

Natural Gas Distribution Infrastructure Safety and Modernization Grant Program York County Natural Gas Authority, Blacksburg, SC Tier 2 Site Specific Environmental Assessment NGDISM-FY22-EA-2023-32

PHMSA Approval:

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Overview:

The purpose of this Tier 2 Site Specific Environmental Assessment (Tier 2) is to: (1) document the proposed action (the Project) and the need for the action; (2) identify existing conditions; (3) assess the social, economic, and environmental effects using appropriate tools and agency coordination to comply with local, state, and federal environmental laws, regulations, and ordinances; (4) document applicable mitigation commitments that would avoid, minimize, or mitigate potential effects; and (5) seek comments from the public. This Tier 2 analysis informs the Pipeline and Hazardous Materials Safety Administration's (PHMSA) assessment as to whether the Project is consistent with the impacts described in the Tier 1 Nationwide Environmental Assessment for the Natural Gas Distribution Infrastructure Safety and Modernization Grant Program.¹

As part of this Tier 2, PHMSA is soliciting public comments through a public comment period. This Tier 2 is available on PHMSA's website where comments can be submitted to the contact noted below. PHMSA will accept public comments for 30 days on this Tier 2. PHMSA will consider comments received and incorporate them in the decision-making process. Consultation with appropriate agencies on related processes, regulations, and permits is ongoing. Please submit all comments to: <u>PHMSABILGrantNEPAComments@dot.gov</u> and reference NGDISM-FY22-EA-2023-32 in your response.

At the conclusion of the EA process, PHMSA will either issue a "Finding of No Significant Impact," further supplement this EA with additional analysis or mitigation measures or prepare an Environmental Impact Statement.

I. Project Description/Proposed Action

Project Title	York County Natural Gas Authority Pipeline Replacement	
Project Location Blacksburg, Cherokee County, South Carolina		
Project Description/Proposed Action:		

The proposed action includes the replacement of approximately 12.5 miles of 2-inch to 6-inch steel and plastic pipeline. The vulnerable pipeline to be replaced is located within existing right- of- ways (ROW) and will not require new ROW or easements. During the 12-to-18-month construction period, pipeline would be installed by open trenching and directional drilling construction methods. The Tier 1 EA described that the majority of site-specific projects would utilize the insertion method of pipe replacement. As described in this document, the York County Natural Gas Authority (YCNGA) would utilize an open trench method, which generally involves greater soil disturbance and use of heavy equipment and related impacts, when compared to the insertion method. All staging areas would be in constant movement throughout the construction process as YCNGA would be using the road rights-of-way to lay, fuse/weld, inspect, and bury pipe. Once the pipe is in the ground, the staging area would move onward to another location. The ROW varies widely throughout the project area which is 60feet wide at the widest point.

The existing pipe that will be replaced includes the following components:

- 4,113 LF of 4-inch steel pipe;
- 2,323 LF of 4-inch plastic pipe;
- 2,297 LF of 3-inch steel pipe;
- 3,580 LF of $2^{1}/_{2}$ -inch steel pipe;

¹ https://www.federalregister.gov/documents/2022/11/09/2022-24378/pipeline-safety-notice-of-availability-of-the-tier-1-nationwide-environmentalassessment-for-the

- 13,665 LF of 2-inch steel pipe;
- 37,852 LF of 2-inch plastic pipe;
- 12,514 LF of $1^{1}/_{2}$ -inch steel pipe;
- 459 LF of $1^{1}/_{4}$ -inch steel pipe;
- 924 LF of 1¹/₄-inch plastic pipe; and
- 11 LF of 1-inch plastic pipe.

The replacement pipe would include installing the following:

- 20,275 linear feet (LF) of 6 ⁵/₈-inch steel pipe;
- 18,922 LF of 4-inch plastic pipe;
- 26,625 LF of 2-inch plastic pipe;
- 2, 6-inch steel valves;
- 10, 4-inch plastic valves;
- 14, 2-inch plastic valves;
- Tap and tie into existing gas mains 6 times and tie over of 316, 1-inch or less service lines into existing gas mains.

The initial gas pipeline installation began in the 1950s, and YCNGA took ownership of the natural gas facilities in 2010. Typical cover and depth of pipe in Blacksburg is usually between 2 - 3 feet; however, YCNGA has seen many instances where the pipe is as shallow as 12 inches to 18 inches. The new pipe would not be installed in the exact same location as the existing pipe. If the new pipe is proposed to remain on the same side of the road, it would most likely be offset anywhere between three to five feet. If the new pipe is proposed for the opposite side of the road, it would be installed at the back of the road ROW.

The existing pipeline would be abandoned in place. Abandonment of the existing pipeline (versus excavation and removal) would minimize ground disturbance and facilitate the replacement process in a more efficient manner. PHMSA has specific requirements for gas and hazardous liquid pipeline abandonment, found in 49 CRF 192.727 and 195.402(c)(10). These requirements include disconnecting pipelines from all sources and supplies of gas, purging all combustibles and sealing the facilities left in place. By complying with PHMSA requirements for purging and sealing abandoned pipelines in the project area would ensure that the abandoned pipelines pose no risk to safety in their abandoned state.

No Action:

The No Action alternative, as required under NEPA, serves as a baseline, and is used to compare impacts resulting from the Proposed Action. Under the No Action alternative, PHMSA would not fund this pipeline replacement project. Additionally, PHMSA would not be able to reduce the inventory of methane leaks and reduce safety risks by replacing pipe prone to leakage. Under this alternative, the YCNGA would continue to use leak prone pipeline material and conduct repairs or replacements in the future using non-federal sources of funding, and potentially on an emergency basis, when a pipeline fails. Impacts and benefits associated with replacing the leak prone pipeline within the Town of Blacksburg with updated material would not be seen in the near term. The safety risks and methane leaks would persist. The replacement pipeline activities would either not be taken or they would be undertaken at a later, uncertain date. Even if pipe replacement were to happen at some point in the future, environmental mitigation measures during such a replacement would be unknown. Furthermore, existing economic losses, and increased risk associated with prolonged gas leaks would continue.

Need for Project:

The existing natural gas lines in the project area have reached the end of their useful life and need to be replaced; they were not installed very well, and there have been many leaks over the years. There is a lack of main as-built information and tracer wire with plastic pipe installation, both of which have created 811 locating issues. The system installation depth is unknown, varies, and does not meet the minimum industry standards, and there are concerns regarding the pipe material known to be in the area. The overall needs addressed by this project would include (1) improving upon the safe delivery of energy by reducing the likelihood of incidents, as well as methane leaks; (2) avoiding economic losses caused by pipeline failures; and (3) protecting our environment and reducing climate impacts by remediating aged and failing pipelines and pipe prone to leakage.

Description of the Environmental Setting of the Project Area:

The project is located in and around the Town of Blacksburg in Cherokee County, SC. The project area stretches from east of the Broad River to Rutherford Street in downtown Blacksburg and from Railroad Avenue south to just north of Cherokee Ford Road. The existing land uses in the project area include residential, commercial, and some agricultural areas, as the project is in downtown Blacksburg and includes more rural areas to the west of the town limits.

II. Resource Review

Air Quality and Greenhouse Gases (GHG)		
Question	Information and Justification	
Is the project located in an area designated by the EPA	No, based on review of the EPA Greenbook. ²	
as non-attainment or maintenance status for one or		
more of the National Ambient Air Quality Standards		
(NAAQS)?		
Will the construction activities produce emissions that	N/A	
exceed de minimis thresholds (tons per year) described		
in the initial Tier 2 EA worksheet?		
Will mitigation measures be used to capture	No.	
blowdown ³ ?		
Does the system have the capability to reduce pressure	No.	
on the segments to be replaced? If yes, what is the		
lowest psi your system can reach prior to venting?		
Will project proponent commit to reducing pressure on	No. The existing Blacksburg System proposed for	
the line to this psi prior to venting? Please calculate	replacement is already at a pressure no higher than 32	
venting emissions based on this commitment and also	pounds per square inch (PSI), which is almost half	
provide comparison figure of venting emissions volume	YCNGA's normal operating pressure within its	
without pressure reduction/drawdown using	distribution network (60 psi).	
calculation methods identified in the initial Tier 2 EA	Based on the size of the existing pipe, it is estimated	
worksheet.	that 6.6 thousand cubic feet (MCF) of methane would	
	be vented during construction.	

² https://www.epa.gov/green-book/green-book-national-area-and-county-level-multi-pollutant-information

³ Blowdown refers to the venting of natural gas in current facilities, in order to begin rehabilitation, repair, or replacement activities.

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The project area is located within Cherokee County, South Carolina which is designated by the EPA as in attainment for all National Ambient Air Quality Standards (NAAQS). The existing pipelines within the project area consist of steel and vintage plastic pipelines and have reached the end of their useful life. The installation of the Town of Blacksburg natural gas system began in the 1950's but the date of installation is unknown, as well as the existing size and materials of all pipelines in the system. There have been many leaks throughout the years and currently there is a lack of as-built information which affects YCNGA's ability to accurately locate facilities in the areas. Additionally, the existing pipelines in the system have pipes located at various depths and installation does not meet minimum industry standards.

No Action:

Under the No Action alternative, existing and planned pipeline activities, including construction and maintenance activities, would continue unchanged. The project proponent would continue to use the existing leak prone pipes. The estimated methane emissions for the existing pipelines within the project area were extrapolated over 20 years to represent the continuation of methane release under the No Action alternative. Under the No Action alternative, PHMSA estimates that 1,897 kg of methane would be released each year from the existing pipelines within the project area. This amounts to 37,936 kg of methane over a 20-year time frame. See Appendix B, Methane Emissions, for estimated methane leak rate calculations.

Proposed Action:

The Proposed Action alternative consists of replacing approximately 12.5 miles of steel and vintage plastic pipe which would result in minor air quality impacts associated with construction activities, including the intentional venting of methane contained in the existing pipelines prior to replacement. Pipeline blowdowns are typically necessary to ensure that construction and maintenance work can be conducted safely on depressurized natural gas facilities and pipelines. Venting methane is required when service is switched from the existing line to the newly constructed line, but the volume of vented gas can depend on the ability to reduce pressure on the pipe segment or other mitigative actions. Therefore, some methane will be vented into the atmosphere during construction. Based on an operating pressure of 32 PSI and various pipe diameters ranging from 2 inch to 6 inches, PHMSA estimates 6.6 MCF of methane (or 203 kg) would be vented into the atmosphere during construction. See Appendix B for the methane blowdown calculations.

As described in the Tier 1 EA, methane leaks from natural gas distribution pipelines increase with age and are considerably higher for steel pipelines, as compared with plastic. Replacing leak prone pipe with newer, more durable materials would reduce leaks and methane emissions. Based on the current leak rate of the existing pipe within the project area, this project would reduce overall emissions by approximately 1,069 kg in the first year (when considering the methane that will be released from blowdown that will occur during construction) and would reduce approximately 1,272 kg of methane per year thereafter. This amounts to a total reduction of

⁴ Leak rates are based on Pre-1990 Installation emission factors found in *Table 1 Average methane emission factors for natural gas pipelines (adopted from EPA GHG Inventory, Annex 3.6, Table 3.62)* in the November 9, 2022, PHMSA: Natural Gas Distribution Infrastructure Safety and Modernization Grant Program Programmatic Environmental Assessment, Tier 1 Nationwide Environmental Analysis.

approximately 25,237 kg of methane emissions over a 20-year timeframe, post construction. See Appendix B, Methane Calculations. Therefore, it is PHMSA's assessment that the proposed project would provide a net benefit to air quality from the overall reduction of greenhouse gas emissions and that no indirect or cumulative impacts would result from the Proposed Action.

Mitigation Measures:

The York County Natural Gas Authority shall implement the following mitigation measures:

- Efficient use of on-road and non-road vehicles, by minimizing speeds and vehicles;
- Minimizing excavation to the greatest extent practical;
- Use of cleaner, newer, non-road equipment as practicable;
- Minimizing all vehicle idling and at minimum, conforming with local idling regulations;
- Ensuring that all vehicles and equipment are in proper operating condition;
- On-road and non-road engines must meet EPA exhaust emission standards (40 CFR Parts 85, 86, and 89);
- Covering open-bodied trucks while transporting materials;
- Watering, or use of other approved dust suppressants, at construction sites and on unpaved roadways, as necessary;
- Minimizing the area of soil disturbance to those necessary for construction;
- Minimizing construction site traffic by the use of offsite parking and shuttle buses, as necessary.

Water Resources		
Question	Information and Justification	
Are there water resources within the project area, such as wetlands, streams, rivers, or floodplains? If so, will the project temporarily or permanently impact wetlands or waterways?	Yes, according to the United States Fish and Wildlife Service's National Wetland Inventory (NWI) ⁵ maps, there are water resources in the project area. None of these water resources would be impacted.	
Under the Clean Water Act, is a Section 401 State certification potentially required? If yes, describe anticipated permit and how project proponent will ensure permit compliance.	No. YCNGA is not proposing to disturb any creeks or wetlands with the scope of this project.	
Under the Clean Water Act, is a USACE Section 404 Permit required for the discharge of dredge and fill material? If yes, describe anticipated permit and how project proponent will ensure permit compliance.	No. YCNGA does not anticipate discharging anything, including dredge or fill material.	
Under the Clean Water Act, is an EPA or State Section 402 permit required for the discharge of pollutants into the waters of the United States? Is a Stormwater Pollution Prevention Plan (SWPPP) required?	While it is not anticipated, construction activities may exceed soil disturbance thresholds and a 402 permit could be required.	
Will work activities take place within a FEMA designated floodplain? If so, describe any permanent or temporary impacts and the required coordination efforts with state or local floodplain regulatory agencies.	No, according to Federal Emergency Management Agency (FEMA) ⁶ maps, there are no designated floodplains in the project area.	

⁵ https://www.arcgis.com/home/webmap/viewer.html?webmap=da9a3343ad4a4dbfaac295501c76406d

⁶ FEMA's National Flood Hazard Layer (NFHL) Viewer (arcgis.com)

Will the proposed project activities potentially occur	No. The project is not located in South Carolina's
within a coastal zone ⁷ or affect any coastal use or natural	coastal zone.
resource of the coastal zone, requiring a Consistency	
Determination and Certification?	

PHMSA reviewed NWI maps to assist in identifying aquatic features including wetlands, streams, and other water resources in or near the project area. Based on a review of the NWI maps, NRCS soils maps, topographic maps, and information provided by YCNGA, there are water resources located within the project area. According to NWI maps, in the western portion of the project area, there are three unnamed tributaries of the Broad River, two having ponds located west of Cherokee Falls Road. Also, in the more western portion of the project area located between Cherokee Falls Road and Leagan Street is a tributary to Dottie Creek. This tributary crosses both Pleasant Hill Road and Pleasant Ridge Road. Three additional tributaries to Dottie Creek were identified in the northeastern portion of the project area on the south side of West Pine Street. Canoe Creek is in the northeastern portion of the project area on the north side of West Cherokee Street and south of West Carolina Street. See Appendix C, Water Resources for the location of identified tributaries in the project area. There were no floodplains identified in the project area.

No Action:

Under the No Action alternative, the existing pipeline would remain in the current location and normal maintenance activities would continue. Depending on the location of the activities, maintenance work could be in close proximity to an aquatic resource where the YCNGA would need to take precautions to avoid adverse impacts to these sensitive areas.

Proposed Action:

There is one area along Pleasant Hill Road where pipeline replacement activities would cross a tributary to Dottie Creek. The YCNGA would bore/ horizontal directional drill (HDD) underneath this riverine crossing at a depth and distance so as not to encroach or disturb the aquatic resource. HDD methods provide a way to avoid impacting sensitive areas, such as wetlands or streams, by boring relatively shallow arcs along a specific path underground using a surface drill rig. Directional boring begins with excavating pits where the pipe would enter and go underground and exit where the pipe would then come back to the surface to tie into existing pipelines. The pits collect the drilling fluids that are pumped to the cutting head or the drill to create and lubricate the passage of the new pipe. The fluids in the pits can then be collected and disposed of or reclaimed. To ensure no direct impacts occur to this aquatic resource, the contractor would construct/excavate entry and exit pits and ensure all construction activities are at least 100 feet back from the tributary on either side. Additionally, best management practices would be used during construction to control sediment and erosion and prevent pollutants from entering adjacent waterways. Because the pipeline in this area would be installed by boring under the tributary and appropriate buffers would remain between construction activities and aquatic resources and because best management practices would be used, PHMSA's assessment is that there would be no permanent impacts to water resources located within the project area. The pipeline placement and

⁷ The term "coastal zone" means the coastal waters (including the lands therein and thereunder) and the adjacent shorelands (including the waters therein and thereunder), strongly influenced by each other and in proximity to the shorelines of the several coastal states, and includes islands, transitional and intertidal areas, salt marshes, wetlands, and beaches.)

abandonment of the existing pipeline is not anticipated to cause any reasonably foreseeable indirect effects or cumulative effects to water resources. Therefore, it is PHMSA's assessment that there will be no adverse impacts to water resources.

Mitigation Measures:

The York County Natural Gas Authority shall avoid staging in wetlands or floodplains and all preconstruction contours shall be restored with natural areas reseeded or repaved as soon as practical. Best Management Practices shall be used during construction to control sediment and erosion and prevent pollutants from entering adjacent waterways.

The York County Natural Gas Authority shall avoid any direct impacts to open water tributaries by using directional bore methods and maintaining a 100-foot buffer from the edge of water resources for entrance and exit pits and tie-ins.

The York County Natural Gas Authority shall obtain a Clean Water Act, Section 402 stormwater permit, if applicable, prior to commencing construction.

Groundwater and Hazardous Materials/Waste		
Question	Information and Justification	
Does the project have potential to encounter and impact groundwater? If yes, describe potential impacts from construction activities.	No.	
Will the project require boring or directional drilling that may require pits containing mud and inadvertent return fluids? If yes, describe measures that will be taken during construction activities to prevent impacts to groundwater resources.	Yes. HDD entry/ exit pits (as previously described) would contain drilling fluids but would not be used for storage or any inadvertent returns. There would be no pits onsite for the purpose of storing mud and inadvertent returns. Best practices would be used for entry/ exit pits in order to limit any offsite sedimentation and would be far enough away (100-foot minimum) to prevent an impact to water resources	
Will the project potentially involve a site(s) contaminated by hazardous waste? Is there any indication that the pipeline was ever used to convey coal gas? If yes, PHMSA will work with the project proponent for required studies.	No.	
Does the project have the potential to encounter or disturb lead pipes or asbestos?	There is a potential to encounter coal tar wrapped pipe.	

Conclusion

PHMSA reviewed EPA's NEPAssist website to identify any brownfields properties, hazardous waste sites, and superfund sites. There were two hazardous waste sites identified in close proximity to the project area. Hazardous waste information is identified in the Resource Conservation and Recovery Act Information (RCRAInfo), which is a national program that includes an inventory of all generators, transporters, treaters, storers, and disposers of hazardous waste that are required to provide information about their activities to state

environmental agencies.⁸ It is noted that the presence of a hazardous waste site does not indicate an identified environmental concern. The two sites identified that are hazardous waste generators are not associated with any identified leaks. There were no brownfields sites or superfund sites identified in the project area. (See Appendix D, Hazardous Materials).

PHMSA obtained a custom soil report for the project area from the USDA, NRCS's Web Soil Survey which indicates that the project area is comprised of soils mainly classified as well drained or somewhat excessively well drained.

No Action:

Under the No Action alternative, the steel and plastic pipes would remain in their current location and ongoing and routine maintenance activities would occur. Pipes would be replaced under failed circumstances. While there are no adverse impacts to groundwater anticipated by the No Action alternative, increased methane emissions are likely to occur if the leak prone pipes remain (EPA, PRO Fact Sheet No. 402⁹) and the risk of failure is higher among these types of pipes. Therefore, under the no action alternative, PHMSA anticipates an increased risk for the release of methane, both as leaks and during a pipeline failure, which could then result in ground disturbances from construction activities, potentially impacting groundwater.

Proposed Action:

PHMSA's assessment is that there will be no adverse impacts to groundwater associated with the project. Trenching and/or directional drilling work is not likely to intercept groundwater, as the water table is normally found at depths greater than 80 inches in the project area. Additionally, there are no hazardous waste or brownfield, or superfund sites identified in the area where work would occur that could be potentially impacted by the Proposed Action Alternative. While there are two identified sites that contain, store or dispose of hazardous materials, these are not within the construction areas as work is limited to existing ROW and these do not pose any hazard. PHMSA has not identified any indirect or cumulative effects to groundwater or hazardous materials.

Mitigation Measures:

In the event of a release of hazardous materials/waste into the environment during construction, the York County Natural Gas Authority shall notify the appropriate emergency response agencies, potentially impacted residents, and regulatory agencies of the release or exposure.

Soils		
Will all bare soils be stabilized using methods using methods identified in the initial Tier 2 EA worksheet? Will additional measures be required?	Yes. Erosion and sediment control measures would be used during construction.	
Will the project require unique impacts related to soils?	No.	

⁸ <u>RCRAInfo Overview | US EPA</u>

⁹ Insert Gas Main Flexible Liners at https://www.epa.gov/sites/default/files/2016-

<u>06/documents/insertgasmainflexibleliners.pdf#:~:text=Methane%20emissions%20reductions%20come%20from%20lower%20leakage%20rates,pipe%20and %20external%20corrosion%20in%20unprotected%20steel%20piping.</u>

PHMSA obtained a custom soil report for the project area from the USDA, NRCS's web soil survey which indicates that the project area is comprised of a variety of soils to include Chewacla silt loam, Manteo channery silt loams, Nason very fine sandy loams, and Tatum silty clay loams. Most of these soils are well-drained or somewhat excessively well drained soils where the depth to the water table is found somewhere greater than 80 inches. It is noted that the project area is an urban residential area where ground disturbance activities have already occurred and there are few areas, if any, that remain in a natural state. Therefore, while the soils report provides valuable information, the soils have been disturbed and likely contain some degree of fill material brought in as a suitable base for construction.

No Action:

Under the No Action alternative, the vintage plastic and steel pipes would remain in their current location and soils would remain in their current state and condition. Normal maintenance activities would occur, and pipes would be replaced under failed circumstances. Some soil disturbance would occur during emergency repairs and the affected areas would be restored upon completion. Under either scenario, no adverse impacts to soils would be anticipated under the No Action alternative.

Proposed Action:

The YCNGA would replace approximately 12.5 miles of vintage plastic and steel pipelines within the existing ROW. The new gas lines will be installed at a depth of three to four feet below grade and will be installed by either directional drilling or trenching. All disturbed areas will be re-seeded or paved (as appropriate) and restored to pre-existing conditions. Therefore, PHMSA has determined that there will be no adverse impact to soils resulting from the Proposed Action alternative. Additionally, there are no indirect or cumulative impacts anticipated as the YCNGA will restore all areas to pre-construction conditions.

Mitigation Measures:

The York County Natural Gas Authority shall utilize best management practices, as appropriate, to control sediment and erosion during construction which may include silt fencing, check dams, and promptly covering all bare areas. All impacted areas shall be restored to pre-construction conditions.

Biological Resources	
Question	Information and Justification
Based on review of IPaC and NOAA Fisheries database, are there any federally threatened or endangered species and/or critical habitat potentially occurring within the geographic range of the project area? If no, no further analysis is required.	Yes, based on review of the USFWS's Information for Planning and Consultation (IPaC) website. Additionally, South Carolina state resources were inventoried to identify potential state listed species.
Will the project impact any areas in or adjacent to habitat for Federally listed threatened or endangered species or their critical habitat? If not, provide justification and avoidance measures. If yes, PHMSA will work with the project proponent to conduct necessary	No.

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According to the IPaC database, the Tricolored Bat (*Perimyotis subflavus*), a proposed endangered species, and the dwarf-flowered heartleaf (*Hexastylis naniflora*), a threatened species, may be located in the geographic area. Additionally, the Monarch butterfly (*Danaus plexippus*) is a candidate species and could be in the general geographic area. There is no designated no critical habitat within the project area. See Appendix F, Biological Resources for a list of protected species.

Additionally, the South Carolina Heritage Trust website¹⁰ was reviewed to assist in identifying potential species protected by the State. A list of state protected species can be found in Appendix F, Biological Resources.

No Action:

Under the No Action alternative, existing conditions would remain, and normal maintenance activities would occur. The project area is in an urbanized environment and therefore has limited biological resources present. Additionally, the project area does not contain suitable habitat for listed species, therefore no impacts to biological resources would occur under the No Action alternative.

Proposed Action:

The Tricolored Bat is associated with forested landscapes, often in open woods. They can also be found over water and adjacent to water edges. No impact to the Tricolored Bat is anticipated as the project would occur on road ROW and utility easements that have been previously disturbed and does not meet the habitat requirements for this species. The dwarf-flowered heartleaf grows in acidic soils along bluffs and adjacent slopes, in boggy areas next to streams and creek heads, and along the slopes of nearby hillsides and ravines. As the project would take place along ROW and the tributaries in the project area would be avoided, no impact on the dwarf-flowered heartleaf is anticipated. As there are no bodies of water larger than smaller tributaries in the project area, none of the NOAA Fisheries listed threatened and endangered species can be found within the project area.

Therefore, in accordance with Section 7 of the Endangered Species Act (ESA), PHMSA's assessment is that the project would have no effect on the dwarf-flowered heartleaf. Under Section 7(a)(4) of the ESA, Federal agencies must confer with the USFWS if their action would jeopardize the continued existence of a proposed species. The tricolored bat is proposed for listing and the project is unlikely to jeopardize this species' existence. As a candidate species, the monarch butterfly receives no statutory protection under the ESA. PHMSA's assessment is that the project would have no adverse impacts to state listed species or other biological resources and that there are no indirect or cumulative impacts anticipated as a result of the Proposed Action alternative.

Mitigation Measures:

The York County Natural Gas Authority is responsible for abiding by all applicable state and local regulations, including those protecting South Carolina Natural Heritage Resources.

Cultural Resources

¹⁰ Species by County (arcgis.com)

Question	Information and Justification
Does the project include any ground disturbing activities, modifications to buildings or structures, or construction or installation of any new aboveground components?	Yes. The project includes pipe replacement, which is a ground disturbing activity. However, work would take place on previously disturbed ground in road ROW.
Is the project located within a previously identified local, state, or National Register historic district or adjacent to any locally or nationally recognized historic properties? This information can be gathered from the local government and/or State Historic Preservation Office. ¹¹	No.
Does the project or any part of the project take place on tribal lands or land where a tribal cultural interest may exist? ¹²	Yes. The Catawba Indian Nation, Cherokee Nation, Eastern Band of Cherokee Indians, and Muscogee Nation all have an interest in Cherokee County.
Are there any nearby properties or resources that either appear to be or are documented to have been constructed more than 45 years ago? ¹³ Does there appear to be a group of properties of similar age, design, or method of construction? Any designed landscapes such as a park or cemetery? Please provide photographs to show the context of the project area and adjacent properties.	Yes. Based on a search of the Cherokee County tax map records, there are a number of properties over 45 years old. There are two cemeteries and four parks/recreation areas near or adjacent to the project area. These sites are not in the project area, and thus, no impact on the designed landscapes is anticipated.
Has the entire area and depth of construction for the project been previously disturbed by the original installation or other activities? If so, provide any documentation of prior ground disturbances.	Yes. Although records for natural gas facilities are limited (Town of Blacksburg was responsible for installation and YCNGA later assumed ownership), there is ample evidence that the entire area has been previously disturbed due to the presence of utilities, streets, sidewalks, buildings, homes, etc.
Will project implementation require removal or disturbance of any stone or brick sidewalk, roadway, or landscape materials or other old or unique features? Please provide photos of the project area that include the roadway and sidewalk materials in the project and staging areas.	No.
Conclusion:	

PHMSA must consider the impact of projects for which they provide funding on historic and archeological properties¹⁴ in accordance with Section 106 of the National Historic Preservation Act (Section 106). Pursuant to

¹¹ Many SHPOs have an <u>online system</u> at <u>https://www.nps.gov/subjects/nationalregister/state-historic-preservation-offices.htm</u> that can tell you previously identified historic properties in your project area. The <u>National Register list</u> at <u>https://www.nps.gov/subjects/nationalregister/database-research.htm</u> can also be accessed online.

¹² The SHPO may have information on areas of tribal interest, or a good source is the HUD TDAT website at https://egis.hud.gov/TDAT/.

¹³ Local tax and property records or historic maps may indicate dates of construction.

¹⁴ Historic property means any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places (National Register) maintained by the Secretary of the Interior. This term includes artifacts, records, and remains that are related to and located within such properties. The term includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization and that meet the National Register criteria.

36 CFR 800.4(a)(1), the Area of Potential Effects (APE) is defined as the geographic area(s) within which the Undertaking may directly or indirectly affect historic resources. Based on the proposed scope of work, PHMSA has delineated the APE for this project to encompass the existing ROW in the areas proposed for replacement, which includes the limits of disturbance. The APE extends to the depth of proposed ground disturbance of up to 4 feet below grade. The Undertaking does not have the potential to cause visual or audible effects after the completion of construction. The existing ROW varies widely throughout the project area and is 60 feet wide at the widest point; it includes various roads, sidewalk, utilities (above and below ground), roadside ditches, curb & gutter, culverts, driveways, and mailboxes. See Appendix G, Cultural Resources for more information on the APE.

No Action:

Under the No Action alternative, existing conditions would remain, and normal maintenance activities would occur. These activities could result in ground disturbance that might affect historic resources. However, no federal funding would be applied and therefore Section 106 would not be applicable.

Proposed Action:

To identify historic properties in the APE, PHMSA reviewed available information on previously identified historic properties in the APE, including the National Register of Historic Places (NRHP) database and data gathered from the South Carolina ArchSite database. PHMSA also conducted research to determine if there are any previously unidentified properties within the APE that are 45 years of age or older and may be eligible for the NRHP and assess the archaeological sensitivity of the APE.

A search of the NRHP database and the South Carolina ArchSite database found no NRHP-listed or NRHP-eligible above-ground resources within the APE. Due to the scale and nature of the Undertaking, which is limited to the replacement of pipelines within the existing ROW, the identification effort for additional aboveground resources focused on identifying properties that are susceptible to the effects of this work and could experience diminished integrity as a result of the Undertaking. The pipeline replacement work will not result in physical effects to any above-ground resources and will not have any lasting visual or audible effects. A review of the APE found no potentially significant above-ground resources that have the potential to be affected by the Undertaking.

The South Carolina ArchSite database was examined to identify the presence of previously recorded archaeological sites and archaeological surveys within the APE and for any NRHP-listed historic properties that may contain archaeological significance within one quarter of a mile of the APE. As a result of background research, one previous archaeological site and no previously conducted archaeological surveys were identified. Site 38CK0134 is a pre-contact site located in the western end of the APE and is recommended not eligible for listing in the NRHP. A quarter of a mile search radius was also examined for previously recorded archaeological sites and surveys but no additional archaeological sites or surveys were identified. No historic properties were identified.

Based on PHMSA's assessment, there are no historic properties as defined in 36 CFR 800.16(l) within the APE. There are two cemeteries within or immediately adjacent to the APE; however, PHMSA will recommend that all cemeteries be avoided, and project plans should ensure no ground disturbance takes place within cemetery boundaries. Any ground-disturbing activities are subject to South Carolina burial laws (South Carolina Code 27-43-10, Removal of Abandoned Cemeteries; 27-43-20, Removal to Plot Agreeable to Governing Body and Relatives; 27-43-30, Supervision of Removal Work; and 16-17-600, Destruction of Graves and Graveyards).

Based on this assessment, in accordance with 36 CFR Part 800.4(d)(1), the Undertaking will result in No Historic Properties Affected.

A letter was sent on March 27, 2024, to the South Carolina Historic Preservation Office (SHPO) outlining the Section 106 process, including a description of the undertaking, delineation and justification of the APE, identification of historic properties and an evaluation and proposed finding of effects. Potential consulting parties were copied on the letter to SHPO, inviting them to participate as Section 106 consulting parties and a separate letter was sent to federally recognized tribes inviting them to participate in consultation. PHMSA has requested comments on the Section 106 process, identification of historic properties, and proposed finding within 30 days of receipt of the letter. See Appendix G, Cultural Resources, for additional information.

Mitigation Measures:

If, during project implementation, a previously undiscovered archaeological or cultural resource that is or could reasonably be a historic property is encountered or a previously known historic property will be affected in an unanticipated manner, all project activities in the vicinity of the discovery will cease and the York County Natural Gas Authority will immediately notify PHMSA. This may include discovery of cultural features (e.g., foundations, water wells, trash pits, etc.) and/or artifacts (e.g., pottery, stone tools and flakes, animal bones, etc.) or damage to a historic property that was not anticipated. PHMSA will notify the State Historic Preservation Office and participating federally recognized tribes and conduct consultation as appropriate in accordance with 36 CFR § 800.13. Construction in the area of the discovery must not resume until PHMSA provides further direction.

In the event that unmarked human remains are encountered during permitted activities, all work shall halt, and the York County Natural Gas Authority shall immediately contact PHMSA as well as the proper authorities in accordance with applicable state statutes to determine if the discovery is subject to a criminal investigation, of Native American origin, or associated with a potential archaeological resource. At all times human remains must be treated with the utmost dignity and respect. Human remains and associated artifacts will be left in place and not disturbed. No skeletal remains or materials associated with the remains will be photographed, collected, or removed until PHMSA has conducted the appropriate consultation and developed a plan of action. Project activities shall not resume until PHMSA provides further direction.

All work, material, equipment, and staging to remain within the road's existing right-of-way or utility easement or other staging areas as identified in the environmental documentation. If the scope of work changes in any way that may alter the effects to historic properties as described herein, the grant recipient must notify PHMSA, and consultation may be reopened under Section 106.

All cemeteries should be avoided, and project plans should ensure no ground disturbance takes place within cemetery boundaries.

Section 4(f)		
Question	Information and Justification	
Are there Section 4(f) properties within or immediately adjacent to the project area? If yes, provide a list of properties or as an attachment.	Yes. There are four parks/recreation areas adjacent to the project area at the following locations: the intersection of West Cherokee Street and West Lime Street and immediately adjacent to it on West Lime Street, the intersection of West Pine Street and South Charleston Street, and the intersection of West	

	Clairborne Street and Hardin Street. There are no wildlife refuges, waterfowl refuges, historic sites or wildlife management areas in or adjacent to the project area.
Will any construction activities occur within the property boundaries of a Section 4(f) property? If so, please detail these activities and indicate if these are temporary or permanent uses of the Section 4(f) property. Further coordination with PHMSA is required for all projects that might impact a Section 4(f) property.	No.

Section 4(f) of the US Department of Transportation (USDOT) Act of 1966 as amended (Section 4(f)) (49 U.S.C. § 303(c)); is a federal law that applies to transportation projects that require funding or other approvals by the USDOT. Section 4(f) prohibits the Secretary of Transportation from approving any program or project which requires the use of any publicly owned land from a public park, recreation area, or wildlife and waterfowl refuge of national, state, or local significance, or any land from an historic site of national, state, or local significance unless:

- There is no feasible and prudent alternative to the use of the land;
- The program or project includes all possible planning to minimize harm to such park, recreational area, wildlife and waterfowl refuge, or historic site, resulting from such use.

PHMSA conducted a review of the Project Area to identify potential properties that qualify as Section 4(f). Four parks were identified within the project area as potential 4(f) properties, Lime Street Splash Pad, Hershel Porter Park, Gibbs Park, and Troublefield Park (See Appendix H).

No Action:

Under the No Action alternative, there would be no change to existing pipeline infrastructure pursuant to federal funding provided by the Program. Therefore, there would be no use of Section 4(f) property under the No Action alternative.

Proposed Action:

Under the Proposed Action Alternative, construction activities would not impact the resources identified above. Access to the parks would remain throughout the duration of construction and no physical use of the parks would occur. In addition, as described in the Noise section of this Tier 2 EA, no adverse impacts associated with construction noise have been identified that could affect the use of this property. Therefore, PHMSA has determined there would be no use of any Section 4(f) resources.

Mitigation Measures:

The York County Natural Gas Authority shall ensure that full public access to, and use of Lime Street Splash Pad, Hershel Porter Park, Gibbs Park, and Troublefield Park is maintained during construction.

Land Use and Transportation				
Question	Information and Justification			
Will the full extent of the project boundaries remain	Yes.			
within the existing right-of-way or easements? If no,				
please describe any right-of-way acquisitions or				
additional easements needed.				
Will the project result in detours, transportation	Yes. There may be temporary restrictions such as lane			
restrictions, or other impacts to normal traffic flow or	closures (with the appropriate traffic control);			
to existing transportation facilities during construction?	however, there would be no permanent changes to			
Will there be any permanent change to existing	existing transportation facilities.			
transportation facilities? If so, what are the changes,				
and how will changes affect the public?				
Will the project interrupt or impede emergency	While there may be the possibility of lane closures			
response services from fire, police, ambulance or any	(with the appropriate traffic control), YCNGA does not			
other emergency or safety response providers? If so,	anticipate any road closures that would require			
describe any coordination that will occur with	notifications to emergency response services.			
emergency response providers?				
Conclusion:				

The project is in the Town of Blacksburg, consisting of rural and residential areas.

No Action:

Under the No Action alternative, the existing steel and vintage plastic pipes would remain in their current location and no changes to land use would occur. Normal maintenance activities would occur, and pipes would be replaced under failed circumstances.

Proposed Action:

The YCNGA is proposing to replace pipeline infrastructure within the existing ROW and would not include adding pipeline to serve new areas. During construction, there may be short-term impacts to adjacent residences and normal traffic patterns within the project area. Potential impacts include an increase in noise, dust, and transportation accessibility, because of construction and construction staging. YCNGA does not anticipate any road closures or detours, but lane closures are anticipated. Appropriate traffic control would assist in navigating around construction activities safely when lane closures are necessary. Therefore, because the work consists of the replacement of existing pipeline, would not convert any new areas into a different use and impacts would only occur during construction, PHMSA's assessment is that there would be no impact to land use and only temporary impacts would result during construction. PHMSA considered the cumulative effects of this action with ongoing and planned transportation related construction projects that could cumulatively impact land use and transportation but there are no known construction projects occurring at the same time in the project area that would contribute cumulatively to the temporary transportation impacts.

Mitigation Measures:

The York County Natural Gas Authority shall maintain traffic flows to the extent possible and use traffic control measures to assist traffic negotiating through construction areas, as needed.

Noise and Vibration

Question	Information and Justification
Will the project construction occur for longer than a month at a single project location?	No.
Will the project location be in proximity (less than 50- ft.) to noise sensitive receivers (residences, schools, houses of worship, etc.)? If so, what measures will be taken to reduce noise and vibration impacts to sensitive receptors?	Yes. YCNGA would limit activities to occur only during normal weekday business hours and would ensure proper maintenance of equipment mufflers in order to reduce noise and vibration impacts to sensitive receptors.
Will the project require high-noise and vibration inducing construction methods? If so, please specify.	No. The project most likely would not require high- noise and vibration inducing construction methods.
Will the project comply with state and local ordinances? If so, identify applicable ordinances and limitations on noise/vibration times or sound levels.	YCNGA is not aware of any noise, vibration, or sound limitations or local regulations; however, all noise producing activities would be completed during standard daytime business hours only.
Will construction activities require large bulldozers, hoe ram, or other vibratory equipment within 20 ft of a structure?	No. The project most likely would not involve construction activities that require large bulldozers, hoe ram, or other vibratory equipment within 20 feet of a structure.

The project is in the Town of Blacksburg, SC and consists of residential and rural areas. The ambient noise in the project area consists of a combination of environmental noise from road traffic, population density and other sources. There are several sensitive noise receptors to include houses of worship, residences and schools located adjacent to where work would occur.

No Action:

Under the No Action alternative, the project would not move forward and the pipelines along the designated streets in the project area would not be replaced at this time. If replacement or repairs occur under emergency conditions, noise from construction equipment would add to that of the current ambient noise and would be of a shorter duration.

Proposed Action:

Excavators, dump trucks, drill rigs, rollers, pavers, and other similar construction equipment would be used to excavate a trench, directional bore, lay pipe, compact soils, and re-pave and/or restore the affected areas. Sensitive noise receptors are likely to experience temporary noise impacts in the immediate vicinity of the work. Although no state or local regulations regarding noise were identified as applicable to the project, work would only occur during standard daytime business hours. Therefore, PHMSA's assessment if that the noise impacts resulting from the proposed pipeline replacement work would be minor and temporary and no adverse vibration impacts would result from the proposed work.

PHMSA considered the cumulative effects of this action with potential ongoing and/or planned transportation related construction projects in the same area. However, no other construction projects are known that would add to the temporary noise resulting from the proposed action that would cause cumulatively more than minor

adverse noise or vibration impacts.

Mitigation Measures:

The York County Natural Gas Authority shall limit construction activities to standard daytime business hours.

Environmental Justice				
Question	Information and Justification			
Using the EPA EJScreen or census data ¹⁵ , is the project located in an area of minority and/or low-income individuals as defined by USDOT Order 5610.2(c)? If so, provide demographic data for minority and/or low- income individuals within ½ mile from the project area as a percentage of the total population.	Based on review of socioeconomic data using EPAs EJScreen tool, the population residing within the general project area contains 42 percent low income and 19 percent minority populations.			
Will the project displace existing residents or workers from their homes and communities? If so, what is the expected duration?	No.			
Will the project require service disruptions to homes and communities? If so, what is the expected communication and outreach plan to the residents and the duration of the outages?	No.			
Are there populations with Limited English Proficiency located in the project area? If so, what measures will be taken to provide communications in other languages?	No.			

Conclusion:

Executive Order (E.O.) 14096—"Revitalizing Our Nation's Commitment to Environmental Justice for All" was enacted on April 21, 2023. E.O. 14096 on environmental justice does not rescind E.O. 12898 – "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," which has been in effect since February 11, 1994, and is currently implemented through DOT Order 5610.2C. This implementation will continue until further guidance is provided regarding the implementation of the new E.O. 14096 on environmental justice.

PHMSA reviewed socioeconomic data using the EPAs EJScreen and found the population residing within the project area contains 42 percent low income and 19 percent minority populations. Cherokee County was identified to have 44 percent low income and 28 percent minority populations. See Appendix I, Environmental Justice, for socioeconomic data.

No Action:

Under the No Action alternative, existing and planned pipeline activities, including construction and maintenance activities, would continue unchanged. The YCNGA would continue to use leak prone pipe material that could lead to safety incidents and service disruptions. Additionally, if a pipeline segment is not repaired or replaced prior to failure, it is likely to be associated with even more emissions under the No Action alternative. Thus, emissions benefits to the community associated with repairing or replacing existing pipelines with updated

¹⁵ <u>https://www.census.gov/quickfacts/fact/table/US/PST045222</u>

material would not be achieved and the incident risks and leaks would remain. There may be some degree of air pollution associated with construction activities for maintenance and repairs of existing pipelines under the No Action alternative, either through planned repair or replacement efforts or unplanned, emergency repairs or replacements.

Proposed Action:

The Proposed Action Alternative would result in an overall reduction in GHG emissions. Construction activities would result in minor temporary air quality impacts, including the intentional venting of existing distribution lines prior to replacement. Noise impacts associated with construction are anticipated to be minor. Traffic impacts would be temporary and only minor disruptions or delays would occur. However, removal of leak prone pipe would reduce leaks and the potential for incidents, resulting in an increase in pipeline safety across the system while also improving operation and reliability. Coordination would take place as necessary through notification directly to YCNGA's customers. YCNGA will send a notification postcard to notify the customers in the project area of the upcoming work and to invite questions. YCNGA does not anticipate any disruptions to service during the pipeline replacement activities nor does it expect any road closures. Any impacts to traffic would be temporary and appropriate traffic control measures would be taken to ensure the safety of the motoring public as well as construction workers. Therefore, consistent with Executive Order 12898 and DOT Order 5610.2(c), PHMSA's assessment is that the project would not result in disproportionately high and adverse effects on minority or low-income populations, or other underserved and disadvantaged communities. The project would have an overall beneficial effect on environmental justice populations and would not result in indirect or cumulative impacts.

Mitigation Measures:

The York County Natural Gas Authority shall provide advanced notification of service disruptions and construction schedule to all affected parties including residents and businesses adjacent to the project area.

Safety				
Question	Information and Justification			
Has a risk profile been developed to describe the	No. However, YCNGA is knowledgeable of the Town of			
condition of the current infrastructure and potential safety concerns?	Blacksburg's natural gas facilities.			
Has a public awareness program been developed and	Yes.			
implemented that follows the guidance provided by				
the American Petroleum Institute (API)				
Recommended Practice (RP) 1162?				
Does the project area include pipes prone to	Yes. The existing natural gas lines are old, does not meet			
leakage?	the minimum industry standard and there have been			
	many leaks over the years.			
Will construction safety methods and procedures to	Yes. Construction safety methods and procedures to			
protect human health and prevent/minimize	protect human health and prevent/minimize hazardous			
hazardous materials releases during construction,	materials releases during construction would be a			
including personal protection, workplace monitoring	requirement for construction.			
and site-specific health and safety plans, be utilized?				
If yes, document measures and reference				

appropriate safety plans.	
Has an assessment of the project been performed to analyze the risk and benefits of implementation?	Yes.

The proposed project would replace steel and vintage plastic pipelines. Pipelines that are known to leak include those made of cast iron, bare steel, wrought iron, and historic plastics (PIPES Act of 2020). PHMSA establishes safety regulations for all pipelines (49 CFR Parts 190-199). In 2011, following major natural gas pipeline incidents, DOT and PHMSA issued a Call to Action to accelerate the repair, rehabilitation, and replacement of the highest-risk pipeline infrastructure. Among other factors, pipeline age and material are significant risk indicators. Pipelines constructed of cast and wrought iron, as well as bare steel, are among the pipelines that pose the highest risk. PHMSA continues to encourage legacy pipeline repair or replacement to increase the safety of these segments of the gas distribution systems. Pipeline incidents can result in death, injury, property damage, and environmental damage.

No Action:

Under the No Action alternative, the existing steel pipes would remain in their current location state and condition. Normal maintenance activities would occur, and pipes would be replaced under failed circumstances. Safety risks resulting from existing leak prone pipes remaining in place would persist until the existing bare steel pipes are replaced.

Proposed Action:

The proposed project is necessary to replace the existing steel and vintage plastic pipelines. The project would replace leak prone pipe in Blacksburg and surrounding areas, increasing the overall safety of the community. The project would reduce the risk profile of existing pipeline system prone to methane leakage and would also benefit disadvantaged rural and urban communities with the safe provision of natural gas. The project responds to the need to address the potentially unsafe condition of the natural gas distribution system of pipelines. The replacement of pipelines would be constructed in accordance with industry best practices and would comply with all local, state, and federal regulations, including those for safety.

The abandonment of the existing pipeline would be conducted in accordance with PHMSA requirements found in 49 CRF 192.727 and 195.402(c)(10). These requirements include disconnecting pipelines from all sources and supplies of gas, purging all combustibles and sealing the facilities left in place. These requirements for purging and sealing abandoned pipelines would ensure that the abandoned pipelines are properly purged and pose no risk to safety in their abandoned state. Therefore, PHMSA's assessment is that the replacement project would improve the overall safety of Blacksburg's infrastructure.

Mitigation Measures:

York County Natural Gas Authority shall ensure their DIMP procedures are updated as necessary, the work is constructed in accordance with industry best practices and the project will comply with all local, state, and federal regulations, including those for safety.

III. Public Involvement

On November 9, 2022, PHMSA published a Federal Register notice (87 FR 67748) with a 30-day comment period soliciting comments on the "Tier 1 Nationwide Environmental Assessment for the Natural Gas Distribution Infrastructure Safety and Modernization Grant Program." During the 30-day comment period, PHMSA received one comment letter from the APGA on various aspects of the program and air quality related analysis in the EA on December 9, 2022. This APGA letter is available for public review at the Docket No: PHMSA-2022-0123¹⁶. PHMSA reviewed the comment letter and determined the comments were not substantial and did not warrant further analysis. One comment provided by the APGA indicated that the majority of construction methods used for pipe replacements would be replacement by open trenching and that some may want to abandon the existing pipe rather than removing it for replacement. Any departures from methods described in the Tier 1 EA would require additional documentation from the project proponent, as reflected in this Tier 2.

As part of this Tier 2, PHMSA is soliciting public comments through a public comment period. This Tier 2 is available on PHMSA's website where comments can be submitted to the contact noted below. PHMSA will accept public comments for 30 days on this Tier 2. PHMSA will consider comments received and incorporate them in the decision-making process. Consultation with appropriate agencies on related processes, regulations, and permits is ongoing. Please submit all comments to: <u>PHMSABILGrantNEPAComments@dot.gov</u> and reference NGDISM-FY22-EA-2023-32 in your response.

¹⁶ <u>https://www.regulations.gov/document/PHMSA-2022-0123-0002/comment</u>

Appendix A

Project Maps

York County Natural Gas Authority Pipeline Replacement





York County Natural Gas Authority Pipeline Replacement

















Appendix B

Methane Calculations

Table 1. Average methane emission factors for natural gas pipelines (adapted from EPA GHG Inventory, Annex 3.6, Table 3.6-2)

Pipeline Material	Pre-1990 Installation (kg/mile)	1990-2020 Installation (kg/mile)	Average Rate (kg/mile/year)
Cast Iron	4,597.40	1,157.30	2,877.35
Unprotected steel	2,122.30	861.3	1,491.80
Protected steel	59.1	96.7	77.90
Plastic	190.9	28.8	109.85

Table 2. No Action Leak Rate

Pipeline Material Type	Average Rate (kg/mile/year)	Miles	Current Methane Leak Rate (kg/year)	
Cast Iron	4,597.40	0	0	
Unprotected steel	2,122.30	0	0	
Protected steel	59.1	6.9	408	
Plastic	190.9	7.8	1,489	
Total Annual Methane Leak	1,897			
20-year Methane Emissions			37,936	

Table 3. Proposed Action Leak Rate

Pipeline Material Type	Average Rate (kg/mile/year)	Miles	New Methane Leak Rate (kg/year)	
Protected Steel	96.7	3.9	377	
Plastic	8.6	248		
Total Annual Methane Leak Rate			625	
Year 1 Methane Reduction			1,069	
Annual Methane Reduction			1,272	
20-year Methane Reduction			25,237	

Equation 1 was used to estimate blowdown emissions in MCF, assuming a pipeline diameter (d) and pressure (P) described in Table 3.

$$E_{blowdown} = V \times \frac{P_{pipe} + P_{atm}}{P_{atm}}$$
(1)

Where the pipeline volume (V) is calculated by multiplying the cross-sectional area of the pipe by the length of pipeline (L):

$$V = \pi \times \frac{d^2}{4} \times L \tag{2}$$

Equation Inputs	Pipe Section						
Diameter (inches)	4	3	2.5	2	1.5	1.25	1
Blowdown Pressure	32	32	32	32	32	32	32
Length of Blowdown (feet)	6436	2297	3580	51517	12514	1383	11
Blowdown (MCF)	1.78	0.36	0.39	3.57	0.49	0.04	0.00
Total MCF	6.62						
Total kg				203			

Table 4. Proposed Action - Methane Blowdown

Appendix C

Water Resources



Estuarine and Marine Wetland

National Wetlands Inventory

Wetlands Map



Riverine

Freshwater Pond


This page was produced by the NWI mapper



NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consuited for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations** (IFEs) and/or **Bookings** that been determined, users are reconsigned to conside the Flood contained with the Flood Instaurce Skulf (FIS) spectra that accompanys the FIRM. Users should be aware that IFEs shown on the FIRM represent rounded whele some that the state of th

oastal Base Flood Elevations (BFEs) shown on this map apply only landwar 0" North American Vertical Daham of 1988 (NAVD 88), Users of this FIRM sho evamer that coastal flood elevations are also provided in the Summary of Stillw levations table in the Flood Insurance Els bidly report for this jurisdiction. Elevat ater Elevations table should be a purposes when they are higher

aries of the flor sections. The floodways were computed at cross sections and interpolated sections. The floodways were based on hydraulic considerations with ements of the National Flood Insurance Program. Floodway widths ent floodway data are provided in the Flood Insurance Study report

s not in Special Flood Hazard Areas may be protected by flood control Refer to Section 2.4 "Flood Protection Measures" of the Flood udy report for information on flood control structures for this jurisdiction.

ction used in the preparation of this map was State Plane South Carolina 0. The horizontal datum was NADB3, HARN, GRS1980 spheroid. is in datum, spheroid, projection or State Plane zones used in the of FIRMs for adjacent jurisdictions may result in slight positional is map features across jurisdiction boundaries. These differences do not occurary of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same vertical advame. For information regarding conversion Vertical Datum of 1988, visit the National Geodetic Survey verbale a http://www.ngs.neag.ov/ or contact the National Geodetic Survey verbale a http://www.ngs.neag.ov/ or contact the National Geodetic Survey verbale a http://www.ngs.neag.ov/ or contact the National Geodetic Survey verbale a http://www.ngs.neag.ov/ or contact the National Geodetic Survey verbale a http://www.ngs.neag.ov/ or contact the National Geodetic Survey verbale a http://www.ngs.neag.ov/ or contact the National Geodetic Survey verbale a http://www.ngs.neag.ov/ or contact the National Geodetic Survey verbale a http://www.ngs.neag.ov/ or contact the National Geodetic Survey verbale a http://www.ngs.neag.ov/ or contact the National Geodetic Survey verbale a http://www.ngs.neag.ov/ or contact the National Geodetic Survey verbale a http://www.ngs.neag.ov/ or contact the National Geodetic Survey verbale a http://www.ngs.neag.ov/ or contact the National Geodetic Survey verbale a http://www.ngs.neag.ov/ or contact the National Geodetic Survey verbale a http://www.ngs.neag.ov/ or contact the National Geodetic Survey verbale a http://www.ngs.neag.ov/ or contact the National Geodetic Survey verbale a http://www.ngs.neag.ov/ or contact the National Geodetic Survey verbale a http://www.ngs.neag.ov/ or contact the National Geodetic Survey verbale a http://www.ngs.neag.ov/ or contact the National Geodetic Survey verbale a http://www.ngs.neag.ov/ or contact the National Geodetic Survey verbale a http://www.ngs.neag.ov/ or contact the National Geodetic Survey verbale a http://www.ngs.neag.ov/ or contact the National American the National Geodetic Survey verbale a http://www.ngs.neag.ov/ or contact the National American the National American the National American the National American the Nationa

NGS Information Services NOAA, N/NGS12 National Geodetic Survey SSMC-3, #9202 1315 East-West Highway Silver Spring, Maryland 20910-3282 (301) 713-3242

To obtain current elevation, description, and/or location information for bench mar shown on this map, please contact the Information Services Branch of the Nation Geodetic Survey at (301) 713-3242 or visit its website at http://www.ngs.noaa.gov/

information shown on this FIRM was provided in digital format by the lina Department of Natural Resources, the University of South Carolina erver and the National Hydrography Dataset.

ects more detailed and up-to-date stream channel confi rown on the previous FIRM for this jurisdiction. The flood previous FIRM for this jurisdiction. The households are irred from the previous FIRM may have been adjusted to an channel configurations. As a result, the Flood Profiles in the Flood Insurance Study report (which contain

olication. Because changes due to annexations or red after this map was published, map users should officials to verify current corporate limit locations.

refer to the separately printed Map Index for an overview map of the county the layout of map panels: community map repository addresses; and a of Communities table containing National Flood Insurance Program dates for memunity as well as a listing of the panels on which each community is

Contact the FEMA Map Service Center at 1-800-358-9616 for information on available products associated with this FIRM. Available products may include previously issued Letters of Map Change, a Flood Insurance Study export, and/or digital versions of this map. The FEMA Map Service Center may also be reached by Fix at 1-800-356-602 and as versione at <u>Itigo/Instructiona.adv</u>

If you have questions about this map or questions concerning the National Flood Insurance Program in general, please call **1-877-FEMA MAP** (1-877-336-2627) or visit the FEMA website at <u>http://www.fema.gov/business/nfip/</u>.

The "profile base lines" depicted on this map represent the hydraulic modeling baselines that match the flood profiles in the FIS report. As a result of improved topographic data, the "profile base line", in some cases, may deviate significantly from the channel centerline or appear outside the SFHA.



ce Rate Map (FIRM) was produced through a uni etween the State of South Carolina and the Fed Agency (FEMA). The State of South Carolina approach of floodplain management to decrease fing. This is demonstrated by the State's commitmee e local level. As a part of this effort, the state of St

http://www.dnr.state.sc.us/



LEGEND SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY 1% ANNUAL CHANCE FLOOD The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has i 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard Includi Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Eleveiton is the water-surface eleveition of ZONE A No Base Flood Elevations determined. ZONE AF Base Ecord Elecations daterminad ZONE AU Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Ele Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined. ZONE A ireas to be protected from 1% annual chance flood event by a Federal floo protection system under construction; no Base Flood Elevations determined. ZONE Coastal flood zone with velocity hazard (wave action); no Base Flood Elevatio Coastal flood zone with velocity hazard (wave action); Base Flood Elevatio ZONE VE ///FLOODWAY AREAS IN ZONE AE The floodw encroachm flood heigh s the channel of a stream plus any adjacent floodplain areas that must be kept free o so that the 1% annual chance flood can be carried without substantial increases in OTHER FLOOD AREAS ZONE Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with claimage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood. OTHER AREAS ZONE Areas determined to be outside the 0.2% annual chance fil Areas in which flood hazards are undetermined, but possib ZONE D COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS OTHERWISE PROTECTED AREAS (OPAs) CBRS areas and OPAs are normally located within or adjacent to Speci England houndary Zone D boundary CBRS and OPA boundar Boundary dividing Special Flood Hazard Are boundary dividing Special Flood Hazard Areas of Flood Elevations, flood depths, or flood velocities ~~ 513 ~~~ Base Flood Elevation line and value: elevation in feet* Base Flood Elevation value where uniform within (EL 987) * Referenced to the North Ar Vertical Datum of 1988 (A) Cross section line 23-------(23) Transect line Geographic coordinates referenced to the North Americ Datum of 1983 (NAD 83) HARN, Western Hemisphere 97'07'30". 32'22'30" 4275000mE 1000-meter Universal Transverse Mercator grid ticks, zone 17 5000-foot grid values: South Carolina State Plane coordinate system (FIPS20NE = 3900), Lambert projection Bench mark (see explanation in Notes to Users section of this 6000000 FT Bench mark (see explan DX5510, • M1.5 River Mile MAP RE DSITORIES ories list on Map Index EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP September 16, 2011 VE DATE(S) OF REVISION(S) TO THIS PANEL community map revision history prior to countywide mapping, refer to the or table located in the Flood Insurance Study report for this lurisdiction. mine if flood insurance is available in this community, contact your onal Flood Insurance Program at 1-800-638-6620. -MAP SCALE 1" = 1000" 500 1,000 1,500 2,000 PANEL 0185D PROGRAM FIRM FLOOD INSURANCE RATE MAP CHEROKEE COUNTY, SOUTH CAROLINA AND INCORPORATED AREAS FLOOD INSURANCE PANEL 185 OF 400 (SEE MAP INDEX FOR FIRM PANEL LAYOUT CONTAINS: NUMBER PANEL SUFFO COMMUNITY BLACKSBURG, TOWN OF 450274 0185 D 450045 0185 D CHEROKEE COUNTY, Project Area unity Number shown above to account to the subject MAP NUMBER **NATIONAL** 45021C0185D 45021C0185D EFFECTIVE DATE SEPTEMBER 16, 2011

Federal Emergency Management Agency

York County Natural Gas Authority

Looking upstream on Pleasant Hill Road (S-11-491)

Dercenter Y



N

1 DESAMA



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Appendix D

Hazardous Materials

York County Natural Gas Authority Blacksburg Natural Gas System Renewal US DOT PHMSA NGDISM Project NEPAssist Report



Two Hazardous Waste (RCRAInfo) are within the Project Buffer. Neither is in the project area.

Appendix E

Soils Report



United States Department of Agriculture

Natural Resources Conservation

Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Cherokee County, South Carolina

York County Natural Gas Authority



Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/? cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

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Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.



35° 7' 31" N

35° 7' 31" N







35° 4' 40" N

81° 29' 41" W

MAP LEGEND				MAP INFORMATION		
Area of Int	erest (AOI) Area of Interest (AOI)	8	Spoil Area Stony Spot	The soil surveys that comprise your AOI were mapped at 1:20,000.		
Soils	Soil Map Unit Polygons	00 12	Very Stony Spot Wet Spot	Please rely on the bar scale on each map sheet for map measurements.		
	Soil Map Unit Lines Soil Map Unit Points	۵ ••	Other Special Line Features	Source of Map: Natural Resources Conservation Service Web Soil Survey URL: Coordinate System: Web Mercator (EPSG:3857)		
ා ම ඏ	Blowout Borrow Pit	Water Features Streams and Canals		Maps from the Web Soil Survey are based on the Web Merca projection, which preserves direction and shape but distorts		
 ≫	Clay Spot Closed Depression	Transport	ation Rails Interstate Highways	distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.		
*	Gravel Pit Gravelly Spot	~	US Routes Major Roads	This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.		
© 1	Landfill Lava Flow	Backgrou	Local Roads nd	Soil Survey Area: Cherokee County, South Carolina Survey Area Data: Version 21, Aug 29, 2023		
₩ %	Marsh or swamp Mine or Quarry		Aerial Photography	Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.		
0	Miscellaneous Water Perennial Water			Date(s) aerial images were photographed: Apr 22, 2022—May 10, 2022		
+	Rock Outcrop Saline Spot			The orthophoto or other base map on which the soil lines wer compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor		
-	Sandy Spot Severely Eroded Spot	pot		shifting of map unit boundaries may be evident.		
s S	Slide or Slip Sodic Spot					

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Ch	Chewacla silt loam, 0 to 2 percent slopes, occasionally flooded	19.1	1.1%
Ga	Gullied land, firm materials	26.9	1.5%
GfF	Gullied land, friable materials, 10 to 35 percent slopes	46.6	2.6%
IrB	Iredell fine sandy loam, 2 to 6 percent slopes	8.8	0.5%
MeC	Manteo channery silt loam, 2 to 10 percent slopes	56.2	3.1%
MeC2	Manteo channery silt loam, 6 to 15 percent slopes, eroded	40.2	2.2%
MeD	Manteo channery silt loam, 10 to 15 percent slopes	96.4	5.3%
MeE	Manteo channery silt loam, 15 to 35 percent slopes	101.2	5.6%
MeE2	Manteo channery silt loam, 15 to 35 percent slopes, eroded	20.5	1.1%
Mv	Riverview loam, 0 to 2 percent slopes, frequently flooded	27.1	1.5%
NaB	Nason very fine sandy loam, 2 to 6 percent slopes	20.8	1.1%
NaC2	Nason very fine sandy loam, 6 to 10 percent slopes, eroded	48.5	2.7%
NaD2	Nason very fine sandy loam, 10 to 15 percent slopes, eroded	7.1	0.4%
NaE	Nason very fine sandy loam, 15 to 25 percent slopes	48.3	2.7%
NsC3	Nason silty clay loam, 2 to 10 percent slopes, severely eroded	43.0	2.4%
NsE3	Nason silty clay loam, 10 to 25 percent slopes, severely eroded	119.4	6.6%
TaB3	Tatum silty clay loam, 2 to 6 percent slopes, severely eroded	38.5	2.1%
TaC3	Tatum silty clay loam, 6 to 10 percent slopes, severely eroded	192.6	10.6%
TaD3	Tatum silty clay loam, 10 to 15 percent slopes, severely eroded	134.5	7.4%
TaF3	Tatum silty clay loam, 15 to 35 percent slopes, severely eroded	39.9	2.2%

Man Unit Symbol	Man Unit Namo	Acros in AOI	Porcent of AOI
	Map Onit Name	Actes III AOI	Fercent of Aoi
TmB	Tatum very fine sandy loam, 2 to 6 percent slopes	31.0	1.7%
TmB2	Tatum very fine sandy loam, 2 to 6 percent slopes, eroded	162.0	9.0%
TmC	Tatum very fine sandy loam, 6 to 10 percent slopes	42.3	2.3%
TmC2	Tatum very fine sandy loam, 6 to 10 percent slopes, eroded	223.0	12.3%
TmD	Tatum very fine sandy loam, 10 to 15 percent slopes	10.7	0.6%
TmD2	Tatum very fine sandy loam, 10 to 15 percent slopes, eroded	33.7	1.9%
TmE	Tatum very fine sandy loam, 15 to 25 percent slopes	23.6	1.3%
TmE2	Tatum very fine sandy loam, 15 to 25 percent slopes, eroded	24.4	1.3%
TmF	Tatum very fine sandy loam, 25 to 35 percent slopes	99.3	5.5%
W	Water	9.9	0.5%
WkD	Wilkes sandy loam, 6 to 15 percent slopes	11.6	0.6%
WkF	Wilkes sandy loam, 15 to 35 percent slopes	2.6	0.1%
Totals for Area of Interest		1,809.6	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They

generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Cherokee County, South Carolina

Ch-Chewacla silt loam, 0 to 2 percent slopes, occasionally flooded

Map Unit Setting

National map unit symbol: 2q7j6 Elevation: 280 to 1,800 feet Mean annual precipitation: 40 to 69 inches Mean annual air temperature: 50 to 66 degrees F Frost-free period: 180 to 280 days Farmland classification: Prime farmland if protected from flooding or not frequently flooded during the growing season

Map Unit Composition

Chewacla, ocassionally flooded, and similar soils: 88 percent *Minor components:* 12 percent *Estimates are based on observations, descriptions, and transects of the mapunit.*

Description of Chewacla, Ocassionally Flooded

Setting

Landform: Flood plains Landform position (two-dimensional): Toeslope Down-slope shape: Linear Across-slope shape: Linear Parent material: Alluvium

Typical profile

A - 0 to 4 inches: silt loam Bw1 - 4 to 16 inches: silty clay loam Bw2 - 16 to 32 inches: loam Bw3 - 32 to 58 inches: clay loam C - 58 to 80 inches: loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: About 6 to 24 inches
Frequency of flooding: Occasional
Frequency of ponding: None
Available water supply, 0 to 60 inches: High (about 11.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 3w Hydrologic Soil Group: B/D Ecological site: F136XY610GA - Flood plain forest, wet Hydric soil rating: No

Minor Components

Congaree

Percent of map unit: 7 percent Landform: Flood plains Landform position (three-dimensional): Tread Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

Wehadkee, ponded

Percent of map unit: 5 percent Landform: Flood plains Landform position (two-dimensional): Toeslope Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: Yes

Ga—Gullied land, firm materials

Map Unit Setting

National map unit symbol: 4fft Elevation: 1,640 to 3,280 feet Mean annual precipitation: 32 to 63 inches Mean annual air temperature: 46 to 71 degrees F Frost-free period: 160 to 204 days Farmland classification: Not prime farmland

Map Unit Composition

Udorthents and similar soils: 100 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Udorthents

Setting

Landform: Interfluves Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope Down-slope shape: Linear Across-slope shape: Convex Parent material: Clayey granite and gneiss

Typical profile

C - 0 to 79 inches: sandy clay

Properties and qualities

Slope: 10 to 35 percent Depth to restrictive feature: More than 80 inches Drainage class: Well drained Runoff class: High Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 1.98 in/hr) Depth to water table: More than 80 inches Frequency of flooding: None Frequency of ponding: None Available water supply, 0 to 60 inches: Moderate (about 8.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 7e Hydrologic Soil Group: B Hydric soil rating: Unranked

GfF—Gullied land, friable materials, 10 to 35 percent slopes

Map Unit Setting

National map unit symbol: 4ffw Elevation: 1,640 to 3,280 feet Mean annual precipitation: 32 to 63 inches Mean annual air temperature: 46 to 71 degrees F Frost-free period: 160 to 204 days Farmland classification: Not prime farmland

Map Unit Composition

Udorthents and similar soils: 100 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Udorthents

Setting

Landform: Interfluves Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope Down-slope shape: Linear Across-slope shape: Convex Parent material: Clayey granite and gneiss

Typical profile

C - 0 to 79 inches: sandy clay loam

Properties and qualities

Slope: 10 to 35 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 8.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 7e Hydrologic Soil Group: B Hydric soil rating: Unranked

IrB—Iredell fine sandy loam, 2 to 6 percent slopes

Map Unit Setting

National map unit symbol: 4ffz Elevation: 1,640 to 3,280 feet Mean annual precipitation: 32 to 63 inches Mean annual air temperature: 46 to 71 degrees F Frost-free period: 160 to 204 days Farmland classification: Farmland of statewide importance

Map Unit Composition

Iredell and similar soils: 100 percent *Estimates are based on observations, descriptions, and transects of the mapunit.*

Description of Iredell

Setting

Landform: Interfluves Landform position (two-dimensional): Summit Landform position (three-dimensional): Interfluve Down-slope shape: Convex Across-slope shape: Convex Parent material: Clayey diabase

Typical profile

Ap - 0 to 5 inches: fine sandy loam *Bt - 5 to 22 inches:* clay *Cr - 22 to 79 inches:* weathered bedrock

Properties and qualities

Slope: 2 to 6 percent
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock
Drainage class: Somewhat poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: About 12 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 3.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 2e Hydrologic Soil Group: D *Ecological site:* F136XY710NC - Basic upland woodland, expansive clay, seasonally wet and dry *Hydric soil rating:* No

MeC—Manteo channery silt loam, 2 to 10 percent slopes

Map Unit Setting

National map unit symbol: 4fh3 Elevation: 1,640 to 3,280 feet Mean annual precipitation: 32 to 63 inches Mean annual air temperature: 46 to 71 degrees F Frost-free period: 160 to 204 days Farmland classification: Not prime farmland

Map Unit Composition

Manteo and similar soils: 100 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Manteo

Setting

Landform: Interfluves Landform position (two-dimensional): Shoulder Landform position (three-dimensional): Nose slope Down-slope shape: Convex Across-slope shape: Convex Parent material: Clayey serecite schist

Typical profile

Ap - 0 to 7 inches: channery silt loam *Bw - 7 to 11 inches:* very channery silt loam *R - 11 to 79 inches:* unweathered bedrock

Properties and qualities

Slope: 2 to 10 percent
Depth to restrictive feature: 10 to 20 inches to lithic bedrock
Drainage class: Somewhat excessively drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.03 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 1.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 4e Hydrologic Soil Group: D Ecological site: F136XY880GA - Acidic high hills and isolated ridges, depth restriction, dry Hydric soil rating: No

MeC2-Manteo channery silt loam, 6 to 15 percent slopes, eroded

Map Unit Setting

National map unit symbol: 4fh4 Elevation: 1,640 to 3,280 feet Mean annual precipitation: 32 to 63 inches Mean annual air temperature: 46 to 71 degrees F Frost-free period: 160 to 204 days Farmland classification: Not prime farmland

Map Unit Composition

Manteo and similar soils: 100 percent *Estimates are based on observations, descriptions, and transects of the mapunit.*

Description of Manteo

Setting

Landform: Interfluves Landform position (two-dimensional): Shoulder Landform position (three-dimensional): Nose slope Down-slope shape: Convex Across-slope shape: Convex Parent material: Clayey serecite schist

Typical profile

Ap - 0 to 6 inches: channery silt loam *Bw - 6 to 11 inches:* very channery silt loam *R - 11 to 79 inches:* unweathered bedrock

Properties and qualities

Slope: 6 to 15 percent
Depth to restrictive feature: 10 to 20 inches to lithic bedrock
Drainage class: Somewhat excessively drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.03 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 1.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 6e Hydrologic Soil Group: D Ecological site: F136XY880GA - Acidic high hills and isolated ridges, depth restriction, dry Hydric soil rating: No

MeD-Manteo channery silt loam, 10 to 15 percent slopes

Map Unit Setting

National map unit symbol: 4fh5 Elevation: 1,640 to 3,280 feet Mean annual precipitation: 32 to 63 inches Mean annual air temperature: 46 to 71 degrees F Frost-free period: 160 to 204 days Farmland classification: Not prime farmland

Map Unit Composition

Manteo and similar soils: 100 percent *Estimates are based on observations, descriptions, and transects of the mapunit.*

Description of Manteo

Setting

Landform: Interfluves Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope Down-slope shape: Linear Across-slope shape: Convex Parent material: Clayey serecite schist

Typical profile

Ap - 0 to 7 inches: channery silt loam *Bw - 7 to 11 inches:* very channery silt loam *R - 11 to 79 inches:* unweathered bedrock

Properties and qualities

Slope: 10 to 15 percent
Depth to restrictive feature: 10 to 20 inches to lithic bedrock
Drainage class: Somewhat excessively drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.03 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 1.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 6e Hydrologic Soil Group: D Ecological site: F136XY880GA - Acidic high hills and isolated ridges, depth restriction, dry Hydric soil rating: No

MeE—Manteo channery silt loam, 15 to 35 percent slopes

Map Unit Setting

National map unit symbol: 4fh6 Elevation: 1,640 to 3,280 feet Mean annual precipitation: 32 to 63 inches Mean annual air temperature: 46 to 71 degrees F Frost-free period: 160 to 204 days Farmland classification: Not prime farmland

Map Unit Composition

Manteo and similar soils: 100 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Manteo

Setting

Landform: Interfluves Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope Down-slope shape: Linear Across-slope shape: Convex Parent material: Clayey serecite schist

Typical profile

Ap - 0 to 7 inches: channery silt loam *Bw - 7 to 11 inches:* very channery silt loam *R - 11 to 79 inches:* unweathered bedrock

Properties and qualities

Slope: 15 to 35 percent
Depth to restrictive feature: 10 to 20 inches to lithic bedrock
Drainage class: Somewhat excessively drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.03 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 1.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 7e Hydrologic Soil Group: D Ecological site: F136XY880GA - Acidic high hills and isolated ridges, depth restriction, dry Hydric soil rating: No

MeE2—Manteo channery silt loam, 15 to 35 percent slopes, eroded

Map Unit Setting

National map unit symbol: 4fh7 Elevation: 1,640 to 3,280 feet Mean annual precipitation: 32 to 63 inches Mean annual air temperature: 46 to 71 degrees F Frost-free period: 160 to 204 days Farmland classification: Not prime farmland

Map Unit Composition

Manteo and similar soils: 100 percent *Estimates are based on observations, descriptions, and transects of the mapunit.*

Description of Manteo

Setting

Landform: Interfluves Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope Down-slope shape: Linear Across-slope shape: Convex Parent material: Clayey serecite schist

Typical profile

Ap - 0 to 6 inches: channery silt loam *Bw - 6 to 11 inches:* very channery silt loam *R - 11 to 79 inches:* unweathered bedrock

Properties and qualities

Slope: 15 to 35 percent
Depth to restrictive feature: 10 to 20 inches to lithic bedrock
Drainage class: Somewhat excessively drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.03 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 1.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 7e Hydrologic Soil Group: D Ecological site: F136XY880GA - Acidic high hills and isolated ridges, depth restriction, dry Hydric soil rating: No

Mv—Riverview loam, 0 to 2 percent slopes, frequently flooded

Map Unit Setting

National map unit symbol: 2yclp Elevation: 1,390 to 2,830 feet Mean annual precipitation: 40 to 64 inches Mean annual air temperature: 57 to 64 degrees F Frost-free period: 200 to 260 days Farmland classification: Not prime farmland

Map Unit Composition

Riverview, frequently flooded, and similar soils: 85 percent *Minor components:* 15 percent *Estimates are based on observations, descriptions, and transects of the mapunit.*

Description of Riverview, Frequently Flooded

Setting

Landform: Flood plains Landform position (two-dimensional): Toeslope Down-slope shape: Concave Across-slope shape: Linear Parent material: Loamy alluvium derived from igneous and metamorphic rock

Typical profile

A - 0 to 4 inches: loam Bw1 - 4 to 20 inches: loam Bw2 - 20 to 37 inches: sandy clay loam Bw3 - 37 to 61 inches: sandy loam Bw4 - 61 to 80 inches: sandy clay loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Frequent
Frequency of ponding: None
Available water supply, 0 to 60 inches: High (about 10.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 3w Hydrologic Soil Group: B Ecological site: F136XY620GA - Flood plain forest, moist Hydric soil rating: No

Minor Components

Toccoa, frequently flooded

Percent of map unit: 10 percent Landform: Flood plains Landform position (two-dimensional): Toeslope Down-slope shape: Concave Across-slope shape: Linear Hydric soil rating: No

Chewacla, frequently flooded

Percent of map unit: 5 percent Landform: Flood plains Landform position (two-dimensional): Toeslope Down-slope shape: Concave Across-slope shape: Linear Hydric soil rating: No

NaB—Nason very fine sandy loam, 2 to 6 percent slopes

Map Unit Setting

National map unit symbol: 4fhk Elevation: 1,640 to 3,280 feet Mean annual precipitation: 32 to 63 inches Mean annual air temperature: 46 to 71 degrees F Frost-free period: 160 to 204 days Farmland classification: Farmland of statewide importance

Map Unit Composition

Nason and similar soils: 100 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Nason

Setting

Landform: Interfluves Landform position (two-dimensional): Summit Landform position (three-dimensional): Interfluve Down-slope shape: Convex Across-slope shape: Convex Parent material: Clayey sericite schist

Typical profile

A - 0 to 6 inches: very fine sandy loam Bt - 6 to 45 inches: silty clay Cr - 45 to 79 inches: weathered bedrock

Properties and qualities

Slope: 2 to 6 percent *Depth to restrictive feature:* 40 to 60 inches to paralithic bedrock Drainage class: Well drained Runoff class: Low Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr) Depth to water table: More than 80 inches Frequency of flooding: None Frequency of ponding: None Available water supply, 0 to 60 inches: Moderate (about 7.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 2e Hydrologic Soil Group: B Ecological site: F136XY820GA - Acidic upland forest, moist Hydric soil rating: No

NaC2—Nason very fine sandy loam, 6 to 10 percent slopes, eroded

Map Unit Setting

National map unit symbol: 4fhl Elevation: 1,640 to 3,280 feet Mean annual precipitation: 32 to 63 inches Mean annual air temperature: 46 to 71 degrees F Frost-free period: 160 to 204 days Farmland classification: Not prime farmland

Map Unit Composition

Nason and similar soils: 100 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Nason

Setting

Landform: Interfluves Landform position (two-dimensional): Shoulder Landform position (three-dimensional): Nose slope Down-slope shape: Convex Across-slope shape: Convex Parent material: Clayey sericite schist

Typical profile

A - 0 to 4 inches: very fine sandy loam Bt - 4 to 45 inches: silty clay Cr - 45 to 79 inches: weathered bedrock

Properties and qualities

Slope: 6 to 10 percent Depth to restrictive feature: 40 to 60 inches to paralithic bedrock Drainage class: Well drained Runoff class: Medium Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr) Depth to water table: More than 80 inches Frequency of flooding: None Frequency of ponding: None Available water supply, 0 to 60 inches: Moderate (about 7.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 3e Hydrologic Soil Group: B Ecological site: F136XY820GA - Acidic upland forest, moist Hydric soil rating: No

NaD2—Nason very fine sandy loam, 10 to 15 percent slopes, eroded

Map Unit Setting

National map unit symbol: 4fhm Elevation: 1,640 to 3,280 feet Mean annual precipitation: 32 to 63 inches Mean annual air temperature: 46 to 71 degrees F Frost-free period: 160 to 204 days Farmland classification: Not prime farmland

Map Unit Composition

Nason and similar soils: 100 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Nason

Setting

Landform: Interfluves Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope Down-slope shape: Linear Across-slope shape: Convex Parent material: Clayey sericite schist

Typical profile

A - 0 to 4 inches: very fine sandy loam Bt - 4 to 45 inches: silty clay Cr - 45 to 79 inches: weathered bedrock

Properties and qualities

Slope: 10 to 15 percent
Depth to restrictive feature: 40 to 60 inches to paralithic bedrock
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 7.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 3e Hydrologic Soil Group: B Ecological site: F136XY820GA - Acidic upland forest, moist Hydric soil rating: No

NaE—Nason very fine sandy loam, 15 to 25 percent slopes

Map Unit Setting

National map unit symbol: 4fhn Elevation: 1,640 to 3,280 feet Mean annual precipitation: 32 to 63 inches Mean annual air temperature: 46 to 71 degrees F Frost-free period: 160 to 204 days Farmland classification: Not prime farmland

Map Unit Composition

Nason and similar soils: 100 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Nason

Setting

Landform: Interfluves Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope Down-slope shape: Linear Across-slope shape: Convex Parent material: Clayey sericite schist

Typical profile

A - 0 to 6 inches: very fine sandy loam Bt - 6 to 45 inches: silty clay Cr - 45 to 79 inches: weathered bedrock

Properties and qualities

Slope: 15 to 25 percent
Depth to restrictive feature: 40 to 60 inches to paralithic bedrock
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 7.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 4e Hydrologic Soil Group: B *Ecological site:* F136XY820GA - Acidic upland forest, moist *Hydric soil rating:* No

NsC3—Nason silty clay loam, 2 to 10 percent slopes, severely eroded

Map Unit Setting

National map unit symbol: 4fhp Elevation: 1,640 to 3,280 feet Mean annual precipitation: 32 to 63 inches Mean annual air temperature: 46 to 71 degrees F Frost-free period: 160 to 204 days Farmland classification: Not prime farmland

Map Unit Composition

Nason, severely eroded, and similar soils: 100 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Nason, Severely Eroded

Setting

Landform: Interfluves Landform position (two-dimensional): Shoulder Landform position (three-dimensional): Nose slope Down-slope shape: Convex Across-slope shape: Convex Parent material: Clayey sericite schist

Typical profile

A - 0 to 4 inches: silty clay loam Bt - 4 to 45 inches: silty clay Cr - 45 to 79 inches: weathered bedrock

Properties and qualities

Slope: 2 to 10 percent
Depth to restrictive feature: 40 to 60 inches to paralithic bedrock
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 7.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 2e Hydrologic Soil Group: B Ecological site: F136XY820GA - Acidic upland forest, moist Hydric soil rating: No

NsE3—Nason silty clay loam, 10 to 25 percent slopes, severely eroded

Map Unit Setting

National map unit symbol: 4fhq Elevation: 1,640 to 3,280 feet Mean annual precipitation: 32 to 63 inches Mean annual air temperature: 46 to 71 degrees F Frost-free period: 160 to 204 days Farmland classification: Not prime farmland

Map Unit Composition

Nason, severely eroded, and similar soils: 100 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Nason, Severely Eroded

Setting

Landform: Interfluves Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope Down-slope shape: Linear Across-slope shape: Convex Parent material: Clayey sericite schist

Typical profile

A - 0 to 4 inches: silty clay loam Bt - 4 to 45 inches: silty clay Cr - 45 to 79 inches: weathered bedrock

Properties and qualities

Slope: 10 to 25 percent
Depth to restrictive feature: 40 to 60 inches to paralithic bedrock
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 7.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 4e Hydrologic Soil Group: B Ecological site: F136XY820GA - Acidic upland forest, moist Hydric soil rating: No

TaB3—Tatum silty clay loam, 2 to 6 percent slopes, severely eroded

Map Unit Setting

National map unit symbol: 4fhw Elevation: 1,640 to 3,280 feet Mean annual precipitation: 32 to 63 inches Mean annual air temperature: 46 to 71 degrees F Frost-free period: 160 to 204 days Farmland classification: Not prime farmland

Map Unit Composition

Tatum, severely eroded, and similar soils: 100 percent *Estimates are based on observations, descriptions, and transects of the mapunit.*

Description of Tatum, Severely Eroded

Setting

Landform: Interfluves Landform position (two-dimensional): Summit Landform position (three-dimensional): Interfluve Down-slope shape: Convex Across-slope shape: Convex Parent material: Clayey sericite schist

Typical profile

Ap - 0 to 4 inches: silty clay loam *Bt - 4 to 52 inches:* silty clay *Cr - 52 to 79 inches:* weathered bedrock

Properties and qualities

Slope: 2 to 6 percent
Depth to restrictive feature: 40 to 60 inches to paralithic bedrock
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 7.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 2e Hydrologic Soil Group: B Ecological site: F136XY820GA - Acidic upland forest, moist Hydric soil rating: No

TaC3—Tatum silty clay loam, 6 to 10 percent slopes, severely eroded

Map Unit Setting

National map unit symbol: 4fhx Elevation: 1,640 to 3,280 feet Mean annual precipitation: 32 to 63 inches Mean annual air temperature: 46 to 71 degrees F Frost-free period: 160 to 204 days Farmland classification: Not prime farmland

Map Unit Composition

Tatum, severely eroded, and similar soils: 100 percent *Estimates are based on observations, descriptions, and transects of the mapunit.*

Description of Tatum, Severely Eroded

Setting

Landform: Interfluves Landform position (two-dimensional): Shoulder Landform position (three-dimensional): Nose slope Down-slope shape: Convex Across-slope shape: Convex Parent material: Clayey sericite schist

Typical profile

Ap - 0 to 4 inches: silty clay loam *Bt - 4 to 52 inches:* silty clay *Cr - 52 to 79 inches:* weathered bedrock

Properties and qualities

Slope: 6 to 10 percent
Depth to restrictive feature: 40 to 60 inches to paralithic bedrock
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 7.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 3e Hydrologic Soil Group: B Ecological site: F136XY820GA - Acidic upland forest, moist Hydric soil rating: No

TaD3—Tatum silty clay loam, 10 to 15 percent slopes, severely eroded

Map Unit Setting

National map unit symbol: 4fhy Elevation: 1,640 to 3,280 feet Mean annual precipitation: 32 to 63 inches Mean annual air temperature: 46 to 71 degrees F Frost-free period: 160 to 204 days Farmland classification: Not prime farmland

Map Unit Composition

Tatum, severely eroded, and similar soils: 100 percent *Estimates are based on observations, descriptions, and transects of the mapunit.*

Description of Tatum, Severely Eroded

Setting

Landform: Interfluves Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope Down-slope shape: Linear Across-slope shape: Convex Parent material: Clayey sericite schist

Typical profile

Ap - 0 to 4 inches: silty clay loam *Bt - 4 to 52 inches:* silty clay *Cr - 52 to 79 inches:* weathered bedrock

Properties and qualities

Slope: 10 to 15 percent
Depth to restrictive feature: 40 to 60 inches to paralithic bedrock
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 7.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 3e Hydrologic Soil Group: B Ecological site: F136XY820GA - Acidic upland forest, moist Hydric soil rating: No
TaF3—Tatum silty clay loam, 15 to 35 percent slopes, severely eroded

Map Unit Setting

National map unit symbol: 4fhz Elevation: 1,640 to 3,280 feet Mean annual precipitation: 32 to 63 inches Mean annual air temperature: 46 to 71 degrees F Frost-free period: 160 to 204 days Farmland classification: Not prime farmland

Map Unit Composition

Tatum, severely eroded, and similar soils: 100 percent *Estimates are based on observations, descriptions, and transects of the mapunit.*

Description of Tatum, Severely Eroded

Setting

Landform: Interfluves Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope Down-slope shape: Linear Across-slope shape: Convex Parent material: Clayey sericite schist

Typical profile

Ap - 0 to 4 inches: silty clay loam *Bt - 4 to 52 inches:* silty clay *Cr - 52 to 79 inches:* weathered bedrock

Properties and qualities

Slope: 15 to 35 percent
Depth to restrictive feature: 40 to 60 inches to paralithic bedrock
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 7.8 inches)

Interpretive groups

TmB—Tatum very fine sandy loam, 2 to 6 percent slopes

Map Unit Setting

National map unit symbol: 4fj0 Elevation: 1,640 to 3,280 feet Mean annual precipitation: 32 to 63 inches Mean annual air temperature: 46 to 71 degrees F Frost-free period: 160 to 204 days Farmland classification: Farmland of statewide importance

Map Unit Composition

Tatum and similar soils: 100 percent *Estimates are based on observations, descriptions, and transects of the mapunit.*

Description of Tatum

Setting

Landform: Interfluves Landform position (two-dimensional): Summit Landform position (three-dimensional): Interfluve Down-slope shape: Convex Across-slope shape: Convex Parent material: Clayey sericite schist

Typical profile

Ap - 0 to 8 inches: very fine sandy loam Bt - 8 to 52 inches: silty clay Cr - 52 to 79 inches: weathered bedrock

Properties and qualities

Slope: 2 to 6 percent
Depth to restrictive feature: 40 to 60 inches to paralithic bedrock
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 8.0 inches)

Interpretive groups

TmB2—Tatum very fine sandy loam, 2 to 6 percent slopes, eroded

Map Unit Setting

National map unit symbol: 4fj1 Elevation: 1,640 to 3,280 feet Mean annual precipitation: 32 to 63 inches Mean annual air temperature: 46 to 71 degrees F Frost-free period: 160 to 204 days Farmland classification: Farmland of statewide importance

Map Unit Composition

Tatum and similar soils: 100 percent *Estimates are based on observations, descriptions, and transects of the mapunit.*

Description of Tatum

Setting

Landform: Interfluves Landform position (two-dimensional): Summit Landform position (three-dimensional): Interfluve Down-slope shape: Convex Across-slope shape: Convex Parent material: Clayey sericite schist

Typical profile

Ap - 0 to 6 inches: very fine sandy loam Bt - 6 to 52 inches: silty clay Cr - 52 to 79 inches: weathered bedrock

Properties and qualities

Slope: 2 to 6 percent
Depth to restrictive feature: 40 to 60 inches to paralithic bedrock
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 8.0 inches)

Interpretive groups

TmC—Tatum very fine sandy loam, 6 to 10 percent slopes

Map Unit Setting

National map unit symbol: 4fj2 Elevation: 1,640 to 3,280 feet Mean annual precipitation: 32 to 63 inches Mean annual air temperature: 46 to 71 degrees F Frost-free period: 160 to 204 days Farmland classification: Not prime farmland

Map Unit Composition

Tatum and similar soils: 100 percent *Estimates are based on observations, descriptions, and transects of the mapunit.*

Description of Tatum

Setting

Landform: Interfluves Landform position (two-dimensional): Shoulder Landform position (three-dimensional): Nose slope Down-slope shape: Convex Across-slope shape: Convex Parent material: Clayey sericite schist

Typical profile

Ap - 0 to 8 inches: very fine sandy loam Bt - 8 to 52 inches: silty clay Cr - 52 to 79 inches: weathered bedrock

Properties and qualities

Slope: 6 to 10 percent
Depth to restrictive feature: 40 to 60 inches to paralithic bedrock
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 8.0 inches)

Interpretive groups

TmC2—Tatum very fine sandy loam, 6 to 10 percent slopes, eroded

Map Unit Setting

National map unit symbol: 4fj3 Elevation: 1,640 to 3,280 feet Mean annual precipitation: 32 to 63 inches Mean annual air temperature: 46 to 71 degrees F Frost-free period: 160 to 204 days Farmland classification: Not prime farmland

Map Unit Composition

Tatum and similar soils: 100 percent *Estimates are based on observations, descriptions, and transects of the mapunit.*

Description of Tatum

Setting

Landform: Interfluves Landform position (two-dimensional): Shoulder Landform position (three-dimensional): Nose slope Down-slope shape: Convex Across-slope shape: Convex Parent material: Clayey sericite schist

Typical profile

Ap - 0 to 6 inches: very fine sandy loam Bt - 6 to 52 inches: silty clay Cr - 52 to 79 inches: weathered bedrock

Properties and qualities

Slope: 6 to 10 percent
Depth to restrictive feature: 40 to 60 inches to paralithic bedrock
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 8.0 inches)

Interpretive groups

TmD—Tatum very fine sandy loam, 10 to 15 percent slopes

Map Unit Setting

National map unit symbol: 4fj4 Elevation: 1,640 to 3,280 feet Mean annual precipitation: 32 to 63 inches Mean annual air temperature: 46 to 71 degrees F Frost-free period: 160 to 204 days Farmland classification: Not prime farmland

Map Unit Composition

Tatum and similar soils: 100 percent *Estimates are based on observations, descriptions, and transects of the mapunit.*

Description of Tatum

Setting

Landform: Interfluves Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope Down-slope shape: Linear Across-slope shape: Convex Parent material: Clayey sericite schist

Typical profile

Ap - 0 to 8 inches: very fine sandy loam Bt - 8 to 52 inches: silty clay Cr - 52 to 79 inches: weathered bedrock

Properties and qualities

Slope: 10 to 15 percent
Depth to restrictive feature: 40 to 60 inches to paralithic bedrock
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 8.0 inches)

Interpretive groups

TmD2—Tatum very fine sandy loam, 10 to 15 percent slopes, eroded

Map Unit Setting

National map unit symbol: 4fj5 Elevation: 1,640 to 3,280 feet Mean annual precipitation: 32 to 63 inches Mean annual air temperature: 46 to 71 degrees F Frost-free period: 160 to 204 days Farmland classification: Not prime farmland

Map Unit Composition

Tatum and similar soils: 100 percent *Estimates are based on observations, descriptions, and transects of the mapunit.*

Description of Tatum

Setting

Landform: Interfluves Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope Down-slope shape: Linear Across-slope shape: Convex Parent material: Clayey sericite schist

Typical profile

Ap - 0 to 6 inches: very fine sandy loam *Bt - 6 to 52 inches:* silty clay *Cr - 52 to 79 inches:* weathered bedrock

Properties and qualities

Slope: 10 to 15 percent
Depth to restrictive feature: 40 to 60 inches to paralithic bedrock
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 8.0 inches)

Interpretive groups

TmE—Tatum very fine sandy loam, 15 to 25 percent slopes

Map Unit Setting

National map unit symbol: 4fj6 Elevation: 1,640 to 3,280 feet Mean annual precipitation: 32 to 63 inches Mean annual air temperature: 46 to 71 degrees F Frost-free period: 160 to 204 days Farmland classification: Not prime farmland

Map Unit Composition

Tatum and similar soils: 100 percent *Estimates are based on observations, descriptions, and transects of the mapunit.*

Description of Tatum

Setting

Landform: Interfluves Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope Down-slope shape: Linear Across-slope shape: Convex Parent material: Clayey sericite schist

Typical profile

Ap - 0 to 8 inches: very fine sandy loam Bt - 8 to 52 inches: silty clay Cr - 52 to 79 inches: weathered bedrock

Properties and qualities

Slope: 15 to 25 percent
Depth to restrictive feature: 40 to 60 inches to paralithic bedrock
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 8.0 inches)

Interpretive groups

TmE2—Tatum very fine sandy loam, 15 to 25 percent slopes, eroded

Map Unit Setting

National map unit symbol: 4fj7 Elevation: 1,640 to 3,280 feet Mean annual precipitation: 32 to 63 inches Mean annual air temperature: 46 to 71 degrees F Frost-free period: 160 to 204 days Farmland classification: Not prime farmland

Map Unit Composition

Tatum and similar soils: 100 percent *Estimates are based on observations, descriptions, and transects of the mapunit.*

Description of Tatum

Setting

Landform: Interfluves Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope Down-slope shape: Linear Across-slope shape: Convex Parent material: Clayey sericite schist

Typical profile

Ap - 0 to 6 inches: very fine sandy loam Bt - 6 to 52 inches: silty clay Cr - 52 to 79 inches: weathered bedrock

Properties and qualities

Slope: 15 to 25 percent
Depth to restrictive feature: 40 to 60 inches to paralithic bedrock
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 8.0 inches)

Interpretive groups

TmF—Tatum very fine sandy loam, 25 to 35 percent slopes

Map Unit Setting

National map unit symbol: 4fj8 Elevation: 1,640 to 3,280 feet Mean annual precipitation: 32 to 63 inches Mean annual air temperature: 46 to 71 degrees F Frost-free period: 160 to 204 days Farmland classification: Not prime farmland

Map Unit Composition

Tatum and similar soils: 100 percent *Estimates are based on observations, descriptions, and transects of the mapunit.*

Description of Tatum

Setting

Landform: Interfluves Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope Down-slope shape: Linear Across-slope shape: Convex Parent material: Clayey sericite schist

Typical profile

Ap - 0 to 8 inches: very fine sandy loam Bt - 8 to 52 inches: silty clay Cr - 52 to 79 inches: weathered bedrock

Properties and qualities

Slope: 25 to 35 percent
Depth to restrictive feature: 40 to 60 inches to paralithic bedrock
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 8.0 inches)

Interpretive groups

W-Water

Map Unit Setting

National map unit symbol: 4fjf Elevation: 1,640 to 3,280 feet Farmland classification: Not prime farmland

Map Unit Composition

Water: 100 percent *Estimates are based on observations, descriptions, and transects of the mapunit.*

Description of Water

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 8 Hydric soil rating: Unranked

WkD—Wilkes sandy loam, 6 to 15 percent slopes

Map Unit Setting

National map unit symbol: 4fjl Elevation: 1,640 to 3,280 feet Mean annual precipitation: 32 to 63 inches Mean annual air temperature: 46 to 71 degrees F Frost-free period: 160 to 204 days Farmland classification: Not prime farmland

Map Unit Composition

Wilkes and similar soils: 100 percent *Estimates are based on observations, descriptions, and transects of the mapunit.*

Description of Wilkes

Setting

Landform: Interfluves Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope Down-slope shape: Linear Across-slope shape: Convex Parent material: Clayey intermediate and mafic igneous rocks

Typical profile

Ap - 0 to 6 inches: sandy loam *Bt - 6 to 13 inches:* clay

Cr - 13 to 79 inches: weathered bedrock

Properties and qualities

Slope: 6 to 15 percent
Depth to restrictive feature: 10 to 20 inches to paralithic bedrock
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.01 to 0.28 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 2.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 6e Hydrologic Soil Group: D Ecological site: F136XY730SC - Basic upland forest, depth restriction, dry Hydric soil rating: No

WkF—Wilkes sandy loam, 15 to 35 percent slopes

Map Unit Setting

National map unit symbol: 4fjp Elevation: 1,640 to 3,280 feet Mean annual precipitation: 32 to 63 inches Mean annual air temperature: 46 to 71 degrees F Frost-free period: 160 to 204 days Farmland classification: Not prime farmland

Map Unit Composition

Wilkes and similar soils: 100 percent *Estimates are based on observations, descriptions, and transects of the mapunit.*

Description of Wilkes

Setting

Landform: Interfluves Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope Down-slope shape: Linear Across-slope shape: Convex Parent material: Clayey intermediate and mafic igneous rocks

Typical profile

Ap - 0 to 6 inches: sandy loam *Bt - 6 to 13 inches:* clay *Cr - 13 to 79 inches:* weathered bedrock

Properties and qualities

Slope: 15 to 35 percent *Depth to restrictive feature:* 10 to 20 inches to paralithic bedrock *Drainage class:* Well drained Runoff class: High

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.01 to 0.28 in/hr) Depth to water table: More than 80 inches Frequency of flooding: None Frequency of ponding: None Available water supply, 0 to 60 inches: Very low (about 2.0 inches)

Interpretive groups

Appendix F

Biological Resources



United States Department of the Interior

FISH AND WILDLIFE SERVICE South Carolina Ecological Services 176 Croghan Spur Road, Suite 200 Charleston, SC 29407-7558 Phone: (843) 727-4707 Fax: (843) 727-4218



In Reply Refer To: Project Code: 2024-0059541 Project Name: York County Natural Gas Authoirty March 07, 2024

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 IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through IPaC 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: https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see <u>Migratory Bird Permit | What We Do | U.S. Fish & Wildlife</u> <u>Service (fws.gov)</u>.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see https://www.fws.gov/library/collections/threats-birds.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit <u>https://www.fws.gov/partner/council-conservation-migratory-birds</u>.

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 Code 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

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:

South Carolina Ecological Services

176 Croghan Spur Road, Suite 200 Charleston, SC 29407-7558 (843) 727-4707

PROJECT SUMMARY

Project Code:	2024-0059541
Project Name:	York County Natural Gas Authoirty
Project Type:	Natural Gas Distribution
Project Description:	The project includes approximately 14 miles of natural gas pipeline
	replacement.

Project Location:

The approximate location of the project can be viewed in Google Maps: <u>https://www.google.com/maps/@35.1017829,-81.54129365359135,14z</u>



Counties: Cherokee County, South Carolina

ENDANGERED SPECIES ACT SPECIES

There is a total of 3 threatened, endangered, or candidate species on this species list.

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

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

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

1. <u>NOAA Fisheries</u>, 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
Tricolored Bat <i>Perimyotis subflavus</i> No critical habitat has been designated for this species. Species profile: <u>https://ecos.fws.gov/ecp/species/10515</u>	Proposed Endangered
INSECTS NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: <u>https://ecos.fws.gov/ecp/species/9743</u>	Candidate
FLOWERING PLANTS NAME	STATUS
Dwarf-flowered Heartleaf <i>Hexastylis naniflora</i> No critical habitat has been designated for this species. Species profile: <u>https://ecos.fws.gov/ecp/species/2458</u>	Threatened

CRITICAL HABITATS

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

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

IPAC USER CONTACT INFORMATION

Agency: Department of Transportation Name: Elizabeth Williams Address: 55 Broadway City: Cambridge State: MA

- Zip: 02142
- Email elizabeth.williams1@dot.gov
- Phone: 8572599218



Species Directory

All Species

ESA Threatened & Endangered

Marine Mammals

Sustainable Seafood

ESA Threatened & Endangered

NOAA Fisheries has jurisdiction over 163 endangered and threatened marine species (79 endangered; 84 threatened), including <u>65 foreign species</u> (39 endangered; 26 threatened).

Additional species are currently under review or have been proposed for Endangered Species Act listing: <u>2 petitioned species</u> awaiting a 90-day finding, <u>13 candidate species</u> for ESA listing, <u>3 proposed species</u> for ESA listing.

In the table below, the Region column shows if the species can be found in a NOAA Fisheries region. If the species occurs only in areas beyond the U.S. exclusive economic zone and territorial waters, the region is labeled as Foreign.

Species Name	
Species Category	
All	~
Protected Status	
All	~
Region	
AII	~

Display

All 🗸	Display All
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Species Name ▼	Species Category	Listed Entity	Protected Status	Year Listed	Recovery I Plan	Critical Habitat	Region
Atlantic Sturgeon Acipenser oxyrinchus oxyrinchus	SPECIES CATEGORY Fish - Protected	Carolina DPS	ESA Endangered	2012	Under Developmen	Final t	New England/Mid- Atlantic Southeast
	Fish	Chesapeake Bay DPS	ESA Endangered	2012	Under Developmen	Final t	New England/Mid- Atlantic Southeast
		New York Bight DPS	ESA Endangered	2012	Under Developmen	Final t	New England/Mid- Atlantic Southeast
		South Atlantic DPS	ESA Endangered	2012	Under Developmen	Final t	New England/Mid- Atlantic Southeast
		Gulf of Maine DPS	ESA Threatened	2012	Under Developmen	Final t	New England/Mid- Atlantic Southeast
Blue Whale Balaenoptera musculus	SPECIES CATEGORY Whales	Species	ESA Endangered	1970 I	Final		Alaska New England/Mid- Atlantic Pacific Islands Southeast West Coast
Boulder Star Coral Orbicella franksi	SPECIES CATEGORY Invertebrates - Corals	Species	ESA 2 Threatened	2014	Under Development	Proposec	Southeast
Elkhorn Coral Acropora palmata	SPECIES CATEGORY Invertebrates	Species	ESA Threatened	2006	Final	Final	Southeast

Species	Species	Listed	Protected	Year	Recovery	Critical	
Name ▼ False Killer	Category SPECIES	Entity Main	Status ESA	Listed 2012	Plan Final	Habitat Final	Region Pacific Islands
Whale Pseudorca crassidens	CATEGORY Whales SPECIES CATEGORY Dolphins & Porpoises	Hawaiian Islands Insular DPS	Endangered				
Fin Whale Balaenoptera physalus	SPECIES CATEGORY Whales	Species	ESA Endangered	1970	Final		Alaska New England/Mid- Atlantic Pacific Islands Southeast West Coast
Giant Manta Ray Manta birostris	SPECIES CATEGORY Fish - Protected Fish	Species	ESA Threatened	2018	Under Development	Not Prudent	New England/Mid- Atlantic Pacific Islands Southeast
Green Turtle Chelonia mydas	SPECIES CATEGORY Sea Turtles	Central South Pacific DPS	ESA Endangered	2016	Final		Pacific Islands
		Central West Pacific DPS	ESA Endangered	2016	Final		Pacific Islands
		Mediterranear DPS	n ESA Endangered - Foreign	2016 1			Foreign
		Central North Pacific DPS	ESA Threatened	2016	Final		Pacific Islands
		East Pacific DPS	ESA Threatened	2016	Final		West Coast
		North Atlantic DPS	ESA Threatened	2016	Final	Final	New England/Mid- Atlantic Southeast
		South Atlantic DPS	ESA Threatened	2016	Final		Southeast
		East Indian- West Pacific	ESA Threatened	2016			Foreign

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Species Name ▼	Species Category	Listed Entity	Protected Status	Year Listed	Recovery Plan	Critical Habitat	Region
	oalegory	DPS	- Foreign	LIStou	1 ian	nabitat	Region
		North Indian DPS	ESA Threatened - Foreign	2016			Foreign
		Southwest Indian DPS	ESA Threatened - Foreign	2016			Foreign
		Southwest Pacific DPS	ESA Threatened - Foreign	2016			Foreign
Gulf Sturgeon Acipenser oxyrinchus desotoi	SPECIES CATEGORY Fish - Protected Fish	Species	ESA Threatened	1991	Final	Final	Southeast
Hawksbill Turtle Eretmochelys imbricata	SPECIES CATEGORY Sea Turtles	Species	ESA Endangerec	1970 I	Final	Final	Pacific Islands Southeast
Humpback Whale	SPECIES CATEGORY Whales	Central America DPS	ESA Endangered	2016 I	Final	Final	West Coast
Megaptera novaeangliae		Western North Pacific DPS	ESA Endangered	2016 I	Final	Final	Alaska
		Arabian Sea DPS	ESA Endangerec - Foreign	2016 I	Final		Foreign
		Cape Verde Islands/North Africa DPS	ESA west Endang - Foreig	20 ² ered n	16 Final		Foreign
		Mexico DPS	ESA Threatened	2016	Final	Final	Alaska West Coast
Kemp's Ridley Turtle Lepidochelys kempii	SPECIES CATEGORY Sea Turtles	Species	ESA Endangered	1970 I	Final		New England/Mid- Atlantic Southeast

Species Name ▼	Species Category	Listed Entity	Protected Status	Year Listed	Recovery Plan	Critical Habitat	Region
Killer Whale Orcinus orca Also Known As Orca	SPECIES CATEGORY Whales SPECIES CATEGORY Dolphins & Porpoises	Southern Resident DPS	ESA Endangered	2005	Final	Final	Alaska West Coast
Leatherback Turtle Dermochelys coriacea	SPECIES CATEGORY Sea Turtles	Species	ESA Endangered	1970	Final (Final (U.S. Caribbean) Final (U.S. West Coast)	New England/Mid- Atlantic Pacific Islands Southeast West Coast
Lobed Star Coral Orbicella annularis	SPECIES CATEGORY Invertebrates - Corals	Species	ESA 2 Threatened	2014	Under Developmen	Proposec t	Southeast
Loggerhead Turtle	SPECIES CATEGORY Sea Turtles	North Pacific Ocean DPS	ESA Endangered	2011	Final	No	Pacific Islands West Coast
Caretta caretta		Mediterranear Sea DPS	n ESA Endangered - Foreign	2011 1			Foreign
		Northeast Atlantic Ocean DPS	ESA Endangered - Foreign	2011			Foreign
		North Indian Ocean DPS	ESA Endangered - Foreign	2011			Foreign
		South Pacific Ocean DPS	ESA Endangered - Foreign	2011			Foreign
		Northwest Atlantic Ocean DPS	ESA Threatened	2011	Final	Final	New England/Mid- Atlantic Southeast

Species Name ▼	Species Category	Listed Entity	Protected Status	Year Listed	Recovery I Plan	Critical Habitat	Region
		South Atlantic Ocean DPS	ESA Threatened - Foreign	2011			Foreign
		Southeast Indo-Pacific Ocean DPS	ESA Threatened - Foreign	2011			Foreign
		Southwest Indian Ocean DPS	ESA Threatened - Foreign	2011			Foreign
Mountainous Star Coral Orbicella faveolata	SPECIES CATEGORY Invertebrates - Corals	Species	ESA Threatened	2014	Under Development	Proposed	d Southeast
Nassau Grouper Epinephelus striatus	SPECIES CATEGORY Fish - Protected Fish - Reef Fish	Species	ESA Threatened	2016	Under Development	Proposed	d Southeast
North Atlantic Right Whale Eubalaena glacialis	SPECIES CATEGORY Whales	Species	ESA Endangered	2008; d 1970 (origin	Final al)	Final	New England/Mid- Atlantic Southeast
Oceanic Whitetip Shark Carcharhinus Iongimanus	SPECIES CATEGORY Fish - Highly Migratory Fish - Protected Fish - Sharks	Species	ESA Threatened	2018	Under Developmen	Not t Prudent	New England/Mid- Atlantic Pacific Islands Southeast West Coast
Olive Ridley Turtle Lepidochelys olivacea	SPECIES CATEGORY Sea Turtles	Mexico's Pacific coast breeding populations	ESA Endangered	1978 d	Final		West Coast

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Species Directory - ESA Threatened & Endangered | NOAA Fisheries

Species Name ▼	Species Category	Listed Entity	Protected Status	Year Listee	Recovery d Plan	Critical Habitat	Region
		All other populations	ESA Threatened				Pacific Islands Southeast West Coast
Pillar Coral Dendrogyra cylindrus	SPECIES CATEGORY Invertebrates - Corals	Species	ESA 2 Threatened	2014	Under Development	Proposed	d Southeast
Rice's Whale Balaenoptera ricei	SPECIES CATEGORY Whales	Species	ESA Endangered	2019			Southeast
Rough Cactus Coral Mycetophyllia ferox	SPECIES CATEGORY Invertebrates - Corals	Species	ESA 2 Threatened	2014	Under Development	Proposed	d Southeast
Scalloped Hammerhead Shark Sphyrna lewini	SPECIES CATEGORY Fish - Highly Migratory Fish - Protected Fish - Sharks	Eastern Pacific DPS	ESA Endangered	2014		No	West Coast
		Eastern Atlantic DPS	ESA Endangered - Foreign	2014			Foreign
		Central & Southwest Atlantic DPS	ESA Threatened	2014		No	Southeast
		Indo-West Pacific DPS	ESA Threatened	2014		No	Pacific Islands
Sei Whale Balaenoptera borealis	SPECIES CATEGORY Whales	Species	ESA Endangered	1970	Final		Alaska New England/Mid- Atlantic Pacific Islands Southeast West Coast
Shortnose Sturgeon Acipenser brevirostrum	SPECIES CATEGORY Fish - Protected Fish	Species	ESA Endangered	1967	Final		New England/Mid- Atlantic Southeast

https://www.fisheries.noaa.gov/species-directory/threatened-endangered?oq=&field_species_categories_vocab=All&field_species_details_status=All&... 7/8

Species Name ▼	Species Category	Listed Entity	Protected Status	Year Listed	Recovery Plan	Critical Habitat	Region
Smalltooth Sawfish Pristis pectinata	SPECIES CATEGORY	U.S. Population	ESA Endangered	2003	Final	Final	Southeast
	Fish - Protected Fish	Non-U.S. Population	ESA Endangered - Foreign	2014			Foreign
Sperm Whale <i>Physeter</i> <i>macrocephalus</i>	SPECIES CATEGORY Whales	Species	ESA Endangered	1970	Final		Alaska New England/Mid- Atlantic Pacific Islands Southeast West Coast
Staghorn Coral Acropora cervicornis	SPECIES CATEGORY Invertebrates - Corals	Species	ESA Threatened	2006	Final	Final	Southeast

Species Name	<u>G-Rank / S-Rank</u>	Federal Status	State Status	SWAP Priority
Abdra aprica; Flatrock Draba, Open- ground Whitlow-grass, Sun-loving Draba, Granite Whitlow-wort	G3 / S1	Not Applicable	Not Applicable	High
Agalinis decemloba; Sandplain Agalinis View Statewide Distribution	G3G4 / S1	ARS: At-Risk Species	Not Applicable	Not Applicable
Allium cernuum; Nodding Onion View Statewide Distribution	G5 / S2	Not Applicable	Not Applicable	Not Applicable
Ameiurus brunneus; Snail Bullhead	G4 / S3S4	Not Applicable	Not Applicable	Moderate
Ameiurus catus; White Catfish View Statewide Distribution	G5 / S4	Not Applicable	Not Applicable	Moderate
Ameiurus platycephalus; Flat Bullhead View Statewide Distribution	G4 / S4	Not Applicable	Not Applicable	Moderate
Ammodramus savannarum; Grasshopper Sparrow View Statewide Distribution	G5 / S3	MBTA: Migratory Bird Treaty Act	Not Applicable	Highest
Borodinia missouriensis; Missouri Rockcress View Statewide Distribution	G5 / S1	Not Applicable	Not Applicable	Moderate
Cambarus carolinus; Red Burrowing Crayfish View Statewide Distribution	G4 / S2	Not Applicable	Not Applicable	Highest
Campostoma anomalum michauxi; Central Stoneroller	G5TU / S3S4	Not Applicable	Not Applicable	Moderate

View Statewide Distribution				
Carex impressinervia; Ravine Sedge	G2 / S1	ARS: At-Risk Species	Not Applicable	Not Applicable
View Statewide Distribution				
Carex scabrata; Eastern Rough				
Sedge	G5 / S2	Not Applicable	Not Applicable	Not Applicable
View Statewide Distribution				
Carpiodes sp. cf. cyprinus; Carolina				
Quillback	G5 / S4	Not Applicable	Not Applicable	High
View Statewide Distribution				
Clinostomus funduloides; Rosyside				
Dace	G5 / S4	Not Applicable	Not Applicable	Moderate
View Statewide Distribution				
Cyperus granitophilus; Granite	000404040			
Flatsedge	G3G4Q / S1?	Not Applicable	Not Applicable	Moderate
View Statewide Distribution				
Cyprinella chloristia; Greenfin	C1 / S1	Not Appliaghla	Not Applicable	Madarata
Sinner View Ctetewide Distribution	G4 / 54	Not Applicable	Not Applicable	Moderate
<u>view Statewide Distribution</u>				
Cyprinella labrosa; Thicklip Chub	G4 / S3	Not Applicable	Not Applicable	Moderate
View Statewide Distribution				
Cyprinella pyrrhomelas; Fieryblack				
Shiner	G4 / S3S4	Not Applicable	Not Applicable	Moderate
View Statewide Distribution				
Cyprinella zanema; Santee Chub	G4 / S3	Not Applicable	Not Applicable	High
View Statewide Distribution				
Elimia catenaria; Gravel Elimia	GA / 9495	Not Applicable	Not Applicable	Not Applicable
View Statewide Distribution	64 / 5455			
Elliptio angustata; Carolina Lance	G4 / S3	Not Applicable	Not Applicable	Moderate
View Statewide Distribution				

Eptesicus fuscus; Big Brown Bat	G5 / S4	Not Applicable	Not Applicable	Highest
Etheostoma brevispinum; Carolina Fantail Darter	G4 / S2	Not Applicable	Not Applicable	High
View Statewide Distribution				
Etheostoma thalassinum; Seagreen Darter	G4 / S3S4	Not Applicable	Not Applicable	High
View Statewide Distribution				
Falco sparverius; American Kestrel	G5 / S3	MBTA: Migratory Bird Treaty Act	Not Applicable	Highest
View Statewide Distribution				
Helianthus laevigatus; Shale-barren Sunflower, Smooth Sunflower	G4 / S2	Not Applicable	Not Applicable	Not Applicable
Hemidactylium scutatum ⁻ Four-toed				
Salamander	G5 / S3	Not Applicable	Not Applicable	High
View Statewide Distribution				Ŭ
Hexastylis naniflora; Dwarf-flower Heartleaf	G3 / S3	LT: Federally Threatened	Not Applicable	Highest
View Statewide Distribution				
Hybopsis hypsinotus; Highback Chub	G4 / S4	Not Applicable	Not Applicable	Moderate
View Statewide Distribution				
Hydrangea cinerea; Ashy Hydrangea, Southern Wild Hydrangea	G5 / S1	Not Applicable	Not Applicable	Moderate
View Statewide Distribution				
Ipomopsis rubra; Standing-cypress, Spanish-larkspur	G4G5 / S2	Not Applicable	Not Applicable	Not Applicable
View Statewide Distribution				

Juncus georgianus; Georgia Rush, Flatrock Rush View Statewide Distribution	G3 / S2	Not Applicable	Not Applicable	Not Applicable
Lanius Iudovicianus; Loggerhead Shrike View Statewide Distribution	G4 / S3	MBTA: Migratory Bird Treaty Act	Not Applicable	Highest
Lasiurus borealis; Eastern Red Bat	G3G4 / S3	Not Applicable	Not Applicable	Highest
Menispermum canadense; Moonseed, Yellow Parilla View Statewide Distribution	G5 / S3?	Not Applicable	Not Applicable	Not Applicable
Micropterus sp. 1 (Savannah); Bartram's Bass View Statewide Distribution	GNR / S1	Not Applicable	Not Applicable	Highest
Moxostoma collapsum; Notchlip Redhorse View Statewide Distribution	G5 / S4	Not Applicable	Not Applicable	Moderate
Moxostoma pappillosum; V-lip Redhorse View Statewide Distribution	G4 / S3	Not Applicable	Not Applicable	Moderate
Mustela nivalis; Least Weasel View Statewide Distribution	G5 / S2	Not Applicable	Not Applicable	Not Applicable
Myotis austroriparius; Southeastern Bat View Statewide Distribution	G4 / S3	Not Applicable	Not Applicable	Highest
Neogale frenata; Long-tailed Weasel View Statewide Distribution	G5 / S2	Not Applicable	Not Applicable	Not Applicable

Notropis procne; Swallowtail Shiner	G5 / S3S4	Not Applicable	Not Applicable	Moderate
Notropis scepticus; Sandbar Shiner	G4 / S3S4	Not Applicable	Not Applicable	Moderate
View Statewide Distribution				
Ophioglossum pycnostichum; Southern Adder's- tongue	G5 / S2	Not Applicable	Not Applicable	Not Applicable
view Statewide Distribution				
Percina crassa; Piedmont Darter	G4 / S3S4	Not Applicable	Not Applicable	High
View Statewide Distribution				5
Perimyotis subflavus; Tricolored		LEP: Federally		
Bat	G3G4 / S3	Endangered	Not Applicable	Highest
View Statewide Distribution		(Proposed)		
Peucaea aestivalis; Bachman's	G3 / S3	MBTA: Migratory Bird Treaty Act	Not Applicable	Highest
Sparrow				
View Statewide Distribution		-		
Pseudemys concinna; River Cooter	G5 / S4	Not Applicable	R: Regulated	Moderate
View Statewide Distribution				
Pyganodon cataracta; Eastern Floater	G5 / S4	Not Applicable	Not Applicable	Not Applicable
View Statewide Distribution				
Rhododendron eastmanii; May White Azalea, Eastman's Azalea	G3 / S2	Not Applicable	Not Applicable	High
View Statewide Distribution			••	
Symphyotrichum				
georgianum; Georgia Aster	G3 / S3S4	Not Applicable	Not Applicable	Highest
View Statewide Distribution				
Terrapene carolina; Eastern Box Turtle	G5 / S3	Not Applicable	R: Regulated	Moderate

		-	-	-
View Statewide Distribution				
Uniomerus carolinianus; Eastern Pondhorn	G4 / S4	Not Applicable	Not Applicable	Not Applicable
View Statewide Distribution				
Villosa delumbis; Eastern Creekshell	G4 / S3	Not Applicable	Not Applicable	Moderate
View Statewide Distribution				
Viola eriocarpa; Smooth Yellow Forest Violet	G5T5 / S2	Not Applicable	Not Applicable	Not Applicable
View Statewide Distribution				
Xerophyllum asphodeloides; Turkeybeard, Beargrass, Mountain-asphodel	G4 / S2	Not Applicable	Not Applicable	Not Applicable
View Statewide Distribution				

Appendix G

Cultural Resources



U.S. Department of Transportation **Pipeline and Hazardous Materials Safety** Administration

1200 New Jersey Avenue, SE Washington, DC 20590

March 27, 2024

W. Eric Emerson, Ph.D. Agency Director, State Historic Preservation Officer South Carolina Historic Preservation Office 8301 Parklane Road Columbia, SC 29223

Section 106 Consultation: PHMSA Pipeline Replacement Project in Blacksburg, South Carolina Grant Recipient: York County Natural Gas Authority Project Location: City of Blacksburg, Cherokee County, South Carolina

Dear Dr. Emerson:

The Pipeline and Hazardous Materials Safety Administration (PHMSA) provides funds authorized under the Natural Gas Distribution Infrastructure Safety and Modernization Grant Program. PHMSA proposes to provide funds to the York County Natural Gas Authority (Grant Recipient) for the replacement of pipeline (Undertaking). PHMSA is initiating consultation for the above referenced Undertaking in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended, and the associated implementing regulations, 36 CFR Part 800 (Section 106).

Project Description/Background

The Undertaking involves the replacement of approximately 14.7 miles of 1-inch to 4-inch steel and plastic pipelines with 2-inch to 6 5/8-inch steel and plastic pipelines. The initial gas pipeline installation began in the 1950s, and the Grant Recipient took ownership of the natural gas facilities in 2010. All work will be located within the existing rights-of-way (ROW) and will not require new ROW or easements. Project location maps are enclosed in **Attachment A**. Photographs showing the overall character of the project areas are included in **Attachment B**.

Replacement pipeline would be installed by open trenching and directional drilling construction methods. The typical cover and depth of the existing pipe in Blacksburg is usually between 2 to 3 feet; however, in some instances the pipe is as shallow as 12 to 18 inches. Ground disturbance for the replacement pipeline is expected to be no greater than 3 to 4 feet. The width of disturbance will vary from 18 to 24 inches for smaller diameter pipe and from 24 to 36 inches for larger diameter pipe. The replacement pipe would not be installed in the exact same location as the existing pipe. In areas where there are pipe tie-ins, the disturbed area for excavation may be up to 4 feet in length and 4 feet in width.

If the replacement pipe is proposed to remain on the same side of the road, it would most likely be offset anywhere between three to five feet. If the replacement pipeline is proposed for the opposite side of the road, it would be installed at the back of the road ROW. The existing pipeline would be abandoned in place. Abandonment of the existing pipeline (versus excavation and removal) would minimize ground disturbance and facilitate the replacement process in a more efficient manner.
All staging areas would be in constant movement throughout the construction process as the Grant Recipient would be using the road ROW to lay, fuse/weld, inspect, and bury the replacement pipe. Once the pipe is in the ground, the staging area would move onward to another location.

Area of Potential Effects (APE)

Pursuant to 36 CFR 800.4(a)(1), the Area of Potential Effects (APE) is defined as the geographic area(s) within which the Undertaking may directly or indirectly affect historic resources. Due to the scale and nature of the Undertaking, which is limited to the replacement of pipelines within existing ROW, PHMSA has delineated the APE for this Undertaking to encompass the existing ROW in the areas proposed for replacement, which includes the limits of disturbance. The APE extends to the depth of proposed ground disturbance of up to 4 feet below grade. The Undertaking does not have the potential to cause visual or audible effects after the completion of construction. The existing ROW varies widely throughout the project area and ranges from 40-feet to 60-feet in width; it includes various roads, sidewalk, utilities (above and below ground), roadside ditches, curb & gutter, culverts, driveways, and mailboxes. The APE is shown on the maps in **Attachment A**.

Identification and Evaluation

To identify historic properties in the APE, individuals who meet the Secretary of the Interior's (SOI) Professional Qualification Standards reviewed available information on previously identified historic properties in the APE, including the National Register of Historic Places (NRHP) database and data gathered from the South Carolina ArchSite (SC ArchSite) database. SOI-qualified individuals also conducted research to determine if there are any previously unidentified properties within the APE that are 45 years of age or older and may be eligible for the NRHP and assess the archaeological sensitivity of the APE.

Historic Architecture

A search of the NRHP database and the SC ArchSite database found no NRHP-listed or NRHP-eligible above-ground resources within the APE. Due to the scale and nature of the Undertaking, which is limited to the replacement of pipelines within the existing ROW, the identification effort for additional above-ground resources focused on identifying properties that are susceptible to the effects of this work and could experience diminished integrity as a result of the Undertaking. The pipeline replacement work will not result in physical effects to any above-ground resources and will not have any lasting visual or audible effects. A review of the APE found no potentially significant above-ground resources that have the potential to be affected by the Undertaking.

Archaeology

SC ArchSite was examined to identify the presence of previously recorded archaeological sites and archaeological surveys within the APE. As a result of background research, one previous archaeological site and no previously conducted archaeological surveys were identified. Site 38CK0134 is a pre-contact site located in the western end of the APE and is recommended not eligible for listing in the NRHP. A quarter of a mile search radius was also examined for previously recorded archaeological sites and surveys but no additional archaeological sites or surveys were identified. The ArchSite database was reviewed for any NRHP-listed historic properties that may contain archaeological significance within one quarter of a mile of the APE. No historic properties were identified.

An examination of Web Soil Survey data within the APE reveals 22 soil types (Table 1). Well drained and moderately well drained soils can be indicative of human habitation during both the pre-contact and historic periods. Well drained soils within the APE include Gullied land, Iredell, Riverview, Nason, Tatum, and Wilkes types. Typically slopes greater than 15 percent are not suitable for human occupation, and soil types within the APE vary from 0 to 35 percent slope. The APE is comprised of nearly all well drained soils.

Additionally, the APE is proximal to the Broad River in the west and several smaller waterways, such as Blackrock Branch, Dolittle Creek, and Canoe Creek, throughout. Proximity to major and minor waterways generally indicates a suitable environment for both precontact and historic human activity.

Map Unit Name	Drainage Class	Slope	Percent of APE
Chewacla silt loam	Somewhat poorly drained	0-2 percent	<1
Gullied land, firm materials	Well drained	10-35 percent	3.8
Iredell fine sandy loam	Somewhat poorly drained	2-6 percent	1.1
Manteo channery silt loam	Somewhat excessively drained	2-10 percent	3.6
Manteo channery silt loam	Somewhat excessively drained	10-15 percent	4.5
Manteo channery silt loam	Somewhat excessively drained	15-35 percent	3.1
Riverview loam	Well drained	0-2 percent	<1
Nason very fine sandy loam	Well drained	2-6 percent	1.4
Nason very fine sandy loam	Well drained	6-10 percent	2.2
Nason very fine sandy loam	Well drained	10-15 percent	<1
Nason very fine sandy loam	Well drained	15-25 percent	<1
Nason silt clay loam	Well drained	2-10 percent	2.7
Nason silt clay loam	Well drained	10-25 percent	5.6
Tatum silt clay loam	Well drained	2-6 percent	4.2
Tatum silt clay loam	Well drained	6-10 percent	16.8
Tatum silt clay loam	Well drained	10-15 percent	6.5
Tatum silt clay loam	Well drained	15-25 percent	<1
Tatum very fine sandy loam	Well drained	2-6 percent	18
Tatum very fine sandy loam	Well drained	6-10 percent	23
Tatum very fine sandy loam	Well drained	10-15 percent	<1
Tatum very fine sandy loam	Well drained	25-35 percent	<1
Wilkes sandy loam	Well drained	6-15 percent	<1

Table 1. Soil Types within the APE

Historic topographic maps and the Find a Grave online database were examined to identify known historicage cemeteries within the APE. Two cemeteries, Mountain View Cemetery and Galilee Church Cemetery may be located within or immediately adjacent to the APE. Mountain View Cemetery is located in the northeastern portion of the APE along West Cherokee Street and Mountain View Drive. Modern aerial imagery shows the APE may potentially overlap an area of the cemetery containing burials in the area of West Cherokee Street and Park Street. Find a Grave notes the cemetery contains more than 1,800 burials and the oldest dates to 1879. The Galilee Church Cemetery was identified on the Find a Grave database and does not appear on the historic topographic maps. Aerial imagery shows several burial markers east of the church parking lot and south of West Cherokee Street, though the extent of the full cemetery is unknown. According to Find a Grave, the cemetery contains 45 burials, with the oldest dating to 1922. While these two cemeteries are noted in records, it is possible that other unknown cemeteries may exist within the APE. Find a Grave notes that several other historic-age cemeteries are located in Blacksburg though their precise coordinates are not provided.

Historic topographic maps from 1909 and 1971 were examined for archaeological resource potential within the APE. The presence of structures on historic maps and aerial photography may indicate the likelihood of historic period archaeological deposits associated with the occupation of these structures. The APE is comprised of the western half of the historic-age town center of Blacksburg and more rural areas between Blacksburg and the Broad River to the west. The historic topographic map from 1909 shows the town center of Blacksburg as well developed at the turn of the century. Building density is greater in this part of the APE than in the remainder of the APE to the west, which is more rural. Some churches appear on the map. Also, in 1909, most roads aligning with the current APE exist. By 1971, the building density increased in the more rural western portion of the APE, while development also expands in the downtown Blacksburg area. The earliest historic aerial imagery available for the area is 1971, which shows similar patterns of development and land use to the 1971 topographic map. Many parts of the western, more rural portions of the APE show clear-cut agricultural fields and wooded areas. Some large farm plots are evident as well as other smaller residential parcels. The downtown Blacksburg area in the eastern end of the APE shows moderate residential development and several larger buildings such as schools and churches.

Background research revealed one archaeological site within the APE, and no other archaeological sites within a quarter of a mile search radius. No archaeological surveys are recorded within the APE or within one quarter of a mile of the APE. Two historic-age cemeteries are located either within or immediately adjacent to the APE. Examination of soils within the APE indicates suitable conditions for human occupation from the pre-contact period to the present. While most of the APE has not been surveyed for archaeological materials, disturbance caused by road construction and underground utility installation has likely compromised the integrity of the soil that may contain archaeological deposits. As the scope of work includes limited disturbance in the previously disturbed existing ROW, an archaeological survey is not recommended at this time. Concerning the historic-age cemeteries within or adjacent to the APE, it is strongly recommended that all cemeteries be avoided, and project plans ensure no ground disturbance takes place within cemetery boundaries. Any ground-disturbing activities are subject to South Carolina burial laws (South Carolina Code 27-43-10, Removal of Abandoned Cemeteries; 27-43-20, Removal to Plot Agreeable to Governing Body and Relatives; 27-43-30, Supervision of Removal Work; and 16-17-600, Destruction of Graves and Graveyards).

Determination of Effect

Based on the aforementioned identification and evaluation, PHMSA has determined that there are no historic properties as defined in 36 CFR 800.16(1) within the APE.

There are two cemeteries within or immediately adjacent to the APE; however, PHMSA will recommend that all cemeteries be avoided, and project plans should ensure no ground disturbance takes place within cemetery boundaries. Any ground-disturbing activities are subject to South Carolina burial laws (South Carolina Code 27-43-10, Removal of Abandoned Cemeteries; 27-43-20, Removal to Plot Agreeable to Governing Body and Relatives; 27-43-30, Supervision of Removal Work; and 16-17-600, Destruction of Graves and Graveyards).

Based on this assessment, in accordance with 36 CFR Part 800.4(d)(1), PHMSA has determined the Undertaking will result in No Historic Properties Affected.

Consulting Party Outreach

PHMSA identified parties that may be interested in the Undertaking and its effects on historic properties. PHMSA invites the individuals/organizations copied on this letter to participate as Section 106 consulting parties. Invited parties should indicate their willingness to participate as a consulting party and provide comments on the enclosed form (**Attachment C**) within 30 calendar days from the date on this letter. Note that a nonresponse is considered to be a declination to participate; however, interested parties can request to join consultation at any time in the process. If any invited party expresses concern about the Undertaking's potential effects to historic properties, PHMSA will consult with the party to resolve those concerns prior to project implementation.

PHMSA will also invite the following federally recognized tribes to participate in consultation by separate letter:

- Catawba Indian Nation
- Cherokee Nation
- Eastern Band of Cherokee Indians
- Muscogee (Creek) Nation

Request for Section 106 Concurrence

Based on the information presented above, PHMSA has determined that the Undertaking will result in No Historic Properties Affected. PHMSA is submitting this Undertaking to your office for your review and comment. PHMSA requests your concurrence with this determination of effect within 30 calendar days of the date of this letter. Should you need additional information please contact Kat Giraldo, Section 106 specialist, at <u>PHMSASection106@dot.gov</u> or 857-320-1359.

Sincerely,

Mart tul

Matt Fuller Senior Environmental Protection Specialist

MF/kg

cc: Elizabeth Williams, Environmental Protection Specialist, USDOT Volpe Center Damond Smith, PHMSA Grant Specialist Eleanor Mixon, Catawba Regional Council of Governments Cherokee Historical & Preservation Society, Inc.

Enclosures:

Attachment A: Project Location and APE Maps Attachment B: Project Area Photographs Attachment C: Consulting Party Response Form

ATTACHMENT A

Project Location and APE Maps



Name: Blacksburg, South Carolina Gas Line Replacement Scale: 30,000 Total Acreage: 185.4 Blacksburg, SC, Cherokee County

N

Service Layer Credits: NC CGIA, Maxar, State of North Carolina DOT, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, USFWS



Name: Blacksburg, South Carolina Gas Line Replacement Scale: 8,000 Total Acreage: 185.4 Blacksburg, SC, Cherokee County



Service Layer Credits: NC CGIA, Maxar, Esri Community Maps Contributors, State of North Carolina DOT, © OpenStreetMap, Microsoft, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, USFWS



Name: Blacksburg, South Carolina Gas Line Replacement Scale: 15,000 Total Acreage: 185.4 Blacksburg, SC, Cherokee County



Service Layer Credits: NC CGIA, Maxar, Esri Community Maps Contributors, State of North Carolina DOT, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, USFWS



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ATTACHMENT B

Project Area Photographs

All work will occur within the ROW pictured













































































































































ATTACHMENT C

Consulting Party Response Form

Section 106 Consulting Party Response Form

Pipeline and Hazardous Materials Safety Administration (PHMSA)

Natural Gas Distribution Infrastructure Safety and Modernization Grant Program

Project Name/Location:

Date:	Organization:
Name:	Affiliation:
Address:	Phone Number:
	E-mail:

Please check one of the following:

Yes, I, or my organization, would like to participate in consultation on the project's potential effects to historic properties. I, or my organization, has a legal or economic relation to the project or affected properties or have a concern with the project's effects on historic properties.

No, I, or my organization, do(es) not wish to participate as a consulting party for the project.

Do you know of any other potential consulting parties that should be contacted? If so, please list the name, email, or other contact information below.

Comments:

Please return by:

Please return to: Kathering Giraldo USDOT Volpe Center 220 Binney Street, Cambridge, MA E-mail: PHMSASection106@dot.gov



U.S. Department of Transportation **Pipeline and Hazardous Materials Safety** Administration

1200 New Jersey Avenue, SE Washington, DC 20590

March 27, 2024

Dr. Wenonah G. Haire Tribal Historic Preservation Officer Catawba Indian Nation 1536 Tom Steven Road Rock Hill, SC – 29730

Section 106 Consultation: PHMSA Pipeline Replacement Project in Blacksburg, South Carolina Grant Recipient: York County Natural Gas Authority Project Location: City of Blacksburg, Cherokee County, South Carolina

Dear Dr. Haire:

The Pipeline and Hazardous Materials Safety Administration (PHMSA) provides funds authorized under the Natural Gas Distribution Infrastructure Safety and Modernization Grant Program. PHMSA proposes to provide funds to the York County Natural Gas Authority (Grant Recipient) for the replacement of pipeline (Undertaking). PHMSA is initiating consultation for the above referenced Undertaking in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended, and the associated implementing regulations, 36 CFR Part 800 (Section 106). The purpose of this letter is to initiate Section 106 consultation for the Undertaking to determine if there are historic properties of cultural or religious significance to your Tribe/Nation that may be affected by the Undertaking, to determine if you want to be a consulting party, and/or to notify your Tribe/Nation of PHMSA's intention to make a finding of No Historic Properties Affected. PHMSA is also available for Government-to-Government consultation on this Program.

Project Description/Background

The Undertaking involves the replacement of approximately 14.7 miles of 1-inch to 4-inch steel and plastic pipelines with 2-inch to 6 5/8-inch steel and plastic pipelines. The initial gas pipeline installation began in the 1950s, and the Grant Recipient took ownership of the natural gas facilities in 2010. All work will be located within the existing rights-of-way (ROW) and will not require new ROW or easements. Project location maps are enclosed in **Attachment A**. Photographs showing the overall character of the project areas are included in **Attachment B**.

Replacement pipeline would be installed by open trenching and directional drilling construction methods. The typical cover and depth of the existing pipe in Blacksburg is usually between 2 to 3 feet; however, in some instances the pipe is as shallow as 12 to 18 inches. Ground disturbance for the replacement pipeline is expected to be no greater than 3 to 4 feet. The width of disturbance will vary from 18 to 24 inches for smaller diameter pipe and from 24 to 36 inches for larger diameter pipe. The replacement pipe would not be installed in the exact same location as the existing pipe. In areas where there are pipe tie-ins, the disturbed area for excavation may be up to 4 feet in length and 4 feet in width.

If the replacement pipe is proposed to remain on the same side of the road, it would most likely be offset anywhere between three to five feet. If the replacement pipeline is proposed for the opposite side of the road, it would be installed at the back of the road ROW. The existing pipeline would be abandoned in place. Abandonment of the existing pipeline (versus excavation and removal) would minimize ground disturbance and facilitate the replacement process in a more efficient manner.

All staging areas would be in constant movement throughout the construction process as the Grant Recipient would be using the road ROW to lay, fuse/weld, inspect, and bury the replacement pipe. Once the pipe is in the ground, the staging area would move onward to another location.

Area of Potential Effects (APE)

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Identification and Evaluation

To identify historic properties in the APE, individuals who meet the Secretary of the Interior's (SOI) Professional Qualification Standards reviewed available information on previously identified historic properties in the APE, including the National Register of Historic Places (NRHP) database and data gathered from the South Carolina ArchSite (SC ArchSite) database. SOI-qualified individuals also conducted research to determine if there are any previously unidentified properties within the APE that are 45 years of age or older and may be eligible for the NRHP and assess the archaeological sensitivity of the APE.

Historic Architecture

A search of the NRHP database and the SC ArchSite database found no NRHP-listed or NRHP-eligible above-ground resources within the APE. Due to the scale and nature of the Undertaking, which is limited to the replacement of pipelines within the existing ROW, the identification effort for additional above-ground resources focused on identifying properties that are susceptible to the effects of this work and could experience diminished integrity as a result of the Undertaking. The pipeline replacement work will not result in physical effects to any above-ground resources and will not have any lasting visual or audible effects. A review of the APE found no potentially significant above-ground resources that have the potential to be affected by the Undertaking.

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An examination of Web Soil Survey data within the APE reveals 22 soil types (Table 1). Well drained and moderately well drained soils can be indicative of human habitation during both the pre-contact and historic periods. Well drained soils within the APE include Gullied land, Iredell, Riverview, Nason, Tatum, and Wilkes types. Typically slopes greater than 15 percent are not suitable for human occupation, and soil types within the APE vary from 0 to 35 percent slope. The APE is comprised of nearly all well drained soils. Additionally, the APE is proximal to the Broad River in the west and several smaller waterways, such as Blackrock Branch, Dolittle Creek, and Canoe Creek, throughout. Proximity to major and minor waterways generally indicates a suitable environment for both precontact and historic human activity.

Map Unit Name	Drainage Class	Slope	Percent of APE
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Nason very fine sandy loam	Well drained	15-25 percent	<1
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Nason silt clay loam	Well drained	10-25 percent	5.6
Tatum silt clay loam	Well drained	2-6 percent	4.2
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Wilkes sandy loam	Well drained	6-15 percent	<1

Table 1. Soil Types within the APE

Historic topographic maps and the Find a Grave online database were examined to identify known historicage cemeteries within the APE. Two cemeteries, Mountain View Cemetery and Galilee Church Cemetery may be located within or immediately adjacent to the APE. Mountain View Cemetery is located in the northeastern portion of the APE along West Cherokee Street and Mountain View Drive. Modern aerial imagery shows the APE may potentially overlap an area of the cemetery containing burials in the area of West Cherokee Street and Park Street. Find a Grave notes the cemetery contains more than 1,800 burials and the oldest dates to 1879. The Galilee Church Cemetery was identified on the Find a Grave database and does not appear on the historic topographic maps. Aerial imagery shows several burial markers east of the church parking lot and south of West Cherokee Street, though the extent of the full cemetery is unknown. According to Find a Grave, the cemetery contains 45 burials, with the oldest dating to 1922. While these two cemeteries are noted in records, it is possible that other unknown cemeteries may exist within the APE. Find a Grave notes that several other historic-age cemeteries are located in Blacksburg though their precise coordinates are not provided.

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Background research revealed one archaeological site within the APE, and no other archaeological sites within a quarter of a mile search radius. No archaeological surveys are recorded within the APE or within one quarter of a mile of the APE. Two historic-age cemeteries are located either within or immediately adjacent to the APE. Examination of soils within the APE indicates suitable conditions for human occupation from the pre-contact period to the present. While most of the APE has not been surveyed for archaeological materials, disturbance caused by road construction and underground utility installation has likely compromised the integrity of the soil that may contain archaeological deposits. As the scope of work includes limited disturbance in the previously disturbed existing ROW, an archaeological survey is not recommended at this time. Concerning the historic-age cemeteries within or adjacent to the APE, it is strongly recommended that all cemeteries be avoided, and project plans ensure no ground disturbance takes place within cemetery boundaries. Any ground-disturbing activities are subject to South Carolina burial laws (South Carolina Code 27-43-10, Removal of Abandoned Cemeteries; 27-43-20, Removal to Plot Agreeable to Governing Body and Relatives; 27-43-30, Supervision of Removal Work; and 16-17-600, Destruction of Graves and Graveyards).

Determination of Effect

Based on the aforementioned identification and evaluation, PHMSA has determined that there are no historic properties as defined in 36 CFR 800.16(l) within the APE.

There are two cemeteries within or immediately adjacent to the APE; however, PHMSA will recommend that all cemeteries be avoided, and project plans should ensure no ground disturbance takes place within cemetery boundaries. Any ground-disturbing activities are subject to South Carolina burial laws (South Carolina Code 27-43-10, Removal of Abandoned Cemeteries; 27-43-20, Removal to Plot Agreeable to

Governing Body and Relatives; 27-43-30, Supervision of Removal Work; and 16-17-600, Destruction of Graves and Graveyards).

Based on this assessment, in accordance with 36 CFR Part 800.4(d)(1), PHMSA has determined the Undertaking will result in No Historic Properties Affected.

Request for Section 106 Concurrence

PHMSA requests that you provide any information you have regarding historic properties of religious or cultural significance to your Tribe/Nation that may be present in the APE and affected by the Undertaking. If your Tribe/Nation is unaware of any historic properties beyond what we have identified to date, PHMSA is notifying your Tribe/Nation of our intention to make a No Historic Properties Affected finding. Please notify us within 30 days from the date of receipt of this letter if you have any concerns about the Undertaking's effects to historic properties. Should you need additional information please contact Kat Giraldo, Section 106 specialist, at <u>PHMSASection106@dot.gov</u> or 857-320-1359.

Sincerely,

Mart Tult

Matt Fuller Senior Environmental Protection Specialist

MF/kg

cc: Elizabeth Williams, Environmental Protection Specialist, USDOT Volpe Center Damond Smith, PHMSA Grant Specialist Caitlin Rogers, Cultural Division Program Manager

Enclosures:

Attachment A: Project Location and APE Maps Attachment B: Project Area Photographs



U.S. Department of Transportation **Pipeline and Hazardous Materials Safety** Administration

1200 New Jersey Avenue, SE Washington, DC 20590

March 27, 2024

Elizabeth Toombs Tribal Historic Preservation Officer Cherokee Nation PO Box 948 Tahlequah, OK – 74465

Section 106 Consultation: PHMSA Pipeline Replacement Project in Blacksburg, South Carolina Grant Recipient: York County Natural Gas Authority Project Location: City of Blacksburg, Cherokee County, South Carolina

Dear Tribal Historic Preservation Officer Toombs:

The Pipeline and Hazardous Materials Safety Administration (PHMSA) provides funds authorized under the Natural Gas Distribution Infrastructure Safety and Modernization Grant Program. PHMSA proposes to provide funds to the York County Natural Gas Authority (Grant Recipient) for the replacement of pipeline (Undertaking). PHMSA is initiating consultation for the above referenced Undertaking in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended, and the associated implementing regulations, 36 CFR Part 800 (Section 106). The purpose of this letter is to initiate Section 106 consultation for the Undertaking to determine if there are historic properties of cultural or religious significance to your Tribe/Nation that may be affected by the Undertaking, to determine if you want to be a consulting party, and/or to notify your Tribe/Nation of PHMSA's intention to make a finding of No Historic Properties Affected. PHMSA is also available for Government-to-Government consultation on this Program.

Project Description/Background

The Undertaking involves the replacement of approximately 14.7 miles of 1-inch to 4-inch steel and plastic pipelines with 2-inch to 6 5/8-inch steel and plastic pipelines. The initial gas pipeline installation began in the 1950s, and the Grant Recipient took ownership of the natural gas facilities in 2010. All work will be located within the existing rights-of-way (ROW) and will not require new ROW or easements. Project location maps are enclosed in **Attachment A**. Photographs showing the overall character of the project areas are included in **Attachment B**.

Replacement pipeline would be installed by open trenching and directional drilling construction methods. The typical cover and depth of the existing pipe in Blacksburg is usually between 2 to 3 feet; however, in some instances the pipe is as shallow as 12 to 18 inches. Ground disturbance for the replacement pipeline is expected to be no greater than 3 to 4 feet. The width of disturbance will vary from 18 to 24 inches for smaller diameter pipe and from 24 to 36 inches for larger diameter pipe. The replacement pipe would not be installed in the exact same location as the existing pipe. In areas where there are pipe tie-ins, the disturbed area for excavation may be up to 4 feet in length and 4 feet in width.

If the replacement pipe is proposed to remain on the same side of the road, it would most likely be offset anywhere between three to five feet. If the replacement pipeline is proposed for the opposite side of the road, it would be installed at the back of the road ROW. The existing pipeline would be abandoned in place. Abandonment of the existing pipeline (versus excavation and removal) would minimize ground disturbance and facilitate the replacement process in a more efficient manner.

All staging areas would be in constant movement throughout the construction process as the Grant Recipient would be using the road ROW to lay, fuse/weld, inspect, and bury the replacement pipe. Once the pipe is in the ground, the staging area would move onward to another location.

Area of Potential Effects (APE)

Pursuant to 36 CFR 800.4(a)(1), the Area of Potential Effects (APE) is defined as the geographic area(s) within which the Undertaking may directly or indirectly affect historic resources. Due to the scale and nature of the Undertaking, which is limited to the replacement of pipelines within existing ROW, PHMSA has delineated the APE for this Undertaking to encompass the existing ROW in the areas proposed for replacement, which includes the limits of disturbance. The APE extends to the depth of proposed ground disturbance of up to 4 feet below grade. The Undertaking does not have the potential to cause visual or audible effects after the completion of construction. The existing ROW varies widely throughout the project area and ranges from 40-feet to 60-feet in width; it includes various roads, sidewalk, utilities (above and below ground), roadside ditches, curb & gutter, culverts, driveways, and mailboxes. The APE is shown on the maps in **Attachment A**.

Identification and Evaluation

To identify historic properties in the APE, individuals who meet the Secretary of the Interior's (SOI) Professional Qualification Standards reviewed available information on previously identified historic properties in the APE, including the National Register of Historic Places (NRHP) database and data gathered from the South Carolina ArchSite (SC ArchSite) database. SOI-qualified individuals also conducted research to determine if there are any previously unidentified properties within the APE that are 45 years of age or older and may be eligible for the NRHP and assess the archaeological sensitivity of the APE.

Historic Architecture

A search of the NRHP database and the SC ArchSite database found no NRHP-listed or NRHP-eligible above-ground resources within the APE. Due to the scale and nature of the Undertaking, which is limited to the replacement of pipelines within the existing ROW, the identification effort for additional above-ground resources focused on identifying properties that are susceptible to the effects of this work and could experience diminished integrity as a result of the Undertaking. The pipeline replacement work will not result in physical effects to any above-ground resources and will not have any lasting visual or audible effects. A review of the APE found no potentially significant above-ground resources that have the potential to be affected by the Undertaking.

Archaeology

SC ArchSite was examined to identify the presence of previously recorded archaeological sites and archaeological surveys within the APE. As a result of background research, one previous archaeological site and no previously conducted archaeological surveys were identified. Site 38CK0134 is a pre-contact site located in the western end of the APE and is recommended not eligible for listing in the NRHP. A quarter of a mile search radius was also examined for previously recorded archaeological sites and surveys but no additional archaeological sites or surveys were identified. The ArchSite database was reviewed for any NRHP-listed historic properties that may contain archaeological significance within one quarter of a mile of the APE. No historic properties were identified.

An examination of Web Soil Survey data within the APE reveals 22 soil types (Table 1). Well drained and moderately well drained soils can be indicative of human habitation during both the pre-contact and historic periods. Well drained soils within the APE include Gullied land, Iredell, Riverview, Nason, Tatum, and Wilkes types. Typically slopes greater than 15 percent are not suitable for human occupation, and soil types within the APE vary from 0 to 35 percent slope. The APE is comprised of nearly all well drained soils. Additionally, the APE is proximal to the Broad River in the west and several smaller waterways, such as Blackrock Branch, Dolittle Creek, and Canoe Creek, throughout. Proximity to major and minor waterways generally indicates a suitable environment for both precontact and historic human activity.

Map Unit Name	Drainage Class	Slope	Percent of APE
Chewacla silt loam	Somewhat poorly drained	0-2 percent	<1
Gullied land, firm materials	Well drained	10-35 percent	3.8
Iredell fine sandy loam	Somewhat poorly drained	2-6 percent	1.1
Manteo channery silt loam	Somewhat excessively drained	2-10 percent	3.6
Manteo channery silt loam	Somewhat excessively drained	10-15 percent	4.5
Manteo channery silt loam	Somewhat excessively drained	15-35 percent	3.1
Riverview loam	Well drained	0-2 percent	<1
Nason very fine sandy loam	Well drained	2-6 percent	1.4
Nason very fine sandy loam	Well drained	6-10 percent	2.2
Nason very fine sandy loam	Well drained	10-15 percent	<1
Nason very fine sandy loam	Well drained	15-25 percent	<1
Nason silt clay loam	Well drained	2-10 percent	2.7
Nason silt clay loam	Well drained	10-25 percent	5.6
Tatum silt clay loam	Well drained	2-6 percent	4.2
Tatum silt clay loam	Well drained	6-10 percent	16.8
Tatum silt clay loam	Well drained	10-15 percent	6.5
Tatum silt clay loam	Well drained	15-25 percent	<1
Tatum very fine sandy loam	Well drained	2-6 percent	18
Tatum very fine sandy loam	Well drained	6-10 percent	23
Tatum very fine sandy loam	Well drained	10-15 percent	<1
Tatum very fine sandy loam	Well drained	25-35 percent	<1
Wilkes sandy loam	Well drained	6-15 percent	<1

Table 1. Soil Types within the APE

Historic topographic maps and the Find a Grave online database were examined to identify known historicage cemeteries within the APE. Two cemeteries, Mountain View Cemetery and Galilee Church Cemetery may be located within or immediately adjacent to the APE. Mountain View Cemetery is located in the northeastern portion of the APE along West Cherokee Street and Mountain View Drive. Modern aerial imagery shows the APE may potentially overlap an area of the cemetery containing burials in the area of West Cherokee Street and Park Street. Find a Grave notes the cemetery contains more than 1,800 burials and the oldest dates to 1879. The Galilee Church Cemetery was identified on the Find a Grave database and does not appear on the historic topographic maps. Aerial imagery shows several burial markers east of the church parking lot and south of West Cherokee Street, though the extent of the full cemetery is unknown. According to Find a Grave, the cemetery contains 45 burials, with the oldest dating to 1922. While these two cemeteries are noted in records, it is possible that other unknown cemeteries may exist within the APE. Find a Grave notes that several other historic-age cemeteries are located in Blacksburg though their precise coordinates are not provided.

Historic topographic maps from 1909 and 1971 were examined for archaeological resource potential within the APE. The presence of structures on historic maps and aerial photography may indicate the likelihood of historic period archaeological deposits associated with the occupation of these structures. The APE is comprised of the western half of the historic-age town center of Blacksburg and more rural areas between Blacksburg and the Broad River to the west. The historic topographic map from 1909 shows the town center of Blacksburg as well developed at the turn of the century. Building density is greater in this part of the APE than in the remainder of the APE to the west, which is more rural. Some churches appear on the map. Also, in 1909, most roads aligning with the current APE exist. By 1971, the building density increased in the more rural western portion of the APE, while development also expands in the downtown Blacksburg area. The earliest historic aerial imagery available for the area is 1971, which shows similar patterns of development and land use to the 1971 topographic map. Many parts of the western, more rural portions of the APE show clear-cut agricultural fields and wooded areas. Some large farm plots are evident as well as other smaller residential parcels. The downtown Blacksburg area in the eastern end of the APE shows moderate residential development and several larger buildings such as schools and churches.

Background research revealed one archaeological site within the APE, and no other archaeological sites within a quarter of a mile search radius. No archaeological surveys are recorded within the APE or within one quarter of a mile of the APE. Two historic-age cemeteries are located either within or immediately adjacent to the APE. Examination of soils within the APE indicates suitable conditions for human occupation from the pre-contact period to the present. While most of the APE has not been surveyed for archaeological materials, disturbance caused by road construction and underground utility installation has likely compromised the integrity of the soil that may contain archaeological deposits. As the scope of work includes limited disturbance in the previously disturbed existing ROW, an archaeological survey is not recommended at this time. Concerning the historic-age cemeteries within or adjacent to the APE, it is strongly recommended that all cemeteries be avoided, and project plans ensure no ground disturbance takes place within cemetery boundaries. Any ground-disturbing activities are subject to South Carolina burial laws (South Carolina Code 27-43-10, Removal of Abandoned Cemeteries; 27-43-20, Removal to Plot Agreeable to Governing Body and Relatives; 27-43-30, Supervision of Removal Work; and 16-17-600, Destruction of Graves and Graveyards).

Determination of Effect

Based on the aforementioned identification and evaluation, PHMSA has determined that there are no historic properties as defined in 36 CFR 800.16(l) within the APE.

There are two cemeteries within or immediately adjacent to the APE; however, PHMSA will recommend that all cemeteries be avoided, and project plans should ensure no ground disturbance takes place within cemetery boundaries. Any ground-disturbing activities are subject to South Carolina burial laws (South Carolina Code 27-43-10, Removal of Abandoned Cemeteries; 27-43-20, Removal to Plot Agreeable to

Governing Body and Relatives; 27-43-30, Supervision of Removal Work; and 16-17-600, Destruction of Graves and Graveyards).

Based on this assessment, in accordance with 36 CFR Part 800.4(d)(1), PHMSA has determined the Undertaking will result in No Historic Properties Affected.

Request for Section 106 Concurrence

PHMSA requests that you provide any information you have regarding historic properties of religious or cultural significance to your Tribe/Nation that may be present in the APE and affected by the Undertaking. If your Tribe/Nation is unaware of any historic properties beyond what we have identified to date, PHMSA is notifying your Tribe/Nation of our intention to make a No Historic Properties Affected finding. Please notify us within 30 days from the date of receipt of this letter if you have any concerns about the Undertaking's effects to historic properties. Should you need additional information please contact Kat Giraldo, Section 106 specialist, at <u>PHMSASection106@dot.gov</u> or 857-320-1359.

Sincerely,

Mart Tult

Matt Fuller Senior Environmental Protection Specialist

MF/kg

cc: Elizabeth Williams, Environmental Protection Specialist, USDOT Volpe Center Damond Smith, PHMSA Grant Specialist

Enclosures:

Attachment A: Project Location and APE Maps Attachment B: Project Area Photographs



U.S. Department of Transportation **Pipeline and Hazardous Materials Safety** Administration

1200 New Jersey Avenue, SE Washington, DC 20590

March 27, 2024

Richard Sneed Principal Chief Eastern Band of Cherokee Indians 88 Council House Loop Road Cherokee, NC – 28719

Section 106 Consultation: PHMSA Pipeline Replacement Project in Blacksburg, South Carolina Grant Recipient: York County Natural Gas Authority Project Location: City of Blacksburg, Cherokee County, South Carolina

Dear Principal Chief Sneed:

The Pipeline and Hazardous Materials Safety Administration (PHMSA) provides funds authorized under the Natural Gas Distribution Infrastructure Safety and Modernization Grant Program. PHMSA proposes to provide funds to the York County Natural Gas Authority (Grant Recipient) for the replacement of pipeline (Undertaking). PHMSA is initiating consultation for the above referenced Undertaking in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended, and the associated implementing regulations, 36 CFR Part 800 (Section 106). The purpose of this letter is to initiate Section 106 consultation for the Undertaking to determine if there are historic properties of cultural or religious significance to your Tribe/Nation that may be affected by the Undertaking, to determine if you want to be a consulting party, and/or to notify your Tribe/Nation of PHMSA's intention to make a finding of No Historic Properties Affected. PHMSA is also available for Government-to-Government consultation on this Program.

Project Description/Background

The Undertaking involves the replacement of approximately 14.7 miles of 1-inch to 4-inch steel and plastic pipelines with 2-inch to 6 5/8-inch steel and plastic pipelines. The initial gas pipeline installation began in the 1950s, and the Grant Recipient took ownership of the natural gas facilities in 2010. All work will be located within the existing rights-of-way (ROW) and will not require new ROW or easements. Project location maps are enclosed in **Attachment A**. Photographs showing the overall character of the project areas are included in **Attachment B**.

Replacement pipeline would be installed by open trenching and directional drilling construction methods. The typical cover and depth of the existing pipe in Blacksburg is usually between 2 to 3 feet; however, in some instances the pipe is as shallow as 12 to 18 inches. Ground disturbance for the replacement pipeline is expected to be no greater than 3 to 4 feet. The width of disturbance will vary from 18 to 24 inches for smaller diameter pipe and from 24 to 36 inches for larger diameter pipe. The replacement pipe would not be installed in the exact same location as the existing pipe. In areas where there are pipe tie-ins, the disturbed area for excavation may be up to 4 feet in length and 4 feet in width.

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Sincerely,

Mart Tult

Matt Fuller Senior Environmental Protection Specialist

MF/kg

cc: Elizabeth Williams, Environmental Protection Specialist, USDOT Volpe Center Damond Smith, PHMSA Grant Specialist Russell Townsend, Tribal Historic Preservation Specialist

Enclosures:

Attachment A: Project Location and APE Maps Attachment B: Project Area Photographs



U.S. Department of Transportation **Pipeline and Hazardous Materials Safety** Administration

1200 New Jersey Avenue, SE Washington, DC 20590

March 27, 2024

David Hill Principal Chief Muscogee (Creek) Nation 1007 East Eufaula Street Okmulgee, OK 74447

Section 106 Consultation: PHMSA Pipeline Replacement Project in Blacksburg, South Carolina Grant Recipient: York County Natural Gas Authority Project Location: City of Blacksburg, Cherokee County, South Carolina

Dear Principal Chief Hill:

The Pipeline and Hazardous Materials Safety Administration (PHMSA) provides funds authorized under the Natural Gas Distribution Infrastructure Safety and Modernization Grant Program. PHMSA proposes to provide funds to the York County Natural Gas Authority (Grant Recipient) for the replacement of pipeline (Undertaking). PHMSA is initiating consultation for the above referenced Undertaking in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended, and the associated implementing regulations, 36 CFR Part 800 (Section 106). The purpose of this letter is to initiate Section 106 consultation for the Undertaking to determine if there are historic properties of cultural or religious significance to your Tribe/Nation that may be affected by the Undertaking, to determine if you want to be a consulting party, and/or to notify your Tribe/Nation of PHMSA's intention to make a finding of No Historic Properties Affected. PHMSA is also available for Government-to-Government consultation on this Program.

Project Description/Background

The Undertaking involves the replacement of approximately 14.7 miles of 1-inch to 4-inch steel and plastic pipelines with 2-inch to 6 5/8-inch steel and plastic pipelines. The initial gas pipeline installation began in the 1950s, and the Grant Recipient took ownership of the natural gas facilities in 2010. All work will be located within the existing rights-of-way (ROW) and will not require new ROW or easements. Project location maps are enclosed in **Attachment A**. Photographs showing the overall character of the project areas are included in **Attachment B**.

Replacement pipeline would be installed by open trenching and directional drilling construction methods. The typical cover and depth of the existing pipe in Blacksburg is usually between 2 to 3 feet; however, in some instances the pipe is as shallow as 12 to 18 inches. Ground disturbance for the replacement pipeline is expected to be no greater than 3 to 4 feet. The width of disturbance will vary from 18 to 24 inches for smaller diameter pipe and from 24 to 36 inches for larger diameter pipe. The replacement pipe would not be installed in the exact same location as the existing pipe. In areas where there are pipe tie-ins, the disturbed area for excavation may be up to 4 feet in length and 4 feet in width.

If the replacement pipe is proposed to remain on the same side of the road, it would most likely be offset anywhere between three to five feet. If the replacement pipeline is proposed for the opposite side of the road, it would be installed at the back of the road ROW. The existing pipeline would be abandoned in place. Abandonment of the existing pipeline (versus excavation and removal) would minimize ground disturbance and facilitate the replacement process in a more efficient manner.

All staging areas would be in constant movement throughout the construction process as the Grant Recipient would be using the road ROW to lay, fuse/weld, inspect, and bury the replacement pipe. Once the pipe is in the ground, the staging area would move onward to another location.

Area of Potential Effects (APE)

Pursuant to 36 CFR 800.4(a)(1), the Area of Potential Effects (APE) is defined as the geographic area(s) within which the Undertaking may directly or indirectly affect historic resources. Due to the scale and nature of the Undertaking, which is limited to the replacement of pipelines within existing ROW, PHMSA has delineated the APE for this Undertaking to encompass the existing ROW in the areas proposed for replacement, which includes the limits of disturbance. The APE extends to the depth of proposed ground disturbance of up to 4 feet below grade. The Undertaking does not have the potential to cause visual or audible effects after the completion of construction. The existing ROW varies widely throughout the project area and ranges from 40-feet to 60-feet in width; it includes various roads, sidewalk, utilities (above and below ground), roadside ditches, curb & gutter, culverts, driveways, and mailboxes. The APE is shown on the maps in **Attachment A**.

Identification and Evaluation

To identify historic properties in the APE, individuals who meet the Secretary of the Interior's (SOI) Professional Qualification Standards reviewed available information on previously identified historic properties in the APE, including the National Register of Historic Places (NRHP) database and data gathered from the South Carolina ArchSite (SC ArchSite) database. SOI-qualified individuals also conducted research to determine if there are any previously unidentified properties within the APE that are 45 years of age or older and may be eligible for the NRHP and assess the archaeological sensitivity of the APE.

Historic Architecture

A search of the NRHP database and the SC ArchSite database found no NRHP-listed or NRHP-eligible above-ground resources within the APE. Due to the scale and nature of the Undertaking, which is limited to the replacement of pipelines within the existing ROW, the identification effort for additional above-ground resources focused on identifying properties that are susceptible to the effects of this work and could experience diminished integrity as a result of the Undertaking. The pipeline replacement work will not result in physical effects to any above-ground resources and will not have any lasting visual or audible effects. A review of the APE found no potentially significant above-ground resources that have the potential to be affected by the Undertaking.

Archaeology

SC ArchSite was examined to identify the presence of previously recorded archaeological sites and archaeological surveys within the APE. As a result of background research, one previous archaeological site and no previously conducted archaeological surveys were identified. Site 38CK0134 is a pre-contact site located in the western end of the APE and is recommended not eligible for listing in the NRHP. A quarter of a mile search radius was also examined for previously recorded archaeological sites and surveys but no additional archaeological sites or surveys were identified. The ArchSite database was reviewed for any NRHP-listed historic properties that may contain archaeological significance within one quarter of a mile of the APE. No historic properties were identified.

An examination of Web Soil Survey data within the APE reveals 22 soil types (Table 1). Well drained and moderately well drained soils can be indicative of human habitation during both the pre-contact and historic periods. Well drained soils within the APE include Gullied land, Iredell, Riverview, Nason, Tatum, and Wilkes types. Typically slopes greater than 15 percent are not suitable for human occupation, and soil types within the APE vary from 0 to 35 percent slope. The APE is comprised of nearly all well drained soils. Additionally, the APE is proximal to the Broad River in the west and several smaller waterways, such as Blackrock Branch, Dolittle Creek, and Canoe Creek, throughout. Proximity to major and minor waterways generally indicates a suitable environment for both precontact and historic human activity.

Map Unit Name	Drainage Class	Slope	Percent of APE
Chewacla silt loam	Somewhat poorly drained	0-2 percent	<1
Gullied land, firm materials	Well drained	10-35 percent	3.8
Iredell fine sandy loam	Somewhat poorly drained	2-6 percent	1.1
Manteo channery silt loam	Somewhat excessively drained	2-10 percent	3.6
Manteo channery silt loam	Somewhat excessively drained	10-15 percent	4.5
Manteo channery silt loam	Somewhat excessively drained	15-35 percent	3.1
Riverview loam	Well drained	0-2 percent	<1
Nason very fine sandy loam	Well drained	2-6 percent	1.4
Nason very fine sandy loam	Well drained	6-10 percent	2.2
Nason very fine sandy loam	Well drained	10-15 percent	<1
Nason very fine sandy loam	Well drained	15-25 percent	<1
Nason silt clay loam	Well drained	2-10 percent	2.7
Nason silt clay loam	Well drained	10-25 percent	5.6
Tatum silt clay loam	Well drained	2-6 percent	4.2
Tatum silt clay loam	Well drained	6-10 percent	16.8
Tatum silt clay loam	Well drained	10-15 percent	6.5
Tatum silt clay loam	Well drained	15-25 percent	<1
Tatum very fine sandy loam	Well drained	2-6 percent	18
Tatum very fine sandy loam	Well drained	6-10 percent	23
Tatum very fine sandy loam	Well drained	10-15 percent	<1
Tatum very fine sandy loam	Well drained	25-35 percent	<1
Wilkes sandy loam	Well drained	6-15 percent	<1

Table 1. Soil Types within the APE

Historic topographic maps and the Find a Grave online database were examined to identify known historicage cemeteries within the APE. Two cemeteries, Mountain View Cemetery and Galilee Church Cemetery may be located within or immediately adjacent to the APE. Mountain View Cemetery is located in the northeastern portion of the APE along West Cherokee Street and Mountain View Drive. Modern aerial imagery shows the APE may potentially overlap an area of the cemetery containing burials in the area of West Cherokee Street and Park Street. Find a Grave notes the cemetery contains more than 1,800 burials and the oldest dates to 1879. The Galilee Church Cemetery was identified on the Find a Grave database and does not appear on the historic topographic maps. Aerial imagery shows several burial markers east of the church parking lot and south of West Cherokee Street, though the extent of the full cemetery is unknown. According to Find a Grave, the cemetery contains 45 burials, with the oldest dating to 1922. While these two cemeteries are noted in records, it is possible that other unknown cemeteries may exist within the APE. Find a Grave notes that several other historic-age cemeteries are located in Blacksburg though their precise coordinates are not provided.

Historic topographic maps from 1909 and 1971 were examined for archaeological resource potential within the APE. The presence of structures on historic maps and aerial photography may indicate the likelihood of historic period archaeological deposits associated with the occupation of these structures. The APE is comprised of the western half of the historic-age town center of Blacksburg and more rural areas between Blacksburg and the Broad River to the west. The historic topographic map from 1909 shows the town center of Blacksburg as well developed at the turn of the century. Building density is greater in this part of the APE than in the remainder of the APE to the west, which is more rural. Some churches appear on the map. Also, in 1909, most roads aligning with the current APE exist. By 1971, the building density increased in the more rural western portion of the APE, while development also expands in the downtown Blacksburg area. The earliest historic aerial imagery available for the area is 1971, which shows similar patterns of development and land use to the 1971 topographic map. Many parts of the western, more rural portions of the APE show clear-cut agricultural fields and wooded areas. Some large farm plots are evident as well as other smaller residential parcels. The downtown Blacksburg area in the eastern end of the APE shows moderate residential development and several larger buildings such as schools and churches.

Background research revealed one archaeological site within the APE, and no other archaeological sites within a quarter of a mile search radius. No archaeological surveys are recorded within the APE or within one quarter of a mile of the APE. Two historic-age cemeteries are located either within or immediately adjacent to the APE. Examination of soils within the APE indicates suitable conditions for human occupation from the pre-contact period to the present. While most of the APE has not been surveyed for archaeological materials, disturbance caused by road construction and underground utility installation has likely compromised the integrity of the soil that may contain archaeological deposits. As the scope of work includes limited disturbance in the previously disturbed existing ROW, an archaeological survey is not recommended at this time. Concerning the historic-age cemeteries within or adjacent to the APE, it is strongly recommended that all cemeteries be avoided, and project plans ensure no ground disturbance takes place within cemetery boundaries. Any ground-disturbing activities are subject to South Carolina burial laws (South Carolina Code 27-43-10, Removal of Abandoned Cemeteries; 27-43-20, Removal to Plot Agreeable to Governing Body and Relatives; 27-43-30, Supervision of Removal Work; and 16-17-600, Destruction of Graves and Graveyards).

Determination of Effect

Based on the aforementioned identification and evaluation, PHMSA has determined that there are no historic properties as defined in 36 CFR 800.16(l) within the APE.

There are two cemeteries within or immediately adjacent to the APE; however, PHMSA will recommend that all cemeteries be avoided, and project plans should ensure no ground disturbance takes place within cemetery boundaries. Any ground-disturbing activities are subject to South Carolina burial laws (South Carolina Code 27-43-10, Removal of Abandoned Cemeteries; 27-43-20, Removal to Plot Agreeable to

Governing Body and Relatives; 27-43-30, Supervision of Removal Work; and 16-17-600, Destruction of Graves and Graveyards).

Based on this assessment, in accordance with 36 CFR Part 800.4(d)(1), PHMSA has determined the Undertaking will result in No Historic Properties Affected.

Request for Section 106 Concurrence

PHMSA requests that you provide any information you have regarding historic properties of religious or cultural significance to your Tribe/Nation that may be present in the APE and affected by the Undertaking. If your Tribe/Nation is unaware of any historic properties beyond what we have identified to date, PHMSA is notifying your Tribe/Nation of our intention to make a No Historic Properties Affected finding. Please notify us within 30 days from the date of receipt of this letter if you have any concerns about the Undertaking's effects to historic properties. Should you need additional information please contact Kat Giraldo, Section 106 specialist, at <u>PHMSASection106@dot.gov</u> or 857-320-1359.

Sincerely,

Mart Tult

Matt Fuller Senior Environmental Protection Specialist

MF/kg

cc: Elizabeth Williams, Environmental Protection Specialist, USDOT Volpe Center Damond Smith, PHMSA Grant Specialist Turner Hunt, Tribal Historic Preservation Officer

Enclosures:

Attachment A: Project Location and APE Maps Attachment B: Project Area Photographs Appendix H

Section 4(f)

Parks/Recreation Areas in Project Area



USDA

York County Natural Gas Authoirty Blacksburg, SC

W Lime

W Pine S

se Salon

Sisk Chiropractic Clinic

Buffalo 202 A.F.M

TA A TE

700 ft

(FER

191

Blacksburg High School

Blacksbur

Cherokee County Public Librar

mountaincreekvalley, com: Discover USA

W Clairbon

Mèdi-Fare Drug / FDA-registered 503B.

W Clairbor

Senior Centers-Cherokee County

Gibbs Park

Blacksburg Elementary School

Blacksburg ARP Church

Blacksburg Wildcats Baseball Field

Troublefield Park

Google Earth

ston St

York County Natural Gas Authoirty Blacksburg, SC

29

Hershel Porter Park

Lime Street Splash Pad

W Lime St

400 ft

WF

W Line

Google Earth

Bitcoin ATM

Appendix I

Environmental Justice

SEPA EJScreen Community Report

This report provides environmental and socioeconomic information for user-defined areas, and combines that data into environmental justice and supplemental indexes.

Cherokee County, SC



LANGUAGES SPOKEN AT HOME

LANGUAGE	PERCENT
English	96%
Spanish	3%
Total Non-English	4%

County: Cherokee Population: 56,204 Area in square miles: 397.48

COMMUNITY INFORMATION



From Ages 1 to 4	6%
From Ages 1 to 18	23%
From Ages 18 and up	77%
From Ages 65 and up	17%

LIMITED ENGLISH SPEAKING BREAKDOWN

Speak Spanish	92%
Speak Other Indo-European Languages	4%
Speak Asian-Pacific Island Languages	4%
Speak Other Languages	0%

Notes: Numbers may not sum to totals due to rounding. Hispanic population can be of any race. Source: U.S. Census Bureau, American Community Survey (ACS) 2017-2021. Life expectancy data comes from the Centers for Disease Control.

Environmental Justice & Supplemental Indexes

The environmental justice and supplemental indexes are a combination of environmental and socioeconomic information. There are thirteen EJ indexes and supplemental indexes in EJScreen reflecting the 13 environmental indicators. The indexes for a selected area are compared to those for all other locations in the state or nation. For more information and calculation details on the EJ and supplemental indexes, please visit the EJScreen website.

EJ INDEXES



The EJ indexes help users screen for potential EJ concerns. To do this, the EJ index combines data on low income and people of color populations with a single environmental indicator.

SUPPLEMENTAL INDEXES

The supplemental indexes offer a different perspective on community-level vulnerability. They combine data on percent low-income, percent linguistically isolated, percent less than high school education, percent unemployed, and low life expectancy with a single environmental indicator,



SUPPLEMENTAL INDEXES FOR THE SELECTED LOCATION

These percentiles provide perspective on how the selected block group or buffer area compares to the entire state or nation.

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Report for County: Cherokee

SELECTED VARIABLES	VALUE	STATE AVERAGE	PERCENTILE IN STATE	USA AVERAGE	PERCENTILE IN USA	
POLLUTION AND SOURCES						
Particulate Matter (µg/m ³)	8.47	8.07	66	8.08	57	
Ozone (ppb)	64.4	62.6	82	61.6	72	
Diesel Particulate Matter (µg/m ³)	0.183	0.188	58	0.261	40	
Air Toxics Cancer Risk* (lifetime risk per million)	30	30	9	25	52	
Air Toxics Respiratory HI*	0.4	0.41	18	0.31	70	
Toxic Releases to Air	3,400	3,000	74	4,600	81	
Traffic Proximity (daily traffic count/distance to road)	36	63	55	210	33	
Lead Paint (% Pre-1960 Housing)	0.18	0.16	68	0.3	46	
Superfund Proximity (site count/km distance)	0.1	0.091	77	0.13	68	
RMP Facility Proximity (facility count/km distance)	0.86	0.3	91	0.43	85	
Hazardous Waste Proximity (facility count/km distance)	0.24	0.42	61	1.9	39	
Underground Storage Tanks (count/km ²)		2.9	67	3.9	63	
Wastewater Discharge (toxicity-weighted concentration/m distance)		1	87	22	76	
SOCIOECONOMIC INDICATORS						
Demographic Index	36%	37%	52	35%	60	
Supplemental Demographic Index	19%	15%	69	14%	74	
People of Color	28%	38%	43	39%	48	
Low Income	44%	36%	65	31%	74	
Unemployment Rate	7%	6%	69	6%	70	
Limited English Speaking Households	1%	1%	78	5%	60	
Less Than High School Education	17%	13%	70	12%	75	
Under Age 5	6%	5%	61	6%	59	
Over Age 64	17%	19%	47	17%	54	
Low Life Expectancy	24%	21%	69	20%	84	

*Diesel particulate matter, air toxics cancer risk, and air toxics respiratory hazard index are from the EPA's Air Toxics Data Update, which is the Agency's ongoing, comprehensive evaluation of air toxics in the United States. This effort aims to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that the air toxics data presented here provide broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. Cancer risks and hazard indices from the Air Toxics Data update are reported to one significant figure and any additional significant figures here are due to rounding. More information on the Air Toxics Data Update can be found at: https://www.epa.gov/haps/air-toxics-data-update.

Sites reporting to EPA within defined area:

Superfund	1
Hazardous Waste, Treatment, Storage, and Disposal Facilities	3
Water Dischargers	69
Air Pollution	80
Brownfields	0
Toxic Release Inventory	30

Other community features within defined area:

Schools	19
Hospitals	3
Places of Worship	133

Other environmental data:

Air Non-attainment	No
Impaired Waters	Yes

Selected location contains American Indian Reservation Lands*	No
Selected location contains a "Justice40 (CEJST)" disadvantaged community	Yes
Selected location contains an EPA IRA disadvantaged community	Yes

Report for County: Cherokee

HEALTH INDICATORS							
INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE		
Low Life Expectancy	24%	21%	69	20%	84		
Heart Disease	7.5	6.8	62	6.1	76		
Asthma	10.8	10.4	65	10	75		
Cancer	6.4	6.4	49	6.1	52		
Persons with Disabilities	15.4%	15%	56	13.4%	68		

CLIMATE INDICATORS								
INDICATOR	VALUE STATE AVERAGE STATE PERCENTILE US AVERAGE US PERCENT							
Flood Risk	4%	12%	26	12%	38			
Wildfire Risk	0%	19%	0	14%	0			

CRITICAL SERVICE GAPS								
INDICATOR VALUE STATE AVERAGE STATE PERCENTILE US AVERAGE US PERCENTILE								
Broadband Internet	29%	19%	77	14%	88			
Lack of Health Insurance	12%	11%	63	9%	76			
Housing Burden	No	N/A	N/A	N/A	N/A			
Transportation Access	Yes	N/A	N/A	N/A	N/A			
Food Desert	Yes	N/A	N/A	N/A	N/A			

Report for County: Cherokee

SEPA EJScreen Community Report

This report provides environmental and socioeconomic information for user-defined areas, and combines that data into environmental justice and supplemental indexes.

Cherokee County, SC



LANGUAGES SPOKEN AT HOME

LANGUAGE	PERCENT
English	98%
Spanish	1%
German or other West Germanic	1%
Total Non-English	2%

0.5 miles Ring around the Area Population: 2,756 Area in square miles: 8.16

COMMUNITY INFORMATION



From Ages 1 to 4	1%
From Ages 1 to 18	28%
From Ages 18 and up	72%
From Ages 65 and up	15%

LIMITED ENGLISH SPEAKING BREAKDOWN

Speak Spanish	81%
Speak Other Indo-European Languages	0%
Speak Asian-Pacific Island Languages	19%
Speak Other Languages	0%

Notes: Numbers may not sum to totals due to rounding. Hispanic population can be of any race. Source: U.S. Census Bureau, American Community Survey (ACS) 2017-2021. Life expectancy data comes from the Centers for Disease Control.

Environmental Justice & Supplemental Indexes

The environmental justice and supplemental indexes are a combination of environmental and socioeconomic information. There are thirteen EJ indexes and supplemental indexes in EJScreen reflecting the 13 environmental indicators. The indexes for a selected area are compared to those for all other locations in the state or nation. For more information and calculation details on the EJ and supplemental indexes, please visit the EJScreen website.

EJ INDEXES



The EJ indexes help users screen for potential EJ concerns. To do this, the EJ index combines data on low income and people of color populations with a single environmental indicator.

SUPPLEMENTAL INDEXES

The supplemental indexes offer a different perspective on community-level vulnerability. They combine data on percent low-income, percent linguistically isolated, percent less than high school education, percent unemployed, and low life expectancy with a single environmental indicator,



SUPPLEMENTAL INDEXES FOR THE SELECTED LOCATION

These percentiles provide perspective on how the selected block group or buffer area compares to the entire state or nation.

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Report for 0.5 miles Ring around the Area

SELECTED VARIABLES	VALUE	STATE AVERAGE	PERCENTILE In state	USA AVERAGE	PERCENTILE IN USA			
POLLUTION AND SOURCES								
Particulate Matter (µg/m ³)	8.51	8.07	71	8.08	58			
Ozone (ppb)	65.5	62.6	93	61 <u>.</u> 6	11			
Diesel Particulate Matter (µg/m ³)	0.183	0.188	58	0.261	40			
Air Toxics Cancer Risk* (lifetime risk per million)	30	30	9	25	52			
Air Toxics Respiratory HI*	0.4	0.41	18	0.31	70			
Toxic Releases to Air	2,600	3,000	68	4,600	77			
Traffic Proximity (daily traffic count/distance to road)	28	63	48	210	29			
Lead Paint (% Pre-1960 Housing)	0.26	0.16	78	0.3	54			
Superfund Proximity (site count/km distance)	0.095	0.091	74	0.13	65			
RMP Facility Proximity (facility count/km distance)	0.57	0.3	85	0.43	79			
Hazardous Waste Proximity (facility count/km distance)	0.3	0.42	67	1.9	42			
Underground Storage Tanks (count/km ²)	1.9	2.9	63	3.9	58			
Wastewater Discharge (toxicity-weighted concentration/m distance)	0.099	1	91	22	82			
SOCIOECONOMIC INDICATORS								
Demographic Index	31%	37%	44	35%	52			
Supplemental Demographic Index	19%	15%	71	14%	75			
People of Color	19%	38%	30	39%	37			
Low Income	42%	36%	62	31%	72			
Unemployment Rate	6%	6%	66	6%	66			
Limited English Speaking Households	1%	1%	77	5%	58			
Less Than High School Education	21%	13%	79	12%	82			
Under Age 5	7%	5%	71	6%	70			
Over Age 64	15%	19%	37	17%	46			
Low Life Expectancy	25%	21%	84	20%	91			

*Diesel particulate matter, air toxics cancer risk, and air toxics respiratory hazard index are from the EPA's Air Toxics Data Update, which is the Agency's ongoing, comprehensive evaluation of air toxics in the United States. This effort aims to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that the air toxics data presented here provide broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. Cancer risks and hazard indices from the Air Toxics Data update are reported to one significant figure and any additional significant figures here are due to rounding. More information on the Air Toxics Data Update can be found at: https://www.epa.gov/haps/air-toxics-data-update.

Sites reporting to EPA within defined area:

Superfund	0
Hazardous Waste, Treatment, Storage, and Disposal Facilities	0
Water Dischargers	2
Air Pollution	4
Brownfields	0
Toxic Release Inventory	0

Other community features within defined area:

Schools	3
Hospitals	0
Places of Worship 1	13

Other environmental data:

Air Non-attainment	No
Impaired Waters	No

Selected location contains American Indian Reservation Lands*	No
Selected location contains a "Justice40 (CEJST)" disadvantaged community	Yes
Selected location contains an EPA IRA disadvantaged community	Yes

Report for 0.5 miles Ring around the Area

HEALTH INDICATORS						
INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE	
Low Life Expectancy	25%	21%	84	20%	91	
Heart Disease	8.1	6.8	74	6.1	84	
Asthma	11	10.4	71	10	79	
Cancer	6.4	6.4	53	6.1	54	
Persons with Disabilities	15.9%	15%	59	13.4%	70	

CLIMATE INDICATORS								
INDICATOR	VALUE STATE AVERAGE STATE PERCENTILE US AVERAGE US PERCE							
Flood Risk	5%	12%	37	12%	44			
Wildfire Risk	0%	19%	0	14%	0			

CRITICAL SERVICE GAPS								
INDICATOR VALUE STATE AVERAGE STATE PERCENTILE US AVERAGE US PERCENTILE								
Broadband Internet	26%	19%	73	14%	84			
Lack of Health Insurance	10%	11%	50	9%	68			
Housing Burden	No	N/A	N/A	N/A	N/A			
Transportation Access	Yes	N/A	N/A	N/A	N/A			
Food Desert	Yes	N/A	N/A	N/A	N/A			

Report for 0.5 miles Ring around the Area