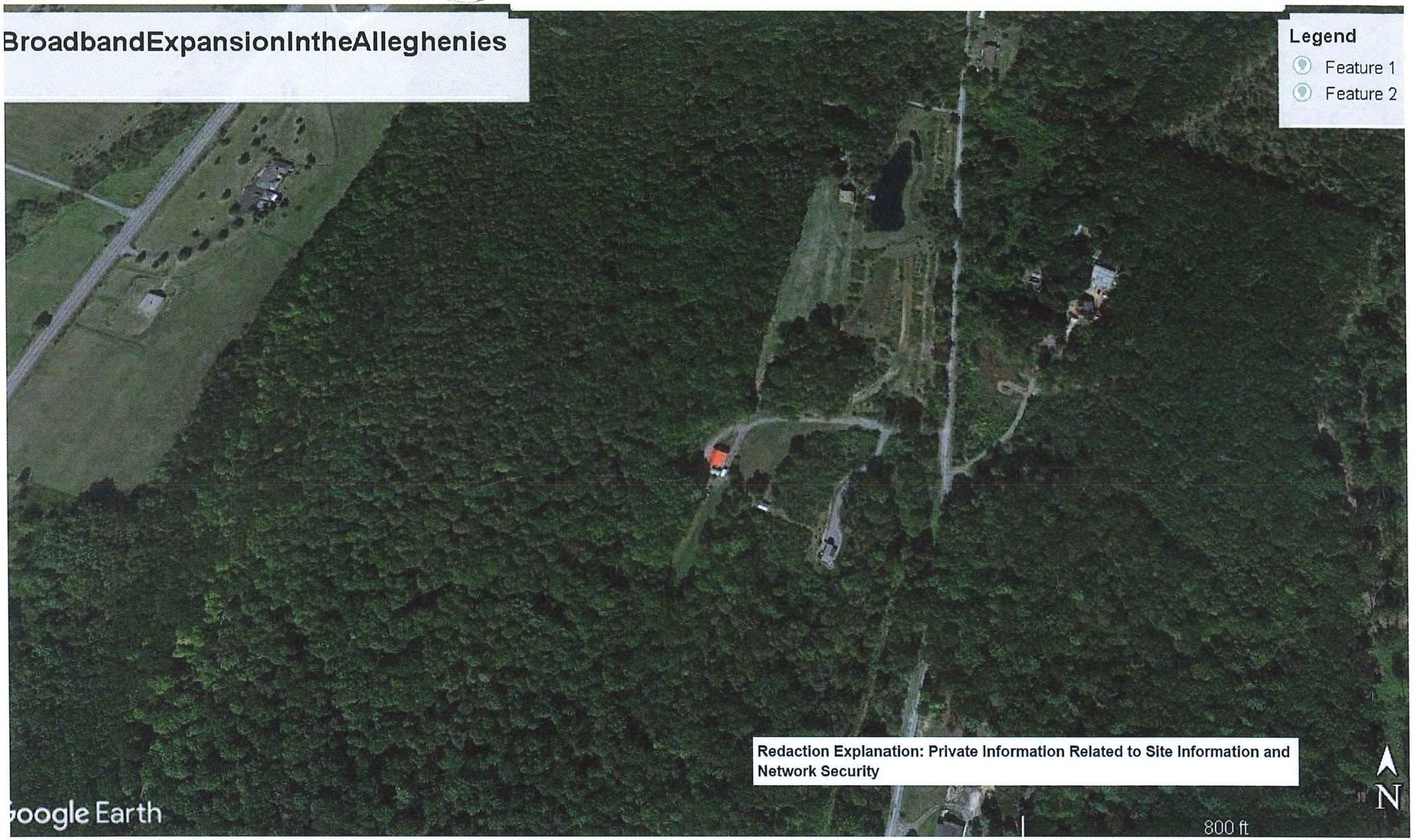
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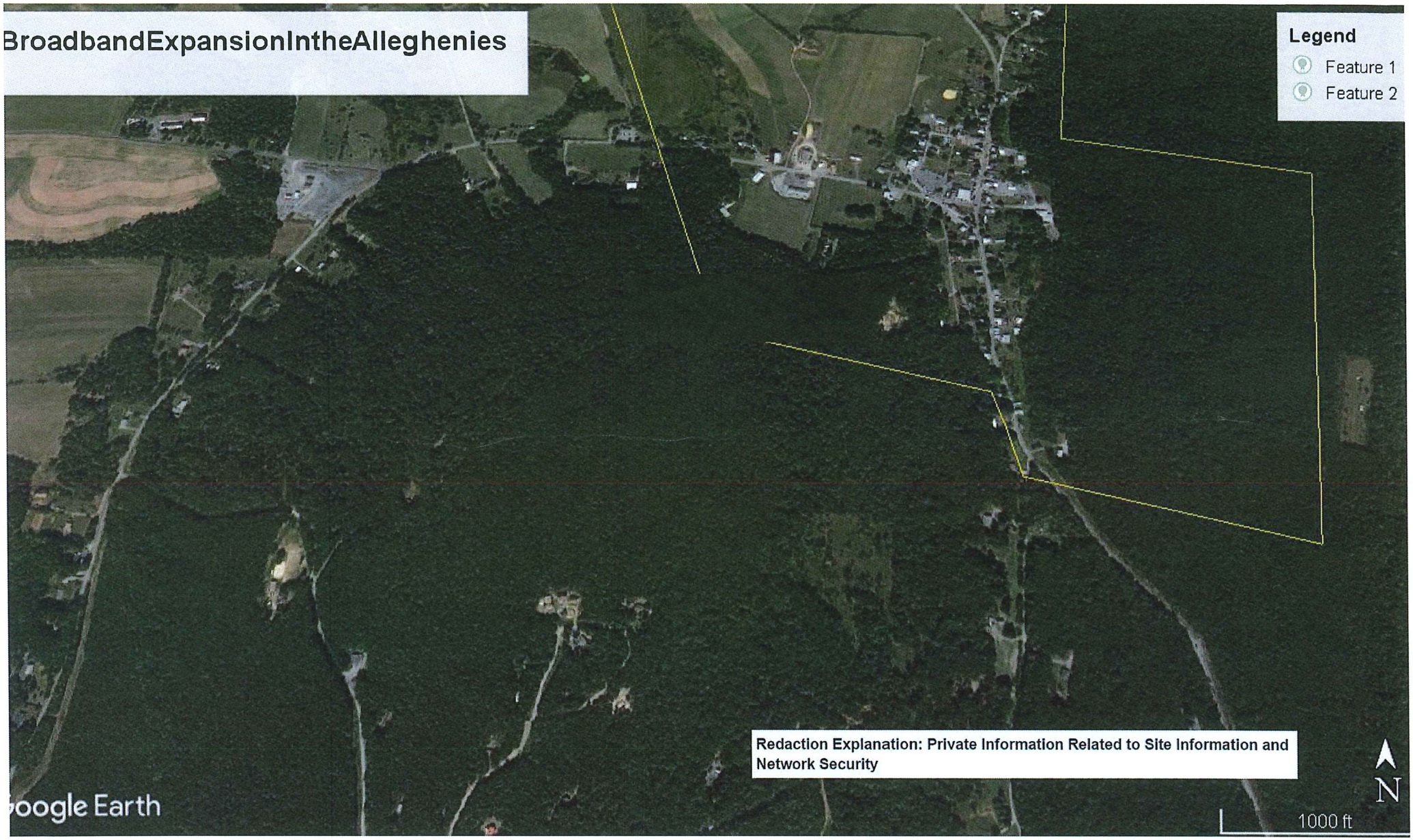
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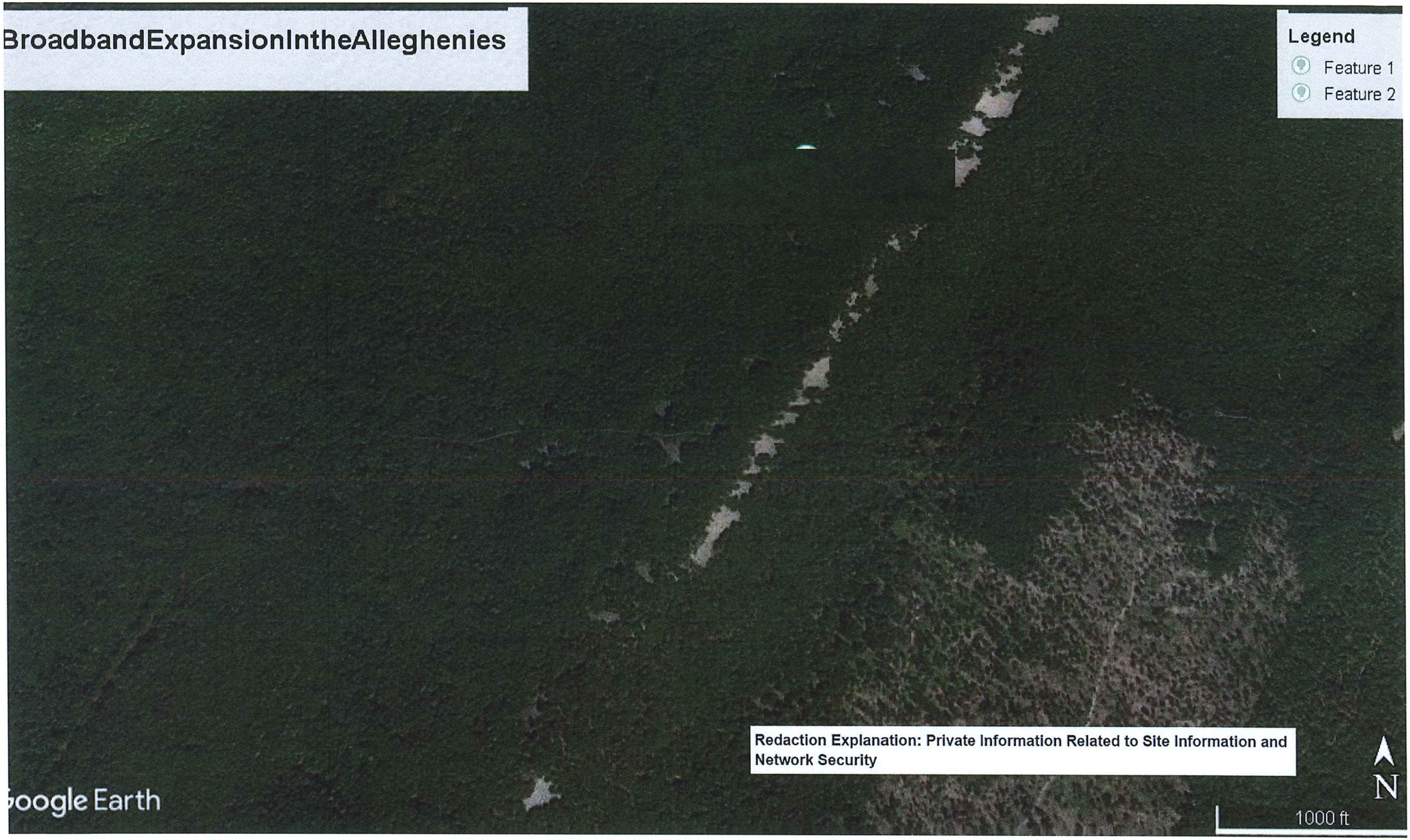
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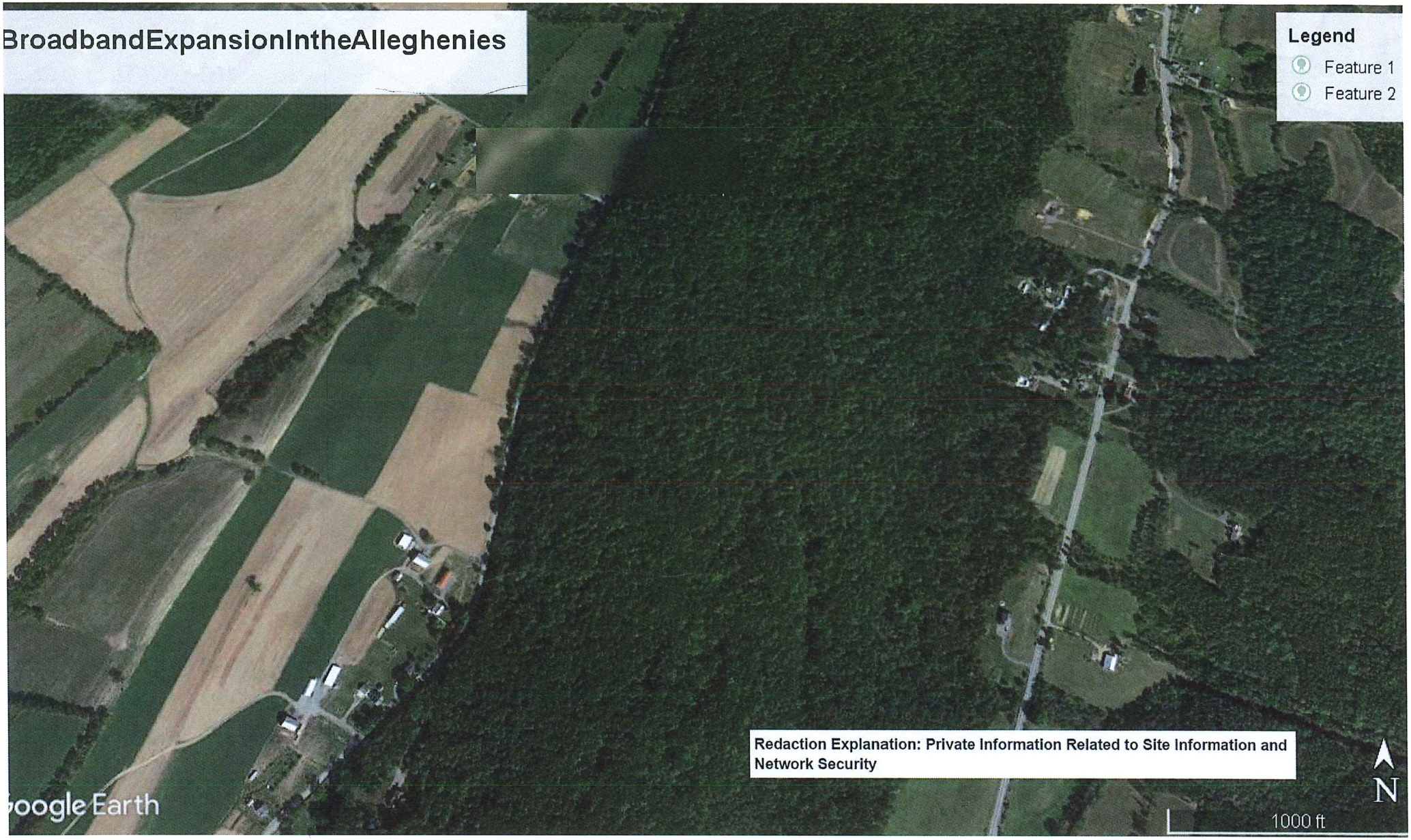
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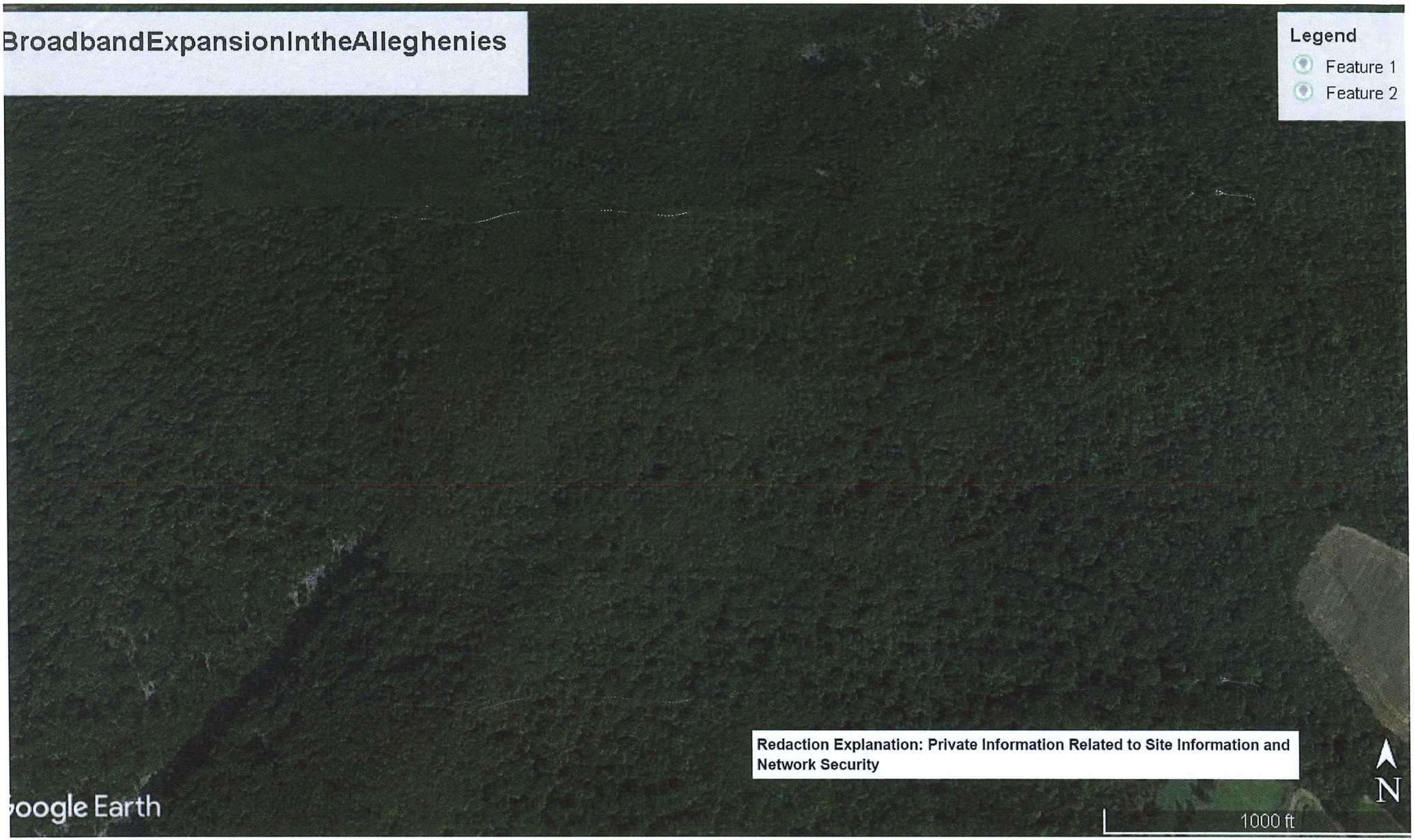
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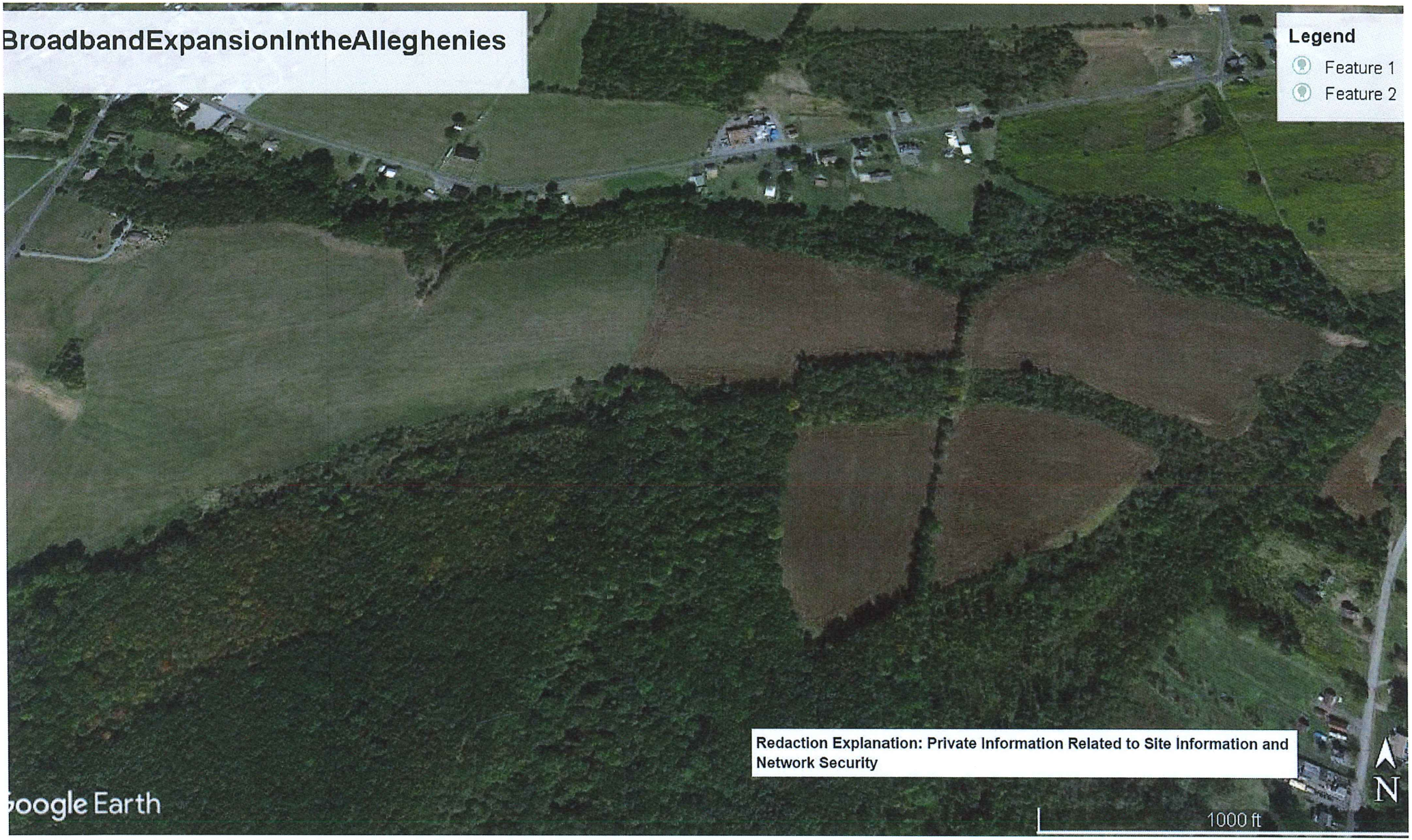
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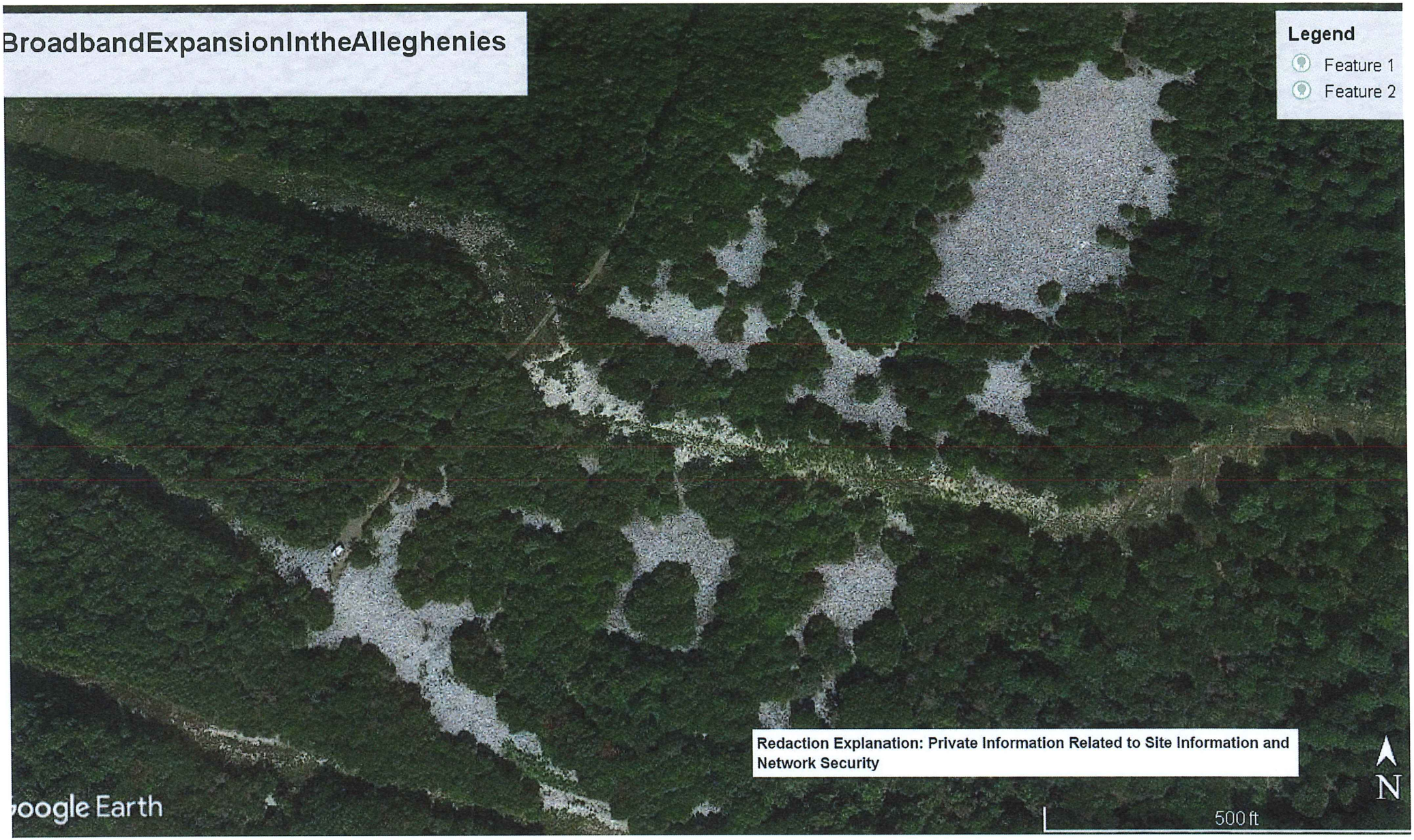
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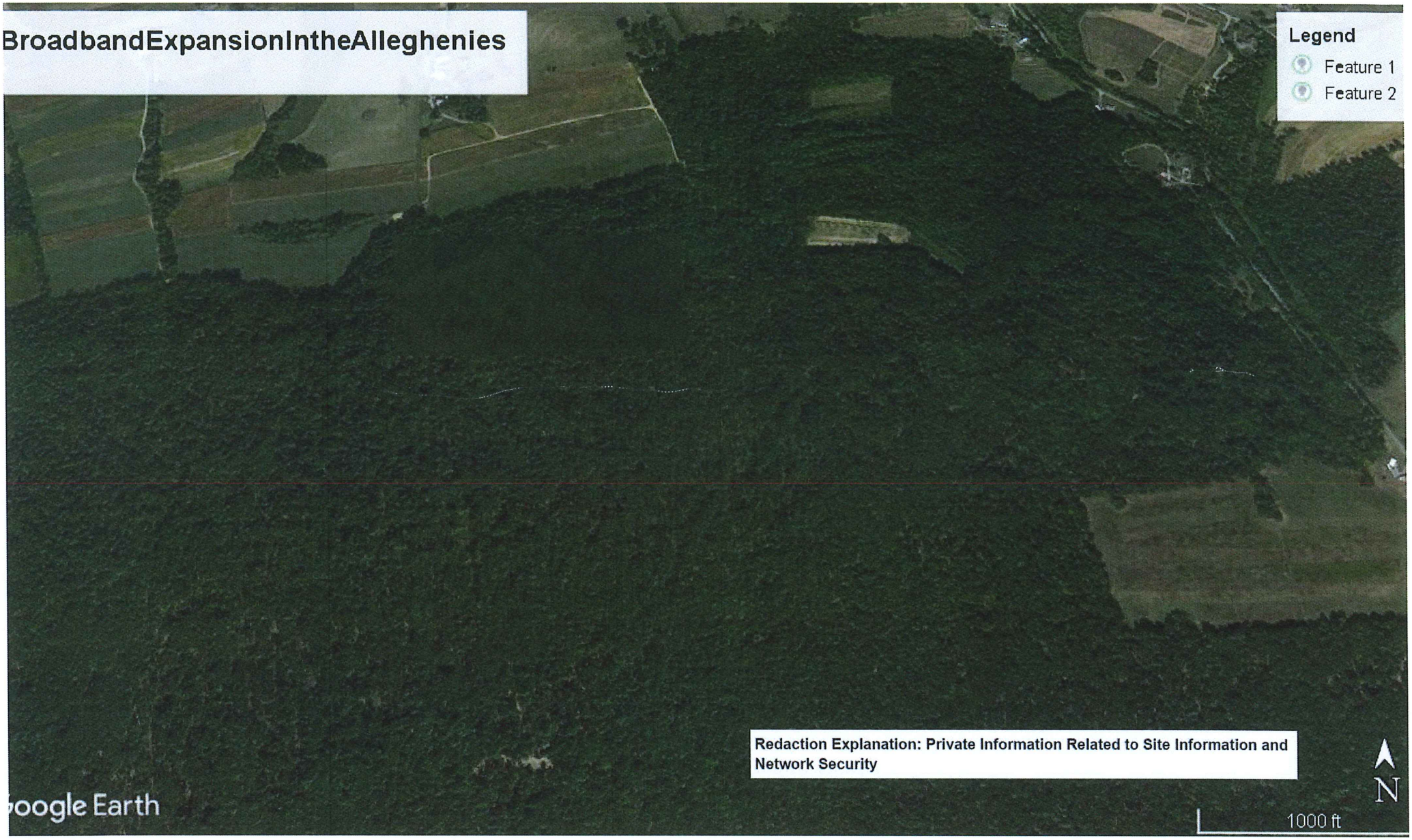
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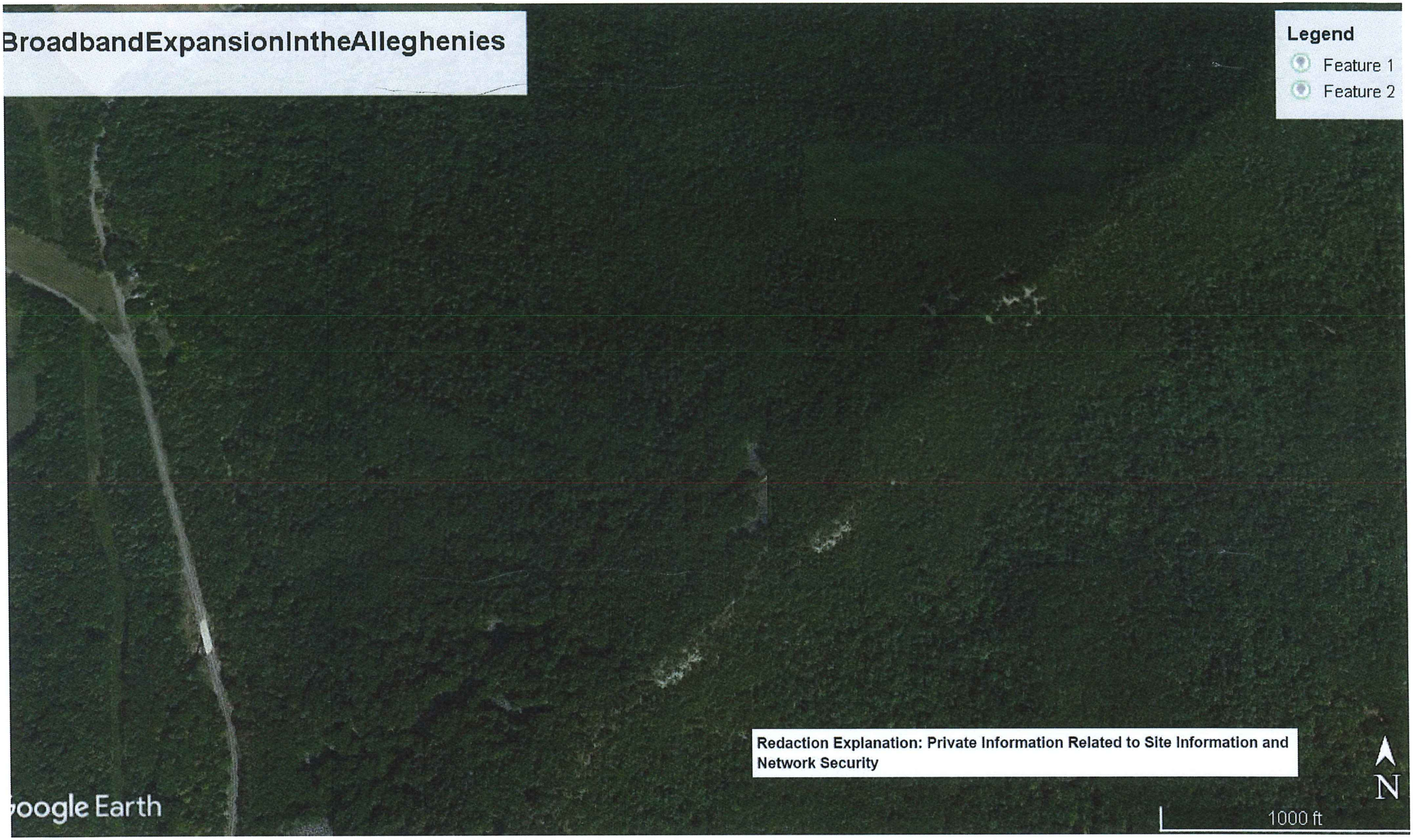
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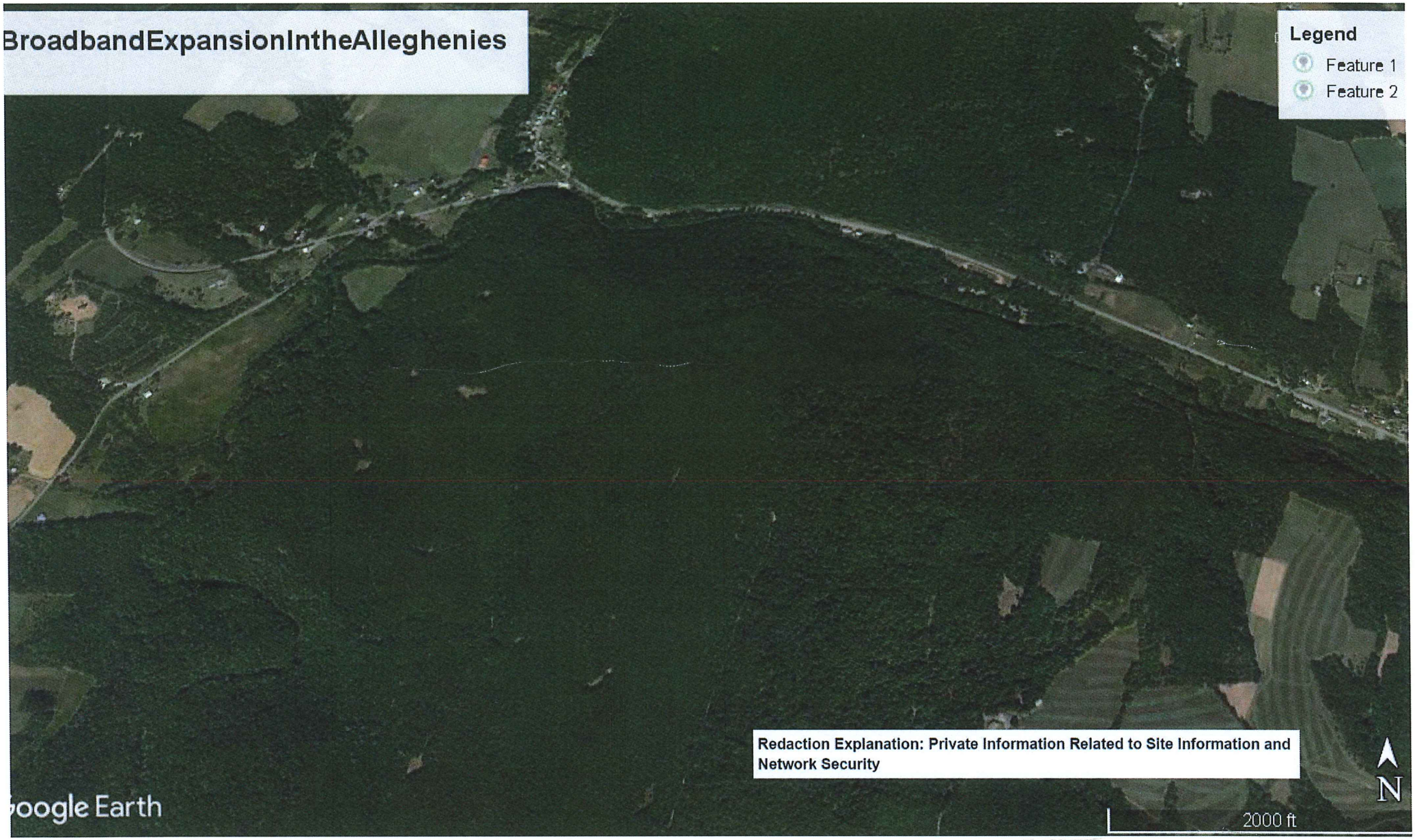
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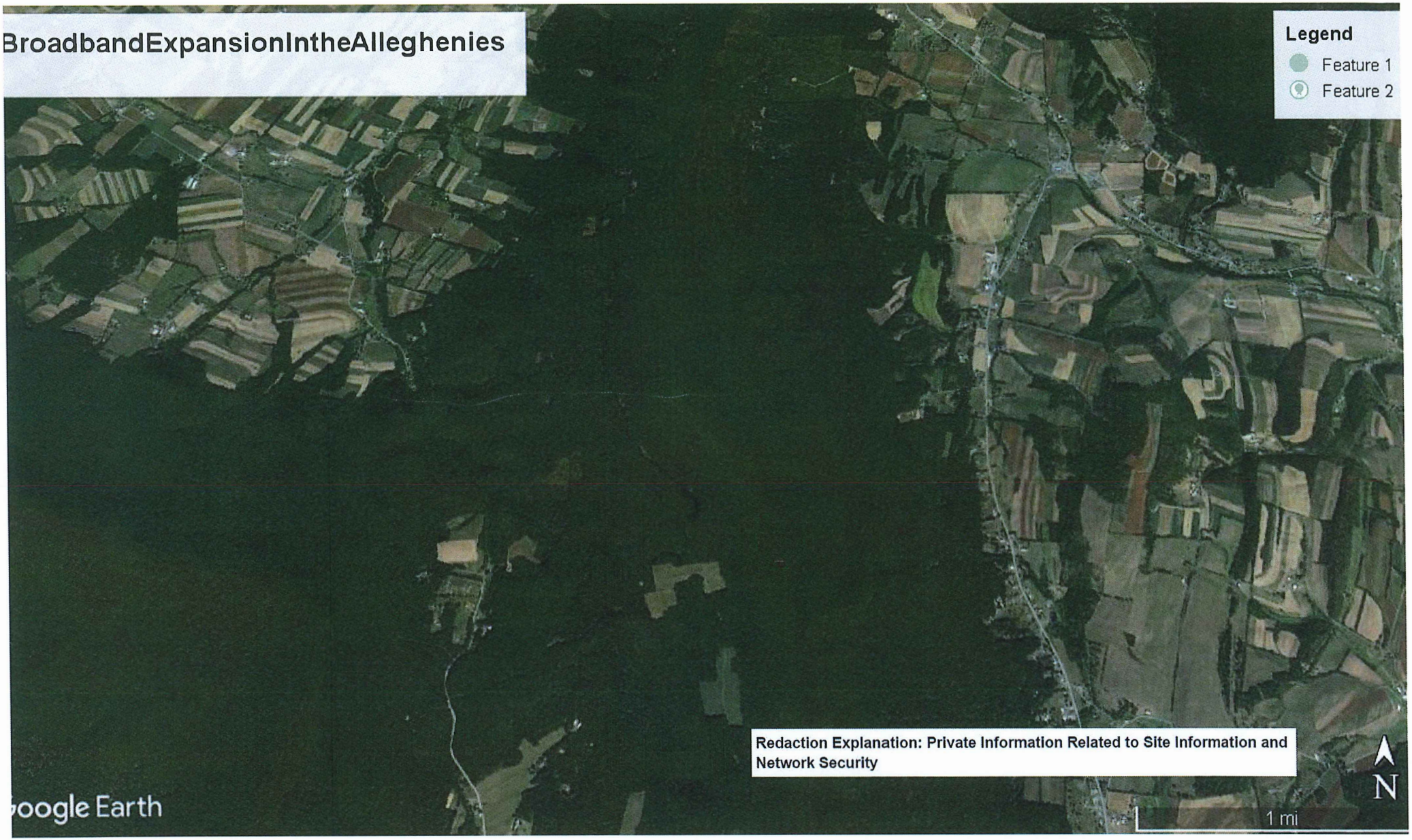
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National Flood Hazard Layer FIRMette

FEMA

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Area of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 / 17.5 Cross Sections with 1% Annual Chance / Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

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